CITY OF GARDENA

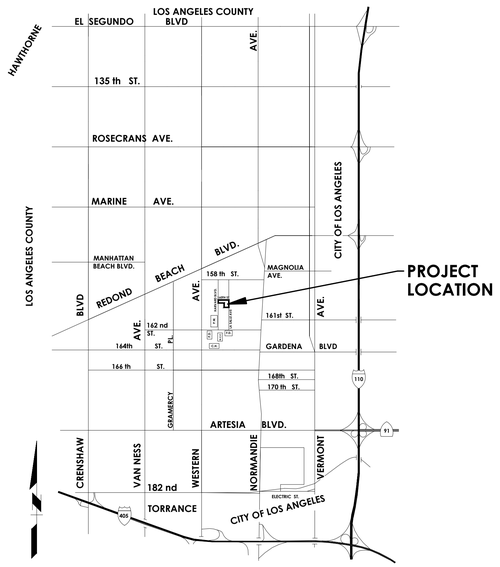
FINAL CONSTRUCTION DOCUMENTS

FOR

GARDENA COMMUNITY AQUATICS AND SENIOR CENTER PROJECT

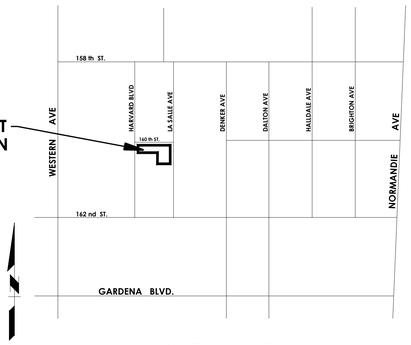
1654 W 160TH ST, GARDENA, CA 90247

JOB NUMBER - J.N. 978



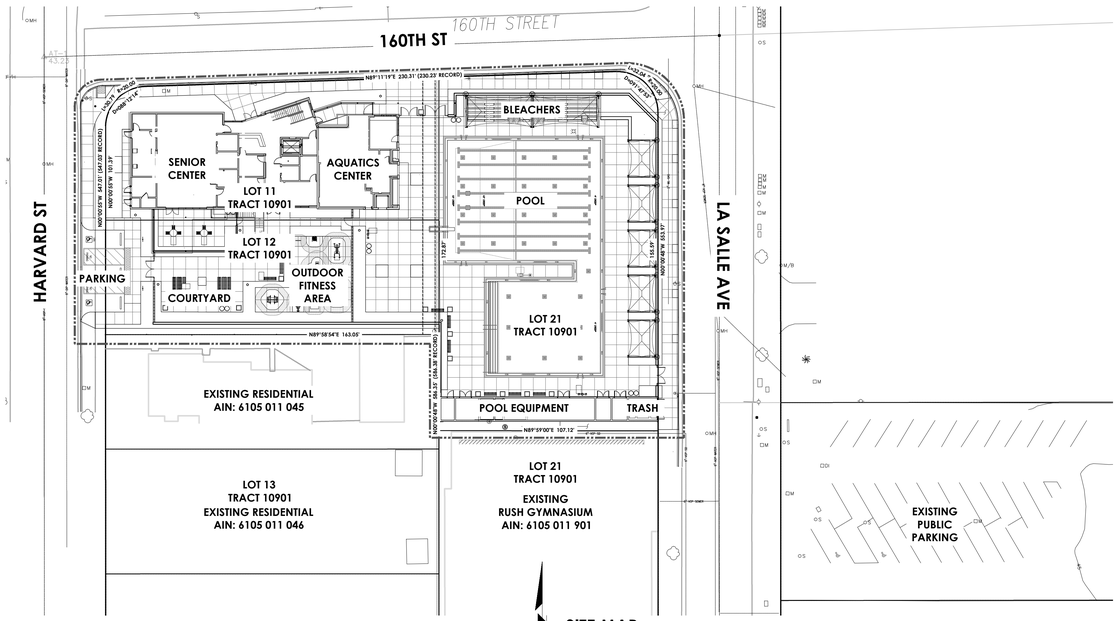
VICINITY MAP

N.T.S.



LOCATION MAP

N.T.S.



SITE MAP

SCALE: 1" = 30'-0"

SHEET INDEX

SHEET NO.	SHEET DESC.
1. T-1.01	TITLE SHEET
2. T-1.02	GENERAL NOTES
3. T-1.03	SITE ACCESSIBILITY PLAN / CODE ANALYSIS
4. T-1.04	ACCESSIBILITY GENERAL NOTES
CIVIL ENGINEERING	
5. C-0.01	NOTE SHEET
6. C-0.02	DETAIL SHEET
7. C-0.03	DETAIL SHEET
8. C-0.04	DETAIL SHEET
9. D-1.01	DEMOLITION PLAN
10. C-1.01	PRECISE GRADING PLAN
11. C-2.01	WATER / SEWER PLAN
12. C-3.01	EROSION CONTROL PLAN
13. C-4.01	HORIZONTAL CONTROL / STRIPING PLAN
LANDSCAPE CONSTRUCTION	
14. L-1.01	CONSTRUCTION PLAN
15. L-1.02	CONSTRUCTION PLAN
16. L-2.01	CONSTRUCTION DETAILS
17. L-2.02	CONSTRUCTION DETAILS
18. L-2.03	CONSTRUCTION DETAILS
19. L-2.04	CONSTRUCTION DETAILS
20. L-2.05	CONSTRUCTION DETAILS
21. L-2.06	CONSTRUCTION DETAILS - FITNESS EQUIPMENT
22. L-2.07	CONSTRUCTION DETAILS - BLEACHERS
23. L-2.08	CONSTRUCTION DETAILS - BLEACHERS
24. L-2.09	CONSTRUCTION DETAILS - BLEACHERS
25. L-2.10	CONSTRUCTION DETAILS - SHADE STRUCTURES
26. L-2.11	CONSTRUCTION DETAILS - SHADE STRUCTURES
27. L-2.12	CONSTRUCTION DETAILS - SHADE STRUCTURES
28. L-2.13	CONSTRUCTION DETAILS - SHADE STRUCTURES
29. L-2.14	CONSTRUCTION DETAILS - SHADE STRUCTURES
30. L-2.15	CONSTRUCTION DETAILS - SHADE STRUCTURES
31. L-2.16	CONSTRUCTION DETAILS - SHADE STRUCTURES
32. L-2.17	CONSTRUCTION DETAILS - SHADE STRUCTURES
IRRIGATION	
33. L-3.01	IRRIGATION PLAN
34. L-3.02	IRRIGATION PLAN
35. L-4.01	IRRIGATION DETAILS
LANDSCAPE PLANTING	
36. L-5.01	PLANTING PLAN
37. L-5.02	PLANTING PLAN
38. L-6.01	PLANTING DETAILS AND NOTES
ARCHITECTURE	
39. GEN-1	PROJECT INFORMATION & SHEET INDEX
40. GEN-2	CODE ANALYSIS & EXITING PLAN
41. GEN-3	GENERAL NOTES
42. GEN-4	PROJECT SIGNAGE
43. GEN-5	ACCESSIBILITY DETAILS
44. A1.0	SITE PLAN
45. A1.1	FIRE MASTER PLAN
46. A11.1	SLAB PLAN
47. A11.2	FIRST FLOOR PLAN
48. A11.3	SECOND FLOOR PLAN
49. A11.4	ROOF PLAN
50. A11.5	FIRST FLOOR RCP
51. A11.6	SECOND FLOOR RCP
52. A21.1	ELEVATIONS
53. A31.1	BUILDING SECTIONS
54. A32.1	WALL SECTIONS
55. A32.2	WALL SECTIONS
56. A32.3	WALL SECTIONS
57. A34.1	ASSEMBLIES
58. A34.2	ASSEMBLIES
59. A40.1	POOL BUILDING PLANS, ELEVATIONS, AND SECTIONS
60. A40.2	POOL BUILDING DETAILS
61. A42.1	ENLARGED LOCKER ROOM PLANS AND ELEVATIONS
62. A42.2	ENLARGED PLANS AND ELEVATIONS
63. A43.1	INTERIOR ELEVATIONS
64. A44.1	INTERIOR STAIR PLANS AND SECTIONS
65. A44.2	EXTERIOR STAIR PLANS AND SECTIONS
66. A44.3	TRELLIS PLANS AND SECTIONS
67. A50.1	FIRST FLOOR INTERIOR FINISH SCHEDULE
68. A50.2	SECOND FLOOR INTERIOR FINISH SCHEDULE
69. A52.1	DOOR SCHEDULE
70. A52.2	STOREFRONT ELEVATIONS
71. A61.1	WALL TYPES
72. A62.1	DETAILS WALL ASSEMBLIES
73. A62.2	DETAILS CEILING
74. A62.3	DETAILS CEILING
75. A62.4	DETAILS ROOF
76. A62.5	DETAILS ROOF
77. A63.1	DETAILS DOOR
78. A63.2	WINDOW AND WALL ASSEMBLY DETAILS
79. A64.1	STAIR AND RAILING DETAILS
80. A64.2	TRELLIS, FENCE, AND MISC. DETAILS
81. A65.1	MISCELLANEOUS DETAILS
82. A67.1	DETAILS CASEWORK & MISC.
83. A67.2	TILE DETAILS
BUILDING STRUCTURAL	
84. S-0.1	GENERAL NOTES
85. S-0.2	GENERAL NOTES
86. S-0.3	GENERAL NOTES
87. S-1.1	TYPICAL DETAILS - REBAR & S.O.G.
88. S-1.2	TYPICAL DETAILS - FOOTING & EXCAVATION
89. S-1.3	TYPICAL DETAILS - FOOTING & EXCAVATION
90. S-1.4	TYPICAL DETAILS - METAL STUD
91. S-1.5	TYPICAL DETAILS - METAL STUD
92. S-1.6	TYPICAL DETAILS - METAL STUD
93. S-1.7	TYPICAL DETAILS - METAL STUD
94. S-1.8	TYPICAL DETAILS - METAL DECK
95. S-1.9	TYPICAL DETAILS - CMU
96. S-1.10	TYPICAL DETAILS - STEEL
97. S-1.11	TYPICAL DETAILS - STEEL
98. S-1.12	TYPICAL DETAILS - STEEL
99. S-1.13	TYPICAL DETAILS - MEP SUPPORT
100. S-2.1	FOUNDATION PLAN
101. S-2.2	POOL BLDG FOUNDATION & ROOF FRAMING PLAN
102. S-3.1	SECOND FLOOR FRAMING PLAN
103. S-3.2	ROOF FRAMING PLAN
104. S-4.1	FOUNDATION DETAILS
105. S-5.1	FRAMING DETAILS
106. S-5.2	FRAMING DETAILS
107. S-5.3	STAIR DETAILS
108. S-6.1	WALL ELEVATIONS
109. S-6.2	WALL ELEVATIONS
MECHANICAL	
110. M0.01	MECHANICAL LEGENDS, ABBREVIATIONS, & GENERAL NOTES
111. M0.02	MECHANICAL TITLE 24
112. M0.03	MECHANICAL TITLE 24
113. M0.04	MECHANICAL TITLE 24
114. M0.05	MECHANICAL TITLE 24
115. M2.01	FIRST FLOOR MECHANICAL ZONING PLAN
116. M2.02	SECOND FLOOR MECHANICAL ZONING PLAN
117. M2.11	FIRST FLOOR MECHANICAL PLAN
118. M2.12	SECOND FLOOR MECHANICAL PLAN
119. M2.13	MECHANICAL ROOF PLAN
120. M3.11	MECHANICAL PLAN - POOL BUILDING
121. M5.01	MECHANICAL DETAILS
122. M5.02	MECHANICAL DETAILS
123. M5.03	MECHANICAL DETAILS
124. M5.04	MECHANICAL DETAILS
125. M6.01	MECHANICAL SCHEDULES
126. M7.01	MECHANICAL CONTROL DIAGRAMS
PLUMBING	
127. P0.01	PLUMBING LEGENDS, ABBREVIATIONS & GENERAL NOTES
128. P1.11	PLUMBING SITE PLAN
129. P2.11	FIRST FLOOR PLUMBING PLAN
130. P2.12	SECOND FLOOR PLUMBING PLAN
131. P2.13	PLUMBING ROOF PLAN
132. P2.14	FIRST FLOOR PLUMBING PLAN - POOL EQUIPMENT
133. P4.01	ENLARGED PLUMBING PLAN
134. P4.02	ENLARGED PLUMBING PLAN
135. P5.01	PLUMBING DETAILS
136. P5.02	PLUMBING DETAILS
137. P6.01	PLUMBING SCHEDULES
138. P7.01	PLUMBING SCHEMATICS
139. P8.01	PLUMBING WASTE & VENT RISER DIAGRAM
140. P8.02	PLUMBING WATER RISER DIAGRAM
141. P8.03	PLUMBING GAS RISER DIAGRAM
ELECTRICAL	
142. E-0.01	SYMBOLS LIST AND GENERAL NOTES
143. E-0.02	LIGHTING FIXTURE SCHEDULE
144. E-0.02A	LIGHTING CONTROLS
145. E-0.02B	LIGHTING FIXTURE CUT SHEETS
146. E-0.02C	LIGHTING FIXTURE CUT SHEETS
147. E-0.02D	LIGHTING FIXTURE CUT SHEETS
148. E-0.03	SINGLE LINE DIAGRAM & DETAILS
149. E-0.04	PANEL SCHEDULES
150. E-0.05	TITLE 24 - INDOOR
151. E-0.06	TITLE 24 - OUTDOOR
152. E-1.01	SITE ELECTRICAL PLAN
153. E-1.01A	SITE PHOTOMETRIC PLAN
154. E-2.01	BUILDING LIGHTING PLANS
155. E-2.01A	BUILDING EGRESS LIGHTING CALCULATIONS
156. E-3.01	BUILDING POWER & SIGNAL PLANS
157. E-3.02	ROOF ELECTRICAL PLAN
158. E-3.03	POOL BUILDING LIGHTING, POWER & SIGNAL PLANS
159. E-4.01	DETAILS AND ENLARGED ELECTRICAL PLANS
AQUATICS	
160. SP1.1	SWIMMING POOL PLAN
161. SP1.2	SWIMMING POOL SECTIONS
162. SP2.1	SWIMMING POOL DETAILS
163. SP3.11	GENERAL NOTES
164. SP3.12	GENERAL NOTES
165. SP3.13	TYPICAL CONCRETE DETAILS
166. SP3.21	POOL FOUNDATION PLAN
167. SP3.22	POOL SECTIONS
168. SP3.31	POOL DETAILS
169. SP3.32	EQUIPMENT ANCHORAGE DETAILS
170. SP4.1	POOL PLUMBING PLAN
171. SP4.2	EQUIPMENT ROOM PLAN & ELEVATIONS
172. SP4.3	POOL EQUIPMENT DETAILS
173. SP4.4	POOL PLUMBING DETAILS
174. SP5.1	ELECTRICAL POOL PLAN
175. SP5.2	ELECTRICAL POOL EQUIPMENT ROOM PLAN
176. SP5.3	ELECTRICAL DETAILS

GENERAL NOTES:

1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS BEFORE STARTING WORK.
2. THE ENGINEER DOES NOT WARRANT THE ACCURACY OF SCALED DIMENSIONS ON ANY PLAN. ALL DIMENSIONS SHALL BE AS DESIGNATED ON THE PLANS. THE CONTRACTOR SHALL PROTECT ALL PUBLIC AND PRIVATE PROPERTY
3. DURING THE PERFORMANCE OF WORK DONE UNDER THE CONTRACT. THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO AVOID ANY DAMAGE TO ANY STRUCTURES ADJACENT TO THE PROJECT BOUNDARIES.
4. EXISTING UTILITIES SHOWN ARE BASED ON AVAILABLE RECORDS OF PARENT UTILITY COMPANIES AND MAY NOT ACCURATELY REPRESENT THEIR ACTUAL LOCATIONS. PRIOR TO BEGINNING ANY CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE ACTUAL LOCATIONS (VERTICAL AND HORIZONTAL) OF ALL UTILITIES, IN THE FIELD OR COORDINATE SUCH INDEPENDENT VERIFICATION WITH THE PARENT UTILITY COMPANIES AND PROVIDE THE CITY WITH THE POTHOLE INFORMATION. THE CONTRACTOR SHALL PROTECT IN PLACE OR COORDINATE WITH PARENT COMPANY FOR THE RELOCATION OF CONFLICTING UTILITIES ENCOUNTERED DURING CONSTRUCTION.
5. ADJUST UTILITY VALVE COVERS, UTILITY BOXES, TRAFFIC SIGNAL BOXES, ETC. TO FINISH GARDE. PAYMENT SHALL BE INCLUDED IN THE APPLICABLE CONSTRUCTION BID ITEM AND REFER TO CONSTRUCTION NOTE AND/OR SPECIFICATIONS.
6. PROVIDE TRAFFIC CONTROL PER TECHNICAL PROVISIONS.
7. ALL SURVEY CENTERLINE TIES AND MONUMENTS THAT ARE DAMAGED OR REMOVED SHALL BE RE-ESTABLISHED. THE SURVEYOR SHALL ALSO ESTABLISH CENTERLINE MONUMENTS AND TIES AT ALL STREET INTERSECTIONS WITHIN THE PROJECT LIMITS WHERE NONE EXISTED PRIOR TO CONSTRUCTION. SEE TECHNICAL PROVISIONS.
8. 24 HOUR NOTICE FOR ALL INSPECTIONS REQUIRED.
9. CONTRACTORS SHALL REMOVE AND DISPOSE OF ALL TRASH AND BROKEN BRANCHES BEFORE AND AFTER PAVING.
10. PRIOR TO CUTTING OF ANY ROOTS, CALL PARKS DIVISION AT (310) 217-9564 FOR APPROVAL.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION, OBTAINING NECESSARY APPLICABLE PERMITS WITH LOCAL AGENCIES AND OTHER OWNERS HAVING JURISDICTION AND PREPARING REQUIRED DOCUMENTATION NECESSARY FOR PERMITTING.
12. PROTECT ALL STORM DRAINS, CATCH BASINS, ETC. WITH SAND BAGS, FABRIC, AND OTHER APPROPRIATE BEST MANAGEMENT PRACTICES PER PROJECT SWPPP.
13. THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (USA) AT 1-800-422-4133 TWO WORKING DAYS PRIOR TO ANY EXCAVATION WORK.
14. THE CITY OF GARDENA BUILDING DIVISION ENFORCES CBC CHAPTER 11B FOR DISABLED ACCESS COMPLIANCE AND DOES NOT REVIEW OR APPROVE PLANS FOR ADA COMPLIANCE. REFERENCE CBC CHAPTER 11B.

UTILITY CONTACT NUMBERS:

COMPANY	CONTACT	TELEPHONE NO.
CITY OF GARDENA P.W. TRAFFIC/ELECTRICAL	JEFF JALOMO	(310) 217-9430
CITY OF GARDENA P.W. SEWER	JOHN SCHERER	(310) 217-9599
METRO. WATER DISTRICT	CIVIL ENG. SUBSTRUCTURE SEC.	(213) 217-7059
L.A. COUNTY DEPARTMENT OF PUBLIC HEALTH		(626) 430-5360
L.A. DEPARTMENT OF WATER & POWER	JOSE PORRAS	(213) 367-1049
L.A. SANITATION DISTRICT	JON GANZ	(562) 908-4288
L.A. COUNTY FLOOD CONTROL DISTRICT	DARYLL CHENOWETH	(626) 458-3129
CHEVRON PIPELINE CO.	DAVE ZERLER	(310) 669-4014
CROWN CASTLE	HECTOR AGUILERA	(951) 454-5111
SOUTHERN CALIFORNIA EDISON COMPANY	JASON YAMAUCHI	(310) 738-6760
SOUTHERN CALIFORNIA GAS COMPANY	SALVADOR GONZALES	(310) 970-4844
GOLDEN STATE WATER CO.	JOSEPH SALICIDO CONDE VENTURA	(310) 660-0320 X101 (310) 701-2500
AT&T/SBC/PACIFIC BELL	RAYMOND DOVE TERENCE LITTLE CRAIG CHINEN	(310) 515-4257 (310) 515-4252 (310) 408-4518
TIME WARNER/SPECTRUM/ CHARTER COMMUNICATION	ARTURO FERNANDEZ JOSE ORTIZ	(310) 750-9099 (310) 429-3459
CALIFORNIA UNDERGROUND SERVICE ALERT (USA)		(800) 422-4133

PROJECT DIRECTORY:

OWNER:
CITY OF GARDENA
1717 W 162ND ST
GARDENA, CA 90247
PHONE: (310) 217-9694
CONTACT: ALLAN RIGG

CIVIL ENGINEER:
CIVTEC
999 CORPORATE DRIVE, SUITE 100
LADERA RANCH, CA 92694
PHONE: (949) 463-8822
CONTACT: TOM CARCELLI

UTILITIES:
MORAN UTILITIES
27127 CALLE ARROYO #1907
SAN JUAN CAPISTRANO, CA 92675
PHONE: (949) 429-5566
CONTACT: JONATHAN PYLES

SURVEYOR:
STARLIGHT SURVEYING
17955 SKY PARK CIR, SUITE F
IRVINE, CA 92614
PHONE: (949) 757-0613
CONTACT: TED KRULL
LICENSE NO.: PLS 5848
SURVEY NAME/NO.: AMC 21-266
SURVEY DATE: NOV. 2021 & JAN. 2022

LANDSCAPE ARCHITECT:
RJM DESIGN GROUP, INC.
31591 CAMINO CAPISTRANO
SAN JUAN CAPISTRANO, CA 92675
PHONE: (949) 493-2600
CONTACT: LARRY RYAN

POOL DESIGN:
JONES & MADHAVAN
100 THOUSAND OAKS BLVD #211
THOUSAND OAKS, CA 91360
PHONE: (805) 777-8469 EXT 102
CONTACT: NACHI MADHAVAN

IRRIGATION:
GLASIR DESIGN
424 NEW JERSEY LANE
PLACENTIA, CA 92870
PHONE: (714) 514-9930
CONTACT: CHRIS CURRY

ARCHITECT:
SVA ARCHITECTS
6 HUTTON CENTER DR #1150
SANTA ANA, CA 92707
PHONE: (949) 809-3380
CONTACT: DOUG BROWN

ELECTRICAL ENGINEER:
FBA ENGINEERING
150 PAULARINO AVENUE, SUITE A120
COSTA MESA, CA 92626
PHONE: (949) 852-9995
CONTACT: BILL ZAVESNICK

GEOTECHNICAL ENGINEER:
SOUTHERN CALIFORNIA GEOTECHNICAL
22885 E. SAVI RANCH PARKWAY, SUITE E
YORBA LINDA, CA 92887
PHONE: (714) 685-1118
CONTACT: GREGORY MITCHELL
LICENSE NO.: 2364
REPORT NAME: GEOTECHNICAL INVESTIGATION AND PROPOSED COMMUNITY AQUATIC AND SENIOR CENTER
REPORT DATE: 11/18/2021

DEFERRED SUBMITTALS:

1. BLEACHERS AS DESCRIBED ON PLANS AND IN SPECIFICATIONS
2. FIRE SPRINKLER SYSTEM AS DESCRIBED ON PLANS AND IN SPECIFICATIONS
3. FIRE ALARM SYSTEM AS DESCRIBED ON PLANS AND IN SPECIFICATIONS
4. ELEVATOR GUIDE RAILS AS DESCRIBED ON PLANS AND IN SPECIFICATIONS
5. PHOTOVOLTAIC DESIGN-BUILD AS DESCRIBED ON SEPARATE PLANS

NOTE:
INSTALLATION OF DEFERRED SUBMITTAL ITEMS SHALL NOT BE STARTED UNTIL DETAILS, PLANS, AND SPECIFICATIONS ARE APPROVED BY THE OWNER AND BUILDING DEPARTMENT. ALLOW 30 DAYS FOR OWNER REVIEW. THE PLANS AND SPECIFICATIONS SHALL FIRST BE REVIEWED AND SIGNED BY THE LANDSCAPE ARCHITECT BEFORE SUBMITTAL TO THE CORRESPONDING REVIEWING AGENCY. CONTRACTOR SHALL SCHEDULE DEFERRED APPROVAL SUBMITTALS WELL IN ADVANCE TO ALLOW FOR BOTH ARCHITECT AND OWNER REVIEW.

LEGAL DESCRIPTION:

A PORTION OF LOT 21 OF TRACT NO. 10901, IN THE CITY OF GARDENA, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 254 PAGES 31 AND 32 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

AND

LOTS 11 AND 12 OF TRACT NO. 10901, IN THE CITY OF GARDENA, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 254, PAGES 31 AND 32 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

STATEMENTS:

ENGINEER OF RECORD:

ALL EASEMENTS SHOWN ON THIS PLAN ARE BASED ON PRELIMINARY TITLE REPORTS BY FIDELITY NATIONAL TITLE CO. (ORDER NO. 987-30076643-18V, DATED OCT. 28. 2021), LAWYERS TITLE (FILE NO. 218254769, DATED SEPT. 7, 2018), AND FIDELITY NATIONAL TITLE CO. (ORDER NO. 989-30033538-D-DL1, DATED FEB. 9, 2021).

PRINT NAME: THOMAS E. CARCELLI DATE: 06/30/2023

SIGNATURE: LICENSE NO.: C-81640

GEOTECHNICAL ENGINEER:

CONSENTS THAT THESE PLANS ARE IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION PREPARED BY SOUTHERN CALIFORNIA GEOTECHNICAL, INC. DATED 11/18/21. THIS REPORT IS A PART OF THESE CONSTRUCTION DOCUMENTS.

PRINT NAME: GREGORY K. MITCHELL DATE: 06/30/2023

SIGNATURE: LICENSE NO.: GE 2364

PROJECT INFORMATION:

PROJECT AREA: 32,450 S.F. (0.74 ± ACRES)

AREA DISTURBED: 41,380 S.F. (0.95 ± ACRES)

CUT: 850 CUBIC YARDS

FILL: 1,200 CUBIC YARDS

JURISDICTIONAL APPROVAL PRIOR TO BUILDING PERMIT:

COUNTY OF LOS ANGELES - DEPARTMENT OF PUBLIC HEALTH

PLAN CHECK NUMBER: SR0324975.
CONTACT: BHARAT DUNGRANI AT (626) 430-5360

COUNTY OF LOS ANGELES - FIRE DEPARTMENT

FEPC2023-0754 - FIRE ENGINEERING - BUILDING PLAN CHECK UNIT - SITE PLAN REVIEW - WATER & ACCESS.
CONTACT: MICHAEL BRAVO AT MICHAEL.BRAVO@FIRE.LACOUNTY.GOV

FEPC2023-0755 - FIRE ENGINEERING - BUILDING PLAN CHECK UNIT - SOLAR VOLTAIC
CONTACT: MICHAEL BRAVO AT MICHAEL.BRAVO@FIRE.LACOUNTY.GOV

NOTE: CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS.

DIRECTOR'S SIGNATURE ON TITLEBLOCK CONSTITUTES SIGNATURES FOR ALL SHEETS IN THE PLAN SET.

DIGALERT
DIAL TOLL FREE
1-800-422-4133
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:
BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:
THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

APPROVED BY:

CITY OF GARDENA
CITY ENGINEER

DATE:

ACCEPTANCE AS TO THE CONFORMANCE WITH APPLICABLE CITY STANDARDS AND PRACTICES

PREPARED BY:

RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT — LARRY RYAN — No. 2498 — 06/30/2023 — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

TITLE SHEET

COMMUNITY AQUATICS & SENIOR CENTER

T-1.01

	INITAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	TP	06/30/2023
CHECKED BY	EC	06/30/2023

APPROVED BY: 7/17/2023 Allan Rigg
DATE
DIRECTOR OF PUBLIC WORKS

SHT. 1 OF 176 DWG. NO. 5-2606

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GENERAL NOTES:

A. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE 2021 "GREENBOOK" STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 2016 EDITION OF APWA STANDARD PLANS AND SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND STATE STANDARD SPECIFICATIONS, CALIFORNIA BUILDING CODE, CALIFORNIA PLUMBING CODE, CALIFORNIA, CALIFORNIA MECHANICAL CODE, CALIFORNIA ENERGY CODE, CALIFORNIA GREEN BUILDING STANDARD CODE, ALL SAFETY ORDERS OF THE STATE INDUSTRIAL COMMISSION, TITLE 3, RULES AND REGULATIONS OF THE NATIONAL BOARD OF FIRE UNDERWRITING, STATE OF CALIFORNIA TITLE 24, SECTION T-20-1401 THROUGH T-20-1406, AND TITLE 20, SECTION 1401-1406 ENERGY REGULATIONS, AND CALGREEN,

B. THE DESIGN ADEQUACY AND SAFETY OF EXCAVATION, ERECTION, BRACING, SHORING, TEMPORARY SUPPORTS, ETC., IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR, AND HAS NOT BEEN CONSIDERED BY THE LANDSCAPE ARCHITECT OR CONSULTANTS. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE NECESSARY SAFETY PRECAUTIONS AND MEASURES NECESSARY TO EXECUTE THE WORK. OBSERVATION VISITS TO THE SITE BY THE LANDSCAPE ARCHITECT OR ANY OF HIS/HER CONSULTANTS SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.

C. DO NOT WILLFULLY PROCEED WITH CONSTRUCTION AS DESIGNED WHEN IT IS OBVIOUS THAT UNKNOWN AND / OR GRADE DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE.

D. THE CONTRACTOR SHALL NOTIFY THE OWNER'S ENGINEER TWO (2) WORKING DAYS PRIOR TO START OF CONSTRUCTION.

E. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT HIS OPERATIONS IN SUCH A MANNER SO AS TO PREVENT DAMAGE TO EXISTING SUBSTRUCTURES. IN THE EVENT OF SUBSTRUCTURE DAMAGE, THE CONTRACTOR SHALL BEAR FULL RESPONSIBILITY AND TOTAL EXPENSE FOR REPAIR AND / OR REPLACEMENT OF SAID SUBSTRUCTURE.

F. THE CONTRACTOR SHALL PROVIDE 72-HOUR NOTICE TO AFFECTED UTILITIES WHEN RELOCATION IS REQUIRED.

G. WORKING HOURS SHALL BE IN ACCORDANCE WITH THE SECTION OF THE SPECIFICATIONS AS DETERMINED BY OWNER.

H. THE CONTRACTOR SHALL NOT BLOCK DRIVEWAYS, PEDESTRIAN ACCESS, ACCESSIBLE ROUTES, OR VEHICULAR TRAFFIC DURING THE PROCESS OF CONSTRUCTION.

I. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL IN THE PUBLIC RIGHT OF WAY AND NEW DRIVE AISLES IN ACCORDANCE WITH ALL APPLICABLE CODES.

J. THE CONTRACTOR WILL COMPLY TO CA-MUTCD WATCH MANUAL DURING CONSTRUCTION.

K. CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT BEFORE START OF CONSTRUCTION (811).

L. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EROSION CONTROL DURING CONSTRUCTION AND MAINTENANCE PERIOD.

M. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING A 6' HIGH TEMPORARY CHAINLINK CONSTRUCTION FENCE WITH LOCKABLE GATES AROUND ALL CONSTRUCTION AREAS. FENCING SHALL BE PROVIDED WITH CONTINUOUS GREEN MESH WINDSCREEN. CONTRACTOR SHALL REVIEW ALIGNMENT / LOCATION OF CONSTRUCTION FENCING WITH OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO CONSTRUCTION. CONTRACTOR SHALL MAINTAIN FENCING UNTIL OWNER'S ACCEPTANCE OF THE WORK. OR CONTRACTOR MAY CONTINUE TO USE AND TAKE OWNERSHIP OF THE EXISTING TEMPORARY CHAINLINK FENCE, AND REMOVE AND DISPOSE THEM AT THE FINAL CONSTRUCTION.

N. CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL NECESSARY PERMITS AND APPLICABLE FEES.

O. MAINTAIN SANITARY TOILET FACILITIES DURING CONSTRUCTION AS REQUIRED BY APPLICABLE REGULATIONS.

P. THE GENERAL CONTRACTOR WARRANTS TO THE OWNER AND THE LANDSCAPE ARCHITECT THAT ALL MATERIALS AND EQUIPMENT FURNISHED WILL BE NEW UNLESS OTHERWISE SPECIFIED, AND THAT ALL WORK WILL BE OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS.

Q. PAVING, MASONRY AND CONCRETE SUBCONTRACTORS ARE TO COORDINATE WITH THE ELECTRICIAN, DRAINLINE SUBCONTRACTOR AND IRRIGATION SUBCONTRACTOR FOR SLEEVING, PIPING AND/OR CONDUIT INSTALLATION UNDER OR THROUGH HARDSCAPE ELEMENTS. ALL WORK SHALL BE COORDINATED BY THE GENERAL CONTRACTOR.

R. VERIFY ALL EASEMENTS, PROPERTY LINES OR LIMIT OF WORK LINES PRIOR TO COMMENCING WORK.

S. IN THE CASE OF DISCREPANCIES IN THE DRAWINGS, SPECIFICATIONS SHALL TAKE PRECEDENCE OVER DETAILS, AND DETAILS SHALL TAKE PRECEDENCE OVER PLANS.

T. SUBSTITUTIONS MUST BE APPROVED IN WRITING BY THE OWNER. SEE SPECIFICATIONS.

U. THE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED PROJECT UNLESS OTHERWISE SHOWN; THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE GENERAL CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY FIELD REPRESENTATIVES OF THE LANDSCAPE ARCHITECT AND THEIR CONSULTANTS SHALL NOT INCLUDE INSPECTIONS OF THE PROTECTIVE MEASURES OR THE CONSTRUCTION PROCEDURES REQUIRED FOR SAME, WHICH ARE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR. ANY SUPPORT SERVICES PERFORMED BY THE LANDSCAPE ARCHITECT AND HIS CONSULTANTS DURING CONSTRUCTION SHALL BE DISTINGUISHED FROM CONTINUOUS AND DETAILED INSPECTION SERVICES, WHICH ARE FURNISHED BY OTHERS. THESE SUPPORT SERVICES PERFORMED BY THE LANDSCAPE ARCHITECT AND HIS CONSULTANTS, WHETHER OF MATERIALS OR WORK, AND WHETHER PERFORMED PRIOR TO, DURING OR AFTER COMPLETION OF CONSTRUCTION, ARE PERFORMED SOLELY FOR THE PURPOSE OF ASSISTING IN QUALITY CONTROL AND IN ACHIEVING CONFORMANCE WITH CONTRACT DRAWINGS AND SPECIFICATIONS BUT THEY DO NOT GUARANTEE GENERAL CONTRACTOR'S PERFORMANCE, AND SHALL NOT BE CONSTRUED AS SUPERVISION OF CONSTRUCTION.

V. CONSTRUCTION ACTIVITIES SHALL NOT INTERFERE WITH ADJACENT EXISTING CONDITIONS. EXISTING SIDEWALKS/BIKEWAYS SHALL REMAIN ACCESSIBLE TO THE PUBLIC THROUGH THE DURATION OF CONSTRUCTION. ALL NECESSARY PROVISIONS SHALL BE MADE TO PROTECT THE SAFETY OF THE GENERAL PUBLIC.

W. DO NOT SCALE THESE DRAWINGS.

ABBREVIATIONS:

@	AT	GUY	GUY WIRE
A.B.	ANCHOR BOLT	H.C.	DISABLED
A.B.S	ACRYLONITRILE BUTADIENE STYRENE PIPE	HT.	HEIGHT
A.C.	ASPHALTIC CONCRETE	HDR	HEADER
AC	ACRE	HORIZ	HORIZONTAL
A.C.P.	ASBESTOS CEMENT PIPE	H.P., HP	HIGH POINT
ALT.	ALTERNATIVE	I.A.	INSIDE DIAMETER
ALUM	ALUMINUM	INV.	INVERT
APPROX.	APPROXIMATE	IRR.	IRRIGATION
AVE	AVENUE	J.A.	JUNCTION BOX
AVG	AVERAGE	JT.	JOINT
B.A.	BEGINNING OF CURVE	L	LENGTH OF ARC
BC	BOTTOM OF CURB	L.A.	LANDSCAPE ARCHITECT
B.A.P.	BEGINNING OF CURB RETURN	LAT.	LATERAL
BLDG.	BUILDING	LF	LINEAR FEET
BLVD	BOULEVARD	L.P.	LOW POINT
B.M.	BENCH MARK	LT	LEFT
BS	BOTTOM OF STEP	MAX.	MAXIMUM
BW	BACK OF WALK	MFG.	MANUFACTURER
C	CENTER	M.H.	MANHOLE
C., COND.	CONDUIT	MIN.	MINIMUM
CB	CATCH BASIN	N	NORTH
C.F.	CURB FACE	N.I.C.	NOT IN CONTRACT
C&G	CURB AND GUTTER	NO., #	NUMBER
C.J.	CONTROL JOINT	N.T.S.	NOT TO SCALE
CIR	CIRCLE	O.C.	ON CENTER
C/L	CHAIN LINK	O.D.	OUTSIDE DIAMETER
C.L., CL	CENTER LINE	OPP.	OPPOSITE
C.I.	CAST IRON	P.A.	PLANTING AREA
C.M.P.	CORREGATED METAL PIPE	P.B.	PULL BOX
C.M.U.	CONCRETE MASONRY UNIT	P.C. CONC.	PORTLAND CEMENT CONCRETE
C.O.	CLEANOUT	P.C.C.	POINT OF COMPOUND CURVE
CONC.	CONCRETE	PL	PROPERTY LINE
CONST.	CONSTUCT/CONSTRUCTION	P.P.	POWER POLE
CONT.	CONTINUOUS	P.S.I.	POUNDS PER SQUARE INCH
C.A.	CONCRETE PIPE	PT.	POINT
C.R.	CURB RETURN	P.T.	POINT OF TANGENCY
CSK	COUNTERSINK	PVC	POLYVINAL CHLORIDE
CU.	CUBIC	R., RAD.	RADIUS
CU. FT.	CUBIC FEET	R.C.P.	REINFORCED CONCRETE PIPE
CY	CUBIC YARDS	RD	ROAD
DET., DTL.	DETAIL	R.C.V.	REMOTE CONTROL VALVE
D.F.	DRINKING FOUNTAIN	REF.	REFERENCE
DF	DOUGLAS FIR	REQ.	REQUIRED
DG	DECOMPOSED GRANITE	RR	RAILROAD
DIA., Ø	DIAMETER	RT.	RIGHT
DR.	DRIVE	RWD	REDWOOD
DS	DOWNSPOUT	R/W, R.O.W.	RIGHT OF WAY
DWY.	DRIVEWAY	ROS	ROUGH SAWN
E	EAST	S	SOUTH
EA	EACH	SCH.	SCHEDULE
E.C.	END OF CURB	SD	STORM DRAIN
E.C.R.	END OF CURB RETURN	SEC.	SECTION
E.J.	EXPANSION JOINT	SG	SUBGRADE
ELEV.	ELEVATION	SHT	SHEET
E.P.	EDGE OF PAVEMENT	SF	SQUARE FEET
EQ.	EQUAL	SPEC	SPECIFICATIONS
EST.	ESTIMATE	SQ.	SQUARE
E.W.	EACH WAY	ST.	STREET
EX.	EXISTING	STA.	STATION
EXC.	EXCAVATION	STD.	STANDARD
F.F.	FINISHED FLOOR	S4S	SURFACE FOUR SIDE
FFE	FINISH FLOOR ELEVATION	T.C., TC	TOP OF CURB
FG	FINISH GRADE	T.C.B.	TOP OF CATCH BASIN
F.H.	FIRE HYDRANT	T.F., TF	TOP OF FOOTING
F.L., FL	FLOW LINE	T.G., TG	TOP OF GRATE
F.O.B.	FACE OF BUILDING	T&G	TONGUE AND GROOVE
F.O.C.	FACE OF CURB	TOB	TOP OF BEAM
F.S., FS	FINISH SURFACE	TS	TOP OF STEP
FT	FEET/FOOT	T.W., TW	TOP OF WALL
FTG.	FOOTING	TYP.	TYPICAL
GA.	GAUGE	V.	VOLTAGE
GALV.	GALVANIZED	V.C.	VERTICAL CURVE
GC	GROUNDCOVER	VERT.	VERTICAL
G.B.	GRADE BREAK	W/	WITH
G.L.B.	GLUE LAMINATED BEAM	W	WEST
G.P.M.	GALLONS PER MINUTE	W.P.	WATERPROOFING
GR	GRADING	W.M.	WATER METER
GRND	GROUND	WWM	WELDED WIRE MESH
		W.V.	WATER VALVE

NOTICE TO CONTRACTOR:

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING THE SITE PRIOR TO MOBILIZATION AND THE BEGINNING OF CONSTRUCTION. ANY EXISTING ELEMENTS TO BE PROTECTED IN PLACE, WHICH SHOW ANY TYPE OF DAMAGE (E.G. CRACKED CONCRETE, DAMAGE TO TREES, ETC.), SHOULD BE BROUGHT TO THE ATTENTION OF THE city. OTHERWISE, CONTRACTOR MAY BE HELD RESPONSIBLE FOR REPAIRING OR REPLACING ANY DAMAGED EXISTING ELEMENTS-TO-REMAIN AT HIS EXPENSE.

B. A DIGITAL FILE OF THE HORIZONTAL CONTROL INCLUDING HARDSCAPE WALKWAYS AND PARKING WILL BE PROVIDED TO THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION TO ASSIST THE SURVEYOR IN THE LAYOUT OF THESE AREAS AND THE PREPARATION OF THE STAKING PLAN.

C. EXISTING UTILITIES WERE OBTAINED FROM OWNER AND AGENCY RECORDS - NOT 'AS BUILT' DRAWINGS. CONTRACTOR MUST POTHOLE AND HAND EXCAVATE WHEN COMPLETING ANY SUB-SURFACE WORK. RELOCATE, LOWER, OR REALIGN ANY UTILITY ENCOUNTERED. MINIMUM DEPTH OVER NEW OR RELOCATED UTILITY IS 24". THE CONTRACTOR SHALL ASCERTAIN THE TRUE VERTICAL AND HORIZONTAL LOCATION AND SIZE OF ANY UNDERGROUND UTILITIES AND SHALL BE RESPONSIBLE FOR DAMAGE TO ANY PUBLIC OR PRIVATE UTILITIES, SHOWN OR NOT SHOWN HEREON.

D. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT THE JOB SITE AND NOTIFY THE LANDSCAPE ARCHITECT OR HIS REPRESENTATIVE OF ANY DIMENSIONAL ERRORS, OMISSIONS, OR DISCREPANCIES BEFORE BEGINNING OR FABRICATING ANY WORK.

E. DO NOT SCALE THESE DRAWINGS.

SURVEY RESPONSIBILITY NOTES:

A. NOTE: CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROVIDING COMPLETE, TIMELY AND ACCURATE FIELD LAYOUT OF THE PROPOSED SITE IMPROVEMENTS INCLUDING, BUT NOT NECESSARILY LIMITED TO, HORIZONTAL AND VERTICAL CONTROL AND DIMENSIONAL COORDINATION AS NECESSARY TO CONSTRUCT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. REFER TO SHEET C-4.01 FOR THE HORIZONTAL CONTROL PLAN. FOR VERTICAL CONTROL, REFER TO THE BENCHMARK. THIS SURVEY WORK SHALL BE PERFORMED BY OWNER'S DESIGNATED REPRESENTATIVE AND SHALL PROVIDE FOR THE SURVEY AND STAGING OF ALL CONSTRUCTION ELEMENTS AS INDICATED IN PLANS.

B. AN AUTOCAD-COMPATIBLE .DWG FILE OF THE PROPOSED IMPROVEMENTS SHALL BE PROVIDED TO THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION FOR USE IN PREPARING THE NECESSARY FIELD SURVEYING / LAYOUT OF PROPOSED IMPROVEMENTS BY THE OWNER'S AUTHORIZED REPRESENTATIVE. THE USE OF THIS DIGITAL FILE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND IS INTENDED TO ASSIST THE SURVEYOR IN THE LAYOUT OF THE PROPOSED IMPROVEMENTS.

C. THESE ELECTRONIC FILES ARE NOT CONSTRUCTION DOCUMENTS. DIFFERENCES MAY EXIST BETWEEN THESE ELECTRONIC FILES AND CORRESPONDING HARD COPY CONSTRUCTION DOCUMENTS ISSUED FOR PUBLIC BID. IN THE EVENT THAT A CONFLICT ARISES BETWEEN THE SIGNED OR SEALED HARD COPY CONSTRUCTION DOCUMENTS AND THE ELECTRONIC FILES, THE SIGNED OR SEALED HARD COPY CONSTRUCTION DOCUMENTS SHALL GOVERN. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING IF ANY CONFLICT EXISTS AND SHALL BRING ANY DISCREPANCIES TO THE PROJECT LANDSCAPE ARCHITECT'S ATTENTION PRIOR TO ANY FIELD LAYOUT. BY THE CONTRACTOR'S USE OF THESE ELECTRONIC FILES, THEY ARE NOT RELIEVED OF THEIR DUTY TO FULLY COMPLY WITH THE CONTRACT DOCUMENTS, INCLUDING, AND WITHOUT LIMITATION, THE NEED TO CHECK, CONFIRM, AND COORDINATE ALL DIMENSIONS AND DETAILS, TAKE FIELD MEASUREMENTS, VERIFY FIELD CONDITIONS, AND COORDINATE THE WORK WITH THAT OF OTHER CONTRACTORS FOR THE PROJECT.

D. THE DIGITAL INFORMATION PROVIDED BY RJM DESIGN GROUP, INC. SHALL NOT BE USED FOR ANY PURPOSE OTHER THAN FOR THE PROJECT DESCRIBED ABOVE AND SHALL NOT BE RELEASED TO ANY OTHER PARTY WITHOUT THE WRITTEN CONSENT OF RJM DESIGN GROUP, INC. THE INFORMATION CONTAINED ON THE ELECTRONIC MEDIA IS AN INSTRUMENT OF PROFESSIONAL SERVICES AND SHALL REMAIN THE PROPERTY OF RJM DESIGN GROUP, INC.

E. PROJECT SURVEYOR: STARLIGHT SURVEYING
SURVEYOR ADDRESS: 17955 SKY PARK CIR, SUITE F, IRVINE, CA 92614
SURVEYOR NAME: TED KRULL
LICENSE NO.: PLS 5848
SURVEY NAME/NO: AMC 21-266
SURVEY DATE: NOV. 2021 & JAN. 2022

F. THE CONTRACTOR IS REQUIRED TO LOCATE AND TIE OUT SURVEY MONUMENTS IN THE PROJECT AREA PRIOR TO CONSTRUCTION. SEE SPECIFICATION SECTION 3-10.4, PERMANENT SURVEY MARKERS FOR FURTHER DETAILS.

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AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:
BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:
THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

APPROVED BY:

CITY OF GARDENA
CITY ENGINEER

DATE: _____

ACCEPTANCE AS TO THE CONFORMANCE WITH APPLICABLE CITY STANDARDS AND PRACTICES

PREPARED BY:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

GENERAL NOTES

COMMUNITY AQUATICS & SENIOR CENTER

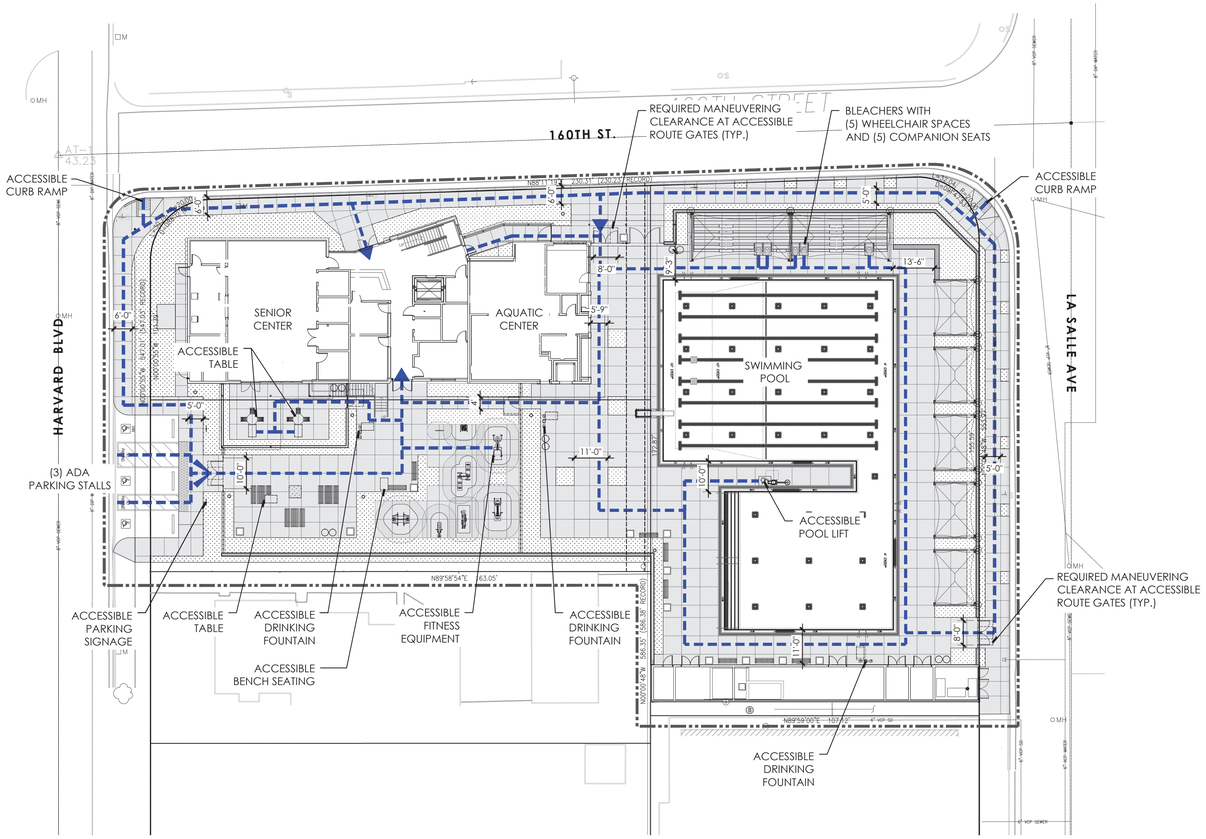
T-1.02

	INITAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	TP	06/20/2023
CHECKED BY	EC	06/30/2023

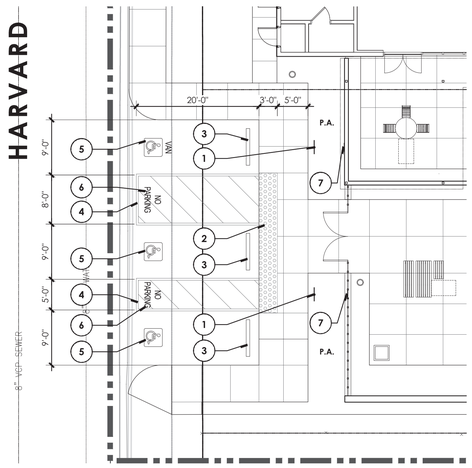
APPROVED BY:

DATE _____ DIRECTOR OF PUBLIC WORKS

SHT. 2 OF 176 DWG. NO. 5-2606



SITE ACCESSIBILITY PLAN
SCALE: 1" = 20'-0"



ACCESSIBLE PARKING PLAN ENLARGEMENT
SCALE: 1" = 10'-0"

CONSTRUCTION LEGEND:

	CONSTRUCT:	DETAIL REFERENCE:
1	ADA ACCESSIBLE PARKING SIGNAGE	DETAIL: 5 SHEET: L-2.01
2	TRUNCATED DOMES - PER CIVIL	DETAIL: 9 SHEET: C-0.02
3	WHEEL STOP - PER CIVIL	DETAIL: 10 SHEET: C-0.02
4	ACCESS AISLE - PER CIVIL	DETAIL: 9 SHEET: C-0.02
5	INTERNATIONAL SYMBOL OF ACCESSIBILITY - PER CIVIL	DETAIL: 9 SHEET: C-0.02
6	"NO PARKING" IN WHITE LETTERS 12" HIGH - PER CIVIL	DETAIL: 9 SHEET: C-0.02
7	ADA ADDITIONAL PARKING SIGN PER CBC 11B-502.8 INSTALLED ON WALL/FENCE	DETAIL: 5 SHEET: L-2.01

CODE ANALYSIS

OCCUPANCY LOAD CALCULATIONS PER CBC TABLE 1004.12
POOL = 1 OCCUPANT / 50 SQ. FT.
DECK = 1 OCCUPANT / 15 SQ. FT.
BLEACHER = 1 OCCUPANT / 18" (A-5 OCCUPANCY)
DECK = 1 OCCUPANT / 15 SQ. FT.

COMPETITION POOL AND ACTIVITY POOL AREA

DECK AREA	661 OCCUPANTS
POOL SURFACE AREA	140 OCCUPANTS
PERMANENT BLEACHER SEATING	196 OCCUPANTS
	997 OCCUPANTS

997 OCCUPANTS x 0.2" = 199.4" = 16'-8" GATE WIDTH REQUIRED
20' GATE WIDTH PROVIDED WITH (5) 4' GATES

ADA ACCESSIBLE ROUTE LEGEND

- (N) LANDSCAPE AREA
- (N) PEDESTRIAN CONCRETE PAVING
- (N) WALLS / LOW WALLS
- (N) ACCESSIBLE ROUTE — NOT TO EXCEED 5% CROSS SLOPES NOT TO EXCEED 2%
- (N) MAIN ENTRY
- (N) REQUIRED MANEUVERING CLEARANCE / CLEAR FLOOR SPACE

ADA ACCESSIBLE ROUTE NOTES

* SEE ADDITIONAL COUNTY OF LOS ANGELES ACCESSIBILITY GENERAL NOTES - SHEET T-1.04

A. ACCESSIBLE ROUTE AS INDICATED IS A BARRIER-FREE ACCESS ROUTE WITHOUT ANY ABRUPT VERTICAL CHANGES EXCEEDING ¼" BEVELED AT 2 HORIZONTAL : 1 VERTICAL MAXIMUM SLOPE, EXCEPT THAT LEVEL CHANGES DO NOT EXCEED ½" VERTICAL AND IS AT LEAST 48" WIDE. SURFACE IS SLIP RESISTANT, STABLE, FIRM AND SMOOTH. CROSS-SLOPE DOES NOT EXCEED 2% AND SLOPE IN THE OF TRAVEL IS LESS THAN 5% UNLESS OTHERWISE INDICATED. (P.O.T.) SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM (11B-307.4) AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM WALL AND ABOVE 27" AND LESS THAN 80" (11B-204/11B-307). THE CONTRACTOR SHALL VERIFY THAT ALL BARRIERS IN THE PATH OF TRAVEL HAVE BEEN REMOVED OR WILL BE REMOVED UNDER THIS PROJECT, AND PATH OF TRAVEL COMPLIES WITH CBC 11B-206.

B. GATES AT PATH OF TRAVEL MUST COMPLY WITH EXIT DOOR REQUIREMENT (CBC SECTION 1010). GATES IN THE PATH OF TRAVEL SHALL HAVE PANIC HARDWARE.

C. PROVIDE DIRECTIONAL SIGNS TO IDENTIFY AN APPARENT AND CONVENIENT PATH OF TRAVEL FOR PERSONS WITH DISABILITIES. LOCATION OF ALL DIRECTIONAL SIGNS IS INDICATED ON THIS PLAN. SIGNS TO COMPLY WITH SECTION 11B-216.3 / 11B-703.

D. SURFACE SLOPES OF ACCESSIBLE PARKING SPACES SHALL BE THE MINIMUM POSSIBLE AND SHALL NOT EXCEED ONE UNIT VERTICAL TO 50-UNITS HORIZONTAL (2-PERCENT SLOPE) IN ANY DIRECTION (11B-502.4).

E. RAMP SHALL NOT ENCROACH INTO ANY ACCESSIBLE PARKING SPACE OR THE ADJACENT ACCESS AISLE. THE MAXIMUM CROSS SLOPE IN ANY DIRECTION OF AN ACCESSIBLE PARKING SPACE AND ADJACENT ACCESS AISLE SHALL NOT EXCEED 2 PERCENT (1109A.8.2).

F. PROVIDE A BUMPER OR CURB IN EACH PARKING AREA TO PREVENT ENCROACHMENT OF CARS OVER THE REQUIRED WIDTH OF WALKWAYS (11B-502.7.2).

G. PROVIDE A CONTINUOUS COMMON SURFACE FOR WALKS AND SIDEWALKS, NOT INTERRUPTED BY STEPS OR BY ABRUPT CHANGES IN LEVEL EXCEEDING 1/2". (11B-403) SHOULD CHANGE NOT EXCEEDING 1/2" OCCUR, THEY SHALL BE BEVELED WITH A SLOPE NO GREATER THAN ONE UNIT VERTICAL TO 2 UNITS HORIZONTAL (50 PERCENT), EXCEPT THAT LEVEL CHANGES NOT EXCEEDING 1/4" MAY BE VERTICAL (11B-403.4, FIG 11B-303.2 & 11B-303.3).

H. PROVIDE A CURB RAMP FOR ABRUPT CHANGES IN LEVEL GREATER THAN 1/2" (11B-303.4).

I. WALK AND SIDEWALK SURFACE CROSS SLOPES SHALL NOT EXCEED 1/4" PER FOOT (11B-403.3).

J. WALKS, SIDEWALKS, AND PEDESTRIAN WAYS SHALL BE FREE OF GRATINGS WHENEVER POSSIBLE. FOR GRATINGS LOCATED IN THE SURFACE OF ANY OF THESE AREAS, GRID OPENINGS IN GRATINGS SHALL BE LIMITED TO ½" IN THE DIRECTION OF TRAFFIC FLOW. IF GRATINGS HAVE ELONGATED OPENINGS, THEY SHALL BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL (11B-302.3. FIG11B-302.3).

K. MAXIMUM SLOPES OF ADJOINING GUTTERS, ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP OR ACCESSIBLE ROUTE, SHALL NOT EXCEED ONE UNIT VERTICAL TO 20 UNITS HORIZONTAL (5 PERCENT SLOPE) WITH 4 FEET OF THE TOP AND BOTTOM OF THE CURB RAMP (11B-406.2.1). THE SLOPE OF THE FANNED OR PARALLEL CURB RAMPS SHALL NOT EXCEED ONE UNIT VERTICAL TO 12 HORIZONTAL (8.3 PERCENT SLOPE)(11B-406.3.1 & 11B-406.4.1).

L. THE MAXIMUM SLOPE OF A RAMP THAT SERVES ANY EXIT WAY, PROVIDES ACCESS FOR PERSONS WITH PHYSICAL DISABILITIES, OR IS IN THE ACCESSIBLE ROUTE OF TRAVEL SHALL BE 1 FOOT RISE IN 12 FEET OF HORIZONTAL RUN (8.3 PERCENT GRADIENT). THE LEAST POSSIBLE SLOPE SHALL BE USED FOR ANY RAMP (11B-405.2).

N

GRAPHIC SCALE
0 5 10 20 40 80
(IN FEET)
1" = 20'

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THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
(949) 493-2690 fax
(949) 493-2600 phone

LICENSED LANDSCAPE ARCHITECT — RYAN JAMES MILLER — No. 6064 — 01/31/2025 — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
SITE ACCESSIBILITY PLAN / CODE ANALYSIS
COMMUNITY AQUATICS & SENIOR CENTER
T-1.03

	INITAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	TF	06/30/2023
CHECKED BY	EC	06/30/2023

APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS

SHT. 3 OF 176 DWG. NO. S-2606

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GENERAL PROJECT INFORMATION

PLAN CHECK NO _____ DISTRICT NO _____
JOB ADDRESS _____ CITY _____ ZIP _____

NOTE: Numbers in the parenthesis ( ) refer to sections of the 2017 edition of the Los Angeles County Building Code, Table (T) & Building Code Manual (BCM).

Please blueprint these General Notes on your plans.

The State of California delegates to the local jurisdiction the authority to ensure compliance with Title 24, Part 2 of the California Code of Regulations. This correction list indicates specific areas of Title 24, Part 2 which are applicable to your project. Please be aware that the owner(s) of this building and his/her consultants are responsible for compliance with the most current Federal Regulations contained in the Americans with Disabilities Act (ADA) and Fair Housing Act (FHA). Where the ADA & FHA requirements exceed those contained in Title 24, Part 2, it is the owners responsibility and consultants to ensure compliance with the most current ADA & FHA regulations, as the County/City is not delegated the authority to plan review or inspect projects for ADA & FHA compliance.

A. APPLICATION AND ADMINISTRATION

1. Public accommodations shall maintain in operable working condition those features of facilities and equipment that are required to be accessible to and useable by persons with disabilities. Isolated or temporary interruptions in service or accessibility due to maintenance or repairs shall be permitted. **§11B-108**

B. BUILDING BLOCKS

FLOOR OR GROUND SURFACES

1. Floor and ground surfaces shall be stable, firm, and slip resistant. **§11B-302.1**
2. Carpet or carpet tile shall be securely attached and shall have a firm cushion, pad, or backing or no cushion or pad. Carpet or carpet tile shall have a level loop, textured loop, level cut pile, or level cut/uncut pile texture. Pile height shall be ½ inch maximum. **§11B-302.2, Figure 11B-302.2**

CHANGES IN LEVEL

3. Vertical changes in level for floor or ground surfaces may be ¼ inch high maximum and without edge treatment. Changes in level greater than ¼ inch and not exceeding ½ inch in height shall be beveled with a slope not steeper than 1:2. **§11B-303, Figures 11B-303.2 & 11B-303.3**
4. Changes in level greater than ½ inch in height shall be ramped and shall comply with the requirements of 11B-405 Ramps or 11B-406 Curb Ramps as applicable. **§11B-303**
5. Abrupt changes in level exceeding 4 inches in a vertical dimension between walks, sidewalks or other pedestrian ways and adjacent surfaces or features shall be identified by warning curbs at least 6 inches in height above the walk or sidewalk surface or by guards or handrails with a guide rail centered 2 inches minimum and 4 inches maximum above the surface of the walk or sidewalk. These requirements do not apply between a walk or sidewalk and an adjacent street or driveway. **§11B-303.5**

TURNING SPACE

6. Circular turning spaces shall be a space of 60 inches diameter minimum and may include knee and toe clearance complying with 11B-306 Knee and Toe Clearance. **§11B-304.3.1**
7. T-Shaped turning spaces shall be a T-shaped space within a 60 inch square minimum with arms and base 36 inches wide minimum. Each arm of the T shall be clear of obstructions 12 inches minimum in each direction and the base shall be clear of obstructions 24 inches minimum. **§11B-304.3.2, Figure 11B-304.3.2**

KNEE AND TOE CLEARANCE

8. For lavatories and built-in dining and work surfaces required to be accessible, toe clearance shall be provided that is 30 inches in width and 9 inches in height above the finish floor or ground for a depth of 19 inches minimum. **§11B-306.2.1**
9. Toe clearance shall extend 19 inches maximum under lavatories for toilet and bathing facilities and 25 inches maximum under other elements. **§11B-306.2.2**
10. At lavatories in toilet and bathing facilities, knee clearance shall be provided that is 30 inches in width for a depth of 11 inches at 9 inches above the finish floor or ground and for a depth of 8 inches at 27 inches above the finish floor or ground increasing to 29 inches high minimum above the finish floor or ground at the front edge of a counter with a built-in lavatory or at the front edge of a wall-mounted lavatory fixture. **§11B-306.3.3, Figure 11B-306.3(c)**
11. At dining and work surfaces required to be accessible, knee clearance shall be provided that is 30 inches in width at 27 inches above the finish floor or ground for a depth of at least 19 inches. **§11B-306.3**

PROTRUDING OBJECTS

12. Except for handrails, objects with leading edges more than 27 inches and less than 80 inches above the finish floor or ground shall protrude no more than 4 inches horizontally into the circulation path. Handrails may protrude 4½ inches maximum. **§11B-307.2, Figure 11B-307.2**
13. Freestanding objects mounted on posts or pylons shall overhang circulation paths no more than 12 inches when located from 27 to 80 inches above the finish floor or ground. **§11B-307.3, Figure 11B-307.3(a)**
14. Protruding objects shall not reduce the clear width required for accessible routes. **§11B-307.5**
15. Lowest edge of a sign or other obstruction, when mounted between posts or pylons separated with a clear distance greater than 12 inches, shall be less than 27 inches or more than 80 inches above the finish floor or ground. **§11B-307.3, Figure 11B-307.3(b)**
16. Vertical clearance shall be at least 80 inches high on circulation paths except at door closers and door stops, which may be 78 inches minimum above the finish floor or ground. **§11B-307.4**
17. Guardrails or other barriers with a leading edge located 27 inches maximum above the finish floor or ground shall be provided where the vertical clearance on circulation paths is less than 80 inches high. **§11B-307.4, Figure 11B-307.4**
18. Where a guy support is used within either the width of a circulation path or 24 inches maximum outside of a circulation path, a vertical guy brace, sidewalk guy or similar device shall be used to prevent a hazard or an overhead obstruction. **§11B-307.4.1, Figure 11B-307.4.1**

REACH RANGES

19. Electrical controls and switches intended to be used by the occupant of a room or area to control lighting and receptacle outlets, appliances or cooling, heating and ventilating equipment shall be located within allowable reach ranges. Low reach shall be measured to the bottom of the outlet box and high reach shall be measured to the top of the outlet box. **§11B-308.1.1**
20. Electrical receptacle outlets on branch circuits of 30 amperes or less and communication system receptacles shall be located within allowable reach ranges. Low reach shall be measured to the bottom of the outlet box and high reach shall be measured to the top of the outlet box. **§11B-308.1.2.**
21. High forward reach that is unobstructed shall be 48 inches maximum and the low forward reach shall be 15 inches minimum above the finish floor or ground. **§11B-308.2.1, Figure 11B-308.2.1**
22. High forward reach shall be 48 inches maximum where the reach depth is 20 inches or less and 44 inches maximum where the reach depth exceeds 20 inches. High forward reach shall not exceed 25 inches in depth. **§11B-308.2.2, Figure 11B-308.2.2**
23. High side reach shall be 48 inches maximum and the low side reach shall be 15 inches minimum above the finish floor where the side reach is unobstructed or the depth of any obstruction does not exceed 10 inches. **§11B-308.3.1, Figure 11B-308.3.1**
24. High side reach shall be 46 inches maximum above the finish floor or ground where the high side reach is over an obstruction more than 10 inches but not more than 24 inches in depth. **§11B-308.3.2, Figure 11B-308.3.2**

25. Obstructions for high side reach shall not exceed 34 inches in height and 24 inches in depth. **§11B-308.3.2, Figure 11B-308.3.2**
26. Obstructed high side reach for the top of washing machines and clothes dryers shall be permitted to be 36 inches maximum above the finish floor. **§11B-308.3.2**
27. Obstructed high side reach for the operable parts of fuel dispensers shall be permitted to be 54 inches maximum measured from the surface of the vehicular way where fuel dispensers are installed on existing curbs. **§11B-308.3.2**

OPERABLE PARTS

28. Operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. Force required to activate operable parts shall be 5 pounds maximum. **§11B-309.4**

C. ACCESSIBLE ROUTES

DETECTABLE WARNINGS AND DETECTABLE DIRECTIONAL TEXTURE

1. Detectable warning surfaces shall be yellow and approximate FS 33538 of Federal Standard 595C. **§11B-705.1.1.3.1**
2. Detectable warning surfaces shall provide a 70 percent minimum visual contrast with adjacent walking surfaces. Contrast in percent shall be determined by:

   Contrast percent = [(B1-B2)/B1] x 100 where

   B1 = light reflectance value (LRV) of the lighter area and

   B2 = light reflectance value (LRV) of the darker area

   §11B-705.1.1.3.2 (See exception)

DOORS, DOORWAYS, AND GATES

3. Doors, doorways, and gates providing user passage shall be provided in accordance with 11B-206.5 Doors, Doorways, and Gates. **§11B-206.5**
4. Doors, doorways and gates that are part of an accessible route shall comply with 11B-404 Doors, Doorways, and Gates. **§11B-404.1**
5. Door openings shall provide a clear width of 32 inches minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches deep shall provide a clear opening of 36 inches minimum. There shall be no projections into the required clear opening width lower than 34 inches above the finish floor or ground. Projections into the clear opening width between 34 inches and 80 inches above the finish floor or ground shall not exceed 4 inches. **§11B-404.2.3**
6. Swinging doors and gates shall have maneuvering clearances complying with Table 11B-404.2.4.1. **§11B-404.2.4.1**
7. Doorways less than 36 inches wide without doors or gates, sliding doors, or folding doors shall have maneuvering clearances complying with Table 11B-404.2.4.2. **§11B-404.2.4.2**
8. Maneuvering clearances for forward approach shall be provided when any obstruction within 18 inches of the latch side an interior doorway, or within 24 inches of the latch side of an exterior doorway, projects more than 8 inches beyond the face of the door, measured perpendicular to the face of the door or gate. **§11B-404.2.4.3**
9. Thresholds, if provided at doorways, shall be ½ inch high maximum. Raised thresholds and changes in level at doorways shall comply with 11B-302 Floor or Ground Surfaces and 11B-303 Changes in Level. **§11B-404.2.5**
10. Handles, pulls, latches, locks, and other operable parts on doors and gates shall comply with 11B-309.4 Operation. Operable parts of such hardware shall be 34 inches minimum and 44 inches maximum above the finish floor or ground. Where sliding doors are in the fully open position, operating hardware shall be exposed and usable from both sides. **§11B-404.2.7**
11. The force for pushing or pulling open a door or gate other than fire doors shall be as follows: **§11B-404.2.9**
    a. Interior hinged doors and gates: 5 pounds maximum.
    b. Sliding or folding doors: 5 pounds maximum.

    c. Required fire doors: the minimum opening force allowable by the appropriate administrative authority, not to exceed 15 pounds.
    d. Exterior hinged doors: 5 pounds maximum.
12. Swinging door and gate surfaces within 10 inches of the finish floor or ground measured vertically shall have a smooth surface on the push side extending the full width of the door or gate. Parts creating horizontal or vertical joints in these surfaces shall be within 1/16 inch of the same plane as the other and be free of sharp or abrasive edges. Cavities created by added kick plates shall be capped. **§11B-404.2.10**

RAMPS

13. Ramp runs shall have a running slope not steeper than 1:12 (8.33%). **§11B-405.2**
14. Cross slope of ramp runs shall not be steeper than 1:48 (2.083%). **§11B-405.3**
15. Floor or ground surfaces of ramp runs shall comply with 11B-302 Floor or Ground Surfaces. Changes in level other than the running slope and cross slope are not permitted on ramp runs. **§11B-405.4**
16. The clear width of a ramp run shall be 48 inches minimum. **§11B-405.5**
17. The rise for any ramp run shall be 30 inches maximum. **§11B-405.6**
18. Ramps shall have landings at the top and the bottom of each ramp run. **§11B-405.7**
19. Landings shall comply with 11B-302 Floor or Ground Surfaces. Changes in level are not permitted. **§11B-405.7.1**
20. The landing clear width shall be at least as wide as the widest ramp run leading to the landing. **§11B-405.7.2**
21. Top landings shall be 60 inches wide minimum. **§11B-405.7.2.1**
22. The landing clear length shall be 60 inches long minimum. **§11B-405.7.3**
23. Bottom landings shall extend 72 inches minimum in the direction of ramp run. **§11B-405.7.3.1**
24. Ramps that change direction between runs at landings shall have a clear landing 60 inches minimum by 72 inches minimum in the direction of downward travel from the upper ramp run. **§11B-405.7.4**
25. Where doorways are located adjacent to a ramp landing, maneuvering clearances required by 11B-404.2.4 and 11B-404.3.2 shall be permitted to overlap the required landing area. Doors, when fully open, shall not reduce the required ramp landing width by more than 3 inches. Doors, in any position, shall not reduce the minimum dimension of the ramp landing to less than 42 inches. **§11B-405.7.5**
26. Ramp runs shall have compliant handrails per 11B-505 Handrails. **§11B-405.8**
27. Edge protection complying with 11B-405.9.2 Curb or Barrier shall be provided on each side of ramp runs and at each side of ramp landings. **§11B-405.9 (See exceptions)**
28. A curb, 2 inches high minimum, or barrier shall be provided that prevents the passage of a 4 inch diameter sphere, where any portion of the sphere is within 4 inches of the finish floor or ground surface. To prevent wheel entrapment, the curb or barrier shall provide a continuous and uninterrupted barrier along the length of the ramp. **§11B-405.9.2**
29. Landings subject to wet conditions shall be designed to prevent the accumulation of water. **§11B-405.10**

HANDRAILS

30. Handrails shall be provided on both sides of stairs and ramps. **§11B-505.2**
31. Handrails shall be continuous within the full length of each stair flight or ramp run. Inside handrails on switchback or dogleg stairs and ramps shall be continuous between flights or runs. **§11B-505.3**
32. Top of gripping surfaces of handrails shall be 34 inches minimum and 38 inches maximum vertically above walking surfaces, stair nosings, and ramp surfaces. Handrails shall be at a consistent height above walking surfaces, stair nosings, and ramp surfaces. **§11B-505.4**
33. Clearance between handrail gripping surfaces and adjacent surfaces shall be 1½ inches minimum. Handrails may be located in a recess if the recess is 3 inches maximum deep and 18 inches minimum clear above the top of the handrail. **§11B-505.5**

34. Handrail gripping surfaces shall be continuous along their length and shall not be obstructed along their tops or sides. The bottoms of handrail gripping surfaces shall not be obstructed for more than 20 percent of their length. Where provided, horizontal projections shall occur 1½ inches minimum below the bottom of the handrail-gripping surface. **§11B-505.6**
35. Handrail gripping surfaces with a circular cross section shall have an outside diameter of 1¼ inches minimum and 2 inches maximum. **§11B-505.7.1**
36. Handrail gripping surfaces with a non-circular cross section shall have a perimeter dimension of 4 inches minimum and 6¼ inches maximum, and a cross-section dimension of 2¼ inches maximum. **§11B-505.7.2**
37. Handrail gripping surfaces shall extend beyond and in the same direction of stair flights and ramp runs in accordance with Section 11B-505.10 Handrail Extensions. **§11B-505.10**
38. Ramp handrails shall extend horizontally above the landing for 12 inches minimum beyond the top and bottom of ramp runs. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent ramp run. **§11B-505.10.1**
39. At the top of a stair flight, handrails shall extend horizontally above the landing for 12 inches minimum beginning directly above the first riser nosing. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight. **§11B-505.10.2**
40. At the bottom of a stair flight, handrails shall extend at the slope of the stair flight for a horizontal distance equal to one tread depth beyond the last riser nosing. The horizontal extension of a handrail shall be 12 inches long minimum and a height equal to that of the sloping portion of the handrail as measured above the stair nosings. Extension shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight. **§11B-505.10.3**

STAIRWAYS

41. A stair is defined as a change in elevation, consisting of one or more risers. **§11B-202**
42. All steps on a flight of stairs shall have uniform riser heights and uniform tread depths. Risers shall be 4 inches high minimum and 7 inches high maximum. Treads shall be 11 inches deep minimum. Curved stairways with winder treads are permitted at stairs which are not part of a required means of egress. (See exception) **§11B-504.2**
43. Open risers are not permitted. **§11B-504.3 (See exceptions)**
44. Interior stairs shall have the upper approach and lower tread marked by a stripe providing clear visual contrast. Exterior stairs shall have the upper approach and all treads marked by a stripe providing clear visual contrast. The stripe shall be a minimum of 2 inches wide to a maximum of 4 inches wide placed parallel to, and not more than 1 inch from, the nose of the step or upper approach. The stripe shall extend the full width of the step or upper approach and shall be of material that is at least as slip resistant as the other treads of the stair. A painted stripe shall be acceptable. Grooves shall not be used to satisfy this requirement. **§11B-504.4.1**
45. The radius of curvature at the leading edge of the tread shall be ½ inch maximum. Nosings that project beyond risers shall have the underside of the leading edge curved or beveled. Risers shall be permitted to slope under the tread at an angle of 30 degrees maximum from vertical. The permitted projection of the nosing shall extend 1¼ inches maximum over the tread below. **§11B-504.5 (See exception for existing buildings)**
46. Stairs shall have handrails complying with Section 11B-505 Handrails. **§11B-504.6**
47. Stair treads and landings subject to wet conditions shall be designed to prevent the accumulation of water. **§11B-504.7**
48. Floor identification signs required by Chapter 10, Section 1022.9 complying with Sections 11B-703.1 Signs General, 11B-703.2 Raised Characters, 11B-703.3 Braille and 11B-703.5 Visual Characters shall be located at the landing of each floor level, placed adjacent to the door on the latch side, in all enclosed stairways in buildings two or more stories in height to identify the floor level. At the exit discharge level, the sign shall include a raised five pointed star located to the left of the identifying floor level. The outside diameter of the star shall be the same as the height of the raised characters. **§11B-504.8**

CURB RAMPS, BLENDED TRANSITIONS AND ISLANDS

49. Perpendicular ramps runs shall have a running slope not steeper than 1:12 (8.33%). **§11B-406.2.1**

50. For perpendicular ramps, where provided, curb ramp flares shall not be steeper than 1:10. **§11B-406.2, Figure 11B-406.2.2**
51. The running slope of the curb ramp segments shall be in-line with the direction of sidewalk travel. Ramp runs shall have a running slope not steeper than 1:12 (8.33%). **§11B-406.3.1, Figure 11B-406.3.2**
52. A turning space 48 inches minimum by 48 inches minimum shall be provided at the bottom of the curb ramp. The slope of the turning space in all directions shall be 1:48 maximum (2.083%). **§11B-406.3.2**
53. Blended transition ramps hall have a running slope not steeper than 1:20 (5%). **§11B-406.4.1**
54. Curb ramps and the flared sides of curb ramps shall be located so that they do not project into vehicular traffic lanes, parking spaces, or parking access aisles. Curb ramps at marked crossings shall be wholly contained within the markings, excluding any flared sides. **§11B-406.5.1**
55. The clear width of curb ramp runs (excluding any flared sides), blended transitions, and turning spaces shall be 48 inches minimum. **§11B-406.5.2**
56. Landings shall be provided at the tops of curb ramps and blended transitions (parallel curb ramps shall not be required to comply). The landing clear length shall be 48 inches minimum. The landing clear width shall be at least as wide as the curb ramp, excluding any flared sides, or the blended transition leading to the landing. The slope of the landing in all directions shall be 1:48 (2.083%) maximum. **§11B-406.5.3**
57. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush. **§11B-406.5.6**
58. The cross slope of curb ramps and blended transitions shall be 1:48 (2.083%) maximum. **§11B-406.5.7**
59. Counter slopes of adjoining gutters and road surfaces immediately adjacent to and within 24 inches of the curb ramp shall not be steeper than 1:20 (5%). The adjacent surfaces at transitions at curb ramps to walks, gutters, and streets shall be at the same level. **§11B-406.5.8**
60. The bottom of diagonal curb ramps shall have a clear space 48 inches minimum outside active traffic lanes of the roadway. Diagonal curb ramps provided at marked crossings shall provide the 48 inches minimum clear space within the markings. **§11B-406.5.9**
61. Curb ramps and blended transitions shall have detectable warnings complying with 11B-705 Detectable Warnings. **§11B-406.5.12**
62. Raised islands in crossings shall be cut through level with the street or have curb ramps at both sides. The clear width of the accessible route at islands shall be 60 inches wide minimum. Where curb ramps are provided, they shall comply with 11B-406 Curb Ramps, Blended Transitions and Islands. Landings complying with 11B-406.5.3 Landings and the accessible route shall be permitted to overlap. Islands shall have detectable warnings complying with 11B-705 Detectable Warnings and Detectable Directional Texture. **§11B-406.6, Figure 11B-406.6**

D. GENERAL SITE AND BUILDING ELEMENTS

1. Where parking spaces are provided, accessible parking spaces shall be provided in number and kind required per Section 11B-208 Parking Spaces. **§11B-208.1**
2. Where passenger loading zones, drop-off zones, and/or bus stops are provided, accessible passenger loading zones, drop-off zones, and/or bus stops are required.

E. PLUMBING FIXTURES AND FACILITIES

DRINKING FOUNTAINS

1. Drinking fountains shall comply with Sections 11B-307 Protruding Objects and 11B-602 General Requirements. **§11B-602.1**
2. Units shall have a clear floor or ground space complying with Section 11B-305 Clear Floor or Ground Space positioned for a forward approach and centered on the unit. Knee and toe clearance complying with Section 11B-306 Knee and Toe Clearance shall be provided. **§11B-602.2**

3. Spout outlets shall be 36 inches maximum above the finish floor or ground. **§11B-602.4**
4. The spout shall be located 15 inches minimum from the vertical support and 5 inches maximum from the front edge of the unit, including bumpers. **§11B-602.5**
5. The spout shall provide a flow of water 4 inches high minimum and shall be located 5 inches maximum from the front of the unit. The angle of the water stream shall be measured horizontally relative to the front face of the unit. Where spouts are located less than 3 inches from the front of the unit, the angle of the water stream shall be 30 degrees maximum. Where spouts are located between 3 inches and 5 inches maximum from the front of the unit, the angle of the water stream shall be 15 degrees maximum. **§11B-602.6**
6. Spout outlets of drinking fountains for standing persons shall be 38 inches minimum and 43 inches maximum above the finish floor or ground. **§11B-602.7**
7. Wall and post-mounted cantilevered drinking fountains shall be 18 inches minimum and 19 inches maximum in depth. **§11B-602.8**
8. All drinking fountains shall either be located completely within alcoves, positioned completely between wing walls, or otherwise positioned so as not to encroach into pedestrian ways. The protected area within such a drinking fountain is located shall be 32 inches wide minimum and 18 inches deep minimum, and shall comply with Section 11B-305.7 Maneuvering Clearance. When used, wing walls or barriers shall protect horizontally at least as far as the drinking fountain and to within 6 inches vertically from the floor or ground surface. **§11B-602.9**

TOILET AND BATHING ROOM CLEARANCES

9. Doors to unisex toilet rooms and unisex bathing rooms shall have privacy latches. **§11B-213.2.1**
10. Mirrors located above the lavatories or countertops shall be installed within the bottom edge of the reflecting surface 40 inches maximum above the finish floor or ground. Mirrors not located above the lavatories or countertops shall be installed with the bottom edge of the reflecting surface 35 inches maximum above the finish floor or ground. **§11B-603.3**
11. Coat hooks shall be located within one of the reach ranges specified in Section 11B-308. Shelves shall be located 40 inches minimum and 48 inches maximum above the finish floor. Medicine cabinets shall be located with a usable shelf no higher than 44 inches maximum above the finish floor. **§11B-603.4**
12. Where towel or sanitary napkin dispensers, waste receptacles, or other accessories are provided in toilet facilities, at least one of each type shall be located on an accessible route. All operable parts, including coin slots, shall be 40 inches maximum above the finish floor. Baby changing stations are not required to comply with Section 11B-603.5 (See exception) **§11B-603.5**

WATER CLOSETS AND TOILET COMPARTMENTS

13. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with Section 11B-309.4 Operation except they shall be located 44 inches maximum above the floor. Flush controls shall be located on the open side of the water closet except in ambulatory accessible compartments complying with Section 11B-604.8.2 Ambulatory Accessible Compartments. **§11B-604.6**
14. Toilet paper dispensers shall comply with Section 11B-309.4 Operation and shall be 7 inches minimum and 9 inches maximum in front of the water closet measured to the centerline of the dispenser. The outlet of the dispenser shall be below the grab bar, 19 inches minimum above the finish floor and shall not be located behind the grab bars. Dispensers shall not be of a type that control delivery or that does not allow continuous paper flow. **§11B-604.7**
15. Urinals shall be the stall-type or the wall-hung type with the rim 17 inches maximum above the finish floor or ground. Urinals shall be 13½ inches deep minimum measured from the outer face of the urinal rim to the back of the fixture. **§11B-605.2**
16. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with Section 11B-309 Operable Parts except that the flush control shall be mounted at a maximum height of 44 inches above the finish floor. **§11B-605.4**
17. For lavatories and sinks, a clear floor space complying with Section 11B-305 Clear Floor or Ground Surfaces, positioned for a forward approach, and knee and toe clearance complying with Section 11B-306 Knee and Toe Clearance shall be provided. **§11B-606.2**

18. Lavatories and sinks shall be installed with the front of the higher of the rim or counter surface 34 inches maximum above the finish floor or ground. **§11B-606.3**

SIGNS RELATED TO TOILETS AND BATHING FACILITIES

19. Entrances leading to toilet rooms and bathing rooms complying with 11B-603 Toilet and Bathing Rooms shall be identified by a geometric symbol complying with 11B-703.7.2.6 Toilet and bathing Room Geometric Symbols. Where existing toilet rooms or bathing rooms do not comply with 11B-603 Toilet and Bathing Rooms, directional signs indicating the location of the nearest compliant toilet room or bathing room within the facility shall be provided. Signs shall comply with 11B-703.5 Visual Characters and shall include the International Symbol of Accessibility complying with 11B-703.7.2.1 ISA. Where existing toilet rooms or bathing rooms do not comply with 11B-603 Toilet and Bathing Rooms, the toilet rooms or bathing rooms complying with 11B-603 Toilet and Bathing Rooms shall be identified by the International Symbol of Accessibility complying with 11B-703.7.2.1 ISA. Where clustered single user toilet rooms or bathing facilities are permitted to use exceptions to 11B-213.2 Toilet and Bathing Rooms, toilet rooms or bathing facilities complying with 11B-603 Toilet and Bathing Rooms shall be identified by the International Symbol of Accessibility complying with 11B-703.7.2.1 ISA unless all toilet rooms and bathing facilities comply with 11B-603 Toilet and Bathing Rooms. Existing buildings that have been remodeled to provide specific toilet rooms or bathing rooms for public use that comply with these building standards shall have the location of and the directions to these rooms posted in or near the building lobby or entrance on a sign complying with 11B-703.5 Visual Characters, including the International Symbol of Accessibility complying with 11B-703.7.2.1 ISA. **§11B-216.8**
20. Pictograms shall comply with the following:
    a. Pictograms shall have a field height of 6 inches minimum. Characters and Braille shall not be located in the pictogram field. **§11B-703.6.1**
    b. Pictograms and their field shall have a non-glare finish. Pictograms shall contrast with their field with either a light pictogram on a dark field or a dark pictogram on a light field. **§11B-703.6.2**
    c. Pictograms shall have text descriptors located directly below the pictogram field. Text descriptors shall comply with 11B-703.2 Raised Characters, 11B-703.3 Braille and 11B-703.4 Installation Height and Location. **§11B-703.6.3**
    d. The installation height and location of Pictogram signs shall be per **§11B-703.4.1.**
21. Symbols shall comply with the following:
    a. Doorways leading to toilet rooms and bathing rooms shall be identified by a geometric symbol complying with 11B-703.7.2.6 Toilet and Bathing Facilities Geometric Symbols. The symbol shall be mounted at 58 inches minimum and 60 inches maximum above the finish floor or ground surface measured from the centerline of the symbol. Where a door is provided the symbol shall be mounted within 1 inch of the vertical centerline of the door. **§11B-703.7.2.6 (See exception)**
    b. Men's toilet and bathing facilities shall be identified by an equilateral triangle, ¼ inch thick with edges 12 inches long and a vertex pointing upward. The triangle symbol shall contrast with the door, either light on a dark background or dark on a light background. **§11B-703.7.2.6.1**
    c. Women's toilet and bathing facilities shall be identified by a circle, ¼ inch thick and 12 inches in diameter. The circle symbol shall contrast with the door, either light on a dark background or dark on a light background. **§11B-703.7.2.6.2**
    d. Unisex toilet and bathing facilities shall be identified by a circle, ¼ inch thick and 12 inches in diameter with a ¼ inch thick triangle with a vertex pointing upward superimposed on the circle and within the 12-inch diameter. The triangle symbol shall contrast with the circle symbol, either light on a dark background or dark on a light background. The circle symbol shall contrast with the door, either light on a dark background or dark on a light background. **§11B-703.7.2.6.3**

WASHING MACHINE AND CLOTHES DRYERS

22. Washing machines and clothes dryer's operable parts must comply with Section 11B-309 Operable Parts. **§11B-611.3**
23. Top loading machines shall have the door to the laundry compartment located 36 inches maximum above the finish floor. Front loading machines shall have the bottom of the opening to the laundry compartment located 15 inches minim and 36 inches maximum above the finish floor. **§11B-611.4**

17. Two-way communication systems that are provided to gain admittance to a building or facility or to restricted areas within a building or facility shall provide both audible and visual signals. Handset cords, if provided, shall be 29 inches long minimum. **§11B-230.1, §11B-708**
18. Common use or public use system interface of communications systems between a residential dwelling unit and a site, building, or floor entrance shall include the capability of supporting voice and TTY communication with the residential dwelling unit interface. **§11B-708.4.1**
19. Residential dwelling unit system interface of communications systems between a residential dwelling unit and a site, building, or floor entrance shall include a telephone jack capable of supporting voice and TTY communication with the common use or public use system interface. **§11B-708.4.2**

TELEPHONES

20. Where coin-operated public pay telephones, coin less public pay telephones, public closed-circuit telephones, public courtesy phones, or other types of public telephones are provided, public telephones shall be provided in accordance with 11B-217 Telephones for each type of public telephone provided. For purposes of this section, a bank of telephones shall be considered to be two or more adjacent telephones. **§11B-217.1**
21. Except drive-up only public telephones, where public telephones are provided, wheelchair accessible telephones complying with 11B-704.2 shall be provided in accordance with Table 11B-217.2. **§11B-217.2**
22. All public telephones shall have volume controls complying with 11B-704.3. **§11B-217.3**
23. TTYs complying with 11B-704.4 shall be provided in accordance with 11B-217.4.
24. Where a bank of telephones in the interior of a building consists of three or more public pay telephones, at least one public pay telephone at the bank shall be provided with a shelf and an electrical outlet in accordance with 11B-704.5. **§11B-217.5 (See exception)**

ADDITIONAL COMMENTS

F. COMMUNICATION ELEMENTS AND FEATURES

FIRE ALARM SYSTEMS

1. Where fire alarm systems and carbon monoxide alarm systems provide audible alarm coverage, alarms shall comply with 11B-215 Fire Alarm Systems. **§11B-215.1 (See exception)**
2. Alarms in public use areas and common use areas shall comply with 702 Chapter 9, Section 907.5.2.3.1. **§11B-215.2**
3. Where employee work areas have audible alarm coverage, the wiring system shall be designed so that visible alarms complying with 702 Chapter 9, Section 907.5.2.3.2 can be integrated into the alarm system. **§11B-215.3**
4. Fire alarm systems shall have permanently installed audible and visible alarms complying with NFPA 72 (1999 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1), except that the maximum allowable sound level of audible notification appliances complying with section 4-3.2.1 of NFPA 72 (1999 edition) shall have a sound level no more than 110 dB at the minimum hearing distance from the audible appliance. In addition, alarms in guest rooms required to provide communication features shall comply with sections 4-3 and 4-4 of NFPA 72 (1999 edition) or sections 7.4 and 7.5 of NFPA 72 (2002 edition). and Chapter 9, Sections 907.5.2.1 and 907.5.2.3. **§11B-702.1**

ASSISTIVE LISTENING SYSTEMS

5. Assistive listening systems shall be provided in assembly areas, including conference and meeting rooms, used for the purpose of entertainment, educational or civic gatherings, or similar purposes. **§202, §11B-219.2**

   Note: Assembly areas include, but are not limited to, classrooms, lecture halls, courtrooms, public meeting rooms, public hearing rooms, legislative chambers, motion picture houses, auditoria, theaters, playhouses, dinner theaters, concert halls, centers for the performing arts, amphitheaters, arenas, stadiums, grandstands, or convention centers. **§202, §11B-219.2**
6. Assistive listening system shall provide an amplification system utilizing transmitters, receivers, and coupling devices to bypass the acoustical space between a sound source and a listener by means of induction loop, radio frequency, infrared, or direct-wired equipment. **§202**
7. Where a building contains more than one assembly area under one management, the total number of required receivers may be calculated using the total number of seats in the assembly areas provided that all receivers are usable with all systems. **§11B-219.3 (See exception)**
8. Twenty-five percent minimum of receivers provided for assistive listening systems, but no fewer than two, shall be hearing-aid compatible with except when all seats in an assembly area are served by means of an induction loop. **§11B-219.3**
9. When assistive-listening systems are limited to specific areas or seats, such areas or seats shall be within a 50-foot viewing distance of the stage or playing area and shall have a complete view of the stage or playing area. **§11B-219.4**
10. Permanently installed assistive-listening systems are required in areas if (1) they have fixed seating and (2a) they accommodate at least 50 persons or (2b) they have audio-amplification systems, except those used exclusively for paging and/or background music. **§11B-219.2, §11B-219.5**
11. Portable assistive-listening systems may serve more than one conference or meeting rooms if an adequate number of electrical outlets or other supplementary wiring is provided and permanently installed systems are not required. **§11B-219.5**
12. Receivers required for use with an assistive listening system shall include a 1/8 inch standard mono jack. **§11B-706.2**
13. Receivers required to be hearing aid compatible shall interface with telecoils in hearing aids through the provision of neck loops. **§11B-706.3**
14. Assist

SITE IMPROVEMENT PLANS
FOR
COMMUNITY AQUATICS & SENIOR CENTER
1654 W. 160TH ST.
GARDENA, CA
COUNTY OF LOS ANGELES
STATE OF CALIFORNIA

GENERAL NOTES:

1. ALL GRADING AND CONSTRUCTION SHALL CONFORM TO THE CITY OF GARDENA BUILDING CODE AND THE 2019 CALIFORNIA BUILDING CODE OR LATEST ADOPTED EDITION AND UNLESS SPECIFICALLY NOTED ON THESE PLANS.
2. ANY MODIFICATIONS OF OR CHANGES TO APPROVED GRADING PLANS MUST BE APPROVED BY THE BUILDING OFFICIAL.
3. NO GRADING SHALL BE STARTED WITHOUT FIRST NOTIFYING THE BUILDING OFFICIAL A PRE-GRADING MEETING AT THE SITE IS REQUIRED BEFORE THE START OF THE GRADING WITH THE FOLLOWING PEOPLE PRESENT: OWNER, GRADING CONTRACTOR, DESIGN CIVIL ENGINEER, SOILS ENGINEER, GEOLOGIST, COUNTY GRADING INSPECTOR(S) OR THEIR REPRESENTATIVES, AND WHEN REQUIRED THE ARCHEOLOGIST OR OTHER JURISDICTIONAL AGENCIES. PERMITTEE OR HIS AGENT ARE RESPONSIBLE FOR ARRANGING PRE-GRADE MEETING AND MUST NOTIFY THE BUILDING OFFICIAL AT LEAST TWO BUSINESS DAYS PRIOR TO PROPOSED PRE-GRADE MEETING.
4. APPROVAL OF THESE PLANS REFLECT SOLELY THE REVIEW OF PLANS IN ACCORDANCE WITH THE COUNTY OF LOS ANGELES BUILDING CODES AND DOES NOT REFLECT ANY POSITION BY THE COUNTY OF LOS ANGELES OR THE DEPARTMENT OF PUBLIC WORKS REGARDING THE STATUS OF ANY TITLE ISSUES RELATING TO THE LAND ON WHICH THE IMPROVEMENTS MAY BE CONSTRUCTED. ANY DISPUTES RELATING TO TITLE ARE SOLELY A PRIVATE MATTER NOT INVOLVING THE COUNTY OF LOS ANGELES OR THE DEPARTMENT OF PUBLIC WORKS.
5. ALL GRADING AND CONSTRUCTION ACTIVITIES SHALL COMPLY WITH COUNTY OF LOS ANGELES CODE, TITLE 12, SECTION 12.12.030 THAT CONTROLS AND RESTRICTS NOISE FROM THE USE OF CONSTRUCTION AND GRADING EQUIPMENT FROM THE HOURS OF 8:00 PM TO 6:30 AM, AND ON SUNDAYS AND HOLIDAYS. (MORE RESTRICTIVE CONSTRUCTION ACTIVITY TIMES MAY GOVERN, AS REQUIRED BY THE DEPARTMENT OF REGIONAL PLANNING AND SHOULD BE SHOWN ON THE GRADING PLANS WHEN APPLICABLE.)
6. CALIFORNIA PUBLIC RESOURCES CODE (SECTION 5097.98) AND HEALTH AND SAFETY CODE (SECTION 7050.5) ADDRESS THE DISCOVERY AND DISPOSITION OF HUMAN REMAINS. IN THE EVENT OF DISCOVERY OR RECOGNITION OF ANY HUMAN REMAINS IN ANY LOCATION OTHER THAN A DEDICATED CEMETERY, THE LAW REQUIRES THAT GRADING IMMEDIATELY STOPS AND NO FURTHER EXCAVATION OR DISTURBANCE OF THE SITE, OR ANY NEARBY AREA WHERE HUMAN REMAINS MAY BE LOCATED, OCCUR UNTIL THE FOLLOWING HAS BEEN MEASURES HAVE BEEN TAKEN:
   a. THE COUNTY CORONER HAS BEEN INFORMED AND HAS DETERMINED THAT NO INVESTIGATION OF THE CAUSE OF DEATH IS REQUIRED, AND
   b. IF THE REMAINS ARE OF NATIVE AMERICAN ORIGIN, THE DESCENDANTS FROM THE DECEASED NATIVE AMERICANS HAVE MADE A RECOMMENDATION FOR THE MEANS OF TREATING OR DISPOSING, WITH APPROPRIATE DIGNITY, OF THE HUMAN REMAINS AND ANY ASSOCIATED GRAVE GOODS.
7. THE LOCATION AND PROTECTION OF ALL UTILITIES IS THE RESPONSIBILITY OF THE PERMITTEE.
8. ALL EXPORT OF MATERIAL FROM THE SITE MUST GO TO A PERMITTED SITE APPROVED BY THE BUILDING OFFICIAL OR A LEGAL DUMPSITE. RECEIPTS FOR ACCEPTANCE OF EXCESS MATERIAL BY A DUMPSITE ARE REQUIRED AND MUST BE PROVIDED TO THE BUILDING OFFICIAL UPON REQUEST.
9. A COPY OF THE GRADING PERMIT AND APPROVED GRADING PLANS MUST BE IN THE POSSESSION OF A RESPONSIBLE PERSON AND AVAILABLE AT THE SITE AT ALL TIMES.
10. SITE BOUNDARIES, EASEMENTS, DRAINAGE DEVICES, RESTRICTED USE AREAS SHALL BE LOCATED PER CONSTRUCTION STAKING BY FIELD ENGINEER OR LICENSED SURVEYOR. PRIOR TO GRADING, AS REQUESTED BY THE BUILDING OFFICIAL, ALL PROPERTY LINES, EASEMENTS, AND RESTRICTED USE AREAS SHALL BE STAKED.
11. NO GRADING OR CONSTRUCTION SHALL OCCUR WITHIN THE PROTECTED ZONE OF ANY OAK TREE AS REQUIRED PER TITLE CHAPTER 22.56 OF THE COUNTY OF LOS ANGELES ZONING CODE. THE PROTECTED ZONE SHALL MEAN THAT AREA WITHIN THE DRIP LINE OF AN OAK TREE EXTENDING THERE FROM A POINT AT LEAST FIVE FEET OUTSIDE THE DRIP LINE, OR 15 FEET FROM THE TRUNK(S) OF A TREE, WHICHEVER IS GREATER.

    IF AN OAK TREE PERMIT IS OBTAINED: (ADD THE FOLLOWING NOTE :)

    ALL GRADING AND CONSTRUCTION WITHIN THE PROTECTED ZONE OF ALL OAK TREES SHALL BE PER OAK TREE PERMIT NO. . ALL RECOMMENDATIONS IN THE PERMIT AND ASSOCIATED OAK TREE REPORT MUST BE COMPLIED WITH AND ARE A PART OF THE GRADING PLAN. A COPY OF THE OAK TREE PERMIT AND ASSOCIATED REPORTS SHALL BE MAINTAINED IN THE POSSESSION OF A RESPONSIBLE PERSON AND AVAILABLE AT THE SITE AT ALL TIMES.
12. THE STANDARD RETAINING WALL DETAILS SHOWN ON THE GRADING PLANS ARE FOR REFERENCE ONLY. STANDARD RETAINING WALLS ARE NOT CHECKED, PERMITTED, OR INSPECTED PER THE GRADING PERMIT. A SEPARATE RETAINING WALL PERMIT IS REQUIRED FOR ALL STANDARD RETAINING WALLS.

    NOTE: THIS NOTE ONLY APPLIES TO STANDARD RETAINING WALLS. GEOGRID FABRIC AND SEGMENTAL RETAINING WALLS DO NOT REQUIRE A SEPARATE RETAINING WALL PERMIT. DETAILS AND CONSTRUCTION NOTES FOR ALL GEOGRID WALLS MUST BE ON THE GRADING PLAN.
13. A PREVENTIVE PROGRAM TO PROTECT THE SLOPES FROM POTENTIAL DAMAGE FROM BURROWING RODENTS IS REQUIRED PER SECTION J101.8 OF THE COUNTY OF LOS ANGELES BUILDING CODE. OWNER IS TO INSPECT SLOPES PERIODICALLY FOR EVIDENCE OF BURROWING RODENTS AND A FIRST EVIDENCE OF THEIR EXISTENCE SHALL EMPLOY AN EXTERMINATOR FOR THEIR REMOVAL.
14. WHERE A GRADING PERMIT IS ISSUED AND THE BUILDING OFFICIAL DETERMINES THAT THE GRADING WILL NOT BE COMPLETED PRIOR TO NOVEMBER 1, THE OWNER OF THE SITE ON WHICH THE GRADING IS BEING PERFORMED SHALL, ON OR BEFORE OCTOBER 1, FILE OR CAUSE TO BE FILED WITH THE BUILDING OFFICIAL AN ESCP PER SECTION J110.8.3 OF THE COUNTY OF LOS ANGELES BUILDING CODE.
15. TRANSFER OF RESPONSIBILITY: IF THE FIELD ENGINEER, THE SOILS ENGINEER, OR THE ENGINEERING GEOLOGIST OF RECORD IS CHANGED DURING GRADING, THE WORK SHALL BE STOPPED UNTIL THE REPLACEMENT HAS AGREED IN WRITING TO ACCEPT THEIR RESPONSIBILITY WITHIN THE AREA OF TECHNICAL COMPETENCE FOR APPROVAL UPON COMPLETION OF THE WORK. IT SHALL BE THE DUTY OF THE PERMITTEE TO NOTIFY THE BUILDING OFFICIAL IN WRITING OF SUCH CHANGE PRIOR TO THE RECOMMENCEMENT OF SUCH GRADING.

GENERAL GEOTECHNICAL NOTES

16. ALL WORK MUST BE IN COMPLIANCE WITH THE RECOMMENDATIONS INCLUDED IN THE GEOTECHNICAL CONSULTANT'S REPORT(S) AND THE APPROVED PLANS AND SPECIFICATIONS.
17. GRADING OPERATIONS MUST BE CONDUCTED UNDER PERIODIC INSPECTIONS BY THE GEOTECHNICAL CONSULTANTS AS REQUIRED BY THE CITY OF GARDENA.
18. THE SOIL ENGINEER SHALL PROVIDE SUFFICIENT INSPECTIONS DURING THE PREPARATION OF THE NATURAL GROUND AND THE PLACEMENT AND COMPACTION OF THE FILL TO BE SATISFIED THAT THE WORK IS BEING PERFORMED IN ACCORDANCE WITH THE PLAN AND APPLICABLE CODE REQUIREMENTS.
19. ROUGH GRADING MUST BE APPROVED BY A FINAL ENGINEERING GEOLOGY AND SOILS ENGINEERING REPORT. AN AS-BUILT GEOLOGIC MAP MUST BE INCLUDED IN THE FINAL GEOLOGY REPORT. PROVIDE A FINAL REPORT STATEMENT THAT VERIFIES WORK WAS DONE IN ACCORDANCE WITH REPORT RECOMMENDATIONS AND CODE PROVISIONS (SECTION J105.12 OF THE COUNTY OF LOS ANGELES BUILDING CODE). THE FINAL REPORT(S) MUST BE SUBMITTED TO THE CITY OF GARDENA FOR REVIEW AND APPROVAL.
20. ALL REQUIRED THIRD-PARTY TESTING TO BE PROVIDED AT CONTRACTORS EXPENSE.

FILL NOTES

21. GRADING WORK IS TO ONLY FOLLOW THE DEMOLITION RECOMMENDATIONS IN THE SOILS REPORT.
    a. OVEREXCAVATION AND PREP. FOR THE FUTURE BUILDING PAD IS NOT REQUIRED FOR ROUGH GRADING.

21. ALL FILL SHALL BE COMPACTED TO THE FOLLOWING MINIMUM RELATIVE COMPACTION CRITERIA:
    a. 90 PERCENT OF MAXIMUM DRY DENSITY WITHIN 40 FEET BELOW FINISH GRADE.
    b. 93 PERCENT OF MAXIMUM DRY DENSITY DEEPER THAN 40 FEET BELOW FINISH GRADE, UNLESS A LOWER RELATIVE COMPACTION (NOT LESS THAN 90 PERCENT OF MAXIMUM DRY DENSITY) IS JUSTIFIED BY THE GEOTECHNICAL ENGINEER.

    THE RELATIVE COMPACTION SHALL BE DETERMINED BY A.S.T.M. SOIL COMPACTION TEST D1557-91 WHERE APPLICABLE; WHERE NOT APPLICABLE, A TEST ACCEPTABLE TO THE BUILDING OFFICIAL SHALL BE USED. (SECTION J107.5 OF THE COUNTY OF LOS ANGELES BUILDING CODE.)
22. FIELD DENSITY SHALL BE DETERMINED BY A METHOD ACCEPTABLE TO THE BUILDING OFFICIAL. (SECTION J107.5 OF THE COUNTY OF LOS ANGELES BUILDING CODE.) HOWEVER, NOT LESS THAN 10% OF THE REQUIRED DENSITY TEST, UNIFORMLY DISTRIBUTED, AND SHALL BE OBTAINED BY THE SAND CONE METHOD.
23. SUFFICIENT TESTS OF THE FILL SOILS SHALL BE MADE TO DETERMINE THE RELATIVE COMPACTION OF THE FILL IN ACCORDANCE WITH THE FOLLOWING MINIMUM GUIDELINES:
    a. ONE TEST FOR EACH TWO-FOOT VERTICAL LIFT.
    b. ONE TEST FOR EACH 1,000 CUBIC YARDS OF MATERIAL PLACED.
    c. ONE TEST AT THE LOCATION OF THE FINAL FILL SLOPE FOR EACH BUILDING SITE (LOT) IN EACH FOUR-FOOT VERTICAL LIFT OR PORTION THEREOF.
    d. ONE TEST IN THE VICINITY OF EACH BUILDING PAD FOR EACH FOUR-FOOT VERTICAL LIFT OR PORTION THEREOF.
24. SUFFICIENT TESTS OF FILL SOILS SHALL BE MADE TO VERIFY THAT THE SOIL PROPERTIES COMPLY WITH THE DESIGN REQUIREMENTS, AS DETERMINED BY THE SOIL ENGINEER INCLUDING SOIL TYPES, SHEAR STRENGTHS PARAMETERS AND CORRESPONDING UNIT WEIGHTS IN ACCORDANCE WITH THE FOLLOWING GUIDELINES:
    a. PRIOR AND SUBSEQUENT TO PLACEMENT OF THE FILL, SHEAR TESTS SHALL BE TAKEN ON EACH TYPE OF SOIL OR SOIL MIXTURE TO BE USED FOR ALL FILL SLOPES STEEPER THAN THREE (3) HORIZONTAL TO ONE VERTICAL.
    b. SHEAR TEST RESULTS FOR THE PROPOSED FILL MATERIAL MUST MEET OR EXCEED THE DESIGN VALUES USED IN THE GEOTECHNICAL REPORT TO DETERMINE SLOPE STABILITY REQUIREMENTS. OTHERWISE, THE SLOPE MUST BE REEVALUATED USING THE ACTUAL SHEAR TEST VALUE OF THE FILL MATERIAL THAT IS IN PLACE.
    c. FILL SOILS SHALL BE FREE OF DELETERIOUS MATERIALS.
25. FILL SHALL NOT BE PLACED UNTIL STRIPPING OF VEGETATION, REMOVAL OF UNSUITABLE SOILS, AND INSTALLATION OF SUBDRAIN (IF ANY) HAVE BEEN INSPECTED AND APPROVED BY THE SOIL ENGINEER. THE BUILDING OFFICIAL MAY REQUIRE A "STANDARD TEST METHOD FOR MOISTURE, ASH, ORGANIC MATTER, PEAT OR OTHER ORGANIC SOILS" ASTM D-2974-87 ON ANY SUSPECT MATERIAL. DETRIMENTAL AMOUNTS OF ORGANIC MATERIAL SHALL NOT BE PERMITTED IN FILLS. SOIL CONTAINING SMALL AMOUNTS OF ROOTS MAY BE ALLOWED PROVIDED THAT THE ROOTS ARE IN A QUANTITY AND DISTRIBUTED IN A MANNER THAT WILL NOT BE DETRIMENTAL TO THE FUTURE USE OF THE SITE AND THE SOILS ENGINEER APPROVES THE USE OF SUCH MATERIAL.
26. ROCK OR SIMILAR MATERIAL GREATER THAN 12 INCHES IN DIAMETER SHALL NOT BE PLACED IN THE FILL UNLESS RECOMMENDATIONS FOR SUCH PLACEMENT HAVE BEEN SUBMITTED BY THE SOIL ENGINEER AND APPROVED IN ADVANCE BY THE BUILDING OFFICIAL. LOCATION, EXTENT, AND ELEVATION OF ROCK DISPOSAL AREAS MUST BE SHOWN ON AN "AS BUILT" GRADING PLAN.
27. CONTINUOUS INSPECTION BY THE SOIL ENGINEER, OR A RESPONSIBLE REPRESENTATIVE, SHALL BE PROVIDED DURING ALL FILL PLACEMENT AND COMPACTION OPERATIONS WHERE FILLS HAVE A DEPTH GREATER THAN 30 FEET OR SLOPE SURFACE STEEPER THAN 2:1. (SECTION J107.8 OF THE COUNTY OF LOS ANGELES BUILDING CODE)
28. CONTINUOUS INSPECTION BY THE SOIL ENGINEER, OR A RESPONSIBLE REPRESENTATIVE, SHALL BE PROVIDED DURING ALL SUBDRAIN INSTALLATION. (PER THE CITY OF GARDENA BUILDING CODE)
29. FILL SLOPES IN EXCESS OF 2:1 STEEPNESS RATIO ARE TO BE CONSTRUCTED BY THE PLACEMENT OF SOIL AT SUFFICIENT DISTANCE BEYOND THE PROPOSED FINISH SLOPE TO ALLOW COMPACTION EQUIPMENT TO BE OPERATED AT THE OUTER LIMITS OF THE FINAL SLOPE SURFACE. THE EXCESS FILL IS TO BE REMOVED PRIOR TO COMPLETION OF ROUGH GRADING. OTHER CONSTRUCTION PROCEDURES MAY BE USED WHEN IT IS DEMONSTRATED TO THE SATISFACTION OF THE BUILDING OFFICIAL THAT THE ANGLE OF SLOPE, CONSTRUCTION METHOD AND OTHER FACTORS WILL HAVE EQUIVALENT EFFECT. (SECTION J107.5 OF THE COUNTY OF LOS ANGELES BUILDING CODE.)

GENERAL

1. ALL PROPERTY CORNERS SHALL BE CLEARLY DELINEATED IN THE FIELD PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION/GRADING.
2. ALL WORK UNDER THIS GRADING PERMIT SHALL BE LIMITED TO WORK WITHIN THE PROPERTY LINES. ALL WORK WITHIN THE ROAD RIGHT-OF-WAY WILL REQUIRE SEPARATE PLANS AND AN ENCROACHMENT PERMIT.
3. GRADING SHALL BE DONE UNDER THE SUPERVISION OF A SOIL ENGINEER IN CONFORMANCE WITH RECOMMENDATIONS OF GEOTECHNICAL INVESTIGATION PROPOSED COMMUNITY AQUATIC AND SENIOR CENTER BY SOUTHERN CALIFORNIA GEOTECHNICAL, INC. DATED NOVEMBER 18, 2021 AND RESULTS OF INFILTRATION TESTING BY SOUTHERN CALIFORNIA GEOTECHNICAL DATED NOVEMBER 19, 2021. THESE REPORTS ARE A PART OF THESE PLANS.
4. COMPACTED FILL TO SUPPORT ANY STRUCTURES SHALL COMPLY WITH SECTION 1803.5 CBC. PROJECTS WITHOUT PRELIMINARY SOILS REPORT SHALL HAVE DETAILED SPECIFICATIONS SATISFYING REQUIREMENTS IN SECTION 1803.5 CBC PREPARED BY THE EOR.
5. THE CONTRACTOR SHALL NOTIFY BUILDING AND SAFETY AT LEAST 24 HOURS IN ADVANCE TO REQUEST FINISHED LOT GRADE AND DRAINAGE INSPECTION. THIS INSPECTION MUST BE APPROVED PRIOR TO BUILDING PERMIT FINAL INSPECTION FOR EACH LOT.

DRAINAGE AND EROSION/DUST CONTROL

6. DRAINAGE ACROSS THE PROPERTY LINE SHALL NOT EXCEED THAT WHICH EXISTED PRIOR TO GRADING. EXCESS OR CONCENTRATED DRAINAGE SHALL BE CONTAINED ON SITE OR DIRECTED TO AN APPROVED DRAINAGE FACILITY.
7. THE GROUND IMMEDIATELY ADJACENT TO THE BUILDING FOUNDATION SHALL BE SLOPED AWAY WITH 2% MINIMUM FOR A MINIMUM DISTANCE OF 10 HORIZONTAL FEET. SWALES WITHIN 10 FEET FROM BUILDING SHALL HAVE 2% MINIMUM SLOPE.
8. NO OBSTRUCTION OF NATURAL WATER COURSES SHALL BE PERMITTED.
9. DURING ROUGH GRADING OPERATIONS AND PRIOR TO CONSTRUCTION OF PERMANENT DRAINAGE STRUCTURES, TEMPORARY DRAINAGE CONTROL (BEST MANAGEMENT PRACTICES, BMP'S) SHALL BE PROVIDED TO PREVENT PONDING WATER AND DAMAGE TO ADJACENT PROPERTIES.
10. DUST SHALL BE CONTROLLED BY WATERING OR OTHER APPROVED METHODS.
11. ALL EXISTING DRAINAGE COURSES ON THE PROJECT SITE MUST CONTINUE TO FUNCTION. PROTECTIVE MEASURES AND TEMPORARY DRAINAGE PROVISIONS MUST BE USED TO PROTECT ADJOINING PROPERTIES DURING GRADING OPERATIONS.

COMPLETION OF WORK

12. A REGISTERED CIVIL ENGINEER SHALL PREPARE FINAL COMPACTION REPORT/GRADING REPORT AND IT SHALL BE SUBMITTED FOR REVIEW AND APPROVAL. THE REPORT SHALL ALSO PROVIDE BUILDING FOUNDATION DESIGN PARAMETERS INCLUDING ALLOWABLE SOIL PRESSURES, EXPANSION INDEX AND REMEDIAL MEASURES IF EI>20, WATER SOLUBLE SULFATE CONTENT, CORROSIVELY AND REMEDIAL MEASURES IF NECESSARY.
13. THE COMPACTION REPORT SHALL INCLUDE THE SPECIAL INSPECTION VERIFICATIONS LISTED IN TABLE 1704.7 OF THE CALIFORNIA BUILDING CODE.
14. A REGISTERED CIVIL ENGINEER SHALL SUBMIT TO BUILDING AND SAFETY WRITTEN CERTIFICATION OF COMPLETION OF GRADING IN ACCORDANCE WITH THE APPROVED GRADING PLAN PRIOR TO REQUESTING INSPECTION AND ISSUANCE OF THE BUILDING PERMIT. CERTIFICATION SHALL INCLUDE LINE GRADE, SURFACE DRAINAGE, ELEVATION, AND LOCATION OF PERMITTED GRADING ON THE LOT.

CONSTRUCTION NOTES/ESTIMATE OF QUANTITIES

NO.	DESCRIPTION	QUANTITY
	GENERAL CONSTRUCTION NOTES	SEE BID SCHEDULE
1	CONSTRUCT 3" A.C. OVER 6" A.B. PAVEMENT OVER 12" COMPACTED SUBGRADE (PARKING STALLS) - VERIFY WITH SOILS ENGINEER	
2	CONSTRUCT CONCRETE SURFACE PER LANDSCAPE ARCHITECT PLANS	
3	CONSTRUCT CURB PER CITY STD. ST-7, TYPE C-4, C.F. PER PLAN	
4	CONSTRUCT 6" CURB & GUTTER PER CITY STD. ST-7, TYPE C-2, C.F. PER PLAN, MODIFY FOR 2' WIDE GUTTER TO MATCH EXIST.	
5	CONSTRUCT CURB FACE TRANSITION PER DETAIL 1, SHEET C-0.02	
6	CONSTRUCT ADA CURB RAMP PER CALTRANS DRAWING A88A, CASE A AND DETAIL B	
7	CONSTRUCT FULL-DEPTH A.C. PAVEMENT PER DETAIL 2, SHEET C-0.02	
8	CONSTRUCT 3' WIDE V-GUTTER PER DETAIL 3, SHEET C-0.02	
9	RECONSTRUCT NORTHERLY SECTION OF EXISTING DRIVEWAY PER CITY STD. ST-2	
10	PROTECT IN PLACE	
11	CONSTRUCT MOUNTABLE 6" CURB & GUTTER PER SPPWC STD. PLAN 121-3, TYPE B2-6, C.F. PER PLAN, MODIFY FOR 2' WIDE GUTTER TO MATCH EXIST.	
12	CONSTRUCT TRANISTION FROM MOUNTABLE CURB & GUTTER TO STANDARD CURB & GUTTER	
13	CONSTRUCT ADA CURB RAMP PER CALTRANS DRAWING A88A, CASE C WITHOUT RETAINING CURB AT BACK	
14	CONSTRUCT ADA CURB RAMP PER CALTRANS DRAWING A88A, CASE G	
	STORM DRAIN CONSTRUCTION NOTES	
30	CONSTRUCT ATRIUM DRAIN PER DETAIL 4, SHEET C-0.02	
31	CONSTRUCT BRASS DECK DRAIN PER DETAIL 5, SHEET C-0.02	
32	CONSTRUCT 4" PVC, SDR 35, STORM DRAIN PIPE, BEDDING DETAIL 6, SHEET C-0.02	
33	CONSTRUCT 8" PVC, SDR 35, STORM DRAIN PIPE, BEDDING DETAIL 6, SHEET C-0.02	
34	CONSTRUCT 12" PVC, SCH 80, STORM DRAIN PIPE, BEDDING DETAIL 6, SHEET C-0.02	
35	CONSTRUCT STORM DRAIN CLEAN OUT PER DETAIL 7, SHEET C-0.02	
36	CONSTRUCT CDS UNIT PER DETAIL 2, SHEET C-0.04	
37	CONSTRUCT PERFORATED UNDERGROUND INFILTRATION SYSTEM PER DETAIL 1, SHEET C-0.03	
38	CONNECT TO ROOF DRAIN - SEE ARCHITECT'S PLANS	
39	CONSTRUCT CURB DRAIN PER SPPWC STANDARD PLAN 150-4, N = 2	
40	CONSTRUCT LID FLOW CONTROL CATCH BASIN PER DETAIL 1, SHEET C-0.04	
41	CONSTRUCT SUBDRAIN PER DETAIL 11, SHEET C-0.02	
42	CONNECT SUBDRAIN TO STORM DRAIN LINE	
	SEE SHEET D-1.01 FOR DEMOLITION NOTES	
	SEE SHEET C-2.01 FOR WATER/SEWER CONSTRUCTION NOTES	
	SEE SHEET C-3.01 FOR EROSION CONTROL CONSTRUCTION NOTES	
	SEE SHEET C-4.01 FOR HORIZONTAL CONTROL/STRIPING CONSTRUCTION NOTES	

NOTICE TO CONTRACTOR:

THE ESTIMATES OF IMPROVEMENT AND GRADING QUANTITIES AS SHOWN HEREON ARE PROVIDED FOR SATISFYING PLAN CHECK INFORMATION REQUIREMENTS ONLY. THE CONTRACTOR SHALL PERFORM AN INDEPENDENT ESTIMATE OF ALL IMPROVEMENT QUANTITIES, INCLUDING GRADING QUANTITIES, AND SHALL USE SAME AS A BASIS FOR THEIR BID(S) AND CONTRACT(S).

NOTICE TO CONTRACTOR

CAUTION: THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO, OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING, AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY FACILITIES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. THE LOCATIONS SHOWN ARE APPROXIMATE AND SHALL BE CONFIRMED IN THE FIELD BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ANY NECESSARY ADJUSTMENTS TO ALIGNMENT AND/OR GRADE OF THE PROPOSED IMPROVEMENTS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PREVENT DAMAGE TO ANY UTILITY FACILITIES SHOWN AND ANY OTHER FACILITIES NOT SHOWN ON THESE PLANS.

ALL CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK SHOWN ON THESE PLANS AGREE THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THEY WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT. THIS INCLUDES PROVIDING FOR THE SAFETY OF ALL PERSONS AND PROPERTY AND SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTORS AND SUBCONTRACTORS FURTHER AGREE TO DEFEND, INDEMNIFY AND HOLD HARMLESS THE OWNER AND DESIGN PROFESSIONAL FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE DESIGN PROFESSIONAL.

EXISTING UNDERGROUND STRUCTURES

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND PIPES OR CONDUITS SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE THE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNERS OF THE UTILITIES OR STRUCTURES CONCERNED BEFORE STARTING WORK. CONTRACTOR FURTHER ASSUMES ALL LIABILITY AND RESPONSIBILITY FOR THE UNDERGROUND UTILITY PIPES, CONDUITS OR STRUCTURES SHOWN OR NOT SHOWN ON THESE PLANS; LOCATE ALL UTILITIES BEFORE CONSTRUCTION.

LEGEND

	PROPERTY LINE	B.O.W.	BACK OF WALK
	GRADING LIMITS	BLDG.	BUILDING
		C.B.	CATCH BASIN
40	EXISTING CONTOUR	C.L.F.	CHAIN LINK FENCE
		C&G	CURB & GUTTER
40.2	EXISTING SPOT ELEVATION	C.L.	CENTERLINE
		C.O.	CLEANOUT
	PROPOSED SLOPE	CONC.	CONCRETE
		D.G.	DECOMPOSED GRANITE
12"W	EXISTING UTILITY LINE (TYPE AND SIZE AS NOTED)	DWY.	DRIVEWAY
		D.F.	DRINKING FOUNTAIN
		ELEC.	ELECTRIC
GB	GRADE BREAK LINE	E.P.	EDGE OF PAVEMENT
		F.F.	FINISHED FLOOR
	FLOWLINE	F.H.	FIRE HYDRANT
		F.L.	FLOWLINE
		F.S.	FINISHED SURFACE
	FLOW DIRECTION	G.B.	GRADE BREAK
		H.C.	HANDICAP
	STORM DRAIN & GRATE	H.P.	HIGH POINT
		INV.	INVERT
	STORM DRAIN AND CLEANOUT	IRR. OR IRRIG.	IRRIGATION
		L.P.	LOW POINT
	STREET LIGHT	M.H.	MANHOLE
		P/A	PLANTER AREA
	VALVE	P.P.	POWER POLE
		P.O.C.	POINT OF CONNECTION
	FIRE HYDRANT	R.D.	ROOF DRAIN
		R.O.W.	RIGHT OF WAY
		SD	STORM DRAIN
		ST.	STREET
		T.C.	TOP OF CURB
		T.D.	TOP OF DECK
		TEL.	TELEPHONE
		T.G.	TOP OF GRATE
		T.H.W.	TOP OF HEADWALL
		T.F.	TOP OF FOOTING
		T.O.S.	TOP OF SUBGRADE
		T.W.	TOP OF WALL
		S	SANITARY SEWER
		W	WATER
		W.I.F.	WROUGHT IRON FENCE
		W.M.	WATER METER
		W.V.	WATER VALVE

SOILS ENGINEER STATEMENT

THESE GRADING PLANS WERE REVIEWED AND APPROVED, AND THAT THEY COMPLY WITH ALL THE REQUIREMENTS AND RECOMMENDATIONS OF THE GEOTECHNICAL/SOILS REPORT (GEOTECHNICAL INVESTIGATION PROPOSED COMMUNITY AQUATIC AND SENIOR CENTER BY SOUTHERN CALIFORNIA GEOTECHNICAL, INC. DATED NOVEMBER 18, 2021 AND RESULTS OF INFILTRATION TESTING BY SOUTHERN CALIFORNIA GEOTECHNICAL DATED NOVEMBER 19, 2021) AND GEOTECHNICAL/SOILS ENGINEER.

NAME _____ DATE _____

SOILS ENGINEER

SOUTHERN CALIFORNIA GEOTECHNICAL
22885 SAVI RANCH PARKWAY, SUITE E
YORBA LINDA, CA 92887
CONTACT: GREGORY MITCHELL, GE 2364
PH: 714-685-1115

BASIS OF BEARINGS

BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32, OFFICIAL RECORDS.

BENCHMARK

THE CITY OF GARDENA BENCHMARK NO. 5D-15
ELEV. = 43.508'

LEGAL DESCRIPTION

A PORTION OF LOT 21 OF TRACT NO. 10901, IN THE CITY OF GARDENA, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 254 PAGES 31 AND 32 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

AND

LOT S 11 AND 12 OF TRACT NO. 10901, IN THE CITY OF GARDENA, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 254, PAGES 31 AND 32 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

SURVEYOR:

TED KRULL, PLS 5848
STARLIGHT SURVEYING, INC.
17955 SKY PARK CIR. STE F
IRVINE, CA. 92614
(949) 757-0613
DATES OF SURVEY: NOV. 2021 AND JAN. 2022

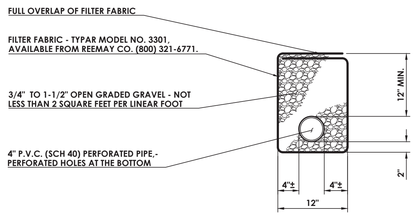
SHEET INDEX

SHEET	NUMBER
NOTE SHEET	C-0.01
DETAIL SHEET	C-0.02 TO C-0.04
DEMOLITION PLAN	D-1.01
PRECISE GRADING PLAN	C-1.01
WATER/SEWER PLAN	C-2.01
EROSION CONTROL PLAN	C-3.01
HORIZONTAL CONTROL/STRIPING PLAN	C-4.01

EARTHWORK **

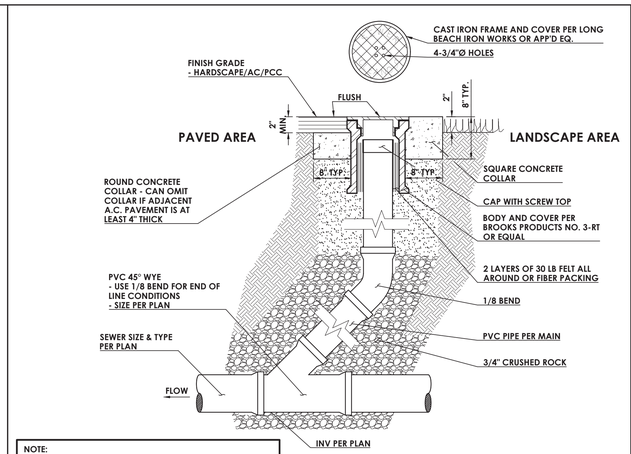
AREA DISTURBED:	0.95±	ACRES
CUT	850	CUBIC YARDS
SHRINKAGE (9%±)	(75)	CUBIC YARDS
INFILTRATION AREA	135	CUBIC YARDS
FILL	1,200	CUBIC YARDS
SHRINKAGE (O/E) (9%±)	225	CUBIC YARDS
SUBSIDENCE (0.1') (FROM NEWLY DISTURBED AREAS)	0	CUBIC YARDS
IMPORT ***	515	CUBIC YARDS
OVER-EXCAVATION *	2,500	CUBIC YARDS

THE ABOVE CUT/FILL QUANTITIES ARE FOR PERMIT PURPOSES ONLY. THIS CALCULATION DOES NOT INCLUDE SOILS FROM BUILDING OR WALL FOOTINGS, NOR ANY UTILITY TRENCHING. THIS CALCULATION ASSUMES SHRINKAGE OF AN AVG. OF 9% AND 0.1' SUBSIDENCE OVER NEWLY EXCAVATED AREAS NOT DONE DURING ROUGH GRADING (TO BE CONFIRMED BY THE SOILS ENGINEER). REMOVALS PER THE SOILS REPORT INCLUDE A DEPTH OF 6-FEET BELOW THE PROPOSED BUILDING AREA. CONTRACTOR SHALL REFER TO THE SOILS REPORT



11 SUBDRAIN

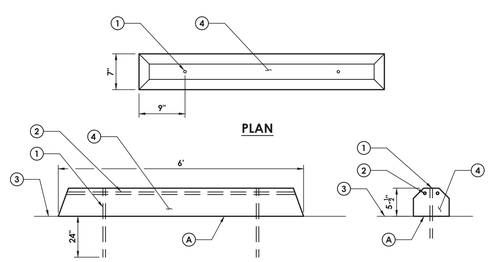
SCALE: N.T.S.



NOTE:
- USE 4,500 p.s.i., TYPE II/V CONCRETE IN TRAFFIC AREAS
- USE 3,250 p.s.i., TYPE II/V CONCRETE IN LANDSCAPE AREAS
- BACKFILL WITH SAME MATERIAL AS PIPE BACKFILL
- CLEANOUT PIPE TO BE SAME SIZE AND MATERIAL AS MAIN

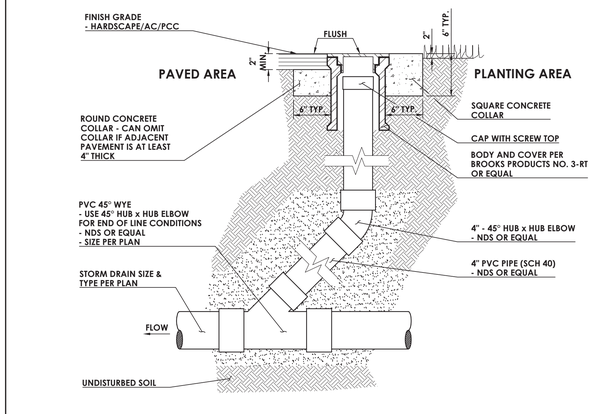
8 SEWER CLEANOUT

SCALE: N.T.S.



10 WHEEL STOP

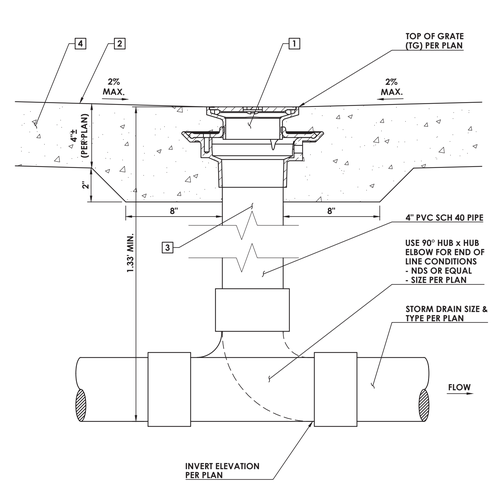
SCALE: N.T.S.



NOTE:
- USE 4,500 p.s.i., TYPE II/V CONCRETE IN TRAFFIC AREAS
- USE 3,250 p.s.i., TYPE II/V CONCRETE IN LANDSCAPE AREAS
- BACKFILL TO TOP OF 45° BEND WITH SAME MATERIAL AS PIPE BACKFILL

7 STORM DRAIN CLEANOUT

SCALE: N.T.S.



LEGEND

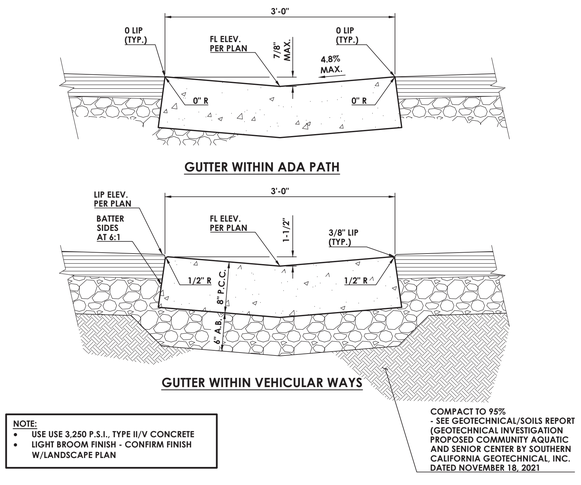
1. 4" DECK DRAIN, JOSAM DRAIN MODEL NO. 3004-5S-VP-2, OR APP'D EQUAL. VANDAL PROOF SCREWS, SATIN BRONZE FINISH
2. FINISH SURFACE PER GRADING PLANS
3. DRAINLINE CONNECTION TO STORM DRAIN LINE PER STORM DRAIN PLANS
4. CONCRETE SURFACE PER LANDSCAPE ARCHITECT'S PLAN

TYPICAL INSTALLATION
NOT TO SCALE

NOTE:
- GRATES LOCATED IN ACCESSIBLE AREAS ARE TO HAVE ADA COMPLIANT OPENINGS.
- INSTALL DRAIN IN P.C.C. SIDEWALK PER MANUFACTURERS. RECOMMENDATIONS.
- DECK DRAINS ARE TO BE PLACED AT EXPANSION JOINT OR CONTROL JOINT INTERSECTIONS UNLESS OTHERWISE SHOWN.

5 DECK DRAIN

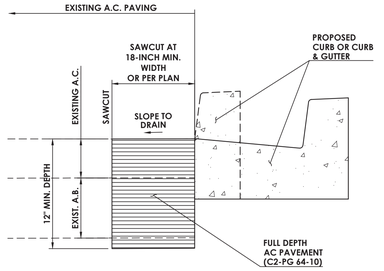
SCALE: N.T.S.



NOTE:
- USE USE 3,250 P.S.I., TYPE II/V CONCRETE
- LIGHT BROOM FINISH - CONFIRM FINISH W/LANDSCAPE PLAN

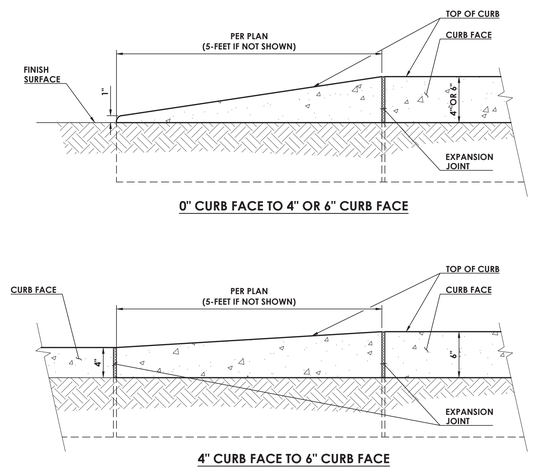
3 3' V-GUTTER

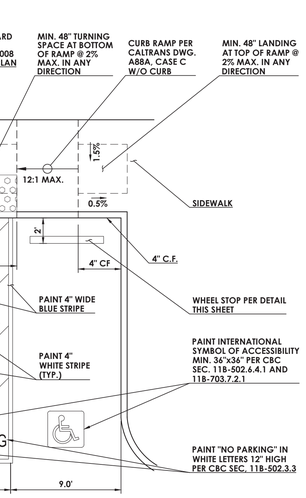
SCALE: N.T.S.



2 FULL DEPTH DEEP-LIFT A.C. PAVING

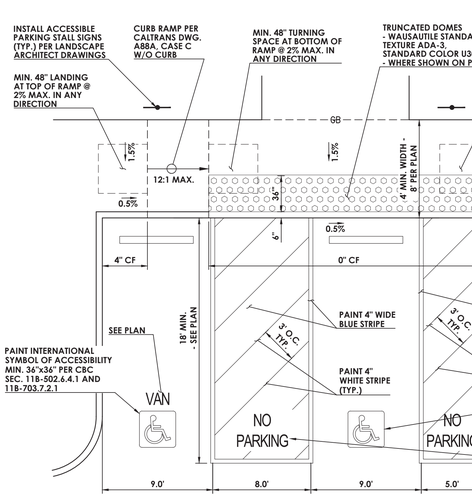
SCALE: N.T.S.





9 ACCESSIBLE (REGULAR AND VAN) PARKING STALL

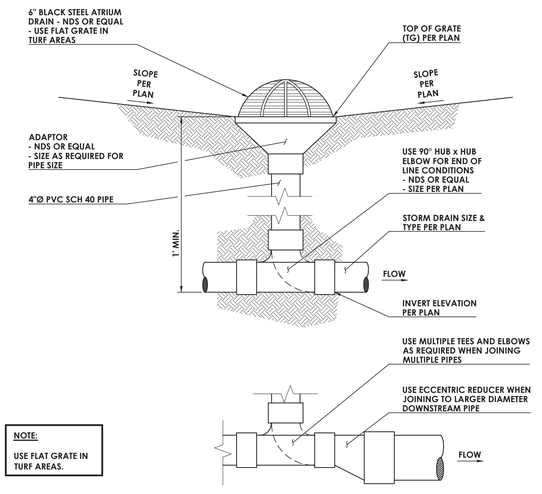
SCALE: N.T.S.



NOTE:
TRENCHES ADJACENT AND PARALLEL TO BUILDING FOUNDATIONS SHALL NOT BE BELOW A 1:1 PLANE PROJECTED DOWNWARD FROM THE BOTTOM EDGE OF THE ADJACENT FOOTING AND NOT CLOSER THAN 18" FROM THE FACE OF FOOTING. IF THIS CONDITION OCCURS THE ADJACENT FOOTING SHOULD BE DEEPENED OR THE UTILITY CONSTRUCTED AND THE TRENCH BACKFILLED AND COMPACTED PER RECOMMENDATIONS IN THE SOILS REPORT PRIOR TO FOOTING CONSTRUCTION.

6 UTILITY BEDDING

SCALE: N.T.S.



NOTE:
USE FLAT GRATE IN TURF AREAS.

4 ATRIUM DRAIN

SCALE: N.T.S.

1 C.F. TRANSITION

SCALE: N.T.S.

DIGALERT
DIAL TOLL FREE 1-800-422-4133
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:
BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:
THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:
CIVTEC
999 CORPORATE DR.
SUITE 100
LADERA RANCH, CA 92694
p: 949.463.8822
e: tec@civtec.net

REGISTERED PROFESSIONAL ENGINEER — THOMAS E. ZAMZOW — C-81640 Exp. 09-30-23 — CIVIL — STATE OF CALIFORNIA
6/27/2023

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
(949) 493-2690 fax
(949) 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT — STEVEN L. RIGGS — No. 5653 — 09/30/2023 — 6/27/2023 — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508'

	INITIAL	DATE
DESIGNED BY	TEC	
DRAWN BY	STAFF	
CHECKED BY	TEC	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

DETAIL SHEET
COMMUNITY AQUATICS & SENIOR CENTER
C-0.02

APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS

SHT. 6 OF 176 DWG. NO. 5-2606

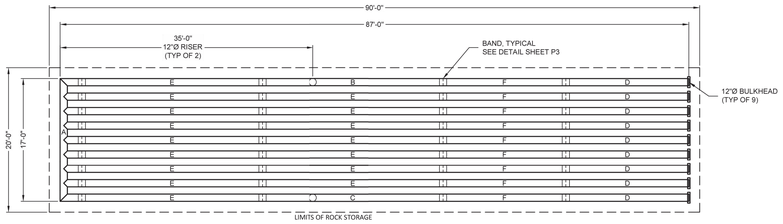
PLOT DATE: 6/27/2023

NOTE TO CONTRACTOR:

THIS BMP WAS DESIGNED IN CONJUNCTION WITH TESTED ONSITE SOIL INFILTRATION RATES THAT CAN BE SIGNIFICANTLY REDUCED IF THE SOILS ARE EXPOSED TO EXCESSIVE DISTURBANCE OR COMPACTION DURING CONSTRUCTION. THEREFORE, THE SUBGRADE SOILS WITHIN PROPOSED INFILTRATION SYSTEM AREAS SHOULD NOT BE OVEREXCAVATED, UNDERCUT OR COMPACTED IN ANY SIGNIFICANT MANNER.

OR APPROVED EQUAL

RISER INFORMATION		
PIECE	RIM ELEV.	SYSTEM INVERT
12"Ø RISER B1	TBD	36.3
12"Ø RISER C1	TBD	36.3



SYSTEM DESCRIPTION:

FROM LID PLAN:
- **REQUIRED STORM WATER QUALITY DESIGN VOLUME ($SWQD_V$) = 1,870 cf**
- **REQUIRED $SWQD_V$ FLOW RATE = 0.31 cfs**

ALL REQUIRED TREATMENT FLOW WILL PASS THOUGH CDS UNIT AND INTO UNDERGROUND INFILTRATION SYSTEM. RUNOFF IN EXCESS OF REQUIRED FLOW AND VOLUME WILL BYPASS SYSTEM TO CURB DRAIN IN HARVARD AVE.

THE UNDERSIGNED HEREBY APPROVES THE ATTACHED (P4) PAGES INCLUDING THE FOLLOWING:
- **PIPE STORAGE = 622 CF**
- **MAINLINE PIPE GAGE = 16**
- **WALL TYPE = PERFORATED**
- **DIAMETER = 12"**
- **FINISH = ALT2**
- **CORRUGATION = 2 2/3x1/2**

CUSTOMER _____ DATE _____

ASSEMBLY
SCALE: 1" = 10'
PIPE STORAGE: 622 CF
STRUCTURAL BACKFILL STORAGE: 1,192 CF
TOTAL STORAGE PROVIDED: 1,813 CF
LOADING: H20
PIPE INV. = 36.3±

NOTES
- THE PIPE SHOULD BE FULLY PERFORATED IN ACCORDANCE WITH AASHTO M 36, SECTION 8.3.2.2, AND USING CLASS 2 PERFORATIONS. THE TOTAL OPEN AREA OF THE PERFORATIONS WILL BE A MINIMUM OF 2.3% OF THE PIPE SURFACE AREA.
- BULKHEADS SHALL BE 12-GAGE OR HEAVIER STEEL AND THE COATING WILL MATCH THE SPECIFIED CMP COATING. BULKHEAD PLATES SHALL BE FULLY WELDED ONTO THE CMP WITH STEEL REINFORCEMENT AS REQUIRED. THE STEEL REINFORCEMENT SHALL BE POST COATED WITH ZINC RICH PAINT PER AASHTO M 36. BULKHEAD DESIGNS SHALL SATISFY THE REQUIREMENTS SHOWN IN CHAPTER 8 OF THE NCSPA CSP DESIGN MANUAL AND CALCULATIONS SHALL BE PROVIDED TO THE ENGINEER OF RECORD (EOR) FOR APPROVAL UPON REQUEST.
- ALL FITTINGS SHALL BE STRUCTURALLY CHECKED FOR REINFORCEMENTS PER ASTM A998 AND PROVIDED TO THE EOR FOR APPROVAL UPON REQUEST.
- CONNECTING BANDS FOR INFILTRATION SYSTEMS SHALL BE ANY TYPE, BUT MUST BE AT LEAST 12" WIDE. BANDS SHALL MATCH THE SPECIFIED CMP COATING AND MEET THE REQUIREMENTS OF AASHTO M 36.
- ALL METALLIC COATINGS AFFECTED BY MANUFACTURING FABRICATION SHALL BE REPAIRED PER AASHTO M 36 SECTION 11 REQUIREMENTS (E.G. ZINC-RICH PAINT ON ALL WELDS). IF POLYMER COATINGS ARE USED THE REPAIR OF DAMAGED COATINGS WILL BE IN CONFORMANCE WITH AASHTO M 245 SECTION 11 REQUIREMENTS.
- ACCESS LADDERS SHALL BE ATTACHED BY THE MANUFACTURER PRIOR TO DELIVERY, NOT INSTALLED ON THE JOBSITE.

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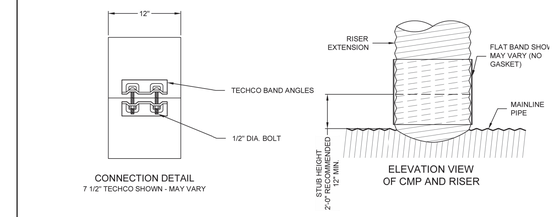
MARK	DATE	REVISION DESCRIPTION	BY

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9100 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTECH CMP DETENTION SYSTEMS
CONTECH PROPOSAL DRAWING

12"Ø PERFORATED UNDERGROUND RETENTION SYSTEM - 725765-010
GARDENA AQUATICS AND SENIOR CENTER
GARDENA, CA
SITE DESIGNATION: CMP

PROJECT No.	SEQ. No.	DATE
725765	010	9/27/2022
DESIGNED: RLH	DRAWN: RLH	
CHECKED:	APPROVED:	
SHEET NO: P1 OF P4		



CONNECTION DETAIL
7 1/2" TECHCO SHOWN - MAY VARY

ELEVATION VIEW OF CMP AND RISER

CONNECTION DETAIL
(SBBS)

PLAIN END CMP RISER PIPE

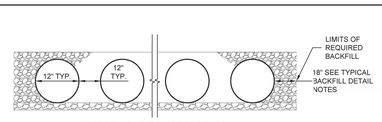
GENERAL NOTES:
1. **DELIVERED BAND STYLE AND FASTENER TYPE MAY VARY BY FABRICATION PLANT.**
2. JOINT IS TO BE ASSEMBLED PER AASHTO BRIDGE CONSTRUCTION SPECIFICATION SEC 26.4.2.4.
3. BAND MATERIAL AND GAGE TO BE SAME AS RISER MATERIAL.
4. IF RISER HAS A HEIGHT OF COVER OF 10' OR MORE, USE A SLIP JOINT.
5. BANDS ARE NORMALLY FURNISHED AS FOLLOWS:
   - 12" THRU 48" 1-PIECE
   - 54" 2-PIECES
6. ALL RISER JOINT COMPONENTS WILL BE FIELD ASSEMBLED.
7. MANHOLE RISERS IN APPLICATIONS WHERE TRAFFIC LOADS ARE IMPOSED REQUIRE SPECIAL DESIGN CONSIDERATIONS.
8. DIMENSIONS SUBJECT TO MANUFACTURING TOLERANCES.

12" RISER BAND DETAIL
NOT TO SCALE

PLAIN END CMP PIPE

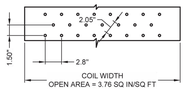
GENERAL NOTES:
1. JOINT IS TO BE ASSEMBLED PER AASHTO BRIDGE CONSTRUCTION SPECIFICATION SEC 26.4.2.4.
2. BAND MATERIALS AND/OR COATING CAN VARY BY LOCATION. CONTACT YOUR CONTECH REPRESENTATIVE FOR AVAILABILITY.
3. BANDS ARE SHAPED TO MATCH THE PIPE-ARCH WHEN APPLICABLE.
4. BANDS ARE NORMALLY FURNISHED AS FOLLOWS:
   - 12" THRU 48" 1-PIECE
   - 54" THRU 96" 2-PIECES
   - 102" THRU 144" 3-PIECES
5. BAND FASTENERS ARE ATTACHED WITH SPOT WELDS, RIVETS OR HAND WELDS.
6. DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
7. ORDER SHALL DESIGNATE GASKET OPTION, IF REQUIRED (SEE DETAILS ABOVE).

D-12 DIMPLE BAND DETAIL
NOT TO SCALE



TYPICAL SECTION VIEW
NOT TO SCALE

2 2/3" x 1/2" CORRUGATION - STEEL AND ALUMINUM CMP
EDGE SPACING EQUAL ON BOTH SIDES



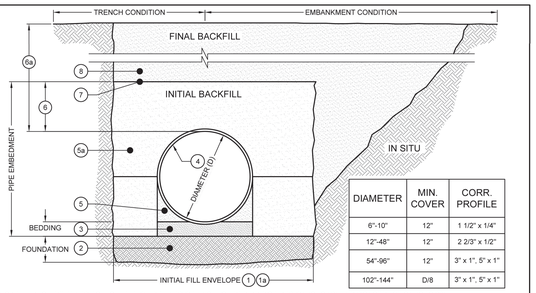
NOTES:
1. PERFORATIONS MEET AASHTO AND ASTM SPECIFICATIONS.
2. PERFORATION OPEN AREA PER SQUARE FOOT OF PIPE IS BASED ON THE NOMINAL DIAMETER AND LENGTH OF PIPE.
3. DIMENSIONS SUBJECT TO MANUFACTURER'S TOLERANCES.
4. ALL HOLES 3/8"Ø.

EXFILTRATION AREA
STANDARD PERFORATION PATTERNS

APPROXIMATE AREA PER LINEAR FOOT OF PIPE				
PIPE	CORRUGATION PATTERN			
	2 2/3" x 1/2"	3" x 1"	5" x 1"	ULTRA FLO
12"Ø	12.2 SQ. IN.			

NOTES:
- GAGE AND COATING LIMITATIONS APPLY. 5" x 1" IS NOT AVAILABLE IN ALUMINUM.
- DIMENSIONS SUBJECT TO MANUFACTURER'S TOLERANCES.

TYPICAL PERFORATION DETAIL
NOT TO SCALE



DIAMETER	MIN. COVER	CORR. PROFILE
6"-10"	12"	1 1/2" x 1/4"
12"-48"	12"	2 2/3" x 1/2"
54"-96"	12"	3" x 1", 5" x 1"
102"-144"	D/8	3" x 1", 5" x 1"

BACKFILL REQUIREMENTS FOLLOW THE GUIDELINES OF AASHTO LRFD BRIDGE DESIGN (SEC 12) AND CONSTRUCTION (SEC 26)

1 MINIMUM TRENCH WIDTH MUST ALLOW ROOM FOR PROPER COMPACTION OF HAUNCH MATERIALS UNDER THE PIPE. THE MINIMUM TRENCH WIDTH (12.6.6.1):
PIPE ≤ 12": D + 16"
PIPE > 12": 1.5D + 12"

1a MINIMUM EMBANKMENT WIDTH (IN FEET) FOR INITIAL FILL ENVELOPE (12.6.6.2):
PIPE < 24": 3.0D
PIPE 24" - 144": D + 4'0"
PIPE > 144": D + 10'0"

2 THE FOUNDATION UNDER THE PIPE AND SIDE BACKFILL SHALL BE ADEQUATE TO SUPPORT THE LOADS ACTING UPON IT (26.5.2).

3 BEDDING MATERIAL SHALL BE A RELATIVELY LOOSE GRANULAR MATERIAL THAT IS ROUGHLY SHAPED TO FIT THE BOTTOM OF THE PIPE, AND A MINIMUM OF TWICE THE CORRUGATION DEPTH IN THICKNESS, WITH THE MAXIMUM PARTICLE SIZE OF ONE-HALF OF THE CORRUGATION DEPTH (26.3.8.1, 26.5.3).

4 PERFORATED CORRUGATED STEEL PIPE (CSP / HEL-COR).

5 HAUNCH ZONE MATERIAL SHALL BE HAND SHOVELED OR SHOVEL SLICED INTO PLACE TO ALLOW FOR PROPER COMPACTION (26.5.4).

5a BACKFILL MATERIAL SHALL BE A CLEAN, CRUSHED STONE MEETING SIZE NO. 3 OR 4, PER AASHTO M 43. IT IS RECOMMENDED THAT LIFTS NOT EXCEED AN 8" UNCOMPACTED LIFT HEIGHT TO PREVENT UNEVEN LOADING, AND THE LESSER OF 1/3 THE DIAMETER OR 24" AS THE MAXIMUM DIFFERENTIAL SIDE-TO-SIDE COMPACTION OF ALL PLACED FILL MATERIAL IS NECESSARY AND SHALL BE CONSIDERED ADEQUATE WHEN NO FURTHER YIELDING OF THE MATERIAL IS OBSERVED UNDER THE COMPACTOR, OR UNDER FOOT, AND THE PROJECT ENGINEER, OR THEIR REPRESENTATIVE, IS SATISFIED WITH THE LEVEL OF COMPACTION (26.5.4).

6 INITIAL BACKFILL ABOVE PIPE MAY INCLUDE ROAD BASE MATERIAL (AND RIGID PAVEMENT IF APPLICABLE). SEE TABLE ABOVE.

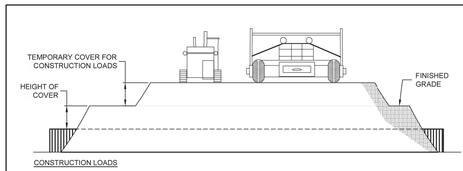
6a TOTAL HEIGHT OF COMPACTED COVER FOR CONVENTIONAL HIGHWAY LOADS IS MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TOP OF RIGID PAVEMENT (12.6.6.3).

7 GEOTEXTILE SHALL BE USED TO WRAP TRENCH SIDES AND TOP ONLY TO PREVENT SOIL MIGRATION INTO VARYING SOIL TYPES (PROJECT ENGINEER).

8 FINAL BACKFILL MATERIAL SELECTION AND COMPACTION REQUIREMENTS SHALL FOLLOW THE PROJECT PLANS AND SPECIFICATIONS PER THE ENGINEER OF RECORD (26.5.4.1).

NOTES:
- FOR MULTIPLE BARREL INSTALLATIONS THE RECOMMENDED STANDARD SPACING BETWEEN PARALLEL PIPE RUNS SHALL BE PIPE DIA./2 BUT NO LESS THAN 12", OR 36" FOR PIPE DIAMETERS 72" AND LARGER. CONTACT YOUR CONTECH REPRESENTATIVE FOR NONSTANDARD SPACING (TABLE C12.6.7-1).

TYPICAL BACKFILL DETAIL
NOT TO SCALE



CONSTRUCTION LOADS

FOR TEMPORARY CONSTRUCTION VEHICLE LOADS, AN EXTRA AMOUNT OF COMPACTED COVER MAY BE REQUIRED OVER THE TOP OF THE PIPE. THE HEIGHT-OF-COVER SHALL MEET THE MINIMUM REQUIREMENTS SHOWN IN THE TABLE BELOW. THE USE OF HEAVY CONSTRUCTION EQUIPMENT NECESSITATES GREATER PROTECTION FOR THE PIPE THAN FINISHED GRADE COVER MINIMUMS FOR NORMAL HIGHWAY TRAFFIC.

PIPE SPAN, INCHES	AXLE LOADS (kips)			
	18-50	50-75	75-110	110-150
	MINIMUM COVER (FT)			
12-42	2.0	2.5	3.0	3.0
48-72	3.0	3.0	3.5	4.0
78-120	3.0	3.5	4.0	4.0
126-144	3.5	4.0	4.5	4.5

*MINIMUM COVER MAY VARY, DEPENDING ON LOCAL CONDITIONS. THE CONTRACTOR MUST PROVIDE THE ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE PIPE. MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE.

CONSTRUCTION LOADING DIAGRAM
NOT TO SCALE

SPECIFICATION FOR CORRUGATED STEEL PIPE-ALUMINIZED TYPE 2 STEEL

SCOPE

THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE CORRUGATED STEEL PIPE (CSP) DETAILED IN THE PROJECT PLANS.

MATERIAL

THE ALUMINIZED TYPE 2 STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M274 OR ASTM A929.

PIPE

THE CSP SHALL BE MANUFACTURED IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF AASHTO M36 OR ASTM A760. THE PIPE SIZES, GAGES AND CORRUGATIONS SHALL BE AS SHOWN ON THE PROJECT PLANS.

ALL FABRICATION OF THE PRODUCT SHALL OCCUR WITHIN THE UNITED STATES.

HANDLING AND ASSEMBLY

SHALL BE IN ACCORDANCE WITH RECOMMENDATIONS OF THE NATIONAL CORRUGATED STEEL PIPE ASSOCIATION (NCSPA)

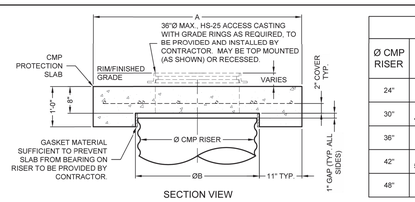
INSTALLATION

SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 26, DIVISION II OR ASTM A798 AND IN CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. IF THERE ARE ANY INCONSISTENCIES OR CONFLICTS THE CONTRACTOR SHOULD DISCUSS AND RESOLVE WITH THE SITE ENGINEER.

IT IS ALWAYS THE RESPONSIBILITY OF THE CONTRACTOR TO FOLLOW OSHA GUIDELINES FOR SAFE PRACTICES.

ANTI-FLOTATION PROVISIONS DUE TO HIGH GROUNDWATER OR OTHER FLOTATION CONCERNS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.

MATERIAL SPECIFICATION
NOT TO SCALE

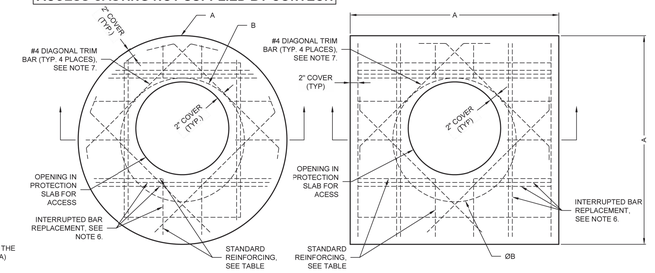


SECTION VIEW

REINFORCING TABLE				
Ø CMP RISER	A	B Ø	REINFORCING	**BEARING PRESSURE (PSF)
24"	4'Ø 4'x4'	26"	#5 @ 10" OCEW #5 @ 10" OCEW	2,540 1,900
30"	4'-6"Ø 4'-6" x 4'-6"	32"	#5 @ 10" OCEW #5 @ 9" OCEW	2,260 1,670
36"	5'Ø 5' x 5'	38"	#5 @ 9" OCEW #5 @ 8" OCEW	2,060 1,500
42"	5'-6"Ø 5'-6" x 5'-6"	44"	#5 @ 8" OCEW #5 @ 8" OCEW	1,490 1,370
48"	6'Ø 6' x 6'	50"	#5 @ 7" OCEW #5 @ 7" OCEW	1,210 1,270

** ASSUMED SOIL BEARING CAPACITY

ACCESS CASTING NOT SUPPLIED BY CONTECH



ROUND OPTION PLAN VIEW

SQUARE OPTION PLAN VIEW

NOTES:
1. DESIGN IN ACCORDANCE WITH AASHTO, 17th EDITION AND ACI 350.
2. DESIGN LOAD HS25.
3. EARTH COVER = 1' MAX.
4. CONCRETE STRENGTH = 4,000 psi
5. REINFORCING STEEL = ASTM A615, GRADE 60.
6. PROVIDE ADDITIONAL REINFORCING AROUND OPENINGS EQUAL TO THE BARS INTERRUPTED, HALF EACH SIDE. ADDITIONAL BARS TO BE IN THE SAME PLANE.
7. TRIM OPENING WITH DIAGONAL #4 BARS, EXTEND BARS A MINIMUM OF 12" BEYOND OPENING, BEND BARS AS REQUIRED TO MAINTAIN BAR COVER.
8. PROTECTION SLAB AND ALL MATERIALS TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
9. DETAIL DESIGN BY DELTA ENGINEERS, ARCHITECTS AND LAND SURVEYORS, ENDWELL, NY.

MANHOLE CAP DETAIL
NOT TO SCALE

1 PERFORATED UNDERGROUND INFILTRATION SYSTEM

SCALE: N.T.S.

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AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:
BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:
THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:
CIVTEC
999 CORPORATE DR.
SUITE 100
LADERA RANCH, CA 92694
p: 949.463.8822
e: tec@civtec.net

REGISTERED PROFESSIONAL ENGINEER THOMAS E. TAMOSAITIS C-81840 Exp. 09-30-23 CIVIL STATE OF CALIFORNIA
6/27/2023

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2692 fax
[949] 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT MICHAEL S. BAKER No. 2987 STATE OF CALIFORNIA
Registration 06/30/2023 Renewal 6/27/2023 Date

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/16/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

R.M.: THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508'

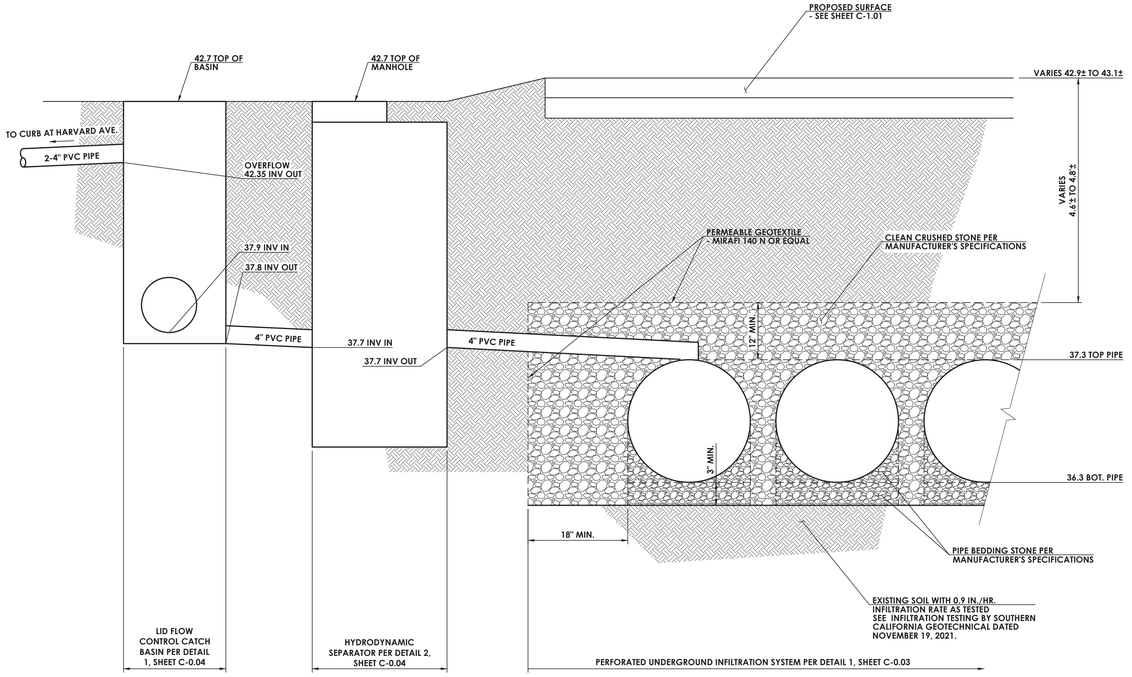
CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

DETAIL SHEET
COMMUNITY AQUATICS & SENIOR CENTER
C-0.03

	INITIAL	DATE
DESIGNED BY	TEC	
DRAWN BY	STAFF	
CHECKED BY	TEC	

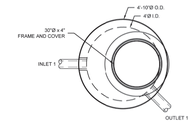
APPROVED BY:
DATE DIRECTOR OF PUBLIC WORKS
SHT. 7 OF 176 DWG. NO. 5-2606

PLOT DATE: 6/27/2023

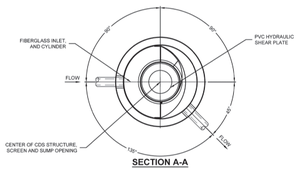


WATER QUALITY TREATMENT, INFILTRATION, AND BY-PASS DIAGRAM

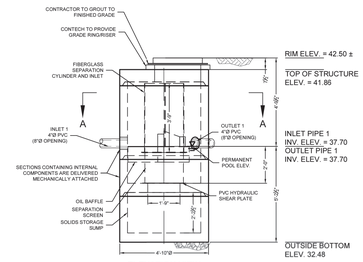
SCALE: N.T.S.



PLAN VIEW



SECTION A-A



ELEVATION VIEW

MATERIAL LIST (PRCVIDED BY CONTECH)

COUNT	DESCRIPTION	INSTALLED BY
1	FIBERGLASS INLET AND CYLINDER	CONTECH
1	4700 micrcn, 2' O.D. x 1.67' SEP. SCREEN	CONTECH
1	HARDWARE KIT	CONTECH
1	3/16 INCH PVC HYDRAULIC SHEAR PLATE *	CONTECH
1	SEALANT FOR JOINTS	CONTRACTOR
1 PLC	GRADE RINGS/RISERS	CONTRACTOR
1	30"Ø x 4" FRAME AND COVER, NON-VENTED EJM00181011 9A01, OR EQUIV.	CONTRACTOR

* SEE HYDRAULIC SHEAR PLATE DETAIL

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
6. CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

STRUCTURE WEIGHT
APPROXIMATE HEAVIEST PICK = 6500 LBS.
STRUCTURE IS DELIVERED IN 3 PIECES

MAX FOOTPRINT = Ø4'-10"

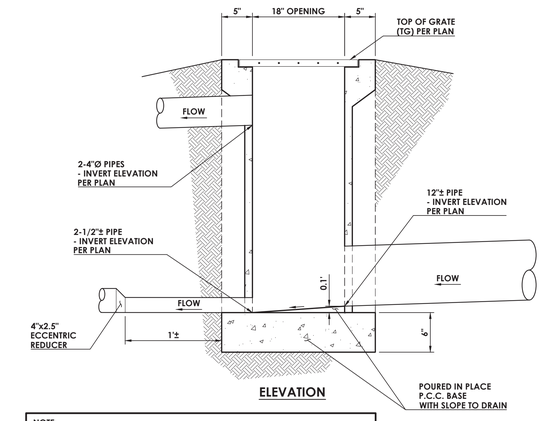
CONTECH
PROPOSAL
DRAWING

OLSAZ
5944 / 570484
LAYOUT 1A
2015-4-FGIS

OR APPROVED EQUAL

2 CDS HYDRODYNAMIC SEPARATOR

SCALE: N.T.S.



ELEVATION

NOTE:
- GRATES LOCATED IN ACCESSIBLE AREAS ARE TO HAVE ADA COMPLIANT OPENINGS W/ 1/2" MAX. GRATE OPENINGS IN ALL DIRECTIONS AND W/ FLUSH TRANSITION TO ALL ADJACENT WALK SURFACES.
- USE 3,250 P.S.I., TYPE II/V CONCRETE

1 LID FLOW CONTROL CATCH BASIN

SCALE: N.T.S.

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MARK	DATE	REVISIONS DESCRIPTION	BY

CDS2015-4-C - 725765-20
GARDENA AQUATICS AND SENIOR CENTER
GARDENA, CA
###

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800 Standard Parkway • Lake Zurich, IL 60047
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CDS
CDS TECHNOLOGY INSPIRED BY NATURE
WWW.CDSTECH.COM

DATE	11/10/22
SCALE	3/8" = 1'-0"
DESIGNED	RLH
DRAWN	RLH
CHECKED	
APPROVED	
PROJECT No.	725765
SEQUENCE No.	20
SHEET	1 OF 1

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BASIS OF BEARINGS:

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BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:
CIVTEC
999 CORPORATE DR.
SUITE 100
LADERA RANCH, CA 92694
p: 949.463.8822
e: tec@civtec.net

REGISTERED PROFESSIONAL ENGINEER
THOMAS E. CARLSON
C-81640
Exp. 09-30-23
CIVIL
STATE OF CALIFORNIA
6/27/2023

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT
R. LICENSED LANDSCAPE ARCHITECT
Signature
09/30/2023
Renewal date
6/27/2024
STATE OF CALIFORNIA

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

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DESIGNED BY	TEC	
DRAWN BY	STAFF	
CHECKED BY	TEC	

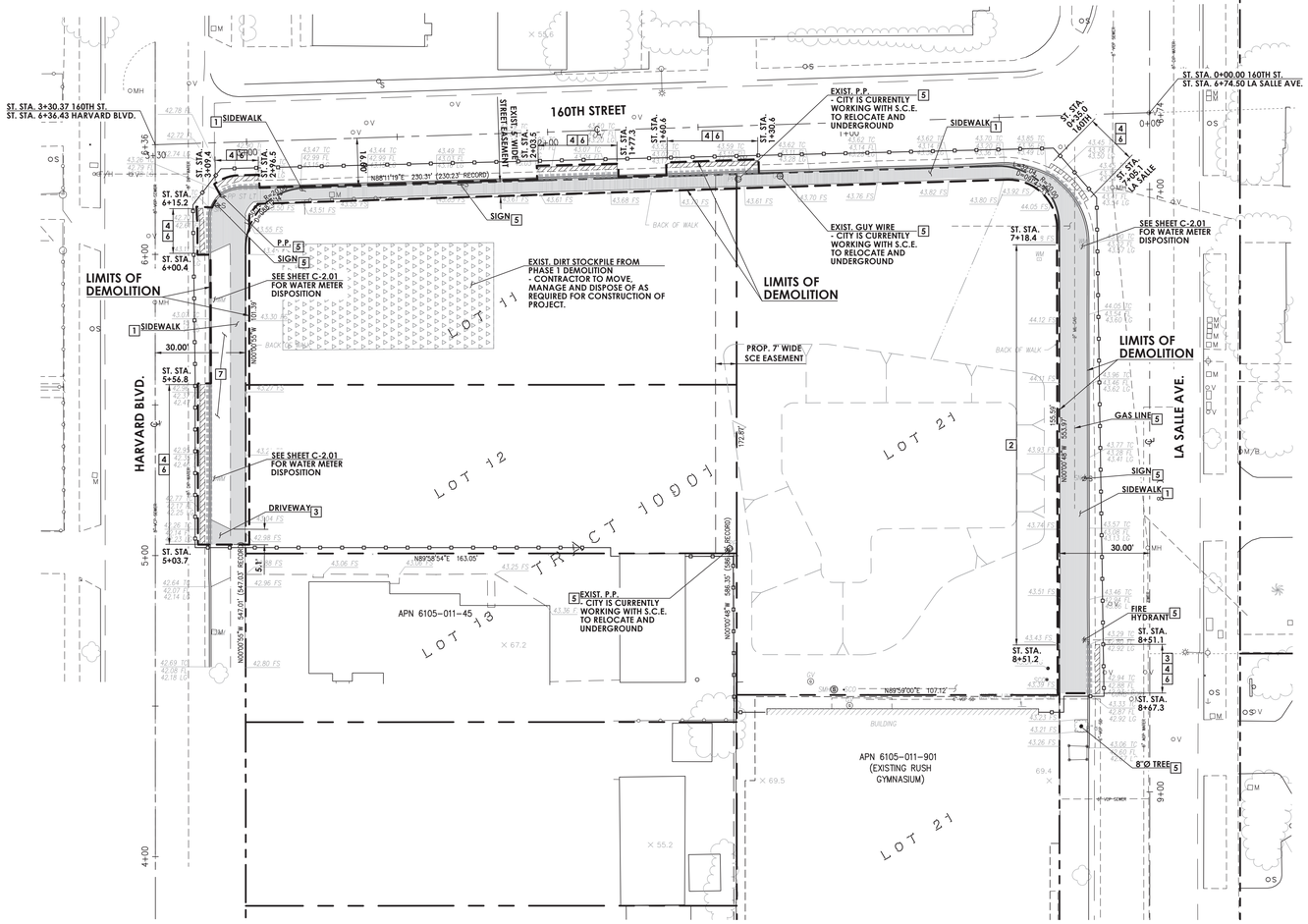
CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

DETAIL SHEET
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C-0.04

APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS

SHT. 8 OF 176 DWG. NO. 5-2606

PLOT DATE: 6/27/2023



NOTE TO CONTRACTOR:

CONTRACTOR TO SCHEDULE A SITE WALK WITH THE CITY PRIOR TO START OF DEMOLITION TO VERIFY ALL ITEMS TO BE DEMOLISHED.

ENGINEER OF RECORD STATEMENT

ALL EASEMENTS HAVE BEEN SHOWN AS PER PROVIDED PRELIMINARY TITLE REPORTS BY FIDELITY NATIONAL TITLE CO. (ORDER NO. 987-30076643-18V, DATED OCT. 28, 2021). LAWYERS TITLE (FILE NO. 218254769, DATED SEPT. 7, 2018). AND FIDELITY NATIONAL TITLE CO. (ORDER NO. 989-30033538-D-DL1, DATED FEB. 9, 2021).

THOMAS E. CARCELLI, P.E. DATE

NOTE TO CONTRACTOR:

ALL WORK OUTSIDE OF THE PROPERTY LINES WILL REQUIRE A SEPARATE ENCROACHMENT PERMIT BY THE CITY OF GARDENA.

DEMOLITION GENERAL NOTES

1. CONTRACTOR SHALL CONDUCT A SURVEY OF EXISTING CONDITIONS AND CORRELATE WITH REQUIREMENTS INDICATED TO DETERMINE AND VERIFY THE EXTENT OF DEMOLITION REQUIRED.
2. CONTRACTOR SHALL RECORD EXISTING CONDITIONS BY USE OF PRE-CONSTRUCTION PHOTOGRAPHS, PRE-CONSTRUCTION VIDEOTAPES, AND DRAWINGS AS APPROPRIATE.
3. A SURVEY SHALL BE PERFORMED AS WORK PROGRESSES TO DETECT HAZARDS RESULTING FROM DEMOLITION ACTIVITIES.
4. CONTRACTOR SHALL KEEP INVENTORY AND RECORD THE CONDITION OF ITEMS TO BE REMOVED.
5. LOCATE ALL EXISTING UTILITIES WHETHER SHOWN HEREON OR NOT AS THE FIRST ITEM OF WORK AND PROTECT THEM FROM DAMAGE. NOTIFY OWNER IMMEDIATELY IF DAMAGE OCCURS AND ASSUME FULL RESPONSIBILITY FOR EXPENSE OF REPAIR OR REPLACEMENT. NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY SHOULD FIELD CONDITIONS VARY FROM THOSE SHOWN ON PLAN.
6. WHEN UNANTICIPATED ELECTRICAL, STRUCTURAL, OR OTHER ELEMENTS INCLUDING STORM DRAIN, WATER AND SEWER LINES THAT CONFLICT WITH INTENDED DESIGN ARE ENCOUNTERED, CONTRACTOR SHALL INVESTIGATE AND MEASURE THE NATURE AND EXTENT OF CONFLICT AND CONTRACTOR SHALL PROMPTLY SUBMIT A WRITTEN REPORT TO THE CITY.
7. CONTRACTOR SHALL LOCATE, IDENTIFY, DISCONNECT, AND SEAL OR CAP OFF INDICATED UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS SERVING AREAS TO BE SELECTIVELY DEMOLISHED AND:
   - SHALL ARRANGE TO SHUT OFF INDICATED UTILITIES WITH UTILITY COMPANIES.
   - IF SERVICES/SYSTEMS ARE REQUIRED TO BE REMOVED, RELOCATED, OR ABANDONED, BEFORE PROCEEDING WITH DEMOLITION CONTRACTOR SHALL PROVIDE TEMPORARY SERVICES/SYSTEMS THAT BYPASS AREA OF DEMOLITION AND THAT MAINTAIN CONTINUITY OF SERVICES/SYSTEMS TO OTHER PARTS OF BUILDING AND SITE.
   - SHALL CUT OFF PIPE OR CONDUIT IN WALLS TO BE REMOVED, CAP, VALVE, OR PLUG AND SEAL REMAINING PORTION OF PIPE OR CONDUIT AFTER BYPASSING. WHERE ENTIRE WALL IS TO BE REMOVED, EXISTING SERVICES/SYSTEMS MAY BE REMOVED WITH REMOVAL OF THE WALL. CONTRACTOR SHALL CUT OFF PIPE OR CONDUIT SO IT WILL NOT BE VISIBLE IN FINISHED CONSTRUCTION.
9. CONTRACTOR SHALL PROTECT EXISTING SERVICES/SYSTEMS INDICATED AGAINST DAMAGE DURING DEMOLITION OPERATIONS.
10. INACTIVE OR ABANDONED UTILITIES SHALL BE DISCONNECTED, REMOVED, AND PLUGGED OR CAPPED SUBJECT TO THE LOCAL GOVERNING AGENCIES.
11. ACTIVE UTILITIES SHALL BE PROTECTED BY AND AT THE EXPENSE OF THE CONTRACTOR. KEEP ANY REQUIRED UTILITY IN OPERATING CONDITION DURING THE ENTIRE PERIOD OF WORK, INCLUDING EXISTING IRRIGATION SYSTEMS FOR LANDSCAPE MAINTENANCE.
12. DO NOT WILLFULLY PROCEED WITH CONSTRUCTION WHEN IT IS OBVIOUS THAT KNOWN OBSTRUCTIONS EXIST THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. ASSUME RESPONSIBILITY FOR ALL NECESSARY REVISION DUE TO FAILURE TO GIVE SUCH NOTIFICATION.
13. CONTRACTOR SHALL CONDUCT DEMOLITION AND DEBRIS-REMOVAL OPERATIONS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS, WALKWAYS, AND OTHER ADJACENT OCCUPIED AND USED FACILITIES.
14. CONTRACTOR SHALL PROVIDE TEMPORARY BARRICADES AND OTHER PROTECTION REQUIRED TO PREVENT INJURY TO PEOPLE AND DAMAGE TO ADJACENT BUILDINGS AND FACILITIES TO REMAIN AND:
   - SHALL PROVIDE TEMPORARY WEATHER PROTECTION, DURING THE INTERVAL BETWEEN DEMOLITION OF EXISTING CONSTRUCTION ON EXTERIOR SURFACES AND NEW CONSTRUCTION, TO PREVENT WATER LEAKAGE AND DAMAGE TO STRUCTURE AND INTERIOR AREAS.
   - SHALL PROTECT WORK THAT IS TO REMAIN OR THAT IS EXPOSED DURING DEMOLITION OPERATIONS.
   - SHALL COVER AND PROTECT EQUIPMENT THAT HAS NOT BEEN REMOVED.
15. CONTRACTOR SHALL PROVIDE AND MAINTAIN SHORING, BRACING, AND STRUCTURAL SUPPORTS AS REQUIRED TO PRESERVE STABILITY AND PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF CONSTRUCTION AND FINISHES THAT REMAIN, AND TO PREVENT UNEXPECTED OR UNCONTROLLED MOVEMENT OR COLLAPSE OF CONSTRUCTION BEING DEMOLISHED. CONTRACTOR SHALL STRENGTHEN OR ADD NEW SUPPORTS WHEN REQUIRED DURING PROGRESS OF DEMOLITION.
16. DEMOLITION AND REMOVAL WORK SHALL BE CAREFULLY PERFORMED TO AVOID DAMAGE TO EXISTING TREES NOTED ON THE PLANS TO REMAIN.
17. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST ADOPTED EDITIONS OF THE UNIFORM BUILDING CODE, THE AMERICANS WITH DISABILITIES ACT, AND ALL OTHER APPLICABLE LOCAL AND STATE CODES, ORDINANCES AND REGULATIONS.
18. CONTRACTOR SHALL USE METHODS REQUIRED TO COMPLETE THE WORK WITHIN THE LIMITATIONS OF GOVERNING REGULATIONS AND AS FOLLOWS:
   - SHALL NEATLY CUT OPENINGS AND HOLES PLUMB, SQUARE, AND TRUE TO DIMENSIONS REQUIRED, USING CUTTING METHODS LEAST LIKELY TO DAMAGE CONSTRUCTION TO REMAIN OR ADJOINING CONSTRUCTION. USE HAND TOOLS OR SMALL POWER TOOLS DESIGNED FOR SAWING OR GRINDING, NOT HAMMERING AND CHOPPING, TO MINIMIZE DISTURBANCE OF ADJACENT SURFACES. TEMPORARILY COVER OPENINGS TO REMAIN.
   - SHALL CUT OR DRILL FROM THE EXPOSED OR FINISHED SIDE INTO CONCEALED SURFACES TO AVOID MARRING EXISTING FINISHED SURFACES.
   - SHALL NOT USE CUTTING TORCHES UNTIL WORK AREA IS CLEARED OF FLAMMABLE MATERIALS. AT CONCEALED SPACES, SUCH AS DUCT AND PIPE INTERIORS, VERIFY CONDITION AND CONTENTS OF HIDDEN SPACE BEFORE STARTING FLAME-CUTTING OPERATIONS. MAINTAIN FIRE WATCH AND PORTABLE FIRE-SUPPRESSION DEVICES DURING FLAME-CUTTING OPERATIONS.
   - SHALL MAINTAIN ADEQUATE VENTILATION WHEN USING CUTTING TORCHES.
   - SHALL REMOVE DECAYED, TERMITE-INFESTED, VERMIN-INFESTED, OR OTHERWISE DANGEROUS OR UNSUITABLE MATERIALS AND PROMPTLY DISPOSE OF OFF-SITE.
   - SHALL LOCATE DEMOLITION EQUIPMENT AND REMOVE DEBRIS AND MATERIALS SO AS NOT TO IMPOSE EXCESSIVE LOADS ON STRUCTURES TO REMAIN.
19. CLEAR THE SITE OF GRASS, WEED GROWTH, RUBBISH, DEBRIS, PAVEMENT, CONCRETE, INACTIVE OR ABANDONED FACILITIES (VERIFIED BY THE AGENCY), THAT ARE TO BE REMOVED FOR CONSTRUCTION OF THE SITE IMPROVEMENTS TO THE LIMITS AND DEPTHS SHOWN ON THE PLANS.
20. ABANDONED UNDERGROUND FACILITIES (VERIFIED BY THE AGENCY), ROOTS THREE INCHES IN DIAMETER AND LARGER, AND ROCKS AND BROKEN MASONRY LARGER THAN 4 INCHES IN ANY DIMENSION SHALL BE REMOVED TO A MINIMUM DEPTH OF 12" BELOW FINISH GRADE.
21. ALL DELETERIOUS MATERIALS WITHIN THE LIMITS OF THE WORK SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR, WHO SHALL MAKE ALL NECESSARY ARRANGEMENTS AND PAY ALL RELATED COSTS.
22. CONTRACTOR SHALL REMOVE DEMOLISHED MATERIALS FROM PROJECT SITE AND LEGALLY DISPOSE OF THEM AT THE CONTRACTOR'S EXPENSE IN AN EPA-APPROVED LANDFILL AND:
   - SHALL NOT ALLOW DEMOLISHED MATERIALS TO ACCUMULATE ON-SITE.
   - SHALL REMOVE AND TRANSPORT DEBRIS IN A MANNER THAT WILL PREVENT SPILLAGE ON ADJACENT SURFACES AND AREAS.
23. CONTRACTOR SHALL NOT BURN DEMOLISHED MATERIALS.
24. CONTRACTOR SHALL CLEAN ADJACENT STRUCTURES AND IMPROVEMENTS OF DUST, DIRT, AND DEBRIS CAUSED BY DEMOLITION OPERATIONS AND RETURN ADJACENT AREAS TO CONDITION EXISTING BEFORE DEMOLITION OPERATIONS BEGAN.

DEMOLITION NOTES

			ESTIMATED QUANTITY
	1	SAWCUT AND REMOVE EXISTING CONCRETE CONCRETE OR PAD (COMPLETE) AND DISPOSE ****	3,460 SF
	2	REMOVE EXISTING WALL FOOTING (COMPLETE) AND DISPOSE	135 LF
	3	REMOVE EXISTING DRIVEWAY AND GUTTER (COMPLETE) AND DISPOSE	2 EA
	4	REMOVE EXISTING A.C./A.B. PAVEMENT (COMPLETE) AND DISPOSE	170 LF
	5	PROTECT IN PLACE - POTHOLE AND LOCATE EXISTING UNDERGROUND UTILITY LINES TO PROTECT AS REQUIRED	-
	6	REMOVE EXISTING CURB AND GUTTER (COMPLETE) AND DISPOSE	170 LF
	7	REMOVE EXISTING LANDSCAPE/IRRIGATION AND CAP AT LIMITS OF DEMOLITION AND DISPOSE **	585 SF

** CAP AND REMOVE IRRIGATION LINES AS REQ'D

**** SEE SOILS REPORT FOR ADDITIONAL DEMOLITION REQUIREMENTS

NOTE TO CONTRACTOR:

ALL UTILITIES SHOULD BE SHUT OFF AND CAPPED PER UTILITY COMPANY REQUIREMENTS.
CONTRACTOR SHALL COORDINATE WITH APPROPRIATE UTILITY COMPANY PRIOR TO COMMENCEMENT OF WORK.

NOTE TO CONTRACTOR:

INSTALL 6-FOOT CHAIN LINK FENCE WITH WINDSCREEN AND GATES, WHERE NECESSARY, ALONG THE PERIMETER OF THE SITE AS NEEDED. CONTRACTOR SHALL PROTECT THESE FENCES AND KEEP AREA FULLY SECURE DURING DEMOLITION. PROJECT FENCE, GATE, PRIVATE SCREEN, PERIMETER WATER POLLUTION CONTROL SHALL BECOME THE PROPERTY OF THE CITY AND SHALL REMAIN IN PLACE AT THE COMPLETION OF DEMOLITION.

NOTE TO CONTRACTOR:

- LOCATION OF EXISTING FACILITIES SHOWN HEREON ARE BASED ON THE EXISTING TOPOGRAPHIC SURVEY PERFORMED BY civTEC, INC., DATED FEBRUARY, 2021, FIELD OBSERVATION AND A SEARCH OF AVAILABLE RECORDS AND MAY NOT REPRESENT ACTUAL CONDITIONS.
- CONTRACTOR MUST FIELD LOCATE ALL UTILITIES (LOCATION AND DEPTH) WITHIN WORK AREA AS A FIRST ITEM OF WORK AND VERIFY PROPOSED DESIGN IS VALID.
- CONTRACTOR SHALL PROTECT IN PLACE THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING UTILITY LINES.
- CONTRACTOR TO VERIFY AND INFORM THE CITY OF ANY FACILITIES ENCOUNTERED IN THE FIELD WHICH IS NOT SHOWN ON THIS PLAN, OR DIFFERS IN LOCATION OR SIZE, PRIOR TO REMOVAL.
- THE CITY MAY IDENTIFY AND REMOVE ANY ITEMS THEY WISH TO RETAIN PRIOR TO THE CONTRACTOR MOVE IN.

NOTE TO CONTRACTOR:

EXACT LOCATION OF EXISTING UNDERGROUND STORM DRAIN LINES ON-SITE ARE UNKNOWN. CONTRACTOR SHALL:

- VERIFY LOCATION, SIZE, ELEVATIONS OF EXISTING STORM DRAIN AND VERIFY DESIGN AS A FIRST ITEM OF WORK. NOTIFY ENGINEER IMMEDIATELY OF ANY REQUIRED CHANGE IN DESIGN.
- CAP EXISTING STORM DRAIN AT DEMOLITION LIMITS - NOTIFY ENGINEER OF ALL LOCATIONS, SIZES AND INVERT ELEVATIONS AT COMPLETION OF DEMOLITION.
- IF INLET PIPES ARE FOUND CONNECTING TO EXISTING GRATES THAT ARE REMOVED DURING THE CONSTRUCTION OF THIS PROJECT (OR PIPES ARE DAMAGED OR REMOVED DURING CONSTRUCTION) THAT RUN OUTSIDE OF DEMOLITION LIMITS, NOTIFY ENGINEER IMMEDIATELY OF THE LOCATION AND SIZE TO INSURE CONTINUITY OF DRAINAGE UPSTREAM.

UTILITY CONTACT NUMBERS:

COMPANY	CONTACT	TELEPHONE NO.
CITY OF GARDENA P.W. TRAFFIC/ELECTRICAL	JEFF JALOMO	310-217-9430
GOLDEN STATE WATER CO.	JOSEPH SALICIDO CONDE VENTURA	310-660-0320 X101 310-701-2500
CALIFORNIA UNDERGROUND SERVICE ALERT (USA)		800-422-4133

LEGEND

- LIMITS OF DEMOLITION
- REMOVAL OF EXISTING CURB & GUTTER
- 6-FOOT TALL CONSTRUCTION FENCE - LOCATION MAY BE REVISED WITH CITY APPROVAL

DIGALERT
DIAL TOLL FREE 1-800-422-4133
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:

BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:
civTEC
999 CORPORATE DR.
SUITE 100
LADERA RANCH, CA 92694
p: 949.463.8822
e: tec@civtec.net

REGISTERED PROFESSIONAL ENGINEER THOMAS E. CARCELLI C-81640 Exp. 09-30-23 CIVIL STATE OF CALIFORNIA
6/27/2023

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
(949) 493-2690 fax
(949) 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT THOMAS E. CARCELLI Signature 09/30/2023 Renewal Date 6/27/2023 STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. 5D-15
ELEV. = 43.508'

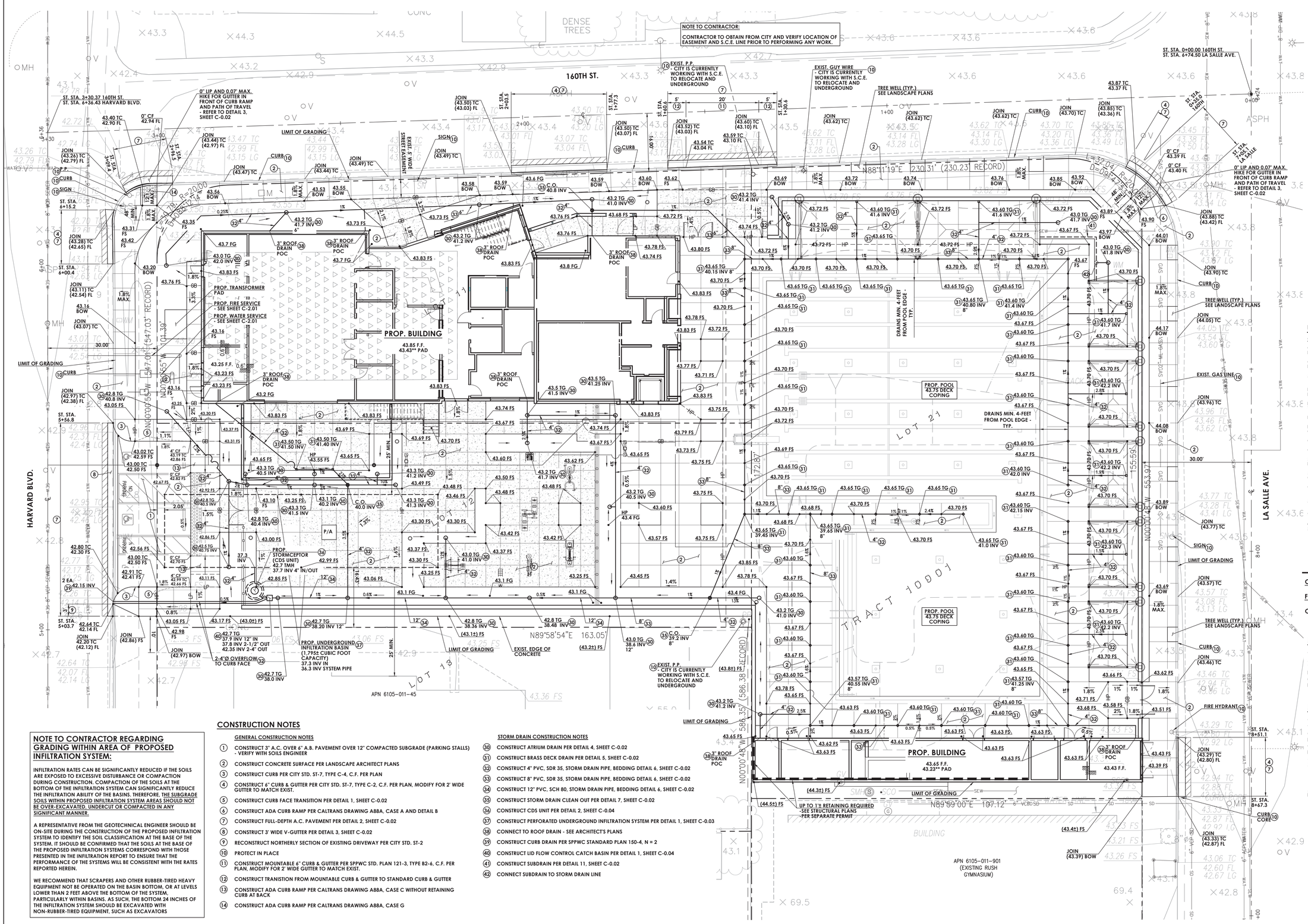
	INITAL	DATE
DESIGNED BY	TEC	
DRAWN BY	STAFF	
CHECKED BY	TEC	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

DEMOLITION PLAN
COMMUNITY AQUATICS & SENIOR CENTER
D-1.01

APPROVED BY:
DATE DIRECTOR OF PUBLIC WORKS
SHT. 9 OF 176 DWG. NO. 5-2606

PLOT DATE: 6/27/2023



* NOTE TO CONTRACTOR:

CONTRACTOR TO VERIFY ELEVATION PRIOR TO CONSTRUCTION AND NOTIFY CIVIL ENGINEER IMMEDIATELY OF ANY DISCREPANCY.

** NOTE TO CONTRACTOR:

VERIFY STRUCT. SLAB SECTION [ASSUMED 5" PCC / VAPOR BARRIER] W/STRUCTURAL DRAWINGS AND SOILS ENGINEER'S REPORT PRIOR TO CONSTRUCTION AND NOTIFY CIVIL ENGINEER IMMEDIATELY OF ANY DISCREPANCY.

NOTE TO CONTRACTOR:

LOCATE ALL EXISTING UTILITIES AS A FIRST ITEM OF WORK AND PROTECT THEM IN PLACE AS REQUIRED.

NOTE TO CONTRACTOR:

ALL GRADING AND EARTHWORK IS TO BE DONE IN ACCORDANCE WITH THE EARTHWORK SPECIFICATION AND AS DIRECTED BY THE GEOTECHNICAL ENGINEER.

ENGINEER OF RECORD STATEMENT

ALL EASEMENTS HAVE BEEN SHOWN AS PER PROVIDED PRELIMINARY TITLE REPORTS BY FIDELITY NATIONAL TITLE CO. (ORDER NO. 987-30076643-18V, DATED OCT. 28, 2021), LAWYERS TITLE (FILE NO. 218254769, DATED SEPT. 7, 2018), AND FIDELITY NATIONAL TITLE CO. (ORDER NO. 989-30033538-D-DL1, DATED FEB. 9, 2021).

THOMAS E. CARCELLI, P.E. DATE

UTILITY CONTACT NUMBERS:

COMPANY	CONTACT	TELEPHONE NO.
CITY OF GARDENA P.W. TRAFFIC/ELECTRICAL	JEFF JALOMO	310-217-9430
CITY OF GARDENA P.W. SEWER	JOHN SCHERER	310-217-9599
METRO. WATER DISTRICT	CIVIL ENG. SUBSTRUCTURE SEC.	213-217-7059
L.A. COUNTY DEPARTMENT OF PUBLIC HEALTH		626-430-5360
L.A. DEPARTMENT OF WATER & POWER	JOSE PORRAS	213-367-1049
L.A. SANITATION DISTRICT	JON GANZ	562-908-4288
L.A. COUNTY FLOOD CONTROL DISTRICT	DARYLL CHENOWETH	626-458-3129
CHEVRON PIPELINE CO.	DAVE ZERLER	310-669-4014
CROWN CASTLE	HECTOR AGUILERA	951-454-5111
SOUTHERN CALIFORNIA EDISON COMPANY	MANNY MIGUELES	310-720-6086
SOUTHERN CALIFORNIA GAS COMPANY	SALVADOR GONZALES	310-970-4844
GOLDEN STATE WATER CO.	JOSEPH SALICIDO CONDE VENTURA	310-660-0320 X101 310-701-2500
AT&T/SBC/PACIFIC BELL	RAYMOND DOVE TERENCE LITTLE	310-515-4257 310-515-4252
TIME WARNER/SPECTRUM	ATRURO FERNANDEZ	310-750-9099
CALIFORNIA UNDERGROUND SERVICE ALERT (USA)		800-422-4133

EARTHWORK (SEE SHEET C-0.01)

CUT	850	CUBIC YARDS
FILL	1,200	CUBIC YARDS
OVER-EXCAVATION	2,500	CUBIC YARDS

SURVEYOR:

TED KRULL, PLS 5848
STARLIGHT SURVEYING, INC.
17955 SKY PARK CIR. STE F
IRVINE, CA. 92614
(949) 757-0613
DATES OF SURVEY: NOV. 2021 AND JAN. 2022

SOILS ENGINEER STATEMENT

THESE GRADING PLANS WERE REVIEWED AND APPROVED, AND THAT THEY COMPLY WITH ALL THE REQUIREMENTS AND RECOMMENDATIONS OF THE GEOTECHNICAL/SOILS REPORT (GEOTECHNICAL INVESTIGATION PROPOSED COMMUNITY AQUATIC AND SENIOR CENTER BY SOUTHERN CALIFORNIA GEOTECHNICAL, INC. DATED NOVEMBER 18, 2021 AND RESULTS OF INFILTRATION TESTING BY SOUTHERN CALIFORNIA GEOTECHNICAL DATED NOVEMBER 19, 2021) AND GEOTECHNICAL/SOILS ENGINEER.

NAME DATE

NOTE TO CONTRACTOR REGARDING GRADING WITHIN AREA OF PROPOSED INFILTRATION SYSTEM:

INFILTRATION RATES CAN BE SIGNIFICANTLY REDUCED IF THE SOILS ARE EXPOSED TO EXCESSIVE DISTURBANCE OR COMPACTION DURING CONSTRUCTION. COMPACTION OF THE SOILS AT THE BOTTOM OF THE INFILTRATION SYSTEM CAN SIGNIFICANTLY REDUCE THE INFILTRATION ABILITY OF THE BASINS. THEREFORE, THE SUBGRADE SOILS WITHIN PROPOSED INFILTRATION SYSTEM AREAS SHOULD NOT BE OVER-EXCAVATED, UNDERCUT OR COMPACTED IN ANY SIGNIFICANT MANNER.

A REPRESENTATIVE FROM THE GEOTECHNICAL ENGINEER SHOULD BE ON-SITE DURING THE CONSTRUCTION OF THE PROPOSED INFILTRATION SYSTEM TO IDENTIFY THE SOIL CLASSIFICATION AT THE BASE OF THE SYSTEM. IT SHOULD BE CONFIRMED THAT THE SOILS AT THE BASE OF THE PROPOSED INFILTRATION SYSTEMS CORRESPOND WITH THOSE PRESENTED IN THE INFILTRATION REPORT TO ENSURE THAT THE PERFORMANCE OF THE SYSTEMS WILL BE CONSISTENT WITH THE RATES REPORTED HEREIN.

WE RECOMMEND THAT SCRAPERS AND OTHER RUBBER-TIRED HEAVY EQUIPMENT NOT BE OPERATED ON THE BASIN BOTTOM, OR AT LEVELS LOWER THAN 2 FEET ABOVE THE BOTTOM OF THE SYSTEM, PARTICULARLY WITHIN BASINS. AS SUCH, THE BOTTOM 24 INCHES OF THE INFILTRATION SYSTEM SHOULD BE EXCAVATED WITH NON-RUBBER-TIRED EQUIPMENT, SUCH AS EXCAVATORS

CONSTRUCTION NOTES

GENERAL CONSTRUCTION NOTES

1. CONSTRUCT 3" A.C. OVER 6" A.B. PAVEMENT OVER 12" COMPACTED SUBGRADE (PARKING STALLS) - VERIFY WITH SOILS ENGINEER
2. CONSTRUCT CONCRETE SURFACE PER LANDSCAPE ARCHITECT PLANS
3. CONSTRUCT CURB PER CITY STD. ST-7, TYPE C-4, C.F. PER PLAN
4. CONSTRUCT 6" CURB & GUTTER PER CITY STD. ST-7, TYPE C-2, C.F. PER PLAN, MODIFY FOR 2' WIDE GUTTER TO MATCH EXIST.
5. CONSTRUCT CURB FACE TRANSITION PER DETAIL 1, SHEET C-0.02
6. CONSTRUCT ADA CURB RAMP PER CALTRANS DRAWING A88A, CASE A AND DETAIL B
7. CONSTRUCT FULL-DEPTH A.C. PAVEMENT PER DETAIL 2, SHEET C-0.02
8. CONSTRUCT 3' WIDE V-GUTTER PER DETAIL 3, SHEET C-0.02
9. RECONSTRUCT NORTHERLY SECTION OF EXISTING DRIVEWAY PER CITY STD. ST-2
10. PROTECT IN PLACE
11. CONSTRUCT MOUNTABLE 6" CURB & GUTTER PER SPPWC STD. PLAN 121-3, TYPE B2-6, C.F. PER PLAN, MODIFY FOR 2' WIDE GUTTER TO MATCH EXIST.
12. CONSTRUCT TRANISTION FROM MOUNTABLE CURB & GUTTER TO STANDARD CURB & GUTTER
13. CONSTRUCT ADA CURB RAMP PER CALTRANS DRAWING A88A, CASE C WITHOUT RETAINING CURB AT BACK
14. CONSTRUCT ADA CURB RAMP PER CALTRANS DRAWING A88A, CASE G

STORM DRAIN CONSTRUCTION NOTES

30. CONSTRUCT ATRIUM DRAIN PER DETAIL 4, SHEET C-0.02
31. CONSTRUCT BRASS DECK DRAIN PER DETAIL 5, SHEET C-0.02
32. CONSTRUCT 4" PVC, SDR 35, STORM DRAIN PIPE, BEDDING DETAIL 6, SHEET C-0.02
33. CONSTRUCT 8" PVC, SDR 35, STORM DRAIN PIPE, BEDDING DETAIL 6, SHEET C-0.02
34. CONSTRUCT 12" PVC, SCH 80, STORM DRAIN PIPE, BEDDING DETAIL 6, SHEET C-0.02
35. CONSTRUCT STORM DRAIN CLEAN OUT PER DETAIL 7, SHEET C-0.02
36. CONSTRUCT CDS UNIT PER DETAIL 2, SHEET C-0.04
37. CONSTRUCT PERFORATED UNDERGROUND INFILTRATION SYSTEM PER DETAIL 1, SHEET C-0.03
38. CONNECT TO ROOF DRAIN - SEE ARCHITECTS PLANS
39. CONSTRUCT CURB DRAIN PER SPPWC STANDARD PLAN 150-4, N = 2
40. CONSTRUCT LID FLOW CONTROL CATCH BASIN PER DETAIL 1, SHEET C-0.04
41. CONSTRUCT SUBDRAIN PER DETAIL 11, SHEET C-0.02
42. CONNECT SUBDRAIN TO STORM DRAIN LINE

DIGALERT
DIAL TOLL FREE
1-800-422-4133
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:

BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:
CIVTEC
999 CORPORATE DR.
SUITE 100
LADERA RANCH, CA 92694
p: 949.463.8822
e: tec@civtec.net

REGISTERED PROFESSIONAL ENGINEER — THOMAS E. CARCELLI — C-81640 Exp. 09-30-23 — CIVIL — STATE OF CALIFORNIA
6/27/2023

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2600 fax
[949] 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT — STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

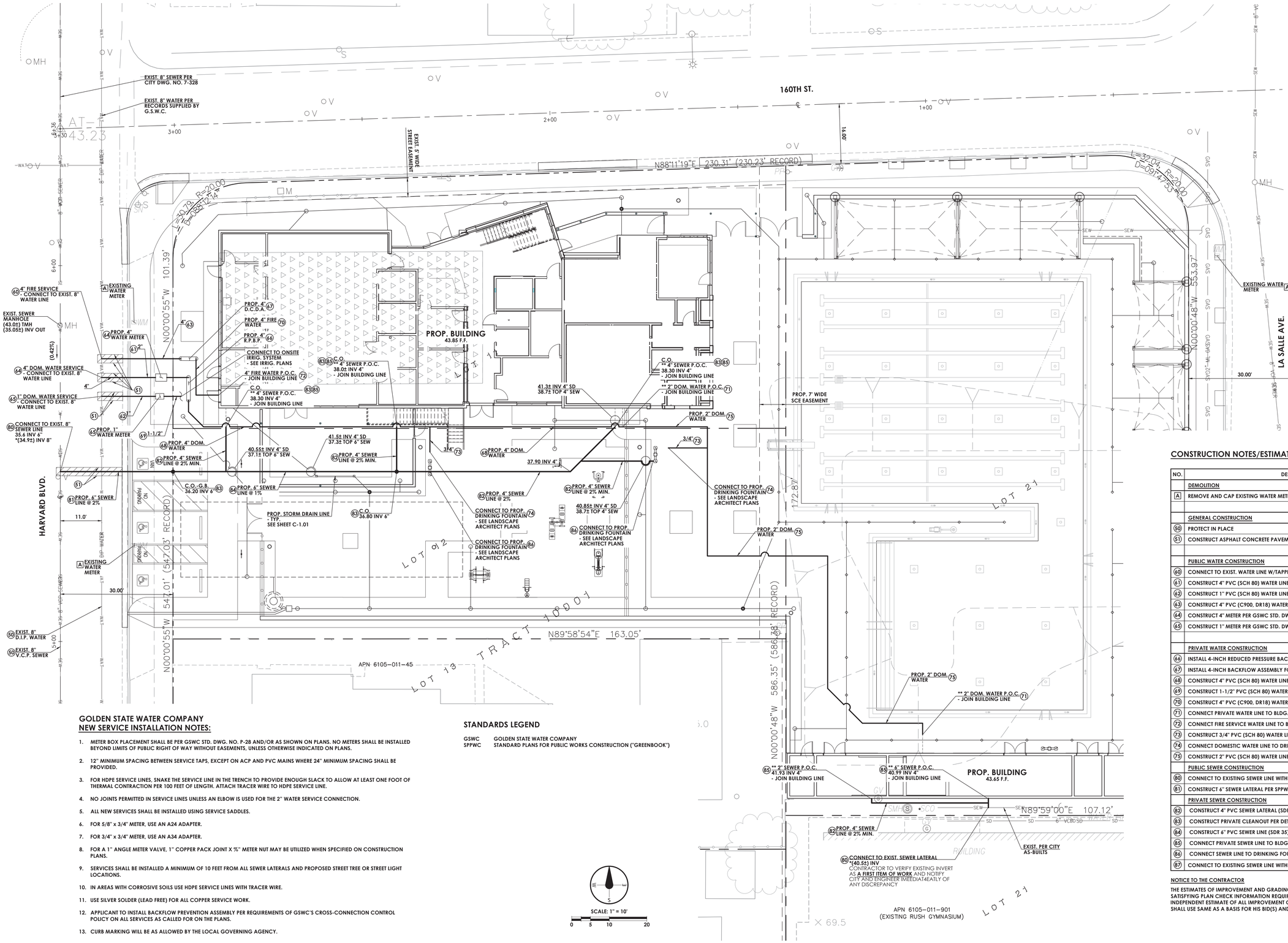
B.M.: THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508'

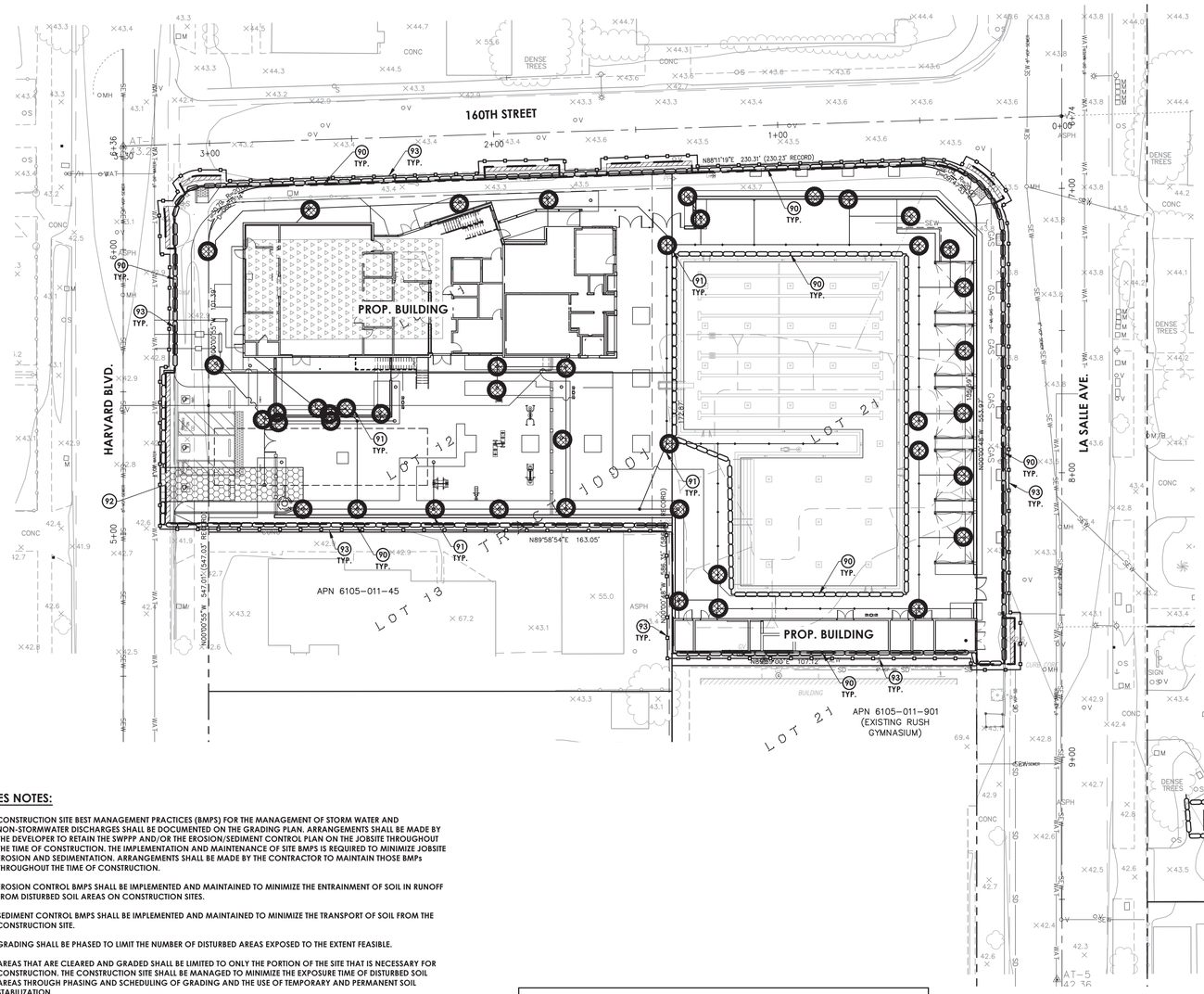
CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

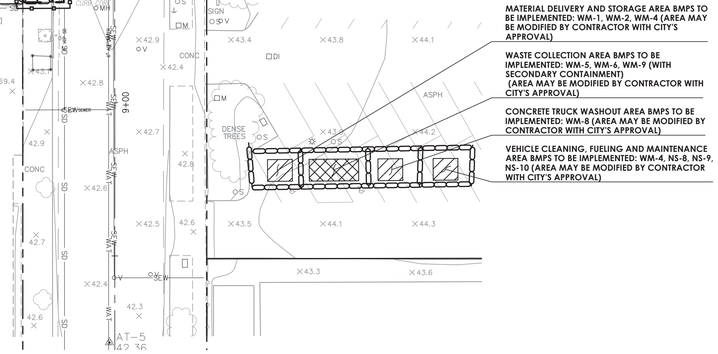
PRECISE GRADING PLAN
COMMUNITY AQUATICS & SENIOR CENTER
C-1.01

	INITAL	DATE
DESIGNED BY	TEC	
DRAWN BY	STAFF	
CHECKED BY	TEC	

APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS
SHT. 10 OF 176
DWG. NO. 5-2606
PLOT DATE: 6/27/2023

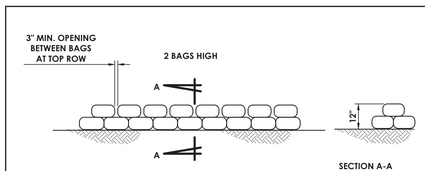

160TH ST.
HARVARD BLVD.
LA SALLE AVE.
EXIST. 8" SEWER PER CITY DWG. NO. 7-328
EXIST. 8" WATER PER RECORDS SUPPLIED BY G.S.W.C.
EXIST. 5' WIDE STREET EASEMENT
N88°11'19"E 230.31' (230.23' RECORD)
L=32.04' R=20.00' D=091°47'53"
L=30.79' R=20.00' D=088°12'47"
N00°00'48"W 553.97'
N00°00'55"W 101.39'
N00°00'55"W 547.01' (547.03' RECORD)
N00°00'48"W 586.35' (586.38' RECORD)
N89°58'54"E 163.05'
N89°59'00"E 107.12'
TRACT 10901
LOT 1
LOT 2
LOT 21
PROP. BUILDING
43.85 F.F.
PROP. BUILDING
43.65 F.F.
EXISTING BUILDING
APN 6105-011-45
APN 6105-011-901
(EXISTING RUSH GYMNASIUM)
PROP. 7' WIDE SCE EASEMENT
EXISTING WATER METER
PROP. STORM DRAIN LINE - TYP. SEE SHEET C-1.01
CONNECT TO ONSITE IRRIG. SYSTEM - SEE IRRIG. PLANS
CONNECT TO PROP. DRINKING FOUNTAIN - SEE LANDSCAPE ARCHITECT PLANS
41.3± INV 4" SD 38.7± TOP 4" SEW
40.55± INV 4" SD 37.1± TOP 6" SEW
40.85± INV 4" SD 38.7± TOP 4" SEW
37.90 INV 4"
41.5± INV 4" SD 37.3± TOP 6" SEW
EXIST. MANHOLE 43.05± TMH (35.05±) INV OUT
EXIST. 8" D.I.P. WATER
EXIST. 8" V.C.P. SEWER
EXIST. PER CITY AS-BUILTS
11.0'
30.00'
172.87'
X 69.5
(0.42%)
(1.00%)
(2.00%)
(1.50%)
(1.00%)
(2.00%)
(1.00%)
(1.50%)
(2.00%)
(1.00%)
(1.50%)
(2.00%)
(1.00%)
(1.50



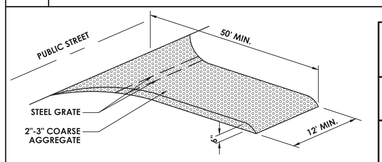


NPDES NOTES:

1. CONSTRUCTION SITE BEST MANAGEMENT PRACTICES (BMPS) FOR THE MANAGEMENT OF STORM WATER AND NON-STORMWATER DISCHARGES SHALL BE DOCUMENTED ON THE GRADING PLAN. ARRANGEMENTS SHALL BE MADE BY THE DEVELOPER TO RETAIN THE SWPPP AND/OR THE EROSION/SEDIMENT CONTROL PLAN ON THE JOBSITE THROUGHOUT THE TIME OF CONSTRUCTION. THE IMPLEMENTATION AND MAINTENANCE OF SITE BMPS IS REQUIRED TO MINIMIZE JOBSITE EROSION AND SEDIMENTATION. ARRANGEMENTS SHALL BE MADE BY THE CONTRACTOR TO MAINTAIN THOSE BMPs THROUGHOUT THE TIME OF CONSTRUCTION.
2. EROSION CONTROL BMPS SHALL BE IMPLEMENTED AND MAINTAINED TO MINIMIZE THE ENTRAINMENT OF SOIL IN RUNOFF FROM DISTURBED SOIL AREAS ON CONSTRUCTION SITES.
3. SEDIMENT CONTROL BMPS SHALL BE IMPLEMENTED AND MAINTAINED TO MINIMIZE THE TRANSPORT OF SOIL FROM THE CONSTRUCTION SITE.
4. GRADING SHALL BE PHASED TO LIMIT THE NUMBER OF DISTURBED AREAS EXPOSED TO THE EXTENT FEASIBLE.
5. AREAS THAT ARE CLEARED AND GRADED SHALL BE LIMITED TO ONLY THE PORTION OF THE SITE THAT IS NECESSARY FOR CONSTRUCTION. THE CONSTRUCTION SITE SHALL BE MANAGED TO MINIMIZE THE EXPOSURE TIME OF DISTURBED SOIL AREAS THROUGH PHASING AND SCHEDULING OF GRADING AND THE USE OF TEMPORARY AND PERMANENT SOIL STABILIZATION.
6. ONCE DISTURBED, SLOPES (TEMPORARY OR PERMANENT) SHALL BE STABILIZED IF THEY WILL NOT BE WORKED WITHIN 14 DAYS. ALL SLOPES SHALL BE STABILIZED PRIOR TO A PREDICTED STORM EVENT. CONSTRUCTION SITES SHALL BE REVEGETATED AS EARLY AS FEASIBLE AFTER SOIL DISTURBANCE.
7. STOCKPILES OF SOIL SHALL BE PROPERLY CONTAINED TO ELIMINATE OR REDUCE SEDIMENT TRANSPORT FROM THE SITE TO STREETS, DRAINAGE FACILITIES OR ADJACENT PROPERTIES VIA RUNOFF, VEHICLE TRACKING, OR WIND.
8. CONSTRUCTION SITES SHALL BE MAINTAINED IN SUCH A CONDITION THAT A STORM DOES NOT CARRY WASTES OR POLLUTANTS OFF THE SITE. DISCHARGES OTHER THAN STORMWATER (NON-STORMWATER DISCHARGES) ARE PROHIBITED, EXCEPT AS AUTHORIZED BY AN INDIVIDUAL NPDES PERMIT, THE STATEWIDE GENERAL PERMIT-CONSTRUCTION ACTIVITY. POTENTIAL POLLUTANTS INCLUDE BUT ARE NOT LIMITED TO: SOLID OR LIQUID CHEMICAL SPILLS; WASTES FROM PAINTS, STAINS, SEALANTS, SOLVENTS, DETERGENTS, GLUES, LIME, PESTICIDES, HERBICIDES, FERTILIZERS, WOOD PRESERVATIVES, AND ASBESTOS FIBERS, PAINT FLAKES OR STUCCO FRAGMENTS; FUELS, OILS LUBRICANTS, AND HYDRAULIC, RADIATOR OR BATTERY FLUIDS; CONCRETE AND RELATED CUTTING OR CURING RESIDUES; FLOATABLE WASTES; WASTES FROM ENGINE/EQUIPMENT STEAM CLEANING OR CHEMICAL DEGREASING; WASTES FROM STREET CLEANING; AND SUPER-CHLORINATED POTABLE WATER FROM LINE FLUSHING AND TESTING. DURING CONSTRUCTION, DISPOSAL OF SUCH MATERIALS SHOULD OCCUR IN A SPECIFIED AND CONTROLLED TEMPORARY AREA ON-SITE PHYSICALLY SEPARATED FROM POTENTIAL STORMWATER RUNOFF, WITH ULTIMATE DISPOSAL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REQUIREMENTS.
9. RUNOFF FROM EQUIPMENT AND VEHICLE WASHING SHALL BE CONTAINED AT THE CONSTRUCTION SITE AND MUST NOT BE DISCHARGED TO RECEIVING WATERS OR THE LOCAL STORM DRAIN SYSTEM.
10. APPROPRIATE BMPS FOR CONSTRUCTION-RELATED MATERIALS, WASTES, SPILLS OR RESIDUES SHALL BE IMPLEMENTED TO ELIMINATE OR REDUCE TRANSPORT FROM THE SITE TO STREETS, DRAINAGE FACILITIES, OR ADJOINING PROPERTIES BY WIND OR RUNOFF.
11. ALL CONSTRUCTION CONTRACTORS AND SUBCONTRACTOR PERSONNEL ARE TO BE MADE AWARE OF THE REQUIRED BMPS AND GOOD HOUSEKEEPING MEASURES FOR THE PROJECT SITE AND ANY ASSOCIATED CONSTRUCTION STAGING AREAS.
12. DISCHARGING CONTAMINATED GROUNDWATER PRODUCED BY DEWATERING GROUNDWATER THAT HAS INFILTRATED INTO THE CONSTRUCTION SITE IS PROHIBITED. DISCHARGING OF CONTAMINATED SOILS VIA SURFACE EROSION IS ALSO PROHIBITED. DISCHARGING NON-CONTAMINATED GROUNDWATER PRODUCED BY DEWATERING ACTIVITIES MAY REQUIRE A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FROM THE REGIONAL WATER QUALITY CONTROL BOARD.
13. BMPS SHALL BE MAINTAINED AT ALL TIMES. IN ADDITION, BMPS SHALL BE INSPECTED PRIOR TO PREDICTED STORM EVENTS AND FOLLOWING STORM EVENTS.
14. AT THE END OF EACH DAY OF CONSTRUCTION ACTIVITY, ALL CONSTRUCTION DEBRIS AND WASTE MATERIALS SHALL BE COLLECTED AND PROPERLY DISPOSED OF IN TRASH OR RECYCLE BINS.



SE-8 GRAVEL BAG DETAILS — SCALE: N.T.S.



NOTE:
PLACE 4" PVC DRAIN PIPE IN EXISTING GUTTER FLOWLINE WITH A.C. RAMP AT DRIVEWAYS IF STREET CURB & GUTTER DRAINAGE FLOW IS BLOCKED.

NOTE:
A RUMBLE RACK IS REQUIRED AT BOTH ENTRANCES TO THE SITE UNTIL THE ASPHALT HAS BEEN INSTALLED.

NOTE:
CONTRACTOR SHALL REPAIR ALL DAMAGED CURB & GUTTER IN PUBLIC RIGHT-OF-WAY TO THE SATISFACTION OF THE CITY PRIOR TO PROJECT CLOSE-OUT.

TC-1 STABILIZED CONSTRUCTION ENTRANCE — SCALE: N.T.S.

MS4 NPDES PERMIT
ORDER R4-2021-0105

TABLE 7. MINIMUM SET OF BMPS FOR ALL CONSTRUCTION SITES	
SITE MANAGEMENT	HOUSE KEEPING
EROSION CONTROLS	SCHEDULING
	PRESERVATION OF EXISTING VEGETATION
	WIND EROSION CONTROLS
SEDIMENT CONTROLS	PERIMETER CONTROLS (E.G. SILT FENCE, SANDBAG BARRIERS, ETC.)
	STABILIZED CONSTRUCTION SITE ENTRANCE/EXIT
NON-STORMWATER MANAGEMENT	WATER CONSERVATION PRACTICES
	DEWATERING OPERATIONS
WASTE MANAGEMENT	MATERIAL DELIVERY AND STORAGE
	STOCKPILE MANAGEMENT
	SPILL PREVENTION AND CONTROL
	SOLID WASTE MANAGEMENT
	CONCRETE WASTE MANAGEMENT
	SANITARY/SEPTIC WASTE MANAGEMENT

PROJECT DISTURBED AREA: 0.95± ACRES

EROSION CONSTRUCTION NOTES:

(90) INSTALL GRAVEL BAGS (SE-6)
(91) INSTALL FILTER FABRIC OVER CATCH BASIN (SE-10)
(92) INSTALL CONSTRUCTION ENTRANCE (TC-1)
(93) INSTALL SILT FENCE (SE-1) - CONFIRM LOCATION WITH CITY

LEGEND

GRAVEL BAGS (SE-8)
FILTER FABRIC OVER CATCH BASIN
SILT FENCE (SE-11)
LIMITS OF CONSRUCTION

EROSION AND SEDIMENT CONTROL GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE EROSION CONTROL PLANS, THE PROJECT'S BMPs, AND THE RECOMMENDATIONS OF SOILS REPORT.
2. EROSION CONTROL MEASURES SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHENEVER THE DAILY RAINFALL PROBABILITY EXCEEDS 40%.
3. EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON. NECESSARY MATERIALS SHALL BE AVAILABLE ON SITE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY EROSION CONTROL DEVICES AT ALL TIME.
4. CONTROLS SHALL BE SET UP AND MAINTAINED AS CONSTRUCTION PROCEEDS. ADJUSTMENTS TO THE EROSION CONTROL PLANS ARE ALLOWABLE AS REQUIRED AND APPROVED BY CITY.
5. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL IMPLEMENT STRUCTURAL AND NONSTRUCTURAL BEST MANAGEMENT PRACTICES (BMP) IN CONFORMANCE WITH THE GUIDELINES OF THE CALIFORNIA STORM WATER BMP HANDBOOKS.
6. AFTER A RAINSTORM, ALL SEDIMENT AND DEBRIS SHALL BE REMOVED FROM STREETS, CHECK BERMS AND DESILTING BASINS. ANY GRADED SLOPE SURFACE PROTECTION MEASURES DAMAGED DURING A RAINSTORM SHALL BE IMMEDIATELY REPAIRED. INSPECT CATCH BASINS FOR GRAVEL BAGS THAT MAY HAVE FALLEN IN AND BLOCKED DRAINAGE.
7. THE PERMITTEE AND CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT TRESPASS ONTO AREAS WHERE IMPOUNDED WATER CREATED A HAZARDOUS CONDITION.
8. AFTER CONSTRUCTION, INSPECT CATCH BASINS TO INSURE BMPs HAVE NOT FALLEN IN AND CLEAN OUT ANY CONSTRUCTION-RELATED DEBRIS.

GRAVEL BAGS

1. GENERAL: GRAVELBAG SHALL INCLUDE PROVIDING ALL LABOR, MATERIALS, AND EQUIPMENT TO FABRICATE AND INSTALL GRAVEL BAGS AS REQUIRED TO FACILITATE THE CONTROL OF EROSION.
2. LOCATION: GRAVEL BAGS SHALL BE PLACED PER PLAN, AND IN LOCATIONS SPECIFIED BY THE CITY, AND IN LOCATIONS DEEMED NECESSARY BY THE CONTRACTOR.
3. FABRICATION: GRAVEL BAGS SHALL BE FABRICATED USING FACTORY SEWN OR SEALED BAGS OF WOVEN POLYPROPYLENE, TREATED TO RESIST DEGRADATION BY ULTRAVIOLET LIGHT AND HAVING SUFFICIENT RESISTANCE TO TEARING TO ALLOW RELOCATION OF BAGS WITHIN SIX MONTHS OF INITIAL PLACEMENT WITH A LOSS OF NOT MORE THAN FIVE PERCENT OF THE BAGS.

   THE BAGS SHALL BE FILLED WITH SUBROUNDED TO ROUNDED GRAVEL LESS THAN 3/4-INCH IN DIAMETER, WITH LESS THAN FIVE PERCENT OF MATERIAL PASSING A NO. 30 SIEVE. THE FILLED BAGS SHALL HAVE THE OPEN ENDS SECURELY FASTENED PRIOR TO DELIVERY TO THE SITE.
4. INSTALLATION: GRAVEL BAGS SHALL BE INSTALLED IN A SIDE BY SIDE MANNER TO ENTRAP SILT AND MUD, AND TO DIVERT THE FLOW OF WATER. NOTWITHSTANDING THE OTHER REQUIREMENTS OF THIS SPECIFICATION, FAILURE OF THE BAGS TO PERFORM THIS FUNCTION SHALL BE REASON TO REJECT THEIR INSTALLATION.

   GRAVEL BAGS SHALL BE INSTALLED WITH THE WIDEST FACE AGAINST THE GROUND SURFACE OR THE UNDERLYING COURSE OF BAGS, AND PRESSED IN PLACE TO CONFORM TO THE UNDERLYING SURFACE. THE BAGS SHALL BE PLACED WITH THE TIED ENDS IN THE "UPHILL" OR "UPSTREAM" DIRECTION, BEGINNING AT THE LOWEST OR MOST DOWNSTREAM BAG, TIED ENDS WILL BE TUCKED UNDER BAG. SUBSEQUENT BAGS WITHIN ONE COURSE OF BAGS SHALL BE PLACED SO AS TO REST UPON THE TIED END OF THE PREVIOUSLY PLACED BAG, WITH NOT LESS THAN 10 PERCENT OF THE BAG IN CONTACT WITH THE PREVIOUS BAG, AND NOT MORE THAN 20 PERCENT IN CONTACT.

   SUBSEQUENT COURSES OF BAGS SHALL BE PLACED AS DESCRIBED PREVIOUSLY, WITH THE MID-POINT OF THE BAGS STRADDLING THE JOINTS OF BAGS IN THE UNDERLYING ROW.

   CONSTRUCTION OF A GRAVELBAG BERM PERPENDICULAR TO THE DIRECTION OF FLOW SHALL INCORPORATE BAGS PLACED IN A "PYRAMID" CONFIGURATION, WITH ALL INDIVIDUAL BAGS ORIENTED PERPENDICULAR TO THE DIRECTION OF FLOW. THE BERM SHALL BE CONSTRUCTED WITH A SPECIFIED NUMBER OF ROWS AT THE BOTTOM (IN CONTACT WITH THE GROUND), WITH SUCCESSIVELY FEWER ROWS IN EACH OVERLYING COURSE. THE UPSTREAM AND DOWNSTREAM FACES OF THE BERM SHALL BE NO STEEPER THAN 1 1/2 FEET HORIZONTAL TO 1 VERTICAL.

   DAMAGE WHICH COULD FORESEEBLY BE PREVENTED BY PROPER GRAVELBAG INSTALLATION SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

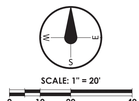
STORMWATER MITIGATION MEASURES (BMPs)

THE FOLLOWING BMP'S AS OUTLINED IN, BUT NOT LIMITED TO, THE BEST MANAGEMENT PRACTICE HANDBOOK, CALIFORNIA STORMWATER QUALITY TASK FORCE, SACRAMENTO, CALIFORNIA 2019, OR THE LATEST REVISED EDITION, APPLY DURING THE CONSTRUCTION OF THIS PROJECT. (ADDITIONAL MEASURES MAY BE REQUIRED IF DEEMED APPROPRIATE BY CITY INSPECTORS)

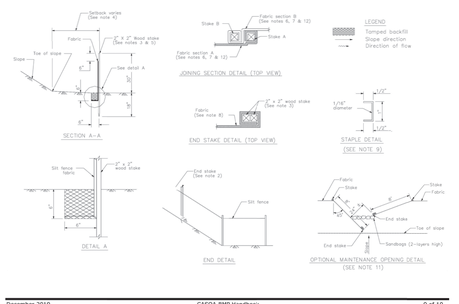
NS-1 WATER CONSERVATION PRACTICES *
NS-2 DEWATERING OPERATIONS *
NS-3 PAVING OPERATIONS *
NS-7 POTABLE WATER/IRRIGATION *
WM-1 MATERIAL DELIVERY AND STORAGE *
WM-2 MATERIAL USE *
WM-3 STOCKPILE MANAGEMENT *
WM-4 SPILL PREVENTION AND CONTROL *
WM-5 SOLID WASTE MANAGEMENT *
WM-6 HAZARDOUS WASTE MANAGEMENT *
WM-7 CONTAMINATED SOIL MANAGEMENT *
WM-8 CONCRETE WASTE MANAGEMENT *
WM-9 SANITARY-SEPTIC WASTE MANAGEMENT *
NS-8 VEHICLE AND EQUIPMENT CLEANING *
NS-9 VEHICLE AND EQUIPMENT FUELING *
NS-10 VEHICLE AND EQUIPMENT MAINTENANCE *
NS-12 CONCRETE CURING
NS-13 CONCRETE FINISHING

WE-1 WIND EROSION CONTROL
TC-1 STABILIZED CONSTRUCTION ENTRANCE *
TC-3 ENTRANCE OUTLET TIRE WASH *
SE-1 SILT FENCE
SE-4 CHECK DAMS
SE-5 FIBER ROLLS
SE-6 GRAVEL BAG BERM
SE-7 STREET SWEEPING AND VACUUMING
SE-9 STRAW BALE BARRIERS
SE-10 STORM DRAIN INLET PROTECTION
EC-1 SCHEDULING
EC-2 PRESERVATION OF EXISTING VEGETATION
EC-5 SOIL BINDERS

NOTE:
* LOCATIONS TO BE DETERMINED BY CONTRACTOR AND APPROVED BY CITY INSPECTOR



Silt Fence SE-1



December 2019 — CASQA BMP Handbook Construction www.casqa.org — 9 of 10

NOTE TO CONTRACTOR:

THE 24-HOUR CELL PHONE NUMBER OF THE LEGALLY RESPONSIBLE PERSON (LRP) WILL BE PROVIDED BY THE AWARDED CONTRACTOR.

RESPONSIBLE PERSON _____

24 HOUR TELEPHONE NO. _____

DIGALERT
DIAL TOLL FREE 1-800-422-4133
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:

BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:
CIVTEC
999 CORPORATE DR.
SUITE 100
LADERA RANCH, CA 92694
p: 949.463.8822
e: tec@civtec.net

REGISTERED PROFESSIONAL ENGINEER — MICHAEL E. PARKER — C-81640 Exp. 09-30-23 — CIVIL — STATE OF CALIFORNIA
6/27/2023

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT — RICHARD J. MONK — Signature — 08/30/2023 Renewal Date — 6/27/2023 — STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

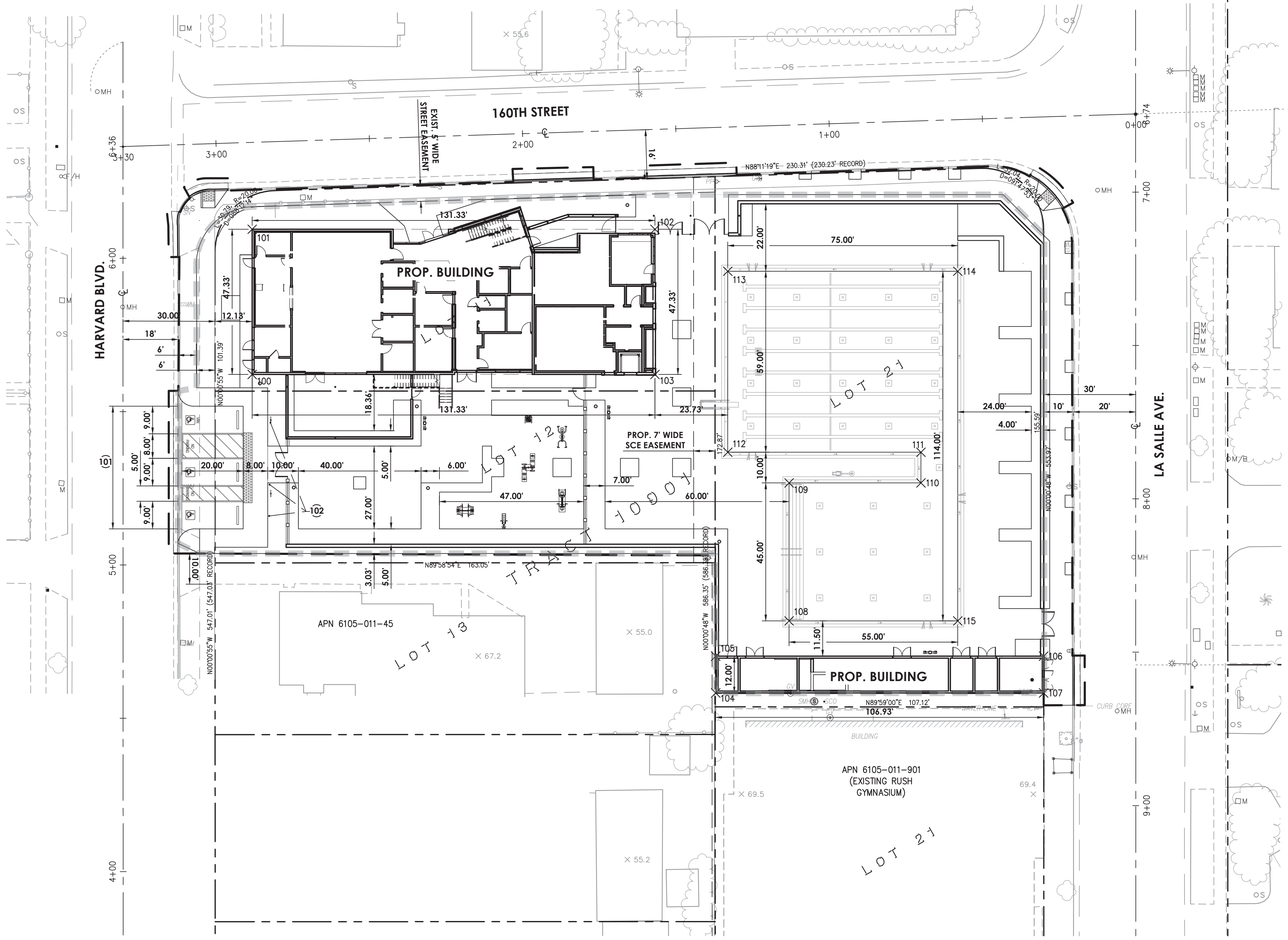
B.M.: THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508'

	INITAL	DATE
DESIGNED BY	TEC	
DRAWN BY	STAFF	
CHECKED BY	TEC	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
EROSION CONTROL PLAN
COMMUNITY AQUATICS & SENIOR CENTER
C-3.01

APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS
SHT. 12 OF 176 DWG. NO. 5-2606

PLOT DATE: 6/27/2023



POINT TABLE			
	POINT #	NORTHING	EASTING
CONTROL PT.	7	5001.02	10780.41
CONTROL PT.	9	5000.00	10000.00
	100	5562.12	10041.97
	101	5609.46	10041.97
	102	5609.46	10173.30
	103	5562.12	10173.30
	104	5458.26	10193.10
	105	5470.26	10193.10
	106	5470.26	10300.04
	107	5458.26	10300.04
	108	5481.76	10217.04
	109	5526.76	10217.04
	110	5526.76	10260.04
	111	5536.76	10260.04
	112	5536.76	10197.04
	113	5595.76	10197.04
	114	5595.76	10272.04
	115	5481.76	10272.04

LEGEND

LIMITS OF CONSRUCTION

LIMITS OF GRADING

ENGINEER OF RECORD STATEMENT

ALL EASEMENTS HAVE BEEN SHOWN AS PER PROVIDED PRELIMINARY TITLE REPORTS BY FIDELITY NATIONAL TITLE CO. (ORDER NO. 987-30076643-1RV, DATED OCT. 28, 2021), LAWYERS TITLE (FILE NO. 218254769, DATED SEPT. 7, 2018), AND FIDELITY NATIONAL TITLE CO. (ORDER NO. 989-30033538-D-DL1, DATED FEB. 9, 2021).

THOMAS E. CARCELLI, P.E. DATE

SURVEYOR:

TED KRULL, PLS 5848
STARLIGHT SURVEYING, INC.
17955 SKY PARK CIR. STE F
IRVINE, CA. 92614
(949) 757-0613
DATES OF SURVEY: NOV. 2021 AND JAN. 2022

GENERAL NOTES

1. CONTRACTOR SHALL REFERENCE ARCHITECTURAL AND/OR LANDSCAPE PLANS FOR ADDITIONAL HARDSCAPE REQUIREMENTS AND DETAILS.
2. CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING LANDSCAPE AND HARDSCAPE IMPROVEMENTS AS NECESSARY TO CONSTRUCT IMPROVEMENTS SHOWN HEREON.
3. ALL SIDEWALKS, CURB RETURNS, AND ACCESS POINTS SHALL MEET TITLE 24 AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS.

NOTE TO CONTRACTOR:

A. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROVIDING COMPLETE, TIMELY AND ACCURATE FIELD LAYOUT OF THE PROPOSED SITE IMPROVEMENTS INCLUDING, BUT NOT NECESSARILY LIMITED TO, HORIZONTAL AND VERTICAL CONTROL AND DIMENSIONAL COORDINATION AS NECESSARY TO CONSTRUCT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THIS SURVEY WORK SHALL BE PERFORMED BY A LICENSED LAND SURVEYOR AND SHALL PROVIDE FOR THE SURVEY AND STAGING OF ALL CONSTRUCTION ELEMENTS INCLUDING BUT NOT LIMITED TO BUILDING LOCATIONS, PAVING EDGES/ALIGNMENT FENCING, WALLS, LIGHT FIXTURES, SIGNS, MOW CURBS, SEATING, SHADE STRUCTURES AND APPURTENANCES, CURB AND GUTTER ALIGNMENTS, CATCH BASINS, DRAINS, ETC.

B. AN AUTOCAD-COMPATIBLE .DWG FILE OF THE PROPOSED IMPROVEMENTS SHALL BE PROVIDED TO THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION FOR HIS USE IN PREPARING THE NECESSARY FIELD SURVEYING / LAYOUT OF PROPOSED IMPROVEMENTS. THE USE OF THIS DIGITAL FILE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND IS INTENDED TO ASSIST THE SURVEYOR IN THE LAYOUT OF THE PROPOSED IMPROVEMENTS.

THESE ELECTRONIC FILES ARE NOT CONSTRUCTION DOCUMENTS. DIFFERENCES MAY EXIST BETWEEN THESE ELECTRONIC FILES AND CORRESPONDING HARD COPY CONSTRUCTION DOCUMENTS ISSUED FOR PUBLIC BID. IN THE EVENT THAT A CONFLICT ARISES BETWEEN THE SIGNED OR SEALED HARD COPY CONSTRUCTION DOCUMENTS AND THE ELECTRONIC FILES, THE SIGNED OR SEALED HARD COPY CONSTRUCTION DOCUMENTS SHALL GOVERN. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING IF ANY CONFLICT EXISTS AND SHALL BRING ANY DISCREPANCIES TO THE PROJECT LANDSCAPE ARCHITECT'S ATTENTION PRIOR TO ANY FIELD LAYOUT. BY THE CONTRACTOR'S USE OF THESE ELECTRONIC FILES, THEY ARE NOT RELIEVED OF THEIR DUTY TO FULLY COMPLY WITH THE CONTRACT DOCUMENTS, INCLUDING, AND WITHOUT LIMITATION, THE NEED TO CHECK, CONFIRM, AND COORDINATE ALL DIMENSIONS AND DETAILS, TAKE FIELD MEASUREMENTS, VERIFY FIELD CONDITIONS, AND COORDINATE THE WORK WITH THAT OF OTHER CONTRACTORS FOR THE PROJECT.

THE DIGITAL INFORMATION PROVIDED BY civTEC SHALL NOT BE USED FOR ANY PURPOSE OTHER THAN FOR THE PROJECT DESCRIBED ABOVE AND SHALL NOT BE RELEASED TO ANY OTHER PARTY WITHOUT THE WRITTEN CONSENT OF civTEC. THE INFORMATION CONTAINED ON THE ELECTRONIC MEDIA IS AN INSTRUMENT OF PROFESSIONAL SERVICES AND SHALL REMAIN THE PROPERTY OF civTEC.

BASIS OF BEARINGS

BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32, OFFICIAL RECORDS.

BENCHMARK

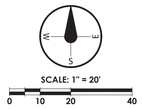
THE CITY OF GARDENA BENCHMARK NO. 5D-15
ELEV. = 43.508'

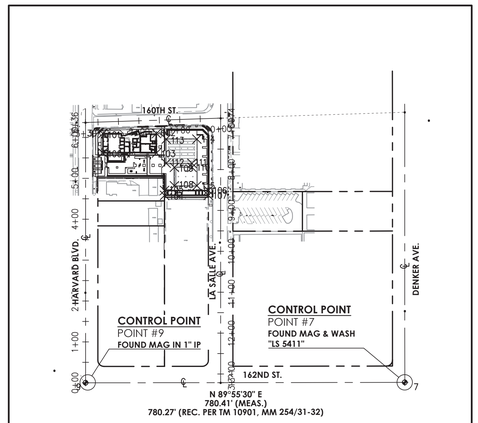
SIGNING/STRIPING CONSTRUCTION NOTES & ESTIMATED QUANTITIES

NO.	DESCRIPTION	QUANTITY
(101)	CONSTRUCT ACCESSIBLE PARKING STRIPING & WHEEL STOPS PER DETAILS 9 AND 10, SHEET C-0.02	LS
(102)	INSTALL ACCESSIBLE SIGNAGE PER DETAIL LANDSCAPE ARCHITECT'S PLANS	LS

NOTICE TO THE CONTRACTOR

THE ESTIMATES OF IMPROVEMENT AND GRADING QUANTITIES AS SHOWN HEREON ARE PROVIDED FOR SATISFYING PLAN CHECK INFORMATION REQUIREMENTS ONLY. THE CONTRACTOR SHALL PERFORM AN INDEPENDENT ESTIMATE OF ALL IMPROVEMENT QUANTITIES INCLUDING GRADING QUANTITIES, AND SHALL USE SAME AS A BASIS FOR HIS BID(S) AND CONTRACT(S).





CONTROL MAP
SCALE: 1" = 150'

DIGALERT
DIAL TOLL FREE
1-800-422-4133
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

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BENCHMARK:
THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:
civTEC
999 CORPORATE DR.
SUITE 100
LADERA RANCH, CA 92694
p: 949.463.8822
e: tec@civtec.net

REGISTERED PROFESSIONAL ENGINEER THOMAS E. CARCELLI C-81640 Exp. 09-30-23 CIVIL STATE OF CALIFORNIA
6/27/2023

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT ... STATE OF CALIFORNIA
Signature 05/30/2023 Date of Issue 6/30/2024 Renewal Date

REVISIONS

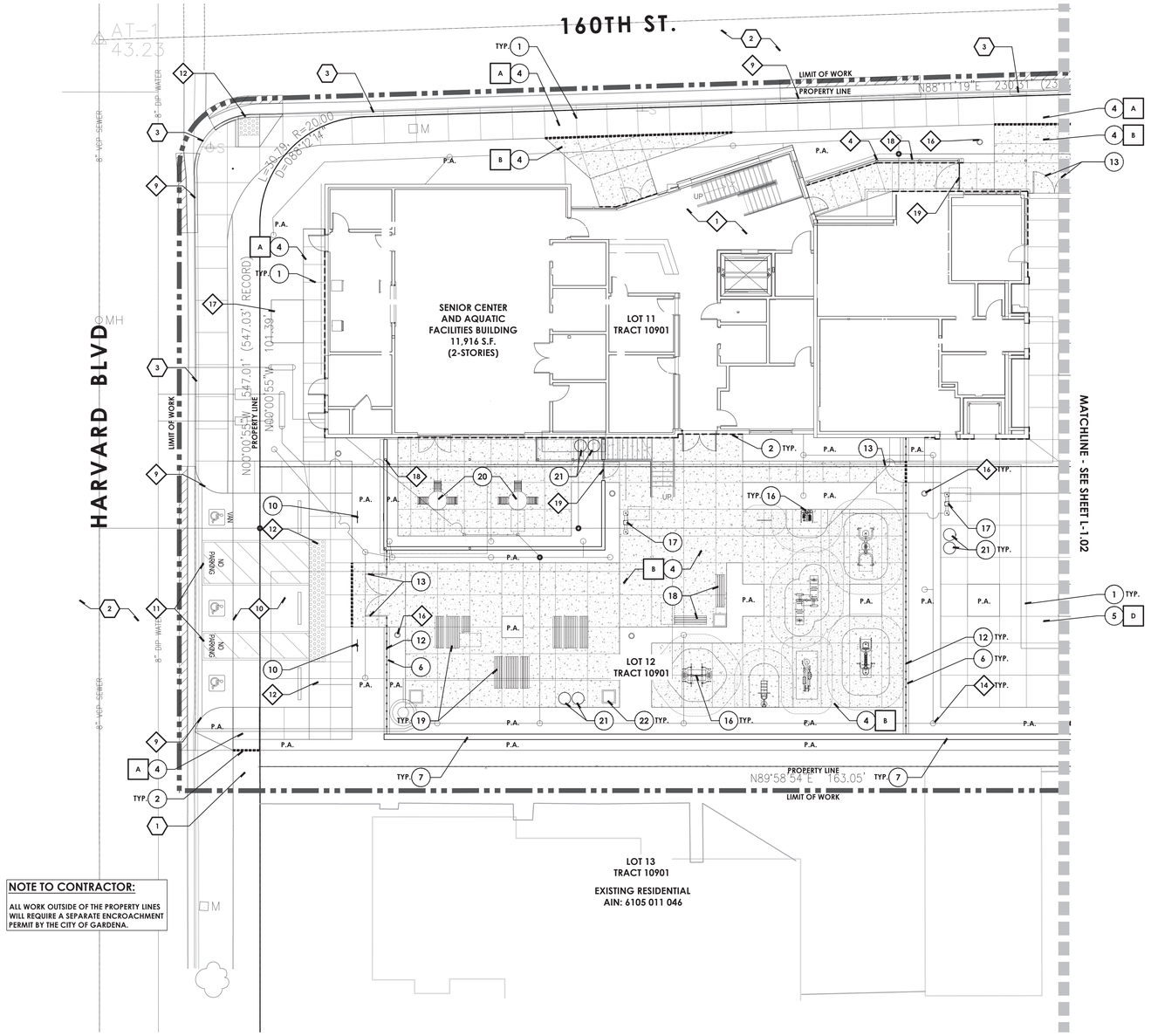
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2	100% CD SUBMITTAL	05/01/2023	
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B.M.: THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
HORIZONTAL CONTROL/STRIPING PLAN
COMMUNITY AQUATICS & SENIOR CENTER
C-4.01

	INITAL	DATE
DESIGNED BY	TEC	
DRAWN BY	STAFF	
CHECKED BY	TEC	

APPROVED BY:
DATE DIRECTOR OF PUBLIC WORKS
SHT. 13 OF 176 DWG. NO. 5-2606
PLOT DATE: 6/27/2023



NOTE TO CONTRACTOR:

ALL WORK OUTSIDE OF THE PROPERTY LINES WILL REQUIRE A SEPARATE ENCROACHMENT PERMIT BY THE CITY OF GARDENA.

CONSTRUCTION LEGEND:

	CONSTRUCT:	DETAIL REFERENCE:
1	SAWCUT CONTROL JOINT	DETAIL: 3 SHEET: L-2.01
2	COLD JOINT	DETAIL: 3 SHEET: L-2.01
3	EXPANSION JOINT	DETAIL: 3 SHEET: L-2.01
4	4.5" STANDARD PEDESTRIAN CONCRETE PAVING	DETAIL: 1 SHEET: L-2.01
5	6" PEDESTRIAN CONCRETE PAVING AT POOL DECKING	DETAIL: 2 SHEET: L-2.01
6	12" CONCRETE MOWCURB	DETAIL: 4 SHEET: L-2.01
7	8' HT. CONCRETE MASONRY BLOCK PERIMETER WALL	DETAIL: 6 SHEET: L-2.01
8	8' HT. CONCRETE MASONRY BLOCK PERIMETER WALL AT SHADE STRUCTURES	DETAIL: 2 SHEET: L-2.02
9	20" HT. POURED-IN-PLACE CONCRETE LOW WALL	DETAIL: 1 SHEET: L-2.02
10	ADA ACCESSIBLE PARKING SIGNAGE	DETAIL: 5 SHEET: L-2.01
11	6" VEHICULAR CONCRETE PAVING	DETAIL: 1 SHEET: L-2.01
12	8' HT. TUBULAR STEEL FENCING	DETAIL: 2 SHEET: L-2.03
13	8' HT. TUBULAR STEEL PEDESTRIAN GATES	DETAIL: 1 SHEET: L-2.03
14	MAINTENANCE ACCESS GATES	DETAIL: 3 SHEET: L-2.03
15	ANGLED CHAINLINK FENCE AT BLEACHER	DETAIL: 5 SHEET: L-2.03
16	OUTDOOR FITNESS EQUIPMENT	DETAIL: 1 SHEET: L-2.06
17	ADA PEDESTAL DRINKING FOUNTAIN WITH BOTTLE FILLER	DETAIL: 1 SHEET: L-2.04
18	BENCH SEATING	DETAIL: 1 SHEET: L-2.05
19	6' PICNIC TABLE	DETAIL: 2 SHEET: L-2.05
20	42" ROUND TABLE WITH SEATS	DETAIL: 4 SHEET: L-2.05
21	WASTE / RECYCLING RECEPTACLES	DETAIL: 5 SHEET: L-2.05
22	30" SQ. PRECAST CONCRETE PLANTERS	DETAIL: 3 SHEET: L-2.05

WORK BY OTHER DISCIPLINES:

	DESCRIPTION:	COMMENTS:
1	SENIOR CENTER / AQUATICS CENTER BUILDING	PER SVA PLANS
2	POOL EQUIPMENT / STORAGE BUILDING	PER SVA PLANS
3	CONCRETE BUILDING FOUNDATION	PER SVA PLANS
4	BUILDING TRELLIS / SHADE STRUCTURE	PER SVA PLANS
5	TRASH ENCLOSURE	PER SVA PLANS
6	SWIMMING POOL	PER JONES & MADHAVAN PLANS
7	DIVING BOARD	PER JONES & MADHAVAN PLANS
8	ADA COMPLIANT POOL LIFT	PER JONES & MADHAVAN PLANS
9	CONCRETE CURB AND GUTTER	PER CIVTEC PLANS
10	PARKING LOT A.C. PAVING	PER CIVTEC PLANS
11	ADA PARKING STALL STRIPING AND WHEEL STOPS	PER CIVTEC PLANS
12	ADA ACCESSIBLE RAMP W/ TRUNCATED DOMES	PER CIVTEC PLANS
13	POOL DECK DRAINS	PER CIVTEC PLANS
14	LANDSCAPE AREA DRAINS	PER CIVTEC PLANS
15	ROLLED CONCRETE CURB	PER CIVTEC PLANS
16	PEDESTRIAN LIGHTING	PER FBA ENGINEERING ELECTRICAL PLANS
17	ELECTRICAL TRANSFORMER	PER FBA ENGINEERING ELECTRICAL PLANS
18	CMU WALL WITH TRELLIS POST	PER SVA PLANS
19	PEDESTRIAN GATE	PER SVA PLANS

EXISTING CONDITIONS:

	DESCRIPTION:	COMMENTS:
1	EXISTING CONCRETE PAVING	PROTECT-IN-PLACE PER CIVIL PLANS
2	EXISTING ASPHALT PAVING	PROTECT-IN-PLACE PER CIVIL PLANS
3	EXISTING CONCRETE CURB AND GUTTER	PROTECT-IN-PLACE PER CIVIL PLANS
4	EXISTING UTILITY	PROTECT-IN-PLACE PER CIVIL PLANS
5	EXISTING SCE UNDERGROUND UTILITY EASEMENT	SEE UTILITY PLANS

SHADE STRUCTURE LEGEND

	DESCRIPTION:	COMMENTS:
S1	ONE (1) 65'x16' JOINED FULL HIP CANTILEVER SHADE STRUCTURE	SEE DETAIL 1, SHEET L-2.10
S2	FIVE (5) 18'x14' FULL HIP CANTILEVER SHADE STRUCTURES	SEE DETAIL 1, SHEET L-2.11

CONTACT:

USA SHADE, CONTACT: DEVIN CHISTENSEN (714) 427-6981

BLEACHER LEGEND

	DESCRIPTION:	COMMENTS:
B1	6-ROW LEG TRUSS BLEACHER 63' WIDE X 12' DEEP	SEE DETAIL SHEETS L-2.07-L-2.09

CONTACT:

AVAILABLE FROM: SOUTHERN BLEACHER, CONTACT: JOE HOY (916) 812-4901 OR APPROVED EQUAL

LINETYPE LEGEND:

DESCRIPTION:	COMMENTS:
	LIMIT OF WORK
	SCE UNDERGROUND UTILITY EASEMENT

HARDSCAPE COLOR / FINISH SCHEDULE:

	DESCRIPTION:	
A	MATERIAL:	4.5" PEDESTRIAN CONCRETE
	COLOR:	NATURAL GREY
	FINISH:	LIGHT BROOM FINISH
B	MATERIAL:	4.5" PEDESTRIAN CONCRETE
	COLOR:	NATURAL GREY
	FINISH:	RETARDANT FINISH BY 'TOP-CAST' OR APPROVED EQUAL. ETCH CODE "NO. 05"
C	MATERIAL:	6" VEHICULAR CONCRETE
	COLOR:	NATURAL GREY
	FINISH:	RETARDANT FINISH BY 'TOP-CAST' OR APPROVED EQUAL. ETCH CODE "NO. 05"
D	MATERIAL:	6" PEDESTRIAN CONCRETE POOL DECK
	COLOR:	NATURAL GRAY
	FINISH:	MEDIUM BROOM FINISH
E	MATERIAL:	POURED-IN-PLACE CONCRETE LOW WALLS AND BBQ COUNTER
	COLOR:	NATURAL GRAY
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CONTACTS:

'TOP-CAST' AVAILABLE FROM DAYTON SUPERIOR, CONTACT: CHUCK POOLE, PHONE: (714) 822-5085 OR APPROVED EQUAL

ENGINEER OF RECORD STATEMENT:

ALL EASEMENTS HAVE BEEN SHOWN AS PER PROVIDED PRELIMINARY TITLE REPORTS BY FIDELITY NATIONAL TITLE CO. (ORDER NO. 987-30076643-18V, DATED OCT. 28, 2021), LAWYERS TITLE (FILE NO. 218254769, DATED SEPT. 7, 2018), AND FIDELITY NATIONAL TITLE CO. (ORDER NO. 989-30033538-D-DL1, DATED FEB. 9, 2021).

THOMAS F. CARCELLI, P.E. — 06/30/2023 DATE

GRAPHIC SCALE

(IN FEET)
1" = 10'

DIGALERT
DIAL TOLL FREE 1-800-422-4133
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:

BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:

PREPARED UNDER THE SUPERVISION OF:

RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
(949) 493-2690 fax
(949) 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT — STATE OF CALIFORNIA — 07/31/2023 RENEWAL DATE

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

CONSTRUCTION PLAN

COMMUNITY AQUATICS & SENIOR CENTER

L-1.01

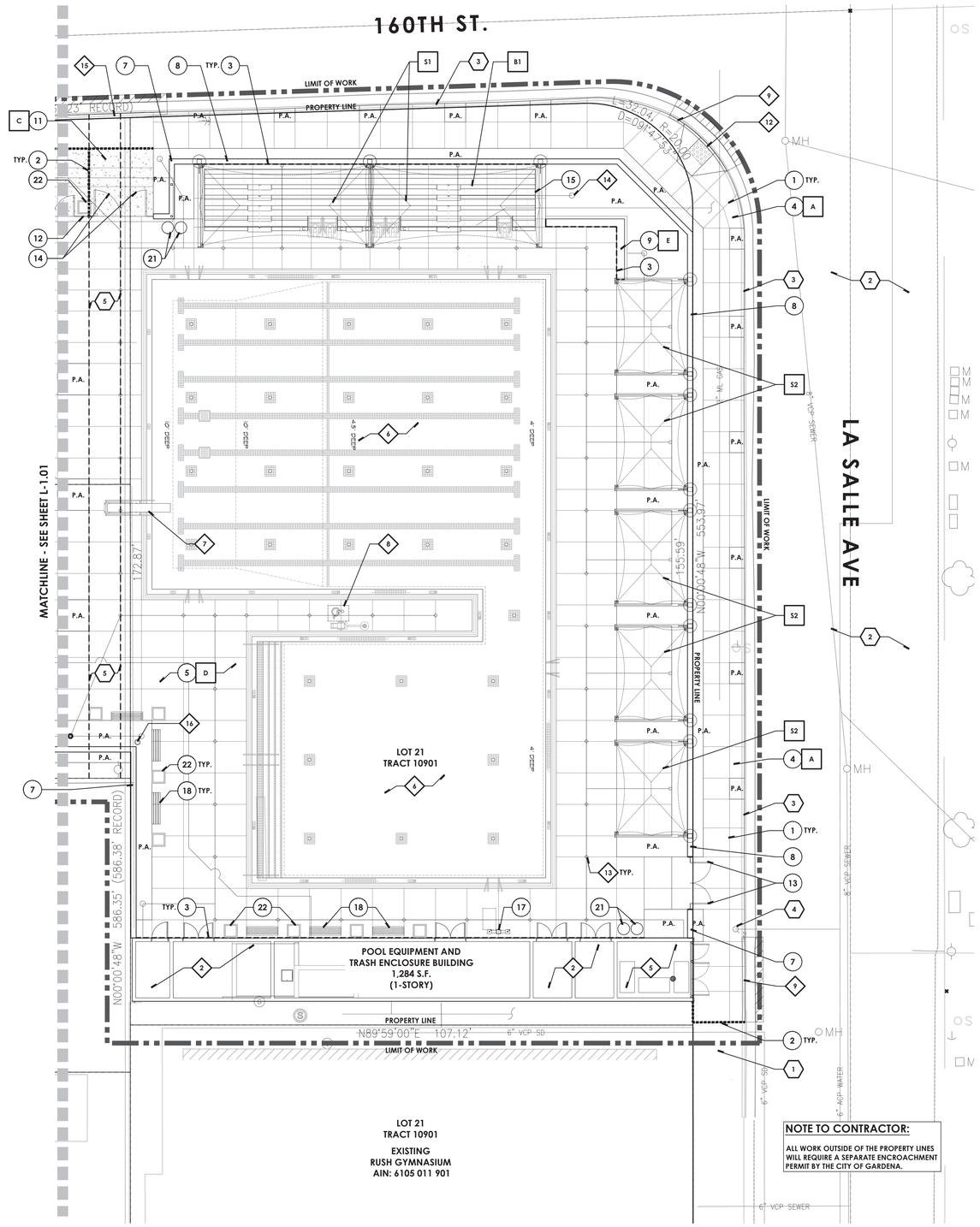
	INITAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	TP	06/20/2023
CHECKED BY	EC	06/30/2023

APPROVED BY:

DATE DIRECTOR OF PUBLIC WORKS

SHT. 14 OF 176 DWG. NO. 5-2606

DO NOT SCALE DRAWINGS. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB. THIS OFFICE SHALL BE NOTIFIED OF ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN BY THESE PLANS.



NOTE TO CONTRACTOR:

ALL WORK OUTSIDE OF THE PROPERTY LINES WILL REQUIRE A SEPARATE ENCROACHMENT PERMIT BY THE CITY OF GARDENA.

CONSTRUCTION LEGEND:

	CONSTRUCT:	DETAIL REFERENCE:
1	SAWCUT CONTROL JOINT	DETAIL: 3 SHEET: L-2.01
2	COLD JOINT	DETAIL: 3 SHEET: L-2.01
3	EXPANSION JOINT	DETAIL: 3 SHEET: L-2.01
4	4.5" STANDARD PEDESTRIAN CONCRETE PAVING	DETAIL: 1 SHEET: L-2.01
5	6" PEDESTRIAN CONCRETE PAVING AT POOL DECKING	DETAIL: 2 SHEET: L-2.01
6	12" CONCRETE MOWCURB	DETAIL: 4 SHEET: L-2.01
7	8' HT. CONCRETE MASONRY BLOCK PERIMETER WALL	DETAIL: 6 SHEET: L-2.01
8	8' HT. CONCRETE MASONRY BLOCK PERIMETER WALL AT SHADE STRUCTURES	DETAIL: 2 SHEET: L-2.02
9	20" HT. POURED-IN-PLACE CONCRETE LOW WALL	DETAIL: 1 SHEET: L-2.02
10	ADA ACCESSIBLE PARKING SIGNAGE	DETAIL: 5 SHEET: L-2.01
11	6" VEHICULAR CONCRETE PAVING	DETAIL: 1 SHEET: L-2.01
12	8' HT. TUBULAR STEEL FENCING	DETAIL: 2 SHEET: L-2.03
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THOMAS E. CARCELLI, P.E. — 06/30/2023 DATE

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CONSULTANT:

PREPARED UNDER THE SUPERVISION OF:

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San Juan Capistrano, CA 92675
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[949] 493-2690 fax
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CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

CONSTRUCTION PLAN

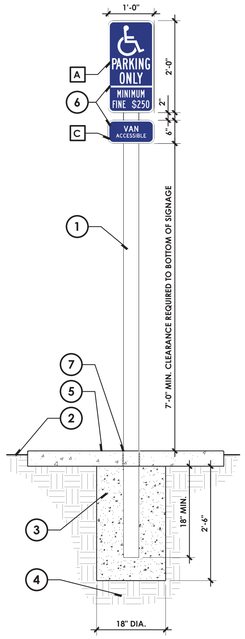
COMMUNITY AQUATICS & SENIOR CENTER
L-1.02

	INITAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	TP	06/20/2023
CHECKED BY	EC	06/30/2023

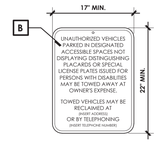
APPROVED BY:

DATE DIRECTOR OF PUBLIC WORKS

SHT. 15 OF 176 DWG. NO. S-2606



SECTION - ACCESSIBLE PARKING SIGNAGE
SCALE: 3/4" = 1'-0"



SIGNAGE TYPE:

A ADA PARKING SIGN
(USED ON ALL ADA STALLS, INCLUDING VAN)
CALTRANS STD. SIGN #R99C

B ADA ADDITIONAL PARKING SIGN PER CBC 11B-502.8. INSTALL ON WALL/FENCE. LOCATION PER ENLARGEMENT SHEET T-1.03.

C ADA VAN PARKING SIGN
(USED ONLY ON VAN ACCESSIBLE STALLS. INSTALLED BELOW ADA PARKING SIGN) CALTRANS STD. SIGN #R7-8B

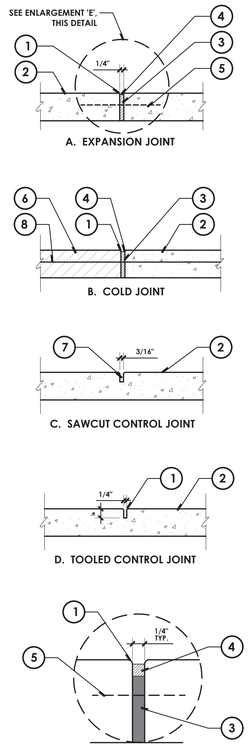
LEGEND:

1. 4"x4" EXTRUDED ALUMINUM POWDER COATED POST WITH POST CAP. POST TO BE LOCATED AS SHOWN LANDSCAPE CONSTRUCTION PLAN, SEE SHEET L-1.01.
2. FINISH GRADE - SEE CIVIL PLANS.
3. POURED-IN-PLACE CONCRETE FOOTING AND REINFORCEMENT,AS SHOWN THIS DETAIL.
4. 90% MINIMUM COMPACTED, MOISTURE-CONDITIONED SUBGRADE PER GEOTECHNICAL REPORT.
5. ADJACENT CONCRETE PAVING PER DETAIL 1, THIS SHEET.
6. PROVIDE FABRICATED ALUMINUM PANEL(S) WITH SILK SCREEN GRAPHICS SIGN EACH WITH (2) BOLTS & WASHERS AND MOUNTING CHANNEL. SEE CONSTRUCTION PLAN L-1.01 AND NOTES BELOW FOR SIGN TYPE AND LOCATION. MINIMUM 7'-0" CLEARANCE FROM FINISHED GRADE TO BOTTOM OF LOWEST SIGN.
7. ½" EXPANSION JOINT MATERIAL SURROUNDING POST AT SLAB ONLY. SEE SPECIFICATIONS. PROVIDE CORE DRILL IN CONCRETE PAVING / FOOTING TWICE THE WIDTH OF THE POST, TO THE DEPTH OF 18". SECURE WITH SUPER POR-ROK, OR APPROVED EQUAL, TO ½" BELOW ADJACENT FINISH SURFACE. APPLY ½" BEAD OF "GUN GRADE" POLYMER SEALANT BY: PECORA, OR APPROVED EQUAL, TO TOP OF SUPER POR-ROK BACKFILL. SEALANT COLOR TO MATCH ADJACENT CONCRETE. SLOPE TO DRAIN AT POST BASE.
8. CONTINUOUS EXPANSION JOINT PER DETAIL 2, SHEET L-2.01.
9. SAWCUT CONTROL JOINT PER SHEET 2, SHEET L-2.01.

NOTES:

A. CONTRACTOR TO STAKE OUT PROPOSED LOCATION OF SIGN IN FIELD FOR REVIEW AND APPROVAL BY CITY PRIOR TO INSTALLATION.
B. PROVIDE SCALED SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
C. CONTRACTOR TO SUBMIT SAMPLE OF THE SIGN FOR REVIEW AND APPROVAL BY COUNTY PRIOR TO FABRICATION PER SPECIFICATIONS.
D. REGULATORY SIGNS SHALL BE NO LESS THAN 17" BY 22" IN SIZE AS SHOWN, WITH LETTERING NOT LESS THAN 1" IN HEIGHT.
E. CONCRETE AND REINFORCING INFORMATION INDICATED HEREIN, ARE MINIMUMS AND ARE BASED ON INFORMATION CONTAINED IN THE PROJECT GEOTECHNICAL REPORT AVAILABLE REPORT AT THE TIME OF PREPARATION OF THESE DOCUMENTS.

5 ADA ACCESSIBLE PARKING SIGNAGE



LEGEND:

1. 1/4" RADIUS EDGE.
2. PAVING FINISH SURFACE PER PLAN.
3. ½" DECK-O-FOAM EXPANSION MATERIAL BY: W.R. MEADOWS, OR APPROVED EQUAL. INSTALL PER MANUF. SPECS. (909) 469-2606.
4. NON-SAG TWO-PART POLYURETHANE SEALER (DYNA TRED) BY: PECORA CORPORATION (800) 523-6688, OR APPROVED EQUAL.

FOR BID PURPOSES:
COLOR SHALL BE:
A. "LIMESTONE" (039) IN FIELDS OF NATURAL GREY CONCRETE.
B. "BEIGE" (595) IN FIELDS OF COLORED CONCRETE.
FINAL SEALANT COLOR SELECTION SHALL BE PER OWNER UPON REVIEW AND APPROVAL OF CONTRACTOR PROVIDED PAVING SAMPLES IN THE FIELD. SEE SPECIFICATIONS.

5. SPEED-DOWEL AT 24" O.C. AT ALL EXPANSION JOINTS W/ #4 REBAR, MODEL NO. PSD 12/ #4 TS. WITH PSD/#4 BL BASE. CONTACT: AZTEC CONCRETE ACCESSORIES (800) 531-3355.
6. EXISTING CONCRETE PAVING.
7. SAWCUT JOINT. SINGLE BLADE WITH 1/16" BEVEL AND CONTINUOUS CRACK CHASER. SEE SAWCUT CONTROL JOINT TABLE BELOW FOR DEPTH OF SAWCUTS.
8. #3 REBAR AT 24" O.C.

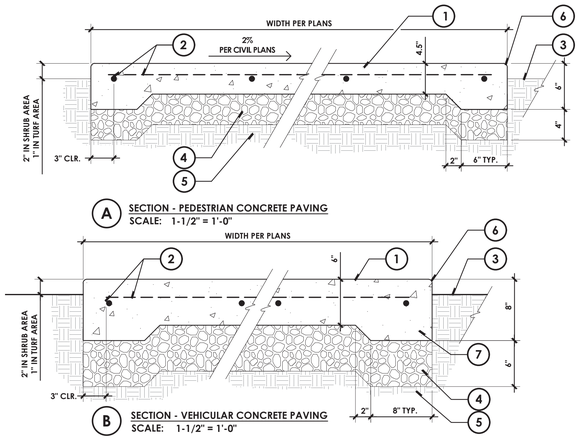
NOTES:

A. LOCATE SAWCUT JOINTS PER SPECIFICATIONS UNLESS OTHERWISE INDICATED ON PLANS. SEE GEOTECHNICAL REPORT FOR MAXIMUM JOINT SPACING BASED ON SIDEWALK WIDTH. SEE PLANS FOR JOINT LOCATIONS. NOTIFY OWNER'S REPRESENTATIVE IF JOINT SPACING ON PLANS DOES NOT CONFORM TO GEOTECHNICAL REPORT IN ANY AREAS.
B. SEALANT COLOR TO MATCH ADJACENT PAVING.
C. ALL EXPANSION JOINT SEALANT TO BE SEEDED WITH SILICA SAND.
D. ALL AQUATICS AREA REBAR TO BE FIBERGLASS.
E. ALL SKIMMERS AT POOL COPING SHALL BE SURROUNDED BY EXPANSION JOINT MATERIAL.

SAWCUT CONTROL JOINT TABLE

TOTAL CONCRETE THICKNESS	DEPTH OF SAWCUT
4"	1"
5"	1.25"
6" OR GREATER	1.5"

3 CONCRETE JOINTS



A SECTION - PEDESTRIAN CONCRETE PAVING
SCALE: 1-1/2" = 1'-0"

B THICKENED EDGE
SCALE: 1-1/2" = 1'-0"

B SECTION - VEHICULAR CONCRETE PAVING
SCALE: 1-1/2" = 1'-0"

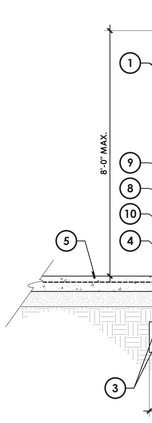
LEGEND:

1. CONCRETE PAVING - REFER TO CONSTRUCTION PLAN FOR COLOR AND FINISH. DIMENSIONS PER THIS DETAIL.
2. #4 REBAR AT 18" O.C. IN BOTH DIRECTIONS, PER GEOTECHNICAL REPORT.
3. FINISH GRADE. SEE CIVIL PLANS.
4. 4" CRUSHED AGGREGATE BASE PER SPECIFICATIONS.
5. 90% MINIMUM COMPACTED, MOISTURE-CONDITIONED SUBGRADE PER GEOTECHNICAL REPORT. SEE SPECIFICATIONS.
6. 1/2" TOOLED RADIUS.
7. THICKENED EDGE PER GEOTECHNICAL REPORT.

NOTES:

A. PROVIDE FINISH SAMPLE PER PLANS AND SPECIFICATIONS.
B. SEE GEOTECHNICAL REPORT (PAVEMENT RECOMMENDATIONS) FOR CONCRETE TYPE AND STRENGTH. SEE SPECIFICATIONS.
C. CONCRETE PAVING ADJACENT TO PLANTING AREAS SHOULD UTILIZE A THICKENED EDGE PER THIS DETAIL. SEE GEOTECHNICAL REPORT.
D. CONCRETE AND REINFORCING INFORMATION INDICATED HEREIN, ARE MINIMUMS AND ARE BASED ON INFORMATION CONTAINED IN THE PROJECT GEOTECHNICAL REPORT AVAILABLE AT THE TIME OF PREPARATION OF THESE DOCUMENTS. PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN AND REVIEW THE RECOMMENDATIONS CONTAINED IN THE LATEST AND FINAL APPROVED GEOTECHNICAL REPORT SPECIFIC TO THIS PROJECT. THE CONTRACTOR SHALL PROVIDE ADDITIONAL CONCRETE, REINFORCING, SUB-BASE MATERIALS, SUB-BASE PREPARATION SUCH AS COMPACTION, MOISTURE CONDITIONING, ETC., AS MAY BE REQUIRED BY THE LATEST AND FINAL APPROVED PROJECT GEOTECHNICAL REPORT.
E. PROVIDE 1/4" CROSS FALL PER 12" RUN ON ALL PAVING - MINIMUM. SEE CIVIL PLANS.
F. SEE DETAIL 3, THIS SHEET FOR CONCRETE JOINTS.
G. CONTRACTOR TO PROVIDE MIN. 4' x 4' MOCKUP OF CONCRETE SLAB FOR REVIEW AND APPROVAL PRIOR TO ANY CONSTRUCTION.

1 CONCRETE PAVING (STANDARD)



SECTION - CONCRETE BLOCK PERIMETER WALL
SCALE: 1/2" = 1'-0"

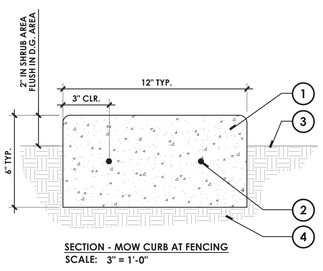
LEGEND:

1. 12" X 8" X 16" INTEGRAL COLOR, PRECISION CONCRETE BLOCK. SOLID GROUT ALL CELLS. COLOR: NATURAL GRAY - TO MATCH ARCHITECTURE.
2. POURED-IN-PLACE CONCRETE CAP TO RECEIVE 'TOP CAST' ETCH CODE NO. 05 RETARDANT FINISH, OR APPROVED EQUAL. CONCRETE CAP TO OVERHANG 1.5" BEYOND SPLIT FACE BLOCK FINISH.
3. POURED-IN-PLACE CONCRETE FOOTING WITH (4) #5 CONTINUOUS REBAR TOP AND BOTTOM PER STRUCTURAL ENGINEER, AS SHOWN THIS DETAIL.
4. CONTINUOUS EXPANSION JOINT PER DETAIL 2, SHEET L-2.01.
5. ADJACENT CONCRETE PAVING PER DETAIL 2, SHEET L-2.01.
6. 90% MINIMUM COMPACTED, MOISTURE-CONDITIONED SUBGRADE PER GEOTECHNICAL REPORT. SEE SPECIFICATIONS.
7. FINISH GRADE. SEE CIVIL PLANS.
8. #6 REBAR AT 16" O.C. VERTICAL.
9. #5 REBAR AT 24" O.C. HORIZONTAL.
10. #6 DOWELS TO MATCH VERTICAL REINFORCEMENT. ALTERNATE BENDS.

NOTES:

A. VERIFY FIELD CONDITIONS PRIOR TO CONSTRUCTION.
B. CONTRACTOR TO PROVIDE COLOR / FINISH SAMPLE FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
C. CONTRACTOR TO PROVIDE 8' LONG MOCKUP OF WALL END CONDITION AND WALL CAP FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION. MOCKUP SHALL NOT BE PART OF PRODUCTION CONSTRUCTION.
D. SEE GEOTECHNICAL REPORT (PAVEMENT RECOMMENDATIONS) FOR CONCRETE TYPE AND STRENGTH.

6 CONCRETE MASONRY BLOCK PERIMETER WALL



SECTION - MOW CURB AT FENCING
SCALE: 3" = 1'-0"

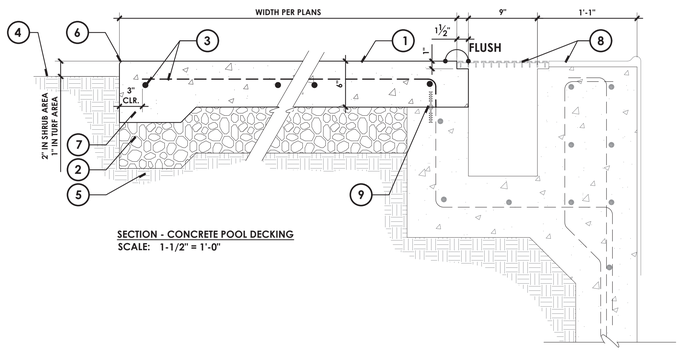
LEGEND:

1. POURED-IN-PLACE CONCRETE MOW CURB. WITH 1/2" TOOLED RADIUS AT ALL CORNERS AND EDGES.
2. #3 REBAR, CONTINUOUS PER GEOTECHNICAL REPORT.
3. ADJACENT FINISH GRADE. SEE CIVIL PLANS.
4. 90% MINIMUM COMPACTED, MOISTURE-CONDITIONED SUBGRADE PER GEOTECHNICAL REPORT. SEE SPECIFICATIONS.

NOTES:

A. PROVIDE SCORE JOINTS @ 4' O.C. MAX AND AT ALL CORNERS PER CONSTRUCTION PLAN AND GEOTECH REPORT.
B. SEE GEOTECHNICAL REPORT (PAVEMENT RECOMMENDATIONS) FOR CONCRETE TYPE AND STRENGTH. SEE SPECIFICATIONS.
C. CONCRETE AND REINFORCING INFORMATION INDICATED HEREIN, ARE MINIMUMS BASED ON INFORMATION CONTAINED IN THE PROJECT GEOTECHNICAL REPORT AVAILABLE AT THE TIME OF PREPARATION OF THESE DOCUMENTS.

4 CONCRETE MOW CURB



SECTION - CONCRETE POOL DECKING
SCALE: 1-1/2" = 1'-0"

LEGEND:

1. 6" PEDESTRIAN CONCRETE PAVING - REFER TO LANDSCAPE CONSTRUCTION PLAN FOR FINISH.
2. CRUSHED MISCELLANEOUS BASE. COMPACTION PER GEOTECH REPORT. REFER TO GEOTECHNICAL REPORT AND POOL PLANS. SLOPE TO DRAIN AS REQUIRED. SEE CIVIL PLANS.
3. FIBERGLASS REINFORCEMENT PER GEOTECHNICAL REPORT.
4. FINISH GRADE. SEE CIVIL PLANS.
5. 90% MINIMUM COMPACTED, MOISTURE-CONDITIONED SUBGRADE PER GEOTECHNICAL REPORT. SEE SPECIFICATIONS.
6. 1/2" TOOLED RADIUS.
7. THICKENED EDGE PER GEOTECHNICAL REPORT.
8. ADJACENT POOL COPING AND GUTTER. SEE POOL DETAILS, SHEET SP3.31.
9. 4" PVC RIBBED CENTER BULB WATERSTOP. SEE POOL DETAILS, SHEET SP1.2.

NOTES:

A. PROVIDE 12'x12' MOCKUP PER SPECIFICATIONS.
B. SEE PLANS AND SPECIFICATIONS FOR SEALERS AND FINISHES.
C. SEE GEOTECHNICAL REPORT (PAVEMENT RECOMMENDATIONS) FOR CONCRETE TYPE AND STRENGTH. SEE SPECIFICATIONS.
D. AT CONCLUSION OF ROUGH GRADING OF SITE, CONTRACTOR TO SCHEDULE SITE SOIL TESTING TO TEST SITE SOIL EXPANSION INDEX. HARDSCAPE CONSTRUCTION SHALL NOT COMMENCE UNTIL TEST RESULTS HAVE BEEN REVIEWED BY PROJECT GEOTECHNICAL ENGINEER.
E. PROVIDE 1/4" CROSS FALL PER 12" RUN ON ALL PAVING - MINIMUM. SEE CIVIL PLANS.
F. MISCELLANEOUS CRUSHED AGGREGATE BASE SHALL COMPLY/BE INSTALLED PER THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION LATEST EDITION.
G. CONCRETE AND REINFORCING INFORMATION INDICATED HEREIN, ARE MINIMUMS AND ARE BASED ON INFORMATION CONTAINED IN THE PROJECT GEOTECHNICAL REPORT AVAILABLE AT THE TIME OF PREPARATION OF THESE DOCUMENTS. PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN AND REVIEW THE RECOMMENDATIONS CONTAINED IN THE LATEST AND FINAL APPROVED GEOTECHNICAL REPORT SPECIFIC TO THIS PROJECT. THE CONTRACTOR SHALL PROVIDE ADDITIONAL CONCRETE, REINFORCING, SUB-BASE MATERIALS, SUB-BASE PREPARATION SUCH AS COMPACTION, MOISTURE CONDITIONING, ETC., AS MAY BE REQUIRED BY THE LATEST AND FINAL APPROVED PROJECT GEOTECHNICAL REPORT.
H. ALL POOL DECKING REBAR TO BE FIBERGLASS.

2 PEDESTRIAN CONCRETE PAVING (POOL DECKING)

DIGALERT
DIAL TOLL FREE
1-800-422-4133
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:

BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:

Shimaji & Lascola, Inc.
Structural Engineers
23682 Birtcher Drive
Lake Forest, CA 92630
949 770-9967

REGISTERED PROFESSIONAL ENGINEER — No. 3749 — EXP. 12-31-23 — STRUCTURAL — STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:

RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
(949) 493-2600 fax
(949) 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT — STATE OF CALIFORNIA — 05/31/2023 Renewal Date — 06/2023

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

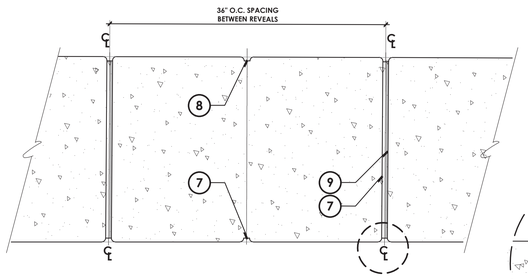
CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
CONSTRUCTION DETAILS
COMMUNITY AQUATICS & SENIOR CENTER
L-2.01

	INITAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	TF	06/20/2023
CHECKED BY	EC	06/30/2023

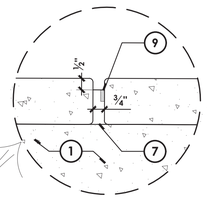
APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS

SHT. 16 OF 176 DWG. NO. S-2606

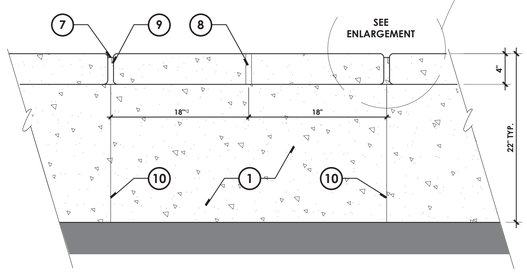
THESE PLANS AND SPECIFICATIONS ARE THE PROPERTY OF THE CITY OF GARDENA AND SHALL NOT BE USED FOR ANY PURPOSE OTHER THAN THE PROJECT SPECIFIED HEREIN. ANY REPRODUCTION OR USE OF THESE PLANS AND SPECIFICATIONS WITHOUT THE WRITTEN CONSENT OF THE CITY OF GARDENA IS PROHIBITED.



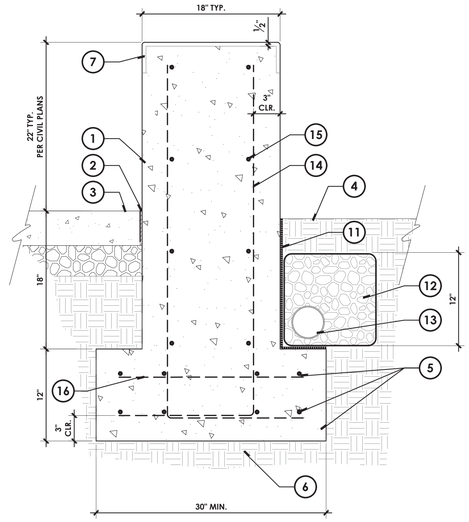
PLAN - WALL NOTCHED SKATE STOPS AND REVEALS
SCALE: 1-1/2" = 1'-0"



ENLARGEMENT AT REVEAL
SCALE: 1-1/2" = 1'-0"



ELEVATION - WALL NOTCHED SKATE STOPS AND REVEALS
SCALE: 1-1/2" = 1'-0"



SECTION - P.I.P. CONCRETE LOW WALL (FREE STANDING)
SCALE: 1-1/2" = 1'-0"

LEGEND:

1. POURED-IN-PLACE CONCRETE WALL AND CAP WITH 'TOP CAST' ETCH CODE NO. 05 FINISH, OR APPROVED EQUAL, ALL SIDES. ALL CAP CORNERS AND EDGES TO RECEIVE A ½" TOOLED RADIUS. SLOPE TOP OF WALL 1% MINIMUM TOWARDS PLANTER OR DIRECTION OF PAVING SURFACE FLOW.
2. CONTINUOUS EXPANSION JOINT. SEE DETAIL 3, SHEET L-2.01.
3. ADJACENT CONCRETE PAVING. SEE DETAIL 1, SHEET L-2.01 AND LANDSCAPE CONSTRUCTION PLAN, SHEET L-1.01 FOR LOCATIONS.
4. FINISH GRADE. SEE CIVIL PLANS.
5. POURED-IN-PLACE CONCRETE FOOTING WITH (4) #5 CONTINUOUS REBAR, TOP AND BOTTOM, PER STRUCTURAL ENGINEER AS SHOWN THIS DETAIL.
6. 90% MINIMUM COMPACTED, MOISTURE-CONDITIONED SUBGRADE PER GEOTECHNICAL REPORT. SEE SPECIFICATIONS.
7. 3/4" WIDE X 1/2" DEEP CONCRETE REVEAL, CONTINUOUS ACROSS FACE AND SIDES OF CONCRETE CAP. SPACED AS SHOWN ON ENLARGEMENT.
8. 3/4" WIDE x 1/2" DEEP SKATE STOPPER NOTCH. CENTERED BETWEEN REVEAL JOINTS, BOTH SIDES OF CONCRETE CAP.
9. SINGLE BLADE SAWCUT CONTROL JOINT AT REVEAL JOINTS, 1/3 DEPTH OF CONCRETE CAP.
10. SAWCUT CONTROL JOINT DOWN FACE OF WALL, BOTH SIDES PER CIVIL ENGINEERS DETAILS.
11. PROVIDE CONTINUOUS MIRADRI 860 WATERPROOF MEMBRANE AND MIRADRAIN 6200 DRAINAGE COMPOSITE BY MIRAFI INC., OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S SPECIFICATIONS. CONTACT: JAMES HEIDT AND ASSOCIATES (818)248-9677.
12. PROVIDE CONTINUOUS 12" SQ. 3/4" CRUSHED AGGREGATE. PROVIDE CONTINUOUS FILTER FABRIC WRAP.
13. CONTINUOUS PVC DRAINLINE - SEE CIVIL PLANS.
14. #4 REBAR AT 16" VERTICAL, EACH FACE.
15. #4 REBAR AT 10" HORIZONTAL, EACH FACE.
16. #4 REBAR AT 24" O.C.

NOTES:

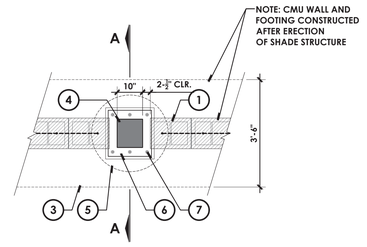
A. CONTRACTOR TO PROVIDE COLOR / FINISH SAMPLE FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.

B. CONTRACTOR SHALL PROVIDE 6' X 6' MOCK OF WALL AND CAP WITH SKATEBOARD NOTCHES AND DEEP TOOL SCORE JOINTS FOR REVIEW AND APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION.

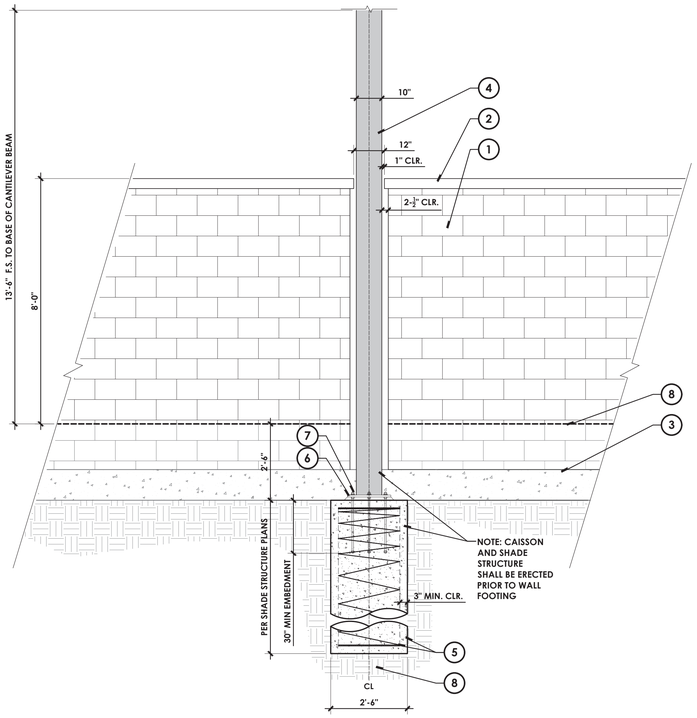
C. CONTRACTOR SHALL PROVIDE DEEP TROWEL SCORE JOINTS ACROSS FACE AND TOP OF WALL WHERE SHOWN ON PLANS AND AT ALL CORNER CONDITIONS, TYPICAL.

D. SEE GEOTECHNICAL REPORT (PAVEMENT RECOMMENDATIONS) FOR CONCRETE TYPE AND STRENGTH.

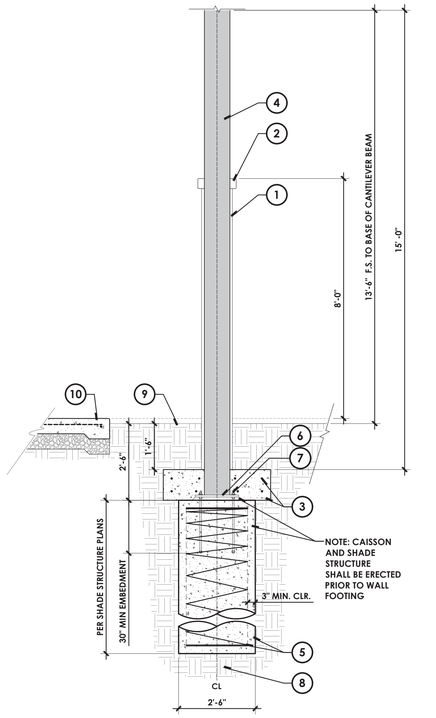
2 POURED-IN-PLACE CONCRETE PLANTER LOW WALL



PLAN - SHADE STRUCTURE POST AND FOOTING
SCALE: 1/2" = 1'-0"



FRONT ELEVATION - SHADE STRUCTURE POST AND FOOTING
SCALE: 1/2" = 1'-0"



SECTION 'A-A' - SHADE STRUCTURE POST AND FOOTING
SCALE: 1/2" = 1'-0"

LEGEND:

1. 8' PERIMETER CONCRETE BLOCK WALL. SEE DETAIL 6, SHEET L-2.01 AND CONSTRUCTION PLAN, SHEET L-1.02 FOR LOCATIONS.
2. POURED-IN-PLACE CONCRETE CAP ON BLOCK WALL. SEE DETAIL 6, SHEET L-2.01.
3. CONCRETE BLOCK WALL FOOTING. SEE DETAIL 6, SHEET L-2.01.
4. 10" SHADE STRUCTURE POST. SEE USA SHADE SHADE STRUCTURE ENGINEERING PLANS AND DETAILS, SHEET L-2.12 AND L-2.16.
5. 2'-6" DIA. POURED-IN-PLACE CONCRETE SHADE STRUCTURE FOOTING TO OCCUR BELOW CONCRETE BLOCK WALL FOOTING. SEE USA SHADE SHADE STRUCTURE ENGINEERING PLANS, SHEETS L-2.13 AND L-2.17, FOR DEPTH AND REINFORCEMENT. SEE STRUCTURAL CALCULATIONS PREPARED BY STATE OF CALIFORNIA LICENSED STRUCTURAL ENGINEER.
6. 17" SQ. BASE PLATE. SEE SEE USA SHADE DETAIL, SHEETS L-2.13 AND L-2.17.
7. SIX 1-1/4" X 36" ANCHOR BOLTS. HEAVY HEX. NUTS (3), FLAT WASHER (2) LOCK WASHER (F1554 GR.55 GALVANIZED). SEE USA SHADE DETAIL, SHEETS L-2.13 AND L-2.17.
8. 90% MINIMUM COMPACTED, MOISTURE-CONDITIONED SUBGRADE PER GEOTECHNICAL REPORT. SEE SPECIFICATIONS.
9. FINISH GRADE. SEE CIVIL PLANS.
10. ADJACENT CONCRETE PAVING PER DETAIL 2, SHEET L-2.01.

NOTES:

A. VERIFY FIELD CONDITIONS PRIOR TO CONSTRUCTION.

B. CONTRACTOR TO PROVIDE COLOR / FINISH SAMPLE FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.

C. SEE GEOTECHNICAL REPORT (PAVEMENT RECOMMENDATIONS) FOR CONCRETE TYPE AND STRENGTH.

D. CAISSON AND SHADE STRUCTURE SHALL BE ERECTED PRIOR TO THE WALL FOOTING.

E. SHADE STRUCTURE AND FOOTING DESIGN SHALL IMPART OR TRANSFER NO LOADS OR FORCES ON TO ADJACENT CONSTRUCTIONS. (I.E. WALL FOOTING, WALL CAP, ETC.)

1 CONCRETE MASONRY BLOCK PERIMETER WALL AT SHADE STRUCTURES

DIGALERT
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1-800-422-4133
AT LEAST TWO DAYS
BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:

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BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:
Shimaji & Lascola, Inc.
Structural Engineers
23682 Birtcher Drive
Lake Forest, CA 92630
949 770-9967

REGISTERED PROFESSIONAL ENGINEER
No. 3749
EXP. 12-31-23
STRUCTURAL
STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT
STATE OF CALIFORNIA
05/30/2023
Renewal Date
06/30/2023

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

	INITAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	TF	06/20/2023
CHECKED BY	EC	06/30/2023

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
CONSTRUCTION DETAILS
COMMUNITY AQUATICS & SENIOR CENTER
L-2.02

APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS

SHT. 17 OF 176 DWG. NO. 5-2606

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LEGEND:

1. 7"x10" PHOTOLUMINESCENT ALUMINUM EXIT SIGN, MODEL #NHE-6739.
2. 7"x10" PHOTOLUMINESCENT ALUMINUM EMERGENCY EXIT SIGN, MODEL #NHE-6730.
3. 6"x15" PHOTOLUMINESCENT ALUMINUM EXIT WITH LEFT ARROW SIGN, MODEL #NHE-18669.
4. 6"x15" PHOTOLUMINESCENT ALUMINUM EXIT WITH RIGHT ARROW SIGN, MODEL #NHE-18668.

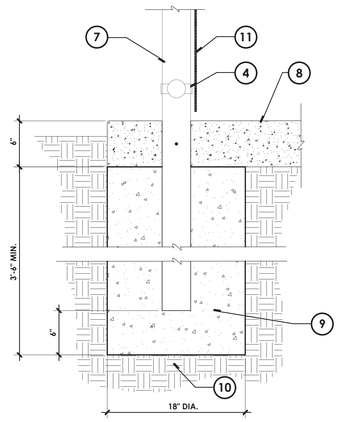
NOTES:

A. SIGNAGE TO BE MOUNTED TO ENSURE THAT CENTER OF LETTERING / SIGNAGE SET AT 60" ABOVE FINISHED SURFACE OF CONCRETE BELOW FENCE / GATE / DOOR.

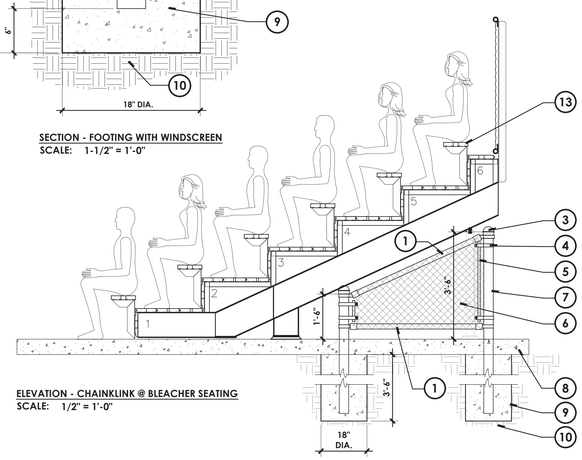
B. ALL SIGNS AVAILABLE FROM COMPLIANCE SIGNS, (800) 578-1245, OR APPROVED EQUAL.



4 EXIT / EMERGENCY EXIT SIGNAGE



SECTION - FOOTING WITH WINDSCREEN
SCALE: 1-1/2" = 1'-0"



ELEVATION - CHAINLINK @ BLEACHER SEATING
SCALE: 1/2" = 1'-0"

LEGEND:

1. TOP, BOTTOM, & MID RAIL, 2" O.D. GALVANIZED STEEL PIPE
2. RAIL END, TYPICAL
3. POST CAP, GALVANIZED, TYPICAL
4. STRETCHER BAND, TYPICAL
5. STRETCHER BAR, TYPICAL
6. 2" GRID MESH, 6 GAUGE CHAIN LINK FABRIC WITH KNUCKLED SELVAGE AT TOP AND BOTTOM
7. 2-½" STD. (4" O.D.) SCH. 40 GALVANIZED STEEL END POST, 6'-0" O.C. MAX.
8. 6" THICK CONCRETE POOL DECK PAVING. SEE DETAIL 2, SHEET L-2.01.
9. CONCRETE FOOTING AND REINFORCEMENT PER STRUCTURAL ENGINEER, AS SHOWN THIS DETAIL.
10. 90% MINIMUM COMPACTED, MOISTURE-CONDITIONED SUB GRADE PER GEOTECHNICAL REPORT. SEE SPECIFICATIONS.
11. POLYPROPYLENE OPEN MESH WINDSCREEN NO. C-85 BY: WEST COAST NETTING, OR APPROVED EQUAL. SECURE AT EDGES WITH NYLON TIES THROUGH ALUMINUM GROMMETS AT 12" O.C. ALONG ALL EDGE CONDITIONS. DAN KIRKLAND (928) 692-1144.
12. PROVIDE ½" THICK TOOLED CONTROL JOINTS AT POSTS AND CENTERED BETWEEN POSTS, TYPICAL ALONG ALL FENCING. SEE DETAIL 3, SHEET L-2.01.
13. BLEACHER SEATING PER SOUTHERN BLEACHER COMPANY PLANS. SEE SHEETS L-2.07-L-2.09.

NOTES:

A. PROVIDE SCALED SHOP DRAWING OF FENCE CONSTRUCTION FOR CITY REVIEW AND APPROVAL PRIOR TO FABRICATION. SEE SPECIFICATIONS.

B. CONTRACTOR TO PROVIDE 18" X 18" SAMPLE OF 6 GAUGE 2" X 2" CHAIN LINK FOR CITY REVIEW AND APPROVAL PRIOR TO CONSTRUCTION

C. ALL GALVANIZED STEEL PIPE SHALL BE SCH 40.

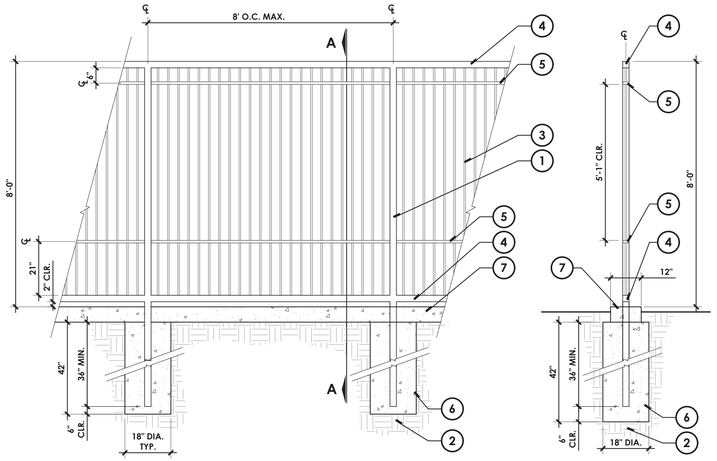
D. ALL WELDS TO BE CONTINUOUS GROUND SMOOTH.

E. SEE CONSTRUCTION PLAN, SHEET L-1.01 FOR GATE LOCATIONS.

F. ALL FITTINGS SHALL BE GALVANIZED.

G. CONSTRUCT CONCRETE THRESHOLD AT EACH CHAIN LINK GATE OPENING.

5 ANGLED CHAINLINK FENCE AT BLEACHER



ELEVATION - FENCING
SCALE: 1/2" = 1'-0"

SECTION 'A-A'
SCALE: 1/2" = 1'-0"

LEGEND:

1. 2-½"x2-½"x⅜" SQ. TUBULAR STEEL HAMMERED 4 CORNERS FENCE POST. SPACE AT 8'-0" O.C. MAX.
2. 90% MINIMUM COMPACTED, MOISTURE-CONDITIONED SUBGRADE PER GEOTECHNICAL REPORT. SEE SPECIFICATIONS.
3. 5/8" SQ. STEEL TUBING PICKETS AT 4" O.C. (16 GAUGE).
4. 2-½"x2-½"x⅜" SQ. TUBULAR STEEL HAMMERED 4 CORNERS TOP AND BOTTOM RAIL.
5. 1"x2-½" TUBULAR STEEL MID RAILS AS INDICATED.
6. CONCRETE FOOTING PER STRUCTURAL ENGINEER, AS SHOWN THIS DETAIL.
7. 12" WIDE MOW CURB BENEATH TUBULAR STEEL FENCE. SEE DETAIL 3, SHEET L-2.01.

NOTES:

A. ALL FENCE MEMBERS TO BE 11 GAUGE UNLESS OTHERWISE NOTED.

B. CONTRACTOR TO PROVIDE SHOP DRAWING OF PROPOSED FENCING FOR OWNER'S AUTHORIZED REPRESENTATIVE'S REVIEW AND APPROVAL PRIOR TO FABRICATION.

C. WELDING: BEVEL ALL MEMBERS PRIOR TO WELDING. ALL WELDS SHALL BE CONTINUOUS AND GROUND SMOOTH.

D. FABRICATION SHALL BE PER FIELD MEASUREMENTS CONDUCTED BY CONTRACTOR.

E. CONTRACTOR TO PROVIDE SCALED SHOP DRAWING OF PROPOSED FENCING GATE HARDWARE, HINGES, LOCKS, ETC. FOR OWNER'S AUTHORIZED REPRESENTATIVE'S REVIEW AND APPROVAL PRIOR TO FABRICATION.

F. ALL TUBULAR STEEL FENCING SHALL RECEIVE THE FOLLOWING APPLICATIONS TO ALL TUBULAR MEMBERS: SURFACE PREPARATION: ZINC THERMAL SPRAYED METALIZED FINISH (2 MIL MINIMUM) AS PROVIDED BY ZINC NATION OR APPROVED EQUAL. SEE SPECIFICATIONS. CONTACT: WHITNEY BLAKESLEE (714) 239-6190. FINISH: TNEMEC COATING PER SPECIFICATIONS, OR APPROVED EQUAL. COLOR: 'DOVE GRAY' (38GR) BY TNEMEC. FINAL COLOR TO BE SELECTED & APPROVED BY CITY. CONTACT: DUSTIN KAATZ (310) 637-2363.

G. CONTRACTOR TO INSTALL MOCK-UP OF 16 LINEAR FEET OF TUBULAR STEEL FENCE FOR REVIEW & APPROVAL BY OWNER'S REPRESENTATIVE PRIOR TO COMPLETE INSTALLATION.

2 TUBULAR STEEL FENCE

98-F/99-F Rim exit device





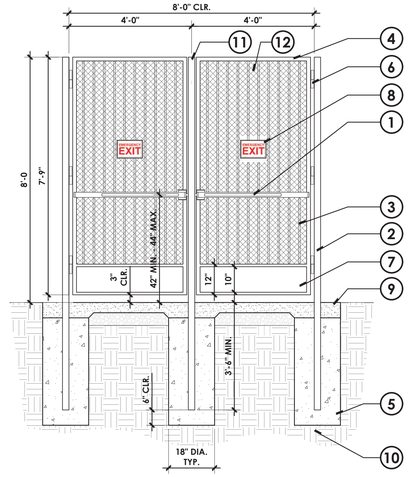


DOVE GRAY
38GR
RGB: 189,187,183

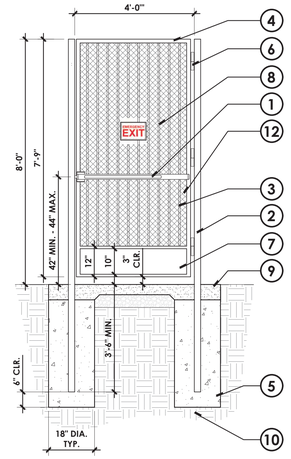
98-F and 99-F Rim fire exit devices for all types of single doors up to 4' x 10' (1219mm x 3048mm) or 8' x 10' (2438mm x 3048mm) double doors with 9954 or 9854 mullion, UL listed for fire exit hardware. See page 76 for detailed information on UL listed fire exit hardware label and door opening size information. Devices are ANSI A156.3 – 2014 Grade 1. The 98-F device has a smooth mechanism case and the 99-F device has a grooved case. The rim device is non-handed except when the following device options are used: -2 (double cylinder) or 5S (signal switch). See opposite page for available outside trim and device functions.

Finishes – US3, US3A, US4, US4A, US10, US26, US26D, US26D-AM Antimicrobial, US28, 313, 315 & 643E. US15 and US32D available with 98 Series only.

IMAGE FOR REFERENCE ONLY
SCALE: N.T.S.



ELEVATION - DOUBLE-SWING TUBULAR STEEL GATE
SCALE: 1/2"=1'-0"



ELEVATION - SINGLE-SWING TUBULAR STEEL GATE
SCALE: 1/2"=1'-0"

LEGEND:

1. 'VON DUPRIN' PANIC BAR DEVICE (SELF-LATCHING), 98-F RIM FIRE EXIT DEVICE, MODEL #98L-F-US28, (L-LEVER, F-FIRE EXIT DEVICE, US28-ANODIZED ALUMINUM FINISH). DISTRIBUTED BY INGERSOLL RAND SECURITY TECHNOLOGIES. (626)359-5555, OR APPROVED EQUAL. MOUNT PANIC BAR TO 5" WIDE x 7/8" THICK x GATE WIDTH STEEL BAR RACKING WELDED TO GATE. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
2. 2-½"X2-½"X¼" TUBULAR STEEL GATE POST, TYP.
3. 5/8" SQ. TUBULAR STEEL PICKETS AT 4" O.C. (14 GAUGE)
4. 2-½"X2-½"X¼" TUBULAR STEEL GATE FRAME.
5. CONCRETE FOOTING AND REINFORCEMENT PER STRUCTURAL ENGINEER, AS SHOWN THIS DETAIL.
6. HEAVY DUTY SPRING LOADED GATE HINGES (SELF-CLOSING) - 3 HINGES PER GATE BY: JANSEN ORNAMENTAL SUPPLY CO., MODEL NO. BHRDS, OR APPROVED EQUAL. (800) 423-4494. SECURE PER MANUFACTURER'S SPECIFICATIONS.
7. INSTALL 16 GA. GALVANIZED KICK PLATE ON PUSH SIDE OF GATE.
8. GLOW-IN-DARK ALUMINUM EXIT SIGN, TO BE MOUNTED ON PUSH SIDE OF GATE. SIGN TO BE CALLOUT #2, MODEL #NHE-6739, PER DETAIL 4, THIS SHEET.
9. ADJACENT CONCRETE PAVING. SEE DETAIL 1 & 2, SHEET L-2.01 AND LANDSCAPE PLANS SHEETS L-1.01 & L-1.02 FOR LOCATIONS.
10. 90% MINIMUM COMPACTED, MOISTURE-CONDITIONED SUBGRADE PER GEOTECHNICAL REPORT.
11. 2-½"X2-½"X¼" TUBULAR STEEL MULLION POST. MULLION TO RECEIVE ½" STRIKE FOR PANIC BAR BY VON DUPRIN, MODEL# 9954.
12. EXPANDED METAL MESH WITH 3/4" OPENINGS (13 GAUGE). WELD TO INSIDE OF GATE WITH DOUBLE 1" X 1/8" THICK STEEL FRAME.

NOTES:

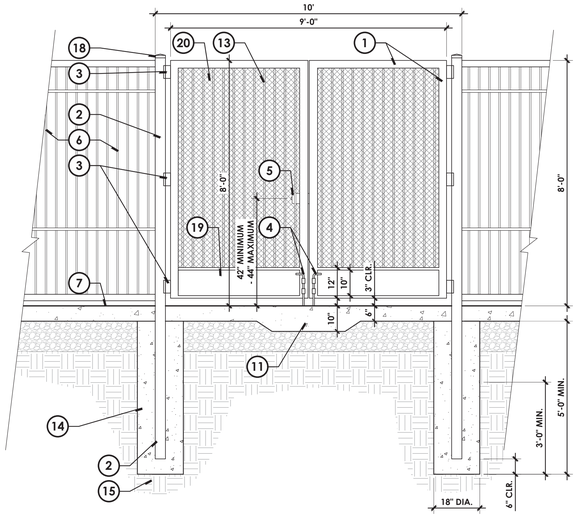
A. ALL TUBULAR STEEL FENCING SHALL RECEIVE THE FOLLOWING APPLICATIONS TO ALL TUBULAR MEMBERS: SURFACE PREPARATION: ZINC THERMAL SPRAYED METALIZED FINISH (2 MIL MINIMUM) AS PROVIDED BY ZINC NATION, OR APPROVED EQUAL, SEE SPECIFICATIONS. CONTACT: WHITNEY BLAKESLEE (714) 239-6190. FINISH: TNEMEC COATING, OR APPROVED EQUAL. PER SPECIFICATIONS. COLOR: 'DOVE GRAY' (38GR) BY TNEMEC. FINAL COLOR TO BE SELECTED & APPROVED BY CITY. CONTACT: DUSTIN KAATZ (310) 637-2363.

B. CONTRACTOR TO PROVIDE SCALED SHOP DRAWINGS OF PROPOSED GATES AND HARDSCAPE FOR OWNER'S AUTHORIZED REPRESENTATIVE'S REVIEW AND APPROVAL PRIOR TO FABRICATION.

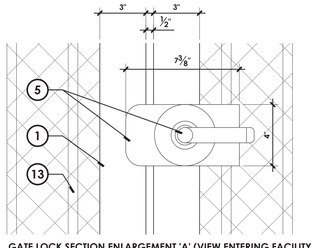
C. GATES SHALL BE EQUIPPED WITH SELF-CLOSING AND SELF-LATCHING DEVICES, PER THIS DETAIL.

D. GATES SHALL BE CAPABLE OF BEING LOCKED DURING TIMES WHEN THE POOL IS CLOSED.

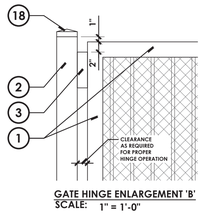
1 TUBULAR STEEL GATE



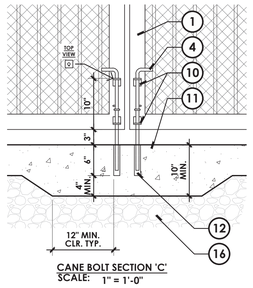
ELEVATION - MAINTENANCE ACCESS GATE (VIEW EXITING FACILITY)
SCALE: 1/2" = 1'-0"



GATE LOCK SECTION ENLARGEMENT 'A' (VIEW ENTERING FACILITY)
SCALE: 3" = 1'-0"



GATE HINGE ENLARGEMENT 'B'
SCALE: 1" = 1'-0"



CANE BOLT SECTION 'C'
SCALE: 1" = 1'-0"

LEGEND:

1. GATE FRAME, 3" O.D. WELDED, GALV. STEEL PIPE, SCHEDULE 40. SEE NOTE 'D' BELOW.
2. HSS 4" x 4" x ⅜" TUBULAR STEEL GATE POST. FILL POST WITH CONCRETE. SEE NOTE 'D' BELOW.
3. HEAVY DUTY SPRING LOADED GATE HINGES (SELF-CLOSING) - 3 PER GATE FRAME. 7" ROUND BARREL HINGE W/ GREASED FITTING & STAINLESS STEEL PIN. BY JANSEN ORNAMENTAL SUPPLY CO. OR APPROVED EQUAL. MODEL: BHRDS. PHONE: (800) 423-4494. LOCATE TOP, MIDDLE, & BOTTOM OF GATE. SECURE PER MANUFACTURER'S SPECIFICATIONS. SEE ENLARGEMENT 'B'.
4. CANE BOLT. ½" DIA. x 18" LONG W/ ½" LONG x ¾16" STEEL ROD WELDED TO CANE BOLT. SEE SECTION ENLARGEMENT 'C'.
5. FALCON T SERIES ADA LOCKSET (SELF-LATCHING). DISTRIBUTED BY INGERSOLL RAND SECURITY TECHNOLOGIES. (626)359-5555. MOUNT TO 4" WIDE SQ. STEEL HARDWARE ENCLOSURE WELDED TO GATE FRAME. INSTALL 42" MINIMUM - 44" MAXIMUM ABOVE FINISHED GRADE. INSTALL PER MANUFACTURER'S SPECIFICATIONS. SEE ENLARGEMENT 'A'.
6. ADJACENT TUBULAR STEEL FENCING. SEE DETAIL 2, THIS SHEET.
7. FINISH GRADE. SEE PLANS.
8. PIPE SLEEVES AS DIMENSIONED, WELDED TO GATE FRAME FOR FULL LENGTH OF PIPE.
9. ¾" DIAMETER ROD.
10. (4) 1½"x1½"x1½" LONG ANGLE PUNCH ⅝" HOLE FOR CANE BOLT & SLOT AT TOP ANGLE.
11. VEHICULAR CONCRETE PAVING. CONCRETE SHALL BE 10" MINIMUM DEPTH AT CANE BOLT LOCATION TO ALLOW FOR 6" DEEP PIPE SLEEVES, PER LEGEND ITEM 12 BELOW. SEE ENLARGEMENT 'C' AND DETAIL 1, SHEET L-2.01.
12. 6" DEEP ⅞" DIA. PIPE SLEEVE SET IN CONCRETE.
13. 5/8" SQ. TUBULAR STEEL PICKETS AT 4" O.C. (14 GAUGE)
14. GATE POST FOOTING, SIZE AND REINFORCEMENT PER STRUCTURAL ENGINEER, AS SHOWN THIS DETAIL. COORDINATE INSTALLATION OF POST FOOTING WITH ADJACENT CONCRETE WALL FOOTING. SEE DETAIL 1, SHEET L-2.01.
15. COMPACTED, MOISTURE-CONDITIONED SUBGRADE PER GEOTECHNICAL REPORT.
16. 6" CRUSHED AGGREGATE BASE. SEE DETAIL 1, SHEET L-2.01.
17. ADJACENT TUBULAR STEEL FENCING. SEE DETAIL 2, THIS SHEET.
18. POST CAP, WELDED AT TOP OF POST AFTER ALL GATE HARDWARE HAS BEEN INSTALLED, BY JANSEN ORNAMENTAL SUPPLY CO., OR APPROVED EQUAL. MODEL: PC4. PHONE: (800) 423-4494.
19. INSTALL 16 GA. GALVANIZED KICK PLATE.
20. EXPANDED METAL MESH WITH 3/4" OPENINGS (13 GAUGE). WELD TO INSIDE OF GATE WITH DOUBLE 1" X 1/8" THICK STEEL FRAME.

NOTES:

A. BEVEL ALL MEMBERS PRIOR TO WELDING. ALL WELDS SHALL BE CONTINUOUS AND GROUND SMOOTH.

B. FABRICATION SHALL BE PER FIELD MEASUREMENTS CONDUCTED BY CONTRACTOR.

C. CONTRACTOR TO PROVIDE SCALED SHOP DRAWINGS OF PROPOSED GATES AND HARDSCAPE FOR OWNER'S AUTHORIZED REPRESENTATIVE'S REVIEW AND APPROVAL PRIOR TO FABRICATION.

D. ALL EXPOSED METAL SHALL RECEIVE THE FOLLOWING APPLICATIONS TO ALL MEMBERS: SURFACE PREPARATION: ZINC THERMAL SPRAYED METALIZED FINISH (2 MIL MINIMUM) AS PROVIDED BY ZINC NATION OR APPROVED EQUAL. SEE SPECIFICATIONS. CONTACT: WHITNEY BLAKESLEE (714) 239-6190. FINISH: TNEMEC COATING, OR APPROVED EQUAL PER SPECIFICATIONS. 'DOVE GRAY' (38GR) BY TNEMEC. FINAL COLOR TO BE SELECTED & APPROVED BY CITY. CONTACT: DUSTIN KAATZ (310) 637-2363.

E. CONCRETE AND REINFORCING INFORMATION INDICATED HEREIN, ARE MINIMUMS AND ARE BASED ON INFORMATION CONTAINED IN THE PROJECT GEOTECHNICAL REPORT AVAILABLE AT THE TIME OF PREPARATION OF THESE DOCUMENTS. PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN AND REVIEW THE RECOMMENDATIONS CONTAINED IN THE LATEST AND FINAL APPROVED GEOTECHNICAL REPORT SPECIFIC TO THIS PROJECT. THE CONTRACTOR SHALL PROVIDE ADDITIONAL CONCRETE, REINFORCING, SUB-BASE MATERIALS, SUB-BASE PREPARATION SUCH AS COMPACTION, MOISTURE CONDITIONING, ETC., AS MAY BE REQUIRED BY THE LATEST AND FINAL APPROVED PROJECT GEOTECHNICAL REPORT.

F. GATES SHALL BE EQUIPPED WITH SELF-CLOSING AND SELF-LATCHING DEVICES, PER THIS DETAIL.

G. GATES SHALL BE CAPABLE OF BEING LOCKED DURING TIMES WHEN THE POOL IS CLOSED.

3 MAINTENANCE ACCESS GATE

DIGALERT
DIAL TOLL FREE
1-800-422-4133
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:
BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:
THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:
Shimaji & Lascola, Inc.
Structural Engineers
23682 Birtcher Drive
Lake Forest, CA 92630
949 770-9967

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
CONSTRUCTION DETAILS
COMMUNITY AQUATICS & SENIOR CENTER
L-2.03

	INITAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	TP	06/30/2023
CHECKED BY	EC	06/30/2023

APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS
SHT. 18 OF 176
DWG. NO. 5-2606

Haws® model 3612F

ADA Filtered Stainless Steel Bottle Filler and Drinking Fountain

FEATURES & BENEFITS

ADA COMPLIANCE
ADA-compliant bottle filling station and dual-height high-low drinking fountain required for wheelchair use, and for the standing person.

FRONT APPROACH
All three water stations face frontward and the overall footprint needed is only 73 inches wide, saving 33% of the handicapped required for access compliance. This also allows the fountain to be placed with its back to within 6 inches of a wall or a fence.

BOTTLE FILLER
The ADA-compliant open design bottle filling station offers a 17" high bottle area, and open sides making this push button operated bottle filling station more accessible to users.

STAINLESS STEEL VALVES
The push-button activated valves offers the only all stainless steel valve body that is machined out of solid bar stock, is fully serviceable through the front of the push button assembly offering access to the water control cartridge and integral water supply strainer, and with front access to the water stream height adjustment for easy maintenance without having to remove the valve. Operating pressure range of 30 to 90 psi (2.1 to 6.2 bar).

BUBBLER HEAD
Polished chrome plated brass bubbler head with integral 5/8" dia. threaded shank for vandal resistant strength, and top-down access for nozzle replacement or water line service, with .45 gpm flow rate.

CONSTRUCTION
Heavy-duty stainless steel with silver powder-coated color finish, and stainless-steel drinking fountain bowls. Modular construction allows for easy replacement or rearrangement of drinking fountain bowls and bottle filler modules.

DRAIN CLEAN-OUT
Top-down access to the drain allows the fountain to be cleaned without taking the unit apart, good for outdoor settings with drain-cloggings and or leaves.

OPTIONS

Pet Fountain: Model 3670, dog bowl attachment for 3600 series pedestal fountains.

Hose Bib: Model 3660, lockable hose bib attachment for 3600 series pedestal fountains.

Installation Aid: Model MTG.3600, mounting guide for 3600 series pedestal fountains.

Freeze-Resistant Option: Model 3612FR, ADA stainless steel freeze-resistant bottle filler and dual fountain.

For more information, visit www.hawsco.com or call (888) 640-4297.



SPECIFICATIONS

Model 3612F outdoor, ADA-compliant pedestal mounted bottle filler and high-low drinking fountain shall include a heavy-duty stainless steel pedestal with matte silver powder-coating, 3000 gallon carbon block filter reduces chlorine (taste and odor) and lead, and removes 99.99% of cysts with mounting bracket, push-button operated stainless steel valves with front-accessible cartridge and flow adjustment, polished chrome-plated brass vandal-resistant shielded bubbler heads with integral 5/8" dia. threaded shank for vandal resistant strength, and top-down removable nozzles, level-sensing bottle filler with quick-fill 1 gpm flow rate, 100% lead-free waterways, polished chrome plated vandal-resistant waste strainers with top-down clean-out access to the drain, vandal-resistant access plates, integral mounting feet, and 1-1/2" dia waste

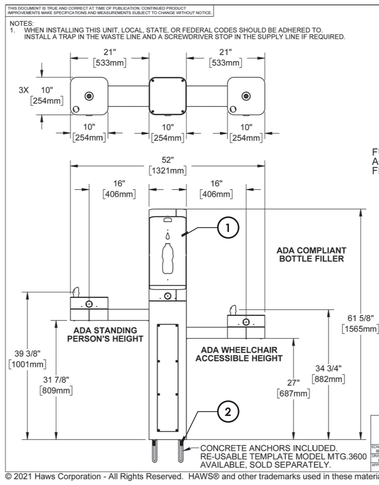
APPLICATIONS

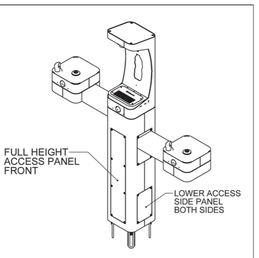
The 3612F offers a solution for the changing needs of outdoor settings as well as outdoor wheel chair access, appealing to all users for its high accessibility and ease of installation at Level 1 Facilities, schools, and other outdoor areas where hydration facilities are needed. Model meets all current Federal Regulations for the disabled including those in the Americans with Disabilities Act. Haws manufactures drinking fountains, faucets and electric water coolers to be lead-free by all known definitions including NSF/ANSI/CAN 61-Section 9, NSF/ANSI Standards 42 & 53, NSF/ANSI/ CAN 372, California Proposition 65, and the Federal Safe Drinking Water Act. Product is compliant to California SB1953 and Safety Code 116875 (AB 1953-2006), and NSF/ ANSI/CAN 61, G s.1.

DISCLAIMER: Continued product improvements make specifications subject to change without notice. Check haws.com for the latest product information and updates.

1455 Kleppe Lane • Sparks, NV 89431 • (t) 775.359.4712 • (f) 775.359.7424 • sales@haws.com • www.haws.com • © Haws, 2021

NOTES:
1. WHEN INSTALLING THIS UNIT, LOCAL, STATE, OR FEDERAL CODES SHOULD BE ADHERED TO. INSTALL A TRAP IN THE WASTE LINE AND A SCREWDRIVER STOP IN THE SUPPLY LINE IF REQUIRED.





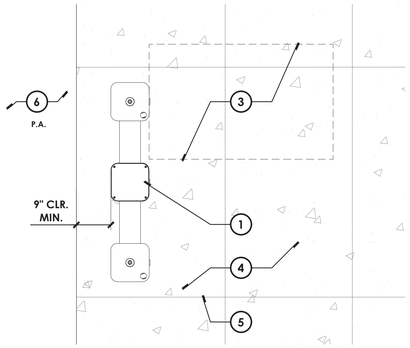
HAWS MODEL 3612/3612F IS FULLY COMPLIANT WITH THE FEDERAL 2010 AMERICANS WITH DISABILITIES ACT (ADA) ACCESSIBILITY REQUIREMENTS WHEN INSTALLED AS SHOWN HERE AND WHEN INSTALLED WITH PROPER CLEARANCES AND ACCESS. LOCATE THE PEDESTAL BASE WITH AT LEAST 9" OF CLEAR UNOBSTRUCTED HARDSCAPE BEHIND THE PEDESTAL. IT IS THE RESPONSIBILITY OF THE INSTALLER TO ADHERE TO LOCAL, STATE,AND FEDERAL CODES WHEN INSTALLING THIS UNIT. DISTANCE TO SURROUNDING OBJECTS, APPROACH SURFACES, ETC. SHOULD BE CONSIDERED.

Haws
1455 KLEPPE LANE
SPARKS, NEVADA 89431
(775) 359-4712 FAX (775) 359-7424
E-MAIL: HAWS@HAWSCO.COM
WEBSITE: WWW.HAWSCO.COM

SCALE: NONE	REV. NTR	SHT. SIZE: 8.5" x 11"	MODEL(S): 3612 & 3612F	PART NUMBER: DSB0001180.D
DRAWN: DAF	CHECKED: MHM	ISSUE: 12/8 - 22/09/2021/DSL	REVISIONS: 2020 - 1	SHEET 1 OF 4	REVISION: 2

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IMAGES FOR REFERENCE ONLY
SCALE: N.T.S.



PLAN VIEW - ADA ACCESSIBLE HI-LO PEDESTAL DRINKING FOUNTAIN WITH BOTTLE FILLER
SCALE: 3/4" = 1'-0"

LEGEND:

1. INSTALL (3) ADA ACCESSIBLE HI-LO FILTERED STAINLESS STEEL DRINKING FOUNTAIN WITH BOTTLE FILLER, NON-REFRIGERATED, BY HAWS, OR APPROVED EQUAL. MODEL# 3612F. FINISH: STAINLESS STEEL, COLOR: SILVER POWDER COAT. AVAILABLE FROM SPECIFICATION SALES. CONTACT (909) 594-7088. INSTALL 9" CLEAR FROM EDGE OF PAVEMENT/EDGE OF BUILDING, SEE CONSTRUCTION PLAN SHEET L-1.01 FOR LOCATIONS AND CIVIL GRADING AND DRAINAGE PLANS. SURFACE MOUNT PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
2. (4) CAST-IN ANCHORS SET AT 7" SQUARE SPACING. INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
3. 36"X48" CLEAR FLOOR SPACE FOR WHEELCHAIR ACCESSIBILITY.
4. ADJACENT CONCRETE PAVING. SEE CONSTRUCTION PLAN, SHEET L-1.01 AND DETAIL 1, SHEET L-2.01.
5. CONTROL JOINT. SEE DETAIL 3, SHEET L-2.01, AND LANDSCAPE PLAN SHEETS L-1.01 & L-1.02 FOR LOCATIONS.
6. ADJACENT PLANTING AREA. SEE PLANTING PLAN, SHEET L-5.01.

NOTES:

- A. SEE CIVIL PLANS FOR LOCATION OF UTILITIES, WATER SUPPLY LINES, SEWER LINES, ETC.
- B. INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
- C. CONTRACTOR SHALL FIELD VERIFY SUFFICIENT CLEARANCES FOR ADA PATH OF TRAVEL ARE PROVIDED PRIOR TO INSTALLATION.
- D. SEE GEOTECHNICAL REPORT (PAVEMENT RECOMMENDATIONS) FOR CONCRETE TYPE AND STRENGTH.

1 ADA PEDESTAL DRINKING FOUNTAIN WITH BOTTLE FILLER

DIGALERT
DIAL TOLL FREE
1-800-422-4133
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:
BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:
THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:

PREPARED UNDER THE SUPERVISION OF:

RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

LICENSED LANDSCAPE ARCHITECT — STATE OF CALIFORNIA — 05/01/2023

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

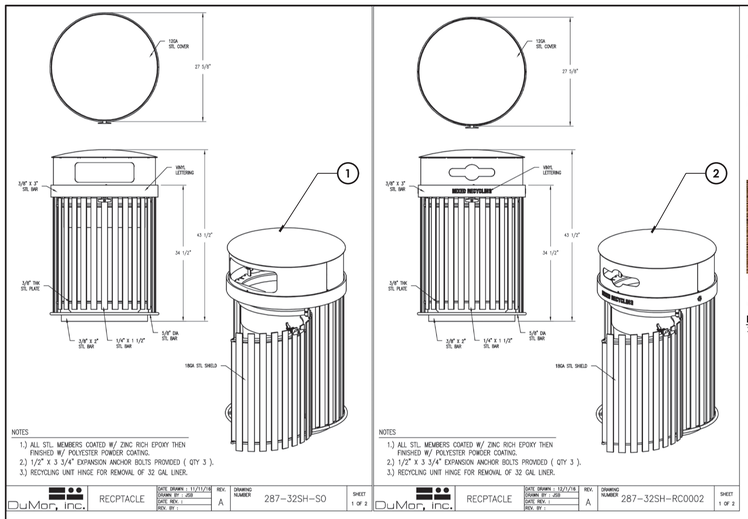
CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
CONSTRUCTION DETAILS
COMMUNITY AQUATICS & SENIOR CENTER
L-2.04

	INITIAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	TP	06/20/2023
CHECKED BY	EC	06/30/2023

APPROVED BY:
DATE DIRECTOR OF PUBLIC WORKS

SHT. 19 OF 176 DWG. NO. 5-2606

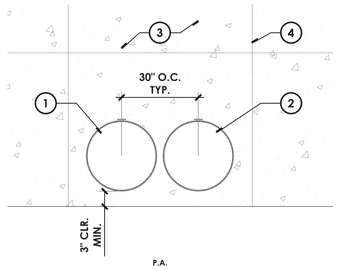
PLOT TIME: 06/20/2023 9:43 AM





Antique Mahogany

IMAGES FOR REFERENCE ONLY
SCALE: N.T.S.



PLAN VIEW - WASTE/RECYCLING RECEPTACLES
SCALE: 1/4" = 1'-0"

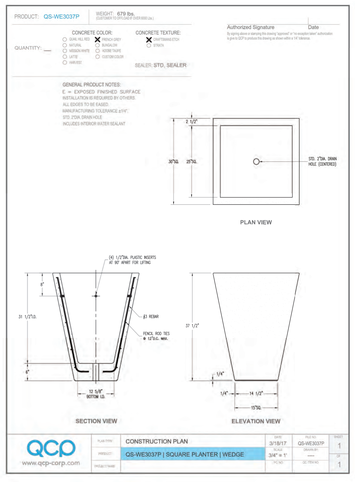
LEGEND:

1. INSTALL (3) 32 GALLON WASTE RECEPTACLE WITH LINER SHIELD BY DUMOR, OR APPROVED EQUAL. MODEL# 287-32SH-SO. COLOR: TEXTURED GREY. LID OPTION: SO, HOLE SHAPE OPTION: SO. SHALL BE SUPPLIED BY REC WEST OUTDOOR PRODUCTS INC. CONTACT: DERRICK SHIMA (818) 735-3838. SEE CONSTRUCTION PLAN, SHEET L-1.01 FOR LOCATIONS. SURFACE MOUNT PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
2. INSTALL (3) 32 GALLON MIXED RECYCLING RECEPTACLE WITH LINER SHIELD BY DUMOR, OR APPROVED EQUAL. MODEL# 287-32SH-RC0002. COLOR: TEXTURED GREY. LID OPTION: RC2, HOLE SHAPE OPTION: RC2. SHALL BE SUPPLIED BY REC WEST OUTDOOR PRODUCTS INC. CONTACT: DERRICK SHIMA (818) 735-3838. SEE CONSTRUCTION PLAN, SHEET L-1.01 FOR LOCATIONS. SURFACE MOUNT PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
3. ADJACENT HARDSCAPE. SEE CONSTRUCTION PLAN, SHEET L-1.01 AND DETAIL 1, SHEET L-1.01.
4. CONTROL JOINT PER PLANS AND DETAIL 2, SHEET L-2.01.

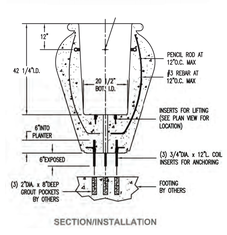
NOTE:

A. INSTALL RECEPTACLES PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.

3 | WASTE / RECYCLING RECEPTACLES

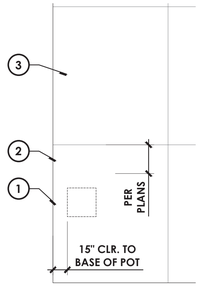






IMAGES FOR REFERENCE ONLY
SCALE: N.T.S.

ANCHORING DETAIL - FOR REFERENCE ONLY
SCALE: N.T.S.



PLAN VIEW - SQUARE POTS
SCALE: 3/8" = 1'-0"

LEGEND:

1. INSTALL (20) 30" SQUARE WEDGE POT BY QCP, OR APPROVED EQUAL. MODEL# QS-WE3037P. COLOR: FRENCH GRAY. FINISH: CRAFTMANS ETCH. SHALL BE SUPPLIED BY QCP CORP. CONTACT: CYNTHIA CHAVEZ (951) 256-3221. SEE CONSTRUCTION PLAN, SHEET L-1.01 FOR LOCATIONS. INSTALL PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS. ANCHOR POT TO CONCRETE PAVING PER MANUFACTURER'S SECTION/INSTALLATION, THIS DETAIL.
2. ADJACENT HARDSCAPE. SEE CONSTRUCTION PLAN, SHEET L-1.01 AND DETAIL 1, SHEET L-1.01.
3. ADJACENT BENCH SEATING, WHERE OCCURS. SEE CONSTRUCTION PLAN SHEET L-1.01 FOR LOCATIONS.

NOTE:

A. INSTALL POTS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.

5 | 30" SQUARE PRECAST CONCRETE POT

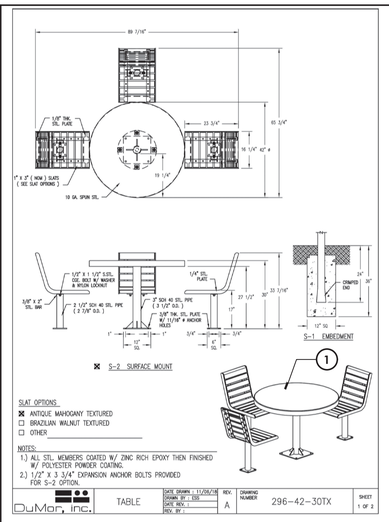
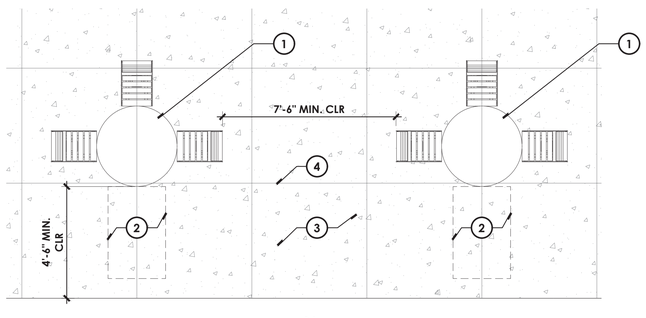


IMAGE FOR REFERENCE ONLY
SCALE: N.T.S.



PLAN VIEW - ROUND TABLES WITH CHAIRS AND UMBRELLA
SCALE: 3/8" = 1'-0"



Antique Mahogany



IMAGES FOR REFERENCE ONLY
SCALE: N.T.S.

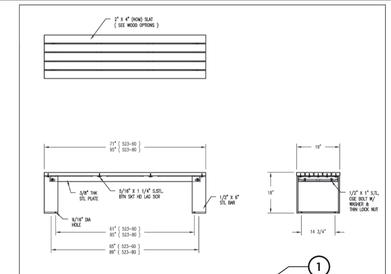
LEGEND:

1. INSTALL (2) 42" DIAMETER ADA ACCESSIBLE STEEL TABLE WITH 3 SEATS BY DUMOR, OR APPROVED EQUAL. MODEL# 296-42-30TX/S2. FINISH: ANTIQUE MAHOGANY (WOOD GRAIN RECYCLED PLASTIC). COLOR: TEXTURED GREY (METAL COMPONENTS). SHALL BE SUPPLIED BY REC WEST OUTDOOR PRODUCTS INC. CONTACT: DERRICK SHIMA (818) 735-3838. SEE CONSTRUCTION PLAN, SHEET L-1.01 FOR LOCATIONS. SURFACE MOUNT (TYPE S-2) PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
2. 36"X48" ADA COMPANION AREA.
3. ADJACENT HARDSCAPE. SEE CONSTRUCTION PLAN, SHEET L-1.01 AND DETAIL 1, SHEET L-1.01.
4. CONTROL JOINT PER PLANS AND DETAIL 2, SHEET L-2.01.

NOTE:

A. INSTALL TABLE AND CHAIRS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.

4 | 42" ROUND TABLE WITH SEATING

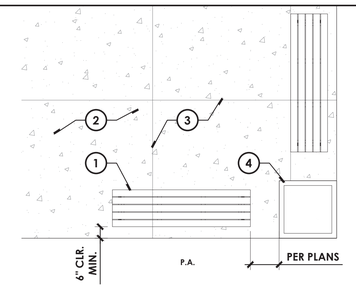


IMAGES FOR REFERENCE ONLY
SCALE: N.T.S.



Antique Mahogany

IMAGES FOR REFERENCE ONLY
SCALE: N.T.S.



PLAN VIEW - BENCH SEATING
SCALE: 3/8" = 1'-0"

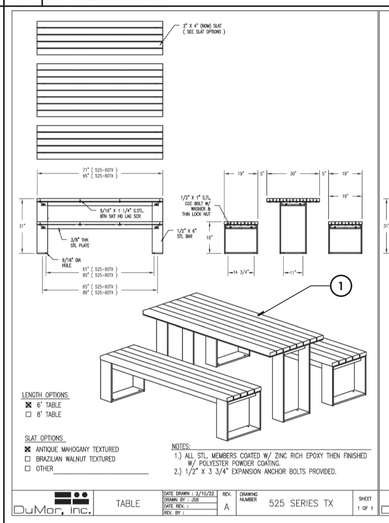
LEGEND:

1. INSTALL (6) 6' BACKLESS BENCH BY DUMOR, OR APPROVED EQUAL. MODEL# 523-60TX. FINISH: ANTIQUE MAHOGANY (WOOD GRAIN RECYCLED PLASTIC). COLOR: TEXTURED GREY (METAL COMPONENTS). SHALL BE SUPPLIED BY REC WEST OUTDOOR PRODUCTS INC. CONTACT: DERRICK SHIMA (818) 735-3838. SEE CONSTRUCTION PLAN, SHEET L-1.01 FOR LOCATIONS. SURFACE MOUNT PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
2. ADJACENT HARDSCAPE. SEE CONSTRUCTION PLAN, SHEET L-1.01 AND DETAIL 1, SHEET L-1.01.
3. CONTROL JOINT PER PLANS AND DETAIL 2, SHEET L-2.01.
4. ADJACENT PLANTER, WHERE OCCURS. SEE CONSTRUCTION PLAN, SHEET L-1.01 FOR LOCATIONS.

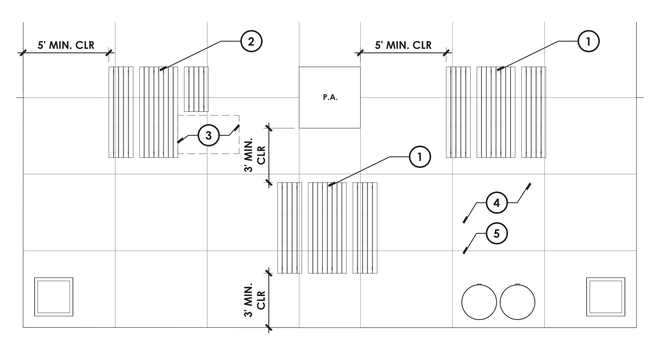
NOTE:

A. INSTALL BENCHES PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.

1 | 6' BENCHES



IMAGES FOR REFERENCE ONLY
SCALE: N.T.S.



PLAN VIEW - PICNIC TABLES
SCALE: 1/4" = 1'-0"

LEGEND:

1. INSTALL (2) 6' 525 TABLE BY DUMOR, OR APPROVED EQUAL. MODEL# 525-60TX. FINISH: ANTIQUE MAHOGANY (WOOD GRAIN RECYCLED PLASTIC). COLOR: TEXTURED GREY (METAL COMPONENTS). SHALL BE SUPPLIED BY REC WEST OUTDOOR PRODUCTS INC. CONTACT: DERRICK SHIMA (818) 735-3838. SEE CONSTRUCTION PLAN, SHEET L-1.01 FOR LOCATIONS. SURFACE MOUNT PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
2. INSTALL (1) 6' 525 ADA TABLE BY DUMOR, OR APPROVED EQUAL. MODEL# 525-663TX. FINISH: ANTIQUE MAHOGANY (WOOD GRAIN RECYCLED PLASTIC). COLOR: TEXTURED GREY (METAL COMPONENTS). SHALL BE SUPPLIED BY REC WEST OUTDOOR PRODUCTS INC. CONTACT: DERRICK SHIMA (818) 735-3838. SEE CONSTRUCTION PLAN, SHEET L-1.01 FOR LOCATIONS. SURFACE MOUNT PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
3. 36"X48" ADA COMPANION AREA.
4. ADJACENT HARDSCAPE. SEE CONSTRUCTION PLAN, SHEET L-1.01 AND DETAIL 1, SHEET L-1.01.
5. CONTROL JOINT PER PLANS AND DETAIL 2, SHEET L-2.01.

NOTE:

A. INSTALL TABLES PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.

2 | 6' PICNIC TABLES

DIGALERT
DIAL TOLL FREE 1-800-422-4133
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:

BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:

PREPARED UNDER THE SUPERVISION OF:

RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
(949) 493-2690 fax
(949) 493-2600 phone

LICENSED LANDSCAPE ARCHITECT — STATE OF CALIFORNIA — 4/30/2023

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

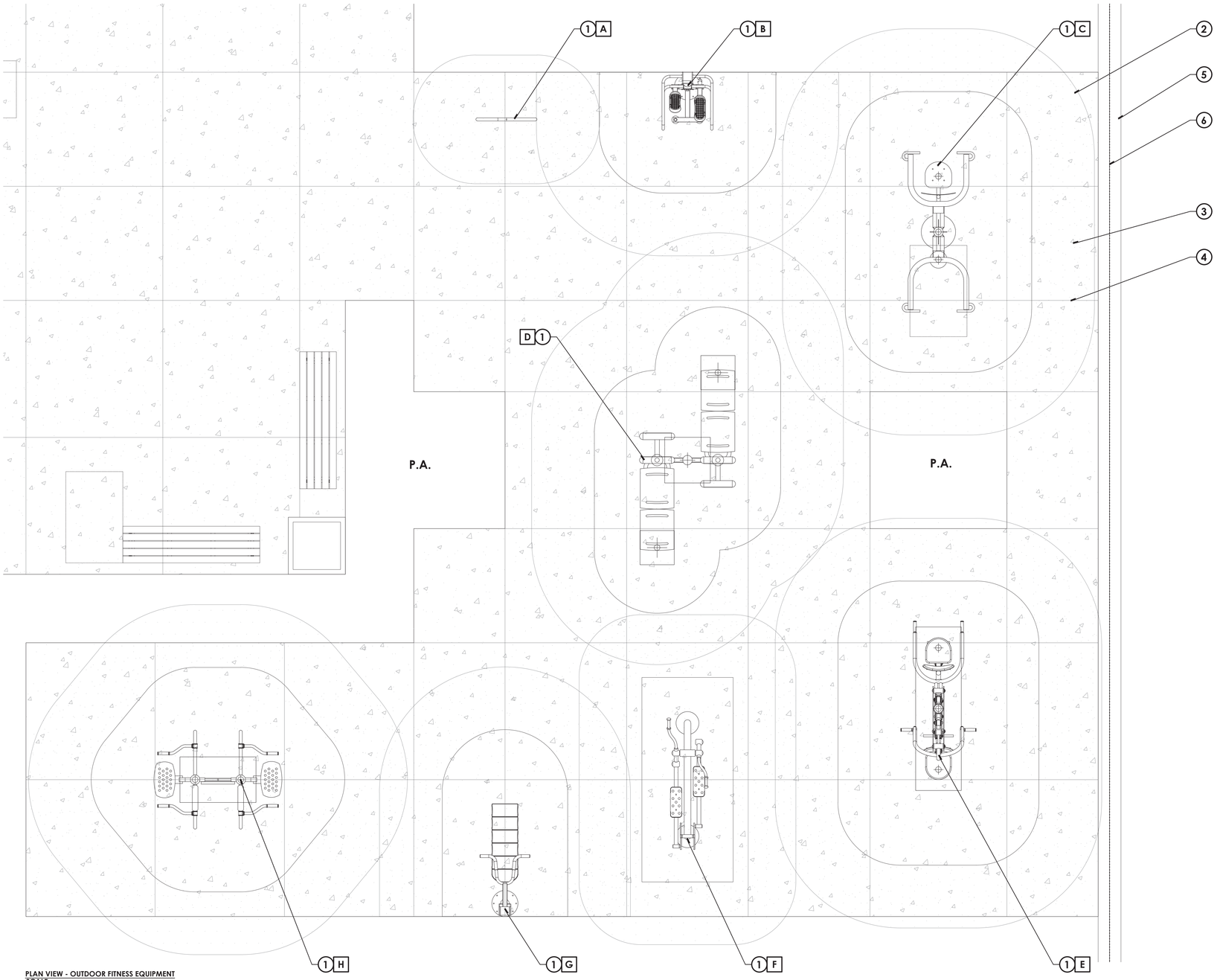
CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
CONSTRUCTION DETAILS
COMMUNITY AQUATICS & SENIOR CENTER
L-2.05

	INITAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	TP	06/30/2023
CHECKED BY	EC	06/30/2023

APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS

SHT. 20 OF 176 DWG. NO. 5-2606

THESE PLANS AND SPECIFICATIONS ARE THE PROPERTY OF RJM DESIGN GROUP AND SHALL NOT BE USED FOR ANY PURPOSE OTHER THAN THE PROJECT SPECIFIED HEREIN WITHOUT THE WRITTEN PERMISSION OF RJM DESIGN GROUP.



PLAN VIEW - OUTDOOR FITNESS EQUIPMENT
SCALE: 1/2" = 1'-0"

LEGEND:

1. OUTDOOR FITNESS EQUIPMENT BY GREENFIELDS OUTDOOR FITNESS, OR APPROVED EQUAL. PROVIDED BY: MIRACLE PLAYGROUND SALES. CONTACT JOHN JASON (714) 271-2983. COLORS: SKY BLUE (RAL 5015), SILVER (RAL 9006), AND BLACK. SEE 'CUSTOM COLOR RAL COLOR SCHEME' THIS DETAIL. FINAL COLORS TO BE SELECTED & APPROVED BY THE CITY. INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
2. FITNESS EQUIPMENT CLEARANCE ZONE, PER MANUFACTURER.
3. CONCRETE PAVING. SEE FINISH SCHEDULE ON CONSTRUCTION PLAN, SHEET L-1.01 AND DETAIL 1, SHEET L-2.01.
4. CONTROL JOINT PER DETAIL 3, SHEET L-2.01.
5. CONCRETE MOW CURB. SEE DETAIL 4, SHEET L-2.01.
6. TUBULAR STEEL FENCING. SEE DETAIL 2, SHEET L-2.03.

NOTES:

A. INSTALL ALL FITNESS EQUIPMENT PER MANUFACTURER'S CURRENT INSTALLATION RECOMMENDATION AND SPECIFICATIONS.

OUTDOOR FITNESS EQUIPMENT LEGEND

	MANUFACTURER	MODEL NO.	DESCRIPTION
A	GREENFIELDS	SGR1015	CUSTOMIZED ANNOUNCEMENT SIGN
B	GREENFIELDS	UBX292-01	STEPPER
C	GREENFIELDS	SGR048W-03	2-PERSON ACCESSIBLE LAT PULL
D	GREENFIELDS	SGR019-03	2-PERSON INCLINE SIT-UP BENCHES
E	GREENFIELDS	SGR042-03	2-PERSON BACK & ARMS COMBO
F	GREENFIELDS	SHP003	ELLIPTICAL CROSS TRAINER
G	GREENFIELDS	UBX293-01	BENCH PRESS
H	GREENFIELDS	SGR022-03	4-PERSON PENDULUM, ABS, & DIP STATION

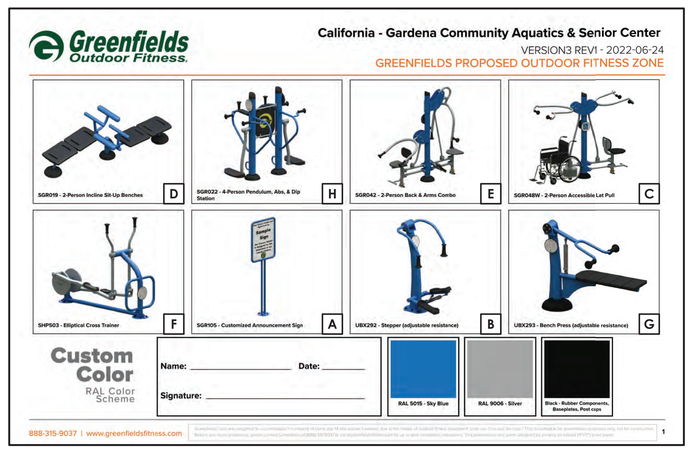


IMAGE FOR REFERENCE ONLY
SCALE: N.T.S.

1 OUTDOOR FITNESS EQUIPMENT

DIGALERT
DIAL TOLL FREE
1-800-422-4133
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:
BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:
THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2800 phone

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

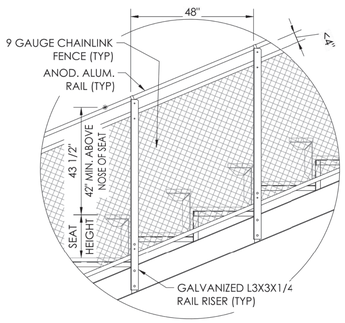
CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
LANDSCAPE CONSTRUCTION DETAILS
COMMUNITY AQUATICS & SENIOR CENTER
L-2.06

	INITIAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	TP	04/20/2023
CHECKED BY	EC	04/30/2023

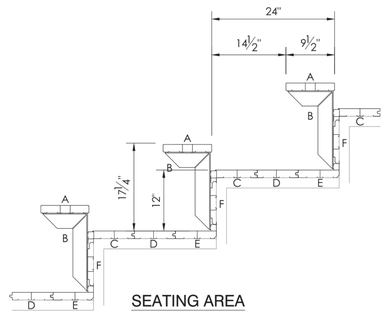
APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS
SHT. 21 OF 176
DWG. NO. 5-2606

DESIGN LOADING
TREAD & SEAT AREA 100psf UNIFORM LIVE LOAD.
SEAT (VERTICAL) 120 lbs/lf.
SEAT (HORIZONTAL SWAY) 24lbs/lf PARALLEL AND 10lbs/lf PERPENDICULAR TO SEAT.
TREAD - STAIR AND AISLE TREADS - MINIMUM CONCENTRATED LOAD OF 300LBS ON AN AREA OF 4 SQUARE INCHES
HANDRAIL & GUARDRAIL 50 lbs/lf IN ANY DIRECTION AT THE TOP.
HANDRAIL & GUARDRAIL 200 lbs CONCENTRATED IN ANY DIRECTION.
GUARDS, INFILL COMPONENTS - 50LBS PER SQ.FT. IN HORIZONTAL DIRECTION
SNOW LOADS AS PER STATE ADOPTED CODE
WIND LOADS AS PER STATE ADOPTED CODE
SEISMIC LOADS AS PER STATE ADOPTED CODE

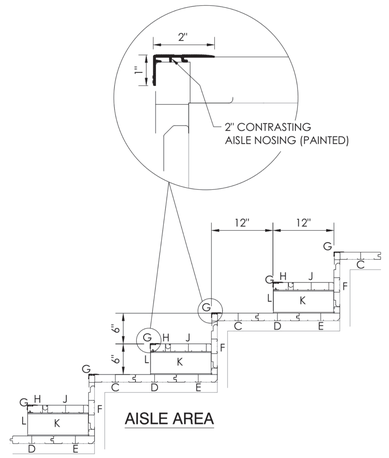
NOTES
1. ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO THE FOLLOWING A.I.S.C. STANDARDS
   PLATE UP TO 1/2" THICK = A36 Gr. 36 Fy = 36 ksi Min.
   PLATE 5/8 and greater = 572 Gr 50, Fy = 50 ksi Min.
   ANGLE = A36/A36M GRADE 50
   WIDE FLANGE = A992 Fy=50 ksi
   CHANNEL = A36/A36M GRADE 50
   ROD = A36/A529 GRADE 50
   TUBE = A500 GRADE "B" 46 ksi
2. WELDS ARE ALL AROUND WITH TYPE ER70S-6 WIRE MIG.
3. ALL STEEL TO BE HOT DIPPED GALVANIZED TO A.S.T.M. A-123-89 ae1.
4. STRUCTURAL BOLTS ARE HOT DIPPED GALV. AND ARE EQUAL TO OR GREATER THAN A-307.
5. NO CONNECTIONS UTILIZING HIGH STRENGTH BOLTS ARE CLASSED AS SLIP CRITICAL.
6. ANODIZED ALUMINUM RAIL IS 1 1/4" NOMINAL PIPE SIZE. (1 5/8" O.D.)
7. SOUTHERN BLEACHER COMPANY AS A MANUFACTURER AND INSTALLER OF GRANDSTAND SEATING IS NOT AUTHORIZED TO CERTIFY PLANS AS ADA COMPLIANT. HOWEVER, TO THE BEST OF OUR KNOWLEDGE THESE PLANS MEET OR EXCEED ADA REQUIREMENTS FOR QUANTITY OF ADA SEATING, ACCESS/EGRESS TO ADA SEATING, & DISPERSAL OF ADA SEATING.
8. ALL FIELD CONNECTIONS ARE NON-SLIP CRITICAL U.N.O. ALL CONNECTIONS ARE DESIGNED TO UTILIZE A307 BOLTS, IT IS ACCEPTABLE TO USE A325N BOLTS IN LIEU OF THE A307 BOLTS. THE INSTALLATION OF THESE BOLTS ARE TO BE TIGHTENED A SNUG TIGHT CONDITION AS SPECIFIED BY AISC.



TYPICAL SIDE RAILING
SCALE:1/2"=1'-0"



SEATING AREA

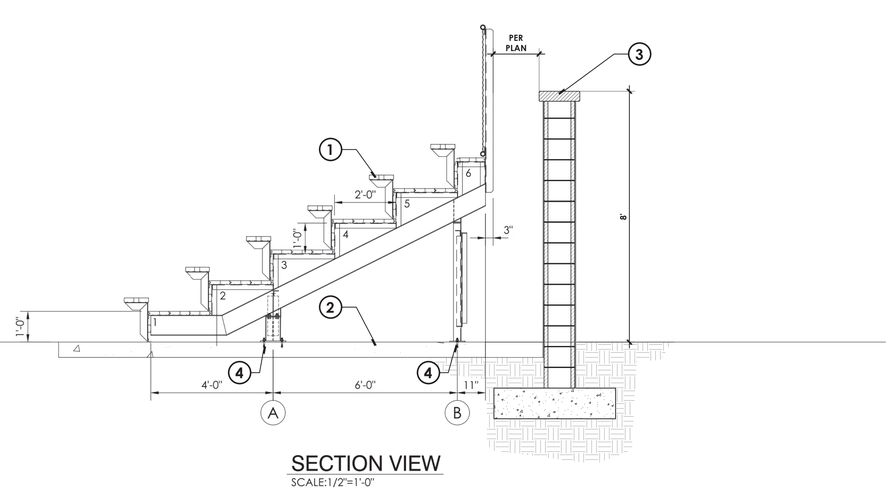


AISLE AREA

A = 2 X 10 HEAVY ANODIZED ALUMINUM SEAT
B = MILL ALUMINUM SEAT BRACKET
C = 2 X 8 MILL ALUMINUM TONGUE & GROOVE 2001 TREAD - NOSE
D = 2 X 8 MILL ALUMINUM TONGUE & GROOVE TREAD [#69432]
E = 2 X 8 MILL ALUMINUM TONGUE & GROOVE 2001 TREAD - HEEL
F = 1 X 8 1/2 FLAT ANODIZED ALUMINUM RISER
G = 1 X 2 PAINTED ALUMINUM CONTRASTING NOSING (BLACK)
H = 2 X 4 MILL ALUM. INTERLOCK HALFSTEP - NOSE W/RISER
J = 2 X 8 MILL ALUM. INTERLOCK HALFSTEP - DECK
K = 4 1/2" MILL ALUMINUM HALFSTEP BRACKET
L = 4 1/2" ANODIZED ALUMINUM INTERLOCK STEP RISER

PLANK ARRANGEMENT
NOT TO SCALE 12" X 24"

MID-AISLE INSTALLATION DETAIL
NOT TO SCALE



SECTION VIEW
SCALE:1/2"=1'-0"

DETAIL NUMBER / SHEET NUMBER

NOT FOR CONSTRUCTION

THIS DRAWING AND ALL INFORMATION THEREIN IS THE PROPERTY OF THE SOUTHERN BLEACHER COMPANY AND SHALL NOT BE USED, REPRODUCED OR COPIED. THIS DRAWING IS LOANED SUBJECT TO RE-TURN UPON DEMAND AND, IS NOT TO BE USED IN ANY FORM OR MANNER PUBLICLY IN ANY WAY DETRIMENTAL TO OUR INTERESTS.

Southern BLEACHER COMPANY®
GRANDSTANDS • BLEACHERS • STADIUMS
PO Box One, Graham, Texas 76450
901 Fifth Street
Phone: 940/549-0733 Fax: 940/549-1365
Established 1946

Dolphin Green

IMAGE FOR REFERENCE ONLY
SCALE: N.T.S.

LEGEND:
1. INSTALL 63' WIDE 8-ROW LEG TRUSS BLEACHER (12" RISE X 24" TREADS) BY: SOUTHERN BLEACHER COMPANY, INC., OR APPROVED EQUAL. CONTACT: JOE HOY AT (916) 812-4901. RISER COLOR: 'DOLPHIN GREEN'. FINAL COLOR TO BE SELECTED & APPROVED BY CITY. INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS. LOCATION AS SHOWN ON LANDSCAPE CONSTRUCTION PLAN, SHEET L-1.01.
2. ADJACENT 6" CONCRETE PAVING - POOL DECK. SEE CONSTRUCTION PLAN, SEE SHEET L-1.01.
3. ADJACENT PERIMETER CONCRETE WALL. SEE CONSTRUCTION PLAN, SEE SHEET L-1.01.
4. BLEACHER POST FOOTING AND ATTACHMENT TO CONCRETE PER MANUFACTURERS RECOMMENDATIONS.

NOTES:
A. ALL STEEL TO RECEIVE HOT DIPPED GALVANIZED FINISH.
B. STRUCTURAL ENGINEERING FOR BLEACHER(S) SHALL BE PROVIDED BY: SOUTHERN BLEACHER COMPANY, INC. CONTACT: JOE HOY AT (916) 812-4901. ENGINEERING SHALL BE PROVIDED BY A STATE OF CALIFORNIA LICENSED STRUCTURAL ENGINEER. ENGINEERING SHALL IDENTIFY ALL MATERIAL SIZES, WALL THICKNESSES, FASTENERS, CONNECTIONS, AND FOOTINGS. WALL THICKNESS OF STEEL MEMBERS SHALL BE SIZED TO PROVIDE FOR POST, SPAN, CANTILEVER BEAM AND JOIST SIZES AS INDICATED ON THESE DRAWINGS.
C. FOOTINGS SHALL BE DESIGNED TO IMPEDE IN NO WAY AND IMPART AND/OR TRANSFER NO LOADS OR FORCES ONTO ADJACENT CONSTRUCTION IMPROVEMENTS (SEAT WALLS, RETAINING WALLS, CONCRETE PAVING, PAVERS, PILASTERS, SITE FURNISHINGS, ETC.)
D. BLEACHER FINAL ENGINEERING DRAWINGS SHALL BE SUBMITTED BY THE CONTRACTOR AS A DEFERRED SUBMITTAL FOR REVIEW AND APPROVAL BY THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR SHALL PROVIDE SUBMITTAL ALLOWING FOR A MINIMUM OF TWO (2), THIRTY (30) DAY CITY PLAN CHECK REVIEW CYCLES.
E. DRAWINGS SHOWN FOR REFERENCE ONLY. NOT FOR CONSTRUCTION.

SECTION VIEW
12" RISE X 24" TREAD / 63'-0" (6 ROWS)

CITY OF GARDENA
AQUATICS BLEACHER
GARDENA, CALIFORNIA

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

DRAWN BY: BGL
CHECKED BY: DMC
DATE: 4/7/2022
JOB NUMBER: #22sd046
SHEET 1 OF 3

22" X 34" (11 X 17 = 1/2 indicated scale)

1 BLEACHER SEATING

DIGALERT
DIAL TOLL FREE 1-800-422-4133
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:
BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:
THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:

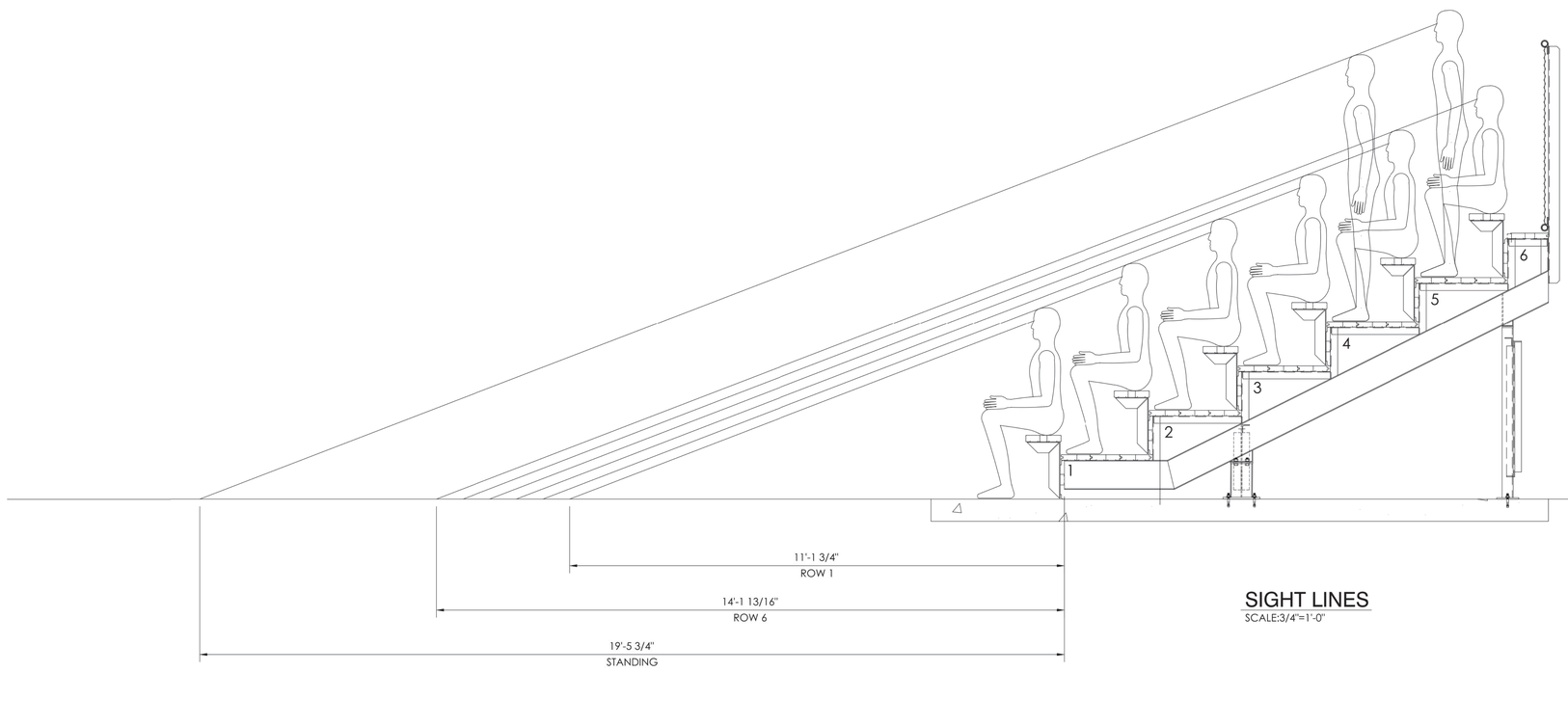
PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
(949) 493-2690 fax
(949) 493-2600 phone

REVISIONS

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
CONSTRUCTION DETAILS
COMMUNITY AQUATICS & SENIOR CENTER
L-2.07

	INITIAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	TF	06/20/2023
CHECKED BY	EC	06/30/2023

APPROVED BY:
DATE DIRECTOR OF PUBLIC WORKS
SHT. 22 OF 176 DWG. NO. 5-2606



SIGHT LINES
SCALE:3/4"=1'-0"

1 | BLEACHER SEATING

NOT FOR CONSTRUCTION

DETAIL NUMBER / SHEET NUMBER

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Southern® BLEACHER COMPANY
GRANDSTANDS • BLEACHERS • STADIUMS
PO Box One, Graham, Texas 76450
Phone: 940/549-0733 Fax: 940/549-1365
901 Fifth Street
Established 1946

NO.	DESCRIPTION	DATE	APPR'D
	SIGHT LINES		
	12" RISE X 24" TREAD / 63'-0" (6 ROWS)		

CITY OF GARDENA
AQUATICS BLEACHER
GARDENA, CALIFORNIA

DESIGNED	DRAWN	CHECKED
4/7/2022	BGL	DMC

JOB NUMBER #22sd046

SHEET 2 OF 3

22" X 34" (11x17 = 1/2 indicated scale)

DIGALERT
DIAL TOLL FREE
1-800-422-4133
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:
BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:
THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508

CONSULTANT:

PREPARED UNDER THE SUPERVISION OF:

RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
(949) 493-2600 fax
(949) 493-2600 phone

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
CONSTRUCTION DETAILS
COMMUNITY AQUATICS & SENIOR CENTER
L-2.08

	INITAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	TF	06/20/2023
CHECKED BY	EC	06/30/2023

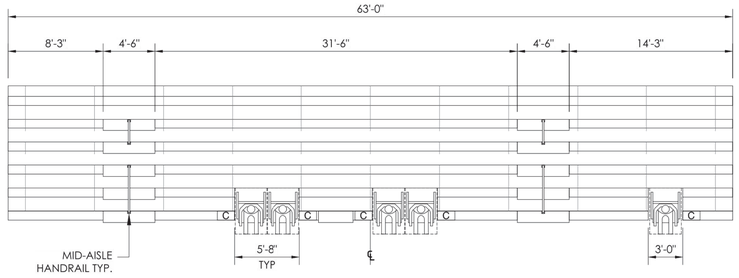
APPROVED BY:

DATE DIRECTOR OF PUBLIC WORKS

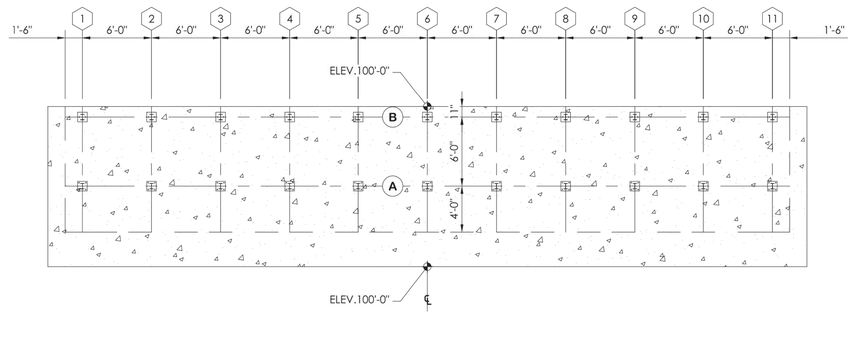
SHT. 23 OF 176 DWG. NO. S-2606

© 2022 CITY OF GARDENA

SEAT COUNT	
18" BENCH SEATS	186
36" WHEELCHAIR SPACES	1
33" WHEELCHAIR SPACES	4
18" COMPANION SEATS [C]	5
TOTAL SEAT COUNT	**196**



SEATING LAYOUT
SCALE:3/16"=1'-0"



FOOTING LAYOUT
SCALE:3/16"=1'-0"

NOTE:
SLAB DIMENSIONS LISTED ARE FOR BLEACHERS ONLY.
ADDITIONAL DEPTH FOR WHEELCHAIR ACCESS MUST BE MADE.

DETAIL NUMBER / SHEET NUMBER

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NOT FOR CONSTRUCTION

Southern® BLEACHER COMPANY
GRANDSTANDS • BLEACHERS • STADIUMS
PO Box One, Graham, Texas 76450
Phone: 940/549-0733 Fax: 940/549-1365
5011 Fifth Street
Established 1946

NO.	DESCRIPTION	DATE	APPROVED

TYP. SEATING LAYOUT / FOOTING LAYOUT
12" RISE X 24" TREAD / 63'-0" (6 ROWS)
REV.

CITY OF GARDENA
AQUATICS BLEACHER
GARDENA, CALIFORNIA

ISSUE DATE	DRAWN	CHECKED
4/7/2022	BGL	DMC

JOB NUMBER **#22sd046**

SHEET **3** OF **3**

22" X 34" (11x17 = 1/2 indicated scale)

1 BLEACHER SEATING

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BENCHMARK:
THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

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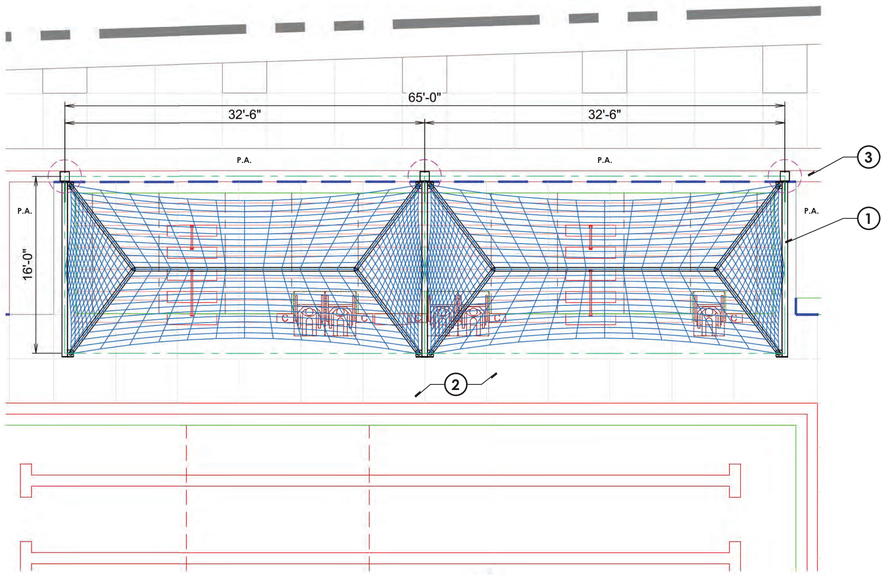
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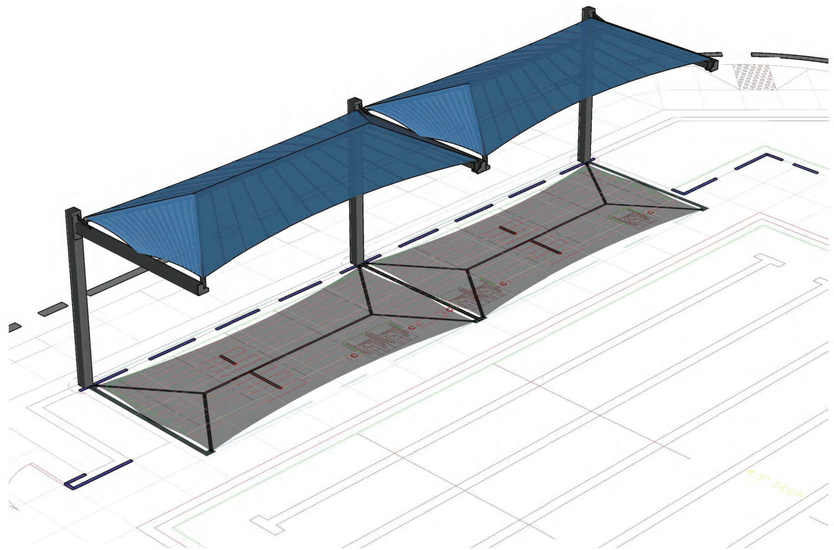
	INITAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	TP	04/20/2023
CHECKED BY	EC	04/30/2023

APPROVED BY:
DATE DIRECTOR OF PUBLIC WORKS
SHT. 24 OF 176 DWG. NO. S-2606

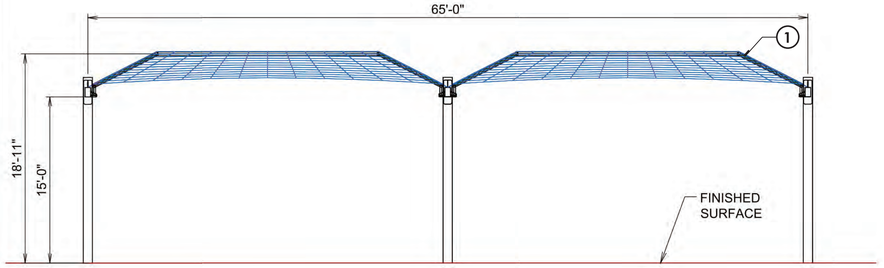


PLAN VIEW

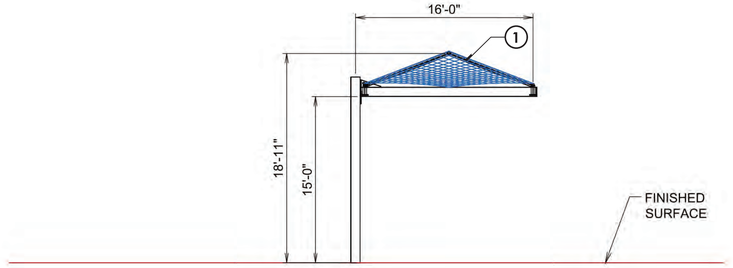
PLAN NORTH



PERSPECTIVE VIEW



SOUTH ELEVATION



WEST ELEVATION

NOTES:
-THESE DRAWINGS ARE A PICTORIAL REPRESENTATION OF FABRIC AND STEEL ONLY. NONE OF THE REQUIRED ATTACHMENT OR CONNECTION DETAILS HAVE BEEN DEPICTED.
-ALL DIMENSIONS AND HEIGHTS MUST BE FIELD VERIFIED PRIOR TO ANY FINAL DESIGN, FABRICATION OR INSTALLATION WORK.

As manufactured and installed by USA SHADE & Fabric Structures
Contact: Devin Christensen; (949) 929-8173, (800) 966-5005
Email: devin.christensen@usa-shade.com

CUSTOMER:
RJM DESIGN GROUP

PROJECT NAME:
GARDENA COMMUNITY AQUATICS & SR. CTR.

LOCATION:
LA SALLE AVE & W 160th ST GARDENA, CA 90247

STRUCTURE TYPE:
JOINED FULL CANTI HIPS

SIZE:
16' X 65' X 15'e

THESE PLANS AND SPECIFICATIONS ARE THE PROPERTY OF USA SHADE AND FABRIC STRUCTURES AND SHALL NOT BE REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

USA SHADE & Fabric Structures®
CORPORATE HEADQUARTERS
2580 ESTERS BLVD., SUITE 100
DFW AIRPORT, TX 75261
800-966-5005

CERTIFICATIONS:
IAS CERTIFICATION No: FA-428
CLARK COUNTY MANUFACTURER CERTIFICATION NUMBER (NEVADA): 355

REV	DESCRIPTION	DATE	DRW	CHK	ENG

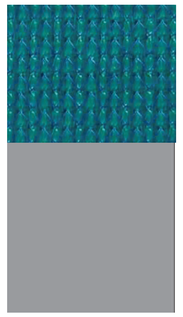
Drawn By :	AZR	08/09/22
Checked By :	AZR	08/09/22
Approved By :	AZR	08/09/22

DRAWING DESCRIPTION:
STRUCTURE 1

DWG.
CON-AUG-015-22

PAGE
1001

REV.



IMAGES FOR REFERENCE ONLY
SCALE: N.T.S.

LEGEND:

1. INSTALL (1) 65'X16' RECTANGULAR JOINED FULL HIP CANTILEVER SHADE STRUCTURE BY: USA SHADE. CONTACT: DEVIN CHRISTENSEN AT (714) 427-6981. INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS. LOCATION AS SHOWN ON LANDSCAPE CONSTRUCTION PLAN, SHEET L-1.02.
2. ADJACENT CONCRETE POOL DECK PAVING PER CONSTRUCTION PLAN. SEE SHEET L-1.01 AND DETAIL 2, SHEET L-2.02.
3. ADJACENT PERIMETER WALL. SEE DETAIL 2, SHEET L-2.02 FOR WALL CONDITION AT SHADE STRUCTURE POSTS. SEE CONSTRUCTION PLAN, SHEET L-1.02 FOR LOCATIONS.

NOTES:

A. ALL STEEL EDGES TO BE ROUNDED SMOOTH TO PREVENT FABRIC DAMAGE.
B. ALL STEEL POSTS AND STEEL TUBING COMPONENTS TO RECEIVE POLYESTER POWDER-COAT FINISH. COLOR: 'TELE-GRAY' (115892). FINAL COLOR TO BE SELECTED & APPROVED BY CITY.
C. FABRIC HDPE SHADE CLOTH SHALL BE COLOR: 'TURQUOISE'. FINAL COLOR TO SELECTED & APPROVED BY CITY. CONTRACTOR TO SUBMIT SCALED SHOP DRAWINGS/SAMPLES PRIOR TO ACQUISITION AND INSTALLATION FOR REVIEW AND APPROVAL.
D. ALL HAND HOLDS TO HAVE REINFORCED EDGING AND REMOVABLE ACCESS PANELS.
E. STRUCTURAL ENGINEERING FOR SHADE STRUCTURE(S) PROVIDED BY: USA SHADE. CONTACT: DEVIN CHRISTENSEN AT (949) 929-8173. SEE SHEETS L-2.11 - L-2.13 FOR STRUCTURAL ENGINEERING PLANS AND PROVIDED STRUCTURAL CALCULATIONS BY STATE OF CALIFORNIA LICENSED STRUCTURAL ENGINEER.
F. FOOTINGS SHALL BE DESIGNED TO IMPEDE IN NO WAY AND IMPART AND/OR TRANSFER NO LOADS OR FORCES ONTO ADJACENT CONSTRUCTION IMPROVEMENTS (SEAT WALLS, RETAINING WALLS, CONCRETE PAVING, PAVERS, PILASTERS, SITE FURNISHINGS, ETC.)

SHADE STRUCTURE BASIS OF DESIGN ENGINEERED BY USA SHADE. CONTACT: DEVIN CHRISTENSEN AT (949) 929-8173.

1 SINGLE JOINED FULL CANTILEVER SHADE STRUCTURES AT BLEACHERS

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CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
CONSTRUCTION DETAILS
COMMUNITY AQUATICS & SENIOR CENTER
L-2.10

	INITIAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	TP	04/20/2023
CHECKED BY	EC	06/30/2023

APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS
SHT. 25 OF 176 DWG. NO. 5-2606

GENERAL NOTES

DESIGN LOADS

BUILDING CODE	CBC 2019 (BASED ON IBC 2018)
LIVE LOADS	5 PSF
SNOW LOAD	5 PSF
WIND LOADS	115 MPH[1] 3-Sec. Gust, RISK CATEGORY II & EXPOSURE C

1.- 115 MPH ACCORDING THE ULTIMATE WIND SPEED MAPS OF ASCE 7-16 IS EQUIVALENT TO THE NOMINAL WIND SPEED OF 90 MPH ACCORDING ASCE 7-05 AND IBC 2018 EQ 16-33.

STRUCTURAL STEEL

1.- ALL STRUCTURAL SHAPES SHALL BE COLD FORMED HSS ASTM A500 GRADE C, UNLESS OTHERWISE NOTED, TYPICAL MECHANICAL PROPERTIES FOR HSS PRODUCTS:

SQUARE AND RECTANGULAR	50,000 PSI YIELD / 62,000 PSI TENSILE
ROUND PIPE	46,000 PSI YIELD / 62,000 PSI TENSILE

2.- ALL GALVANIZED STEEL TUBE PRODUCTS ARE MANUFACTURED PER ASTM A500, TYPICAL MECHANICAL PROPERTIES ACHIEVED FOR GALVANIZED TUBE PRODUCTS:

ROUND TUBE	45,000 PSI YIELD / 48,000 PSI TENSILE

3.- ALL PLATES SHALL COMPLY WITH ASTM A572 GRADE 50.

4.- ALL STEEL TUBING SHALL BE TRIPLE COATED FOR RUST PROTECTION USING THE IN-LINE ELECTROPLATING COAT PROCESS. TUBING SHALL BE INTERNALLY COATED WITH ZINC AND ORGANIC COATINGS TO PREVENT CORROSION AS MANUFACTURED BY ALLIED TUBE & CONDUIT.

5.- STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH A.I.S.C. SPECIFICATIONS.

6.- ALL SHOP WELDS SHALL BE EXECUTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN WELDING SOCIETY (AWS) D1.1 SPECIFICATIONS. ALL WELDS SHALL BE CONTINUOUS WHERE LENGTH IS NOT GIVEN, UNLESS OTHERWISE SHOWN OR NOTED ON DRAWINGS. ALL WELDS SHALL DEVELOP THE FULL STRENGTH OF THE WEAKER MEMBER. ALL WELDS SHALL BE MADE USING E70XX .045 WIRE.

7.- SHOP CONNECTIONS SHALL BE WELDED UNLESS NOTED OTHERWISE. FIELD CONNECTIONS SHALL BE AS INDICATED ON THE DRAWINGS (IF REQUIRED). ALL FILLET WELDS SHALL BE A MINIMUM OF 3/16" UNLESS OTHERWISE NOTED. FIELD WELDS SHALL NOT BE ALLOWED.

8.- ALL HIGH STRENGTH BOLTS SHALL COMPLY WITH ASTM A325 TYPE 1 OR A490 TYPE 1. ALL NUTS SHALL COMPLY WITH ASTM A563DH, AND WASHERS SHALL COMPLY WITH ASTM F436.

9.- ALL HIGH STRENGTH BOLTS SHALL BE TIGHTENED TO A SNUG TIGHT CONDITION.

10.- ALL STAINLESS STEEL BOLTS / STUDS SHALL COMPLY WITH ASTM F-593, ALLOY GROUP 1 OR 2 ALL NUTS SHALL COMPLY WITH ASTM F-594 ALLOY GROUP 1 OR 2.

11.- ALL STRUCTURAL STEEL SHALL BE PAINTED WITH ONE SHOP COAT (2.5 TO 3.5 MILS THICK MIN). THIS COAT IS A WEATHER RESISTANT POWDER COATING BASED ON POLYESTER TGIC (MANUFACTURED BY SHERWIN WILLIAMS OR TIGER DRYLAC). TO ACHIEVE OPTIMUM ADHESION, IT IS RECOMMENDED THAT THE PROPER TREATMENT AND DRYING TAKE PLACE BEFORE COATING. POLYESTER POWDER (TGIC) SPECIFICATIONS SHALL BE AS FOLLOWS:

- PENCIL HARDNESS (ASTM D-3363)
- HUMIDITY (ASTM D-2247)
- SOLVENT RESISTANCE (PCI METHOD) - 50 DBL RUBS SL. SOFTNES

FABRIC SPECIFICATION

1.- FABRIC SHALL BE SYNTHESIS COMMERCIAL 95-340FR, A HIGH DENSITY POLYETHYLENE WITH ULTRA VIOLET ADDITIVES, WITH MONOFILAMENT AND TAPE CONSTRUCTION GIVING A STABLE MATERIAL AND LOCK-STITCH KNITTED.

2.- FABRIC SPECIFICATIONS:

	SOLID COLORS
-TEAR STRENGTH	WARP 208 LBS WEFT 486 LBS
- BURST STRENGTH	353 LBS
- FADING	MINIMUM FADING AFTER 5 YEARS
- LIFE EXPECTANCY	A MINIMUM OF 8 YEARS CONTINUOUS EXPOSURE TO THE SUN

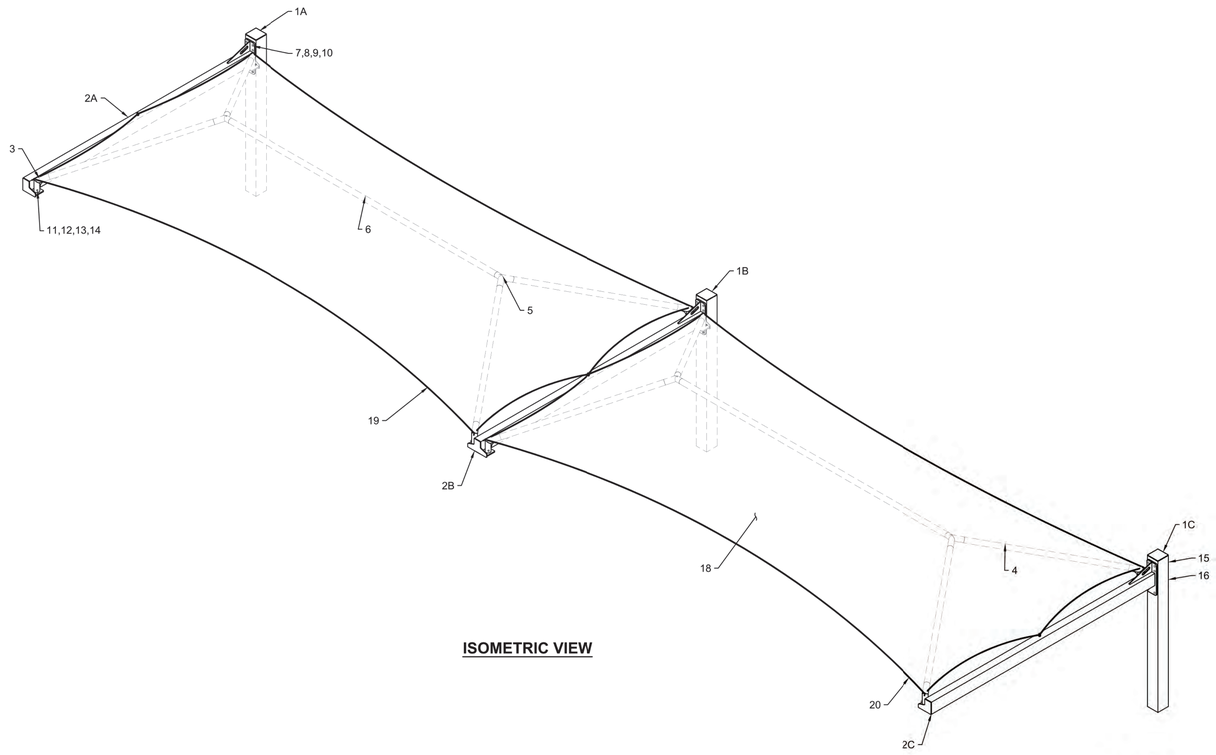
3.- FIRE TEST ON FABRIC: ASTM E 84, FLAME SPREAD INDEX 25, SMOKE DEVELOPED INDEX 105.

4.- THREAD-PTFE (TEFLON) USED MEET THE FOLLOWING SPECIFICATIONS: HIGH STRENGTH, LOW SHRINKAGE, WIDE TEMPERATURE RANGE, FLEX & ABRASION RESISTANT AND UV RADIATION IMMUNITY. LOCKSTITCH - 1200 DENIER. CHAINSTITCH THREAD - 2400 DENIER.

AIRCRAFT CABLE

1.- WIRE ROPE CABLE SHALL BE 7x19 STRAND CORE GALVANIZED WIRE ROPE WITH A BREAKING STRENGTH VALUE OF 14,400 LBS (3/8" DIAMETER).

2.- CABLES SHALL BE FED THROUGH THE FABRIC SLEEVES AROUND THE PERIMETER OF THE CANOPY AND TENSIONED UNTIL THE FABRIC PANELS (DESIGNED PURPOSELY UNDERSIZED) REACH A TAUNT APPEARANCE. ANY LONG TERM CABLE SAG SHALL BE MINIMIZED DURING THE MAINTENANCE RE-TIGHTENING VISITS AS REQUIRED.



ISOMETRIC VIEW

LIST OF MATERIALS

ITEM	QTY.	DESCRIPTION	MATERIAL / DWG	SMI PART NO.
STEEL AND BOLTS				
1A	1	COLUMN	HSS 10.00 X 10.00 X 0.500	DCANT-BLP-101008-213
1B	1	COLUMN	HSS 10.00 X 10.00 X 0.500	DCANT-BLP-101008-213
1C	1	COLUMN	HSS 10.00 X 10.00 X 0.500	DCANT-BLP-101008-213
2A	1	BEAM (LEFT)	HSS 10.00 X 6.00 X 0.375	FCANTBEAM-106006-182-SIN-350-L-
2B	1	BEAM (CENTER)	HSS 10.00 X 6.00 X 0.375	FCANTBEAM-106006-182-DBL-350-C-
2C	1	BEAM (RIGHT)	HSS 10.00 X 6.00 X 0.375	FCANTBEAM-106006-182-SIN-350-R-
3	8	RAFTER	4.0 GA 8 RD TUBING	400RAF-F5
4	8	EXTENSION	4.0 GA 8 RD TUBING	EXT-400-108
5	4	CROSSPIECE	4.0 GA 8 RD TUBING	400CP-F5
6	2	RIDGE	4.0 GA 8 RD TUBING	RID-400-231
7	18	Ø3/4"-10NC x 13" HEX HEAD BOLT	ASTM A325 GALVANIZED	307984
8	18	Ø3/4"-10NC HEX NUT	ASTM A563 GALVANIZED	307687
9	36	Ø3/4" FLAT WASHER	ASTM F436 GALVANIZED	307624
10	18	Ø3/4" SPLIT LOCK WASHER	ASTM F436 GALVANIZED	307832
11	8	Ø1/2"-13NC x 5" HEX BOLT	ASTM A325 GALVANIZED	309109
12	8	Ø1/2"-13NC HEX NUT	ASTM A563 GALVANIZED	308069
13	16	Ø1/2" FLAT WASHER	ASTM F436 GALVANIZED	307622
14	8	Ø1/2" SPLIT LOCK WASHER	ASTM F436 GALVANIZED	307625
15	3	WASHER PLATE 4 BOLTS	ASTM A572 GR 50	PLT-251
16	3	WASHER PLATE 2 BOLTS	ASTM A572 GR 50	PLT-252
800	18	ANCHOR ROD SET 1-1/4" x 36"	F1554 GR55 (GALVANIZED)	307615
FABRIC AND HARDWARE				
18	2	FABRIC CANT 31'-5" x 15'-2"	COMMERCIAL 95-340 FR	AREA: 476 SQF, WEIGHT: 33 LBS
19	2	110 FT OF Ø3/8" CABLE	GALVANIZED	308175
20	8	Ø3/8" CABLE CLAMP	GALVANIZED	307629

CODE ANALYSIS

BUILDING	OCCUPANCY	CONSTRUCTION TYPE	AREA (SQF)	OCCUPANT LOAD
SHADE STRUCTURE 16' X 65'	U	V-B	1040	N/A

NOTICE

FABRIC TOP NEEDS TO BE REMOVED IF SNOW EXCEEDING 5 PSF IS ANTICIPATED

FABRIC TOP NEEDS TO BE REMOVED IF WINDS EXCEEDING 115 MPH ARE ANTICIPATED, SEE NOTE 1 OF DESIGN LOADS

REGISTERED PROFESSIONAL ENGINEER — WILLIAM N. BOWEN II — No. C32642 — EXP 12-31-23 — CIVIL — STATE OF CALIFORNIA

Digitally signed by William N Bowen II, P.E.
DN: cn=William N Bowen II, P.E., o, ou, email=bbs_consultants@msn.com, c=US
Date: 2023.02.08 12:01:12 -06'00'

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USASHADE & Fabric Structures

CORPORATE HEADQUARTERS
2580 ESTERS BLVD., SUITE 100
DFW AIRPORT, TX 75261
800-966-5005

CERTIFICATIONS:
IAS CERTIFICATION No: FA-428
CLARK COUNTY MANUFACTURER CERTIFICATION NUMBER (NEVADA): 355

CUSTOMER:
RJM DESIGN GROUP

PROJECT NAME:
GARDENA COMMUNITY AQUATICS & SENIOR CENTER PCSA

LOCATION:
GARDENA
CA

PROJECT NUMBER.
83534

STRUCTURE TYPE:
SINGLE JOINED FULL CANTI
PRODUCT #302-CUST.

SIZE:
16' X 65' X 15'e

SCALE : AS NOTED

DRAWING SIZE: B

REV	DESCRIPTION	DATE	DRW	CHK	ENG
NC	CUSTOM (SIZE)	01/16/23	MMB	MB	MB

Eng. By :	MB	01/16/23
Design By :	MMB	01/16/23
Approved By :	MB	01/16/23

DRAWING DESCRIPTION:
NOTES / LOM

DWG. 83534-1.0

PAGE 1000

REV. NC

1 SINGLE JOINED FULL CANTILEVER SHADE STRUCTURES AT BLEACHERS - NOTES / LIST OF MATERIALS

DIGALERT — DIAL TOLL FREE 1-800-422-4133 AT LEAST TWO DAYS BEFORE YOU DIG — UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

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THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508

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PREPARED UNDER THE SUPERVISION OF:
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31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT — BRIAN K. MOSLEY — 07/30/2023 — STATE OF CALIFORNIA

REVISIONS

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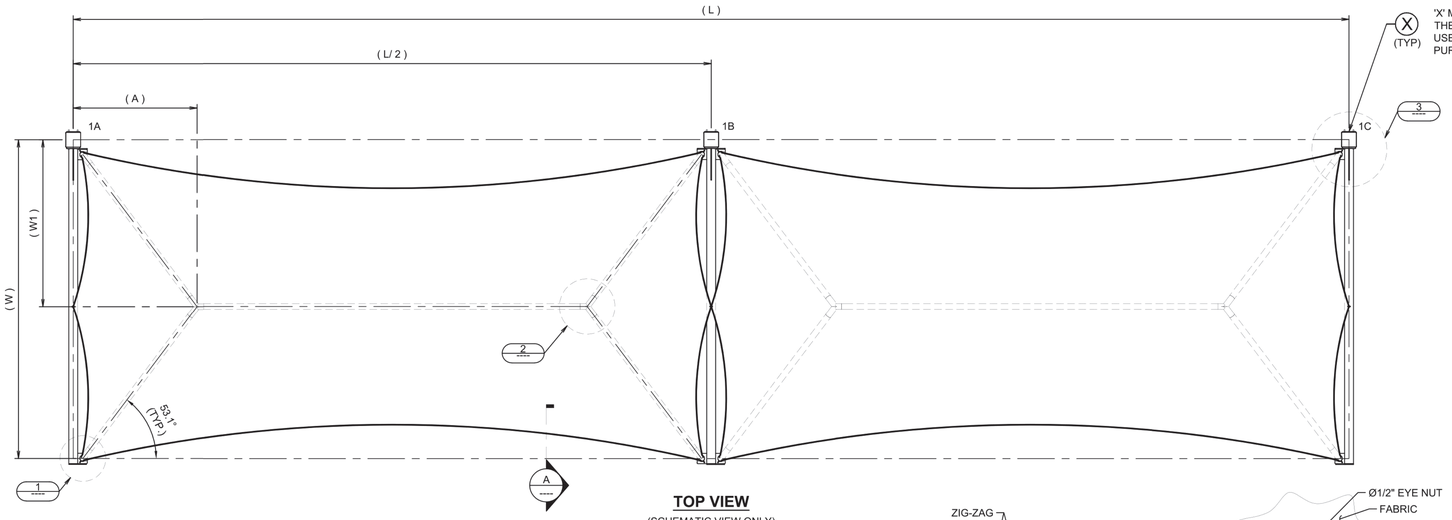
CITY OF GARDENA
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CONSTRUCTION DETAILS
COMMUNITY AQUATICS & SENIOR CENTER
L-2.11

	INITAL	DATE
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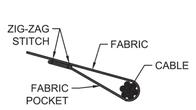
SHT. 26 OF 176 DWG. NO. 5-2606

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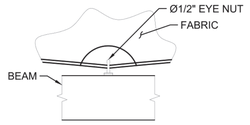


TOP VIEW
(SCHEMATIC VIEW ONLY)

TABLE OF DIMENSIONS							
(L)	(W)	(W1)	(A)	(H)	(C)	(R)	(HT)
65'-0"	16'-0"	8'-5"	6'-3"	15'-0"	16'-9"	3'-11"	18'-11"



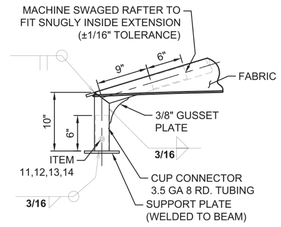
SECTION A-A



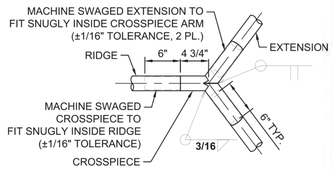
DETAIL 6

PLAN NORTH

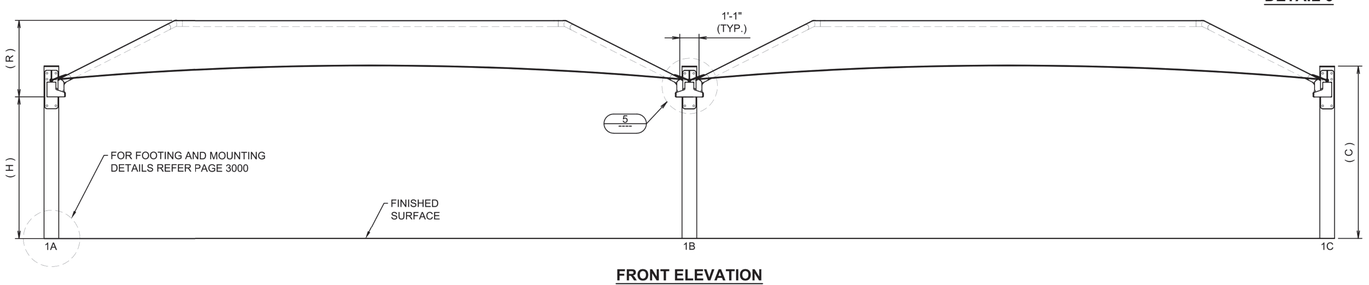
FOR TRUE NORTH SEE CUSTOMER'S SITE PLAN



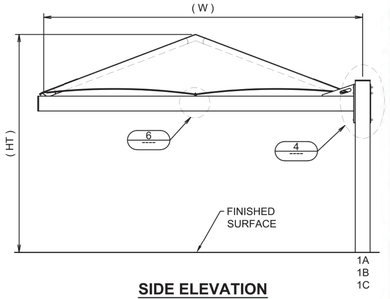
VIEW C-C



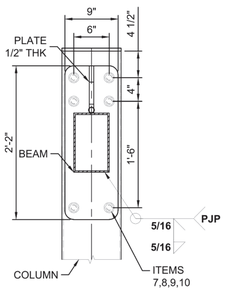
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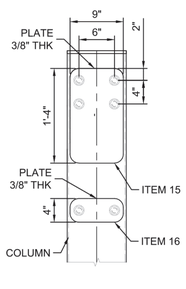
FRONT ELEVATION
(SCHEMATIC VIEW ONLY)



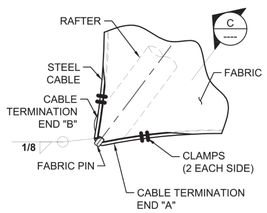
SIDE ELEVATION
(SCHEMATIC VIEW ONLY)



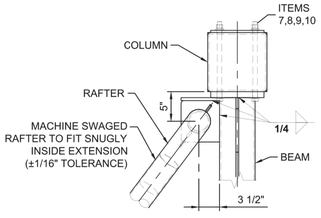
SECTION B-B



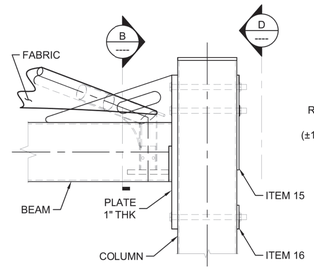
VIEW D-D



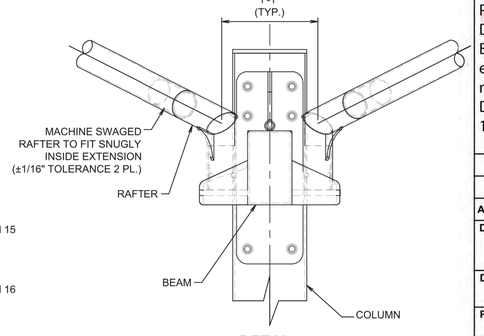
DETAIL 1



DETAIL 3



DETAIL 4



DETAIL 5

THESE PLANS AND SPECIFICATIONS ARE THE PROPERTY OF USA SHADE AND FABRIC STRUCTURES AND SHALL NOT BE REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

USASHADE & Fabric Structures

CORPORATE HEADQUARTERS
2580 ESTERS BLVD., SUITE 100
DFW AIRPORT, TX 75261
800-966-5005

CERTIFICATIONS:
IAS CERTIFICATION No: FA-428
CLARK COUNTY MANUFACTURER CERTIFICATION NUMBER (NEVADA): 355

CUSTOMER:
RJM DESIGN GROUP

PROJECT NAME:
GARDENA COMMUNITY AQUATICS & SENIOR CENTER PCSA

LOCATION:
GARDENA
CA

PROJECT NUMBER.
83534

STRUCTURE TYPE:
SINGLE JOINED FULL CANTI PRODUCT #302-CUST.

SIZE:
16' X 65' X 15'e

SCALE : AS NOTED

DRAWING SIZE: B

REGISTERED PROFESSIONAL ENGINEER — WILLIAM N. BOWEN II — No. C32642 — Exp 12-31-23 — CIVIL — STATE OF CALIFORNIA

Digitally signed by William N Bowen II, P.E.
DN: cn=William N Bowen II, P.E., o, ou, email=bbs_consultants@msn.com, c=US
Date: 2023.02.08 12:01:23 -06'00'

NC	CUSTOM (SIZE) DESCRIPTION	01/16/23	MMB	MB	MB
REV	DESCRIPTION	DATE	DRW	CHK	ENG

Eng. By :	MB	01/16/23
Design By :	MMB	01/16/23
Approved By :	MB	01/16/23

DRAWING DESCRIPTION:
VIEWS AND DETAILS

DWG. 83534-1.0

PAGE 2000

REV. NC

1 SINGLE JOINED FULL CANTILEVER SHADE STRUCTURES AT BLEACHERS - VIEWS AND DETAILS

DIGALERT — DIAL TOLL FREE 1-800-422-4133 AT LEAST TWO DAYS BEFORE YOU DIG — UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:
BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:
THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
CONSTRUCTION DETAILS
COMMUNITY AQUATICS & SENIOR CENTER
L-2.12

	INITAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	TP	06/20/2023
CHECKED BY	EC	06/30/2023

APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS

SHT. 27 OF 176 DWG. NO. 5-2606

REINFORCED CONCRETE NOTES

1.- CONCRETE WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN CONCRETE INSTITUTE SPECIFICATION FOR STRUCTURAL CONCRETE ACI 301 AND BUILDING CODE ACI 318.
CONCRETE SPECIFICATIONS, SHALL BE AS FOLLOWS:
- 28 DAY STRENGTH: 2500 PSI
- SLUMP: 3-5
- PORTLAND CEMENT SHALL CONFORM TO C-150
- AGGREGATE SHALL CONFORM TO ASTM C-33

2.- ALL REINFORCEMENT STEEL SHALL CONFORM TO ASTM A-615 GRADE 60; AND SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH THE LATEST ACI SPECIFICATION FOR STRUCTURAL CONCRETE ACI 301, ACI DETAILING MANUAL AND CRSI MANUAL OF STANDARD PRACTICE.

3.- ALL ANCHOR BOLTS SET IN NEW CONCRETE (WHEN APPLICABLE) SHALL COMPLY WITH ASTM F-1554 GRADE 55 (GALVANIZED).

4.- ALL NON-SHRINK GROUT SHALL HAVE A MINIMUM 28 DAYS COMPRESSIVE STRENGTH OF 5000 PSI, AND SHALL COMPLY THE REQUIREMENTS OF ASTM C109, ASTM C939, ASTM C1090, ASTM C1107, WHEN APPLICABLE.

5.- SOIL PARAMETERS FOR FOOTING ANALYSIS; TABLE 1806.2, CLASS : 5

CAL FIRE SINCE 1923

FLAME RETARDANT

Fabric Registration

LICENSE NUMBER: F-037801

COMMERCIAL NINETYFIVE 340FR

Product Marketed by:

GALE PACIFIC LTD
145 WOODLANDS DRIVE
BRAESIDE, AUSTRAILIA 3195,

Issue Date : 04/13/2022
Expiration Date : 06/30/2023

This product meets the minimum requirements of flame resistance established by the California State Fire Marshal for products identified in Section 13115, California Health and Safety Code. The scope of the approved use of this product is provided in the current edition of the CALIFORNIA APPROVED LIST OF FLAME RETARDANT CHEMICALS AND FABRICS, GENERAL AND LIMITED APPLICATIONS CONCERNS published by the California State Fire Marshal.

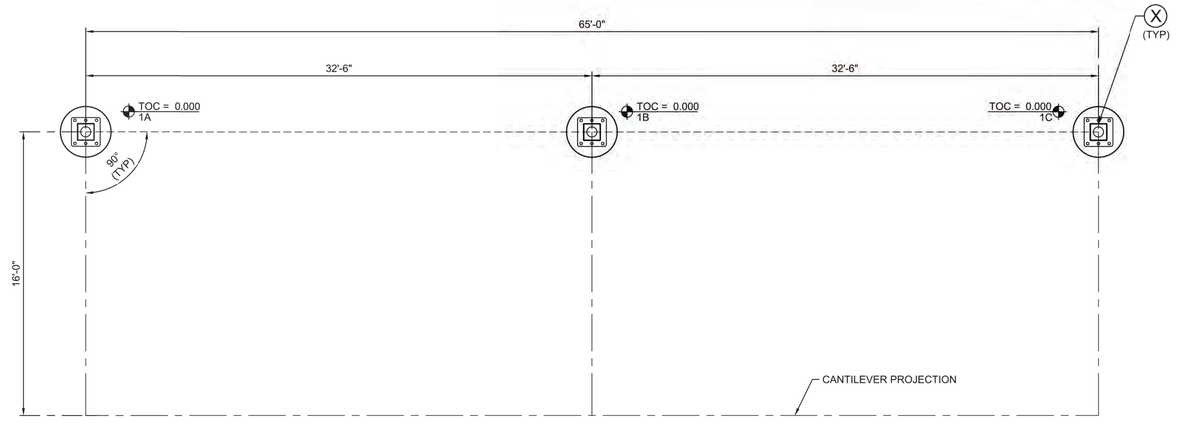
Issued By Vikkie Franklin
Fire Engineering License Manager
Fire Engineering & Investigations Division

Reviewed and Approved By Patricia Setter
Deputy State Fire Marshal III
Fire Engineering & Investigations Division

OFFICE OF THE STATE FIRE MARSHAL

Please visit calfire.govmotus.org for more information on Licensing and Permitting with CAL FIRE

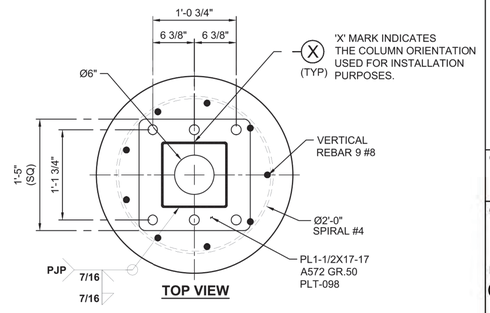
Page 1 of 1

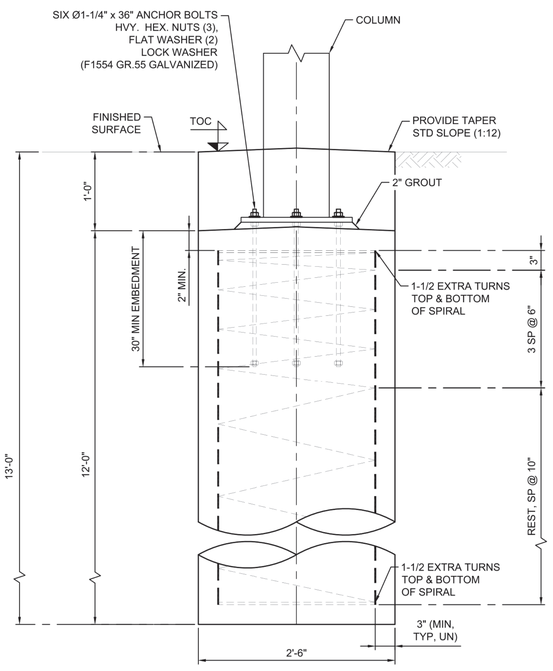


FOUNDATION LOCATION PLAN
(ELEVATIONS ARE IN FEET)
(FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS)

PLAN NORTH

FOR TRUE NORTH SEE CUSTOMER'S SITE PLAN





FOOTING TYPE Ø2'-6" X 12'-0" S D
(RBP-RECESSED BASE PLATE)
USE FOR NON-CONSTRAINED CASES

THESE PLANS AND SPECIFICATIONS ARE THE PROPERTY OF USA SHADE AND FABRIC STRUCTURES AND SHALL NOT BE REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

USASHADE & Fabric Structures

CORPORATE HEADQUARTERS
2580 ESTERS BLVD., SUITE 100
DFW AIRPORT, TX 75261
800-966-5005

CERTIFICATIONS:
IAS CERTIFICATION No: FA-428
CLARK COUNTY MANUFACTURER CERTIFICATION NUMBER (NEVADA): 355

CUSTOMER:
RJM DESIGN GROUP

PROJECT NAME:
GARDENA COMMUNITY AQUATICS & SENIOR CENTER PCSA

LOCATION:
GARDENA
CA

PROJECT NUMBER.
83534

STRUCTURE TYPE:
SINGLE JOINED FULL CANTI PRODUCT #302-CUST.

SIZE:
16' X 65' X 15'e

SCALE : AS NOTED

DRAWING SIZE: B

REGISTERED PROFESSIONAL ENGINEER — WILLIAM N. BOWEN II — No. C32642 — Exp 12-31-23 — CIVIL — STATE OF CALIFORNIA

Digitally signed by William N Bowen II, P.E.
DN: cn=William N Bowen II, P.E., o, ou, email=bbs_consultants@msn.com, c=US
Date: 2023.02.08 12:01:35 -06'00'

REV	DESCRIPTION	DATE	CHK	ENG
NC	CUSTOM (SIZE)	01/16/23	MMB	MB

Eng. By :	MB	01/16/23
Design By :	MMB	01/16/23
Approved By :	MB	01/16/23

DRAWING DESCRIPTION:
FOOTING DETAILS

DWG. 83534-1.0

PAGE 3000

REV. NC

1 SINGLE JOINED FULL CANTILEVER SHADE STRUCTURES AT BLEACHERS - FOOTING DETAILS

DIGALERT — DIAL TOLL FREE 1-800-422-4133 — AT LEAST TWO DAYS BEFORE YOU DIG — UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:
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BENCHMARK:
THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

LICENSED LANDSCAPE ARCHITECT — 05/30/2023 — STATE OF CALIFORNIA

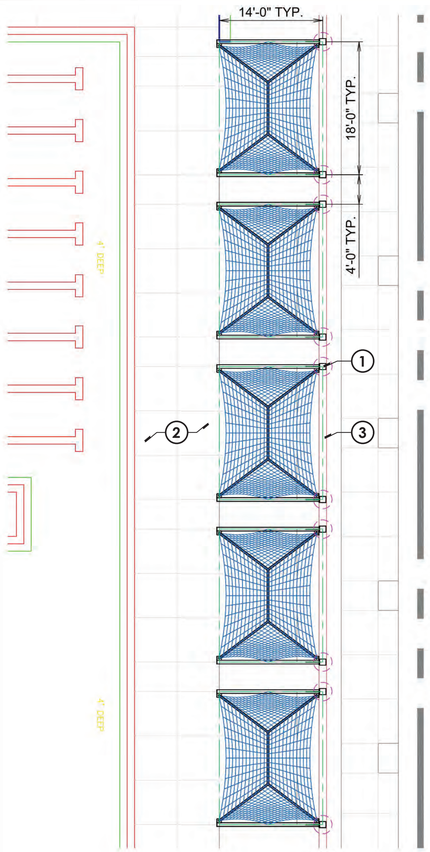
REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
CONSTRUCTION DETAILS
COMMUNITY AQUATICS & SENIOR CENTER
L-2.13

	INITAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	TP	04/20/2023
CHECKED BY	EC	04/30/2023

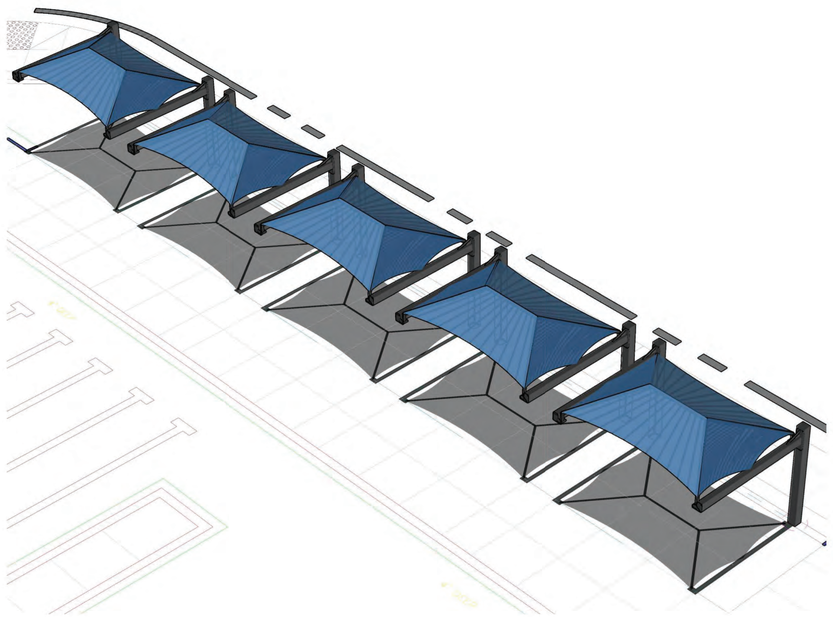
APPROVED BY:
DATE DIRECTOR OF PUBLIC WORKS

SHT. 28 OF 176 DWG. NO. 5-2606

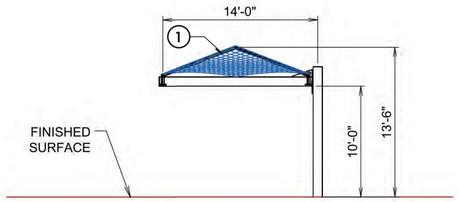


PLAN VIEW

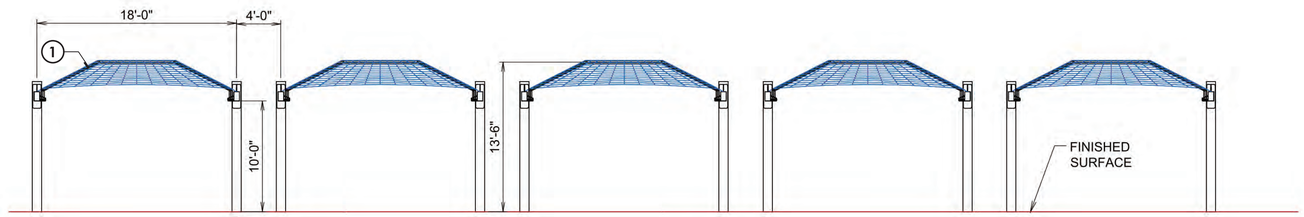
PLAN NORTH



PERSPECTIVE VIEW



SOUTH ELEVATION



WEST ELEVATION

NOTES:
-THESE DRAWINGS ARE A PICTORIAL REPRESENTATION OF FABRIC AND STEEL ONLY. NONE OF THE REQUIRED ATTACHMENT OR CONNECTION DETAILS HAVE BEEN DEPICTED.
-ALL DIMENSIONS AND HEIGHTS MUST BE FIELD VERIFIED PRIOR TO ANY FINAL DESIGN, FABRICATION OR INSTALLATION WORK.

As manufactured and installed by USA SHADE & Fabric Structures
Contact: Devin Christensen; (949) 929-8173, (800) 966-5005
Email: devin.christensen@usa-shade.com

CUSTOMER:
RJM DESIGN GROUP

PROJECT NAME:
GARDENA COMMUNITY AQUATICS & SR. CTR.

LOCATION:
LA SALLE AVE & W 160th ST
GARDENA, CA 90247

STRUCTURE TYPE:
FULL CANTI HIP
QTY. 5

SIZE:
14' X 18' X 10'e

THESE PLANS AND SPECIFICATIONS ARE THE PROPERTY OF USA SHADE AND FABRIC STRUCTURES AND SHALL NOT BE REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

USA SHADE & Fabric Structures
CORPORATE HEADQUARTERS
2580 ESTERS BLVD., SUITE 100
DFW AIRPORT, TX 75261
800-966-5005

CERTIFICATIONS:
IAS CERTIFICATION No: FA-428
CLARK COUNTY MANUFACTURER CERTIFICATION NUMBER (NEVADA): 355

Drawn By :	AZR	08/09/22
Checked By :	AZR	08/09/22
Approved By :	AZR	08/09/22

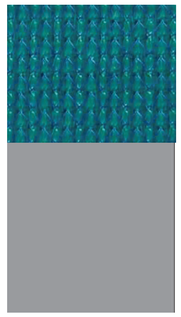
DRAWING DESCRIPTION:
STRUCTURE 2

DWG.
CON-AUG-015-22

PAGE
1002

REV.

DATE | DRW | CHK | ENG | DESCRIPTION | REV



IMAGES FOR REFERENCE ONLY
SCALE: N.T.S.

LEGEND:

1. INSTALL (5) 18'X14' FULL HIP CANTILEVER SHADE STRUCTURES BY: USA SHADE. CONTACT: DEVIN CHRISTENSEN AT (714) 427-6981. INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS. LOCATION AS SHOWN ON LANDSCAPE CONSTRUCTION PLAN, SHEET L-1.02.
2. ADJACENT CONCRETE POOL DECK PAVING PER CONSTRUCTION PLAN, SEE SHEET L-1.01 AND DETAIL 2, SHEET L-2.02.
3. ADJACENT PERIMETER WALL. SEE DETAIL 2, SHEET L-2.02 FOR WALL CONDITION AT SHADE STRUCTURE POSTS. SEE CONSTRUCTION PLAN, SHEET L-1.02 FOR LOCATIONS.

NOTES:

A. ALL STEEL EDGES TO BE ROUNDED SMOOTH TO PREVENT FABRIC DAMAGE.
B. ALL STEEL POSTS AND STEEL TUBING COMPONENTS TO RECEIVE POLYESTER POWDER-COAT FINISH, COLOR: 'TELE-GRAY' (115892). FINAL COLOR TO BE SELECTED & APPROVED BY CITY.
C. FABRIC HDPE SHADE CLOTH SHALL BE COLOR: 'TURQUOISE'. FINAL COLOR TO BE SELECTED & APPROVED BY CITY. CONTRACTOR TO SUBMIT SCALED SHOP DRAWINGS/SAMPLES PRIOR TO ACQUISITION AND INSTALLATION FOR REVIEW AND APPROVAL.
D. ALL HAND HOLDS TO HAVE REINFORCED EDGING AND REMOVABLE ACCESS PANELS.
E. STRUCTURAL ENGINEERING FOR SHADE STRUCTURE(S) PROVIDED BY: USA SHADE. CONTACT: DEVIN CHRISTENSEN AT (949) 929-8173. SEE SHEETS L-2.15 - L-2.17 FOR STRUCTURAL ENGINEERING PLANS AND PROVIDED STRUCTURAL CALCULATIONS BY STATE OF CALIFORNIA LICENSED STRUCTURAL ENGINEER.
F. FOOTINGS SHALL BE DESIGNED TO IMPEDE IN NO WAY AND IMPART AND/OR TRANSFER NO LOADS OR FORCES ONTO ADJACENT CONSTRUCTION IMPROVEMENTS (SEAT WALLS, RETAINING WALLS, CONCRETE PAVING, PAVERS, PILASTERS, SITE FURNISHINGS, ETC.)

SHADE STRUCTURE BASIS OF DESIGN ENGINEERED BY USA SHADE. CONTACT: DEVIN CHRISTENSEN AT (949) 929-8173.

1 SINGLE FULL CANTILEVER SHADE STRUCUTRES

DIGALERT
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1-800-422-4133
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

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BENCHMARK:
THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

LICENSED LANDSCAPE ARCHITECT — STATE OF CALIFORNIA — 07/31/2023

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
CONSTRUCTION DETAILS
COMMUNITY AQUATICS & SENIOR CENTER
L-2.14

	INITAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	TP	06/30/2023
CHECKED BY	EC	06/30/2023

APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS

SHT. 29 OF 176 DWG. NO. 5-2606

GENERAL NOTES

DESIGN LOADS

BUILDING CODE	CBC 2019 (BASED ON IBC 2018)
LIVE LOADS	5 PSF
SNOW LOAD	5 PSF
WIND LOADS	115 MPH[1] 3-Sec. Gust, RISK CATEGORY II & EXPOSURE C

1.- 115 MPH ACCORDING THE ULTIMATE WIND SPEED MAPS OF ASCE 7-16 IS EQUIVALENT TO THE NOMINAL WIND SPEED OF 90 MPH ACCORDING ASCE 7-05 AND IBC 2018 EQ 16-33.

STRUCTURAL STEEL

1.- ALL STRUCTURAL SHAPES SHALL BE COLD FORMED HSS ASTM A500 GRADE C, UNLESS OTHERWISE NOTED, TYPICAL MECHANICAL PROPERTIES FOR HSS PRODUCTS:
SQUARE AND RECTANGULAR 50,000 PSI YIELD / 62,000 PSI TENSILE
ROUND PIPE 46,000 PSI YIELD / 62,000 PSI TENSILE

2.- ALL GALVANIZED STEEL TUBE PRODUCTS ARE MANUFACTURED PER ASTM A500, TYPICAL MECHANICAL PROPERTIES ACHIEVED FOR GALVANIZED TUBE PRODUCTS:
ROUND TUBE 45,000 PSI YIELD / 48,000 PSI TENSILE

3.- ALL PLATES SHALL COMPLY WITH ASTM A572 GRADE 50.

4.- ALL STEEL TUBING SHALL BE TRIPLE COATED FOR RUST PROTECTION USING THE IN-LINE ELECTROPLATING COAT PROCESS. TUBING SHALL BE INTERNALLY COATED WITH ZINC AND ORGANIC COATINGS TO PREVENT CORROSION AS MANUFACTURED BY ALLIED TUBE & CONDUIT.

5.- STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH A.I.S.C. SPECIFICATIONS.

6.- ALL SHOP WELDS SHALL BE EXECUTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN WELDING SOCIETY (AWS) D1.1 SPECIFICATIONS. ALL WELDS SHALL BE CONTINUOUS WHERE LENGTH IS NOT GIVEN, UNLESS OTHERWISE SHOWN OR NOTED ON DRAWINGS. ALL WELDS SHALL DEVELOP THE FULL STRENGTH OF THE WEAKER MEMBER. ALL WELDS SHALL BE MADE USING E70XX .045 WIRE.

7.- SHOP CONNECTIONS SHALL BE WELDED UNLESS NOTED OTHERWISE. FIELD CONNECTIONS SHALL BE AS INDICATED ON THE DRAWINGS (IF REQUIRED). ALL FILLET WELDS SHALL BE A MINIMUM OF 3/16" UNLESS OTHERWISE NOTED. FIELD WELDS SHALL NOT BE ALLOWED.

8.- ALL HIGH STRENGTH BOLTS SHALL COMPLY WITH ASTM A325 TYPE 1 OR A490 TYPE 1. ALL NUTS SHALL COMPLY WITH ASTM A563DH, AND WASHERS SHALL COMPLY WITH ASTM F436.

9.- ALL HIGH STRENGTH BOLTS SHALL BE TIGHTENED TO A SNUG TIGHT CONDITION.

10.- ALL STAINLESS STEEL BOLTS / STUDS SHALL COMPLY WITH ASTM F-593, ALLOY GROUP 1 OR 2 ALL NUTS SHALL COMPLY WITH ASTM F-594 ALLOY GROUP 1 OR 2.

11.- ALL STRUCTURAL STEEL SHALL BE PAINTED WITH ONE SHOP COAT (2.5 TO 3.5 MILS THICK MIN). THIS COAT IS A WEATHER RESISTANT POWDER COATING BASED ON POLYESTER TGIC (MANUFACTURED BY SHERWIN WILLIAMS OR TIGER DRYLAC). TO ACHIEVE OPTIMUM ADHESION, IT IS RECOMMENDED THAT THE PROPER TREATMENT AND DRYING TAKE PLACE BEFORE COATING. POLYESTER POWDER (TGIC) SPECIFICATIONS SHALL BE AS FOLLOWS:
- PENCIL HARDNESS (ASTM D-3363)
- HUMIDITY (ASTM D-2247)
- SOLVENT RESISTANCE (PCI METHOD) - 50 DBL RUBS SL. SOFTNES

FABRIC SPECIFICATION

1.- FABRIC SHALL BE SYNTHESIS COMMERCIAL 95-340FR, A HIGH DENSITY POLYETHYLENE WITH ULTRA VIOLET ADDITIVES, WITH MONOFILAMENT AND TAPE CONSTRUCTION GIVING A STABLE MATERIAL AND LOCK-STITCH KNITTED.

2.- FABRIC SPECIFICATIONS:

	SOLID COLORS
-TEAR STRENGTH	WARP 208 LBS WEFT 486 LBS
- BURST STRENGTH	353 LBS
- FADING	MINIMUM FADING AFTER 5 YEARS
- LIFE EXPECTANCY	A MINIMUM OF 8 YEARS CONTINUOUS EXPOSURE TO THE SUN

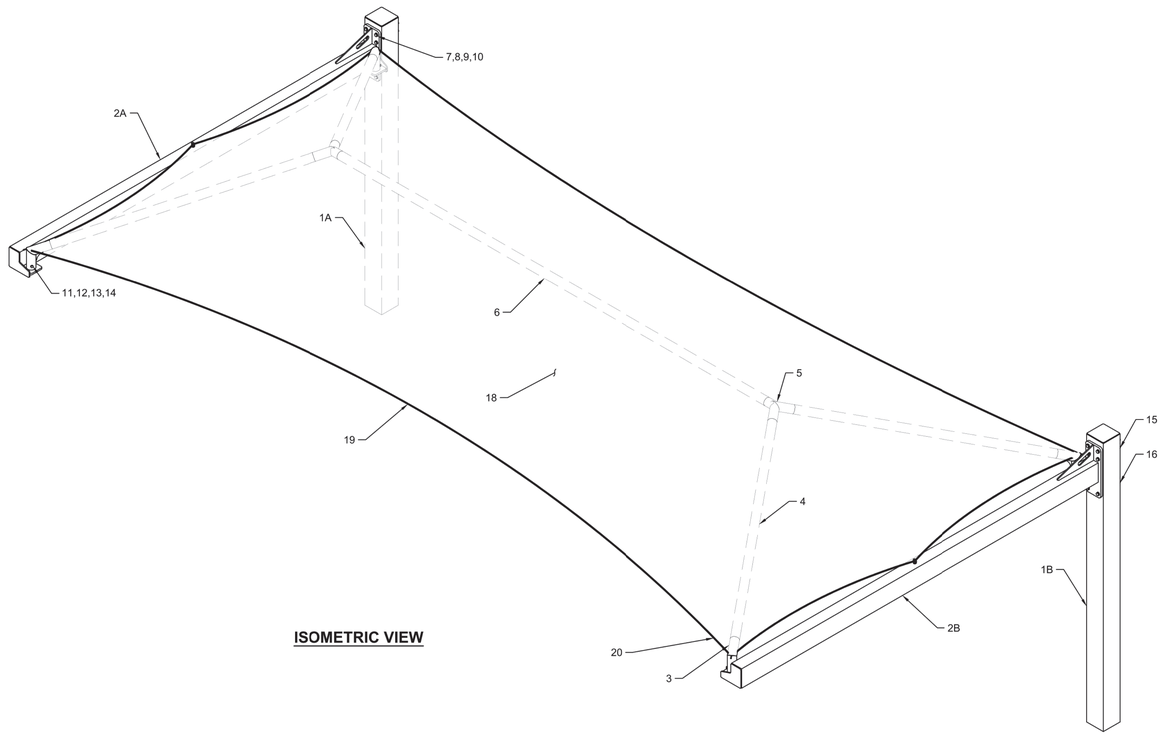
3.- FIRE TEST ON FABRIC: ASTM E 84, FLAME SPREAD INDEX 25, SMOKE DEVELOPED INDEX 105.

4.- THREAD-PTFE (TEFLON) USED MEET THE FOLLOWING SPECIFICATIONS: HIGH STRENGTH, LOW SHRINKAGE, WIDE TEMPERATURE RANGE, FLEX & ABRASION RESISTANT AND UV RADIATION IMMUNITY. LOCKSTITCH - 1200 DENIER. CHAINSTITCH THREAD - 2400 DENIER.

AIRCRAFT CABLE

1.- WIRE ROPE CABLE SHALL BE 7x19 STRAND CORE GALVANIZED WIRE ROPE WITH A BREAKING STRENGTH VALUE OF 7,000 LBS (1/4" DIAMETER).

2.- CABLES SHALL BE FED THROUGH THE FABRIC SLEEVES AROUND THE PERIMETER OF THE CANOPY AND TENSIONED UNTIL THE FABRIC PANELS (DESIGNED PURPOSELY UNDERSIZED) REACH A TAUNT APPEARANCE. ANY LONG TERM CABLE SAG SHALL BE MINIMIZED DURING THE MAINTENANCE RE-TIGHTENING VISITS AS REQUIRED.



ISOMETRIC VIEW

LIST OF MATERIALS

ITEM	QTY.	DESCRIPTION	MATERIAL / DWG	SMI PART NO.
STEEL AND BOLTS				
1A	1	COLUMN	HSS 10.00 X 10.00 X 0.250	DCANT-BLP-101004-151
1B	1	COLUMN	HSS 10.00 X 10.00 X 0.250	DCANT-BLP-101004-151
2A	1	BEAM (LEFT)	HSS 8.00 X 6.00 X 0.250	FB806004-158-219SNL-
2B	1	BEAM (RIGHT)	HSS 8.00 X 6.00 X 0.250	FB806004-158-219SNR-
3	4	RAFTER	2.50 GA 11 RD. TUBING	250RAF-F5
4	4	EXTENSION	2.50 GA 11 RD. TUBING	EXT-250-92
5	2	CROSSPIECE	2.50 GA 11 RD. TUBING	250CP-F5
6	1	RIDGE	2.50 GA 11 RD. TUBING	RID-250-75
7	12	Ø3/4"-10NC x 13" HEX HEAD BOLT	ASTM A325 (GALVANIZED)	307984
8	12	Ø3/4"-10NC HEX NUT	ASTM A563 (GALVANIZED)	307687
9	24	Ø3/4" FLAT WASHER	ASTM F436 (GALVANIZED)	307624
10	12	Ø3/4" SPLIT LOCK WASHER	ASTM F436 (GALVANIZED)	307832
11	4	Ø3/8"-16NC x 3 1/2" HEX BOLT	ASTM A325 (GALVANIZED)	309110
12	4	Ø3/8"-16NC HEX NUT	ASTM A563 (GALVANIZED)	308256
13	8	Ø3/8" FLAT WASHER	ASTM F436 (GALVANIZED)	308257
14	4	Ø3/8" SPLIT LOCK WASHER	ASTM F436 (GALVANIZED)	308314
15	2	WASHER PLATE 4 BOLTS	ASTM A572 GR 50	PLT-251
16	2	WASHER PLATE 2 BOLTS	ASTM A572 GR 50	PLT-252
800	8	ANCHOR ROD SET 1-1/4" x 36"	F1554 GR55 (GALVANIZED)	307615
FABRIC AND HARDWARE				
18	1	FABRIC CANT 16'-11" x 13'-2"	COMMERCIAL 95-340FR	AREA: 222.7 SQF, WEIGHT: 16 LBS
19	1	80 FT OF 1/4 STEEL CABLE	GALVANIZED CABLE	307604
20	4	1/4" CABLE CLAMP	GALVANIZED	307633

NOTICE

FABRIC TOP NEEDS TO BE REMOVED IF SNOW EXCEEDING 5 PSF IS ANTICIPATED

FABRIC TOP NEEDS TO BE REMOVED IF WINDS EXCEEDING 115 MPH ARE ANTICIPATED, SEE NOTE 1 OF DESIGN LOADS

REGISTERED PROFESSIONAL ENGINEER WILLIAM N. BOWEN II No. C32642 Exp 8-31-23 CIVIL STATE OF CALIFORNIA

Digitally signed by William N Bowen II, P.E.
DN: cn=William N Bowen II, P.E., o, ou, email=bbs_consultants@msn.com, c=US
Date: 2023.02.08 12:02:02 -06'00'

CODE ANALYSIS

BUILDING	OCCUPANCY	CONSTRUCTION TYPE	AREA (SQF)	OCCUPANT LOAD
SHADE UNIT 1.0 14' x 18'	U	V-B	252	N/A

THESE PLANS AND SPECIFICATIONS ARE THE PROPERTY OF USA SHADE AND FABRIC STRUCTURES AND SHALL NOT BE REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

USASHADE & Fabric Structures

CORPORATE HEADQUARTERS
2580 ESTERS BLVD., SUITE 100
DFW AIRPORT, TX 75261
800-966-5005

CERTIFICATIONS:
IAS CERTIFICATION No: FA-428
CLARK COUNTY MANUFACTURER CERTIFICATION NUMBER (NEVADA): 355

CUSTOMER:
RJM DESIGN GROUP

PROJECT NAME:
GARDENA COMMUNITY AQUATICS & SENIOR CENTER PCSA

LOCATION:
GARDENA CA

PROJECT NUMBER.
83534

STRUCTURE TYPE:
SINGLE FULL CANTILEVER PRODUCT #202.5

SIZE:
14' X 18' X 10'e

SCALE : AS NOTED

DRAWING SIZE: B

NC	RELEASE FOR CONSTRUCTION	01/16/23	MMB	MB	MB
REV.	DESCRIPTION	DATE	DRW	CHK	ENG

Eng. By :	MB	01/16/23
Design By :	MMB	01/16/23
Approved By :	MB	01/16/23

DRAWING DESCRIPTION:
NOTES / LOM

DWG. 83534-2.0

PAGE 1000

REV. NC

1 SINGLE FULL CANTILEVER SHADE STRUCUTRES - NOTES / LIST OF MATERIALS

DIGALERT — DIAL TOLL FREE 1-800-422-4133 AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:
BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:
THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT STATE OF CALIFORNIA 07/30/2023 Renewal Date

REVISIONS

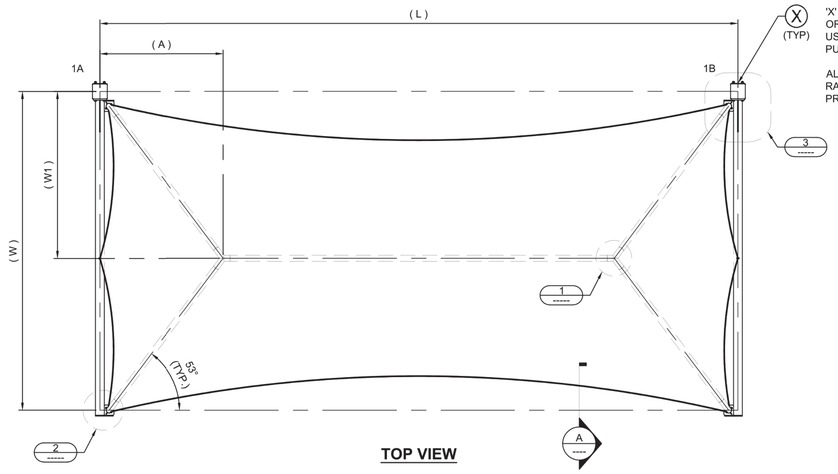
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
CONSTRUCTION DETAILS
COMMUNITY AQUATICS & SENIOR CENTER
L-2.15

	INITAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	TP	04/20/2023
CHECKED BY	EC	04/30/2023

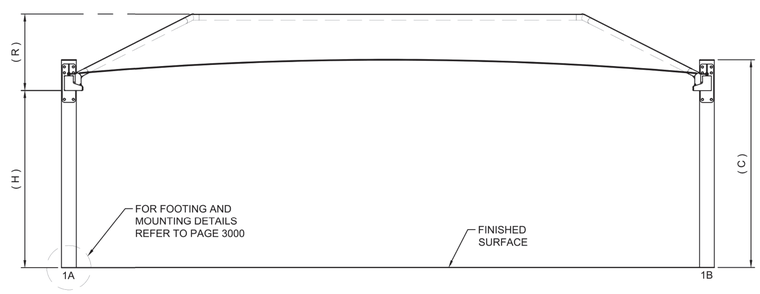
APPROVED BY:
DATE DIRECTOR OF PUBLIC WORKS

SHT. 30 OF 176 DWG. NO. 5-2606

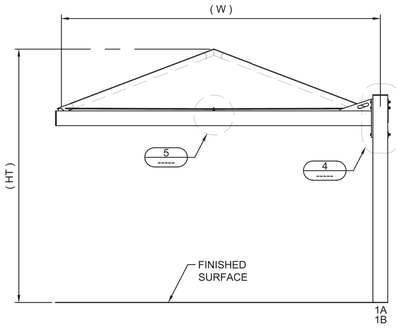


TOP VIEW

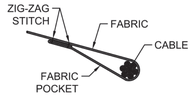
TABLE OF DIMENSIONS							
(L)	(W)	(W1)	(A)	(H)	(C)	(R)	(HT)
18'-0"	14'-0"	7'-5"	5'-5"	10'-0"	11'-6"	3'-7"	13'-7"



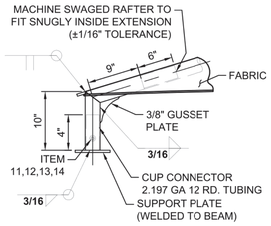
FRONT ELEVATION



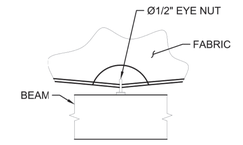
SIDE ELEVATION



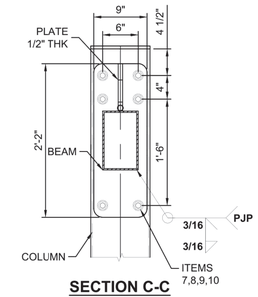
SECTION A-A



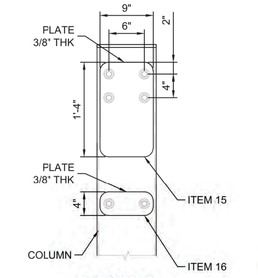
VIEW B-B



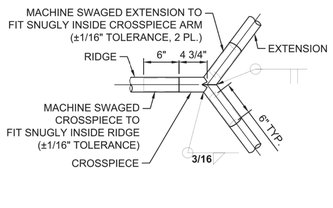
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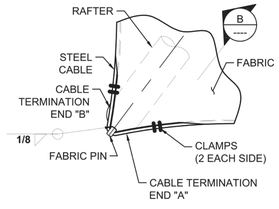
SECTION C-C



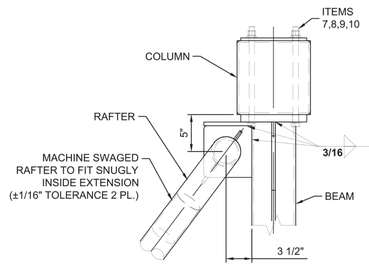
VIEW D-D



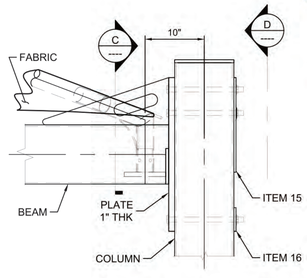
DETAIL 1



DETAIL 2



DETAIL 3



DETAIL 4

PLAN NORTH

FOR TRUE NORTH SEE CUSTOMER'S SITE PLAN

THESE PLANS AND SPECIFICATIONS ARE THE PROPERTY OF USA SHADE AND FABRIC STRUCTURES AND SHALL NOT BE REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

USASHADE & Fabric Structures

CORPORATE HEADQUARTERS
2580 ESTERS BLVD., SUITE 100
DFW AIRPORT, TX 75261
800-966-5005

CERTIFICATIONS:
IAS CERTIFICATION No: FA-428
CLARK COUNTY MANUFACTURER CERTIFICATION NUMBER (NEVADA): 355

CUSTOMER:
RJM DESIGN GROUP

PROJECT NAME:
GARDENA COMMUNITY AQUATICS & SENIOR CENTER PCSA

LOCATION:
GARDENA
CA

PROJECT NUMBER.
83534

STRUCTURE TYPE:
SINGLE FULL CANTILEVER
PRODUCT #202.5

SIZE:
14' X 18' X 10'e

SCALE : AS NOTED

DRAWING SIZE: B

REV.	DESCRIPTION	DATE	DRW	CHK	ENG
NC	RELEASE FOR CONSTRUCTION	01/16/23	MMB	MB	MB

Digitally signed by William N Bowen II, P.E.
DN: cn=William N Bowen II, P.E., o, ou, email=bbs_consultants@msn.com, c=US
Date: 2023.02.08 12:02:15 -06'00'

Eng. By :	MB	01/16/23
Design By :	MMB	01/16/23
Approved By :	MB	01/16/23

DRAWING DESCRIPTION:
VIEWS AND DETAILS

DWG. 83534-2.0

PAGE 2000

REV. NC

1 SINGLE FULL CANTILEVER SHADE STRUCUTRES - VIEWS AND DETAILS

DIGALERT — DIAL TOLL FREE 1-800-422-4133 — AT LEAST TWO DAYS BEFORE YOU DIG — UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:
BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:
THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508

CONSULTANT:

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
(949) 493-2690 fax
(949) 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT — STATE OF CALIFORNIA — 01/31/2023

REGISTERED PROFESSIONAL ENGINEER — WILLIAM N. BOWEN II — No. C32642 — Exp 12-31-23 — CIVIL — STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
CONSTRUCTION DETAILS
COMMUNITY AQUATICS & SENIOR CENTER
L-2.16

	INITAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	TF	06/20/2023
CHECKED BY	EC	06/30/2023

APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS

SHT. 31 OF 176 DWG. NO. S-2606

REINFORCED CONCRETE NOTES

1.- CONCRETE WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN CONCRETE INSTITUTE SPECIFICATION FOR STRUCTURAL CONCRETE ACI 301 AND BUILDING CODE ACI 318.
CONCRETE SPECIFICATIONS, SHALL BE AS FOLLOWS:
- 28 DAY STRENGTH: 2500 PSI
- SLUMP: 3-5
- PORTLAND CEMENT SHALL CONFORM TO C-150
- AGGREGATE SHALL CONFORM TO ASTM C-33

2.- ALL REINFORCEMENT STEEL SHALL CONFORM TO ASTM A-615 GRADE 60; AND SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH THE LATEST ACI SPECIFICATION FOR STRUCTURAL CONCRETE ACI 301, ACI DETAILING MANUAL AND CRSI MANUAL OF STANDARD PRACTICE.

3.- ALL ANCHOR BOLTS SET IN NEW CONCRETE (WHEN APPLICABLE) SHALL COMPLY WITH ASTM F-1554 GRADE 55 (GALVANIZED).

4.- ALL NON-SHRINK GROUT SHALL HAVE A MINIMUM 28 DAYS COMPRESSIVE STRENGTH OF 5000 PSI, AND SHALL COMPLY THE REQUIREMENTS OF ASTM C109, ASTM C939, ASTM C1090, ASTM C1107, WHEN APPLICABLE.

5.- SOIL PARAMETERS FOR FOOTING ANALYSIS; TABLE 1806.2, CLASS : 5

CAL FIRE

FLAME RETARDANT

Fabric Registration

LICENSE NUMBER: F-037801

COMMERCIAL NINETYFIVE
340FR

Product Marketed by:

GALE PACIFIC LTD
145 WOODLANDS DRIVE
BRAESIDE, AUSTRAILIA 3195, ,

Issue Date : 04/13/2022
Expiration Date : 06/30/2023

This product meets the minimum requirements of flame resistance established by the California State Fire Marshal for products identified in Section 13115, California Health and Safety Code. The scope of the approved use of this product is provided in the current edition of the CALIFORNIA APPROVED LIST OF FLAME RETARDANT CHEMICALS AND FABRICS, GENERAL AND LIMITED APPLICATIONS CONCERNS published by the California State Fire Marshal.

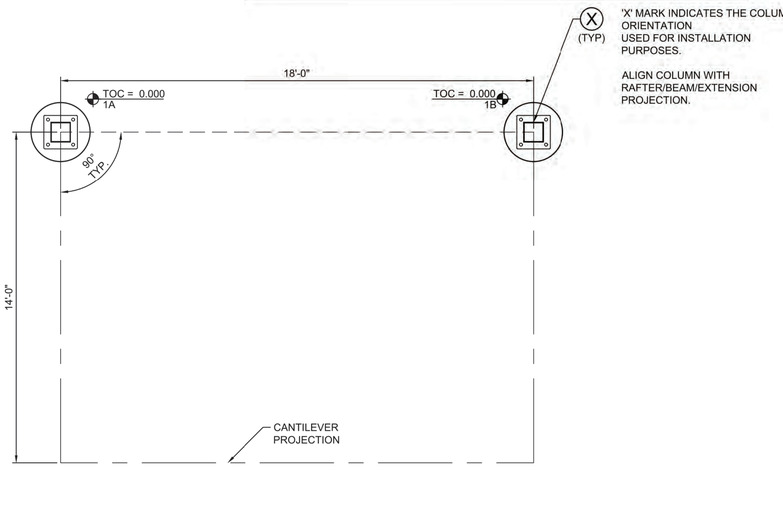
Issued By Vikkie Franklin
Fire Engineering License Manager
Fire Engineering & Investigations Division

Reviewed and Approved By Patricia Setter
Deputy State Fire Marshal III
Fire Engineering & Investigations Division

OFFICE OF THE STATE FIRE MARSHAL

Please visit calfire.govmotus.org for more information on Licensing and Permitting with CAL FIRE

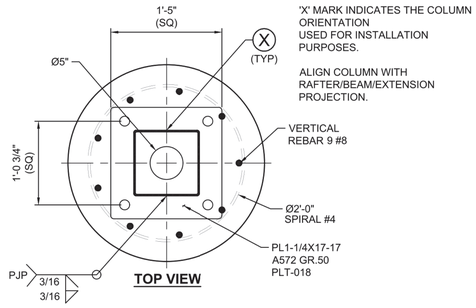
Page 1 of 1



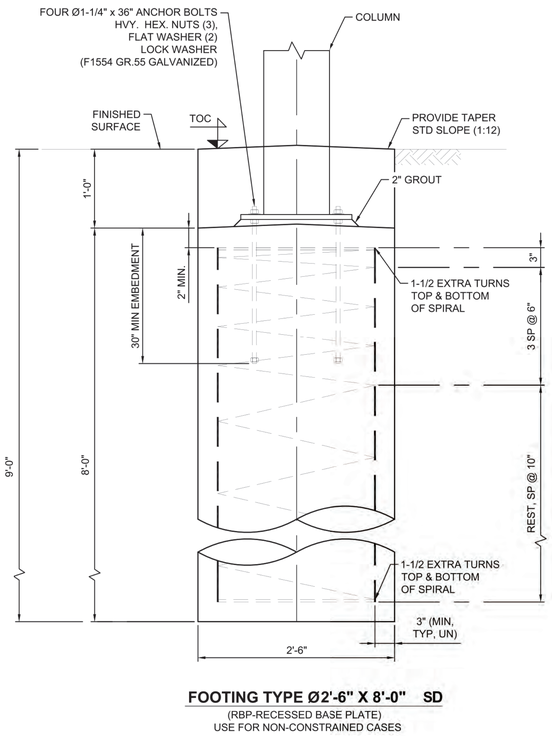
FOUNDATION LOCATION LAYOUT
(ELEVATIONS ARE IN FEET)
(FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS)

PLAN NORTH

FOR TRUE NORTH SEE CUSTOMER'S SITE PLAN



TOP VIEW



FOOTING TYPE Ø2'-6" X 8'-0" SD
(RBP-RECESSED BASE PLATE)
USE FOR NON-CONSTRAINED CASES

THESE PLANS AND SPECIFICATIONS ARE THE PROPERTY OF USA SHADE AND FABRIC STRUCTURES AND SHALL NOT BE REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

USASHADE & Fabric Structures

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CERTIFICATIONS:
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CUSTOMER:
RJM DESIGN GROUP

PROJECT NAME:
GARDENA COMMUNITY AQUATICS & SENIOR CENTER PCSA

LOCATION:
GARDENA
CA

PROJECT NUMBER.
83534

STRUCTURE TYPE:
SINGLE FULL CANTILEVER
PRODUCT #202.5

SIZE:
14' X 18' X 10'e

SCALE : AS NOTED

DRAWING SIZE: B

NC	RELEASE FOR CONSTRUCTION	01/16/23	MMB	MB	MB
REV	DESCRIPTION	DATE	DRW	CHK	ENG

REGISTERED PROFESSIONAL ENGINEER — WILLIAM N. BOWEN II — No. C32642 — Exp 12-31-23 — CIVIL — STATE OF CALIFORNIA

Digitally signed by William N Bowen II, P.E.
DN: cn=William N Bowen II, P.E., o, ou, email=bbs_consultants@msn.com, c=US
Date: 2023.02.08 12:02:27 -06'00'

Eng. By :	MB	01/16/23
Design By :	MMB	01/16/23
Approved By :	MB	01/16/23

DRAWING DESCRIPTION:
FOOTING DETAILS

DWG. 83534-2.0

PAGE 3000

REV. NC

1 SINGLE FULL CANTILEVER SHADE STRUCUTRES - FOOTING DETAILS

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BENCHMARK:
THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:

PREPARED UNDER THE SUPERVISION OF:
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San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

LICENSED LANDSCAPE ARCHITECT — STATE OF CALIFORNIA — 01/30/2023 — 06/30/2023

REVISIONS

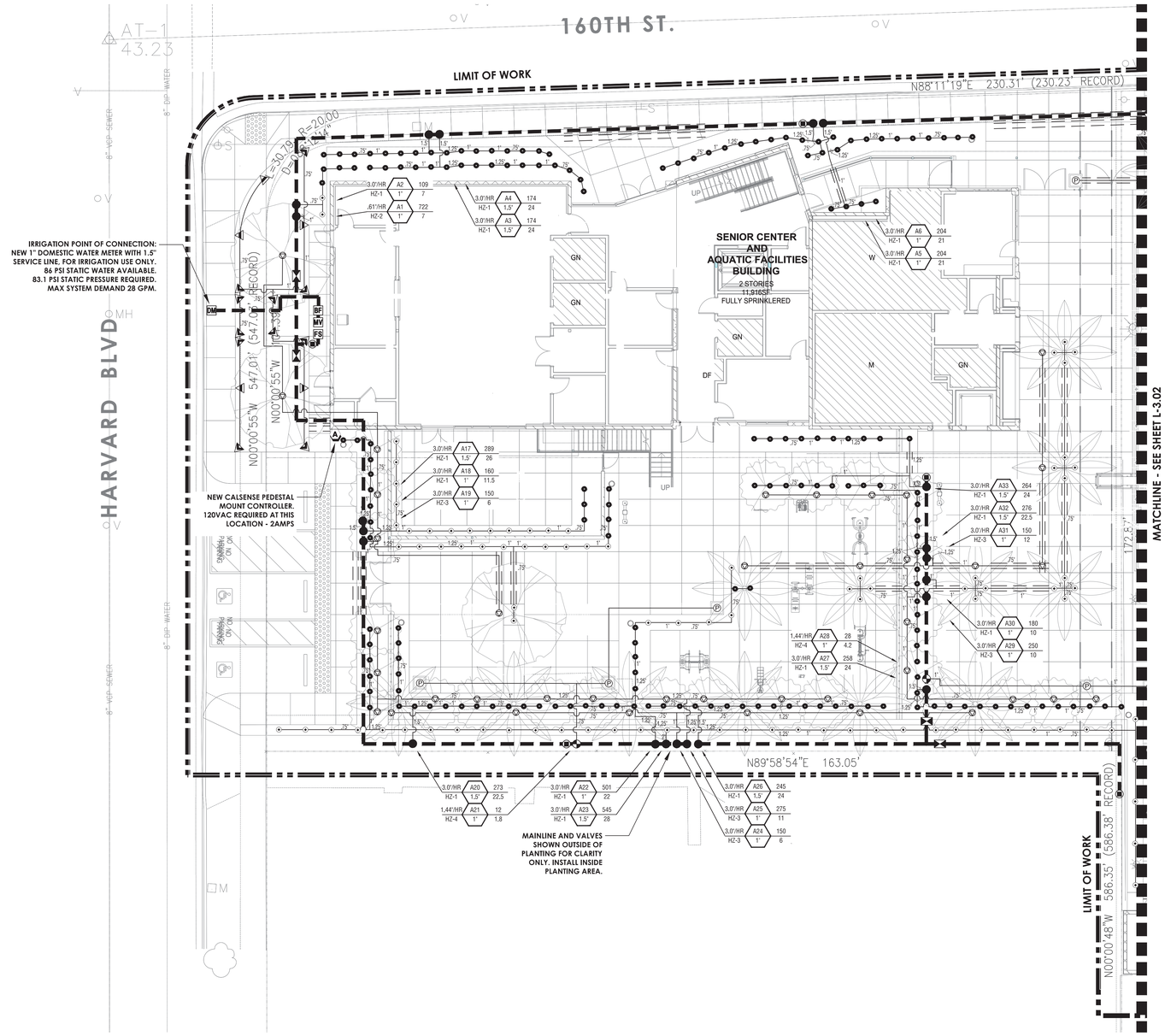
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
CONSTRUCTION DETAILS
COMMUNITY AQUATICS & SENIOR CENTER
L-2.17

	INITAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	TF	06/30/2023
CHECKED BY	EC	06/30/2023

APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS

SHT. 32 OF 176 DWG. NO. 5-2606



IRRIGATION EQUIPMENT LEGEND

SYMBOL	MANUFACTURER	MODEL NO. / DESCRIPTION	GPM	PSI	RADIUS (FT.)	PRECIP.	DETAIL
Q H F							
	RAIN BIRD	RD-06-5-P30-F/SQ-B POP-UP BUBBLER HEAD, EACH SYMBOL REPRESENTS TWO BUBBLERS PER BOX TREE. PLACE BUBBLERS OUTSIDE OF ROOTBALL ON OPPOSITE SIDES OF TREE. ADJUST PER ROOTBALL SIZE TYPICAL.	0.50 (1.0)	30	5	3.0 IN./HR	A,B
	RAIN BIRD	RD-06-5-P45-F - R-VAN14, 6" POP-UP WITH CHECK VALVE. PRESSURE REGULATOR, AND ADJUSTABLE ROTARY NOZZLE. FULL NOZZLE SHALL BE R-VAN14-360	0.32-1.27	45	8-14	0.61 IN./HR.	A
	RAIN BIRD	RD-06-5-P45-F - R-VAN18, 6" POP-UP WITH CHECK VALVE. PRESSURE REGULATOR, AND ADJUSTABLE ROTARY NOZZLE. FULL NOZZLE SHALL BE R-VAN18-360	0.50-1.85	45	13-18	0.61 IN./HR.	A
	RAIN BIRD	RD-06-5-P45-F - R-VAN24, 6" POP-UP WITH CHECK VALVE. PRESSURE REGULATOR, AND ADJUSTABLE ROTARY NOZZLE. FULL NOZZLE SHALL BE R-VAN24-360	0.84-3.48	45	17-24	0.61 IN./HR.	A
	RAIN BIRD	RD-06-5-P30-F/SCST-B POP-UP STREAM BUBBLER HEAD - 2 STREAMS	0.50	30	3	3.0 IN./HR	A
	RAIN BIRD	RD-06-5-P30-F/SF-B POP-UP STREAM BUBBLER HEAD - 6 STREAMS. NOTE: CONTRACTOR SHALL USE SQ-F NOZZLE IN THE EVENT ANY SHRUBS DO NOT RECIEVE PROPER COVERAGE.	1.50	30	3	3.0 IN./HR	A
P	RAIN BIRD	XFCV-09-12-XX LANDSCAPE DRIP TUBING W/ .9 GPH EMITTERS 12" ON CENTER. DRIP TUBING HAS BUILT IN CHECK VALVES. DRIP TUBING SHALL BE INSTALLED AT GRADE UNDER MULCH, AND IN RINGS (1) RING PER 16" POT AND (2) RINGS PER 24" POT. INSTALL TUBING STAKES A MAXIMUM OF FIVE (5) FEET ON CENTER. INSTALL A DRIP INDICATOR IN THE (2) FURTHEST POTS ON OPPOSITE SIDES OF THE VALVE ZONE.	.60 (TOTALS VARY)	30	N/A	1.44 IN./HR.	C,D
	NIBCO	T-113 GATE VALVE. LINE SIZE, WITH BRONZE WHEEL HANDLE UP TO 2" INSTALLED IN A RECTANGULAR BOX					E
DM	WATER METER	EXISTING WATER METER FOR LANDSCAPE ONLY REFER TO CIVIL PLANS FOR FINAL LOCATION.					N/A
BF	BACKFLOW	2" LF 825 YA LEAD FREE BACKFLOW PREVENTER WITH SMOOTH TOUCH STAINLESS STEEL ENCLOSURE.					F
MV FS	SUPERIOR/ CALSENSE	MASTER VALVE AND FLOW SENSOR, 310015OPRS NORMALLY OPEN 1.5" BRASS MASTER VALVE WITH PRESSURE REGULATOR AND CALSENSE FM-125B 1.25" BRASS FLOW SENSOR. INSTALL BOTH PER MANUFACTURER'S RECOMMENDATIONS AND WIRE DIRECTLY TO THE CONTROLLER.					G,H
A	CALSENSE	CS3-48-S/FM-125B/CS3-GR-BUNDLE-2/310015OPRS CONTROLLER. CONTACT JEFF DRONGOWSKI WITH CALSENSE FOR ORDERING (760) 580-9428. CS3000 SERIES 48 STATION CONTROLLER IN A STAINLESS STEEL TOP ENTRY ENCLOSURE W/ CELL CARD, ANTENNA. CONTRACTOR SHALL CONTACT CALSENSE TO INSURE PROPER COMMUNICATION WITH THE CITY'S CENTRAL CONTROL SYSTEM. CONTROLLER WILL COMMUNICATE WITH THE CITY'S CENTRAL CONTROL RAIN SENSING LOCATED OFF-SITE.					L
	RAIN BIRD	44LRC 1" QUICK COUPLER VALVE WITH LOCKING COVER, INSTALL WITHIN 10" ROUND VALVE BOX					I
	RAIN BIRD	1XQ-EFB-CP-PRS-D, BRASS REMOTE CONTROL VALVE W/ PRESSURE REGULATOR, SEE PLAN FOR SIZE.					J
	RAIN BIRD	XCZ-PRB-100-COM (1",1 1/2") DRIP VALVE CONTROL ZONE ASSEMBLY, SIZE AS SHOWN					K
	AS APPROVED	PVC PIPE 3/4" - 2" SCH. 40 AS LATERAL LINES 12" BELOW GRADE, AND ABOVE THE FIELD SUB DRAINS.					M
	AS APPROVED	PVC PIPE 2" CL. 315 SOLVENT WELD WITH SCH.80 FITTINGS AS MAINLINES-24" DEPTH					M
	AS APPROVED	PVC PIPE SCH. 40 AS SLEEVING, 2 TIMES THE DIAMETER OF PIPE OR WIRE BUNDLE CARRIED. PLACE BELOW ALL PAVING, HARDSCAPE ETC. AND AS DIRECTED BY OWNER'S AUTHORIZED REPRESENTATIVE.					N
NO SYMBOL	AS APPROVED	DIRECT BURIAL WATER-PROOF WIRE CONNECTORS FOR USE ON ALL WIRE CONNECTIONS (U.L. APPROVED).					N/A
NO SYMBOL	NDS	PRO SERIES/PRO SERIES PLUS VALVE BOXES, SIZE PER EQUIPMENT DETAILS, LEGEND, AND SPECIFICATIONS. 10" ROUND SHALL BE MODEL 312BCB, 14" X 19" STANDARD RECT. SHALL BE MODEL 314BCB. VALVE BOXES SHALL HAVE BLACK BODY AND BLACK LIDS. FOR USE IN NON-VEHICULAR TRAFFIC SITUATIONS ONLY. DO NOT INSTALL IN CONCRETE OR ASPHALT.					N/A

CONTROL VALVE SYMBOL

PRECIP HZ — No. Size — A GPM
- No. — INDICATES VALVE NO.
- A — INDICATES SQUARE FOOT AREA
- GPM — INDICATES GPM
- Size — INDICATES VALVE SIZE

HYDROZONE	HYDROZONE DESCRIPTION
1	LOW WATER SHRUBS WITH BUBBLERS
2	HIGH WATER TURF WITH ROTARYS
3	MED WATER TREES WITH BUBBLERS
4	MED WATER POTS WITH DRIPLINE

IRRIGATION NOTES

NOTE A:
MAINLINE AND RELATED EQUIPMENT SHOWN WITHIN PAVING FOR CLARITY ONLY. ACTUAL MAINLINE AND RELATED EQUIPMENT LOCATION TO BE WITHIN PLANTERS AND A MINIMUM OF 18" OFF ADJACENT HARDSCAPE AND OTHER OBSTACLES TYP.

NOTE B:
BUBBLERS AND LATERAL LINES ARE SHOWN WITHIN PAVING FOR CLARITY ONLY, ACTUAL LOCATION TO BE WITHIN PLANTER. BUBBLERS SHALL BE ALIGNED WITH TREES AND AS DIRECTED BY OWNER'S AUTHORIZED REPRESENTATIVE. CONFIRM ALL LAYOUT IN FIELD WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO STARTING WORK.

NOTE C:
CONTRACTOR SHALL PROVIDE THE CITY WITH A NEATLY DRAWN LAMINATED IRRIGATION CONTROLLER CHART.

NOTE D:
I HAVE COMPLIED WITH THE CRITERIA OF THE IRRIGATION GUIDELINES AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN

NOTE E:
REFER TO SHEETS L-4.01 FOR IRRIGATION DETAILS

CITY OF GARDENA COMMUNITY AQUATICS CENTER IRRIGATION RUN TIMES (IN MINUTES)

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC
CYCLES PER WEEK - TURF	2	2	3	5	5	6	6	6	4	3	2	2
TURF CROP COEFFICIENT	.61	.64	.75	1.04	.95	.88	.94	.86	.74	.75	.69	.60
CYCLES PER WEEK-SHRUB/TREE	1	1	2	2	2	3	3	3	2	2	1	1
Eto DAILY AVERAGE	.07	.09	.12	.16	.17	.20	.21	.20	.16	.12	.09	.07

Turf Root Depth	4"
Shrub Root Depth	6"
Depletion Factor (MAD)	40%

Soil Type (Textural)	CLAY LOAM
Field Capacity	27%
Permanent Wilt Point	13%
Apparent Specific Gravity	1.35

Hydrozone	PLANT TYPE	Water Usage	Kc	SPRINKLER TYPE	EXPOSURE	EXPO FACTOR	PRECIP (in/hr)	SPKLR EFFIC.	ROOT DEPTH (in)	RUN TIME MULTIPLIER	IRRIGATION RUN TIMES JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	SHRUB	LOW	0.20	BUBBLER	FULL SUN	100%	3.00	81%	6	1.23	2	3	2	3	3	2	2	2	3	2	3	2
2	TURF	VARIABLE	Var	ROTARY	FULL SUN	100%	0.61	75%	12	1.33	20	26	28	31	30	27	30	26	27	28	29	19
3	TREE	MEDIUM	0.50	BUBBLER	FULL SUN	100%	3.00	81%	12	1.23	6	8	5	7	7	6	6	6	7	5	8	6
4	POTS	MEDIUM	0.50	DRIP	FULL SUN	100%	1.44	75%	6	1.33	14	18	12	16	17	13	14	13	16	12	18	14

2015 MWELO WATER EFFICIENT LANDSCAPE WORKSHEET

Project Community Aquatics & Senior Center, Gardena CA
Reference Evapotranspiration (ETo): 50.1

Glasir Design Irrigation Consulting CID#6004-glasirdesign.com

Hydrozone # /Planting Description[a]	Plant Factor (PF)	Irrigation Method[b]	Irrigation Efficiency (IE)[c]	ETAF (PF/IE)	Landscape Area (sq. ft.)	ETAF x Area	Estimated Total Water Use (ETWU)[d]
Regular Landscape Areas							
#1 low shrub	0.2	Bubblers	0.81	0.25	5,394	1,331.85	41,369.98
#2 turf rotary	0.8	Bubblers	0.81	0.99	722	713.09	22,149.89
#3 med trees	0.5	Bubblers	0.81	0.62	1,450	895.06	27,802.41
#4 med pots	0.5	Drip	0.81	0.62	44	27.16	843.66
				Totals	7,610	2,967.16	92,165.94
Special Landscape Areas							
#5 pool				1	7,020	7,020.00	218,055.24
				1			
				Totals	7,020	7,020.00	218,055.24
				ETWU Total			310,221.18
				Maximum Allowed Water Allowance (MAWA)[e]			324,427.06

[a] Refer to legend for Hydrozone description.

[d] ETWU (Annual Gallons Required) = Eto x 0.62 x ETAF x Area
w here 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year.

[e] MAWA (Annual Gallons Allowed) = (Eto) (.0.62) [(ETAF x LA) + ((1-ETAF) x SLA))
w here 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year, LA is the total landscape area in square feet, SLA is the total special landscape area in square feet, and ETAF is .55 for residential areas and 0.45 for non-residential areas.

ETAF Calculations

Regular Landscape Areas

Total ETAF x Area	2,967
Total Area	7,610
Average ETAF	**0.39**

Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas.

All Landscape Areas Including SLA

Total ETAF x Area	9,987.16
Total Area	14,630
Sitewide ETAF	**0.68**

IRRIGATION WATER PRESSURE LOSS CALCULATIONS

WATER METER NUMBER	IRR	WATER METER SIZE	1	INCHES
WATER METER ELEVATION (FT)		HIGHEST HEAD ELEVATION		FT
REMOTE CONTROL VALVE #	A1	STATIC WATER PRESSURE	86	PSI
RCV DEMAND (GPM)	7	TOTAL DEMAND	28	GPM

SIZE (INCHES)	DESCRIPTION		GPM	PRESSURE LOSS
1.0	SERVICE LINE		28	4.75 PSI
1.0	WATER METER (DISC TYPE)		28	4.6 PSI
2.0	BACKFLOW PREVENTION ASSEMBLY (RPZ TYPE)		28	13.0 PSI
2.0	BACKFLOW ASSEMBLY PIPING		28	0.6 PSI
2.0	FILTERATION		28	0.3 PSI
2.0	PRESSURE REGULATOR		28	4.0 PSI
1.5	MASTER VALVE		7	1 PSI
2.0	ISOLATION VALVE		7	1.0 PSI
2.0	PVC CL 315 MAINLINE (FT)	50	7	0.4 PSI
1.5	REMOTE CONTROL VALVE ASSEMBLY		7	0.7 PSI
N/A	LATERAL LINE LOSSES		7	4.5 PSI
N/A	FITTING LOSSES		7	1.3 PSI

TOTAL PRESSURE LOSS OF ALL COMPONENTS		38.1	PSI
PRESSURE REQUIRED AT HEAD (OPERATING PRESSURE)		45.0	PSI
ELEVATION LOSS (FT)	0	0.0	PSI
TOTAL PRESSURE REQUIRED		83.1	PSI
STATIC WATER PRESSURE		86.0	PSI
RESIDUAL WATER PRESSURE		2.9	PSI
SET PRESSURE REGULATOR OR MASTER CONTROL VALVE AT		N/A	PSI
PRESSURE BOOST, IF REQUIRED (SET TO ACHIEVE 100 KPA RESIDUAL)		N/A	PSI

Glasir Design Irrigation Consulting CID#6004-glasirdesign.com

GRAPHIC SCALE

-10 0 5 10 20 40
(IN FEET)
1" = 10'

DIGALERT
DIAL TOLL FREE 1-800-422-4133
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:
BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:
THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:
Glasir Design Irrigation Consulting CID#6004-glasirdesign.com

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
(949) 493-2690 fax
(949) 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT — 2606 — 06/30/2023 — RENEWAL 08/31/2023 — STATE OF CALIFORNIA

REVISIONS

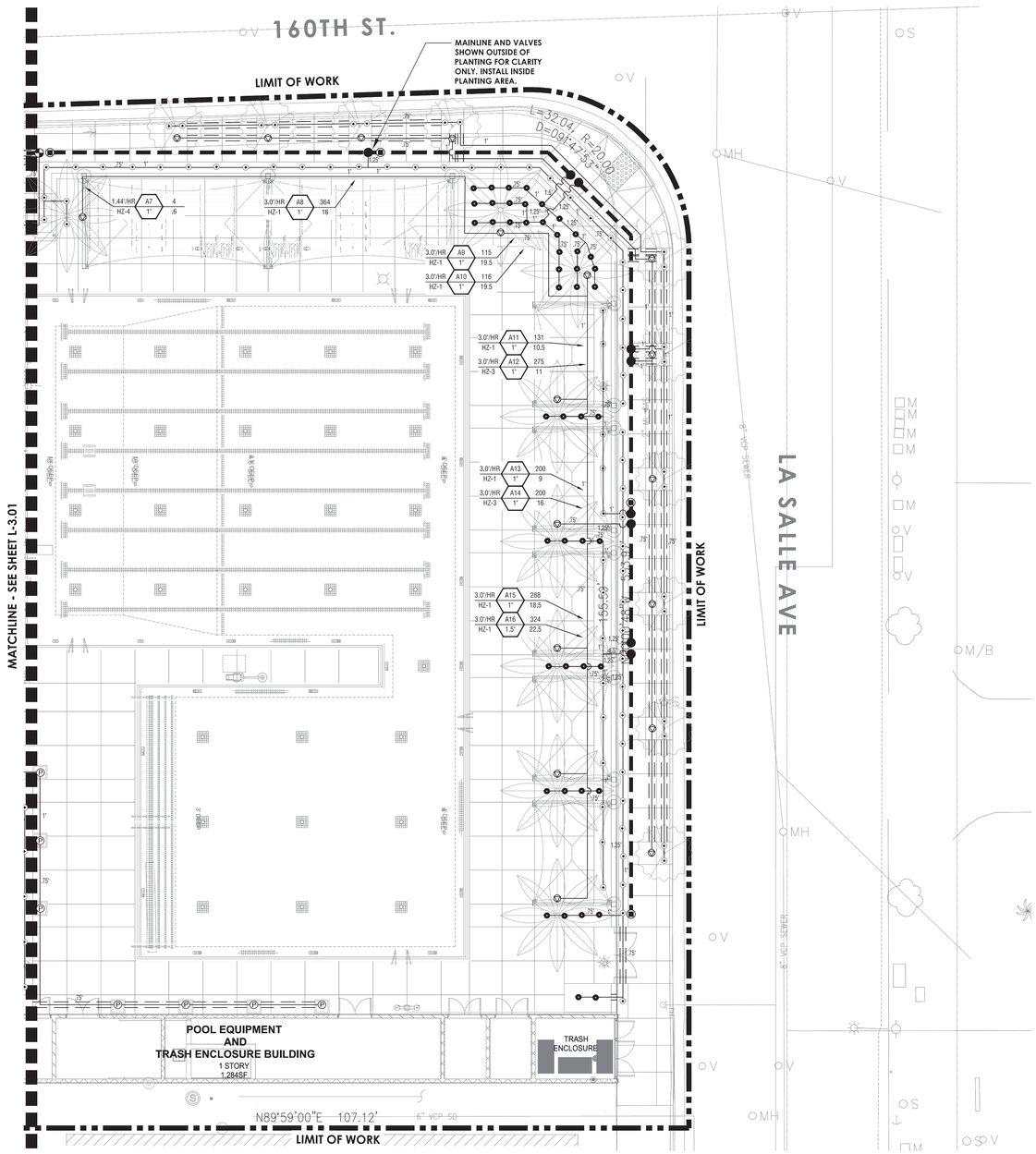
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
IRRIGATION PLAN
COMMUNITY AQUATICS & SENIOR CENTER
L-3.01

	INITAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	TP	06/30/2023
CHECKED BY	EC	06/30/2023

APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS
SHT. 33 OF 176 DWG. NO. 5-2606

PLOTTED: 7/1/2023 11:29:05 AM BY: CHRIS CURRY (ONSITE)
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IRRIGATION EQUIPMENT LEGEND

SYMBOL	MANUFACTURER	MODEL NO. / DESCRIPTION	GPM	PSI	RADIUS (FT.)	PRECIP.	DETAIL
Q H F							
	RAIN BIRD	RD-06-S-P30-F/SQ-B POP-UP BUBBLER HEAD, EACH SYMBOL REPRESENTS TWO BUBBLERS PER BOX TREE. PLACE BUBBLERS OUTSIDE OF ROOTBALL ON OPPOSITE SIDES OF TREE. ADJUST PER ROOTBALL SIZE TYPICAL.	0.50 (1.0)	30	5	3.0 IN./HR	A,B
	RAIN BIRD	RD-06-S-P4S-F - R-VAN14, 6" POP-UP WITH CHECK VALVE .PRESSURE REGULATOR, AND ADJUSTABLE ROTARY NOZZLE. FULL NOZZLE SHALL BE R-VAN14-360	0.32-1.27	45	8-14	0.61 IN./HR.	A
	RAIN BIRD	RD-06-S-P4S-F - R-VAN18, 6" POP-UP WITH CHECK VALVE .PRESSURE REGULATOR, AND ADJUSTABLE ROTARY NOZZLE. FULL NOZZLE SHALL BE R-VAN18-360	0.50-1.85	45	13-18	0.61 IN./HR.	A
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	RAIN BIRD	RD-06-S-P30-F/SF-B POP-UP STREAM BUBBLER HEAD - 6 STREAMS. NOTE: CONTRACTOR SHALL USE SQ-F NOZZLE IN THE EVENT ANY SHRUBS DO NOT RECIEVE PROPER COVERAGE.	1.50	30	3	3.0 IN./HR	A
P	RAIN BIRD	XFCV-09-12-XX LANDSCAPE DRIP TUBING W/ .9 GPH EMITTERS 12" ON CENTER. DRIP TUBING HAS BUILT IN CHECK VALVES. DRIP TUBING SHALL BE INSTALLED AT GRADE UNDER MULCH, AND IN RINGS (1) RING PER 16" POT AND (2) RINGS PER 24" POT. INSTALL TUBING STAKES A MAXIMUM OF FIVE (5) FEET ON CENTER. INSTALL A DRIP INDICATOR IN THE (2) FURTHEST POTS ON OPPOSITE SIDES OF THE VALVE ZONE.	.60 (TOTALS VARY)	30	N/A	1.44 IN./HR.	C,D
	NIBCO	T-113 GATE VALVE. LINE SIZE, WITH BRONZE WHEEL HANDLE UP TO 2" INSTALLED IN A RECTANGULAR BOX					E
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BF	BACKFLOW	2" LF 825 YA LEAD FREE BACKFLOW PREVENTER WITH SMOOTH TOUCH STAINLESS STEEL ENCLOSURE.					F
MV FS	SUPERIOR/ CALSENSE	MASTER VALVE AND FLOW SENSOR. 3100150PRS NORMALLY OPEN 1.5" BRASS MASTER VALVE WITH PRESSURE REGULATOR AND CALSENSE FM-1250 1.25" BRASS FLOW SENSOR. INSTALL BOTH PER MANUFACTURER'S RECOMMENDATIONS AND WIRE DIRECTLY TO THE CONTROLLER.					G,H
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	RAIN BIRD	44LRC 1" QUICK COUPLER VALVE WITH LOCKING COVER, INSTALL WITHIN 10" ROUND VALVE BOX					I
	RAIN BIRD	1XQ-EFB-CP-PRS-D, BRASS REMOTE CONTROL VALVE W/ PRESSURE REGULATOR, SEE PLAN FOR SIZE.					J
	RAIN BIRD	XCZ-PRB-100-COM (1",1 1/2") DRIP VALVE CONTROL ZONE ASSEMBLY, SIZE AS SHOWN					K
	AS APPROVED	PVC PIPE 3/4" - 2" SCH. 40 AS LATERAL LINES 12" BELOW GRADE, AND ABOVE THE FIELD SUB DRAINS.					M
	AS APPROVED	PVC PIPE 2" CL. 315 SOLVENT WELD WITH SCH.80 FITTINGS AS MAINLINES-24" DEPTH					M
	AS APPROVED	PVC PIPE SCH. 40 AS SLEEVING, 2 TIMES THE DIAMETER OF PIPE OR WIRE BUNDLE CARRIED. PLACE BELOW ALL PAVING, HARDSCAPE ETC. AND AS DIRECTED BY OWNER'S AUTHORIZED REPRESENTATIVE.					N
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- INDICATES VALVE NO.
- INDICATES SQUARE FOOT AREA
- INDICATES GPM
- INDICATES VALVE SIZE

HYDROZONE	HYDROZONE DESCRIPTION
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NOTE D:
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NOTE E:
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GRAPHIC SCALE

-10 0 5 10 20 40

(IN FEET)
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THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:
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Irrigation Consulting
CID#6004-glasirdesign.com

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
(949) 493-2690 fax
(949) 493-2600 phone

LICENSED LANDSCAPE ARCHITECT — ERIC CHRISTENSEN — 5/30/2023 — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

IRRIGATION PLAN

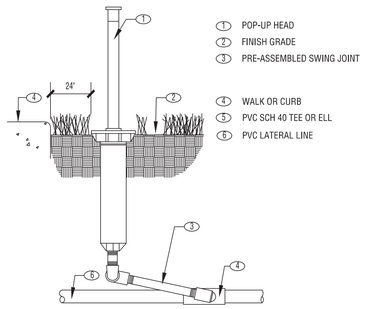
COMMUNITY AQUATICS & SENIOR CENTER
L-3.02

	INITIAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	TP	06/20/2023
CHECKED BY	EC	06/30/2023

APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS

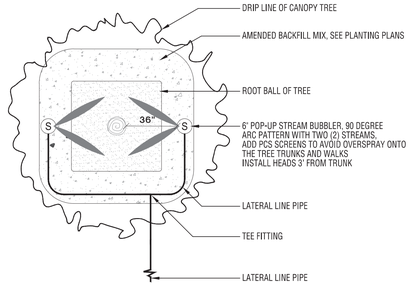
SHT. 34 OF 176 DWG. NO. 5-2606

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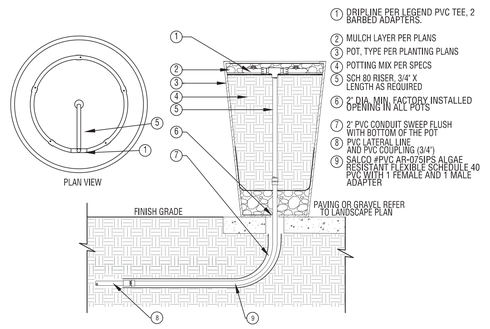


1. POP-UP HEAD
2. FINISH GRADE
3. PRE-ASSEMBLED SWING JOINT
4. WALK OR CURB
5. PVC SCH 40 TEE OR ELL
6. PVC LATERAL LINE

A POP UP SPRINKLER
N.T.S.

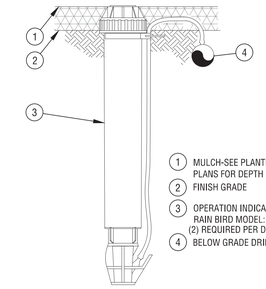


B TREE BUBBLER LAYOUT
N.T.S.



1. DRIPLINE PER LEGEND PVC TEE, 2 BARBED ADAPTERS.
2. MULCH LAYER PER PLANS
3. POT, TYPE PER PLANTING PLANS
4. POTTING MIX PER SPECS
5. SCH 80 RISER, 3/4" X LENGTH AS REQUIRED
6. 2" DIA. MIN. FACTORY INSTALLED OPENING IN ALL POTS
7. 2" PVC CONDUIT SWEEP FLUSH WITH BOTTOM OF THE POT
8. PVC LATERAL LINE AND PVC COUPLING (3/4")
9. SALCO #PVC AR-075IPS ALGAE RESISTANT FLEXIBLE SCHEDULE 40 PVC WITH 1 FEMALE AND 1 MALE ADAPTER

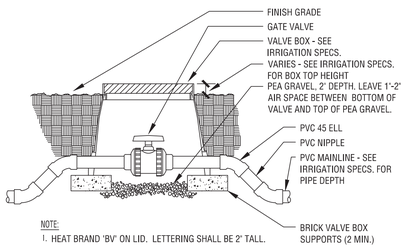
C DRIP IRRIGATION FOR POTS
N.T.S.



1. MULCH-SEE PLANTING PLANS FOR DEPTH
2. FINISH GRADE
3. OPERATION INDICATOR RAIN BIRD MODEL: OPERIND (2) REQUIRED PER DRIP VALVE ZONE
4. BELOW GRADE DRIPLINE

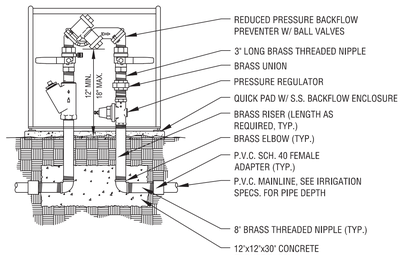
NOTE:
1. INSERT BARB TRANSFER FITTING DIRECTLY INTO DRIPLINE TUBING.
2. VAN NOZZLE MAY BE SET TO CLOSED, OR IF IT IS DESIRED TO SEE SPRAY FROM THE NOZZLE, SET THE ARC TO ¼ PATTERN. THE FLOW FROM THE NOZZLE, 0.3 GPM, SHOULD BE ACCOUNTED FOR IN THE SYSTEM DESIGN.

D DRIPLINE OPERATION INDICATOR
N.T.S.



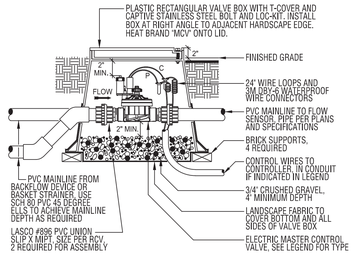
NOTE:
1. HEAT BRAND 'BV' ON LID. LETTERING SHALL BE 2" TALL.

E GATE VALVE
N.T.S.



NOTES:
1. ALL RISER, UNIONS, ELBOWS AND NIPPLES SHALL BE RED BRASS.
2. CLOSE NIPPLES SHALL NOT BE USED
3. EQUIPMENT TO BE INSTALLED A MIN. OF 12" FROM WALLS, BUILDINGS, ETC.
4. INSTALL AND TEST BACKFLOW PREVENTER AS REQUIRED BY LOCAL CODES & HEALTH DEPT. VERIFY LOCAL REQUIREMENTS PRIOR TO INSTALLATION.

F REDUCED PRESSURE BACKFLOW
N.T.S.

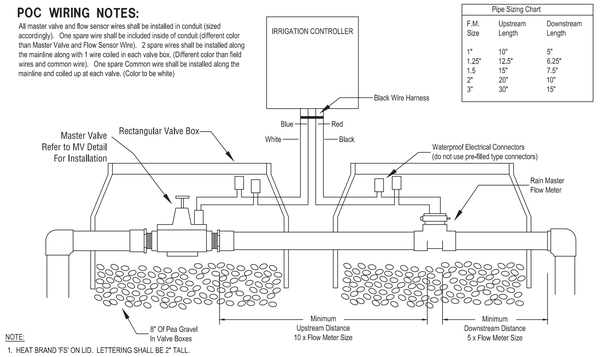


G MASTER VALVE
N.T.S.

POC WIRING NOTES:

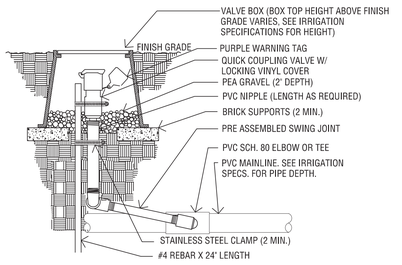
All master valve and flow sensor wires shall be installed in conduit (sized accordingly). One spare wire shall be included inside of conduit (different color than Master Valve and Flow Sensor Wire). 2 spare wires shall be installed along the mainline along with 1 wire coiled in each valve box. (Different color than field wires and common wire). One spare Common wire shall be installed along the mainline and coiled up at each valve. (Color to be white)

Pipe Sizing Chart		
F.M. Size	Upstream Length	Downstream Length
1"	10"	5"
1.25"	12.5"	6.25"
1.5	15"	7.5"
2"	20"	10"
3"	30"	15"



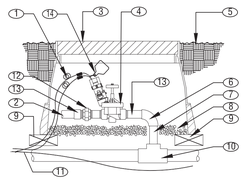
NOTE:
1. HEAT BRAND 'FS' ON LID. LETTERING SHALL BE 2" TALL.

H FLOW SENSOR INSTALLATION
N.T.S.



NOTES:
1. TEFLON TAPE ALL THREADS (TYP.)
2. INSTALL IN SHRUB AREAS ONLY AND A MINIMUM OF 12" FROM PLANTER EDGE

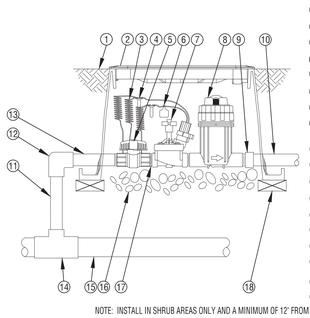
I QUICK COUPLER VALVE
N.T.S.



1. EXPANSION CURLS WITH WATERPROOF WIRE CONNECTORS AT SPLICES (SEE IRRIGATION SPECS)
2. PVC LATERAL TO SPRINKLERS ANGLE TO SPECIFIED DEPTH W/ 45 ELLS
3. VALVE BOX W/ LOCKING LID BOX HEIGHT ABOVE FINISH GRADE VARIES (SEE IRRIGATION SPECS)
4. REMOTE CONTROL VALVE
5. FINISH GRADE
6. SCH.80 PVC 90 SLIP X SLIP
7. PVC MAINLINE MATCH VALVE SIZE
8. 2" LAYER OF PEA GRAVEL LEAVE 1"-2" AIR SPACE BETWEEN BOTTOM OF VALVE AND TOP OF PEA GRAVEL
9. BRICK SUPPORT (1) AT EACH CORNER
10. PVC MAINLINE FITTINGS
11. CONTROLLER WIRES
12. LASCO SCH.80 UNION
13. SCH.80 NIPPLE MIPT X SLIP MATCH VALVE SIZE
14. PURPLE WARNING / ID TAG

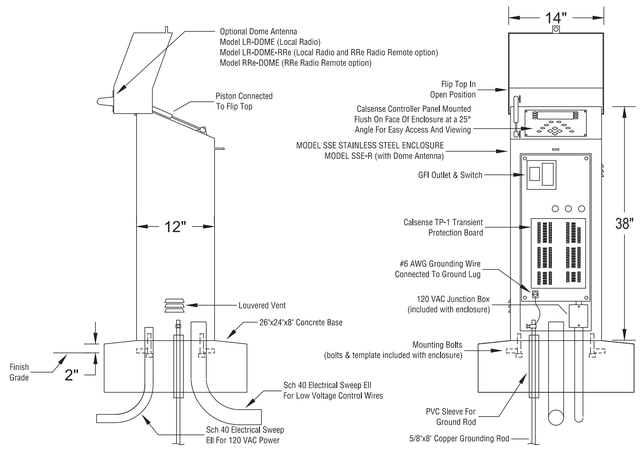
NOTES:
1. ALL WIRE TO BE INSTALLED PER LOCAL CODES.
2. PROVIDE EXPANSION COILS AT EACH WIRE CONNECTION IN VALVE BOX. WRAP AROUND 1/2" PIPE 15 TIMES - REMOVE PIPE.
3. COMPACT SOIL AROUND VALVE BOX TO SAME DENSITY AS UNDISTURBED ADJACENT SOIL.
4. INSTALL ONLY 1 VALVE PER VALVE BOX.
5. TEFLON TAPE ALL THREADS.
6. INSTALL IN SHRUB AREAS ONLY AND A MINIMUM OF 12" FROM PLANTER EDGE

J REMOTE CONTROL VALVE
N.T.S.

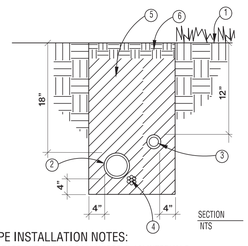


1. FINISH GRADE/TOP OF MULCH
2. VALVE BOX WITH COVER
3. 30-INCH LINEAR LENGTH OF WIRE, COILED
4. WATERPROOF CONNECTION:
5. 1-INCH BALL VALVE
6. PURPLE WARNING / ID TAG
7. REMOTE CONTROL VALVE
8. PRESSURE REGULATING QUICK CHECK BASKET FILTER
9. LASCO PVC UNION
10. LATERAL PIPE
11. PVC MAINLINE TO MATCH VALVE SIZE
12. PVC SCH 80 90DEG SLIP X SLIP
13. PVC SCH 80 NIPPLE MIPT X SLIP VALVE SIZE
14. PVC SCH 80 TEE OR ELL
15. MAINLINE PIPE
16. 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
17. PVC SCH 80 NIPPLE, CLOSE
18. BRICK SUPPORTS (4-REQ.)

K DRIP CONTROL ZONE KIT
N.T.S.



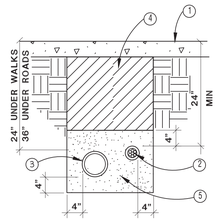
L TOP ENTRY CALSENSE CONTROLLER
N.T.S.



PIPE LEGEND:
1. FINISH GRADE
2. PVC MAINLINE
3. PVC LATERAL LINE
4. CONTROL WIRES OR COM. CABLE
5. FINE GRANULAR BACKFILL 1/2" MAX.
6. TOPSOIL

PIPE INSTALLATION NOTES:
1. TAPE AND BUNDLE 24 V. WIRES @ 10' INTERVALS.
2. MINIMUM DEPTH OF 24 V. WIRING SHALL BE 24" BELOW GRADE.
3. TRENCH WIDTH ALLOW 4" MIN. CLEARANCE BETWEEN PARALLEL PIPES.
4. SNAKE PIPES FROM SIDE TO SIDE WITHIN TRENCH TO ALLOW FOR MOVEMENT.
5. TIE A 20" LOOP IN ALL WIRING AT CHANGES OF DIRECTION. UNTIE PRIOR TO BACKFILLING TRENCHES.
6. PROVIDE THRUST BLOCKS PER APWA STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION DETAILS

M PIPE INSTALLATION
N.T.S.



SLEEVE LEGEND:
1. PAVING
2. CONTROL WIRES OR COM. CABLE IN CONDUIT
3. SLEEVE FOR MAINLINE AND/OR LATERAL LINE
4. FINE GRANULAR BACKFILL 1/2" MAX.
5. SAND

SLEEVE NOTES:
1. IRRIGATION PIPES UNDER ROADWAYS SHALL BE INSTALLED 36" DEEP, SLEEVED AND IDENTIFIED WITH MARKING TAPE INSTALLED 12" FROM THE SURFACE, IDENTIFYING TYPE OF LINE WITH APWA STANDARD "CAUTION WATERLINE BURIED BELOW" IN BLUE OR " CAUTION RECYCLED WATERLINE BURIED BELOW" IN PURPLE. SLEEVES SHALL BE SCHEDULE 40 PVC, TWO TIMES THE DIAMETER OF THE PIPE BEING SLEEVED.

N SLEEVE INSTALLATION
N.T.S.

DIGALERT
DIAL TOLL FREE 1-800-422-4133
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:

BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:
Glasir Design
Irrigation Consulting
CID#6004-glasirdesign.com

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
(949) 493-2690 fax
(949) 493-2600 phone

LICENSED LANDSCAPE ARCHITECT — 5/30/2023 — RENEWAL 08/31/2025 — STATE OF CALIFORNIA

REVISIONS

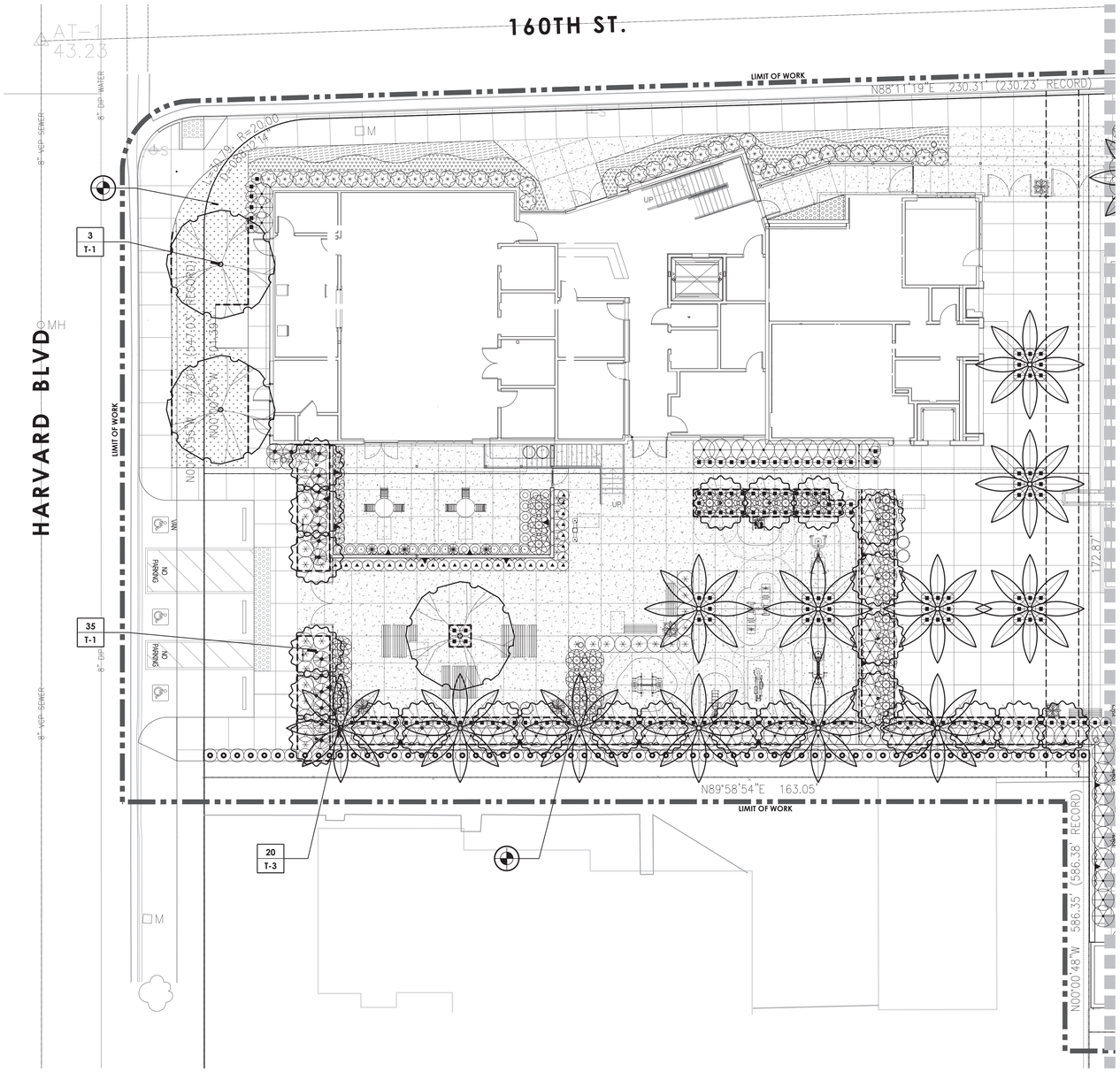
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
IRRIGATION DETAILS
COMMUNITY AQUATICS & SENIOR CENTER
L-4.01

	INITAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	YP	06/30/2023
CHECKED BY	EC	06/30/2023

APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS
SHT. 35 OF 176 DWG. NO. 5-2606

PLOTTED: C:\USERS\CHRIS CUNEY-ONSCREEN1 - GLASIR\DESIGN.COM\GLASIR LIB PROJECTS\2021\21113 GARDENA COMMUNITY AQUATIC AND SENIOR CENTER\361 01-CDs L-361.1P 2/28/2023 DWG



TREE LEGEND

	BOTANICAL NAME COMMON NAME	SIZE	REMARKS	QTY.
T-1	ARBUTUS MARINA STRAWBERRY TREE	48" BOX	DETAIL 2 & 6, SHEET L-6.01 30' H X 20' W STD.	3
T-2	LAGERSTOEMIA INDICA X FAURIEI 'BILOXI' BILOXI CRAPE MYRTLE	24" BOX	DETAIL 2 & 6, SHEET L-6.01 15' H X 10' W STD.	35
T-3	PHOENIX DACTYLIFERA 'MEDJOOL' DATE PALM	25' B.T.H.	DETAIL 4 & 6, SHEET L-6.01 60' H X 20' W STD.	20

SHRUB LEGEND

	BOTANICAL NAME COMMON NAME	SIZE	REMARKS	QTY.
S-1	AGAVE DESMETTIANA 'VARIEGATA' VARIEGATED SMOOTH AGAVE	5 GAL. @ 3' O.C.	DETAIL 1 & 3, SHEET L-6.01	54
S-2	ALOE STRIATA CORAL ALOE	1 GAL. @ 2' O.C.	DETAIL 1 & 3, SHEET L-6.01	29
S-8	BUXUS MICROPHYLLA VAR. KOREANA 'WINTER GEM' WINTER GEM BOX WOOD	5 GAL. @ 3' O.C.	DETAIL 1 & 3, SHEET L-6.01	78
S-3	CAREX DIVULSA BERKELEY SEDGE	1 GAL. @ 2' O.C.	DETAIL 1 & 3, SHEET L-6.01	210
S-4	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	5 GAL. @ 3' O.C.	DETAIL 1 & 3, SHEET L-6.01	16
S-5	CHONDROPETALUM TECTORUM SMALL CAPE RUSH	5 GAL. @ 30" O.C.	DETAIL 1 & 3, SHEET L-6.01	117
S-6	PELARGONIUM x HORTORUM 'INSPIRE SCARLET' GERANIUM INSPIRE	1 GAL. @ 2' O.C.	DETAIL 1 & 3, SHEET L-6.01	11
S-7	PHORMIUM 'DUET' DWARF VARIEGATED FLAX	1 GAL. @ 2' O.C.	DETAIL 1 & 3, SHEET L-6.01	66
S-9	PRUNUS CAROLINIANA 'COMPACTA' CAROLINA CHERRY LAUREL	15 GAL. @ 4' O.C.	DETAIL 1 & 3, SHEET L-6.01	117
S-10	ROSMARINUS OFFICINALIS 'LADY IN WHITE' WHITE ROSEMARY	1 GAL. @ 2' O.C.	DETAIL 1 & 3, SHEET L-6.01	4
S-11	SALVIA LEUCANTHA MEXICAN BUSH SAGE	5 GAL. @ 4' O.C.	DETAIL 1 & 3, SHEET L-6.01	45
S-12	SALVIA OFFICINALIS GARDEN SAGE	1 GAL. @ 2' O.C.	DETAIL 1 & 3, SHEET L-6.01	9
S-13	STACHYS BYZANTINA LAMB'S EAR	1 GAL. @ 2' O.C.	DETAIL 1 & 3, SHEET L-6.01	11

GROUNDCOVER LEGEND

	BOTANICAL NAME COMMON NAME	SIZE	REMARKS	QTY.
GC-1	ASPIDISTRA ELATIOR 'ASAHI' MORNING SUN CAST IRON PLANT	1 GAL. @ 18" O.C.	DETAIL 1 & 5, SHEET L-6.01	17
GC-2	CAREX PANSA CALIFORNIA MEADOW SEDGE	LINERS @ 8" O.C.	DETAIL 1 & 5, SHEET L-6.01	1868
GC-3	OPHIOPOGON JAPONICUS MONDO GRASS	1 GAL. @ 12" O.C.	DETAIL 1 & 5, SHEET L-6.01	269
GC-4	TRACHELOSPERMUM JASMINOIDES STAR JASMINE	1 GAL. @ 3' O.C.	DETAIL 1 & 5, SHEET L-6.01	31

VINE LEGEND

	BOTANICAL NAME COMMON NAME	SIZE	REMARKS	QTY.
V-1	CLEMATIS ARMANDII EVERGREEN CLEMATIS	5 GAL.	DETAIL 7, SHEET L-6.01	27

PLANT SYMBOL LEGEND

- # / T-1 — TREE QUANTITY / TREE VARIETY
- LOCATION OF AGRONOMIC SOIL TESTING
- ROOT BARRIER

NOTE: SEE THE SPECIFICATIONS FOR DETAILED INFORMATION ON THESE ITEMS.

POT LEGEND

	BOTANICAL NAME COMMON NAME	SIZE	REMARKS	QTY.
P-1 CENTER	PHORMIUM 'DARK DELIGHT' RED NEW ZEALAND FLAX	5 GAL.	DETAIL 8, SHEET L-6.01	12
P-1 EGDE	SEDUM RUPESTRE 'ANGELINA' ANGELINA STONECROP	1 GAL.	DETAIL 8, SHEET L-6.01	48

NOTES:

1. ALL LANDSCAPE AREAS TO RECEIVE 3" LAYER OF SHREDDED HARDWOOD BARK MULCH.
2. WATER-EFFICIENT AUTOMATIC IRRIGATION SYSTEM TO BE INSTALLED WITH LANDSCAPE INSTALLATION.
3. ALL TREES WITHIN 8' OF HARDSCAPE TO RECEIVE 24" DEEP ROOT BARRIER PLASTIC LINER INSTALLATION.

N

GRAPHIC SCALE

-10 0 5 10 20 40

(IN FEET)
1" = 10'

DIGALERT
DIAL TOLL FREE
1-800-422-4133
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:

BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:

PREPARED UNDER THE SUPERVISION OF:

RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
(949) 493-2690 fax
(949) 493-2600 phone

LICENSED LANDSCAPE ARCHITECT — STATE OF CALIFORNIA — 5/31/2023 — RENEWAL DATE 08/31/2025

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

PLANTING PLAN

COMMUNITY AQUATICS & SENIOR CENTER

L-5.01

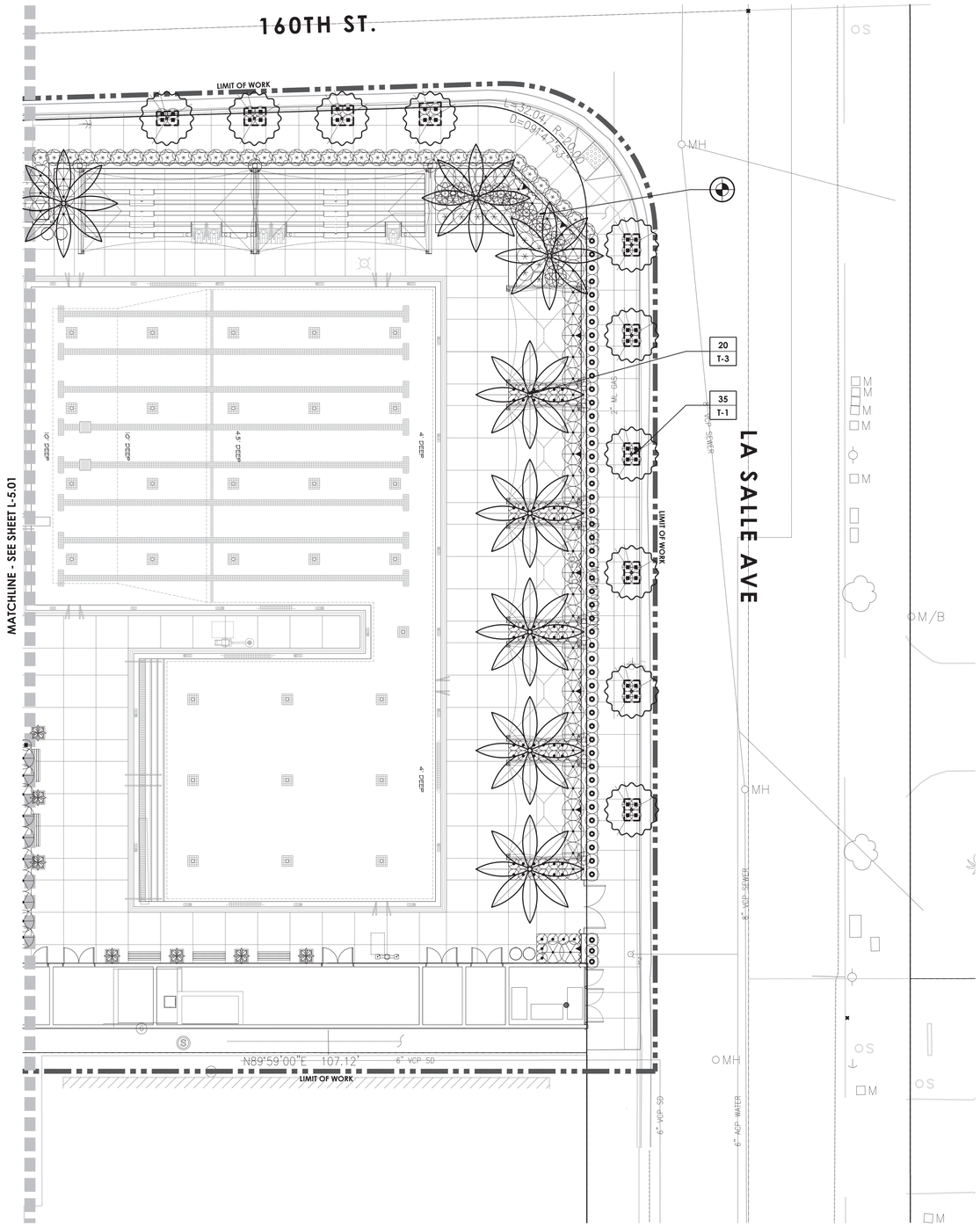
	INITAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	TP	06/20/2023
CHECKED BY	EC	06/30/2023

APPROVED BY:

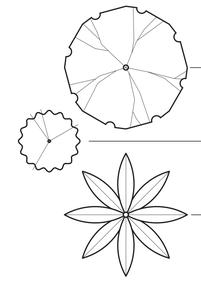
DATE DIRECTOR OF PUBLIC WORKS

SHT. 36 OF 176 DWG. NO. 5-2606

PLOT TIME: 7/20/2023 8:00:17 AM BY: GARDENA AQUATIC & SENIOR CENTER DWG: 21-025 SHT-TITLE.DWG XREF: 21-025 SHT-TITLE.DWG XREF: 21-025 SHT-PLANTING PLAN.DWG



TREE LEGEND



	BOTANICAL NAME COMMON NAME	SIZE	REMARKS	QTY.
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S-7	PHORMIUM 'DUET' DWARF VARIEGATED FLAX	1 GAL. @ 2' O.C.	DETAIL 1 & 3, SHEET L-6.01	66
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PLANT SYMBOL LEGEND

# / T-1 — TREE QUANTITY / TREE VARIETY	LOCATION OF AGRONOMIC SOIL TESTING
	ROOT BARRIER

NOTE: SEE THE SPECIFICATIONS FOR DETAILED INFORMATION ON THESE ITEMS.

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GRAPHIC SCALE

-10 0 5 10 20 40

(IN FEET)
1" = 10'

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AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:

BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:

PREPARED UNDER THE SUPERVISION OF:

RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
(949) 493-2690 fax
(949) 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT — 04/30/2023 — RENEWAL 08/31/2023 — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

PLANTING PLAN

COMMUNITY AQUATICS & SENIOR CENTER

L-5.02

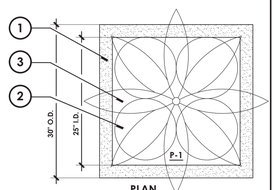
	INITAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	TP	06/30/2023
CHECKED BY	EC	06/30/2023

APPROVED BY:

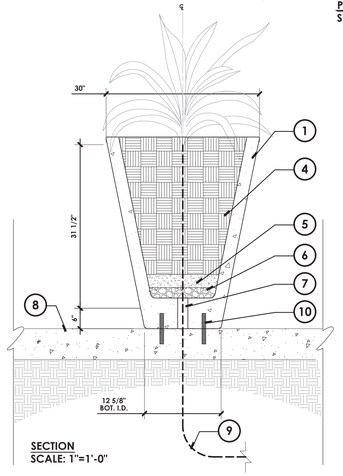
DATE DIRECTOR OF PUBLIC WORKS

SHT. 37 OF 176 DWG. NO. 5-2606

PLOT DATE: 6/30/2023 8:48:49 AM
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PLAN
SCALE: 1"=1'-0"

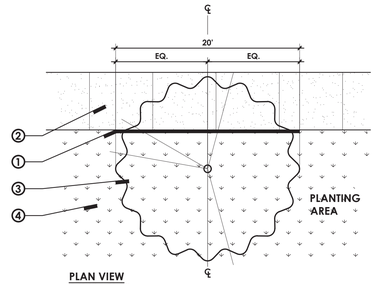


SECTION
SCALE: 1"=1'-0"

LEGEND:

1. PRECAST SQUARE WEDGE PLANTER. MODEL: QS-WE3037P BY QCP CORP. COLOR: FRENCH GRAY. CONTACT: BRIAN GOTZ AT (714) 309-6564. INSTALL PER DETAIL 5, SHEET L-2.05.
2. EDGE PLANTS - SEE PLANTING LEGEND AND PLAN FOR TYPE AND LOCATION.
3. CENTER PLANT - SEE PLANTING LEGEND AND PLAN FOR TYPE AND LOCATION.
4. PLANTER BACK FILL MIX - SEE PRECAST POT BACKFILL NOTES THIS DETAIL.
5. PROVIDE 4" DEEP WASHED PLASTER SAND, TYP.
6. PROVIDE 3" DEEP PEA GRAVEL WRAPPED WITH 140ONC MIRAFI FILTER FILTER FABRIC OR APPROVED EQUAL.
7. STANDARD 2" DIAMETER DRAIN HOLE (PER MANUFACTURER).
8. ADJACENT HARDSCAPE - SEE CONSTRUCTION PLAN.
9. IRRIGATION LATERAL LINE. SEE IRRIGATION PLANS.
10. ANCHOR PER MANUFACTURERS LATEST RECOMMENDATIONS AND SPECIFICATIONS. SEE DETAIL 5, SHEET L-2.05.

8 POT PLANTING



PLAN VIEW
3/16" - 1'-0"

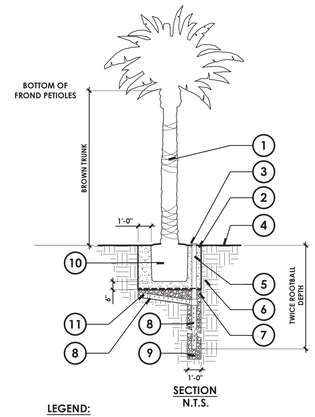
LEGEND

1. DEEP ROOT BARRIER. ALL TREES PLANTED WITHIN 10' OF ANY HARDSCAPE ELEMENT (SIDEWALKS, WALLS, D.G., PAVERS, CURBS, ETC.) SHALL RECEIVE ROOT BARRIERS BY DEEP ROOT CORP. MODEL #UB 18-2. CONTACT INFO: (415) 781-9700. INSTALL PANELS PER MANUFACTURER'S RECOMMENDATIONS. SEE SPECIFICATIONS.
2. ADJACENT HARDSCAPE. SEE CIVIL ENGINEER'S PLANS.
3. TREE.
4. ADJACENT LANDSCAPE.

NOTES

A. ALL TREES WITHIN 10' OF HARDSCAPE TO HAVE DEEP ROOT BARRIERS INSTALLED AT THE TIME OF PLANTING.

6 ROOT BARRIER

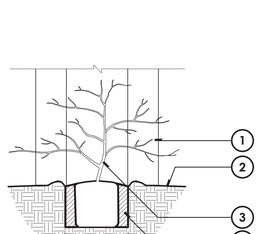


SECTION
N.T.S.

LEGEND:

1. TRUNK - SIZE PER PLANT LEGEND.
2. AMENDED SAND BACKFILL PER SPECIFICATIONS.
3. PVC CAP - BLACK, REMOVABLE FOR OBSERVATION.
4. FINISH GRADE.
5. 4" DIA. PVC PIPE.
6. NATIVE SOIL.
7. FILTER FABRIC, CONTINUOUS AT BOTTOM OF PLANT PIT WITH A MIN. 6" WRAP-UP SIDES.
8. 4" DIA. PVC PERFORATED PIPE. GRADE AND SLOPE FOR DRAINAGE.
9. GRAVEL SUMP BACKFILL, 3/4" CRUSHED AGGREGATE.
10. PALM ROOTBALL, MIN. SIZE PER `PALM TREE EXPERT' - REFER TO SPECIFICATIONS.
11. PVC END CAP. SLOPE TO DRAIN, MIN. 2% .

4 PALM TREE PLANTING



PLAN VIEW
N.T.S.

LEGEND:

1. GROUNDCOVER FROM FLAT, CUTTING, LINER, OR PLANTING CONTAINER.
2. 3" LAYER OF MULCH (DEPTH PER SPECIFICATIONS).
3. PLANTING BED DEPTH PER SPECIFICATIONS.

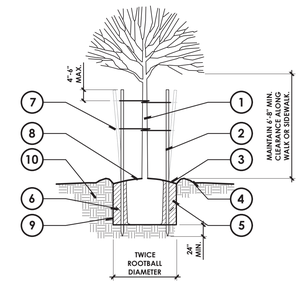
5 GROUNDCOVER PLANTING

SECTION
N.T.S.

LEGEND:

1. DECORATIVE VINE TRELLIS. SEE CONSTRUCTION PLAN, SHEET L-1.01 FOR LOCATIONS AND DETAIL 2, SHEET L-2.06
2. FINISH GRADE
3. ANGLE PLANT BACK TOWARD TRELLIS AND REMOVE NURSERY STAKE.
4. REFER TO SHRUB PLANTING DETAIL, THIS SHEET FOR PLANTING REQUIREMENTS.

7 VINE PLANTING



SECTION
N.T.S.

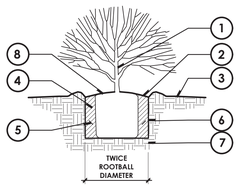
LEGEND:

1. TREE - CENTER IN PIT.
2. LODGE POLE TREE STAKES PER SPECIFICATIONS (2 PER TREE). USE (10 FT LENGTH) STAKES AT ALL 15 GAL. AND 24" BOX TREES, TYP. KEEP CLEAR OF ROOTBALL. REMOVE TOP OF STAKE TO 4" BELOW LOWEST BRANCH. SET STAKES PARALLEL TO PREVAILING WINDS.
3. 2" WATER BASIN.
4. FINISH GRADE.
5. AMENDED BACKFILL - REFER TO SPECIFICATIONS.
6. PLANT TABLET - REFER TO SPECIFICATIONS FOR QUANTITY AND PLACEMENT.
7. TREE TIES - 2 V.I.T. TWIST BRACE (TB24/TB36) BY STRONGBOX, (800) 729-1314. INSTALL USING 2-1/2" GALV. SCREWS.
8. SET TOP OF ROOTBALL 2" ABOVE SURROUNDING GRADE AND SLOPE FOR DRAINAGE.
9. SCARIFY SIDES AND BOTTOM OF PLANTING PIT.
10. NATIVE UNDISTURBED SOIL.

NOTES:

A. LODGE POLE TREE STAKES SHALL BE PLUMB OR ANGLED SLIGHTLY OUTWARD AFTER TREE TIES ARE IN PLACE, AS SHOWN.
B. SEE ROOT BARRIER DETAIL 6, THIS SHEET, FOR ALL TREES PLANTED WITHIN 10' OF ANY HARDSCAPE.

2 TREE PLANTING



SECTION
N.T.S.

LEGEND:

1. SHRUB - CENTER IN PIT.
2. 2" DEEP WATERING BASIN.
3. FINISH GRADE.
4. AMENDED BACKFILL - REFER TO SPECIFICATIONS.
5. PLANTING TABLETS - REFER TO SPECIFICATIONS FOR QUANTITY AND PLACEMENT.
6. SCARIFY SIDES AND BOTTOM OF PLANTING PIT.
7. NATIVE UNDISTURBED SOIL.
8. SET TOP OF ROOTBALL 2" ABOVE SURROUNDING GRADE AND SLOPE FOR DRAINAGE.

3 SHRUB PLANTING

PLANTING NOTES

1. ALL TREES WITHIN A SPECIES SHALL HAVE MATCHING & UNIFORM FORM.
2. ALL LANDSCAPED AREAS TO RECEIVE AUTOMATED IRRIGATION.
3. REFER TO PLANTING SPECIFICATIONS FOR SOIL PREPARATION, FERTILIZATION, MULCHING, AND OTHER ADDITIONAL PLANTING INFORMATION.
4. ALL PLANT MATERIAL SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT/DISTRICT PRIOR TO INSTALLATION.
5. FINAL LOCATION OF ALL PLANT MATERIALS SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT/DISTRICT.
6. CONTRACTOR SHALL NOTIFY THE COUNTY PROJECT MANAGER/COUNTY INSPECTOR 48 HOURS PRIOR TO COMMENCEMENT OF WORK TO COORDINATE PROJECT INSPECTION SCHEDULES.
7. SEE DETAILS AND SPECIFICATIONS FOR STAKING METHOD, PLANT PIT DIMENSIONS AND BACKFILL REQUIREMENTS.
8. IF CONFLICTS ARISE BETWEEN SIZE OF AREAS AND PLANS, CONTRACTOR TO CONTACT LANDSCAPE ARCHITECT FOR RESOLUTION. FAILURE TO MAKE SUCH CONFLICTS KNOWN TO THE LANDSCAPE ARCHITECT WILL RESULT IN CONTRACTOR'S LIABILITY TO RELOCATE THE MATERIALS.
9. CONTRACTOR SHALL SUBMIT FOR APPROVAL PHOTOS OF ALL BOXED TREES. PHOTOS SHOULD INCLUDE A PERSON FOR SCALE PURPOSES. ALL BOX TREES SHALL BE OF QUALITY AS DETERMINED BY THE OWNER/LANDSCAPE ARCHITECT. MATERIAL FOUND UNSUITABLE FOR THE DESIGN OR SPECIFICATION INTENT WILL BE REJECTED. THE CONTRACTOR SHALL ALSO SUBMIT WRITTEN SPECIFICATIONS FOR ALL PLANT MATERIAL SPECIFIED ON THIS PROJECT PRIOR TO PLACING ORDER. FAILURE TO DO SO COULD RESULT IN THE REPLACEMENT (AT CONTRACTOR'S EXPENSE) OF ANY PLANTS DETERMINED UNACCEPTABLE BY LANDSCAPE ARCHITECT/DISTRICT.
10. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FURNISH PLANT MATERIALS FREE OF PESTS OR PLANT DISEASES. PRE-SELECTED OR 'TAGGED' MATERIAL MUST BE INSPECTED BY THE CONTRACTOR AND CERTIFIED PEST AND DISEASE FREE. IT IS THE CONTRACTOR'S OBLIGATION TO WARRANTY ALL PLANT MATERIALS PER THE SPECIFICATIONS.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING HIM/HERSELF FAMILIAR WITH ALL UNDERGROUND UTILITIES, PIPELINES AND STRUCTURES. CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR ANY COST INCURRED DUE TO DAMAGE OF SAID UTILITIES. CONTRACTOR SHOULD CALL UNDERGROUND SERVICE ALERT (2) FULL WORKING DAYS BEFORE COMMENCING ANY DIGGING. PHONE 811 FOR U.S.A
12. CONTRACTOR SHALL NOT PROCEED WITH CONSTRUCTION AS DESIGNED WHEN IT IS OBVIOUS THAT UNKNOWN OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE COUNTY PROJECT MANAGER. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO FAILURE TO GIVE SUCH NOTIFICATION.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH SUBCONTRACTORS AND CONSTRUCTION MANAGER AS REQUIRED TO ACCOMPLISH PLANTING OPERATIONS.
14. LANDSCAPE CONTRACTOR TO RECEIVE SITE GRADED TO +0.10. CONTRACTOR SHALL OBTAIN LETTER OF GRADE CERTIFICATION FROM OWNER PRIOR TO PROJECT EXECUTION.
15. PLANT MATERIAL QUANTITIES ARE GIVEN FOR CONVENIENCE ONLY. PLANT SYMBOLS AND SPECIFIED SPACING SHALL TAKE PRECEDENCE. CONTRACTOR SHALL VERIFY PLANT MATERIAL QUANTITIES PER PLAN.
16. CONTRACTOR TO ASSURE POSITIVE DRAINAGE IN ALL PLANTING AREAS - 2% MINIMUM ALLOWED.
17. AFTER ROUGH GRADES HAVE BEEN ESTABLISHED IN PLANTING AREAS, CONTRACTOR SHALL HAVE SOIL SAMPLES TAKEN AT THE LOCATIONS INDICATED BY ⊕ DESIGNATION (3 TOTAL). CONTRACTOR SHALL INFORM SOIL TESTING LAB OF THE PLANT MATERIAL SPECIFIED IN SOIL TESTING LOCATIONS (NATIVE TREES & SHRUBS, ORNAMENTAL TREES & SHRUBS, PALM TREES, BERMUDA SOD, ETC.) SO THAT APPROPRIATE PLANTING RECOMMENDATIONS CAN BE GIVEN. THESE SAMPLES SHALL BE TESTED BY WAYPOINT ANALYTICAL OR APPROVED EQUAL. CONTACT: JOE KIEFER (714) 282-8777 FOR SOIL FERTILITY, AGRICULTURAL SUITABILITY TEST AND SOIL PREPARATION RECOMMENDATIONS. TWO SAMPLES SHALL BE TAKEN AT EACH LOCATION: (1) GROUND LEVEL TO 10" DEEP, (2) 24" TO 36" DEEP. EACH SAMPLE SHALL CONTAIN APPROXIMATELY 1 QUART OF SOIL AND BE LABELED PER LOCATION AND DEPTH. CONTRACTOR SHALL INSTALL SOIL PREPARATION AND BACKFILL MIX TO CONFORM TO THESE RECOMMENDATIONS ONLY UPON RECEIPT OF WRITTEN CHANGE ORDER FROM OWNER. SUBMIT SOIL REPORT TO CITY'S ENGINEER PRIOR TO PLANTING.
18. GROUND COVERS AND SHRUBS SHALL BE TRIANGULARLY SPACED, UNLESS OTHERWISE INDICATED.
19. ALL SOIL FOR LANDSCAPE PLANTING AREAS OR BERMS SHALL BE OBTAINED FROM ON- SITE EXCAVATIONS. SHOULD IMPORT SOIL BE NECESSARY, INDICATE SOURCE LOCATION. SEE PROJECT GEOTECHNICAL REPORT. SOIL SHALL BE SANDY LOAM CONTAINING NO TOXIC CHEMICALS OR ELEMENTS WHICH MAY INHIBIT OR RETARD NORMAL PLANT GROWTH. SOIL TESTING RESULTS SHALL BE SUBMITTED AND APPROVED PRIOR TO SOIL IMPLEMENTATION.
20. ALL LANDSCAPED AREAS (EXCLUDING TURF) SHALL BE MULCHED WITH A 3" DEEP LAYER OF MULCH, PER SPECIFICATIONS, AT THE CONCLUSION OF PLANTING OPERATIONS.
21. AT EDGES OF PLANTING AREAS, THE CENTER LINE OF THE LAST ROW OF SHRUBS AND/OR GROUND COVER SHALL BE LOCATED NO FARTHER FROM OR CLOSER TO THE EDGE THAN ONE-HALF THE SPECIFIED ON-CENTER SPACING.
22. REMOVE ALL NURSERY STAKES AND ESPALIER RACKS IMMEDIATELY AFTER INSTALLATION, UPON PROVIDING SUPPORT PER DETAILS, THIS SHEET.
23. ROOT BARRIER NOTE: ALL TREES PLANTED WITHIN 8' OF ANY HARDSCAPE ELEMENT (SIDEWALKS, WALLS, D.G., PAVERS, CURBS, ETC.) SHALL RECEIVE ROOT BARRIER BY "DEEP ROOT CORP.", (714) 898-0863. NUMBER OF PANELS PER TREE PER MANUFACTURER'S RECOMMENDATION. SEE SPECIFICATIONS.
24. ALL MULCH AREAS ON SLOPES TO RECEIVE JUTE NETTING. SEE SPECIFICATIONS.
25. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING PROTECTION OF ALL EXISTING SHRUB AND TURF AREAS TO REMAIN DURING CONSTRUCTION. DAMAGED SHRUB AND TURF AREAS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE. TURF AREAS WITHIN EXISTING IRRIGATION RENOVATION/RETROFIT ZONES AS INDICATED ON THE PROJECT IRRIGATION PLANS SHALL BE MAINTAINED AND REPAIRED IF NEEDED WITH NEW SOD.
26. PER PROJECT GEOTECH REPORT: WHERE NEW TREES OR LARGE LARGE SHRUBS ARE TO BE LOCATED IN CLOSE PROXIMITY OF NEW CONCRETE FLATWORK, RIGID MOISTURE / ROOT BARRIERS SHOULD BE PLACED AROUND THE PERIMETER OF THE FLATWORK TO AT LEAST 2 FEET IN DEPTH IN ORDER TO PROTECT THE FLATWORK FROM POTENTIAL ROOT AND MOISTURE DAMAGE. EXISTING MATURE TREES NEED FLATWORK SHOULD ALSO INCLUDE RIGID MOISTURE / ROOT BARRIERS PLACED AT LEAST 2 FEET IN DEPTH BELOW THE TOP OF THE FLATWORK. SEE PLANS AND SPECS FOR LOCATIONS.

1 PLANTING NOTES

DIGALERT
DIAL TOLL FREE
1-800-422-4133
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:

BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:

PREPARED UNDER THE SUPERVISION OF:

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San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
(949) 493-2600 fax
(949) 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT — 5616 — STATE OF CALIFORNIA — 09/30/2023 RENEWAL DATE

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

PLANTING DETAILS

COMMUNITY AQUATICS & SENIOR CENTER
L-6.01

	INITAL	DATE
DESIGNED BY	EC	11/14/2022
DRAWN BY	TP	06/20/2023
CHECKED BY	EC	06/30/2023

APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS

SHT. 38 OF 176 DWG. NO. 5-2606

THE PLANS, DESIGNS, DRAWINGS AND SPECIFICATIONS AND COPYRIGHTS ASSOCIATED THEREWITH ARE AND SHALL REMAIN THE EXCLUSIVE PROPERTY OF RJM DESIGN GROUP AND SHALL NOT BE USED IN WHOLE OR IN PART FOR ANY PURPOSE WITHOUT THE WRITTEN PERMISSION OF RJM DESIGN GROUP.

PROJECT ADDRESS:
1654 W 166TH STREET
GARDENA, CA 90247

PROJECT DESCRIPTION:
NEW SENIOR CENTER AND AQUATICS BUILDING WITH NEW POOL AND POOL EQUIPMENT BUILDING

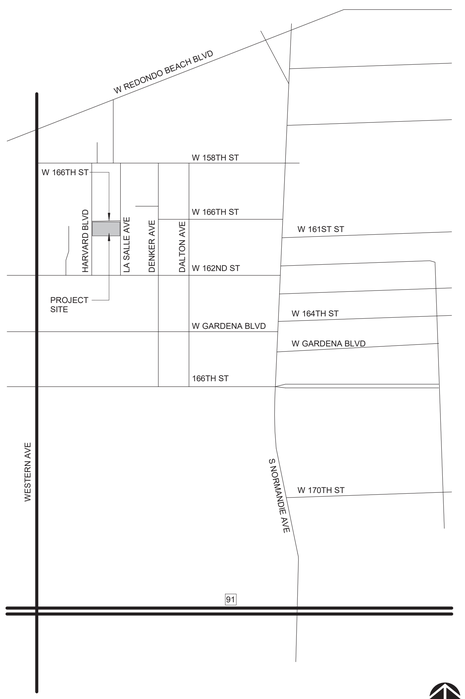
CODE ANALYSIS
SEE SHEET GEN-2 FOR COMPLETE CODE ANALYSIS

PROJECT SUMMARY

CITY OF GARDENA
BUILDING AND SAFETY DEPARTMENT
1700 W 162ND STREET
GARDENA, CA 90247
P: 310.217.9530

LOCAL FIRE AUTHORITY
LOS ANGELES COUNTY FIRE DEPARTMENT
200 NORTH MAIN STREET, 16TH FLOOR
LOS ANGELES, CA 90012
P: 213.978.3800

GOVERNING AGENCIES



VICINITY MAP

OWNER
CITY OF GARDENA
1700 W 162ND STREET
GARDENA, CA 90247
CONTACT: ALLAN RIGG, PE AICP
P: 310.217.9530

ARCHITECT
SVA ARCHITECTS
6 HUTTON CENTRE DRIVE, SUITE 1150
SANTA ANA,CA 92707
CONTACT: PROJECT MANAGER
P: 949.809.3380

MECHANICAL
ALFATECH
510 WEST 6TH STREET, SUITE 1105
LOS SNGELES, CA 90014
CONTACT: NICK KOURASSIS
P: 213.212.9860

STRUCTURAL
VCA ENGINEERS INC
1041 S GARFIELD AVE #210
ALHAMBRA, CA 91801
CONTACT: ALEX QUINONEZ
P: 323.729.6098

PLUMBING
ALFATECH
510 WEST 6TH STREET, SUITE 1105
LOS SNGELES, CA 90014
CONTACT: MARCIA MCKONE
P: 213.212.9860

ELECTRICAL
FBA ENGINEERS
150 PAULARINO AVENUE SUITE A120
COSTA MESA, CA 92626
CONTACT: STEPHEN ZAJICEK
P: 949.852.9995

PROJECT DIRECTORY

THIS PROJECT SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:

FEDERAL:
AMERICANS WITH DISABILITIES ACT (ADA)

ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES (ADAAG)

STATE OF CALIFORNIA PARTIAL LIST OF APPLICABLE CODES AS OF JAN 1, 2020

2019 BUILDING STANDARDS ADMINISTRATIVE CODE
CALIFORNIA CODE OF REGULATIONS (CCR) PART 1, TITLE 24 C.C.R.

2019 CALIFORNIA BUILDING CODE (CBC)
CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 2
(2018 INTERNATIONAL BUILDING CODE WITH THE INTERNATIONAL CODE COUNCIL WITH CALIFORNIA AMENDMENTS)

2019 CALIFORNIA ELECTRICAL CODE (CEC)
CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 3
(2018 NATIONAL ELECTRICAL CODE OF THE NATIONAL FIRE PROTECTION ASSOCIATION, NFPA)

2019 CALIFORNIA MECHANICAL CODE
CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 4
(2018 UNIFORM MECHANICAL CODE OF THE INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS, IAPMO)

2019 CALIFORNIA PLUMBING CODE
CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 5
(2018 UNIFORM PLUMBING CODE OF THE INTERNATIONAL ASSOCIATION OF THE PLUMBING AND MECHANICAL OFFICIALS, IAPMO)

2019 CALIFORNIA ENERGY CODE
CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 6

2019 CALIFORNIA FIRE CODE
CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 9
(2018 INTERNATIONAL FIRE CODE OF THE INTERNATIONAL CODE COUNCIL)

2019 CALIFORNIA GREEN BUILDING STANDARDS CODE (CAL GREEN CODE)
CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 11

2019 CALIFORNIA REFERENCED STANDARDS CODE
CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 12

PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS
CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 19

PARTIAL LIST OF APPLICABLE STANDARDS:

2019 BUILDING CODE (FOR SFM) REFERENCED STANDARDS CHAPTER 35

NFPA 13	AUTOMATIC SPRINKLER SYSTEM	2016 EDITION
NFPA 17	DRY CHEMICAL EXTINGUISHING SYSTEMS	2016 EDITION
NFPA 17A	WET CHEMICAL SYSTEMS	2016 EDITION
NFPA 72	NATIONAL FIRE ALARM CODE	2016 EDITION
NFPA 80	FIRE DOORS AND OTHER OPENING PROTECTIVES	2016 EDITION
NFPA 2001	CLEAN AGENT FIRE EXTINGUISHING SYSTEMS	2018 EDITION
UL 464	AUDIBLE SIGNAL APPLIANCES	2016 EDITION
UL 521	HEAT DETECTORS FOR FIRE PROTECTION SIGNAL SYSTEMS	1999 EDITION

APPLICABLE CODES

STATEMENT OF GENERAL CONFORMANCE
THE DRAWINGS OR SHEETS LISTED IN THE INDEX ON THIS SHEET HAVE BEEN PREPARED BY OTHER DESIGN PROFESSIONALS OR CONSULTANTS WHO ARE LICENSED AND/OR AUTHORIZED TO PREPARE SUCH DRAWINGS IN THIS STATE. IT HAD BEEN EXAMINED BY ME FOR:

1. DESIGN INTENT AND APPEARS TO MEET THE APPROPRIATE REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS AND THE PROJECT SPECIFICATIONS PREPARED BY ME
2. COORDINATION WITH MY PLANS AND SPECIFICATIONS AND IS ACCEPTABLE FOR INCORPORATION INTO THE CONSTRUCTION OF THE PROJECT.

THIS STATEMENT OF GENERAL CONFORMANCE "SHALL" NOT BE CONSTRUED AS RELIEVING ME OF MY RIGHTS, DUTIES AND RESPONSIBILITIES UNDER SECTION 4-336, 4-341 AND 4-344 OF TITLE 24, PART 1 (TITLE 24, PART 1 SECTION 4-317) (B))

I CERTIFY THAT ALL DRAWINGS OR SHEETS LISTED IN THE INDEX ON THIS SHEET (CIVIL, STRUCTURAL, MECHANICAL, PLUMBING, ELECTRICAL, FIRE PROTECTION AND THEATRICAL) ARE IN GENERAL CONFORMANCE AND HAVE BEEN COORDINATED.

GENERAL CONFORMANCE STATEMENT

SVA ARCHITECTS IS THE DESIGNATED ARCHITECT OF RECORD AS REQUIRED BY THE STATE OF CALIFORNIA. THE ARCHITECT OF RECORD SHALL REVIEW SUBMITTALS AND COORDINATE SUBMITTALS AND DEFERRED SUBMITTALS THROUGH THE CITY OF GARDENA. DEFERRED SUBMITTALS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE CITY OF GARDENA.

THE BUILDING OFFICIAL SHALL BE NOTIFIED IN WRITING BY THE OWNER IF THE ARCHITECT OF RECORD IS CHANGED OR IS UNABLE TO CONTINUE TO PERFORM THE DUTIES. THE OWNER SHALL DESIGNATE A SUBSTITUTE ARCHITECT OR ENGINEER OF RECORD WHO SHALL PERFORM ALL OF THE DUTIES REQUIRED OF THE ORIGINAL ARCHITECT OF RECORD.

REVIEW AND COMMENT ON SUBMITTALS AND DEFERRED SUBMITTALS SHALL NOT RELIEVE THE AUTHOR OF THE DOCUMENTS OR THE CONTRACTOR FROM COMPLIANCE WITH ALL APPLICABLE CODES AND THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THE REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING HIS WORK WITH THAT OF OTHER TRADES, AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

ARCHITECT OF RECORD

THE FOLLOWING ITEMS ARE DESIGN-BUILD SYSTEMS AND WILL BE A DEFERRED SUBMITTAL BY THE CONTRACTOR AT A LATER DATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENGINEERING AND CALCULATIONS FOR APPLICABLE ITEMS. THE CONTRACTOR SHALL RETAIN THE SERVICES OF A CIVIL OR STRUCTURAL ENGINEER WHO SHALL BE RESPONSIBLE FOR THE DESIGN. THE CONTRACTOR SHALL SUBMIT CALCULATIONS AND SHOP DRAWINGS TO THE ARCHITECT OF RECORD, WHO SHALL REVIEW THEM WITH NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE GOVERNING AGENCY. THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTAL OF THE DEFERRED SUBMITTAL DOCUMENTS.

1. ELEVATOR GUIDE RAILS (MIN. 15 LB GUIDE RAILS) & SUPPORT BRACKETS
2. FIRE SPRINKLER SYSTEM
3. FIRE ALARM SYSTEM

DEFERRED SUBMITTALS

1. THESE DOCUMENTS AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF SVA ARCHITECTS, INC., AND ARE NOT TO BE USED, IN WHOLE OR IN PART FOR ANOTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF SVA ARCHITECTS, INC.

2. THE WORK SHOWN ON THESE DRAWINGS AS EXISTING CONDITIONS WAS PREPARED FROM INFORMATION FURNISHED BY THE OWNER. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, SVA ARCHITECTS,INC. IS NOT RESPONSIBLE FOR THE ACCURACY OR ADEQUACY OF ANY WORK SHOWN AS EXISTING NOR IS SVA ARCHITETS, INC. RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED INTO THESE DRAWINGS AS A RESULT.

3. EACH BIDDER SHALL POSSESS AT THE TIME OF BID A CLASS B OR THE APPROPRIATE CLASS C CONTRACTOR'S LICENSE PURSUANT TO PUBLIC CONTRACT CODE SECTION 3300 AND BUSINESS AND PROFESSIONS CODE SECTION 7028.15. THE SUCCESSFUL BIDDER MUST MAINTAIN THE LICENSE THROUGHOUT THE DURATION OF THIS CONTRACT.

4. CONTRACTOR IS RESPONSIBLE FOR FIRE SAFETY DURING CONSTRUCTION AND THE DURATION OF THIS CONTRACT PER 2013 CALIFORNIA FIRE CODE, CHAPTER 33.

5. INSPECTOR OF RECORD REQUIREMENTS: A. ONE OR MORE INSPECTORS EMPLOYED BY THE OWNER IN ACCORDANCE WITH THE REQUIREMENTS OF TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS WILL BE ASSIGNED TO THE WORK. THE INSPECTORS DUTIES ARE SPECIFICALLY DEFINED IN SECTION 4-342 OF SAID TITLE 24, PART 1.

6. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE CODES. ALL ENGINEERING SHALL COMFORM WITH ALL APPLICABLE MUNICIPAL, STATE AND FEDERAL REGULATIONS HAVING JURISDICTION INCLUDING ACCESSIBILITY STANDARDS AND ADA REQUIREMENTS.

7. GRADING PLANS, DRAINAGE IMPRPOVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIROMENTAL HEALTH CONCIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.

8. DRINKING WATER SHALL COMPLY WITH ALL LOCAL HEALTH DEPARTMENT REQUIREMENTS.

9. DO NOT SCALE THE DRAWINGS. THE DRAWINGS ARE NOT NECESSARILY TO SCALE. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS IN THE FIELD PRIOR TO BIDDING AND START OF CONSTRUCTION. IF DISCREPANCIES ARE FOUND, THE ARCHITECT SHALL BE NOTIFIED FOR CLARIFICATION BEFORE COMMENCING WORK.

10. ALL DIMENSIONS ARE TO FACE OF CONCRETE, FACE OF MASONRY UNITS, CENTERLINE OF COLUMNS AND BEAMS, OR FACE OF STUDS, UNLESS OTHERWISE NOTED. FINISH FLOOR ELEVATIONS ARE TO TOP OF CONCRETE SLAB OR TOP OF INTERIOR PAVING UNLESS NOTED OTHERWISE. CEILING HEIGHT DIMENSIONS ARE TO FINISHED SURFACES UNLESS NOTED OTHERWISE.

11. THE CIVIL, STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS ARE SUPPLEMENTAL TO THE ARCHITECTURAL DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CHECK WITH THE ARCHITECTURAL DRAWINGS BEFORE PROCEEDING WITH INSTALLATION OF CIVIL, STRUCTURAL MECHANICAL, PLUMBING, AND ELECTRICAL WORK. SHOULD THERE BE ANY DISCREPANCIES BETWEEN THE ARCHITECT'S AND THE CONSULTING ENGINEER'S DRAWINGS AND SPECIFICATIONS THAT WOULD CAUSE A CONFLICT, IT SHALL BE BROUGHT TO THE ARCHITECTS ATTENTION FOR CLARIFICATION PRIOR TO INSTALLATION OF SAID WORK. ANY WORK INSTALLED IN CONFLICT WITH THE ARCHITECTURAL DRAWINGS SHALL BE CORRECTED BY THE CONTRACTOR AT HIS EXPENSE AND AT NO ADDITIONAL COST TO THE OWNER OR ARCHITECT.

12. ALL SYMBOLS AND ABBREVIATIONS USED ON THE DRAWINGS ARE CONSIDERED TO BE CONSTRUCTION STANDARDS. IF THE CONTRACTOR HAS QUESTIONS REGARDING ABBREVIATIONS OR THEIR EXACT MEANING, THE ARCHITECT SHALL BE NOTIFIED FOR CLARIFICATION.

13. DETAILS MARKED "TYPICAL" SHALL APPLY IN ALL SIMILAR CASES UNLESS SPECIFICALLY INDICATED OTHERWISE.

14. THERE SHALL BE NO TRENCHES OR EXCAVATIONS 5' OR MORE IN DEPTH INTO WHICH A PERSON IS REQUIRED TO DECEND UNLESS A PERMIT IS OBTAINED FROM THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY PRIOR TO THE ISSUANCE OF A BUILDING OR GRADING PERMIT.

15. THE CONSTRUCTION OR DEMOLITION OF ANY BUILDING, STRUCTURE, SCAFFOLDING OR FALSEWORK MORE THAN 3 STORIES OR 36' IN HEIGHT REQUIRES A PERMIT FROM THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY PRIOR TO THE ISSUANCE OF A BUILDING PERMIT.

16. ALL CONSTRUCTION SHALL PERFORMED IN ACCORDANCE WITH THE STATE CONSTRUCTION SAFETY ORDERS ENFORCED BY THE STATE DIVISION OF INDUSTRIAL SAFETY.

17. DIMENSIONS AND CONDITIONS AT THE JOB SITE SHALL BE VERIFIED BY ALL CONTRACTORS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EXAMINE THE EXISTING CONDITIONS PRIOR TO SUBMITTING BIDS TO THE OWNER SINCE PROPOSALS MUST TAKE INTO CONSIDERATION ALL SUCH CONDITIONS THAT MAY AFFECT THE WORK. DISCREPANCIES IN THE DRAWINGS OR BETWEEN THE DRAWINGS AND ACTUAL FIELD CONDITION SHALL BE REPORTED TO THE ARCHITECT. REVISED DRAWINGS OR INSTRUCTIONS SHALL BE ISSUED BY THE OWNER PRIOR TO THE INSTALLATION OF ANY WORK.

18. NO CHANGES ARE TO BE MADE ON THESE PLANS WITHOUT THE KNOWLEDGE OR CONSENT OF THE ARCHITECT/ENGINEER WHOSE SIGNATURE APPEARS HEREON.

19. LOCATIONS OF ALL UTILITIES SHOWN ARE APPROXIMATE AND CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING ON THIS SITE TO AVOID INTERCEPTING EXISTING PIPING OR CONDUITS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WHETHER SHOWN HEREON OR NOT AND TO PROTECT THEM FROM DAMAGE. THE ARCHITECT IS NOT RESPONSIBLE FOR THE LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES WHETHER OR NOT SHOWN OR DETAILED AND INSTALLED BY ANY OTHER CONTRACT. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT SHOULD ANY UNIDENTIFIED CONDITIONS BE DISCOVERED. THE CONTRACTOR SHALL BEAR ALL EXPENSE OF REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED BY OPERATIONS IN CONJUNCTION WITH THE PROSECUTION OF THIS WORK.

FIRE SAFETY

1. FIRE SAFETY DURING CONSTRUCTION AND THE DURATION OF THIS CONTRACT:
   - A. GENERAL: FIRE SAFETY DURING CONSTRUCTION SHALL COMPLY WITH 2019 CALIFORNIA FIRE CODE TITLE 24, PART 9, CHAPTER 33.
   - B. ACCESS ROADS: FIRE DEPARTMENT ACCESS ROADS SHALL BE ESTABLISHED AND MAINTAINED IN ACCORDANCE WITH SECTION 1410.
   - C. WATER SUPPLY: WATER MAINS AND HYDRANTS SHALL BE OPERATIONAL IN ACCORDANCE WITH SECTION 1412.
   - D. BUILDING ACCESS: ACCESS TO BUILDINGS FOR THE PURPOSE OF FIREFIGHTING SHALL BE PROVIDED. CONSTRUCTION MATERIAL SHALL NOT BLOCK ACCESS TO BUILDINGS, HYDRANTS OR FIRE APPLIANCES.
   - E. FIRE WATCH: MAINTAIN FIRE WATCH WHEN REQUIRED BY THE BUILDING OFFICIAL AND/OR WHEN EXISTING FIRE PROTECTION SYSTEMS ARE SHUT DOWN FOR ALTERATIONS. FIRE WATCH SHALL REMAIN IN EFFECT UNTIL EXISTING FIRE PROTECTION SYSTEMS ARE RETURNED TO SERVICE OR AS ALLOWED BY THE BUILDING OFFICIAL.
2. CONTRACTOR REQUIRED TO COMPLY WITH CURRENT CODE AND CITY STANDARDS.
3. CONTRACTOR IS RESPONSIBLE FOR FIRE SAFETY DURING CONSTRUCTION AND THE DURATION OF THIS CONTRACT PER 2019 CALIFORNIA FIRE CODE, CHAPTER 33.

PLAN CHECK NOTES

1. THE CITY OF GARDENA BUILDING DEVISION ENFORCES THE CALIFORNIA BUILDING CODE (CBC) TITLE 24 CHAPTER 11B FOR DISABLED ACCESS COMPLIANCE AND DOES NOT REVIEW OR APPROVE PLANS FOR COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA).

GENERAL NOTES

ARCHITECTURAL

GEN-1	PROJECT INFORMATION & SHEET INDEX
GEN-2	CODE ANALYSIS & EXITING PLAN
GEN-3	GENERAL NOTES
GEN-4	PROJECT SIGNAGE
GEN-5	ACCESSIBILITY DETAILS
A1.0	SITE PLAN
A1.1	FIRE MASTER PLAN
A11.1	SLAB PLAN
A11.2	FIRST FLOOR PLAN
A11.3	SECOND FLOOR PLAN
A11.4	ROOF PLAN
A11.5	FIRST FLOOR RCP
A11.6	SECOND FLOOR RCP
A21.1	ELEVATIONS
A31.1	BUILDING SECTIONS
A32.1	WALL SECTIONS
A32.2	WALL SECTIONS
A32.3	WALL SECTIONS
A34.1	ASSEMBLIES
A34.2	ASSEMBLIES
A40.1	POOL BUILDING PLANS, ELEVATIONS, AND SECTIONS
A40.2	POOL BUILDING DETAILS
A42.1	ENLARGED LOCKER ROOM PLANS AND ELEVATIONS
A42.2	ENLARGED PLANS AND ELEVATIONS
A43.1	INTERIOR ELEVATIONS
A44.1	INTERIOR STAIR PLANS AND SECTIONS
A44.2	EXTERIOR STAIR PLANS AND SECTIONS
A44.3	TRELLIS PLANS AND SECTIONS
A50.1	FIRST FLOOR INTERIOR FINISH SCHEDULE
A50.2	SECOND FLOOR INTERIOR FINISH SCHEDULE
A52.1	DOOR SCHEDULE
A52.2	STOREFRONT ELEVATIONS
A61.1	WALL TYPES
A62.1	DETAILS WALL ASSEMBLIES
A62.2	DETAILS CEILING
A62.3	DETAILS CEILING
A62.4	DETAILS ROOF
A62.5	DETAILS ROOF
A63.1	DETAILS DOOR
A63.2	WINDOW AND WALL ASSEMBLY DETAILS
A64.1	STAIR AND RAILING DETAILS
A64.2	TRELLIS, FENCE AND MISC. DETAILS
A65.1	MISCELLANEOUS DETAILS
A67.1	DETAILS CASEWORK & MISC.
A67.2	TILE DETAILS

SHEET INDEX

CITY OF GARDENA INCORPORATED 1930

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SIMONIAN No. C-18801 JAN 31, 2020 STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.506'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

PROJECT INFORMATION & SHEET INDEX

COMMUNITY AQUATICS & SENIOR CENTER

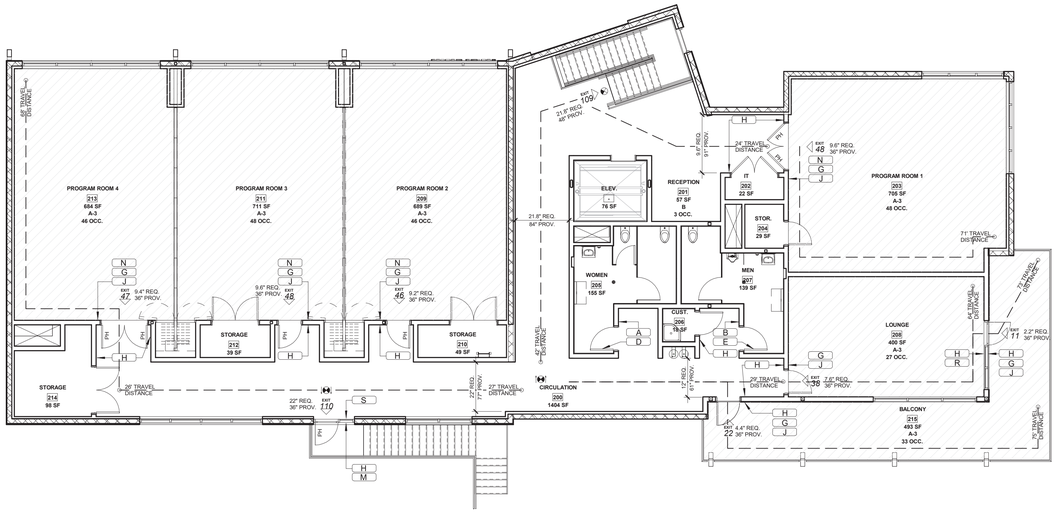
GEN-1

	INITIAL	DATE	APPROVED BY:
DESIGNED BY	AP/EC	05/25/2022	
DRAWN BY	NC	06/20/23	APPROVED BY: DIRECTOR OF PUBLIC WORKS
CHECKED BY	DB	06/29/23	

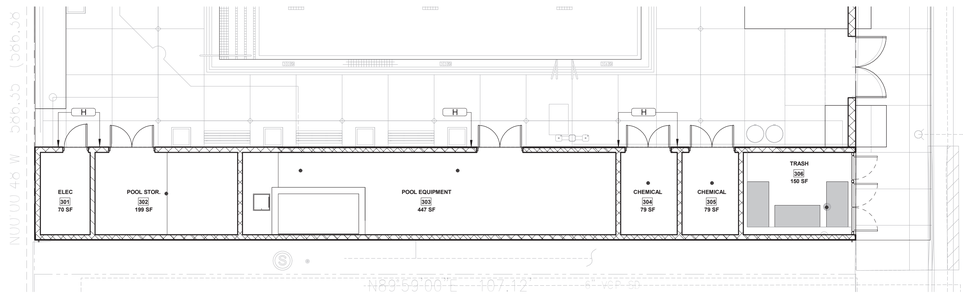
SHT. 39 OF 176 DWG. NO. 5-2606

CARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

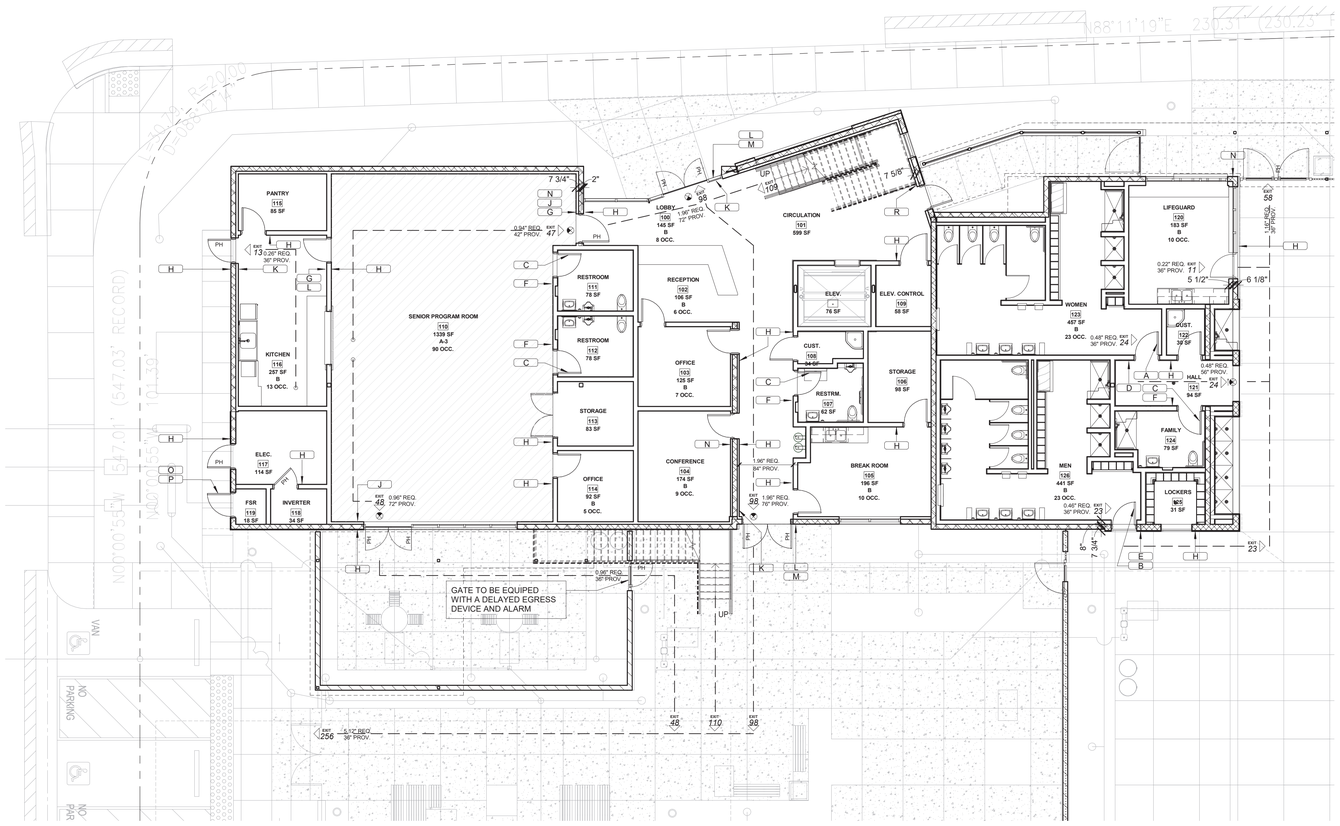
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SECOND FLOOR EXITING AND SIGNAGE PLAN | 1/8" = 1'-0" | 3



FIRST FLOOR POOL BUILDING EXITING AND SIGNAGE PLAN | 1/8" = 1'-0" | 1



FIRST FLOOR COMMUNITY BUILDING EXITING AND SIGNAGE PLAN | 1/8" = 1'-0" | 2

A-3 OCCUPANCY

B OCCUPANCY

EXIT PATH

CONCRETE MASONRY WALL

METAL STUD FRAMED WALL

1 EXITING TAG SHOWING NUMBER OF OCCUPANTS & EXIT DIRECTION

NOTE:
EVERY ROOM OR SPACE THAT IS AN ASSEMBLY OCCUPANCY SHALL HAVE THE OCCUPANT LOAD OF THE ROOM OR SPACE POSTED IN A CONSPICUOUS PLACE, NEAR THE MAIN EXIT OR EXIT ACCESS DOORWAY FROM THE ROOM OR SPACE. POSTED SIGNS SHALL BE OF AN APPROVED LEGIBLE PERMANENT DESIGN AND SHALL BE MAINTAINED BY THE OWNER OR AUTHORIZED AGENT. BUILDING CODE 1004.3. FIRE CODE 1004.3

EXITING PLAN LEGEND

PLUMBING FIXTURE REQUIREMENTS CPC SECTION 422

OCCUPANCY TYPE	B
ACTURAL AREA	163SF
LOAD FACTOR CPC TABLE A	200
NO. OF OCCUPANTS	1
FIXTURES PROVIDED	1 UNISEX RESTROOM PROVIDED WITH 1 TOILET, 1 LAV, AND 1 SHOWER

POOL PLUMBING FIXTURE REQUIREMENTS CBC 3116B

POOL AREA	7,020SF		
LOAD FACTOR	15		
NO. OF USERS	468 / 2 = 234 MALE & 234 FEMALE		
FIXTURES PROVIDED		MALE	FEMALE
	TOILETS	4	4
	URINALS	4	0
	LAVATORIES	3	3
	SHOWER	5	5
	DRINKING FOUNTAINS - 3 TOTAL (CBC 3117B)		

AQUATIC CENTER PLUMBING FIXTURE REQUIREMENTS

FIRST FLOOR PLUMBING FIXTURE REQUIREMENTS CPC SECTION 422

OCCUPANCY TYPE	A-3 (PROG.RM/LOUNGE/BAL.)	B (KITCHEN/OFFICE/RECEPTION)
ACTUAL AREA	5,021SF	637SF
LOAD FACTOR CPC TABLE A	30	200
NO. OF OCCUPANTS	168	4

TOTAL NO. OF OCCUPANTS: 172 / 2 = 86 MALE & 86 FEMALE

REQUIRED NO. FIXTURES PER T422.1 (A-3 USED AS MOST RESTRICTIVE)

	MALE	FEMALE
TOILETS	1	3
URINALS	1	0
LAVATORIES	1	1
DRINKING FOUNTAINS - 1 TOTAL		
SERVICE SINKS - 1 TOTAL		

PROVIDED NO. FIXTURES PER T422.1 (A-3 USED AS MOST RESTRICTIVE)

	MALE	FEMALE	UNISEX	TOTAL
TOILETS	1	2	3	6
URINALS	1	0	1	1
LAVATORIES	1	1	3	5
DRINKING FOUNTAINS - 2 TOTAL; 1 PER FLOOR				
SERVICE SINKS - 2 TOTAL; 1 PER FLOOR				

SENIOR CENTER PLUMBING FIXTURE REQUIREMENTS

NO.	DESCRIPTION	SHEET
A	RESTROOM DOOR SIGNAGE - WOMEN	2 / GEN-4
B	RESTROOM DOOR SIGNAGE - MEN	3 / GEN-4
C	RESTROOM DOOR SIGNAGE - ALL GENDER	4 / GEN-4
D	RESTROOM SIGN - WOMEN	6 / GEN-4
E	RESTROOM SIGN - MEN	7 / GEN-4
F	RESTROOM SIGN - ALL GENDER	8 / GEN-4
G	OCCUPANT LOAD SIGN *	17 / GEN-4
H	TACTILE ROOM IDENTIFICATION SIGN	9 / GEN-4
J	TACTILE EXIT ROUTE SIGN	12 / GEN-4
K	TACTILE EXIT SIGN	13 / GEN-4
L	ACCESSIBLE ENTRY SIGN	16 / GEN-4
M	NO SMOKING SIGN	22 / GEN-4
N	ASSISTIVE LISTENING SIGN	15 / GEN-4
O	FIRE SPRINKLER RISER ROOM SIGN	19 / GEN-4
P	FIRE ALARM SIGN	21 / GEN-4
R	TACTILE NOT AN EXIT SIGN	11 / GEN-4
S	TACTILE EXIT STAIR DOWN SIGN	10 / GEN-4

NOTE:

* FOR CLASSROOM #2, 3, & 4:
THE MAX. OCCUPANT LOAD SIGN SHOULD LIST LOADS FOR BOTH CONDITIONS, WHEN PARTITION IS OPEN AND WHEN IT IS CLOSED.

SIGNAGE LEGEND

	SENIOR CENTER	POOL BUILDING
OCCUPANCY TYPES:	**B, A-3**	**S-1**
BUILDING HEIGHT:	**+/- 32'-7"**	**+/- 11'-9"**
NUMBER OF STORIES:	**2**	**1**
BUILDING AREA:	**11,916SF** FIRST FLOOR = 6,111SF SECOND FLOOR = 5,805SF B = 6,507SF A-3 = 5,409SF	**1,284SF**
CONSTRUCTION TYPE:	**III-B**	**V-B**
FIRE SPRINKLERS:	**NFPA 13**	**NONE**
	PROPOSED AS NON-SEPARATED MIXED-OCCUPANCY BUILDING (A-3 MOST RESTRICTIVE)	
ALLOWABLE BUILDING HEIGHT: (CBC T504.3)	**55'** (W/ AREA INCREASE)	**40'**
ALLOWABLE NUMBER OF STORIES: (CBC T504.4)	**2** (W/ AREA INCREASE)	**1**
ALLOWABLE BUILDING AREA: (CBC T506.2)	**28,500SF** (W/O HEIGHT INCREASE)	**9,000SF** (CBC TABLE 506.2)
OCCUPANCY SEPARATION	NON-SEPARATED OCCUPANCIES PER CBC 508.3	NONE, SINGLE OCCUPANCY BUILDING
FIRE-RESISTANCE RATING REQUIREMENTS (CBC T601)		
STRUCTURAL FRAME	0	0
BEARING WALLS - EXTERIOR	2	0
BEARING WALLS - INTERIOR	0	0
NON BEARING WALLS & PARTITIONS - EXTERIOR	SEE TABLE 602	SEE TABLE 602
NON BEARING WALLS & PARTITIONS - INTERIOR	0	0
FLOOR CONSTRUCTION	0	0
ROOF CONSTRUCTION	0	0
NON BEARING WALLS AND PARTITIONS - EXTERIOR (CBC T602)		
FIRE SEPARATION DISTANCE = X(FEET)		
10 ≤ X < 30	N/A (ALL WALLS +30' FSD)	0
X ≥ 30	0	0

CODE ANALYSIS

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SIMPSON No. C-17651 JAN. 31, 2025 STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

CODE ANALYSIS & EXITING PLAN

COMMUNITY AQUATICS & SENIOR CENTER

GEN-2

	INITIAL	DATE
DESIGNED BY	AP/EC	06/25/2022
DRAWN BY	NC	04/20/23
CHECKED BY	DB	04/29/23

APPROVED BY: _____ DIRECTOR OF PUBLIC WORKS

SHT. 40 OF 176 DWG. NO. 5-2606

CARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

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ABBREVIATIONS

A.B.	ANCHOR BOLT (S)
A.C.	ASPHALT CONCRETE PAVING
ACOUS	ACOUSTIC
AC. T.	ACOUSTICAL TILE
AD.	AREA DRAIN
ADJ.	ADJUSTABLE
AGG	AGGREGATE
ALT.	ALTERNATE
ALUM.	ALUMINUM
APPROX.	APPROXIMATE
APT.	APARTMENT
ASPH.	ASPHALT
A.S.T.M.	AMERICAN SOCIETY OF TESTING MATERIALS
@	AT
B.B	BOTTOM OF BEAM
BD.	BOARD
BLK.	BLOCK
BLK'G.	BLOCKING
BM.	BEAM
BOT.	BOTTOM
BDRM.	BEDROOM
BR.	BROOM
CAB.	CABINET
CPT.	CARPET
C.B.	CATCH BASIN
CEM.	CEMENT
CEM. PLAS.	CEMENT PLASTER
C.	CENTER LINE
CER.	CERAMIC
C.I.	CAST IRON
CIRC.	CIRCULAR
CLG.	CEILING
CLR.	CLEAR
C.M.T.	CERAMIC MOSAIC TILE
COMPC.	COMPOSITION
CONC.	CONCRETE
CONT.	CONTINUOUS
CTSK.	COUNTERSUNK
CU. FT.	CUBIC FEET
CU. IN.	CUBIC INCH
CU. YD.	CUBIC YARD
D.	DRYER
D.F.	DOUGLAS FIR
D.F.	DRINKING FOUNTAIN
DIA.	DIAMETER
DIM.	DIMENSION
DN.	DOWN
DR.	DOOR
D.S.	DOWN SPOUT
DSP.	DRY STANDPIPE
DUP.	DUPLICATE
DW.	DISHWASHER
DWGS.	DRAWINGS
E.	EAST
EA.	EACH
E.J.	EXPANSION JOINT
ELEVA.	ELEVATOR
ELEV.	ELEVATION
ENCL.	ENCLOSURE
EQ.	EQUAL
EQUIP.	EQUIPMENT
E.W.W.M.	ELECTRIC WELDED WIRE MESH
EXPN.	EXPANSION
EXP.	EXPOSED
EXT.	EXTERIOR
EXTR.	EXTINGUISHER
FHS	FLAT HEAD SCREW
F.A.U.	FORCED AIR UNIT
F.F.	FINISH FLOOR
F.G.	FIXED GLASS
FHWS	FLAT HEAD WOOD SCREW
FIN.	FINISH
FIXT	FIXTURE
FLASH.	FLASHING
FLR	FLOOR
FLR'G	FLOORING
FLUOR.	FLUORESCENT
F.O.C.	FACE OF CONCRETE
F.O.M.	FACE OF MASONRY
F.O.S.	FACE OF STUD
F.O.W.	FACE OF WALL
F.P.	FIRE PLACE
F.S.	FINISH SURFACE
FREQ.	FREQUENCY
FT.	FEET, FOOT
FTG.	FOOTING
FXC	FIRE EXTINGUISHER & CABINET
GA.	GAUGE
GALV.	GALVANIZED
G.I.	GALVANIZED IRON (STEEL)
GUN.	FUNITE
GYP.	GYPSUM
GYP. BD.	GYPSUM BOARD
H.B.	HOSE BIBB
H.C.	HOLLOW CORE
HD	DEAD
H.M.	HOWLLOW METAL
HORIZ.	HORIZONTAL
HR.	HOUR
I.	IRON
I.D.	INSIDE DIAMETER
INC.	INCORPORATED
INSUL.	INSULATION
INT	INTERIOR
JT.	JOINT
JST.	JOIST
K.	KITCHEN
LAM.	LAMINATED
LAM. PLAS.	LAMINATED PLASTIC
LAV.	LAVATORY
LT.	LIGHT
LVR.	LOUVER
M.C.	MEDICINE CABINET
MECH.	MECHANICAL
MEMB.	MEMBRANE
MET.	METAL
MFG.	MANUFACTURE
M.H.	MAN HOLE
MIN.	MINIMUM
MIR.	MIRROR
MTG.	MOUNTING
MTL.	METAL
N.	NORTH
NAT.	NATURAL
N.I.C.	NOT IN CONTRACT
NO.	NUMBER
N.T.S.	NOT TO SCALE
O/	OVER
O.C.	ON CENTER
O.D.	OVERFLOW DRAIN
O.H.	OPPOSITE HAND
OPP.	OPPOSITE
O.T.S.	OPEN TO STRUCTURE
OV.	OVEN
OVHD.	OVERHEAD
PB.	PUSHBUTTON
PL	PLATE
P	PROPERTY LINE
PLAS.	PLASTER
PL. GLS.	PLATE GLASS
PLAST.	PLASTER
PLYWD.	PLYWOOD
PNL.	PANEL
PR.	PAIR
PRCST.	PRECAST
PREFAB.	PREFABRICATED
%	PERCENT
QRY.	QUARRY
QTY.	QUANTITY
RAD.	RADIUS
R.	RISER
R.A.G.	RETURN AIR GRILLE
RD.	ROAD
R.D.	ROOF DRAIN
RDWD.	REDWOOD
RECP.	RECEPTABLE
REF.	REFERENCE
REF.	REFRIGERATOR
REG.	REGISTER
REINF.	REINFORCEMENT
REQ'D	REQUIRED
RES. FLR.	RESILIENT FLOORING
RET.	RETAINING
RF.	ROOF
RF'G.	ROOFING
RM.	ROOM
RO.	ROUGH
R.O.	ROUGH OPENING
RUB.	RUBBER
R.B.	RUBBER (RESILIENT) BASE
S.	SOUTH
S.C.	SOLID CORE
S.D.	STORM DRAIN
SHT.	SHEET
SHT'G	SHEATHING
SIM.	SIMILAR
S&P	SHELF AND POLE
SPECS.	SPECIFICATIONS
SPRKL.	SPRINKLER
SQ. IN.	SQUARE INCH
SQ. FT.	SQUARE FOOT
ST.	STEEL
STOR.	STORAGE
STRUCT.	STRUCTURAL
SUSP.	SUSPENDED
SIM.	SIMILAR
S4S	SMOOTH FOUR SIDES
T	TREAD
T&B	TOP AND BOTTOM
T.B.	TOP OF BEAM
T.C.	TOP OF CURB
T.C.	TOP OF CONCRETE
T.G.	TOP OF GRATE
TEL.	TELEPHONE
TEMP.	TEMPERED
T&G	TONGUE AND GROOVE
THK.	THICK
THRESH	THRESHOLD
T.P.	TOP OF PAVING
T.S.	TOP OF SHEATHING
T.W.	TOP OF WALL
TYP.	TYPICAL
UL	UNDERWRITER'S LABEL
ULT.	ULTIMATE
UNFIN.	UNFINISHED
U.R.F.	UNDER ROOF FRAMING
V.A.T.	VINYL ASBESTOS TILE
VENT.	VENTILATOR
VERT.	VERTICAL
VIT.	VITREOUS
VOL.	VOLUME
V.T.	VINYL TILE
W.	WEST
W/	WITH
W.C.	WATER CLOSET
WD.	WOOD
W	WIDE FLANGE (STEEL)
W.G.	WIRE GLASS
W.H.	WATER HEATER
W.I.	WROUGHT IRON
W/O	WITH OUT
WP.	WATERPROOFING
WS.	WEATHERSTRIPPING
W.S.P.	WET STANDPIPE
WT.	WEIGHT
YD.	YARD

ARCHITECTURAL SYMBOLS LEGEND

ACCESSIBILITY NOTES

1. SITE DEVELOPMENT

A. GRADE AND DEVELOP SITE SUCH THAT ALL PRIMARY BUILDING ENTRANCES ARE ACCESSIBLE TO THE PHYSICALLY DISABLED FROM THE PUBLIC WAY AND DISABLED PARKING PROVIDED.

B. ONE ACCESSIBLE ROUTE SHALL CONNECT ACCESSIBLE BUILDINGS, FACILITIES AND SPACES ON THE SAME SITE. WHERE MORE THAN ONE ROUTE IS PROVIDED, ALL ROUTES SHALL BE ACCESSIBLE

C. IF AN ACCESSIBLE ROUTE HAS A CHANGE IN LEVEL GREATER THAN 1/2", THEN A CURB RAMP, RAMP, ELEVATOR, OR PLATFORM LIFT SHALL BE PROVIDED.

D. ALL WALKS, HALLS, CORRIDORS, AISLES, AND OTHER SPACES THAT ARE PART OF AN ACCESSIBLE ROUTE SHALL PROVIDE A MINIMUM CLEAR WIDTH OF 48 INCHES AND A CLEAR HEIGHT OF 80 INCHES.

2. WALKS AND SIDEWALKS

A. WALKS AND SIDEWALKS SUBJECT TO THESE REGULATIONS SHALL HAVE A CONTINUOUS COMMON SURFACE, NOT INTERRUPTED BY STEPS OR BY ABRUPT CHANGES IN LEVEL EXCEEDING 1/2", AND SHALL BE A MINIMUM OF 48 INCHES IN WIDTH.

B. ALL SIDEWALKS SHALL BE STABLE, FIRM AND SLIP RESISTANT.

C. SURFACE CROSS SLOPES SHALL NOT EXCEED 1:48 (CBC 11B-403.3).

D. WALKS, SIDEWALKS AND PEDESTRIAN WAYS SHALL BE FREE OF GRATINGS WHENEVER POSSIBLE GRATINGS LOCATED IN THE SURFACE OF ANY OF THESE AREAS, GRID OPENINGS IN THE GRATING SHALL BE LIMITED TO 1/2" IN THE DIRECTION OF TRAFFIC FLOW.

E. ABRUPT CHANGES IN LEVEL ALONG ANY ACCESSIBLE ROUTE SHALL NOT EXCEED 1/2". WHEN CHANGES DO OCCUR, THEY SHALL BE BEVELED WITH A SLOPE NO GREATER THAN 1:2 EXCEPT THAT LEVELS NOT EXCEEDING 1/4" MAY BE VERTICAL.

F. WHEN CHANGES IN LEVELS GREATER THAN 1/2" ARE NECESSARY THEY SHALL COMPLY WITH THE REQUIREMENTS FOR CURB RAMPS OR RAMPS AS REQUIRED.

G. WALKS SHALL BE PROVIDED WITH A LEVEL AREA NOT LESS THAN 60" SQUARE AT A DOOR OR GATE THAT SWINGS TOWARD THE WALK, AND NOT LESS THAN 48" WIDE BY 44" DEEP AT A DOOR OR GATE THAT SWINGS AWAY FROM THE WALK. SUCH WALKS SHALL EXTEND 24" TO THE SIDE OF THE STRIKE EDGE OF A DOOR OR GATE THAT SWINGS TOWARD THE WALK.

H. WHEN THE SLOPE IN THE DIRECTION OF TRAVEL OF ANY WALK EXCEEDS 5%, IT MUST COMPLY WITH THE PROVISIONS FOR PEDESTRIAN RAMPS (PER CBC 11B-405).

I. ALL WALKS WITH CONTINUOUS GRADIENTS SHALL HAVE LEVEL AREAS AT LEAST 5 FEET IN LENGTH AT INTERVALS NOT EXCEEDING 400 FEET.

3. ENTRANCES AND DOORWAYS

A. PRIMARY ENTRANCES TO BUILDINGS AND FACILITIES SHALL BE MADE ACCESSIBLE TO THE DISABLED.

B. ACCESSIBLE ENTRANCES SHALL BE IDENTIFIED WITH AT LEAST ONE "ISA" SIGN AND WITH ADDITIONAL DIRECTIONAL SIGNS AS REQUIRED VISIBLE FROM APPROACHING PEDESTRIAN WAYS.

C. LATCHING AND LOCKING DOORS THAT ARE HAND ACTIVATED AND ARE IN THE PATH OF TRAVEL, SHALL BE OPERABLE WITH A SINGLE EFFORT BY LEVER TYPE HARDWARE, PANIC BARS, PUSH-PULL ACTIVATING BARS OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE WITHOUT REQUIRING THE ABILITY TO GRASP THE OPENING HARDWARE.

D. HAND ACTIVATED DOOR HARDWARE SHALL BE CENTERED BETWEEN 34" AND 44" ABOVE THE FLOOR (CBC 11B-404.2.7).

E. THE FLOOR OR LANDING ON EACH SIDE OF AN ENTRANCE OR PASSAGE DOOR SHALL BE LEVEL AND CLEAR. THE LEVEL AND CLEAR AREA SHALL BE A MINIMUM 60" SQUARE IN THE DIRECTION OF THE DOOR SWING AND A MINIMUM 44" SQUARE OPPOSITE THE DIRECTION OF DOOR SWING (48" IF THE DOOR HAS BOTH LATCH AND CLOSER). THE SQUARES SHALL BE MEASURED AT RIGHT ANGLES TO THE PLANE OF THE DOOR IN ITS CLOSED POSITION. SEE NOTE I BELOW FOR STRIKE SIDE REQUIREMENTS.

F. THE WIDTH OF THE LEVEL AND CLEAR AREA ON THE SIDE TO WHICH THE DOOR SWINGS SHALL EXTEND 24" PAST THE STRIKE EDGE OF THE DOOR FOR EXTERIOR DOORS AND 18" PAST THE STRIKE EDGE FOR INTERIOR DOORS AND THE PRIMARY ENTRANCE TO THE DWELLING UNIT.

G. THE FLOOR OR LANDING SHALL BE NOT MORE THAN 1/2" LOWER THAN THE THRESHOLD OF THE DOORWAY. CHANGE IN LEVEL BETWEEN 1/4" AND 1/2" SHALL BE BEVELED NO GREATER THAN 1:2.

H. THE BOTTOM 10 INCHES OF ALL DOORS EXCEPT SLIDING AND POCKET DOORS SHALL HAVE A SMOOTH UNINTERRUPTED SURFACE TO ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION.

I. MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED 5 LBS FOR EXTERIOR DOORS AND 5 LBS FOR INTERIOR DOORS. SUCH PULL OR PUSH EFFORT SHALL BE APPLIED AT RIGHT ANGLES TO HINGED DOORS AND AT THE CENTER PLANE OF SLIDING OR FOLDING DOORS. COMPENSATING DEVICES OR AUTOMATIC DOOR OPERATORS MAY BE UTILIZED TO MEET THE ABOVE STANDARDS. THE AUTHORITY HAVING JURISDICTION MAY INCREASE THE MAXIMUM EFFORT TO OPERATE FIRE DOORS TO ACHIEVE POSITIVE LATCHING, BUT NOT TO EXCEED 15 LBS MAX.

J. EXIT DOORS MUST OPEN FROM THE INSIDE WITHOUT A KEY, OR ANY SPECIAL KNOWLEDGE OR EFFORT. EXIT DOORS FROM BUILDINGS OR ROOMS SERVING 10 OR FEWER OCCUPANTS MAY HAVE A NIGHT LATCH, DEADBOLT OR SECURITY CHAIN, AS LONG AS THE DOORS CAN STILL BE OPENED FROM THE INSIDE WITHOUT A KEY, SPECIAL KNOWLEDGE OR EFFORT. IN ADDITION, THESE DEVICES ARE NOT MOUNTED MORE THAN 48" ABOVE THE FLOOR. MANUALLY OPERATED EDGE BOLTS, SURFACE MOUNTED FLUSH BOLTS AND SURFACE BOLTS ARE PROHIBITED. WHEN EXIT DOORS ARE USED IN PAIRS AND AUTOMATIC FLUSH BOLTS ARE USED, THE DOOR LEAF WITH THE FLUSH BOLT MUST HAVE NO DOORKNOB OR SURFACE MOUNTED HARDWARE. THE UNLATCHING OF ANY LEAF MUST NOT REQUIRE MORE THAN ONE OPERATION.

K. EVERY REQUIRED EXIT MUST BE LARGE ENOUGH TO PERMIT A DOOR AT LEAST 3'-0" WIDE BY 6'-8" HIGH. EXIT DOORS SHALL OPEN AT LEAST 90 DEGREES AND PROVIDE A CLEAR WIDTH OF AT LEAST 32".

L. THRESHOLDS AT ALL EXTERIOR DOORS SHALL BE NO HIGHER THAN 1/2". SUCH THRESHOLDS SHALL BE BEVELED NO GREATER THAN 1:2.

M. THE FLOOR LANDING IMMEDIATELY OUTSIDE THE ENTRY MAY BE SLOPED UP TO 1/8" PER FOOT IN THE DIRECTION AWAY FROM THE PRIMARY ENTRANCE FOR DRAINAGE.

N. THE SPACE BETWEEN TWO CONSECUTIVE DOOR OPENINGS IN A VESTIBULE, SERVING OTHER THAN A REQUIRED EXIT STAIRWAY, MUST HAVE AT LEAST 48" OF CLEAR SPACE FROM ANY DOOR OPENING INTO THE VESTIBULE WHEN THE DOOR IS OPEN 90 DEGREES FROM ITS CLOSED POSITION. DOORS IN SERIES MUST SWING IN THE SAME DIRECTION OR AWAY FROM THE SPACE BETWEEN THE DOORS.

4. STAIRWAYS

A. STAIRWAYS SHALL HAVE HANDRAILS ON EACH SIDE. STAIRWAYS SHALL HAVE INTERMEDIATE HANDRAILS WHERE REQUIRED SUCH THAT ALL PORTIONS OF THE STAIRWAY WIDTH REQUIRED FOR EGRESS CAPACITY ARE WITHIN 30 INCHES OF A HANDRAIL. INTERMEDIATE HANDRAILS SHALL BE SPACED AT EQUAL INTERVALS WITHIN THE WIDTH OF THE STAIRWAY AND BE CONTINUOUS FOR THE ENTIRE LENGTH.

B. HANDRAILS MUST BE 34 TO 38 INCHES ABOVE THE NOSING OF THE TREADS AND MUST EXTEND IN THE DIRECTION OF THE STAIR RUN FOR AT LEAST 12" BEYOND THE TOP NOSING AND 12" PLUS THE TREAD WIDTH BEYOND THE BOTTOM NOSING.

C. ENDS SHALL BE RETURNED OR SHALL TERMINATE IN A NEWEL POST OR SAFETY TERMINAL.

D. HANDRAILS PROJECTING FROM A WALL SHALL HAVE A SPACE OF NOT LESS THAN 1-1/2-INCH BETWEEN THE WALL AND THE HANDRAIL.

E. THE HANDGRIP PORTION OF HANDRAILS SHALL BE NOT LESS THAN 1-1/4-INCHES NOR MORE THAN 1 1/2-INCHES IN CROSS-SECTIONAL DIMENSION OR THE SHAPE SHALL PROVIDE AN EQUIVALENT GRIPPING SURFACE and SHALL HAVE A SMOOTH SURFACE WITH NO SHARP OR ABRASIVE CORNERS and ALL EDGES MUST HAVE A MINIMUM 1/8" RADIUS.

F. THE UPPER APPROACH and THE LOWER TREAD OF EACH INTERIOR STAIR SHALL BE MARKED BY A STRIP OF CLEARLY CONTRASTING COLOR THE FULL WIDTH OF THE TREAD AT LEAST 2-INCHES WIDE PLACED PARALLEL TOAND NOT MORE THAN 1-INCH FROM THE NOSE OF THE STEP OR LANDING TO ALERT THE VISUALLY IMPAIRED. THE STRIP SHALL BE OF A MATERIAL THAT IS AT LEAST AS SLIP RESISTANT AS THE OTHER TREADS OF THE STAIR.

G. WHERE STAIRWAYS OCCUR OUTSIDE A BUILDING, THE UPPER APPROACH AND ALL TREADS SHALL BE MARKED BY A STRIP OF CLEARLY CONTRASTING COLOR AT LEAST 2-INCHES WIDE AND PLACED PARALLEL TO AND NOT MORE THAN 1-INCH FROM THE NOSE OF THE STEP OR LANDING TO ALERT THE VISUALLY IMPAIRED. THE STRIP SHALL BE OF A MATERIAL THAT IS AT LEAST AS SLIP RESISTANT AS THE OTHER TREADS OF THE STAIR. A PAINTED STRIP SHALL BE ACCEPTABLE.

H. ALL TREAD SURFACES SHALL BE SLIP RESISTANT.

I. TREADS SHALL HAVE A SMOOTH, ROUNDED OR CHAMFERED EXPOSED EDGES, AND NO ABRUPT EDGES AT THE NOSING (LOWER FRONT EDGE).

J. NOSING SHALL NOT PROJECT MORE THAN 1-1/4 INCH PAST THE FACE OF THE RISER BELOW.

K. STAIR RISERS SHALL BE SOLID PER CBC 11B-504.

5. SANITARY FACILITIES

A. WHEELCHAIR ACCESSIBLE WATER CLOSET COMPARTMENTS SHALL BE EQUIPPED WITH A DOOR THAT HAS AN AUTOMATIC CLOSING DEVICE, and SHALL HAVE A CLEAR UNOBSTRUCTED OPENING WIDTH OF 32-INCHES WHEN LOCATED AT THE END AND 34-INCHES WHEN LOCATED AT THE SIDE WITH THE DOOR POSITION AT AN ANGLE OF 90 DEGREES FROM ITS CLOSED POSITION.

B. TOILET FLUSH CONTROLS SHALL BE OPERABLE WITH ONE HAND, AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. CONTROLS FOR FLUSH VALVES SHALL BE MOUNTED ON THE WIDE SIDE OF THE TOILET AREAS, NO MORE THAN 44-INCHES ABOVE THE FLOOR. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 POUNDS PER FOOT.

C. WHERE URINALS ARE PROVIDED AT LEAST ONE WITH A RIM PROJECTING A MINIMUM OF 14-INCHES FROM THE WALL AND AT A MAXIMUM OF 17-INCHES ABOVE THE FLOOR SHALL BE PROVIDED.

D. URINAL FLUSH CONTROLS SHALL BE OPERABLE WITH ONE HAND, AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST AND SHALL BE MOUNTED NO MORE THAN 44" ABOVE THE FLOOR. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 POUNDS PER FOOT.

E. HOT WATER AND DRAIN PIPES UNDER LAVATORIES SHALL BE INSULATED OR OTHERWISE COVERED.

F. FAUCET CONTROLS AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 POUNDS PER FOOT. LEVER OPERATED, PUSH TYPE AND ELECTRONICALLY CONTROLLED MECHANISMS ARE EXAMPLES OF ACCEPTABLE DESIGNS. SELF-CLOSING VALVES ARE ALLOWED IF THE FAUCET REMAINS OPEN FOR AT LEAST 10 SECONDS.

G. MIRRORS SHALL BE MOUNTED WITH THE BOTTOM GLASS EDGE NOT MORE THAN 40-INCHES ABOVE THE FLOOR.

H. LOCATE TOWEL, SANITARY NAPKIN, AND WASTE RECEPTACLES WITH ALL OPERABLE PARTS NOT MORE THAN 40-INCHES FROM THE FLOOR.

I. TOILET TISSUE DISPENSERS SHALL BE LOCATED ON THE WALL OR PARTITION WITHIN 7" TO 9" TO CENTERLINE FROM THE FRONT EDGE OF THE TOILET SEAT, MOUTED BELOW THE GRAB BAR, AT A MINIMUM HEIGHT OF 19 INCHES, AND 36 INCHES MAXIMUM TO THE FAR EDGE FROM THE REAR WALL. DISPENSERS SHALL PERMIT CONTINUOUS FLOW AND NOT CONTROL DELIVERY (CBC 11B-604.7).

J. GRAB BARS, TUB AND SHOWER SEATS, FASTENERS AND MOUNTING DEVICES SHALL BE DESIGNED FOR 250 LB. PER CBC 1607A.8.2.

K. GRAB BARS:
1. THE DIAMETER OR WIDTH OF THE GRIPPING SURFACE OF A GRAB BAR SHALL BE 1-1/4" TO 1-1/2" OR THE SHAPE SHALL PROVIDE AN EQUIVALENT GRIPPING SURFACE.
2. IF THE GRAB BARS ARE MOUNTED ADJACENT TO A WALL, THE SPACE BETWEEN THE WALL AND THE GRAB BARS SHALL BE 1-1/2".
3. A GRAB BAR AND ANY WALL OR OTHER SURFACE ADJACENT SHALL BE FREE OF ANY SHARP OR ABRASIVE ELEMENTS.
4. GRAB BARS SHALL NOT ROTATE WITHIN THEIR FITTINGS.
5. EDGES SHALL HAVE A MINIMUM RADIUS OF 1/8".

6. SWITCHES CONTROLS and ELECTRICAL OUTLETS

A. RECEPTACLE OUTLETS SHALL BE 15" MIN ABOVE THE FINISHED FLOOR TO THE BOTTOM OF THE BOX PER CBC 11B-308.1.2.

B. SWITCHES SHALL BE 48" MAX. ABOVE THE FINISHED FLOOR TO THE TOP OF THE BOX (11B-308.1.1).

C. IF REACH IS OVER AN OBSTRUCTION (FOR EXAMPLE, A BASE CABINET) BETWEEN 20" AND 25" IN DEPTH, THE MAXIMUM HEIGHT IS REDUCED TO 44" FOR FORWARD APPROACH, OR 46" FOR SIDE APPROACH PROVIDED THE OBSTRUCTION IS NO MORE THAN 24" IN DEPTH. THE OBSTRUCTION MAY NOT EXTEND MORE THAN 25" FROM THE WALL BENEATH THE CONTROL.

D. THE CENTER OF FIRE ALARM INITIATING DEVICES (BOXES) SHALL BE LOCATED 48" ABOVE THE LEVEL OF THE FLOOR, WORKING PLATFORM, GROUND SURFACE OR SIDEWALK.

E. IF EMERGENCY WARNING SYSTEMS ARE REQUIRED THEY SHALL ACTIVATE A MEANS OF WARNINGTHE HEARING IMPAIRED. FLASHING VISUAL WARNING SHALL HAVE A FREQUENCY OF NOT MORE THAN 60 FLASHES PER MINUTE.

GENERAL NOTES

1. THESE DOCUMENTS AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF SVA ARCHITECTS, AND ARE NOT TO BE USED, IN WHOLE OR IN PART FOR ANOTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF SVA ARCHITECTS.

2. THE WORK SHOWN ON THESE DRAWINGS AS EXISTING CONDITIONS WAS PREPARED FROM INFORMATION FURNISHED BY THE OWNER, WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, SVA ARCHITECTS INC. IS NOT RESPONSIBLE FOR THE ACCURACY OR ADEQUACY OF ANY WORK SHOWN AS EXISTING NOR IS SVA ARCHITECTS INC. RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED INTO THESE DRAWINGS AS A RESULT.

3. EACH BIDDER SHALL POSSESS AT THE TIME OF BID A CLASS B OR THE APPROPRIATE CLASS C CONTRACTOR'S LICENSE PURSUANT TO PUBLIC CONTRACT CODE SECTION 3300 AND BUSINESS and PROFESSIONS CODE SECTION 7028.15. THE SUCCESSFUL BIDDER MUST MAINTAIN THE LICENSE THROUGHOUT THE DURATION OF THIS CONTRACT.

4. FIRE SAFETY DURING CONSTRUCTION AND THE DURATION OF THIS CONTRACT:

A. GENERAL: FIRE SAFETY DURING CONSTRUCTION SHALL COMPLY WITH 2016 CALIFORNIA FIRE CODE TITLE 24, PART 9, CHAPTER 33.

B. ACCESS ROADS: FIRE DEPARTMENT ACCESS ROADS SHALL BE ESTABLISHED AND MAINTAINED IN ACCORDANCE WITH SECTION 1410.

C. WATER SUPPLY: WATER MAINS AND HYDRANTS SHALL BE OPERATIONAL IN ACCORDANCE WITH SECTION 1412.

D. BUILDING ACCESS: ACCESS TO BUILDINGS FOR THE PURPOSE OF FIREFIGHTING SHALL BE PROVIDED. CONSTRUCTION MATERIAL SHALL NOT BLOCK ACCESS TO BUILDINGS, HYDRANTS OR FIRE APPLIANCES.

E. ALTERATIONS OF BUILDINGS: SHALL COMPLY WITH APPLICABLE PROVISIONS OF SECTIONS 1405, 1411, 1413, AND 1415.

G. FIRE WATCH: MAINTAIN FIRE WATCH WHEN REQUIRED BY THE BUILDING OFFICIAL AND WHEN EXISTING FIRE PROTECTION SYSTEMS ARE SHUT DOWN FOR ALTERATIONS, FIRE WATCH SHALL REMAIN IN EFFECT UNTIL EXISTING FIRE PROTECTION SYSTEMS ARE RETURNED TO SERVICE OR AS ALLOWED BY THE BUILDING OFFICIAL.

5. PENETRATIONS TO FIRE RATED MATERIALS OR ASSEMBLIES SHALL BE RESTORED TO EQUAL RATING. FIRE STOP SYSTEMS AS LISTED BY UNDERWRITERS LABORATORIES SHALL BE INSTALLED PER FIRE RESISTANCE DIRECTORY. FIRE STOP SYSTEMS SHALL BE AS SPECIFIED.

6. STATEMENT (TITLE 24, PART 6): NONRESIDENTIAL ENERGY STANDARDS COMPLIANCE: THE DESIGN INDICATED HEREIN COMPLIES WITH THE REQUIREMENTS OF THE ENERGY CONSERVATION STANDARDS OF TITLE 24, PART 6, CALIFORNIA CODE OF REGULATIONS. THE PROPOSED BUILDING(S) WILL BE IN COMPLIANCE WITH THE ENERGY CONSERVATION STANDARDS PROVIDED IT (THEY) IS (ARE) BUILT ACCORDING TO THESE DRAWINGS AND SPECIFICATIONS AND PROVIDED ANY FUTURE IMPROVEMENTS ARE COMPLETED ACCORDING TO THE REQUIREMENTS OF TITLE 24, PART 6, CALIFORNIA CODE OF REGULATIONS. THESE PLANS AND SPECIFICATIONS HAVE BEEN PREPARED TO INCLUDE ALL SIGNIFICANT ENERGY CONSERVATION FEATURES REQUIRED FOR COMPLIANCE WITH THE STANDARDS. BUILDING AREAS THAT ARE UNCONDITIONED AND/OR NOT SUBJECT TO THE STANDARDS ARE INDICATED ON THE PLANS.

ENVELOPE MANDATORY MEASURES:

A. INSTALLED INSULATING MATERIALS SHALL HAVE BEEN CERTIFIED BY THE MANUFACTURER TO COMPLY WITH THE CALIFORNIA QUALITY STANDARDS FOR INSULATING MATERIAL.

B. ALL INSULATING MATERIALS SHALL BE INSTALLED IN COMPLIANCE WITH THE FLAME SPREAD RATING AND SMOKE DENSITY REQUIREMENTS OF [TITLE 24, PART 2, CALIFORNIA BUILDING CODE, SECTIONS 719 AND 2603.]

C. ALL EXTERIOR JOINTS AND OPENINGS IN THE BUILDING ENVELOPE THAT ARE POTENTIAL AND OBSERVABLE SOURCES OF AIR LEAKAGE SHALL BE CAULKED, GASKETED, WEATHERSTRIPPED OR OTHERWISE SEALED.

D. SITE CONSTRUCTED DOORS, AND WINDOWS SHALL BE CAULKED BETWEEN THE UNIT AND THE BUILDING, AND SHALL BE WEATHERSTRIPPED (EXCEPT FOR UNFRAMED GLASS DOORS AND FIRE DOORS).

E. MANUFACTURED DOORS AND WINDOWS INSTALLED SHALL HAVE AIR INFILTRATION RATES CERTIFIED BY THE MANUFACTURER IN ACCORDANCE WITH TITLE 24, PART 6, CALIFORNIA CODE OF REGULATIONS, SECTION 116(a)1.

F. MANUFACTURED FENESTRATION PRODUCTS IN THE ENVELOPE OF THE BUILDING, INCLUDING, BUT NOT LIMITED TO, WINDOWS, SLIDING GLASS DOORS, FRENCH DOORS, SKYLIGHTS, CURTAIN WALLS, AND GARDEN WINDOWS MUST BE LABELED FOR U-VALUE IN ACCORDANCE WITH THE (NFRC) NATIONAL FENESTRATION RATING COUNCIL'S INTERIM U-VALUE RATING PROCEDURE.

G. DEMISING WALL INSULATION SHALL BE INSTALLED IN ALL OPAQUE PORTIONS OF FRAMED WALLS (EXCEPT DOORS).

7. INSPECTOR OF RECORD REQUIREMENTS: A. ONE OR MORE INSPECTORS EMPLOYED BY THE OWNER IN ACCORDANCE WITH THE REQUIREMENTS OF TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS WILL BE ASSIGNED TO THE WORK. THE INSPECTORS DUTIES ARE SPECIFICALLY DEFINED IN SECTION 4-342 OF SAID TITLE 24, PART 1 AND IN ADDITION SHALL BE AS STIPULATED IN INTERPRETATION OF REGULATION DOCUMENT IR A-8. B. INSPECTOR SHALL BE CERTIFIED AS A CLASS [2] INSPECTOR THROUGH THE DIVISION OF THE STATE ARCHITECT INSPECTOR EXAMINATION PROGRAM. INSPECTOR SHALL ALSO BE SPECIFICALLY APPROVED BY THE DIVISION OF THE STATE ARCHITECT FOR THIS PROJECT AT LEAST 10 DAYS PRIOR TO THE START OF ANY WORK FOR THIS PROJECT.

8. ALL WORK SHOWN ON THESE DRAWINGS SHALL COMPLY WITH THE REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).

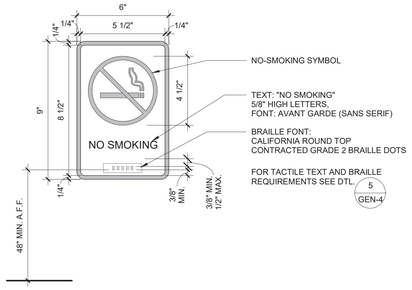
9. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR A CCD APPROVED BY THE DIVISION OF THE STATE ARCHITECT.

10. GRADING PLANS, DRAINAGE IMPRPOVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIROMENTAL HEALTH CONCIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.

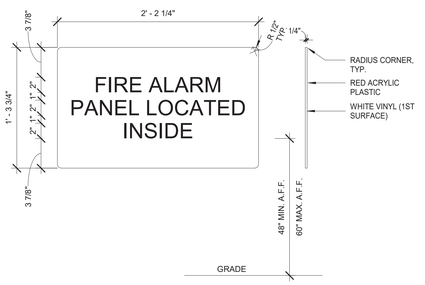
11. DRINKING WATER SHALL COMPLY WITH ALL LOCAL HEALTH DEPARTMENT REQUIREMENTS.

12. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE CODES. ALL ENGINEERING SHALL COMFORM WITH ALL APPLICABLE MUNICIPAL, STATE AND FEDERAL REGULATIONS HAVING JURISDICTION INCLUDING ACCESSIBILITY STANDARDS AND ADA REQUIREMENTS.

13. DO NOT SCALE THE DRAWINGS. THE DRAWINGS ARE NOT NECESSARILY TO SCALE. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS IN THE FIELD PRIOR TO BIDDING AND START OF CONSTRUCTION. IF DISCREPANCIES ARE FOUND, THE ARCHITECT SH

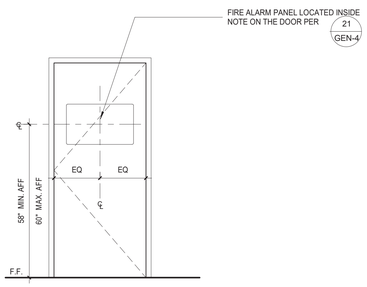


NO SMOKING SIGNAGE | 3" = 1'-0" | 22

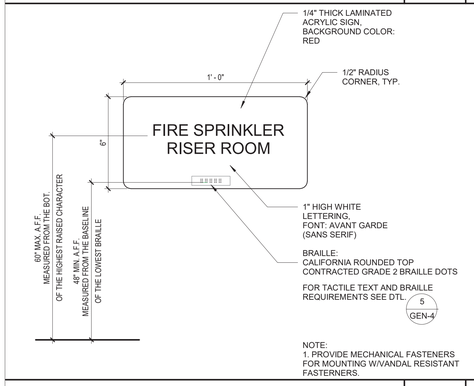


NOTE: BACKGROUND COLOR TO BE RED
VINYL LETTERING TO BE WHITE

DOOR SIGNAGE - FAVP | 1 1/2" = 1'-0" | 21

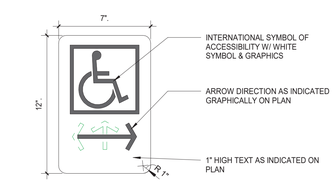


DOOR SIGNAGE - FACP VOICE EVAC | 1/2" = 1'-0" | 20

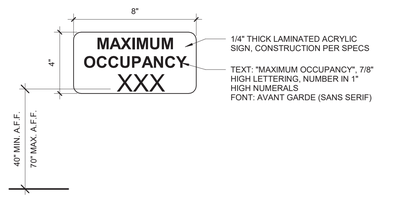


NOTE:
1. PROVIDE MECHANICAL FASTENERS FOR MOUNTING W/VANDAL RESISTANT FASTERNERS.

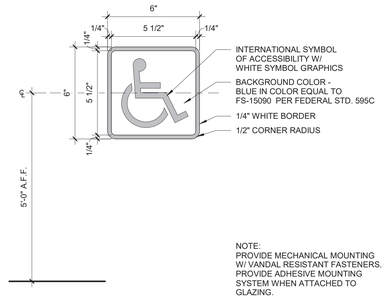
FIRE RISER ROOM SIGN | 3" = 1'-0" | 19



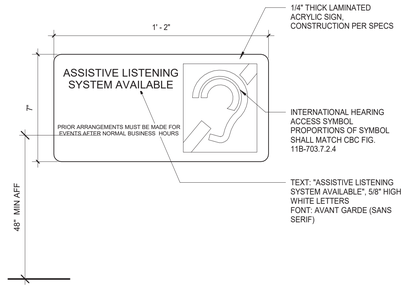
DIRECTIONAL ACCESS SIGN | 1 1/2" = 1'-0" | 18



OCCUPANT LOAD SIGN | 3" = 1'-0" | 17



ACCESSIBLE ENTRY SIGN | 3" = 1'-0" | 16



ASSISTIVE LISTENING SIGN | 3" = 1'-0" | 15

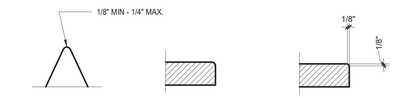
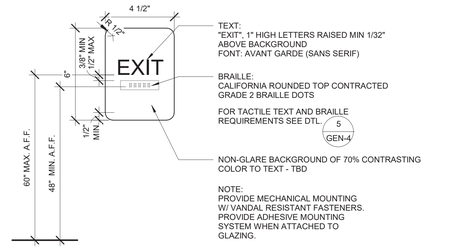
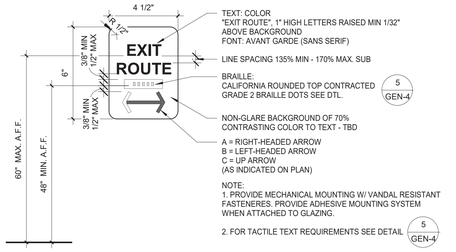


FIGURE 11B-703.7.2.6.4
EDGES AND VERTICES ON GEOMETRIC SYMBOLS

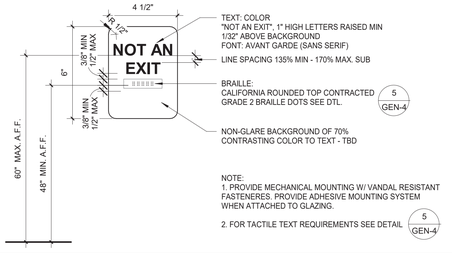
EDGES AND VERTICES ON SYMBOLS | 3" = 1'-0" | 14



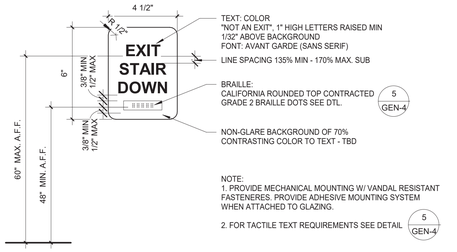
TACTILE EXIT SIGN | 3" = 1'-0" | 13



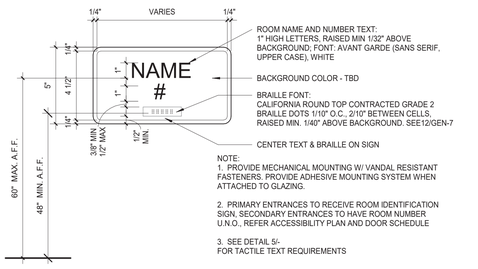
TACTILE EXIT ROUTE SIGN | 3" = 1'-0" | 12



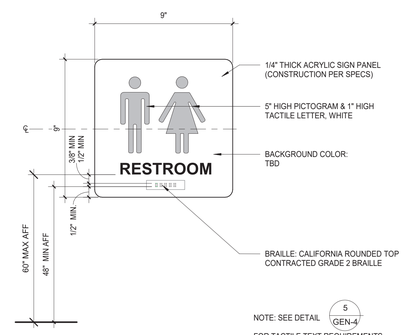
TACTILE NOT AN EXIT SIGN | 3" = 1'-0" | 11



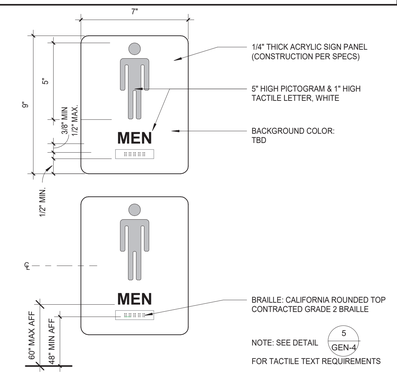
TACTILE EXIT STAIR DOWN SIGN | 3" = 1'-0" | 10



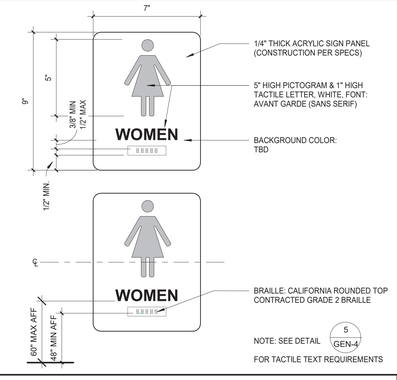
ROOM DESIGNATION SIGN | 3" = 1'-0" | 9



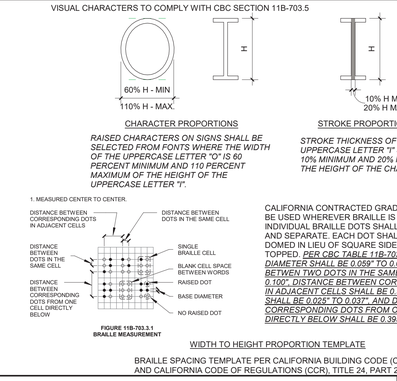
RESTROOM SIGN - G/N | 3" = 1'-0" | 8



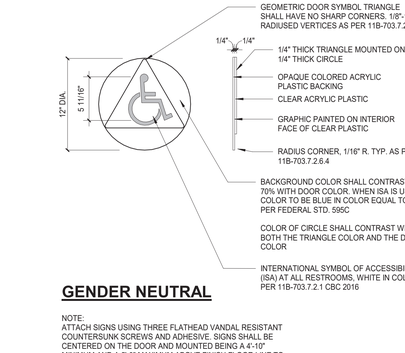
RESTROOM SIGN - MENS | 3" = 1'-0" | 7



RESTROOM SIGN - WOMEN | 3" = 1'-0" | 6



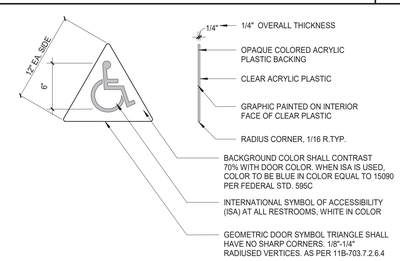
TACTILE SIGNAGE TEMPLATES | 1 : 1 | 5



GENDER NEUTRAL

NOTE:
ATTACH SIGNS USING THREE FLATHEAD VANDAL RESISTANT COUNTERSUNK SCREWS AND ADHESIVE. SIGNS SHALL BE CENTERED ON THE DOOR AND MOUNTED BEING A 4'-10" MINIMUM AND A 5'-0" MAXIMUM ABOVE FINISH FLOOR LINE TO CENTER OF SIGN.

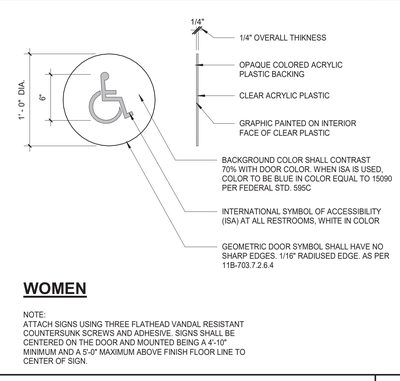
TOILET ROOM DOOR SIGNAGE - G/N | 1 1/2" = 1'-0" | 4



MENS

NOTE:
ATTACH SIGNS USING THREE FLATHEAD VANDAL RESISTANT COUNTERSUNK SCREWS AND ADHESIVE. SIGNS SHALL BE CENTERED ON THE DOOR AND MOUNTED BEING A 4'-10" MINIMUM AND A 5'-0" MAXIMUM ABOVE FINISH FLOOR LINE TO CENTER OF SIGN.

TOILET ROOM DOOR SIGNAGE - MEN | 1 1/2" = 1'-0" | 3



WOMEN

NOTE:
ATTACH SIGNS USING THREE FLATHEAD VANDAL RESISTANT COUNTERSUNK SCREWS AND ADHESIVE. SIGNS SHALL BE CENTERED ON THE DOOR AND MOUNTED BEING A 4'-10" MINIMUM AND A 5'-0" MAXIMUM ABOVE FINISH FLOOR LINE TO CENTER OF SIGN.

TOILET ROOM DOOR SIGNAGE - WOMEN | 1 1/2" = 1'-0" | 2

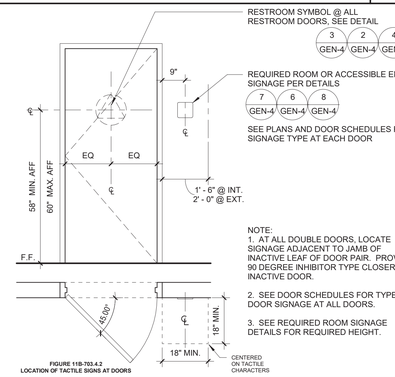


FIGURE 11B-703.4.2
LOCATION OF TACTILE SIGNS AT DOORS

DOOR ROOM SIGNAGE | 1/2" = 1'-0" | 1

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SUMMERS No. C-18501 JAN 31, 2020 STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

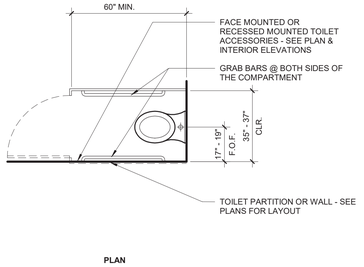
CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

PROJECT SIGNAGE
COMMUNITY AQUATICS & SENIOR CENTER
GEN-4

	INITIAL	DATE
DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	04/20/23
CHECKED BY	DB	04/29/23

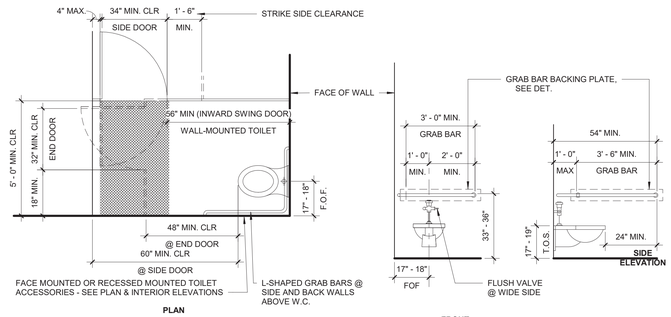
APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS
SHT. 42 OF 176 DWG. NO. 5-2606

GARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET
PLOT DATE: 6/30/2023 2:33:57 PM
PLOT BY: C:\Users\nicolec\Documents\Gardena Community Pool and Senior Center_nicolec@HDR.net



PLAN

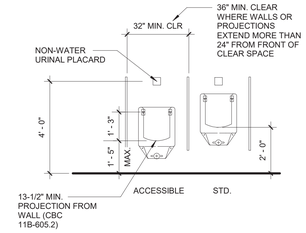
AMBULATORY WATER CLOSET



PLAN

FRONT ELEVATION

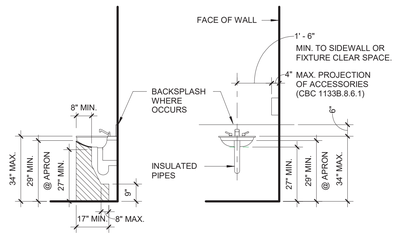
ACCESSIBLE WATER CLOSET



URINAL

LAVATORY NOTES:
1. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER THE LAVATORY.

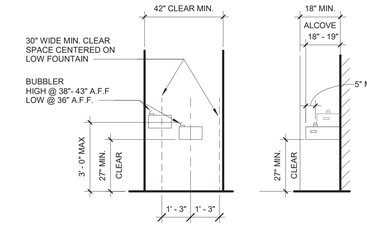
2. ALL WATER & DRAIN PIPES ACCESSIBLE UNDER LAVATORIES MUST BE INSULATED OR OTHERWISE COVERED.



SECTION

ELEVATION

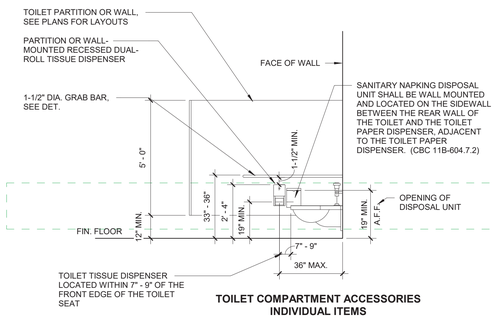
LAVATORY



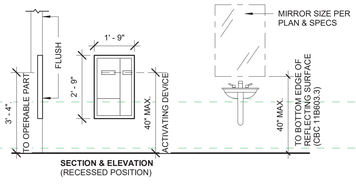
ALCOVE ELEVATION

ALCOVE SECTION

DRINKING FOUNTAIN

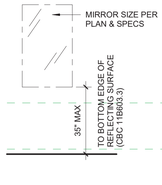


TOILET COMPARTMENT ACCESSORIES INDIVIDUAL ITEMS

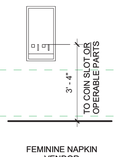


SECTION & ELEVATION (RECESSED POSITION)

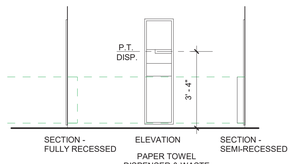
MIRROR @LAVATORY



MIRROR



FEMININE NAPKIN VENDOR



SECTION - FULLY RECESSED

ELEVATION

SECTION - SEMI-RECESSED

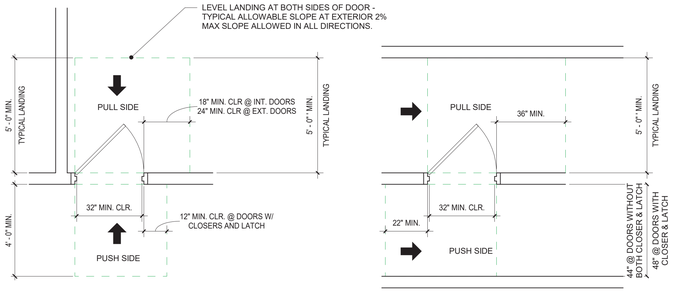
PAPER TOWEL DISPENSER & WASTE

TOILET ROOM ACCESSORY MOUNTING HEIGHTS

ACCESSIBLE TOILET COMPARTMENTS:

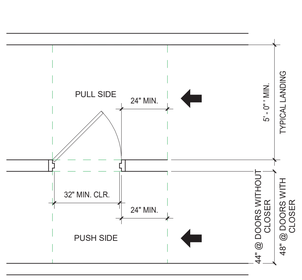
1. SEE TOILET ROOM FLOOR PLAN FOR ACCESSIBLE TOILET LOCATION.
2. VERIFY TOILET ACCESSORIES & TYPE OF PARTITION IN SPECS.
3. PROVIDE BACKING IN WALL & TOILET PARTITION FOR GRAB BAR ANCHORAGE.
4. COMPARTMENT DOOR AT ACCESSIBLE WATER CLOSET COMPARTMENT TO PROVIDE 18" STRIKE-SIDE CLEARANCE.
5. NOT USED.
6. OPENING HARDWARE IS CENTERED BETWEEN 34" AND 44" ABOVE FINISH FLOOR (CBC 11B-404.2.7).
7. TOILET PAPER DISPENSER SHALL PERMIT CONTINUOUS PAPER FLOW AND SHALL NOT CONTROL DELIVERY (CBC 11B-604.9.6).
8. ACCESSIBLE COMPARTMENT DOOR EQUIPPED WITH AN AUTOMATIC CLOSING DEVICES (3 SECONDS MIN. SWEEP TIME FROM OPEN POSITION OF 70 DEGREES TO A POINT 3" FROM THE LATCH).
9. SEE ACCESSIBILITY NOTES FOR ADDITIONAL REQUIREMENTS.
10. FLUSH CONTROL SHALL BE ON WIDE SIDE OF TOILET COMPARTMENT AT ALL ACCESSIBLE STALLS, TYP.
11. WHERE ONLY ONE TYPE OF TOILET FIXTURE OR ACCESSORY IS USED, IT SHALL BE POSITIONED FOR ACCESSIBILITY.

TOILET ROOM ACCESSORY & PLUMBING FIXTURE HEIGHTS | 3/8" = 1'-0" | 2

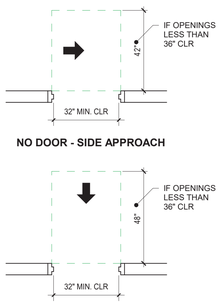


FRONT APPROACH

HINGE APPROACH



LATCH APPROACH



NO DOOR - SIDE APPROACH

NO DOOR - FRONT APPROACH

DOOR LANDINGS | 3/8" = 1'-0" | 6

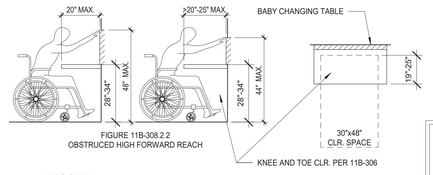
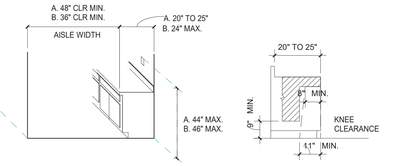


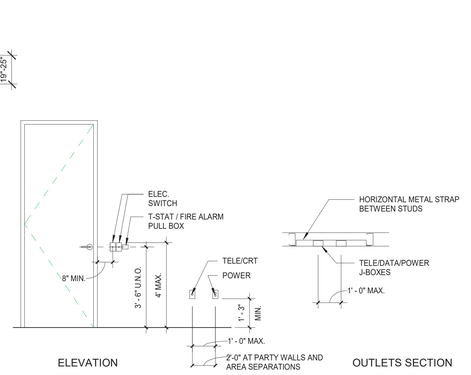
FIGURE 11B-308.2.2
OBSTRUCED HIGH FORWARD REACH



A. FORWARD APPROACH (KNEE TOE SPACE COMPLY WITH CBC 11B-306.2 AND 11B.306.3 SIDE UNDER COUNTER)

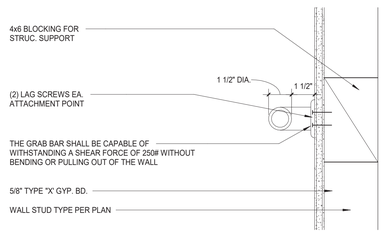
B. SIDE APPROACH OF ACCESSIBLE COUNTER HT. REACH OVER OBSTRUCTION
TYP. WALL MOUNT DIMENSION

REACH RANGES AND MOUNTING HEIGHTS | 3/8" = 1'-0" | 4



ELEVATION

OUTLETS SECTION



GRAB BARS | 3" = 1'-0" | 3

H. LOCATE TOWEL, SANITARY NAPKIN, AND WASTE RECEPTACLES WITH ALL OPERABLE PARTS NOT MORE THAN 40 INCHES FROM THE FLOOR.

I. LOCATE TOILET TISSUE DISPENSERS ON THE WALL OR PARTITION WITH CENTERLINE BETWEEN 7 AND 9 INCHES FROM THE FRONT EDGE OF THE TOILET.

J. GRAB BARS, TUB AND SHOWER SEATS, FASTENERS AND MOUNTING DEVICES SHALL BE DESIGNED FOR 250 LB. PER LINEAR FOOT LOAD.

K. GRAB BARS (REFER DETAIL 4/GEN-4):

1) THE DIAMETER OR WIDTH OF THE GRIPPING SURFACE OF A GRAB BAR SHALL BE 1-1/4" TO 1-1/2" OR THE SHAPE SHALL PROVIDE EQUIVALENT GRIPPING SURFACE.
2) IF THE GRAB BARS ARE MOUNTED ADJACENT TO A WALL, THE SPACE BETWEEN THE WALL AND GRAB BARS SHALL BE 1-1/2".
3) A GRAB BAR AND ANY WALL OR OTHER SURFACE ADJACENT SHALL BE FREE OF ANY SHARP OR ABRASIVE ELEMENTS.
4) GRAB BARS SHALL NOT ROTATE WITHIN THEIR FITTINGS.
5) EDGES SHALL HAVE A MINIMUM RADIUS OF 1/8".

L. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES.

4. DRINKING FOUNTAINS: (REFER TO DETAIL 7/GEN-4)

A. ON ANY FLOOR WHERE DRINKING FOUNTAINS ARE PROVIDED, AT LEAST ONE FOUNTAIN SHALL BE ACCESSIBLE. SPECIFY ACCESSIBLE DRINKING FOUNTAINS AND SHOW THEM INSTALLED IN ALCOVES OR IN A LOCATION WHICH DOES NOT ENCROACH INTO A PEDESTRIAN WAY. PROVIDE AT LEAST ONE SET OF DRINKING FOUNTAINS IN EACH "DRINKING FOUNTAIN AREA" WHERE ONE FOUNTAIN IS ACCESSIBLE TO INDIVIDUALS IN WHEELCHAIRS PLUS ONE WHICH IS ACCESSIBLE TO INDIVIDUALS WHO HAVE DIFFICULTY BENDING OR STOOPING.

B. THE DRINKING FOUNTAIN SHALL BE A MINIMUM OF 18 INCHES IN DEPTH AND THERE SHALL BE A CLEAR AND UNOBSTRUCTED KNEE SPACE UNDER THE DRINKING FOUNTAIN NOT LESS THAN 27 INCHES IN HEIGHT AND 8 INCHES IN DEPTH. THE DEPTH MEASUREMENT BEING TAKEN FROM THE FRONT EDGE OF THE FOUNTAIN. ADDITIONALLY THERE SHALL BE TOE CLEARANCE OF 9 INCHES IN HEIGHT ABOVE THE FLOOR, AND 17 INCHES IN DEPTH FROM THE FRONT EDGE OF THE FOUNTAIN. A SIDE APPROACH DRINKING FOUNTAIN IS NOT ACCEPTABLE.

C. THE BUBBLER SHALL BE ACTIVATED BY A CONTROL WHICH IS EASILY OPERATED BY A PERSON WITH DISABILITY SUCH AS A HAND-OPERATED LEVER TYPE LOCATED WITHIN 6 INCHES OF THE FRONT OF THE DRINKING FOUNTAIN. THE BUBBLER OUTLET ORIFICE SHALL BE LOCATED WITHIN 6 INCHES OF THE FRONT OF THE DRINKING FOUNTAIN AND SHALL BE WITHIN 36 INCHES OF THE FLOOR. THE WATER STREAM FROM THE BUBBLER SHALL BE SUBSTANTIALLY PARALLEL TO THE FRONT EDGE OF THE DRINKING FOUNTAIN. THE SPOUT SHALL PROVIDE A FLOW OF WATER THAT IS AT LEAST 4 INCHES HIGH SO AS TO ALLOW THE INSERTION OF A CUP OR GLASS UNDER THE FLOW OF WATER. THE FORCE REQUIRED TO ACTIVATE THE CONTROLS SHALL BE NO GREATER THAN 5 LB.

5. NOT USED.

6. SWITCHES, CONTROLS AND ELECTRICAL OUTLETS: (REFER TO DETAIL 5/GEN-4)

A. THE BOTTOM OF RECEPTACLE OUTLETS SHALL BE NOT LESS THAN 15 INCHES ABOVE THE FLOOR OR WORKING PLATFORM.

B. THE TOP OF THE OUTLET BOX OF SWITCHES INTENDED TO BE USED BY THE OCCUPANT OF THE ROOM OR AREA TO CONTROL LIGHTING AND RECEPTACLE OUTLETS, APPLIANCES, OR COOLING, HEATING AND VENTILATING EQUIPMENT, SHALL BE NOT LESS THAN 3 FEET NOR MORE THAN 4 FEET ABOVE THE FLOOR OR WORKING PLATFORM.

C. IF REACH IS OVER AN OBSTRUCTION (FOR EXAMPLE, A BASE CABINET) BETWEEN 20" AND 25" IN DEPTH, THE MAXIMUM HEIGHT IS REDUCED TO 44" FOR FORWARD APPROACH, OR 46" FOR SIDE APPROACH PROVIDED THE OBSTRUCTION IS NO MORE THAN 24" IN DEPTH. THE OBSTRUCTION MAY NOT EXTEND MORE THAN 25" FROM THE WALL BENEATH THE CONTROL.

D. THE TOP OF OPERABLE PART OF THE FIRE ALARM INITIATING DEVICES (BOXES) SHALL BE LOCATED 48" ABOVE THE LEVEL OF THE FLOOR, WORKING PLATFORM, GROUND SURFACE, OR SIDEWALK.

E. IF EMERGENCY WARNING SYSTEMS ARE REQUIRED THEY SHALL ACTIVATE A MEANS OF WARNING THE HEARING IMPAIRED. FLASHING VISUAL WARNING SHALL HAVE A FREQUENCY OF NOT MORE THAN 60 FLASHES PER MINUTE.

7. ADDITIONAL COMPLIANCE REQUIREMENTS:

A. COUNTERTOPS AND WORK SURFACES SHALL BE ACCESSIBLE (HEIGHT BETWEEN 28" AND 34" AFF) W/ ACCESSIBLE CLEAR SPACE BELOW PER CBC 11B-902.1.

B. WARNING SYSTEMS SHALL COMPLY WITH NFPA 72 AND 72G (AS AMENDED BY CHAPTER 35) AND SHALL PROVIDE VISUAL ALARMS (I.E. STROBES) IN RESTROOMS, CORRIDORS, MULTI-PURPOSES ROOMS, LOBBIES, MEETING ROOMS, AND ANY OTHER COMMON USE ROOMS (CBC 1007.12).

1. RAMPS AND STAIRWAYS
REFER TO ACCESSIBILITY NOTES ON SHEET A00.2 AND ELSEWHERE IN THESE DRAWINGS

2. ENTRANCES AND DOORWAYS: (REFER TO DETAIL 3/GEN-4)

A. PRIMARY ENTRANCES TO BUILDINGS AND FACILITIES SHALL BE MADE ACCESSIBLE TO THE DISABLED.

B. RECESSED DOOR MATS SHALL BE ANCHORED TO PREVENT INTERFERENCE WITH WHEELCHAIRS.

C. ACCESSIBLE ENTRANCES SHALL BE IDENTIFIED WITH AT LEAST ONE SIGN (INTERNATIONAL SYMBOL OF ACCESSIBILITY) AND WITH ADDITIONAL DIRECTIONAL SIGNS AS REQUIRED VISIBLE FROM APPROACHING PEDESTRIAN WAYS.

D. THE FLOOR OR LANDING ON EACH SIDE OF AN ENTRANCE OR PASSAGE DOOR SHALL BE LEVEL AND CLEAR. THE LEVEL AND CLEAR AREA SHALL BE A MINIMUM 60" SQUARE IN THE DIRECTION OF THE DOOR SWING AND A MINIMUM 44" SQUARE OPPOSITE THE DIRECTION OF DOOR SWING. THE SQUARES SHALL BE MEASURED AT RIGHT ANGLES TO THE PLANE OF THE DOOR IN ITS CLOSED POSITION. SEE NOTE E. BELOW FOR STRIKE SIDE CLEARANCES.

E. THE WIDTH OF THE LEVEL AND CLEAR AREA ON THE SIDE TO WHICH THE DOOR SWINGS SHALL EXTEND 24" PAST THE STRIKE EDGE OF THE DOOR FOR EXTERIOR DOORS AND 18" PAST THE STRIKE EDGE FOR INTERIOR DOORS.

F. THE FLOOR OR LANDING SHALL BE NOT MORE THAN 1/2" LOWER THAN THE THRESHOLD OF THE DOORWAY. CHANGE IN LEVEL BETWEEN 1/4" AND 1/2" SHALL BE BEVELED NO GREATER THAN 1:2.

G. THE SPACE BETWEEN TWO CONSECUTIVE DOOR OPENINGS IN A VESTIBULE, SERVING OTHER THAN A REQUIRED EXIT STAIRWAY, MUST HAVE AT LEAST 48" OF CLEAR SPACE FROM ANY DOOR OPENING INTO THE VESTIBULE WHEN THE DOOR IS OPEN 90 DEGREES FROM ITS CLOSED POSITION. DOOR IN SERIES MUST SWING IN THE SAME DIRECTION OR AWAY FROM THE SPACE BETWEEN THE DOORS.

H. WHERE A PAIR OF DOORS, MANUALLY OR AUTOMATICALLY OPERATED, IS UTILIZED, AT LEAST ONE OF THE DOORS SHALL PROVIDE A CLEAR, UNOBSTRUCTED OPENING 32" WIDE W/ THE LEAF POSITIONED 90 DEGREES FROM ITS CLOSED POSITION.

I. THE BOTTOM 10" OF ALL DOORS EXCEPT AUTOMATIC AND SLIDING SHALL HAVE A SMOOTH, UNINTERRUPTED SURFACE TO ALLOW THE DOOR TO OPEN BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION. WHERE NARROW FRAME DOORS ARE USED A 10" HIGH SMOOTH PANEL SHALL BE INSTALLED ON THE PUSH SIDE OF THE DOOR, WHICH WILL ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATED A TRAP OR HAZARDOUS CONDITION.

J. MAXIMUM EFFORT TO OPERATED DOORS SHALL NOT EXCEED 5 LB. SUCH PULL OR PUSH EFFORT SHALL BE APPLIED AT RIGHT ANGLES TO HINGED DOORS AND AT THE CENTER PLANE OF SLIDING OR FOLDING DOORS. COMPENSATING DEVICES OR AUTOMATIC DOOR OPERATORS MAY BE UTILIZED TO MEET THE ABOVE STANDARDS. WHEN FIRE DOORS ARE REQUIRED, THE MAXIMUM EFFORT TO OPERATE THE DOOR MAY BE INCREASED TO THE MAXIMUM ALLOWABLE BY THE APPROPRIATE ADMINISTRATIVE AUTHORITY, NOT TO EXCEED 15 POUNDS.

3. SANITARY FACILITIES: (REFER TO DETAIL 2/GEN-4)

A. WATER CLOSET COMPARTMENTS SHALL BE EQUIPPED WITH A DOOR THAT HAS AN AUTOMATIC CLOSING DEVICE, AND SHALL HAVE A CLEAR UNOBSTRUCTED OPENING WIDTH OF 32" INCHES WHEN LOCATED AT THE END AND 34" INCHES WHEN LOCATED AT THE SIDE WITH THE DOOR POSITION AT AN ANGLE OF 90 DEGREES AWAY FROM ITS CLOSED POSITION.

B. TOILET FLUSH CONTROLS SHALL BE OPERABLE WITH ONE HAND, AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. CONTROLS FOR FLUSH VALVES SHALL BE MOUNTED ON THE WIDE SIDE OF THE TOILET AREAS, NO MORE THAN 44" INCHES ABOVE THE FLOOR. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 POUNDS PER FOOT.

C. WHERE URINALS ARE PROVIDED AT LEAST ONE WITH A RIM PROJECTING A MINIMUM OF 14 INCHES FROM THE WALL AND AT A MAXIMUM OF 17 INCHES ABOVE THE FLOOR SHALL BE PROVIDED.

D. URINAL FLUSH CONTROLS SHALL BE OPERABLE WITH ONE HAND, AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST AND SHALL BE MOUNTED NO MORE THAN 44" ABOVE THE FLOOR. THE FORCE REQUIRED TO ACTIVE CONTROLS SHALL BE NO GREATER THAN 5 POUNDS PER FOOT.

E. HOT WATER AND ALL DRAIN PIPES UNDER LAVATORIES SHALL BE INSULATED OR OTHERWISE COVERED.

F. FAUCET CONTROLS AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 POUNDS PER FOOT. LEVER OPERATED, PUSH-TYPE AND ELECTRONICALLY CONTROLLED MECHANISMS ARE EXAMPLES OF ACCEPTABLE DESIGNS. SELF-CLOSING VALVES ARE ALLOWED IF THE FAUCET REMAINS OPEN FOR AT LEAST 10 SECONDS.

G. MIRRORS SHALL BE MOUNTED WITH THE LOWEST REFLECTIVE EDGE NOT MORE THAN 40 INCHES ABOVE THE FLOOR.

COMMON AREA ACCESSIBILITY NOTES | 12" = 1'-0" | 1

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SIMPSON No. C-13801 JAN 31, 2020 STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

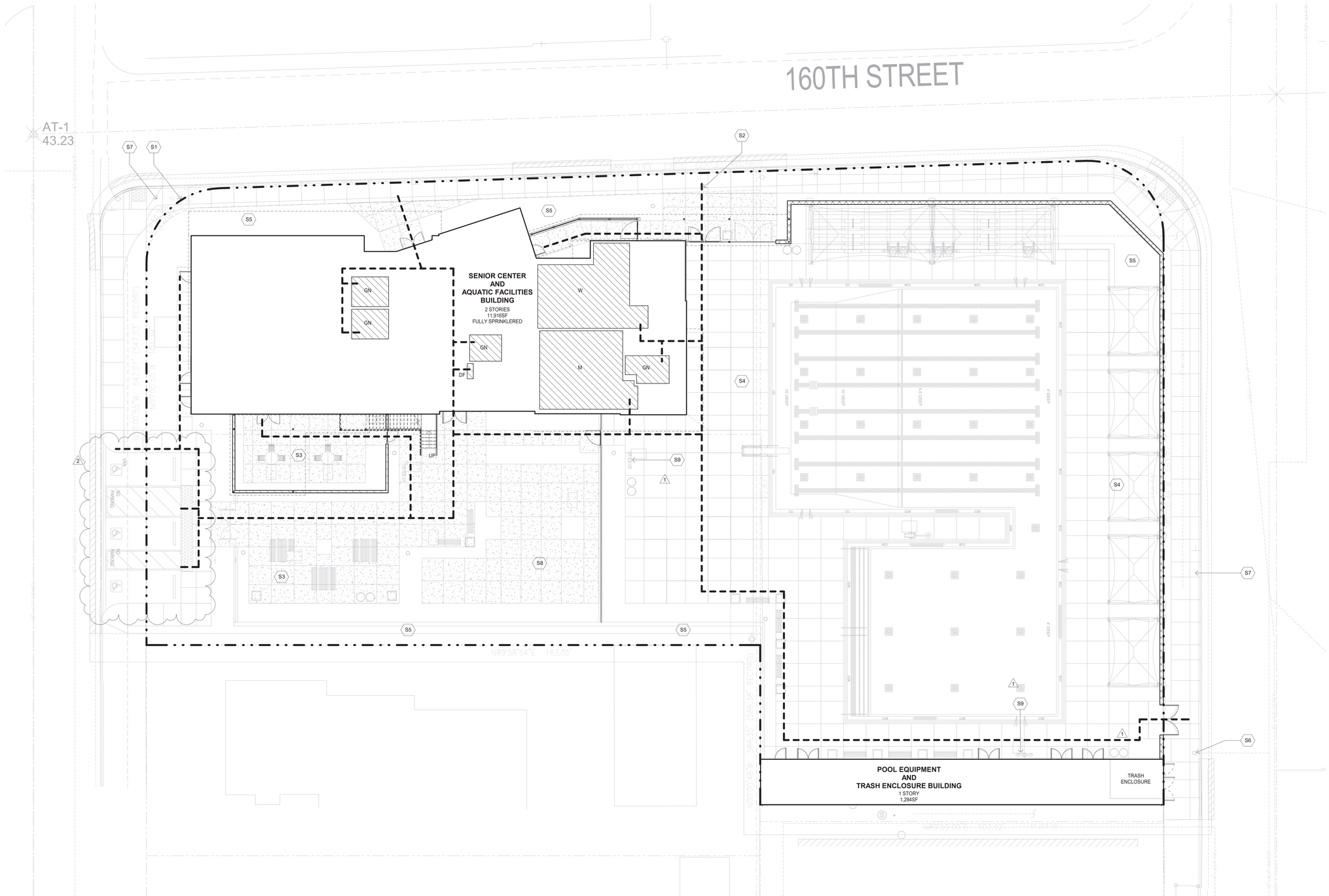
ACCESSIBILITY DETAILS

COMMUNITY AQUATICS & SENIOR CENTER
GEN-5

	INITIAL	DATE
DESIGNED BY	AP/EC	06/25/2022
DRAWN BY	NC	06/26/23
CHECKED BY	DB	06/29/23

APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS
SHT. 43 OF 176 DWG. NO. 5-2606

CARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET
G:\Projects\2022\22-0001 Cardena Community Aquatics and Senior Center\Documents\Gardena, Community Pool and Senior Center_richwrigh@SVA.rvt
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S1 PROPERTY LINE

S2 PATH OF TRAVEL

S3 HARDSCAPE AREA WITH PICNIC TABLES - SEE LANDSCAPE & CIVIL PLANS

S4 POOL AND POOL DECK AREA WITH BLEACHERS AND SHADE CANPOIES - SEE LANDSCAPE, CIVIL, AND POOL PLANS

S5 LANDSCAPE AREA - SEE LANDSCAPE PLANS

S6 EXISTING FIRE HYDRANT TO REMAIN

S7 PUBLIC WAY

S8 EXTERIOR EXERCISE AREA WITH EQUIPMENT - SEE LANDSCAPE PLANS

1 S9 HIGH-LOW DRINKING FOUNTAIN WITH BOTTLE FILLER - SEE PLUMBING PLANS

SITE PLAN KEYNOTES

PATH OF TRAVEL
PATH OF TRAVEL (P.O.T) AS INDICATED MEETS THE FOLLOWING REQUIREMENTS:
1. IS A BARRIER-FREE ACCESSIBLE ROUTE WITHOUT ANY ABRUPT LEVEL CHANGES EXCEEDING 1/2" BEVELED AT A SLOPE NOT STEEPER THAN 1:2 EXCEPT THAT LEVEL CHANGES ARE 1/4" MAX VERTICAL & IS AT LEAST 48" WIDE.
2. SURFACE SHALL BE STABLE, FIRM AND SLIP RESISTANT.
3. CROSS-SLOPE SHALL NOT BE STEEPER THAN 1:48 AND RUNNING SLOPE SHALL NOT BE STEEPER THAN 1:20 UNLESS OTHERWISE INDICATED (SEC 11B-403.3)
4. P.O.T. SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM (SECTION 11B-307.4) AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM WALL SURFACE BETWEEN 27" AND 80" ABOVE FINISH FLOOR OR GROUND (SECTION 11B-307.2)
5. PROVIDE FLUSH TRANSITIONS AT ANY ADJOINING JOINTS BETWEEN DIFFERENT WALK SURFACES IN P.O.T.

DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE STATEMENT:
THE P.O.T. IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IN COMPLIANT WITH THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE ACCESSIBILITY PROVISIONS FOR **PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS AND STRUCTURAL REPAIRS.** AS PART OF THE DESIGN OF THIS PROJECT, THE POT WAS EXAMINED AND ANY ELEMENTS, COMPONENTS OR PORTIONS OF THE P.O.T. THAT WERE DETERMINED TO BE NONCOMPLIANT 1) HAVE BEEN IDENTIFIED AND 2) THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS. ANY NONCOMPLIANT ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED UPON THE VALUATION THRESHOLD OR A FINDING OF UNREASONABLE HARDSHIP ARE SO INDICATED IN THESE CONSTRUCTION DOCUMENTS.

DURING CONSTRUCTION, IF P.O.T. ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CODE COMPLIANT ARE FOUND TO BE NONCONFORMING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THEY SHALL BE BROUGHT INTO COMPLIANCE WITH THE CBC AS PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOCUMENT.

PROPERTY LINE

CONCRETE SIDEWALK

ACCESSIBLE RESTROOMS FACILITIES

SITE PLAN LEGEND

SITE PLAN | 3/32" = 1'-0" | 1

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SIMPSON No. C-17651 JAN. 31, 2025 STATE OF CALIFORNIA

REVISIONS

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3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

SITE PLAN

COMMUNITY AQUATICS & SENIOR CENTER

A1.0

	INITIAL	DATE
DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	04/20/23
CHECKED BY	DB	04/29/23

APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 44 OF 176 DWG. NO. 5-2606

CARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

PLOT DATE: 6/30/2023 2:24:41 PM
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FIRE MASER PLAN NOTES

1. APPROVED BUILDING ADDRESS NUMBERS, BUILDING NUMBERS OR APPROVED BUILDING IDENTIFICATION SHALL BE PROVIDED AND MAINTAINED SO AS TO BE PLAINLY VISIBLE AND LEGIBLE FROM THE STREET FRONTING THE PROPERTY. THE NUMBERS SHALL CONTRAST WITH THEIR BACKGROUND, BE ARABIC NUMERALS OR ALPHABET LETTERS, AND BE A MINIMUM OF 4 INCHES HIGH WITH A MINIMUM STROKE WIDTH OF 0.5 INCH. FIRE CODE 505.1

2. AN APPROVED KEY BOX, LISTED IN ACCORDANCE WITH UL 1037 SHALL BE PROVIDED AS REQUIRED BY FIRE CODE 506. THE LOCATION OF EACH KEY BOX SHALL BE DETERMINED BY THE FIRE INSPECTOR.

3. PROVIDE AN APPROVED AUTOMATIC FIRE SPRINKLER SYSTEM IN ACCORDANCE WITH PROVISIOINS SET FORTH IN BUILDING CODE SECTION 903.3. REASON: NFPA 13 FIRE SPRINKLER PLANS SHALL BE SUBMITTED TO THE SPRINKLER PLAN CHECK UNIT FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION IN ACCORDANCE WITH FIRE CODE 901.2.

4. PORTABLE FIRE EXTINGUISHERS SHALL BE INSTALLED AND MAINTAINED ALL OCCUPANCY GROUPS AND AT SUCH LOCATIONS AS REQUIRED BY FIRE CODE 906 AND CALIFORNIA CODE OF REGULATIONS, TITLE 19, DIVISION 1, CHAPTER 3. THE FINAL NUMBER AND LOCATION OF ALL EXTINGUISHERS SHALL BE DETERMINED BY THE LOCAL AREA FIRE INSPECTOR.

5. ALL ELEVATORS SHALL BE EQUIPPED TO OPERATE WITH A STANDARDIZED FIRE SERVICE ELEVATOR KEY IN ACCORDANCE WITH FIRE CODE 606.8. BUILDING CODE 3003.3

6. DUMPSTERS AND CONTAINERS WITH AN INDIVIDUAL CAPACITY OF 1.5 CUBIV YARDS OR MORE SHALL NOT BE STORED IN BUILDINGS OR PLACED WITHIN 5 FEET OF COMBUSTIBLE WALLS, OPENINGS OR COMBUSTIBLE ROOF EAVES, UNLESS AREAS CONTAIN DUMPSTERS OR CONTAINERS OR CONTAINERS ARE PROTECTED BY AN APPROVED AUTOMATIC FIRE SPRINKLER SYSTEM. FIRE CODE 304.3.3.

7. CURTAIN, DRAPERIES, FABRIC HANGINGS AND SIMILAR COMBUSTIBLE DECORATIVE MATERIALS SUSPENDED FROM WALLS OR CEILINGS SHALL MEET THE FLAME PROPAGATION PERFORMANCE CRITERIA OF NFPA 701.

8. FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED ON THE STREET-ADDRESS SIDE OF BUILDINGS, FACING APPROVED FIRE APPARATUS ACCESS ROADS, WITHIN 150 FEET (VIA VEHICULAR ACCESS) OF AN ACCESSIBLE PUBLIC FIRE HYDRANT, AND AS CLOSE TO THE STREET CURB FACE AS POSSIBLE, FULLY VISIBLE, AND RECOGNIZABLE FROM THE STREET, FIRE APPARATUS ACCESS ROAD OR NEAREST POINT OF FIRE DEPARTMENT VEHICLE ACCESS OR AS OTHERWISE APPROVED BY THE FIRE CODE OFFICIAL. FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED A MINIMUM OF 25 FEET (7,620 MM) FROM THE STRUCTURE. WHEN THIS DISTANCE CANNOT BE ACHIEVED, A MINIMUM TWO-HOUR, FIRE-RESISTIVE WALL SHALL BE PROVIDED FOR THE STRUCTURE WITH NO OPENINGS IN THE WALL, FOR 25 FEET (7,620 MM) IN EITHER DIRECTION FROM THE FIRE DEPARTMENT CONNECTION. THE REQUIRED FIRE-RESISTIVE CONSTRUCTION AND LACK OF OPENINGS SHALL EXTEND FOR THE FULL HEIGHT OF THE WALL OR BUILDING AS DETERMINED BY THE FIRE CODE OFFICIAL. THE FIRE CODE OFFICIAL MAY ALLOW SUFFICIENTLY PROTECTED OVERHEAD OPENINGS. FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED NOT LESS THAN 24 INCHES (609.6 MM) NORMORE THAN 42 INCHES (1,066.8 MM) ABOVE GRADE. FIRE CODE 912.2.1.

9. THE MEANS OF EGRESS TRAVEL, INCLUDING THE EXIT DISCHARGE, SHALL BE ILLUMINATED AT ALL TIMES THE BUILDING SPACE SERVED BY THE MEANS OF EGRESS IS OCCUPIED WITH A LIGHT INTENSITY OF NOT LESS THAN 1 FOOT-CANDLE AT THE WALKING SURFACE AS REQUIRED BY BUILDING CODE 1008.2.

10. IN THE EVENT OF POWER SUPPLY FAILURE IN ROOMS, SPACES AND BUILDINGS THAT REQUIRE TWO OR MORE MEANS OF EGRESS, AN EMERGENCY ELECTRICAL SYSTEM FOR A DURATION OF NOT LESS THAN 90 MINUTES IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN BUILDING CODE 1008.3.

11. EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT IN ACCORDANCE WITH BUILDING CODE 1010.1.19.

12. EXIT SIGNS SHALL BE ILLUMINATED AT ALL TIMES. TO ENSURE CONTINUED ILLUMINATION FOR A DURATION OF NOT LESS 90 MINUTES IN CASE OF PRIMARY POWER LOSS, THE SIGN ILLUMINATION MEANS SHALL BE CONNECTED TO AN EMERGENCY POWER SYSTEM PROVIDED FROM STORAGE BATTERIES, UNIT EQUIPMENT OR AN ON-SITE GENERATOR.

13. THE MEANS OF EGRESS TRAVEL SHALL BE ILLUMINATED AT ANY TIME THE BUILDING IS OCCUPIED WITH A LIGHT INTENSITY OF NOT LESS THAN 1 FOOT-CANDLE AT THE FLOOR LEVEL. BUILDING CODE 1008.2.1.

14. THE PATH OF EGRESS TRAVEL TO EXITS SHALL BE MARKED BY READILY VISIBLE EXIT SIGNS TO CLEARLY INDICATE THE DIRECTION OF EGRESS TRAVEL AS REQUIRED BY BUILDING CODE 1013.1; AND SHALL BE INTERNALLY OR EXTERNALLY ILLUMINATED AS REQUIRED BY SECTION 1013.3 AND 1013.5. NOTE: ADDITIONAL EXIT SIGNS MAY BE REQUIRED AT THE TIME OF FIELD INSPECTION

15. EACH DOOR IN A MEANS OF EGRESS FROM A GROUP A, OR ASSEMBLY AREA NOT CLASSIFIED AS AN ASSEMBLY OCCUPANCY, HAVING AN OCCUPANT LOAD OF 50 OR MORE SHALL NOT BE PROVIDED WITH A LATCH OR LOCK UNLESS IT IS PANIC HARDWARE OF FIRE EXIT HARDWARE. PROVIDE APPROVED PANIC HARDWARE ON REQUIRED EXIT DOORS, TITLE, 24 SECTIONS 1010.1.10.

16. THE MAXIMUM OCCUPANT LOAD FOR AN ASSEMBLY USE SHALL NOT EXCEED THE OCCUPANT LOAD AS DETERMINED IN ACCORDANCE WITH TITLE 24 SECTION 1004.1, TABLE 1004.1.1.

17. COMPLY WITH POSTING OF ROOM CAPACITY. FIRE CODE 1004.3 TITLE 24, SECTION 1004.3. (SUBJECT TO FIELD INSPECTION APPROVAL).

18. BLEACHERS, GRANDSTANDS, SHALL COMPLY WITH SECTION 1029.1.1 CBC AND ICC 300.

19. ALL ELEVATORS SHALL BE EQUIPPED TO OPERATE WITH A STANDARDIZED FIRE SERVICE ELEVATOR KEY IN ACCORDANCE WITH FIRE CODE 606.8. BUILDING CODE 3003.3

20. FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED ON THE STREET-ADDRESS SIDE OF BUILDINGS, FACING APPROVED FIRE APPARATUS ACCESS ROADS, WITHIN 150 FEET (VIA VEHICULAR ACCESS) OF AN ACCESSIBLE PUBLIC FIRE HYDRANT, AND AS CLOSE TO THE STREET CURB FACE AS POSSIBLE, FULLY VISIBLE, AND RECOGNIZABLE FROM THE STREET, FIRE APPARATUS ACCESS ROAD OR NEAREST POINT OF FIRE DEPARTMENT VEHICLE ACCESS OR AS OTHERWISE APPROVED BY THE FIRE CODE OFFICIAL. FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED A MINIMUM OF 25 FEET (7,620 MM) FROM THE STRUCTURE. WHEN THIS DISTANCE CANNOT BE ACHIEVED, A MINIMUM TWO-HOUR, FIRE-RESISTIVE WALL SHALL BE PROVIDED FOR THE STRUCTURE WITH NO OPENINGS IN THE WALL, FOR 25 FEET (7,620 MM) IN EITHER DIRECTION FROM THE FIRE DEPARTMENT CONNECTION. THE REQUIRED FIRE-RESISTIVE CONSTRUCTION AND LACK OF OPENINGS SHALL EXTEND FOR THE FULL HEIGHT OF THE WALL OR BUILDING AS DETERMINED BY THE FIRE CODE OFFICIAL. THE FIRE CODE OFFICIAL MAY ALLOW SUFFICIENTLY PROTECTED OVERHEAD OPENINGS. FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED NOT LESS THAN 24 INCHES (609.6 MM) NORMORE THAN 42 INCHES (1,066.8 MM) ABOVE GRADE. FIRE CODE 912.2.1

21. ALL FIRE HYDRANTS SHALL MEASURE 6" X 4" X 2-1/2", BRASS OR BRONZE, CONFORMING TO AMERICAN WATER WORKS ASSOCIATION STANDARD C503, OR APPROVED EQUAL.

22. ALL REQUIRED PUBLIC FIRE HYDRANTS SHALL BE INSTALLED, TESTED AND ACCEPTED PRIOR TO BEGINNING CONSTRUCTION. FIRE CODE 501.4.

23. PROVIDE AN APPROVED MANUAL FIRE OR AUTOMATIC SMOKE DETECTION SYSTEM IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN FIRE CODE 907. REASON: FIRE CODE 907.2.1 FIRE ALARM AND SMOKE DETECTION PLANS SHALL BE SUBMITTED TO THE FIRE ALARM PLAN CHECK UNIT FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION IN ACCORDANCE WITH FIRE CODE 901.2.

24. ELEVATORS SHALL BE PROVIDED WITH PHASE I EMERGENCY RECALL OPERATION AND PHASE II EMERGENCY IN-CAR OPERATION IN ACCORDANCE WITH CALIFORNIA CODE OF REGULATIONS, TITLE 8, DIVISION 1, CHAPTER 4, SUBCHAPTER 6, ELEVATOR SAFETY ORDERS. BUILDING CODE 3003.2

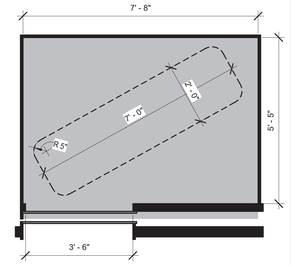
25. ALL NEW BUILDINGS SHALL HAVE APPROVED RADIO COVERAGE FOR EMERGENCY RESPONDERS WITHIN THE BUILDING BASED UPON THE EXISTING COVERAGE LEVELS OF THE PUBLIC SAFETY COMMUNICATION SYSTEMS OF THE JURISDICTION, MEASURED AT THE EXTERIOR OF THE BUILDING IN ACCORDANCE WITH FIRE CODE 510. NEW BUILDINGS THAT CAN DEMONSTRATE MINIMUM RADIO COVERAGE SIGNAL STRENGTH THROUGHOUT THE INTERIOR OF THE BUILDING MAY BE EXEMPT PER FIRE CODE 510. WHEN AN APPROVED EMERGENCY RESPONDER RADIO COVERAGE SYSTEM IS PROVIDED, PLANS SHALL BE SUBMITTED TO THE FIRE ALARM PLAN CHECK UNIT FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. FIRE CODE 510.5.1.

26. THE KITCHEN IN THIS PROJECT IS NOT A COMMERCIAL KITCHEN. FOR A COMMERCIAL KITCHEN: EACH REQUIRED COMMERCIAL KITCHEN EXHAUST HOOD AND DUCT SYSTEM SHALL HAVE A TYPE I HOOD PROTECTED WITH AN APPROVED AUTOMATIC FIRE-EXTINGUISHING SYSTEM INSTALLED IN ACCORDANCE WITH BUILDING CODE 904.2.1. FIRE CODE 609

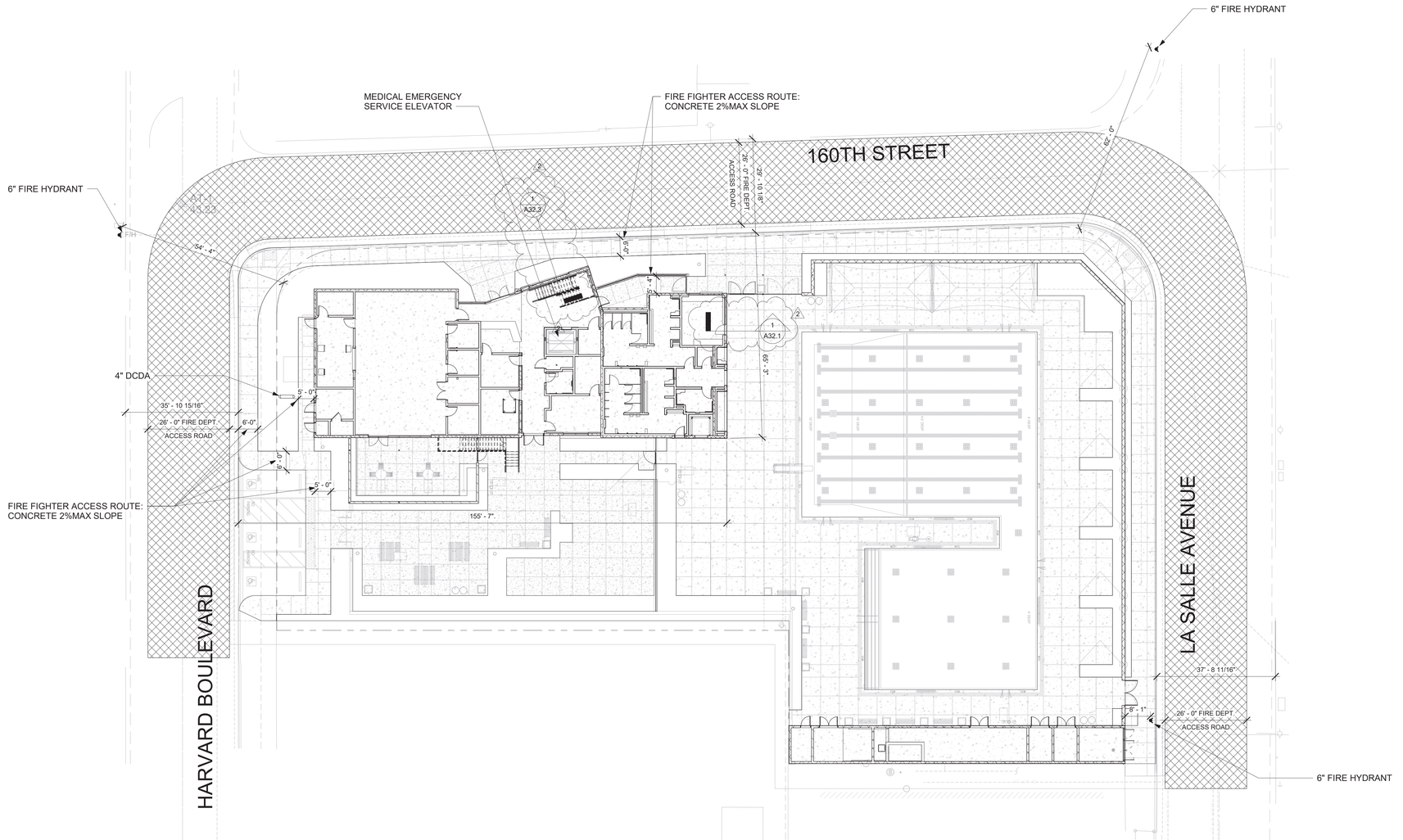
27. INTERIOR WALL AND CEILING FINISHES SHALL BE CLASSIFIED IN ACCORDANCE WITH BUILDING CODE 803 AND TABLE 803.9. FIRE CODE SEC. 803 TABLE 803.3

THE REQUIRED FIRE FLOW IS BASED ON THE FOLLOWING CALCULATION

TYPE OF CONSTRUCTION PER THE BUILDING CODE: TYPE IIIB
FIRE-FLOW CALCULATION AREA: 11,916 SQ.FT.
FIRE FLOW BASED ON THE FIRE-FLOW CALCULATION AREA: 2,250 GPM
REDUCTION FOR FIRE SPRINKLERS (MAXIMUM 50%): 1,250 GPM
TOTAL FIRE FLOW REQUIRED: 1,500 GPM



ELEVATOR CAB DETAIL



FIRE MASTER PLAN | 1/16" = 1'-0" | 1

CITY OF GARDENA INCORPORATED 1930

PREPARED BY:

SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SIMMONS No. C-18501 JAN 31, 2025 STATE OF CALIFORNIA

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3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.526'

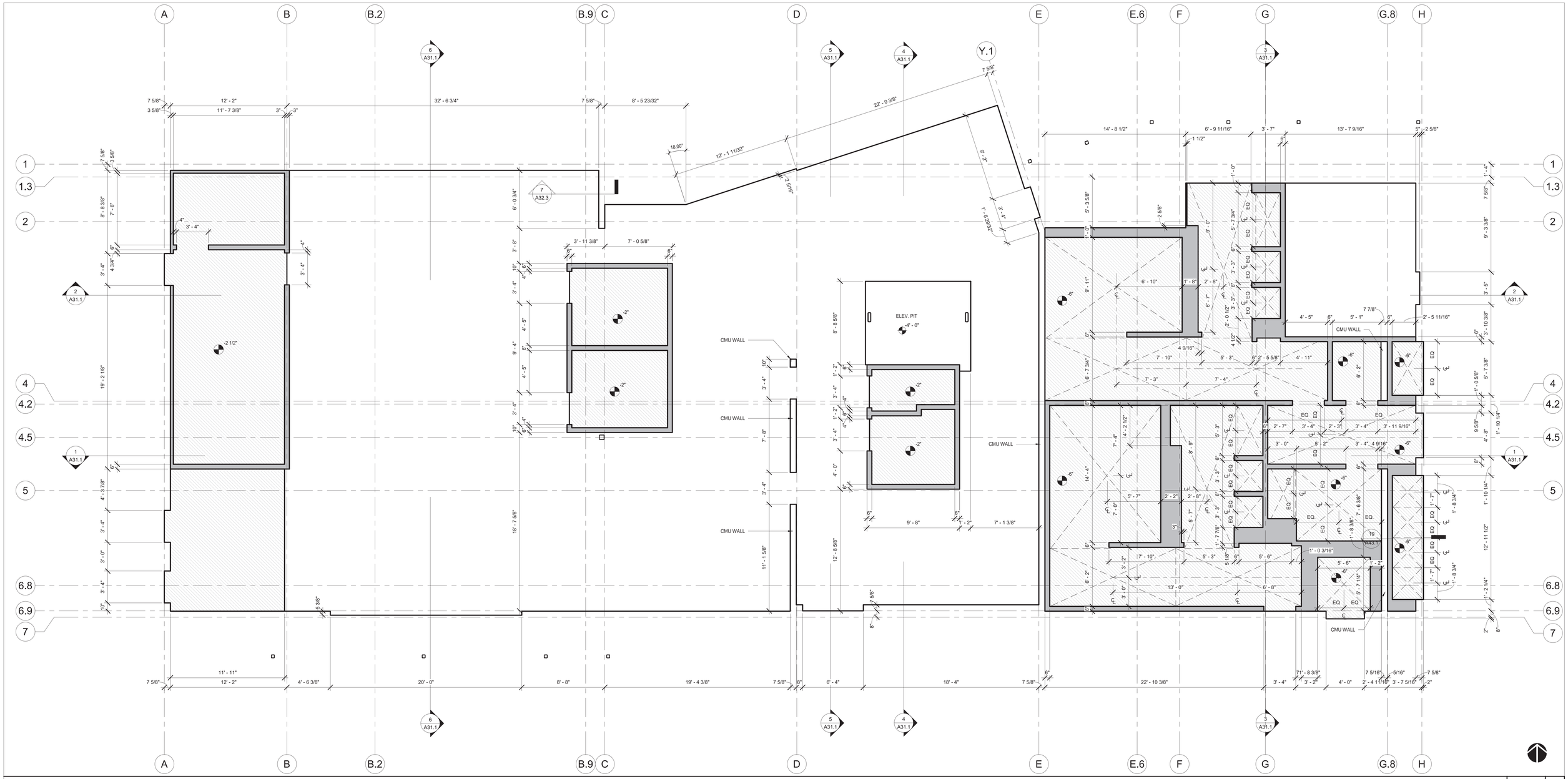
CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
FIRE MASTER PLAN
COMMUNITY AQUATICS & SENIOR CENTER
A1.1

	INITIAL	DATE
DESIGNED BY	AP/EC	06/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS
SHT. 45 OF 176 DWG. NO. 5-2606

CARDINAL COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

PLOT DATE: 6/30/2023 2:54:47 PM
PLOT BY: C:\Users\nchang\Documents\Gardena, Community Pool and Senior Center_nchang\A0ZEB.rvt



SLAB PLAN | 1/4" = 1'-0" | 1

FLOOR ELEVATION MARKER. FLOOR ELEVATIONS BASED ON FF OF 0.0', SEE CIVIL PLANS FOR EXACT ELEVATION

FLOOR DRAIN, SEE PLUMBING PLANS

FINISH FLOOR ELEVATION 43.83, REF. CIVIL FOR ADDITIONAL INFORMATION

SLAB DEPRESSION

6" CURB, TYP. UNLESS NOTED OTHERWISE

FLOOR PLAN GENERAL NOTES:
1. REFER TO CIVIL DRAWINGS FOR FINISH FLOOR ELEVATIONS

2. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL SLAB DEPRESSION INFORMATION

SLAB PLAN LEGEND

CITY OF GARDENA
INCORPORATED 1930
FREEWAY CITY

PREPARED BY:

SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT
ROBERT M. SIMPSON
No. C-18001
JAN. 31, 2025
STATE OF CALIFORNIA

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

SLAB PLAN

COMMUNITY AQUATICS & SENIOR CENTER

A11.1

	INITIAL	DATE
DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

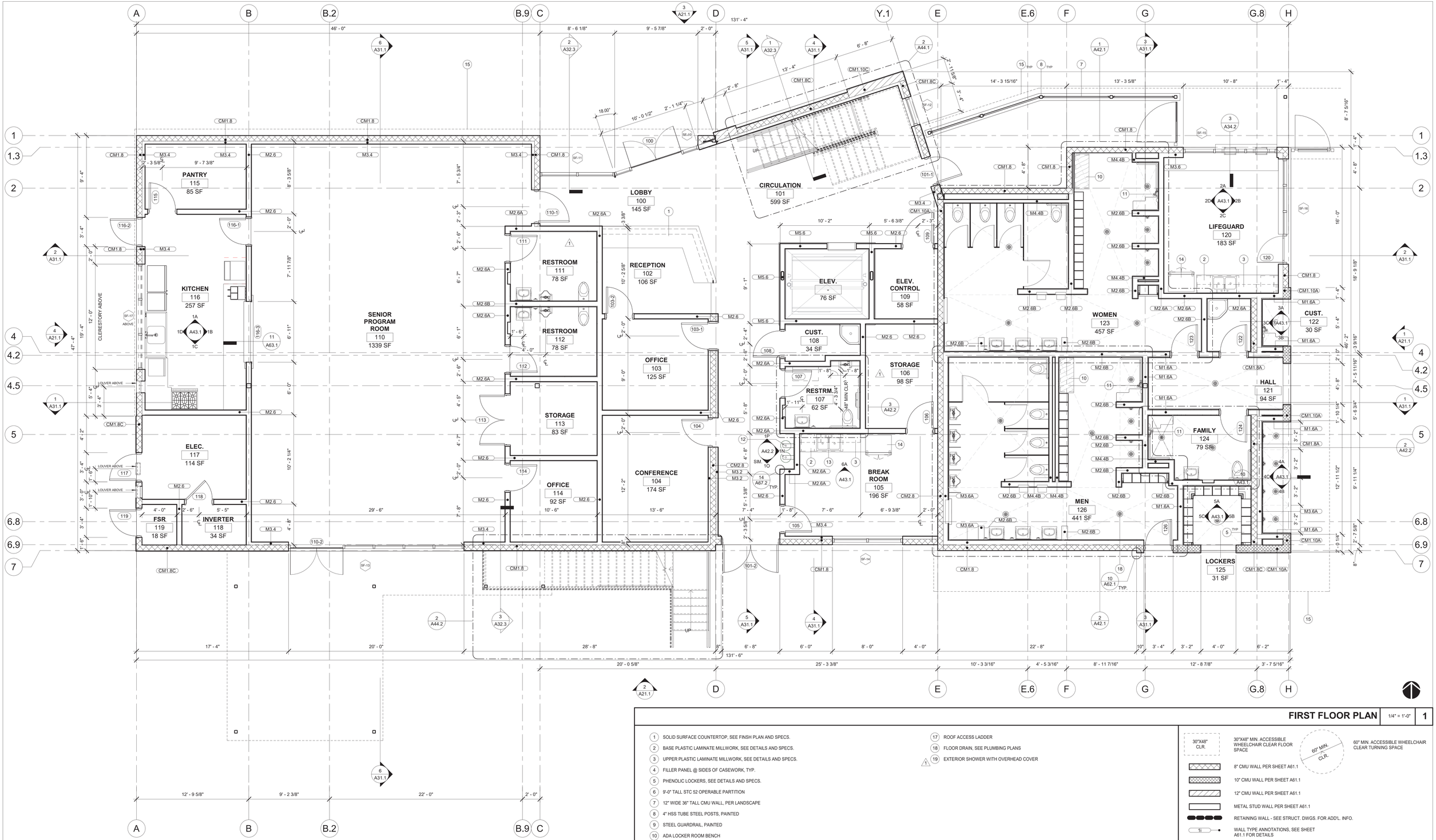
APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 46 OF 176 DWG. NO. 5-2606

CARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

PLOT DATE: 6/30/2023 2:59 PM
PLOT BY: C:\Users\jcarter\Documents\Gardena, Community Pool and Senior Center_nicknaught@SVA.rvt



FIRST FLOOR PLAN

1/4" = 1'-0" | 1

FLOOR PLAN KEYNOTES

1. SOLID SURFACE COUNTERTOP, SEE FINSH PLAN AND SPECS.
2. BASE PLASTIC LAMINATE MILLWORK, SEE DETAILS AND SPECS.
3. UPPER PLASTIC LAMINATE MILLWORK, SEE DETAILS AND SPECS.
4. FILLER PANEL @ SIDES OF CASEWORK, TYP.
5. PHENOLIC LOCKERS, SEE DETAILS AND SPECS.
6. 9'-0" TALL STC 52 OPERABLE PARTITION
7. 12" WIDE 36" TALL CMU WALL, PER LANDSCAPE
8. 4" HSS TUBE STEEL POSTS, PAINTED
9. STEEL GUARDRAIL, PAINTED
10. ADA LOCKER ROOM BENCH
11. ADA SHOWER, FOR MOUNTING HEIGHTS SEE 1 / A67.2
12. DRINKING FOUNTAIN, FOR MOUNTING SEE 2 / GEN-5 & 8 / A67.1
13. ACCESSIBLE SINK
14. REFRIGERATOR, SEE SPECS, CFCI
15. OVERHEAD LINES
16. GLULAM COLUMNS STANE GRADE WITH MARINE GRADE VARNISH
17. ROOF ACCESS LADDER
18. FLOOR DRAIN, SEE PLUMBING PLANS
19. EXTERIOR SHOWER WITH OVERHEAD COVER

FLOOR PLAN LEGEND

- 30"X48" CLR. — 30"X48" MIN. ACCESSIBLE WHEELCHAIR CLEAR FLOOR SPACE
- 60" MIN. CLR. — 60" MIN. ACCESSIBLE WHEELCHAIR CLEAR TURNING SPACE
- 8" CMU WALL PER SHEET A61.1
- 10" CMU WALL PER SHEET A61.1
- 12" CMU WALL PER SHEET A61.1
- METAL STUD WALL PER SHEET A61.1
- RETAINING WALL - SEE STRUCT. DWGS. FOR ADD'L. INFO.
- WALL TYPE ANNOTATIONS, SEE SHEET A61.1 FOR DETAILS
- 101 — NUMBER INDICATES DOOR PER SCHEDULE, REFER TO SHEET A52.1
- 1 — NUMBER INDICATED STOREFRONT PER SCHEDULE, REFER TO SHEET A52.2
- F.E. 1/A65.1 — FIRE EXTINGUISHER CABINET PER DET. 3/A65.1

FLOOR PLAN GENERAL NOTES:

1. ALL DIMENSIONS ARE TO CENTERLINE OF THE GRID LINES AND/OR TO THE FACE OF STUDS, U.N.O.
2. UNLESS NOTED OTHERWISE, ALL WALLS ARE FULL HEIGHT.
3. REFER TO SHEET GEN-4 FOR TYPICAL ACCESSIBILTY REQUIREMENTS AND DIMENSIONS.
4. REFER TO ENLARGED PLANS FOR DIMENSIONS AND CALLOUTS NOT SHOWN HERE.

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SIMPSON No. C-19551 JAN. 31, 2025 STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

	INITIAL	DATE
DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

FIRST FLOOR PLAN

COMMUNITY AQUATICS & SENIOR CENTER

A11.2

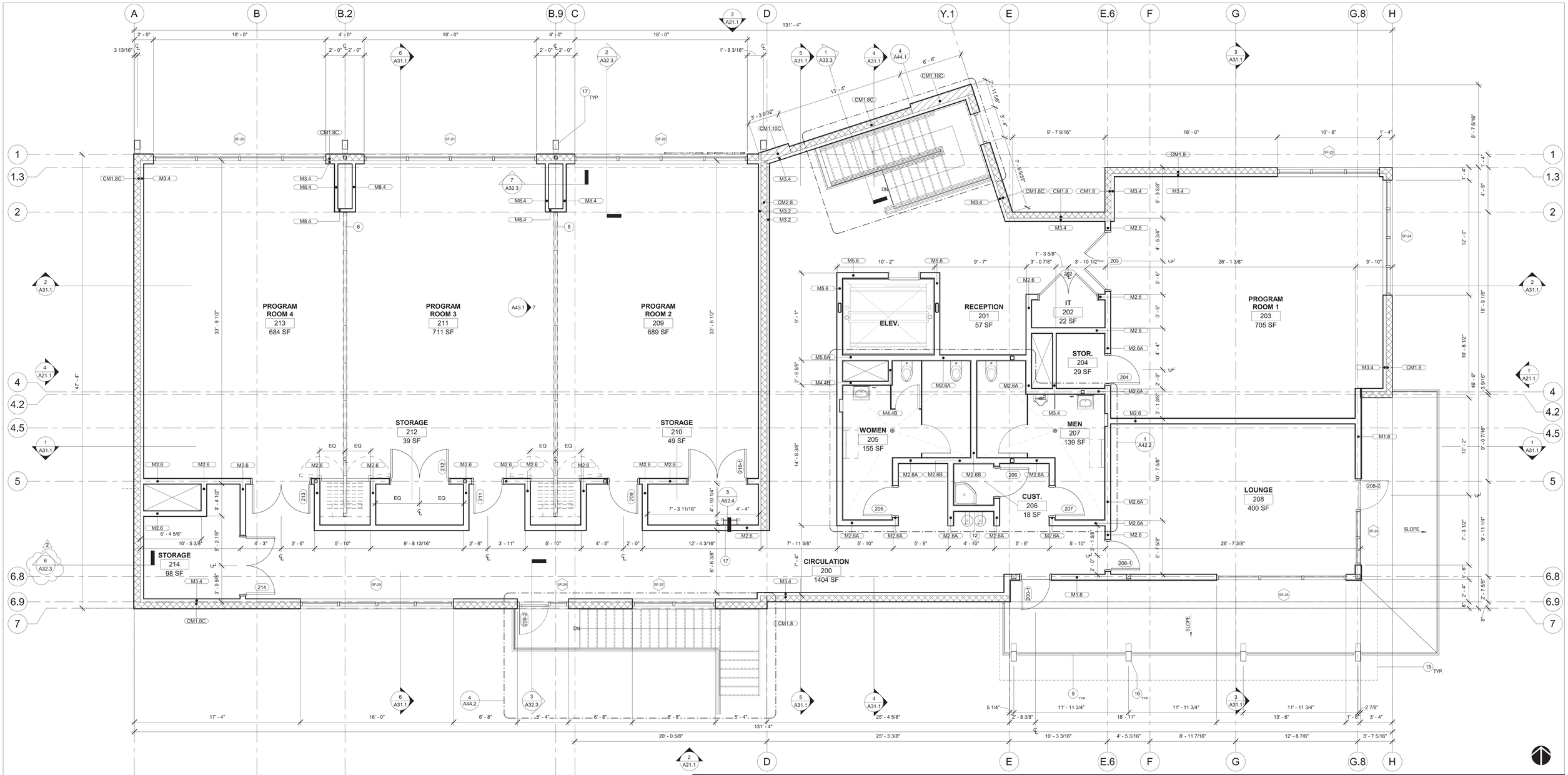
APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 47 OF 176 DWG. NO. 5-2606

CARDINA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

PLOT DATE: 6/30/2023 2:29:47 PM
FILE: C:\Users\nicole.cardenas\Documents\Gardena, Community Pool and Senior Center_nicole.wpp402334.rvt



SECOND FLOOR PLAN

1/4" = 1'-0"

1

1. SOLID SURFACE COUNTERTOP, SEE FINSH PLAN AND SPECS.
2. BASE PLASTIC LAMINATE MILLWORK, SEE DETAILS AND SPECS.
3. UPPER PLASTIC LAMINATE MILLWORK, SEE DETAILS AND SPECS.
4. FILLER PANEL @ SIDES OF CASEWORK, TYP.
5. PHENOLIC LOCKERS, SEE DETAILS AND SPECS.
6. 9'-0" TALL STC 52 OPERABLE PARTITION
7. 12" WIDE 36" TALL CMU WALL, PER LANDSCAPE
8. 4" HSS TUBE STEEL POSTS, PAINTED
9. STEEL GUARDRAIL, PAINTED
10. ADA LOCKER ROOM BENCH
11. ADA SHOWER, FOR MOUNTING HEIGHTS SEE 1 / A67.2
12. DRINKING FOUNTAIN, FOR MOUNTING SEE 2 / GEN-5 & 8 / A67.1
13. ACCESSIBLE SINK
14. REFRIGERATOR, SEE SPECS, CFCI
15. OVERHEAD LINES
16. GLULAM COLUMNS STANE GRADE WITH MARINE GRADE VARNISH
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18. FLOOR DRAIN, SEE PLUMBING PLANS
19. EXTERIOR SHOWER WITH OVERHEAD COVER

FLOOR PLAN KEYNOTES

- 30"X48" CLR. — 30"X48" MIN. ACCESSIBLE WHEELCHAIR CLEAR FLOOR SPACE
- 60" MIN. CLR. — 60" MIN. ACCESSIBLE WHEELCHAIR CLEAR TURNING SPACE
- 8" CMU WALL PER SHEET A61.1
- 10" CMU WALL PER SHEET A61.1
- 12" CMU WALL PER SHEET A61.1
- METAL STUD WALL PER SHEET A61.1
- RETAINING WALL - SEE STRUCT. DWGS. FOR ADD'L. INFO.
- 1i — WALL TYPE ANNOTATIONS, SEE SHEET A61.1 FOR DETAILS
- 101 — NUMBER INDICATES DOOR PER SCHEDULE, REFER TO SHEET A52.1
- 1 — NUMBER INDICATED STOREFRONT PER SCHEDULE, REFER TO SHEET A52.2
- F.E. — FIRE EXTINGUISHER CABINET PER DET. 3/A65.1

FLOOR PLAN GENERAL NOTES:

1. ALL DIMENSIONS ARE TO CENTERLINE OF THE GRID LINES AND/OR TO THE FACE OF STUDS, U.N.O.
2. UNLESS NOTED OTHERWISE, ALL WALLS ARE FULL HEIGHT.
3. REFER TO SHEET GEN-4 FOR TYPICAL ACCESSIBILTY REQUIREMENTS AND DIMENSIONS.
4. REFER TO ENLARGED PLANS FOR DIMENSIONS AND CALLOUTS NOT SHOWN HERE.

FLOOR PLAN LEGEND

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT — ROBERT M. SIMPSON — No. C-18501 — JAN 31, 2025 — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

	INITIAL	DATE
DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

SECOND FLOOR PLAN

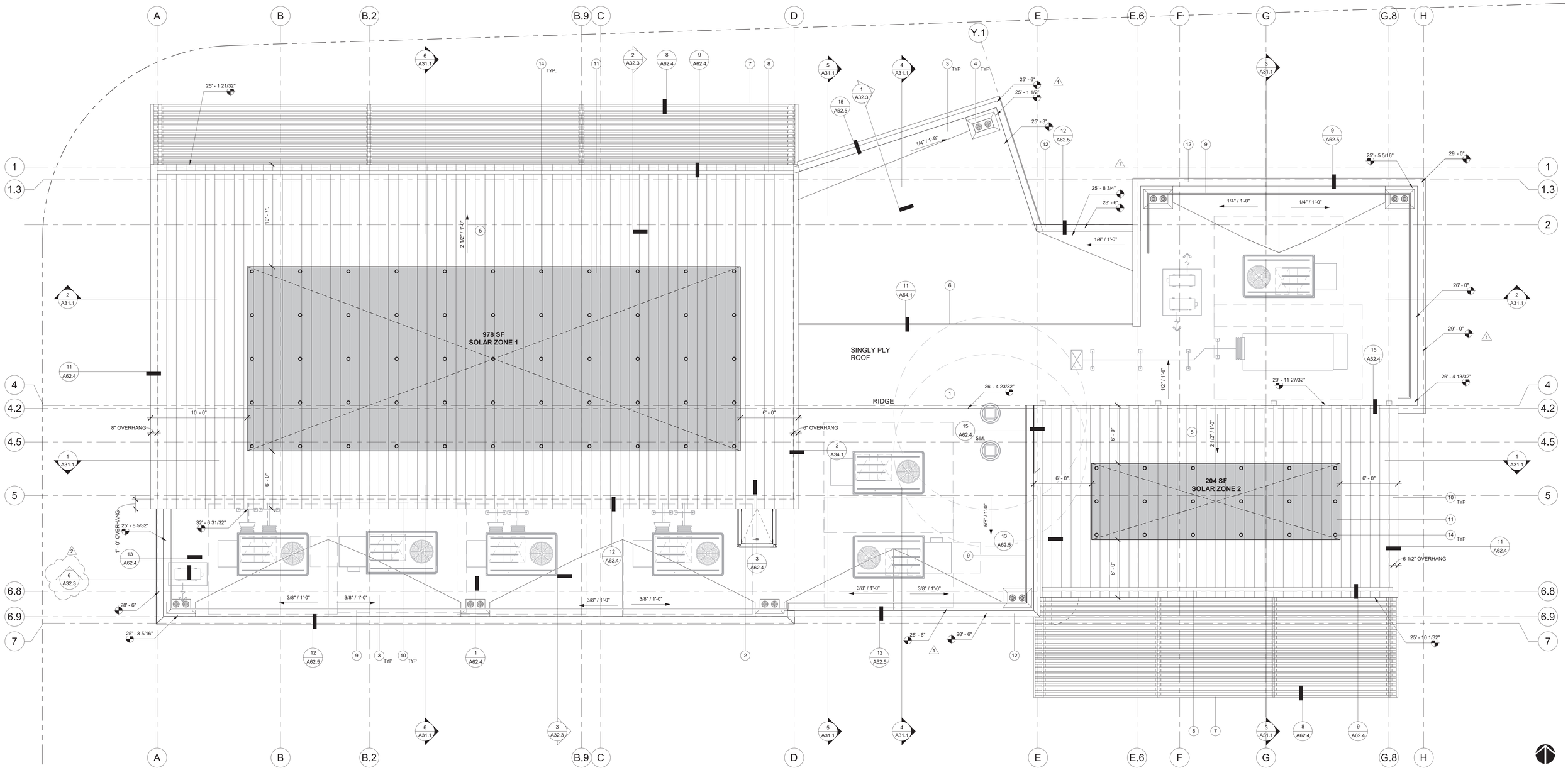
COMMUNITY AQUATICS & SENIOR CENTER
A11.3

APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS

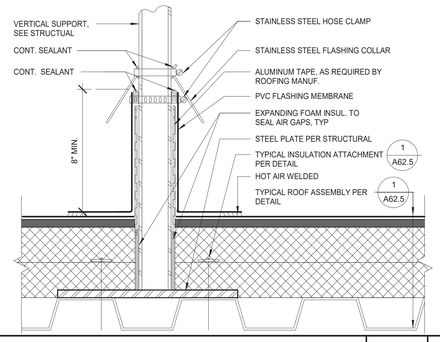
SHT. 48 OF 176 DWG. NO. 5-2606

GARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

PLOT DATE: 6/29/2023 2:24:58 PM
PLOT BY: C:\Users\nchan\Documents\Gardena Community Pool and Senior Center_nchan.rvt



ROOF PLAN | 1/4" = 1'-0" | 1



VERTICAL SOLAR SUPPORT FLASHING | 3" = 1'-0" | 2

SOLAR ZONE

SOLAR ZONE SHALL COMPLY WITH ACCESS, PATHWAY, SMOKE VENTILATION AND SPACING REQUIREMENTS AS SPECIFIED IN THE CFC AND BY THE LOCAL FIRE AUTHORITY

POTENTIAL LOCATION OF VERTICAL SUPPORT FOR SOLAR PANEL FRAMING SYSTEM 2 / A11.4

SOLAR AREA REQUIREMENTS: CALIFORNIA ENERGY CODE 110.10B
SOLAR ZONE SHALL BE NO LESS THAN 15% OF TOTAL ROOF AREA OF THE BUILDING EXCLUDING ANY SKYLIGHT AREA.

TOTAL ROOF AREA	5,936SF
TOTAL SKYLIGHT AREA	N/A
15% ROOF AREA	890.4SF
AVAILABLE SOLAR ZONE AREA:	
SOLAR ZONE 1	978SF
SOLAR ZONE 2	204SF
TOTAL AREA	**1,182SF > 890.4SF THUS OK**

NOTES:
1. FOR TYPICAL ROOF PENETRATION DETAIL SEE 3 / A62.5
2. SOLAR CONTRACTOR TO DETERMINE SOLAR PANEL SUPPORT FRAMING DESIGN IN COMPLIANCE WITH SOLAR PANEL MANUFACTURERS INSTALLATION INSTRUCTIONS.

SOLAR NOTES

1. GRAY PVC MEBRANE ROOFING O/ DENSDECK, O/ R-40 RIGID INSULATION 1 / A62.5 O/ VAPOR BARRIER O/ STRUCTURAL DECK
2. ROOF ACCESS HATCH PER DETAIL 3 / A62.4
3. BUILT-UP FOAM CRICKETS
4. ROOF DRAIN AND O/FLOW DRAIN 1 / A62.4
5. GRAY PVC MEMBRANE ROOFING W/ ADHERED RIBS O/ DENSDECK, O/ R-40 RIGID INSULATION O/ VAPOR BARRIER O/ STRUCTURAL DECK 1 / A62.5
6. ROOF MOUNTED STEEL GUARDRAIL, PAINTED PER DETAIL 11 / A64.1
7. ALUMINUM TRELLIS, PAINTED
8. INTEGRAL GUTTER, PER DETAIL 9 / A62.4
9. PARAPET MOUNTED GUARDRAILING, PER DETAIL 13 / A62.4
10. LINE OF WALL BELOW
11. SOLAR ZONE, REFER TO SOLAR NOTES ON THIS PAGE
12. TOP OF PARAPET
13. MECHANICAL EQUIPMENT, SEE MECH. PLANS. FOR EQUIP. PAD SEE DETAIL 4 / A62.5
14. POTENTIAL VERTICAL SUPPORT FOR SOLAR PANEL FRAMING SYSTEM 2 / A11.4

ROOF PLAN KEYNOTES

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SIMPSON No. C-18501 JAN. 31, 2020 STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

ROOF PLAN

COMMUNITY AQUATICS & SENIOR CENTER

A11.4

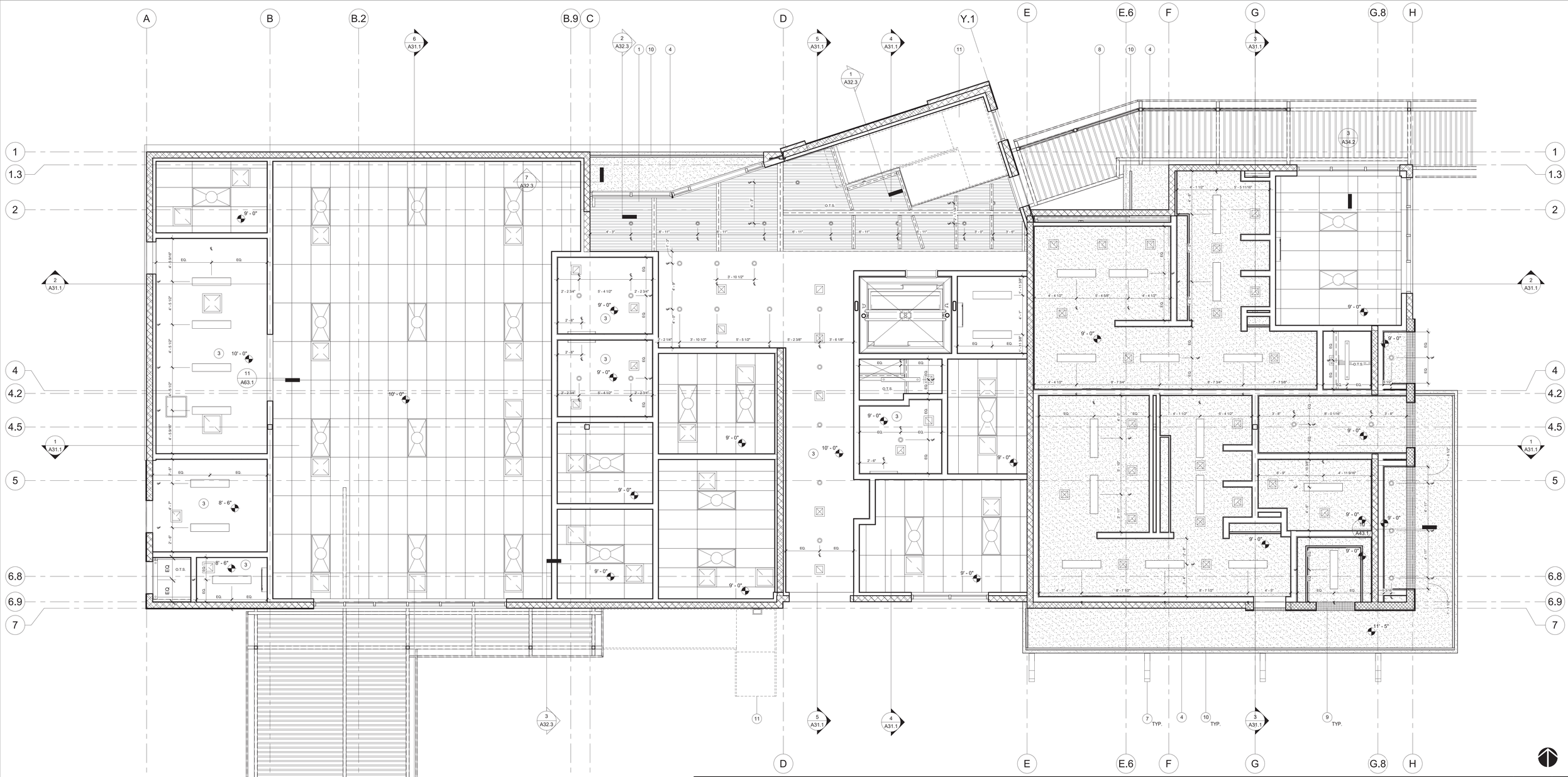
	INITIAL	DATE
DESIGNED BY	AP/EC	06/28/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 49 OF 176 DWG. NO. 5-2606

CARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET
RCP FILE: C:\Users\ncarrillo\Documents\Gardena, Community Pool and Senior Center_nckwngwh62bk.rvt



FIRST FLOOR RCP

1/4" = 1'-0" | 1

RCP KEYNOTES

1. EXPOSED STRUCTURAL DECK - DOVETAIL PROFILE, PAINTED
2. EXPOSED STRUCTURAL FRAMING, PAINTED
3. GYP. BOARD CEILING
4. PLASTER SOFFIT
5. ALUMINUM LATTICE
6. EXPOSED STAIN GRADE GLULAM BEAM, STAINED
7. EXPOSED STAIN GRADE GLULAM POST, STAINED
8. STEEL AND WOOD TRELLIS, SEE SHEET A44.3
9. 2"x2" TILE, SEE ELEVATIONS FOR TYPE AND COLOR
10. SOFFIT VENT
11. STEEL STAIR, SEE STAIR PLANS AND STRUCTURAL DRAWINGS
12. EXPOSED MECH. DUCTWORK, PAINTED

RCP LEGEND

- RECESSED SUPPLY AIR GRILL, SEE MECH. DRAWINGS
- RECESSED RETURN AIR GRILL, SEE MECH. DRAWINGS
- RECESSED EXHAUST AIR GRILL, SEE MECH. DRAWINGS
- DECORATIVE PENDANT MOUNTED FIXTURE, SEE ELEC. DRAWINGS*
- RECESSED DOWNLIGHT, SEE ELEC. DRAWINGS*
- WALL MOUNTED DOWNLIGHT, SEE ELEC. DRAWINGS* WALL MOUNTED TO BE 8' - 0" TYP.
- PENDANT FIXTURE - LOUNGE, SEE ELEC. DRAWINGS*
- 2X4 LUMINAIRE, SEE ELEC. DRAWINGS*
- SURFACE MOUNTED FLUORESCENT FIXTURE, SEE ELEC. DRAWINGS*
- SUSPENDED STRIP LIGHT FIXTURE - CLASSROOM, SEE ELEC. DRAWINGS*
- SUSPENDED STRIP LIGHT FIXTURE - UTILITY LOCATIONS, SEE ELEC. DRAWINGS*
- EXIT SIGNAGE, SEE ELECTRICAL DRAWINGS
- SPEAKERS, SEE ELECTRICAL DRAWINGS
- ROOF HATCH ABOVE, REFER TO DET. 8/A62.6
- GYP. BOARD CEILING, REFER TO NOTE 1
- DOVETAIL METAL DECKING, SEE STR'L DRAWINGS
- EXTERIOR PLASTER SOFFIT AND INTERIOR CEILING, REFER TO NOTE 3
- 2' X 4' SUSPENDED CEILING TILES, REFER TO NOTE 2

NOTES:
1. GYPSUM BOARD CEILINGS SHALL BE FRAMED WITH METAL STUD JOISTS, U.N.O. SEE DETAIL 1/A62.3 FOR MORE INFORMATION.
2. FOR SUSPENDED ACOUSTICAL CEILING, REFER TO SHEET A62.2.
3. FOR PLASTER SOFFIT DETAILS, SEE DETAIL 11/A62.3.
4. AT ALL ROOMS WITHOUT CEILINGS (LABELLED AS "EXP" ON PLAN AND/OR ON THE FINISH SCHEDULE), ALL EXPOSED SURFACES AND ELEMENTS SHALL BE PAINTED, INCLUDING STRUCTURE, DECK ABOVE, AND ALL UTILITIES INCLUDING PIPING, CONDUITS, DUCTWORK, ETC.
5. PLUMBING, ELECTRICAL, MECHANICAL AND FIRE PROTECTION COMPONENTS ARE SHOWN FOR REFERNECE AND COORDINATION PURPOSES. REFER TO PLUMBING, ELECTRICAL, MECHANICAL AND FIRE PROTECTION DRAWINGSFOR COMPONENT AND SYSTEM QUANTITIES, TYPES AND REQUIREMENTS
6. CENTER LIGHTING FIXTURES BETWEEN OPPOSITE WALLS, U.N.O.
7. ALL DIMENSIONS, NOTES, KEYNOTES AND DETAILS CALLOUTS ARE TYPICAL, U.N.O.
8. SEE SHEET A50.1 FOR INTERIOR FINISH LEGEND
9. AT EXPOSED CEILINGS, ALL DUCTS, PIPES AND CONDUITS SHALL RUN PARALLEL OR PERPENDICULAR TO WALL, AND AS CLOSE TO THE DECK ABOVE AS POSSIBLE. PROVIDE ESCUTCHEONS FOR CONDUIT/PIPES AT WALLS WHERE EXPOSED.

* REFER TO ELECTRICAL DRAWINGS FOR LOCATIONS OF EMERGENCY LIGHTING.

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SIMPSON No. C-19501 JAN. 31, 2025 STATE OF CALIFORNIA

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

REVISIONS

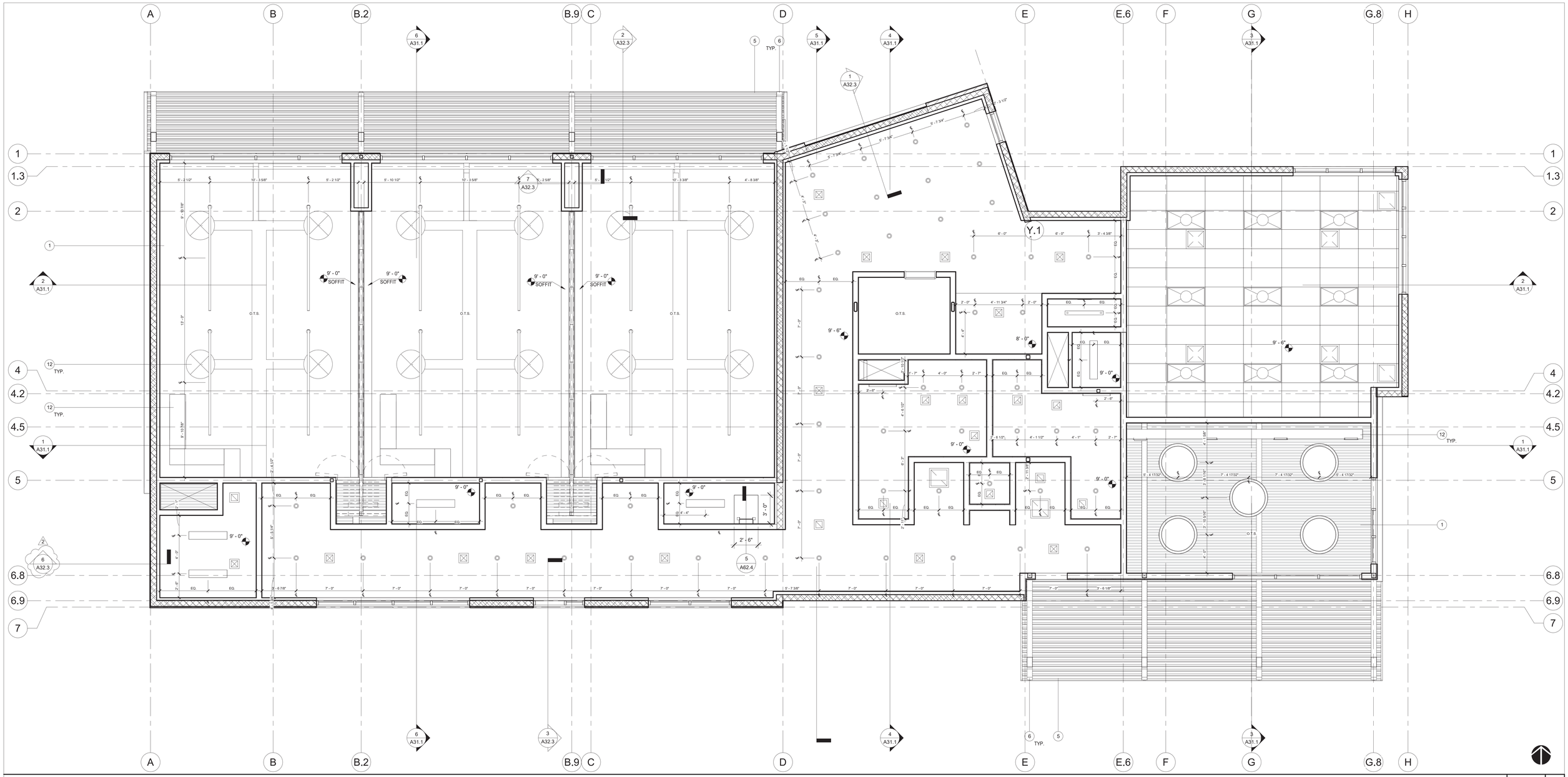
NO.	DESCRIPTION	DATE	APPROVED
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3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
FIRST FLOOR RCP
COMMUNITY AQUATICS & SENIOR CENTER
A11.5

	INITIAL	DATE
DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS
SHT. 50 OF 176 DWG. NO. 5-2606

CARDINA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET
PLOT DATE: 6/30/2023 2:29 PM Plotted By: Nicholas Cruz Path: C:\Users\ncruz\Documents\Gardena Community Pool and Senior Center_nicksvaagmail2018.rvt



SECOND FLOOR RCP

1/4" = 1'-0" | 1

RCP KEYNOTES

1. EXPOSED STRUCTURAL DECK - DOVETAIL PROFILE, PAINTED
2. EXPOSED STRUCTURAL FRAMING, PAINTED
3. GYP. BOARD CEILING
4. PLASTER SOFFIT
5. ALUMINUM LATTICE
6. EXPOSED STAIN GRADE GLULAM BEAM, STAINED
7. EXPOSED STAIN GRADE GLULAM POST, STAINED
8. STEEL AND WOOD TRELLIS, SEE SHEET A44.3
9. 2"x2" TILE, SEE ELEVATIONS FOR TYPE AND COLOR
10. SOFFIT VENT
11. STEEL STAIR, SEE STAIR PLANS AND STRUCTURAL DRAWINGS
12. EXPOSED MECH. DUCTWORK, PAINTED

RCP LEGEND

- RECESSED SUPPLY AIR GRILL, SEE MECH. DRAWINGS
- RECESSED RETURN AIR GRILL, SEE MECH. DRAWINGS
- RECESSED EXHAUST AIR GRILL, SEE MECH. DRAWINGS
- DECORATIVE PENDANT MOUNTED FIXTURE, SEE ELEC. DRAWINGS*
- RECESSED DOWNLIGHT, SEE ELEC. DRAWINGS*
- WALL MOUNTED DOWNLIGHT, SEE ELEC. DRAWINGS* WALL MOUNTED TO BE 8' - 0" TYP.
- PENDANT FIXTURE - LOUNGE, SEE ELEC. DRAWINGS*
- 2X4 LUMINAIRE, SEE ELEC. DRAWINGS*
- SURFACE MOUNTED FLUORESCENT FIXTURE, SEE ELEC. DRAWINGS*
- SUSPENDED STRIP LIGHT FIXTURE - CLASSROOM, SEE ELEC. DRAWINGS*
- SUSPENDED STRIP LIGHT FIXTURE - UTILITY LOCATIONS, SEE ELEC. DRAWINGS*
- EXIT SIGNAGE, SEE ELECTRICAL DRAWINGS
- SPEAKERS, SEE ELECTRICAL DRAWINGS
- ROOF HATCH ABOVE, REFER TO DET. 8/A62.6
- GYP. BOARD CEILING, REFER TO NOTE 1
- EXTERIOR PLASTER SOFFIT AND INTERIOR CEILING, REFER TO NOTE 3
- 2' X 4' SUSPENDED CEILING TILES, REFER TO NOTE 2
- DOVETAIL METAL DECKING, SEE STR'L DRAWINGS

NOTES:

1. GYPSUM BOARD CEILINGS SHALL BE FRAMED WITH METAL STUD JOISTS, U.N.O. SEE DETAIL 1/A62.3 FOR MORE INFORMATION.
2. FOR SUSPENDED ACOUSTICAL CEILING, REFER TO SHEET A62.2.
3. FOR PLASTER SOFFIT DETAILS, SEE DETAIL 11/A62.3.
4. AT ALL ROOMS WITHOUT CEILINGS (LABELLED AS "EXP" ON PLAN AND/OR ON THE FINISH SCHEDULE), ALL EXPOSED SURFACES AND ELEMENTS SHALL BE PAINTED, INCLUDING STRUCTURE, DECK ABOVE, AND ALL UTILITIES INCLUDING PIPING, CONDUITS, DUCTWORK, ETC.
5. PLUMBING, ELECTRICAL, MECHANICAL AND FIRE PROTECTION COMPONENTS ARE SHOWN FOR REFERNECE AND COORDINATION PURPOSES. REFER TO PLUMBING, ELECTRICAL, MECHANICAL AND FIRE PROTECTION DRAWINGSFOR COMPONENT AND SYSTEM QUANTITIES, TYPES AND REQUIREMENTS
6. CENTER LIGHTING FIXTURES BETWEEN OPPOSITE WALLS, U.N.O.
7. ALL DIMENSIONS, NOTES, KEYNOTES AND DETAILS CALLOUTS ARE TYPICAL, U.N.O.
8. SEE SHEET A50.1 FOR INTERIOR FINISH LEGEND
9. AT EXPOSED CEILINGS, ALL DUCTS, PIPES AND CONDUITS SHALL RUN PARALLEL OR PERPENDICULAR TO WALL, AND AS CLOSE TO THE DECK ABOVE AS POSSIBLE. PROVIDE ESCUTCHEONS FOR CONDUIT/PIPES AT WALLS WHERE EXPOSED.

* REFER TO ELECTRICAL DRAWINGS FOR LOCATIONS OF EMERGENCY LIGHTING.

PREPARED BY:

SVA ARCHITECTS

6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT — ROBERT M. SIMPSON — No. C-18001 — JAN. 31, 2025 — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

SECOND FLOOR RCP

COMMUNITY AQUATICS & SENIOR CENTER

A11.6

	INITIAL	DATE
DESIGNED BY	AP/EC	06/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DS	06/29/23

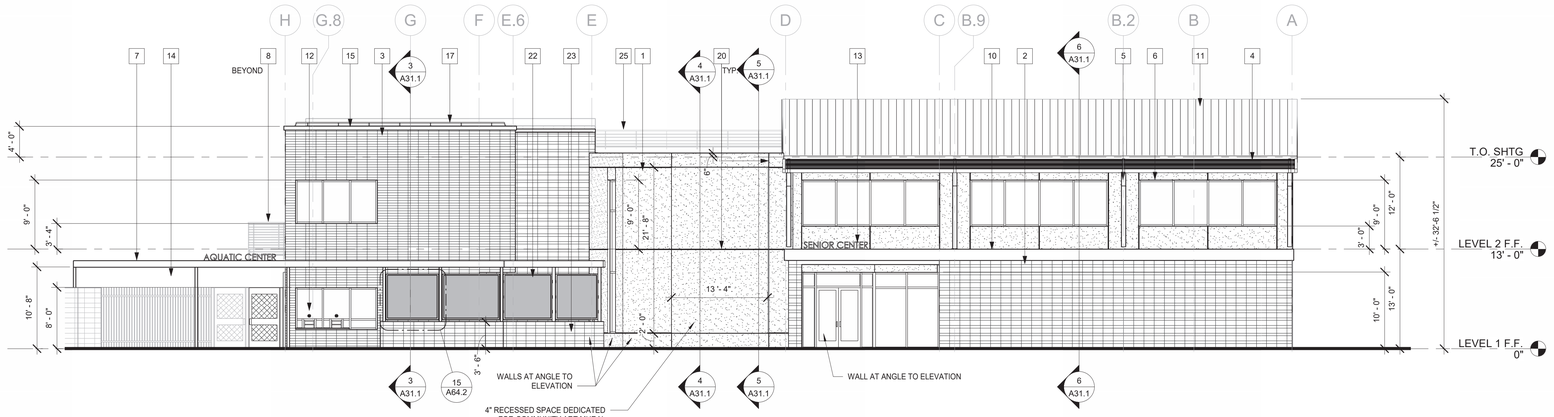
APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

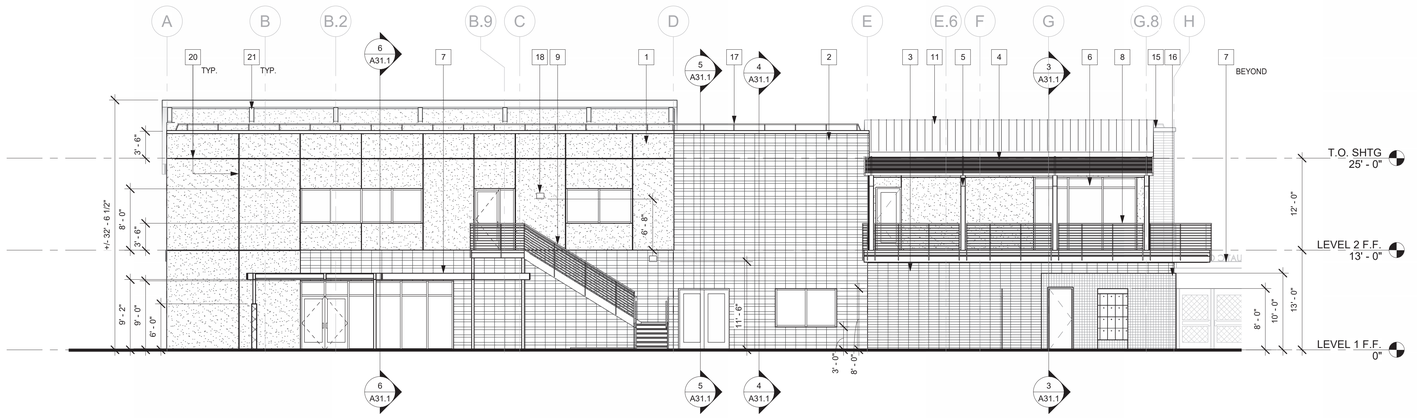
SHT. 51 OF 176 DWG. NO. 5-2606

CARDINA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

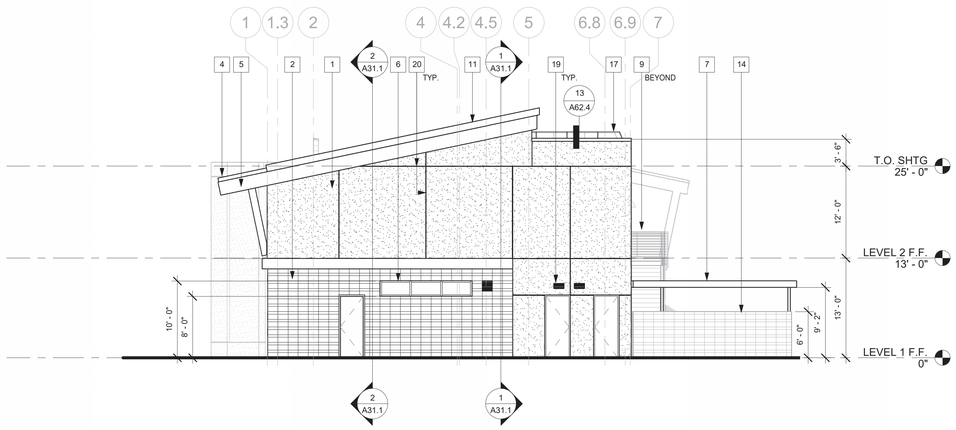
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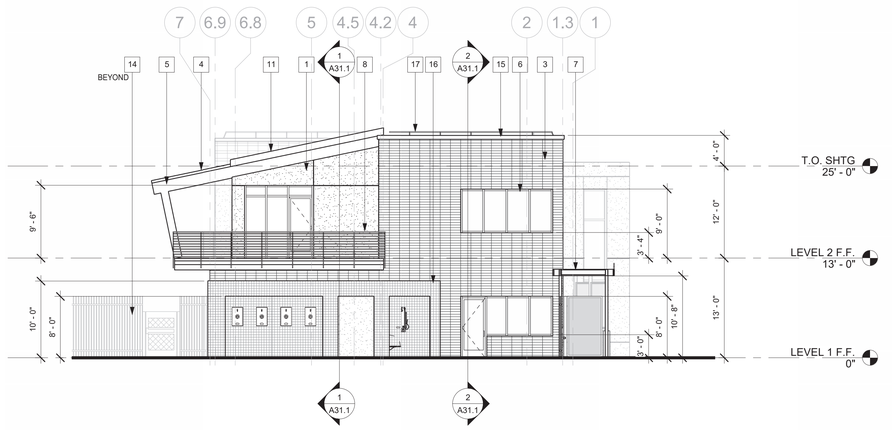
NORTH ELEVATION | 1/8" = 1'-0" | 3



SOUTH ELEVATION | 1/8" = 1'-0" | 2



WEST ELEVATION | 1/8" = 1'-0" | 4



EAST ELEVATION | 1/8" = 1'-0" | 1

1 STUCCO, PAINTED DUNN EDWARDS DEW380 WARM WHITE

2 CMU BLOCK 8"HIGH/4"HIGH STACKED BOND PATTERN
8" HIGH - ORCO COLOR: NuFad; FINISH: SPLITFACE
4" HIGH - ORCO COLOR: NuFad; FINISH: PRECISION

3 CMU BLOCK 4"HIGH STACKED BOND PATTERN
ORCO COLOR: Natural Gray Indio; FINISH: PRECISION

4 ALUMINUM TRELLIS PAINTED TO MATCH ROOF COLOR, SEE ROOF PLAN

5 GLULAM BEAM AND KICKER STAIN GRADE WITH MARINE GRADE VARNISH

6 ALUMINUM STOREFRONT

7 STEEL TRELLIS FRAME, PAINTED; W/ STAINED WOOD RAFTERS, SEE SHEET A64.2

8 STEEL GUARDRAIL, PAINTED DUNN EDWARDS DET695 GRANGE HALL 4 / A34.2 2 / A34.2

9 STEEL GUARDRAIL WITH HANDRAIL, PAINTED DUNN EDWARDS DET695 GRANGE HALL 8 / A64.1

10 SHEET METAL BELLY BAND, PAINTED DUNN EDWARDS DET695 GRANGE HALL 10 / A62.4

11 SINGLE PLY ROOFING WITH 2" TALL RIBS, DARK GRAY COLOR 5 / A62.5

12 TRANSACTION WINDOWS 3 / A34.2

13 12" HIGH ALUMINUM BUILDING SIGNAGE

14 SITE FENCING AND GATES PER LANDSCAPE

15 CMU PARAPET CAP BLOCK; COLOR TO MATCH BLOCK 9 / A62.5

16 2"X2" TILE FINISH; DALTILE COLOR OCEAN BLUE 1049 11 / A62.1

17 PARAPET MOUNTED GUARD, PAINTED DUNN EDWARDS DET695 GRANGE HALL 13 / A62.4

18 BUILDING MOUNTED LIGHT, SEE ELECTRICAL PLANS

19 LOUVER, SEE MECHANICAL PLANS 19 / A52.2

20 STUCCO CONTROL JOINT
HORIZONTAL - 13 / A62.1 16 / A62.1
VERTICAL - 12 / A62.1 15 / A62.1

21 GLULAM BEAM TAIL, STAIN GRADE WITH MARINE GRADE VARNISH

22 STEEL FRAME WIRE MESH INFILL PANEL 13 / A62.4

23 12" WIDE CMU WALL

24 SHEET METAL PARAPET CAP, PAINTED DUNN EDWARDS DET695 GRANGE HALL 11 / A62.5

25 ROOFTOP STEEL GUARDRAIL, PAINTED DUNN EDWARDS DET695 GRANGE HALL 4 / A34.2

SENIOR CENTER ELEVATION KEYNOTES

CARDINA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

PREPARED BY:

SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SIMPSON No. C-18301 JAN 31, 2025 STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

	INITIAL	DATE
DESIGNED BY	AP/EC	06/26/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

ELEVATIONS

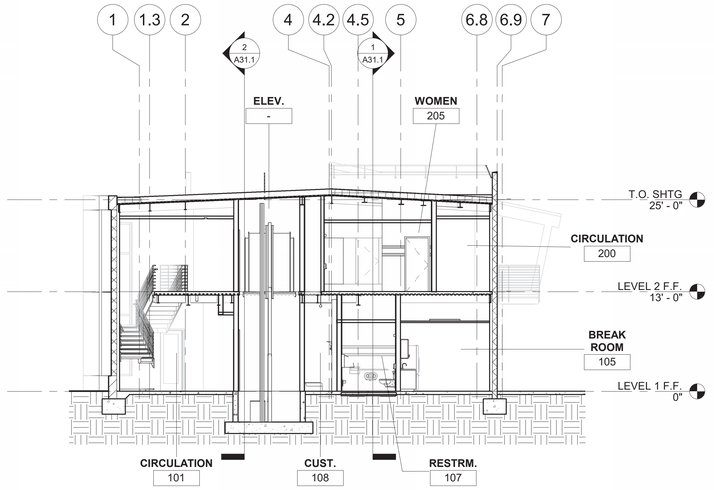
COMMUNITY AQUATICS & SENIOR CENTER
A21.1

APPROVED BY:

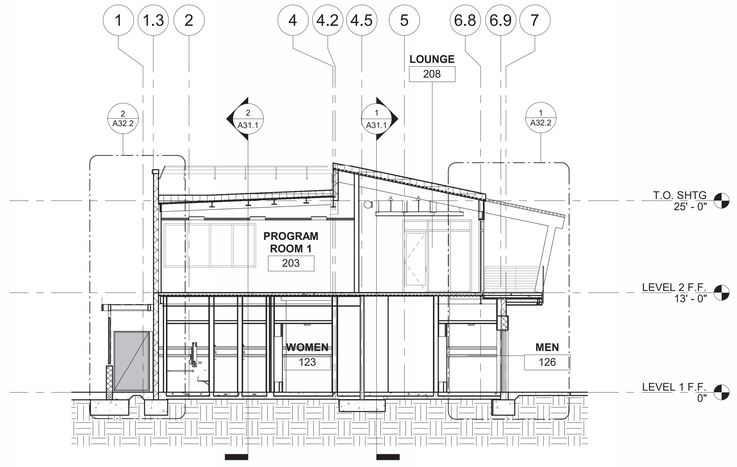
APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 52 OF 176 DWG. NO. 5-2606

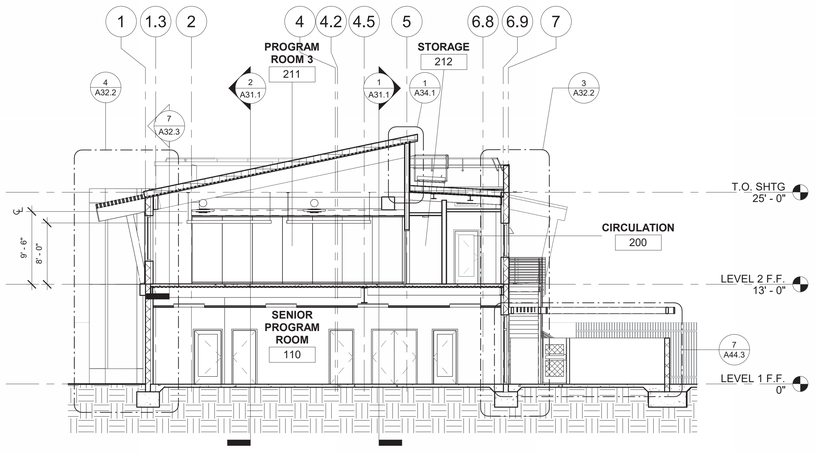
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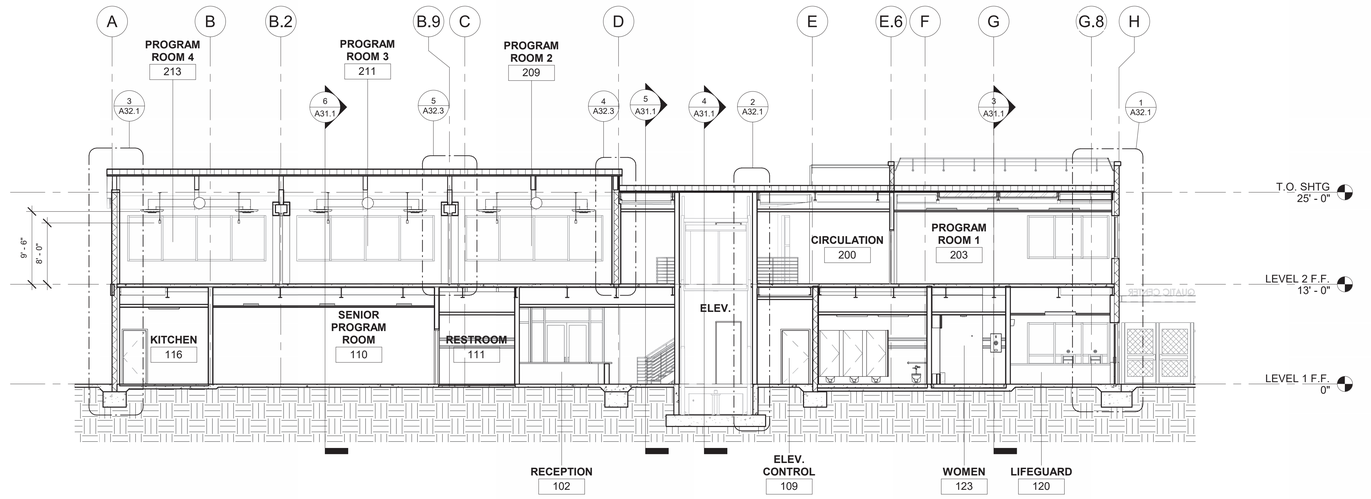
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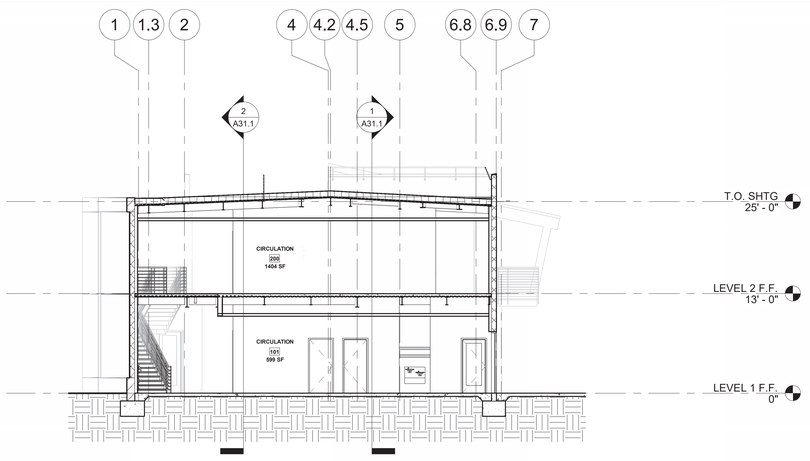
SECTION 3 1/8" = 1'-0" **3**



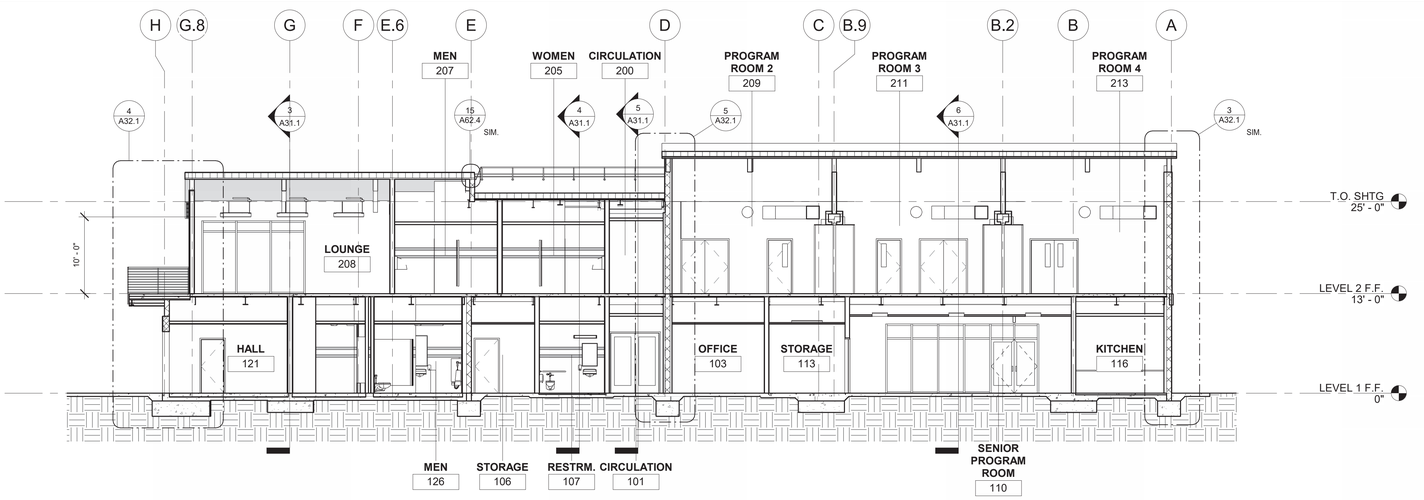
SECTION 6 1/8" = 1'-0" **6**



SECTION 2 1/8" = 1'-0" **2**



SECTION 5 1/8" = 1'-0" **5**



SECTION 1 1/8" = 1'-0" **1**

CITY OF GARDENA INCORPORATED 1930

PREPARED BY:

SVA ARCHITECTS

6 HUTTON CENTRE DR., SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SIMONIAN No. C-18801 JAN 31, 2025 STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

CITY OF GARDENA

DEPARTMENT OF PUBLIC WORKS - ENGINEERING

BUILDING SECTIONS

COMMUNITY AQUATICS & SENIOR CENTER

A31.1

	INITIAL	DATE
DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

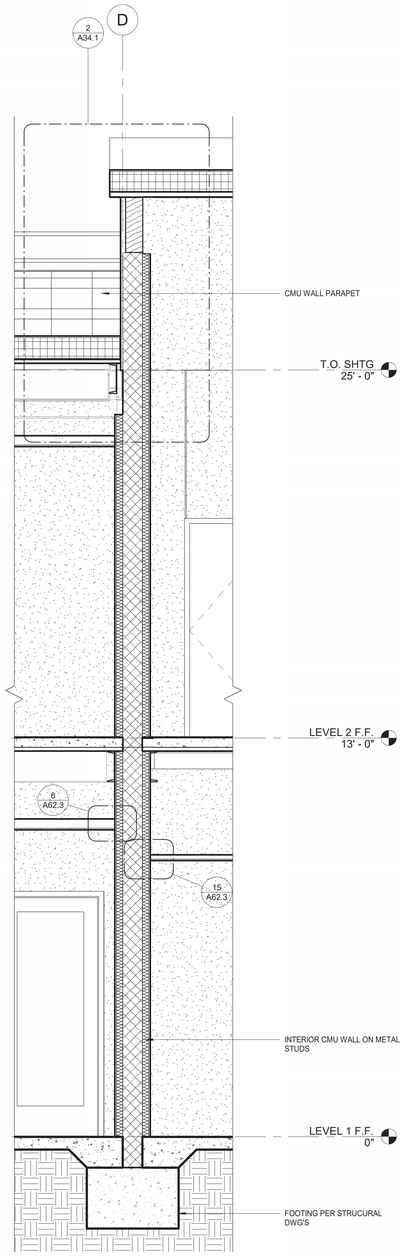
APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 53 OF 176 DWG. NO. 5-2606

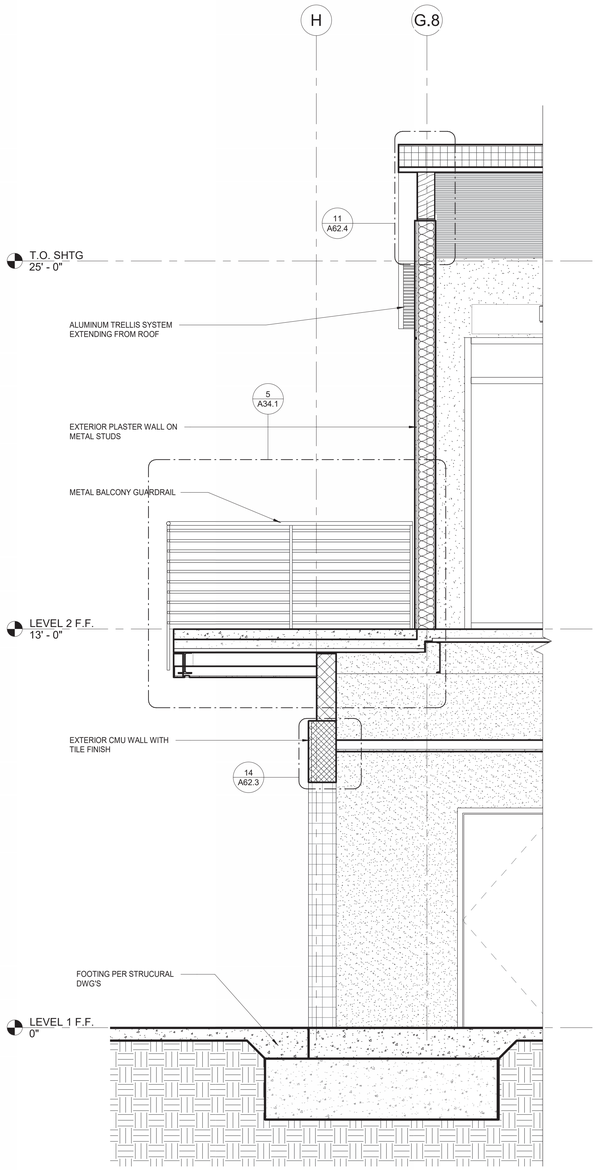
GARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

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PLOT BY: C:\Users\nchang\Documents\Gardena_Community Pool and Senior Center_nchang#24259.rvt



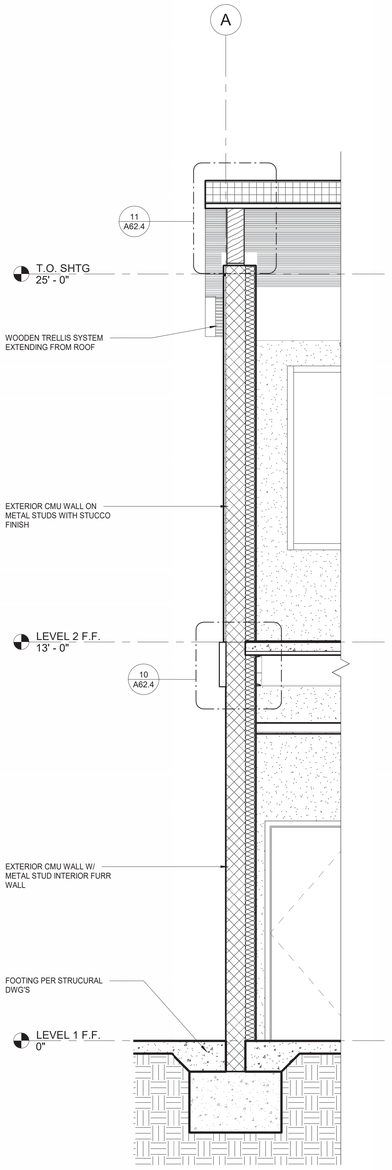
WALL SECTION 5

1/2" = 1'-0" | 5



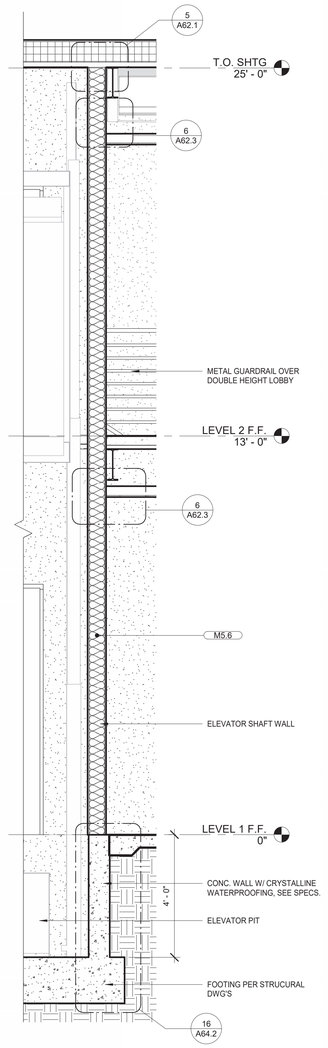
WALL SECTION 4

1/2" = 1'-0" | 4



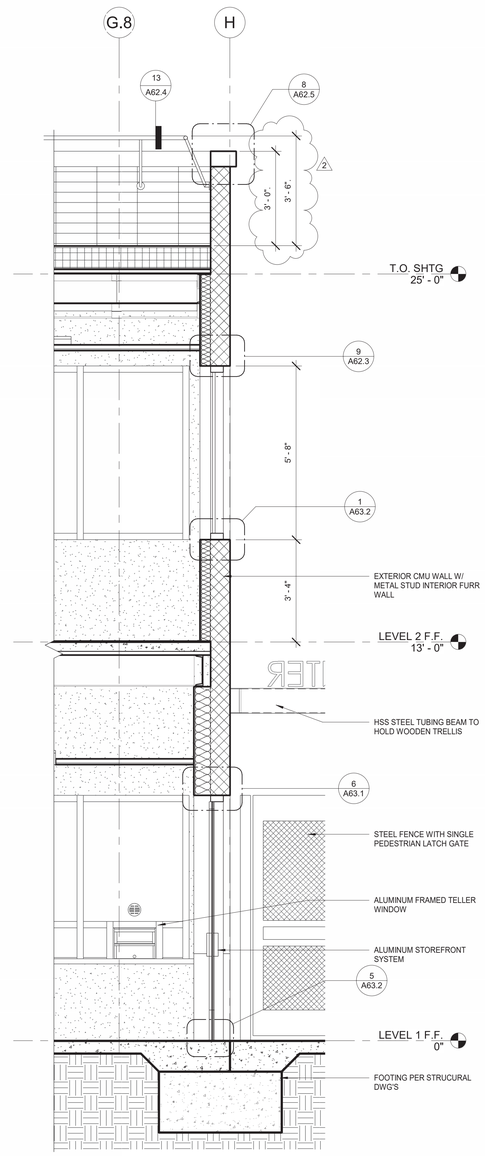
WALL SECTION 3

1/2" = 1'-0" | 3



WALL SECTION 2

1/2" = 1'-0" | 2



WALL SECTION 1

1/2" = 1'-0" | 1

CARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

PREPARED BY:

SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT — ROBERT M. SIMPSON — No. C-17651 — JAN. 31, 2025 — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

WALL SECTIONS

COMMUNITY AQUATICS & SENIOR CENTER

A32.1

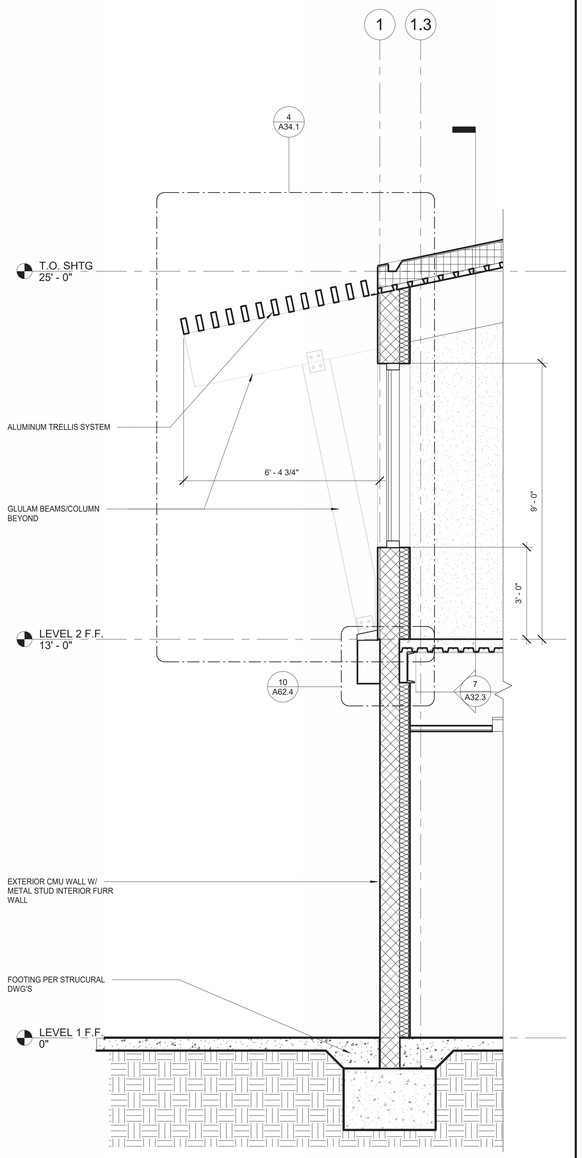
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DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	04/20/23
CHECKED BY	DB	04/29/23

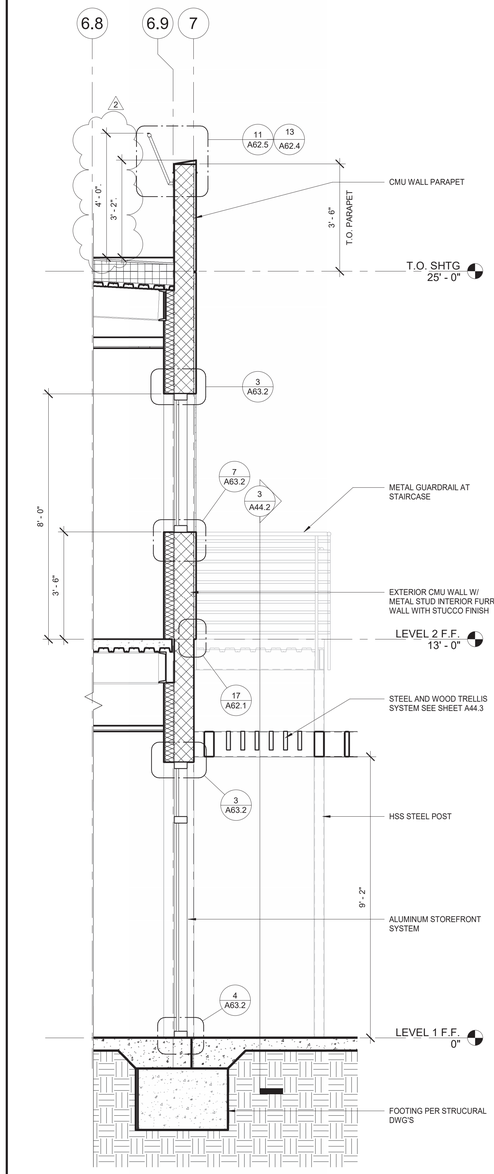
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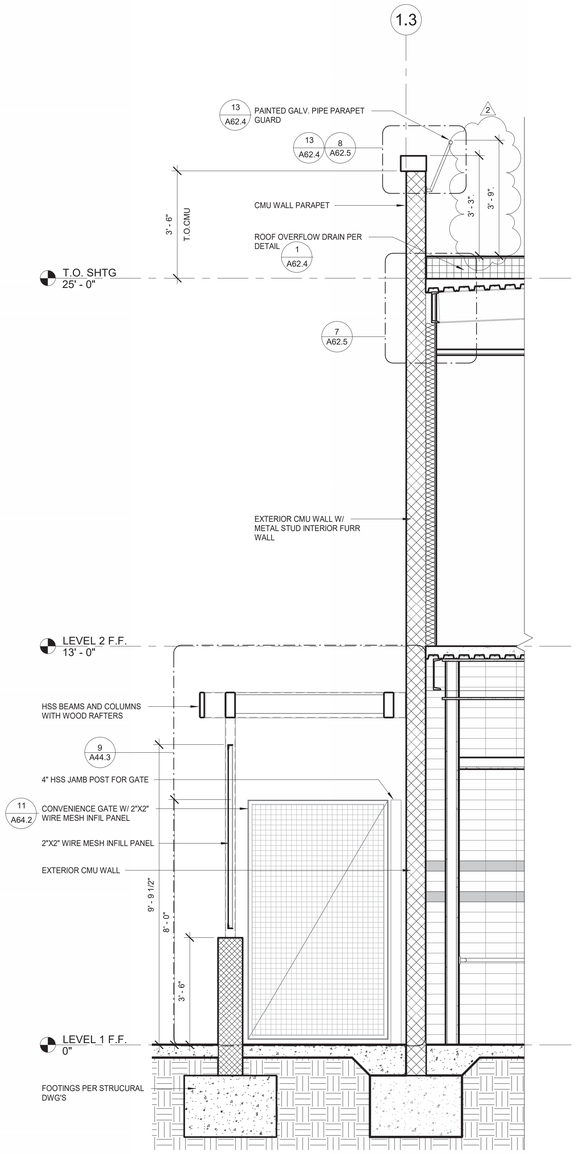
APPROVED BY: DIRECTOR OF PUBLIC WORKS

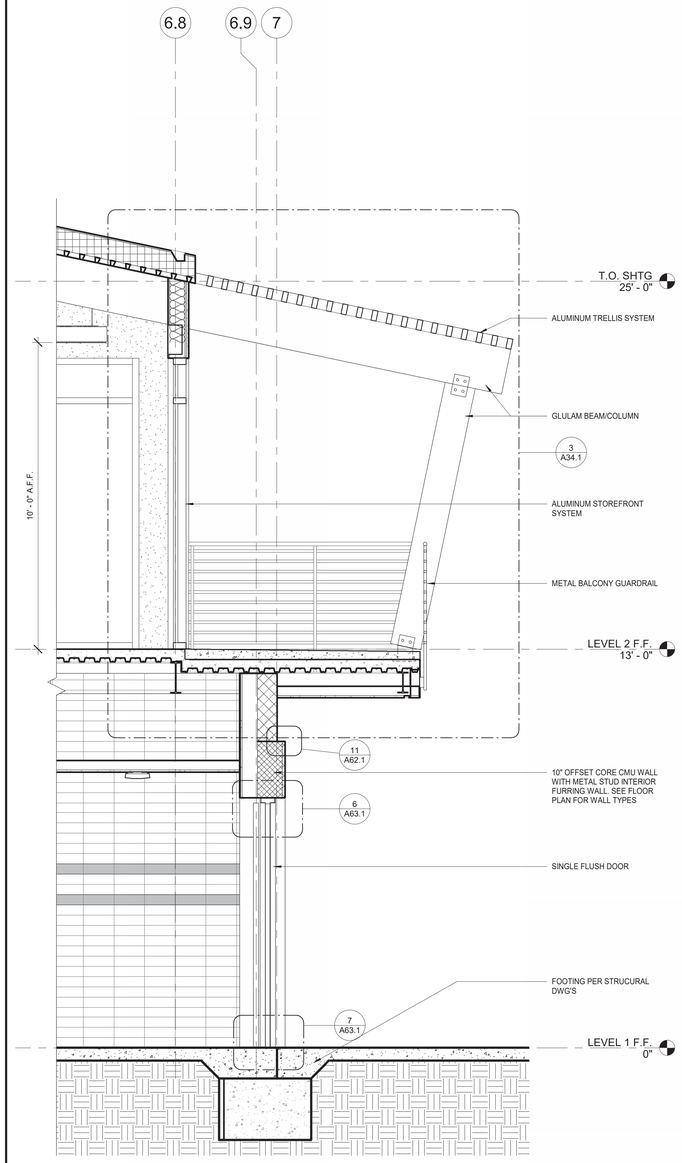
SHT. 54 OF 176 DWG. NO. 5-2606

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WALL SECTION 9	1/2" = 1'-0"	4	WALL SECTION 8	1/2" = 1'-0"	3	WALL SECTION 7	1/2" = 1'-0"	2	WALL SECTION 6	1/2" = 1'-0"	1

CITY OF GARDENA
INCORPORATED 1930

PREPARED BY:

SVA ARCHITECTS

6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT
ROBERT M. SIMPSON
No. C-18801
JAN 31, 2025
STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

WALL SECTIONS

COMMUNITY AQUATICS & SENIOR CENTER

A32.2

	INITIAL	DATE
DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

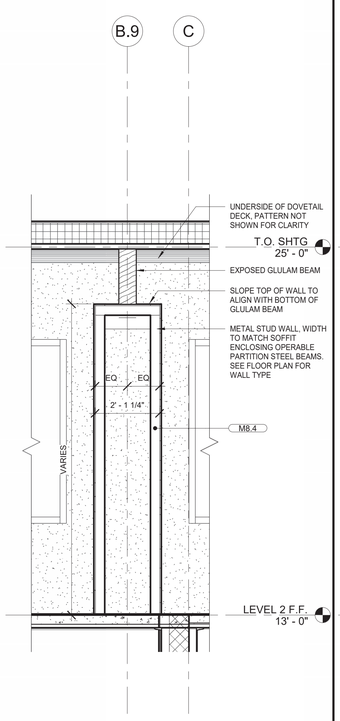
APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

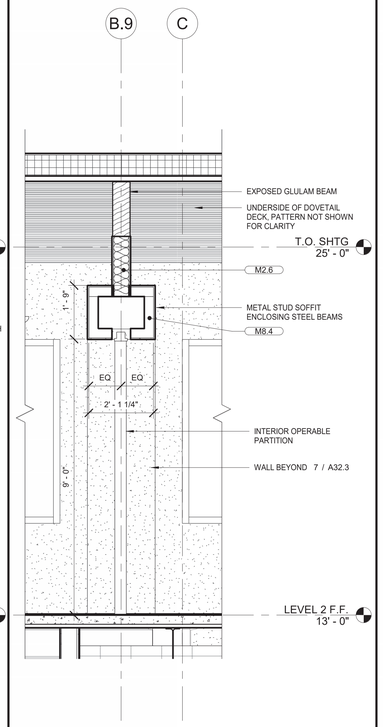
SHT. 55 OF 176 DWG. NO. S-2606

CARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

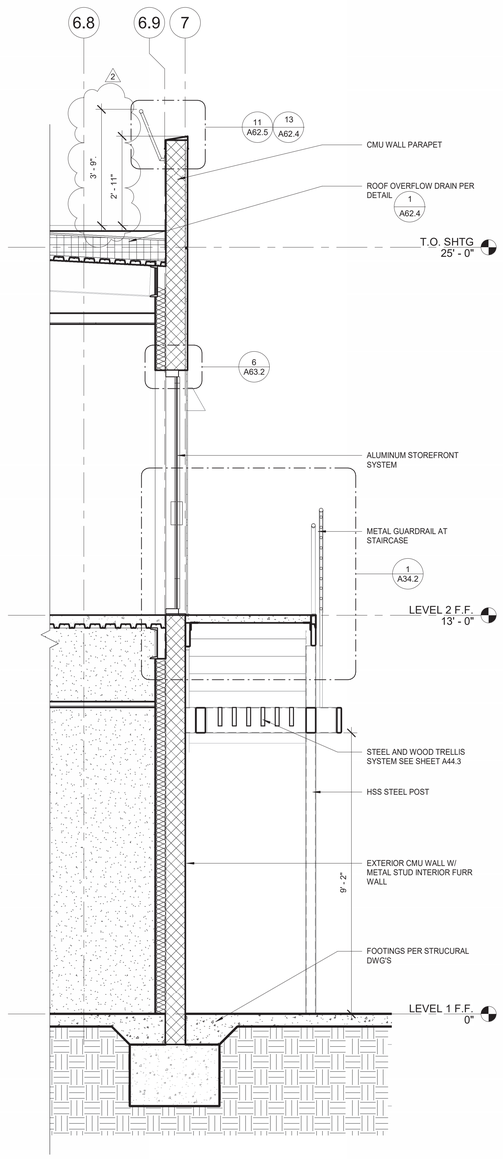
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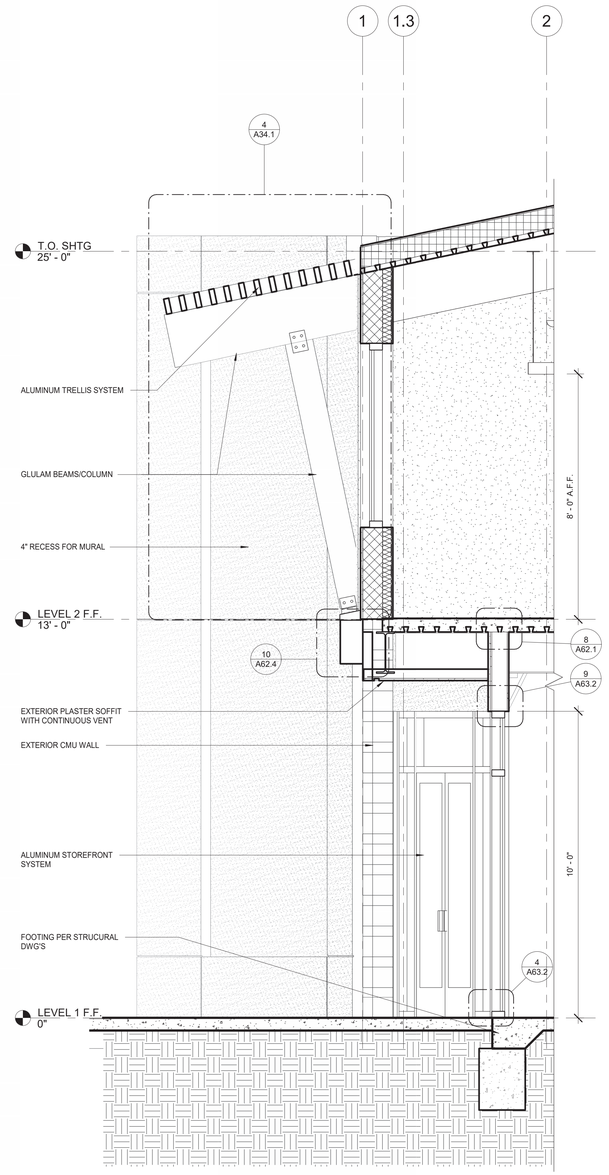
WALL SECTION 15 | 1/2" = 1'-0" | 7



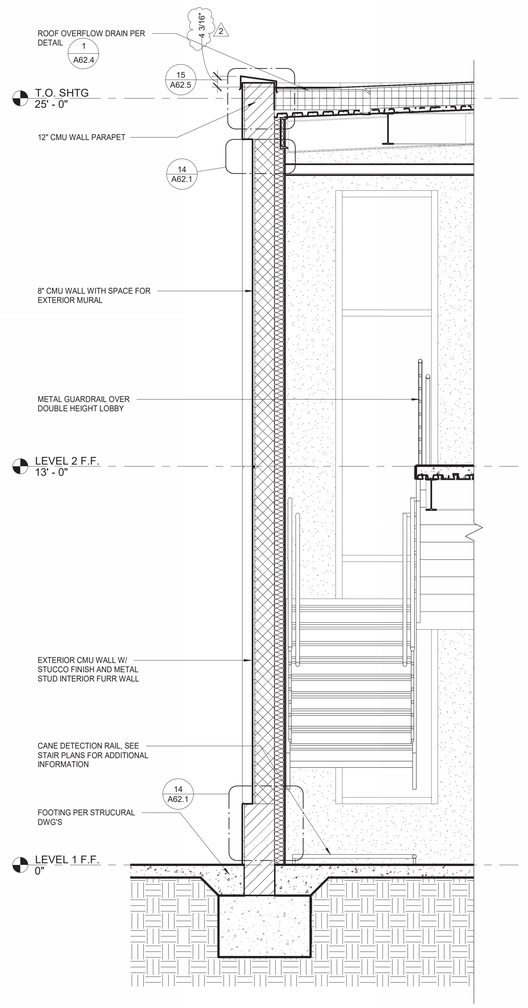
WALL SECTION 13 | 1/2" = 1'-0" | 5



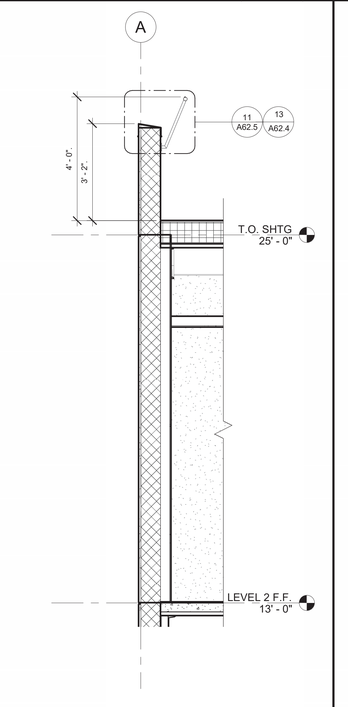
WALL SECTION 12 | 1/2" = 1'-0" | 3



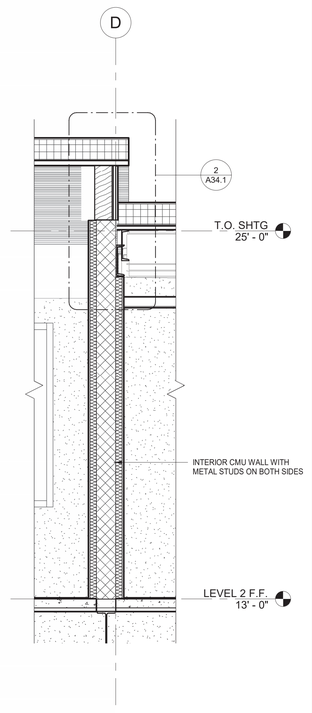
WALL SECTION 11 | 1/2" = 1'-0" | 2



WALL SECTION 10 | 1/2" = 1'-0" | 1



WALL SECTION 16 | 1/2" = 1'-0" | 6



WALL SECTION 14 | 1/2" = 1'-0" | 4

CARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

PREPARED BY:

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6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SIMMONS No. C-18801 JAN. 31, 2025 STATE OF CALIFORNIA

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

WALL SECTIONS

COMMUNITY AQUATICS & SENIOR CENTER

A32.3

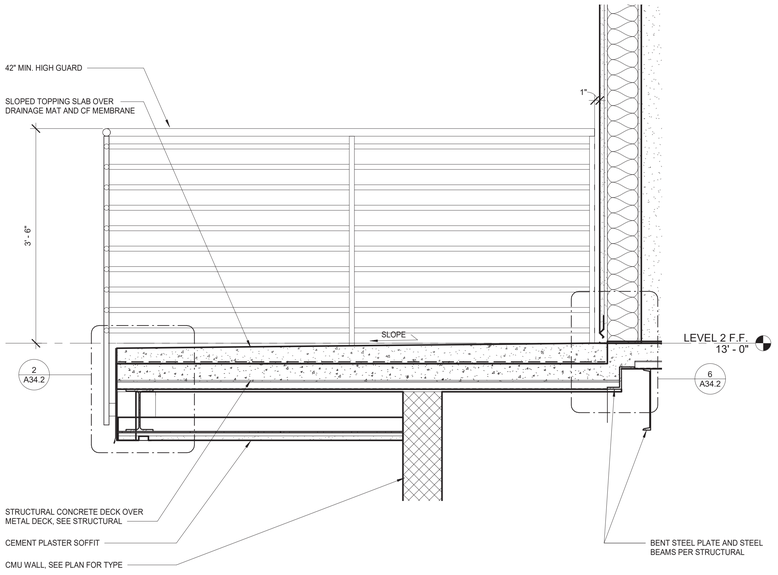
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DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

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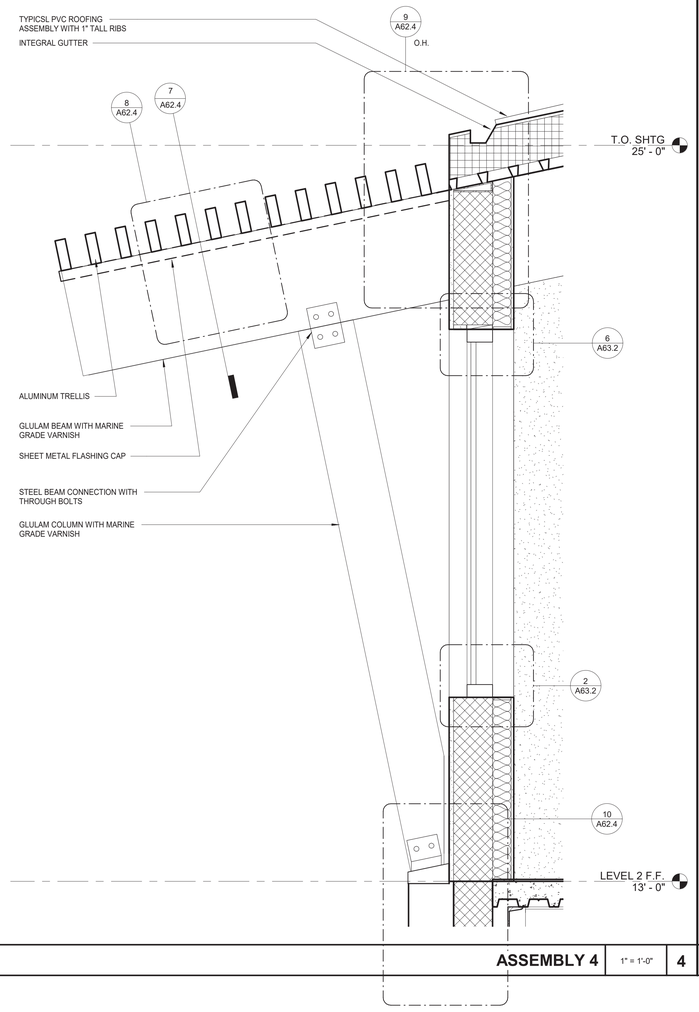
APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 56 OF 176 DWG. NO. S-2606

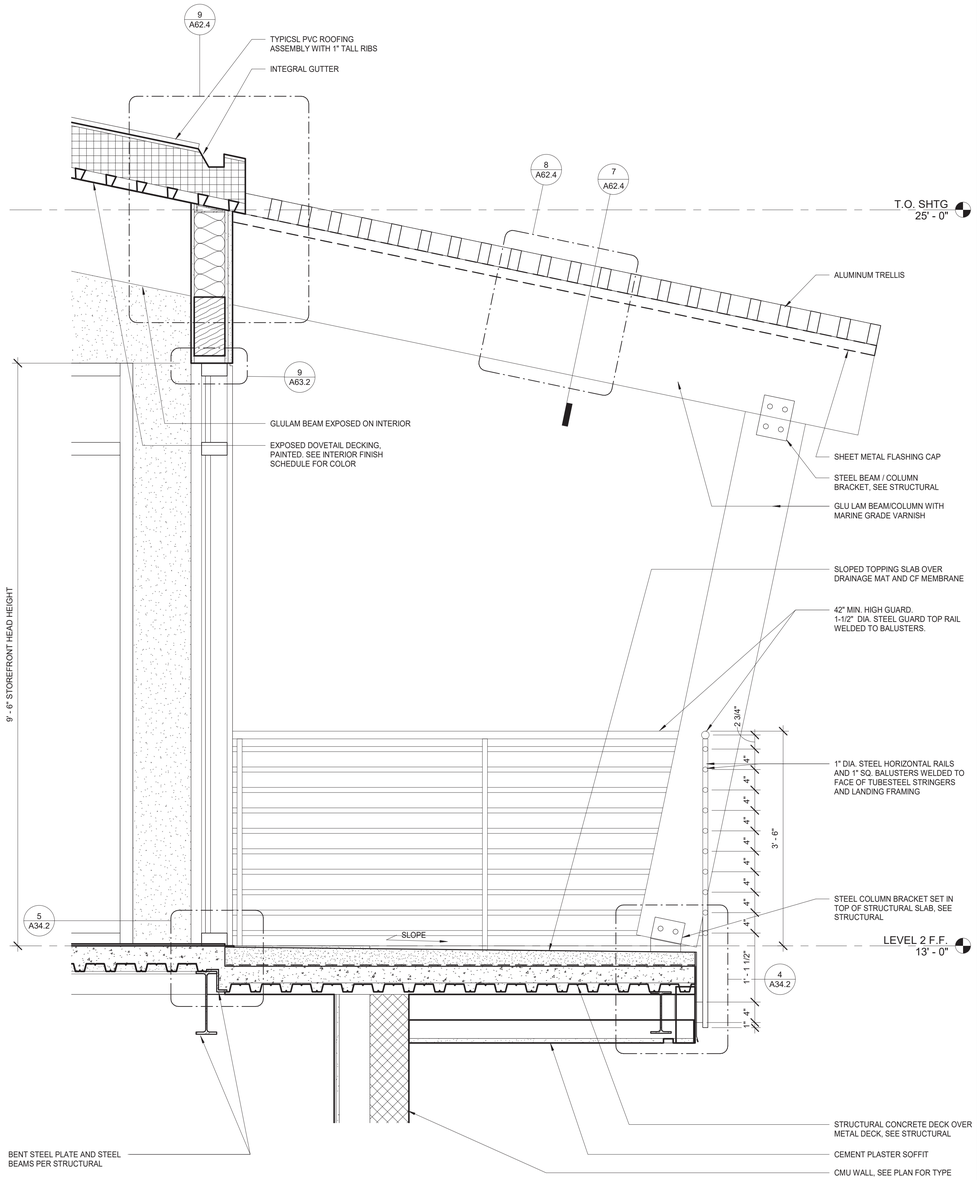
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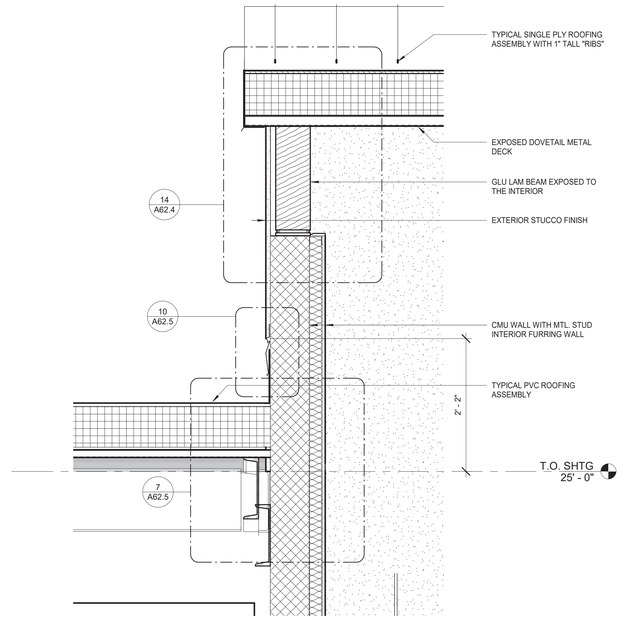
ASSEMBLY 5 | 1" = 1'-0" | **5**



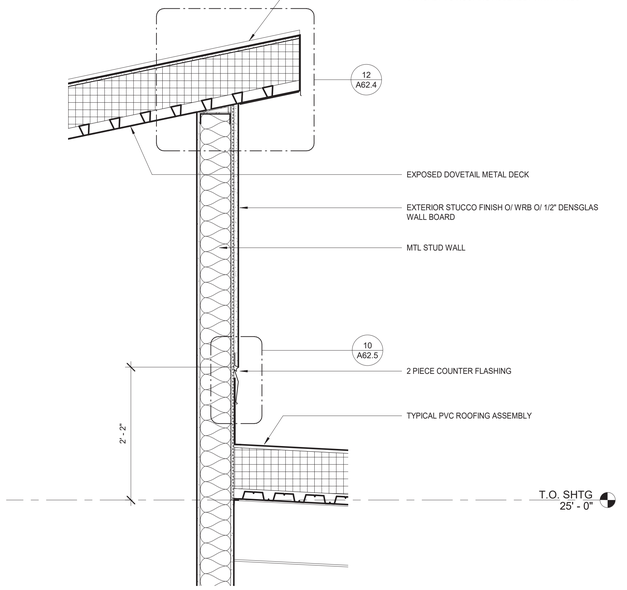
ASSEMBLY 4 | 1" = 1'-0" | **4**



ASSEMBLY 3 | 1" = 1'-0" | **3**



ASSEMBLY 2 | 1" = 1'-0" | **2**



ASSEMBLY 1 | 1" = 1'-0" | **1**

CARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

PREPARED BY:

SVA ARCHITECTS

6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SIMPSON No. C-18801 JAN. 31, 2025 STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

CITY OF GARDENA

DEPARTMENT OF PUBLIC WORKS - ENGINEERING

ASSEMBLIES

COMMUNITY AQUATICS & SENIOR CENTER

A34.1

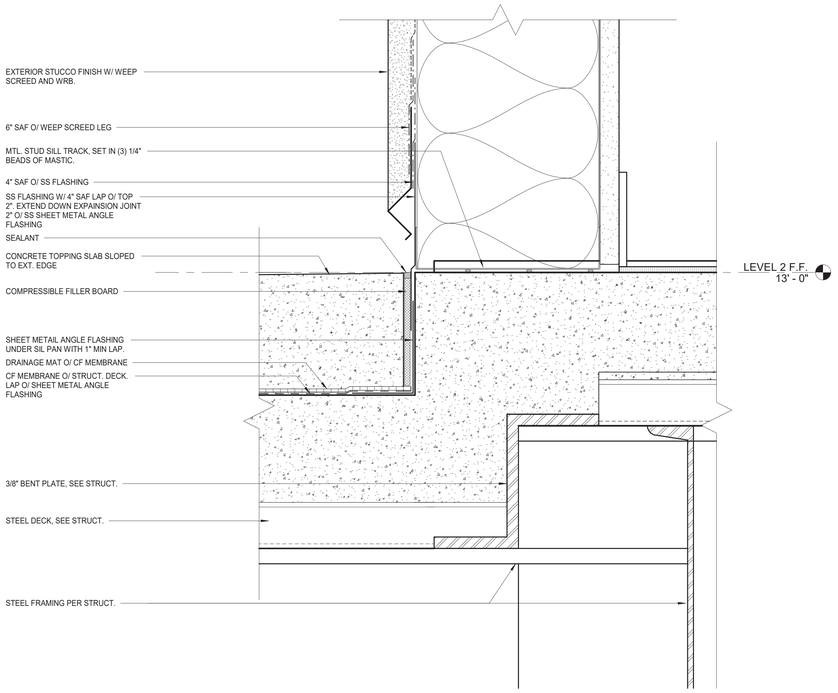
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DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

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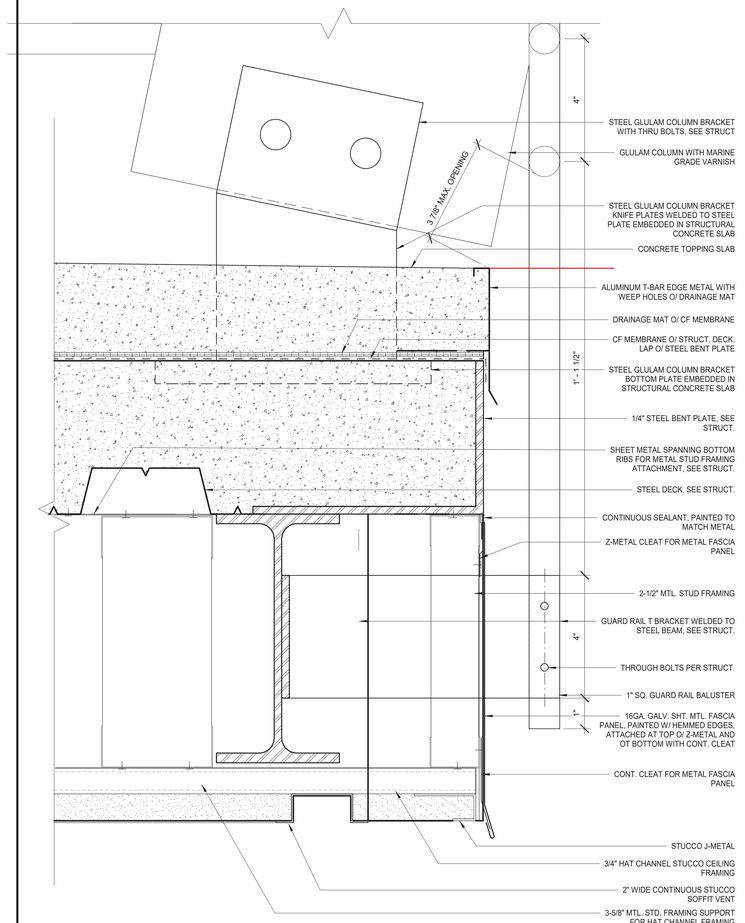
APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 57 OF 176 DWG. NO. 5-2606

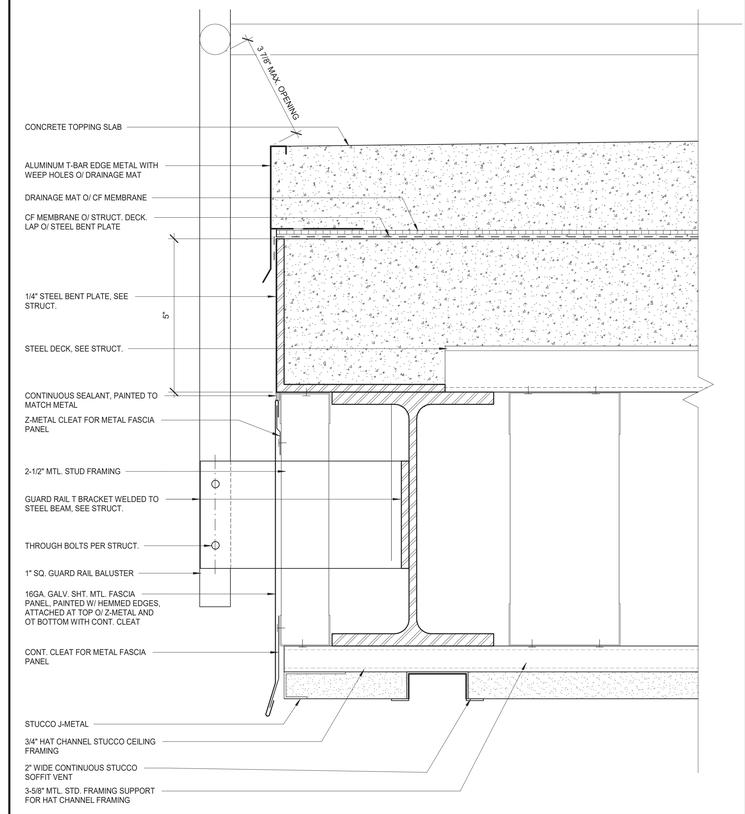
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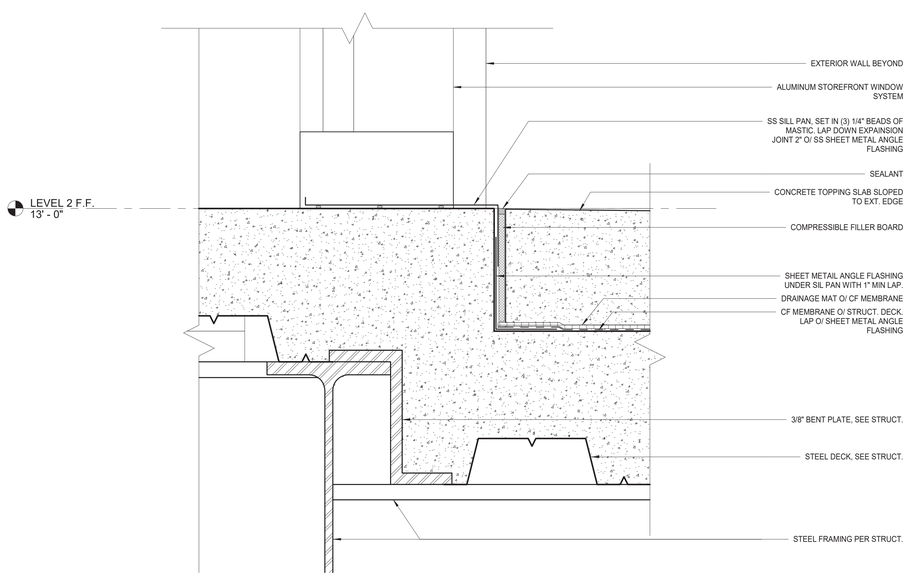
TOPPING SLAB AT EXT. WALL | 6" = 1'-0" | 6



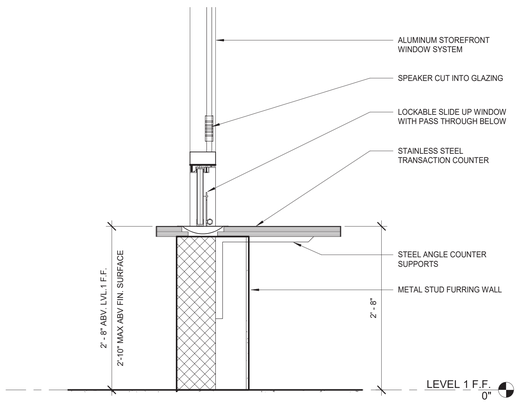
BALCONY EDGE SOUTH SIDE | 6" = 1'-0" | 4



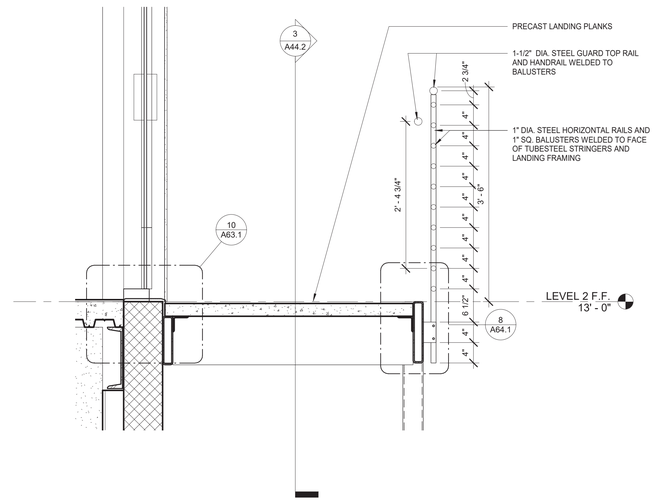
BALCONY EDGE | 6" = 1'-0" | 2



TOPPING SLAB AT STOREFRONT | 6" = 1'-0" | 5



TRANSACTION WINDOW | 1" = 1'-0" | 3



EXTERIOR STAIR LANDING | 1" = 1'-0" | 1

CITY OF GARDENA — FREEWAY CITY — INCORPORATED 1930

PREPARED BY:

SVA ARCHITECTS

6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT — ROBERT M. SIMMONS — No. C-19301 — JAN. 31, 2025 — STATE OF CALIFORNIA

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

	INITIAL	DATE
DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
ASSEMBLIES
COMMUNITY AQUATICS & SENIOR CENTER
A34.2

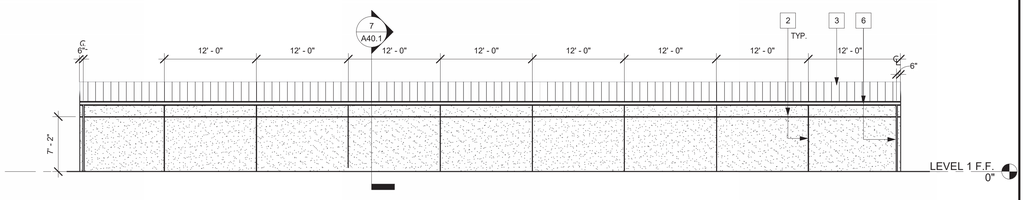
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APPROVED BY: DIRECTOR OF PUBLIC WORKS

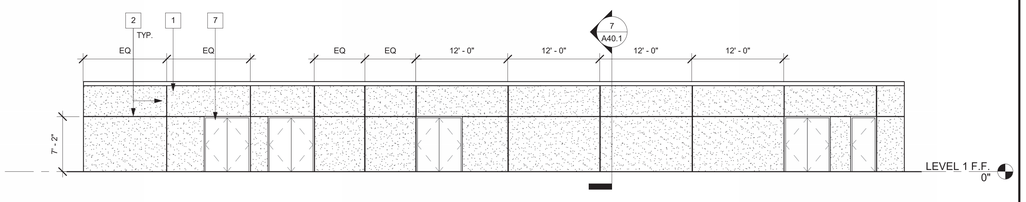
SHT. 58 OF 176 DWG. NO. S-2606

CARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

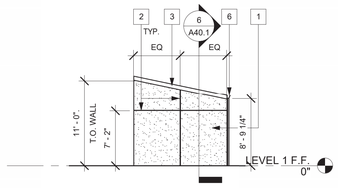
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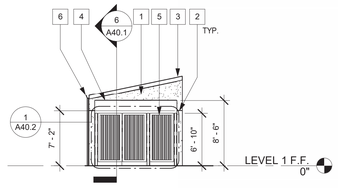
POOL BUILDING SOUTH ELEVATION | 1/8" = 1'-0" | 10



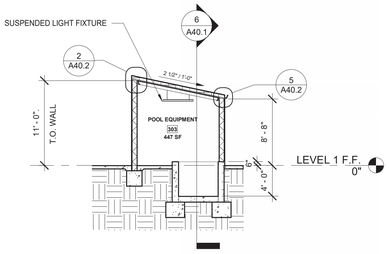
POOL BUILDING NORTH ELEVATION | 1/8" = 1'-0" | 9



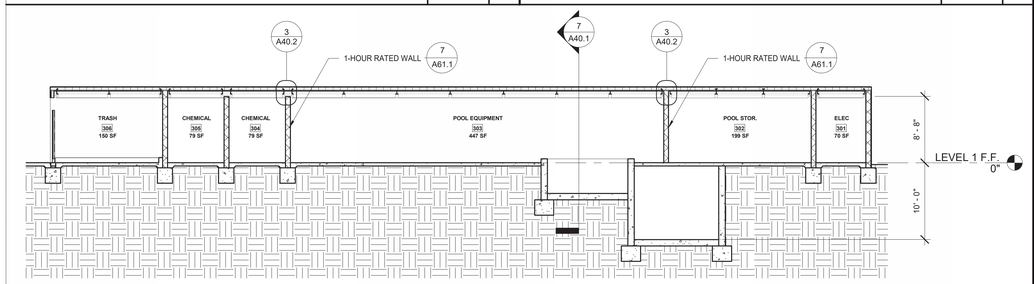
POOL BUILDING WEST ELEVATION | 1/8" = 1'-0" | 13



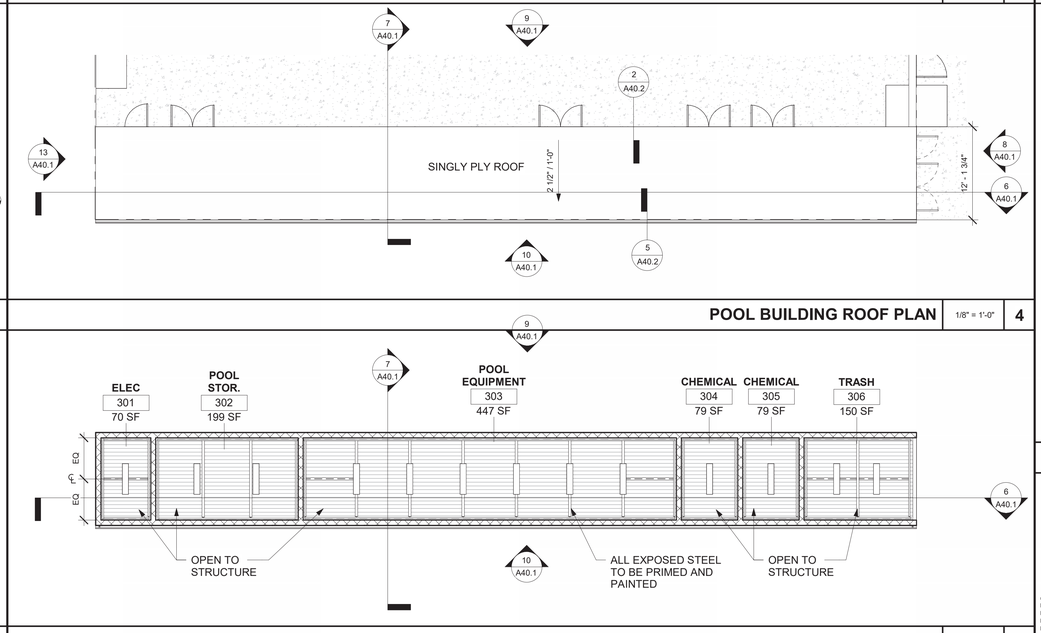
POOL BUILDING EAST ELEVATION | 1/8" = 1'-0" | 8



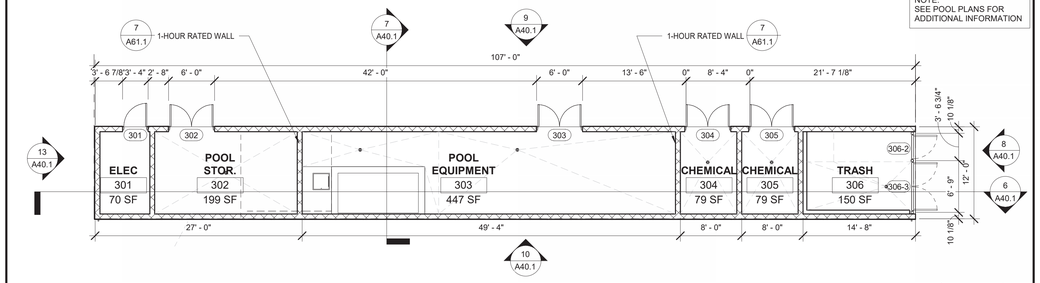
POOL BUILDING SECTION 1 | 1/8" = 1'-0" | 7



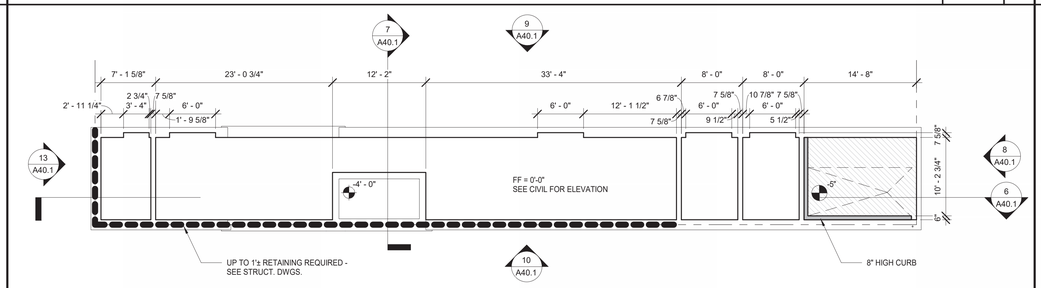
POOL BUILDING SECTION 2 | 1/8" = 1'-0" | 6



POOL BUILDING RCP | 1/8" = 1'-0" | 3



POOL BUILDING FLOOR PLAN | 1/8" = 1'-0" | 2



POOL BUILDING SLAB PLAN | 1/8" = 1'-0" | 1

1 STUCCO, PAINTED DUNN EDWARDS DEW380 WARM WHITE
2 EXTERIOR PLASTER CONTROL JOINT
3 SINGLE PLY ROOFING WITH 2" TALL RIBS, DARK GRAY COLOR
4 HSS STEEL FRAME AND SWING GATES, PAINTED DUNN EDWARDS DET695 GRANGE HALL
5 STEEL PEDESTRIAN GATE, PAINTED DUNN EDWARDS DET695 GRANGE HALL
6 METAL GUTTER AND DOWNSPOUTS, PAINTED DUNN EDWARDS DET695 GRANGE HALL
7 HOLLOW METAL DOORS, PAINTED TO MATCH STUCCO

POOL BUILDING ELEVATION KEYNOTES

EXPOSED METAL DECK, PRIMED AND PAINTED

SUSPENDED FLUORESCENT FIXTURE, SEE ELEC. DRAWINGS*

NOTES:
1. AT ALL ROOMS WITHOUT CEILINGS (LABELLED AS "O.T.S" ON PLAN AND/OR ON THE FINISH SCHEDULE), ALL OPEN TO STRUCTURE/EXPOSED SURFACES AND ELEMENTS SHALL BE PAINTED, INCLUDING STRUCTURE, DECK ABOVE, AND ALL UTILITIES INCLUDING PIPING, CONDUITS, DUCTWORK, ETC.
2. PLUMBING, ELECTRICAL, MECHANICAL AND FIRE PROTECTION COMPONENTS ARE SHOWN FOR REFERENCE AND COORDINATION PURPOSES. REFER TO PLUMBING, ELECTRICAL, MECHANICAL AND FIRE PROTECTION DRAWINGS FOR COMPONENT AND SYSTEM QUANTITIES, TYPES AND REQUIREMENTS.
3. CENTER LIGHTING FIXTURES BETWEEN OPPOSITE WALLS, U.N.O.
4. ALL DIMENSIONS, NOTES, KEYNOTES AND DETAILS CALLOUTS ARE TYPICAL, U.N.O.
5. SEE SHEET A50.1 FOR INTERIOR FINISH LEGEND
6. AT EXPOSED CEILINGS, ALL DUCTS, PIPES AND CONDUITS SHALL RUN PARALLEL OR PERPENDICULAR TO WALL, AND AS CLOSE TO THE DECK ABOVE AS POSSIBLE. PROVIDE ESCUTCHEONS FOR CONDUIT/PIPES AT WALLS WHERE EXPOSED.

* REFER TO ELECTRICAL DRAWINGS FOR LOCATIONS OF EMERGENCY LIGHTING.

POOL BUILDING RCP LEGEND

30"X48" CLR. — 30"X48" MIN. ACCESSIBLE WHEELCHAIR CLEAR FLOOR SPACE

60" MIN. CLR. — 60" MIN. ACCESSIBLE WHEELCHAIR CLEAR TURNING SPACE

8" CMU WALL PER SHEET A61.1

10" CMU WALL PER SHEET A61.1

12" CMU WALL PER SHEET A61.1

METAL STUD WALL PER SHEET A61.1

RETAINING WALL - SEE STRUCT. DWGS. FOR ADD'L. INFO.

1 — WALL TYPE ANNOTATIONS, SEE SHEET A61.1 FOR DETAILS

101 — NUMBER INDICATES DOOR PER SCHEDULE, REFER TO SHEET A52.1

1 — NUMBER INDICATED STOREFRONT PER SCHEDULE, REFER TO SHEET A52.2

F.E. — FIRE EXTINGUISHER CABINET PER DET. 3/A65.1

FLOOR PLAN GENERAL NOTES:
1. ALL DIMENSIONS ARE TO CENTERLINE OF THE GRID LINES AND/OR TO THE FACE OF STUDS, U.N.O.
2. UNLESS NOTED OTHERWISE, ALL WALLS ARE FULL HEIGHT.
3. REFER TO SHEET GEN-4 FOR TYPICAL ACCESSIBILITY REQUIREMENTS AND DIMENSIONS.
4. REFER TO ENLARGED PLANS FOR DIMENSIONS AND CALLOUTS NOT SHOWN HERE.

FLOOR PLAN LEGEND

FLOOR ELEVATION MARKER. FLOOR ELEVATIONS BASED ON FF OF 0.0', SEE CIVIL PLANS FOR EXACT ELEVATION

FLOOR DRAIN, SEE PLUMBING PLANS

FINISH FLOOR ELEVATION 43.83, REF CIVIL FOR ADDITIONAL INFORMATION

SLAB DEPRESSION

6" CURB, TYP. UNLESS NOTED OTHERWISE

FLOOR PLAN GENERAL NOTES:
1. REFER TO CIVIL DRAWINGS FOR FINISH FLOOR ELEVATIONS
2. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL SLAB DEPRESSION INFORMATION

SLAB PLAN LEGEND

CITY OF GARDENA INCORPORATED 1930 FREEWAY CITY

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SIMMONS No. C-17801 JAN. 31, 2025 STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
POOL BUILDING PLANS, ELEVATIONS, AND SECTIONS
COMMUNITY AQUATICS & SENIOR CENTER
A40.1

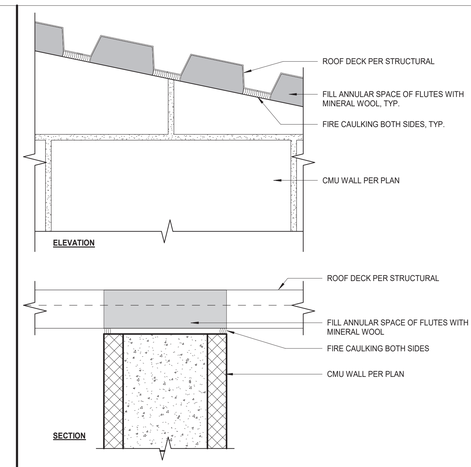
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DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

APPROVED BY: _____
APPROVED BY: _____ DIRECTOR OF PUBLIC WORKS

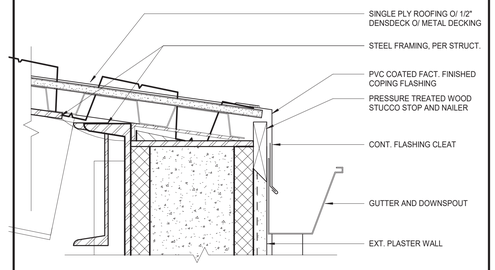
SHT. 59 OF 176 DWG. NO. 5-2606

CARDINAL COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

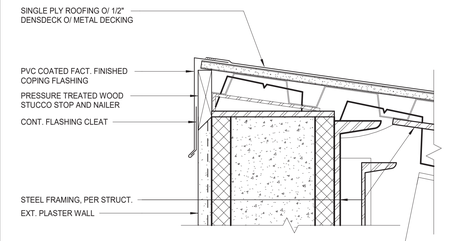
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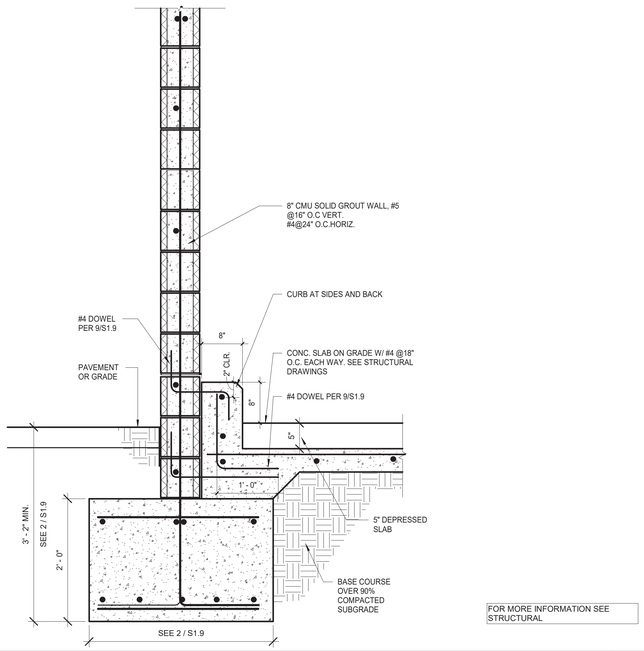
1-HOUR CMU WALL AT ROOF DECK | 3" = 1'-0" | **3**



ROOFING EDGE DETAIL WITH GUTTER | 3" = 1'-0" | **5**

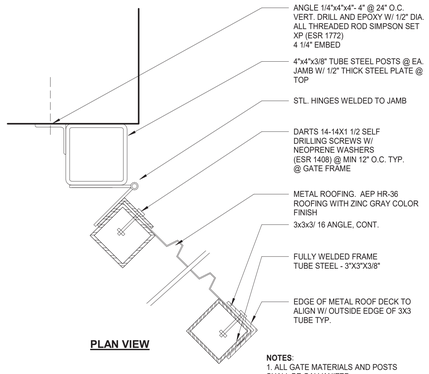


ROOFING RIDGE AT POOL BUILDING | 3" = 1'-0" | **2**



FOR MORE INFORMATION SEE STRUCTURAL

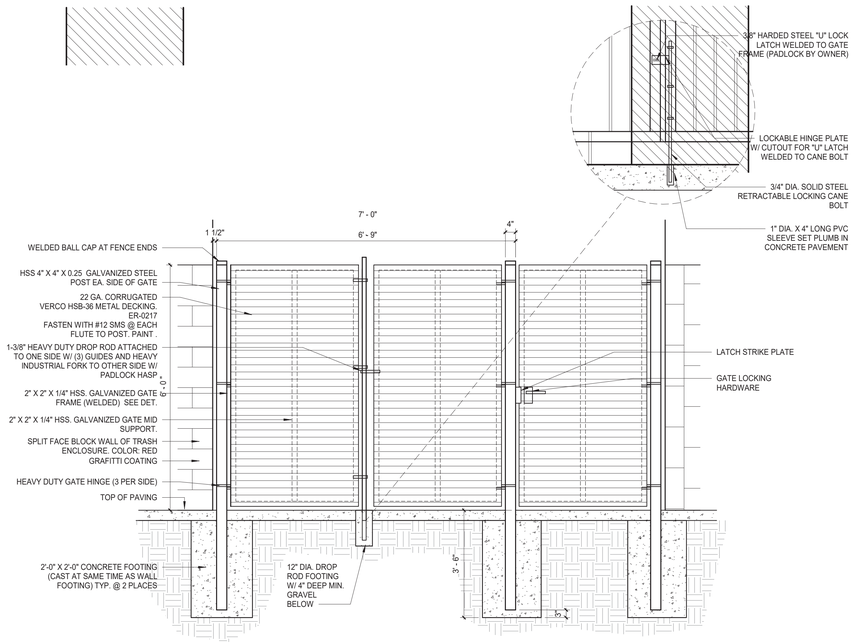
TRASH ENCLOSURE WALL SECTION | 1" = 1'-0" | **10**



PLAN VIEW

NOTES:
1. ALL GATE MATERIALS AND POSTS SHALL BE GALVANIZED.
2. ANY EXPOSED ANCHOR HARDWARS TO BE STAINLESS STEEL OR HAVE AN EXPOXY PAINT COATING

STEEL GATE | 1 1/2" = 1'-0" | **7**



TRASH ENCLOSURE GATE | 1/2" = 1'-0" | **1**

CARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

CITY OF GARDENA INCORPORATED 1930

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SIMMONS No. C-13501 JAN 31, 2020 STATE OF CALIFORNIA

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.506'

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

	INITIAL	DATE
DESIGNED BY	AP/EC	06/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

POOL BUILDING DETAILS

COMMUNITY AQUATICS & SENIOR CENTER

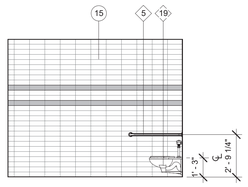
A40.2

APPROVED BY:

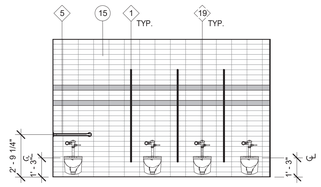
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SHT. 60 OF 176 DWG. NO. 5-2606

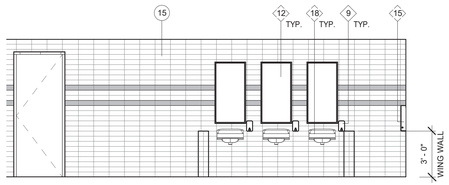
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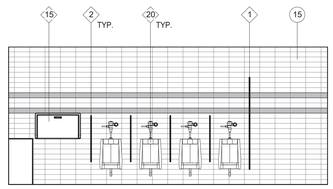
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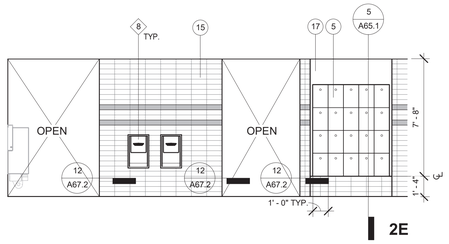
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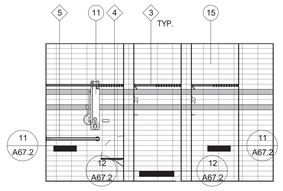
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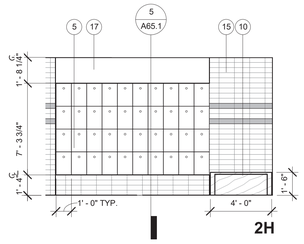
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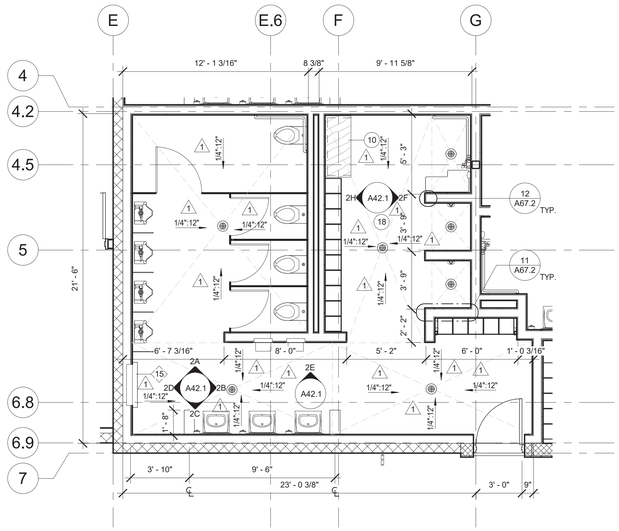
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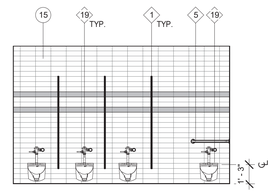
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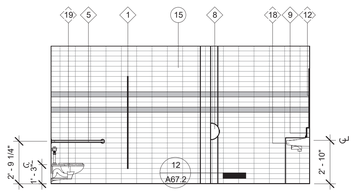
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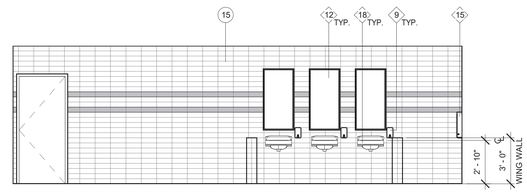
MENS LOCKER ROOM | 1/4" = 1'-0" | **2**



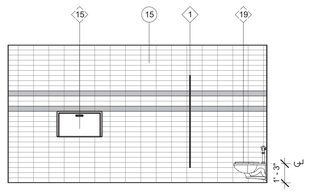
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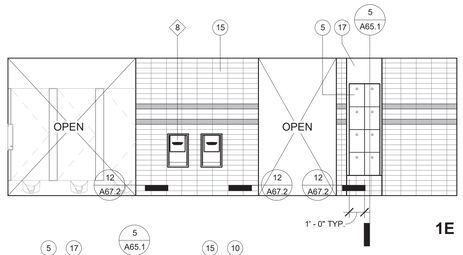
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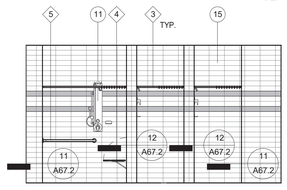
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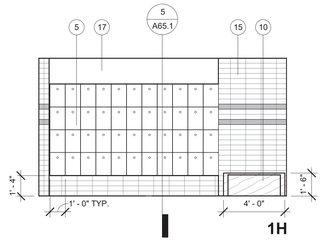
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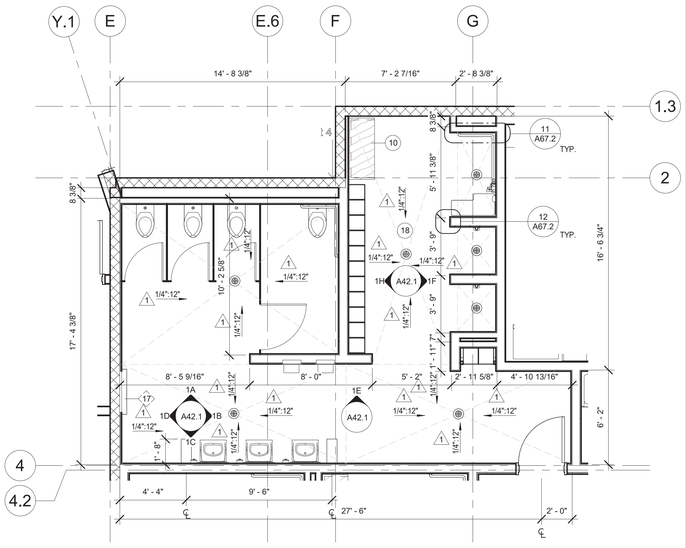
1E



1F



1H



WOMENS LOCKER ROOM | 1/4" = 1'-0" | **1**

1 FLOOR-MOUNTED, OVERHEAD BRACED PHENOLIC-CORE PARTITIONS-SEE SPECS
2 WALL-HUNG PHENOLIC URINAL SCREEN, 42" HIGH X 18" DEEP
3 HEAVY-DUTY CURTAIN ROD (BOBRICK B-207X36) & CURTAIN (BOBRICK B-204-2)
4 FOLDING SHOWER SEAT (BOBRICK 5181)
5 GRAB BARS FOR ACCESSIBLE TOILET (1-1/4" DIA. STAINLESS STEEL):
42" LENGTH @ SIDE WALL (BOBRICK B-5806X42)
36" LENGTH @ REAR WALL (BOBRICK B-5806X36)
6 1-1/4" DIA. STAINLESS STEEL GRAB BAR, 42", BOBRICK B-5806X42
7 PAPER TOWEL DISPENSER (BOBRICK B-2860)
8 RECESSED ELECTRIC HAND DRYER (DYSON AIRBLADE)
9 SURFACE MOUNTED LIQUID SOAP DISPENSER (BOBRICK B-2111)
10 TOILET PAPER DISPENSER (BOBRICK B-2892)
11 TOILET SEAT COVER DISPENSER (BOBRICK B-221)
12 24" x 36" FRAMED MIRROR, BOBRICK B-165 2436
13 MOP & BROOM HOLDER (BOBRICK B-224)
14 CLOTHES HOOK (BOBRICK B-2116)
15 BABY CHANGING STATION (KOALA KB-110)
16 MOP SINK, SEE PLUMBING DRAWINGS
17 WALL-MOUNTED INDIVIDUAL SHOWER HEAD, FLUSH
18 WALL-MOUNTED LAVATORY - REFER TO PLUMB. DWG'S. FOR ADD'L. INFO.
19 WALL-MOUNTED WATER CLOSET - REFER TO PLUMB. DWG'S. FOR ADD'L. INFO
20 WALL-MOUNTED URINAL - REFER TO PLUMB. DWG'S. FOR ADD'L. INFO.

* REFER SHEET GEN-5 FOR MOUNTING HEIGHTS AND LOCATIONS FOR ALL ACCESSIBLE RESTROOM ACCESSORIES AND FIXTURES.

RESTROOM ACCESSORY LEGEND

1 SOLID SURFACE COUNTERTOP, SEE FINSH PLAN AND SPECS.
2 BASE PLASTIC LAMINATE MILLWORK, SEE DETAILS AND SPECS.
3 UPPER PLASTIC LAMINATE MILLWORK, SEE DETAILS AND SPECS.
4 FILLER PANEL @ SIDES OF CASEWORK, TYP.
5 PHENOLIC LOCKERS, SEE SPECS AND DETAIL 8 / A65.1
6 10'-0" TALL STC 50 OPERABLE PARTITION
7 12" WIDE 36" TALL CMU WALL, PER DETAIL
8 4" HSS TUBE STEEL POSTS, PAINTED
9 STEEL GUARDRAIL, PAINTED
10 ADA LOCKER ROOM BENCH 11 / A65.1
11 ADA SHOWER, FOR MOUNTING HEIGHTS SEE 1 / A67.2
12 DRINKING FOUNTAIN, FOR MOUNTING SEE 2 / GEN-5 & 8 / A67.1
13 ACCESSIBLE SINK
14 REFRIGERATOR, SEE SPECS, CFCI
1 / 15 4"x12" TILE WALL FINISH FLOOR TO CEILING WITH COVED BASE, FOR COLOR AND PATTERN SEE 9 / A67.2
16 2"x2" TILE WALL FINISH, DALTILE COLOR OCEAN BLUE 1049
17 PHENOLIC LOCKER FILLER PANELS, SEE DETAILS AND SPECS.
1 / 18 DRESSING AREA

ENLARGED PLAN & ELEVATION KEYNOTES

30"X48" CLR. — 30"X48" MIN. ACCESSIBLE WHEELCHAIR CLEAR FLOOR SPACE
60" MIN. CLR. — 60" MIN. ACCESSIBLE WHEELCHAIR CLEAR TURNING SPACE
8" CMU WALL PER SHEET A61.1
10" CMU WALL PER SHEET A61.1
12" CMU WALL PER SHEET A61.1
METAL STUD WALL PER SHEET A61.1
RETAINING WALL - SEE STRUCT. DWGS. FOR ADD'L. INFO.
WALL TYPE ANNOTATIONS, SEE SHEET A61.1 FOR DETAILS
101 — NUMBER INDICATES DOOR PER SCHEDULE, REFER TO SHEET A52.1
1 — NUMBER INDICATED STOREFRONT PER SCHEDULE, REFER TO SHEET A52.2
F.E. — FIRE EXTINGUISHER CABINET PER DET. 3/A65.1

FLOOR PLAN GENERAL NOTES:
1. ALL DIMENSIONS ARE TO CENTERLINE OF THE GRID LINES AND/OR TO THE FACE OF STUDS, U.N.O.
2. UNLESS NOTED OTHERWISE, ALL WALLS ARE FULL HEIGHT.
3. REFER TO SHEET GEN-4 FOR TYPICAL ACCESSIBILITY REQUIREMENTS AND DIMENSIONS.
4. REFER TO ENLARGED PLANS FOR DIMENSIONS AND CALLOUTS NOT SHOWN HERE.

FLOOR PLAN LEGEND

CITY OF GARDENA FREEWAY CITY INCORPORATED 1930

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM
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LICENSED ARCHITECT ROBERT M. SIMPSON No. C-17651 JAN. 31, 2025 STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

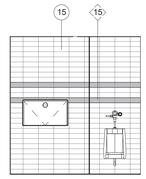
B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
ENLARGED LOCKER ROOM PLANS AND ELEVATIONS
COMMUNITY AQUATICS & SENIOR CENTER
A42.1

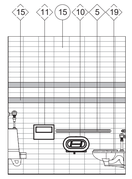
	INITIAL	DATE
DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS
SHT. 61 OF 176 DWG. NO. 5-2606

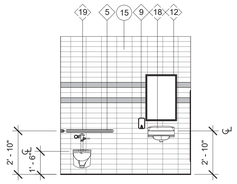
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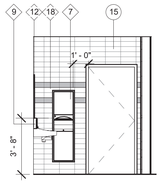
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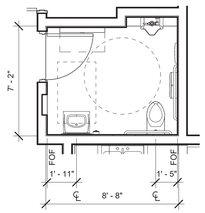
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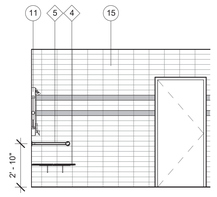
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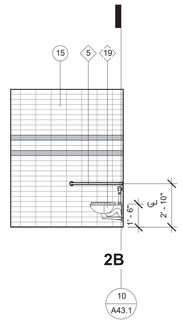
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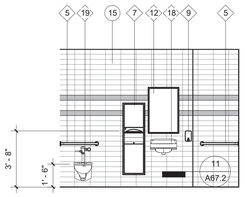
SINGLE OCCUPANCY RESTROOM | 1/4" = 1'-0" | 3



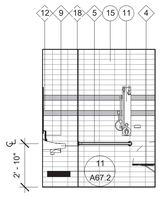
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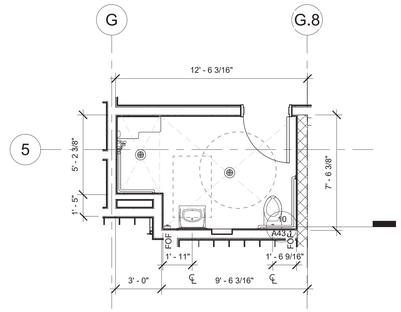
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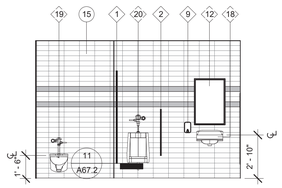
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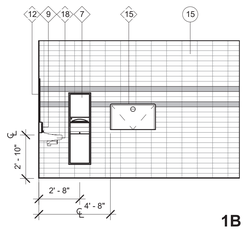
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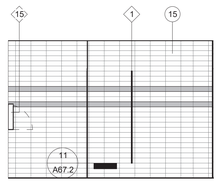
FAMILY RESTROOM | 1/4" = 1'-0" | 2



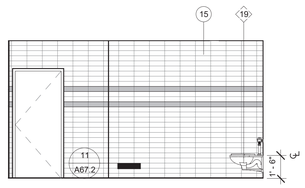
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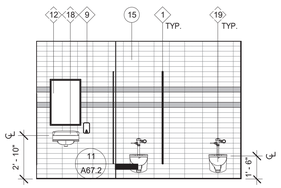
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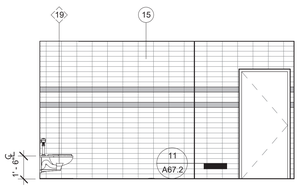
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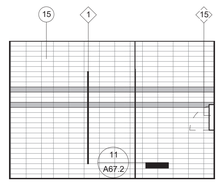
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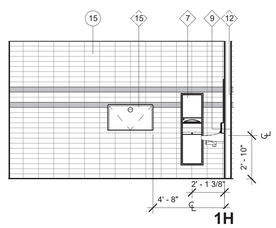
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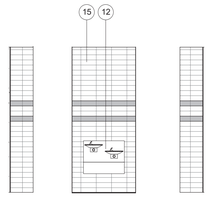
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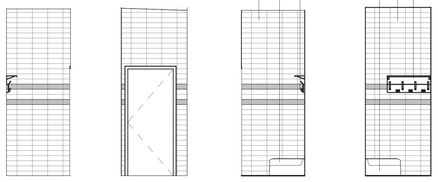
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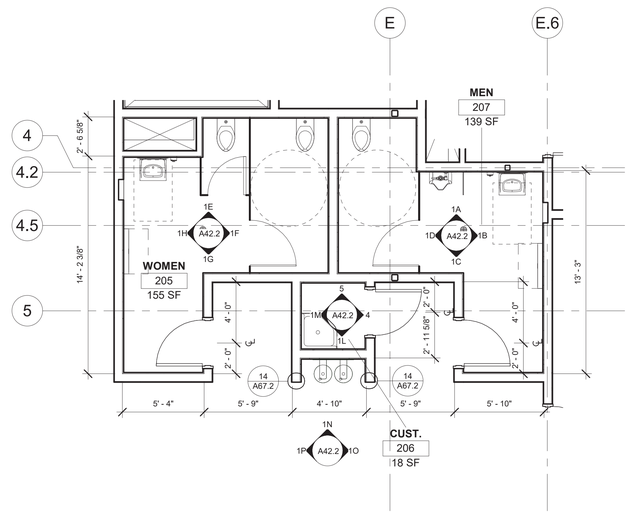
1H



1P 1N 1O



1J 1K 1L 1M



SECOND FLOOR RESTROOMS AND CUST. CLOSET | 1/4" = 1'-0" | 1

1 FLOOR-MOUNTED, OVERHEAD BRACED PHENOLIC-CORE PARTITIONS-SEE SPECS
2 WALL-HUNG PHENOLIC URINAL SCREEN, 42" HIGH X 18" DEEP
3 HEAVY-DUTY CURTAIN ROD (BOBRICK B-207X36) & CURTAIN (BOBRICK B-204-2)
4 FOLDING SHOWER SEAT (BOBRICK 5181)
5 GRAB BARS FOR ACCESSIBLE TOILET (1-1/4" DIA. STAINLESS STEEL):
42" LENGTH @ SIDE WALL (BOBRICK B-5806X42)
36" LENGTH @ REAR WALL (BOBRICK B-5806X36)
6 1-1/4" DIA. STAINLESS STEEL GRAB BAR, 42", BOBRICK B-5806X42
7 PAPER TOWEL DISPENSER (BOBRICK B-2860)
8 RECESSED ELECTRIC HAND DRYER (DYSON AIRBLADE)
9 SURFACE MOUNTED LIQUID SOAP DISPENSER (BOBRICK B-2111)
10 TOILET PAPER DISPENSER (BOBRICK B-2892)
11 TOILET SEAT COVER DISPENSER (BOBRICK B-221)
12 24" x 36" FRAMED MIRROR, BOBRICK B-165 2436
13 MOP & BROOM HOLDER (BOBRICK B-224)
14 CLOTHES HOOK (BOBRICK B-2116)
15 BABY CHANGING STATION (KOALA KB-110)
16 MOP SINK, SEE PLUMBING DRAWINGS
17 WALL-MOUNTED INDIVIDUAL SHOWER HEAD, FLUSH
18 WALL-MOUNTED LAVATORY - REFER TO PLUMB. DWG'S. FOR ADD'L. INFO.
19 WALL-MOUNTED WATER CLOSET - REFER TO PLUMB. DWG'S. FOR ADD'L. INFO
20 WALL-MOUNTED URINAL - REFER TO PLUMB. DWG'S. FOR ADD'L. INFO.

* REFER SHEET GEN-5 FOR MOUNTING HEIGHTS AND LOCATIONS FOR ALL ACCESSIBLE RESTROOM ACCESSORIES AND FIXTURES.

RESTROOM ACCESSORY LEGEND

1 SOLID SURFACE COUNTERTOP, SEE FINISH PLAN AND SPECS.
2 BASE PLASTIC LAMINATE MILLWORK, SEE DETAILS AND SPECS.
3 UPPER PLASTIC LAMINATE MILLWORK, SEE DETAILS AND SPECS.
4 FILLER PANEL @ SIDES OF CASEWORK, TYP.
5 PHENOLIC LOCKERS, SEE SPECS AND DETAIL 8 / A65.1
6 10'-0" TALL STC 50 OPERABLE PARTITION
7 12" WIDE 36" TALL CMU WALL, PER DETAIL
8 4" HSS TUBE STEEL POSTS, PAINTED
9 STEEL GUARDRAIL, PAINTED
10 ADA LOCKER ROOM BENCH 11 / A65.1
11 ADA SHOWER, FOR MOUNTING HEIGHTS SEE 1 / A67.2
12 DRINKING FOUNTAIN, FOR MOUNTING SEE 2 / GEN-5 & 8 / A67.1
13 ACCESSIBLE SINK
14 REFRIGERATOR, SEE SPECS, CFCI
1 15 4"x12" TILE WALL FINISH FLOOR TO CEILING WITH COVED BASE, FOR COLOR AND PATTERN SEE 9 / A67.2
16 2"x2" TILE WALL FINISH, DALTILE COLOR OCEAN BLUE 1049
17 PHENOLIC LOCKER FILLER PANELS, SEE DETAILS AND SPECS.
1 18 DRESSING AREA

ENLARGED PLAN & ELEVATION KEYNOTES

30"X48" CLR. — 30"X48" MIN. ACCESSIBLE WHEELCHAIR CLEAR FLOOR SPACE
60" MIN. CLR. — 60" MIN. ACCESSIBLE WHEELCHAIR CLEAR TURNING SPACE
8" CMU WALL PER SHEET A61.1
10" CMU WALL PER SHEET A61.1
12" CMU WALL PER SHEET A61.1
METAL STUD WALL PER SHEET A61.1
RETAINING WALL - SEE STRUCT. DWGS. FOR ADD'L. INFO.
1I — WALL TYPE ANNOTATIONS, SEE SHEET A61.1 FOR DETAILS
101 — NUMBER INDICATES DOOR PER SCHEDULE, REFER TO SHEET A52.1
1 — NUMBER INDICATED STOREFRONT PER SCHEDULE, REFER TO SHEET A52.2
F.E. — FIRE EXTINGUISHER CABINET PER DET. 3/A65.1

FLOOR PLAN GENERAL NOTES:
1. ALL DIMENSIONS ARE TO CENTERLINE OF THE GRID LINES AND/OR TO THE FACE OF STUDS, U.N.O.
2. UNLESS NOTED OTHERWISE, ALL WALLS ARE FULL HEIGHT.
3. REFER TO SHEET GEN-4 FOR TYPICAL ACCESSIBILITY REQUIREMENTS AND DIMENSIONS.
4. REFER TO ENLARGED PLANS FOR DIMENSIONS AND CALLOUTS NOT SHOWN HERE.

FLOOR PLAN LEGEND

CITY OF GARDENA — INCORPORATED 1930

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT — ROBERT M. SIMPSON — No. C-18301 — JAN. 31, 2025 — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

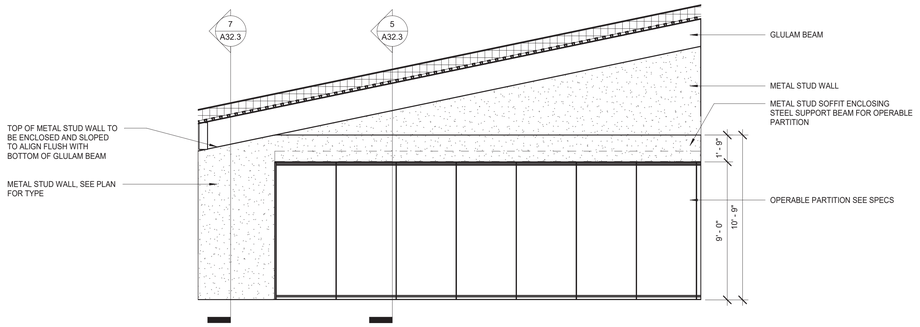
CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
ENLARGED PLANS AND ELEVATIONS
COMMUNITY AQUATICS & SENIOR CENTER
A42.2

	INITIAL	DATE
DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

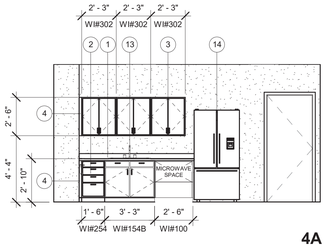
APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS
SHT. 62 OF 176 DWG. NO. 5-2606

CARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

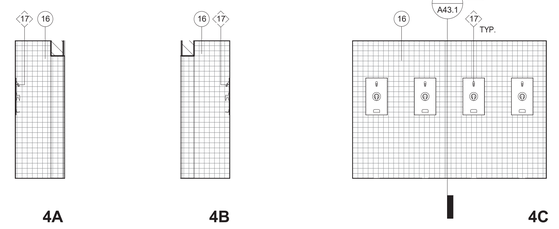
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PLOT BY: C:\Users\jcobb\Documents\Gardena, Community Pool and Senior Center_nickmeagher@SVA.rvt



OPERABLE PARTITION ELEVATION | 1/4" = 1'-0" | **7**



BREAK ROOM | 1/4" = 1'-0" | 6



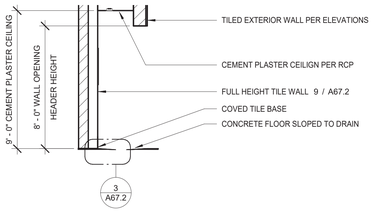
OUTDOOR SHOWER 2 | 1/4" = 1'-0" | 4

1 FLOOR-MOUNTED, OVERHEAD BRACED PHENOLIC-CORE PARTITIONS-SEE SPECS
2 WALL-HUNG PHENOLIC URINAL SCREEN, 42" HIGH X 18" DEEP
3 HEAVY-DUTY CURTAIN ROD (BOBRICK B-207X36) & CURTAIN (BOBRICK B-204-2)
4 FOLDING SHOWER SEAT (BOBRICK 5181)
5 GRAB BARS FOR ACCESSIBLE TOILET (1-1/4" DIA. STAINLESS STEEL):
42" LENGTH @ SIDE WALL (BOBRICK B-5806X42)
36" LENGTH @ REAR WALL (BOBRICK B-5806X36)
6 1-1/4" DIA. STAINLESS STEEL GRAB BAR, 42", BOBRICK B-5806X42
7 PAPER TOWEL DISPENSER (BOBRICK B-2860)
8 RECESSED ELECTRIC HAND DRYER (DYSON AIRBLADE)
9 SURFACE MOUNTED LIQUID SOAP DISPENSER (BOBRICK B-2111)
10 TOILET PAPER DISPENSER (BOBRICK B-2892)
11 TOILET SEAT COVER DISPENSER (BOBRICK B-221)
12 24" x 36" FRAMED MIRROR, BOBRICK B-165 2436
13 MOP & BROOM HOLDER (BOBRICK B-224)
14 CLOTHES HOOK (BOBRICK B-2116)
15 BABY CHANGING STATION (KOALA KB-110)
16 MOP SINK, SEE PLUMBING DRAWINGS
17 WALL-MOUNTED INDIVIDUAL SHOWER HEAD, FLUSH
18 WALL-MOUNTED LAVATORY - REFER TO PLUMB. DWG'S. FOR ADD'L. INFO.
19 WALL-MOUNTED WATER CLOSET - REFER TO PLUMB. DWG'S. FOR ADD'L. INFO
20 WALL-MOUNTED URINAL - REFER TO PLUMB. DWG'S. FOR ADD'L. INFO.

* REFER SHEET GEN-5 FOR MOUNTING HEIGHTS AND LOCATIONS FOR ALL ACCESSIBLE RESTROOM ACCESSORIES AND FIXTURES.

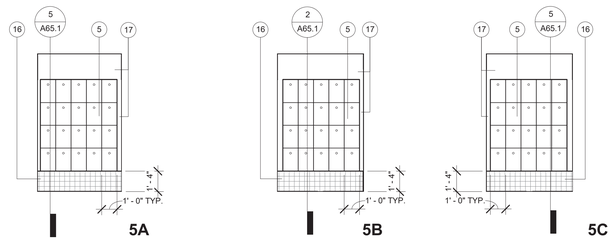
RESTROOM ACCESSORY LEGEND

1 SOLID SURFACE COUNTERTOP, SEE FINISH PLAN AND SPECS.
2 BASE PLASTIC LAMINATE MILLWORK, SEE DETAILS AND SPECS.
3 UPPER PLASTIC LAMINATE MILLWORK, SEE DETAILS AND SPECS.
4 FILLER PANEL @ SIDES OF CASEWORK, TYP.
5 PHENOLIC LOCKERS, SEE SPECS AND DETAIL 8 / A65.1
6 10'-0" TALL STC 50 OPERABLE PARTITION
7 12" WIDE 36" TALL CMU WALL, PER DETAIL
8 4" HSS TUBE STEEL POSTS, PAINTED
9 STEEL GUARDRAIL, PAINTED
10 ADA LOCKER ROOM BENCH 11 / A65.1
11 ADA SHOWER, FOR MOUNTING HEIGHTS SEE 1 / A67.2
12 DRINKING FOUNTAIN, FOR MOUNTING SEE 2 / GEN-5 & 8 / A67.1
13 ACCESSIBLE SINK
14 REFRIGERATOR, SEE SPECS, CFCI
1 15 4"x12" TILE WALL FINISH FLOOR TO CEILING WITH COVED BASE, FOR COLOR AND PATTERN SEE 9 / A67.2
16 2"x2" TILE WALL FINISH, DALTILE COLOR OCEAN BLUE 1049
17 PHENOLIC LOCKER FILLER PANELS, SEE DETAILS AND SPECS.
1 18 DRESSING AREA

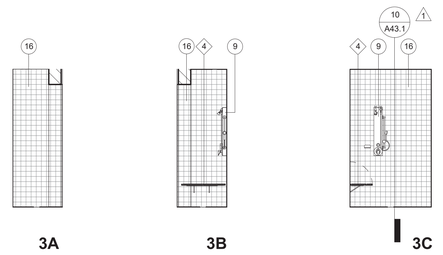


1

EXTERIOR SHOWER SECTION | 1/4" = 1'-0" | **10**



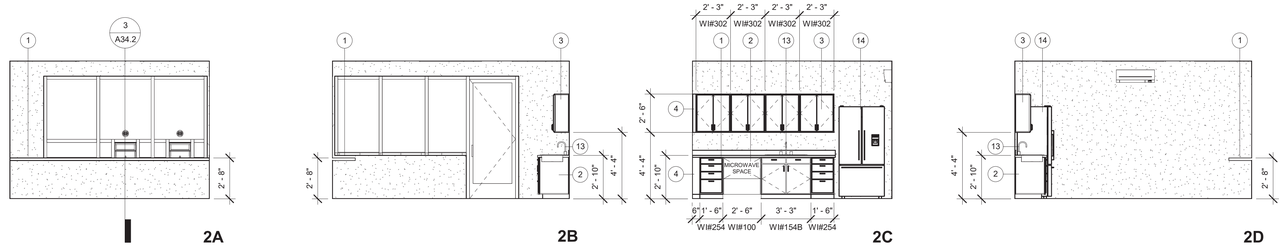
LOCKER ROOM | 1/4" = 1'-0" | 5



OUTDOOR SHOWER 1 | 1/4" = 1'-0" | 3

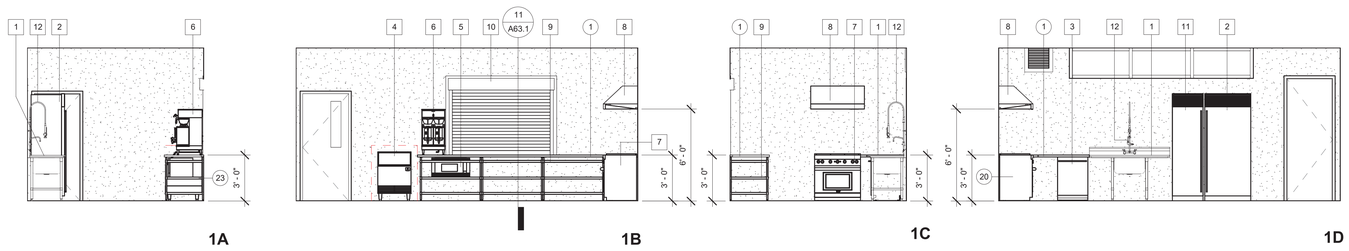
ENLARGED PLAN & ELEVATION KEYNOTES

1 30" WIDE SS SINGLE BASIN SINK WITH INTEGRAL 18" DRAINBOARDS
2 36" WIDE REFRIGERATOR, CFCI
3 RESIDENTIAL GRADE DISHWASHER, CFCI
4 ICEMAKER, CFCI
5 MICROWAVE, CFCI
6 DUAL COFFEEMAKER WITH HOT WATER TAP, CFCI
7 36" RANGE, CFCI
8 42" RANGE HOOD, CFCI
9 SS MOBILE WIRE SHELVING, CFCI
10 ALUMINUM ROLL UP COUNTER SERVICE DOOR WITH SS JAMBS AND SILL
11 24" WIDE STAND UP FREEZER, CFCI
12 BACKSPLASH MOUNTED SS PREWASH FAUCET



LIFEGUARD ROOM | 1/4" = 1'-0" | 2

KITCHEN ACCESSORIES LEGEND



NOTE:
COORDINATE WITH MECH., PLUMB., AND ELEC. FOR ROUGH-IN UTILITY LOCATIONS FOR ALL APPLIANCES AND FIXTURES

KITCHEN | 1/4" = 1'-0" | 1

CITY OF GARDENA FREEWAY CITY INCORPORATED 1930

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SIMPSON No. C-11651 JAN. 31, 2025 STATE OF CALIFORNIA

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

	INITIAL	DATE
DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

INTERIOR ELEVATIONS

COMMUNITY AQUATICS & SENIOR CENTER
A43.1

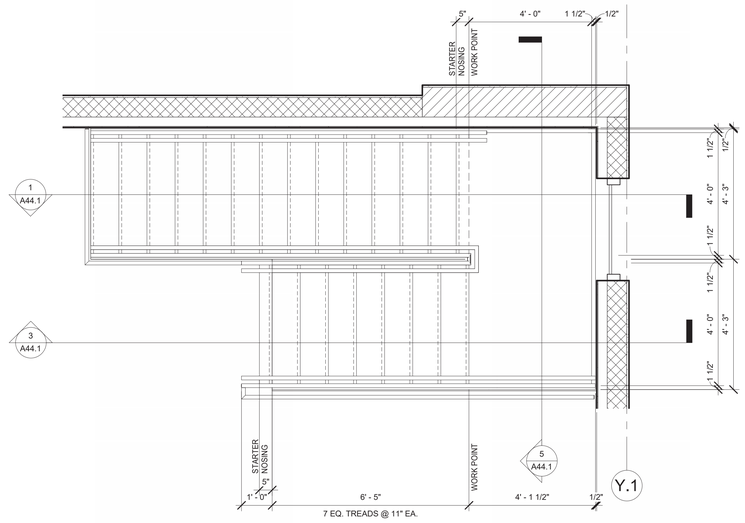
APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

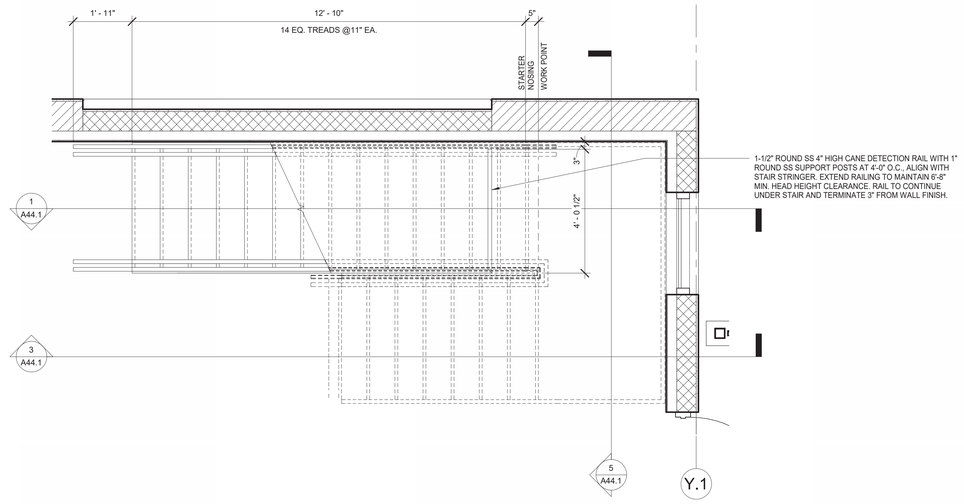
SHT. 63 OF 176 DWG. NO. 5-2606

CARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

PLOT DATE: 6/30/2023 3:33:19 PM
PLOT BY: C:\Users\nicolec\Documents\Gardena Community Pool and Senior Center_nicolecwright2259.rvt



INTERIOR STAIR SECOND FLOOR PLAN | 1/2" = 1'-0" | 4



INTERIOR STAIR FIRST FLOOR PLAN | 1/2" = 1'-0" | 2

INTERIOR STAIR SECTION 3 | 1/2" = 1'-0" | 5

INTERIOR STAIR SECTION 2 | 1/2" = 1'-0" | 3

INTERIOR STAIR SECTION 1 | 1/2" = 1'-0" | 1

CITY OF GARDENA
MIDWAY CITY
INCORPORATED 1930

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT
ROBERT M. SIMPSON
No. C-17601
JAN. 31, 2025
STATE OF CALIFORNIA

REVISIONS

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2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

INTERIOR STAIR PLANS AND SECTIONS

COMMUNITY AQUATICS & SENIOR CENTER

A44.1

	INITIAL	DATE
DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

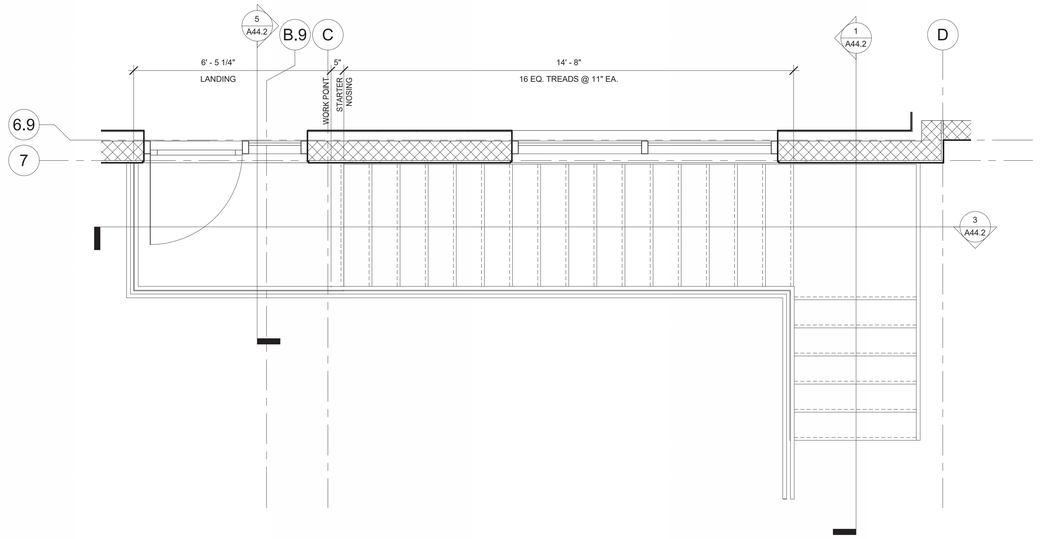
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APPROVED BY: DIRECTOR OF PUBLIC WORKS

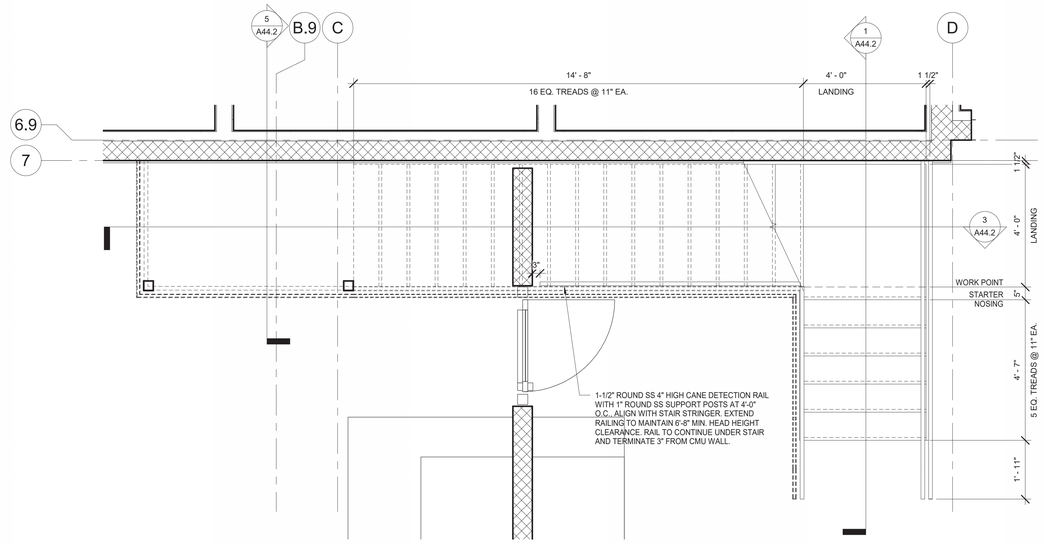
SHT. 64 OF 176 DWG. NO. 5-2606

CARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

PLOT DATE: 6/30/2023 9:29:10 AM
PLOT BY: C:\Users\jcruz\Documents\Gardena Community Pool and Senior Center_nickrevamp#ZEDI.rvt



EXTERIOR STAIR SECIOND FLOOR PLAN | 1/2" = 1'-0" | **4**



EXTERIOR STAIR FIRST FLOOR PLAN | 1/2" = 1'-0" | **2**

EXTERIOR STAIR SECTION 3 | 1/2" = 1'-0" | **5**

EXTERIOR STAIR SECTION 2 | 1/2" = 1'-0" | **3**

EXTERIOR STAIR SECTION 1 | 1/2" = 1'-0" | **1**

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SIMMONS No. C-18501 JAN 31, 2025 STATE OF CALIFORNIA

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NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

	INITIAL	DATE
DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

EXTERIOR STAIR PLANS AND SECTIONS

COMMUNITY AQUATICS & SENIOR CENTER

A44.2

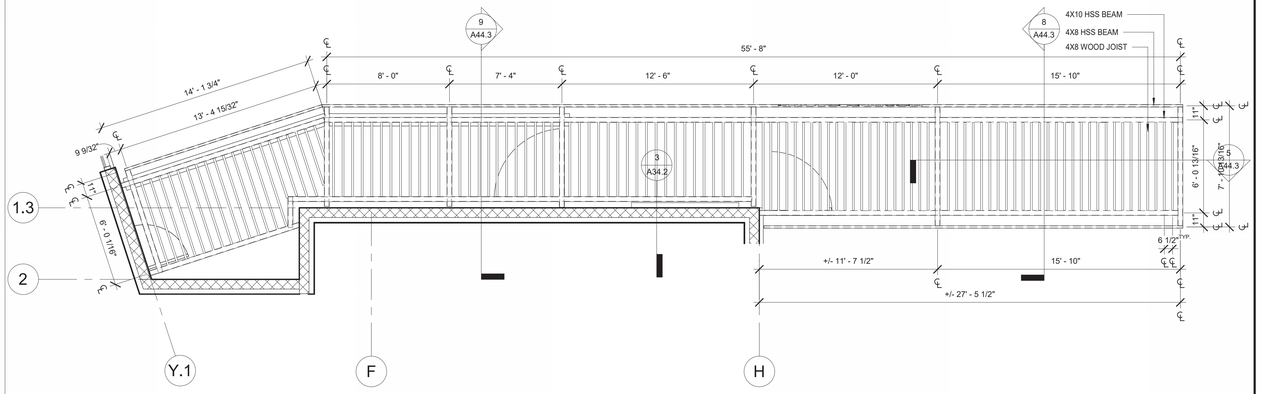
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APPROVED BY: DIRECTOR OF PUBLIC WORKS

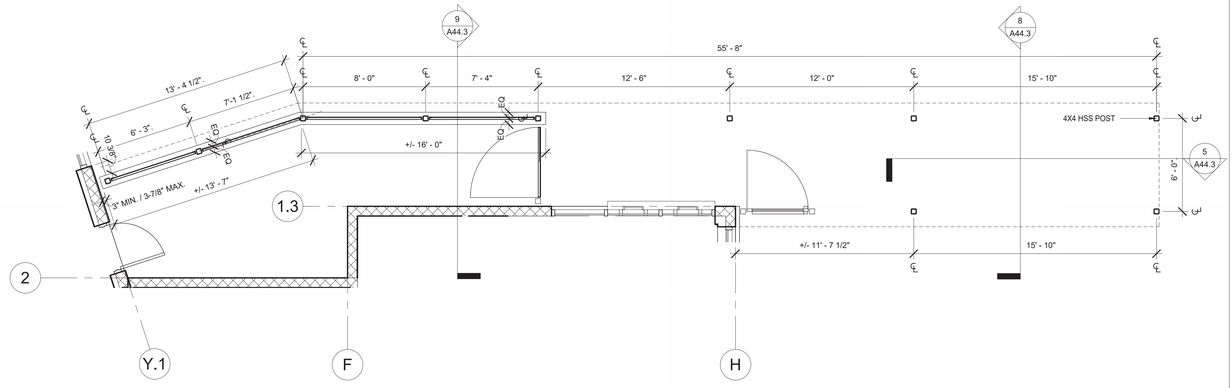
SHT. 65 OF 176 DWG. NO. 5-2606

CARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

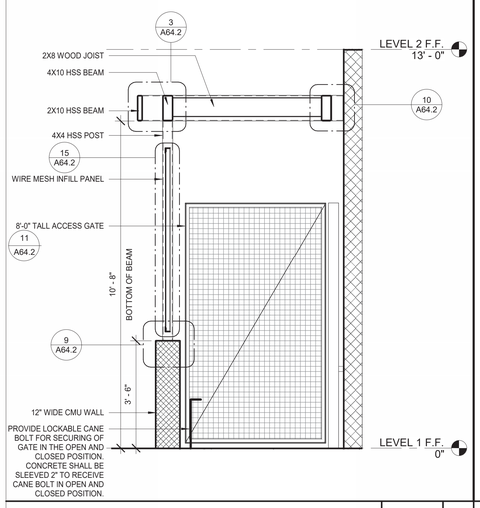
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PLOT BY: Nicholas Cruz
FILE NAME: C:\Users\ncruz\Desktop\Current Documents\Gardena\ Community Pool and Senior Center_Active\gardA2E50.rvt



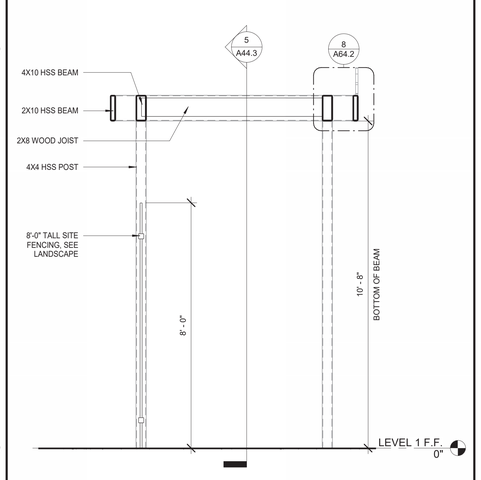
ENLARGED NORTH TRELLIS SECOND FLOOR PLAN | 1/4" = 1'-0" | 6



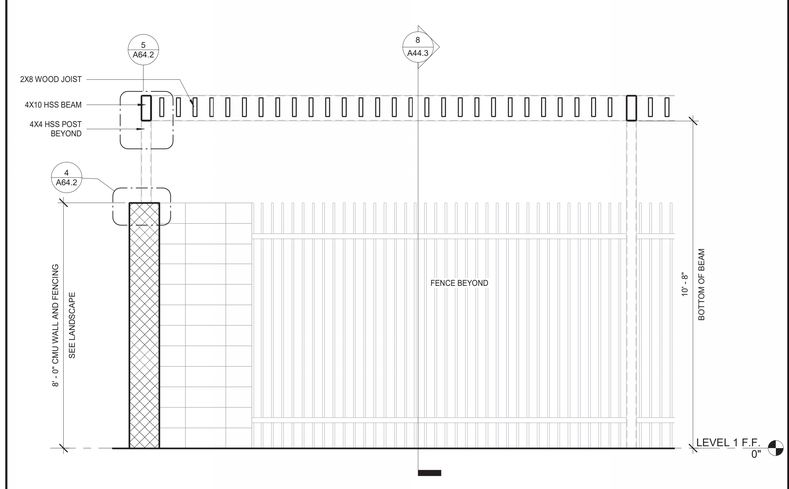
ENLARGED NORTH TRELLIS FIRST FLOOR PLAN | 1/4" = 1'-0" | 3



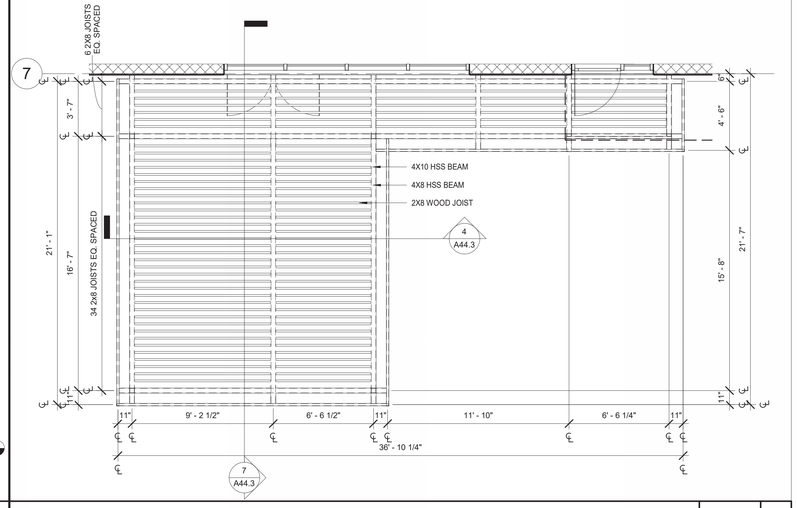
NORTH TRELLIS SECTION 3 | 1/2" = 1'-0" | 9



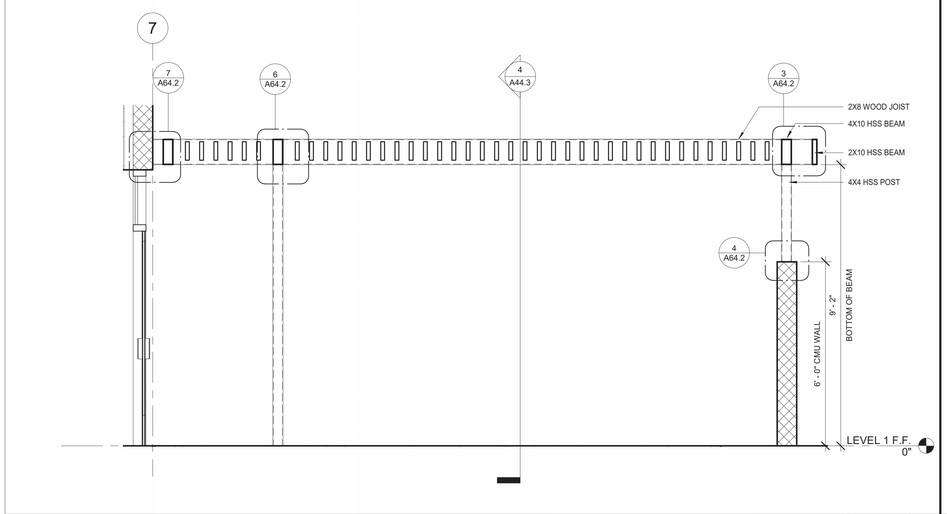
NORTH TRELLIS SECTION 2 | 1/2" = 1'-0" | 8



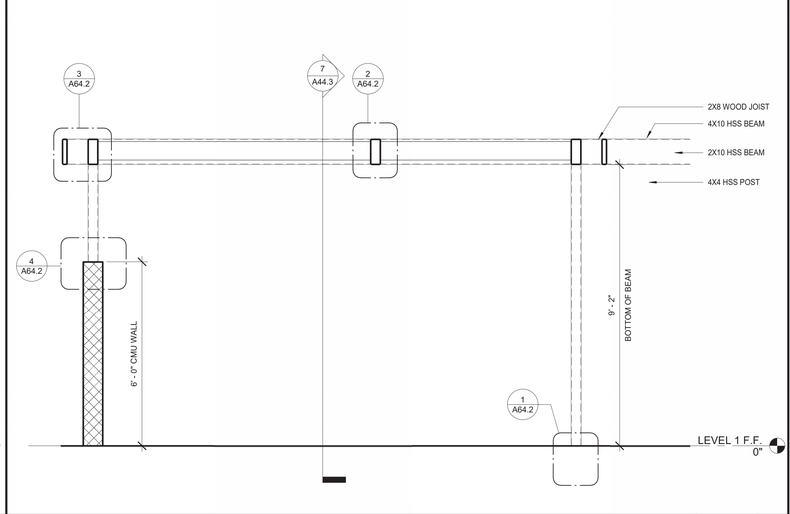
NORTH TRELLIS SECTION 1 | 1/2" = 1'-0" | 5



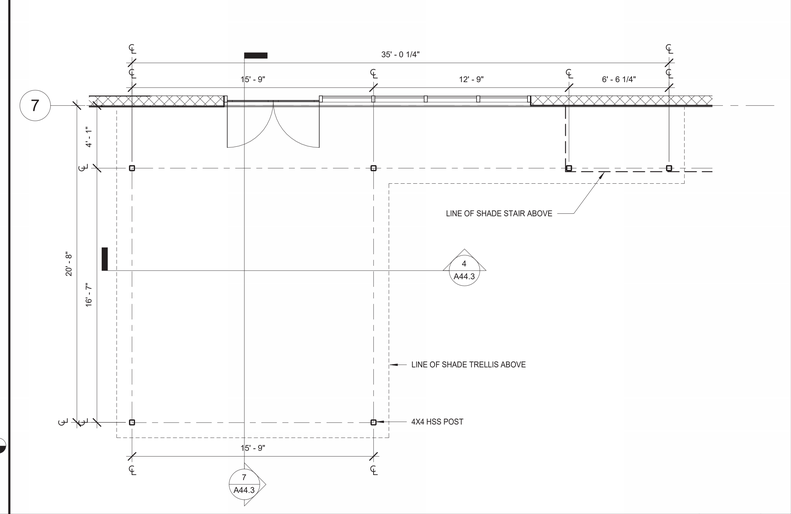
ENLARGED SOUTH TRELLIS SECOND FLOOR PLAN | 1/4" = 1'-0" | 2



SOUTH TRELLIS SECTION 2 | 1/2" = 1'-0" | 7



SOUTH TRELLIS SECTION 1 | 1/2" = 1'-0" | 4



ENLARGED SOUTH TRELLIS FIRST FLOOR PLAN | 1/4" = 1'-0" | 1

CITY OF GARDENA
INCORPORATED 1930

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SIMPSON No. C-18301 JAN. 31, 2025 STATE OF CALIFORNIA

REVISIONS

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1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

TRELLIS PLANS AND SECTIONS

COMMUNITY AQUATICS & SENIOR CENTER

A44.3

	INITIAL	DATE
DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

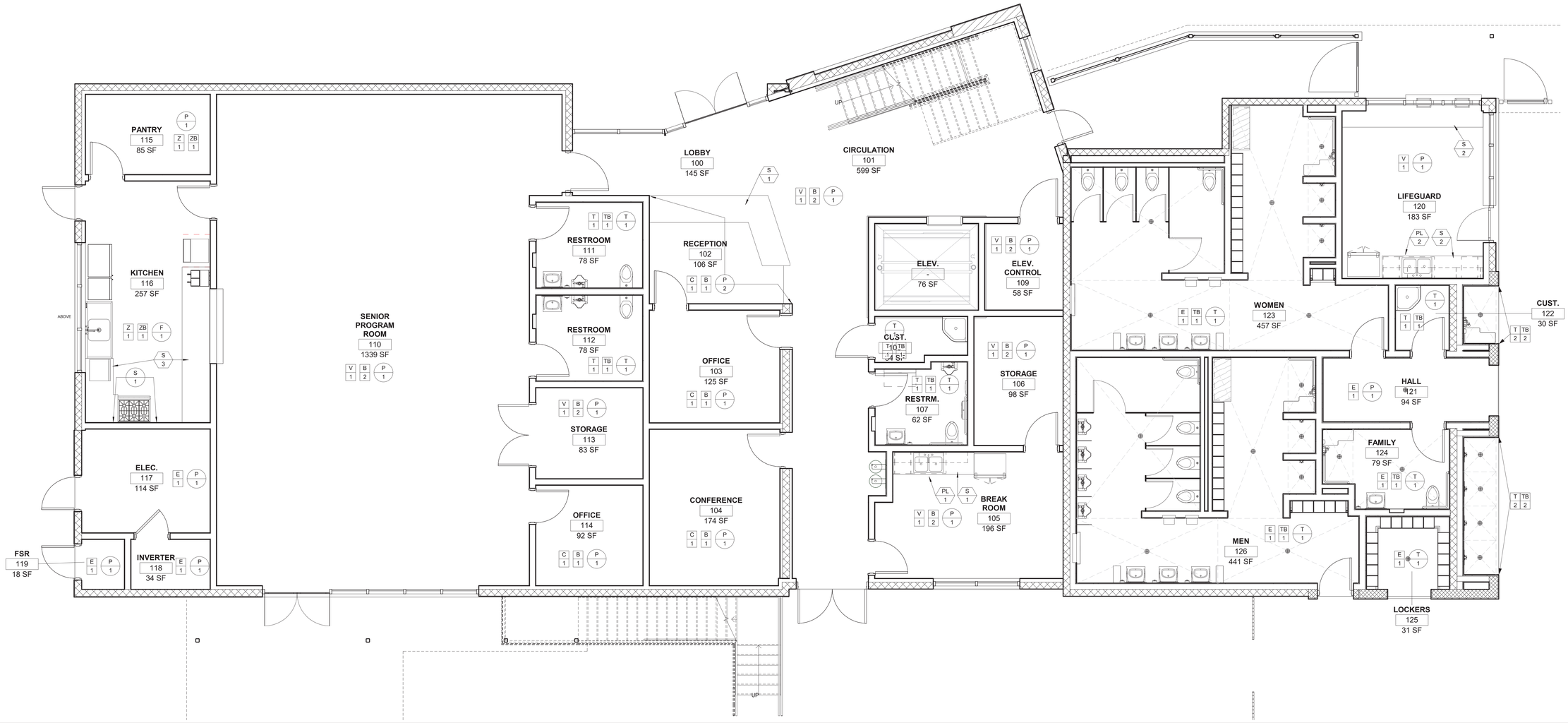
APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 66 OF 176 DWG. NO. 5-2606

CARDINA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

PLOT DATE: 6/30/2023 9:01 AM
FILE PATH: C:\Users\nicholas.cruz\Documents\Gardena, Community Pool and Senior Center_nicholas.cruz@SVA.net



FIRST FLOOR INTERIOR FINISH PLAN

1/4" = 1'-0" | 1

FINISH SCHEDULE - FIRST FLOOR								
				WALL		CEILING		
#	NAME	FLOOR	BASE	MATERIAL	FINISH	MATERIAL	FINISH	COMMENTS
-	ELEV.							
100	LOBBY	V-1	B-2	GB	P-1	OTS	PAINTED	
101	CIRCULATION	V-1	B-2	GB	P-1	GB	PAINTED	OTS PER RCP
102	RECEPTION	C-1	B-1	GB	P-2	GB	PAINTED	
103	OFFICE	C-1	B-1	GB	P-1	ACT-1	M.F.R	
104	CONFERENCE	C-1	B-1	GB	P-1	ACT-1	M.F.R	
105	BREAK ROOM	V-1	B-2	GB	P-1	ACT-1	M.F.R	
106	STORAGE	V-1	B-2	GB	P-1	ACT-1	M.F.R	
107	RESTRM.	T-1	TB-1	TILE	T-1	GB	PAINTED	
108	CUST.	T-1	TB-1	TILE	T-1	OTS	PAINTED	
109	ELEV. CONTROL	V-1	B-2	GB	P-1	GB	PAINTED	
110	SENIOR PROGRAM ROOM	V-1	B-2	GB	P-1	ACT-1	M.F.R	
111	RESTROOM	T-1	TB-1	TILE	T-1	GB	PAINTED	
112	RESTROOM	T-1	TB-1	TILE	T-1	GB	PAINTED	
113	STORAGE	V-1	B-2	GB	P-1	ACT-1	M.F.R	
114	OFFICE	C-1	B-1	GB	P-1	ACT-1	M.F.R	
115	PANTRY	Z-1	ZB-1	GB	P-1	ACT-1	M.F.R	
116	KITCHEN	Z-1	ZB-1	FRP / SS	F-1 / SS-1	GB	PAINTED	
117	ELEC.	E-1	B-1	GB	P-1	GB	PAINTED	
118	INVERTER	E-1	B-1	GB	P-1	GB	PAINTED	
119	FSR	E-1	B-1	GB	P-1	OTS	PAINTED	
120	LIFEGUARD	V-1	B-2	GB	P-1	ACT-1	M.F.R	
121	HALL	E-1	-	-	-	-	-	STUCCO WALLS AND CEILING; COLOR TO MATCH EXT. ELEVATIONS
122	CUST.	T-1	TB-1	TILE	T-1	GB	PAINTED	
123	WOMEN	E-1	TB-1	TILE	T-1	GB	PAINTED	
124	FAMILY	E-1	TB-1	TILE	T-1	GB	PAINTED	
125	LOCKERS	E-1	TB-1	TILE	T-1	GB	PAINTED	
126	MEN	E-1	TB-1	TILE	T-1	GB	PAINTED	

FINISH SCHEDULE

FLOORS

- C-1: CARPET TILE C-1 - 12"X24" COLOR TBD
- T-1: CERAMIC FLOOR TILE; DAL TILE 12"X24"; COLOR - TBD; (COVED WALL BASE TO MATCH FLOOR COLOR TILE)
- T-2: CERAMIC FLOOR TILE; DAL TILE KEYSTONES 2"X2"; COLOR - TBD; (COVED WALL BASE TO MATCH FLOOR COLOR TILE)
- V-1: RESILIENT FLOORING - 6"X48" LVP COLOR - TBD
- E-1: EXPOSED CONCRETE TOPPING SLAB; INTEGRAL COLOR TBD CLEAR EPOXY SEALANT, SEE SPECS
- Z-1: URETHANE FLOOR COATING; COLOR - TBD (COVED WALL BASE TO BE INTEGRAL BUILD UP)
- B-1: 4" HIGH RUBBER BASE; COLOR - TBD
- B-2: 4" HIGH COVED RUBBER BASE; COLOR - TBD
- TB-1: TILE COVED BASE; 4"X12"; COLOR - TBD
- TB-2: TILE COVED BASE; 2"X2"; COLOR - TBD
- ZB-1: 6" HIGH INTEGRAL URETHANE COVED BASE; COLOR - TBD

WALLS

- P-1: GENERAL AREA PAINT COLOR P-1; COLOR TBD
- P-2: ACCENT PAINT COLOR P-2; COLOR TBD
- T-1: RESTROOM WALL TILE T-1 - DALTILE - 4"X24" SEMI-GLOSS; FIELD COLOR: TBD; ACCENT STRIPE COLOR; TBD
- T-2: WALL TILE T-2 - DALTILE - 2"X2" SEMI-GLOSS; COLOR: TBD
- F-1: FRP WALL PANELING COLOR: TBD
- S-1: SS WALL PANELING COLOR: TBD

MILLWORK

- PL-1: WOOD-GRAIN PLASTIC LAMINATE #1 - CABINETS - WILSONART; 7960K-18 STUDIO TEAK LINEARITY FINISH
- PL-2: PLASTIC LAMINATE #2 - CABINETS - WILSONART COLOR TBD (MATTE FINISH)
- S-1: ONE QUARTZ SURFACE #1 - DALTILE; OQ53 STATUARY UNITY; MARBLE LOO
- S-2: ONE QUARTZ SURFACE #2 - DALTILE; NQ66 FRESH LINENS; MONOCHROMATIC LOOK
- S-3: STAINLESS STEEL SURFACE - CUSTOM COUNTER; FOOD GRADE FINISH

MISCELLANEOUS

- PT-1: TOILET PARTITIONS (TYPICAL ALL ROOMS) - PHENOLIC COLOR TBD

CEILINGS

- ACT-1: 2' x 4' SUSPENDED ACOUSTICAL CEILING - SEE SPECS
- GB: GYP. BOARD CEILING; COLOR TO BE P-1
- OTS: EXPOSED; METAL DECK, STRUCTURAL FRAMING AND DUCTWORK TO BE PREPPED AND PAINTED P-1

INTERIOR FINISH LEGEND

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SIMPSON No. C-19651 JAN. 31, 2025 STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

FIRST FLOOR INTERIOR FINISH SCHEDULE

COMMUNITY AQUATICS & SENIOR CENTER

A50.1

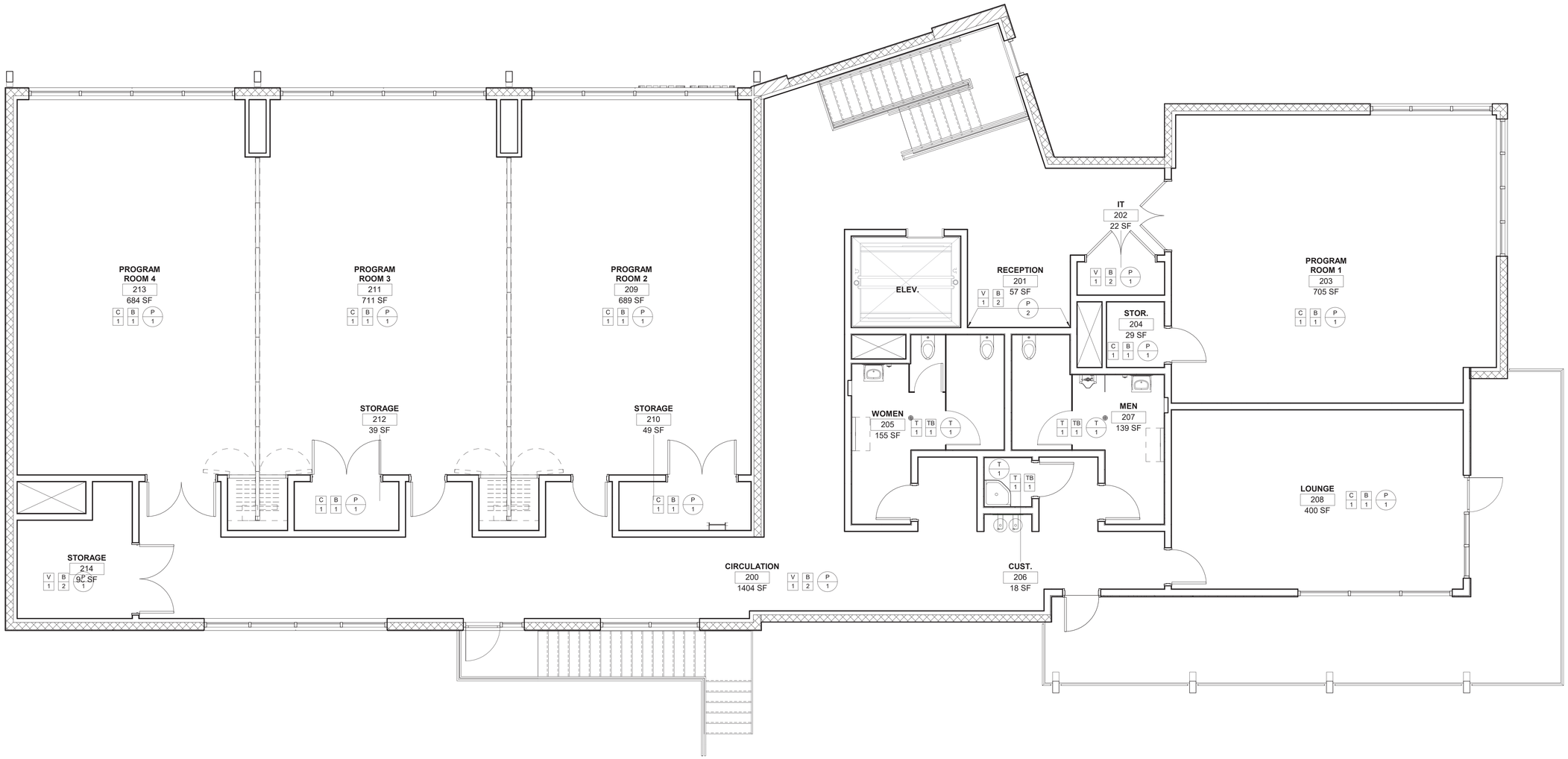
	INITIAL	DATE
DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 67 OF 176 DWG. NO. 5-2606

CARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET
PLOT DATE: 6/30/2023 2:31:51 PM
PLOT BY: C:\Users\jcarrillo\Documents\Gardena\Documents\Gardena Pool and Senior Center_Active\aap50228.rvt



SECOND FLOOR INTERIOR FINISH PLAN

1/4" = 1'-0" | 1

FINISH SCHEDULE - SECOND FLOOR								
				WALL		CEILING		
#	NAME	FLOOR	BASE	MATERIAL	FINISH	MATERIAL	FINISH	COMMENTS
200	CIRCULATION	V-1	B-2	GB	P-1	GB	PAINTED	
201	RECEPTION	V-1	B-2	GB	P-1 / P-2	GB	PAINTED	
202	IT	V-1	B-2	GB	P-1	OTS	PAINTED	
203	PROGRAM ROOM 1	C-1	B-1	GB	P-1	ACT-1	M.F.R	
204	STOR.	C-1	B-1	GB	P-1	GB	PAINTED	
205	WOMEN	T-1	TB-1	TILE	T-1	GB	PAINTED	
206	CUST.	T-1	TB-1	TILE	T-1	OTS	PAINTED	
207	MEN	T-1	TB-1	TILE	T-1	GB	PAINTED	
208	LOUNGE	C-1	B-1	GB	P-1	OTS	PAINTED	
209	PROGRAM ROOM 2	C-1	B-1	GB	P-1	OTS	PAINTED	
210	STORAGE	C-1	B-1	GB	P-1	GB	PAINTED	
211	PROGRAM ROOM 3	C-1	B-1	GB	P-1	OTS	PAINTED	
212	STORAGE	C-1	B-1	GB	P-1	GB	PAINTED	
213	PROGRAM ROOM 4	C-1	B-1	GB	P-1	OTS	PAINTED	
214	STORAGE	V-1	B-2	GB	P-1	GB	PAINTED	

FINISH SCHEDULE

FLOORS

- C 1 — CARPET TILE C-1 - 12"X24" COLOR TBD
- T 1 — CERAMIC FLOOR TILE; DAL TILE 12"X24"; COLOR - TBD; (COVED WALL BASE TO MATCH FLOOR COLOR TILE)
- T 2 — CERAMIC FLOOR TILE; DAL TILE KEYSTONES 2"X2"; COLOR - TBD; (COVED WALL BASE TO MATCH FLOOR COLOR TILE)
- V 1 — RESILIENT FLOORING - 6"X48" LVP COLOR - TBD
- E 1 — EXPOSED CONCRETE TOPPING SLAB; INTEGRAL COLOR TBD CLEAR EPOXY SEALANT, SEE SPECS
- Z 1 — URETHANE FLOOR COATING; COLOR - TBD (COVED WALL BASE TO BE INTEGRAL BUILD UP)
- B 1 — 4" HIGH RUBBER BASE; COLOR - TBD
- B 2 — 4" HIGH COVED RUBBER BASE; COLOR - TBD
- TB 1 — TILE COVED BASE; 4"X12"; COLOR - TBD
- TB 2 — TILE COVED BASE: 2"X2"; COLOR - TBD
- ZB 1 — 6" HIGH INTEGRAL URETHANE COVED BASE; COLOR - TBD

WALLS

- P 1 — GENERAL AREA PAINT COLOR P-1; COLOR TBD
- P 2 — ACCENT PAINT COLOR P-2; COLOR TBD
- T 1 — RESTROOM WALL TILE T-1 - DALTILE - 4"X24" SEMI-GLOSS; FIELD COLOR: TBD; ACCENT STRIPE COLOR; TBD
- T 2 — WALL TILE T-2 - DALTILE - 2"X2" SEMI-GLOSS; COLOR: TBD
- F 1 — FRP WALL PANELING COLOR: TBD
- S 1 — SS WALL PANELING COLOR: TBD

MILLWORK

- PL 1 — WOOD-GRAIN PLASTIC LAMINATE #1 - CABINETS - WILSONART; 7960K-18 STUDIO TEAK LINEARITY FINISH
- PL 2 — PLASTIC LAMINATE #2 - CABINETS - WILSONART COLOR TBD (MATTE FINISH)
- S 1 — ONE QUARTZ SURFACE #1 - DALTILE; OQ53 STATUARY UNITY; MARBLE LOO
- S 2 — ONE QUARTZ SURFACE #2 - DALTILE; NQ66 FRESH LINENS; MONOCHROMATIC LOOK
- S 3 — STAINLESS STEEL SURFACE - CUSTOM COUNTER; FOOD GRADE FINISH

MISCELLANEOUS

- PT 1 — TOILET PARTITIONS (TYPICAL ALL ROOMS) - PHENOLIC COLOR TBD

CEILINGS

- **ACT-1** 2' x 4' SUSPENDED ACOUSTICAL CEILING - SEE SPECS
- **GB** GYP. BOARD CEILING; COLOR TO BE P-1
- **OTS** EXPOSED; METAL DECK, STRUCTURAL FRAMING AND DUCTWORK TO BE PREPPED AND PAINTED P-1

INTERIOR FINISH LEGEND

CITY OF GARDENA — HIGHWAY CITY — INCORPORATED 1930

PREPARED BY:

SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT — ROBERT M. SUMMERS — No. C-18501 — JAN 31, 2025 — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

SECOND FLOOR INTERIOR FINISH SCHEDULE

COMMUNITY AQUATICS & SENIOR CENTER

A50.2

	INITIAL	DATE
DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 68 OF 176 DWG. NO. S-2606

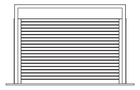
CARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

PLOT DATE: 6/29/2023 2:31:11 PM
PLOT BY: C:\Users\nicolec\Documents\Gardena Community Pool and Senior Center_Active\wip\A50SS.rvt

DOOR SCHEDULE

NUMBER	WIDTH	HEIGHT	DOOR TYPE	DOOR MATERIAL	DOOR FINISH	FRAME MATERIAL	FRAME FINISH	DETAILS HEAD DETAIL	DETAILS JAMB	DETAILS THRESHOLD	HARDWARE GROUP	HARDWARE PH	FIRE RATING	REMARKS
100	6' - 0"	8' - 0"	FG-FG	AL/GL	AC	AL	AC	13/A63.1	13/A63.1	5/A63.2		YES	NR	CR, AO
101-1	3' - 0"	8' - 0"	FG	AL/GL	AC	AL	AC	15/A63.1	15/A63.1	5/A63.2		YES	NR	CR, AO
101-2	6' - 4"	7' - 10"	FG-FG	AL/GL	AC	AL	AC	12/A63.1	12/A63.1	5/A63.2		YES	NR	CR, AO
103-1	3' - 0"	7' - 0"	FG	AL/GL	AC	AL	AC	4/A63.1	4/A63.1	9/A63.1			NR	CR
103-2	3' - 0"	7' - 0"	FG	AL/GL	AC	AL	AC	4/A63.1	4/A63.1	9/A63.1			NR	CR
104	3' - 0"	7' - 0"	FG	AL/GL	AC	AL	AC	4/A63.1	4/A63.1	9/A63.1			NR	CR
105	3' - 0"	7' - 0"	FG	AL/GL	AC	AL	AC	4/A63.1	4/A63.1	9/A63.1			NR	CR
106	3' - 0"	7' - 0"	F	SCW	P	AL	AC	4/A63.1	4/A63.1	9/A63.1			NR	CR
107	3' - 0"	7' - 0"	F	SCW	P	AL	AC	4/A63.1	4/A63.1	9/A63.1			NR	
108	3' - 0"	7' - 0"	F	SCW	P	AL	AC	4/A63.1	4/A63.1	9/A63.1			NR	
109	3' - 6"	7' - 0"	F	SCW	P	AL	AC	4/A63.1	4/A63.1	9/A63.1			NR	
110-1	3' - 6"	7' - 0"	FG	AL/GL	AC	HM	P	1/A63.1	1/A63.1	9/A63.1		YES	NR	CR, AO
110-2	6' - 0"	7' - 0"	FG-FG	AL/GL	AC	AL	AC	13/A63.1	13/A63.1	5/A63.2				CR, AO
111	3' - 0"	7' - 0"	F	SCW	P	HM	P	1/A63.1	1/A63.1	9/A63.1			NR	
112	3' - 0"	7' - 0"	F	SCW	P	HM	P	1/A63.1	1/A63.1	9/A63.1			NR	
113	5' - 8"	7' - 0"	F-F	SCW	P	HM	P	1/A63.1	1/A63.1	9/A63.1			NR	CR
114	3' - 0"	7' - 0"	FG	AL/GL	AC	AL	AC	4/A63.1	4/A63.1	9/A63.1			NR	CR
115	3' - 0"	7' - 0"	F	SCW	P	HM	P	1/A63.1	1/A63.1	9/A63.1			NR	CR
116-1	3' - 0"	7' - 0"	N	SCW/GL	P	HM	P	1/A63.1	1/A63.1	9/A63.1			NR	CR
116-2	3' - 0"	8' - 0"	F	HM	P	HM	P	2/A63.1	2/A63.1	7/A63.1		YES	NR	CR
116-3	6' - 11"	8' - 0"	OR	AL	AC	SS	FF	-	-	-			NR	OVER HEAD ROLLING COUNTER DOOR
117	3' - 0"	8' - 0"	F	HM	P	HM	P	6/A63.1	3/A63.1	7/A63.1			NR	
118	3' - 0"	7' - 0"	F	HM	P	HM	P	1/A63.1	1/A63.1	9/A63.1			NR	
119	3' - 0"	8' - 0"	F	HM	P	HM	P	6/A63.1	3/A63.1	7/A63.1			NR	
120	3' - 0"	7' - 9 1/2"	FG	AL/GL	AC	AL	AC	12/A63.1	12,13/A63.1	5/A63.2			NR	CR
122	3' - 0"	7' - 0"	F	HM	P	HM	P	14/A63.1	14/A63.1	9/A63.2			NR	
123	3' - 0"	7' - 0"	F	HM	P	HM	P	14/A63.1	14/A63.1	9/A63.2			NR	
124	3' - 0"	7' - 0"	F	HM	P	HM	P	14/A63.1	14/A63.1	9/A63.2			NR	
126	3' - 0"	8' - 0"	F	HM	P	HM	P	2/A63.1	2/A63.1	7/A63.1			NR	
200-1	3' - 0"	8' - 0"	FG	AL/GL	AC	AL	AC	12/A63.2	11/A63.2	7/A63.1 SIM			NR	
200-2	3' - 0"	7' - 7"	FG	AL/GL	AC	AL	AC	15/A63.1	13/A63.1	10/A63.1		YES	NR	CR
202	6' - 0"	7' - 0"	F-F	SCW	P	AL	AC	4/A63.1	4/A63.1	9/A63.1			NR	
203	6' - 0"	7' - 0"	N-N	SCW/GL	P	HM	P	1/A63.1	1/A63.1	9/A63.1		YES	NR	CR
204	3' - 0"	7' - 0"	F	SCW	P	AL	AC	4/A63.1	4/A63.1	9/A63.1			NR	CR
205	3' - 0"	7' - 0"	F	SCW	P	AL	AC	4/A63.1	4/A63.1	9/A63.1			NR	
206	3' - 0"	7' - 0"	F	SCW	P	AL	AC	4/A63.1	4/A63.1	9/A63.1			NR	
207	3' - 0"	7' - 0"	F	SCW	P	AL	AC	4/A63.1	4/A63.1	9/A63.1			NR	
208-1	3' - 0"	7' - 0"	FG	AL/GL	AC	AL	AC	4/A63.1	4/A63.1	9/A63.1			NR	CR
208-2	3' - 0"	8' - 0"	FG	AL/GL	AC	AL	AC	13/A63.1	13/A63.1, 11/A63.2	5/A63.2 SIM			NR	CR
209	3' - 0"	7' - 0"	N	SCW/GL	P	AL	AC	4/A63.1	4/A63.1	9/A63.1		YES	NR	CR
210-1	6' - 0"	7' - 0"	F-F	SCW	P	AL	AC	4/A63.1	3/A63.1	9/A63.1			NR	CR
210-2	3' - 0"	1' - 0 19/32"	RH	ST	FF	ST	FF	-	-	-			NR	ROOF ACCESS HATCH
211	3' - 0"	7' - 0"	N	SCW/GL	P	AL	AC	4/A63.1	4/A63.1	9/A63.1		YES	NR	CR
212	6' - 0"	7' - 0"	F-F	SCW	P	AL	AC	4/A63.1	4/A63.1	9/A63.1			NR	CR
213	6' - 0"	7' - 0"	N-N	SCW/GL	P	AL	AC	4/A63.1	4/A63.1	9/A63.1		YES	NR	CR
214	6' - 0"	7' - 0"	F-F	SCW	P	AL	AC	4/A63.1	4/A63.1	9/A63.1			NR	
301	3' - 0"	7' - 0"	F	HM	P	HM	P	6/A63.1	3/A63.1	7/A63.1		YES	NR	
302	5' - 8"	7' - 0"	F-F	HM	P	HM	P	6/A63.1	3/A63.1	7/A63.1			NR	CR
303	5' - 8"	7' - 0"	F-F	HM	P	HM	P	6/A63.1	3/A63.1	7/A63.1			NR	
304	5' - 8"	7' - 0"	L-L	HM	P	HM	P	6/A63.1	3/A63.1	7/A63.1			NR	
305	5' - 8"	7' - 0"	L-L	HM	P	HM	P	6/A63.1	3/A63.1	7/A63.1			NR	
306-2	3' - 0 3/4"	6' - 10"	G-EE	ST	P	ST	P	-	7/A40.2	-		YES	NR	PEDESTRIAN GATE AT TRASH ENCLOSURE
306-3	8' - 0"	6' - 10"	G-DD	ST	P	ST	P	-	7/A40.2	-			NR	BIN GATE AT TRASH ENCLOSURE

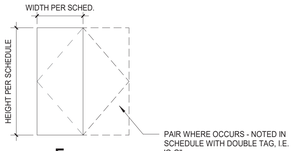
DOOR LEGEND



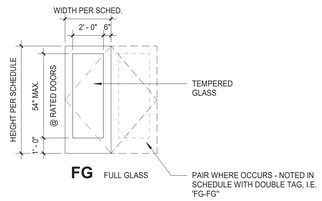
OR OVERHEAD ROLLING



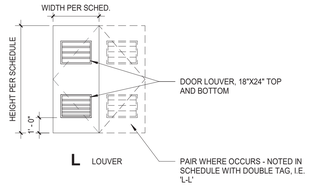
RH ROOF HATCH



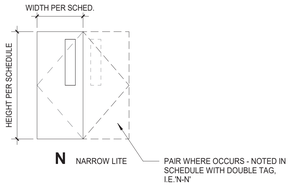
F FLUSH



FG FULL GLASS



L LOUVER



N NARROW LITE

COMMENTS:

1. PROVIDE ELECTRONIC HOLD-OPENS FOR EACH LEAF W/ CONNECTION TO FIRE ALARM.
2. EXISTING DOOR TO REMAIN.
3. EXISTING COPPER-CLAD DOOR TO REMAIN - CONTRACTOR TO INCLUDE $5,000 ALLOWANCE FOR REPAIR OF EXISTING METAL.

DOOR COMMENTS LEGEND

AL	-	ALUMINUM
AC	-	ANODIZED CLEAR
AO	-	AUTOMATIC OPENER
BZ	-	ANODIZED BRONZE
CC	-	CONCEALED CLOSER
CLR	-	CLEAR
CR	-	CARD READER / ACCESS CONTROL
FC	-	FLOOR CLOSER
FF	-	FACTORY FINISH
FLFD	-	FUSIBLE LINK FIRE DAMPER
FP	-	FIELD PAINT
FPFP	-	FACTORY PRIMED, FIELD PAINTED
FRA	-	FIRE RATED ASSEMBLY
FS	-	FIELD STAINED
GA	-	GALVANIZED
GL	-	GLASS OR GLAZING
GS	-	GALVANIZED STEEL
HM	-	HOLLOW METAL
KY	-	FLUOROPOLYMER FINISH (SEE SPECS)
LVR	-	LOUVER
MF	-	MILL FINISH
MR	-	MIRRORED GLASS
MAG	-	MAGNETIC HOLD OPEN
P	-	PAINTED (FOR EXISTING FRAMES - PAINT SHALL INCLUDE PREP AND REPAIR OF EXISTING FRAME, TYPICAL
PG	-	PAINT GRADE
PH	-	PANIC HARDWARE
PR	-	PAIR
SCW	-	SOLID CORE WOOD
SG	-	STAIN GRAIN
SMC	-	SURFACE MOUNTED CLOSER
ST	-	STEEL
SS	-	STAINLESS STEEL
TEMP	-	TEMPERED

DOOR NOTES LEGEND

1. LETTER "P" FOLLOWING DOOR TYPE LETTER IN SCHEDULE INDICATES A PAIR OF DOORS. SCHEDULED DIMENSION IS TOTAL FRAME OPENING. BOTH DOOR LEAVES ARE THE SAME SIZE UNLESS OTHERWISE NOTED.

2. LETTER "X" FOLLOWING DOOR TYPE LETTER IN SCHEDULE INDICATES A FIXED PANEL ABOVE DOOR LEAF. DOOR LEAF IS TO BE 7'-0" HIGH. SCHEDULED DIMENSION IS HEIGHT OF ACTIVE DOOR LEAF PLUS FIXED PANEL. FIXED PANEL SHALL BE OF SAME MATERIAL, CONSTRUCTION, THICKNESS, AS FINISH AS ACTIVE DOOR AND PROVIDED BY THE SAME MANUFACTURER AS DOOR.

3. LOUVERS IN FIRE-RATED DOOR ASSEMBLIES TO BE FLFD (FUSIBLE LINK FIRE DAMPER), LOUVERS IN EXTERIOR DOORS TO BE VANDAL-PROOF SECURITY TYPE.

4. GLAZING, ALL GLAZING PANELS IN FIRE-RATED DOOR ASSEMBLIES TO BE RATED GLASS. ALL OTHER GLAZING PANELS IN DOORS TO BE TEMPERED GLASS UNLESS OTHERWISE NOTED.

5. ALL DOORS NOTED AS 1-HOUR, AND 1 1/2-HOUR FIRE-RATED ASSEMBLIES SHALL MEET THE ADDITIONAL REQUIREMENTS OF MAXIMUM 450 F TEMPERATURE RISE ABOVE AMBIENT AFTER 30 MINUTES OF THE FIRE TEST. (CBC SEC. 1005.3.3.5 AND 1005.3.4.4).

6. THICKNESS: ALL DOORS TO BE 1 3/4" THICK UNLESS OTHERWISE NOTED.

7. ALL EXTERIOR DOORS TO HAVE WEATHERSTRIPPING ALL SIDES PER TITLE 24, SECTION T20-1451-1542.

8. ALL WOOD DOORS TO BE SOLID-CORE TYPE.

9. EXIT DOORS SERVING 50 OR MORE OCCUPANTS SHALL OPEN IN THE DIRECTION OF EXIT.

10. EVERY EXIT DOOR SHALL BE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT. ANY SPECIAL LOCKING DEVICES SHALL BE OF THE APPROVED TYPE. CBC CHAPTER 33 AND UFC SECTION 12,104(B).

11. DOOR HARDWARE SHALL COMPLY WITH THE FOLLOWING PER CBC 11B-404.2

    1. OPERABLE BY A SIMPLE EFFORT, NOT GRASPING WRIST MOVEMENT (LEVERS, PANIC DEVICES, OR PULLS).
    2. 5-LB CLOSURE PRESSURE AT INTERIOR DOORS.
    3. 5-LB CLOSURE PRESSURE AT EXTERIOR DOORS.
    4. 5-LB CLOSURE PRESSURE AT FIRE DOORS.
    5. WHEN FIRE DOORS ARE REQUIRED, THE MAXIMUM EFFORT TO OPERATE THE DOOR MAY BE INCREASED TO THE MINIMUM ALLOWABLE BY THE APPROPRIATE ADMINISTRATIVE AUTHORITY, NOT TO EXCEED 15 POUNDS.

12. ALL DOORS INDICATED AS FIRE-RATED ASSEMBLIES TO HAVE CLOSURES AND SMOKE SEALS.

13. ON DOORS IN ALUMINUM FRAMES, PROVIDE ARMORED STRIKE ON JAMB OF ALUMINUM FRAME.

14. EXIT DOORS SHALL HAVE A READILY VISIBLE, DURABLE SIGN ON OR ADJACENT TO THE DOOR STATING, "THIS DOOR TO REMAINED UNLOCKED DURING BUSINESS HOURS." THE SIGN SHALL HAVE 1" HIGH LETTERS ON A CONTRASTING BACKGROUND. THE LOCKING DEVICE MUST BE OF A TYPE THAT WILL BE READILY DISTINGUISHABLE AS LOCKED.

15. DOORS SHALL BE A MINUMUM OF 36" WIDE X 80" HIGH WITH NO SINGLE LEAF EXCEEDING 4'-0" IN WIDTH.

16. BOTTOM 10" OF DOOR TO HAVE SMOOTH UNINTERUPTED SURFACE FOR OPENING BY WHEELCHAIR FOOT REST.

17. CENTER OF HARDWARE TO BE 30" TO 40" ABOVE FLOOR. LATCHING AND LOCKING DOOR TO BE OPERABLE WITH A SINGLE EFFORT BY LEVER OR PUSH-PULL TYPE HARDWARE.

18. PROVIDE DOOR SYMBOLS ON DOORWAYS LEADING TO SANITARY FACILITIES (SEE TOILET ROOM DOOR SIGNAGE). CENTER SYMBOLS ON DOORS AT 60" HEIGHT, AND FINISH IN COLOR CONTRASTING TO THAT OF THE DOOR.

19. THRESHOLDS SHALL BE 1/2" HIGH MAXIMUM WITH A 2:1 DEGREE BEVELED EDGE.

20. THRESHOLD HEIGHT BETWEEN 1/4" AND 1/2" SHALL BE BEVELED AT MAZIMUM 50% SLOPE.

21. ALL EXTERIOR DOOR SHALL HAVE PERIMETER DOOR SOUND SEAL/GASKET.

22. EACH DOOR IN A MEANS OF EGRESS FROM A GROUP A, OR ASSEMBLY AREA NOT CLASSIFIED AS AN ASSEMBLY OCCUPANCY, HAVING AN OCCUPANT LOAD OF 50 OR MORE SHALL NOT BE PROVIDED WITH A LATCH OR LOCK UNLESS IT IS PANIC HARDWARE OR FIRE EXIT HARDWARE. CBC 1010.1.10 CFC 1010.1.10

DOOR GENERAL NOTES

CARDINA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SUMMERS No. C-18501 JAN 31, 2025 STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

DOOR SCHEDULE

COMMUNITY AQUATICS & SENIOR CENTER

A52.1

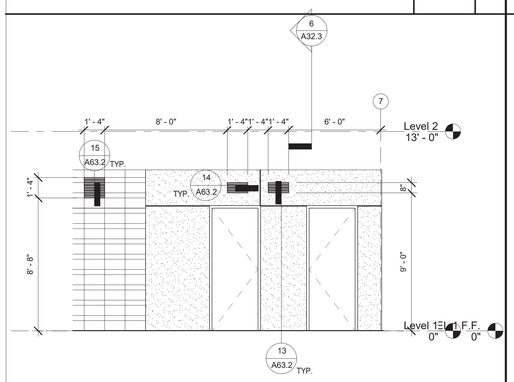
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CHECKED BY	DB	06/29/23

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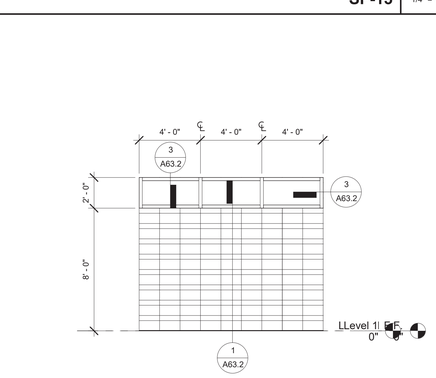
APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 69 OF 176 DWG. NO. 5-2606

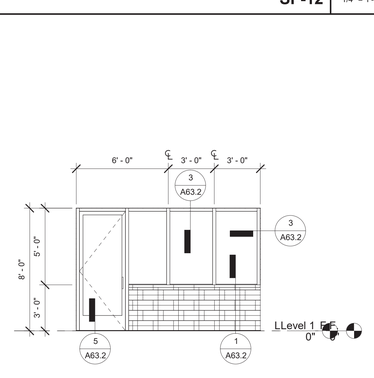
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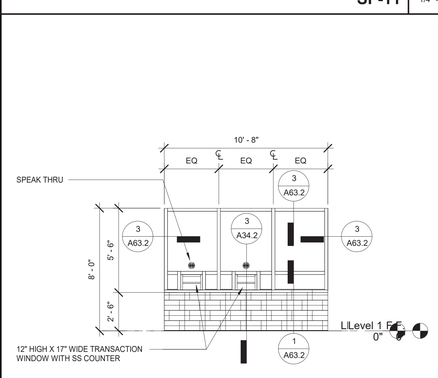
LOUVERS | 1/4" = 1'-0" | 19



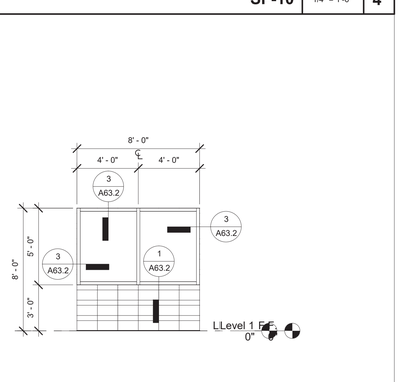
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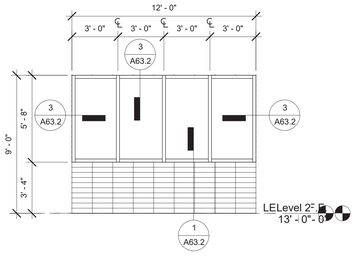
SF-16 | 1/4" = 1'-0" | 11



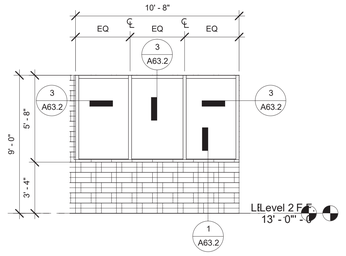
SF-15 | 1/4" = 1'-0" | 7



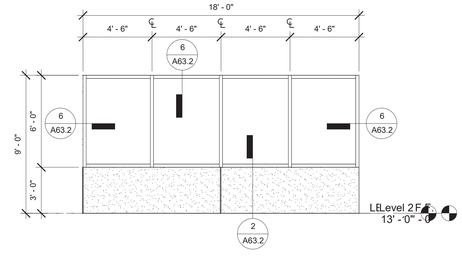
SF-14 | 1/4" = 1'-0" | 3



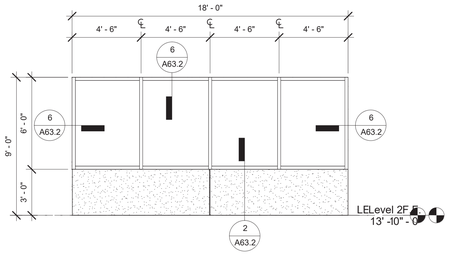
SF-24 | 1/4" = 1'-0" | 18



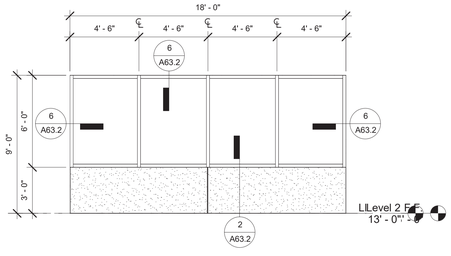
SF-23 | 1/4" = 1'-0" | 14



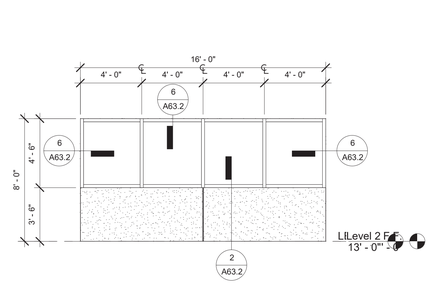
SF-22 | 1/4" = 1'-0" | 10



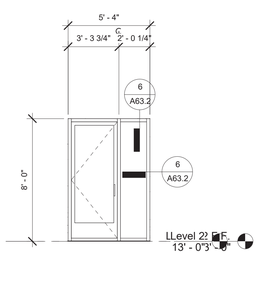
SF-21 | 1/4" = 1'-0" | 6



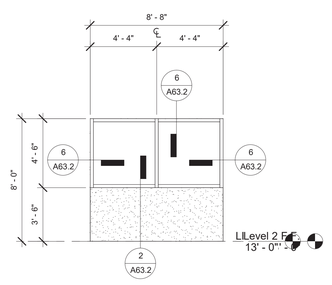
SF-20 | 1/4" = 1'-0" | 2



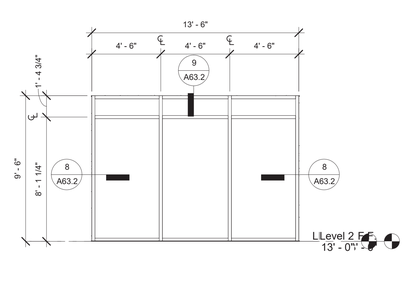
SF-29 | 1/4" = 1'-0" | 17



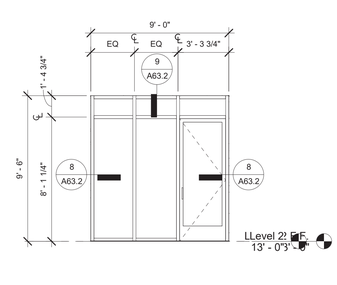
SF-28 | 1/4" = 1'-0" | 13



SF-27 | 1/4" = 1'-0" | 9



SF-26 | 1/4" = 1'-0" | 5



SF-25 | 1/4" = 1'-0" | 1

CITY OF GARDENA
INCORPORATED 1930

PREPARED BY:

SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT
ROBERT M. SIMPSON
No. C-19301
JAN 31, 2020
STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

STOREFRONT ELEVATIONS

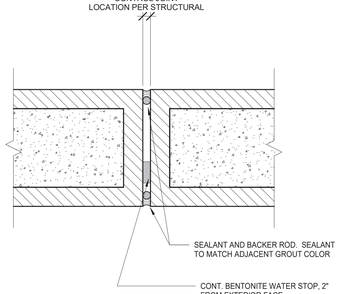
COMMUNITY AQUATICS & SENIOR CENTER
A52.2

	INITIAL	DATE
DESIGNED BY	AP/EC	06/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS
SHT. 70 OF 176 DWG. NO. 5-2606

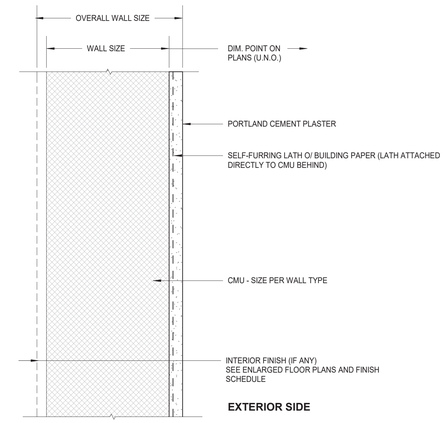
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GARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET



NOTE: CONTROL JOINTS EXCEEDING .625 INCH WILL REQUIRE A FIRE RESISTANT JOINT SYSTEM PER CBC 715.1 EXC. 9

CMU VERTICAL CONTROL JOINT | 3" = 1'-0" | 12

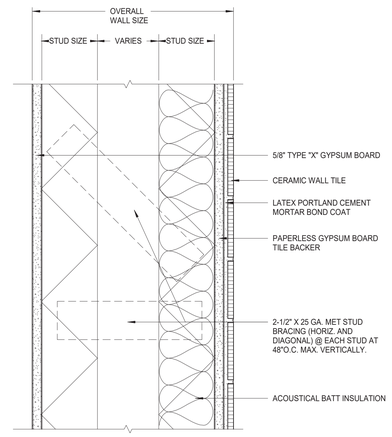


FIRE RESISTANCE RATING FOR CMU WALLS PER CBC T721.1(2)

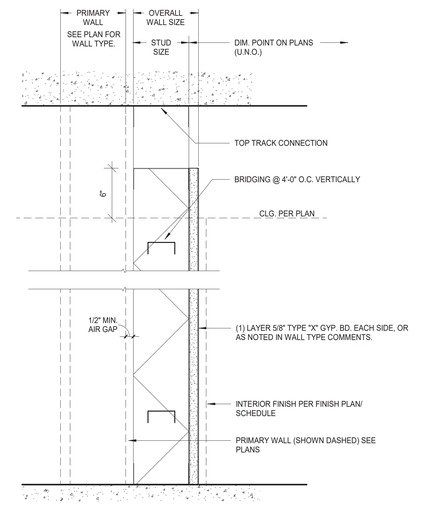
	MIN. FINISHED THICKNESS 2 HOUR	1 HOUR
ASSEMBLY 3-1.1 EXPANDED SLAG OR PUMICE	3.2"	2.1"

ALL CMU WALLS ARE 8" MIN NOMINAL THICKNESS, FULLY GROUTED.
PER FOOTNOTE f THESE WALLS HAVE A 4 HOUR RATING

EXT. CMU PLASTER WALL (CM1) | 3" = 1'-0" | 9



PLUMBING WALL (M4) | 3" = 1'-0" | 6



FURRING WALL (M3) | 3" = 1'-0" | 3

M1 EXTERIOR METAL STUD

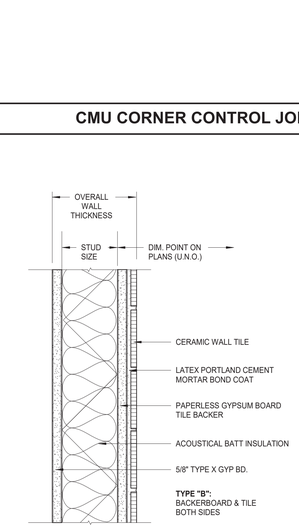
WALL TYPE	STUD SIZE	STUD SPACING	OVERALL WALL THK	DETAIL	COMMENTS
M1.6	6"	16" O.C.	8 1/4"	1 / -	STUCCO
M1.6A	6"	16" O.C.	8 1/4"	4 / -	TILE

M2 INTERIOR METAL STUD

WALL TYPE	STUD SIZE	STUD SPACING	OVERALL WALL THK	DETAIL	COMMENTS
M2.4A	3 5/8"	16" O.C.	4 7/8"	2 / -	TILE
M2.6	6"	16" O.C.	7 1/4"	2 / -	
M2.6A	6"	16" O.C.	7 1/4"	2 / -	TILE
M2.6B	6"	16" O.C.	7 1/4"	2 / -	TILE BOTH SIDES

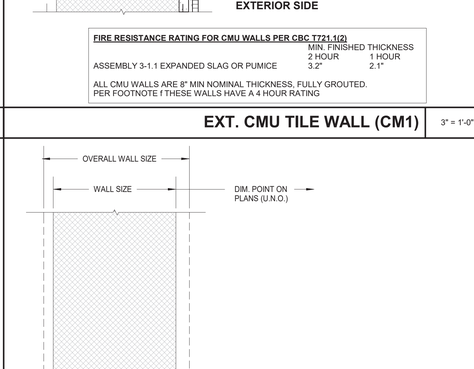
M3 FURRING WALL

WALL TYPE	STUD SIZE	STUD SPACING	OVERALL WALL THK	DETAIL	COMMENTS
M3.1A	1 1/2"	16" O.C.	2 1/2"	3 / -	TILE
M3.2	2 1/2"	16" O.C.	3"	3 / -	
M3.4	3 5/8"	16" O.C.	4 1/8"	3 / -	
M3.4A	3 5/8"	16" O.C.	4 3/4"	3 / -	TILE
M3.6	6"	16" O.C.	6 1/2"	3 / -	
M3.6A	6"	16" O.C.	7"	3 / -	TILE



NOTE: CONTROL JOINTS EXCEEDING .625 INCH WILL REQUIRE A FIRE RESISTANT JOINT SYSTEM PER CBC 715.1 EXC. 9

CMU CORNER CONTROL JOINT | 3" = 1'-0" | 11

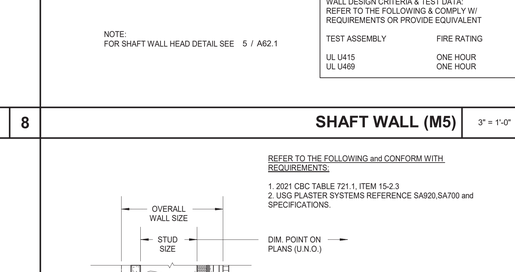


FIRE RESISTANCE RATING FOR CMU WALLS PER CBC T721.1(2)

	MIN. FINISHED THICKNESS 2 HOUR	1 HOUR
ASSEMBLY 3-1.1 EXPANDED SLAG OR PUMICE	3.2"	2.1"

ALL CMU WALLS ARE 8" MIN NOMINAL THICKNESS, FULLY GROUTED.
PER FOOTNOTE f THESE WALLS HAVE A 4 HOUR RATING

EXT. CMU TILE WALL (CM1) | 3" = 1'-0" | 8

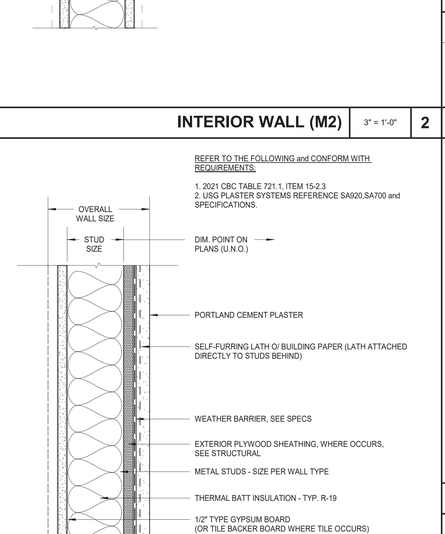


NOTE:
FOR SHAFT WALL HEAD DETAIL SEE 5 / A62.1

WALL DESIGN CRITERIA & TEST DATA:
REFER TO THE FOLLOWING & COMPLY W/ REQUIREMENTS OR PROVIDE EQUIVALENT

TEST ASSEMBLY	FIRE RATING
UL U415	ONE HOUR
UL U469	ONE HOUR

SHAFT WALL (M5) | 3" = 1'-0" | 5



INTERIOR WALL (M2) | 3" = 1'-0" | 2

M4 PLUMBING WALL

WALL TYPE	STUD SIZE	STUD SPACING	OVERALL WALL THK	DETAIL	COMMENTS
M4.4B	3 5/8"	16" O.C.	1' - 7"	6 / -	TILE BOTH SIDES

M5 SHAFT WALL

WALL TYPE	STUD SIZE	STUD SPACING	OVERALL WALL THK	DETAIL	COMMENTS
M5.6	6" CH	24" O.C.	6 5/8"	5 / -	

CM1 EXTERIOR WALL - CMU

WALL TYPE	STUD SIZE	STUD SPACING	OVERALL WALL THK	DETAIL	COMMENTS
CM1.8	-	-	8"	7 / -	
CM1.8A	-	-	9 1/8"	8 / -	TILE
CM1.8C	-	-	8 7/8"	9 / -	STUCCO
CM1.10A	-	-	11 1/8"	8 / -	TILE
CM1.10C	-	-	10 7/8"	9 / -	STUCCO

CM2 INTERIOR WALL - CMU

WALL TYPE	STUD SIZE	STUD SPACING	OVERALL WALL THK	DETAIL	COMMENTS
CM2.8	-	-	8"	7 / -	

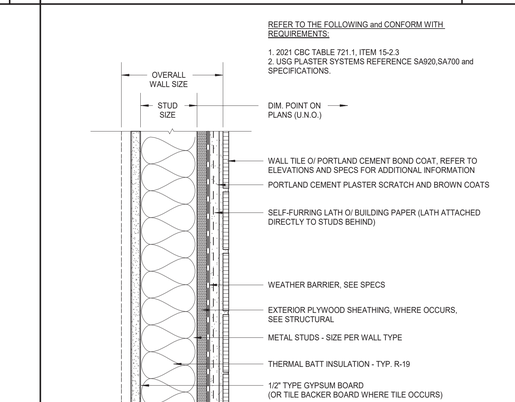
TILE WALL | 3" = 1'-0" | 10

FIRE RESISTANCE RATING FOR CMU WALLS PER CBC T721.1(2)

	MIN. FINISHED THICKNESS 2 HOUR	1 HOUR
ASSEMBLY 3-1.1 EXPANDED SLAG OR PUMICE	3.2"	2.1"

ALL CMU WALLS ARE 8" MIN NOMINAL THICKNESS, FULLY GROUTED.
PER FOOTNOTE f THESE WALLS HAVE A 4 HOUR RATING

CMU WALL (CM) | 3" = 1'-0" | 7

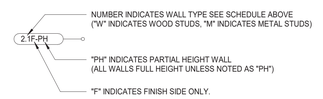


EXT. TILE WALL (M1) | 3" = 1'-0" | 4

EXT. PLASTER WALL (M1) | 3" = 1'-0" | 1

WALL TYPE SCHEDULE

WALL TYPE GENERAL NOTES



WALL TYPE SYMBOL LEGEND

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SIMONIS No. C-18801 JAN. 31, 2025 STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

WALL TYPES

COMMUNITY AQUATICS & SENIOR CENTER

A61.1

	INITIAL	DATE
DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

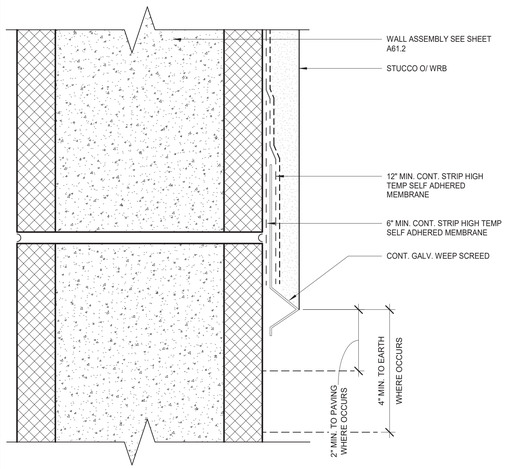
APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

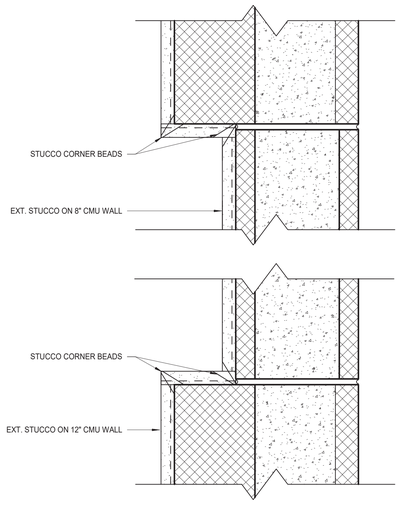
SHT. 71 OF 176 DWG. NO. 5-2606

CARDINAL COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

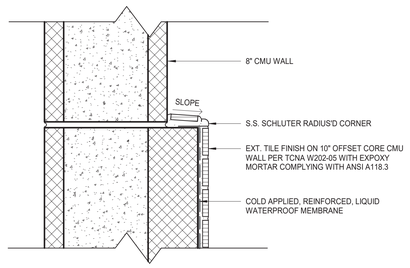
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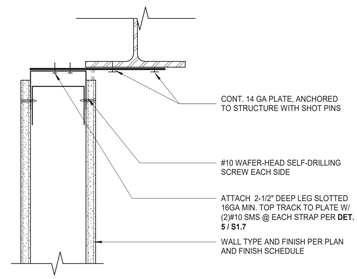
EXTERIOR TYP. SCREED | 6" = 1'-0" | 17



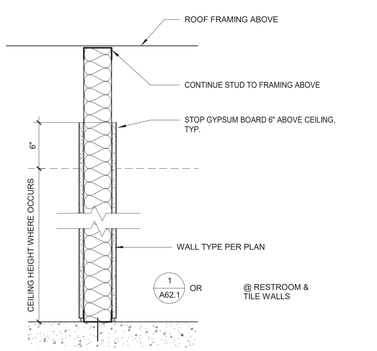
STUCCO RETURNS AT OFFSET CMU | 3" = 1'-0" | 14



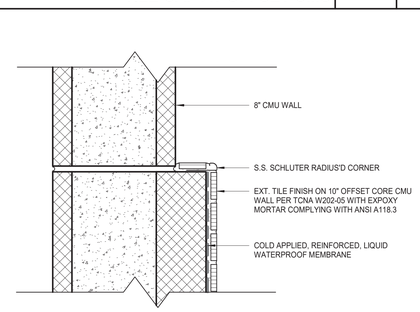
TILE CAP AT OFFSET CMU | 3" = 1'-0" | 11



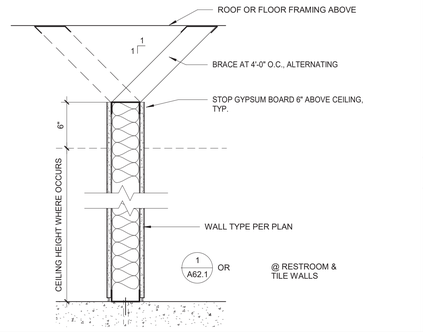
NON-BEARING TOP TRACK TO BEAM | 3" = 1'-0" | 7



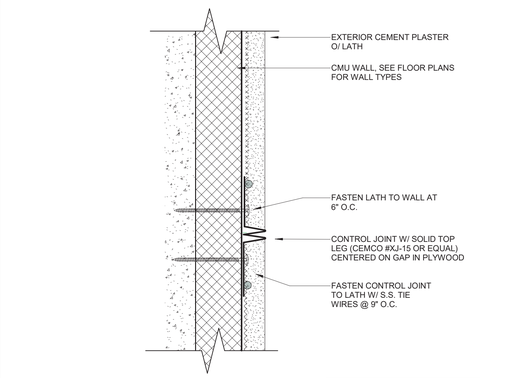
PARTITION FRAMING | 1 1/2" = 1'-0" | 3



TILE RETURN AT OFFSET CMU | 3" = 1'-0" | 10

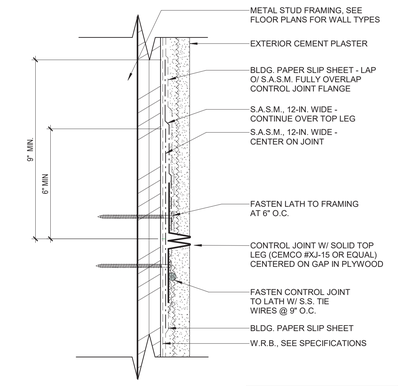


PARTITION FRAMING BRACED | 1 1/2" = 1'-0" | 6



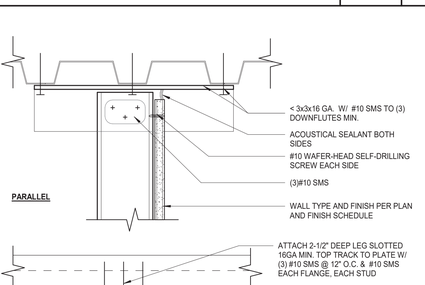
NOTE:
REFER TO EXTERIOR BLDG. ELEVS. FOR ALL JOINT LOCATIONS, TYP.

HORIZONTAL CONTROL JOINT @ CMU | 6" = 1'-0" | 16

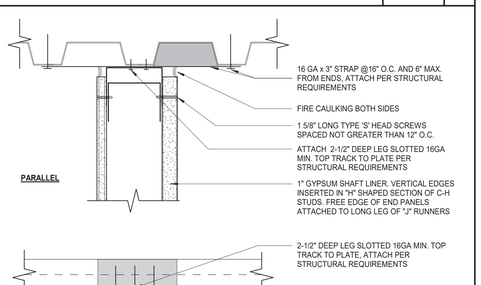


NOTE:
REFER TO EXTERIOR BLDG. ELEVS. FOR ALL JOINT LOCATIONS, TYP.

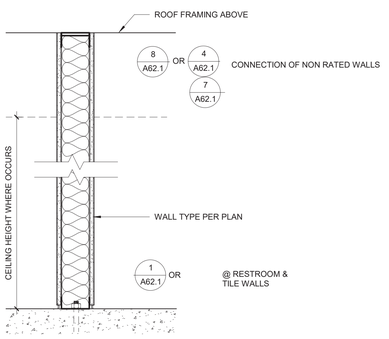
HORIZONTAL CONTROL JOINT @ METAL STUD | 6" = 1'-0" | 13



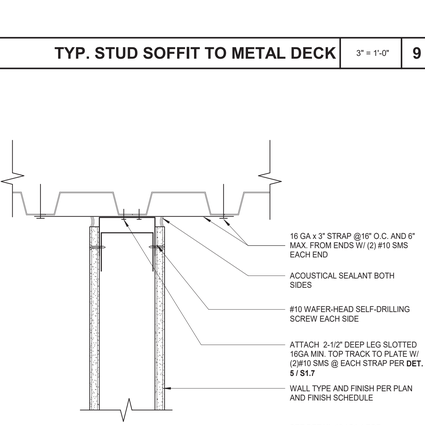
TYP. STUD SOFFIT TO METAL DECK | 3" = 1'-0" | 9



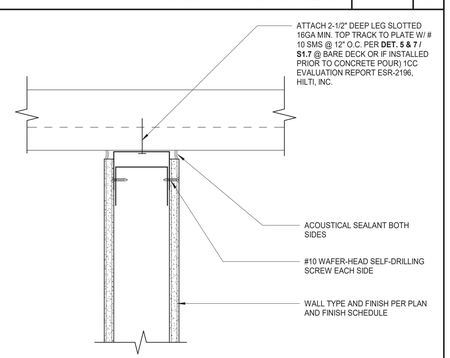
SHAFT AT ROOF DECK | 3" = 1'-0" | 5



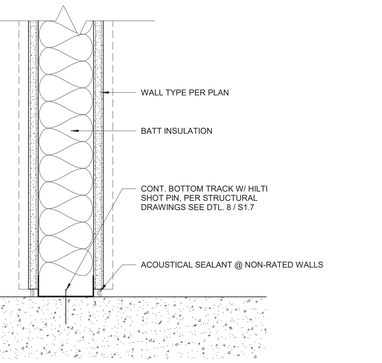
FULL HEIGHT FRAMING | 1 1/2" = 1'-0" | 2



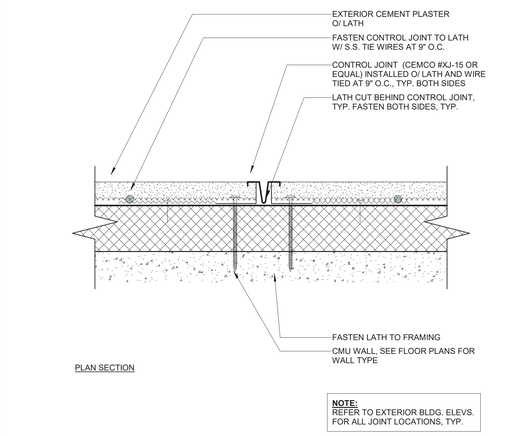
NON-BEARING TOP TRACK (PARALLEL) | 3" = 1'-0" | 8



NON-BEARING TOP TRACK (PERP.) | 3" = 1'-0" | 4



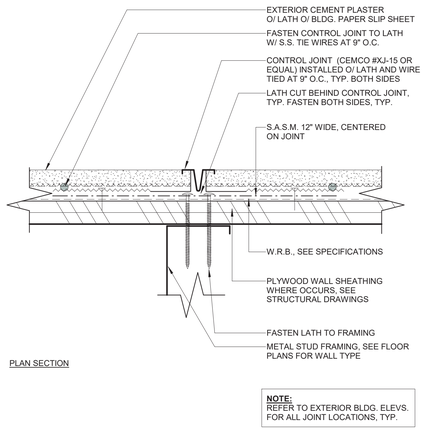
TYP. BOTTOM TRACK CONNECTION | 3" = 1'-0" | 1



PLAN SECTION

NOTE:
REFER TO EXTERIOR BLDG. ELEVS. FOR ALL JOINT LOCATIONS, TYP.

VERTICAL CONTROL JOINT @ CMU | 6" = 1'-0" | 15



PLAN SECTION

NOTE:
REFER TO EXTERIOR BLDG. ELEVS. FOR ALL JOINT LOCATIONS, TYP.

VERTICAL CONTROL JOINT @ METAL STUD | 6" = 1'-0" | 12

CITY OF GARDENA INCORPORATED 1930

PREPARED BY:

SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SIMON No. C-18501 JAN 31, 2020 STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.506'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

DETAILS WALL ASSEMBLIES

COMMUNITY AQUATICS & SENIOR CENTER

A62.1

	INITIAL	DATE
DESIGNED BY	AP/EC	06/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

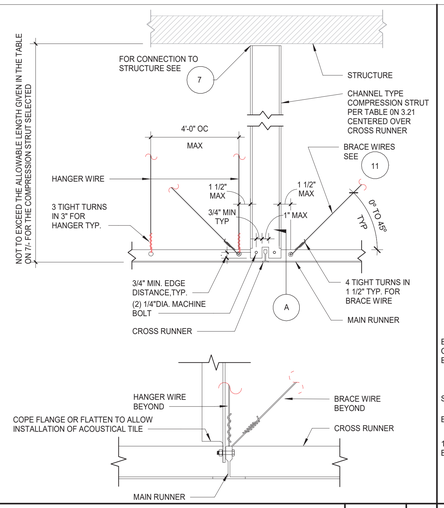
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APPROVED BY: DIRECTOR OF PUBLIC WORKS

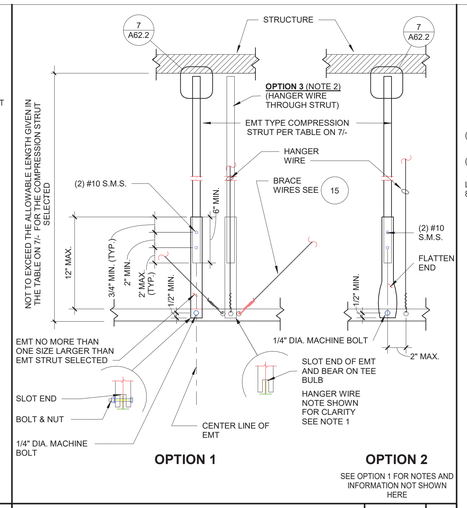
SHT. 72 OF 176 DWG. NO. 5-2606

CARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

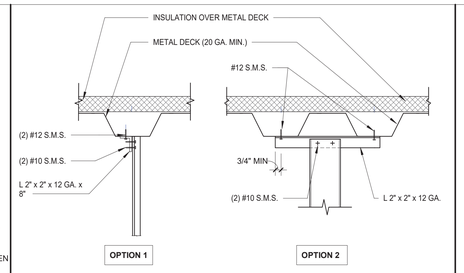
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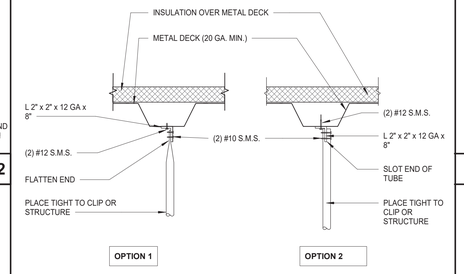


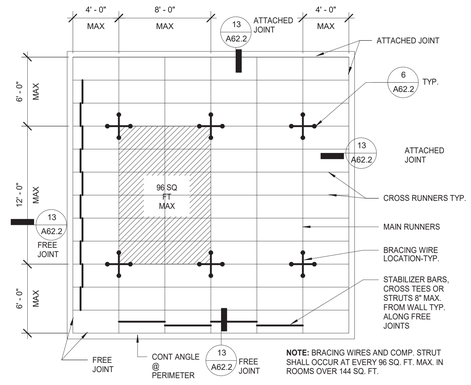
CHANNEL TYPE STRUT | 1 1/2" = 1'-0" | 15



COMPRESSION STRUT DET. @ ACT | 1 1/2" = 1'-0" | 12







CEILING PLAN DETAIL, TYP. | 3/16" = 1'-0" | 4

PENDANT LIGHT FIXTURE BRACING DETAIL | 3" = 1'-0" | 18

HANGER & BRACING WIRE CONNECTION | 3" = 1'-0" | 14

BRACING WIRE AT METAL DECK | 1 1/2" = 1'-0" | 11

HANGER WIRE AT METAL DECK | 1 1/2" = 1'-0" | 10

NOTES:

1. STRUTS SHALL NOT REPLACE HANGER WIRES.
2. THE MINIMUM ACCEPTABLE ANGLE IS DETERMINED SUCH THAT THE WIRES DO NOT INTERFERE WITH THE RUNNERS, LIGHT FIXTURES, ETC. AND REMAIN STRAIGHT AND UNOBSTRUCTED.

EMT COMPRESSION STRUT	MAXIMUM LENGTH
1" DIAMETER EMT (0.057" WALL THICKNESS)	9'-9"
1 1/2" DIAMETER EMT (0.065" WALL THICKNESS)	14'-9"
CHANNEL COMPRESSION STRUT	**MAXIMUM LENGTH**
250137-43	8'-10"

COMPRESSION STRUT DET. @ ACT | 1 1/2" = 1'-0" | 7

LIGHT FIX./AIR TERMINAL SUPPORT DETAIL | 3" = 1'-0" | 5

SUSPENDED LAY-IN CEILING NOTES:
(FOR CEILING SYSTEMS WHOSE TOTAL WEIGHT, INCLUDING AIR CONDITIONING/HEATING GRILLS AND LIGHT FIXTURES, DOES NOT EXCEED 4 PSF)

1- CEILING SYSTEM GENERAL NOTES:

1.01- CEILING SYSTEM COMPONENTS SHALL COMPLY WITH ASTM C635-07 AND SECTION 5.1 OF ASTM E580-10A.
1.02- THE CEILING GRID SYSTEM MUST BE RATED HEAVY DUTY AS DEFINED BY ASTM C635-08.
1.03- CEILING SYSTEMS. THE FOLLOWING CEILING SYSTEM(S) ISIARE PART OF THE SCOPE OF THIS PROJECT:
MANUFACTURER'S NAME: ARMSTRONG WORLD INDUSTRIES
PRODUCT EVALUATION REPORT TYPE AND NUMBER: ESR1308
MANUFACTURER'S MODEL NUMBER - MAIN RUNNER: 7501
MANUFACTURER'S CATALOG NUMBER - CROSS RUNNER: XL7549 & XL7528
1.04- SEISMIC WALL CLIP:
MANUFACTURER'S MODEL: BERC2 WITH 7800 MOLDING
1.05- CEILING PANELS SHALL NOT SUPPORT ANY LIGHT FIXTURES, AIR TERMINALS OR DEVICES.
1.06- FOR CEILING INSTALLATIONS UTILIZING ACOUSTICAL TILE PANELS OF MINERAL OR GLASS FIBER, IT IS NOT MANDATORY TO PROVIDE ¾" CLEARANCE BETWEEN THE ACOUSTICAL TILE PANELS AND THE WALL ON THE SIDES OF THE CEILING WHICH ARE FREE TO SLIP. FOR ALL OTHER CEILING PANEL TYPES, PROVIDE ¾" CLEARANCE BETWEEN THE CEILING PANEL AND THE WALL ON THE SIDES OF THE CEILING FREE TO SLIP.

2- MATERIALS:

2.01- CEILING WIRE SHALL BE CLASS 1 ZINC COATED (GALVANIZED) CARBON STEEL CONFORMING TO ASTM A641-09A. WIRE SHALL BE #12 GAGE (0.106" DIAMETER) WITH SOFT TEMPER AND MINIMUM TENSILE STRENGTH = 70 KSI.
2.02- GALVANIZED SHEET STEEL (INCLUDING THAT USED FOR METAL STUD AND TRACK COMPRESSION STRUTS/POST) SHALL CONFORM TO ASTM A653-11, OR OTHER EQUIVALENT SHEET STEEL LISTED IN SECTION A2.1 OF THE NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS 2007, INCLUDING SUPPLEMENT 2 DATED 2010 (AISI S100-07/S2-10). MATERIAL 43 MIL (18 GAGE) AND LIGHTER SHALL HAVE MINIMUM YIELD STRENGTH OF 33 KSI. MATERIAL 54 MIL (16 GAGE) AND HEAVIER SHALL HAVE A MINIMUM YIELD STRENGTH OF 50 KSI.
2.03- ELECTRICAL METALLIC TUBE (EMT) SHALL BE ANSI C80.3/UL 797 CARBON STEEL WITH G90 GALVANIZING. EMT SHALL HAVE MINIMUM YIELD STRENGTH (FY) OF 30 KSI AND MINIMUM ULTIMATE STRENGTH (FU) OF 48 KSI.

3- ATTACHMENT OF HANGER AND BRACING WIRES:

3.01- SEPARATE ALL CEILING HANGER AND BRACING WIRES AT LEAST SIX (6) INCHES FROM ALL UNBRACED DUCTS, PIPES, CONDUIT, ETC.
3.02- HANGER AND BRACING WIRES SHALL NOT ATTACH TO OR BEND AROUND OBSTRUCTIONS INCLUDING BUT NOT LIMITED TO: PIPING, DUCTWORK, CONDUIT AND EQUIPMENT.
3.03- HANGER WIRES THAT ARE MORE THAN ONE (HORIZONTAL) IN SIX (VERTICAL) OUT OF PLUMB SHALL HAVE COUNTER-SLOPING WIRES.
3.04- SLACK SAFETY WIRES SHALL BE CONSIDERED HANGER WIRES FOR INSTALLATION AND TESTING REQUIREMENTS.
3.05- HANGER AND BRACING WIRE ANCHORAGE TO THE STRUCTURE SHALL BE INSTALLED IN SUCH A MANNER THAT THE DIRECTION OF THE ANCHORAGE ALIGNS CLOSELY WITH THE DIRECTION OF THE WIRE. (E.G. BRACING WIRE CEILING CLIPS MUST BE BENT AS SHOWN IN THE DETAILS AND ROTATED AS REQUIRED TO ALIGN CLOSELY WITH THE DIRECTION OF THE WIRE, SCREW EYES IN WOOD MUST BE INSTALLED SO THEY ALIGN CLOSELY WITH THE DIRECTION OF THE WIRE, ETC.)

4- FASTENERS AND WELDING:

4.01- SHEET METAL SCREWS SHALL COMPLY WITH ASTM C1513-10, ASME B18.6.4-89 (R2005). PENETRATION OF SCREWS THROUGH JOINED MATERIAL SHALL NOT BE LESS THAN THREE EXPOSED THREADS.
4.02- EXPANSION ANCHORS SHALL BE:
IN GENERAL, EXPANSION ANCHORS DO NOT OCCUR FOR CEILING CONNECTIONS TO ROOF ABOVE (BUILDING ONLY HAS BARE METAL DECK)
EXPANSION ANCHORS TO CMU WALLS: 3/8" DIAMETER HILTI KB-TZ W/ 2" EMBED INSTALLED PER ICC ESR-3785 AND GENERAL NOTES ON SHEET S0.2.
4.03- POWER-ACTUATED FASTENERS SHALL BE:
SHOT PINS TO WALL: 0.157 HILTI X-U SHOT PIN INSTALLED W/ 1" EMBED PER ICC ESR-2269
4.04- IF NOT OTHERWISE SPECIFIED IN THE EVALUATION REPORT, POWER-ACTUATED FASTENERS INSTALLED IN STEEL SHALL BE INSTALLED SO THE ENTIRE POINTED END OF THE FASTENER IS DRIVEN THROUGH THE STEEL MEMBER.
4.05- POWER-ACTUATED FASTENERS IN CONCRETE ARE NOT PERMITTED FOR BRACING WIRES.
4.06- CONCRETE REINFORCEMENT AND PRESTRESSING TENDONS SHALL BE LOCATED BY NON-DESTRUCTIVE MEANS PRIOR TO INSTALLING POST - INSTALLED ANCHOR.
4.07- WELDING SHALL BE IN ACCORDANCE WITH AWS D1.3 USING E60XX SERIES ELECTRODES.

5- TESTING: ALL FIELD TESTING MUST BE PERFORMED IN THE PRESENCE OF THE PROJECT INSPECTOR.

5.01- POST-INSTALLED ANCHORS IN CONCRETE USED TO SUPPORT HANGER WIRES SHALL BE TESTED AT A FREQUENCY OF 10 PERCENT. POWER ACTUATED FASTENERS IN CONCRETE SHALL BE FIELD TESTED FOR 200 LBS. IN TENSION. ALL OTHER POST-INSTALLED ANCHORS IN CONCRETE SHALL BE TESTED IN ACCORDANCE WITH CBC SECTION 1913A.7.
5.02- POST-INSTALLED ANCHORS IN CONCRETE USED TO ATTACH BRACING WIRES SHALL BE TESTED AT A FREQUENCY OF 50 PERCENT IN ACCORDANCE WITH CBC SECTION 1913A.7.

6- LIGHT FIXTURES:

6.01- ALL LIGHT FIXTURES SHALL BE POSITIVELY ATTACHED TO THE CEILING SUSPENSION SYSTEMS BY MECHANICAL MEANS TO RESIST A HORIZONTAL FORCE EQUAL TO THE WEIGHT OF THE FIXTURE. A MINIMUM OF TWO SCREWS OR APPROVED FASTENERS ARE REQUIRED AT EACH LIGHT FIXTURE, PER ASTM E580, SECTION 5.3.1.
6.02- SURFACE-MOUNTED LIGHT FIXTURES SHALL BE ATTACHED TO THE MAIN RUNNER WITH AT LEAST TWO POSITIVE CLAMPING DEVICES. THE CLAMPING DEVICE SHALL COMPLETELY SURROUND THE SUPPORTING CEILING RUNNER AND BE MADE OF STEEL WITH A MINIMUM THICKNESS OF #14 GAGE. ROTATIONAL SPRING CATCHES DO NOT COMPLY. A #12 GAGE SLACK SAFETY WIRE SHALL BE CONNECTED FROM EACH CLAMPING DEVICE TO THE STRUCTURE ABOVE. PROVIDE ADDITIONAL SUPPORTS WHEN LIGHT FIXTURES ARE EIGHT (8) FEET OR LONGER OR EXCEED 56 LB. MAXIMUM SPACING BETWEEN SUPPORTS SHALL NOT EXCEED EIGHT (8) FEET.
60.03- LIGHT FIXTURES WEIGHING LESS THAN OR EQUAL TO 10 LB. SHALL HAVE A MINIMUM OF ONE (1) #12 GAGE SLACK SAFETY WIRE CONNECTED FROM THE FIXTURE HOUSING TO THE STRUCTURE ABOVE.
6.04- LIGHT FIXTURES WEIGHING LESS THAN OR EQUAL TO 10 LB. SHALL HAVE A MINIMUM OF ONE (1) #12 GAGE SLACK SAFETY WIRE CONNECTED FROM THE FIXTURE HOUSING TO THE STRUCTURE ABOVE.
6.05- LIGHT FIXTURES WEIGHING GREATER THAN 10 LB. BUT LESS THAN OR EQUAL TO 56 LBS. MAY BE SUPPORTED DIRECTLY ON THE CEILING RUNNERS, BUT THEY SHALL HAVE A MINIMUM OF TWO (2) #12 GAGE SLACK SAFETY WIRES CONNECTED FROM THE FIXTURE HOUSING AT DIAGONAL CORNERS TO THE STRUCTURE ABOVE.
EXCEPTION: ALL LIGHT FIXTURES GREATER THAN TWO BY FOUR FEET WEIGHING LESS THAN 56 LBS. SHALL HAVE A #12 GAGE SLACK SAFETY WIRE AT EACH CORNER.
6.06- ALL LIGHT FIXTURES WEIGHING GREATER THAN 56 LB. SHALL BE INDEPENDENTLY SUPPORTED BY NOT LESS THAN FOUR (4) TAUT #12 GAGE HANGER WIRES (ONE AT EACH CORNER) ATTACHED FROM THE FIXTURE HOUSING TO THE STRUCTURE ABOVE OR OTHER APPROVED HANGERS. THE FOUR (4) TAUT #12 GAGE WIRES OR OTHER APPROVED HANGERS, INCLUDING THEIR ATTACHMENT TO THE STRUCTURE ABOVE, SHALL BE CAPABLE OF SUPPORTING FOUR (4) TIMES THE WEIGHT OF THE FIXTURE.

7- SERVICES WITHIN THE CEILING:

7.01- ALL FLEXIBLE SPRINKLER HOSE FITTING MOUNTING BRACKETS, CEILING-MOUNTED AIR TERMINALS OR OTHER SERVICES SHALL BE POSITIVELY ATTACHED TO THE CEILING SUSPENSION SYSTEMS BY MECHANICAL MEANS. SCREWS OR APPROVED FASTENERS ARE REQUIRED. A MINIMUM OF TWO ATTACHMENTS ARE REQUIRED AT EACH COMPONENT.
7.02- CEILING-MOUNTED AIR TERMINALS OR OTHER SERVICES WEIGHING LESS THAN OR EQUAL TO 20 LB. SHALL HAVE ONE (1) #12 GAGE SLACK SAFETY WIRE ATTACHED FROM THE TERMINAL OR SERVICE TO THE STRUCTURE ABOVE.
7.03- FLEXIBLE SPRINKLER HOSE FITTINGS, CEILING-MOUNTED AIR TERMINALS OR OTHER SERVICES WEIGHING MORE THAN 20 LB. BUT LESS THAN OR EQUAL TO 56 LB. SHALL HAVE TWO (2) #12 GAGE SLACK SAFETY WIRES (AT DIAGONAL CORNERS) CONNECTED FROM THE TERMINAL OR SERVICE TO THE STRUCTURE ABOVE.
7.04- FLEXIBLE SPRINKLER HOSE FITTINGS, CEILING-MOUNTED AIR TERMINALS OR OTHER SERVICES WEIGHING MORE THAN 56 LB. SHALL BE SUPPORTED DIRECTLY FROM THE STRUCTURE ABOVE BY NOT LESS THAN FOUR (4) TAUT #12 GAGE HANGER WIRES ATTACHED FROM THE TERMINAL OR SERVICE TO THE STRUCTURE ABOVE OR OTHER APPROVED HANGERS.

8- OTHER DEVICES WITHIN THE CEILING:

8.01- ALL LIGHTWEIGHT MISCELLANEOUS DEVICES, SUCH AS STROBE LIGHTS, OCCUPANCY SENSORS, SPEAKERS, EXIT SIGNS, ETC., SHALL BE ATTACHED TO THE CEILING GRID. IN ADDITION, DEVICES WEIGHING MORE THAN 10 LBS. SHALL HAVE A #12 GAGE SLACK SAFETY WIRE ANCHORED TO THE STRUCTURE ABOVE. DEVICES WEIGHING MORE THAN 20 LB. SHALL BE SUPPORTED INDEPENDENTLY FROM THE STRUCTURE ABOVE.

CEILING NOTES (LAY-IN PANEL) | 1 1/2" = 1'-0" | 1

PERIMETER SEISMIC CLIP | 3" = 1'-0" | 13

CEILING FIXTURE BRACING DETAIL | 1 1/2" = 1'-0" | 9

CITY OF GARDENA
INCORPORATED 1930
FREEWAY CITY

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

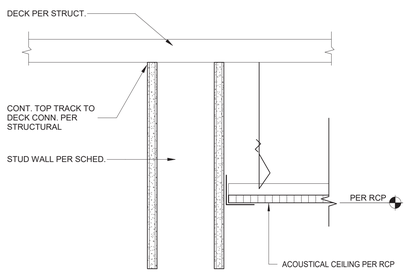
DETAILS CEILING

COMMUNITY AQUATICS & SENIOR CENTER
A62.2

	INITIAL	DATE
DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

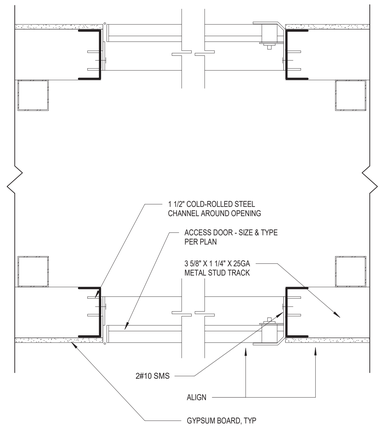
APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS
SHT. 73 OF 176 DWG. NO. S-2606

CARDINA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET
PLOT DATE: 6/30/2023 3:09 PM
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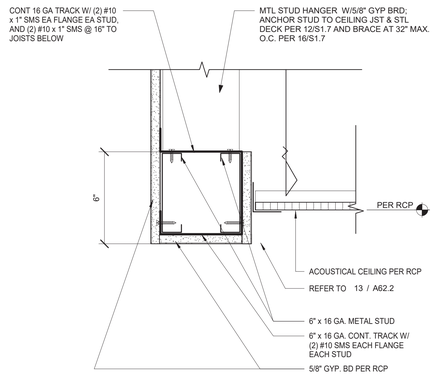


OPEN TO LAY IN ACT

ACT CLG. EDGE AT MTL. STUD WALL | 3" = 1'-0" | 15

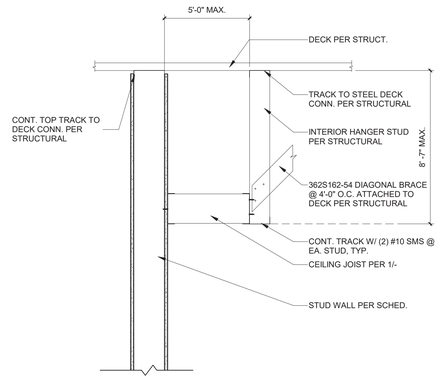


ACCESS PANEL, CEILING, TYP. | 1 1/2" = 1'-0" | 12

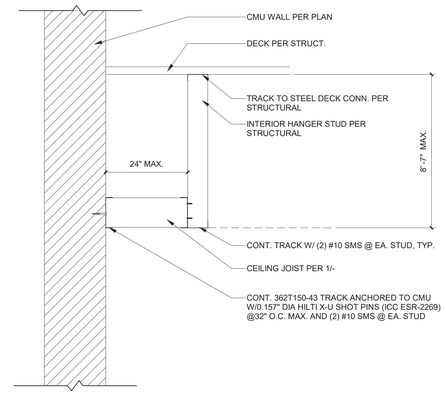


OPEN TO LAY IN ACT

CEILING SOFFIT-LAY IN ACT | 3" = 1'-0" | 9



GYP. BD. CLG. EDGE AT MTL STUD WALL | 1" = 1'-0" | 6



GYP. BOARD CEILING EDGE AT CMU | 1" = 1'-0" | 3

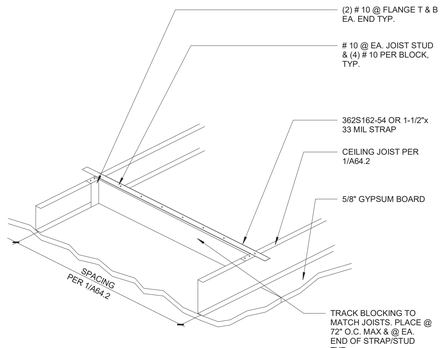
STUCCO CEILING AT TILE WALL | 3" = 1'-0" | 14

PLASTER SOFFIT- CONTROL JOINT | 6" = 1'-0" | 11

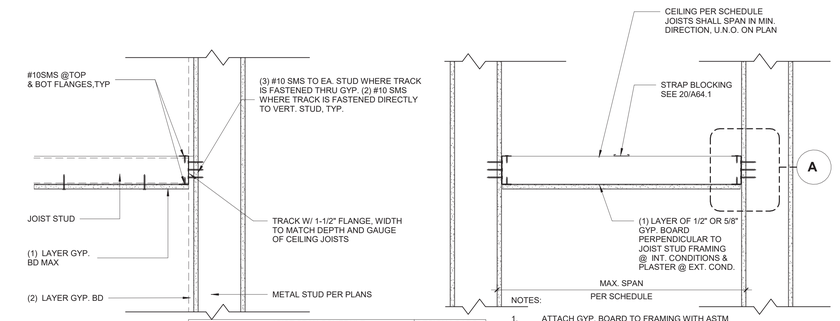
ROLLER SHADE AT POCKET | 3" = 1'-0" | 8

HARD LID @ STUD HANGER | 1 1/2" = 1'-0" | 5

CEILING SOFFIT- HARD LID | 3" = 1'-0" | 2



GYPSUM BOARD CEILING @ RR. | 1 1/2" = 1'-0" | 7



A **SECTION @ TYP. STUD**

JOIST SPAN SCHEDULE				DESIGN LOADS	
JOISTS STUD SIZE	TYPE	MAX. SPACING	MAX. SPAN	DL (PSF)	LL (PSF)
400S162-54	GYP BD	24"	12'-0"	5	10
600S162-54	GYP BD	16"	15'-0"	5	10
400S162-54	PLASTER	16"	12'-0"	18	0

NOTES:

1. ATTACH GYP. BOARD TO FRAMING WITH ASTM C1002 TYPES S CREWS WITH CORROSION RESISTANT TREATMENT AT 12" O.C. MAX.
2. WHEN GYPSUM BOARD IS TO BE APPLIED TO BOTH CEILING AND WALLS, GYPSUM BOARD SHALL BE APPLIED FIRST TO THE CEILING AND THEN TO THE WALLS IN ACCORDANCE WITH ASTM C840.

JOIST GYP-BOARD SECTION | 1 1/2" = 1'-0" | 1

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SUMMERS No. C-18501 JAN 31, 2025 STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

DETAILS CEILING

COMMUNITY AQUATICS & SENIOR CENTER

A62.3

	INITIAL	DATE
DESIGNED BY	AF/EC	05/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

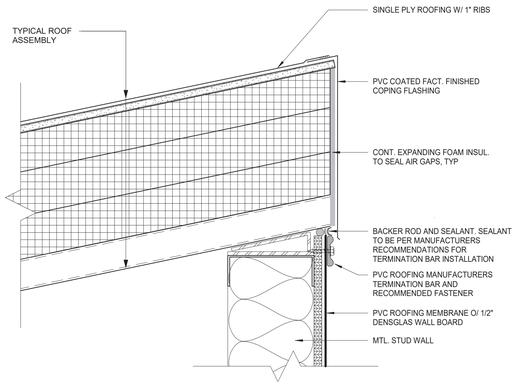
APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

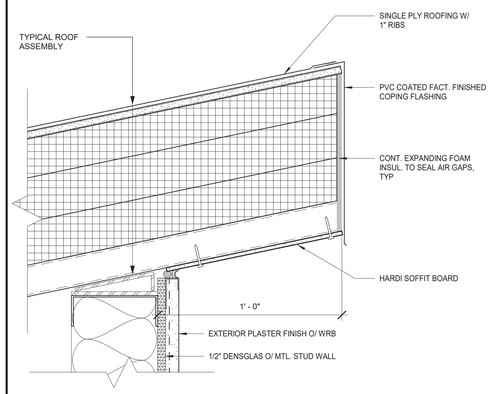
SHT. 74 OF 176 DWG. NO. 5-2606

CARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

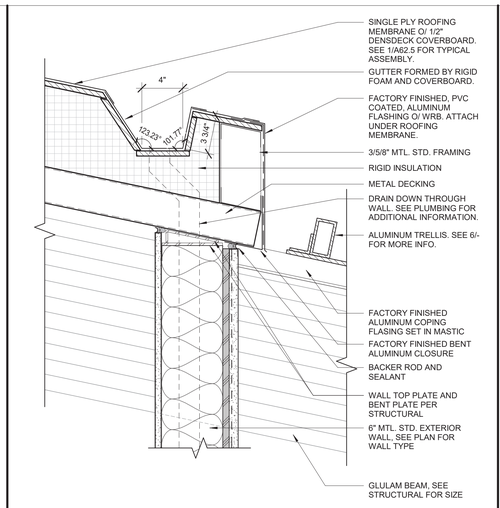
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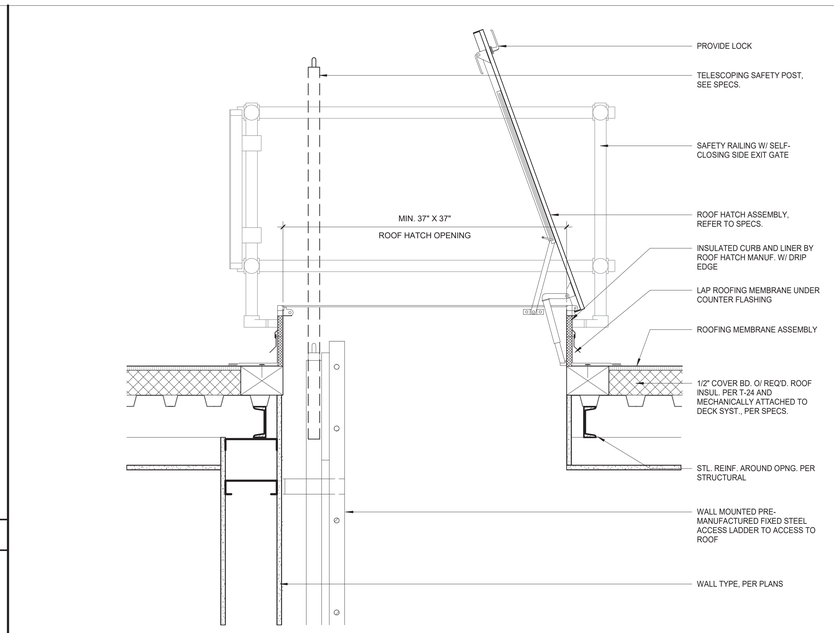
ROOF RIDGE DETAIL | 3" = 1'-0" | 15



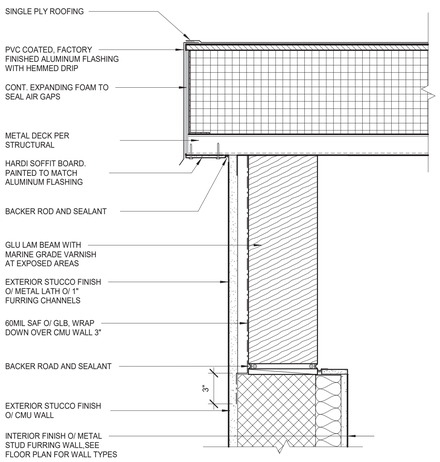
ROOF OVERHANG DETAIL | 3" = 1'-0" | 12



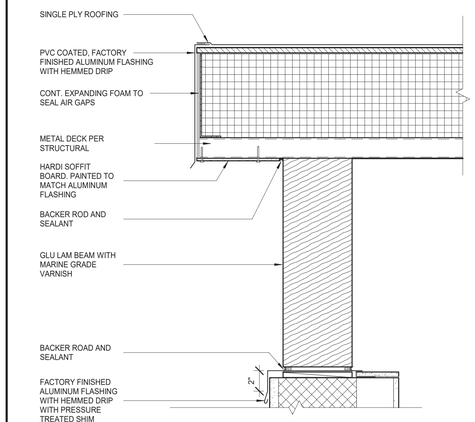
INTEGRAL GUTTER DETAIL | 1 : 6 | 9



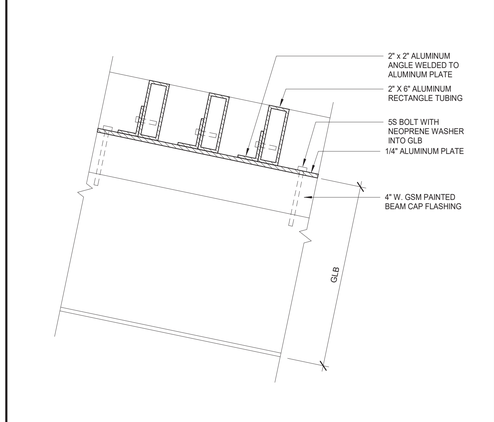
ROOF HATCH | 1 1/2" = 1'-0" | 3



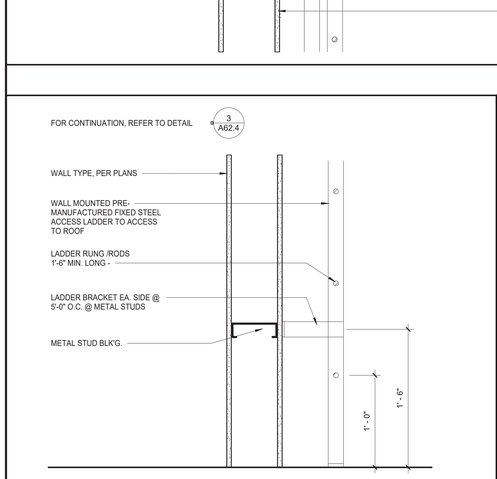
GLULAM / ROOF FURRING DETAIL | 1 : 6 | 14



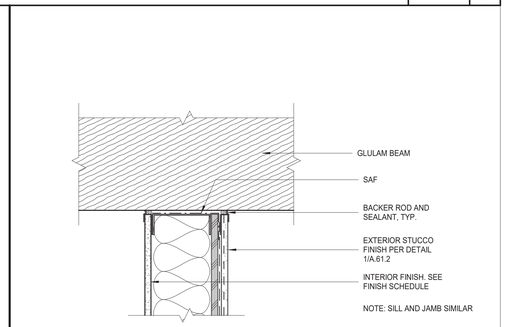
GLULAM / ROOF EDGE DETAIL | 1 : 6 | 11



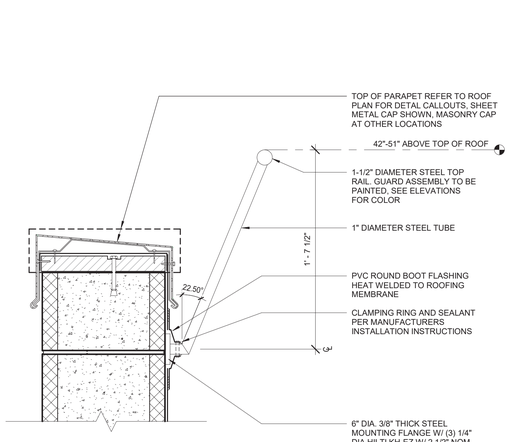
ALUMINUM TRELLIS DETAIL | 1 : 6 | 8



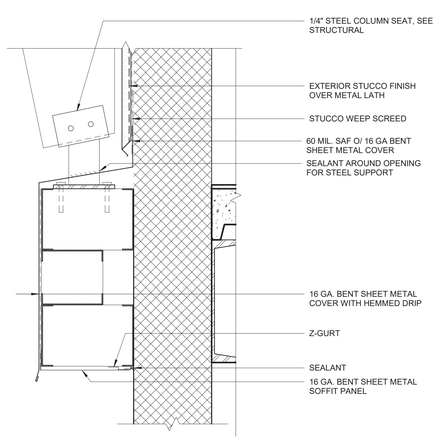
ACCESS LADDER @ BASE | 1 1/2" = 1'-0" | 5



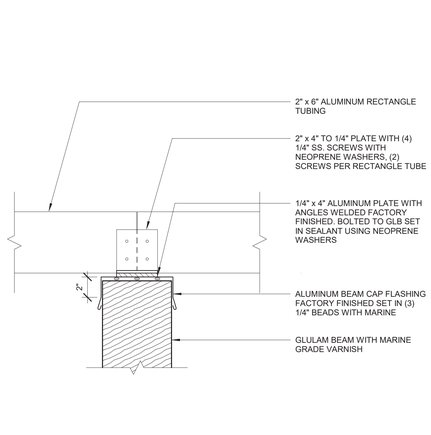
GLULAM BEAM EDGE DETAIL | 1 : 6 | 2



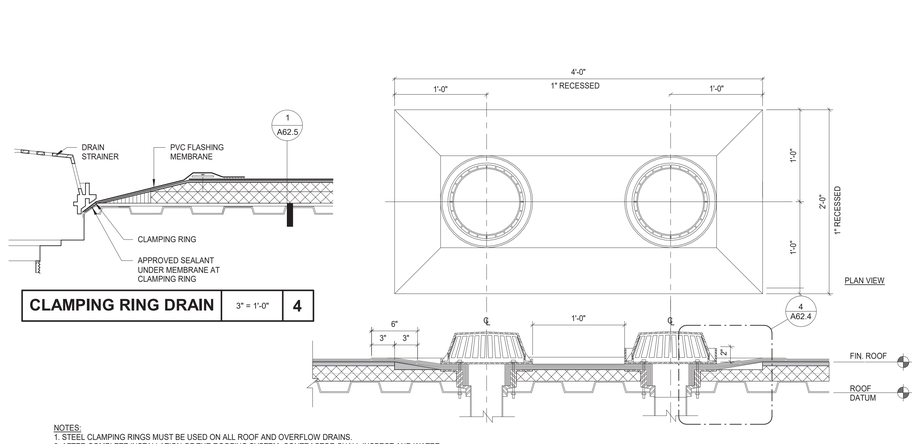
GUARDRAIL AT PARAPET | 1 : 6 | 13



GLULAM POST BASE | 1 : 6 | 10



ALUMINUM TRELLIS CONNECTION | 1 : 6 | 7



CLAMPING RING DRAIN | 3" = 1'-0" | 4

ROOF DRAIN DETAIL STEEL DECK | 1 1/2" = 1'-0" | 1

NOTES:
1. STEEL CLAMPING RINGS MUST BE USED ON ALL ROOF AND OVERFLOW DRAINS.
2. AFTER COMPLETE INSTALLATION OF THE ROOFING SYSTEM, CONTRACTOR SHALL INSPECT AND WATER TEST ALL ROOF DRAINS TO ASSURE THAT NO CLOGGING OF THE DRAINAGE SYSTEM IS PRESENT. THE ROOF DRAIN LEADER SHOULD BE IN SUCH CONDITION THAT THE FULL DIAMETER OF THE DRAIN LEADER IS CLEAR.
3. MEMBRANE FLASHING SHALL EXTEND UNDER CLAMPING RING. EXTENT PER MANUF. SPECS.

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SIMPSON No. C-13001 JAN. 31, 2025 STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.008'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

DETAILS ROOF

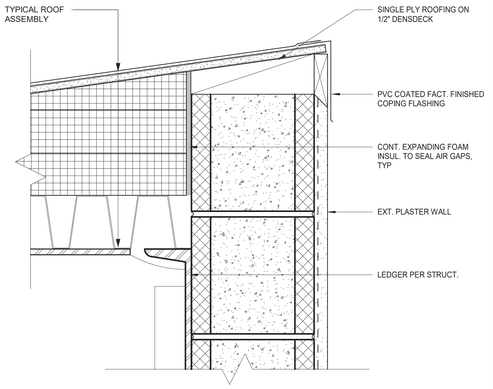
COMMUNITY AQUATICS & SENIOR CENTER
A62.4

	INITIAL	DATE
DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

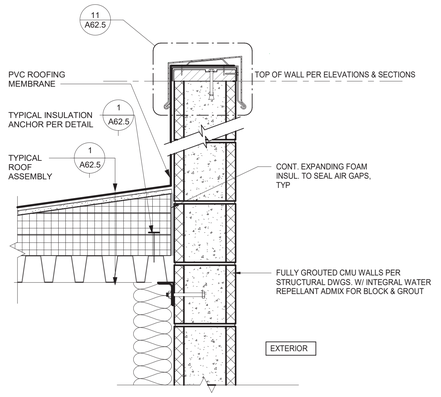
APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS
SHT. 75 OF 176 DWG. NO. 5-2606

CARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

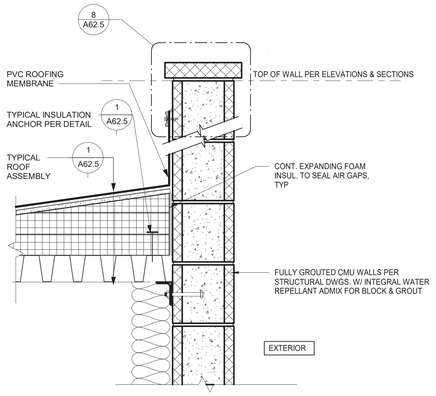
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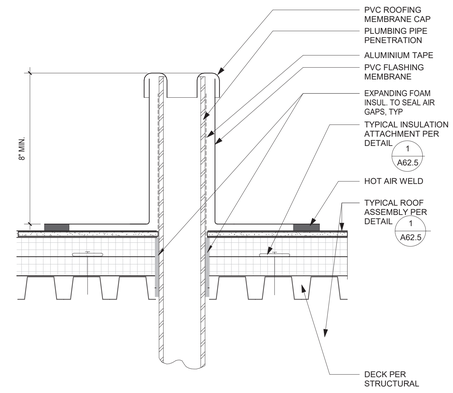
ROOFING RIDGE DETAIL | 3" = 1'-0" | 15



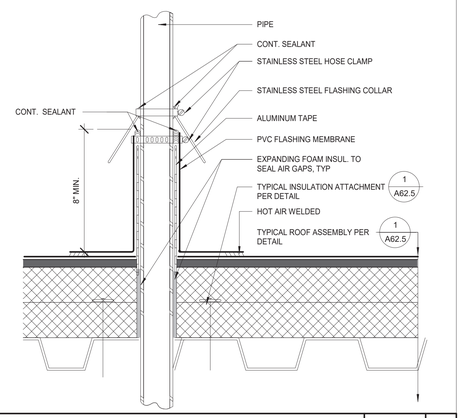
CMU PARAPET FLASHING | 1 1/2" = 1'-0" | 12



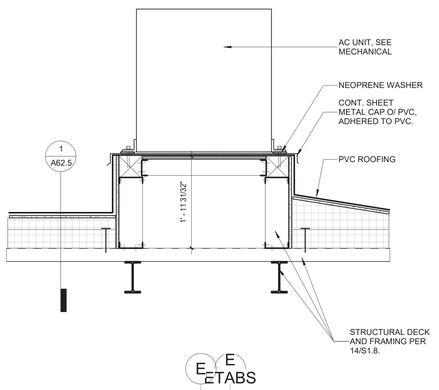
CMU PARAPET CAP BLOCK | 1 1/2" = 1'-0" | 9



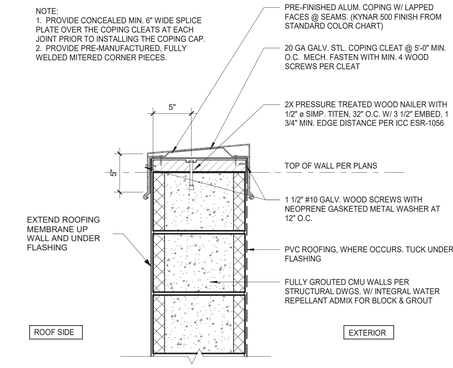
PLUMBING VENT PIPE PENETRATION | 1 1/2" = 1'-0" | 6



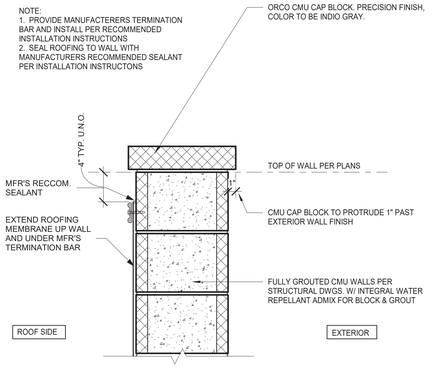
TYP. PIPE PENETRATION FLASHING | 3" = 1'-0" | 3



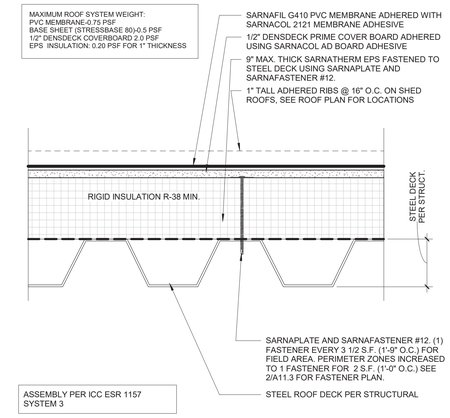
MECHANICAL UNIT CURB | 3/4" = 1'-0" | 14



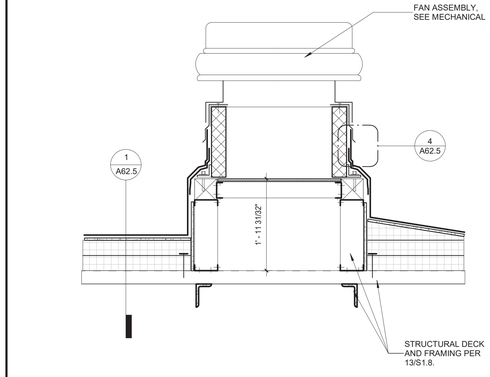
CMU WALL METAL COPING | 1 1/2" = 1'-0" | 11



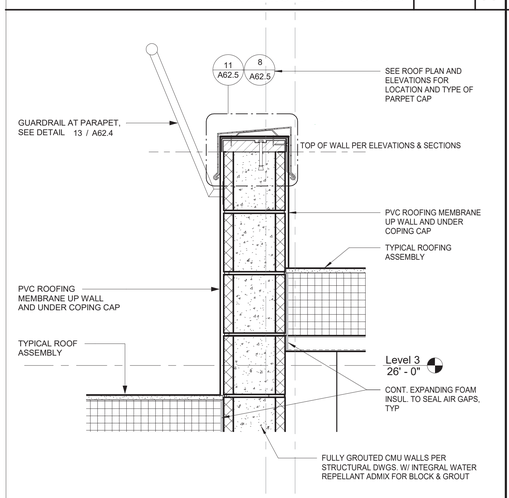
CMU WALL CAP BLOCK | 1 1/2" = 1'-0" | 8



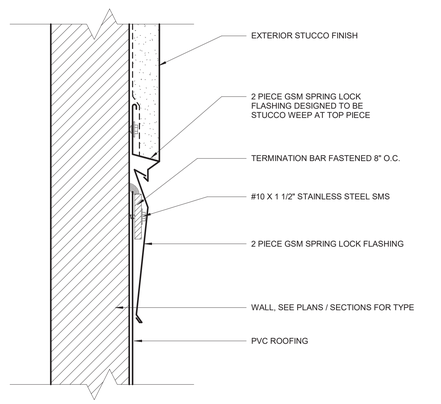
TYPICAL ROOF ASSEMBLY SECTION | 3" = 1'-0" | 5



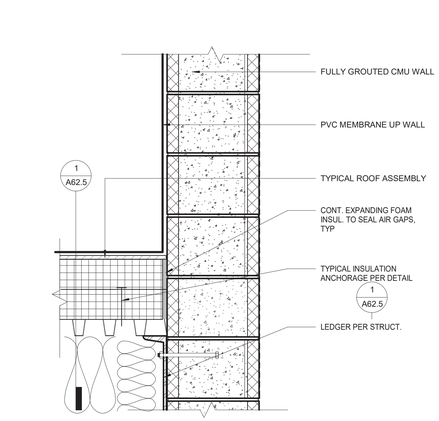
EXHAUST & RELIEF FAN DETAIL | 3/4" = 1'-0" | 2



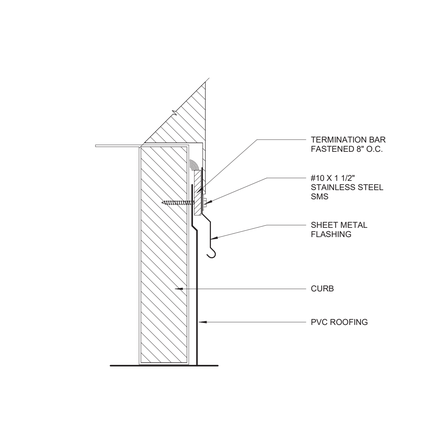
CMU PARAPET W/ ROOFS BOTH SIDES | 1 1/2" = 1'-0" | 13



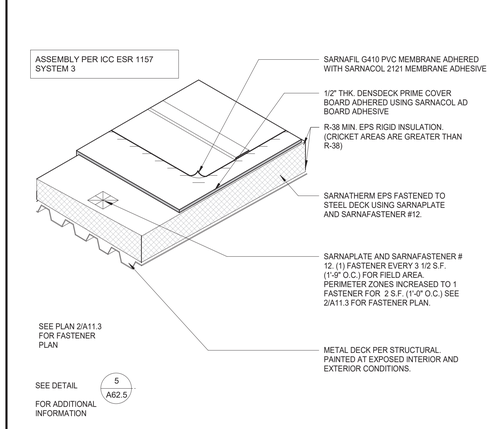
2 PIECE REGLET FLASHING | 6" = 1'-0" | 10



LOW SLOPE ROOF TO CMU | 1 1/2" = 1'-0" | 7



EQUIP. FLASHING | 6" = 1'-0" | 4



TYPICAL ROOF ASSEMBLY | 1" = 1'-0" | 1

CITY OF GARDENA — INCORPORATED 1930

PREPARED BY:

SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT — ROBERT M. SIMPSON — No. C-18801 — JAN. 31, 2025 — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

DETAILS ROOF

COMMUNITY AQUATICS & SENIOR CENTER

A62.5

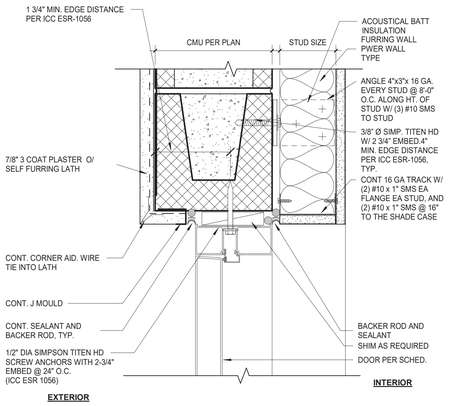
	INITIAL	DATE
DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

APPROVED BY: | DIRECTOR OF PUBLIC WORKS

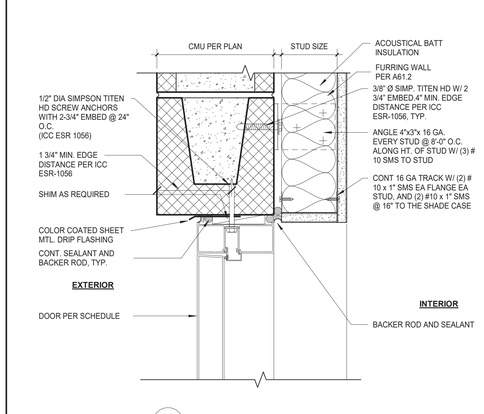
SHT. 76 OF 176 | DWG. NO. S-2606

CARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

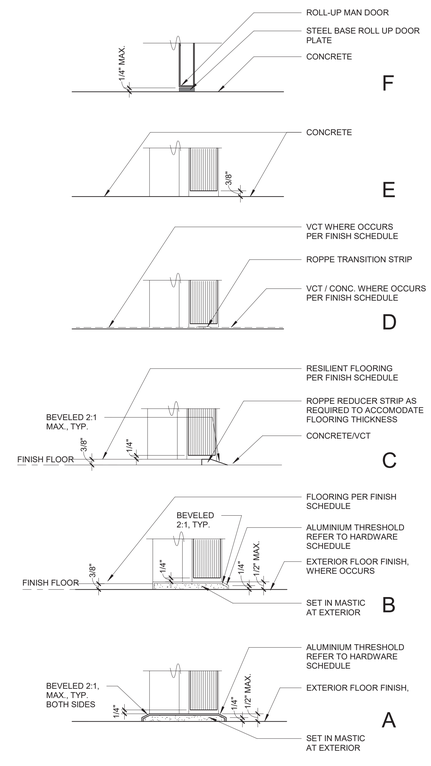
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PLOT BY: Nicholas Cabrera
PLOT FILE: C:\Users\ncabrera\Documents\Gardena_Community Pool and Senior Center_nicholascabrera.rvt



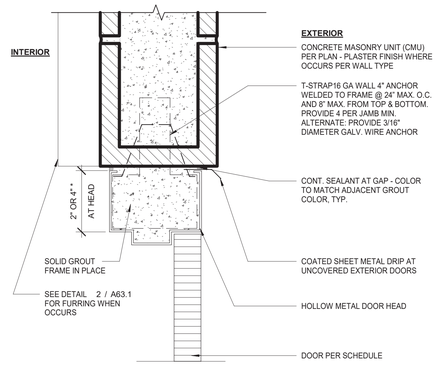
DOOR HEAD/JAMB @ CMU W/ PLASTER | 3" = 1'-0" | 15



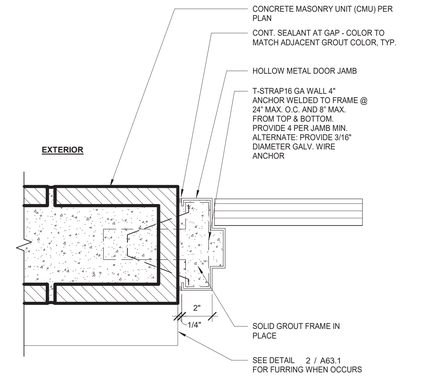
DOOR HEAD/JAMB AT CMU | 3" = 1'-0" | 12



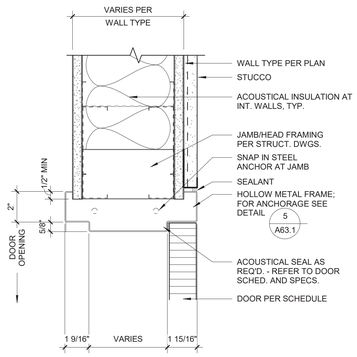
THRESHOLD DETAILS | 3" = 1'-0" | 9



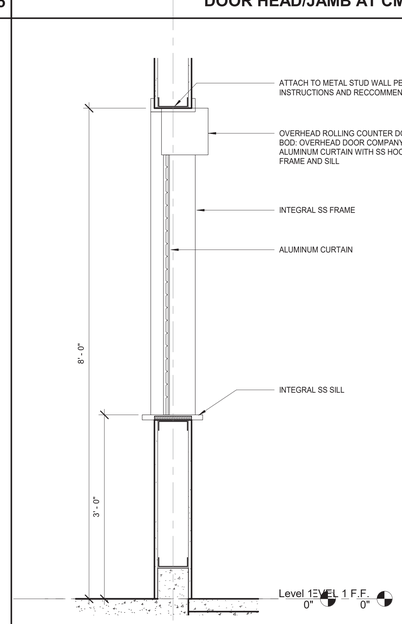
DOOR HEAD AT CMU WALL | 3" = 1'-0" | 6



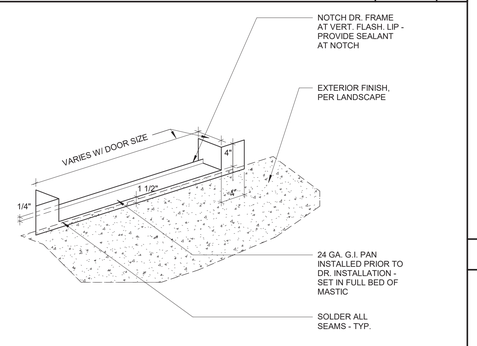
DOOR JAMB AT CMU WALL | 3" = 1'-0" | 3



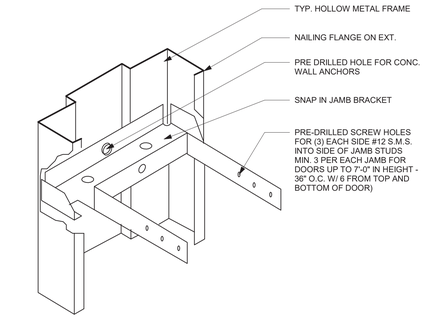
H.M. FRAME HEAD & JAMB AT INT. | 3" = 1'-0" | 14



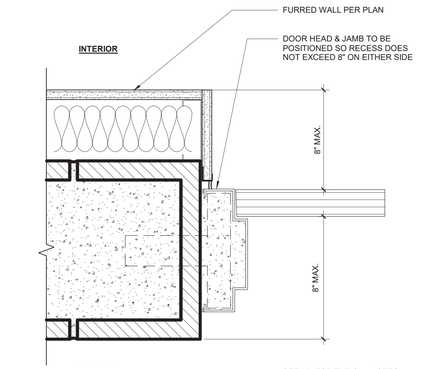
ROLLUP COUNTER DOOR | 1" = 1'-0" | 11



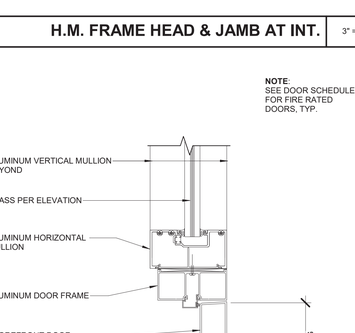
EXT. DOOR THRESHOLD FLASHING | 3" = 1'-0" | 8



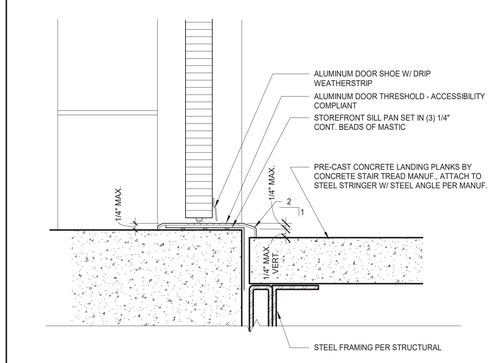
H.M. DOOR FRAME JAMB ANCHORS | 1 1/2" = 1'-0" | 5



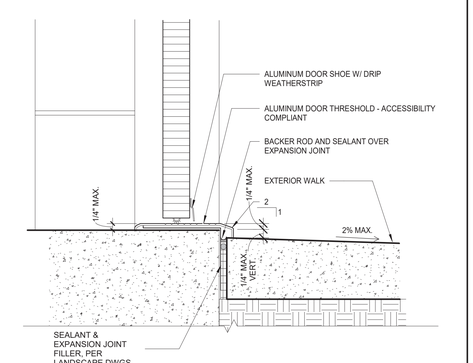
FURRING AT DOOR HEAD & JAMB | 3" = 1'-0" | 2



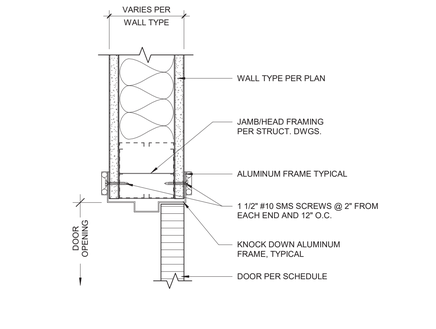
STOREFRONT @ DOOR HEAD/JAMB | 3" = 1'-0" | 13



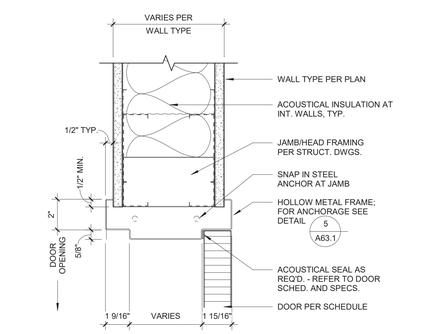
EXTERIOR DOOR THRESHOLD @ EXT. STAIR | 3" = 1'-0" | 10



EXTERIOR DOOR THRESHOLD | 3" = 1'-0" | 7



ALUMINUM FRAME HEAD/JAMB AT INT. | 3" = 1'-0" | 4



H.M. FRAME HEAD & JAMB AT INT. | 3" = 1'-0" | 1

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SIMPSON No. C-19801 JAN. 31, 2025 STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

DETAILS DOOR

COMMUNITY AQUATICS & SENIOR CENTER
A63.1

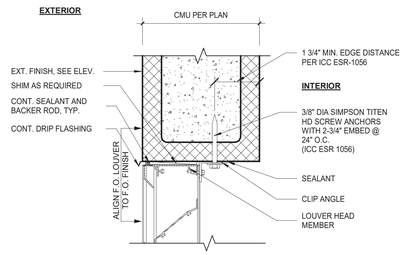
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DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

APPROVED BY:

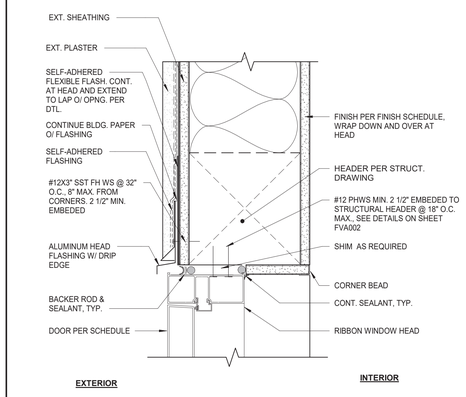
APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 77 OF 176 DWG. NO. 5-2606

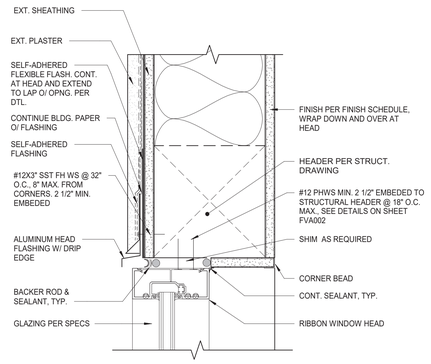
CARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET
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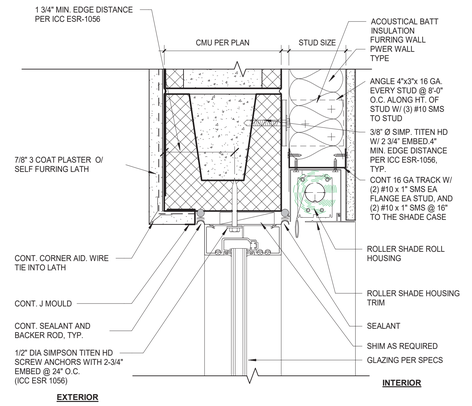
LOUVER HEAD AT CMU | 3" = 1'-0" | 15



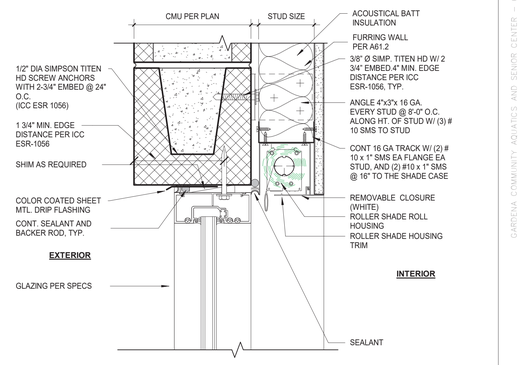
WINDOW HEAD @ PLASTER | 3" = 1'-0" | 12



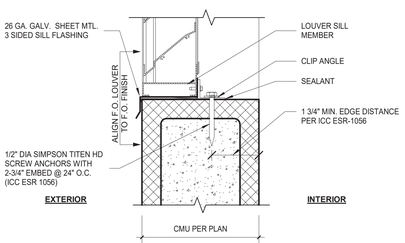
WINDOW HEAD @ PLASTER | 3" = 1'-0" | 9



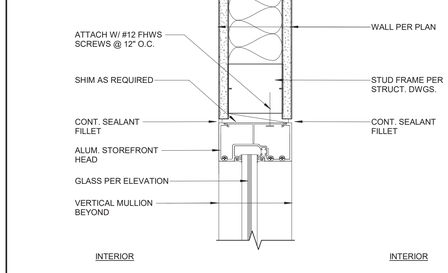
HEAD/JAMB @ CMU W/ PLASTER | 3" = 1'-0" | 6



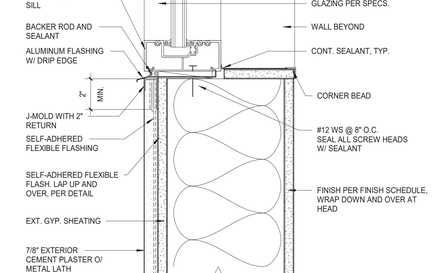
WINDOW HEAD/JAMB AT CMU | 3" = 1'-0" | 3



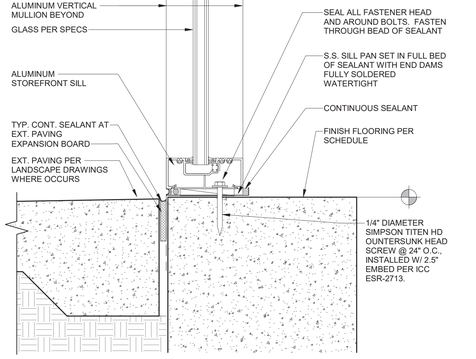
LOUVER JAMB AT CMU | 3" = 1'-0" | 14



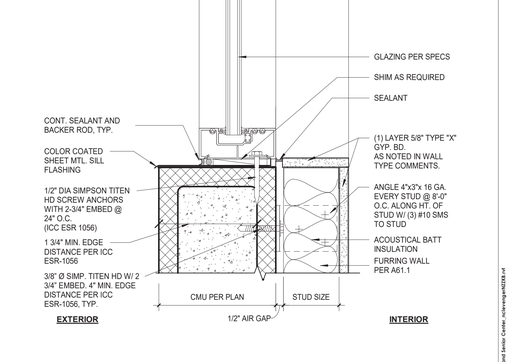
WINDOW JAMB @ PLASTER | 3" = 1'-0" | 11



WINDOW JAMB @ PLASTER | 3" = 1'-0" | 8



GLAZED WALL DOOR THRESHOLD | 3" = 1'-0" | 5



SILL AT CMU W/ EX. PLASTER | 3" = 1'-0" | 2

LOUVER SILL AT CMU | 3" = 1'-0" | 13

STOREFRONT HEAD/JAMB/SILL @ INT. | 3" = 1'-0" | 10

WINDOW SILL @ PLASTER | 3" = 1'-0" | 7

GLAZED WALL SILL | 3" = 1'-0" | 4

WINDOW SILL AT CMU | 3" = 1'-0" | 1

CITY OF GARDENA · INCORPORATED 1930 · GATEWAY CITY

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT · ROBERT M. SIMPSON · No. C-17651 · JAN. 31, 2025 · STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

CITY OF GARDENA

DEPARTMENT OF PUBLIC WORKS - ENGINEERING

WINDOW AND WALL ASSEMBLY DETAILS

COMMUNITY AQUATICS & SENIOR CENTER

A63.2

	INITIAL	DATE
DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	04/20/23
CHECKED BY	DB	04/29/23

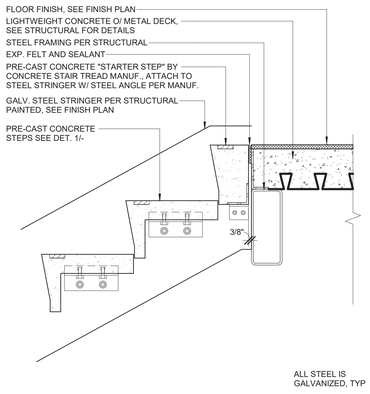
APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

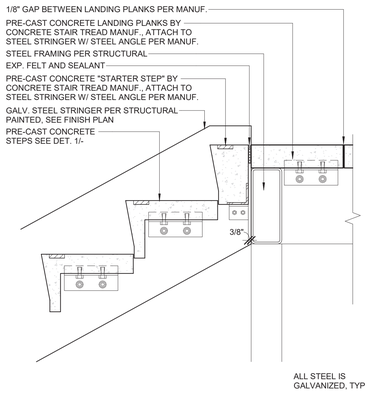
SHT. 78 OF 176 DWG. NO. 5-2606

CARDINA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

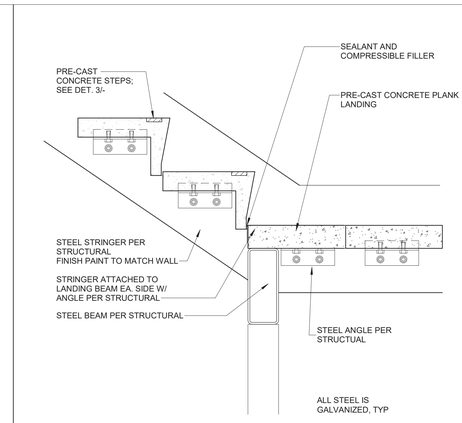
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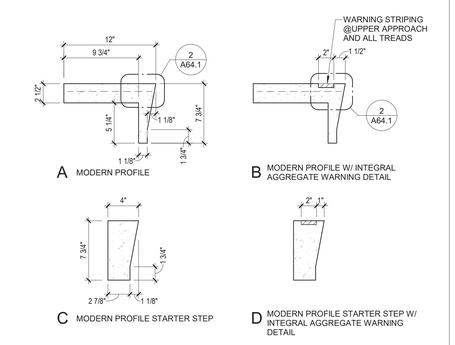
INTERIOR STAIR UP @LANDING — 1 1/2" = 1'-0" — 12



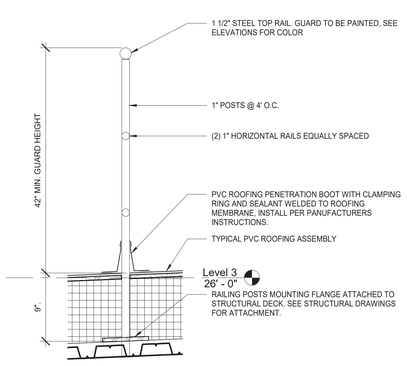
EXTERIOR STAIR UP @LANDING — 1 1/2" = 1'-0" — 9



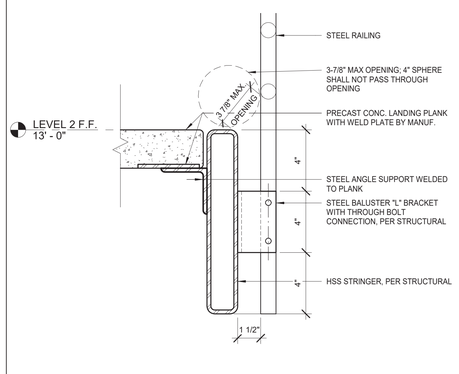
STEEL STRINGER STAIR @MID-LANDING — 1 1/2" = 1'-0" — 6



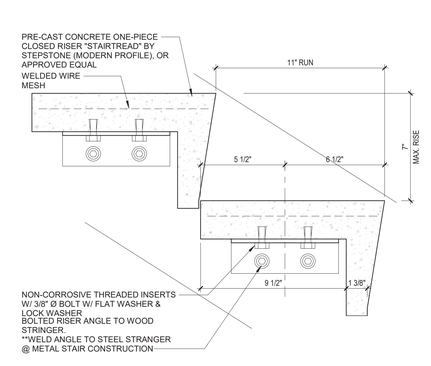
TREAD DETAILS - MODERN — 1 1/2" = 1'-0" — 3



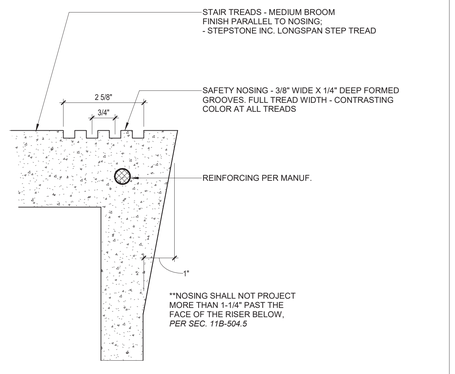
ROOF MOUNTED GUARD — 1 1/2" = 1'-0" — 11



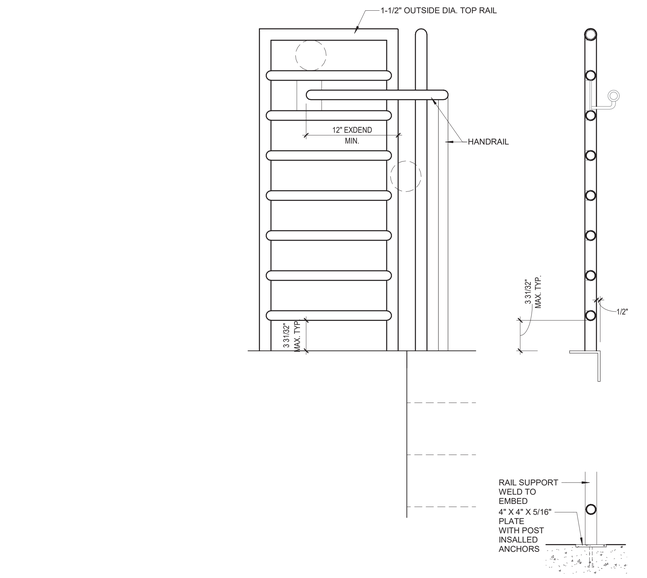
EXTERIOR STAIR RAILING ATTACHMENT — 3" = 1'-0" — 8



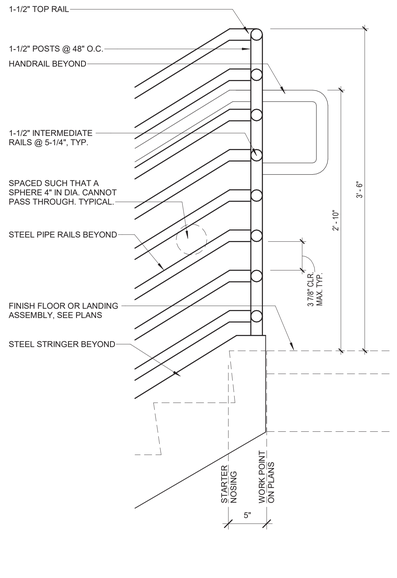
ONE-PIECE CLOSED TREAD/RISER — 3" = 1'-0" — 5



CONCRETE STAIR NOSING — 6" = 1'-0" — 2

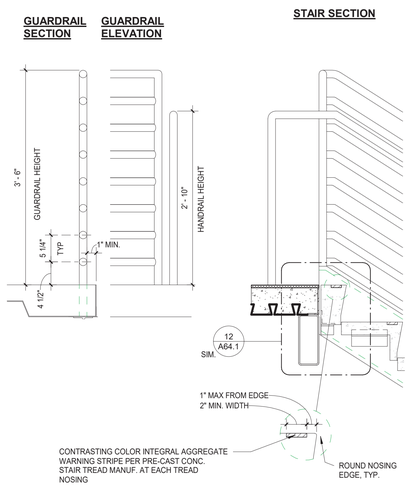


GUARDRAIL @UPPER TERMINATION LEVEL

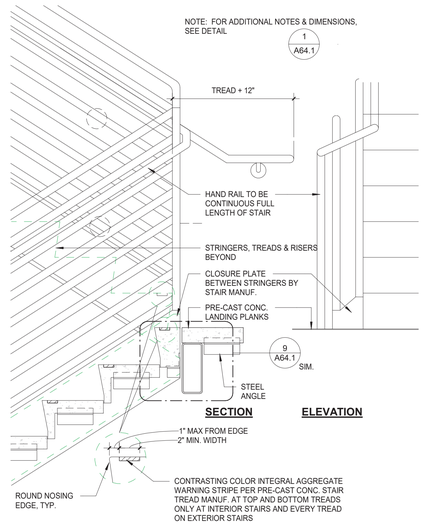


GUARDRAIL @STAIR AND LANDING

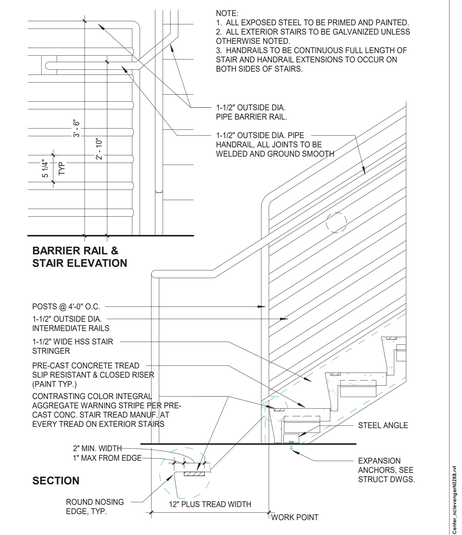
GUARDRAIL — 1 1/2" = 1'-0" — 10



STAIR TOP LANDING DETAIL — 1" = 1'-0" — 7



STAIR INTERMEDIATE LANDING DETAIL — 1" = 1'-0" — 4



STAIR BOTTOM LANDING DETAIL — 1" = 1'-0" — 1

PREPARED BY:

SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SIMPSON No. C-18301 JAN. 31, 2025 STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

STAIR AND RAILING DETAILS

COMMUNITY AQUATICS & SENIOR CENTER

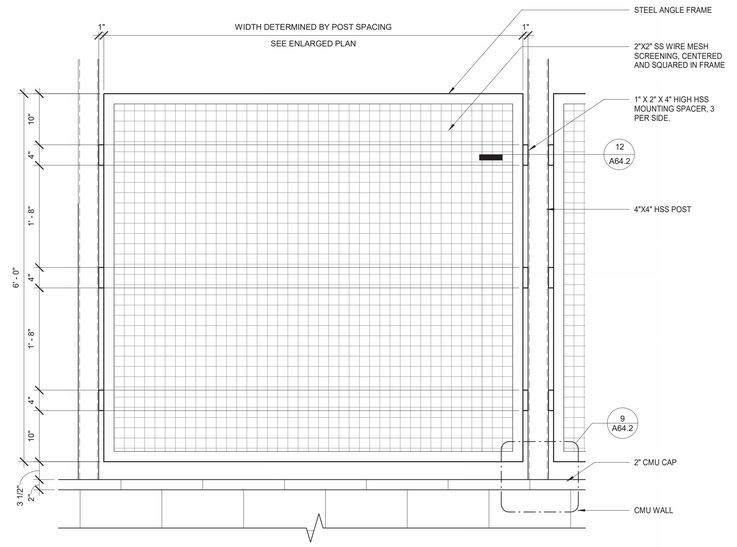
A64.1

	INITIAL	DATE	APPROVED BY:
DESIGNED BY	AP/EC	06/26/2022	
DRAWN BY	NC	06/20/23	APPROVED BY: DIRECTOR OF PUBLIC WORKS
CHECKED BY	DB	06/29/23	

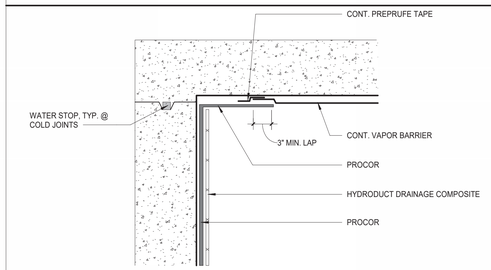
SHT. 79 OF 176 DWG. NO. S-2606

CARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

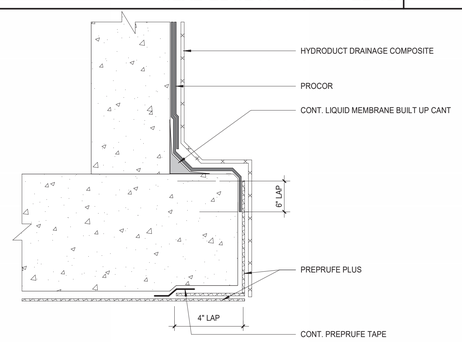
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PLOT BY: C:\Users\ACHEVALIER\Documents\Gardena Documents\Community Pool and Senior Center_Achevalier\A64.1.rvt



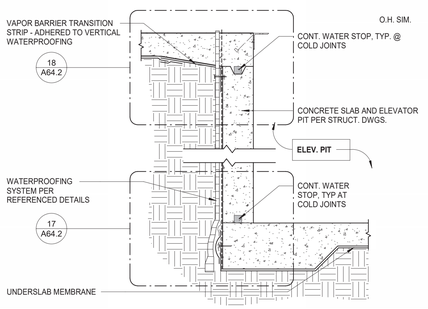
MESH INFILL PANEL | 1" = 1'-0" | 15



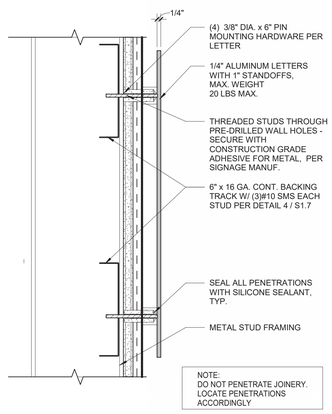
SLAB EDGE AT PIT TOP EDGE | 3/4" = 1'-0" | 18



FOOTING TOE AT PIT WALL | 3/4" = 1'-0" | 17

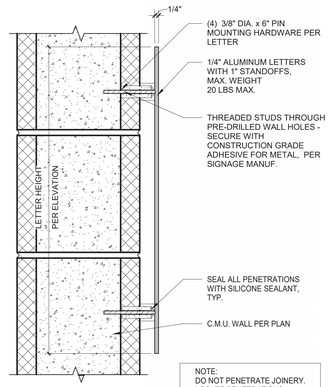


ELEVATOR PIT WATERPROOFING | 3/4" = 1'-0" | 16



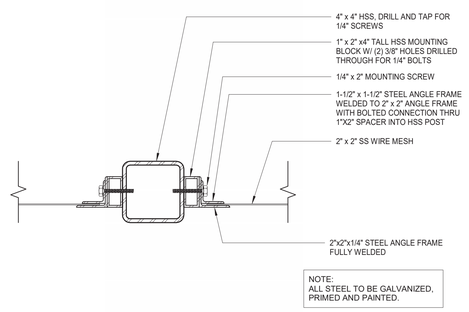
NOTE:
DO NOT PENETRATE JOINERY. LOCATE PENETRATIONS ACCORDINGLY

FASCIA MOUNTED SIGNAGE | 3" = 1'-0" | 14



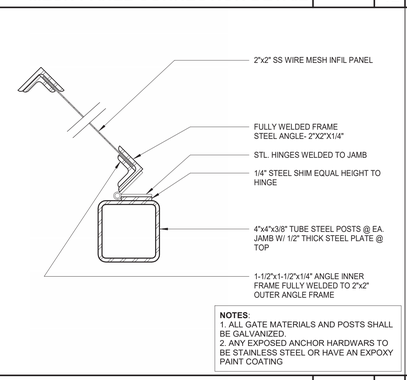
NOTE:
DO NOT PENETRATE JOINERY. LOCATE PENETRATIONS ACCORDINGLY

CMU WALL MOUNTED SIGNAGE | 3" = 1'-0" | 13



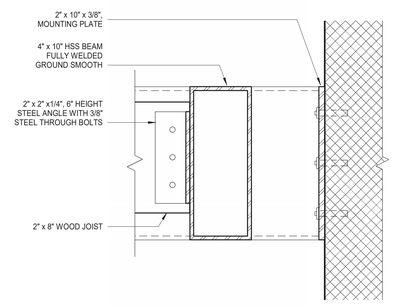
NOTE:
ALL STEEL TO BE GALVANIZED, PRIMED AND PAINTED.

MESH PANEL CONNECTION DETAIL | 3" = 1'-0" | 12

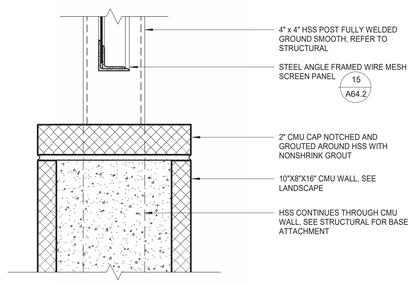


NOTES:
1. ALL GATE MATERIALS AND POSTS SHALL BE GALVANIZED.
2. ANY EXPOSED ANCHOR HARDWARS TO BE STAINLESS STEEL OR HAVE AN EXPOXY PAINT COATING

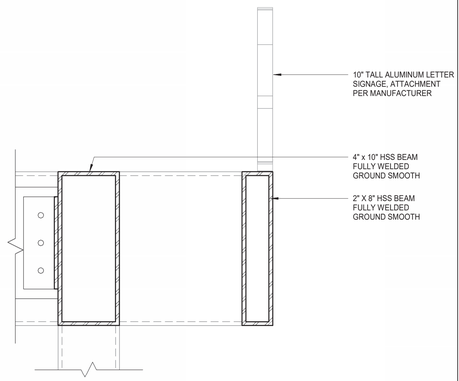
MESH PANEL GATE | 3" = 1'-0" | 11



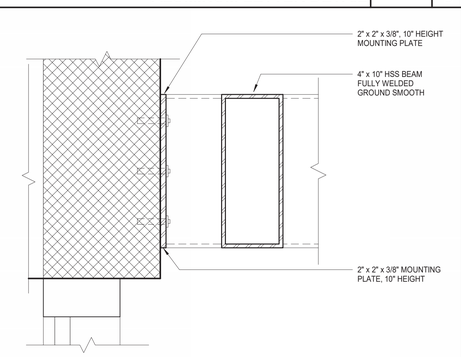
TRELLIS CONNECTION AT CMU WALL | 3" = 1'-0" | 10



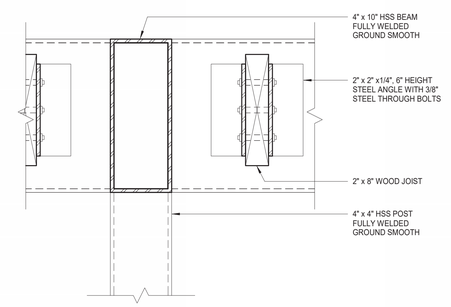
TRELLIS COLUMN AT LOW CMU WALL | 3" = 1'-0" | 9



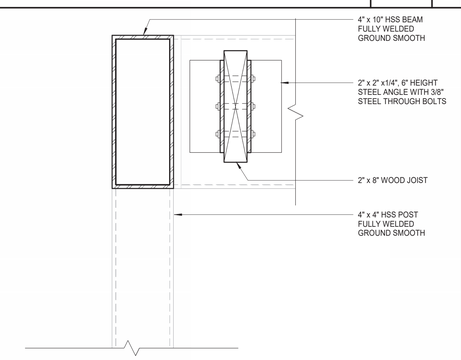
ALUMINUM LETTER DETAIL | 3" = 1'-0" | 8



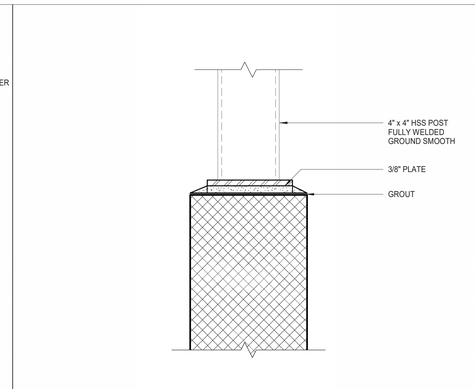
MESH CONNECTION AT CMU HEAD | 3" = 1'-0" | 7



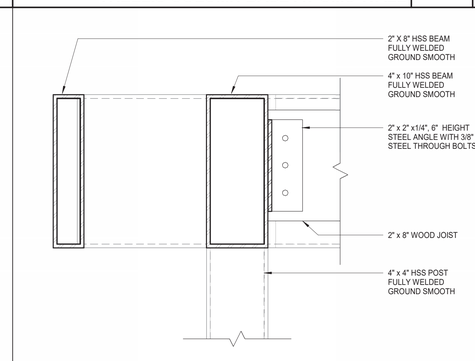
TRELLIS COLUMN AND BEAM DETAIL | 3" = 1'-0" | 6



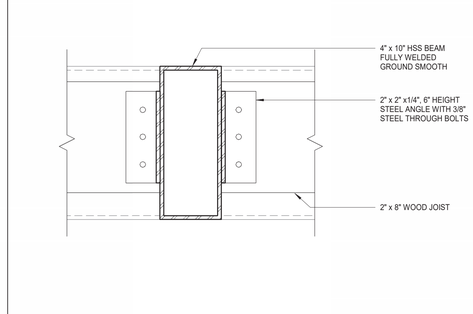
TRELLIS COLUMN BASE AT CMU WAL | 3" = 1'-0" | 5



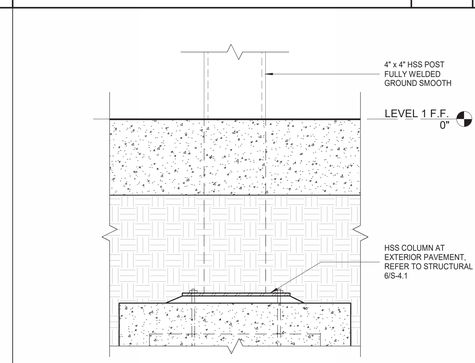
TRELLIS COLUMN BASE AT CMU WALL | 3" = 1'-0" | 4



TRELLIS EDGE BEAM DETAIL | 3" = 1'-0" | 3



TRELLIS BEAM AND JOIST DETAIL | 3" = 1'-0" | 2



TRELLIS COLUMN BASE | 3" = 1'-0" | 1

CITY OF GARDENA
INCORPORATED 1930

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT
ROBERT M. SIMONIAN
No. C-18001
JAN. 31, 2025
STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

TRELLIS, FENCE AND MISC. DETAILS

COMMUNITY AQUATICS & SENIOR CENTER

A64.2

	INITIAL	DATE
DESIGNED BY	AP/EC	06/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

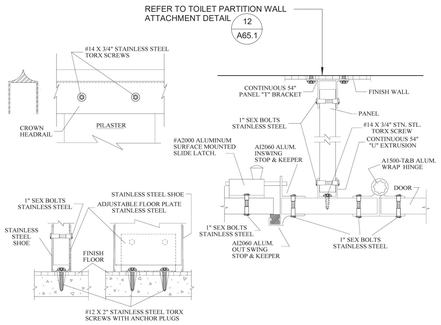
APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

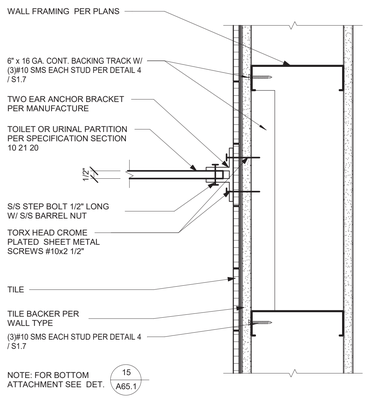
SHT. 80 OF 176 DWG. NO. 5-2606

PLOT DATE: 6/30/2023 3:59:39 PM
PLOT NAME: C:\Users\Erica Vega\Documents\Gardena Community Pool and Senior Center_nickvega@MZDA.rvt

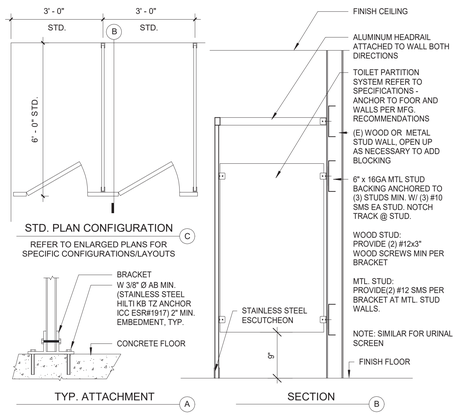
GARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET



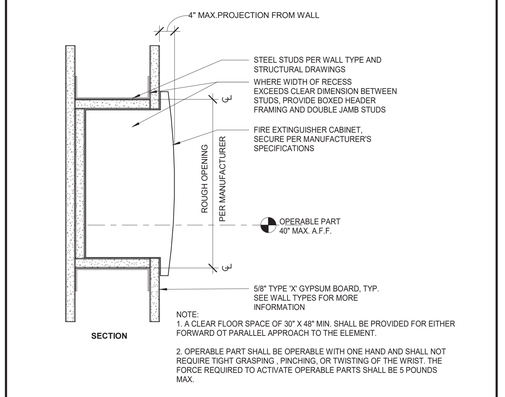
TOILET PARTITION BOTTOM ATTACHMENT | 6" = 1'-0" | 15



TOILET PARTITION WALL ATTACHMENT | 3" = 1'-0" | 12



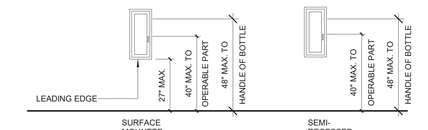
TOILET PARTITION OVERHEAD BRACED | 1" = 1'-0" | 9



NOTE:
1. A CLEAR FLOOR SPACE OF 30" X 48" MIN. SHALL BE PROVIDED FOR EITHER FORWARD OT PARALLEL APPROACH TO THE ELEMENT.

2. OPERABLE PART SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING , PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5 POUNDS MAX.

SEMI RECESSED F.E. CABINET | 3" = 1'-0" | 6



SURFACE MOUNTED CABINETS THAT PROTRUDE 4" OR MORE INTO AN ACCESSIBLE PATH OF TRAVEL TO HAVE LEADING EDGE NO MORE THAN 27" A.F.F. PER CBC 11B-307.2

SEE DETAIL 6 / A65.1 FOR SEMI RECESSED CABINET DETAIL

FIRE EXTINGUISHER CABINET | 3/8" = 1'-0" | 3

BENCH DETAIL | 1 : 1 | 14

ACCESSIBLE BENCH DETAIL | 1 : 1 | 11

NOTE: HANDLE, COAT HOOK AND LOCK ELEMENTS SHALL BE ACCESSIBLE, @48" MAX. A.F.F.

LOCKER ELEVATION | 3/4" = 1'-0" | 8

NOTE:
HANDLES AND LOCKS ON THE ACCESSIBLE LOCKERS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING , PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5 POUNDS MAX.

LOCKERS @ MTL STUD | 3/4" = 1'-0" | 5

NOTE:
HANDLES AND LOCKS ON THE ACCESSIBLE LOCKERS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5 POUNDS MAX.

LOCKERS @ CMU | 3/4" = 1'-0" | 2

RECESSED HAND DRYER | 1 1/2" = 1'-0" | 13

MARKERBOARD ANCHORAGE | 6" = 1'-0" | 10

WALL MOUNTED TV DISPLAY | 1 1/2" = 1'-0" | 7

NOTES:
1. A CLEAR SPACE OF 2" IS REQUIRED BY THE MANUFACTURER AROUND THE PERIMETER OF THE FLAT PANEL MONITOR FOR VENTILATION.

TYPICAL LCD/LED DISPLAY MOUNTING AND BACK BOX | 1 1/2" = 1'-0" | 1

CITY OF GARDENA — ARTWAY OF OPPORTUNITY — INCORPORATED 1930

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT — ROBERT M. SIMPSON — No. C-18301 — JAN 31, 2025 — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

MISCELLANEOUS DETAILS

COMMUNITY AQUATICS & SENIOR CENTER

A65.1

	INITIAL	DATE
DESIGNED BY	AP/RC	06/26/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

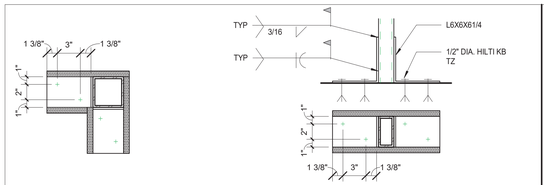
APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 81 OF 176 DWG. NO. 5-2606

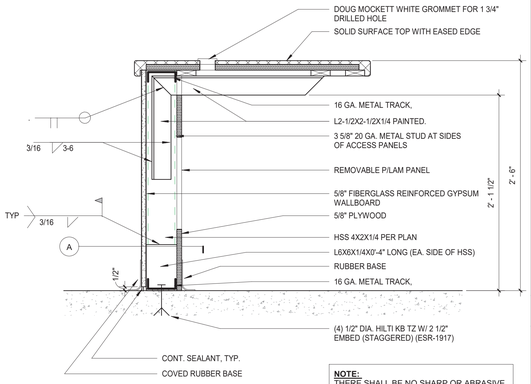
CARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

PLOT DATE: 6/30/2023 2:33:13 PM
FILE PATH: C:\Users\ncarrillo\Documents\Gardena Community Pool and Senior Center_richmond428339.rvt



B PLATE DETAIL @ CORNER

A PLATE DETAIL



NOTE:
THERE SHALL BE NO SHARP OR ABRASIVE SURFACES BELOW COUNTER.

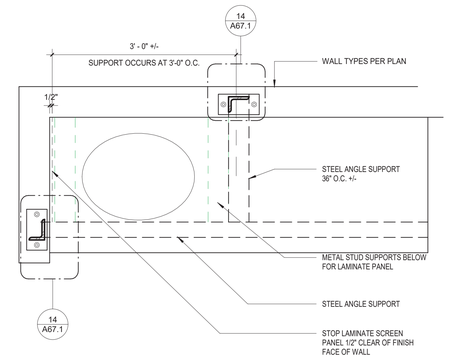
RECEPTION COUNTER (WORKSTATION) | 1 1/2" = 1'-0" | 15



LAV COUNTER SUPPORT | 1 1/2" = 1'-0" | 14

* FIRE TREATED WOOD REQUIRED PER CBC 603 FOR WOOD BLOCKING

LAVATORY COUNTERTOP | 1 1/2" = 1'-0" | 10



LAVATORY SUPPORT LAYOUT | 1" = 1'-0" | 11

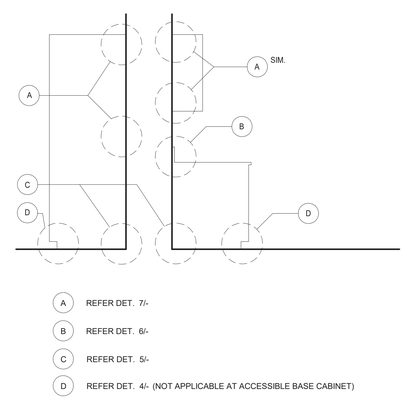
NOTE:
THERE SHALL BE NO SHARP OR ABRASIVE SURFACES BELOW COUNTER.
SEE DETAIL 3/- FOR ANCHORAGE, TYP.

COUNTER AT CMU | 1 1/2" = 1'-0" | 12

NOTE:
THERE SHALL BE NO SHARP OR ABRASIVE SURFACES BELOW COUNTER.

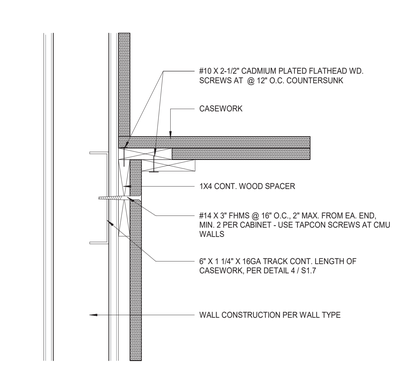
SHELF AT CMU | 1 1/2" = 1'-0" | 9

MID ANCHORAGE @ WALL | 3" = 1'-0" | 6

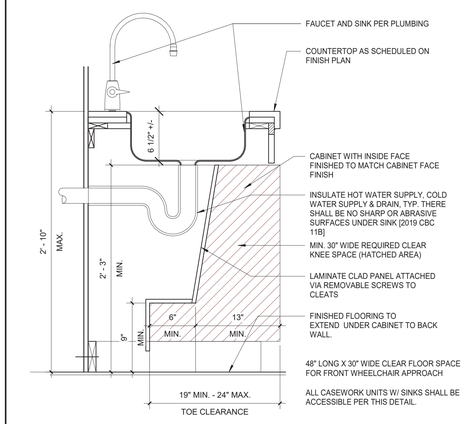


TYPICAL ANCHORAGE | 1/2" = 1'-0" | 3

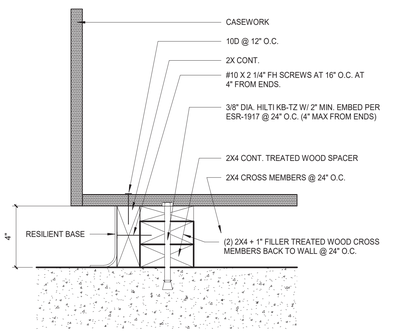
DRINKING FOUNTAIN ATTACHMENT | 1 1/2" = 1'-0" | 8



BASE ANCHORAGE @ WALL | 3" = 1'-0" | 5



ACCESSIBLE CASEWORK | 1 1/2" = 1'-0" | 2



BASE ANCHORAGE @ FRONT | 3" = 1'-0" | 4

CASEWORK NOTES

1. CASEWORK SHALL COMPLY W/ THE REQUIREMENTS OF THE WOODWORK INSTITUTE.
2. ALL CABINET DIMENSIONS INDICATED ARE NOMINAL OUTSIDE DIMENSIONS.
3. FILLER STRIPS ARE REQUIRED AT ENDS OF CABINETS WHERE CABINETS ARE ADJACENT TO WALLS.
4. ALL FILLER STRIPS AT TALL AND WALL CABINETS TO HAVE TOP AND BOTTOM RETURNS.
5. ALL PLAN DIMENSIONS OF CASEWORK ARE CABINET DIMENSIONS ONLY AND DO NOT INCLUDE TOPS.
6. PROVIDE FINISHED END PANELS FOR SUPPORT OF COUNTERTOPS AT UNDERCOUNTER EQUIPMENT OR KNEE SPACES WHERE THERE IS NO ADJACENT WALL OR CABINET THAT CAN BE USE FOR SUPPORT.
7. FINISH ALL EXPOSED PORTIONS OF CASEWORK AND COUNTERTOPS.
8. ALL UNITS, INCLUDING OPEN UNITS, SHALL HAVE CASEWORK MANUFACTURER'S STANDARD CABINET LINER UNLESS OTHERWISE NOTED.
9. ALL TOE SPACES SHALL BE 4" IN HEIGHT AND 3" IN DEPTH AND SHALL RETURN TO WALL WHERE ENDS OF CABINETS ARE EXPOSED.
10. ALL SHELVING SHALL BE ADJUSTABLE UNLESS OTHERWISE NOTED.
11. ALL COUNTERTOPS SHALL BE OF MAXIMUM PRACTICAL LENGTHS REQUIRED TO CONFORM TO OVERALL BASE CABINET DIMENIONS.
12. PROVIDE BACKSPLASH COUNTERTOP RETURN AT ENDS OF COUNTERTOPS WHERE ADJACENT TO WALL OR OTHER FULL HEIGHT CASEWORK.
13. ALL SINKS, SINK TRIM & ELECTRICAL ITEMS SHALL BE FURNISHED BY OTHER THAN THE CASEWORK MANUFACTURER UNLESS OTHERWISE NOTED.
14. ALL OTHER COUNTERTOPS SHALL BE PLASTIC LAMINATE UNLESS OTHERWISE NOTED.
15. ALL W.I. CASEWORK TO BE FACE FRAME MODEL.

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR., SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SIMPSON No. C-18801 JAN 31, 2025 STATE OF CALIFORNIA

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	04/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

DETAILS CASEWORK & MISC.

COMMUNITY AQUATICS & SENIOR CENTER

A67.1

	INITIAL	DATE
DESIGNED BY	AP/EC	05/25/2022
DRAWN BY	NC	06/20/23
CHECKED BY	DB	06/29/23

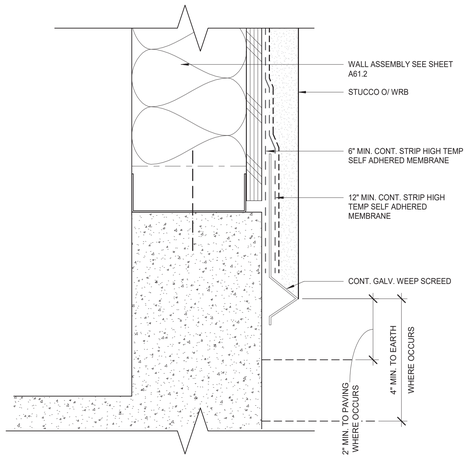
APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

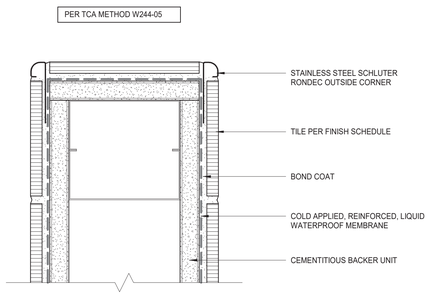
SHT. 82 OF 176 DWG. NO. 5-2606

CARDINA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

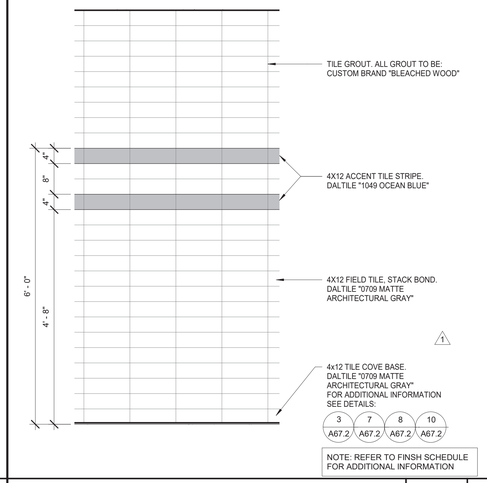
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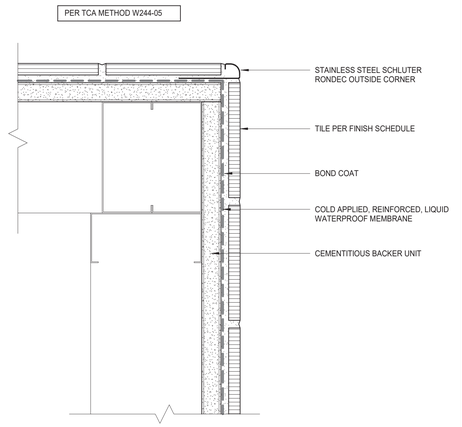
EXTERIOR TYP. SCREED | 6" = 1'-0" | 15



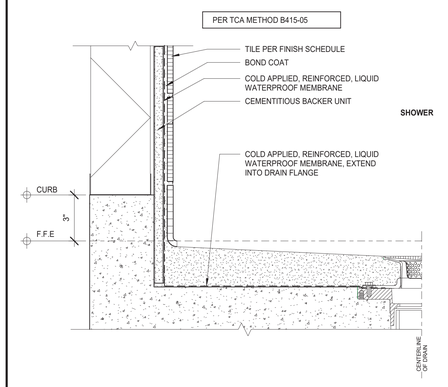
TILED WALL END | 6" = 1'-0" | 12



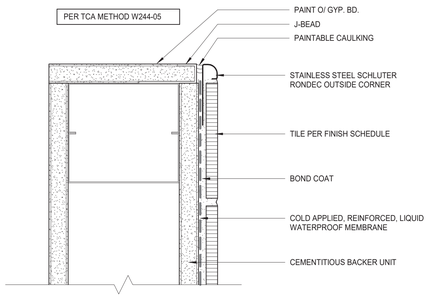
TILE PATTERN DETAIL | 3/4" = 1'-0" | 9



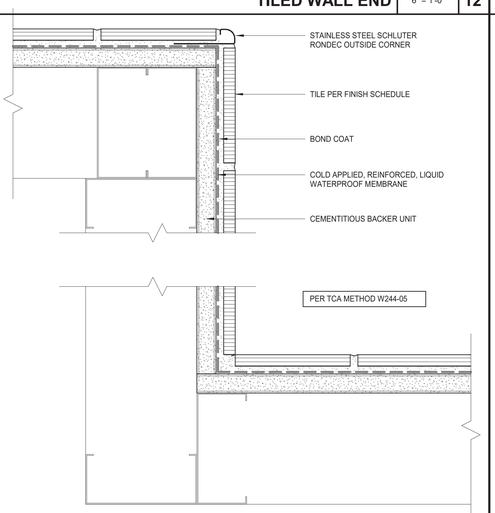
TILED WALL CORNER | 6" = 1'-0" | 6



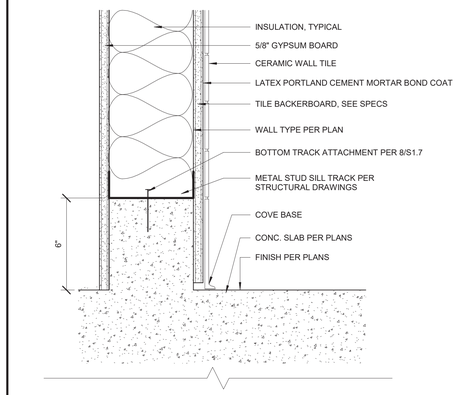
SHOWER TILE BASE | 3" = 1'-0" | 3



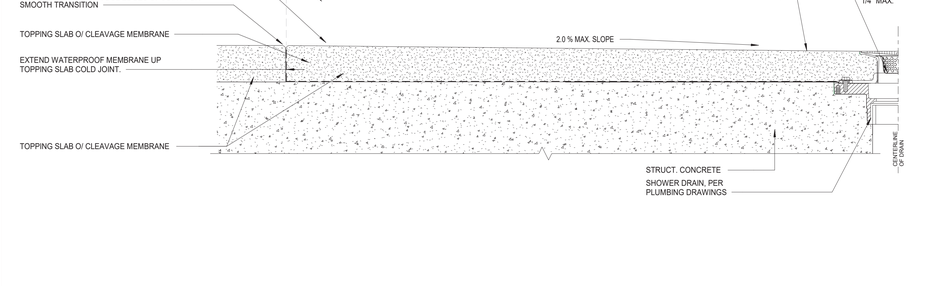
TILE TERMINATION ON OUTSIDE CORNER | 6" = 1'-0" | 14



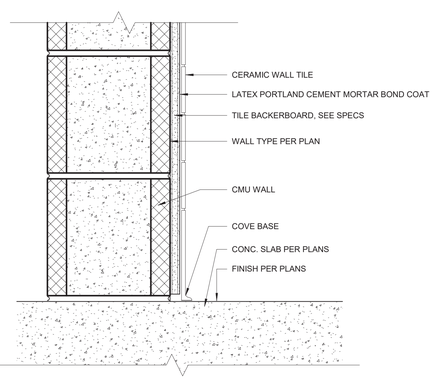
TILED INSIDE CORNER WALL | 6" = 1'-0" | 11



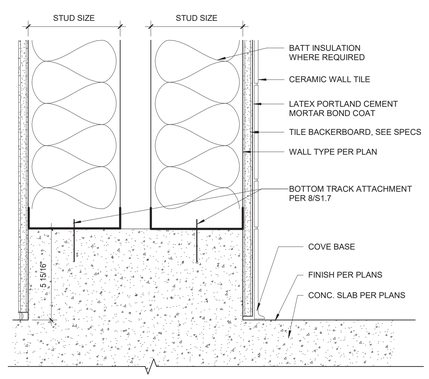
TILE WALL BOTTOM TRACK | 3" = 1'-0" | 8



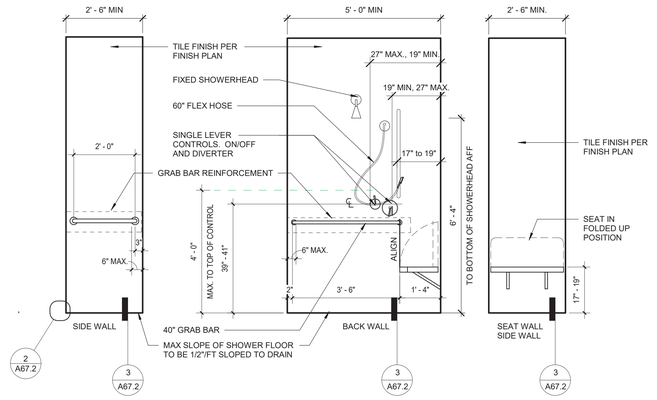
CURBLESS SHOWER EDGE @ ACCESSIBLE SHWRS. | 3" = 1'-0" | 2



TILE WALL BASE AT CMU | 3" = 1'-0" | 10



PLUMBING WALL BOTTOM TRACK | 3" = 1'-0" | 7



ACCESSIBLE SHOWER INTERIOR ELEVATIONS | 1/2" = 1'-0" | 1

CARDENA COMMUNITY AQUATICS AND SENIOR CENTER - CITY SUBMITTAL SET

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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LICENSED ARCHITECT ROBERT M. SIMPSON No. C-18001 JAN. 31, 2025 STATE OF CALIFORNIA

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

REVISIONS

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CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

TILE DETAILS

COMMUNITY AQUATICS & SENIOR CENTER

A67.2

	INITIAL	DATE	APPROVED BY:
DESIGNED BY	AP/EC	06/25/2022	
DRAWN BY	NC	06/20/23	
CHECKED BY	DB	06/29/23	

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 83 OF 176 DWG. NO. 5-2606

PLOT DATE: 6/30/2023 3:19:54 PM
PLOT NAME: C:\Users\ncruz\Desktop\Documents\Gardena_Community Pool and Senior Center_ncruz.ctb

GENERAL NOTES:

1. DETAILS OF CONSTRUCTION NOT SHOWN SHALL BE OF SAME NATURE AS THOSE SHOWN FOR SIMILAR CONDITIONS. REFER TO THE TYPICAL DETAIL SHEETS FOR TYPICAL DETAILS OF CONSTRUCTION. TYPICAL DETAILS APPLY TO ALL CONSTRUCTION UNLESS SPECIFICALLY NOTED OR SHOWN OTHERWISE. WHERE CONDITIONS REQUIRE MODIFICATIONS OF A TYPICAL DETAIL, THE CONTRACTOR SHALL SUBMIT MODIFIED DETAIL OR APPROVAL BY THE ENGINEER OF RECORD PRIOR TO FABRICATION AND INSTALLATION. DETAILS OF CONSTRUCTION NOT SHOWN SHALL BE OF SAME NATURE AS THOSE SHOWN FOR SIMILAR CONSTRUCTION.

2. CONTRACTOR SHALL CONSIDER THE PROJECT SPECIFICATIONS A PART OF THE CONTRACT DOCUMENTS. WHERE INFORMATION IS CONFLICTING, SPECIFIC DETAILS SHALL GOVERN OVER TYPICAL DETAILS WHICH SHALL GOVERN OVER THESE NOTES WHICH SHALL GOVERN OVER SPECIFICATIONS.

3. ALL DIMENSIONS ON STRUCTURAL DRAWINGS SHALL BE CHECKED AGAINST ARCHITECTURAL DIMENSIONS. DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE OMITTED OR NOT CLEAR, CONTACT THE ARCHITECT (ARCH) OR STRUCTURAL ENGINEER OF RECORD (SEOR). ALL DIMENSIONS RELATED TO EXISTING CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR. DIMENSIONS ARE TO THE FACE OF STUDS, AND TO CENTERLINE OF COLUMNS UNO.

4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IMMEDIATELY NOTIFY THE SEOR OF ANY CONFLICTS BETWEEN THE STRUCTURAL DRAWINGS AND OTHER DRAWINGS; OR EXISTING CONDITIONS NOT SHOWN OR DIFFERENT FROM THOSE SHOWN ON DRAWINGS PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE BUILDING THAT IS IN CONFLICT UNTIL THE CONFLICT IS RESOLVED WITH THE AFFECTED PARTIES.

5. THE STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. UNLESS OTHERWISE SHOWN THEY DO NOT INDICATE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE CONSTRUCTION AND ALL ADJACENT PROPERTIES DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE BUT ARE NOT LIMITED TO BRACING, SHORING OF LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. OBSERVATION VISITS TO THE SITE BY THE ARCHITECT OR SEOR SHALL NOT INCLUDE OBSERVATION OF THE ABOVE ITEMS.

6. SUBSTITUTION REQUESTS FOR MATERIALS SPECIFIED ON THE STRUCTURAL DRAWINGS MAY BE CONSIDERED WITH MATERIALS HAVING EQUIVALENT OR GREATER CAPACITY AND PERFORMANCE. CURRENT EVALUATION REPORTS AND PRODUCT INFORMATION SHALL BE PROVIDED TO THE STRUCTURAL ENGINEER DEMONSTRATING THE REQUIRED CAPACITY AND PERFORMANCE OF THE MATERIAL TO BE SUBSTITUTED. WRITTEN APPROVAL FROM THE SEOR SHALL BE OBTAINED PRIOR TO THE SUBSTITUTION OF ANY MATERIAL SPECIFIED ON THE STRUCTURAL DOCUMENTS.

7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH THE PERTINENT SECTIONS OF THE "CONSTRUCTION SAFETY ORDERS" ISSUED BY THE STATE OF CALIFORNIA, LATEST EDITION, AND ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT. THE ARCHITECT, SEOR, AND THE OWNER DO NOT ACCEPT ANY RESPONSIBILITY FOR THE CONTRACTOR'S FAILURE TO COMPLY WITH THESE REQUIREMENTS.

8. ALL WORK IS NEW (N) UNLESS INDICATED AS EXISTING (E).

9. CONSTRUCTION MATERIALS SHALL BE DISTRIBUTED WHEN PLACED ON THE STRUCTURE SUCH THAT LOADS DO NOT EXCEED DESIGN LIVE LOADS OR RESULT IN AN UNBALANCED CONDITION.

10. REFER TO THE PROJECT SPECIFICATIONS FOR SHOP DRAWING REQUIREMENTS AND SUBMITTALS.

STRUCTURAL DESIGN CRITERIA:

1. CODES:
   ALL WORK SHALL BE IN CONFORMANCE WITH THE CALIFORNIA BUILDING CODE (CBC) 2019 EDITION, INCLUDING ALL AMENDMENTS. ALL STANDARDS USED SHALL BE THE LATEST VERSION APPROVED BY THE CODE ENFORCEMENT AGENCY ON THE DATE OF THE PERMIT ISSUANCE UNLESS SPECIFICALLY NOTED OTHERWISE.

2. DESIGN LIVE LOAD

	LOAD
ROOF	20 PSF
FLOOR	80 PSF

3. WIND DESIGN INFORMATION

RISK CATEGORY = III	Kz = 0.98	Kd =0.85	Kzt = 1.0
BASIC WIND SPEED Vfm = 94 MPH (3 SEC GUST)			EXPOSURE = C
INTERNAL PRESSURE COEFF. = +/- 0.18			

4. SEISMIC DESIGN INFORMATION

I = 1.25	RISK CATEGORY = III			SITE CLASS = D	
S_S = 1.795	S1 = 0.636	SDS = 1.196	SD1 = 1.196		
SEISMIC DESIGN CATEGORY = D					
ANALYSIS PROCEDURE = EQUIV. LATERAL FORCE PROCEDURE OR LINEAR DYNAMIC PROCEDURE (RESPONSE SPECTRUM)					
BUILDING	SLRS : A7: SPECIAL REINF. MASONRY SHEAR WALLS				
	Rho = 1.3	R = 5	Cd = 3.5	Ω = 2.5	Cs = 0.30
CANOPY	SLRS : G2: SPECIAL STEEL CANTILEVER COLUMN				
	Rho = 1.0	R = 2.5	Cd = 2.5	Ω = 1.25	Cs = 0.6

5. RAIN INTENSITY
   (PER NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES)

   PRIMARY DRAINAGE: 60 MIN DURATION/100YR RETURN PERIOD: 1.50 IN /HOUR
   SECONDARY DRAINAGE: 15 MIN DURATION/100YR RETURN PERIOD: 3.09 IN /HOUR

EXISTING UNDERGROUND UTILITY NOTES:

1. THE ARCHITECT AND ENGINEERS ARE NOT RESPONSIBLE FOR THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES WHETHER OR NOT SHOWN ON THE DRAWINGS. THE LOCATION OF ANY EXISTING UNDERGROUND UTILITIES SHOWN ON THE DRAWINGS ARE APPROXIMATE. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER SHOULD ANY SUCH UNIDENTIFIED CONDITIONS BE DISCOVERED.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES WHICH MAY RESULT FROM HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ALL EXISTING UNDERGROUND UTILITIES.

CONTRACTOR RESPONSIBILITY NOTE:

1. EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN LATERAL-FORCE-RESISTING SYSTEM, DESIGNATED ON PLANS SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN THE FOLLOWING:

   A. ACKNOWLEDGMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS.

   B. ACKNOWLEDGMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL.

   C. PROCEDURES FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION, THE METHOD AND FREQUENCY OF REPORTING AND THE DISTRIBUTION OF THE REPORTS.

   D. IDENTIFICATION AND QUALIFICATIONS OF THE PERSON(S) EXERCISING SUCH CONTROL AND THEIR POSITION(S) IN THE ORGANIZATION.

FOUNDATION AND SLAB ON GRADE NOTES:

1. SEE SOIL REPORT BY: SOUTHERN CALIFORNIA GEOTECHNICAL
   REPORT NO.: 21G242-1 DATED: 11/18/2021

   SOILS REPORT SHALL BE CONSIDER A PART OF THESE CONSTRUCTION DOCUMENTS.

2. ALLOWABLE FTG VERTICAL BEARING PRESSURE
   DEAD LOAD + LIVE LOAD = ...2500 PSF
   DEAD LOAD + LIVE LOAD + LATERAL LOAD = ...3325 PSF

   FOR BUILDINGS LOCATED WITHIN 5FT OF PROPERTY LINE.....1500 PSF

   ALLOWABLE FTG LATERAL BEARING PRESSURE IS 250 PSF PER FT OF DEPTH
   ALLOWABLE FTG COEFFICIENT OF FRICTION FOR SLIDING: 0.25

3. THE CONTRACTOR SHALL CONFORM TO ALL RECOMMENDATIONS AND CONDITIONS INDICATED IN THE SOIL REPORT. THE GEOTECHNICAL ENGINEER SHALL OBSERVE ALL FOOTING EXCAVATIONS PRIOR TO PLACING CONCRETE.

4. SUBSURFACE SOIL PREPARATION:
   A. ALL EXISTING UNDOCUMENTED FILL SHALL BE REMOVED AND RECOMPACTED. ALL TOPSOILS SHALL BE REMOVED AS REQUIRED BY THE GEOTECHNICAL ENGINEER
   B. GEOTECHNICAL ENGINEER SHALL BE RETAINED DURING THE OVEREXCAVATION PROCESS. THE ACTUAL DEPTH OF REMOVAL WILL BE DETERMINED DURING GRADING OPERATIONS.
   C. OFFSITE FILL MATERIAL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.

5. SPREAD FOOTINGS ARE CENTERED UNDER WALLS AND COLUMNS, UNO.

6. FOOTING ELEVATIONS ARE NOTED ON THE PLANS AND DETAILS . IN ANY CASE, FOOTINGS SHALL BEAR ON FIRM UNDISTURBED SOIL OR ENGINEERED FILL OR BEDROCK , IN ACCORDANCE WITH THE SOIL REPORT AND DETAILS SHOWN.

7. CONTRACTOR SHALL PROTECT ALL UTILITY LINES, ETC. ENCOUNTERED DURING EXCAVATION AND BACKFILLING.

8. FOOTING BACKFILL AND UTILITY TRENCH BACKFILL WITHIN BUILDING AREA SHALL BE MECHANICALLY COMPACTED IN LAYERS WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER. FLOODING IS NOT PERMITTED.

9. ALL TRENCHES SHALL COMPLY WITH APPLICABLE OSHA REQUIREMENTS.

10. ALL EXCAVATIONS SHALL BE PROPERLY BACKFILLED WITH NON-EXPANSIVE SOIL BUT NOT BEHIND RETAINING WALLS BEFORE CONCRETE OR MASONRY ATTAINS ITS FULL DESIGN STRENGTH.

11. THE DESIGN OF ALL RETAINING WALLS AND SUBTERRANEAN BUILDING WALLS INDICATED ON THESE DRAWINGS IS BASED ON DRAINED SOILS.

12. CONSTRUCTION JOINTS (CJ) AND SAWCUT (SC) JOINTS IN SLABS SHALL OCCUR WHERE LOCATED ON PLANS AND DETAILS. CJ'S SHALL HAVE FORMED POUR STOPS. CONSTRUCTION JOINTS IN WALLS AND FOOTINGS NEED NOT OCCUR AT THE SAME LOCATION, UNO.

13. SEE ARCHITECT'S PLANS FOR LOCATIONS OF SLAB SLOPES, DEPRESSIONS, CURBS, DRAINS, NON-STRUCTURAL PARTITIONS AND OTHER EMBEDDED ITEMS NOT SHOWN ON THE STRUCTURAL PLANS.

14. ALL GRADING, FOUNDATION FOOTINGS, AND DRAINAGE PLANS SHALL BE REVIEWED BY THE GEOTECHNICAL ENGINEER UPON SUBMITTAL. A CERTIFIED LETTER BY THE GEOTECHNICAL ENGINEER IS REQUESTED STATING THAT THE RECOMMENDATIONS CONTAINED WITHIN THE SOILS REPORT HAVE BEEN INCORPORATED INTO THE PROJECT PLANS AND SPECIFICATIONS PRIOR TO CONSTRUCTION.

15. PRIOR TO THE CONTRACTOR REQUESTING A BUILDING DEPARTMENT FOUNDATION INSPECTION, THE SOILS ENGINEER SHALL ADVISE THE BUILDING OFFICIAL IN WRITING THAT:
   A. THE BUILDING PAD WAS PREPARED IN ACCORDANCE WITH THE SOILS REPORT.
   B. THE UTILITY TRENCHES HAVE BEEN PROPERLY BACKFILLED AND COMPACTED.
   C. THE FOUNDATION EXCAVATIONS COMPLY WITH THE INTENT OF THE SOILS REPORT.
   D. GENERAL GRADING AND COMPACTION COMPLIES WITH THE SOILS REPORT.

SHORING AND EXCAVATIONS NOTES:

1. THE CONTRACTOR SHALL PROVIDE FOR THE DESIGN, APPROVALS, PERMITS, INSTALLATION AND MONITORING OF ALL TEMPORARY SHORING AND BRACING AS REQUIRED TO SUPPORT EXISTING FRAMING WHERE SUPPORT ELEMENTS (BEAMS, COLUMNS, AND BEARING WALLS) ARE TO BE REMOVED.

2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE CALIFORNIA CONSTRUCTION SAFETY ORDERS (CAL-OSHA).

3. TEMPORARY CUTS SHALL NOT EXCEED SLOPES RECOMMENDED IN THE SOIL REPORT, NOR THOSE SHOWN ON THE SHORING DRAWINGS FOR CONSTRUCTION OF FOUNDATIONS.

4. THE INSTALLATION OF SHORING AND EXCAVATIONS SHALL BE PERFORMED UNDER THE CONTINUOUS INSPECTION AND APPROVAL OF THE GEOTECHNICAL ENGINEER.

5. THE DESIGN OF THE SHORING SYSTEM SHALL BE BASED UPON RECOMMENDATIONS CONTAINED IN THE SOIL REPORT. THE SHORING CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH ALL DATA THEREIN AND SHALL KEEP A COPY OF THE REPORT AT THE JOB SITE AT ALL TIMES.

6. THE STRUCTURAL ENGINEER RESPONSIBLE FOR THE SHORING DESIGN (HEREAFTER CALLED THE SHORING ENGINEER) SHALL MAKE PERIODIC VISITS TO THE JOB SITE FOR THE PURPOSE OF OBSERVING THE INSTALLATION OF THE SHORING SYSTEM. OBSERVATIONS SHALL INCLUDE, BUT SHALL NOT BE LIMITED TO, THE FOLLOWING:

   A. PRIOR TO THE START OF INSTALLATION, MEET WITH THE GEOTECHNICAL ENGINEER AND SHORING CONTRACTOR TO REVIEW ALL ASPECTS OF THE DESIGN AND INSTALLATION OF THE SHORING.
   B. REVIEW OF CONDITIONS AT COMPLETION OF EXCAVATION. THE CONTRACTOR SHALL NOTIFY THE SHORING ENGINEER AT LEAST 48 HOURS PRIOR TO EACH OF THE ABOVE REQUIRED OBSERVATIONS.

7. CONTROL POINTS SHALL BE ESTABLISHED BY A LICENSED SURVEYOR TO MONITOR ANY HORIZONTAL AND VERTICAL MOVEMENTS OF THE SHORING. INITIAL READINGS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL, AND WEEKLY DATA SHALL BE SUBMITTED AS EXCAVATION PROGRESSES AND THROUGHOUT THE CONSTRUCTION PERIOD. ADDITIONAL READINGS SHALL BE OBTAINED WHEN REQUESTED BY THE BUILDING OFFICIAL, SHORING ENGINEER OR GEOTECHNICAL ENGINEER. IF ANY HORIZONTAL OR VERTICAL MOVEMENT OCCURS, THE GEOTECHNICAL ENGINEER, THE SHORING ENGINEER AND THE STRUCTURAL ENGINEER SHALL EVALUATE SUCH MOVEMENT AND RECOMMEND CORRECTIVE MEASURES, IF NECESSARY BEFORE EXCAVATION IS CONTINUED.

REINFORCING STEEL NOTES:

1. REINFORCING GRADES FOR CONCRETE OR MASONRY:

ALL BARS EXCEPT THOSE TO BE WELDED	ASTM A615, GRADE 60
TIES AND STIRRUPS	ASTM A615, GRADE 60
WELDED WIRE FABRIC	ASTM A1064
ALL BARS TO BE WELDED	ASTM A706, GRADE 60
ALL BARS IN THE CONCRETE SHEARWALL INDICATED ON WALL ELEVATION INCLUDING SUPPORTING WALL FOOTING LONGITUDINAL BARS (WF), AND ALL GRADE BEAMS (GB)	A706, GRADE 60

2. MAINTAIN MINIMUM CONCRETE COVER FROM FACE OF CONCRETE TO EDGE OF ALL REINFORCEMENT AS FOLLOWS (U.N.O.):
   (SEE PLAN/ SECTION FOR CONCRETE W/ FIRE RATING.)

CONDITION	COVER
CONCRETE POURED AGAINST EARTH	3"
CONCRETE POURED IN FORMS AND EXPOSED TO WEATHER OR EARTH	
-#6 BARS AND LARGER	2"
-#5 BARS AND SMALLER	1 1/2"
INTERIOR COLUMNS AND BEAMS	1 1/2"
INTERIOR WALL FACES AND RAISED SLABS	1"
STRUCTURAL SLABS ON GRADE	
-FROM BOTTOM OF SLAB	2"
-FROM TOP OF SLAB	1 1/2"
OTHER CONCRETE NOT EXPOSED TO WEATHER OR EARTH FOR #11 BARS AND SMALLER	1"

   PROVIDE THE LARGEST COVER REQUIRED FOR ALL APPLICABLE CONDITIONS. WHERE #3 STIRRUPS OR TIES ARE USED, ENSURE THAT THE COVER FOR LONGITUDINAL BARS IS ADEQUATE.

3. REINFORCEMENT SHALL BE PLACED IN ACCORDANCE WITH THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI) "MANUAL OF STANDARD PRACTICE". EACH REINFORCING BAR SHALL BE WIRED TO A CROSS BAR AT A MAXIMUM SPACING OF 24" O.C. PROVIDE ALL ACCESSORIES NECESSARY TO SUPPORT REINFORCING IN POSITIONS SHOWN ON THE PLANS.

4. SPLICES IN CONTINUOUS REINFORCEMENT AS USED IN WALLS, FOOTINGS, SLABS, ETC., SHALL HAVE A CLASS "B" LAP (1' - 6" MIN) AND THE SPLICES IN ADJACENT BARS SHALL BE NOT LESS THAN 5' - 0" APART. VERTICAL WALL BARS SHALL BE SPLICED AT OR NEAR FLOOR LINES. BARS MAY BE WIRED TOGETHER AT SPLICES OR LAPS EXCEPT FOR TOP REINFORCING OF BEAMS AND SLABS OR WHERE SPECIFICALLY DETAILED TO BE SEPARATED. WELDED WIRE FABRIC SHALL BE LAPPED 12" MINIMUM.

5. ALL DOWELS, ANCHOR BOLTS AND OTHER HARDWARE TO BE SET IN CONCRETE SHALL BE TIED IN PLACE PRIOR TO PLACEMENT OF CONCRETE. NO WET SETTING, STABBING, RODDING OR OTHER MOVEMENT OF EMBEDDED ITEMS SHALL BE PERFORMED DURING PLACEMENT OF CONCRETE.

6. BEND REINFORCING BARS COLD.

7. STEEL SHALL BE KEPT CLEAN AND FREE OF RUST.

8. DOWELS BETWEEN FOOTING AND WALLS OR COLUMNS SHALL BE THE SAME GRADE, SIZE AND SPACING AS THE MAIN REINFORCING U.N.O.

9. ALL BARS SHALL BE MARKED SO THEIR IDENTIFICATION CAN BE MADE WHEN THE FINAL IN PLACE INSPECTION IS MADE.

10. CHAIRS OR SPACERS FOR REINFORCING SHALL BE NON-FERROUS OR PLASTIC COATED WHEN RESTING ON EXPOSED SURFACES.

MASONRY NOTES:

1. MASONRY UNITS SHALL DEVELOP THE FOLLOWING MINIMUM 28 DAY PRISM COMPRESSIVE STRENGTHS IN ACCORDANCE WITH THE BUILDING CODE:

MINIMUM 28 DAY COMPRESSIVE STRENGTH			
LOCATION	fm	TYPE S MORTAR PER ASTM C270	GROUT PER CBC 2103A.3
ALL MASONRY U.N.O	2000 PSI	2000 PSI	2000 PSI

2. CONCRETE BLOCK SHALL CONFORM TO ASTM C90 MEDIUM WEIGHT. CLAY BRICK LOCK SHALL CONFORM TO ASTM C652

3. PRISM TEST SHALL BE PERFORMED FOR MASONRY WITH f'm OVER 2000 PSI FOR CBC 2105A.2

4. VERTICAL REINFORCING SHALL BE FULL HEIGHT OF WALL AND SHALL BE BRACED AT 6' - 8" MAXIMUM TO PREVENT MOVEMENT WHILE GROUTING.

5. HORIZONTAL REINFORCING SHALL BE IN BOND BEAM UNITS AND TIED SECURELY TO VERTICAL REINFORCING.

6. DOWELS, ANCHORS, AND OTHER EMBEDDED ITEMS SHALL BE TIED SECURELY IN PLACE TO PREVENT MOVEMENT WHILE GROUTING. WET SETTING OR STABBING IS NOT ALLOWED.

7. MAXIMUM GROUT LIFTS SHALL NOT EXCEED 8' - 0" AND CLEANOUTS AT THE BOTTOM OF ALL CELLS SHALL BE USED UNLESS THE LIFT IS 4' - 0" OR LESS. THE CLEANOUTS SHALL BE SEALED BEFORE GROUTING. GROUT FOR EACH POUR SHALL BE STOPPED 1 1/2" BELOW THE TOP OF A BLOCK COURSE EXCEPT AT THE FINAL COURSE. ALL GROUT SHALL BE THOROUGHLY CONSOLIDATED BY VIBRATING IMMEDIATELY AFTER PLACING. SHAKING OR RODDING REBAR IS NOT ALLOWED. FILL ALL CELLS WITH GROUT.

8. BLOCK SHALL BE PLACED IN RUNNING BOND AND SHALL BE 8"x8"x16" NOMINAL UNITS, UNO. WHERE BLOCK IS REQUIRED TO BE PLACED IN STACK BOND (SEE ARCH), OPEN-ENDED UNITS (I.E., "SPEED BLOCK") SHALL BE USED.

9. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE SAFETY OF LIFT HEIGHT FOR OPEN ENDED OR FIELD MODIFIED BLOCKS.

10. LAYOUT OF MASONRY BLOCK UNITS SHALL BE RUNNING BOND, U.N.O. BLOCK MODULES/MORTAR JOINTS SHOWN ON THESE DRAWINGS ARE FOR PRESENTATION PURPOSES ONLY, AND NOT INTENDED TO SUPERSEDE ARCHITECTURAL DESIGN REQUIREMENTS.

11. WALL REINFORCEMENT SEE PLANS & ELEVATIONS

12. PROVIDE VERTICAL CONTROL JOINTS IN CMU WALLS AS SHOWN ON PLAN. UNLESS NOTED OTHERWISE VERTICAL CONTROL JOINTS SHALL OCCUR AT 25' - 0" O.C. MAXIMUM ALONG WALL LENGTH, AT FOUNDATION STEPS, FLOOR OR ROOF JOINTS, WALL HEIGHT CHANGES, AND 24" MINIMUM PAST ONE SIDE OF OPENINGS > 6' - 0" WIDE, U.N.O. ON PLANS

13. WHEN THE AMBIENT TEMPERATURE FALLS BELOW 40°F, OR EXCEEDS 100°F, PROVSIONS OF TMS602 / ACI 530 / ASCE6. ARTICLE 1.8C OR ARTICLE 1.8D SHALL BE IMPLEMENTED.

STRUCTURAL CONCRETE NOTES:

1. CONCRETE SHALL BE MIXED, PLACED AND CURED IN ACCORDANCE WITH ACI 318, 2014 EDITION, AND PROJECT SPECIFICATIONS.

2. CONCRETE SHALL NOT BE DROPPED THROUGH REINFORCING STEEL (AS IN WALLS) SO AS TO CAUSE SEGREGATION OF AGGREGATES. IN SUCH CASES, HOPPERS AND VERTICAL CHUTES OR TRUNKS SHALL BE USED. CHUTES OR TRUNKS SHALL BE OF VARIABLE LENGTHS SO THAT FREE UNCONFINED FALL OF CONCRETE SHALL NOT EXCEED SIX FEET. A SUFFICIENT NUMBER OF CHUTES OR TRUNKS SHALL BE USED TO ENSURE THE CONCRETE IS KEPT LEVEL AT ALL TIMES.

3. CONSTRUCTION JOINTS SHALL BE CLEANED AND ROUGHENED BY REMOVING THE ENTIRE SURFACE TO EXPOSE CLEAN AGGREGATE SOLIDLY EMBEDDED IN THE MORTAR MATRIX. SLUSH WITH A COAT OF NEAT CEMENT BEFORE PLACING CONCRETE. SEE PLANS AND DETAILS FOR LOCATION AND TYPE OF CONSTRUCTION JOINT. LOCATIONS OF ADDITIONAL CONSTRUCTION JOINTS NOT SHOWN ON THESE PLANS SHALL BE SUBMITTED FOR APPROVAL BY THE EOR PRIOR TO PLACING ANY CONCRETE.

4. STRUCTURAL CONCRETE SHALL MEET THE FOLLOWING DESIGN CRITERIA:

LOCATION	MIN 28-DAY COMP STRENGTH	CONC TYPE[a]	MAX AGGR. SIZE	MAX W/C RATIO	MAX SLUMP[b]	CEMENT TYPE
FOUNDATIONS STEM WALLS, PILASTER	4000 PSI	NWC	1 1/2"	0.45	4"	II / V
SLAB ON GRADE	4000 PSI	NWC	1"	0.45	4"	II / V
FILL OVER METAL DECK	3000 PSI	LWC	3/4"	0.45	6"	II / V
ALL OTHER STRUCTURAL CONCRETE NO NOTED..	4000 PSI	NWC	1"	0.50	6"	II / V

   a. MAXIMUM DRY WEIGHT OF LIGHTWEIGHT CONCRETE SHALL BE 110 PCF .
   b. SLUMP MEASURED PRIOR TO SUPERPLASTICIZER, WHERE OCCURS.

5. CONCRETE MIX DESIGN AND TESTING SHALL MEET THE REQUIREMENTS OF THE BUILDING CODE, AND SPECIFICATIONS. ALL CONCRETE MIXES SHALL BE DESIGNED BY A RECOGNIZED TESTING LAB STAMPED AND SEALED BY A LICENSED CALIFORNIA CIVIL ENGINEER AND SUBMITTED TO THE SEOR FOR REVIEW PRIOR TO CONCRETE PLACEMENT. STRUCTURAL CONCRETE MIXES SHALL CONSIST OF 5 SACK MINIMUM U.N.O.

6. AGGREGATES IN NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C-33 (HARDROCK). AGGREGATES IN LIGHT WEIGHT CONCRETE SHALL CONFORM TO ASTM C-330.

7. COMPRESSIVE STRENGTH TEST REPORTS SHALL BE SUBMITTED TO THE BUILDING DEPARTMENT AND THE SEOR.

8. PORTLAND CEMENT SHALL BE AS NOTED ABOVE FOR ALL CONCRETE CONFORMING TO ASTM C150, LOW ALKALI. MILL TESTS WITH CERTIFICATES OF COMPLIANCE SHALL BE SUBMITTED.

9. FLY ASH OR OTHER POZZOLANS CONFORMING TO ASTM C618 CLASS N OR F MAY BE USED AS A PARTIAL SUBSTITUTION FOR PORTLAND CEMENT UP TO A MAXIMUM OF 15% TOTAL CEMENTITIOUS MATERIALS BY WEIGHT IF THE MIX DESIGN IS PROPORTIONED PER ACI 318, SECTION 26.4.3.

10. CONCRETE MIXING OPERATIONS, ETC. SHALL CONFORM TO ASTM C94.

11. LEAN CONCRETE, WHERE SPECIFICALLY INDICATED, SHALL CONTAIN 2 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE.

12. DRYPACK OR NONSHRINK GROUT SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2 TIMES THE SUPPORTING CONCRETE STRENGTH, AND SHALL BE OF FIVE STAR GROUT, SIKA GROUT 212, OR APPROVED EQUAL WITH VALID CODE REPORT (LARR,ICC;ESR,IAPMO ER). FOR THICK GROUT LAYERS FOLLOW MANUFACTURER'S GUIDELINES TO ATTAIN THE REQUIRED STRENGTH, WHICH MAY INCLUDE THE ADDITION OF PEA GRAVEL.

13. DO NOT USE ANY CONCRETE OR GROUT CONTAINING CHLORIDES. WATER USED IN MIX SHALL BE CLEAN AND POTABLE.

14. FOR INTERIOR SLABS-ON-GRADE AND ALL OTHER SLABS RECEIVING ADHERED FLOORING FINISHES (I.E., GLUED, ETC.), THE MAXIMUM W/C RATIO SHALL NOT EXCEED 0.45. CURING COMPOUNDS USED ON CONCRETE THAT IS TO RECIEVE FINISHES SHALL BE COMPATIBLE WITH TILE AND ADHESIVES OR GROUTS IN ACCORDANCE WITH MANUFACTURER'S DATA AND BE APPROVED BEFORE USE.

15. MAINTAIN CONCRETE ABOVE 50 DEGREES FAHRENHEIT AND IN A MOIST CONDITION FOR A MINIMUM OF 7 DAYS AFTER PLACEMENT UNLESS OTHERWISE ACCEPTED BY SEOR.

16. SEE ARCHITECTURAL DRAWINGS FOR WALL OPENINGS, WALL OFFSETS, CHAMFERS, KERFS, DRIPS AND FOR EXTENT OF DEPRESSIONS, RAMPS, ETC. PROVIDE SLEEVES FOR ALL PIPES THROUGH CONCRETE WALLS AND FOOTINGS WHERE SHOWN ON THESE DRAWINGS. CORING IS NOT PERMITTED WITHOUT PRIOR APPROVAL BY THE SEOR.

17. SEE ARCHITECT'S PLANS FOR LOCATIONS OF SLAB SLOPES, DEPRESSIONS, CURBS, DRAINS, NON-STRUCTURAL PARTITIONS AND OTHER EMBEDDED ITEMS NOT SHOWN ON THE STRUCTURAL PLANS.

18. EXPOSED CORNERS OF SLABS, BEAMS, WALLS, COLUMNS, ETC. SHALL BE FORMED WITH 3/4" CHAMFER, U.N.O.

19. CONSTRUCTION JOINTS (CJ) AND SAWCUT (SC) JOINTS IN SLABS SHALL OCCUR WHERE LOCATED ON PLANS AND DETAILS. CJ'S SHALL HAVE FORMED POUR STOPS. CONSTRUCTION JOINTS IN WALLS AND FOOTINGS NEED NOT OCCUR AT THE SAME LOCATION, U.N.O.

TYPICAL ABBREVIATIONS

A.B.	ANCHOR BOLT	KLF	KIPS PER LINEAR FOOT
ABV	ABOVE	KSL	KIPS PER SQUARE FOOT
ADD'L	ADDITIONAL	KSI	KIPS PER SQUARE INCH
ADJ.	ADJACENT	L	ANGLE
A.F.F.	ABOVE FINISH FLOOR	LBS	POUND
ALT	ALTERNATE	LFRS	LATERAL FORCE RESISTING SYSTEM
ARCH	ARCHITECT(URAL)		
A.T.R.	ALL THREADED ROD	LLBB	LONG LEG BACK TO BACK
BLDG	BUILDING	LLH	LONG LEG HORIZONTAL
BLK'G	BLOCKING	LLV	LONG LEG VERTICAL
BLW	BELOW	LONG.	LONGITUDINAL
BM	BEAM	LP	LOW POINT
BN	BOUNDARY NAILING	LWC	LIGHTWEIGHT CONCRETE
B.O.	BOTTOM OF	MAX	MAXIMUM
BOT	BOTTOM	M.B.	MACHINE BOLT
BRG	BEARING	MECH	MECHANICAL
B.S.	BOTH SIDES	MFR	MANUFACTURER
BTWN	BETWEEN	MIN	MINIMUM
C	CAMBER OR C-CHANNEL	MTL	METAL
		(N).	NEW
C.I.P.	CAST IN PLACE	NOM.	NOMINAL
CJ	CONTROL/ CONSTRUCTION JOINT	NS	NEAR SIDE OR NON-SHRINK
		NTS	NOT TO SCALE
CL	CENTERLINE	NWC	NORMAL WEIGHT CONCRETE
CLR	CLEAR	OD	OUTSIDE DIAMETER
CMU	CONCRETE MASONRY UNIT	O.C.	ON CENTER
COL	COLUMN	O.F.	OUTSIDE FACE
CONC	CONCRETE	OH	OPPOSITE HAND
CONN	CONNECTION		OSHPD PRE APPROVAL OF MANUFACTURER'S CERTIFICATION
CONT	CONTINUOUS	OPM	
CP	COMPLETE PENETRATION		
CSK	COUNTERSINK	OPN'G	OPENING
CTR(D)	CENTER(ED)	PDF	POWDER DRIVEN FASTENER
DB	BAR OR BOLT DIAMETER	PENE	PENETRATION
DBL	DOUBLE	PERF	PERFORATED
DC	DEMAND CRITICAL	PJ	PANEL JOIST
DEMO	DEMOLITION	PL	PLATE
DET	DETAIL	PLC(S)	PLACE(S)
DIA	DIAMETER	PLF	POUND PER LINEAR FOOT
DIAG	DIAGONAL	PLYWD	PLYWOOD
DIM	DIMENSION	PREFAB	PREFABRICATED
DIST	DISTANCE	PSF	POUND PER SQUARE FOOT
DO	DEQUIRTTO	PSI	POUND PER SQUARE INCH
DWG	DRAWING	PT	PRESSURE TREATED OR POST TENSION
(E)	EXISITNG		
EA	EACH	QTY	QUNATITY
E.F.	EACH FACE	RAD, R	RADIUS
EJ	EXPANSION JOIST	REF	REFERENCE
EMBED	EMBEDMENT	REINF	REINFORCING
ELEC	ELECTRICAL	REQ'D	REQUIRED
ELEV	ELEVATION	RJ	ROOF JOIST
EN	EDGE NAILING	R.O.	ROUGH OPENING
E.O.	EDGE OF	SB	SILL BOLT
EOR	ENGINEER OF RECORD	SC	SAW CUT OR SLIP CRITICAL
EQ	EQUAL	SCHED	SCHEDULE
EQUIP	EQUIPMENT	SEOR	STRUCTURAL ENGINEER ON RECORD
E.S.	EACH SIDE/ EDGE SCREW	

STRUCTURAL STEEL NOTES:

1. DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE SPECIFICATIONS AND STANDARD OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), AS CONTAINED IN THE 15TH EDITION OF "AISC MANUAL OF STEEL CONSTRUCTION".

2. ALL STRUCTURAL STEEL SHALL BE ERECTED PLUMB AND TRUE TO LINE. TEMPORARY BRACING SHALL BE INSTALLED AND SHALL BE LEFT IN PLACE UNTIL OTHER MEANS IS PROVIDED TO ADEQUATELY BRACE THE STRUCTURE.

3. PROVIDE THE FOLLOWING MATERIALS FOR STRUCTURAL STEEL U.N.O.:

STRUCTURAL STEEL GRADES:		
A.	ALL WIDE FLANGE SECTIONS	ASTM A992
B.	SQUARE OR RECTANGULAR HOLLOW STRUCTURAL SECTIONS (HSS)	ASTM A500, GRADE C (F_y= 50 KSI)
C.	ROUND HOLLOW STRUCTURAL SECTION (HSS)	ASTM A500,GRADE C (F_y= 46KSI)
C.	PIPES	ASTM A53 TYPE E OR S, GRADE B (F_y=35 KSI)
E.	PLATES, ANGLES, CHANNELS & TEES	ASTM A36
F.	ALL PLATES PART OF SLRS	ASTM A572, GRADE 50
G.	MACHINE BOLTS (MB)	ASTM A307
H.	HIGH STRENGTH BOLTS (HSB)	ASTM F3125 GRADE A325 GRADE A490
I.	WELDED HEADED STUDS	ASTM A29
J.	THREADED RODS FOR ANCHOR BOLTS	ASTM F1554, GRADE 36

4. 1/8" THICK PLATES AND THICKER SHALL BE GAS CUT OR SAW CUT EXCEPT AS OTHERWISE NOTED, ALL BOLTS SHALL BE HIGH STRENGTH BOLTS. EXCEPT OTHERWISE NOTED, ALL BOLT HOLES SHALL BE STANDARD HOLES.

5. ALL CONNECTIONS NOT SHOWN SHALL CONFORM TO THE "AISC MANUAL OF STEEL CONSTRUCTION" AND SHALL BE SUBMITTED ON SHOP DRAWINGS FOR REVIEW BY SEOR PRIOR TO FABRICATION.

6. ALL WELDED HEADED STUDS, THREADED STUDS, AND DEFORMED BARS SHALL BE NELSON, OR EQUIVALENT, AND WELDED (IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS BY CERTIFIED WELDERS) SO AS TO FULLY DEVELOP THE TENSILE CAPACITY OF THE CONNECTOR.

7. BOLTS WITH UPSET THREADS ARE NOT ALLOWED. USE THE APPROPRIATE NUT AND WASHER TYPE FOR THE SPECIFIED BOLT.

8. ALL STEEL FABRICATION SHALL BE PERFORMED BY A AISC OR CITY OF LOS ANGELES CERIFIED FABRICATOR.

9. ALL STRUCTURAL STEEL AND MISCELLANEOUS STEEL PERMANENTLY EXPOSED TO THE ELEMENTS SHALL BE HOT DIP GALVANIZED AFTER FABRICATION UNLESS A WEATHER PROOF COATING IS SPECIFIED BY THE ARCHITECT U.N.O. STAINLESS AND WEATHERING STEELS ARE EXCEPTED WHERE SPECIFIED.

10. SEE ARCHITECTURAL DRAWINGS FOR NAILER HOLES, WELDED STUDS OR OTHER ITEMS NOT SHOWN IN THESE DRAWINGS. WHERE STEEL IS EMBEDDED IN CONCRETE OR MASONRY, PROVIDE HOLES AS REQUIRED FOR PASSAGE OF CONTINUOUS REINFORCING BARS WHERE INDICATED ON DRAWINGS. DO NOT CUT HOLES IN STRUCTURAL STEEL WITHOUT PRIOR APPROVAL OF SEOR.

11. ALL ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS) SHALL COMPLY WITH AISC CODE OF STANDARD PRACTICE, SECTION 10.

12. PLACE NON-SHRINK OR DRYPACK GROUT UNDER ALL BASE PLATES AND ALLOW TO CURE BEFORE APPLYING LOADS.

13. ALL OPEN HSS ENDS SHALL BE CAPPED. MIN 1/4" STEEL CAP. PROVIDE SQUARE WELD ALL AROUND, CAP PLATE TO HSS.

14. FOR STRUCTURAL STEEL, IN ADDITION TO THE REQUIREMENTS OF SPECIFICATION SECTION A3.1c, HOT ROLLED SHAPES WITH FLANGES 1 1/2" THICK AND THICKER SHALL HAVE MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20 FT-LB AT 70°F. PLATES 2" THICK AND THICKER SHALL HAVE A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20FT-LB AT 70°F.

HIGH-STRENGTH BOLT NOTES:

1. SEE STRUCTURAL STEEL NOTES THIS SHEET FOR ADDITIONAL INFORMATION.

2. ALL HIGH-STRENGTH BOLTS SHALL CONFORM TO ASTM F-3125 Gr. A-325 OR Gr. A-490, NUTS SHALL CONFORM TO ASTM A-563 AND WASHERS SHALL CONFORM TO ASTM F-436.

3. HIGH STRENGTH BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT EDITION OF THE "AISC SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS". SLIP CRITICAL BOLTS (SC) SHALL BE USED FOR ALL "SEISMIC LOAD RESISTING SYSTEM" (SLRS) MEMBER STEEL-TO-STEEL CONNECTIONS.

4. PAINT SHALL NOT BE PERMITTED ON CONTACT SURFACES UNLESS NOTED OTHERWISE. CONTACT SURFACES OF BOLTED PARTS SHALL BE DESCALED AND FREE OF DIRT, OIL, BURRS, PITS, AND OTHER DEFECTS WHICH PREVENT SOLID SEATING OF PARTS.

5. FAYING SURFACE SHALL BE "CLASS A" FOR SLIP CRITICAL BOLTS (SC).

6. SLIP-CRITICAL JOINT ASSEMBLIES SHALL BE FULLY PRE-TENSIONED BY TURN-OF-NUT TIGHTENING, CALIBRATED WRENCH TIGHTENING, INSTALLATION OF ALTERNATE DESIGN BOLTS OR BY DIRECT TENSION INDICATOR TIGHTENING.

WELDING NOTES:

1. WELDING PROCEDURES, ELECTRODES AND WELDER QUALIFICATIONS SHALL CONFORM TO THE "CODE FOR WELDING IN BUILDING CONSTRUCTION", AMERICAN WELDING SOCIETY (AWS), D1.1, D1.8 AND THE AISC "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".

2. ALL WELDERS SHALL HAVE EVIDENCE OF PASSING THE AWS STANDARD QUALIFICATION TESTS, AND SHALL BE CERTIFIED FOR THE WORK THEY ARE PERFORMING.

3. PROJECT WELDING SHALL BE PERFORMED ONLY IN ACCORDANCE WITH WELDING PROCEDURE SPECIFICATIONS (WPS) SUBMITTED BY THE CONTRACTOR AND REVIEWED BY THE SEOR AND PROJECT WELDING INSPECTOR. THE WPS SHALL BE IN ACCORDANCE WITH AWS D1.1-D1.4 & D1.8 CURRENT EDITION.

4. ALL WELDS WITHIN MEMBERS DESIGNATED AS PART OF THE SEISMIC LOAD RESISTING SYSTEM (SLRS) SHALL CONFORM TO THE DETAILING, MATERIALS, WORKMANSHIP, TESTING, AND INSPECTION REQUIREMENTS PER AWS D1.8 AND MUST HAVE A MIN. CVN TOUGHNESS OF 20 FT-LB @ 0°F PER AISC 341 A3.4B.

5. WHERE WELDS ARE DESIGNATED AS DEMAND CRITICAL, THEY SHALL BE MADE WITH A FILLER METAL CAPABLE OF PROVIDING A MINIMUM CHARPY V-NOTCH (CVN) TOUGHNESS OF 20 FT-LB AT 0°F AND 40 FT-LB AT 70°F. SEE AISC 341-16 SECTION A3.4B FOR ADDITIONAL REQUIREMENTS.

6. WELDING OF STRUCTURAL STEEL SHALL BE PERFORMED PER AWS D1.1 & D1.8 USING E70XX ELECTRODES UNLESS OTHERWISED NOTED.

7. WELDING OF REINFORCING BARS SHALL BE PERFORMED PER AWS D1.4 USING E80XX ELECTRODES.

8. WELDING OF METAL DECK AND LIGHT GAGE STEEL SHALL BE IN ACCORDANCE WITH AWS D1.3.

9. ALL GROOVE OR BUTT WELDS SHALL BE COMPLETE PENETRATION WELDS. ALL EXPOSED BUTT WELDS SHALL BE GROUND SMOOTH.

10. ALL EXPOSED WELDS ON ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS) SHALL COMPLY WITH AISC CODE OF STANDARD PRACTICE, SECTION 10.

11. FIELD WELDS HAVE BEEN INDICATED WHERE THEY ARE EXPECTED TO OCCUR. THE CONTRACTOR SHALL DETERMINE THE ACTUAL FIELD WELDING NECESSARY TO COMPLETE THE PROJECT AND INCLUDE ALL ASSOCIATED COSTS WITHIN THE BASE BID.

12. ALL WELDS (SHOP AND FIELD) REQUIRE SPECIAL INSPECTION.

13. ALL FULL PENETRATION WELDS SHALL BE ULTRA-SONIC TESTED PER AWS D1.1 & AISC 341 J6.2.

MOMENT FRAME AND COMPLETE JOINT PENETRATION CONNECTION NOTES:

WELDING ELECTRODES
A. SMAW E8018*
B. FCAW E80 SERIES*

* WELD METAL SHALL BE CAPABLE OF DELIVERING A MINIMUM OF 20 FT-LBS AT -0°F AND 40FT-LBS @ 70°F AS MEASURED BY A CHARPY V-NOTCH IMPACT TEST PER AWS D1.1AND D1.8, APPENDIX III.

* BASE METAL FOR STRUCTURAL SHAPES IN SIZE GROUP 4 & 5 W/ t/f > 11/2" SHALL BE CAPABLE OF DELIVERING A MINIMUM OF 20 FT-LBS AT 70°. F AS MEASURED BY A CHARPY V-NOTCH IMPACT TEST PER A.I.S.C. MANUAL OF STEEL CONSTRUCTION, LATEST EDITION.

STRUCTURAL STEEL
1. ALL WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS) STRUCTURAL WELDING CODE FOR STEEL AWS D1.1-10 AND D1.8.

2. WELDING PROCEDURE SPECIFICATIONS (WPS) SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL, PRIOR TO THE BEGINNING OF WELDING OPERATIONS. THE WPS SHALL INCLUDE THE WELDING PARAMETERS RECOMMENDED BY THE ELECTRODE MANUFACTURER, SEE AWS D1.1 APPENDIX E, FORM E-1. JOINT DETAILS TO SUIT EXISTING CONDITIONS. THE WELDING ELECTRODE MANUFACTURER'S SPECIFICATIONS SHALL BE ATTACHED TO THE WPS. ALL WELDERS AND INSPECTORS SHALL BE INFORMED OF THE WPS AND SHALL RETAIN A COPY.

3. SEE AWS FOR PREQUALIFIED SMAW WPS'S.

4. SEE AWS FOR PREQUALIFIED FCAW WPS'S.

5. WELDING TO BE DONE BY WELDERS CERTIFIED BY AWS.

6. ONLY SHIELDED METAL ARC WELDING (SMAW) WITH LOW HYDROGEN ELECTRODES OR FLUX CORE ARC WELDING (FCAW), EITHER GAS SHIELDED OF SELF SHIELDED, SHALL BE USED. FOR SMAW, THE TYPICAL REQUIREMENTS SHALL BE ACCORDING TO NOTE #3 ABOVE. WELDING PROCEDURES SHALL MEET THE REQUIREMENTS OF AWS D1.1 4.6.2, OR SHALL BE QUALIFIED BY TEST. FOR FCAW, THE TYPICAL REQUIREMENTS SHALL BE ACCORDING TO NOTE #4 ABOVE. THE WELDING PROCEDURE SHALL MEET THE REQUIREMENTS OF AWS D1.1 4.14.1.6.

7. INDIVIDUAL WELDS SHALL BE CARRIED CONTINUOUSLY TO COMPLETION BEFORE THE JOINT IS ALLOWED TO COOL BELOW THE MINIMUM SPECIFIED PREHEAT AND INTERPASS TEMPERATURE.

8. AT ALL COMPLETE PENETRATION WELDS, WELD BEADS SHALL BE PEENED AFTER EACH PASS, WITH THE EXCEPTION OF THE ROOT PASS AND THE SURFACES PASSES, AS FOLLOWS: TURN SLAG GUN 90 DEG. AND MAKE A MINIMUM OF 4 PASSES WITH DULL CHISEL.

9. PREHEATING IS REQUIRED ON ALL TACK WELDS NOT INCORPORATED INTO FINAL WELDS. SEE AWS D1.1, SECTION 3.3.7.

10. FOR BEAM FLANGE REINFORCEMENT PLATES, THE ROLLING DIRECTION OF GRAIN SHALL BE INDICATED ON THE PLATE AND INSTALLED SO THAT THE GRAIN DIRECTION IS PARALLEL TO THE LONGITUDINAL AXIS OF THE MEMBER.

11. FULL TIME VISUAL INSPECTION BY AN AWS QC-1 QUALIFIED INSPECTOR IS REQUIRED FOR ALL WELDING.

12. 100% ULTRASONIC WELD TESTING BY THE INSPECTOR IS REQUIRED FOR ALL COMPLETE PENETRATION WELDS.

13. AMPEREAGE, VOLTAGE, POLARITY AND ELECTRODE STICK OUT SHALL BE VERIFIED TO BE IN COMPLIANCE WITH THE ELECTRODE MANUFACTURER'S RECOMMENDATIONS.

14. REMOVE B.U. BARS AND WELD TABS AT ALL FLANGE COMPLETE JOINT PENETRATION (CJP) WELDS AT DUCTILE MOMENT FRAME CONNECTIONS. TYPICAL UNLESS NOTED OTHERWISE.

COLD-FORMED STEEL FRAMING NOTES:

1. DESIGN, FABRICATION AND ERECTION OF COLD-FORMED STEEL FRAMING SHALL CONFORM TO THE SPECIFICATIONS AND STANDARD OF THE AMERICAN IRON AND STEEL INSTITUTE (AISI), AS CONTAINED IN THE "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS", LATEST EDITION, INCLUDING ALL APPLICABLE AMENDMENTS.

2. ALL COLD-FORMED STEEL FRAMING SHALL BE ERECTED PLUMB AND TRUE TO LINE. TEMPORARY BRACING SHALL BE INSTALLED AND LEFT IN PLACE UNTIL OTHER MEANS IS PROVIDED TO ADEQUATELY BRACE THE STRUCTURE.

3. COLD-FORMED STEEL GRADES:
A. 18 GA (43 MILS) OR THINNER .....ASTM A1003 GRADE 33 (F_y = 33 KSI)
B. 16 GA (54 MILS) AND THICKER .....ASTM A1003 GRADE 50 (F_y = 50 KSI)

4. ALL COLD-FORMED STEEL FRAMING SHALL BE BRACED AS REQUIRED BY SECTION D3 OF THE AISI SPECIFICATION.

5. SUBMIT COLD-FORMED STEEL FRAMING SHOP DRAWINGS AND SPECIFICATIONS TO THE SEOR FOR REVIEW PRIOR TO FABRICATION.

6. COLD-FORMED STEEL STUDS AND TRACKS ARE TO BE ATTACHED WITH SHEET METAL SCREWS (SMS) WITH SIZES CALLED OUT ON THE DETAILS. PENETRATION OF SCREWS THROUGH JOINED MATERIAL SHOULD NOT BE LESS THAN 3 EXPOSED THREADS. SCREWS ARE TO BE INSTALLED AND TIGHTENED IN ACCORDANCE WITH SCREW MANUFACTURER'S RECOMMENDATIONS.

7. ALL HOLES FOR BOLTS SHOULD BE SHALL BE STANDARD HOLES.

8. GALVANIZED COATING SHALL COMPLY WITH ASTM A924.

9. COLD-FORMED STEEL FRAMING SHALL BE PER STEEL STUD MANUFACTURER'S ASSOCIATION (SSMA), ICC ER-3064P.

METAL DECK NOTES (FILLED & UNFILLED):

1. MATERIAL FOR METAL DECK SHALL HAVE A MIN YIELD STRENGTH OF 50 KSI AND CONFORM TO ASTM A653-SS GRADE 33 WITH GALVANIZED G60 COATING COMPLYING WITH ASTM A525.

2. SEE TYPICAL DETAILS FOR REINFORCING OF DECK AROUND OPENINGS. CONTRACTOR SHALL COORDINATE SIZE AND LOCATIONS OF OPENINGS WITH THE VARIOUS TRADES. NO LOADS SHALL BE HUNG FROM DECK WITHOUT APPROVAL OF SEOR.

3. FLOOR AND ROOF DECK IS DESIGNED FOR UNSHORED CONSTRUCTION, UNO. MAINTAIN 3 SPAN CONDITION WHEREVER POSSIBLE (2 SPAN MIN) EXCEPT AT STAIR LANDING AND WHERE NOTED OTHERWISE ON PLANS.

4. PROVIDE 2" MINIMUM BEARING AT ALL SUPPORTS. END LAPS OF METAL DECK SHALL BE A MINIMUM OF 2" AND SHALL OCCUR ONLY OVER SUPPORTS. DECK SHALL BE LAID OUT SO THAT A LOW FLUTE FALLS ON EACH PARALLEL SUPPORT.

5. INSTALL DECK BY WELDING. USE 3/4" DIAMETER PUDDLE WELDS OR WELDED STUDS TO SUPPORTS SPACED AS SHOWN ON CONSTRUCTION DRAWINGS. SPACING FOR TOP SEAM, SIDE SEAM, BUTTON PUNCH, OR PUNCHLOK CONNECTION SHALL BE IN ACCORDANCE WITH DRAWINGS. SEE TYPICAL METAL DECK DETAILS.

6. SUBMIT SHOP DRAWINGS FOR METAL DECK TO THE SEOR FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWINGS SHALL SHOW TYPE OF DECK, LAYOUT OF DECK, THE SIZE AND LOCATION OF ANY OPENINGS OF WIDTH GREATER THAN 1'-0", AND ATTACHMENT METHOD.

7. ALTERNATES TO TYPE OF DECK AND FASTENING MAY BE USED WITH THE APPROVAL OF THE SEOR. DECK PROPERTIES SHALL BE EQUAL TO OR GREATER THAN THOSE SHOWN ON THE PLANS. ANY DECK OR METHOD OF FASTENING SHALL HAVE LATEST EVALUATION REPORT PER CURRENT CODE APPROVING THE DECK FOR THE APPLICATION.

8. METAL DECK WITH CONCRETE FILL SHALL HAVE POSITIVE VENTING. DO NOT EMBED PIPES, SLEEVES, CONDUIT, ETC IN CONCRETE TOPPING UNO.

9. CONCRETE FILL OVER METAL DECK SHALL NOT BE OVER-POURED TO ACHIEVE LEVEL FLOOR.

ROUGH CARPENTRY/ WOOD NOTES:

1. ALL GRADES SPECIFIED ARE MINIMUM GRADES REQUIRED.

2. DOUGLAS FIR (DF) SHALL BE GRADED BY THE WESTERN WOOD PRODUCTS ASSOCIATION GRADING RULES, AND ASTM D245.

3. REDWOOD SHALL BE GRADED BY THE CALIFORNIA REDWOOD ASSOCIATION, REDWOOD INSPECTION SERVICE.

4. SILL PLATES SHALL BE PRESSURE-TREATED (PT) DOUGLAS FIR #1. REDWOOD IS PERMITTED WITH SEOR APPROVAL.

5. TOP PLATES, SILL PLATES, STUDS SHALL BE.....DF #1
JOISTS, RAFTERS, PURLINS, BEAMS & POSTS SHALL BE .....DF #1 (U.N.O.)
LOAD BEARING STUDS SHALL BE.....DF #1

6. MOISTURE CONTENT OF SAWN LUMBER SHALL NOT EXCEED 18% WHEN FRAMING STARTS OR SHEATHING IS APPLIED. ANY NONCOMPLIANT WORK SHALL BE REJECTED AND REFRAMED WITH ACCEPTABLE LUMBER.

7. TIMBERS 4" NOMINAL IN THE LEAST DIMENSION SHALL NOT CONTAIN BOXED HEART.

8. SILL PLATES SHALL BE PRESSURE-TREATED AND SHALL BE BOLTED TO CONCRETE WITH 5/8" DIAMETER ANCHOR BOLTS AT 48" O.C. MAX, U.N.O. WITH A BOLT BETWEEN 4" TO 12" FROM THE END OF EACH PIECE OF SILL (2 BOLTS MIN EACH PIECE). PIECE OF SILL SHALL BE CONSIDERED ENDED WHERE PLATE IS CUT OUT OVER ONE-THIRD OF CROSS-SECTION.

9. ANCHOR BOLTS FOR STRUCTURAL WALLS SHALL HAVE 12" EMBEDMENT (U.N.O.)
MEASURED FROM TOP OF SLAB.

10. STUD BEARING WALLS AND PARTITIONS SHALL HAVE DOUBLE TOP PLATES LAPPED AT WALL AND PARTITION INTERSECTIONS. JOINTS IN UPPER AND LOWER MEMBERS OF DOUBLE TOP PLATES SHALL BE STAGGERED AT LEAST 4' - 0".

11. HOLES IN WOOD AND STEEL MEMBERS FOR BOLTS SHALL BE THE NOMINAL BOLT DIAMETER PLUS 1/16".

12. ALL BOLTS IN WOOD SHALL BE ASTM A307 STANDARD BOLTS, U.N.O. BOLTS AND SCREWS SHALL BE TIGHTENED AT TIME OF ERECTION AND RETIGHTENED BEFORE CLOSING IN OR AT THE COMPLETION OF THE JOB.

13. HOLES IN WOOD FOR LAG SCREW SHANK SHALL BE BORED TO THE SAME DIAMETER AND DEPTH AS THE SHANK, AND FOR THE THREADED PORTION BORED WITH A BIT NOT LARGER THAN 40% TO 70% OF THE SHANK DIAMETER.

14. LAG SCREWS AND SCREWS SHALL BE SCREWED AND NOT DRIVEN INTO PLACE. BOLT HOLES SHALL BE A MINIMUM OF 1/32" TO A MAXIMUM 1/16" LARGER THAN THE BOLT DIAMETER. HOLES SHALL BE ACCURATELY ALIGNED IN MAIN MEMBERS AND SIDE PLATES. BOLTS SHALL NOT BE FORCIBLY DRIVEN.

15. METAL FRAMING CONNECTORS SHALL BE MANUFACTURED BY SIMPSON STRONG TIE COMPANY (CURRENT CATALOG) OR "USP" WITH EQUIVALENT ICC PUBLISHED VALUES AND SHALL BE INSTALLED PER SPECIFICATIONS, NO EXCEPTIONS.

16. INSTALL WINDOWS AND DOORS IN STUD WALLS AFTER DEAD LOADS ARE APPLIED, AND PROVIDE A 1/2" SHIM SPACE AT THE HEAD CONDITION.

17. STEEL WASHERS SHALL BE PROVIDED UNDER HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS WHICH BEAR ON WOOD. STANDARD CUT WASHERS MAY BE USED IN ALL CASES EXCEPT SILL PLATES AND WOOD LEDGERS AGAINST CONCRETE OR MASONRY. NOTE, WASHERS UNDER CARRIAGE BOLT HEADS SHALL BE LARGE ENOUGH TO ALLOW FOR SQUARE SHOULDERS.

18. ONLY LOAD BEARING AND/OR SHEAR WALLS ARE SHOWN
SEE ARCHITECTURAL DRAWINGS FOR ALL OTHER PARTITIONS.

19. ELEVATIONS SHOWN ON PLANS ARE FROM FINISHED FIRST FLOOR, DATUM ELEVATION = 0' - 0".

20. ALL EXTERIOR WALLS AND INTERIOR BEARING WALLS ARE 2x6 STUDS @ 16" O.C. TYPICAL, U.N.O.

21. ALL EXTERIOR STUD WALLS SHALL BE COMPLETELY SHEATHED WITH 15/32" APA RATED SHEATHING, EXPOSURE-1 (32/16).

22. INTERIOR STRUCTURAL SHEATHED WALLS ARE SHOWN ON PLANS AND SHALL HAVE 15/32" APA RATED SHEATHING EXPOSURE-1, (32/16),TYPICAL U.N.O.

23. ALL STRUCTURAL WALL SHEATHING IS SPLICED ON 2" NOMINAL BLOCKING AT HORIZONTAL JOINTS, U.N.O.

24. STRUCTURAL FLOOR AND ROOF SHEATHING SHALL BE AS ON PLAN AND SHALL BE APA RATED SHEATHING (32/16).
NOTE: 1/8" GAP SHALL BE PROVIDED BETWEEN ADJACENT PANELS. PANELS WITH GRADE STAMP INDICATION "SIZED FOR SPACING" MAY BE USED TO FACILITATE THIS REQUIREMENT. SEE PLANS FOR REQUIRED BOUNDARY AND EDGE NAILING NOT LISTED BELOW. FLOOR SHEATHING SHALL BE GLUED AND NAILED PER PLAN.

(* - SHEATHING @ EXTERIOR DECKS SHALL BE EXTERIOR RATED PLYWOOD.)

BN = BOUNDARY NAILING
EN = EDGE NAILING
FN = FIELD NAILING

25. SEE PLANS FOR LOCATION OF NOMINAL 2X FLAT BLOCKING AT ROOF SHEATHING PANEL JOINTS. SEE THIS SHEET FOR PLY CLIP REQUIREMENTS AT UNBLOCKED ROOF PANEL JOINTS. T&G SHEATHING IS NOT REQUIRED WHERE JOINTS ARE BLOCKED.

26. (S) INDICATES METAL FRAMING CONNECTORS MANUFACTURED BY SIMPSON STRONG TIE COMPANY (CURRENT CATALOG) OR "USP" WITH EQUIVALENT ICC PUBLISHED VALUES AND SHALL BE INSTALLED PER SPECIFICATIONS, NO EXCEPTIONS.

27. FASTENERS, INCLUDING NAILS, NUTS AND WASHERS, IN CONTACT WITH PRESERVATIVE - TREATED WOOD SHALL BE OF HOT-DIPPED ZINC COATED GALVANIZED STEEL OR STAINLESS STEEL.

GLUED-LAMINATED FRAMING NOTES:

1. SIMPLE SPANS..... DF COMB. 24F-V4
CONTINUOUS OR CANTILEVER..... DF COMB. 24F-V8

2. STRUCTURAL GLUED-LAMINATED (GLULAM) TIMBER OF SOFTWOOD SPECIES SHALL BE IN CONFORMANCE WITH ANSI/AITC STANDARD A190.1 AND ASTM D3737, OR OTHER CODE APPROVED DESIGN, MANUFACTURING AND/OR QUALITY ASSURANCE PROCEDURES. MEMBERS SHALL BE MARKED WITH THE ENGINEERED WOOD SYSTEM APA EWS TRADEMARK INDICATING CONFORMANCE WITH THE MANUFACTURING, QUALITY ASSURANCE, AND MARKING PROVISIONS OF ANSI/AITC STANDARD A190.1. THE MANUFACTURER OR SELLER SHALL SUBMIT CERTIFICATES OF CONFORMANCE.

3. GLULAM TIMBERS SHALL BE MANUFACTURED TO MEET THE FOLLOWING REQUIREMENTS.

- NDS 24F-V4 REQUIREMENTS: Fb=1850 PSI TOP AND 2400 PSI BOTTOM; Fv=265 PSI ; E=1,800,000 PSI WITH 1600 FT RADIUS CAMBER UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- NDS 24F-V8 REQUIREMENTS: Fb=2400 PSI TOP AND BOTTOM: Fv=265 PSI; E=1,800,000 PSI WITH 1600 FT RADIUS CAMBER UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- NO CAMBER AT CANTILEVER PORTION UNO ON PLANS.

4. OTHER GLULAM TIMBER COMBINATIONS AS SPECIFIED IN APA'S CODE REPORT NER-486.

PREPARED BY:
MCA ENGINEERS INC
CIVIL • STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
Tel. 949.679.0870
Fax. 949.679.9370
Project No.: I699

REGISTERED PROFESSIONAL ENGINEER No. S4029 Exp. 9/30/24 STATE OF CALIFORNIA CIVIL

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

	INITIAL	DATE
DESIGNED BY	AQ	05/01/23
DRAWN BY	AN	06/29/23
CHECKED BY	YN	06/29/23

APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
GENERAL NOTES
COMMUNITY AQUATICS & SENIOR CENTER
S-0.2

SHT. 85 OF 176 DWG. NO. S-2606

REL FILE: C:\Users\AQ\Documents\Documents\191-Gardena\Drawings\S-0.2.dwg
PLOT DATE: 6/30/2023 - 2:05 PM
RELEASED FOR CONSTRUCTION DOCUMENTS

STATEMENT OF SPECIAL INSPECTIONS:

1. THE OWNER SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PROVIDE INSPECTIONS DURING CONSTRUCTION. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.
2. SPECIAL INSPECTIONS ARE NOT REQUIRED WHERE THE WORK IS DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION. APPROVED FABRICATORS MUST SUBMIT A CERTIFICATE OF COMPLIANCE FOR OFFSITE FABRICATIONS SUCH AS STRUCTURAL STEEL, PRECAST CONCRETE, GLUED LAMINATED TIMBER, ETC.
3. ALL INSPECTIONS SHALL BE PERFORMED BY INDEPENDENT SPECIAL INSPECTORS. JOB SITE VISITS BY THE STRUCTURAL ENGINEER OR BUILDING OFFICIAL DO NOT CONSTITUTE AND ARE NOT A SUBSTITUTE FOR INSPECTIONS BY A SPECIAL INSPECTOR.
4. ALL INSPECTION REPORTS SHALL BE SUBMITTED TO BUILDING OFFICIAL AND SEOR. THE FINAL REPORTS BY THE SPECIAL INSPECTOR(S) MUST CERTIFY THAT THE ENTIRE STRUCTURAL SYSTEM COMPLIES WITH THE APPROVED PLANS AND SPECIFICATIONS.
5. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT THESE INSPECTIONS ARE PERFORMED.
6. WORK REQUIRING SPECIAL INSPECTION SHALL BE INSPECTED BY THE SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS PERFORMED AND AT THE COMPLETION OF WORK. CONTINUOUS INSPECTION CONSISTS OF FULL-TIME INSPECTION; PERIODIC INSPECTION CONSISTS OF PART-TIME OR INTERMITTENT INSPECTION.
7. THE FOLLOWING SPECIAL INSPECTIONS ARE IN ADDITION TO INSPECTIONS BY THE BUILDING OFFICIAL. THIS LIST IS NOT INTENDED TO BE ALL INCLUSIVE.

TABLE 1705.3

REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD[a]	CBC REFERENCE
1. INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT	-	X	ACI 318: 3.5, 7.1-7.7	-
2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1705A.2.1, ITEM 5B.	-	-	AWS D1.4; ACI 318: 3.5.2	-
3. INSPECTION OF ANCHORS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED OR WHERE STRENGTH DESIGN IS USED.	X	-	ACI 318: 8.1.3, 21.2.8	1908.5, 1909.1
4. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE.[b]	-	X	ACI 318: 3.8.6, 8.1.3, 21.2.8	1909.1
5. VERIFYING USE OF REQUIRED DESIGN MIX.	-	X	ACI 318: CH 4, 5.2-5.4	1904.2, 1910.2, 1910.3
6. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	X	-	ASTM C172 ASTM C31; ACI 318: 5.6, 5.8	1910.10
7. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	-	ACI 318: 5.9, 5.10	1910.6, 1910.7, 1910.8
8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	-	X	ACI 318: 5.11-5.13	1910.9
9. INSPECTION OF PRESTRESSED CONCRETE:				
A. APPLICATION OF PRESTRESSING FORCES.	X	-	ACI 318: 18.20	-
B. GROUTING OF BONDED PRESTRESSING TENDONS IN THE SEISMIC-FORECE-RESISTING SYSTEM	X	-	ACI 318: 18.18.4	-
10. ERECTION OF PRECAST CONCRETE MEMBERS.	-	X	ACI 318: CH 16	-
11. VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POSTTENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	-	X	ACI 318: 6.2	-
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.[c]	-	X	ACI 318: 6.1.1	-

FOR SI: 1 INCH = 25.4 MM

a. WHERE APPLICABLE, SEE ALSO SECTION 1705A.11, SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE.
b. SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTIONS SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUED BY AN APPROVED SOURCE IN ACCORDANCE WITH ACI 355.2 OR SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO COMMENCEMENT OF THE WORK.
c. INSTALLATION OFF ALL ADHESIVE ANCHORS IN THE HORIZONTAL AND UPWARDS INCLINED POSITIONS SHALL BE PERFORMED BY AN ACI/CRSI CERTIFIED ANCHOR INSTALLER

TABLE 1705.6

REQUIRED VERIFICATION AND INSPECTION OF SOILS

VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	-	X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	-	X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	-	X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	-
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEE N PREPARED PROPERLY.	-	X

TABLE 1705.2.1

REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD	CBC REFERENCE
1. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS:				
A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	-	X	AISC 360, SECTION A3.3 AND APPLICABLE ASTM MATERIAL STANDARDS	-
B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	-	X	-	-
2. INSPECTION OF HIGH-STRENGTH BOLTING:				
A. SNUG-TIGHT JOINTS.	-	X	AISC 360, SECTION M2.5	-
B. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITH MATCH MARKING, TWIST-OFF BOLT OR DIRECT TENSION INDICATOR METHODS OF INSTALLATION.	-	X		
C. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITHOUT MATCH MARKING OR CALIBRATED WRENCH METHODS OF INSTALLATION.	X	-		
3. MATERIAL VERIFICATION OF STRUCTURAL STEEL AND COLD-FORMED STEEL DECK:				
A. FOR STRUCTURAL STEEL, IDENTIFICATION MARKINGS TO CONFORM TO AISC 360.	-	X	AISC 360, SECTION A3.1	2203.1
B. FOR OTHER STEEL. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	-	X	APPLICABLE ASTM MATERIAL STANDARDS	-
C. MANUFACTURER'S CERTIFIED TEST REPORTS.	-	X	-	-
4. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:				
A. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS.	-	X	-	-
B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	-	X	-	-
5. INSPECTION OF WELDING:				
A. STRUCTURAL STEEL AND COLD-FORMED STEEL DECK:				
1) COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS.	X	-	AWS D1.1	1705.2.2
2) MULTIPASS FILLET WELDS.	X	-		
3) SINGLE-PASS FILLET WELDS > 5/16"	X	-		
4) PLUG AND SLOT WELDS.	X	-		
5) SINGLE-PASS FILLET WELDS < 5/16"	-	X		
6) FLOOR AND ROOF DECK WELDS.	-	X	AWS D1.3	-
B. REINFORCING STEEL.				
1) VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A 706.	-	X	AWS D1.4 ACI318: SECTION 3.5.2	-
2) REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS OF CONCRETE AND SHEAR REINFORCEMENT.	X	-		
3) SHEAR REINFORCEMENT.	X	-		
4) OTHER REINFORCING STEEL.	-	X		
6. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE.				
A. DETAILS SUCH AS BRACING AND STIFFENING.	-	X	-	1705.2.2
B. MEMBER LOCATIONS.	-	X		
C. APPLICATION OF JOINT DETAILS AT EACH CONNECTION.	-	X		

TMS 602-16 TABLE 4

LEVEL 2 REQUIRED VERIFICATION AND INSPECTION OF MASONRY CONSTRUCTION

VERIFICATION AND INSPECTION	FREQUENCY OF INSPECTION			
	CONTINUOUS	PERIODIC	TMS 402/ ACI 530/ ASCE 5	TMS 602/ACI 530.1/ASCE 6
1. AS MASONRY CONSTRUCTION BEGINS,VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:				
A. PROPORTIONS OF SITE-PREPARED MORTAR	-	X	-	ART. 2.1, 2.6 A, & 2.6 C
B. GRADE AND SIZE OF PRESTRESSING TENDONS AND ANCHORAGES	-	X	-	ART. 2.4 B & 2.4 H
C. GRADE, TYPE AND SIZE OF REINFORCEMENT, CONNECTORS, ANCHOR BOLTS, AND PRESTRESSING TENDONS AND ANCHORAGES	-	X	-	ART. 3.4 & 3.6 A
D. PRESTRESSING TECHNIQUE	-	X		ART. 3.6 B
E. PROPERTIES OF THIN-BED MORTAR FOR AAC MASONRY	X[b]	X[c]	-	ART. 2.1 C.1
F. SAMPLE PANEL CONSTRUCTION	-	X	-	ART. 1.6 D
2. PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:				
A. GROUT SPACE	-	X	-	ART. 3.2 D & 3.2 F
B. PLACEMENT OF PRESTRESSING TENDONS AND ANCHORAGES	-	X	SEC. 10.8 & 10.9	ART. 2.4 & 3.6
C. PLACEMENT OF REINFORCEMENT, CONNECTORS, AND ANCHOR BOLTS	-	X	SEC 6.1, 6.3.1, 6.3.6, & 6.3.7	ART. 3.2 E & 3.4
D. PROPORTIONS OF SITE-PREPARED GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS	-	X	-	ART. 2.6 B & 2.4 G.1.b
3. VERIFY COMPLIANCE OF THE FOLLOWING DURING CONSTRUCTION:				
A. MATERIALS AND PROCEDURES WITH THE APPROVED SUBMITTALS	-	X	-	ART. 1.5
B. PLACEMENT OF MASONRY UNITS AND MORTAR JOINT CONSTRUCTION	-	X	-	ART. 3.3 B
C. SIZE AND LOCATION OF STRUCTURE MEMBERS	-	X	-	ART. 3.3 F
D. TYPE,SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION	-	X	SEC. 1.2.1(e), 6.2.1, & 6.3.1	-
E. WELDING OF REINFORCEMENT	X	-	SEC.6.1.6.1.2	-
F. PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F(4.4°C))OR HOT WEATHER (TEMPERATURE ABOVE90°F(32.2°C))		X	-	ART. 1.8 C & 1.8 D
G. APPLICATION AND MEASUREMENT OF PRESTRESSING FORCE	X		-	ART. 3.6 B
H. PLACEMENT OF GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS IS IN COMPLIANCE	X		-	ART. 3.5 & 3.6 C
I. PLACEMENT OF AAC MASONRY UNITS AND CONSTRUCTION OF THIN-BED MORTAR JOINTS	X[b]	X[c]	-	ART. 3.3 B.9 & 3.3 F.1.b
4. OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS	-	X	-	ART. 1.4 B.2.a.3, 1.4 B.2.b.3, 1.4 B.2.c.3, 1.4 B.3, & 1.4 B.4

(a) FREQUENCY REFERS TO THE FREQUENCY OF INSPECTION, WHICH MAY BE CONTINUOUS DURING THE LISTED TASK OR PERIODICALLY DURING THE LISTED TASK, AS DEFINED IN THE TABLE.
(b) REQUIRED FOR THE FIRST 5000 SQUARE FEET (465 SQUARE METERS) OF AAC MASONRY
(c) REQUIRED AFTER THE FIRST 5000 SQUARE FEET (465 SQUARE METERS) OF AAC MASONRY

WOOD LATERAL LOAD RESISTING SYSTEM SPECIAL INSPECTION:

1705.11.2 STRUCTURAL WOOD.
CONTINUOUS SPECIAL INSPECTION IS REQUIRED DURING FIELD GLUING OPERATION OF ELEMENTS OF THE SEISMIC FORCE-RESISTING SYSTEM. PERIODIC SPECIAL INSPECTION IS REQUIRED FOR NAILING, BOLTING, ANCHORING AND OTHER FASTENING OF COMPONENTS WITHIN THE SEISMIC FORCE-RESISTING SYSTEM, INCLUDING WOOD SHEAR WALLS, WOOD DIAPHRAGMS, DRAG STRUTS, BRACES, SHEAR PANELS AND HOLD0DOWNS.

EXCEPTION:
SPECIAL INSPECTION IS NOT REQUIRED FOR WOOD SHEAR WALLS, SHEAR PANELS AND DIAPHRAGMS, INCLUDING NAILING, BOLTING, ANCHORING AND OTHER FASTENING TO OTHER COMPONENTS OF THE SEISMIC FORCE0RESISTING SYSTEM, WHERE THE FASTENER SPACING IF THE SHEATHING IS MORE THAN 4INCHES (102MM) ON CENTER (O/C)

STRUCTURAL OBSERVATIONS:

1. VISUAL OBSERVATIONS WILL BE PERFORMED AT THE DISCRETION OF THE OWNER, ARCHITECT, SEOR, AND AS REQUIRED BY THE BUILDING OFFICIAL IN ACCORDANCE WITH THE BUILDING CODE.
2. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO NOTIFY THE STRUCTURAL ENGINEER AS TO WHEN EACH MAJOR PHASE OF CONSTRUCTION IS READY FOR OBSERVATION A MINIMUM OF FIVE (5) WORKING DAYS IN ADVANCE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT NAILING, REINFORCEMENT, WELDS, CONNECTIONS, ETC. ARE VISIBLE FOR OBSERVATION WHEN THE SEOR IS ON SITE AND FOR ANY SCHEDULING DELAYS DUE TO NONCOMPLIANT ITEMS FOUND DURING THE OBSERVATION.
4. THE FOLLOWING MAJOR PHASES OF CONSTRUCTION REQUIRE A SITE VISIT AND STRUCTURAL OBSERVATION REPORT FROM THE SEOR:

City of Gardena
Committee I-3: Structural Observation

STRUCTURAL OBSERVATION PROGRAM AND DESIGNATION OF THE STRUCTURAL OBSERVER

PROJECT ADDRESS: 1645 W166th Street Gardena, CA 90247 PERMIT APPL. NO. _____
Description of Work: New aquatics center
Owner: _____ Architect: Robert Simons Engineer: Young K. Nam

STRUCTURAL OBSERVATION
(only checked items are required)

Firm or Individual to be responsible for the Structural Observation:
Name: VCA Engineers Inc Phone: (949)679.0870 Calif. Registration: S4029

FOUNDATION	WALL	FRAME	DIAPHRAGM
☑ Footing, Stem Walls, Piers	☐ Concrete	☐ Steel Moment Frame	☐ Concrete:
☐ Mat Foundation	☑ Masonry	☐ Steel Braced Frame	☑ Steel Deck
☐ Caisson, Piles, Grade Beams	☐ Wood	☐ Concrete Moment Frame	☐ Wood
☐ Step'g/Retain'g Foundation, Hillside Special Anchors	☑ Others: SHEARWAND	☐ Others:	☐ Others:
☐ Others:			

DECLARATION BY OWNER
I, the Owner of the project, declare that the above listed firm or individual is hired **by me** to be the Structural Observer.

Signature Date

DECLARATION BY ARCHITECT OR ENGINEER OF RECORD (required if the Structural Observer is different from the Architect or Engineer of Record)
I, the Architect or Engineer of record for the project, declare that the above listed firm or individual is designated by me to be responsible for the Structural Observation.

Signature S4029 License No. 05/01/23 Date

PREPARED BY:
VCA ENGINEERS INC
CIVIL ● STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
Tel. 949.679.0870
Fax. 949.679.9370
Project No.: I699

REGISTERED PROFESSIONAL ENGINEER No. S4029 Exp. 9/30/24 STRUCTURAL STATE OF CALIFORNIA

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

REVISIONS

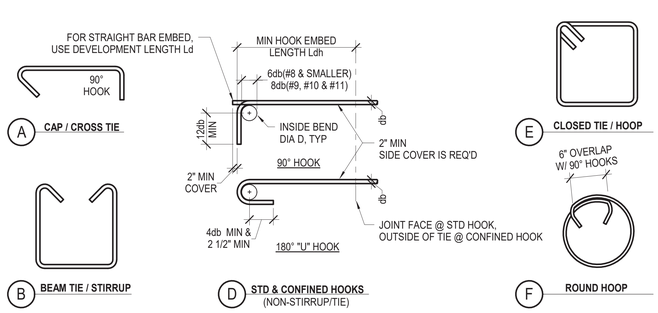
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

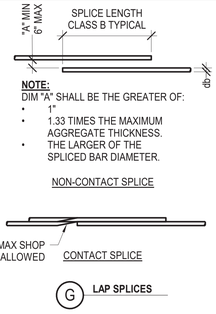
CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
GENERAL NOTES
COMMUNITY AQUATICS & SENIOR CENTER
S-0.3

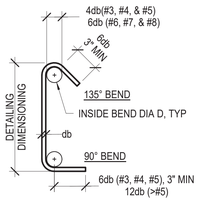
	INITIAL	DATE
DESIGNED BY	AQ	05/01/23
DRAWN BY	AN	06/29/23
CHECKED BY	YN	06/29/23

APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS
SHT. 86 OF 176 DWG. NO. 5-2606

REL GARDENS AQUATICS CENTER – 90% CONSTRUCTION DOCUMENTS
Plotted: 6/30/2023 3:54:13 PM By: Aaron Quiambao
PLOT FILE: C:\Users\AaronQuiambao\Documents\121 Gardena\Arch\S-0.3.dwg







BAR SIZE	FINISHED BEND DIAMETER "D" IN INCHES
#3	2 1/4"
#4	3"
#5	3 3/4"
#6	4 1/2"
#7	5 1/4"
#8	8"
#9	9 1/2"
#10	10 3/4"
#11	12"
#18	18 1/4"

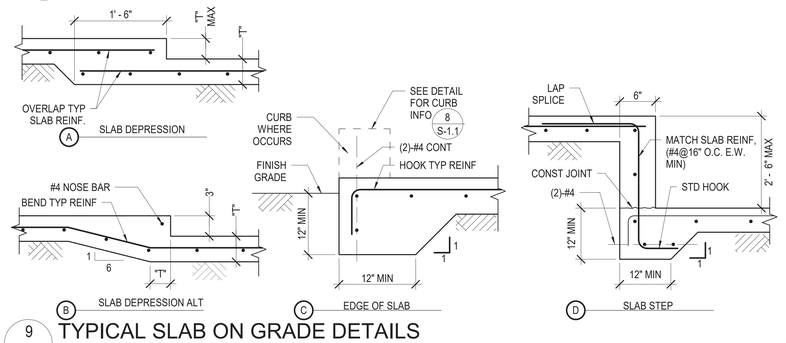
STANDARD HOOKS

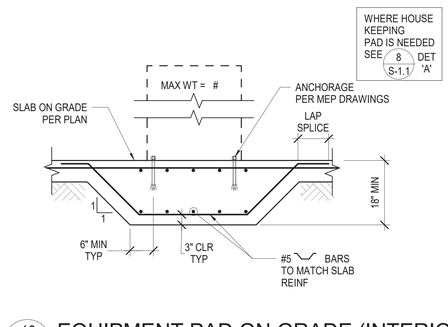
	BAR SIZE	L_{dh}(in) STD HOOK	LAP SPLICE (in) CLASS B		L_d(in) DEVELOPMENT LENGTH	
			TOP	OTHER	TOP	OTHER
3000 PSI NWC	#3	6	29	23	22	17
	#4	8	38	29	29	22
	#5	10	47	37	36	28
	#6	12	56	43	43	33
	#7	14	82	63	63	48
	#8	16	94	72	72	55
	#9	18	106	81	81	62
	#10	20	119	91	91	70
	#11	22	132	102	101	78
4000 PSI NWC	#3	6	25	20	19	15
	#4	7	33	25	25	19
	#5	9	41	32	31	24
	#6	10	49	38	37	29
	#7	12	71	55	54	42
	#8	14	81	63	62	48
	#9	15	91	71	70	54
	#10	17	103	80	79	61
	#11	19	114	88	87	67
5000 PSI NWC	#3	6	23	17	17	13
	#4	6	30	23	23	17
	#5	8	37	29	28	22
	#6	9	45	34	34	26
	#7	11	64	50	49	38
	#8	12	73	56	56	43
	#9	14	82	63	63	48
	#10	16	93	71	71	54
	#11	17	102	78	78	60

NOTES:
1. Ldh = HOOK DEVELOPMENT LENGTH.
2. Ld = DEVELOPMENT LENGTH.
3. db = REINFORCING BAR DIAMETER
4. SEE BUILDING CODE AND ACI 318-14 VERSION FOR ALL REQUIREMENTS NOT NOTED.
5. FOR LIGHTWEIGHT CONCRETE MULTIPLY Ldh AND Ld VALUES SHOWN BY 1.33.
6. TOP BARS ARE HORIZONTAL WITH MORE THAN 12" OF FRESH CONCRETE CAST BELOW BARS. ALL OTHER BARS ARE "OTHER" BARS.
7. STANDARD HOOK Ldh DOES NOT ACCOUNT FOR THE EFFECT OF TIES. CONFINED HOOK Ldh MAY BE USED WHERE ACI 318-14 25.4.3 APPLIES.
8. VALUES SHOWN ABOVE ARE FOR GRADE 60 (FY=60 KSI) REINFORCEMENT.
9. SPLICE LENGTHS SHOWN ARE FOR CLEAR SPACING NOT LESS THAN 2db, CONCRETE COVER NOT LESS THAN db.
10. IF EPOXY-COATED REINFORCEMENT IS USED, THE DEVELOPMENT/LAP SPLICE LENGTHS HEREIN SHALL BE MULTIPLIED BY APPLICABLE FACTORS IN ACI 318-14 SECTIONS 25.4.2.4 OR 25.4.3.2.
11. IN LIEU OF LAP SPLICES, PROVIDE TYPE 2 COUPLERS PER IAPMO ER 0129. STAGGER COUPLERS SO THAT COUPLERS DO NOT OCCUR IN ROW.

5 S-1.1 TYPICAL CONC REINFORCEMENT DETAILS AND DEVELOPMENT LENGTHS

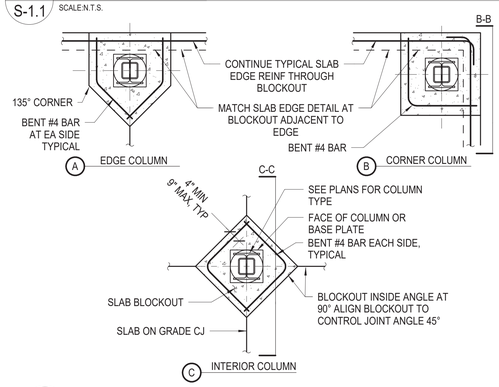
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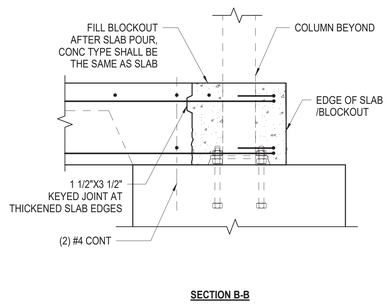
9 S-1.1 TYPICAL SLAB ON GRADE DETAILS

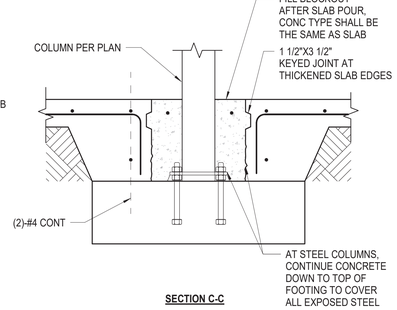
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10 S-1.1 EQUIPMENT PAD ON GRADE (INTERIOR)

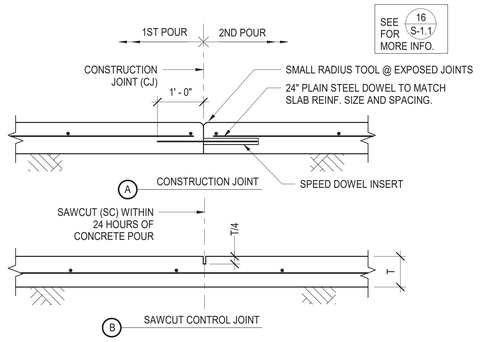
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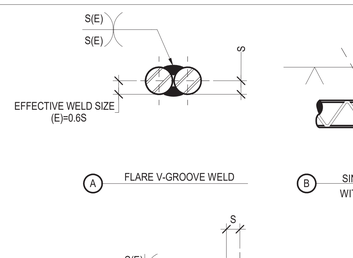
11 S-1.1 TYP ISOLATED EQUIPMENT PAD (EXTERIOR)

SCALE:N.T.S.



13 S-1.1 TYPICAL SLAB ON GRADE BLOCKOUT AT COLUMN

SCALE:N.T.S.

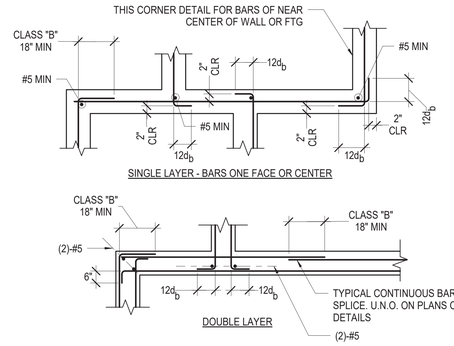


WELD SCHEDULE	
BAR SIZE	MIN WELD LENGTH
#3	3"
#4	3"
#5	3"
#6	4"
#7	5"
#8	5"
#9	6"
#10	6"

NOTES:
1. WELDING SHALL BE WITH LOW HYDROGEN ELECTRODES E90XX AND SHALL CONFORM TO AWS-D1.4.
2. ALL WELDING SHALL BE SUBJECT TO CONTINUOUS INSPECTION.
3. REINFORCING BARS TO BE WELDED SHALL MEET THE REQUIREMENT OF ASTM A706.
4. RADIUS OF REINFORCING BAR = S.
5. THESE ARE SECTIONAL VIEWS. BAR DEFORMATIONS ARE SHOWN ONLY FOR ILLUSTRATIVE PURPOSES.

3 S-1.1 TYPICAL REINFORCING BAR WELDING

SCALE:N.T.S.

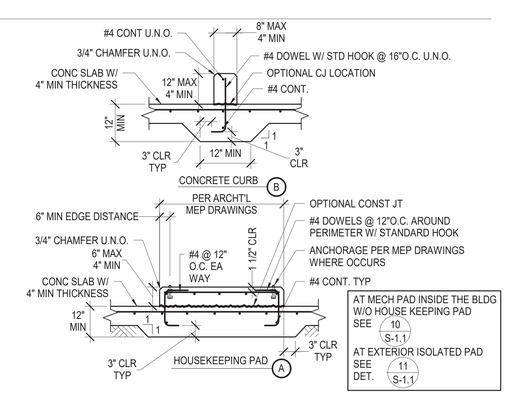


REINF BAR SPLICES AT CONT WALL FTGS INTERSECTIONS

7 S-1.1 SCALE:N.T.S.

8 S-1.1 TYPICAL CONCRETE PAD AND CURB ON GRADE

SCALE:N.T.S.

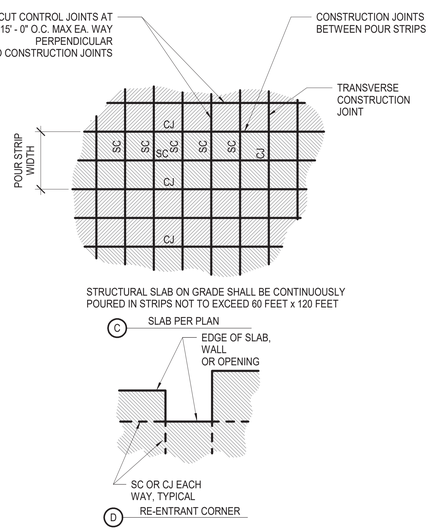


15 S-1.1 TYPICAL SLAB ON GRADE CONTROL JOINT (FOR SLAB THICKNESS 4" TO 6")

SCALE:N.T.S.

16 S-1.1 TYPICAL SLAB ON GRADE CONTROL JOINT

SCALE:N.T.S.



NOTES:
1. SEE ARCHITECTURAL PLANS FOR LOCATIONS OF VISUALLY EXPOSED CONTROL JOINTS.
2. FOR POURING SEQUENCE OTHER THAN THAT SHOWN ON THESE PLANS, SUBMIT SHOP DRAWINGS TO SEOR FOR REVIEW 7 DAYS PRIOR TO POUR.
3. FOR SAW CUT (SC) AND CONSTRUCTION JOINT (CJ) SEE DETAIL 15 / S-1.1
4. FOR TYPICAL SLAB EDGE AND STEPS IN SLAB SEE DETAIL 9 / S-1.1

PREPARED BY:
MCA ENGINEERS INC CIVIL • STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
Tel. 949.679.0870
Fax. 949.679.9370
Project No.: I699

REGISTERED PROFESSIONAL ENGINEER No. S4029 Exp. 9/30/24 STRUCTURAL STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
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2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

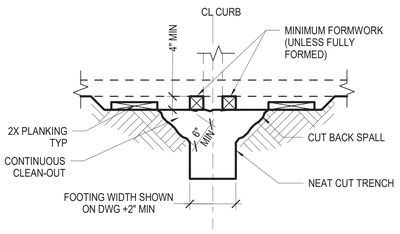
B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
TYPICAL DETAILS-REBAR & S.O.G
COMMUNITY AQUATICS & SENIOR CENTER
S-1.1

	INITIAL	DATE
DESIGNED BY	AQ	05/01/23
DRAWN BY	AN	06/29/23
CHECKED BY	YN	06/29/23

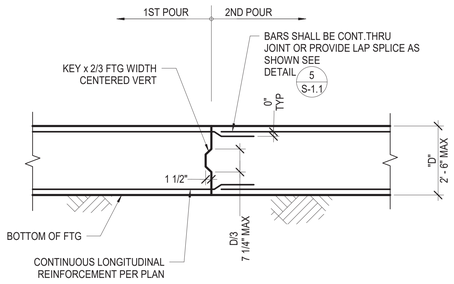
APPROVED BY: _____
APPROVED BY: _____ DIRECTOR OF PUBLIC WORKS
SHT. 87 OF 176 DWG. NO. 5-2606

RELEASED FOR CONSTRUCTION - DOCUMENTS
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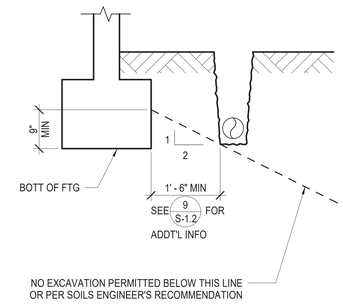
NOTES:
1. FOOTINGS POURED AGAINST EARTH ARE SUBJECT TO APPROVAL OF GEOTECH. ENGR.
2. FOOTING WIDTHS SHALL NOT BE MORE THAN 4" WIDER THAN SHOWN ON PLAN.
3. FORMWORK NOT PERMITTED BELOW GRADE UNLESS FULLY FORMED.
4. FOUNDATION CONCRETE MAY BE PLACED DIRECTLY INTO NEAT EXCAVATIONS PROVIDED THE FOUNDATION TRENCH WALLS ARE STABLE AS DETERMINED BY THE GEOTECHNICAL ENGINEER. THE MINIMUM FORMWORK SHOWN ON THE DRAWINGS IS MANDATORY TO ENSURE CLEAN EXCAVATIONS IMMEDIATELY PRIOR TO AND DURING THE PLACING OF CONCRETE.
5. CONT CLEAN-OUT STAKES NOT PERMITTED IN THE FTG AREA.
6. AFTER CONCRETE HAS SET, REMOVE LAITANCE AND SCUM.

1 S-1.2 FOOTING POURED AGAINST EARTH
SCALE:N.T.S.



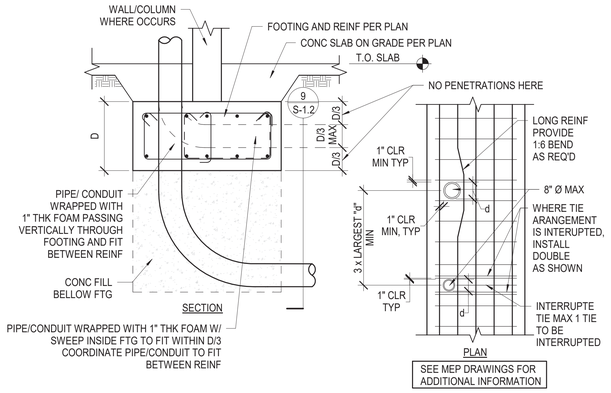
NOTES:
1. PROVIDE ADEQUATE SUPPORT FOR LONGITUDINAL REINFORCEMENT WITHIN 6" OF JOINT USING FOOTING TIES, VERTICAL DOWELS OR OTHER MEANS.
2. SECTIONS SHOWN ARE AT CENTER OF FOOTING IN LONGITUDINAL DIRECTION.

2 S-1.2 CONSTRUCTION JOINT AT FOOTING/ GRADE BEAM
SCALE:N.T.S.



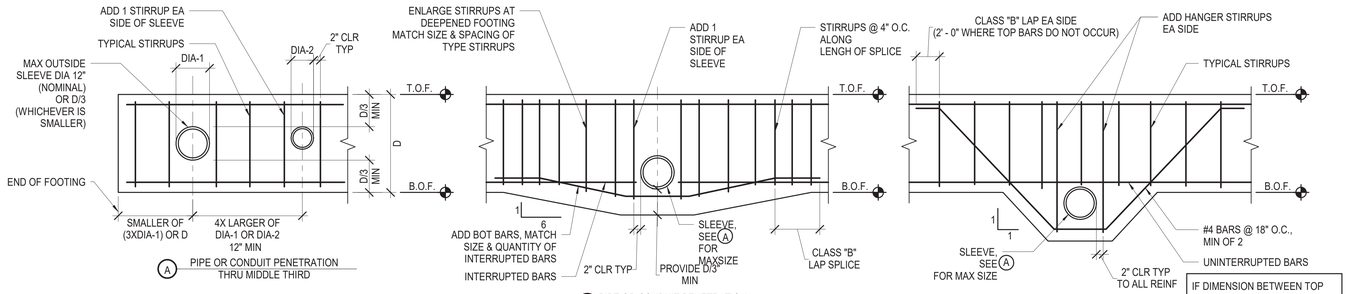
NOTE:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR SHORING OR OTHERWISE MAINTAINING THE SIDES OF THE EXCAVATION FROM CAVE-INS UNTIL ALL BACKFILL IS COMPLETED PER SPECIFICATIONS AND GEOTECHNICAL REPORT.

3 S-1.2 TYPICAL EXCAVATION PARALLEL TO FOOTING
SCALE:N.T.S.



SEE MEP DRAWINGS FOR ADDITIONAL INFORMATION

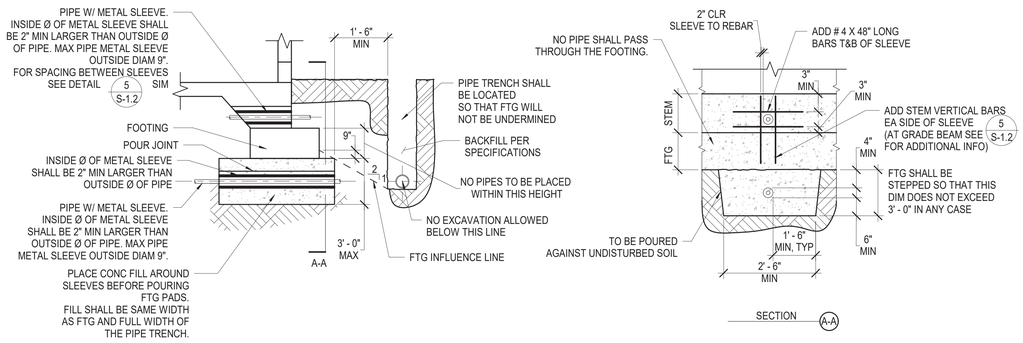
4 S-1.2 PIPE/ CONDUIT SWEEP THRU FOOTING
SCALE:N.T.S.



IF DIMENSION BETWEEN TOP OF SLEEVE AND BOTTOM OF FOOTING IS GREATER THAN OR EQUAL TO 4" NO ADDTIONAL REINFORECEMENT IS REQUIRED.
SEE DET. 9 S-1.2

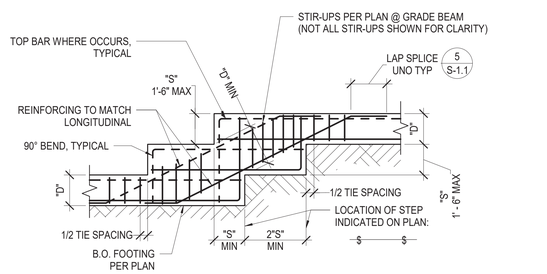
NOTES:
1. DO NOT CUT REINFORCING AT (A) OR (C) ONLY CUT INTERRUPTED REINFORCING AT (B) .
2. PROVIDE MINIMUM 2" CLEAR BETWEEN SLEEVE AND REINFORCING .
3. INSIDE Ø OF METAL SLEEVE SHALL BE 2" MIN LARGER THAN OUTSIDE Ø OF PIPE.
4. CAULK SEAL GAP AT SLEEVE-TO-PIPE/CONDUIT INTERFACE ON EXTERIOR SIDE OF FOOTING .
5. IF PIPE OR CONDUIT PENETRATION OCCURS AT EITHER TOP OR BOTTOM REBAR SPLICE LOCATION PROVIDE 2 ADDITIONAL SHEAR STIRRUPS FOR A TOTAL OF 4 SHEAR STIRRUPS ON EACH SIDE OF PENETRATION .

5 S-1.2 TYPICAL PIPE OR CONDUIT PENETRATIONS THRU CONTINUOUS FOOTINGS
SCALE:N.T.S.



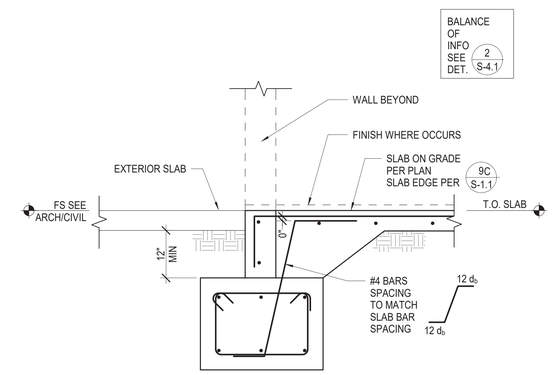
NOTES:
1. CONTRACTOR SHALL COORDINATE ALL PIPE LOCATIONS WITH BUILDING FOUNDATION REQUIREMENTS.
2. IF REQUIREMENTS AS SHOWN CANNOT BE MET, STEP FOOTING PER TYPICAL 'STEPPED FOOTING' DETAIL.
3. REFERENCE CBC SECTION 1805A.4.7

9 S-1.2 PIPE TRENCH FOOTING DETAIL
SCALE:N.T.S.



NOTES:
1. FOR FTG REINFORCING SEE PLANS AND DETAILS.
2. VERTICAL WALL DOWELS SHALL EXTEND TO BOTTOM OF FOOTING.
3. TRANSVERSE STEEL NOT SHOWN FOR CLARITY.
4. TWO STEPS ARE SHOWN, DETAIL FOR SINGLE STEP OR ADDITIONAL STEPS IS SIMILAR.

8 S-1.2 TYPICAL STEPPED FOOTING GRADE BEAM
SCALE:N.T.S.



12 S-1.2 FOOTING @ OPENING
SCALE:N.T.S.

PREPARED BY:
MCA ENGINEERS INC
CIVIL ● STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
Tel. 949.679.0870
Fax. 949.679.9370
Project No.: I699

REGISTERED PROFESSIONAL ENGINEER KEVIN WONG No. 54029 Exp. 9/30/24 STATE OF CALIFORNIA

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

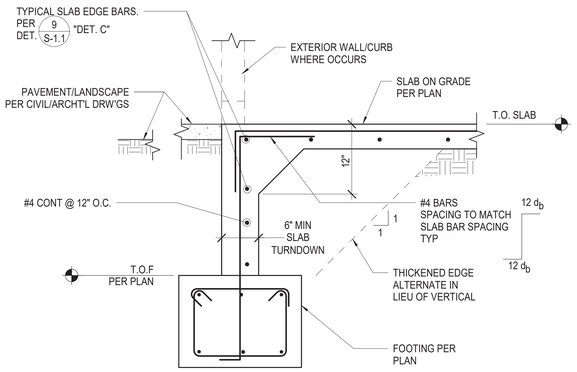
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2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
TYPICAL DETAILS- FOOTING AND EXCAVATION
COMMUNITY AQUATICS & SENIOR CENTER
S-1.2

	INITIAL	DATE
DESIGNED BY	AQ	05/01/23
DRAWN BY	AN	06/29/23
CHECKED BY	YN	06/29/23

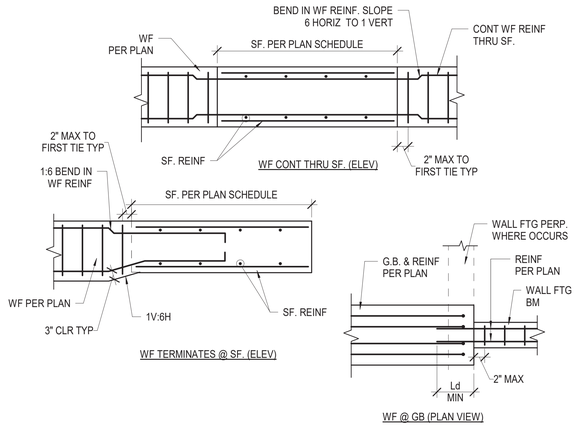
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APPROVED BY: DIRECTOR OF PUBLIC WORKS
SHT. 88 OF 176 DWG. NO. 5-2606

REL. EARTHS AQUATICS CENTER - 30% CONSTRUCTION DOCUMENTS
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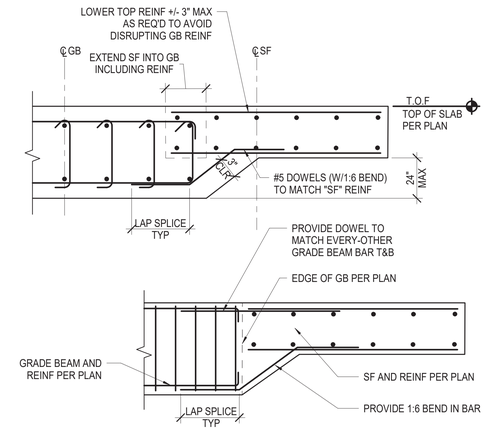
1 S-1.3 TYP SLAB TURNDOWN AT DEEPENED FOOTING

SCALE:N.T.S.



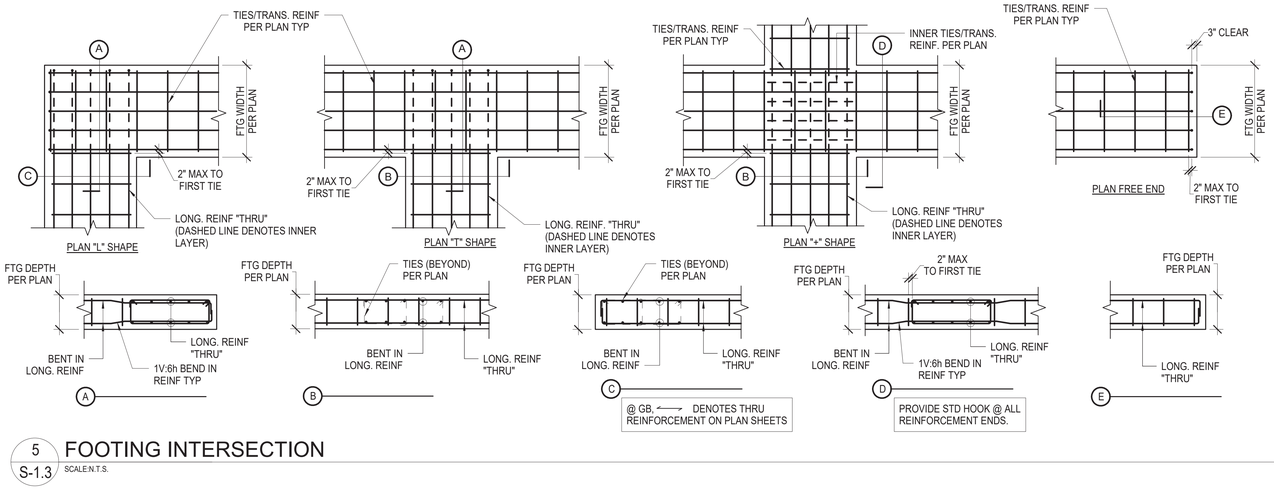
2 S-1.3 WALL FTG SPREAD FTG/GB

SCALE:N.T.S.



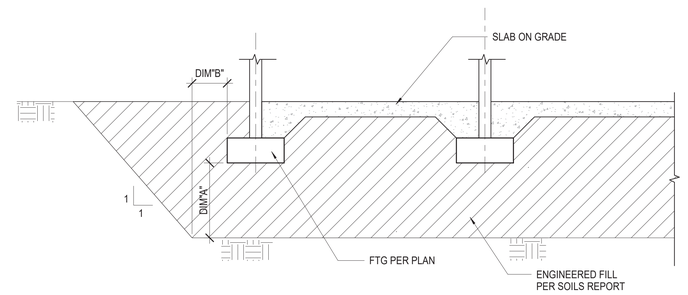
3 S-1.3 SPREAD FOOTING AT GRADE BEAM

SCALE:N.T.S.



5 S-1.3 FOOTING INTERSECTION

SCALE:N.T.S.



TYPICAL EXCAVATION SECTION

DIM "A":
AS NEEDED TO REMOVE ALL OF THE UNDOCUMENTED FILL SOILS AND A PORTION OF THE NEAR SURFACE NATIVE ALLUVIUM AND AT LEAST 3 FEET MINIUM BELOW BOTTOM OF FOOTING, OR TO A DEPTH OF 6 FEET BELOW EXISTING GRADE, OR 3 FEET BELOW PROPOSED BUILDING PAD, WHICH EVER IS DEEPER.

DIM "B":
5 FEET MINIMUM BEYOND EDGE OF FOOTING OR DEPTH OF FILL BELOW THE FOUNDATIONS, WHICH EVER IS DEEPER.

NOTE:
BALANCE OF INFO SEE SOILS REPORT.

7 S-1.3 OVER EXCAVATION AT TYP FDN WHERE GRADE BEAM OCCURS

SCALE:N.T.S.

PREPARED BY:
MCA ENGINEERS INC
CIVIL ● STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
Tel. 949.679.0870
Fax. 949.679.9370
Project No.: I699

REGISTERED PROFESSIONAL ENGINEER No. 54029 Exp. 9/30/24 CIVIL STATE OF CALIFORNIA

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

REVISIONS

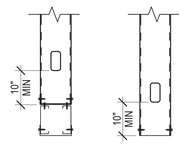
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

	INITIAL	DATE
DESIGNED BY	AQ	05/01/23
DRAWN BY	AN	06/29/23
CHECKED BY	YN	06/29/23

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
TYPICAL DETAILS- FOOTING AND EXCAVATION
COMMUNITY AQUATICS & SENIOR CENTER
S-1.3

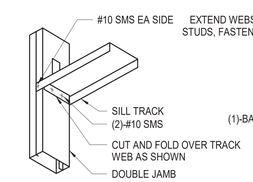
APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS
SHT. 89 OF 176 DWG. NO. 5-2606

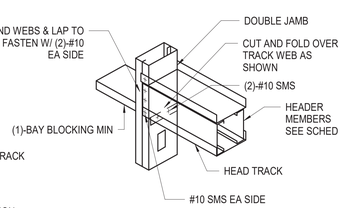
© BELL CARTER AQUATICS CENTER - 90% CONSTRUCTION DOCUMENTS
PLOT TIME: 6/30/2023 3:44:20 PM
PLOT BY: Yvonne Nguyen
PLOT FILE: C:\Users\ynguyen\Documents\S1-Gardena.rvt



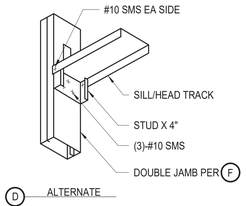
1 CONDITION 2 CONDITION

NON-BEARING - HEADER DIRECTLY OVER OPENING

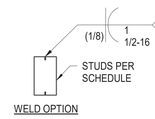




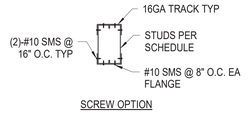
NOTE:
SEE DETAILS D & E FOR ALTERNATE CONNECTION AS CONTRACTORS OPTION.



D ALTERNATE



WELD OPTION



SCREW OPTION

JAMB STUD SCHEDULE		
MAX OPENING "L" OR COMBINED OPENING L= L(RIGHT) + L (LEFT) AT ADJACENT OPENING	HT ≤ 16' - 0" (INTERIOR)	
	STUDS	CONN AT TOP TRACK
L ≤ 6' - 0"	(2) 400S162-33	SL400*
	(2) 600S162-33	SL600*
6' - 0" ≤ L ≤ 10' - 0"	(2) 400S162-33	SL400*
	(2) 600S162-43	SL600*
10' - 0" ≤ L ≤ 16' - 0"	(2) 400S162-43	SL400*
	(2) 600S162-43	SL600*

NOTES:
1. JAMB STUDS DEPTHS SHALL MATCH TYPICAL WALL STUD DEPTHS.
2. * DENOTES TSN (THE STEEL NETWORK) CLIPS. (ICC-ESR-2049)

F TYP. JAMB SHCEDULE

NOTE:
1. PROVIDE STUDS, TRACKS AND BRACING PER SCHEDULE BELOW:

METAL STUD SCHEDULE UNO ON PLAN REF: STEEL STUD MANUFACTURER'S ASSOCIATION (ESR-3064P)						
TRACK	NOMINAL STUD SIZE	SSMA PRODUCT IDENTIFICATION	STUD SPACING	MINIMUM PROPERTIES		
				Ix (in⁴)	Sx (in³)	Ma (in-k)
BOTTOM TRACK	6"x1 1/2"x16GA	600T150-54	-	2.400	0.609	18.24
TOP TRACK	6"x1 1/2"x16GA	600T150-54	-	2.400	0.609	18.24
CAPPING TRACK	6"x2"x16GA	600T200-54	-	2.641	0.717	21.48

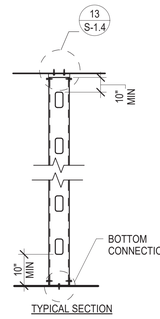
MAX HT FOR INTERIOR METAL STUD SIZE (1 5/8" FLANGE WIDTH) @ 16" O.C. MAX LOAD= 7.5 PSF (L/240)					
GAUGE	MEMBER WEB DEPTH				
	2 1/2"	3 5/8"	4"	6"	8"
14	-	17'-5"	18'-10"	26'-2"	33'-4"
16	-	16'-4"	17'-8"	24'-6"	31'-1"
18	11'-5"	15'-3"	16'-6"	22'-10"	29'-0"

MAX HT FOR INTERIOR METAL STUD SIZE (1 5/8" FLANGE WIDTH) @ 16" O/C MAX LOAD= 5 PSF (L/240)					
GAUGE	MEMBER WEB DEPTH				
	2 1/2"	3 5/8"	4"	6"	8"
14	-	19'-11"	21'-6"	30'-0"	38'-2"
16	-	18'-8"	20'-2"	28'-0"	35'-7"
18	13'-1"	17'-5"	18'-10"	26'-2"	33'-1"

HEADER BEAM SCHEDULE (INTERIOR NON-BEARING PARTITIONS) MAX WIND = 5PSF		
SPAN "L"	CONDITION	LINTEL SIZE
≤ 4' 0"	DET. A - 2	16 GA TRACK, WIDTH TO MATCH
> 4' - 0" ≤ 8' - 0"	DET. A - 1	(2) 6"X20 GA METAL STUDS (600S162-33)
> 8' - 0" ≤ 12' - 0"	DET. A - 1	(2) 6"X18 GA METAL STUDS (600S162-43)
> 12' - 0" ≤ 16' - 0"	DET. A - 1	(2) 8"X16 GA METAL STUDS (800S162-54)

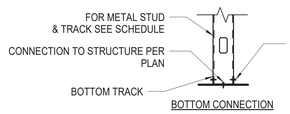
2. ALL STUDS AND TRACKS SHALL CONFORM TO ASTM A1003.
   a. 18GA AND LIGHTER: MINIMUM YIELD POINT OF 33 KSI
   b. 16GA AND HAVIER: MINIMUM YIELD POINT OF 50 KSI.
   c. ALL STUDS AND TRACKS SHALL BE MANUFACTURED BY CURRENT MEMBERS OF THE STEEL STUD MANUFACTURERS ASSOCIATION (SSMA) LISTED IN ICC REPORT NO. ESR-3064P. ALL STUDS AND TRACKS SHALL COMPLY WITH ICC REPORT NO. ESR-3064P.
3. ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY OR ON ANGLE (SUCH AS BRACING) TO SQUARELY FIT AGAINST ABUTTING MEMBERS. MEMBERS SHALL BE HELD FIRMLY POSITION UNTIL PROPERLY FASTENED.
4. STUD AND TRACKS SHALL BE ATTACHED BY WELDING AND SHEET METAL SCREWS AS NOTED ON THE DRAWINGS.
5. MANUFACTURER PROVIDED PUNCH-OUTS MAY BE LOCATED ALONG THE CENTERLINE OF THE WEBS OF THE FRAMING MEMBERS. PUNCH-OUTS SHALL HAVE A MINIMUM CENTER-TO-CENTER SPACING OF 24". PUNCH-OUT SHALL HAVE A MAXIMUM WIDTH OF HALF THE MEMBER DEPTH OR 2 1/2", WHICHEVER IS LESS, AND MAXIMUM LENGTH OF 4 1/2".
6. SPLICES IN STUDS AND BRACES SHALL NOT PERMITTED.
7. ALL FRAMING SHALL BE COORDINATED WITH GLAZING MANUFACTURERS, MECHANICAL, ELECTRICAL, PLUMBING AND OTHER TRADES.
8. PROVIDE 0.08" THICK x 1.1" SQUARE OR 1.425" ROUND WASHERS FOR ALL POWDER ACTUATED FASTENERS.
9. LOCATE PUNCHOUTS 10" CLEAR OF CONNECTIONS. IF PUNCH IS CLOSER THAN 10" TO CONNECTION, SEE DETAIL 13 / S-1.4 DET "C"

A HEADER DETAIL



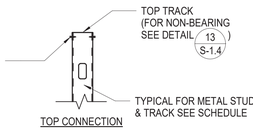
TYPICAL SECTION

B DETAIL

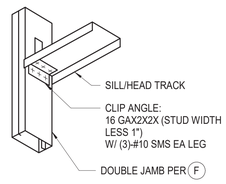


BOTTOM CONNECTION

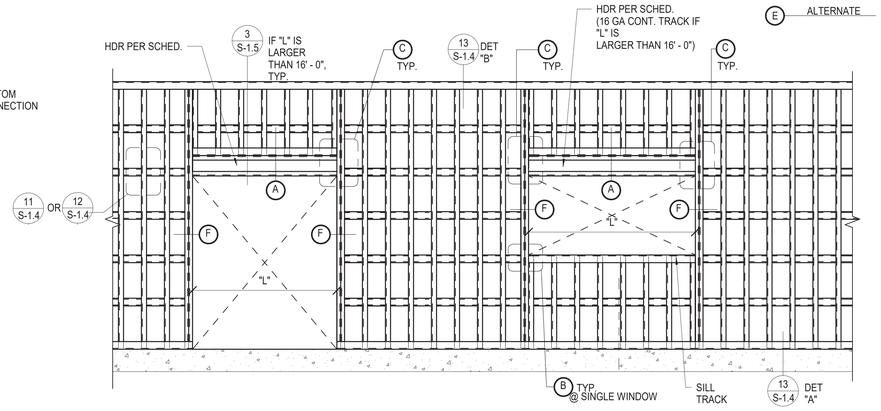
C DETAIL



TOP CONNECTION

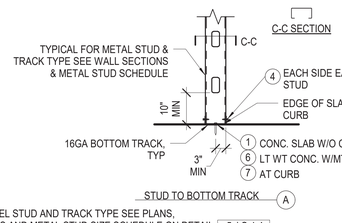


E ALTERNATE

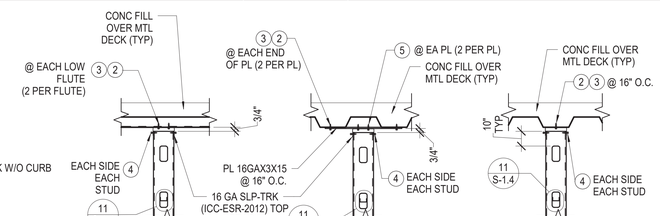


5 S-1.4 SCALE:N.T.S.
REF DET.13 / S-1.4

TYPICAL NON-BEARING AND MTL STUD SCHED. & WALL FRAMING (INTERIOR)



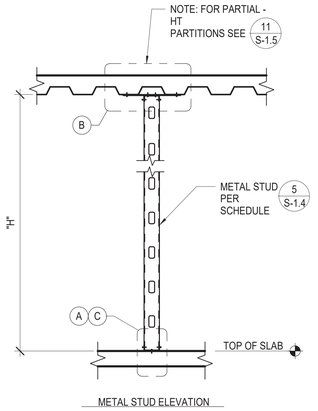
STUD TO BOTTOM TRACK A



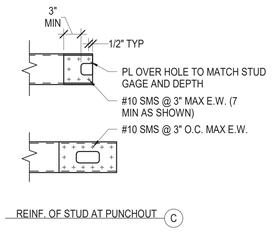
STUD PERPENDICULAR TO STEEL DECK | STUD PARALLEL TO STEEL DECK BETWEEN FLUTES | STUD PARALLEL TO STEEL DECK ON FLUTE

NOTES:
1. FOR STEEL STUD AND TRACK TYPE SEE PLANS, SECTIONS AND METAL STUD SIZE SCHEDULE ON DETAIL 5 / S-1.4
2. FOR METAL STUD FASTENERS, SEE METAL STUD FASTENER SCHEDULE.
3. ALL POWER DRIVEN FASTENERS TO HAVE A MINIMUM PENETRATION OF 1 1/4".

STUD TO DECK DETAIL B



METAL STUD ELEVATION



REINF. OF STUD AT PUNCHOUT C

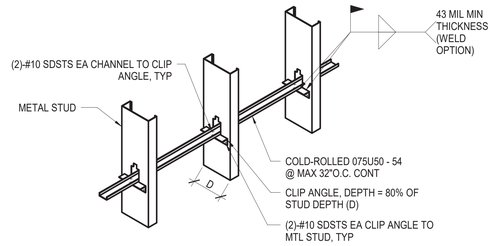
METAL STUD FASTENER SCHEDULE		
MARK	FASTENERS SIZE & SPACING	REMARKS
1	HILTI 0.157" DIA. X-U SHOT PIN @ 32" O.C. W/ 1 1/2 " MIN EMBED	ESR-2269
2	HILTI 0.157" DIA. X-U SHOT PIN @COMPOSITE DECK W/ 1 1/2" MIN EMBED	ESR-2269
3	#10 SMS AT ROOF METAL DECK	ESR-1408
4	#10 SHEET METAL SCREW	ESR-1408
5	#12 SHEET METAL SCREW	ESR-1408
6	HILTI KH-EZ 1/4" X 1.18" EMBED. SCREW ANCHOR @ 24" O.C.	ESR-3027
7	5/8" X 12" HEADED BOLT @ 32"O.C. W/ STD WASHER TYP. (MIN.4"EMBED)	-

PAF: POWER ACTUATED FASTENER (LOW VELOCITY) OR POWER DRIVEN FASTENER HOLES FOR A.B. SHALL BE 1/16" LARGER THAN BOLT SIZE.

NOTES:
1. MAXIMUM STUD HEIGHT "H" FOR STUDS @ 16" O.C. PER SCHEDULE 5 S-1.4
2. SEE ARCHITECTURAL FOR OTHER CONDITIONS.
3. LIMIT PER (2016 CBC TABLE 1604A.3)
   L/360 - W/ PLASTER AND STUCCO FINISHES.
   L/240 - W/ OTHER BRITTLE FINISHES.
   L/120 - W/ FLEXIBLE FINISHES.
4. STUDS CARRYING EQUIPMENT OR CASEWORK WEIGHING 40 LBS OR MORE SHALL BE 16GA MIN.

13 S-1.4 SCALE:N.T.S.
REF DET.5 / S-1.4

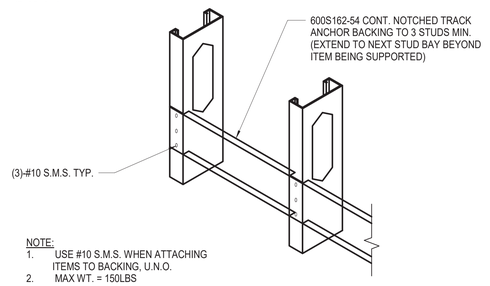
STEEL STUD BRACING DETAIL (INTERIOR ONLY)



SEE SCHEDULE ON THIS SHEET FOR METAL STUD & TRACK SIZES

11 S-1.4 SCALE:N.T.S.
REF DET.5 / S-1.4

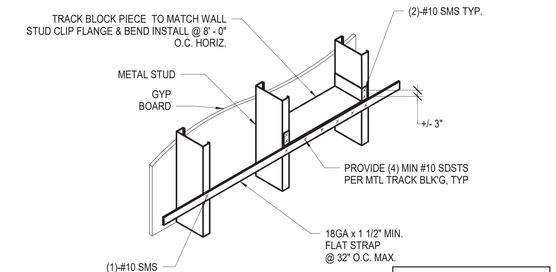
BRIDGING CHANNEL W/ CLIP ANGLE (WITHOUT PLYWOOD/GYP BOARD)



NOTE:
1. USE #10 S.M.S. WHEN ATTACHING ITEMS TO BACKING, U.N.O.
2. MAX WT. = 150LBS

15 S-1.4 SCALE:N.T.S.

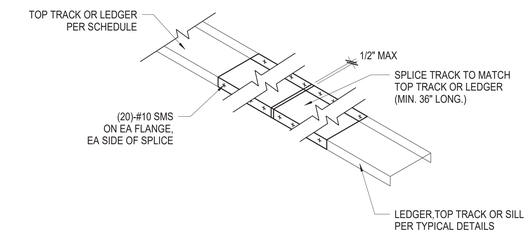
BACKING DETAIL



SEE SCHEDULE ON THIS SHEET FOR METAL STUD & TRACK SIZES

12 S-1.4 SCALE:N.T.S.
REF DET.5 / S-1.4

SINGLE FLAT STRAP BRIDGING W/ BLOCKING (WITH PLYWOOD/GYP BOARD ON ONE SIDE)



16 S-1.4 SCALE:N.T.S.

TOP TRACK, LEDGER & SILL SPLICE DETAIL

CITY OF GARDENA INCORPORATED 1930

PREPARED BY:
VCA ENGINEERS INC
CIVIL ■ STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
Tel. 949.679.0870
Fax. 949.679.9370
Project No.: I699

REGISTERED PROFESSIONAL ENGINEER No. S4029 Exp. 9/30/24 STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
TYPICAL DETAILS-METAL STUD
COMMUNITY AQUATICS & SENIOR CENTER
S-1.4

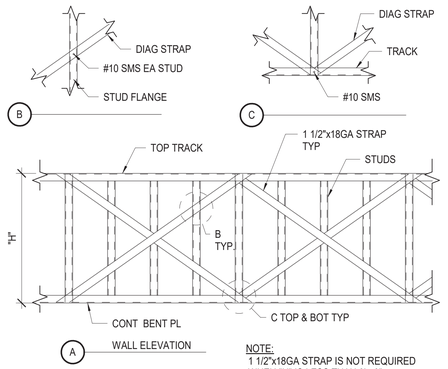
	INITIAL	DATE
DESIGNED BY	AQ	05/01/23
DRAWN BY	AN	06/27/23
CHECKED BY	YN	06/27/23

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 90 OF 176 DWG. NO. 5-2606

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RELEASED FOR CONSTRUCTION - DOCUMENTS



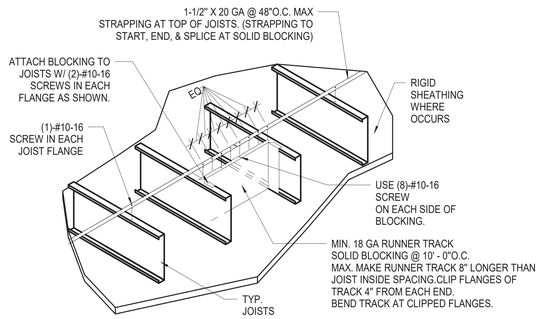
NOTE:
1 1/2"x18GA STRAP IS NOT REQUIRED WHEN "H" IS LESS THAN 3' - 0".

1 S-1.5 IN-PLANE BRACING

SCALE:N.T.S.
REF DET:3 / S-1.5

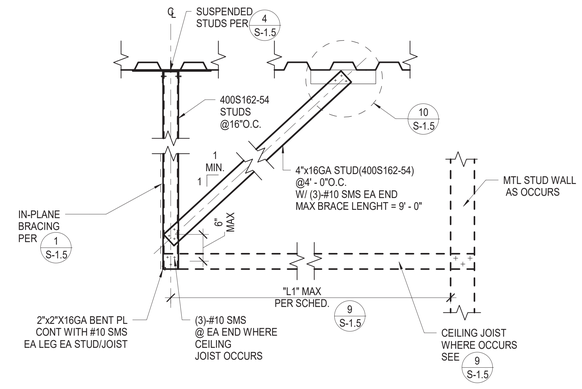
BLOCKING NOTE:
PLACE SOLID BLOCKING AT ENDS OF FLOOR SYSTEM, ADJACENT TO ALL OPENINGS, AND AT 10' - 0"O.C. MAX.

STRAP NOTE:
TOP STRAP NOT REQ'D. IF CONTINUOUSLY ATTACHED RIGID SHEATHING IS USED. TEMPORARY BRACING OF TOP FLANGE DURING CONSTRUCTION MAY BE REQ'D.



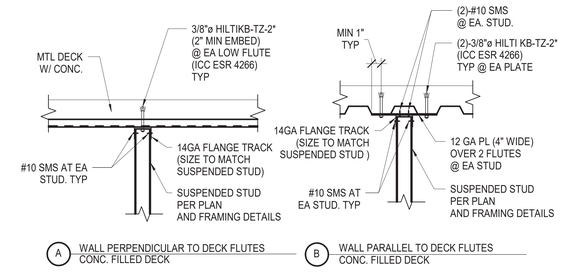
2 S-1.5 CEILING JOISTS FLANGE BRACING

SCALE:N.T.S.
REF DET:7 / S-1.5



3 S-1.5 STUD BRACING (INTERIOR ONLY)

SCALE:N.T.S.
REF DET:3 / S-1.4

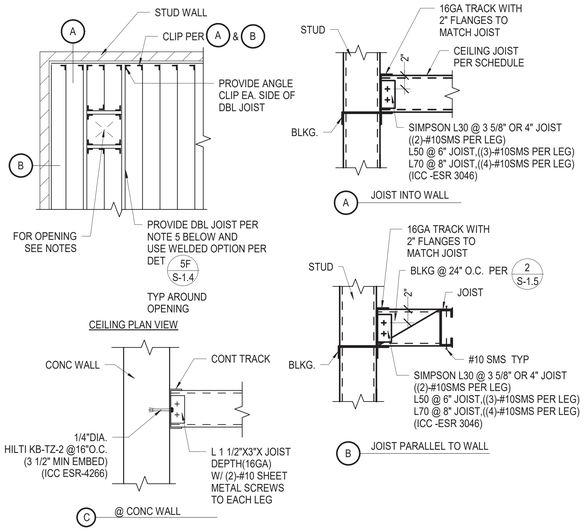


* AT EXTERIOR USE WALL SUPPORT 5/8"Ø HILTI KB-TZ-2 W/ 3 1/2" EMBED (ICC ESR 4266)

AT CONNECTION TO STEEL SEE DET. 6 S-1.5

4 S-1.5 SUSPENDED STUD TO METAL DECK DETAIL

SCALE:N.T.S.
REF DET:3 / S-1.5



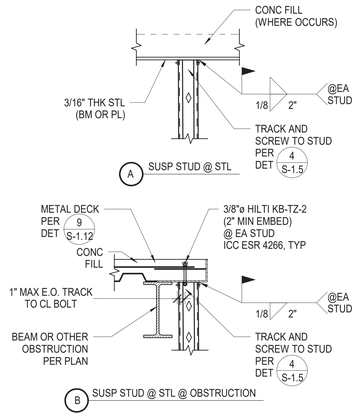
INTERIOR METAL CEILING JOIST SCHEDULE					
NOMINAL SIZE	SSMA PRODUCT IDENTIFICATION	Ixx(IN⁴)	Sxx(IN³)	SPACING (IN)	MAXIMUM SPAN (L1)
3 5/8"x20GA	362S162-33	0.551	0.304	16	8' - 6"
4"x18GA	400S162-43	0.892	0.446	16	9' - 6"
6"x18GA	600S162-43	2.316	0.772	16	11' - 0"
8"x18GA	800S162-43	4.633	1.158	16	12' - 0"

NOTES:

1. JOIST AND TRACK DESIGNATIONS ARE BASED ON STEEL STUD MANUFACTURER'S ASSOCIATION (ICC ER-3064P).
2. DESIGN LOADS:
   DEAD LOAD = 20 PSF
3. SEE TYP. CEILING JOIST FRAMING DETAIL 7 / S-1.5
5. WHERE JOIST IS CUT, PROVIDE DOUBLE JOIST TO ADJ. CEILING JOIST NEXT TO CUT JOIST (DO NOT CUT MORE THAN ONE JOIST).
6. SEE DETAIL 2 / S-1.5 FOR BRACING REQUIREMENTS.

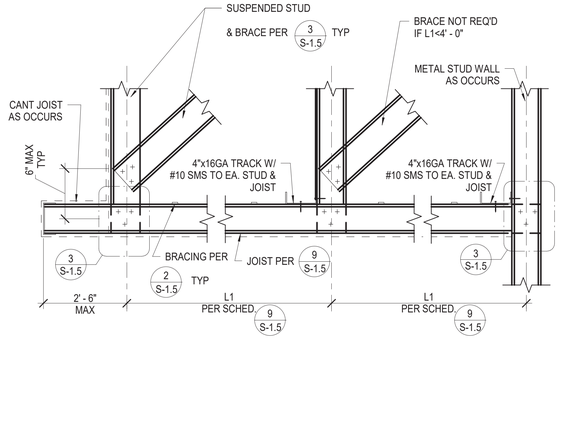
9 S-1.5 METAL CEILING JOIST SCHEDULE (INTERIOR ONLY)

SCALE:N.T.S.
REF DET:3 / S-1.5



6 S-1.5 SUSPENDED STUD AT STEEL

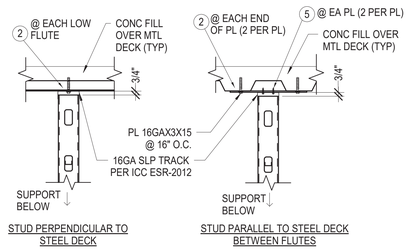
SCALE:N.T.S.
REF DET:4 / S-1.5



7 S-1.5 INTERIOR CEILING FRAMING

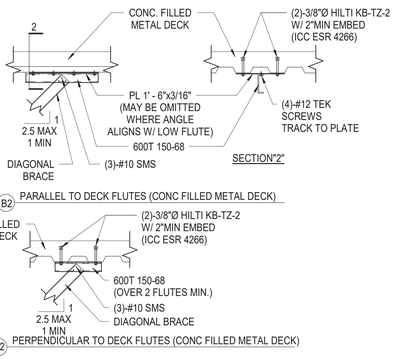
SCALE:N.T.S.

METAL STUD FASTENER SCHEDULE		
MARK	FASTENERS SIZE & SPACING	REMARKS
2	HILTI KH-EZ 3/8"X2 1/2"EMBED. @COMPOSITE DECK	ESR-3027
5	#12 SHEET METAL SCREW	ESR-1408



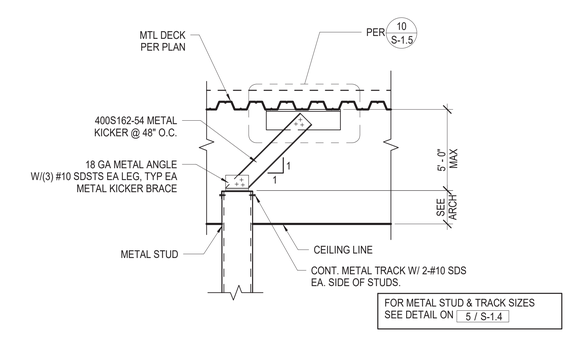
8 S-1.5 STUD TO DECK

SCALE:N.T.S.



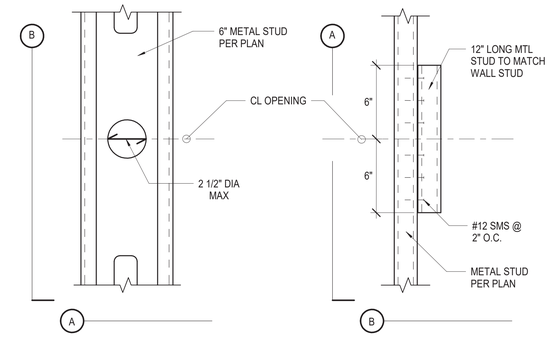
10 S-1.5 WALL BRACE

SCALE:N.T.S.
REF DET:3 / S-1.5



11 S-1.5 NON-LOAD BEARING INTERIOR WALL FRAMED TO CEILING W/ DIAGONAL KICKER

SCALE:N.T.S.
REF DET:13 / S-1.4



12 S-1.5 REINFORCING OF OPNG IN METAL STUD FOR PLUMBING

SCALE:N.T.S.

PREPARED BY:
VCA ENGINEERS INC
CIVIL ● STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
Tel. 949.679.0870
Fax. 949.679.9370
Project No.: I699

REGISTERED PROFESSIONAL ENGINEER KEVIN KIENG No. 54029 Exp. 9/30/24 STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

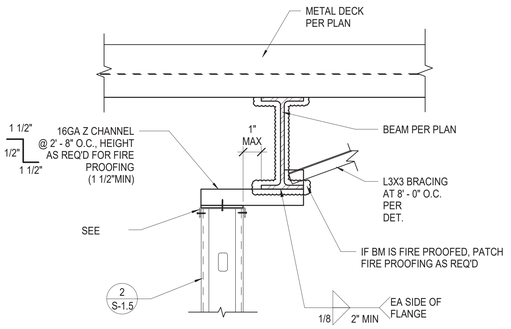
B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

	INITIAL	DATE
DESIGNED BY	AQ	05/01/23
DRAWN BY	AN	06/29/23
CHECKED BY	YN	06/29/23

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
TYPICAL DETAILS-METAL STUD
COMMUNITY AQUATICS & SENIOR CENTER
S-1.5

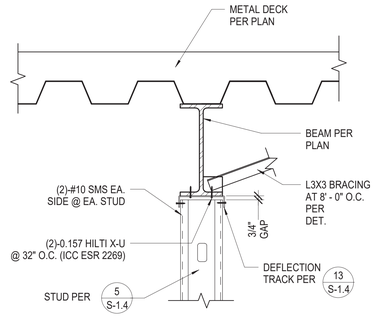
APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS
SHT. 91 OF 176 DWG. NO. 5-2606

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PLOT DATE: 7/1/2023 3:44:03 PM By: Jonathan.Lin
FILE NAME: C:\Users\JonathanLin\Documents\121 Gardena Aquatics Center_Central_JLin.rvt



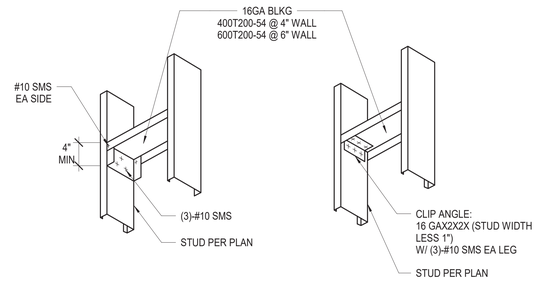
1 S-1.6 TYPICAL WALL BRACE NEAR BEAM (INTERIOR ONLY)

SCALE:N.T.S.



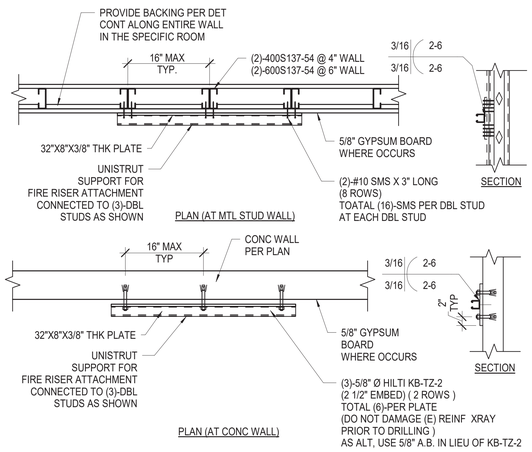
2 S-1.6 TYP TOP TRACK AT WALL UNDER BEAM

SCALE:N.T.S.
REF DET.6 / S-1.6



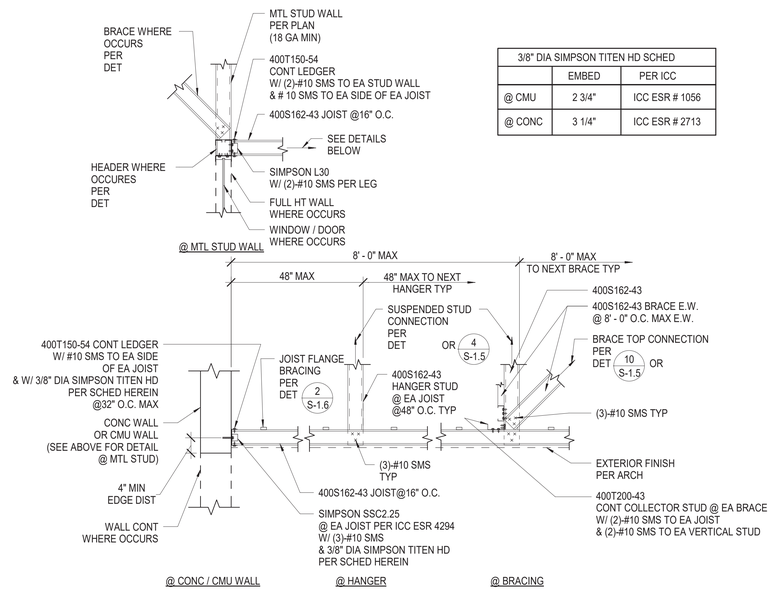
3 S-1.6 NON-STRUCTURAL BLOCKING

SCALE:N.T.S.



5 S-1.6 UNISTRUT TO METAL STUD/CONC WALL CONNECTION

SCALE:N.T.S.



3/8" DIA SIMPSON TITEN HD SCHED		
	EMBED	PER ICC
@ CMU	2 3/4"	ICC ESR # 1056
@ CONC	3 1/4"	ICC ESR # 2713

6 S-1.6 EXTERIOR CEILING FRAMING

SCALE:N.T.S.

PREPARED BY:
MCA ENGINEERS INC
CIVIL • STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
Tel. 949.679.0870
Fax. 949.679.9370
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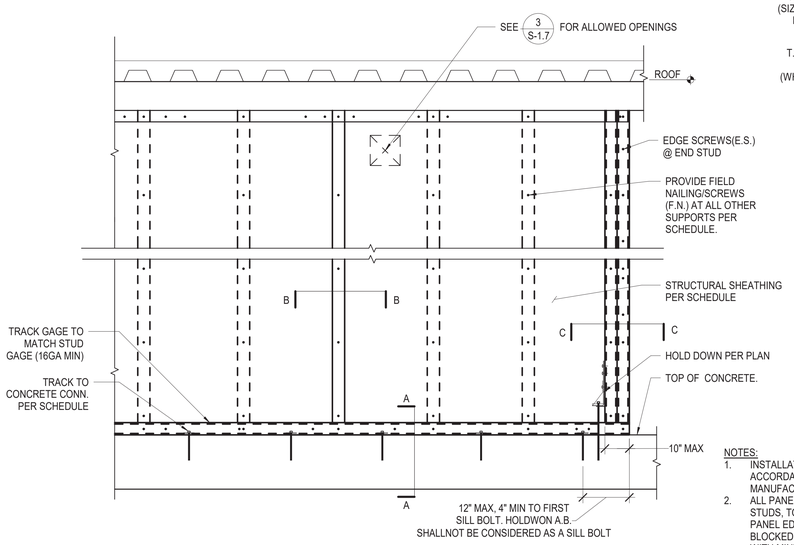
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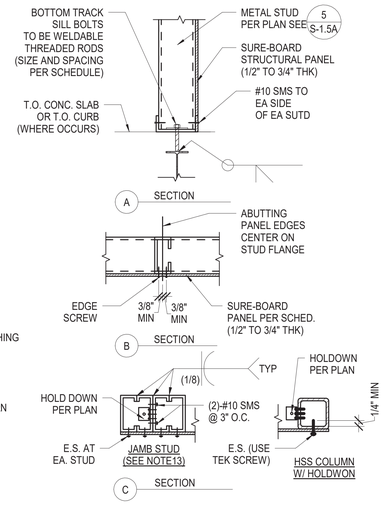
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CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
TYPICAL DETAILS-METAL STUD
COMMUNITY AQUATICS & SENIOR CENTER
S-1.6

APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS
SHT. 92 OF 176 DWG. NO. S-2606

REL GARDENA AQUATICS CENTER - 90% CONSTRUCTION DOCUMENTS
PLOT DATE: C:\Users\ynakata\Desktop\Projects\I699 Gardena\Drawings\Arch\Sheets\I699 S-1.6 Typical Details-Metal Stud.dwg



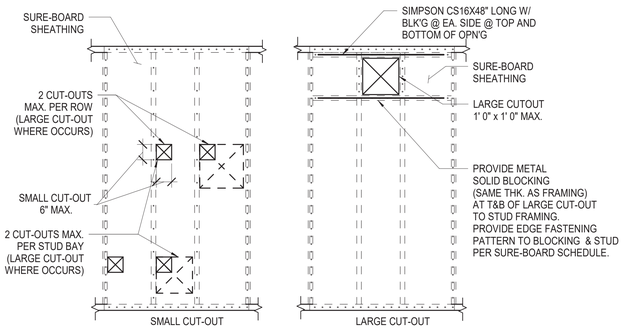


NOTES:
1. INSTALLATION OF SURE-BOARD SHEAR WALLS MUST BE IN ACCORDANCE WITH IAPMO ES REPORT NUMBER 0126 AND MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS.
2. ALL PANEL EDGES MUST BE BLOCKED, FRAMING MEMBERS SUCH AS STUDS, TOP AND BOTTOM TRACKS ARE CONSIDERED BLOCKING; PANEL EDGES THAT DO NOT FALL ON FRAMING MEMBERS MUST BE BLOCKED WITH STUDS, TRACK, OR CONTINUOUS FLAT STRAP MATERIAL WITH MINIMUM THICKNESS AND STEEL PROPERTIES AS THE STUD FRAMING MEMBERS PER THE TABLE.
3. SEE PLAN FOR SHEAR WALL BOUNDARY FRAMING MEMBERS.
4. SEE PLAN FOR SHEAR WALL HOLD DOWN ANCHOR.
5. ALL SURE-BOARD STEEL FRAMING SHALL BE 16GA, 24" SPACING MAX.
6. PROVIDE STEEL FRAMING PER BEARING WALL SCHEDULE IF GAGE NOTED IN BEARING WALL SCHEDULE IS THICKER THAN STEEL MINIMUM GAGE SHOWN IN SCHEDULE ABOVE.
7. STEEL STUDS & TRACKS SHALL COMPLY WITH ASTM A653 GR 50 (3.3.3 IAMPO ER 126)
8. A MINIMUM PANEL SIZE OF 16"X96" IS ACCEPTABLE, PROVIDED ALL PERIMETER EDGES ARE FASTENED TO FRAMING MEMBERS AT THE REQ'D SPACING(4.2.2.3 IAPMO ER 126)
9. THE STEEL FACE OF SURE-BOARD PANEL SHALL BE IN CONTACT WITH THE FRAMING.
10. COLLECTOR POSTS AT EACH END OF SHEAR WALL SHALL BE MINIMUM DOUBLE STUD & SAME GAGE AS FRAMING METERIAL (3.3.3 ER-0126)
11. SERIES 200 SURE-BOARD FULLY BLOCKED, W/ SCREW PER SCHEDULE
12. SCREWS SHALL PENETRATE AT LEAST 3 EXPOSED THREADS INTO FRAMING MEMBERS. SCREW HEADS SHALL BE DRIVEN FLUSH WITH PANEL SURFACE.(4.2.2.2 ER-0126)
13. JAMB STUDS SHALL BE 16GA WITH 15/8" FLANGE "S" SECTION TO MATCH WALL DEPTH.

SURE-BOARD SHEARWALL SCHEDULE

MARK	TYPICAL ATTACHMENT INFO.	MIN. GAUGE STUDS/TRACK	EDGE SCREW(E.S)	BOTTOM TRACK SILL BOLTS	ALLOWABLE CAPACITY (ASD)
SB1	SERIES 200 SURE-BOARD FULLY BLOCKED, W/ #8 SCREW (#2 PILOT POINT, 1 1/4" MIN. LENGTH) 12" O.C. @ FIELD, FOR EDGE SCREW SEE SCHEDULE	18GA	#8 @ 6"O.C.	5/8" A.B. @ 24"O.C.	562 PLF
SB2	SERIES 200 SURE-BOARD FULLY BLOCKED, W/ #8 SCREW (#2 PILOT POINT, 1 1/4" MIN. LENGTH) 12" O.C. @ FIELD, FOR EDGE SCREW SEE SCHEDULE	18GA	#8 @ 4"O.C.	5/8" A.B. @ 24"O.C.	770 PLF
SB3	SERIES 200 SURE-BOARD FULLY BLOCKED, W/ #8 SCREW (#2 PILOT POINT, 1 1/4" MIN. LENGTH) 12" O.C. @ FIELD, FOR EDGE SCREW SEE SCHEDULE	18GA	#8 @ 3"O.C.	5/8" A.B. @ 16"O.C.	1126 PLF

5 S-1.7 TYPICAL SURE-BOARD SHEAR WALL SCHEDULE
SCALE: 3/4" = 1'-0"
REF DET.8 / S-5.1



NOTES:
1. LOCATE CUT-OUTS NEXT TO STUD FRAMING TYPICAL, & 16" MIN. FROM END OF WALL. FOR LARGE OPENINGS.
2. LARGE BLOCKOUT MAYBE LOCATED AS REQUIRED IN THE SHEAR PANEL.
3. DO NOT CUT MORE THAN 1 LARGE CUT-OUT IN ANY SINGLE SHEAR PANEL.
4. DO NOT OVER CUT ANY OPENINGS.

3 S-1.7 OPENING IN SURE-BOARD PANEL
SCALE: 3/4" = 1'-0"
REF DET.9 / S-1.7

PREPARED BY:
MCA ENGINEERS INC
CIVIL ● STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
Tel. 949.679.0870
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CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

TYPICAL DETAILS-METAL STUD

COMMUNITY AQUATICS & SENIOR CENTER

S-1.7

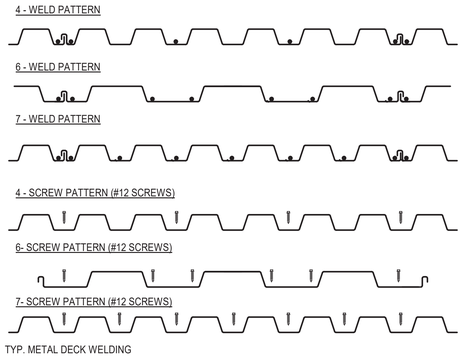
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APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

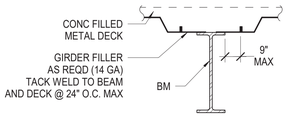
SHT. 93 OF 176 DWG. NO. S-2606

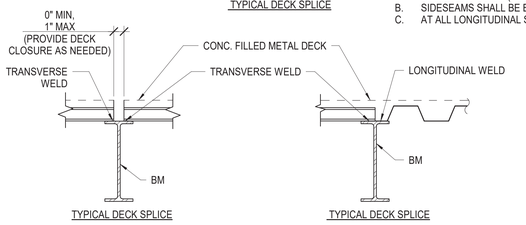
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PLOT DATE: 12/15/2022 3:04:29 PM Plotted By: Kevin Wong Path: S:\Projects\I699 Bell Gardens Aquatics Center\Drawings\Construction Documents\S1 Gardena



1 S-1.8 TYP METAL DECK WELDING/SCREW PATTERNS

SCALE:N.T.S.





METHOD OF CONNECTIONS:

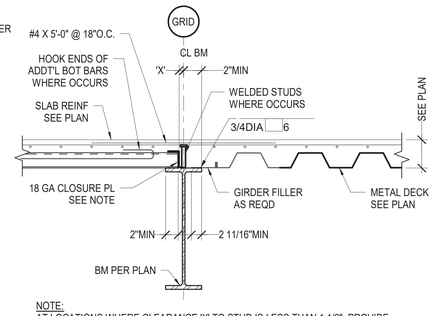
1. ROOF DECK:
   - A. STEEL DECK SHALL BE FASTENED TO STEEL FRAMING AT ENDS OF UNITS AND AT ALL INTERMEDIATE SUPPORTS BY MINIMUM (4)-3/4" DIAMETER FUSION (PUDDLE) WELDS EACH PANEL. WHEN TWO PANELS ABUT, EACH PANEL SHALL BE SO ATTACHED.
   - B. SIDESEAMS SHALL BE BUTTON PUNCHED AT 36" O.C.
   - C. AT ALL LONGITUDINAL SUPPORTS AND MEMBERS PARALLEL TO FLUTES, FASTEN WITH 3/4" DIAMETER FUSION (PUDDLE) WELDS @ 12" O.C.
2. FLOOR:
   - A. STEEL DECK SHALL BE FASTENED TO STEEL FRAMING AT ENDS OF UNITS AND AT ALL INTERMEDIATE SUPPORTS BY (4)-3/4" DIA DIAMETER FUSION (PUDDLE) WELDS EACH PANEL. WHEN TWO PANELS ABUT, EACH PANEL SHALL BE SO ATTACHED.
   - B. SIDESEAMS SHALL BE BUTTON PUNCHED @ 36" O.C.
   - C. AT ALL LONGITUDINAL SUPPORTS AND MEMBERS PARALLEL TO FLUTES, FASTEN WITH 3/4" DIA FUSION (PUDDLE) WELDS @ 12" O.C.

NOTES:

1. PLACE REINFORCEMENT 3/4" CLEAR FROM TOP OF CONCRETE.
2. SEE DET 4 / S-1.8 FOR TYPICAL WELDED STUD DETAIL FOR WELDED HEADED STUDS.
3. SEE DET 6 / S-1.11 FOR TYPICAL FRAMING @ COLUMN
4. SEE DET 12 / S-1.8 FOR TYP. STAIR & ELEVATOR OPENING.
5. SEE DET 6 / S-1.8 FOR SLOPED DECK TO STEEL BEAM.
6. SEE DET 11 / S-1.8 FOR DECK WELD/SIDE LAP DETAIL.

2 S-1.8 TYPICAL METAL DECK CONNECTION & PROPERTIES

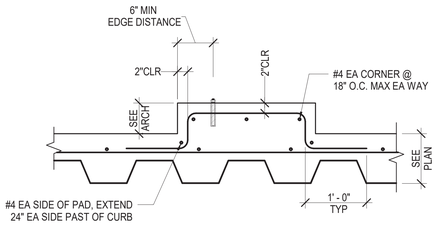
SCALE:N.T.S.



NOTE:
AT LOCATIONS WHERE CLEARANCE 'X' TO STUD IS LESS THAN 1 1/2", PROVIDE CLOSURE BELOW HIGH FLUTES ONLY AND PLACE STUDS ADJACENT TO LOW FLUTES.

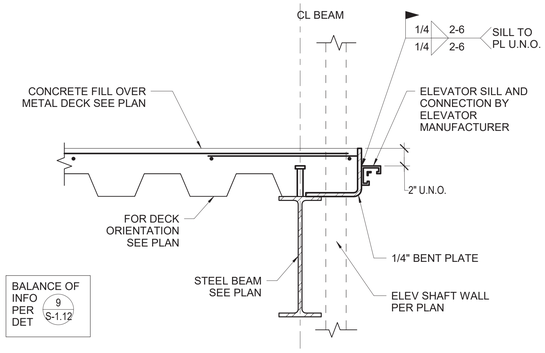
3 S-1.8 METAL DECK TRANSITION

SCALE:N.T.S.



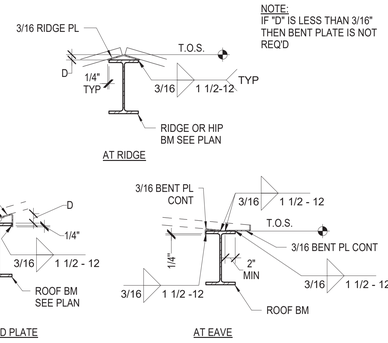
4 S-1.8 EQUIPMENT PAD ON METAL DECK

SCALE:N.T.S.



5 S-1.8 EDGE CLOSURE AT ELEVATOR SILL SUPPORT

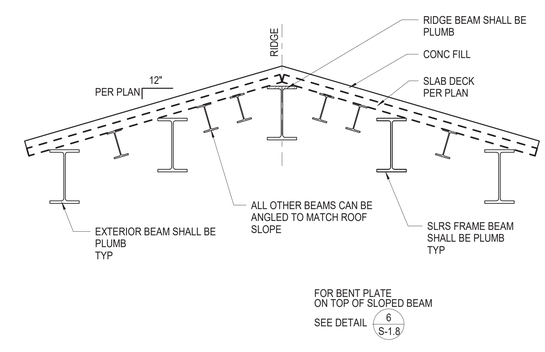
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REF DET.1 / S-3.1



NOTE:
IF "D" IS LESS THAN 3/16" THEN BENT PLATE IS NOT REQ'D

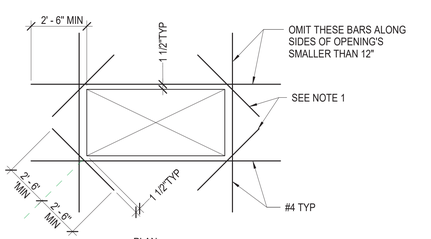
6 S-1.8 TYP SLOPED DECK TO BEAM DETAIL

SCALE:N.T.S.
REF DET.7 / S-1.8



7 S-1.8 TYP SLOPED ROOF SECTION

SCALE:N.T.S.

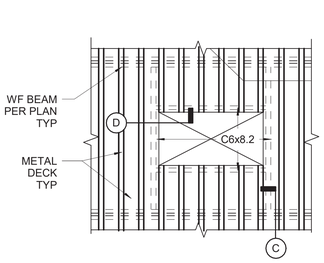


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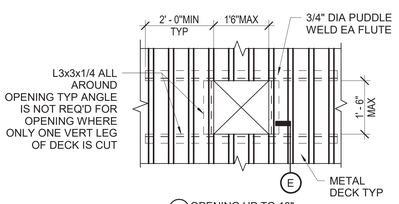
1. PROVIDE (2)-#4X5' - 0" AT ALL RE-ENTRANT CORNERS AND AT ALL OPENINGS GREATER THAN 6' - 0" SUCH AS ELEVATOR, STAIR OPENINGS AND AIR SHAFTS.
2. ALL OPENINGS LARGER THAN 2' - 0" SQ REQUIRE PERIMETER SUPPORT AND ARE TO BE APPROVED BY STRUCTURAL ENGINEER.

8 S-1.8 TYP SLAB ON METAL DECK OPENING

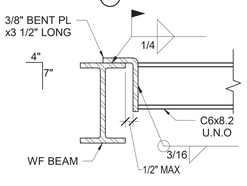
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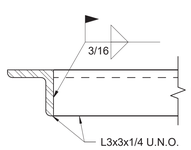
A OPENING GREATER THAN 18" TO 60"



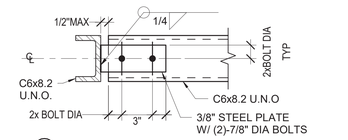
B OPENING UP TO 18"



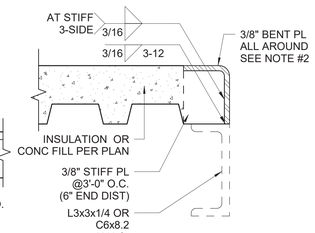
C TYP CHANNEL/WF BM CONN



E TYP ANGLE / ANGLE CONN



D TYP CHANNEL / CHANNEL CONNECTION



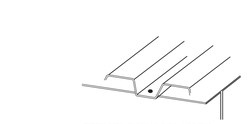
F TYP BENT PL / ANGLE CONN AT ROOF

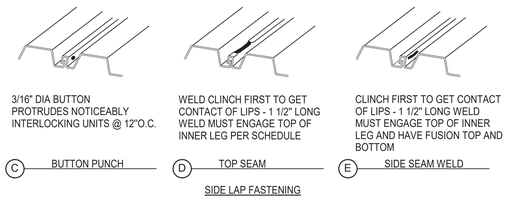
NOTES:

1. FRAMING AROUND DECK OPENINGS TO BE FURNISHED AND INSTALLED BY STRUCTURAL STEEL CONTRACTOR.
2. PROVIDE CONT BENT PLATE ALL AROUND OPENINGS AT ROOF EXHAUST FAN, DUCT & PIPE PENETRATIONS, GRAVITY RELIEF VENT, & WHERE SHOWN ON MEP DRAWINGS.

9 S-1.8 TYP FRAMING AT OPENINGS IN STEEL DECK

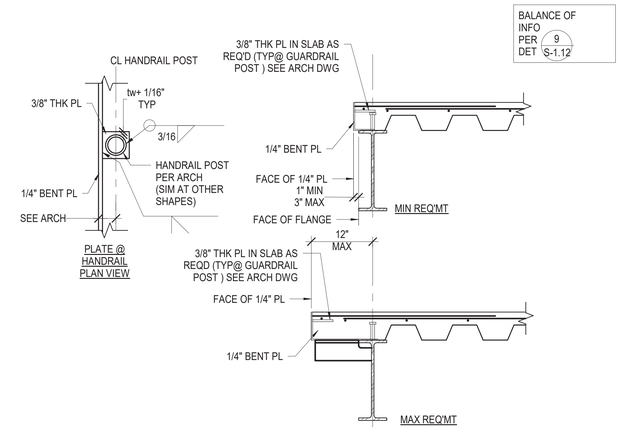
SCALE:N.T.S.
REF DET.4 / S-1.13





11 S-1.8 TYP METAL DECK WELDING

SCALE:N.T.S.



12 S-1.8 PLATE AT HANDRAIL POST

SCALE:N.T.S.

CITY OF GARDENA INCORPORATED 1930

PREPARED BY:

MCA ENGINEERS INC
CIVIL ● STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
Tel. 949.679.0870
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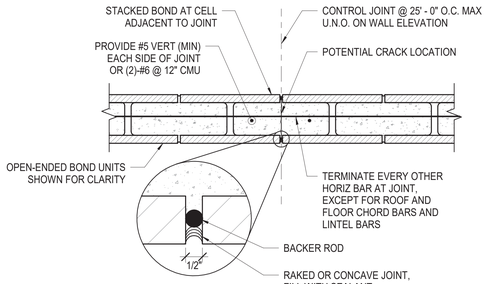
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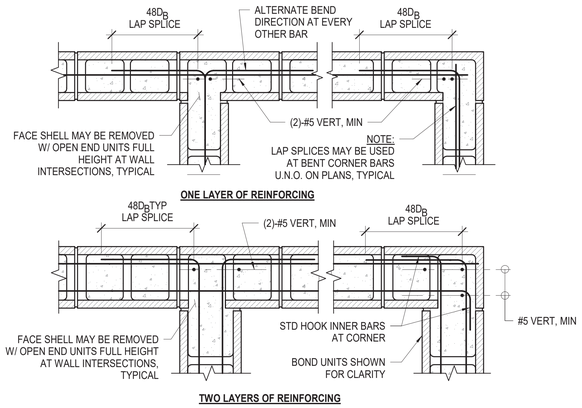
APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS
SHT. 94 OF 176 DWG. NO. 5-2606

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Plot By: Yuan Ning
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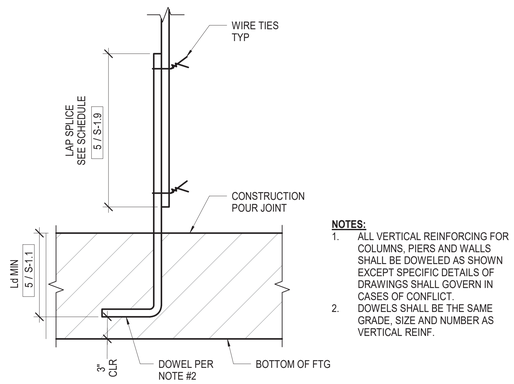
BELL GARDENS AQUATICS CENTER - 30% CONSTRUCTION DOCUMENTS



1 S-1.9 TYP CMU WALL CONTROL JOINT (C.J.)
SCALE:N.T.S.

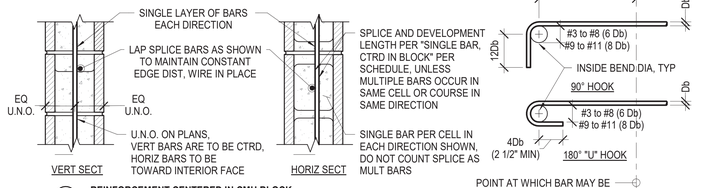


2 S-1.9 CONCRETE MASONRY WALL INTERSECTION
SCALE:N.T.S.

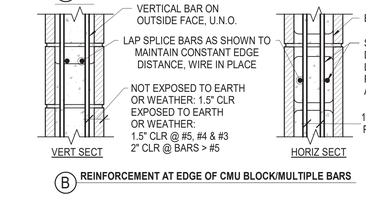


NOTES:
1. ALL VERTICAL REINFORCING FOR COLUMNS, PIERS AND WALLS SHALL BE DOWELED AS SHOWN EXCEPT SPECIFIC DETAILS OF DRAWINGS SHALL GOVERN IN CASES OF CONFLICT.
2. DOWELS SHALL BE THE SAME GRADE, SIZE AND NUMBER AS VERTICAL REINF.

3 S-1.9 TYPICAL DOWELS AT CMU WALL
SCALE:N.T.S.



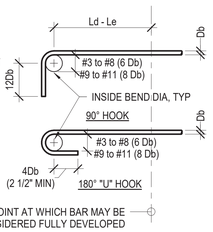
A REINFORCEMENT CENTERED IN CMU BLOCK



B REINFORCEMENT AT EDGE OF CMU BLOCK/MULTIPLE BARS

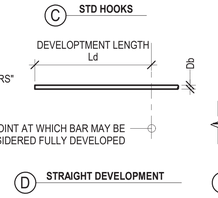
SPLICE AND DEVELOPMENT LENGTH PER "SINGLE BAR, CTRD IN BLOCK" PER SCHEDULE, UNLESS MULTIPLE BARS OCCUR IN SAME CELL OR COURSE IN SAME DIRECTION

SINGLE BAR PER CELL IN EACH DIRECTION SHOWN, DO NOT COUNT SPLICE AS MULT BARS



POINT AT WHICH BAR MAY BE CONSIDERED FULLY DEVELOPED

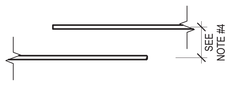
C STD HOOKS



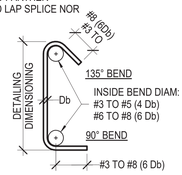
D STRAIGHT DEVELOPMENT

BAR SIZE	STD HOOK Le (IN)	48 D_b (IN)	L_d (IN)	LAP SPLICE (IN) U.N.O.
CMU WITH f'm=2,000 PSI (MIN) #3	4	18	18	18
#4	6	24	30	30
#5	8	30	46	46
#6	9	36	64	54
#7	11	42	87	63
#8	12	48	114	72
#9	14	55	145	81

NOTES:
1. VALUES SHOWN ARE FOR GRADE 60 REINF DEVELOPED IN CMU.
2. REFER TO TYPICAL REINFORCEMENT DETAILS FOR INFO NOT SHOWN, AND FOR DEVELOPMENT IN CONCRETE.
3. USE OF HYTEN COUPLER (OR EQ W/ ESR REPORT) IN LIEU OF LAP SPLICE @ CMU VERTICAL REINF ARE ACCEPTED. (ICC-ESR-4275)
4. WHERE NON-CONTACT SPLICES ARE USED, REINFORCEMENT SHALL NOT BE SPACED FARTHER APART THAN ONE-FIFTH THE REQUIRED LAP SPLICE NOR MORE THAN 8 INCHES APPART.
   L_e = HOOK LENGTH
   L_d = DEVELOPED LENGTH
   D_b = REINFORCING BAR DIAMETER

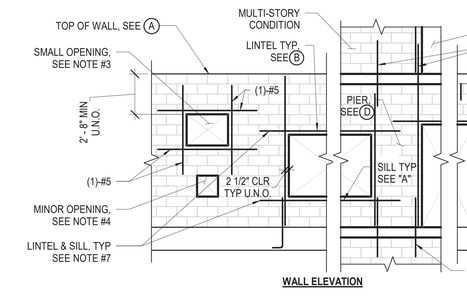


E NON-CONTACT LAP SPLICE FOR CHORD AT SLOPED DIAPHRAGM



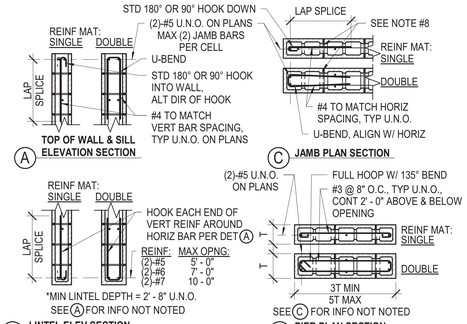
F STIRRUPS & TIES

5 S-1.9 MASONRY REINFORCEMENT DETAILS & DEVELOPMENT LENGTHS
SCALE:N.T.S.

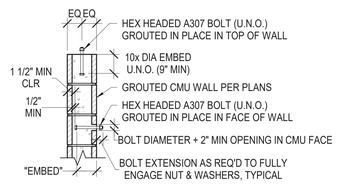


WALL ELEVATION

NOTES:
1. SEE PLANS FOR TYPICAL AND ADDITIONAL REINFORCEMENT.
2. FOR OPENINGS 36" OR LARGER IN WIDTH USE FULL HEIGHT JAMB BARS. EXTEND TO TOP OF WALL AT UPPER/SINGLE STORY, 48D MIN PAST FLOOR AND INTO FOOTING.
3. AT OPENINGS LESS THAN 36" IN WIDTH, EXTEND JAMB BARS 48D PAST EDGE OF OPENING.
4. FOR MINOR OPENINGS THAT DO NOT INTERRUPT TYPICAL REINFORCEMENT, ARE NO LARGER THAN 16" SQ, AND ARE AT LEAST 24" FROM ADJACENT OPENINGS OR WALL EDGE, NO ADDITIONAL REINFORCEMENT IS REQ'D U.N.O. ON PLANS.
5. USE A TYPICAL LAP SPLICE U.N.O. ON PLANS.
6. WHERE FULL EXTENSION IS NOT POSSIBLE, EXTEND BARS AS FAR AS POSSIBLE AND USE A STANDARD HOOK.
7. EXTEND LINTEL AND SILL BARS 48D MINIMUM PAST EDGE OF OPENING.
8. AT FULL HEIGHT JAMB BARS, THE WEB AND SHELL MAY BE REMOVED TO FACILITATE INSTALLATION. THE CONTRACTOR SHALL ENSURE THAT GROUTING WILL NOT BE COMPROMISED IF THIS OPTION IS USED.



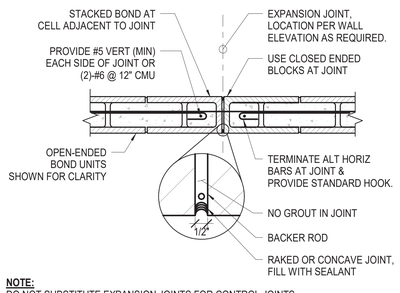
7 S-1.9 TYPICAL MINIMUM REINFORCEMENT FOR MASONRY OPENINGS
SCALE:N.T.S.



MINIMUM EMBEDMENT TABLE					
DIAMETER OF BOLTS IN INCHES	1/2	5/8	3/4	7/8	1
EMBEDMENT IN INCHES (EMBED)	4	5	6	7	8
MIN CMU WALL THICKNESS (INCHES)	6"	8"	8"	10"	12"

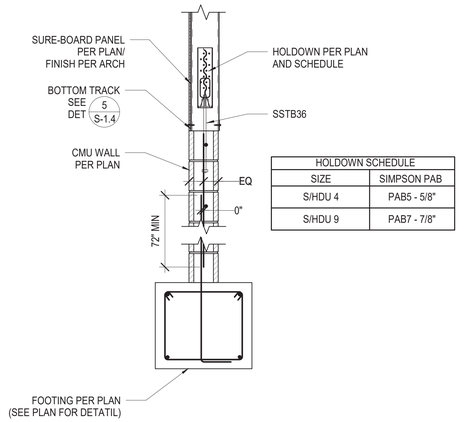
NOTES:
1. BOLTS CAST-IN MASONRY SHALL BE GROUTED IN PLACE WITH 1" OF GROUT BETWEEN BOLT AND MASONRY.
2. BOLTS SHALL BE A307 HEADED MACHINE BOLTS OR A36 ROD W/ TACK WELDED HEX NUT.
3. UNLESS DETAILED ON PLANS, DO NOT PLACE BOLTS IN FACE OF WALL < 12x DIA FROM OPENINGS OR EDGES WITHOUT APPROVAL FROM SEOR.

9 S-1.9 HEADED BOLT GROUTED IN CMU WALL
SCALE:N.T.S.
REF DET:10 / S-5.3



NOTE:
DO NOT SUBSTITUTE EXPANSION JOINTS FOR CONTROL JOINTS.
EXPANSION JOINTS PROVIDE COMPLETE STRUCTURAL DISCONTINUITY, USE ONLY WHERE SPECIFICALLY NOTED ON THE PLANS.

10 S-1.9 TYP CMU WALL EXPANSION JOINT (E.J.)
SCALE:N.T.S.



HOLDOWN SCHEDULE	
SIZE	SIMPSON PAB
S/HDU 4	PAB5 - 5/8"
S/HDU 9	PAB7 - 7/8"

11 S-1.9 HOLDOWN @ CMU
SCALE:N.T.S.
REF DET:17 / S-3.2

PREPARED BY:
MCA ENGINEERS INC
CIVIL • STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
Tel. 949.679.0870
Fax. 949.679.9370
Project No.: I699

REGISTERED PROFESSIONAL ENGINEER — No. 54029 — Exp. 9/30/24 — STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

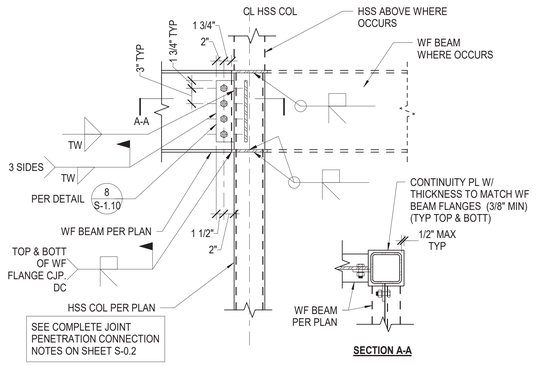
CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
TYPICAL DETAILS-CMU
COMMUNITY AQUATICS & SENIOR CENTER
S-1.9

	INITIAL	DATE
DESIGNED BY	AQ	05/01/23
DRAWN BY	AN	06/29/23
CHECKED BY	YN	06/29/23

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 95 OF 176 DWG. NO. 5-2606

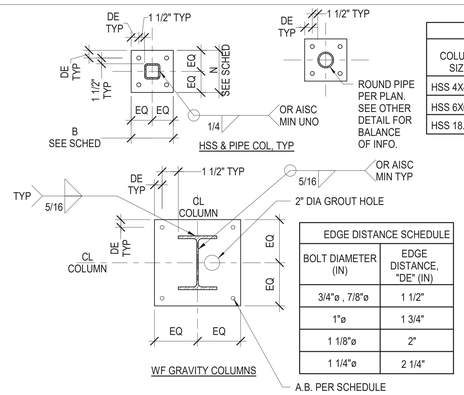
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1 S-1.10 WF BEAM TO HSS COL MOMENT CONNECTION

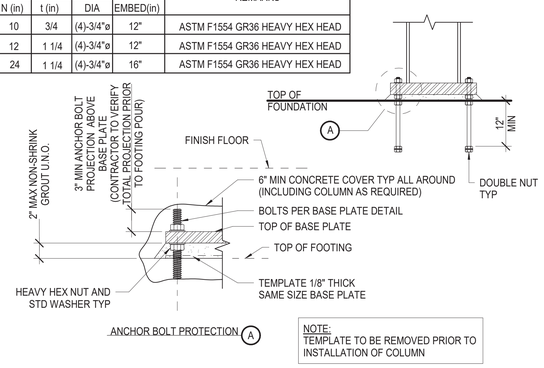
SCALE:N.T.S.

REF DET:8 / S-1.10



EDGE DISTANCE SCHEDULE	
BOLT DIAMETER (IN)	EDGE DISTANCE, "DE" (IN)
3/4"ø , 7/8"ø	1 1/2"
1"ø	1 3/4"
1 1/8"ø	2"
1 1/4"ø	2 1/4"

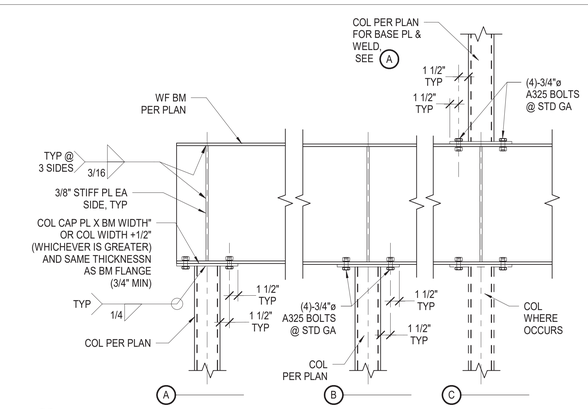
COLUMN BASE PLATE SCHEDULE						
COLUMN SIZE	BASE PLATE			ANCHOR ROD		REMARKS
	B (in)	N (in)	t (in)	DIA	EMBED(in)	
HSS 4X4	10	10	3/4	(4)-3/4"ø	12"	ASTM F1554 GR36 HEAVY HEX HEAD
HSS 6X6	12	12	1 1/4	(4)-3/4"ø	12"	ASTM F1554 GR36 HEAVY HEX HEAD
HSS 18.0X0.375	24	24	1 1/4	(4)-3/4"ø	16"	ASTM F1554 GR36 HEAVY HEX HEAD



NOTE:
TEMPLATE TO BE REMOVED PRIOR TO INSTALLATION OF COLUMN

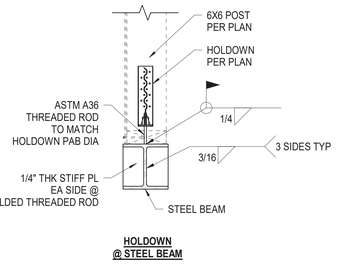
2 S-1.10 GRAVITY COLUMN BASE PLATE DETAIL

SCALE:N.T.S.



4 S-1.10 WF BEAM TO COL

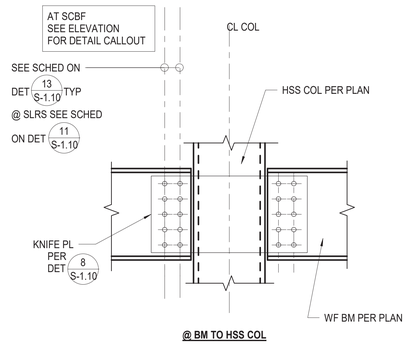
SCALE:N.T.S.



HOLDOWN @ STEEL BEAM

5 S-1.10 HOLDOWN @ STEEL BEAM

SCALE:N.T.S.

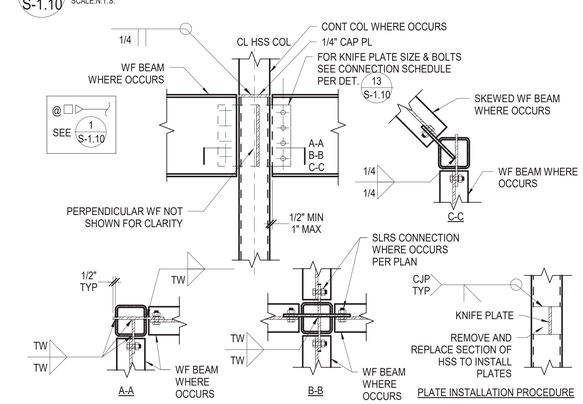


@ BM TO HSS COL

6 S-1.10 TYPICAL BEAM TO COLUMN CONNECTION

SCALE:N.T.S.

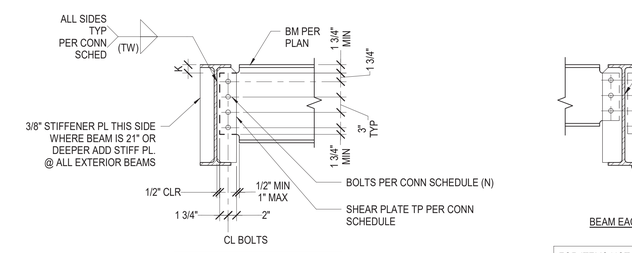
REF DET:12 / S-1.10



8 S-1.10 TYPICAL BEAM TO HSS COL

SCALE:N.T.S.

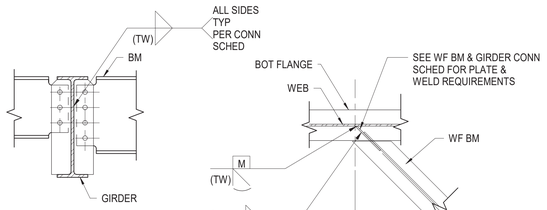
REF DET:1 / S-1.10



NOTE:
1. USE STANDARD BOLT HOLES

ONE-SIDED CONNECTION OCCURS WHERE OPPOSITE BEAMS ARE OFFSET BY 12" OR MORE

BEAM ONE SIDE



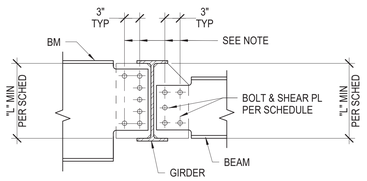
BEAM EACH SIDE

FOR ITEMS NOT SHOWN OR NOTED SEE "BEAM ONE SIDE"

TYP WF BEAM TO WF BEAM

PLAN VIEW

SKEWED BEAM CONNECTION



DROP BEAM OR DEEPER BEAM THAN GIRDER CONNECTION

NOTE:
WHERE NUMBER OF REQUIRED BOLTS PER PLAN OR SCHEDULE ARE MORE THAN NUMBER OF BOLTS THAT FIT AT ONE ROW, USE MAXIMUM BOLTS AT FIRST ROW & BALANCE IN SECOND ROW (2 BOLTS MIN AT SECOND ROW).

WF BEAM & GIRDER CONNECTION SCHEDULE				
WF BM	(N) A325N BOLTS U.N.O.	(L) MIN PLATE / WELD LENGTH	(TP) MIN PLATE THICKNESS	(TW)† MIN WELD THICKNESS
W8	(2) 3/4"ø	5 1/2"	3/8"	1/4"
W10	(2) 3/4"ø	6"	3/8"	1/4"
W12	(3) 1"ø	9"	3/8"	1/4"
W14	(3) 1"ø	9"	3/8"	1/4"
W16	(4) 1"ø	12"	3/8"	1/4"
W18	(5) 1"ø	15"	1/2"	3/8"
W21,24	(6) 1"ø	18"	1/2"	3/8"
W27	(7) 1"ø	21"	1/2"	3/8"
W30	(8) 1"ø	24"	1/2"	3/8"
W33	(9) 1"ø	27"	1/2"	3/8"
W36	(10) 1"ø	31"	1/2"	3/8"

NOTES:
1. 5/16" MIN FOR COLUMN FLANGES GREATER THAN 3/4" THICK
2. PL 1/2" & THICKER SHALL BE GAS OR SAW CUT
3. ALL BOLT HOLES SHALL BE STD HOLES UNO.

13 S-1.10 TYPICAL BEAM TO BEAM CONNECTION

SCALE:N.T.S.

REF DET:6 / S-1.10

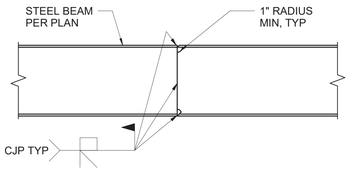
DRAG STRUT CONNECTION SCHEDULE				
MEMBER	CONN. PL THICKNESS "t" U.N.O.	# OF BOLTS A490 - SC PER ROW	NO. OF ROWS	WELD SIZE TW
W12-14	1/2"	3 - 1" DIA	SEE PLAN	3/8"
W16	3/4"	4 - 1" DIA		1/2"
W18	3/4"	5 - 1" DIA		1/2"
W21	3/4"	6 - 1" DIA		1/2"
W24	1"	6 - 1" DIA		3/4"
W27	1"	7 - 1" DIA		3/4"

NOTES:
1. FILLET WELDS INDICATED PER SCHEDULE SHALL BE REPLACED WITH COMPLETE PENETRATION GROOVE WELDS WHERE SKEWED BEAM CONNECTIONS WITH ANGLES SMALLER THAN 60° (BETWEEN BEAM AND GIRDER) OCCUR, TYP. U.N.O.
2. INSTALLATION OF HIGH STRENGTH BOLTS SHALL BE TESTED BY USING CALIBRATED WRENCH AS PER AISC SPECIFICATIONS. WRENCH SHALL BE CALIBRATED AT LEAST TWICE A DAY

11 S-1.10 DRAG STRUT CONNECTION SCHEDULE

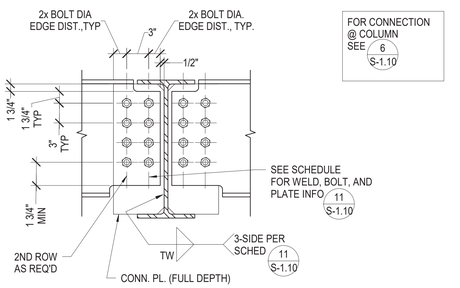
SCALE:N.T.S.

REF DET:6 / S-1.10



15 S-1.10 OPTIONAL SPLICE DETAIL

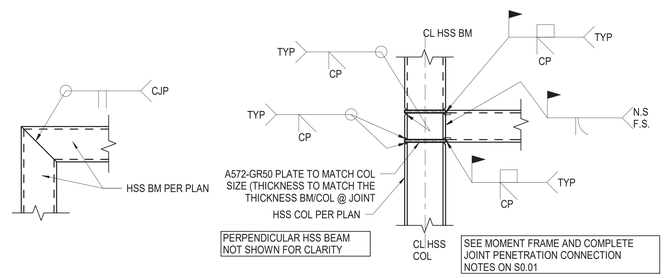
SCALE: 3/4" = 1'-0"



DRAG STRUT CONNECTION

12 S-1.10 DRAG STRUT CONNECTION AT GIRDER

SCALE:N.T.S.



16 S-1.10 TYP HSS MOMENT CONNECTION

SCALE: 3/4" = 1'-0"

PREPARED BY:

MCA ENGINEERS INC
CIVIL ● STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
Tel. 949.679.0870
Fax. 949.679.9370
Project No.: I699

REGISTERED PROFESSIONAL ENGINEER — No. S4029 — Exp. 9/30/24 — STRUCTURAL — STATE OF CALIFORNIA

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.506'

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

TYPICAL DETAILS-STEEL

COMMUNITY AQUATICS & SENIOR CENTER

S-1.10

	INITIAL	DATE
DESIGNED BY	AQ	05/01/23
DRAWN BY	AN	06/29/23
CHECKED BY	YN	06/29/23

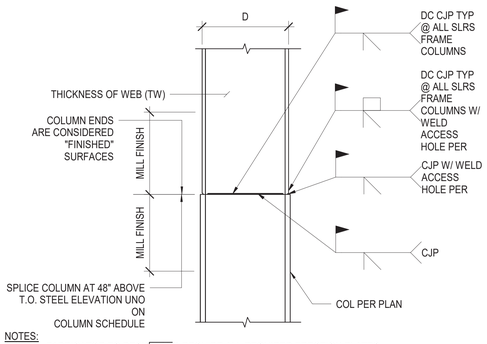
APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 96 OF 176 DWG. NO. S-2606

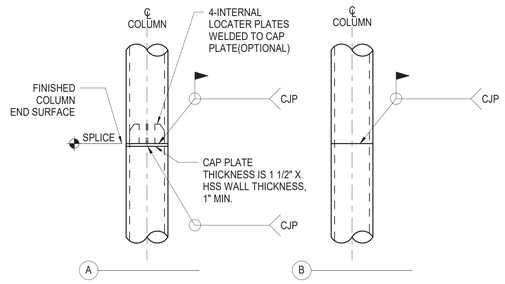
BELL GARDENS AQUATICS CENTER - 90% CONSTRUCTION DOCUMENTS

PLOT TIME: 6/29/2023 3:44:23 PM
PLOT BY: C:\Users\yenn\Desktop\Comments\101-Gardena



NOTES:
1. STEEL FABRICATOR TO DESIGN AND PROVIDE ALL REQUIRED ERECTION PLATES
2. FOR FINISHED SURFACES AT COLUMN ENDS SEE AISC "CODE OF STANDARD PRACTICE" SECTION 6.2.2.

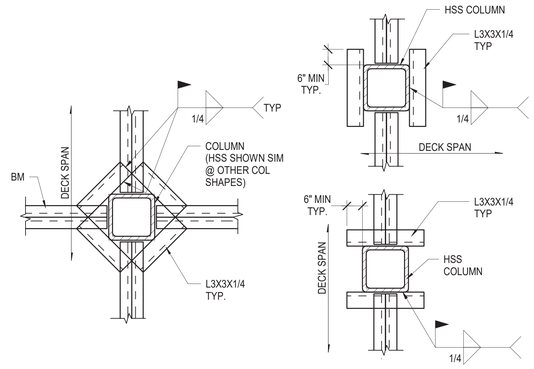
SEE COMPLETE JOINT PENETRATION CONNECTION NOTES ON SHEET S-0.2



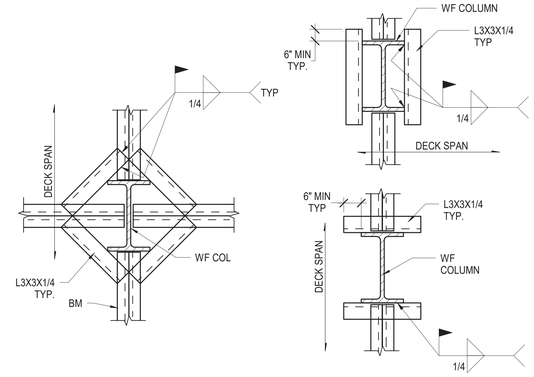
NOTES:

1. EITHER DETAIL (A) OR (B) MAY BE USED AT CONTRACTOR'S OPTION.
2. COLUMN SPLICES MAY BE SHOP WELDED AT CONTRACTOR'S OPTION. SEE COLUMN SCHEDULE FOR SPLICE LOCATIONS.

5 TYP COLUMN SPLICE U.N.O.
S-1.11 SCALE:N.T.S.

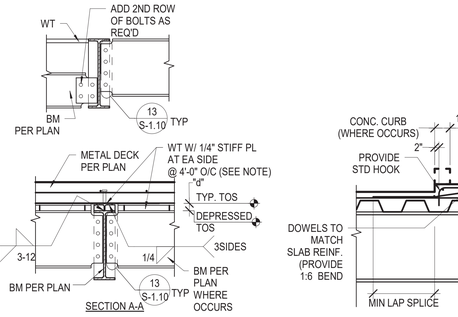


PROVIDE ANGLES AS REQ'D WHERE BEAMS DO NOT FRAME TO COL.



PROVIDE ANGLES AS REQ'D WHERE BEAMS DO NOT FRAME TO COL.

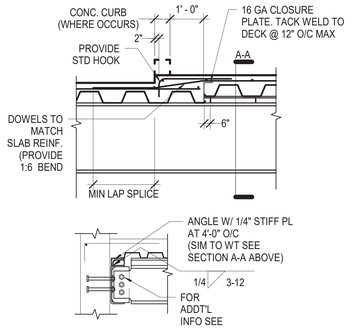
6 TYP DECK SUPPORT AT COLUMN
S-1.11 SCALE:N.T.S.



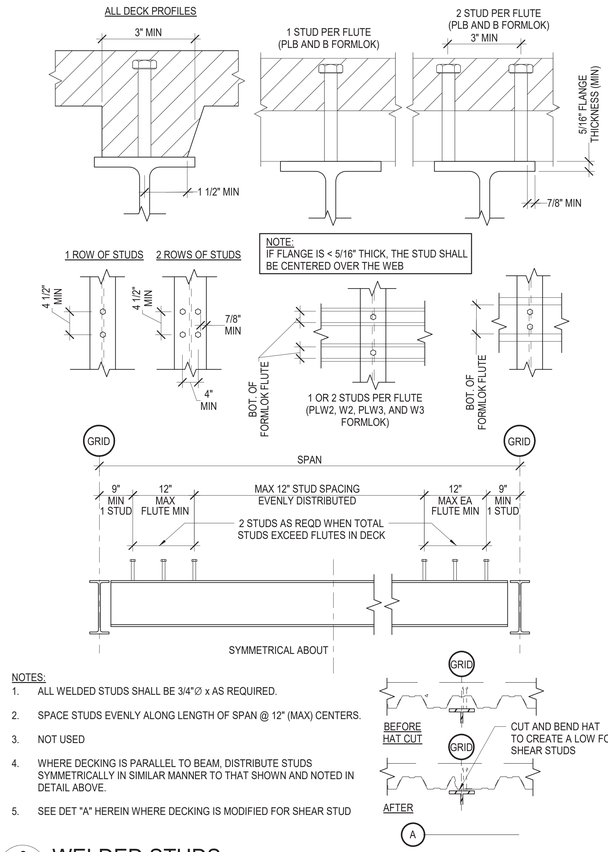
WT/ANGLE SCHED. (CUT VERTICAL LEG/WEB AS NEDED)

"d"	WT	ANGEL
2"	WT 2X6.5	L3x2x3/8 (LLH)
3"	WT 3X8	L3x3x3/8 (LLV)
4"	WT 4X10.5	L4x3x3/8 (LLV)
5"	WT X9.5	L5x3x3/8 (LLV)

NOTES:
1. PROVIDE WT/ANGLE WHERE NOTED ON PLAN. NOTE THAT WT IS NOT SHOWN ON PLAN.
2. WT/ANGLE TO MATCH BEAM/LEDGER tf, bf, tw.

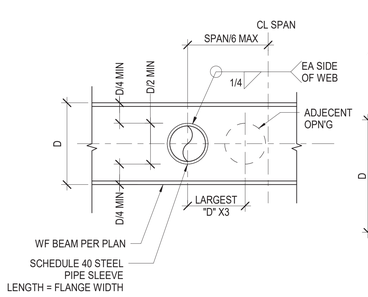


7 DROPPED BEAM WITH WT/ANGLE
S-1.11 SCALE:N.T.S.
REF DET-11/ S-1.12

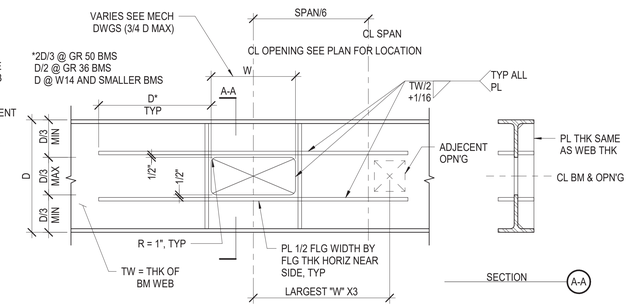


NOTES:
1. ALL WELDED STUDS SHALL BE 3/4"Ø x AS REQUIRED.
2. SPACE STUDS EVENLY ALONG LENGTH OF SPAN @ 12" (MAX) CENTERS.
3. NOT USED
4. WHERE DECKING IS PARALLEL TO BEAM, DISTRIBUTE STUDS SYMMETRICALLY IN SIMILAR MANNER TO THAT SHOWN AND NOTED IN DETAIL ABOVE.
5. SEE DET "A" HEREIN WHERE DECKING IS MODIFIED FOR SHEAR STUD

8 WELDED STUDS
S-1.11 SCALE:N.T.S.



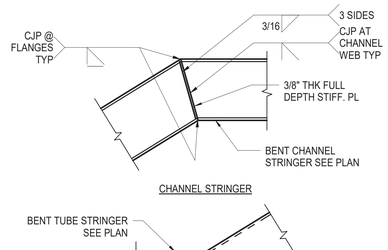
ROUND OPENING



SQUARE OPENING

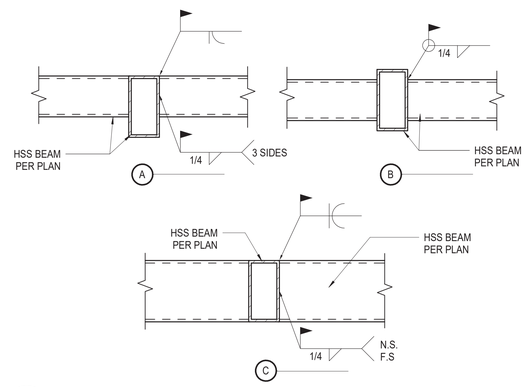
NOTES:
1. THIS DETAIL MAY NOT BE USED WITHOUT PRIOR WRITTEN APPROVAL OF SEOR & DSA.
2. CONTINUITY PLATES AND STIFFENERS SHALL BE 1/2 FLANGE WIDTH; GRADE SHALL MATCH BASE BEAM.
3. FLANGE & STIFFENER NOT REQD FOR 4" SQ HOLES & LESS IN W12 OR DEEPER.
4. WHERE ROUND OPENINGS ARE D/6 OR LESS, REINFORCING SHOWN IS NOT REQUIRED.

9 TYPICAL HOLE THRU STEEL BEAM WEB
S-1.11 SCALE:N.T.S.



SEE COMPLETE JOINT PENETRATION CONNECTION NOTES ON GENERAL NOTES

11 TYPICAL BENT STRINGERS
S-1.11 SCALE:N.T.S.
REF DET-11/ S-5.2



12 HSS BEAM TO HSS BEAM CONNECTION
S-1.11 SCALE:N.T.S.
REF DET-11/ S-3.1

PREPARED BY:
MCA ENGINEERS INC
STEEL ● STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
Tel. 949.679.0870
Fax. 949.679.9370
Project No.: I699

REGISTERED PROFESSIONAL ENGINEER KEVIN PARKER No. 54029 Exp. 9/30/24 STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

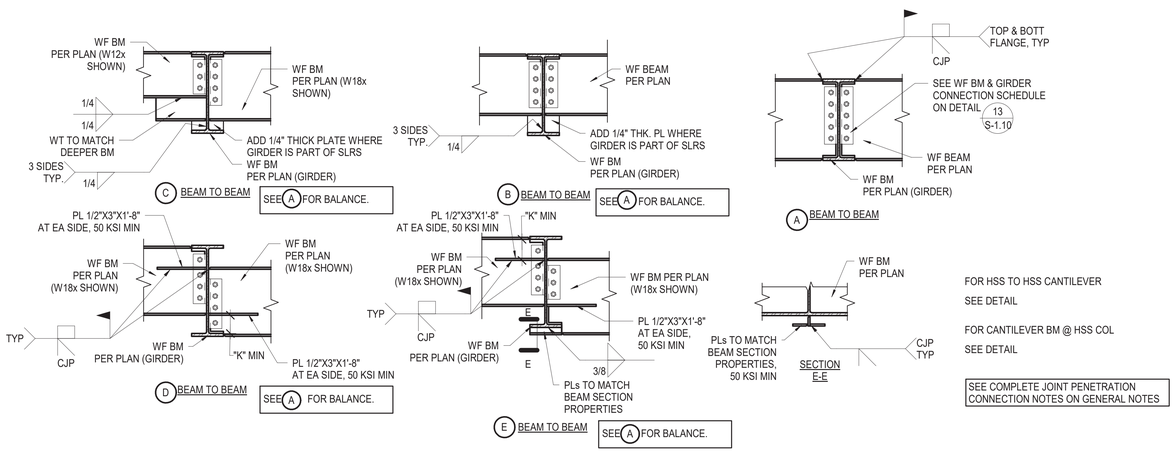
B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.008'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
TYPICAL DETAILS-STEEL
COMMUNITY AQUATICS & SENIOR CENTER
S-1.11

	INITIAL	DATE
DESIGNED BY	AQ	05/01/23
DRAWN BY	AN	06/29/23
CHECKED BY	YN	06/29/23

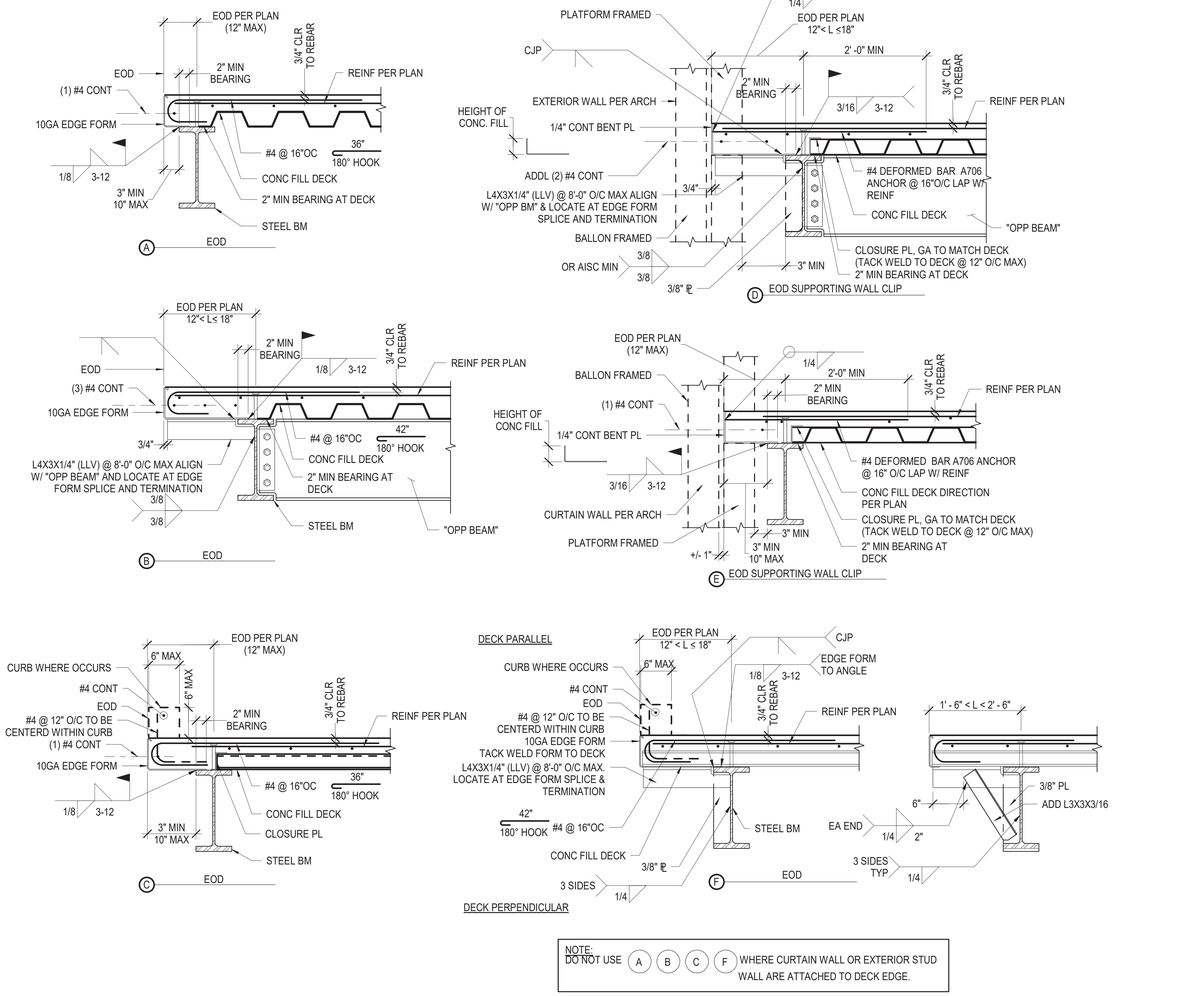
APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS
SHT. 97 OF 176 DWG. NO. 5-2606

BELL GARDENS AQUATICS CENTER - 90% CONSTRUCTION DOCUMENTS
PLOT DATE: 12/15/2022 3:54:49 PM Plotted By: Christian Angeles Document: 131-Gardena



1 S-1.12 TYPICAL CANTILEVER BEAM CONNECTION

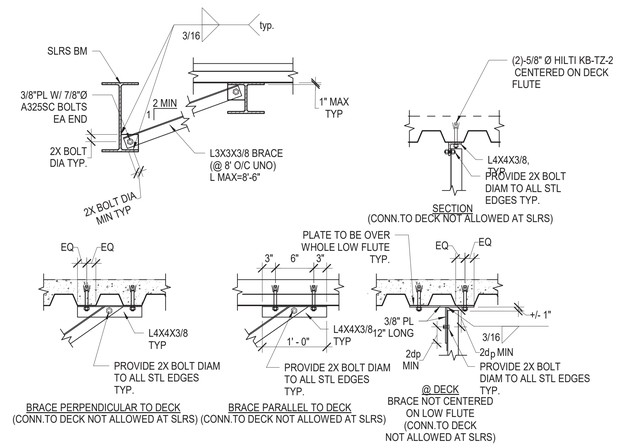
SCALE: N.T.S.



NOTE:
DO NOT USE (A) (B) (C) (F) WHERE CURTAIN WALL OR EXTERIOR STUD WALL ARE ATTACHED TO DECK EDGE.

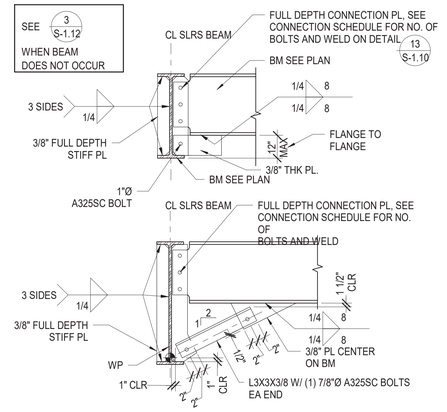
9 S-1.12 EDGE OF CONC FILL DECK (EOD) AT FLOOR/ROOF

SCALE: 3/4" = 1'-0"



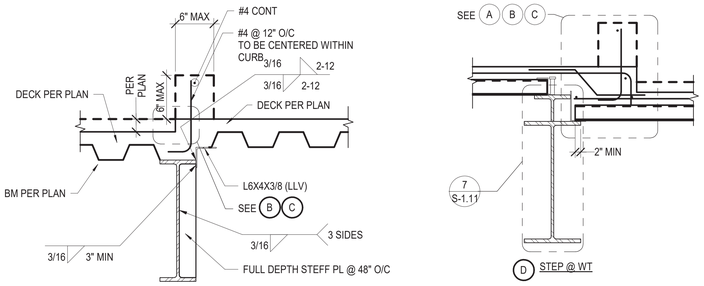
3 S-1.12 BEAM BOTTOM FLANGE BRACE DETAILS

SCALE: N.T.S.



4 S-1.12 BEAM BOTTOM FLANGE BRACING DETAIL

SCALE: N.T.S.



11 S-1.12 TYPICAL STEPPED SLAB

SCALE: N.T.S.

PREPARED BY:
MCA ENGINEERS INC
CIVIL • STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
Tel. 949.679.0870
Fax. 949.679.9370
Project No.: I699

REGISTERED PROFESSIONAL ENGINEER — No. 54029 — Exp. 9/30/24 — STRUCTURAL — STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
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2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

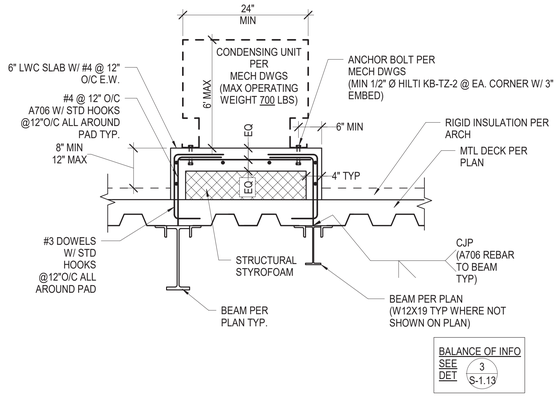
B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
TYPICAL DETAILS-STEEL
COMMUNITY AQUATICS & SENIOR CENTER
S-1.12

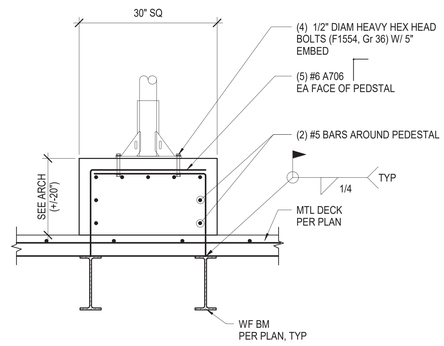
	INITIAL	DATE
DESIGNED BY	AQ	05/01/23
DRAWN BY	AN	06/29/23
CHECKED BY	YN	06/29/23

APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS
SHT. 98 OF 176 DWG. NO. 5-2606

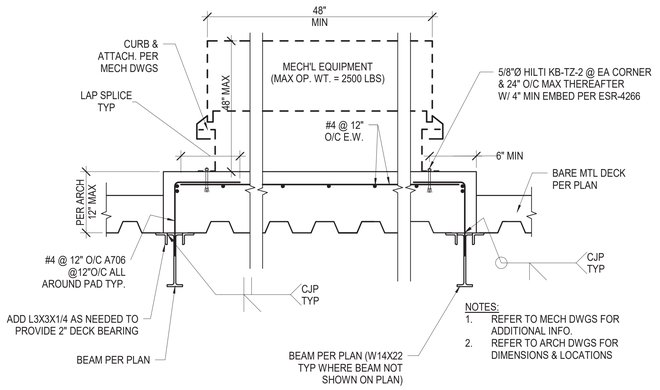
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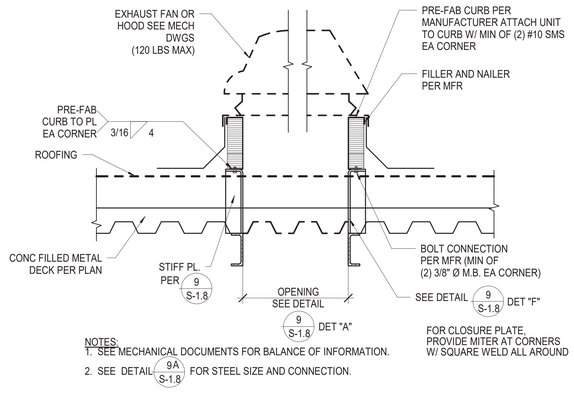
1 CONDENSING UNIT
S-1.13 SCALE:N.T.S.



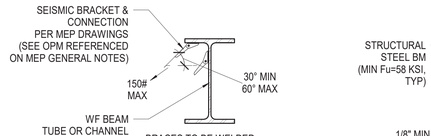
2 PAVIT CRANE SUPPORT
S-1.13 SCALE:N.T.S.

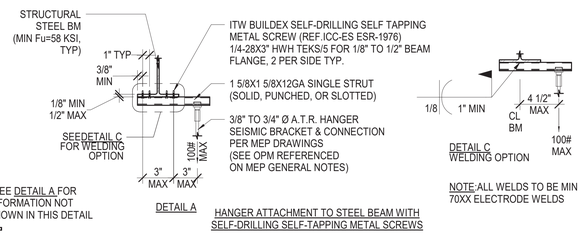


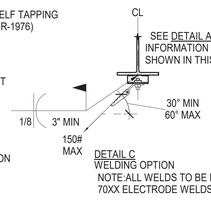
3 SECTION AT EQUIPMENT PAD
S-1.13 SCALE:N.T.S.
REF DET:1 / S-1.13

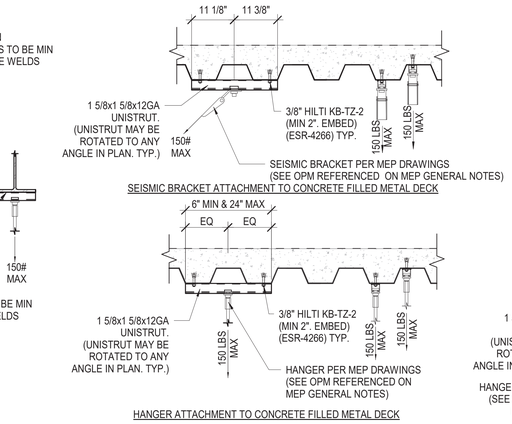


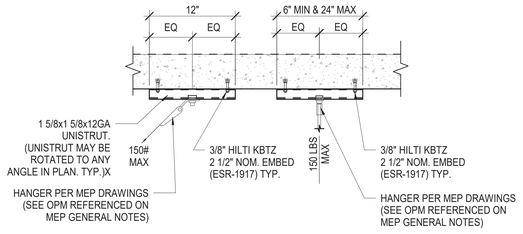
4 TYP EXHAUST FAN & INTAKE HOOD ANCHORAGE DETAIL
S-1.13 SCALE:N.T.S.



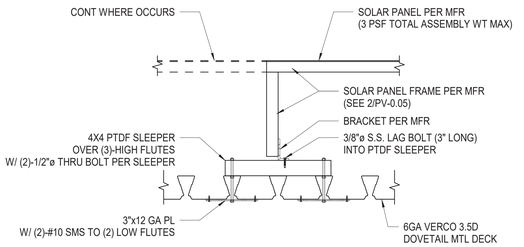




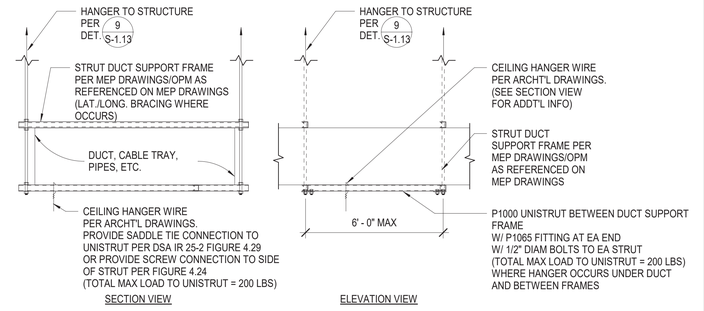




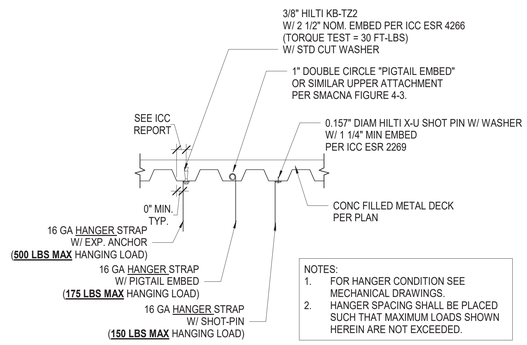
9 HANGER AND BRACE ATTACHMENT TO STRUCTURE
S-1.13 SCALE:N.T.S.
REF DET:8 / S-1.13



7 SOLAR FRAME SUPPORT
S-1.13 SCALE:N.T.S.



8 CEILING HANGER AT OBSTRUCTION
S-1.13 SCALE:N.T.S.



12 DUCT HANGER STRAP @ CONC FILLED DECK
S-1.13 SCALE:N.T.S.

PREPARED BY:
MCA ENGINEERS INC
CIVIL • STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
Tel. 949.679.0870
Fax. 949.679.9370
Project No.: I699

REGISTERED PROFESSIONAL ENGINEER No. S4029 Exp. 9/30/24 STATE OF CALIFORNIA

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

	INITIAL	DATE
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DRAWN BY	AN	06/29/23
CHECKED BY	YN	06/29/23

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
TYPICAL DETAILS-MEP SUPPORT
COMMUNITY AQUATICS & SENIOR CENTER
S-1.13

APPROVED BY: _____
APPROVED BY: _____ DIRECTOR OF PUBLIC WORKS

SHT. 99 OF 176 DWG. NO. S-2606

BELL GARDENS AQUATICS CENTER - 90% CONSTRUCTION DOCUMENTS
PLOT DATE: C:\Users\user\Desktop\Documents\101-Gardena\Plan Sets\Arch\S-1.13 Typical Details-MEP Support.dwg

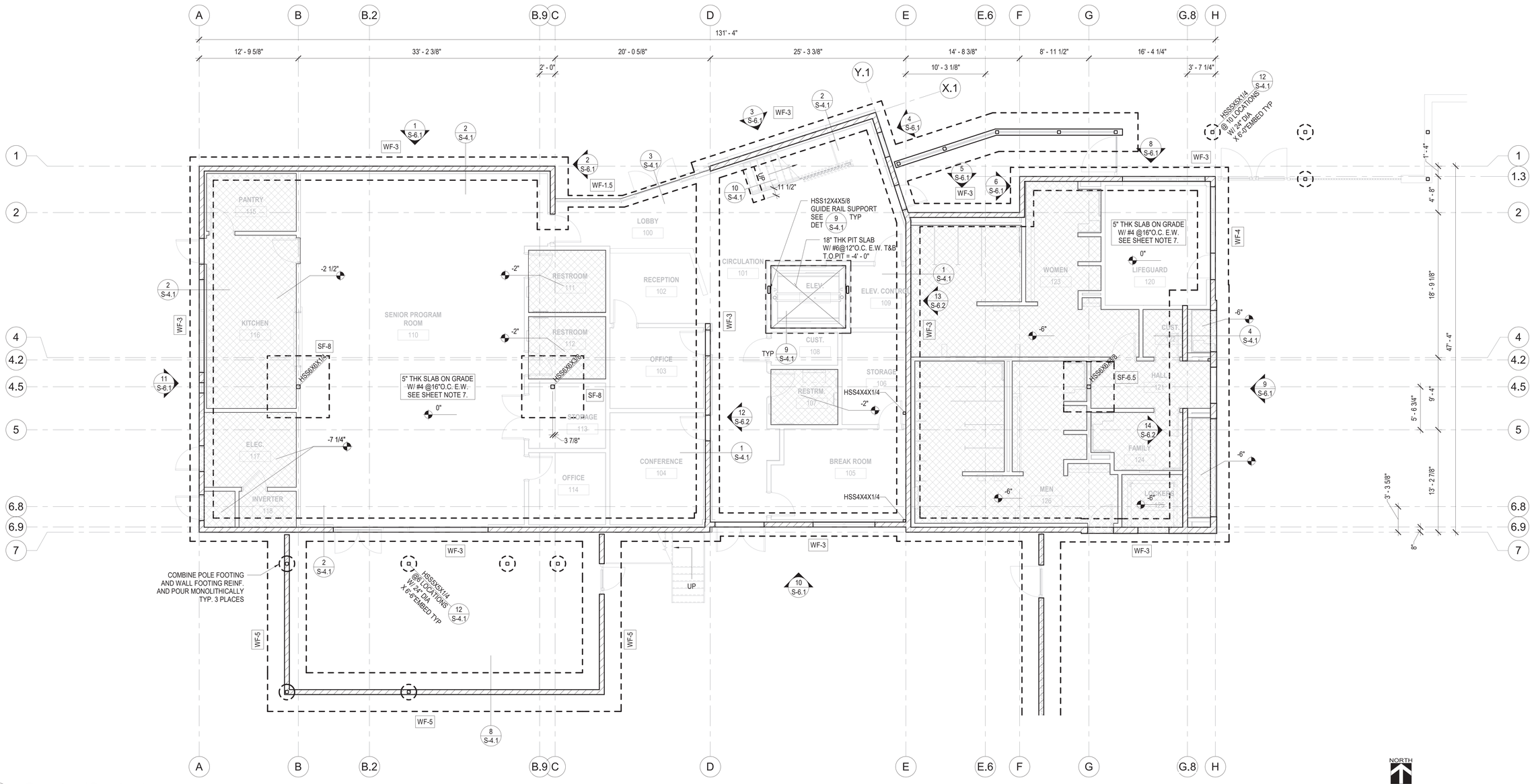
FOUNDATION NOTES

1. FOR GENERAL NOTES, SEE S-0.# SERIES.
2. FOR TYPICAL DETAILS, SEE S-1.# SERIES.
3. NONE.
4. SF-# INDICATES SPREAD FOOTING. SEE SPREAD FOOTING SCHEDULE FOR ADDITIONAL INFO.

SPREAD FOOTING SCHEDULE					
MARK	DIMENSIONS			REINFORCEMENT	
	LENGTH	WIDTH	DEPTH	LONG	SHORT
SF-4	4' - 0"	4' - 0"	24"	(4)-#5 T&B	(4)-#5 T&B
SF-6.5	6' - 6"	6' - 6"	24"	(6)-#7 T&B	(6)-#7 T&B
SF-8	8' - 0"	8' - 0"	24"	(8)-#7 T&B	(8)-#7 T&B

5. DRAWING DATUM = 0'-0": REF. ELEV. +/- XXX.XX @ GROUND FLOOR FINISH FLOOR (SEE CIVIL & ARCH FOR ACTUAL ELEVATION)
6. FOR WALL FOOTING THRU / TERMINATION DETAIL SEE 11 / S-1.10
7. TYPICAL SLAB ON GRADE UNDERLAYMENT:
   SLAB SHALL BE UNDERLAIN BY 4 INCHES OF SAND LAYER OVER 15 MIL MOISTURE BARRIER
   CONTRACTOR TO PROTECT VAPOR BARRIER FROM PUNCTURE.
8. FOR SLAB SAWCUT AND CONTROL JOINT, SEE DETAIL 16 / S-1.1
   & FOR TYPICAL SLAB EDGE, SEE 9 / S-1.1
9. UNDERGROUND UTILITY NOTE:
   CONTRACTOR SHALL COORDINATE ALL NEW AND EXISTING UTILITIES PRIOR TO ANY FOUNDATION WORK PER 9 / S-1.2 & 5 / S-1.2
   STEP FOOTINGS AS REQUIRED PER DETAIL 8 / S-1.2 @ SLRS FRAMES, STEPS NOT NOTED HEREIN REQUIRE SEOR & DSA APPROVAL.
   WHERE ADDITIONAL STEPS ARE REQUIRED, NOTIFY SEOR.
10. INDICATES STEP IN FOOTING PER DETAIL 8 / S-1.2 @ SLRS FRAMES, STEPS NOT NOTED HEREIN REQUIRE SEOR & DSA APPROVAL.
11. INDICATES DEPRESSED SLAB. SEE DETAIL 9 / S-1.1 REFER TO ARCHT'L DRAWINGS FOR ADDITIONAL INFORMATION.
12. SHOWS ELEVATION OF FRAME ELEVATION
13. FOR FOUNDATION CROSSINGS / OVERLAPS SEE DET. 2 / S-1.3 , 3 / S-1.3 & 5 / S-1.3
14. CONC. MASONRY WALL SEE ELEV FOR ADDITIONAL INFOMATION.
15. WF-# INDICATES WALL FOOTING.

WALL FOOTING SCHEDULE				
MARK	DIMENSIONS		REINFORCEMENT	#4 TIES @ 12" O.C., U.N.O.
	WIDTH	DEPTH		
WF-1.5	1' - 6"	24"	(3)-#5 T&B	ALT. CAP
WF-2	2' - 0"	24"	(3)-#5 T&B	
WF-2.5	2' - 6"	24"	(3)-#5 T&B	
WF-3	3' - 0"	24"	(4)-#5 T&B	
WF-4	4' - 0"	24"	(5)-#5 T&B	
WF-5	5' - 0"	24"	(5)-#5 T&B	
WF-10	10' - 0"	24"	(10)-#5 T&B	



1 / S-2.1 FOUNDATION PLAN
SCALE: 3/16" = 1'-0"
REF DET 1 / S-6.1

PREPARED BY:
MCA ENGINEERS INC
CIVIL • STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
Tel. 949.679.0870
Fax. 949.679.9370
Project No.: I699

REGISTERED PROFESSIONAL ENGINEER — No. S4029 — Exp. 9/30/24 — CIVIL — STATE OF CALIFORNIA

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

REVISIONS

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2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

	INITIAL	DATE
DESIGNED BY	AQ	05/01/23
DRAWN BY	AN	06/29/23
CHECKED BY	YN	06/29/23

APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 100 OF 176 DWG. NO. S-2606

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
FOUNDATION PLAN
COMMUNITY AQUATICS & SENIOR CENTER
S-2.1

BELL GARDENS AQUATICS CENTER - 90% CONSTRUCTION DOCUMENTS

PLOT DATE: C:\Users\Yuekai.Ning\Documents\131-Gardena Aquatics Center_R21_yuekai.ning.rvt
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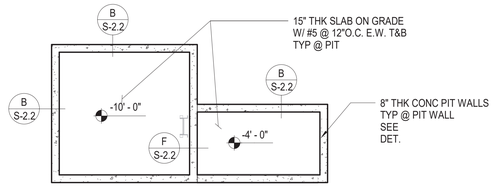
SHEET NOTES

1. SEE S-2.1 FOR FOUNDATION NOTES.
2. SEE S-3.2 FOR ROOF FRAMING NOTES.
3. WF-# INDICATES WALL FOOTING.

WALL FOOTING SCHEDULE				
MARK	DIMENSIONS		REINFORCEMENT	#4 TIES @ 12" O.C., U.N.O.
	WIDTH	DEPTH		
WF-2	2' - 0"	24"	(3)-#5 T&B	ALT. CAP

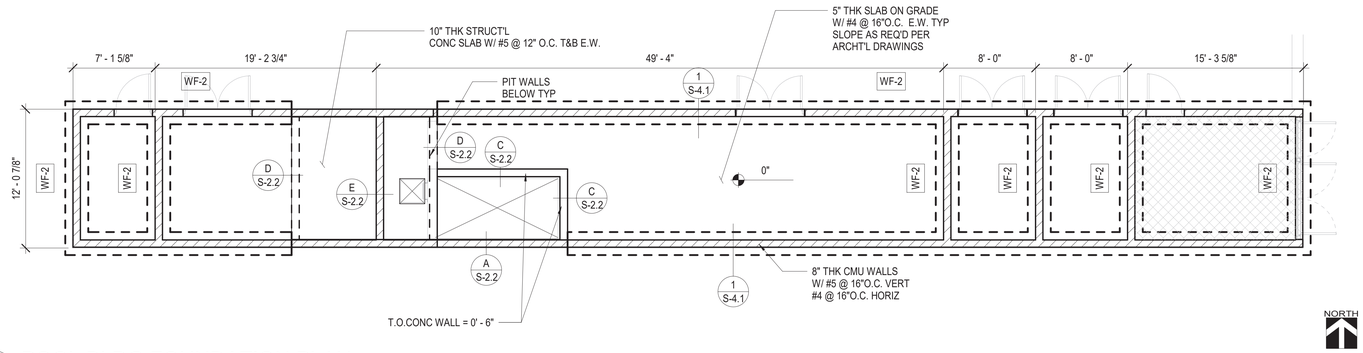
DECK SCHEDULE

DECK MARK	TYPE	GAGE	I (IN4/FT)	S (TOP +) (IN3/FT)	S (BOT -) (IN3/FT)	TOTAL DEPTH(IN)	CONC FILL TYPE	REINF.	WELDED STUDS	SIDE-SEAM ATTACHMENT	ATTACHMENT PATTERN
D3	VERCO HSB-36 IAPMO 2018	18	0.302	0.314	0.401	1.5"	BARE DECK	#3 @ 12" O/C E.W.	3/4 DIA. X 4 1/2" FN HT @ 12" O/C	TOP SEAM WELD @ 24" O/C	36/4



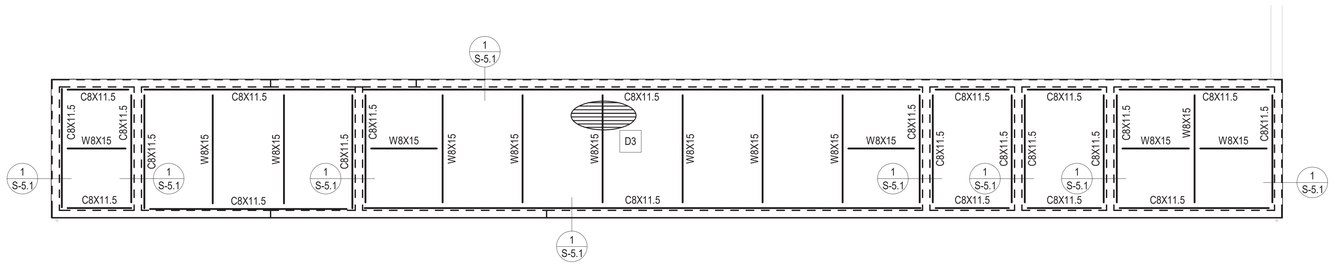
1 S-2.2 POOL BLDG PIT FOUNDATION PLAN

SCALE: 3/16" = 1'-0"
REF DET:1 / S-6.1



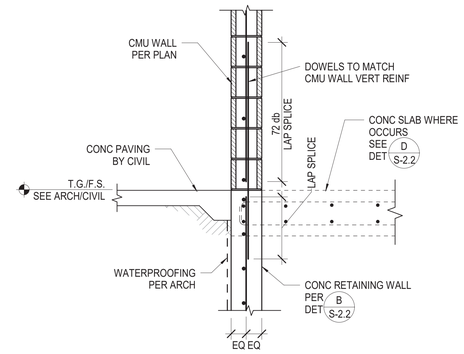
2 S-2.2 POOL BLDG FOUNDATION PLAN

SCALE: 3/16" = 1'-0"
REF DET:1 / S-6.1



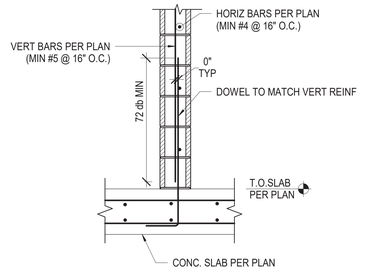
3 S-2.2 POOL BLDG ROOF FRAMING PLAN

SCALE: 3/16" = 1'-0"
REF DET:1 / S-6.1



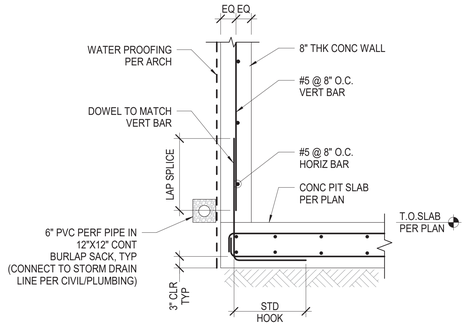
A S-2.2 PIT WALL TRANSITION DETAIL

SCALE: 3/4" = 1'-0"
REF DET:2 / S-2.2



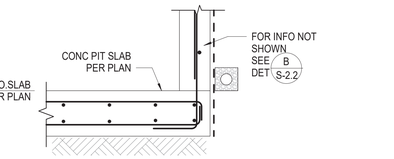
E S-2.2 CMU WALL OVER CONC SLAB

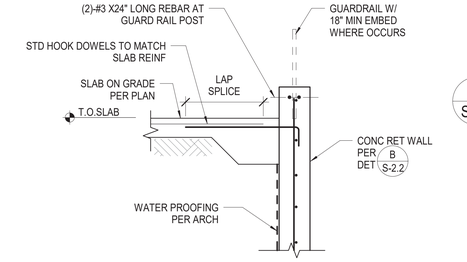
SCALE: 3/4" = 1'-0"
REF DET:2 / S-2.2



B S-2.2 BOTTOM OF PIT WALL

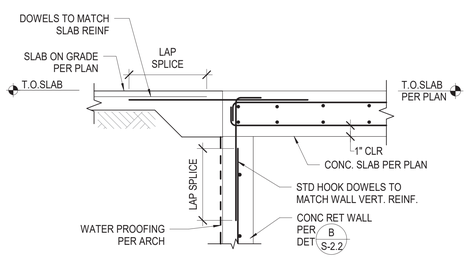
SCALE: 3/4" = 1'-0"
REF DET:1 / S-2.2





F S-2.2 PIT DEPTH CHANGE

SCALE: 3/4" = 1'-0"
REF DET:1 / S-2.2



C S-2.2 PIT WALL AT OPENING

SCALE: 3/4" = 1'-0"
REF DET:2 / S-2.2

D S-2.2 PIT WALL WITH SLAB

SCALE: 3/4" = 1'-0"
REF DET:2 / S-2.2

PREPARED BY:
VCA ENGINEERS INC
CIVIL ● STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
Tel. 949.679.0870
Fax. 949.679.9370
Project No.: I699

REGISTERED PROFESSIONAL ENGINEER KEVIN YANG No. 54029 Exp. 9/30/24 STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
POOL BLDG FOUNDATION & ROOF FRAMING PLAN
COMMUNITY AQUATICS & SENIOR CENTER
S-2.2

	INITIAL	DATE
DESIGNED BY	AQ	05/01/23
DRAWN BY	AN	06/29/23
CHECKED BY	YN	06/29/23

APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS
SHT. 101 OF 176 DWG. NO. 5-2606

BID SET
PLOT DATE: 11/28/23 3:44:43 PM
PLOT BY: Yang Kevin
PLOT NAME: C:\Users\kevin\Desktop\Gardena\S2-2.dwg

FLOOR FRAMING NOTES:

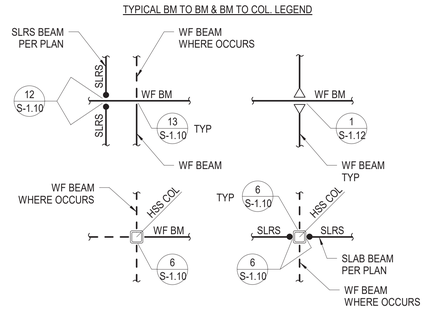
1. FOR GENERAL NOTES, SEE S-00# SERIES.
2. FOR TYPICAL DETAILS, SEE S-1## SERIES, SEE REFERENCES BELOW.
3. NOT USED.
4. DECK PER DECK SCHEDULE ON THIS SHEET. SEE [2 / S-1.8] FOR ADDITIONAL INFORMATION.
5. SEE PLAN FOR T.O.S. NOTE, COORDINATE T.O.S. NOTED WITH ARCHITECTURAL DRAWINGS
6. FOR TYPICAL BEAM TO BEAM CONNECTIONS, SEE DETAIL LEGEND.
7. CANTILEVER BEAM MOMENT CONNECTION SEE DETAIL [1 / S-1.12]
8. COLUMNS : SEE FLOORS BELOW FOR SIZES NOT NOTED HERE IN.
9. BEAM SPLICE. SEE DETAIL [15 / S-1.10] & [11 / S-1.11]
10. INDICATES BOLT CONNECTION AT SLRS SEE DETAIL [12 / S-1.10] BEAMS WITH THIS SYMBOL ARE PART OF THE SLRS.

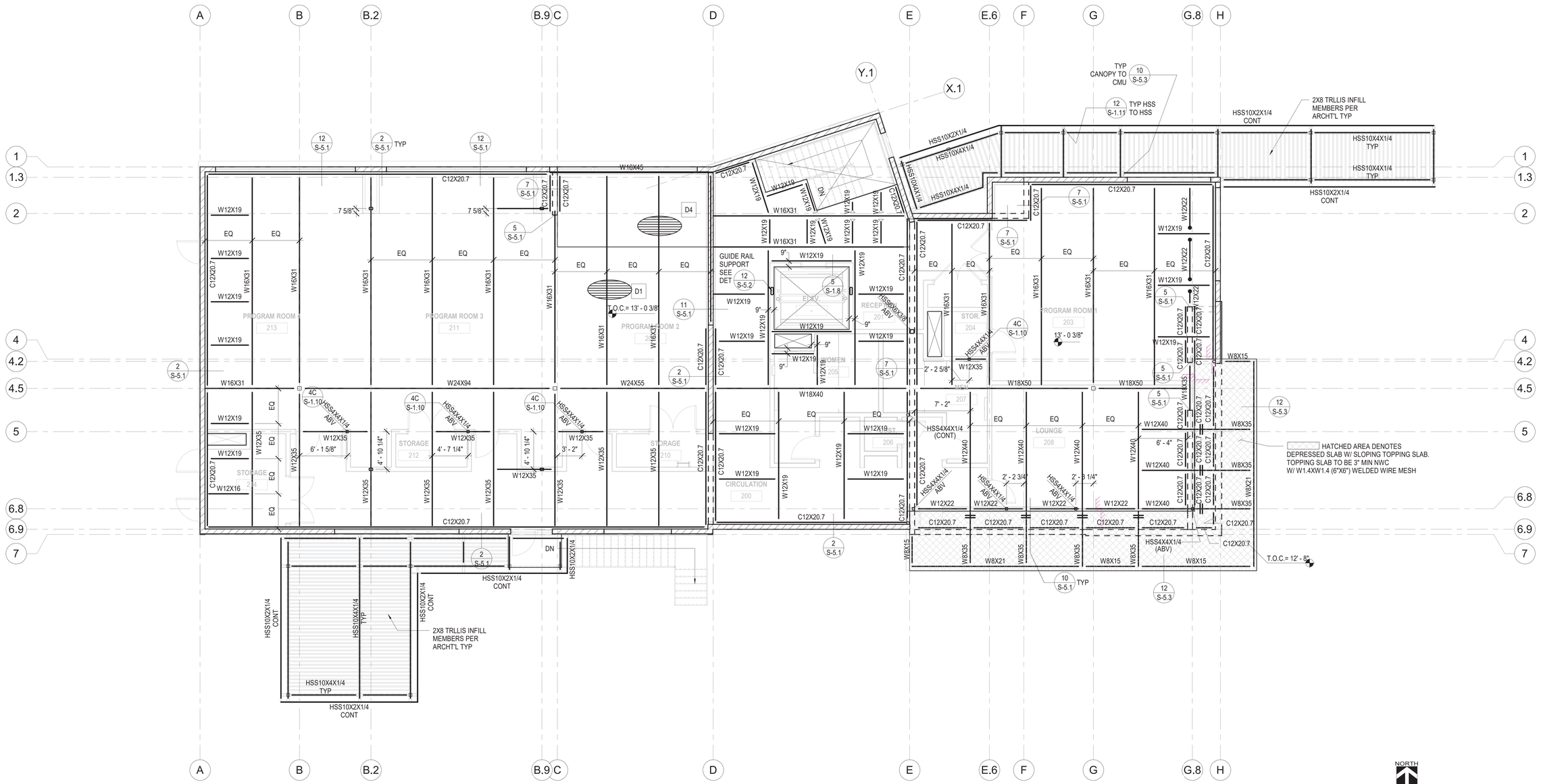
    INDICATES (2) ROWS OF A490SC,
    NDICATES (1) ROW OF A490SC,
11. ALL STEEL BEAMS SHALL HAVE WELDED STUDS. SEE DETAIL [8 / S-1.11]
12. AT ALL SLRS BEAMS PROVIDE BRACING @ 8' - 0" O.C. MAX PER DETAIL [4 / S-1.12]
13. DENOTES FLOOR/ROOF PENETRATION. FOR TRIM REINF SEE DETAIL [8 / S-1.8] SEE ARCHT'L / MEP DRAWINGS FOR ACTUAL LOCATION AND ADDITION INFO AND ADDITIONAL PENETRATIONS NOT SHOWN IN THESE DRAWINGS
14. INDICATES DEPRESSED SLAB. SEE DETAIL [9 / S-1.1] REFER TO ARCHT'L DRAWINGS FOR ADDITIONAL INFORMATION.
15. * NEXT TO BEAM SIZE INDICATES LOWERED BEAM AROUND DEPRESSED AREA SEE [7 / S-1.11] FOR BEAM WITH WT SECTION. NOTE: DOUBLE LINE DENOTES EXTENT OF WT.
16. DENOTES SLOPING METAL DECK (SLOPE PER ARCHT'L) W/ 2" LWC TOPPING SLAB W/ 6X6XD1.4XD1.4 WELDED WIRE MESH OVER WATERPROOFING OVER SCREEDING LAYER. FOR TYP SECTION SEE ARCHT'L DETAIL [x / A- x]
17. ALL LEDGERS (C12x) ARE PART OF THE SLRS.

DECK SCHEDULE

DECK MARK	TYPE	GAGE	I (IN4/FT)	S (TOP +) (IN3/FT)	S (BOT -) (IN3/FT)	TOTAL DEPTH(IN)	CONC FILL TYPE	REINF.	WELDED STUDS	SIDE-SEAM ATTACHMENT	ATTACHMENT PATTERN
D1	VERCO W2 IAPMO 2018	18	0.564	0.471	0.481	5"	LWC	#3 @ 12" O/C E.W.	3/4 DIA. X 4 1/2" FN HT @ 12" O/C	TOP SEAM WELD @ 24" O/C	36/4
D2	HSB 36 IAPMO 2018	18	0.306	0.314	0.331	1 1/2"	BARE	-	-	TOP SEAM WELD @ 6" O/C	36/4
D3	VERCO HSB-36 IAPMO 2018	18	0.302	0.314	0.401	1.5"	BARE DECK	#3 @ 12" O/C E.W.	3/4 DIA. X 4 1/2" FN HT @ 12" O/C	TOP SEAM WELD @ 24" O/C	36/4
D4	VERCO 2.0D IAPMO 2018	18	0.792	0.587	0.576	5"	LWC	#3 @ 12" O/C E.W.	3/4 DIA. X 4 1/2" FN HT @ 12" O/C	TOP SEAM WELD @ 24" O/C	24.5/8

TYPICAL BM TO BM & BM TO COL. LEGEND





1 S-3.1 2ND FLOOR FRAMING PLAN

SCALE: 3/16" = 1'-0"

REF DET:1 / S-6.1

PREPARED BY:

MCA ENGINEERS INC
CIVIL • STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
Tel. 949.679.0870
Fax. 949.679.9370
Project No.: I699

REVISIONS

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B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

	INITIAL	DATE
DESIGNED BY	AQ	05/01/23
DRAWN BY	AN	06/29/23
CHECKED BY	YN	06/29/23

APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 102 OF 176 DWG. NO. 5-2606

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

SECOND FLOOR FRAMING PLAN

COMMUNITY AQUATICS & SENIOR CENTER

S-3.1

REF FILE: C:\Users\user\Documents\151-Gardena\Revit\Central\151-Gardena_Central_22_Aquatics_Senior_Center_Structural.rvt

BELL GARDENS AQUATICS CENTER – 30% CONSTRUCTION DOCUMENTS

ROOF FRAMING NOTES:

1. FOR GENERAL NOTES, SEE S-00# SERIES.
2. FOR TYPICAL DETAILS, SEE S-1## SERIES, SEE REFERENCES BELOW.
3. NOT USED.
4. DECK PER DECK SCHEDULE ON THIS SHEET. SEE [2 / S-1.8] FOR ADDITIONAL INFORMATION.
5. SEE PLAN FOR T.O.S. NOTE, COORDINATE T.O.S. NOTED WITH ARCHITECTURAL DRAWINGS
6. FOR TYPICAL BEAM TO BEAM CONNECTIONS, SEE DETAIL LEGEND.
7. CANTILEVER BEAM MOMENT CONNECTION SEE DETAIL [1 / S-1.12]
8. COLUMNS : SEE FLOORS BELOW FOR SIZES NOT NOTED HERE IN.
9. BEAM SPLICE. SEE DETAIL [15 / S-1.10] & [11 / S-1.11]
10. INDICATES BOLT CONNECTION AT SLRS SEE DETAIL [12 / S-1.10] BEAMS WITH THIS SYMBOL ARE PART OF THE SLRS.

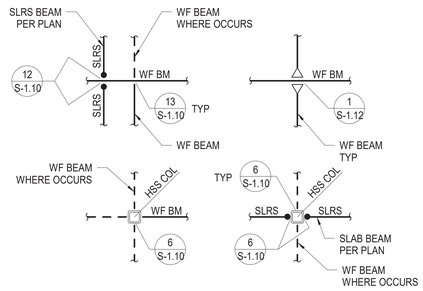
INDICATES (2) ROWS OF A490SC,
NDICATES (1) ROW OF A490SC,

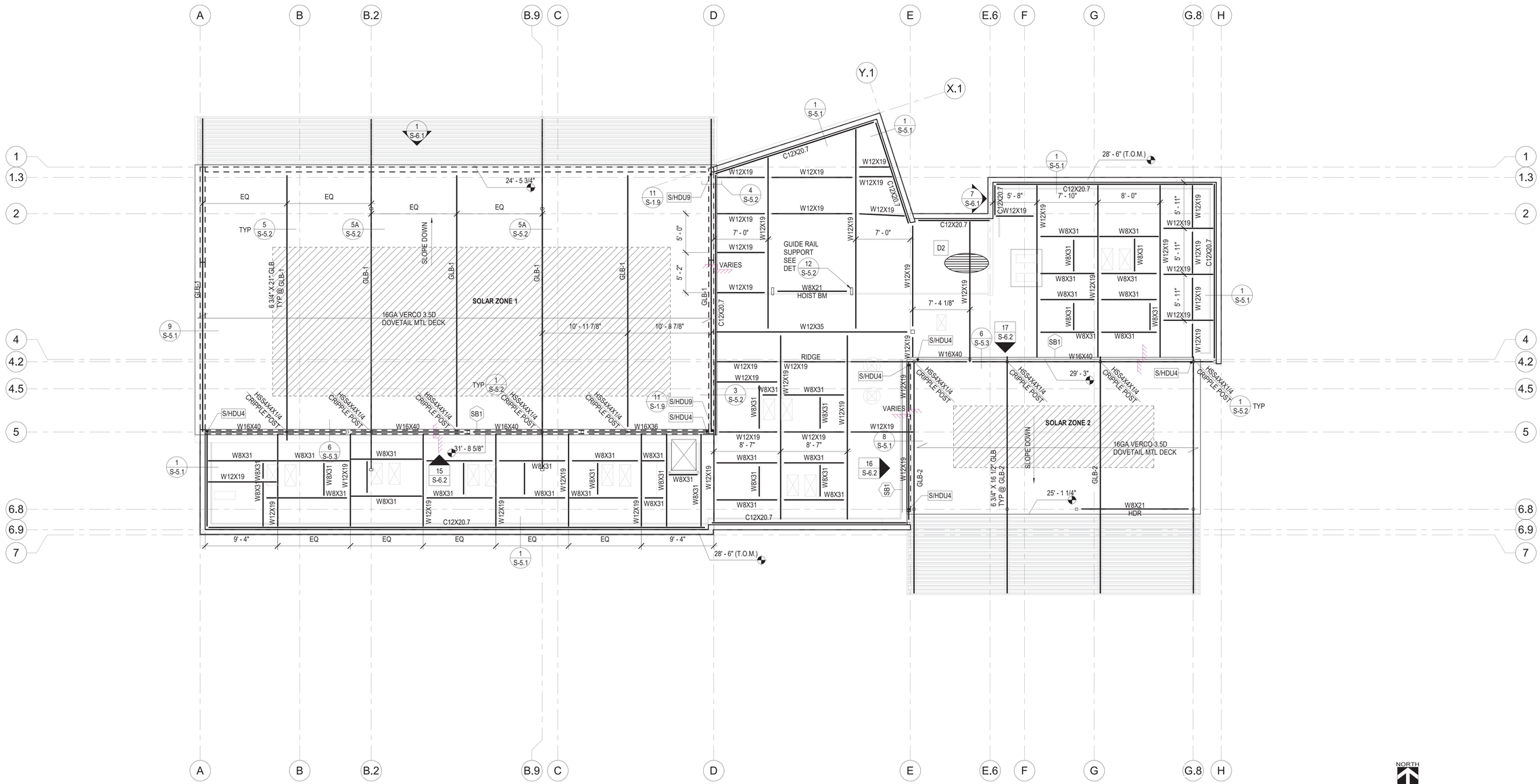
11. ALL STEEL BEAMS SHALL HAVE WELDED STUDS. SEE DETAIL [8 / S-1.11]
12. AT ALL SLRS BEAMS PROVIDE BRACING @ 8' - 0" O.C. MAX PER DETAIL [4 / S-1.12]
13. DENOTES FLOOR/ROOF PENETRATION. FOR TRIM REINF SEE DETAIL [8 / S-1.8] SEE ARCHT'L / MEP DRAWINGS FOR ACTUAL LOCATION AND ADDITION INFO AND ADDITIONAL PENETRATIONS NOT SHOWN IN THESE DRAWINGS
14. DENOTES MECH'L UNIT (WITH MAX OPERATING WEIGHT) @ AC OR HPU SEE DET. [3 / S-1.13] @ EF OR GV SEE DET. [4 / S-1.13] @ CU SEE DET. [1 / S-1.13]
15. ALL LEDGERS (C12x) ARE PART OF THE SLRS.
16. SOLAR ZONE NOTE: THE SOLAR PANEL SYSTEM HEIGHT SHALL BE LIMITED TO A HEIGHT OF 24" MAX ABOVE THE ROOFING. THE ASSUMED MAX WEIGHT FOR FUTURE SOLAR = 3 POUNDS PER SQ FOOT. THE METAL DECK SHALL NOT PROVIDE VERTICAL SUPPORT FOR THE SOLAR STRUCTURE. FOR ATTACHMENT SEE DET [7 / S-1.13]

DECK SCHEDULE

DECK MARK	TYPE	GAGE	I (IN4/FT)	S (TOP +) (IN3/FT)	S (BOT -) (IN3/FT)	TOTAL DEPTH(IN)	CONC FILL TYPE	REINF.	WELDED STUDS	SIDE-SEAM ATTACHMENT	ATTACHMENT PATTERN
D1	VERCO W2 IAPMO 2018	18	0.564	0.471	0.481	5"	LWC	#3 @ 12" O/C E.W.	3/4 DIA. X 4 1/2" FN HT @ 12" O/C	TOP SEAM WELD @ 24" O/C	36/4
D2	HSB 36 IAPMO 2018	18	0.306	0.314	0.331	1 1/2"	BARE	-	-	TOP SEAM WELD @ 6" O/C	36/4
D3	VERCO HSB-36 IAPMO 2018	18	0.302	0.314	0.401	1.5"	BARE DECK	#3 @ 12" O/C E.W.	3/4 DIA. X 4 1/2" FN HT @ 12" O/C	TOP SEAM WELD @ 24" O/C	36/4
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TYPICAL BM TO BM & BM TO COL. LEGEND





NORTH

1 S-3.2 ROOF FRAMING PLAN
SCALE: 3/16" = 1'-0"
REF DET:1 / S-6.1

PREPARED BY:
MCA ENGINEERS INC
CIVIL • STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
Tel. 949.679.0870
Fax. 949.679.9370
Project No.: I699

REGISTERED PROFESSIONAL ENGINEER — KEVIN YUN — No. 54029 — Exp. 9/30/24 — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

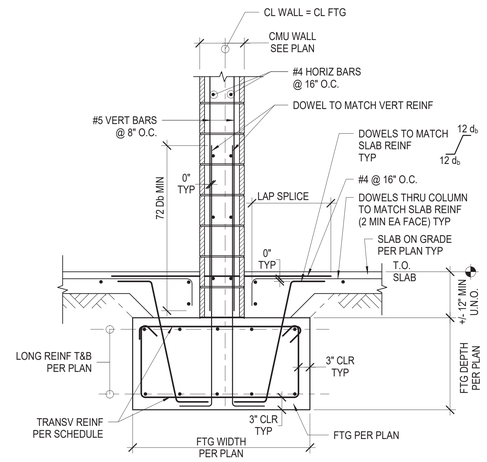
	INITIAL	DATE
DESIGNED BY	AQ	05/01/23
DRAWN BY	AN	06/29/23
CHECKED BY	YN	06/29/23

APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
ROOF FRAMING PLAN
COMMUNITY AQUATICS & SENIOR CENTER
S-3.2

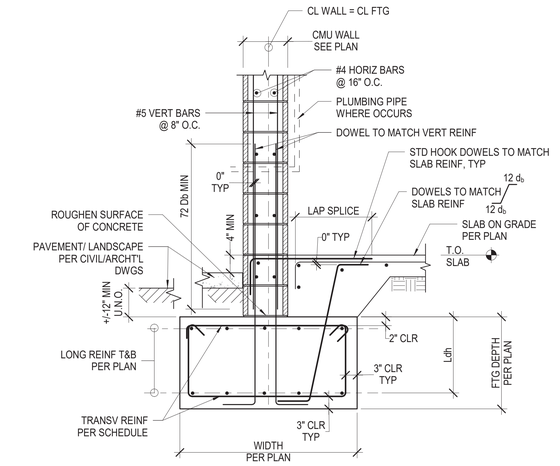
SHT. 103 OF 176 DWG. NO. 5-2606

BELL GARDENS AQUATICS CENTER – 90% CONSTRUCTION DOCUMENTS
PLOT DATE: 6/30/2023 11:47:00 AM
FILE PATH: C:\Users\kevinyun\Documents\191-Gardena Community Aquatics Center_kevinyun.rvt



1 S-4.1 INTERIOR CMU WALL FOOTING DETAIL

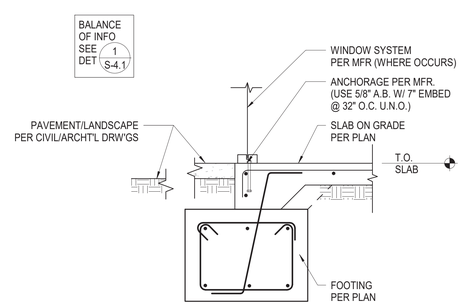
SCALE:N.T.S.
REF DET:1 / S-2.1



2 S-4.1 WALL FOOTING @ CMU WALL (BLDG EXTERIOR)

SCALE:N.T.S.
REF DET:12 / S-1.2

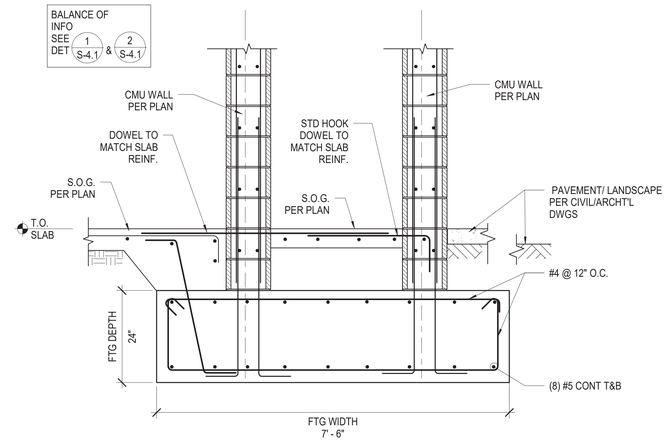
BALANCE OF INFO SEE DET 1 S-4.1



3 S-4.1 SLAB EDGE AT BLDG PERIMETER

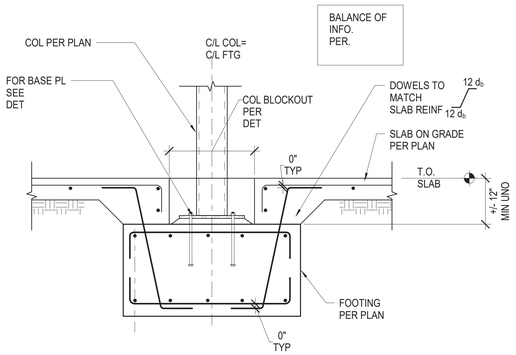
SCALE:N.T.S.
REF DET:1 / S-2.1

BALANCE OF INFO SEE DET 1 S-4.1 & 2 S-4.1



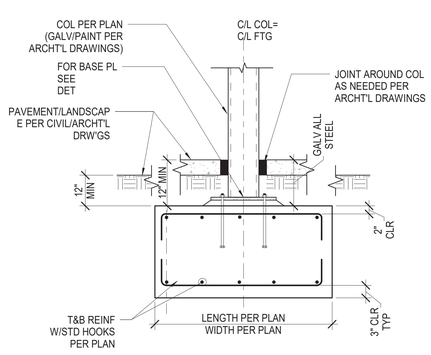
4 S-4.1 TWO CMU WALLS ON ONE FTG

SCALE:N.T.S.
REF DET:1 / S-2.1



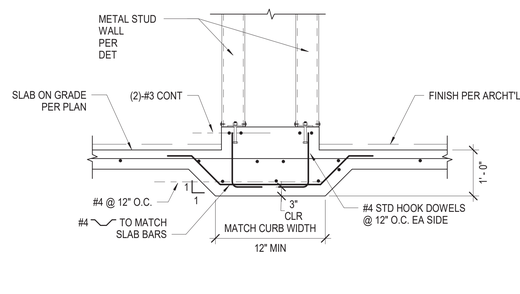
5 S-4.1 HSS COL AT BLDG INTERIOR

SCALE:N.T.S.



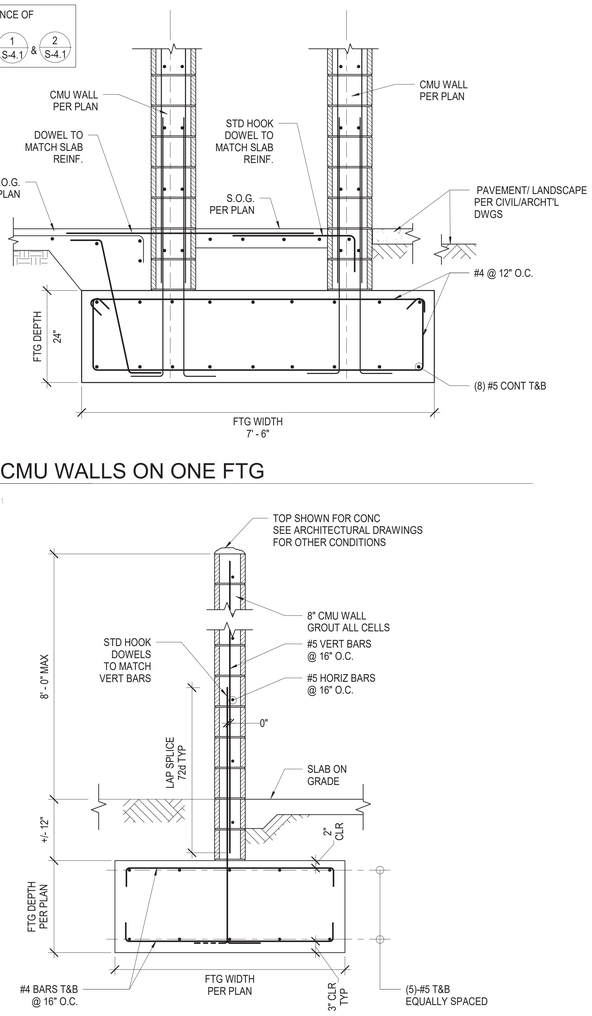
6 S-4.1 HSS COL AT EXTERIOR PAVEMENT

SCALE:N.T.S.



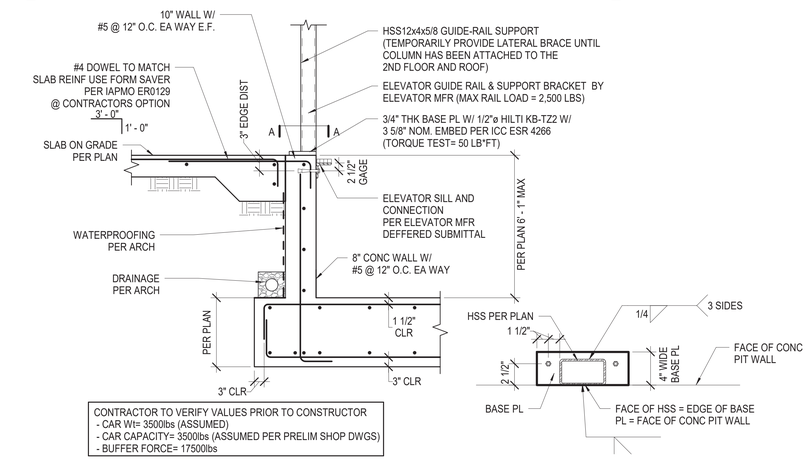
7 S-4.1 DOUBLE WALL AT CURB (MTL STUD)

SCALE:N.T.S.



8 S-4.1 TYP FREESTANDING WALLS

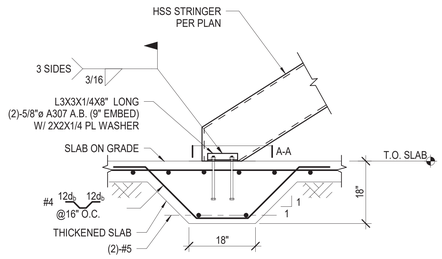
SCALE:N.T.S.
REF DET:1 / S-2.1



CONTRACTOR TO VERIFY VALUES PRIOR TO CONSTRUCTOR
- CAR Wt= 3500lbs (ASSUMED)
- CAR CAPACITY= 3500lbs (ASSUMED PER PRELIM SHOP DWGS)
- BUFFER FORCE= 17500lbs

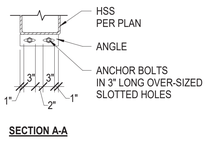
9 S-4.1 ELEVATOR PIT DETAIL

SCALE:N.T.S.
REF DET:1 / S-2.1

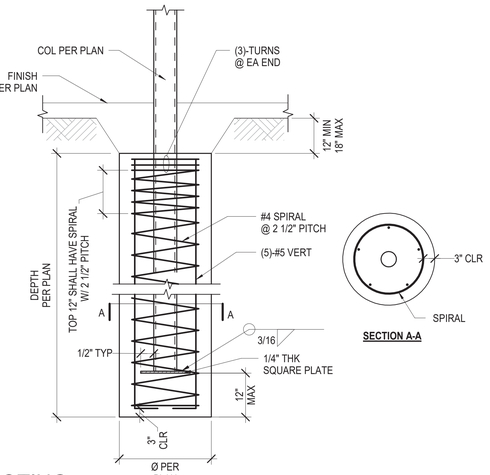


10 S-4.1 STRINGER TO SLAB

SCALE: 3/4" = 1'-0"
REF DET:1 / S-2.1



SECTION A-A



12 S-4.1 POLE FOOTING

SCALE: 3/4" = 1'-0"
REF DET:1 / S-2.1

PREPARED BY:
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CIVIL • STRUCTURAL
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REVISIONS

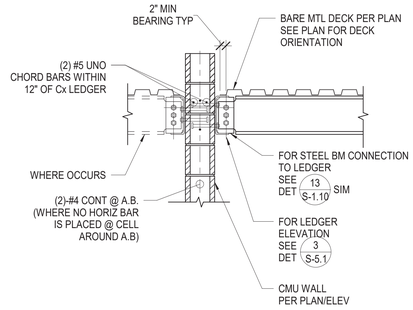
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

	INITIAL	DATE
DESIGNED BY	AQ	05/01/23
DRAWN BY	AN	06/29/23
CHECKED BY	YN	06/29/23

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
FOUNDATION DETAILS
COMMUNITY AQUATICS & SENIOR CENTER
S-4.1

APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS
SHT. 104 OF 176 DWG. NO. 5-2606

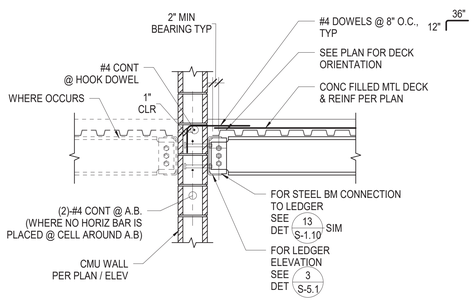
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1 S-5.1 ROOF BEAM TO CMU CONNECTION

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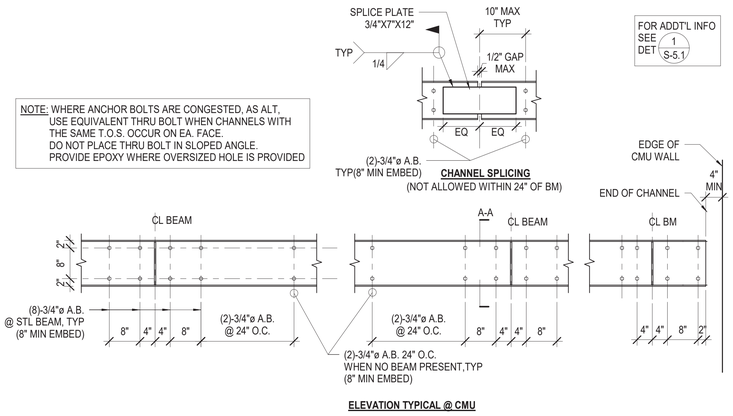
REF DET:3 / S-2.2



2 S-5.1 FLOOR BEAM TO CMU CONNECTION

SCALE:N.T.S.

REF DET:1 / S-3.1

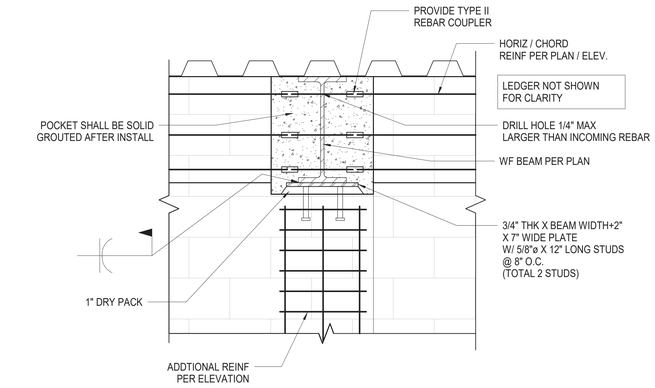


ELEVATION TYPICAL @ CMU

3 S-5.1 C12X LEDGER ELEVATION & DETAIL

SCALE:N.T.S.

REF DET:1 / S-5.1



4 S-5.1 BEAM POCKET @ WF BEAM

SCALE:N.T.S.

REF DET:5 / S-5.1

5 S-5.1 DRAG EMBED INTO CMU

SCALE: 3/4" = 1'-0"

REF DET:1 / S-3.1

PLAN VIEW

6 S-5.1 DRAG PLATE THRU CMU WALL

SCALE:N.T.S.

Ⓐ PLAN VIEW

7 S-5.1 CMU WALL BELOW METAL DECK

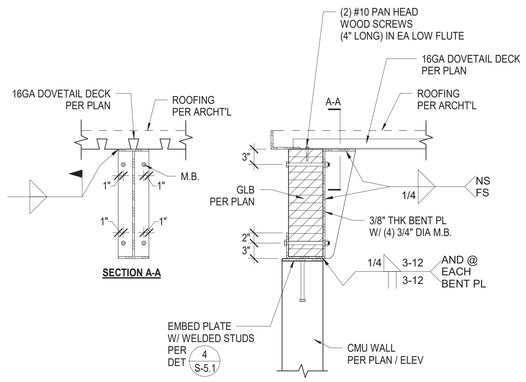
SCALE: 3/4" = 1'-0"

REF DET:1 / S-3.1

8 S-5.1 SUREBOARD @ ROOF

SCALE:N.T.S.

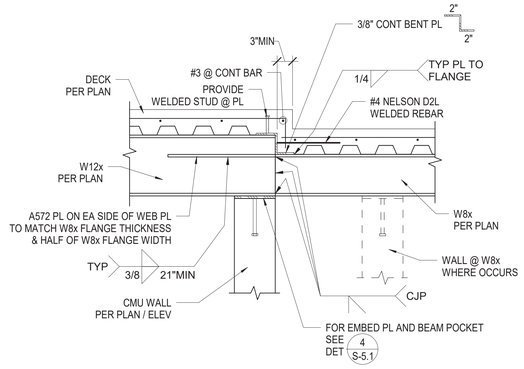
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9 S-5.1 GLB @ CMU WALL

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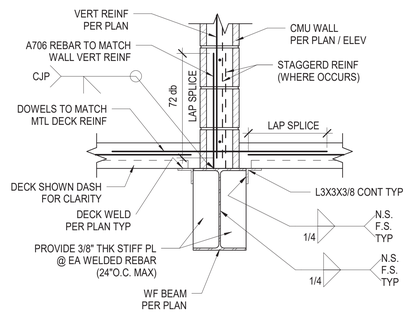
REF DET:1 / S-3.2



10 S-5.1 REDUCED BEAM DEPTH @ STEP

SCALE:N.T.S.

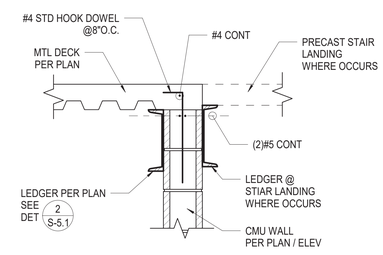
REF DET:1 / S-3.1



11 S-5.1 CMU WALL @ WF BEAM

SCALE:N.T.S.

REF DET:1 / S-3.1



12 S-5.1 WALL TO FLOOR DOWEL @ ENTRY/OPENING

SCALE:N.T.S.

REF DET:1 / S-3.1

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

PREPARED BY:

MCA ENGINEERS INC
CIVIL • STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
Tel. 949.679.0870
Fax. 949.679.9370
Project No.: I699

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

	INITIAL	DATE
DESIGNED BY	AQ	05/01/23
DRAWN BY	AN	06/29/23
CHECKED BY	YN	06/29/23

APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 105 OF 176 DWG. NO. S-2606

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

FRAMING DETAILS

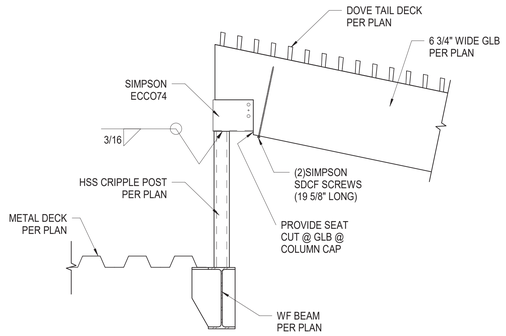
COMMUNITY AQUATICS & SENIOR CENTER

S-5.1

REGISTERED PROFESSIONAL ENGINEER No. 54029 Exp. 9/30/24 STATE OF CALIFORNIA

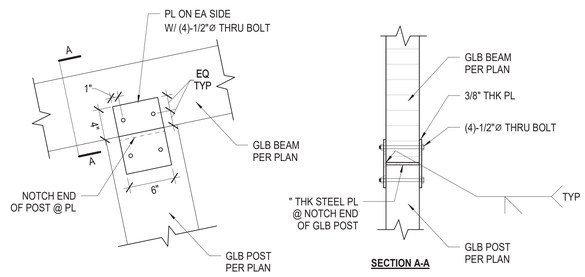
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PLOT BY: Yuan Ning



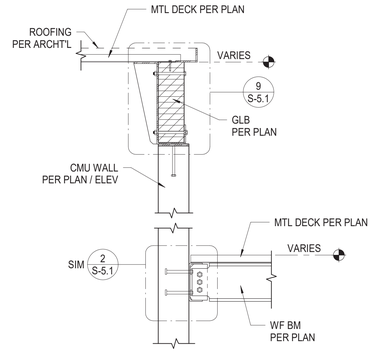
1 S-5.2 CRIPPLE POST DETAIL

SCALE:N.T.S.
REF DET:1 / S-3.2



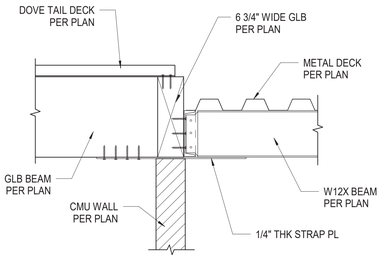
2 S-5.2 DETAIL

SCALE: 1 1/2" = 1'-0"



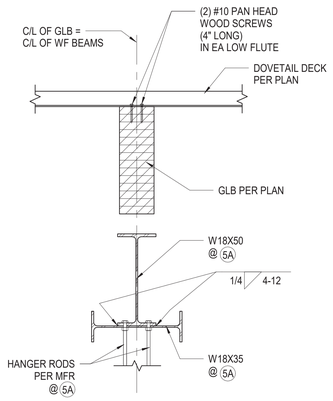
3 S-5.2 CMU WALL @ ROOF

SCALE:N.T.S.
REF DET:1 / S-3.2



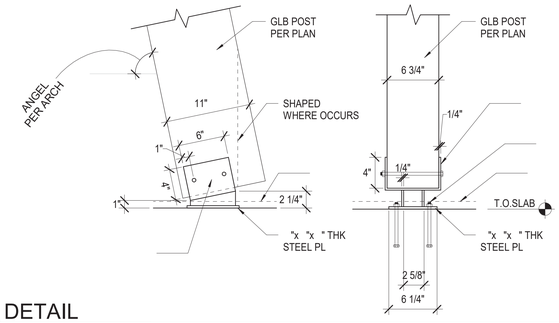
4 S-5.2 DRAG DETAIL

SCALE:N.T.S.
REF DET:1 / S-3.2



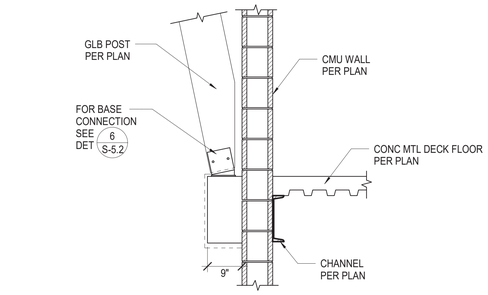
5 S-5.2 OPERABLE PARTITION SUPPORT

SCALE:N.T.S.
REF DET:1 / S-3.2



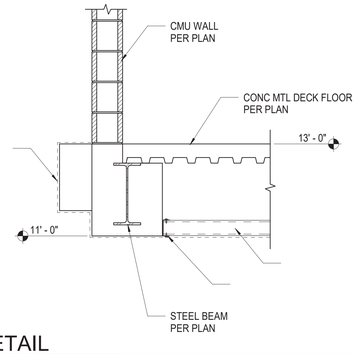
6 S-5.2 DETAIL

SCALE: 1 1/2" = 1'-0"
REF DET:7 / S-5.2



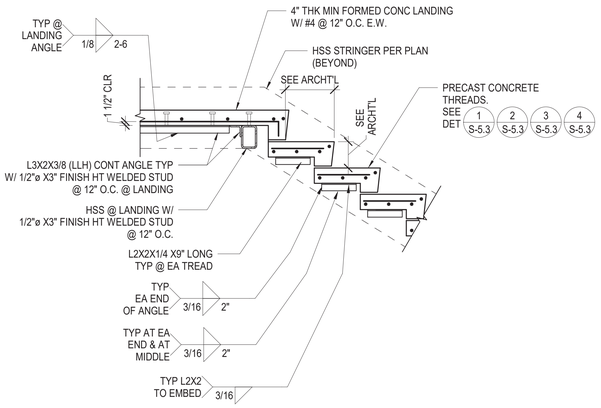
7 S-5.2 DETAIL

SCALE: 3/4" = 1'-0"



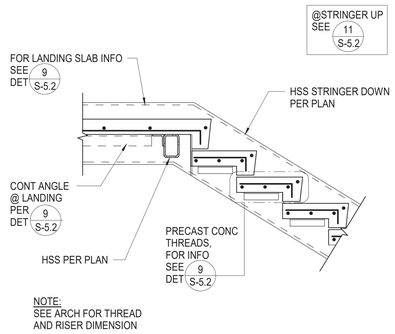
8 S-5.2 DETAIL

SCALE: 3/4" = 1'-0"



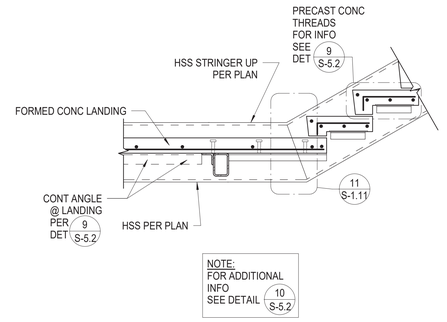
9 S-5.2 TYPICAL STAIR THREAD AND LANDING DETAIL

SCALE:N.T.S.
REF DET:10 / S-5.2



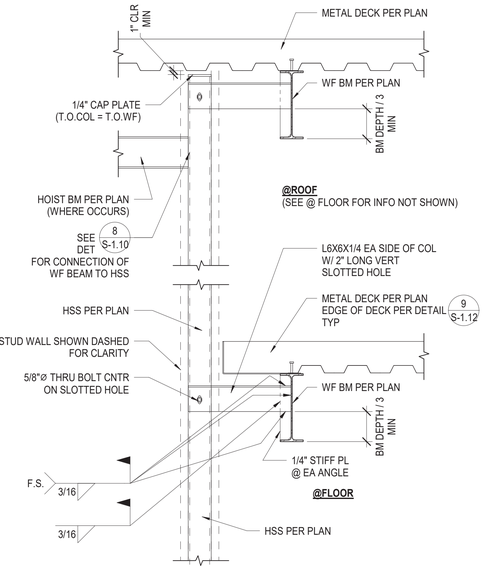
10 S-5.2 STAIR @ INTERMEDIATE LANDING (STRINGER DN)

SCALE:N.T.S.
REF DET:11 / S-5.2



11 S-5.2 STAIR @ INTERMEDIATE LANDING (STRINGER UP)

SCALE:N.T.S.
REF DET:10 / S-5.2



12 S-5.2 COLUMN LATERAL SUPPORT

SCALE:N.T.S.
REF DET:1 / S-3.1

CITY OF GARDENA
INCORPORATED 1930

PREPARED BY:
MCA ENGINEERS INC
CIVIL • STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
Tel. 949.679.0870
Fax. 949.679.9370
Project No.: I699

REGISTERED PROFESSIONAL ENGINEER
No. S4029
Exp. 9/30/24
CIVIL
STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

FRAMING DETAILS

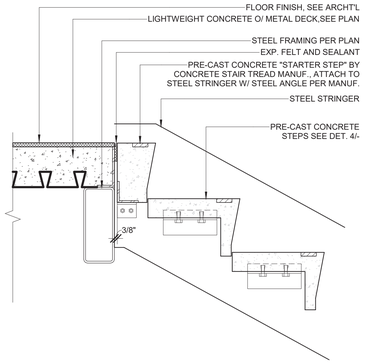
COMMUNITY AQUATICS & SENIOR CENTER

S-5.2

	INITIAL	DATE
DESIGNED BY	AQ	05/01/23
DRAWN BY	AN	04/29/23
CHECKED BY	YN	04/29/23

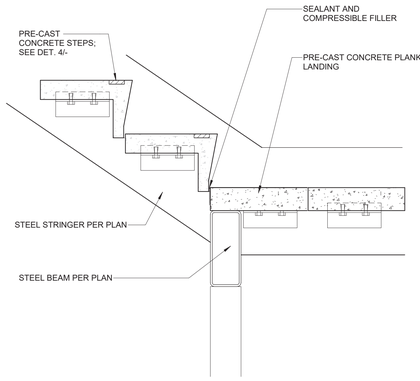
APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS
SHT. 106 OF 176 DWG. NO. S-2606

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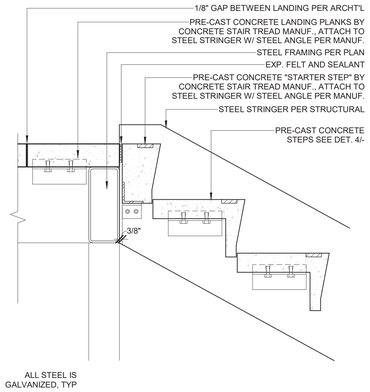
1 S-5.3 INTERIOR STAIR UP @LANDING

SCALE: 1 1/2" = 1'-0"
REF DET:9 / S-5.2



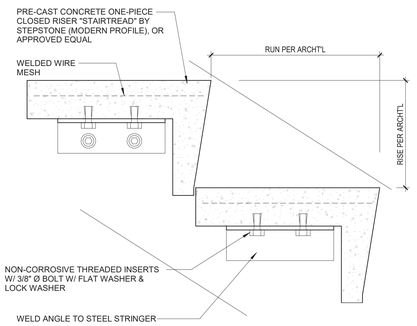
2 S-5.3 STEEL STRINGER STAIR @MID-LANDING UP

SCALE: 1 1/2" = 1'-0"
REF DET:9 / S-5.2



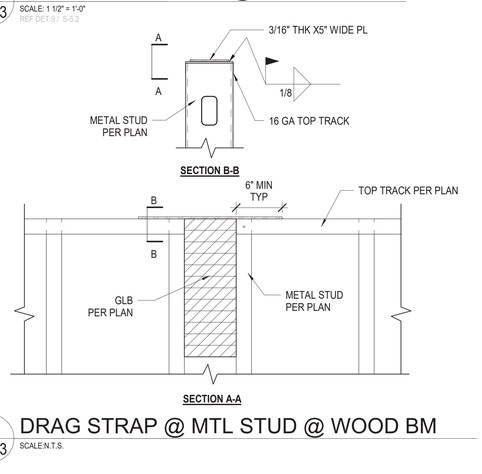
3 S-5.3 EXTERIOR STAIR UP @ MID-LANDING DOWN

SCALE: 1 1/2" = 1'-0"
REF DET:9 / S-5.2



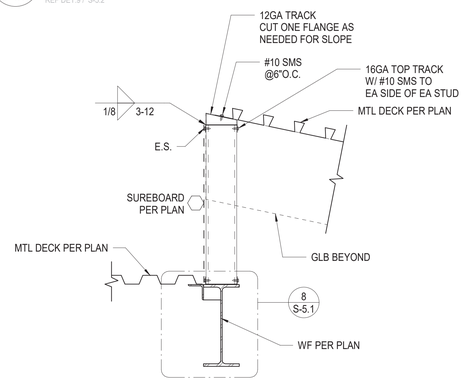
4 S-5.3 PRECAST TREAD/RISER

SCALE: 3" = 1'-0"
REF DET:9 / S-5.2



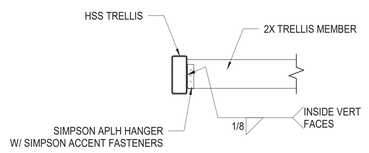
5 S-5.3 DRAG STRAP @ MTL STUD @ WOOD BM

SCALE:N.T.S.



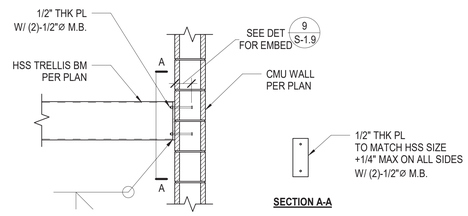
6 S-5.3 SUREBOARD DETAIL @ ROOF

SCALE:N.T.S.
REF DET:1 / S-3.2



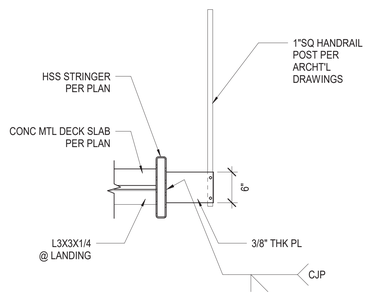
9 S-5.3 TRELLIS JOIST TO HSS BEAM

SCALE: 3/4" = 1'-0"



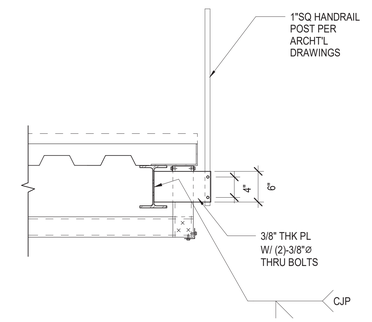
10 S-5.3 TRELLIS BEAM TO CMU WALL

SCALE: 3/4" = 1'-0"
REF DET:1 / S-3.1



11 S-5.3 STAIR STRINGER @ FLOOR LANDING

SCALE: 1" = 1'-0"



12 S-5.3 HANDRAIL ATTACMENT DETAIL

SCALE: 1" = 1'-0"
REF DET:1 / S-3.1

PREPARED BY:

MCA ENGINEERS INC
CIVIL ● STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
Tel. 949.679.0870
Fax. 949.679.9370
Project No.: I699

REGISTERED PROFESSIONAL ENGINEER — KEVIN YOUNG — No. 54029 — Exp. 9/30/24 — STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.008'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

STAIR DETAILS

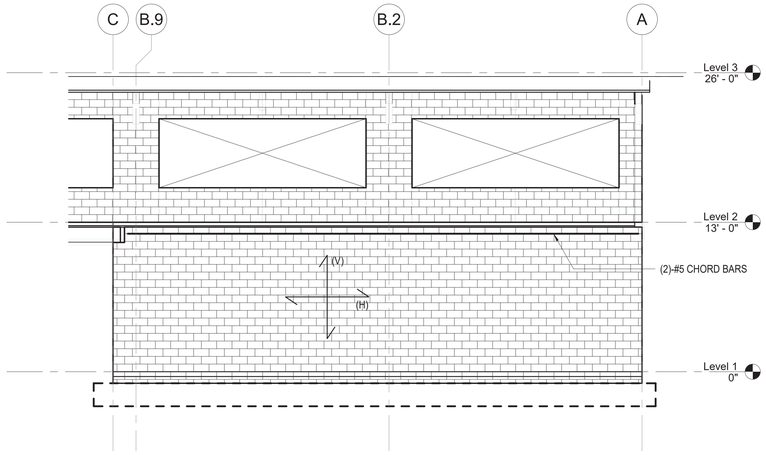
COMMUNITY AQUATICS & SENIOR CENTER
S-5.3

	INITIAL	DATE
DESIGNED BY	AQ	05/01/23
DRAWN BY	AN	06/29/23
CHECKED BY	YN	06/29/23

APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS
SHT. 107 OF 176 DWG. NO. 5-2606

BELL GARDENS AQUATICS CENTER - 90% CONSTRUCTION DOCUMENTS

PLOT DATE: 11/20/2023 3:54:57 PM PLOT BY: Christian Rodriguez PLOT NAME: C:\Users\crodriguez\Documents\Bell Gardens\Bell Gardens Aquatics Center_Central_crodriguez.rvt

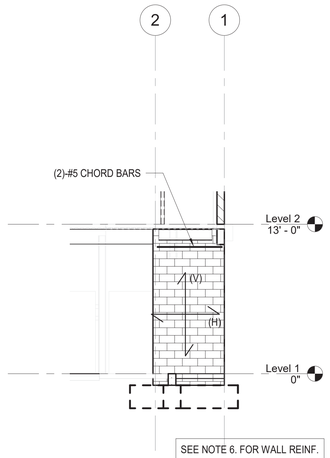


SEE NOTE 6. FOR WALL REINF.

1 S-6.1 **CMU WALL ELEV @ GL-1**

SCALE: 3/16" = 1'-0"

REF DET:1 / S-2.1

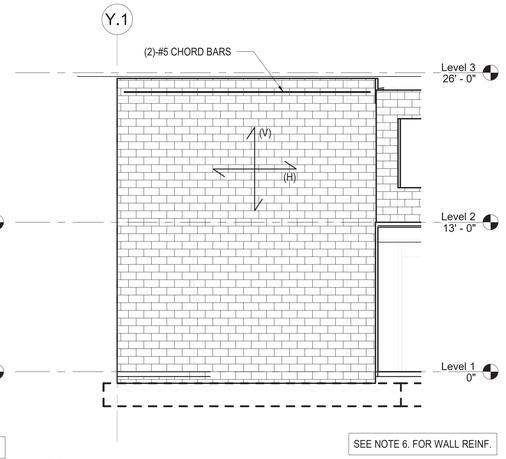


SEE NOTE 6. FOR WALL REINF.

2 S-6.1 **CMU WALL ELEV @ GL-C**

SCALE: 3/16" = 1'-0"

REF DET:1 / S-2.1

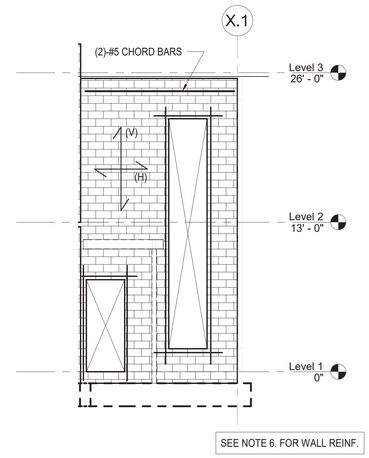


SEE NOTE 6. FOR WALL REINF.

3 S-6.1 **CMU WALL ELEV @ GL-X.1**

SCALE: 3/16" = 1'-0"

REF DET:1 / S-2.1



SEE NOTE 6. FOR WALL REINF.

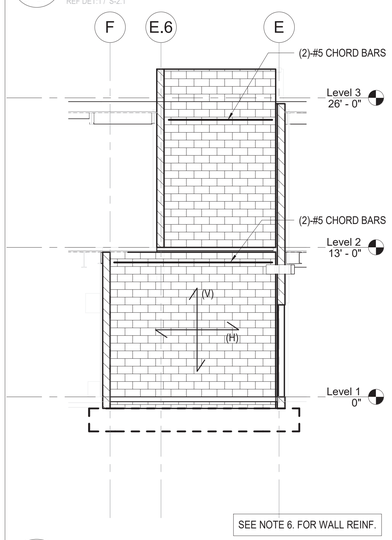
4 S-6.1 **CMU WALL ELEV @ GL-Y.1**

SCALE: 3/16" = 1'-0"

REF DET:1 / S-2.1

ELEVATION NOTES:

1. FOR TYPICAL REINFORCEMENT DETAIL SEE 7 / S-1.9 AT CMU.
2. FOR TYPICAL JOINT DETAIL SEE 1 / S-1.9 AT CMU.
3. FOR TYPICAL CORNER REINFORCEMENT DETAIL SEE 2 / S-1.9 AT CMU.
4. FOR TYPICAL AND ADDITIONAL REINFORCEMENT, SEE ELEVATIONS ON THIS SHEET.
5. ⊠ DENOTES OPENING IN WALL SEE DETAIL 7 / S-1.9 AT CMU.
6. ALL 8" THK CMU WALL SHALL BE (FULLY GROUT) #5 @16"O.C. STAGG. (8"NET) (VERT) #4 @16"O.C. STAGG. (8"NET) (HORIZ)

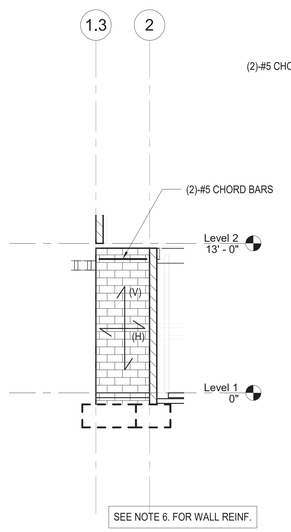


SEE NOTE 6. FOR WALL REINF.

5 S-6.1 **CMU WALL ELEV @ GL-2**

SCALE: 3/16" = 1'-0"

REF DET:1 / S-2.1

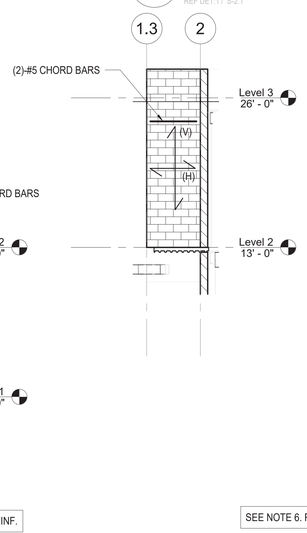


SEE NOTE 6. FOR WALL REINF.

6 S-6.1 **CMU WALL ELEV @ GL-F**

SCALE: 3/16" = 1'-0"

REF DET:1 / S-2.1

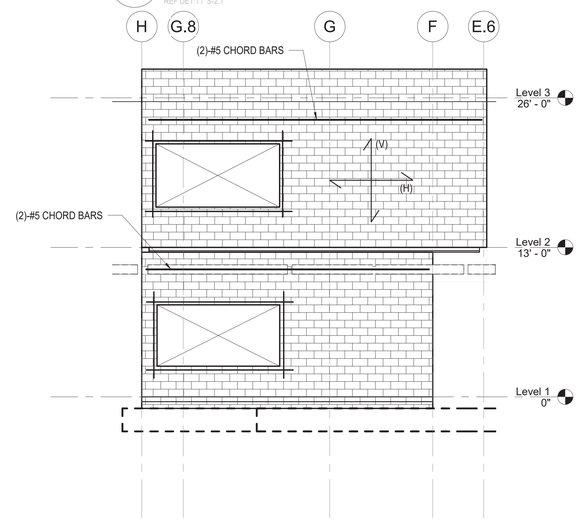


SEE NOTE 6. FOR WALL REINF.

7 S-6.1 **CMU WALL ELEV @ GL-E.6**

SCALE: 3/16" = 1'-0"

REF DET:1 / S-3.2

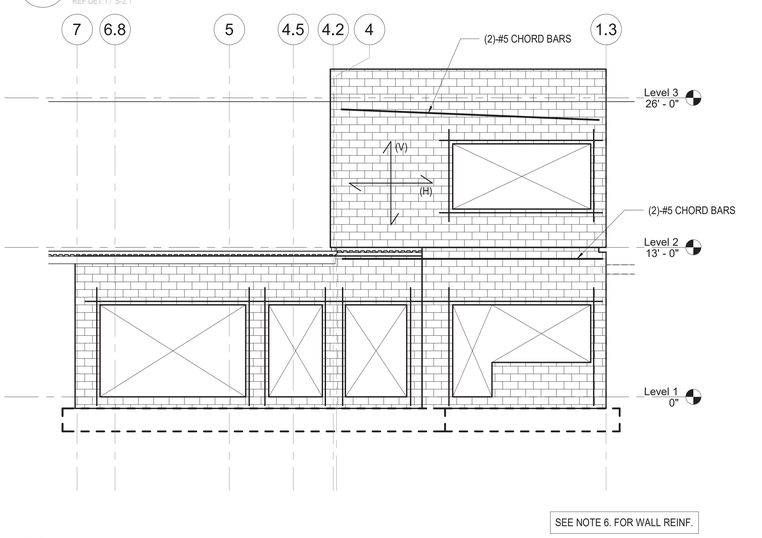


SEE NOTE 6. FOR WALL REINF.

8 S-6.1 **CMU WALL ELEV @ GL-1.3**

SCALE: 3/16" = 1'-0"

REF DET:1 / S-2.1

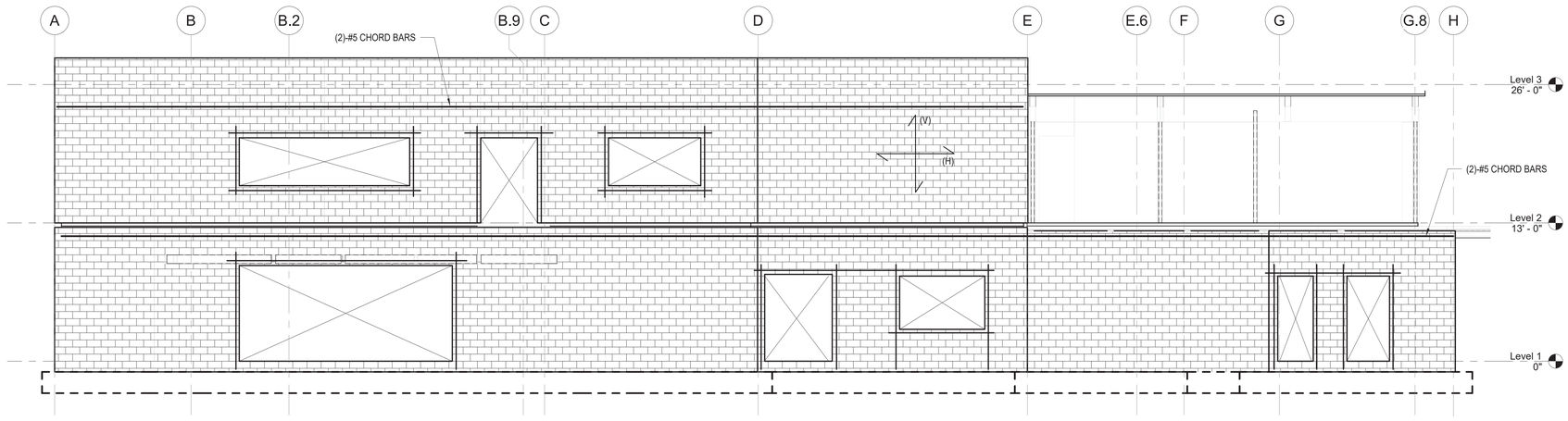


SEE NOTE 6. FOR WALL REINF.

9 S-6.1 **CMU WALL ELEV @ GL-H**

SCALE: 3/16" = 1'-0"

REF DET:1 / S-2.1

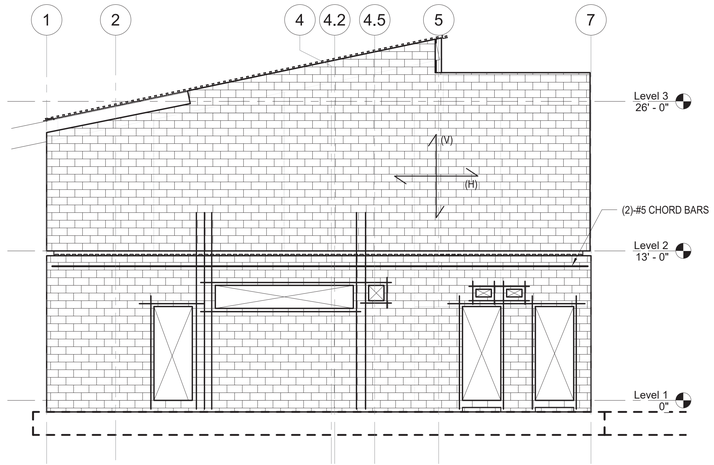


SEE NOTE 6. FOR WALL REINF.

10 S-6.1 **CMU WALL ELEV @ GL-7**

SCALE: 3/16" = 1'-0"

REF DET:1 / S-2.1



SEE NOTE 6. FOR WALL REINF.

11 S-6.1 **CMU WALL ELEV @ GL-A**

SCALE: 3/16" = 1'-0"

REF DET:1 / S-2.1

PREPARED BY:

MCA ENGINEERS INC
CIVIL • STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
Tel. 949.679.0870
Fax. 949.679.9370
Project No.: I699

REGISTERED PROFESSIONAL ENGINEER — No. S4029 — Exp. 9/30/24 — CIVIL — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

	INITIAL	DATE
DESIGNED BY	AQ	05/01/23
DRAWN BY	AN	06/29/23
CHECKED BY	YN	06/29/23

APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 108 OF 176 DWG. NO. S-2606

CITY OF GARDENA

DEPARTMENT OF PUBLIC WORKS - ENGINEERING

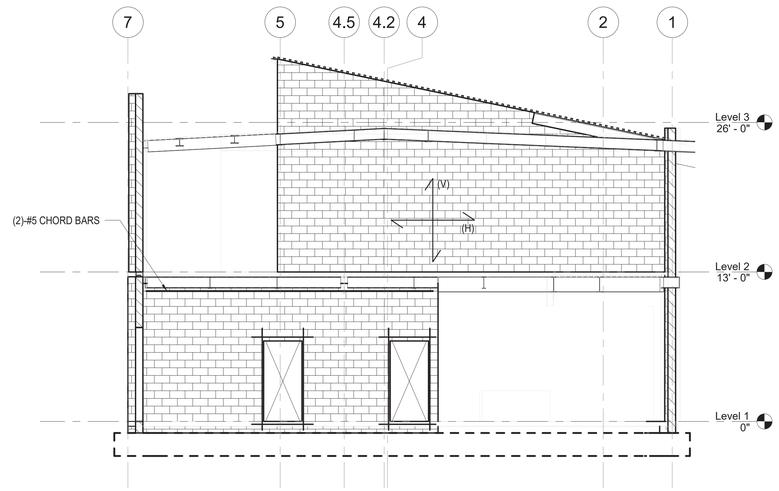
WALL ELEVATIONS

COMMUNITY AQUATICS & SENIOR CENTER

S-6.1

BEL GARDENS AQUATICS CENTER - 90% CONSTRUCTION DOCUMENTS

PLOT DATE: 6/30/2023 4:44:23 PM
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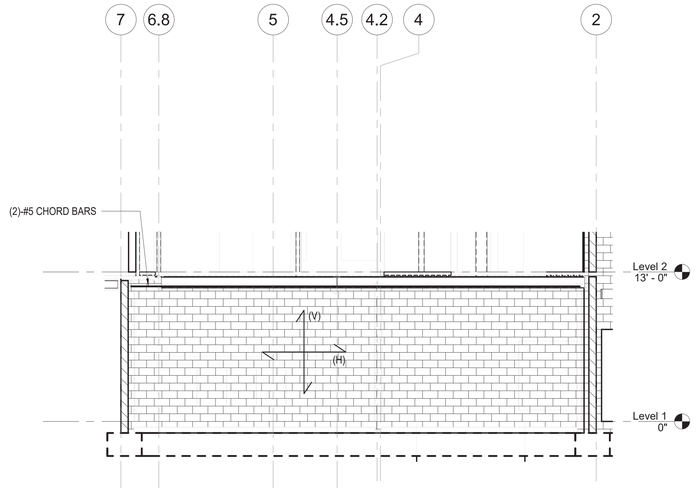


SEE NOTE 6. FOR WALL REINF.

12 S-6.2 **CMU WALL ELEV @ GL-D**

SCALE: 3/16" = 1'-0"

REF DET:1/ S-2.1

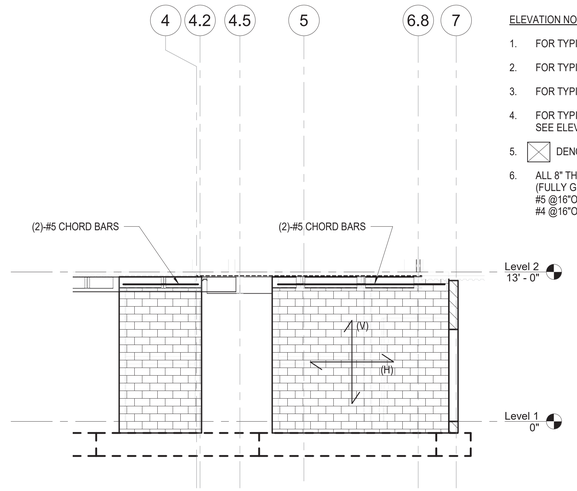


SEE NOTE 6. FOR WALL REINF.

13 S-6.2 **CMU WALL ELEV @ GL-E**

SCALE: 3/16" = 1'-0"

REF DET:1/ S-2.1



SEE NOTE 6. FOR WALL REINF.

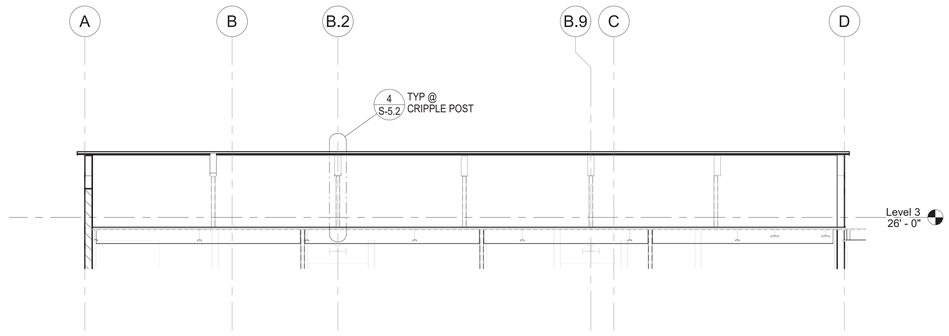
14 S-6.2 **CMU WALL ELEV @ GL-G.8**

SCALE: 3/16" = 1'-0"

REF DET:1/ S-2.1

ELEVATION NOTES:

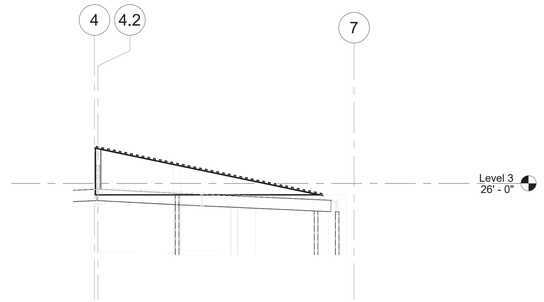
1. FOR TYPICAL REINFORCEMENT DETAIL SEE 7 / S-1.9 AT CMU.
2. FOR TYPICAL JOINT DETAIL SEE 1 / S-1.9 AT CMU.
3. FOR TYPICAL CORNER REINFORCEMENT DETAIL SEE 2 / S-1.9 AT CMU.
4. FOR TYPICAL AND ADDITIONAL REINFORCEMENT, SEE ELEVATIONS ON THIS SHEET.
5. ⊠ DENOTES OPENING IN WALL SEE DETAIL 7 / S-1.9 AT CMU.
6. ALL 8" THK CMU WALL SHALL BE (FULLY GROUT) #5 @16"O.C. STAGG. (8"NET) (VERT) #4 @16"O.C. STAGG. (8"NET) (HORIZ)



15 S-6.2 **EXTERIOR STUD WALL ELEVATION**

SCALE: 3/16" = 1'-0"

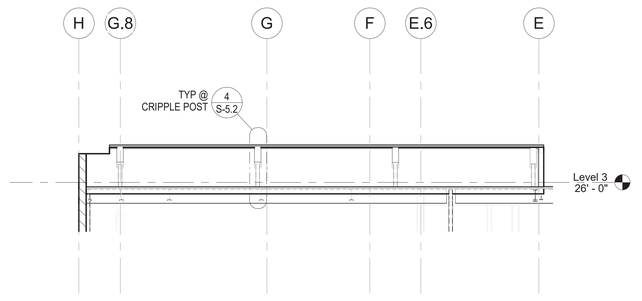
REF DET:1/ S-3.2



16 S-6.2 **EXTERIOR STUD WALL ELEVATION**

SCALE: 3/16" = 1'-0"

REF DET:1/ S-3.2



17 S-6.2 **EXTERIOR STUD WALL ELEVATION**

SCALE: 3/16" = 1'-0"

REF DET:1/ S-3.2

PREPARED BY:

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CIVIL • STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
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B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

CITY OF GARDENA

DEPARTMENT OF PUBLIC WORKS - ENGINEERING

WALL ELEVATIONS

COMMUNITY AQUATICS & SENIOR CENTER

S-6.2

	INITIAL	DATE
DESIGNED BY	AQ	05/01/23
DRAWN BY	AN	06/29/23
CHECKED BY	YN	06/29/23

APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 109 OF 176 DWG. NO. S-2606

RELEASED FOR CONSTRUCTION - DOCUMENTS

PLOT DATE: 6/30/2023 - 10:23:13 AM

FILE NAME: C:\Users\aaziz\Desktop\Documents\101-Gardena Aquatics Center\Drawings\Arch\S-6.2 WALL ELEVATIONS.dwg

LEGEND

SYMBOL DOUBLE	SYMBOL SINGLE	ABBREV.	DESCRIPTION
	C	C	COLD SUPPLY AIR DUCT
	E	E	EXHAUST AIR DUCT
	R	R	RETURN AIR DUCT
			ROUND RADIUS ELBOW
48X24(L)	48X24(L)		DUCT WITH INTERNAL LINING L= 1" THICK 2L= 2" THICK
			TRANSITION - RECTANGULAR TO RECTANGULAR OR ROUND TO ROUND
			TRANSITION - RECTANGULAR TO ROUND
			ELBOW WITH TURNING VANE
R	R		RISE IN DIRECTION OF AIRFLOW
D	D		DROP IN DIRECTION OF AIRFLOW
48X24 *	48X24 *		48" X 24" DUCT FIRST DIMENSION FACES VIEWER (* MEANS STAINLESS STEEL)
			FLEXIBLE DUCT
			CEILING DIFFUSER 4-WAY THROW
			CEILING DIFFUSER 3-WAY THROW
			CEILING DIFFUSER 2-WAY THROW
			CEILING DIFFUSER CORNER THROW
			THERMAFUSER SUPPLY DIFFUSER (AS NOTED ON DWG.)
			SUPPLY OR OUTSIDE AIR DUCT - SECTION
			RETURN OR RELIEF AIR DUCT - SECTION
			EXHAUST AIR DUCT - SECTION
			ROUND DUCT OR RISER - SECTION
SFD	SFD		COMBINATION SMOKE & FIRE DAMPER
FD			FIRE DAMPER
	M OR MD	M OR MD	MOTORIZED DAMPER
		VD	MANUAL VOLUME DAMPER (QUADRANT BALANCING DAMPER)
BDD		BDD	BACKDRAFT DAMPER
			FLEXIBLE DUCT CONNECTOR
			CAPPED DUCTWORK
			CONICAL TAP W/MANUAL VOLUME DAMPER
		360	CEILING DIFFUSER, ADAPTER FOR ROUND DUCT. 360 CFM
EXHAUST	RETURN		CEILING GRILLE OR REGISTER
		6X6 150	6"X6"WALL REGISTER, 150 CFM
		(4)3/4"X5'-0" LSD 300	NO. & SIZE OF SLOTS, LENGTH, LINEAR SLOT DIFFUSER, CFM
		(4)3/4"X5'-0" LBD 300	NO. & SIZE OF SLOTS, LENGTH, LINEAR AIR BAR DIFFUSER, CFM
T S			TIMER SWITCH
P			PRESSURE TRANSMITTER
T			TEMPERATURE TRANSMITTER
DP			DIFFERENTAIL PRESSURE TRANSMITTER
T			ROOM THERMOSTAT
CO2			CARBON DIOXIDE SENSOR
DD			DUCT MOUNTED SMOKE DETECTOR (PROVIDE UNDER ELECTRICAL SECTION AND INSTALL UNDER MECHANICAL SECTION)
WL			WALL LOUVER (UNDER ARCH SECTION)
U/C			UNDERCUT DOOR (UNDER ARCH SECTION)
D/L			DOOR LOUVER (UNDER ARCH SECTION)
L/D			LOUVERED DOOR FULL HEIGHT (UNDER ARCH SECTION)
		AP/AD	ACCESS PANEL/ ACCESS DOOR
CFF			CAPPED FOR FUTURE
D		D	INDIRECT DRAIN

LEGEND

SYMBOL	ABBREV.	DESCRIPTION
HWS	HWS	HOT WATER SUPPLY
HWR	HWR	HOT WATER RETURN
IW	IW	INDUSTRIAL WATER
V	V	VENT
MU	MU	MAKE-UP WATER
		CAPPED PIPE
		PIPE ELBOW UP
		PIPE ELBOW DOWN
		PIPE TEE UP
		PIPE TEE DOWN
		STRAINER
		UNION
		FLANGE
		ECCENTRIC REDUCER
		CONCENTRIC REDUCER
EJ		EXPANSION JOINT
		PRESSURE GAGE WITH COCK
		TEMPERATURE GAGE W/ THERMOWELL
	PTTP	PRESSURE & TEMPERATURE TEST PLUG
		FLEXIBLE PIPE CONNECTOR
		ANCHOR
		PIPE GUIDE
		FLOW MEASURING STATION
FS	FS	FLOW SWITCH
PS	PS	PRESSURE SWITCH
		PLUG VALVE
		BUTTERFLY VALVE
		BALL VALVE
	GV	GATE VALVE
	GLV	GLOBE VALVE
	CV	CHECK VALVE
		GATE VALVE WITH HOSE CONNECTOR
	RV	SAFETY OR PRESSURE RELIEF VALVE
	PRV	PRESSURE REDUCING VALVE
		CIRCUIT SETTER
		2-WAY CONTROL VALVE
		3-WAY CONTROL VALVE
	AAV	AUTOMATIC AIR VENT TO BE PIPED TO NEAREST APPROVED RECEPTOR
	MAV	MANUAL AIR VENT TO BE PIPED TO NEAREST APPROVED RECEPTOR
DP		DIFFERENTIAL PRESSURE
FS	FS	FLOOR SINK (SEE PLUMBING)
	POC	POINT OF CONNECTION
1 / M1		DETAIL DESIGNATION / SHEET NUMBER — DETAIL REFERENCE
1		SHEET NOTE
A / M-2		SECTION DESIGNATION / SHEET NO. WHERE SECTION DRAWN
1		REVISION TAG
		RETURN / EXHAUST AIR FLOW DIRECTION
E / 1	E-1	NEW EQUIPMENT DESIGNATION
VD		RETURN AIR DUCT W/ BELLMOUTH OPENING W/ WIREMESH SCREEN AT AIR INLET

GENERAL NOTES

1. UNLESS OTHERWISE NOTED, THE WORK DESCRIBED ON THE PLANS AND SPECIFICATIONS SHALL INCLUDE THE FURNISHING AND INSTALLATION OF ALL LABOR AND MATERIALS NECESSARY FOR COMPLETE AND OPERATIONAL HVAC SYSTEMS.
2. ALL WORK SHALL BE IN ACCORDANCE WITH ALL CODES, RULES, AND REGULATIONS OF GOVERNING AGENCIES AND SHALL COMPLY WITH THE REQUIREMENTS OF THE SERVING UTILITY COMPANIES.
3. ALL DUCTWORK, INSULATION, EQUIPMENT AND INSTALLATION SHALL CONFORM TO THE LATEST EDITION OF CALIFORNIA ADMINISTRATIVE CODE TITLE 24 AND C.M.C. DUCT MATERIALS AND CONSTRUCTION SHALL BE PER CHAPTER 6 OF C.M.C. SEAL DUCTS FOR 1% LEAKAGE MAXIMUM.
4. ALL EQUIPMENT, DUCTWORK AND PIPING INSTALLATION SHALL BE SEISMICALLY BRACED IN ACCORDANCE WITH THE LATEST EDITION OF CALIFORNIA BUILDING AND MECHANICAL CODES. HANGING PIPES AND DUCTS ISAT, ROOF SUPPORT PHP DESIGN, AND/OR MASON VIBREX DESIGN.
5. CALIFORNIA MECHANICAL CODE SECTION 608, CONTRACTOR SHALL PROVIDE SHUTOFF FOR SMOKE CONTROL FOR ALL AIR-MOVING SYSTEMS SUPPLYING AIR IN EXCESS OF 2,000 CUBIC FEET PER MINUTE TO ENCLOSED SPACES WITHIN BUILDINGS. AUTOMATIC SHUTOFF SHALL BE ACCOMPLISHED BY INTERRUPTING THE POWER SOURCE OF THE AIR-MOVING EQUIPMENT UPON DETECTION OF SMOKE IN THE MAIN SUPPLY AIR DUCT SERVED BY SUCH EQUIPMENT. SMOKE DETECTORS WHICH WILL DETECT PRODUCTS OF COMBUSTION OTHER THAN HEAT AND WHICH COMPLY WITH THE CALIFORNIA BUILDING CODE, SHALL BE LABELED BY AN APPROVED AGENCY FOR AIR-DUCT INSTALLATION AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. SUCH DEVICES SHALL BE COMPATIBLE WITH THE OPERATING VELOCITIES, PRESSURES, TEMPERATURES AND HUMIDITIES OF THE SYSTEM. WHERE AN ELECTRICAL CENTRAL FIRE ALARM DETECTION OR ALARM SYSTEM IS PROVIDED FOR THE BUILDING, THE SMOKE DETECTORS REQUIRED BY THIS SECTION SHALL BE FURNISHED AND SUPERVISED BY SUCH SYSTEM AND SHALL ACTIVATE THE SHUTDOWN. REFER TO OTHER DOCUMENTS FOR SMOKE CONTROL AND SMOKE EVACUATION SPECIFIC REQUIREMENTS AND CONTROLS.
6. INFORMATION GIVEN ON THE DRAWING IS AS EXACT AS POSSIBLE BUT DIAGRAMMATIC. ABSOLUTE ACCURACY IS NOT GUARANTEED, AND THE CONTRACTOR SHALL OBTAIN AND VERIFY EXACT LOCATIONS, MEASUREMENTS, LEVEL, SPACE REQUIREMENTS, POTENTIAL CONFLICTS WITH OTHER TRADES AT THE SITE AND SHALL SATISFACTORILY ADAPT HIS WORK TO ACTUAL CONDITIONS AT THE BUILDING.
7. COORDINATE AND ADJUST ALL WORK BETWEEN TRADES IN ORDER TO ACCOMPLISH A COORDINATED, INTEGRATED AND EFFICIENT INSTALLATION. PROVIDE FOR PHASING AND TEMPORARY SYSTEMS REQUIRED TO COMPLETE THE WORK ON SCHEDULE IN CONFORMANCE WITH THE PROJECT DOCUMENTS.
8. COORDINATE EXACT LOCATION OF ALL CEILING DIFFUSERS, REGISTERS AND GRILLES WITH LIGHTING LAYOUT, CEILING TILE PATTERN WITH ARCHITECTURAL REFLECTED CEILING PLANS. IN CASE OF CONFLICT, ARCHITECTURAL REFLECTED CEILING PLANS WILL TAKE PRECEDENCE. WHERE CEILING IS EXTREMELY TIGHT, CAREFULLY COORDINATE DUCT SIZES AND ROUTING WITH ARCHITECTURAL, STRUCTURAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION SYSTEMS. WHERE INTERFERENCES EXIST TRANSITION TO SUITABLE RECTANGULAR DUCTWORK TO MAINTAIN REQUIRED CEILING HEIGHT.
9. INSTALL THE HVAC SYSTEMS IN CONFORMANCE WITH SOUND AND SECURITY REQUIREMENTS SPECIFIED BY OTHER DISCIPLINES. DUCT LINER IS NOT USED UNLESS SPECIFIED BY ACOUSTICAL. OTHERWISE SEAL AROUND ALL PENETRATIONS OF WALLS AND FLOORS AND PER FIRE STOPPING REQUIREMENTS. PROVIDE SOUND BOOTS OF 3-LB DENSITY FIBER BOARD AT PLENUM WALL PENETRATION FOR RETURN AIR ABOVE CEILING.
10. FIELD COORDINATE THE EXACT LOCATION OF ALL TEMPERATURE SENSORS, THERMOSTATS WITH ANY EQUIPMENT, SHELVING, RACKS, CABINETS OR OTHER FACILITY SUPPLIED FURNITURE AND EQUIPMENT, BASED ON THE ARCHITECTURAL DRAWINGS.
11. UNLESS SPECIFICALLY SHOWN ON THESE PLANS, NO STRUCTURAL MEMBER SHALL BE CUT, DRILLED OR NOTCHED WITHOUT WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER AND ARCHITECT.
12. PROVIDE MANUAL VOLUME DAMPER UPSTREAM OF EACH AIR INLET/OUTLET TO FACILITATE PROPER BALANCE, WHETHER SHOWN OR NOT. VOLUME DAMPER AT DIFFUSERS AND REGISTER OBD'S IF INSTALLED SHALL NOT BE USED FOR AIR BALANCING.
13. SEAL ALL OPENINGS AROUND PIPING AND DUCTWORK PENETRATING FIRE RESISTIVE RATED WALLS AND FLOORS TO MAINTAIN RATING INTEGRITY.
14. CONTRACTOR SHALL COORDINATE DEVICES REQUIRING ACCESS. PROVIDE CEILING, WALL OR FLOOR ACCESS PANELS FOR TERMINAL BOXES, VALVES, COMBINATION SMOKE/FIRE DAMPERS AND VOLUME DAMPERS, ACTUATORS, BACK-DRAFT DAMPERS AS REQUIRED. COORDINATE WITH ARCHITECT FOR EXACT LOCATION AND FINAL COUNT OF ACCESS PANELS. MINIMUM SIZE OF ACCESS PANELS SHALL BE 18" X 18". THE MINIMUM CLEARANCE AROUND AND CLEAR WORKING SPACE AROUND EQUIPMENT SHALL BE 4 FT. PERMANENT PROVIDE PLATFORMS AND HAND RAILS FOR SERVICE, AND SEPARATE LOCK OUT TAG OUT DISCONNECTS. COMPLY WITH ALL OSHA AND UNION MAINTENANCE SERVICE REQUIREMENTS. COMPLY WITH ALL COLLEGE SECURITY AND ENVIRONMENTAL REQUIREMENTS FOR PERSONAL SAFETY, AND DISPOSAL OF MATERIALS.
15. INSTALL EQUIPMENT IN ACCESSIBLE LOCATIONS AND PROVIDE ADEQUATE SERVICE CLEARANCE 4 FT FOR NORMAL MAINTENANCE WITHOUT REMOVING ARCHITECTURAL, ELECTRICAL OR STRUCTURAL ELEMENTS.
16. FLEXIBLE DUCT LENGTH SHALL NOT EXCEED 7'-0" AT CONNECTION TO ENVIRONMENTAL AIR OUTLETS. MINIMUM RADIUS SHALL BE 1-1/2 DIAMETER OF DUCT. FLEXIBLE DUCT SHALL NOT BE USED IN SYSTEM IF UTILIZED AS PART OF BUILDING SMOKE CONTROL.
17. PROVIDE ISOLATION VALVES AND UNIONS ON PIPING ADJACENT TO ALL CONTROL VALVES AND OTHER APPURTENANCES OR EQUIPMENT. LOCATE VALVES SO THAT EQUIPMENT CAN BE REMOVED WITHOUT DISMANTLING ANY BRANCH LINES.
18. IN CONCEALED IN-ACCESSIBLE CEILING PROVIDE REMOTE MANUAL VOLUME DAMPER REGULATOR OPERATOR AT ACCESSIBLE LOCATION.
19. ALL CURBS, ROOF JACKS AND EQUIPMENT SUPPORT PADS SHALL BE COMPATIBLE WITH ROOFING SYSTEM.
20. REFER TO PLUMBING DRAWINGS OR ALL CONDENSATE DRAIN PIPING. REFER TO MECHANICAL FOR CONDENSATE TRAP DEPTH REQUIREMENTS.
21. A MAINTENANCE LABEL SHALL BE AFFIXED TO MECHANICAL EQUIPMENT. A MAINTENANCE MANUAL SHALL BE PROVIDED FOR THE OWNER'S USE. LABEL EACH ROOF MOUNTED EQUIPMENT TO IDENTIFY THE AREA IT SERVES. SEE SPECIFICATIONS.
22. ALL DUCTWORK AND EQUIPMENT WHICH ARE EXPOSED SHALL HAVE FINISHED APPEARANCE. THEYH SHALL BE APPLIED WITH PRIMER AND ENAMEL PAINT WHERE EXPOSED TO VIEW. COLOR SHALL BE SELECTED BY THE ARCHITECT. ALL DUCTWORK EXPOSED UNDER THE CEILING SHALL BE PAINTED WITH PRIMER AND ENAMEL PAINT TO MATCH THE SURROUNDINGS. SEE ARCHITECTURAL DRAWINGS.
23. PROVIDE SHEET METAL WEATHER HOOD COVER FOR ALL DAMPER ACTUATORS, SMOKE DETECTOR, MOTORS LOCATED OUTDOORS.
24. WHERE ATTIC OR ABOVE CEILING IS TO BE USED AS RETURN PLENUM, IT SHALL CONTAIN NO COMBUSTIBLE MATERIALS, PLASTIC PIPE OR RUBBER INSULATION. ALL CEILING MATERIALS SHALL BE NON-COMBUSTIBLE OR APPROVED FOR PLENUM INSTALLATION.
25. PROVIDE WALL OPENING ABOVE CEILING LEVEL FOR RETURN AIR IN EACH ROOM AS REQUIRED.
26. FIRE DAMPERS INSTALLED IN DUCTWORK SYSTEM WITHOUT ELECTRIC ACTUATOR SHALL BE U.L. LISTED DYNAMIC TYPE (SPRING LOADED).
27. PROVIDE SECURITY BARS ON ALL EXHAUST FAN OPENINGS AND GRAVITY VENT OPENINGS THROUGH HE ROOF GREATER THAN 16"x16".
28. AIR HANDLING DUCT SYSTEM, EXCEPT GREASE EXHAUST DUCT SYSTEM, SHALL BE CONSTRUCTED, INSTALLED AND INSULATED AS PROVIDED IN CHAPTER 6 OF CMC OF METAL GALVANIZED COPPER BEARING SHEET STEEL.
29. ALL WORK SHALL BE IN ACCORDANCE WITH SMACNA IAQ GUIDELINES FOR OCCUPIED BUILDINGS UNDER CONSTRUCTION SECOND EDITION.
30. GENERAL CONTRACTOR SHALL COMPLY/ SUBMIT CONSTRUCTION WASTE MANAGEMENT PER SEC.5-408.1
31. HVAC MOTORS FOR FANS THAT ARE LESS THAN 1 HP AND 1/12 HP OR GREATER SHALL BE ELECTRONICALLY-COMMUNTATED MOTORS OR SHALL HAVE A MINIMUM MOTOR EFFICIENCY OF 70 PERCENT WHEN RATED IN ACCORDANCE WITH NEMA STANDARD MG 1-2006 AT FULL RATING CONDITIONS. MOTORS IN SPACE CONDITIONING EQUIPMENT AND TERMINAL UNITS THAT OPERATE ONLY WHEN PROVIDING HEATING TO THE SPACE SERVED ARE EXCEPTED.
32. ALL MECHANICAL EQUIPMENT, PLUMBING LINES, HEATING AND COOLING UNITS AND STORAGE TANKS AND DUCTWORK, ROOF OR GROUND MOUNTED, SHALL BE INCORPORATED INTO THE BUILDING ENVELOPE. WHEN THAT IS NOT FEASIBLE, ALL SUCH ITEMS SHALL BE SCREENED ON ALL SIDES WITH SOLID MATERIAL ARCHITECTURALLY COMPATIBLE WITH THE MAIN STRUCTURE. (ORD. 1738 § 39, 2012: ORD. 1683 § 65, 2006; URG. ORD. 1682; PRIOR CODE § 10-3.2116). ALL EXPOSED CONDUIT SHALL BE PAINTED TO MATCH SUBSTRATE.
33. ALL DIMENSIONS SHOWN ON THE DRAWINGS FOR DUCTWORK ARE INSIDE CLEAR DIMENSIONS.

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	EF	EXHAUST FAN	OPNG	OPENING
AHU	AIR HANDLING UNIT	ENT	ENTERING	P	PUMP
AMB.	AMBIENT	ESP	EXTERNAL STATIC PRESSURE	QTY.	QUANTITY
ARCH	ARCHITECT OR ARCHITECTURAL	ETR	EXISTING TO REMAIN	RA	RETURN AIR
B	BOILER	EXH	EXHAUST	RAG	RETURN AIR GRILLE
BHP	BRAKE HORSE POWER	°F OR F	DEGREES FAHRENHEIT	RLA	RUNNING LOAD AMP
BTUH	BRITISH THERMAL UNIT PER HOUR	FCU	FAN COIL UNIT	RPM	REVOLUTIONS PER MINUTE
CAV	CONSTANT AIR VOLUME	FLA	FULL LOAD AMP.	SA	SUPPLY AIR
CFF	CAPPED FOR FUTURE	FPI	FINS PER INCH	SAG	SUPPLY AIR GRILLE
CD	CEILING DIFFUSER	FPM	FEET PER MINUTE	S.P.	STATIC PRESSURE
CFH	CUBIC FEET PER HOUR	HP	HORSEPOWER	SF	SQUARE FEET
CFM	CUBIC FEET PER MINUTE	HZ	HERTZ	SS OR *	STAINLESS STEEL
CLG	CEILING	IN. W.G.	INCH OF WATER GAGE	ST	SOUND TRAP
COP	COEFFICIENT OF PERFORMANCE	KBTUH	THOUSAND BTU PER HOUR	SWE	SIDE WALL EXHAUST
CV	CONSTANT VOLUME	(L)	INTERNALLY LINED DUCT INSULATION	SWR	SIDE WALL RETURN
DB	DRY-BULB	LBS	POUNDS	SWS	SIDE WALL SUPPLY
DIFF	DIFFUSER	MAX.	MAXIMUM	SWT	SIDE WALL TRANSFER
DN	DOWN	MCA	MINIMUM CIRCUIT AMP	TG	TRANSFER GRILLE
DS	DUCT SILENCER	MCC	MOTOR CONTROL CENTER	TYP	TYPICAL
DWG	DRAWING	MIN.	MINIMUM	UNO	UNLESS NOTED OTHERWISE
(E)	EXISTING	NC	NOISE CRITERIA	UTR	UP THROUGH ROOF
EAG	EXHAUST AIR GRILLE	OSA	OUTSIDE AIR	VAV	VARIABLE AIR VOLUME
EER	ENERGY EFFICIENCY RATIO			VTR	VENT THROUGH ROOF

NOTES FOR CCR T24 MANDATORY MEASURES

1. GENERAL: ALL EQUIPMENT AND SYSTEMS INSTALLED IN THIS PROJECT SHALL COMPLY WITH THE ENERGY EFFICIENCY STANDARDS FOR NON RESIDENTIAL BUILDINGS AS PUBLISHED BY THE STATE OF CALIFORNIA.

2. EQUIPMENT AND SYSTEMS EFFICIENCY
   - A HVAC EQUIPMENT SHALL MEET MINIMUM EFFICIENCY REQUIREMENTS AS SCHEDULED ON THE PLANS.
   - B DUCTS AND PIPING SHALL BE INSULATED IN ACCORDANCE WITH ENERGY EFFICIENCY STANDARD 123.
   - C AIR HANDING DUCT SYSTEMS SHALL BE CONSTRUCTED, INSTALLED, SEALED TO 1%%% LEAKAGE, AND INSULATED AS PROVIDED IN CHAPTER 6 OF THE UNIFORM MECHANICAL CODE AND THESE REGULATIONS.

3. VENTILATION
   - A BUILDING SHALL BE VENTILATED AS PROVIDED FOR ON THE PLANS.
   - B GRAVITY OR AUTOMATIC DAMPERS INTERLOCKED AND CLOSED ON FAN SHUTDOWN SHALL BE PROVIDED ON THE OUTSIDE AIR INTAKES AND DISCHARGES OF ALL SPACE CONDITIONING AND EXHAUST SYSTEMS.
   - C ALL GRAVITY VENTILATING SYSTEMS SHALL BE PROVIDED WITH AUTOMATIC OR READILY ACCESSIBLE MANUALLY OPERATED DAMPERS IN ALL OPENINGS TO THE OUTSIDE, EXCEPT FOR COMBUSTION AIR OPENINGS.
   - D AIR BALANCING: ALL SPACE CONDITIONING AND VENTILATION SYSTEMS SHALL BE BALANCED IN THE QUANTITIES SPECIFIED IN THESE PLANS, IN ACCORDANCE WITH THE ASSOCIATED AIR BALANCE (AABC) NATIONAL STANDARDS.
   - E OUTSIDE AIR CERTIFICATION: THE SYSTEMS SHALL PROVIDED THE MINIMUM OUTSIDE AIR AS SHOWN ON THE MECHANICAL DRAWINGS, AND SHALL BE MEASURED AND CERTIFIED BY THE INSTALLING LICENSED C-20 MECHANICAL CONTRACTOR.

4. WHEN COMPLETE THE BUILDING CLOSE-OUT MANUAL SHALL INCLUDE: AS-BUILT DOCUMENTS, MAINTENANCE REQUIREMENTS & SPARE PARTS LISTS, ORIGINAL SYSTEM DESIGN AND OPERATION INFORMATION, AND SHALL BE POSTED WITH APPROPRIATE CERTIFICATES AND DOCUMENTS FOR THE COLLEGE AND INSPECTOR.

2019 CALIFORNIA GREEN BUILDING STANDARDS CODE

5.410.4 TESTING, ADJUSTING AND BALANCING: DURING CONSTUCTION TAPE/BLANK OFF AND SEAL HVAC EQUIPMENT OPENINGS FROM CONSTRUCTION DEBRIS, DUST, AND WATER. CLOSE GRILLES, AIR OPENINGS, AND FIN COILS TO PREVENT CONTAMINATION INSIDE/OUITSIDE TO THE EQUIPMENT, TO THE FILTERS, AND THE DUCTWORK. DO NOT OPERATE THE EQUIPMENT AND DUCTWORK DURING THE CONSTRUCTION PERIOD UNTIL AFTER APPROVED CLEAN-UP IS COMPLETE. COVER EQUIPMENT AND PANELS TO PREVENT WEATHER, SPLASH AND WATER ENTRY. ANY ELECTRICAL PANELS AND COMPONENTS EXPOSED TO WATER OR DUST WILL NEED TO BE REPLACED AT NO COST TO THE OWNER.

5.410.4.4 REPORTING: DELIVER WRITTEN POINT TO POINT COMMISSIONING FUNCTIONALITY REPORT AND TEST AND BALANCE REPORT.

5.410.4.5.1 INSPECTIONS AND REPORTS: INSPECTIONS AND REPORTS DOCUMENTING THE ENTIRE SYSTEM HAS BEEN INSPECTIED AND APPROVED BY THE ENFORCING AGENCY.

5.504.3 COVERING OF DUCT OPENINGS AND PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION TIME OF ROUGH INSTALLATION AND DURING STORAGE ON THE CONSTRUCTION SITE AND UNTIL FINAL STARTUP OF THE HEATING, COOLING AND VENTILATING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEETMETAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST, WATER AND DEBRIS WHICH MAY ENTER THE SYSTEM.

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC, SECTIONS 1616A1.18 THROUGH 1616A1.26 AND ASCE 7-16 CHAPTER 13,26 AND 30.

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER.
3. MOVABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD AND THE DSA DISTRICT STRUCTURAL ENGINEER. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTION 13.6.5.6, 13.6.7, 13.6.8, AND 2019 CBC, SECTIONS 1616A1.23, 1616A1.24, 1615A1.25, AND 1616A.4.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM AREA AS NOTED BELOW, WHEN BRACING AND ATTACHMENTS ARE BASED ON A PRE-APPROVED INSTALLATION GUIDE (E.G., SMACNA, OR OSHPD OPM), COPIES OF THE MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF HANGING AND BRACING OF THE PIPE, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS. STRUCTURAL NEEDED SPECIFIC DETAILS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP☒ MD☐ PP☐ E☐ - OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

MP☐ MD☐ PP☐ E☐ - OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVED (OPM#) #OPM-0043-13 MASON WEST. THE CONTRACTOR SHALL SUBMIT CALCULATIONS AND SHOP DRAWINGS (STAMPED BY A REGISTERED STRUCTURAL ENGINEER) AS A DELEGATED SUBMITTAL OF THE SUPPORTS AND BRACIN SYSTEMS TO BE INSTALLED PER THE OPM PRE-APPROVAL. THE ENGINEER OF RECORD SHALL REVIEW THE DELEGATED SUBMITTAL AS NOTED ABOVE.

APPLICABLE CODES

2019	CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE, PART 1, TITLE 24 C.C.R.
2019	CALIFORNIA BUILDING CODE (VOL 1 & 2) (2018 INTERNATIONAL BUILDING CODE WITH CALIFORNIA AMENDMENTS)
2019	CALIFORNIA ELECTRICAL CODE, PART 3, TITLE 24 C.C.R., (2017 NATIONAL ELECTRICAL CODE WITH 2019 CALIFORNIA AMENDMENTS)
2019	CALIFORNIA MECHANICAL CODE, PART 4, TITLE 24 C.C.R. (2018 UNIFORM MECHANICAL CODE WITH 2019 CALIFORNIA AMENDMENTS)
2019	CALIFORNIA PLUMBING CODE, PART 5, TITLE 24 C.C.R. (2018 UNIFORM PLUMBING CODE WITH 2019 CALIFORNIA AMENDMENTS)
2019	CALIFORNIA ENERGY CODE, PART 6, TITLE 24 C.C.R.
2019	CALIFORNIA FIRE CODE, PART 9, TITLE 24 C.C.R. (2018 INTERNATIONAL FIRE CODE AND 2019 CALIFORNIA AMENDMENTS)
2019	CALIFORNIA GREEN BUILDING STANDARDS CODE, PART 11, TITLE 24 C.C.R.
2019	CALIFORNIA REFERENCE STANDARDS CODE, PART 12, TITLE 24 C.C.R.

MECHANICAL SHEET INDEX

SHEET	DESCRIPTION
M0.01	MECHANICAL LEGENDS, ABBREVIATIONS, & GENERAL NOTES
M0.02	MECHANICAL TITLE 24
M0.03	MECHANICAL TITLE 24
M0.04	MECHANICAL TITLE 24
M0.05	MECHANICAL TITLE 24
M2.01	FIRST FLOOR MECHANICAL ZONING PLAN
M2.02	SECOND FLOOR MECHANICAL ZONING PLAN
M2.11	FIRST FLOOR MECHANICAL PLAN
M2.12	SECOND FLOOR MECHANICAL PLAN
M2.13	MECHANICAL ROOF PLAN
M3.11	MECHANICAL PLAN - POOL BUILDING
M5.01	MECHANICAL DETAILS
M5.02	MECHANICAL DETAILS
M5.03	MECHANICAL DETAILS
M5.04	MECHANICAL DETAILS
M6.01	MECHANICAL SCHEDULES
M7.01	MECHANICAL CONTROL DIAGRAMS

ALFATECH
421 EAST HUNTINGTON DRIVE
MONROVIA, CA 91016
PHONE: (213) 212-9860
www.atce.com

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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NICHOLAS J. KOUTSOGEORGIS — No. M31713 — Exp. 6/30/2025 — REGISTERED PROFESSIONAL ENGINEER — MECHANICAL — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

MECHANICAL LEGENDS, ABBREVIATIONS, & GENERAL NOTES

COMMUNITY AQUATICS & SENIOR CENTER

M0.01

	INITIAL	DATE
DESIGNED BY	NK/MZ	06/25/2022
DRAWN BY	MZ	06/20/23
CHECKED BY	NK	06/29/23

APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 110 OF 176 DWG. NO. 5-2606

PLOT DATE: 7/26/2023 8:04:11 PM

CERTIFICATE OF COMPLIANCE — **NRCC-ENV-E**

This document is used to demonstrate compliance with mandatory requirements in §110.8(a) and §120.7(b) for newly constructed buildings; and §141.0(b)1 for alterations, related to roof, wall and floor assemblies. It is also used to demonstrate compliance with prescriptive requirements in §140.3 for newly constructed buildings; and §141.0 for additions and alterations, related to roof, wall, floor, door, fenestration and daylighting requirements.

Project Name: The City of Gardena Senior Center and Aquatics | **Report Page:** [Page 1 of 21]
Project Address: 1654 W 166th Street | **Date Prepared:** 5/5/2023

A. GENERAL INFORMATION

01	Project Location (city)	Gardena	05	# of Stories (Habitable Above Grade)	1
02	Zipcode	90247	06	Total Conditioned Floor Area (ft²)	9349
03	Climate Zone	8	07	Total Unconditioned Floor Area (ft²)	0
04	Occupancy Types Within Project: (select all that apply): If one occupancy constitutes >= 80% of the conditioned floor area, the entire building envelope may be designed to comply with the provisions of that occupancy per §100.0(f).		08	☐ Project includes unconditioned enclosed space(s) > 5,000 ft.[1] under a roof with a ceiling height of at least 15 ft.[1]	
	☒ All Nonresidential, including Relocatable Public School Building certified for use in one climate zone Occupancy: A / B / E / F / H / M / S / U ☐ Relocatable Public School Building for use in all climate zones Occupancy: E ☐ High-Rise Residential Occupancy: R-2 / R-3 ☐ Hotel/Motel Guest Rooms Occupancy: R-1				

[1] *FOOTNOTE: Enclosed spaces > 5,000 ft² directly under roof with ceiling height > 15 ft in climate zones 2 through 15 are required to meet the minimum daylighting requirements defined in §140.3(c). Compliance with §140.3(c) is documented in Table L. This is the only prescriptive requirement which applies to unconditioned spaces.*

B. PROJECT SCOPE

This table specifies project envelope components within the permit application demonstrating compliance using the prescriptive paths outlined in §140.3 and §141.0(a)1 and §141.0(b)1 and 2 for additions and alterations:

My project consists of (check all that apply)		Component Types					
		01		02			
☒	New Construction or Newly Conditioned Space	☒	Roof	☒	Walls	☒	Exterior Doors
	☐ One or more enclosed spaces > 5,000 ft² directly under roof with ceiling height > 15ft			☐	Floors	☒	Fenestration/ Glazed Doors[1]
☐	Addition of conditioned space	☐	Roof	☐	Walls	☐	Exterior Doors
	☐ One or more enclosed spaces > 5,000 ft² directly under roof with ceiling height > 15ft			☐	Floors	☐	Fenestration/ Glazed Doors[1]
☐	Alteration of conditioned space	☐	Roof Assembly	☐	Walls		Exterior Doors NA. for Alts.
	☐ One or more enclosed spaces > 5,000 ft² directly under roof with ceiling height > 15ft and lighting system installed for the first time	☐	Roofing Material	☐	Floors	☐	Fenestration/ Glazed Doors

[1] *FOOTNOTE: Doors that are more than 25% glass in area are considered Glazed Doors and should be documented on table K with fenestration.*

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

CERTIFICATE OF COMPLIANCE — **NRCC-ENV-E**

Project Name: The City of Gardena Senior Center and Aquatics | **Report Page:** [Page 2 of 21]
Project Address: 1654 W 166th Street | **Date Prepared:** 5/5/2023

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through L. Note: if any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see the applicable table referenced below.

Opaque Envelope Components							
Roof Assembly	Roofing Materials	Walls	Floors	Doors	Fenestration	Daylighting Spaces > 5,000ft²	Compliance Results
01	02	03	04	05	06	07	08
(See Table F)	(See Table G)	(See Table H)	(See Table I)	(See Table J)	(See Table K)	(See Table L)	COMPLIES
Yes	Yes	Yes		Yes	Yes		

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with unedittable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. ROOF ASSEMBLY SCHEDULE

This table demonstrates compliance for prescriptive roof assembly requirements in §140.3(a)1B for new construction or additions, or §141.0(b)2BIII for alterations.

01 Indicate roof types included in the project: ☒ Framed ☐ SIPS ☐ Span Deck & Concrete ☐ Metal Panels ☐ Metal Building

Framed Roof Assemblies

01		02	03	04	05	06
	☒	Include Framed Roof Assemblies in Area-Weighted Average U-factor Calculation[1]				
Tag/Plan Detail ID		Name/Description	Status	Exception to Roof Insulation Requirements in §141.0(b)2Bii (Alts. Only)		Occupancy Type
R-30 Roof Cathedral_Gardena		Roof	New			Nonresidential/ Relocatable 1 CZ
R-30 Roof Cathedral_Gardena		Roof	New			Nonresidential/ Relocatable 1 CZ
R-30 Roof Cathedral_Gardena		Roof	New			Nonresidential/ Relocatable 1 CZ

[1] *FOOTNOTES: Roof types indicated above as "(new only)" do not have Title 24, Part 6 requirements for alterations. New construction and additions do have requirements and should be clicked above and compliance demonstrated within this table.*

Mass Walls (new walls only)

01	☒	Calculate Area-Weighted Average U-factor for Mass Walls[1]										
02	03	04	05	06	07	08	09	10	11		12
Tag/Plan Detail ID	Occupancy Type	How Design U-factor was determined	Mass Information			Additional Insulation Information		Maximum U-factor Allowed[2]	U-factor per Design		Net Area[3] ft²
			Mass Material	Fill Options	Thickness (in)	Frame Material & Thickness	Cavity Insulation per Design				
South Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	214
East Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	55
North Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	429
South Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	130

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

CERTIFICATE OF COMPLIANCE — **NRCC-ENV-E**

Project Name: The City of Gardena Senior Center and Aquatics | **Report Page:** [Page 3 of 21]
Project Address: 1654 W 166th Street | **Date Prepared:** 5/5/2023

F. ROOF ASSEMBLY SCHEDULE

Framed Roof Assemblies

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15		16
Tag/Plan Detail ID	Name/Description	Status	Exception to Roof Insulation Requirements in §141.0(b)2Bii (Alts. Only)		Occupancy Type	How Design U-factor was determined	Roof Type & Frame Material	Frame Spacing	Cavity Insulation per Design	Continuous Insulation per Design	Thermal Performance Unit	Required Thermal Performance	U-factor per Design		Net Area[3] ft²
R-30 Roof Cathedral_Gardena	Roof	New			Nonresidential/ Relocatable 1 CZ								per JA4 per Software/ Other	0.023	400
R-30 Roof Cathedral_Gardena	Roof	New			Nonresidential/ Relocatable 1 CZ								per JA4 per Software/ Other	0.023	190
R-30 Roof Cathedral_Gardena	Roof	New			Nonresidential/ Relocatable 1 CZ								per JA4 per Software/ Other	0.023	109
R-30 Roof Cathedral_Gardena	Roof	New			Nonresidential/ Relocatable 1 CZ								per JA4 per Software/ Other	0.023	178
R-30 Roof Cathedral_Gardena	Roof	New			Nonresidential/ Relocatable 1 CZ								per JA4 per Software/ Other	0.023	178
R-30 Roof Cathedral_Gardena	Roof	New			Nonresidential/ Relocatable 1 CZ								per JA4 per Software/ Other	0.023	302
R-30 Roof Cathedral_Gardena	Roof	New			Nonresidential/ Relocatable 1 CZ								per JA4 per Software/ Other	0.023	63
R-30 Roof Cathedral_Gardena	Roof	New			Nonresidential/ Relocatable 1 CZ								per JA4 per Software/ Other	0.023	56
R-30 Roof Cathedral_Gardena	Roof	New			Nonresidential/ Relocatable 1 CZ								per JA4 per Software/ Other	0.023	321

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

CERTIFICATE OF COMPLIANCE — **NRCC-ENV-E**

Project Name: The City of Gardena Senior Center and Aquatics | **Report Page:** [Page 4 of 21]
Project Address: 1654 W 166th Street | **Date Prepared:** 5/5/2023

F. ROOF ASSEMBLY SCHEDULE

07	08	09	10	11	12	13	14	15		16
Tag/Plan Detail ID	How Design U-factor was determined	Roof Type & Frame Material	Frame Spacing Depth	Cavity Insulation per Design	Continuous Insulation per Design	Thermal Performance Unit	Required Thermal Performance	U-factor per Design		Net Area[3] ft²
Roof	JA4 Tables	Metal		30	30	U-factor	0.049	per JA4 per Software/ Other	0.023	770
Roof	JA4 Tables	Metal		30	30	U-factor	0.049	per JA4 per Software/ Other	0.023	444
Roof	JA4 Tables	Metal		30	30	U-factor	0.049	per JA4 per Software/ Other	0.023	25
Roof	JA4 Tables	Metal		30	30	U-factor	0.049	per JA4 per Software/ Other	0.023	60
Roof	JA4 Tables	Metal		30	30	U-factor	0.049	per JA4 per Software/ Other	0.023	703
Roof	JA4 Tables	Metal		30	30	U-factor	0.049	per JA4 per Software/ Other	0.023	716
Roof	JA4 Tables	Metal		30	30	U-factor	0.049	per JA4 per Software/ Other	0.023	686
Roof	JA4 Tables	Metal		30	30	U-factor	0.049	per JA4 per Software/ Other	0.023	705

[4] *FOOTNOTES: If any individual assembly is non-compliant, assemblies may show compliance using an area-weighted calculation. Metal building roofs may not be combined with other roof types. The area-weighted compliance option is not available for alterations demonstrating compliance with R-values in Table 141.0-C.*

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

CERTIFICATE OF COMPLIANCE — **NRCC-ENV-E**

Project Name: The City of Gardena Senior Center and Aquatics | **Report Page:** [Page 5 of 21]
Project Address: 1654 W 166th Street | **Date Prepared:** 5/5/2023

F. ROOF ASSEMBLY SCHEDULE

07	08	09	10	11	12	13	14	15	16
Tag/Plan Detail ID	How Design U-factor was determined	Roof Type & Frame Material	Frame Spacing Depth	Cavity Insulation per Design	Continuous Insulation per Design	Thermal Performance Unit	Required Thermal Performance	U-factor per Design	Net Area[3] ft²

[3] *If "R-value" is shown in cell 13 as the Thermal Performance Unit, the R-value shown here is for continuous insulation per Table 141.0-C.*

[5] *Roof area minus any fenestration/ skylight area*

Structural Insulated Panels (SIPS) Roof/Ceiling Assemblies

Span Deck And Concrete Roof Assemblies

Metal Panel Assemblies

Metal Building Roof Assemblies

Area-Weighted Average U-factor Compliance Calculation for Framed/ SIPs/ Span Deck & Concrete/ Metal Panel Roofs

01	02	03		04		05
Roof Type	Total Area of Roof Type (ft²)	Area-weighted U-factor for Roof Type				Compliance Results Using Area-Weighted Calculation Option
		Required		Designed		
Framed	4808	0.049		0.023		
Total for all Roof Types:	**4808**	**0.049**		**0.023**		**COMPLIES**

Area-Weighted Average U-factor Compliance Calculation for Metal Building Roof

G. RATED ROOFING MATERIAL (COOL ROOF)

This table demonstrates compliance with prescriptive roof material requirements in §140.3(a)1A for new construction or additions, or §141.0(b)2B for alterations.

01	02	03	04	05	06	07	08		09		10
Tag/Plan Detail ID	Name/Description	Status	Occupancy Type	Roof Slope	Roof Material	Compliance Method	Required Minimum Material Performance		Designed Material Performance		U-factor of Assembly
R-30 Roof Cathedral_Gardena	Roof	New	Nonresidential/ Relocatable 1 CZ	>= 2:12 (Steep)	To Be Determined	Solar Reflectance (Aged)/ Emittance	Reflectance	0.2	Reflectance	0.2	
							Emittance	0.75	Emittance	0.75	
							SRI		SRI		

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

CERTIFICATE OF COMPLIANCE — **NRCC-ENV-E**

Project Name: The City of Gardena Senior Center and Aquatics | **Report Page:** [Page 6 of 21]
Project Address: 1654 W 166th Street | **Date Prepared:** 5/5/2023

H. WALL ASSEMBLY SCHEDULE

This table demonstrates compliance with prescriptive wall assembly requirements in §140.3(a)2 and §140.3(a)3 for new constructions or additions, or mandatory wall assembly requirements in §141.0(b)1B for alterations.

01 Indicate wall types included in the project:[1] ☐ Framed ☒ Mass (new only) ☐ Concrete Sandwich Panel (new only) ☐ SIPS ☐ ICF (new only) ☐ Metal Panels ☐ Metal Building ☐ Spandrel/ Curtain Wall ☐ Straw Bale ☐ Log Home (new only)

[1] *FOOTNOTES: Wall types indicated above as "(new only)" do not have Title 24, Part 6 requirements for alterations. New construction and additions do have requirements and should be clicked above and compliance demonstrated within this table.*

Mass Walls (new walls only)

01	☒	Calculate Area-Weighted Average U-factor for Mass Walls[1]										
02	03	04	05	06	07	08	09	10	11		12
Tag/Plan Detail ID	Occupancy Type	How Design U-factor was determined	Mass Information			Additional Insulation Information		Maximum U-factor Allowed[2]	U-factor per Design		Net Area[3] ft²
			Mass Material	Fill Options	Thickness (in)	Frame Material & Thickness	Cavity Insulation per Design				
South Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	314
East Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	104
South Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	41
West Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	168
South Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	140
South Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	927

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

CERTIFICATE OF COMPLIANCE — **NRCC-ENV-E**

Project Name: The City of Gardena Senior Center and Aquatics | **Report Page:** [Page 7 of 21]
Project Address: 1654 W 166th Street | **Date Prepared:** 5/5/2023

H. WALL ASSEMBLY SCHEDULE

02	03	04	05	06	07	08	09	10	11		12
Tag/Plan Detail ID	Occupancy Type	How Design U-factor was determined	Mass Information			Additional Insulation Information		Maximum U-factor Allowed[2]	U-factor per Design		Net Area[3] ft²
			Mass Material	Fill Options	Thickness (in)	Frame Material & Thickness	Cavity Insulation per Design				
North Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	116
North Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	280
East Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	136
North Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	116
North Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	178
West Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	438

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

CERTIFICATE OF COMPLIANCE — **NRCC-ENV-E**

Project Name: The City of Gardena Senior Center and Aquatics | **Report Page:** [Page 8 of 21]
Project Address: 1654 W 166th Street | **Date Prepared:** 5/5/2023

H. WALL ASSEMBLY SCHEDULE

02	03	04	05	06	07	08	09	10	11		12
Tag/Plan Detail ID	Occupancy Type	How Design U-factor was determined	Mass Information			Additional Insulation Information		Maximum U-factor Allowed[2]	U-factor per Design		Net Area[3] ft²
			Mass Material	Fill Options	Thickness (in)	Frame Material & Thickness	Cavity Insulation per Design				
South Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	48
South Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	194
South Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	97
North Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	10
North Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	134
East Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	152

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

CERTIFICATE OF COMPLIANCE — **NRCC-ENV-E**

Project Name: The City of Gardena Senior Center and Aquatics | **Report Page:** [Page 9 of 21]
Project Address: 1654 W 166th Street | **Date Prepared:** 5/5/2023

H. WALL ASSEMBLY SCHEDULE

02	03	04	05	06	07	08	09	10	11		12
Tag/Plan Detail ID	Occupancy Type	How Design U-factor was determined	Mass Information			Additional Insulation Information		Maximum U-factor Allowed[2]	U-factor per Design		Net Area[3] ft²
			Mass Material	Fill Options	Thickness (in)	Frame Material & Thickness	Cavity Insulation per Design				
South Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	314
East Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	104
South Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	41
West Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	168
South Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	140
South Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	927

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

CERTIFICATE OF COMPLIANCE — **NRCC-ENV-E**

Project Name: The City of Gardena Senior Center and Aquatics | **Report Page:** [Page 10 of 21]
Project Address: 1654 W 166th Street | **Date Prepared:** 5/5/2023

H. WALL ASSEMBLY SCHEDULE

02	03	04	05	06	07	08	09	10	11		12
Tag/Plan Detail ID	Occupancy Type	How Design U-factor was determined	Mass Information			Additional Insulation Information		Maximum U-factor Allowed[2]	U-factor per Design		Net Area[3] ft²
			Mass Material	Fill Options	Thickness (in)	Frame Material & Thickness	Cavity Insulation per Design				
North Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	178
North Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	178
North Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	302
East Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	63
West Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	56
North Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	321

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

CERTIFICATE OF COMPLIANCE — **NRCC-ENV-E**

Project Name: The City of Gardena Senior Center and Aquatics | **Report Page:** [Page 11 of 21]
Project Address: 1654 W 166th Street | **Date Prepared:** 5/5/2023

H. WALL ASSEMBLY SCHEDULE

02	03	04	05	06	07	08	09	10	11		12
Tag/Plan Detail ID	Occupancy Type	How Design U-factor was determined	Mass Information			Additional Insulation Information		Maximum U-factor Allowed[2]	U-factor per Design		Net Area[3] ft²
			Mass Material	Fill Options	Thickness (in)	Frame Material & Thickness	Cavity Insulation per Design				
North Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	178
North Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	178
North Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	302
East Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	63
West Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	56
North Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	321

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

CERTIFICATE OF COMPLIANCE — **NRCC-ENV-E**

Project Name: The City of Gardena Senior Center and Aquatics | **Report Page:** [Page 12 of 21]
Project Address: 1654 W 166th Street | **Date Prepared:** 5/5/2023

H. WALL ASSEMBLY SCHEDULE

02	03	04	05	06	07	08	09	10	11		12
Tag/Plan Detail ID	Occupancy Type	How Design U-factor was determined	Mass Information			Additional Insulation Information		Maximum U-factor Allowed[2]	U-factor per Design		Net Area[3] ft²
			Mass Material	Fill Options	Thickness (in)	Frame Material & Thickness	Cavity Insulation per Design				
South Wall	Nonresidential/ Relocatable 1 CZ	JA4 Tables	CMU normal weight	Solid Grout	8 in	Metal- 4 in	13	0.69	per JA4 per Software/ Other	0.153	179

[2] *FOOTNOTES: If any individual assembly is non-compliant, assemblies may show compliance using an area-weighted calculation. Mass walls are combined with concrete sandwich panel, log and ICF wall types. Mass walls must meet mandatory requirements in §170.3(b), but may area-weight to comply with prescriptive requirements in Table 140.3 for new construction.*

[3] *Mass walls are defined as "light" or "heavy" depending on their Heat Capacity. Heat Capacity is determined in Tables 4.3.5 and 4.3.6 in Joint Appendix 4. Walls with Heat Capacity of 15 or greater are "heavy" while walls with Heat Capacity from 7 to less than 15 are "light". Walls with heat capacity less than 7 would be categorized as "Wood framed and Other" for compliance purposes.*

[4] *Wall area minus any fenestration area*

Area-Weighted Average U-factor Compliance Calculation for Mass/ Concrete Sandwich Panel/ Log/ ICF Walls

01	02	03	04		05	06
Wall Type	Total Area of Wall Type (ft²)	Mandatory U-factor Required	Area-weighted U-factor for Wall Type		Area-weighted U-factor for Wall Type	Compliance Results Using Area-Weighted Calculation Option
			Required		Designed	
Light Mass	0	0.44	0		0	COMPLIES
Heavy Mass	6729	0.69	0.69		0.153	COMPLIES

I. FLOOR ASSEMBLY SCHEDULE

This section does not apply to this project.

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

CERTIFICATE OF COMPLIANCE — **NRCC-ENV-E**

Project Name: The City of Gardena Senior Center and Aquatics | **Report Page:** [Page 13 of 21]
Project Address: 1654 W 166th Street | **Date Prepared:** 5/5/2023

J. EXTERIOR DOOR SCHEDULE

*This table demonstrates compliance with prescriptive exterior door requirements in §140.3(a)7 for new construction or additions. Doors which are being replaced (alterations) do not need to be documented in this table because there are no Title 24, Part 6 requirements that apply. Exterior doors separate con

STATE OF CALIFORNIA
Envelope Component Approach
NRCC-ENV-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-ENV-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 17 of 21)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

K. FENESTRATION AND GLAZED DOOR SCHEDULE

Vertical Fenestration And Glazed Doors- U-factor, Solar Heat Gain Coefficient (RSHGC/ SHGC), Visible Transmittance (VT)

04	05	06	07	08	09	10	11	12	13
Tag/Plan Detail ID	Fenestration Type	Occupancy & Status	(R)SHGC Compliance Method	VT Compliance Method	Calculation Method for Performance Values per Design[2]	Product Performance Unit	Required Product Performance	Product Performance per Design	Area ft[2]
Win	Fixed window	Nonresidential/ Relocatable 1 CZ : New			NFRC Certified	U-factor (max)	0.36	0.36	
					☐ Overhang used for RSHGC	(R)SHGC (max)	0.25	0.25	74
						VT (min)	0.42	0.42	
Win	Fixed window	Nonresidential/ Relocatable 1 CZ : New			NFRC Certified	U-factor (max)	0.36	0.36	
					☐ Overhang used for RSHGC	(R)SHGC (max)	0.25	0.25	43
						VT (min)	0.42	0.42	
Win	Fixed window	Nonresidential/ Relocatable 1 CZ : New			NFRC Certified	U-factor (max)	0.36	0.36	
					☐ Overhang used for RSHGC	(R)SHGC (max)	0.25	0.25	40
						VT (min)	0.42	0.42	
Win	Fixed window	Nonresidential/ Relocatable 1 CZ : New			NFRC Certified	U-factor (max)	0.36	0.36	
					☐ Overhang used for RSHGC	(R)SHGC (max)	0.25	0.25	32
						VT (min)	0.42	0.42	
Win	Fixed window	Nonresidential/ Relocatable 1 CZ : New			NFRC Certified	U-factor (max)	0.36	0.36	
					☐ Overhang used for RSHGC	(R)SHGC (max)	0.25	0.25	108
						VT (min)	0.42	0.42	
Win	Fixed window	Nonresidential/ Relocatable 1 CZ : New			NFRC Certified	U-factor (max)	0.36	0.36	
					☐ Overhang used for RSHGC	(R)SHGC (max)	0.25	0.25	108
						VT (min)	0.42	0.42	

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
Envelope Component Approach
NRCC-ENV-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-ENV-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 18 of 21)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

K. FENESTRATION AND GLAZED DOOR SCHEDULE

Vertical Fenestration And Glazed Doors- U-factor, Solar Heat Gain Coefficient (RSHGC/ SHGC), Visible Transmittance (VT)

04	05	06	07	08	09	10	11	12	13
Tag/Plan Detail ID	Fenestration Type	Occupancy & Status	(R)SHGC Compliance Method	VT Compliance Method	Calculation Method for Performance Values per Design[2]	Product Performance Unit	Required Product Performance	Product Performance per Design	Area ft[2]
Win	Fixed window	Nonresidential/ Relocatable 1 CZ : New			NFRC Certified	U-factor (max)	0.36	0.36	
					☐ Overhang used for RSHGC	(R)SHGC (max)	0.25	0.25	108
						VT (min)	0.42	0.42	
Win	Fixed window	Nonresidential/ Relocatable 1 CZ : New			NFRC Certified	U-factor (max)	0.36	0.36	
					☐ Overhang used for RSHGC	(R)SHGC (max)	0.25	0.25	58
						VT (min)	0.42	0.42	
Win	Fixed window	Nonresidential/ Relocatable 1 CZ : New			NFRC Certified	U-factor (max)	0.36	0.36	
					☐ Overhang used for RSHGC	(R)SHGC (max)	0.25	0.25	69
						VT (min)	0.42	0.42	
Win	Fixed window	Nonresidential/ Relocatable 1 CZ : New			NFRC Certified	U-factor (max)	0.36	0.36	
					☐ Overhang used for RSHGC	(R)SHGC (max)	0.25	0.25	85
						VT (min)	0.42	0.42	
Win	Fixed window	Nonresidential/ Relocatable 1 CZ : New			NFRC Certified	U-factor (max)	0.36	0.36	
					☐ Overhang used for RSHGC	(R)SHGC (max)	0.25	0.25	41
						VT (min)	0.42	0.42	
Win	Fixed window	Nonresidential/ Relocatable 1 CZ : New			NFRC Certified	U-factor (max)	0.36	0.36	
					☐ Overhang used for RSHGC	(R)SHGC (max)	0.25	0.25	50
						VT (min)	0.42	0.42	

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
Envelope Component Approach
NRCC-ENV-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-ENV-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 19 of 21)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

K. FENESTRATION AND GLAZED DOOR SCHEDULE

Overhang Details for RSHGC per §140.3

26	27	28	29	30	31	32
SHGC of Window	Depth (ft)	Height from Bottom of Sill to Overhang (ft)	Left Extent[3] (ft)	Right Extent[3] (ft)	Orientation	RSHGC
0.25	10	0.1	10	10	North Facing	0.198

[2]FOOTNOTES: If any individual fenestration product is non-compliant, products may show compliance using an area-weighted calculation. Chromogenic glazing is not included in area-weighted calculations. Area-weighted calculation shown in separate area-weighted table below.
[3]The NA6 Default Calculation can only be used for buildings with less than 2000ft[2] of site built glazing. If the project has greater than 2000ft[2], the only options for determining fenestration values are NFRC Certification or the Default Tables in 110.6.
[4] Overhangs must extend past the left and right window the same distance as the depth of the overhang or greeter to show an affect on the RSHGC. If an overhang does not meet this requirement; the affect of the overhang will be ignored.
[5]Projecting includes casement and awning windows.

Area-Weighted Average U-factor, SHGC, VT Compliance Calculation for Vertical Fenestration And Glazed Doors

01	02	03		04		05
Product Performance Unit	Total Area of Fenestration (ft[2])	Area-weighted Calculation for Fenestration		Compliance Results Using Area-Weighted Calculation Option		
		Required		Designed		
U-Factor	1857	0.36		0.36		COMPLIES
(R)SHGC	1857	0.25		0.248		COMPLIES
VT	1857	0.42		0.42		COMPLIES

L. DAYLIGHT IN LARGE ENCLOSED SPACES
This section does not apply to this project.

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
Envelope Component Approach
NRCC-ENV-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-ENV-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 20 of 21)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

M. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection have been changed by the permit applicant, an explanation should be included in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Form/Title	Field Inspector	
	Pass	Fail
NRCI-ENV-01-E - Must be submitted for all buildings	☐	☐

N. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, form user must provide an explanation in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/. Individuals who perform the field testing and verification work, and provide the information required for completion of the fenestration Certificate of Acceptance documentation are not required to be licensed professionals. However, the person who signs the Certificate of Acceptance document to certify compliance with the acceptance requirements shall be licensed as specified in Standards Section 10-103(a)4 and NA7.3.1

Form/Title	Systems/Spaces To Be Field Verified	Field Inspector	
		Pass	Fail
NRCA-ENV-02-F must be submitted for all new, added or altered fenestration.	☐	☐	

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
Envelope Component Approach
NRCC-ENV-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-ENV-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 21 of 21)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Nikolaos L. Kourasios	
Company:	Signature Date:
Alfa Tech	2023-05-05
Address:	CEA / HERS Certification Identification (If applicable):
421 E. Huntington Dr.	M13713
City/State/Zip:	Phone:
Monrovia CA 91016	(213) 212-9860

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California.
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a complete and signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Responsible Designer Signature:
Bob Simons	
Company:	Date Signed:
SVA Architects, Inc.	2023-05-05
Address:	License:
6 Hutton Centre Drive, Suite 1150	C-18301
City/State/Zip:	Phone:
Santa Ana CA 92707	949.809.3380

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 11:31:25

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.4, or §141.0(b)2 for alterations.			
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 1 of 29)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

A. GENERAL INFORMATION

01	Project Location (city)	Gardena	04	Total Conditioned Floor Area	9349
02	Climate Zone	8	05	Total Unconditioned Floor Area	0
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Grade)	1
☒	Office (B)	☐ Retail (M)	☐	Non-refrigerated Warehouse (S)	
☐	Hotel/ Motel Guest Rooms (R-1)	☐ School (E)	☐	Healthcare Facility (I)	
☐	High-Rise Residential (R-2/R-3)	☐ Relocatable Class Bldg (E)	☒	Other (write in)	See Table J

B. PROJECT SCOPE

This table includes mechanical systems or components that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.4, or §141.0(b)2 for alterations.

01	02	03
Air System(s)	Wet System Components	Dry System Components
☒ Heating Air System	☐ Water Economizer	☒ Air Economizer
☒ Cooling Air System	☐ Pumps	☐ Electric Resistance Heat
Mechanical Controls	☐ System Piping	☒ Fan Systems
☒ Mechanical Controls (existing to remain, altered or new)	☐ Cooling Towers	☒ Ductwork (existing to remain, altered or new)
	☐ Chillers	☒ Ventilation
	☐ Boilers	☐ Zonal Systems/ Terminal Boxes

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 2 of 29)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with mechanical requirements. This table is not editable by the user. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D, or the table indicated as not compliant for guidance.

01		02		03		04		05		06		07			08	09
System Summary §110.1, §110.2, §140.4	AND	Pumps §140.4(k)	AND	Fans/ Economizers §140.4(c), §140.4(e)	AND	System Controls §110.2, §120.2, §140.4(f)	AND	Ventilation §120.1	AND	Terminal Box Controls §140.4(d)	AND	Distribution §120.3, §140.4(i)	AND	Cooling Towers §110.2(e)2	Compliance Results
(See Table F)		(See Table G)		(See Table H)		(See Table I)		(See Table J)		(See Table K)		(See Table L)		(See Table M)	
Yes	AND		AND	Yes	AND	Yes	AND	Yes	AND		AND	Yes	AND		COMPLIES
Mandatory Measures Compliance (See Table Q for Details)															COMPLIES

D. EXCEPTIONAL CONDITIONS
This table is auto-filled with unedittable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS
This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 3 of 29)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

This table is used to demonstrate compliance for mechanical equipment with mandatory requirements found in §110.1 and §110.2(a) and prescriptive requirements found in §140.4(a), §140.4(b) and §140.4(k) or §141.0(b)2 for alterations.

Dry System Equipment Sizing (includes air conditioners, condensers, heat pumps, VRF, furnaces and unit heaters)

01	02	03	04	05	06	07	08	09	10	11
Name or Item Tag	Equipment Category per Tables 110.2	Equipment Type per Tables 110.2 / Title 20	Smallest Size Available[1] §140.4(a)	Equipment Sizing per Mechanical Schedule (kBtu/h) §140.4 (a&b)						
				Heating Output[2,3]			Cooling Output[2,3]		Load Calculations[3,4]	
				Per Design (kBtu/h)	Rated (kBtu/h)	Supp. Heating Output (kBtu/h)	Sensible Per Design (kBtu/h)	Rated (kBtu/h)	Total Heating Load (kBtu/h)	Total Sensible Cooling Load (kBtu/h)
1F RTU 1-1 Senior Daycare	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	66.75	73.65	13.04	52.75	56.37	32.68	54.56
1F RTU 1-2 Lobby and Office	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	44.88	43.66	13.04	33.11	36.86	34.19	56.35
1F FC_CU-1-1 Inverter	Unitary Heat Pumps	Air-cooled, split (1phase)	10.21	14	0	8.64	9	1.77	8.93	
1F FC_CU-1-2 Elev Control	Unitary Heat Pumps	Air-cooled, split (1phase)	NA: Load Controls	13.86	19	0	12.39	13.14	3.05	12.85
1F FC-CU-1-3 Life Guard	Unitary Heat Pumps	Air-cooled, split (1phase)	10.21	14	0	8.68	9	5.12	8.73	
2F RTU 2-4 Lounge and Circulation	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	54.32	56.6	13.04	42.41	46.64	35.56	68.49	
2F RTU 2-1 Classroom	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	44.88	43.66	13.04	35.42	36.86	29.05	40.97
2F RTU 2-2 Classroom	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	44.88	43.66	13.04	35.43	36.86	28.29	40.57

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 4 of 29)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Dry System Equipment Sizing (includes air conditioners, condensers, heat pumps, VRF, furnaces and unit heaters)

01	02	03	04	05	06	07	08	09	10	11
2F RTU 2-3 Classroom	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	44.88	43.66	13.04	35.36	36.86	27.22	38.97
2F RTU 2-5 Classroom	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	44.88	43.66	13.04	35.35	36.86	28.98	41.93
1F MAU 1-1 Restroom and Shower	Unitary AC/ Condensers	AC, air-cooled pkg (3 phase)	NA: Load Controls	95	95	0	0	0	137.66	60.64

[1]FOOTNOTES: Equipment shall be the smallest size, within the available options of the desired equipment line, necessary to meet the design heating and cooling loads of the building per §140.4(b). Heathcare facilities are excepted.
[2]It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.
[3] If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.
[4] Authority Having Jurisdiction may ask for load calculations used for compliance per §140.4(b).

Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP))

01	02	03	04	05	06	07	08	09
Name or Item Tag	Size Category (Btu/h)	Heating Mode				Cooling Mode		
		Rating Condition (°F)	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
1F RTU 1-1 Senior Daycare	>=65,000 and <135,000		COP	3.3	3.5	EER IEER	11 12.2	12.1 15.5
1F RTU 1-2 Lobby and Office	<65,000		HSPF	7.7	8.8	SEER	13.0	16.5
1F FC_CU-1-1 Inverter	<65,000		HSPF	8.2	10.2	SEER	14.0	21
1F FC_CU-1-2 Elev Control	<65,000		HSPF	8.2	11.2	SEER	14.0	19.8

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 5 of 29)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP))

01	02	03	04	05	06	07	08	09
Name or Item Tag	Size Category (Btu/h)	Heating Mode				Cooling Mode		
		Rating Condition (°F)	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
1F FC-CU 1-3 Life Guard	<65,000		HSPF	8.2	10.2	SEER	14.0	21
2F RTU 2-4 Lounge and Circulation	<65,000		HSPF	7.7	9	SEER	13.0	16.2
2F RTU 2-1 Classroom	<65,000		HSPF	7.7	8.8	SEER	13.0	16.5
2F RTU 2-2 Classroom	<65,000		HSPF	7.7	8.8	SEER	13.0	16.5
2F RTU 2-3 Classroom	<65,000		HSPF	7.7	8.8	SEER	13.0	16.5
2F RTU 2-5 Classroom	<65,000		HSPF	7.7	8.8	SEER	13.0	16.5
1F MAU 1-1 Restroom and Shower	<65,000		AFUE	0.80	0.8	SEER	13.0	15

G. PUMPS
This section does not apply to this project.

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 6 of 29)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

H. FAN SYSTEMS & AIR ECONOMIZERS

This table is used to demonstrate compliance with prescriptive requirements found in §140.4(c), §140.4(e) and §140.4(m) for fan systems. Fan systems serving only process loads are exempt from these requirements and do not need to be included in Table H.

System Name:	1F RTU 1-1 Senior Daycare	Economizer[1]	Fixed Temperature	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	2400	BHP	2.65		
Total System Design Supply Airflow (CFM):			2400	Total System Design (BHP):	2.65	Maximum System Fan Power (BHP):	

System Name:	1F RTU 1-2 Lobby and Office	Economizer[1]	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	1.5		
Total System Design Supply Airflow (CFM):			1600	Total System Design (BHP):	1.5	Maximum System Fan Power (BHP):	

System Name:	2F RTU 2-5 Classroom	Economizer[1]	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	1.5		
Total System Design Supply Airflow (CFM):			1600	Total System Design (BHP):	1.5	Maximum System Fan Power (BHP):	

System Name:	1F MAU 1-1 Restroom and Shower	Economizer[1]	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	2300	BHP	1.5		
EF	Exhaust	1	0	BHP	0.1		
Total System Design Supply Airflow (CFM):			2300	Total System Design (BHP):	1.6	Maximum System Fan Power (BHP):	

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 7 of 29)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	1F FC_CU-1-1 Inverter	Economizer[1]	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	360	BHP	0.06		
EF	Exhaust	1	0	BHP	0.1		
Total System Design Supply Airflow (CFM):			360	Total System Design (BHP):	0.16	Maximum System Fan Power (BHP):	

System Name:	1F FC_CU-1-2 Elev Control	Economizer[1]	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	450	BHP	0.06		
EF	Exhaust	1	0	BHP	0.1		
Total System Design Supply Airflow (CFM):			450	Total System Design (BHP):	0.16	Maximum System Fan Power (BHP):	

System Name:	1F FC-CU 1-3 Life Guard	Economizer[1]	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	360	BHP	0.06		
Total System Design Supply Airflow (CFM):			360	Total System Design (BHP):	0.06	Maximum System Fan Power (BHP):	

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 8 of 29)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	2F RTU 2-4 Lounge and Circulation	Economizer[1]	Fixed Temperature	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	2000	BHP	1.5		
Total System Design Supply Airflow (CFM):			2000	Total System Design (BHP):	1.5	Maximum System Fan Power (BHP):	

System Name:	2F RTU 2-1 Classroom	Economizer[1]	N/A: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	1.5		
Total System Design Supply Airflow (CFM):			1600	Total System Design (BHP):	1.5

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 12 of 29)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

J. VENTILATION AND INDOOR AIR QUALITY

04		05			06		07
System Name	1F RTU 1-3 Senior Daycare	System Design OA CFM Airflow[1]	326	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))	

08	09	10	11	12	13	14	15	16
Mechanical Ventilation Required per §120.1(c)3 [3]					Exh. Vent per §120.1(c)4			Exh. Vent per §120.1(c)4
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per §120.1(c)3, §120.1(d)5, and §120.1(e)3 [6]
Senior Daycare	All others	1856		21.735	377.6	0	0	DCV: Provided per §120.1(d)4
								Occ Sensor: NA: Not required space type
17	Total System Required Min OA CFM				378	18	Ventilation for this System Complies?	Yes

04		05			06		07
System Name	1F RTU 1-2 Lobby and Office	System Design OA CFM Airflow[1]	292	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))	

08	09	10	11	12	13	14	15	16
Mechanical Ventilation Required per §120.1(c)3 [3]					Exh. Vent per §120.1(c)4			Exh. Vent per §120.1(c)4
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]
Enclosed Offices	Office space	1451		19.495	216.7	0	0	DCV: NA: Not required per §120.1(d)3
								Occ Sensor: NA: Not required space type
17	Total System Required Min OA CFM				217	18	Ventilation for this System Complies?	Yes

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 13 of 29)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

J. VENTILATION AND INDOOR AIR QUALITY

04		05			06		07
System Name	1F FC_CU-1-1 Inverter	System Design OA CFM Airflow[1]	25	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))	

08	09	10	11	12	13	14	15	16
Mechanical Ventilation Required per §120.1(c)3 [3]					Exh. Vent per §120.1(c)4			Exh. Vent per §120.1(c)4
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]
Inverter	All others	38			0	0	25	DCV: NA: Not required per §120.1(d)3
								Occ Sensor: NA: Not required space type
17	Total System Required Min OA CFM				0	18	Ventilation for this System Complies?	Yes

04		05			06		07
System Name	1F FC_CU-1-2 Elev Control	System Design OA CFM Airflow[1]	25	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))	

08	09	10	11	12	13	14	15	16
Mechanical Ventilation Required per §120.1(c)3 [3]					Exh. Vent per §120.1(c)4			Exh. Vent per §120.1(c)4
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]
Elev Machine Room 124	All others	60			0	0	25	DCV: NA: Not required per §120.1(d)3
								Occ Sensor: NA: Not required space type
17	Total System Required Min OA CFM				0	18	Ventilation for this System Complies?	Yes

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 14 of 29)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

J. VENTILATION AND INDOOR AIR QUALITY

04		05			06		07
System Name	1F FC-CU 1-3 Life Guard	System Design OA CFM Airflow[1]	15	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))	

08	09	10	11	12	13	14	15	16
Mechanical Ventilation Required per §120.1(c)3 [3]					Exh. Vent per §120.1(c)4			Exh. Vent per §120.1(c)4
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]
Life Guard	Office space	202			30.3	0	0	DCV: NA: Not required per §120.1(d)3
								Occ Sensor: NA: Not required space type
17	Total System Required Min OA CFM				30	18	Ventilation for this System Complies?	Yes

04		05			06		07
System Name	2F RTU 2-4 Lounge and Circulation	System Design OA CFM Airflow[1]	221	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))	

08	09	10	11	12	13	14	15	16
Mechanical Ventilation Required per §120.1(c)3 [3]					Exh. Vent per §120.1(c)4			Exh. Vent per §120.1(c)4
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]
Lounge	Break room	1998		14.785037 5373375	497	0	0	DCV: Provided per §120.1(d)4
								Occ Sensor: NA: Not required space type
17	Total System Required Min OA CFM				497	18	Ventilation for this System Complies?	Yes

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 15 of 29)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

J. VENTILATION AND INDOOR AIR QUALITY

04		05			06		07
System Name	2F RTU 2-1 Classroom	System Design OA CFM Airflow[1]	377	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))	

08	09	10	11	12	13	14	15	16
Mechanical Ventilation Required per §120.1(c)3 [3]					Exh. Vent per §120.1(c)4			Exh. Vent per §120.1(c)4
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]
Classroom	Lecture/ postsecondary classroom	703			267.1	0	0	DCV: NA: Not required per §120.1(d)3
								Occ Sensor: NA: Not required space type
17	Total System Required Min OA CFM				267	18	Ventilation for this System Complies?	Yes

04		05			06		07
System Name	2F RTU 2-2 Classroom	System Design OA CFM Airflow[1]	384	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))	

08	09	10	11	12	13	14	15	16
Mechanical Ventilation Required per §120.1(c)3 [3]					Exh. Vent per §120.1(c)4			Exh. Vent per §120.1(c)4
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]
Classroom	Lecture/ postsecondary classroom	716			272.1	0	0	DCV: NA: Not required per §120.1(d)3
								Occ Sensor: NA: Not required space type
17	Total System Required Min OA CFM				272	18	Ventilation for this System Complies?	Yes

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 16 of 29)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

J. VENTILATION AND INDOOR AIR QUALITY

04		05			06		07
System Name	2F RTU 2-3 Classroom	System Design OA CFM Airflow[1]	368	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))	

08	09	10	11	12	13	14	15	16
Mechanical Ventilation Required per §120.1(c)3 [3]					Exh. Vent per §120.1(c)4			Exh. Vent per §120.1(c)4
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]
Classroom	Lecture/ postsecondary classroom	686			260.7	0	0	DCV: NA: Not required per §120.1(d)3
								Occ Sensor: NA: Not required space type
17	Total System Required Min OA CFM				261	18	Ventilation for this System Complies?	Yes

04		05			06		07
System Name	2F RTU 2-5 Classroom	System Design OA CFM Airflow[1]	378	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))	

08	09	10	11	12	13	14	15	16
Mechanical Ventilation Required per §120.1(c)3 [3]					Exh. Vent per §120.1(c)4			Exh. Vent per §120.1(c)4
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]
Classroom	Lecture/ postsecondary classroom	705			267.9	0	0	DCV: NA: Not required per §120.1(d)3
								Occ Sensor: NA: Not required space type
17	Total System Required Min OA CFM				268	18	Ventilation for this System Complies?	Yes

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 17 of 29)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

J. VENTILATION AND INDOOR AIR QUALITY

04		05			06		07
System Name	1F MAU 1-1 Restroom and Shower	System Design OA CFM Airflow[1]	2350	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)2 [2] Provided per §120.1(c) (NR and Hotel/Motel))	

08	09	10	11	12	13	14	15	16
Mechanical Ventilation Required per §120.1(c)3 [3]					Exh. Vent per §120.1(c)4			Exh. Vent per §120.1(c)4
Space Name ot item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]
Restrooms	Kitchenettes	934			0	280.2	2350	DCV: NA: Not required per §120.1(d)3
								Occ Sensor: NA: Not required space type
17	Total System Required Min OA CFM				0	18	Ventilation for this System Complies?	Yes

[1] FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system

[2] Air Filtration requirements apply to the following three system types per §120.1(c)1A : space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space.

[3] Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.

[4] See Standards Tables 120.1-A and 120.1-B.

[5] For lecture halls with fixed seating, the expected number of occupants shall be shall be determined in accordance with the California Building Code.

[6] §120.1(e)3 requires systems serving rooms that are required by §130.1(c) to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation. Examples of spaces which require lighting occupancy sensors include offices 250ft² or smaller, multipurpose rooms less than 1,000 ft², classrooms, conference rooms, restrooms, aisles and open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by §130.1(c).

K. TERMINAL BOX CONTROLS

This section does not apply to this project.

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 18 of 29)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

L. DISTRIBUTION (DUCTWORK and PIPING)

This table is used to show compliance with mandatory pipe insulation requirements found in §120.3 and prescriptive requirements found in §140.4(l) for duct leakage testing.

Duct Leakage Sealing

The answers to the questions below apply to the following duct systems: | 1F RTU 1-1 Senior Daycare | Duct leakage testing triggered for these systems? | No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space
	☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code

The answers to the questions below apply to the following duct systems: | 1F MAU 1-1 Restroom and Shower | Duct leakage testing triggered for these systems? | No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 19 of 29)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

L. DISTRIBUTION (DUCTWORK and PIPING)

		☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code	

The answers to the questions below apply to the following duct systems: | 1F FC_CU-1 Inverter | Duct leakage testing triggered for these systems? | No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space
	☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code

The answers to the questions below apply to the following duct systems: | 2F RTU 2-3 Classroom | Duct leakage testing triggered for these systems? | No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 20 of 29)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

L. DISTRIBUTION (DUCTWORK and PIPING)

		☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code	

The answers to the questions below apply to the following duct systems: | 2F RTU 2-Lounge and Circulation | Duct leakage testing triggered for these systems? | No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space
	☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code

The answers to the questions below apply to the following duct systems: | 2F RTU 2-1 Classroom | Duct leakage testing triggered for these systems? | No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 21 of 29)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

L. DISTRIBUTION (DUCTWORK and PIPING)

		☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code	

The answers to the questions below apply to the following duct systems: | 2F RTU 2-3 Classroom | Duct leakage testing triggered for these systems? | No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 22 of 29)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

L. DISTRIBUTION (DUCTWORK and PIPING)

		☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code	

The answers to the questions below apply to the following duct systems: | 2F RTU 2-5 Classroom | Duct leakage testing triggered for these systems? | No

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
	☐	Outdoors
	☐	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces
	☐	In an unconditioned crawl space

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 23 of 29)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

L. DISTRIBUTION (DUCTWORK and PIPING)

		☐	In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code	

M. COOLING TOWERS

This section does not apply to this project.

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Form/Title	Field Inspector Pass	Field Inspector Fail
NRCI-MCH-01-E - Must be submitted for all buildings	☐	☐

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 24 of 29)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

Form/Title	Systems/Spaces To Be Field Verified	Field Inspector Pass	Field Inspector Fail
NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap.	Trane WHC074H4RDA (6T); Trane WHC048H4RDA (4T); Mitsubishi TRUZA0102 (1T); Mitsubishi TRUZA018 (1.5T); Mitsubishi TRUZA0102 (1T); Trane WHC060H4RDA (5T); Trane WHC048H4RDA (4T); Trane WHC048H4RDA (4T); Trane WHC048H4RDA (4T); Trane WHC048H4RDA (4T); Trane CSAA-MAU;	☐	☐

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 25 of 29)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

*Selections have been made

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 28 of 29)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no NRCV forms required for this project.

Q. MANDATORY MEASURES DOCUMENTATION LOCATION

This table is used to indicate where mandatory measures are documented in the plan set or construction documentation.

01		02
Compliance with Mandatory Measures documented through MCH Mandatory Measures Note Block	Yes	M-Sheets

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 29 of 29)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Nikolaos J. Kourassis	NJKourassis
Company:	Signature Date:
Alfa Tech	2023-05-05
Address:	CEA/ HERS Certification Identification (if applicable):
421 E. Huntington Dr.	M31713
City/State/Zip:	Phone:
Monrovia CA 91016	(213) 212-9860

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Responsible Designer Signature:
Nikolaos J. Kourassis	NJKourassis
Company:	Date Signed:
AlfaTech	2023-05-05
Address:	License:
421 E. Huntington Drive	M31713
City/State/Zip:	Phone:
Monrovia CA 91016	(213) 212-9860

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
Domestic Water Heating System
NRCC-PLB-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-PLB-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 1 of 6)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

This document is used to demonstrate compliance for nonresidential occupancies with requirements in §110.1, §110.3, §120.3, and §140.5, and with requirements in §141.0 for additions and alterations, for domestic water heating scopes using the prescriptive path. For high-rise residential and hotel/motel occupancies compliance is demonstrated with requirements in §160.1, §110.3, §120.3, §160.0 and §150.1(c)8, and with requirements §160.2 for additions.

A. GENERAL INFORMATION

01 Project Location (city)	Gardena	02 Climate Zone	8

03 Occupancy Types Within Project (select all that apply):

☒ Nonresidential	☐ High-Rise Residential	☐ Hotel/Motel
☐ State Building	☐ Healthcare Facility	☐ Other (Write In)

B. PROJECT SCOPE

This table includes domestic water heating systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive paths outlined in §140.5, §150.1(c)8, and §141.0(a), or §141.0(b)2% for additions or alterations. Solar water heating systems are documented on the NRCC-SRA compliance document. Combined hydronic water heating systems are documented on the NRCC-MCH compliance document.

My project consists of (check all that apply):	02 System Type[1,2]	03 System Components			
☒ New system (DHW system being installed for the first time in newly constructed building)	Individual System (serving nonresidential spaces)	☒ Equipment	☒ Distribution	☒ Controls
☐ System Alteration (equipment, distribution or controls)		☐ Equipment	☐ Distribution	☐ Controls

[1]*FOOTNOTES: Point of use water heaters, or other non-central systems used to serve nonresidential spaces, are considered individual systems.*

[2] *Dwelling units refers to hotel/motel guest rooms and units in a high-rise residential occupancy.*

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

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STATE OF CALIFORNIA
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CERTIFICATE OF COMPLIANCE			NRCC-PLB-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 2 of 6)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with water heating requirements. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D, or the table indicated as not compliant for guidance.

01	02	03	04
Domestic Hot Water Equipment	Distribution Systems	Controls	**Compliance Results**
Table F	Table G	Table H	
Yes	Yes	Yes	COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table is includes remarks made by the permit applicant to the Authority Having Jurisdiction.

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
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CERTIFICATE OF COMPLIANCE			NRCC-PLB-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 3 of 6)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

F. DOMESTIC HOT WATER EQUIPMENT

This table is used to demonstrate compliance with mandatory equipment requirements in §110.1 and §110.3. For high-rise residential and hotel/motel occupancies, compliance with prescriptive requirements in §120.1(c)8 must also be demonstrated and with §160.2 for addition and alteration scopes.

Equipment Schedule: Individual Systems

01	02	03	04	05	06
Name or Item Tag	Equipment Type	Volume (gal)	Max GPM/ Fired Hour Rating (FHR)	Rated Uniform Energy Factor (UEF)	Minimum Required Uniform Energy Factor (UEF)[1]
A, O, SMITH BTHL 199A 300	Residential- Duty Commercial Gas-Fired Storage (75,000-105,000 BTUh)	>75	0 << GPM <1.7	0.6	0.04

[1]*FOOTNOTE: Compliant equipment may be found in the Modernized Appliance Efficiency Database System (MAEDBS) on the Energy Commission website: https://cacertappliances.energy.ca.gov/Pages/Search/AdvancedSearch.aspx*

Water Heating Equipment All Occupancies

	Yes	No	Not Applicable	Requirement
18	☐	☐	☒	Unfired storage tank insulation shall have Internal + External >=R-16 OR External >=R-12. Label required per §110.3(c)3
19	☐	☐	☒	New-state buildings 60% of energy for service water heating from site solar energy or recovered energy per §110.3(c)5
20	☐	☐	☒	Isolation valves for instantaneous water heater with input rating >6.8 kBTUH or 2 kW has been specified per §110.3(c)6

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

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CERTIFICATE OF COMPLIANCE			NRCC-PLB-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 4 of 6)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

G. DOMESTIC HOT WATER DISTRIBUTION SYSTEM

This table is used to demonstrate compliance for nonresidential occupancies with distribution requirements in §120.3 and §140.5. For high-rise residential and hotel/motel occupancies, compliance is demonstrated with requirements §160.0(c), §120.3, §160.0, §160.1

Mandatory Pipe Insulation All Occupancies

12	☒	For systems serving nonresidential spaces, pipe insulation for the following applications is specified to comply with Table 120.3-A (see below) per §120.3 : • Recirculating system piping, including supply and return piping of the water heater • The first 8 ft of hot and cold outlet piping, including between storage tank and heat trap, for a nonrecirculating storage system • Pipes that are externally heated
13	☒	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall be installed with a cover suitable for outdoor service per §120.3(b) and §150.0(j)3

TABLE 120.3-A PIPE INSULATION THICKNESS

Fluid Temperature Range (°F)	Conductivity Range (Btu-in per hour per ft² per °F)	Insulation Mean Rating Temp (°F)	Nominal Pipe Diameter (in)		
			< 1	1 to < 1.5	1.5 to < 4
			Minimum Insulation Required		
105-140	0.22 - 0.28	100	1.0 in or R-7.7	1.5 in or R-12.5	1.5 in or R-11

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

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CERTIFICATE OF COMPLIANCE			NRCC-PLB-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 5 of 6)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

H. DOMESTIC HOT WATER CONTROLS

This table is used to demonstrate compliance with control requirements in §110.3 for all occupancies. For high-rise residential and hotel/motel occupancies, compliance is also demonstrated with requirements in §160.0(c)8

	Yes	No	Not Applicable	Requirement
01	☒	☐	☐	Construction documents require manufacturer certification that service water-heating systems are equipped with automatic temperature controls capable of adjusting temperature settings per §110.3(a).
02	☒	☐	☐	Systems with capacity > 167,000 BTUH equipped with outlet temperature controls per §110.3(c)1 unless covered by California Plumbing Code §13.0.
03	☐	☐	☒	Controls for circulating pumps or electrical heat trace systems are capable of automatically turning off the system per §110.3(c)2 unless systems serves healthcare facility.
04	☐	☐	☒	For recirculation systems serving multiple dwelling units, design includes automatic pump controls per §150.1(c)8B), or §150.2 for additions or alterations.
05	☐	☐	☒	For recirculation systems serving individual dwelling units, design includes manual on/off controls as specified in Reference Appendix RA4.4.9 per §150.1(c)8.
06	☐	☐	☒	For replacement single heat pump water heaters serving individual dwelling units in climate zone 1-15, design includes communication interface that meets demand responsive control requirements of §110.12(b) per §150.2(b)1Hii.

I. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on Information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E: Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCV

Form/Title	Field Inspector	
	Pass	Fail
NRCI-PLB-01-E - Must be submitted for all buildings	☐	☐

J.DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no Certificates of Acceptance applicable to service water heating requirements.

K. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no NRCV forms required for this project.

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20200601 | Report Generated: 2023-05-05 13:12:59

STATE OF CALIFORNIA
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CERTIFICATE OF COMPLIANCE			NRCC-PLB-E
Project Name:	The City of Gardena Senior Center and Aquatics	Report Page:	(Page 6 of 6)
Project Address:	1654 W 166th Street	Date Prepared:	5/5/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Nikolaos J. Kourassis	NJKourassis
Company:	Signature Date:
Alfa Tech	2023-05-05
Address:	CEA/ HERS Certification Identification (if applicable):
421 E. Huntington Dr.	M31713
City/State/Zip:	Phone:
Monrovia CA 91016	(213) 212-9860

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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Responsible Designer Name:	Responsible Designer Signature:
Nikolaos J. Kourassis	NJKourassis
Company:	Date Signed:
AlfaTech	2023-05-05
Address:	License:
421 E. Huntington Drive	M31713
City/State/Zip:	Phone:
Monrovia CA 91016	(213) 212-9860

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

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421 EAST HUNTINGTON DRIVE
MONROVIA, CA 91016
PHONE: (213) 212-9860
www.atce.com

CITY OF GARDENA INCORPORATED 1930

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR. SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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REGISTERED PROFESSIONAL ENGINEER — NIKOLAOS J. KOURASSIS — No. M31713 — Exp. 6/30/2025 — MECHANICAL — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

	INITIAL	DATE
DESIGNED BY	NK/MZ	06/25/2022
DRAWN BY	MZ	06/20/23
CHECKED BY	NK	06/29/23

APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS

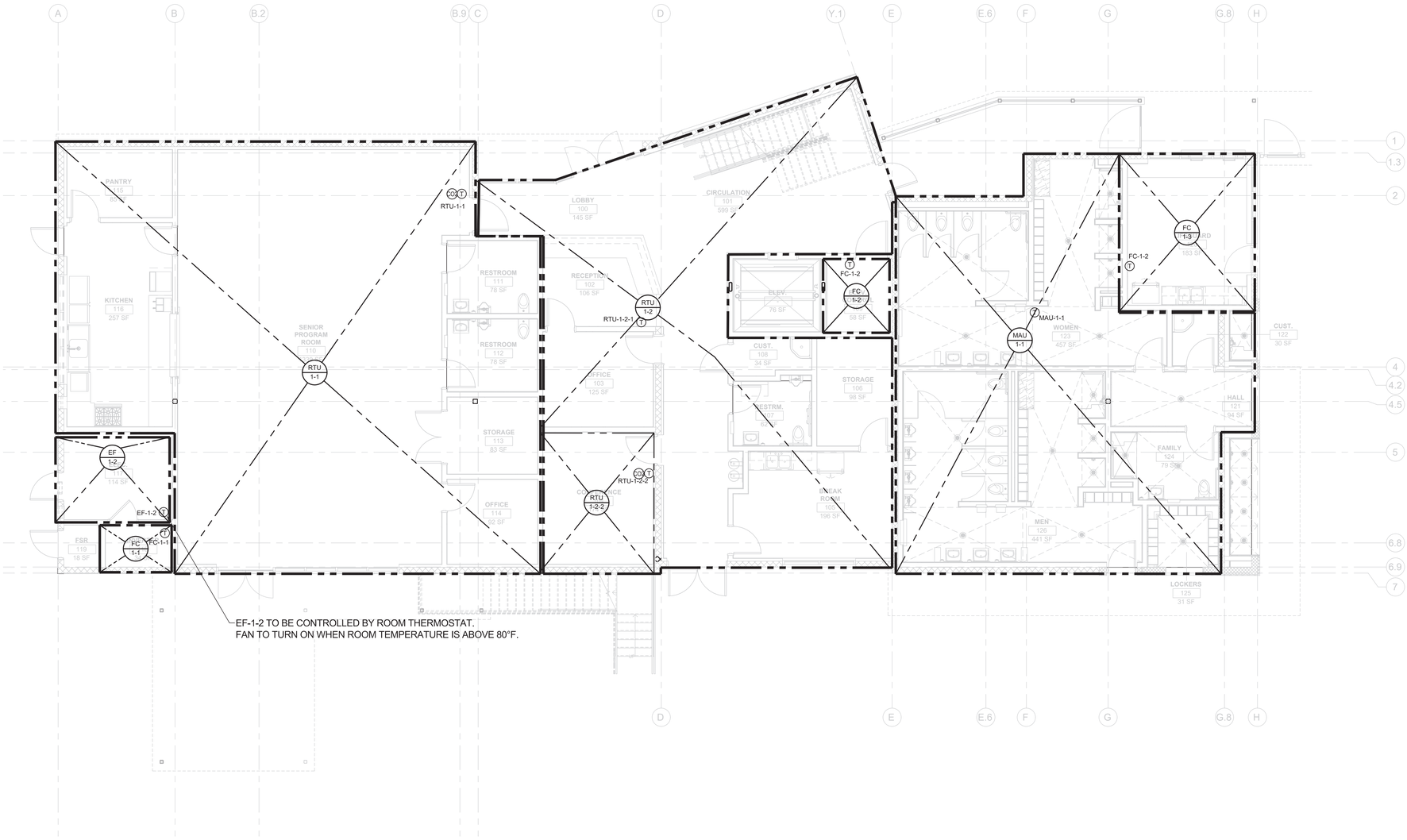
CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
MECHANICAL TITLE 24
COMMUNITY AQUATICS & SENIOR CENTER
M0.05

SHT. 114 OF 176 DWG. NO. 5-2606

PLOT DATE: 6/20/2023 3:04:17 PM

GENERAL NOTES

1. ALL THERMOSTATS INSTALLED ON EXTERIOR WALLS OR COLUMNS SHALL HAVE AN INSULATED BACKING INSTALLED BEHIND THE THERMOSTAT.
2. THERMOSTAT SHALL BE INSTALLED 48" ABOVE FINISHED FLOOR. FINAL THERMOSTAT LOCATION SHALL BE COORDINATED WITH FURNITURE LAYOUT AND APPROVED BY THE ARCHITECT.
3. COORDINATE THERMOSTAT LOCATIONS TO GROUP THEM WITH LIGHT SWITCHES.



EF-1-2 TO BE CONTROLLED BY ROOM THERMOSTAT.
FAN TO TURN ON WHEN ROOM TEMPERATURE IS ABOVE 80°F.

1 - FIRST FLOOR MECHANICAL ZONING PLAN

SCALE: 3/16" = 1'-0"

NORTH

ALFATECH
421 EAST HUNTINGTON DRIVE
MONROVIA, CA 91016
PHONE: (213) 212-9860
www.atce.com

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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REGISTERED PROFESSIONAL ENGINEER — JAMES J. KOU — No. M31713 Exp. 6/30/2025 — MECHANICAL — STATE OF CALIFORNIA

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

	INITIAL	DATE
DESIGNED BY	NK/MZ	05/25/2022
DRAWN BY	MZ	06/20/23
CHECKED BY	NK	06/29/23

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
FIRST FLOOR MECHANICAL ZONING PLAN
COMMUNITY AQUATICS & SENIOR CENTER
M2.01

APPROVED BY:

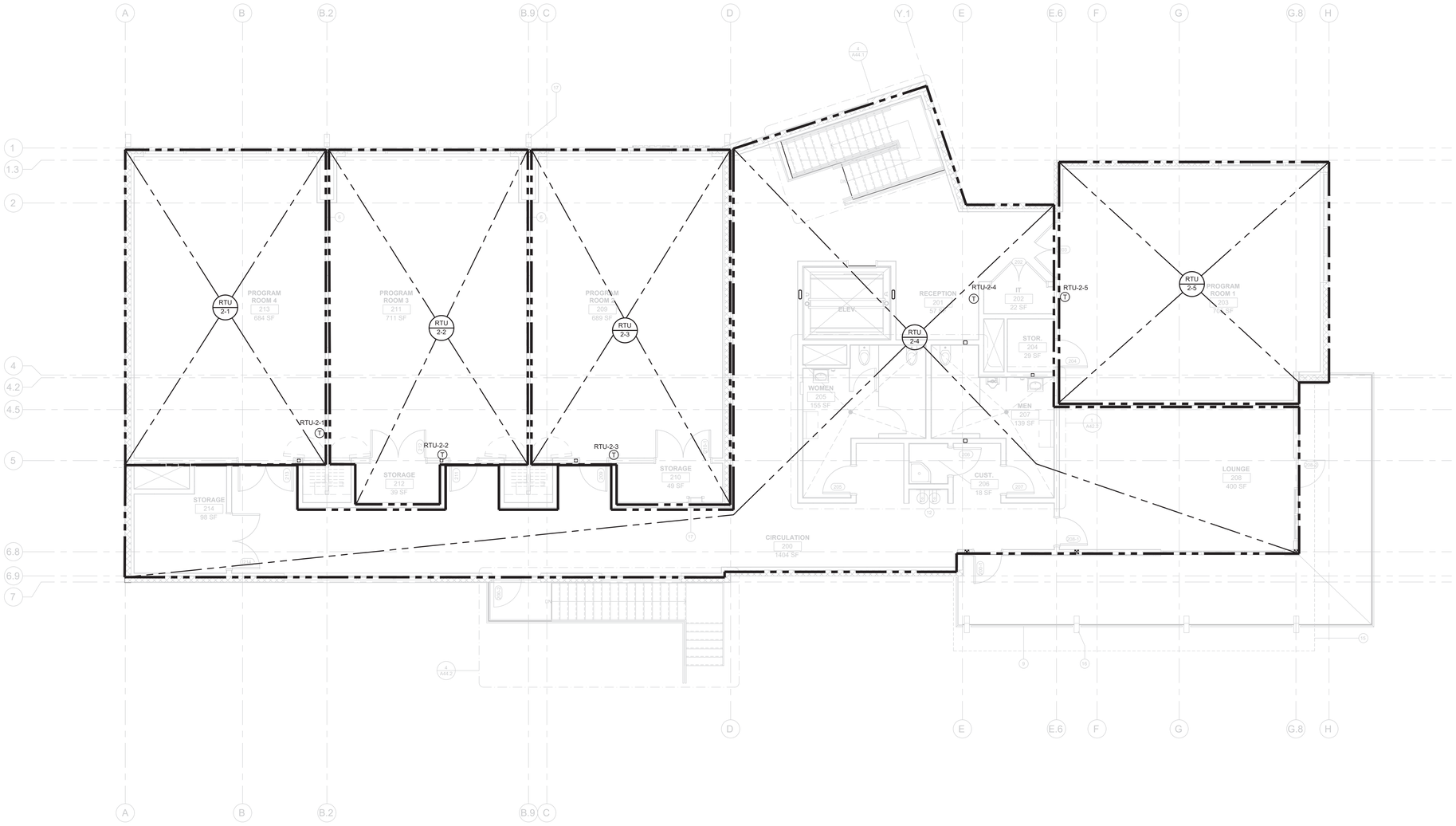
APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 115 OF 176 DWG. NO. 5-2606

PLOT DATE: 6/29/2023 5:04:11 PM

GENERAL NOTES

1. ALL THERMOSTATS INSTALLED ON EXTERIOR WALLS OR COLUMNS SHALL HAVE AN INSULATED BACKING INSTALLED BEHIND THE THERMOSTAT.
2. THERMOSTAT SHALL BE INSTALLED 48" ABOVE FINISHED FLOOR. FINAL THERMOSTAT LOCATION SHALL BE COORDINATED WITH FURNITURE LAYOUT AND APPROVED BY THE ARCHITECT.
3. COORDINATE THERMOSTAT LOCATIONS TO GROUP THEM WITH LIGHT SWITCHES.



1 - SECOND FLOOR MECHANICAL ZONING PLAN

SCALE: 3/16" = 1'-0"

NORTH

ALFATECH
421 EAST HUNTINGTON DRIVE
MONROVIA, CA 91016
PHONE: (213) 212-9860
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SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
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REGISTERED PROFESSIONAL ENGINEER — NICHOLAS J. KOUNOVSKY — No. M31713 — Exp. 6/30/2025 — MECHANICAL — STATE OF CALIFORNIA

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

SECOND FLOOR MECHANICAL ZONING PLAN

COMMUNITY AQUATICS & SENIOR CENTER
M2.02

	INITIAL	DATE
DESIGNED BY	NK/MZ	05/25/2022
DRAWN BY	MZ	06/20/23
CHECKED BY	NK	06/29/23

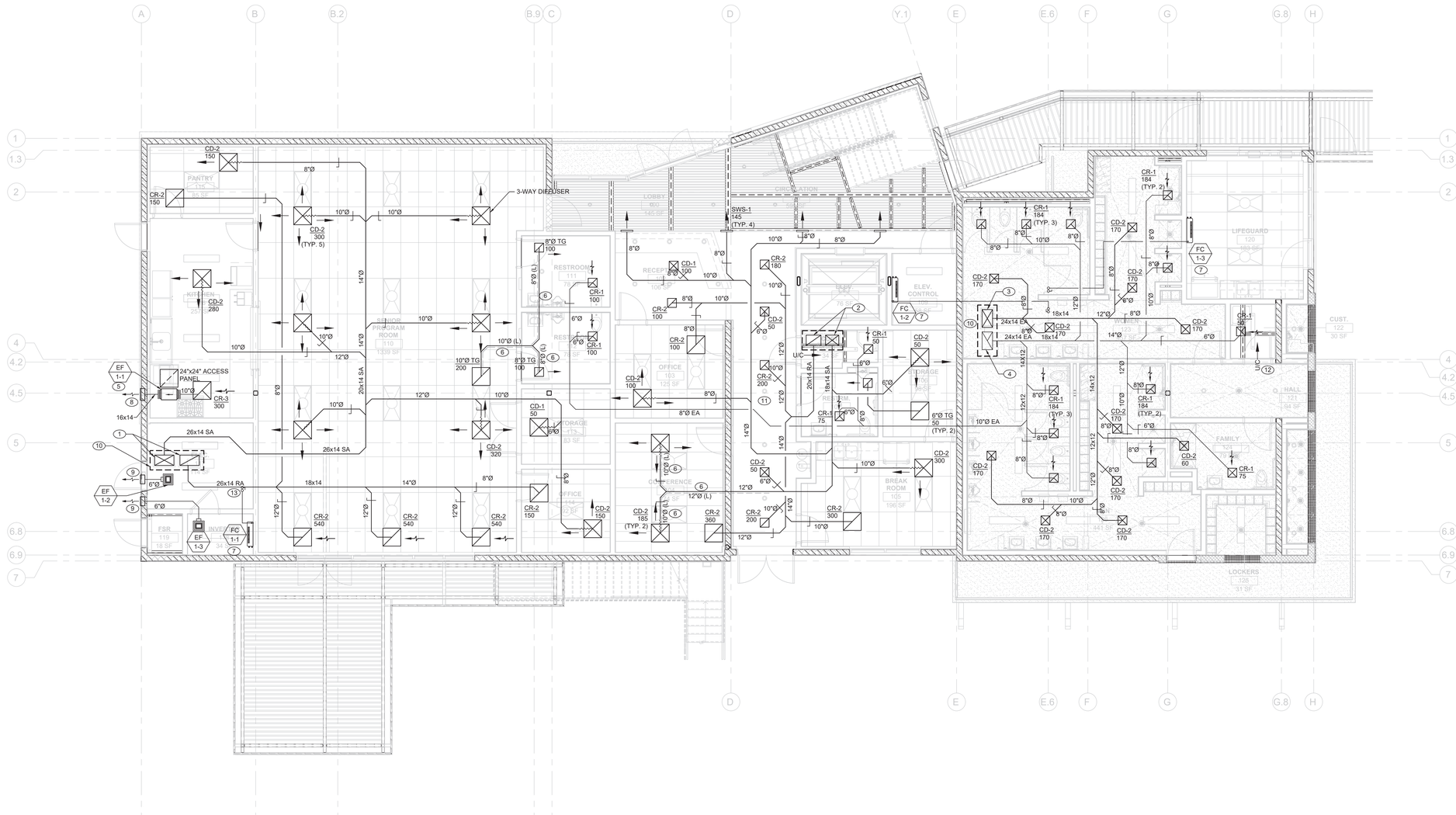
APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 116 OF 176 DWG. NO. 5-2606

PLOT DATE: 6/29/2023 3:54:11 PM

KEYNOTES

1. 26x14 SA & RA DUCT UP TO SECOD FLOOR.
2. 18x14 SA & 20x14 RA DUCT UP TO SECOD FLOOR.
3. 24x14 MAKE-UP AIR DUCT UP TO SECOND FLOOR.
4. 24x14 EA DUCT UP TO SECOND FLOOR.
5. PROVIDE FLEX DUCT CONNECTOR AT INLET AND DISCHARGE.
6. PROVIDE 1" INTERNAL LINING.
7. SIZE RL & RS LINES PER MANUFACTURER'S RECOMMENDATION BASE ON TOTAL DEVELOPED LENGTH.
8. 16"x14" EXHAUST AIR WALL LOUVER. SEE ARCH. DWG FOR MORE INFORMATION.
9. 10"x10" EXHAUST AIR WALL LOUVER. SEE ARCH. DWG FOR MORE INFORMATION.
10. 4" INSIDE CLEARANCE FOR ALL SIDES IN MECHANICAL CHASE.
11. SEE DETAIL #7/M5.02 FOR DAMPER CONTROL AT GYPSUM BOARD CEILING AREA.
12. MINIMUM 3/4" CLEARANCE UNDERCUT DOOR. SEE ARCHITECTURAL DRAWING.
13. REFRIGERANT PIPE UP.



1 - FIRST FLOOR MECHANICAL PLAN

SCALE: 3/16" = 1'-0"

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REGISTERED PROFESSIONAL ENGINEER — JOSE J. ROJAS — No. M31713 — Exp. 6/30/2025 — MECHANICAL — STATE OF CALIFORNIA

REVISIONS

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B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

FIRST FLOOR MECHANICAL PLAN

COMMUNITY AQUATICS & SENIOR CENTER

M2.11

	INITIAL	DATE
DESIGNED BY	NK/MZ	06/25/2022
DRAWN BY	MZ	06/20/23
CHECKED BY	NK	06/29/23

APPROVED BY:

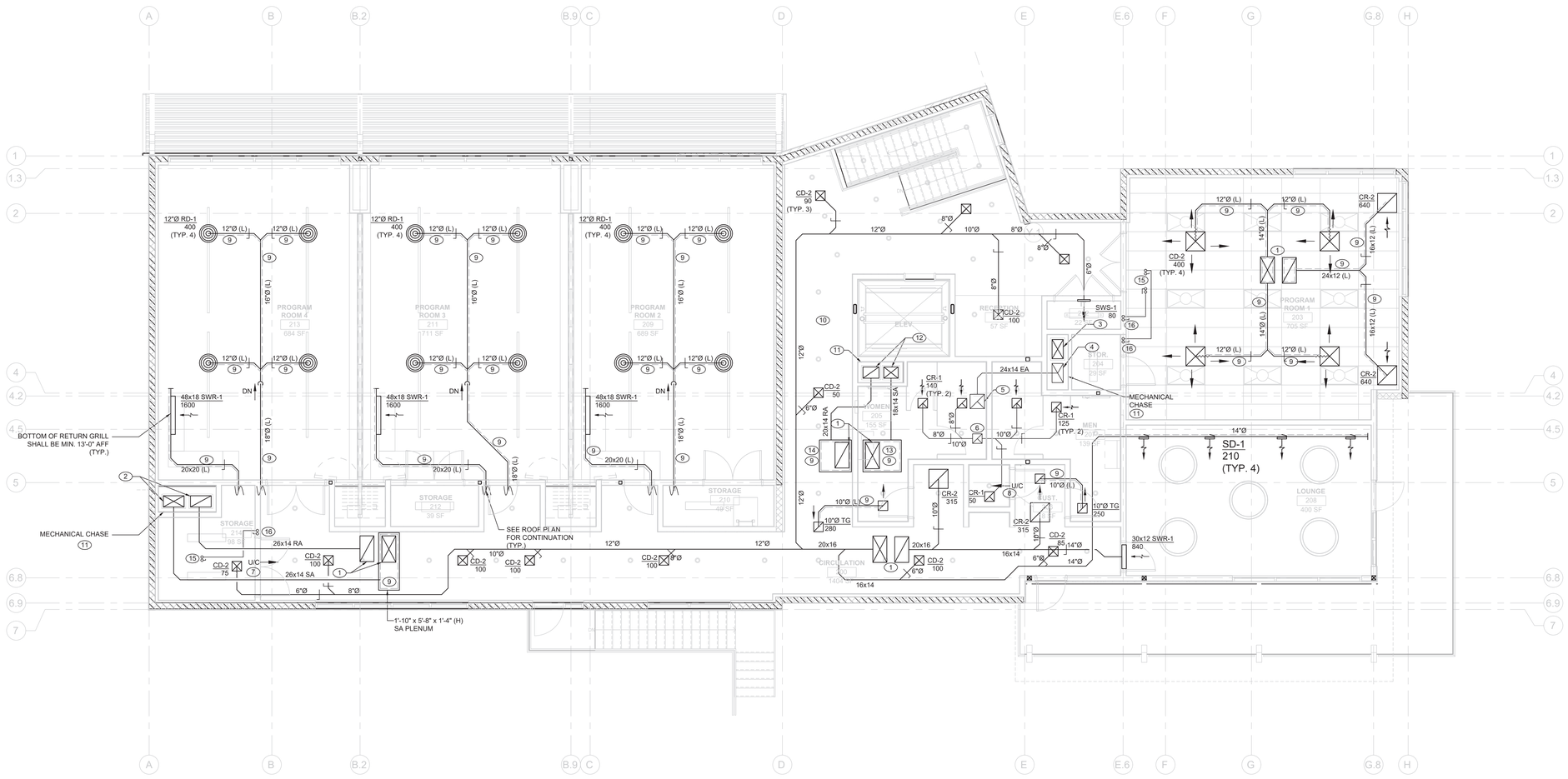
APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 117 OF 176 DWG. NO. 5-2606

PLOT DATE: 6/30/2023 3:04:17 PM

KEYNOTES

1. 32x18 SA & RA DUCT UP THRU ROOF.
2. 26x14 SA & RA DUCT DN TO FIRST FLOOR.
3. 24x14 MAKE-UP AIR DUCT DN TO FIRST FLOOR & UP THRU ROOF.
4. 24x14 EA DUCT DN TO FIRST FLOOR.
5. 18x18 EA DUCT UP THRU ROOF AND CONNECT TO EF-1-4.
6. 12x12 EA DUCT UP THRU ROOF AND CONNECT TO EF-2-1.
7. MINIMUM 1/2" CLEARANCE UNDERCUT DOOR. SEE ARCHITECTURAL DRAWING.
8. MINIMUM 3/4" CLEARANCE UNDERCUT DOOR. SEE ARCHITECTURAL DRAWING.
9. PROVIDE 1" INTERNAL LINING.
10. SEE DETAIL #7/M5.02 FOR DAMPER CONTROL AT GYPSUM BOARD CEILING AREA.
11. 4" INSIDE CLEARANCE FOR ALL SIDES IN MECHANICAL CHASE.
12. 18x14 SA & 20x14 RA DUCT DN TO FIRST FLOOR.
13. 3'-8" x 3'-0" x 1'-4" (H) SA PLENUM.
14. 3'-0" x 3'-0" x 1'-4" (H) RA PLENUM.
15. REFRIGERANT PIPE UP.
16. REFRIGERANT PIPE DN.



1 - SECOND FLOOR MECHANICAL PLAN

SCALE: 3/16" = 1'-0"

NORTH

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REGISTERED PROFESSIONAL ENGINEER — No. M31713 — Exp. 6/30/2025 — MECHANICAL — STATE OF CALIFORNIA

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

	INITIAL	DATE
DESIGNED BY	NK/MZ	05/25/2022
DRAWN BY	MZ	06/20/23
CHECKED BY	NK	06/27/23

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
SECOND FLOOR MECHANICAL PLAN
COMMUNITY AQUATICS & SENIOR CENTER
M2.12

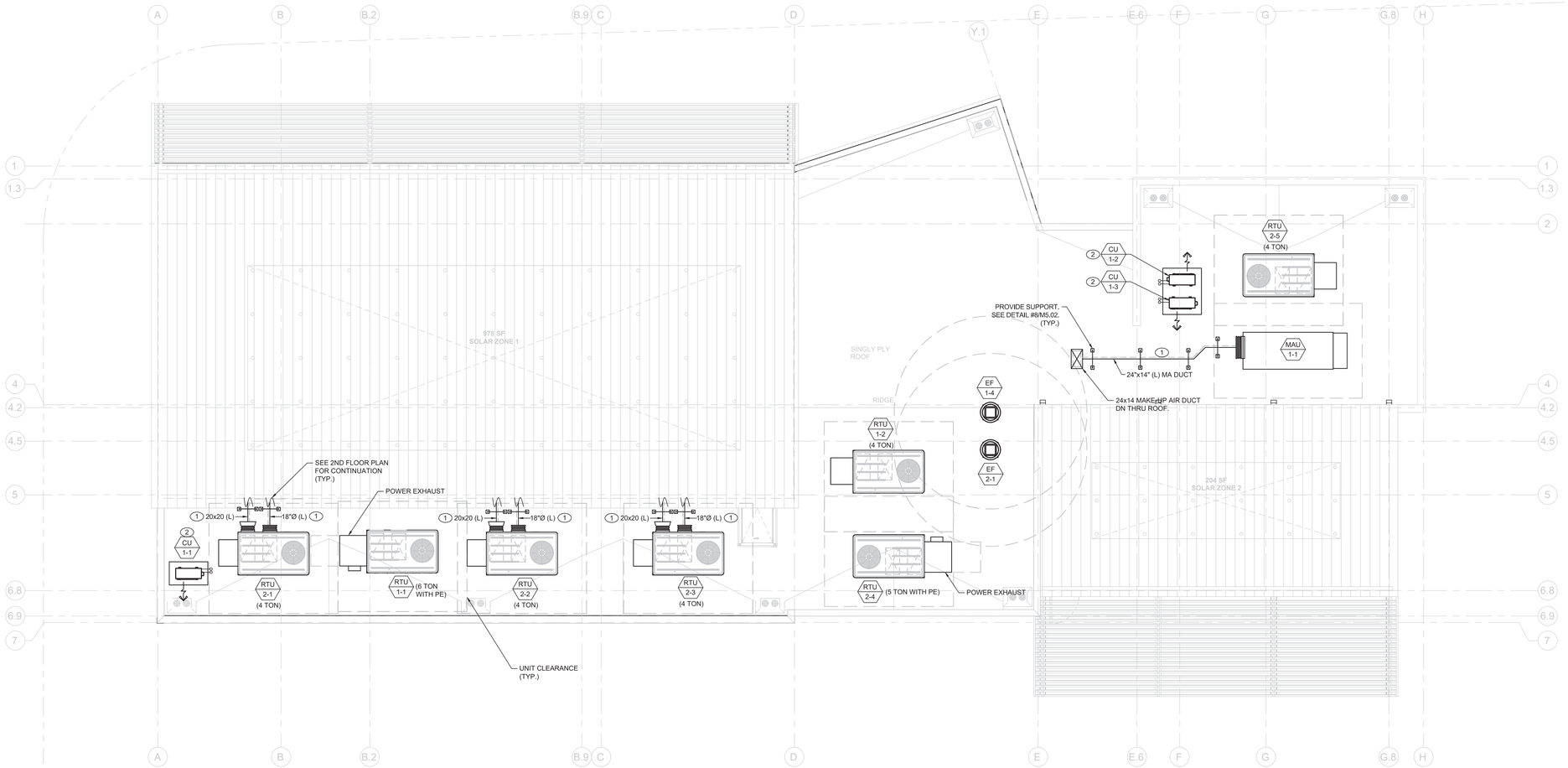
APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 118 OF 176 DWG. NO. 5-2606

PLOT DATE: 6/29/2023 8:04:11 PM

KEYNOTES

1. PROVIDE MINIMUM R-8 INSULATED LINING FOR DUCTWORK INSTALLED OUTDOORS. PAINT EXPOSED DUCT.
2. SIZE RL & RS LINES PER MANUFACTURER'S RECOMMENDATION BASE ON TOTAL DEVELOPED LENGTH. BOTH REFRIGERANT PIPING SHALL BE INSULATED WITH SHEET METAL JACKETS.



1 - MECHANICAL ROOF PLAN

SCALE: 3/16" = 1'-0"

NORTH

ALFATECH
421 EAST HUNTINGTON DRIVE
MONROVIA, CA 91016
PHONE: (213) 212-9860
www.atce.com

CITY OF GARDENA INCORPORATED 1930

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
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ELEV. = 43.508'

	INITIAL	DATE
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CHECKED BY	NK	06/29/23

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
MECHANICAL ROOF PLAN
COMMUNITY AQUATICS & SENIOR CENTER
M2.13

APPROVED BY:

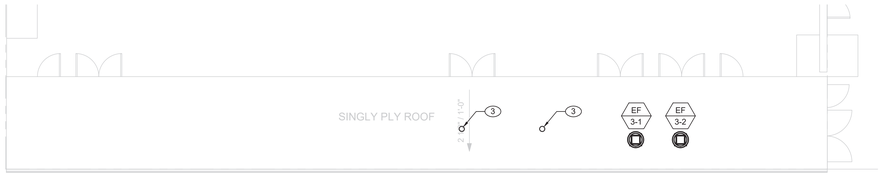
APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 119 OF 176 DWG. NO. 5-2606

PLOT DATE: 6/30/2023 5:04:11 PM

KEYNOTES

1. (2) 68"x24" HIGH & LOW COMBUSTION AIR LOUVER WITH SFD. (1) COMMENCING 12" AFF AND (1) COMMENCING 12" BELOW STRUCTURE ABOVE. PROVIDE DUCT SLEEVE AS NEEDED. SEE ARCHITECTURAL DRAWING.
2. 8" DIA. BOILER DUCT FLUE UP THRU ROOF WITH FLUE CAP.
3. 8" DIA. BOILER DUCT FLUE WITH FLUE CAP DN THRU ROOF.
4. MIN. 12"x8" DOOR LOUVER. SEE ARCHITECTURAL DRAWING.
5. 6" DIA. EA DUCT UP THRU ROOF AND CONNECT TO EXHAUST FAN. PROVIDE 1/2" WIRE MESH SCREEN AT EA DUCT OPENING.



MECHANICAL ROOF PLAN - POOL BUILDING | 1/8" = 1'-0" | **2**

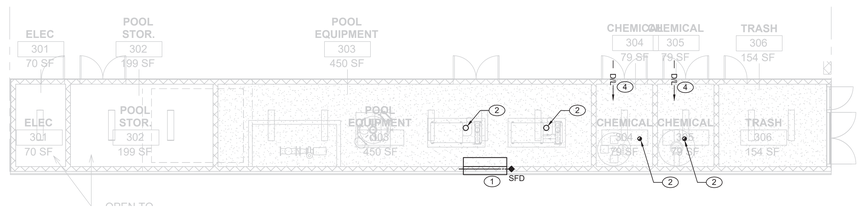
COMBUSTION AIR VENT CALCULATION

4000 BTU REQUIRED OPENING = 1 SQ IN. (PER CMC)
1.5 MILLION BTU REQUIRED OPENING = (1,500,000 ÷ 4000) =375 SQ IN.

(LOUVER WILL BE 50% FREE AREA)
REQUIRED COMBUSTION AIR LOUVER = 375 X 2 = 750 SQ IN.

2 x 1.5 MILLION BUT REQUIRED OPENING = 750 x 2 = 1500 SQ IN.

PROVIDED COMBUSTION AIR LOUVER (HI & LOW) = 1632 SQ IN.



MECHANICAL ROOF PLAN - POOL BUILDING | 1/8" = 1'-0" | **1**

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421 EAST HUNTINGTON DRIVE
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CITY OF GARDENA — INCORPORATED 1930

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B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

REVISIONS

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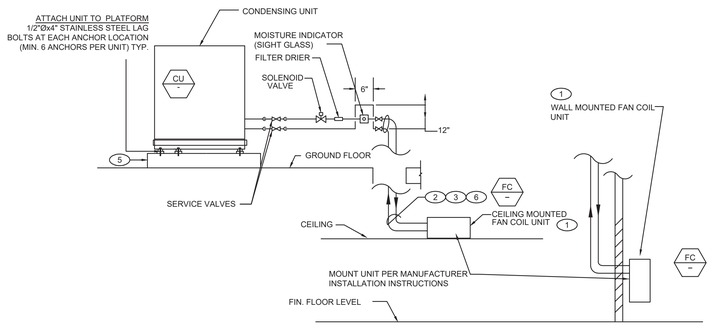
	INITIAL	DATE
DESIGNED BY	NK/MZ	05/25/2022
DRAWN BY	MZ	06/20/23
CHECKED BY	NK	06/29/23

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
MECHANICAL PLANS - POOL BUILDING
COMMUNITY AQUATICS & SENIOR CENTER
M3.11

APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 120 OF 176 DWG. NO. 5-2606

PLOT DATE: 6/30/2023 5:04:11 PM

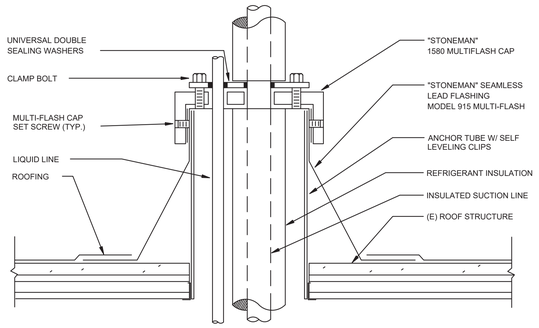


NOTES:

1. FAN COIL UNITS SHALL BE LOCATED SUCH THAT UNIT CAN BE SERVICED AND REMOVED WITHOUT REMOVAL OF PERMANENT CONSTRUCTION. LOCATION SHALL ALSO CONFORM TO MANUFACTURER'S RECOMMENDATION.
2. INSULATE BOTH REFRIGERANT PIPES SUCTION LINES & LIQUID ON HEAT PUMP UNITS NO PIPE INSULATION IS REQUIRED FOR LIQUID LINE ON COOLING ONLY UNITS, IF APPLICABLE.
3. INSTALL PIPES IN STUD WALL WITH TRISOLATOR PIPE SUPPORT.
4. NOT USED
5. EQUIPMENT PAD. REFER TO STRUCTURAL DETAILS FOR EQUIPMENT PAD ON ROOF.
6. INSTALL AND SIZE REFRIGERANT PIPING PER MF'R RECOMMENDATIONS. APPLY LONG LINE APPLICATION DATA IF VERTICAL LINES ARE ABOVE 50 FT.
7. PROVIDE ALUMINUM JACKET ON ALL ROOF REFRIGERANT LINES.

SPLIT SYSTEM MOUNTING AND PIPING DETAILS

SCALE NONE | 9

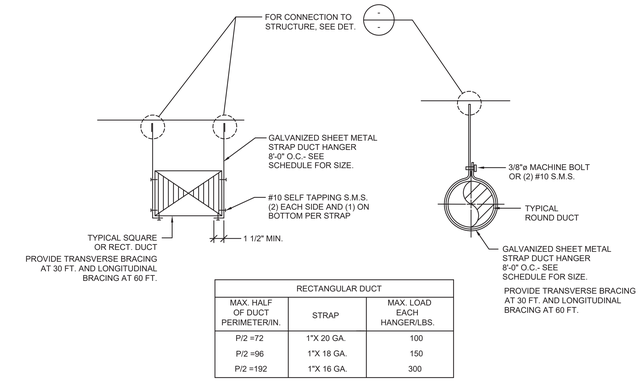


NOTE:

1. INSTALL MULTIFLASH ASSEMBLY PER MANUFACTURER'S INSTRUCTIONS.
2. CONTROL & POWER WIRING/CONDUIT MAY RUN THRU FLASHING ASSEMBLY (VERIFY).
3. MUTLI-FLASH ASSY.

REFRIGERANT PIPING THRU ROOF DETAIL

SCALE NONE | 6



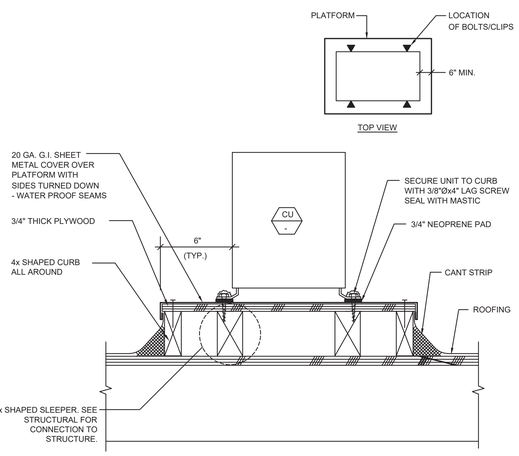
RECTANGULAR DUCT		
MAX. HALF OF DUCT PERIMETER/IN.	STRAP	MAX. LOAD EACH HANGER/LBS.
P/2 =72	1"X 20 GA.	100
P/2 =96	1"X 18 GA.	150
P/2 =192	1"X 16 GA.	300

NOTE:

1. DUCTS OF 6 SF IN CROSS SECTION OR LARGER SHALL BE PROVIDED WITH SUPPORT, DIAGONAL SEISMIC BRACE & LONGITUDINAL BRACE PER MASON WEST OPM-0043-13.
2. SEE MEP COMPONENT ANCHORAGE NOTES ON SHEET M0.01 FOR REQUIREMENT.

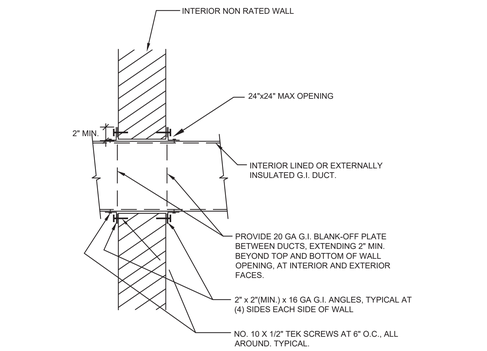
DUCT SUPPORT DETAIL

SCALE NONE | 3



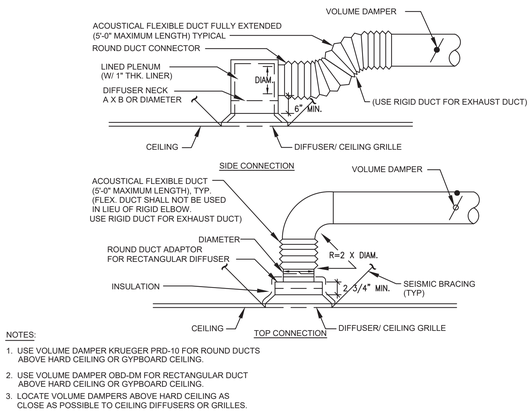
CONDENSING UNIT SUPPORT DETAIL ON ROOF

SCALE NONE | 8



DUCT THRU NON-RATED WALL

SCALE NONE | 5

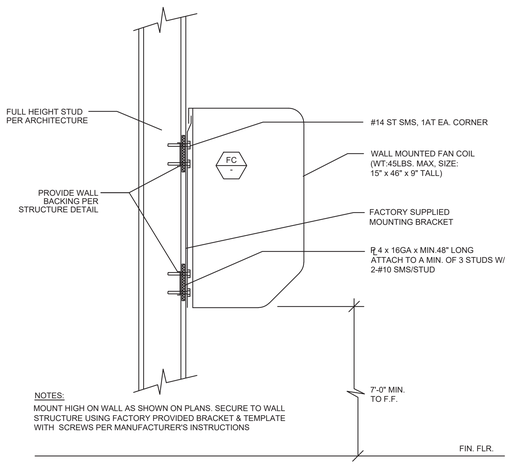


NOTES:

1. USE VOLUME DAMPER KRUEGER PRD-10 FOR ROUND DUCTS ABOVE HARD CEILING OR GYPBOARD CEILING.
2. USE VOLUME DAMPER OBD-DM FOR RECTANGULAR DUCT ABOVE HARD CEILING OR GYPBOARD CEILING.
3. LOCATE VOLUME DAMPERS ABOVE HARD CEILING AS CLOSE AS POSSIBLE TO CEILING DIFFUSERS OR GRILLES.

DIFFUSER CONNECTION DETAIL

SCALE NONE | 2

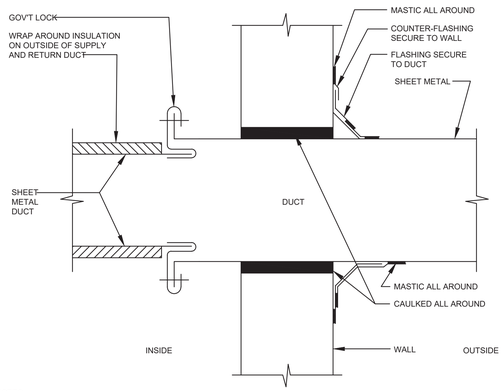


NOTES:

MOUNT HIGH ON WALL AS SHOWN ON PLANS. SECURE TO WALL STRUCTURE USING FACTORY PROVIDED BRACKET & TEMPLATE WITH SCREWS PER MANUFACTURER'S INSTRUCTIONS

SPLIT SYSTEM FAN COIL UNIT MOUNTING DETAIL

SCALE NONE | 7

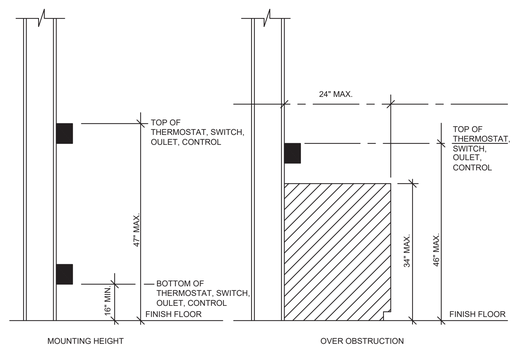


NOTES:

1. FOR DESIGN #, SEE ARCH. DWGS.

DUCT THRU EXTERIOR WALL DETAIL

SCALE NONE | 1



NOTES:

WOOD BASE WITH PIPE CLAMPS AND/OR PLUMBERS TAPE IS NOT ALLOWED.

THERMOSTAT MOUNTING DETAIL

SCALE NONE | 1

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SANTA ANA, CA 92707
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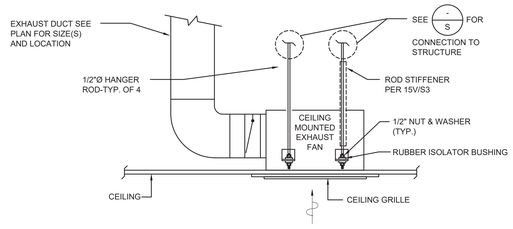
CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
MECHANICAL DETAILS
COMMUNITY AQUATICS & SENIOR CENTER
M5.01

APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 121 OF 176 DWG. NO. 5-2606

PLOT DATE: 6/30/2023 5:04:11 PM

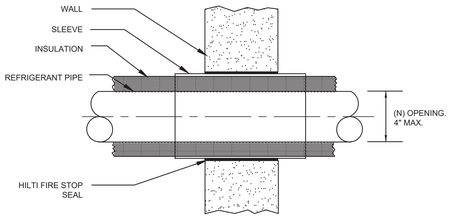


NOTE:

1. CONNECT TO CEILING REGISTER WITH EXHAUST DUCT. SEE PLANS FOR SIZES AND LOCATIONS.

CEILING MOUNTED EXHAUST FAN MOUNTING DETAIL

SCALE NONE | 9

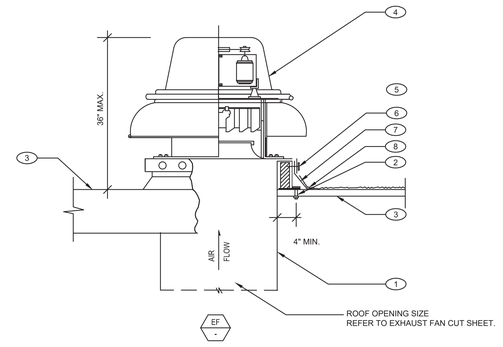


NOTES:

1. PROVIDE 16" MIN. SPACING BETWEEN ADJACENT OPENINGS.
2. DO NOT CUT OR DAMAGE REBAR IN EXISTING CONCRETE WALL.
3. DO NOT CUT OR DAMAGE EXISTING WALL STUDS.

WALL REFRIGERANT PIPE PENETRATION DETAIL

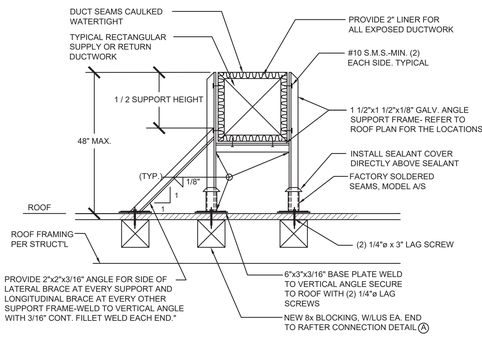
SCALE NONE | 6

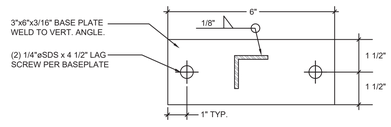


1. EXHAUST DUCT. (SEE PLANS FOR SIZES)
2. (2) 3/8" Ø HILTI KB TZ (2" EMBED) ALL 4 SIDES. SEE STRUCTURAL FOR INSTALLATION REQUIREMENTS
3. ROOF STRUCTURE. (SEE STRUCTURAL DWG'S.)
4. EXHAUST FAN. MAX OPERATING WEIGHT = 63 POUNDS.
5. FACTORY CURB .
6. (2) #14 SHEET METAL SCREWS ALL 4 SIDES.
7. FLASHING.
8. ROOFING.

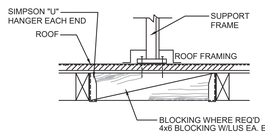
ROOF EXHAUST FAN DETAIL

SCALE NONE | 3





BASEPLATE DETAIL

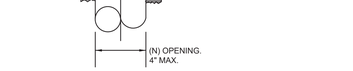


Ⓐ RAFTER CONNECTION DETAIL

NOTE:
ANGLE FLASHING SHALL BE AS MANUFACTURED BY SBC INDUSTRIES, MODEL A/S, FABRICATED FROM 26 GA. STAINLESS STEEL, TYPE 304, 2B FINISH.

DUCT SUPPORT ON THE ROOF DETAIL

SCALE NONE | 8



NOTES:

1. PROVIDE 16" MIN. SPACING BETWEEN ADJACENT OPENINGS.
2. DO NOT CUT OR DAMAGE REBAR IN EXISTING SLAB.

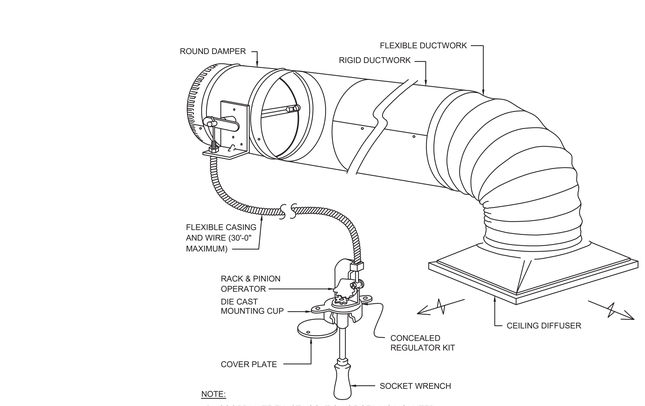
REFRIGERANT PIPE FLOOR PENETRATION

SCALE NONE | 5

SINGLE LINE DIAGRAM	DOUBLE LINE CONFIGURATION	SINGLE LINE DIAGRAM	DOUBLE LINE CONFIGURATION
X" x Y" / D"Ø	RECTANGULAR DUCT; X" x Y"; ROUND DUCT; CONICAL FITTING; D"Ø	X" x Y" / D"Ø	10"; D"Ø; X" x Y"; RECTANGULAR TO ROUND TRANSITION
$D'_2Ø$ / $D'_1Ø$ / $D'_3Ø$	$D'_1Ø$; $D'_2Ø$; 45° LATERAL & REDUCING FITTING; $D'_3Ø$; 45° LATERAL FITTING	$D'_1Ø$ / $D'_2Ø$	$D'_1Ø$; $D'_2Ø$; ROUND TO ROUND TRANSITION
$D'_1Ø$ / $D'_2Ø$ / $D'_3Ø$	45° LAT. FITTING; $D'_2Ø$; THIS PORTION FOR CONTINUING DUCT RUN; 6" MIN.; 6" MIN.; $D'_1Ø$; 45° LATERAL FITTING; $D'_3Ø$	$D'_1Ø$ / $D'_2Ø$ / $D'_3Ø$	$D'_1Ø$; $D'_2Ø$; 45° LATERAL & REDUCING FITTING; 90° ELBOW

ROUND DUCTWORK DETAIL

SCALE NONE | 2

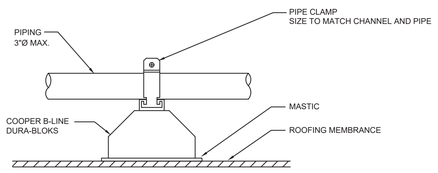


NOTE:

1. COORDINATE EXACT LOCATION OF CEILING MOUNTED CONCEALED REGULATOR WITH ARCHITECT PRIOR TO INSTALLATION.
2. PROVIDE YOUNG REGULATOR WITH BOWDEN CABLE CONTROL SYSTEM

YOUNG REGULATOR REMOTE CABLE SYSTEM DETAIL

SCALE NONE | 7



NOTE: SPACE SUPPORTS AT MAX. 8'-0" ON CENTER

PIPING SUPPORT ON ROOF DETAIL

SCALE NONE | 4

SINGLE LINE DIAGRAM	DOUBLE LINE CONFIGURATION	SINGLE LINE DIAGRAM	DOUBLE LINE CONFIGURATION
	W; R; R=W		5; 1/2; 1/2; 5
T	T	T	T
C.D.	D; D/2; C.D.		45°; W/2; W

RECTANGULAR DUCTWORK DETAIL

SCALE NONE | 1

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REVISIONS

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CITY OF GARDENA

DEPARTMENT OF PUBLIC WORKS - ENGINEERING

MECHANICAL DETAILS

COMMUNITY AQUATICS & SENIOR CENTER

M5.02

	INITIAL	DATE
DESIGNED BY	NK/MZ	05/25/2022
DRAWN BY	MZ	06/20/23
CHECKED BY	NK	06/29/23

APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 122 OF 176 DWG. NO. 5-2606

PLOT DATE: 7/20/2023 8:45:11 PM
FILE NAME: M5.02

CanFab
CANNON FABRICATION INC
182 GRANITE STREET, SUITE 101, CORONA, CA 92879
PHONE:(951)278-1830 FAX:(951)278-8444 www.canfab.com canfab@canfab.com

FOR: GROUP B ISO

PART NO: SEE BELOW

STRUCTURAL REVIEW BY:

MARTIN & ASSOCIATES

TABLE 3 ALLOWABLE CURB AND UNIT DIMENSION AND WEIGHT

RELATED CURBS	CURB [IN]	HOUSING [IN]	HOUSING [IN]	RTU/MAU [LBS]	UNIT [IN]	HUNIT [IN]	HUNIT [IN]	MOUNT [LBS]	CG LONG [IN]	CG SHORT [IN]	CG HEIGHT [IN]
1008 1008-XIC	SEE PAGE 1	SEE PAGE 1	MIN. 9	MIN. 405.405	68.125	59.5	47	MIN 3088 1008 MAX 3188 1008-XIC	53.875	9.125	23.75
			11	438..441							
			14	474..477							
			18	519..522							
			24	583..585							
			MAX. 36	MAX. 828.831							
3012	SEE PAGE 1	SEE PAGE 1	MIN. 9	MIN. 426	89	59	50.75	MAX 1589	49.75	35.5	HUNIT/2
			11	436							
			14	469							
			18	510							
			24	647							
			MAX. 36	MAX. 807							
4028S	SEE PAGE 1	SEE PAGE 1	MIN. 8	MIN. 327	98.25	47	46.875	MAX 1316	47	22	HUNIT/2
			11	359							
			14	391							
			18	433							
			24	574							
			MAX. 36	MAX. 733							
6042	SEE PAGE 1	SEE PAGE 1	MIN. 8	MIN. 445	88.625	53.25	46.875	MAX 1565	48	24	HUNIT/2
			11	474							
			14	505							
			18	547							
			24	687							
			MAX. 36	MAX. 847							
6042S	SEE PAGE 1	SEE PAGE 1	MIN. 8	MIN. 473	99.688	63.188	50.875	MAX 1916	54	27	HUNIT/2
			11	567							
			14	640							
			18	584							
			24	733							
			MAX. 36	MAX. 899							

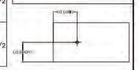


TABLE 4 TABULATED CURB AND ANCHORAGE INFORMATION PER VARYING HEIGHT

		0 < H ≤ 18"	18" < H ≤ 22"	22" < H ≤ 30"	30" < H ≤ 36"
A	CURB THICKNESS	14 GA	14 GA	12 GA	12 GA
B	EXP. ANCHOR	8	8	10	10
C	EXP. ANCHOR	6	6	8	8
D	WELD	18"	18"	18"	18"
E	SCREWS	36	38	38	40
F	SCREWS	24	24	24	24
G	DISTANCE	MAX 0.75"	MAX 0.75"	MAX 0.75"	MAX 0.75"
H	NO. OF CLIPS	10	10	10	10
I	CLIP SMS	(4) #14	(4) #14	(4) #14	(4) #14
J	CLIP SMS	(8) #14	(8) #14	(8) #14	(8) #14
K	ISO RAIL	10 GA 7.5" DEEP X 1" FLANGES			
L	NO. OF ISOLATORS	8 FOR 3012 AND 4028S, 10 FOR 1008, 6042 AND 6042S & 11 FOR 1008 XIC			
M	NO. OF STIFFENERS	8 FOR 3012 AND 4028S, 10 FOR 1008, 6042 AND 6042S & 11 FOR 1008 XIC			

PROJECT: IBC 2018/ CBC 2019 UPDATE DATE: 11.30.18

ENGINEER: LD DISTRIBUTOR:

DRAWING NUMBER: GROUP_B_ISO.DWG PAGE 3 OF 3

CanFab
CANNON FABRICATION INC
182 GRANITE STREET, SUITE 101, CORONA, CA 92879
PHONE:(951)278-1830 FAX:(951)278-8444 www.canfab.com canfab@canfab.com

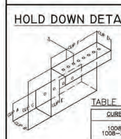
FOR: GROUP B ISO

PART NO: SEE BELOW

STRUCTURAL REVIEW BY:

MARTIN & ASSOCIATES

HOLD DOWN DETAIL



NOTE:
SEE TABLE 1 FOR DESIGNATED HOLD DOWN CLIP PER CURB

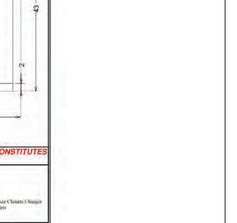
TABLE 1 HOLD DOWN CLIP PER CURB

CURB	CLIP	BASE	CLIP A [IN]	CLIP B [IN]	CLIP C [IN]	CLIP D [IN]	CLIP E [IN]	CLIP F [IN]
1008 1008-XIC	1908-SHD8-12	12 GA	1.5	2.625	4.5625	1.875	1.0	9.0
3012	3901-SHD8-12	12 GA	1.0	4.81	3.875	2.125	1.0	9.0
4028S	4901-SHD8-12	12 GA	2.0	3.0625	4.625	1.875	1.0	8.0
6042	6907-SHD8-12	12 GA	2.0	2.0	3.25	1.875	1.0	9.0
6042S	6907-SHD8-12	12 GA	2.0	2.0	3.25	1.875	1.0	9.0

ALTERNATIVE HOLD DOWN DETAIL

NOTE:
ALTERNATIVE ONLY FOR 9" LONG HOLD DOWN WITH (6) SCREWS AT TOP AND (4) SCREWS AT BOT EQUALLY SPACED

1. INFORMATION SHOWN ON THE STAMPED CANFAB CURB DRAWING IS THE MINIMUM REQUIREMENTS FOR THE CURB CONSTRUCTION AND INSTALLATION. NO STRUCTURAL OBJECTION TO THE USE OF LARGER SIZE SCREWS AND THICKER GAUGE SHEET METAL THAN THE INFORMATION SHOWN ON THE STAMPED CANFAB CURB DRAWING.
2. NO STRUCTURAL OBJECTION TO SHIFTING THE ATTACHMENT CLIPS ALONG THE CURB, FIRST AND LAST CLIP IN THE SERIES OF CLIPS SHALL BE LOCATED PER CLIP LOCATION DETAIL PER STAMPED CANFAB CURB DRAWING. DISTANCE SHIFTED SHALL NOT BE LARGER THAN THE LENGTH OF THE CLIP.
3. NO STRUCTURAL OBJECTION TO CUTTING THE ATTACHMENT CLIPS PER REQUIREMENTS AS SHOWN ON BELOW SKETCH.



CLIP LOCATION DETAIL

NOTE:
SEE TABLE 2 FOR CLIP LOCATION

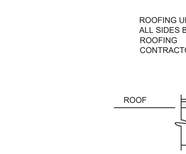


TABLE 2 CLIP LOCATION

CURB	EDGE [IN]	SPACING [IN]
1008, 1008-XIC	7.75	16.56
3012	7.75	13.09
4028S	7.75	25.70
6042	7.75	17.125
6042S	7.75	17.125

PROJECT: IBC 2018/ CBC 2019 UPDATE DATE: 11.30.18

ENGINEER: LD DISTRIBUTOR:

DRAWING NUMBER: GROUP_B_ISO.DWG PAGE 2 OF 3

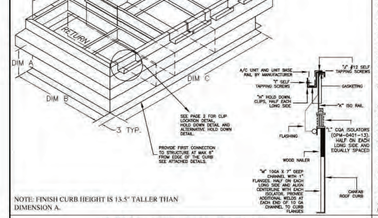
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FOR: GROUP B ISO
TRANE PRECEDENT 4 - 10 TONS
THC(A/E/X)18C, SHP 150P, TSC(U)036 (-)(E)(X)4(-)(H)(J)C, (G)(L)(M)4 (T)(U)P, YSC 048A*(T)(U)P, (-)(V)(X)-(H)(R), WMC (#)(M)(E)-RED, TZS (048) (-)(E), (048*) MP*, (-)(E),(-)(H)(E),(-)(X)E, (048*) SHE*, WHC (#)(M)(E)-RED(-)(H)-(-)(X)(R), WSC(060,072)A, (048)(-)(H)(E),(-)(X)(E),(048*) SHE*,

PART NO: 6042-IC

DIM A	DIM B	DIM C	DIM D	DIM E	DIM F	DIM G	DIM H
VARIES MAX 36" SEE TABLE 3	46.375"	80.5"	18.5"	8.625"	18.5"	34.375"	34.375"

NOTE: DIMENSIONS B & C ARE FROM I.D. OF CURB



NOTE: FINISH CURB HEIGHT IS 13.5" TALLER THAN DIMENSION A.

ALL WORK SHALL CONFORM TO THE STANDARD OF 2018 INTERNATIONAL BUILDING CODE & 2019 CALIFORNIA BUILDING CODE.

SEISMIC DESIGN CRITERIA
- SDS = 1.5 Ip = 2.5
- I = 1.5 Rp = 2.0

WIND DESIGN CRITERIA
- ULTIMATE 3 SEC GUST WIND
- EXPOSURE C
- 175 MPH, 3 SECOND GUST WIND

NOTE:
INSTALLER TO VERIFY WITH A LICENSED STRUCTURAL ENGINEER IN THE CORRESPONDING STATE THAT THE ADEQUACY OF THE STRUCTURE FOR SEISMIC AND WIND SESIGN CRITERIA NOTED ON THIS DRAWING IN ADDITION TO ALL OTHER LOADS.
-INSTALLER TO VERIFY WITH A LICENSED STRUCTURAL ENGINEER IN THE CORRESPONDING STATE THAT THE SEISMIC AND WIND SESIGN CRITERIA NOTED ON THIS DRAWING VALUES, EXPOSURE, AND OTHER SITE SPECIFIC CONDITIONS OTHERWISE, CONTACT CANFAB FABRICATION FOR A SITE SPECIFIC ANALYSIS AND DRAWINGS.

CURB CONSTRUCTION
- 12 GA WELDED
- 14 GA WELDED
- 31 GA FRIGIDECK
- ALL WELDING CONSTRUCTION CERTIFIED TO AWS D1.1 STRUCTURAL WELDING CODE-STEEL
- SELF-DRILLING SCREW SHALL MEET ASTM C1513 SPECIFICATION AND INSTALLED PER MANUFACTURER
- NO GAP IS ALLOWED BETWEEN TWO METAL SHEET SURFACES WHERE SHEET METAL SCREW IS CONNECTED

CURB AND UNIT INFORMATION
- 20 GAUGE GALVANIZED STEEL CURB
- SEE TABLE 3 FOR ALLOWABLE CURB AND UNIT DIMENSION AND WEIGHT
- SEE TABLE 4 FOR TABULATED CURB AND ANCHORAGE INFORMATION FOR VARYING CURB HEIGHT
- ALPHA DESIGNATIONS "A" THRU "M", CAN BE FOUND ON TABLE 4, PAGE 3

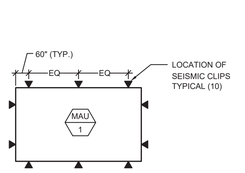
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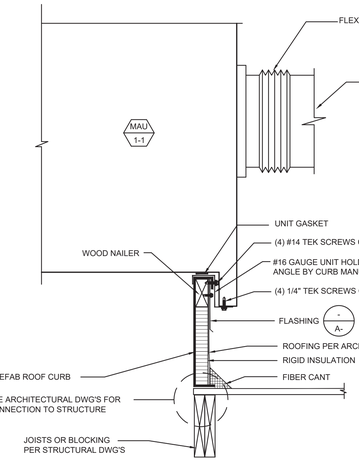
MARTIN & ASSOCIATES

PROJECT: IBC 2018/ CBC 2019 UPDATE DATE: 11.30.18

ENGINEER: LD DISTRIBUTOR:

DRAWING NUMBER: GROUP_B_ISO.DWG PAGE 1 OF 3

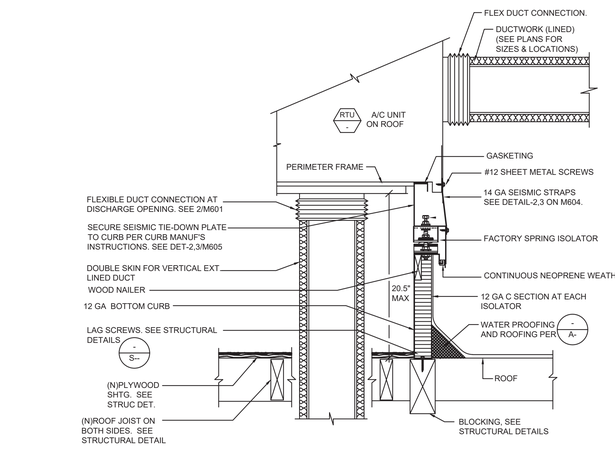




NOTES:
1. FILL ENTIRE VOID SPACE IN ROOF CURB WITH BATT INSULATION.

MAKE-UP AIR UNIT ON ROOF SUPPORT DETAIL

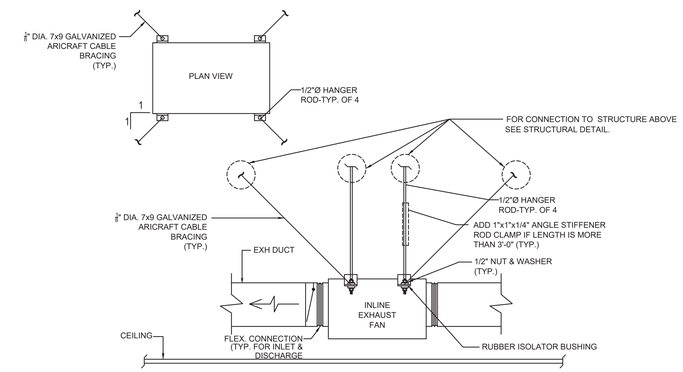
SCALE NONE | 3



NOTES:
1. COORDINATE WITH STRUCTURAL ROOF FRAMING PLAN.

ROOFTOP PACKAGED UNIT MOUNTING DETAIL

SCALE NONE | 2

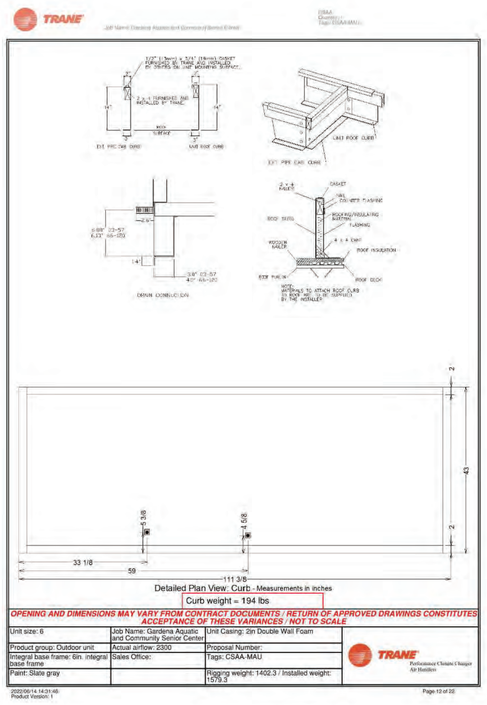


INLINE EXHAUST FAN MOUNTING DETAIL

SCALE NONE | 1

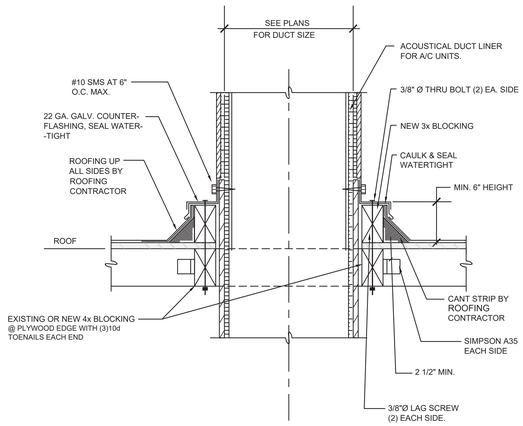
FACTORY VIBRATION ISOLATION CURB FOR TRANE RTU (4 TO 6 TON)

SCALE NONE | 5



MANUFACTURE ROOF CURB FOR MAKE-UP AIR UNIT MAU-1-1

SCALE NONE | 6



NOTES:
1. FOR ALL EXPOSED METAL, PROVIDE STAINLESS STEEL, HOT DIP GALVANIZED OR OTHER CODE APPROVED CORRISON RESISTANT COATING.
2. ALL FASTENERS SHALL BE STAINLESS STEEL, HOT DIP GALVANIZED OR OTHER CODE APPROVED CORRISON RESISTANT COATING.

DUCT UP THRU ROOF DETAIL

SCALE NONE | 4

ALFATECH
421 EAST HUNTINGTON DRIVE
MONROVIA, CA 91016
PHONE: (213) 212-9860
www.atce.com

CITY OF GARDENA INCORPORATED 1930

PREPARED BY:

SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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REGISTERED PROFESSIONAL ENGINEER NICHOLAS J. KOUBA No. M31713 Exp. 6/30/2025 MECHANICAL STATE OF CALIFORNIA

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
MECHANICAL DETAILS
COMMUNITY AQUATICS & SENIOR CENTER
M5.03

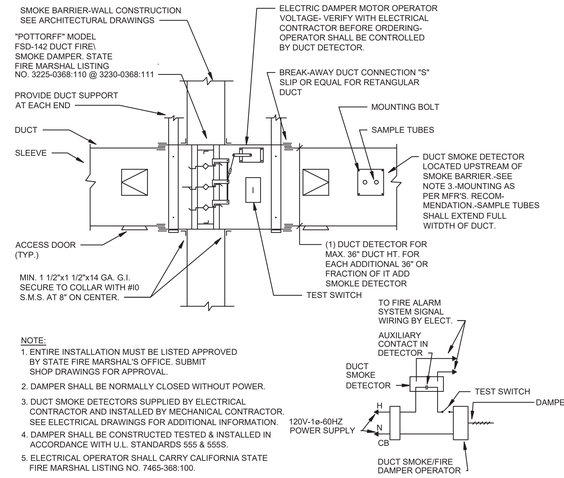
	INITIAL	DATE
DESIGNED BY	NK/MZ	06/25/2022
DRAWN BY	MZ	04/20/23
CHECKED BY	NK	04/29/23

APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

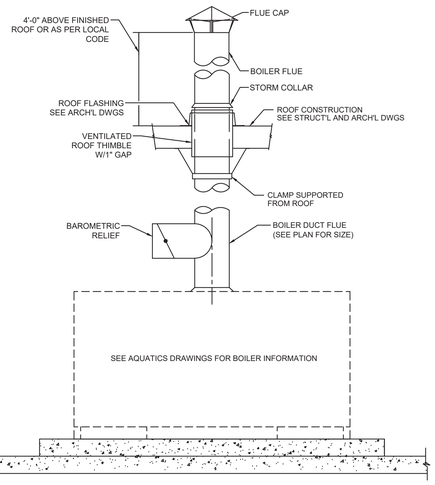
SHT. 123 OF 176 DWG. NO. 5-2606

PLOT DATE: 5/26/2023 5:04:11 PM



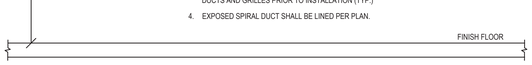
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COMBINATION SMOKE FIRE DAMPER DETAIL | SCALE NONE | 3



-	SCALE NONE	8

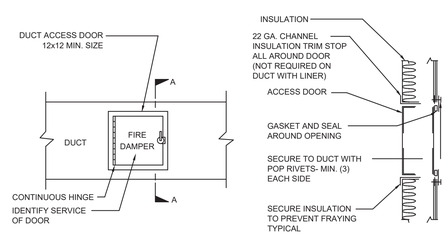
BOILER DUCT FLUE DETAIL | SCALE NONE | 5



NOTES:
1. CONTRACTOR SHALL INSTALL/TRANSITION MAIN DUCTWORK TIGHT TO UNDERSIDE OF STRUCTURAL MEMBERS SO AS TO MAINTAIN A BOTTOM OF DUCT AS HIGH AS POSSIBLE AND ALL AROUND BOTTOM OF DUCT NO LOWER THAN 9'-8" (IF ANY DISCREPANCIES NOTIFY ARCHITECT/ENGINEER).
2. ALL LOW PRESSURE DUCTWORK FROM OUTLET OF THE FC TO DIFFUSERS SHALL BE SPIRAL DUCTWORKS, UNLESS NOTED OTHERWISE.
3. CONTRACTOR TO OBTAIN APPROVAL FROM ARCHITECT THE FINAL ELEVATION OF EXPOSED DUCTS AND GRILLES PRIOR TO INSTALLATION (TYP.)
4. EXPOSED SPIRAL DUCT SHALL BE LINED PER PLAN.

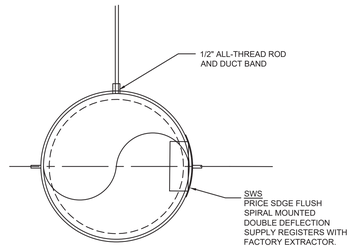
-	SCALE NONE	2

TYPICAL DUCT SECTION IN EXPOSED AREA | SCALE NONE | 2



-	SCALE NONE	7

ACCESS DOOR DETAIL | SCALE NONE | 1



REGISTER ON EXPOSED ROUND DUCT DETAIL | SCALE NONE | 1

ALFATECH
421 EAST HUNTINGTON DRIVE
MONROVIA, CA 91016
PHONE: (213) 212-9860
www.atce.com

CITY OF GARDENA INCORPORATED 1930

PREPARED BY:
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6 HUTTON CENTRE DR. SUITE 1150
SANTA ANA, CA 92707
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REGISTERED PROFESSIONAL ENGINEER JOSE J. ROJAS No. M31713 Exp. 6/30/2025 MECHANICAL STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

MECHANICAL DETAILS

COMMUNITY AQUATICS & SENIOR CENTER
M5.04

	INITIAL	DATE
DESIGNED BY	NK/MJ	06/25/2022
DRAWN BY	MJ	06/20/23
CHECKED BY	NK	06/29/23

APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 124 OF 176 DWG. NO. 5-2606

PLOT DATE: 6/30/2023 3:04:17 PM

ROOF TOP HEAT PUMP PACKAGED UNIT SCHEDULE

TAG	MANUFACTURER MAKE	MANUFACTURER MODEL	AREA SERVED	TONS	ELECTRICAL FOR RTU POWER	HP	MCA	MOCP	ELECTRICAL FOR POWER EXHAUST (P.E) MAKE, MODEL & TYPE	ESP IN.WC.	MOTOR HP	MOTOR FLA	MOTOR MCA	MOTOR MOCP	POWER	ECONOMIZER MAKE & MODEL	SUPPLY FAN CFM	SUPPLY FAN EXTRNAL SP IN.WG.	MIN OSA CFM	COOLING CAPACITY TOTAL (MBH)	COOLING CAPACITY SENSIBLE (MBH)	EERIEER	SEER	EVAPORATOR COIL EDB (°F)	EVAPORATOR COIL EWB (°F)	EVAPORATOR COIL LDB (°F)	EVAPORATOR COIL LWB (°F)	HEATING (HEAT PUMP) INPUT (MBH)	HEATING (HEAT PUMP) OUTPUT (MBH)	HEATING (HEAT PUMP) EFF % (COP)	WEIGHT (LBS) RTU	WEIGHT (LBS) CURB	WEIGHT (LBS) P.E/ECON	WEIGHT (LBS) TOTAL	MOUNT'G DETAIL	REMARKS
RTU 1-1	TRANE	WHC074H4R0A	FIRST FLOOR	6	460V-3Ø-60HZ	2.75	19.0	25.0	CANFAB MODEL 6144-PE/MPE	0.50	0.75	1.5	1.875	3.375	460V-3Ø-60	CANFAB MODEL 6144-PE/MPE	2400	1.2	480	75.83	56.37	12.1	15.5	80.0	67.0	55.73	55.64	-	73.65	-	829	687	331	1940 (11)	- M	(1)(2)(3)(4)(6)(7)(8)
RTU 1-2	TRANE	WHC048H4R0A	FIRST FLOOR	4	460V-3Ø-60HZ	1.5	11.0	15.00	-	-	-	-	-	-	-	FACTORY PROVIDED ECONOMIZER	1600	1.2	300	46.52	36.86	13.0	16.5	80.0	67.0	57.20	57.12	-	43.66	-	679	687	N/A	1435 (11)	- M	(1)(2)(4)(8)(9)
RTU 2-1	TRANE	WHC048H4R0A	SECOND FLOOR	4	460V-3Ø-60HZ	1.5	11.0	15.0	-	-	-	-	-	-	-	CANFAB MODEL SUB-6141-HEC	1600	1.2	385	46.73	37.07	13.0	16.5	80.0	67.0	57.20	57.12	-	43.58	-	679	687	220	1950 (11)	- M	(1)(2)(8)(9)(10)
RTU 2-2	TRANE	WHC048H4R0A	SECOND FLOOR	4	460V-3Ø-60HZ	1.5	11.0	15.0	-	-	-	-	-	-	-	CANFAB MODEL SUB-6141-HEC	1600	1.2	385	46.73	37.07	13.0	16.5	80.0	67.0	57.20	57.12	-	43.58	-	679	687	220	1950 (11)	- M	(1)(2)(8)(9)(10)
RTU 2-3	TRANE	WHC048H4R0A	SECOND FLOOR	4	460V-3Ø-60HZ	1.5	11.0	15.0	-	-	-	-	-	-	-	CANFAB MODEL SUB-6141-HEC	1600	1.2	385	46.73	37.07	13.0	16.5	80.0	67.0	57.20	57.12	-	43.58	-	679	687	220	1950 (11)	- M	(1)(2)(8)(9)(10)
RTU 2-4	TRANE	WHC060H4R0A	SECOND FLOOR	5	460V-3Ø-60HZ	1.5	12.0	15.0	CANFAB MODEL 6142-PE/MPE	0.50	0.75	1.5	1.875	3.375	460V-3Ø-60	CANFAB MODEL 6142-PE/MPE	2000	1.2	400	58.61	46.64	13.0	16.4	80.0	67.0	57.26	57.17	-	56.60	-	678	687	331	1780 (11)	- M	(1)(2)(3)(4)(6)(8)
RTU 2-5	TRANE	WHC048H4R0A	SECOND FLOOR	4	460V-3Ø-60HZ	1.5	11.0	15.00	-	-	-	-	-	-	-	FACTORY PROVIDED ECONOMIZER	1600	1.2	380	46.52	36.86	13.0	16.5	80.0	67.0	57.20	57.12	-	43.66	-	679	687	N/A	1435 (11)	- M	(1)(2)(4)(8)(9)

REMARKS
(1) PROVIDE FACTORY VIBRATION ISOLATION CURB.
(2) PROVIDE MERV 13 FILTER WITH FACTORY INSTALLED CONTROLLER TIED TO RTU.
(3) PROVIDE 0-100% FULLY MODULATING ECONOMIZER AND INTEGRAL POWER EXHAUST WITH DRY-BULB INTEGRATED CONTROL. PROVIDE DUAL, SEPARATE POWER TO UNIT AND POWER EXHAUST. PROVIDE CARBON DIOXIDE (CO2) SENSOR FOR DCV CONTROL.
(4) VERTICAL SUPPLY AND RETURN DUCT DISCHARGE
(5) PROVIDE DUCT SMOKE DETECTOR ON SA DUCT PER FIRE ALARM DRAWINGS. PROVIDE CO DETECTOR PER 2019 CBC 915.
(6) PROVIDE SEPARATE POWER FOR POWER EXHAUST.
(7) PROVIDE FAULT DETECTION DIAGNOSTICS PER T-24 120.2(I).
(8) PROGRAMMABLE THERMOSTAT TIED TO RTU. PROVIDE ALL NECESSARY CONTROLS, EQUIPMENT, PROGRAMMING, WIRING AND CONDUITS FOR CONNECTION EXISTING EMS.
(9) PROVIDE 0-100% FULLY MODULATING ECONOMIZER WITH DRY-BULB INTEGRATED CONTROL AND BUILT IN RELIEF DAMPER.
(10) HORIZONTAL SUPPLY & RETURN DUCT DISCHARGE.
(11) ADDED 5% ON THE UNIT WIGHT FOR OTHER MANUFACTURER CAN BID ON THE PROJECT.

SPLIT SYSTEM AIR CONDITIONER SCHEDULE - INDOOR UNIT

SYMBOL	MANUFACTURER AND MODEL NO.	ROOM SERVED	AIRFLOW CFM	MIN OSA CFM	REFRIGERATION AMBIENT DB- °F.	REFRIGERATION LVG. AIR DB °F.	ELECTRICAL FLA	ELECTRICAL MCA	ELECTRICAL MCOP	ELECTRICAL V-Ø-HZ	OPERATING WEIGHT (LBS.)	ACOUSTIC DATA (dBA)	ANCHORAGE DETAIL	REMARKS
FC 1-1	MITSUBISHI HIGH WALL DUCTLESS MODEL TPKA0A0121LA00A	BATTERY RM	360	-	101	51.8	(1)	(1)	(1)	208V-1Ø-60HZ	28.0	48.0	- M-	(1)(2)(8)
FC 1-2	MITSUBISHI HIGH WALL DUCTLESS MODEL TPKA0A0181LA00A	ELEV. CONTROL RM	450	-	101	56.9	(1)	(1)	(1)	208V-1Ø-60HZ	28.0	48.0	- M-	(1)(2)(8)
FC 1-3	MITSUBISHI HIGH WALL DUCTLESS MODEL TPKA0A0121LA00A	LIFEGUARD	360	30	101	51.8	(1)	(1)	(1)	208V-1Ø-60HZ	28.0	48.0	- M-	(1)(2)(8)

(1) POWER TO BE SUB FED FROM OUTDOOR CONDENSING UNIT.
(2) COMPLETE WITH MOUNTING BRACKETS, CLEANABLE FILTERS (2)9x12, WALL MOUNTED REMOTE CONTROLLER AND MAXIBLUE CONDENSATE PUMP (120V-1). POWERED FROM FAN COIL UNIT. PROVIDE SAFETY SWITCH.
(3) GROSS COOLING CAPACITY BASED ON 101° F TEMPERATURE OF AIR ENTERING CONDENSER.
(4) SIZE RL & RS LINES PER MANUFACTURER'S RECOMMENDATION BASE ON TOTAL DEVELOPED LENGTH. BOTH REFRIGERANT PIPING SHALL BE INSULATED.

SPLIT SYSTEM AIR CONDITIONER SCHEDULE - OUTDOOR UNIT

SYMBOL	MANUFACTURER AND MODEL NO.	UNIT SERVED	COOLING TOTAL (BTUH)	COOLING SENS. (BTUH)	HEATING TOTAL (BTUH)	HEATING HSPF	IEER	EER	ELECTRICAL MCA	ELECTRICAL MOCP	ELECTRICAL V-Ø-HZ	REFRIGERANT LINES SUCTION	REFRIGERANT LINES LIQUID	OPERATING WEIGHT (LBS.)	ACOUSTIC DATA (dBA)	ANCHORAGE DETAIL	REMARKS
CU 1-1	MITSUBISHI CONDENSING UNIT MODEL TRUZA0121KA70NA	FC 1-1	12,000	10,560	14,000	10.2	21.1	13.3	11.0	28	208/230V-1Ø-60HZ	1/2	1/4	93	46.0	- M-	(1)(2)(3)(4)
CU 1-2	MITSUBISHI CONDENSING UNIT MODEL TRUZA0181KA70NA	FC 1-2	18,000	13,140	19,000	11.2	19.8	10.7	11.0	28	208/230V-1Ø-60HZ	1/2	1/4	100	46.0	- M-	(1)(2)(3)(4)
CU 1-3	MITSUBISHI CONDENSING UNIT MODEL TRUZA0121KA70NA	FC 1-3	12,000	10,560	14,000	10.2	21.1	13.3	11.0	28	208/230V-1Ø-60HZ	1/2	1/4	93	46.0	- M-	(1)(2)(3)(4)

AIR DISTRIBUTION SCHEDULE

TAG	TYPE	CFM	NECK SIZE	FACE SIZE / LENGTH	MAX S.P.	OPPOSED BLADE DAMPER (Y/N)	MATERIAL	FINISH	MANUFACTURER / DESCRIPTION	MODEL	IMAGE	ACCESSORIES / CONFIGURATION
SD-1	SUPPLY / EXHAUST	0-250 251-330	16x6 20x8	18x8 22x10	0.1	Y	ALUMINUM	WHITE	NAILOR	51DHC		SPIRAL DUCT-MOUNTED SUPPLY, DOUBLE DEFLECTION, FRONT LONG BLADE, W/ AIR SCOOP DAMPER, CONCEALED SCREW
RD-1	SUPPLY	0-90 91-200 201-300 301-450 451-600	6"ø 8"ø 10"ø 12"ø 14"ø	11 1/8"ø 14 3/4"ø 18 1/4"ø 22"ø 26"ø	0.1	Y	ALUMINUM	WHITE	NAILOR	RNR		CEILING DIFFUSER ROUND LOUVERED FACE "DROPPED CONE"
CD-2 / CR-2 / EG-1	SUPPLY / RETURN / EXHAUST	0-90 91-200 201-300 301-450 451-600 601-700	6"ø 8"ø 10"ø 12"ø 14"ø 16"ø	12x12 18x18 24x24 24x24 24x24 24x24	0.1	Y	ALUMINUM	WHITE	NAILOR	UNI 2		CEILING DIFFUSER SQUARE PLAQUE
CD-1	SUPPLY	0-90 91-200 201-300 301-400 401-500 501-600	6"ø 8"ø 10"ø 12"ø 14"ø 16"ø	24x24 24x24 24x24 24x24 24x24 24x24	0.1	N	ALUMINUM	WHITE	NAILOR	4320M		CEILING DIFFUSER PERFORATED FACE, MODULAR CORE
SWS-1	SIDEWALL SUPPLY / EXHAUST	0-250 251-330	16x6 20x8	18x8 22x10	0.1	Y	ALUMINUM	WHITE	NAILOR	51DH		SUPPLY REGISTER DOUBLE DEFLECTION 3/4" BLADE SPACING, FRONT LONG BLADE
DL-1	SUPPLY	0-350	18x6	19x7	0.1	N	ALUMINUM	WHITE	NAILOR	45DLC1		LONG THROW, HIGH CAPACITY SPLIT VANE SUPPLY GRILLE WITH ROTATING DRUM
CR-1	RETURN / EXHAUST	0-90 0-90 91-200 201-300 301-450 451-600 601-750 751-1150 1151-1600	6"ø 6"ø 8"ø 10"ø 12"ø 14"ø 16"ø 18x18 22x22	12x12 24x24 24x24 24x24 24x24 24x24 24x24 24x24 24x24	0.1	N	ALUMINUM	WHITE	NAILOR	4360		RETURN OR EXHAUST GRILLE PERFORATED FACE
SWR-1	RETURN / EXHAUST	0-400 401-600 601-800 801-1000 1001-1500 1501-2000	12x12 18x12 24x12 30x12 30x16 34x20	14x14 20x14 26x14 32x14 32x18 36x22	0.1	Y	ALUMINUM	WHITE	NAILOR	5145H		RETURN OR EXHAUST REGISTER 35 DEG. FIXED DEFLECTION 3/4" BLADE SPACING, FRONT LONG BLADE
LD-1	LINEAR SLOT SUPPLY	0-160 161-210 211-250	8"ø 10"ø 12"ø	48 48 60	0.1	N	ALUMINUM	WHITE	NAILOR	5015		LINEAR DIFFUSER 1 x 1.5" SLOT HIGH/JET THROW WITH INSULATED PLENUM
LR-1	LINEAR SLOT RETURN	0-160 161-240	8"ø 10"ø	48	0.1	N	ALUMINUM	WHITE	NAILOR	5015		LINEAR RETURN 1 x 1.5" SLOT WITH RETURN HOOD/LIGHT SHIELD

NOTES:
1. SEE ARCHITECTURAL PLANS FOR CEILING TYPE. PROVIDE LAY-IN TYPE BORDER FOR ACOUSTICAL TILE CEILINGS AND SURFACE MOUNT BORDER FOR GYPSUM BOARD AND OTHER TYPES OF CEILING OR WALLS.
2. PROVIDE 24x24 MODULE FOR STANDARD LAY-IN CEILINGS. PROVIDE 12x12 MODULE FOR SMALL ROOMS WHERE 24x24 GRID LOCATIONS ARE NOT AVAILABLE.
3. INCREASE NECK SIZE 2" FOR 2 AND 3 WAY BLOW APPLICATIONS.
4. DIFFUSER AND REGISTER COLOR AND FINISH SHALL BE SELECTED BY THE ARCHITECT. WHITE LISTED AS STANDARD.
5. PROVIDE SQUARE TO ROUND TRANSITION FOR RETURN, EXHAUST AND TRANSFER GRILLES WHERE THEY ARE CONNECTED WITH FLEXIBLE DUCTWORK.
6. PROVIDE SECTIONING BAFFLES FOR 1,2, AND 3 WAY BLOW APPLICATIONS.
7. FOR FIRE RATED CEILING, PROVIDE DIFFUSER WITH MANUFACTURER'S FIRE RATED OPTION.
8. FOR CEILING MOUNTED RETURN/EXHAUST GRILLES, PROVIDE MINIMUM 3" PLENUM BEHIND GRILLE.
9. ALL DIFFUSERS SHALL BE SELECTED AT MAX. NC-25.

MAKE-UP AIR UNIT SCHEDULE

SYMBOL	MANUFACTURER & MODEL NO.	AREA SERVED	LOCATION	BMS INTERLOCK WITH	SUPPLY AIR BLOWER CFM	SUPPLY AIR BLOWER TSP ("WG)	BHP	RPM	MOTOR HP	MOTOR VOLTAGE	MOTOR MCA	MOTOR MOP	HEATING FURNACE INPUT MBH	HEATING FURNACE OUTPUT MBH	HEATING FURNACE GAS CONN	HEATING FURNACE EFF	FILTER	AREA SMOKE DETECTOR SHUT DOWN	OPER. WEIGHT (LBS.)	ANCHORAGE DETAIL REFERENCE	REMARKS
MAU 1-1	TRANE CSAA006	RESTROOM	ROOF	EF 1-4	2300	2.176	1.27	-	1.5	460-3-60	2.75	15.0	120	95	RIGHT	80%	- -	YES	1622 (4)	- -	(1)(2)(3)

REMARKS
(1) TWO STAGE GAS VALVE.
(2) ROOF CURB ARE BY MANUFACTURE. VERIFY SLOPE OF ROOF WITH ARCHITECTURAL ROOF PLANS.
(3) THIS BUILDING HAS TOTAL AREA COVERAGE FOR SMOKE DETECTION. SEE FIRE ALARM DRAWINGS FOR CONTROL RELAYS TO SHUT DOWN HVAC UNITS.
(4) INCLUDED MANUFACTURE ROOF CURB'S WEIGHT.

FAN SCHEDULE

SYMBOL	MANUFACTURER AND MODEL NO.	SERVICE	LOCATION	BLOWER CFM	BLOWER SP IN. WC.	BLOWER RPM	MOTOR HP	MOTOR RPM	MOTOR POWER V-PH-HZ	MOTOR DRIVE	SONES	OPERATING WEIGHT LBS	SUPPORT DETAIL	ACCESSORIES	REMARKS
EF-1-1	GREENHECK SQ-97-VG	KITCHEN	CEILING	300	0.25	1641	1/4	1725	115-1-60	DIRECT	15.3	50	-	(2)	
EF-1-2	GREENHECK SP-AP0511W	ELEC. RM	CEILING	110	0.25	861	11 WATTS	-	115-1-60	DIRECT	0.8	10	-	(2)	
EF-1-3	GREENHECK SP-AP0511W	BATTERY RM	CEILING	75	0.25	831	11 WATTS	-	115-1-60	DIRECT	0.8	10	-	(2)	
EF-1-4	GREENHECK G-140-VG	RESTROOMS -	ROOF	2500	1.0	1678	1	1725	115-1-60	DIRECT	16.5	78	-	(1)	(1)(2)(3)(4)
EF-2-1	GREENHECK G-098-VG	RESTROOMS -	ROOF	650	0.5	1615	1/4	1725	115-1-60	DIRECT	10.3	49	-	(1)	(1)(2)(3)(4)
EF-3-1	GREENHECK G-097-VG	POOL BLDG CHEMICAL 304	ROOF	100	0.25	861	1/4	1725	115-1-60	DIRECT	2.7	49	-	(1)	(1)(2)(3)(4)
EF-3-2	GREENHECK G-097-VG	POOL BLDG CHEMICAL 305	ROOF	100	0.25	861	1/4	1725	115-1-60	DIRECT	2.7	49	-	(1)	(1)(2)(3)(4)

ACCESSORIES:
(1) VARI GREEN EC MOTOR WITH 0-10 VDC INPUT SIGNAL TO VARY FAN SPEED AND BALANCING DIAL.
(2) BACKDRAFT DAMPER.
(3) PRE-FAB ALUMINUM SOUND ATTENUATOR ROOF CURB.
(4) BIRD SCREEN.

REMARKS: (1) FAN SELECTED FOR 10% MORE THAN BALANCE CFM.

ALFATECH
421 EAST HUNTINGTON DRIVE
MONROVIA, CA 91016
PHONE: (213) 212-9660
www.atce.com

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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REGISTERED PROFESSIONAL ENGINEER — JAMES J. KOUNTOURIS — No. M31713 — Exp. 6/30/2025 — MECHANICAL — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

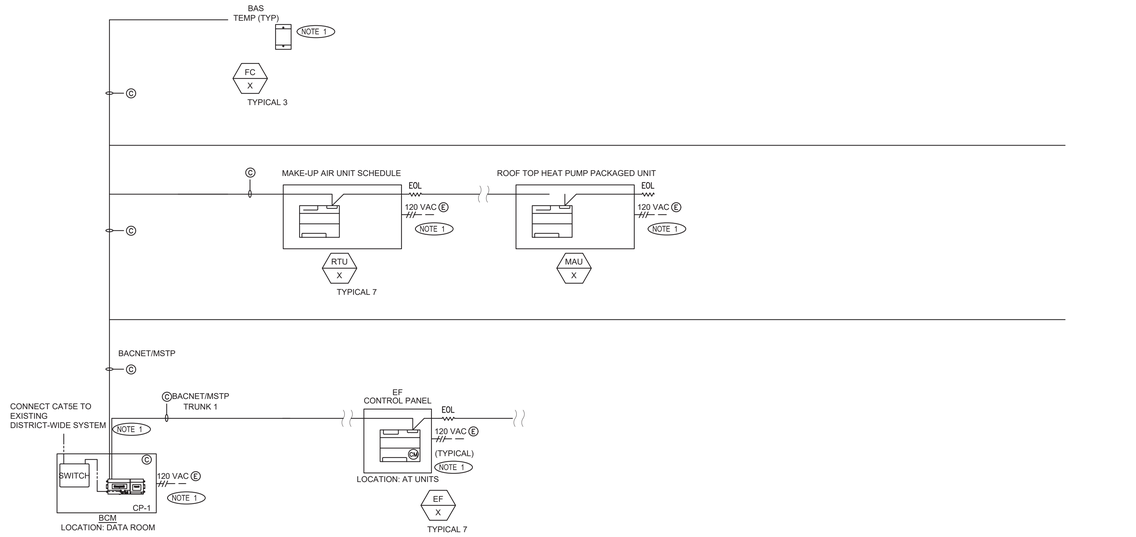
B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
MECHANICAL SCHEDULES
COMMUNITY AQUATICS & SENIOR CENTER
M6.01

	INITIAL	DATE
DESIGNED BY	NK/MZ	05/25/2022
DRAWN BY	MZ	06/20/23
CHECKED BY	NK	06/29/23

APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS
SHT. 125 OF 176 DWG. NO. 5-2606

PLOT DATE: 6/20/2023 3:56:17 PM



CONTROL SYSTEM OVERALL VIEW

COMMUNICATION RISER

NOTES:

1. ALL 120VAC POWER PROVIDED BY DIV26 ELECTRICAL.
2. RUN NEW BACNET MSTP CABLE BASED ON FIELD DETERMINED BEST DAISY-CHAIN RUN.

LEGEND:

(E) = PROVIDED BY ELECTRICAL CONTRACTOR
(M) = PROVIDED BY MECHANICAL CONTRACTOR
(C) = PROVIDED BY CONTROLS CONTRACTOR
(CM) = FURNISHED BY CONTROLS CONTRACTOR /INSTALLED BY MECH. CONTRACTOR
———— LOW VOLTAGE DC WIRING
– – – – – – – LINE VOLTAGE AC WIRING

CONTROLS SYSTEM ARCHITECTURE

SCALE NONE | 5

(NOT USED)

SCALE NONE | 3

TYPICAL FOR:

- RHP-L1
- RHP-L2
- RHP-L3
- RHP-351
- RHP-352

GENERAL NOTES:

- THIS DIAGRAM REPRESENTS INTERNAL CONTROL POINTS FOR COMMON MANUFACTURERS EQUIPMENT OFFERINGS. THE DIAGRAMS ARE TO SHOW INTENT AND EXPECTED LEVEL OF QUALITY/OPERATION.
- CONTROL FOR THE PACKAGED UNIT SHALL BE PROVIDED BY THE EQUIPMENT MANUFACTURER, AND SET UP BY THE MANUFACTURER'S REPRESENTATIVE. FIELD MOUNTED UNIT CONTROLS ARE NOT ACCEPTABLE SINCE ITS DX.
- THE BAS CONTRACTOR SHALL BE RESPONSIBLE FOR STANDARD POINTS OF CONNECTION TO THE BUILDING BAS NETWORK.
- THE BAS CONTRACTOR SHALL BE RESPONSIBLE FOR WIRING REMOTE DEVICES INCLUDING TEMP SENSORS, DP SENSORS, ETC.
- THE BAS CONTRACTOR SHALL HELP WITH THE UNIT SETUP AND PROGRAMMING RELATED TO INPUT/OUTPUT VALUES FOR TEMPERATURES, ALARMS, AND TIME OF DAY SCHEDULES.
- IF A SMOKE DAMPER OR FIRE-SMOKE DAMPER IS REQUIRED THEN THE SMOKE DAMPER ACTUATOR POWER SHALL ORIGINATE IN THE UNIT'S CONTROL CABINET AND WIRED TO AUX CONTACTS. THE SMOKE DAMPER ACTUATOR WILL BE PROVIDED BY MECHANICAL TO BE 24V SPRING CLOSED. WHEN THE UNIT IS ON, CONTROL POWER FROM THE (FAN) CONTROL CIRCUITS SHALL PROVIDE POWER TO OPEN THE DAMPER WHEN THE UNIT IS ON. WHEN THE UNIT IS OFF, CONTROL POWER WILL BE OFF, SO THE SPRING IN THE SMOKE DAMPER ACTUATOR SHALL CLOSE AUTOMATICALLY. THE COMMISSIONING FIELD TEST WILL BE TO HAVE THE FIRE-SMOKE DAMPER CLOSE WHEN THE UNIT IS MANUALLY TURNED OFF.

SEQUENCE OF OPERATION:

A. THE UNIT WILL BE ENERGIZED TO OCCUPIED MODE BY TIME OF DAY PROGRAMMING VIA MANUFACTURER'S PROGRAMMABLE THERMOSTAT. WHEN ENERGIZED, MANUFACTURER'S INTEGRAL CONTROLLER SHALL CONTROL ALL UNIT'S FANS, COMPRESSORS, HOT GAS VALVES AND AUXILIARIES TO MAINTAIN COOLING AND HEATING SET POINTS.
B. DURING OCCUPIED PERIODS, WHEN ENERGIZED, THE FAN SHALL RUN CONTINUOUSLY.
C. DURING UNOCCUPIED PERIODS, THE FAN WILL CYCLE WITH A CALL FOR HEATING OR COOLING TO MAINTAIN UNOCCUPIED SET POINTS.
D. CONTROL POINTS FOR MFR.'S CONTROLLER:
   1. UNIT STATUS - ON/OFF/MODE.
   2. UNIT ALARM.
   3. DIRTY FILTER ALARM.
   4. OUTSIDE AIR TEMPERATURE.
   5. SPACE TEMPERATURE.
   6. SPACE TEMPERATURE SET POINT.
   7. SPACE HUMIDITY SET POINT.
E. COOLING CONTROL: WHEN SPACE CONDITIONS INDICATE TEMPERATURE ABOVE SET POINT OF 72° F (ADJUSTABLE), ENERGIZE COOLING MODE.
F. MFR.'S INTEGRAL CONTROLS OPERATES REFRIGERANT SYSTEMS TO MAINTAIN SPACE TEMPERATURE SET POINT. UPON SATISFYING SPACE TEMPERATURE SETPOINT, THE UNIT'S FAN VFD SHALL MODULATE THE FAN SPEED TO PREVENT OVERCOOLING OF THE SPACE.
G. FOR SYSTEMS WITH HOT GAS REHEAT COILS, MODULATE REHEAT BASED UPON SPACE HUMIDITY WHILE CONTROLLING COOLING TO SPACE TEMPERATURE SET POINT.
H. FOR SYSTEMS WITHOUT HOT GAS REHEAT, CYCLE FAN ON AND OFF WITH FULL COMPRESSOR CAPACITY WITHOUT FAN OFF TIME DELAY RELAYS.
I. HEATING CONTROL: WHEN SPACE CONDITIONS INDICATE AN AIR TEMPERATURE BELOW HEATING SET POINT OF 68° F (ADJUSTABLE), ENERGIZE HEATING MODE.
J. MFR.'S INTEGRAL CONTROLS OPERATES HEATING CONTROLS TO MAINTAIN SPACE TEMPERATURE SET POINT.
K. OUTSIDE AIR VENTILATION: THE INTEGRAL CONTROLS SHALL MODULATE THE OA DAMPER TO MAINTAIN MINIMUM REQUIRED OUTDOOR AIR. THIS IS TO BE ACHIEVED EITHER BY AN AIRFLOW MEASURING STATION OR BY DP ACROSS THE OA DAMPER. THE OA DAMPER SHALL MODULATE BETWEEN THE SETPOINTS OF THE DP AT THE SUPPLY FANS' MAXIMUM AND MINIMUM FLOWS.
L. FILTERS: PROVIDE DIRTY FILTER SWITCH FOR EACH FILTER SECTION WITH DIRTY FILTER ALARM.

BASIC FEATURES OF PACKAGED DX UNIT

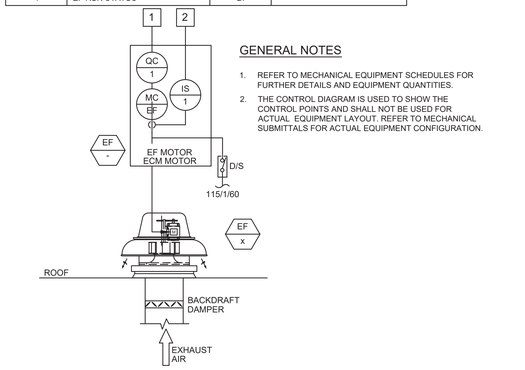
- FILTER DP SWITCH OR SENSOR
- OA DAMPER, NORMALLY CLOSED
- FAN STATIC PRESSURE HIGH LIMIT SWITCH
- HIGH AND LOW TEMPERATURE LIMIT SETPOINTS AND ALARMS
- INTEGRAL CONTROLS CABINET SECTION
- INTEGRAL MICROPROCESSOR CONTROLLER & LOGIC
- SINGLE POINT POWER CONNECTION
- INLET AND DISCHARGE RAIN HOODS
- IMPACT RESISTANCE LABEL

- FIRE ALARM SHUTDOWN DIGITAL INPUT
- SUPPLY AIR TEMP CONTROL, DEWPOINT CONTROL/DEHUM MODE

DX PACKAGE ROOFTOP UNIT SCHEMATIC - HEAT PUMP VAV

SCALE NONE | 4

BMS POINTS SUMMARY TABLE FOR EXHAUST FANS			
POINT ID □	POINT DESCRIPTION	BMS TYPE(S)	ADDITIONAL PARAMETERS
1	EF START/STOP	AO	WITH ECM MOTOR (0-10VDC)
2	EF RUN STATUS	BI	
3	EF START/STOP	BO	
4	EF RUN STATUS	BI	

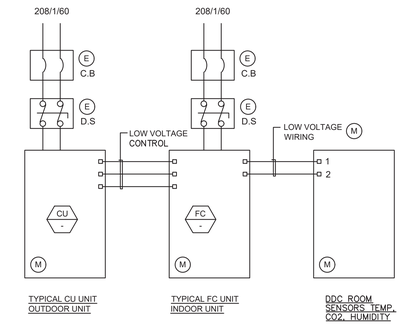


GENERAL NOTES

1. REFER TO MECHANICAL EQUIPMENT SCHEDULES FOR FURTHER DETAILS AND EQUIPMENT QUANTITIES.
2. THE CONTROL DIAGRAM IS USED TO SHOW THE CONTROL POINTS AND SHALL NOT BE USED FOR ACTUAL EQUIPMENT LAYOUT. REFER TO MECHANICAL SUBMITTALS FOR ACTUAL EQUIPMENT CONFIGURATION.

EXHAUST FAN CONTROL DIAGRAM

SCALE NONE | 2



TYPICAL CU UNIT
OUTDOOR UNIT

TYPICAL FC UNIT
INDOOR UNIT

DDC ROOM
SENSORS TEMP.
CO2, HUMIDITY

PROVIDE BMS CONTROLLER WITH

- SUPPLY TEMP SENSOR.
- CURRENT SENSOR.
- ENABLE-DISABLE, STATUS.
- VISUAL LOGIC DISPLAY CONTROLLER WITH TEMPERATURE
- SPACE TEMPERATURE ALARM.

TYPICAL FOR:
FC/CU-1
FC/CU-2
FC/CU-3
FC/CU-4
FC/CU-5

SPLIT SYSTEM WIRING AND CONTROL

SCALE NONE | 1

ALFATECH
421 EAST HUNTINGTON DRIVE
MONROVIA, CA 91016
PHONE: (213) 212-9860
www.atce.com

CITY OF GARDENA — GATEWAY CITY — INCORPORATED 1930

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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REGISTERED PROFESSIONAL ENGINEER — OMAR J. NOUREDDINE — No. M31713 — Exp. 6/30/2025 — MECHANICAL — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

MECHANICAL CONTROLS DIAGRAMS

COMMUNITY AQUATICS & SENIOR CENTER

M7.01

	INITIAL	DATE
DESIGNED BY	NK/MZ	05/25/2022
DRAWN BY	MZ	06/20/23
CHECKED BY	NK	06/29/23

APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 126 OF 176 DWG. NO. S-2606

PLOT DATE: 6/30/2023 5:49:11 PM
FILE NAME:

BUILDING WATER CALCULATIONS

TABLE 1-BUILDING WATER SUPPLY

PROJECT: Gardena Aquatics Center

TYPE OF SYSTEM:	DOMESTIC	BLDG TYPE:	SLAB ON GRADE
PIPE LOSSES ARE BASED ON:	SMOOTH	(CHART A-4) PIPE AND FITTINGS	
MAXIMUM CW DEMAND:	W.S.F.U./GPM 182 FU + 10+ 80+28	GPM	200.00
AVAILABLE PRESSURE (BLDG POC)		HIGH 82.0 PSI	LOW 65.00 PSI
LOSS THROUGH WATER METER	SIZE: (4" meter)	N/A	@ 206 GPM 3.6 PSI
LOSS THROUGH REDUCED PRESURE BACK FLOW PREVENTOR (IF APPLICABLE)	Zurn #500XL-YSBR (3" size)		10.0 PSI
BUILDING PRESSURE REGULATOR SET POINT (IF APPLICABLE)	Zurn #ZW209BP- 3" size		65.0 PSI
LOSS THROUGH PRESSURE REGULATOR			2.5 PSI
LOSS THROUGH SUB METER	SUBMETER SIZE OR MODEL		

FLOW:	GPM	FU	0.0	0.0 PSI
PRESSURE REQUIRED @ MOST REMOTE OR/AND HIGHEST FIXTURE WITH WORST SUPPLY CONDITION				30.00 PSI
STATIC LOSS:	10.0 ft	X	0.434	4.34 PSI
TOTAL LOSSES (FROM STREET TO BUILDING):				50.44 PSI
AVAILABLE PRESSURE FOR FRICTION LOSS (FROM LOW OR REGULATOR SET POINT)				14.56 PSI
TOTAL DEVELOPED LENGTH(ADD 15% EXTRA FOR FITTINGS &VALVES):	212.0 ft			42.4
AVAILABLE PRESSURE LOSS PER 100' =	14.6 PSI / 254.4 ft =		5.72	PSI/per 100'

BOOSTING NEEDED	NO	BOOSTER OUTLET SET POINT	0.0 PSI
ZONE PRESSURE REGULATOR SET POINT			0.0 PSI
ZONE LOSS THROUGH PRESSURE REGULATOR	REGULATOR SIZE & MODEL		0.0 PSI
ZONE LOSS THROUGH SUB METER	SUBMETER SIZE OR MODEL		

FLOW:	GPM	FU	0.(	0.0 PSI
ZONE PRESSURE REQUIRED @FIXTURE	0.00			0.0 PSI
ZONE STATIC LOSS (GAIN, if negative):	FLUSH VALVE SYSTEM 0.0 ft	X	0.434	0.0 PSI
TOTAL LOSS (AFTER BOOSTING):				0.00 PSI
ZONE AVAILABLE PRESSURE FOR FRICTION LOSS(ADD 15% EXTRA FOR FITTINGS &VALVES				0.00 PSI
ZONE TOTAL DEVELOPED LENGTH(ADD 15% EXTRA FOR FITTINGS &VALVES	0.0 ft			
ZONE AVAILABLE PRESSURE LOSS PER 100' =	0.0 PSI / 0.0 ft =		0.00	PSI/per 100'

TABLE 2-COLD WATER PIPE SIZING CRITERIA

PRESSURE LOSS	5.72	PSI per 100'	COPPER
MAXIMUM VELOCITY	6.00	f/s	H-W Coef.: 140

	NPS PIPE SIZE(INCH)	ID(INCH)	GPM	FU(FT SYS.)	FU(FV SYS.)	-	VEL
TYPE L COPPER	1/2	0.545	2.7	2	1	-	3.7 ft/s
	3/4	0.785	7.0	7	-	-	4.6 ft/s
	1	1.025	14.1	18	-	-	5.5 ft/s
	1 1/4	1.265	23.5	39	7	-	6.0 ft/s
	1 1/2	1.505	33.3	78	25	-	6.0 ft/s
	2	1.985	57.8	254	132	-	6.0 ft/s
	2 1/2	2.465	89.2	455	329	-	6.0 ft/s
	3	2.945	127.3	719	666	-	6.0 ft/s
	4	3.905	223.9	1,668	1,668	-	6.0 ft/s
	6	5.845	501.5	-	-	-	6.0 ft/s
	8	7.725	876.1	-	-	-	6.0 ft/s

TABLE 3-HOT WATER PIPE SIZING CRITERIA

PRESSURE LOSS	5.72	PSI per 100'	COPPER
MAXIMUM VELOCITY	5.00	f/s	H-W Coef.: 140

	PIPE SIZE(INCH)	ID(INCH)	GPM	FU(FT SYS.)	FU(FV SYS.)	-	VEL
TYPE L COPPER	1/2	0.545	2.7	2	1	-	3.7 ft/s
	3/4	0.785	7.0	7	-	-	4.6 ft/s
	1	1.025	12.9	16	-	-	5.0 ft/s
	1 1/4	1.265	19.6	28	-	-	5.0 ft/s
	1 1/2	1.505	27.7	46	-	-	5.0 ft/s
	2	1.985	48.2	119	-	-	5.0 ft/s
	2 1/2	2.465	74.3	245	-	-	5.0 ft/s
	3	2.945	106.1	406	-	-	5.0 ft/s
	4	3.905	186.5	840	-	-	5.0 ft/s
	6	5.845	417.9	-	-	-	5.0 ft/s
	8	7.725	730.0	-	-	-	5.0 ft/s

Notes:
- Flow, Head Loss, Velocity and Pressure Loss, calculated per Hazen-Williams Equation.
- Fixture Units and corresponding GPM conversion per LADBS document No. P/PC 2004-xx Public Information Bulletin

Fixture Unit Calculation Form

Project Name: Gardena Community & Senior Center
Created By: Marcia McKone
Date: 04-28-2023
Checked By: Mengyang Wu

Plumbing Fixture Unit Schedules

Descriptiopn	Quantity	Waste F.U	Water F.U	C.W F.U	H.W F.U	H.W. DEMAND (GPH)	Total Waste F.U	Total Water F.U	Total C.W F.U	Total H.W F.U	Possible max. Total H.W DEMAND (GPH)
Fixtures in Non-Residential Areas											
Lavatory	12	1	1	0.75	0.75	6	12	12	9	9	72
Urinals	8	2	4	1	0	0	16	32	8	0	0
Water Closet	15	4	5	5	0	0	60	75	75	0	0
Kitchen Sink	2	2	2	1.5	1.5	20	4	4	3	3	40
Dishwasher	1	3	3	0	3	40	3	3	0	3	40
Refridgerator	2	0	0.5	0.5	0	0	0	1	1	0	0
Shower	12	2	2	1.5	1.5	30	24	24	18	18	360
Service Sink	3	3	3	2.25	2.25	20	9	9	6.75	6.75	60
Drinking Fountain (Hi-Lo)	3	1	1	1	0	0	3	3	3	0	0
Hose Bibb(1st one)	1	0	2.5	2.5	0	0	0	2.5	2.5	0	0
Hose Bibb	5	0	1	1	0	0	0	5	5	0	0
2" Floor Sink	2	4	0	0	0	0	8	0	0	0	0
Indirect Waste Receptors	3	6	0	0	0	0	18	0	0	0	0
Floor Drain (Emergency only)	15	0	0	0	0	0	0	0	0	0	0
Hub Drain	1	100	0	0	0	0	100	0	0	0	0
Coffee Maker	1	0.5	0.5	0.5	0	0	0.5	0.5	0.5	0	0
Ice Machine	1	0.5	0.5	0.5	0	0	0.5	0.5	0.5	0	0
1-Compartment Sink	1	2	2	1.5	1.5	30	2	2	1.5	1.5	30
Mechanical make-up water = 10 GPM											
Grand Totals							**260**	**173.5**	**133.75**	**41.25**	**602**
							Total Waste F.U	**Total Water F.U**	**Total C.W F.U**	**Total H.W F.U**	**Total H.W Possible max. DEMAND**
							Total Bldg Water Demand GPM =	**See Below**	**Use 0.4 as demand factor and 1.0 for storage factor: Heater capacity = 241 gph, storage tank = 300 Gal.**		

Descriptiopn	Quantity	Waste F.U	Water F.U	C.W F.U	H.W F.U	H.W. DEMAND (GPH)	Total Waste F.U	Total Water F.U	Total C.W F.U	Total H.W F.U	Possible max. Total H.W DEMAND (GPH)
Fixtures in Pool Equipment Bldg.											
Hose Bibb(1st one)	1	0	2.5	2.5	0	0	0	2.5	2.5	0	0
Hose Bibb	4	0	1	1	0	0	0	4	4	0	0
3" Floor Sink	2	6	0	0	0	0	12	0	0	0	0
Floor Drain (Emergency only)	6	0	0	0	0	0	0	0	0	0	0
Emergency Eyewash/Shower	2	2	0	0	0	0	4	0	0	0	0
Hand Sink	1	3	2	2.25	2.25	0	3	2	2.25	2.25	0
Backwash Flush Tank (300 GPM)	1	600	0	0	0	0	600	0	0	0	0
Pool make-up water = 80 GPM											
Grand Totals							**619**	**8.5**	**6.5**	**0**	**0**
							Total Waste F.U	**Total Water F.U**	**Total C.W F.U**	**Total H.W F.U**	**Total H.W Possible max. DEMAND (GPH)**
							Total Bldg Water Demand GPM =	**182 + 80 + 10 +28 = 206 GPM**			

PLUMBING SYMBOLS

PLUMBING

- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- (E)PD — EXISTING PUMP DISCHARGE LINE
- SANITARY WASTE ABOVE FLOOR
- SANITARY WASTE BELOW FLOOR
- VENT
- (E) EXISTING PIPE TO BE DEMO'D

VALVES & FITTINGS

- CO — CLEAN OUT
- WCO — WALL CLEAN OUT
- FCO — FLOOR CLEAN OUT
- GCO — GRADE CLEAN OUT (DOUBLE CLEAN OUT)
- FLOOR DRAIN / FLOOR SINK
- DOWNSPOUT NOZZLE
- WALL HYDRANT
- HOSE BIB
- ALIGNMENT GUIDE
- PIPE ANCHOR
- PIPE EXPANSION JOINT
- PIPE CAP
- PIPE UP
- PIPE DOWN
- PIPE TEE, UP
- PIPE TEE, DOWN
- UNION
- DIRECTION OF PIPE PITCH
- AQUASTAT
- WATER HAMMER ARRESTER
- BALL VALVE
- BUTTERFLY VALVE
- VALVE (GENERIC)
- CHECK VALVE
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- FLEXIBLE CONNECTION
- FLOW DIRECTION
- SHUT OFF VALVE
- GATE
- GLOBE
- PLUG VALVE
- PRESSURE GAUGE
- SOLENOID VALVE
- ANGLE VALVE
- STRAINER
- PRESSURE AND TEMPERATURE TEST PORT
- THERMOMETER
- RELIEF VALVE

NOTE:

NOT ALL SYMBOLS AND ABBREVIATIONS LISTED ON THIS DRAWING MAY APPLY TO THE PROJECT.

DESCRIPTION

- YY — FIXTURE NUMBER
- XXX / YY — EQUIPMENT DESIGNATION TAG
- DETAIL NUMBER / SHEET NUMBER -(WHERE DETAIL IS SHOWN)
- KEYNOTES

ABBR.	DESCRIPTION	ABBR.	DESCRIPTION
ABBREV	ABBREVIATIONS	JS	JANITORS SINK
AD	ACCESS DOOR	LAV	LAVATORY
AFF	ABOVE FINISHED FLOOR	MFGR	MANUFACTURER
AP	ACCESS PANEL	(N)	NEW
BEL	BELOW	OTCS	OPEN TO CEILING SPACE
BFF	BELOW FINISHED FLOOR	PE	POLYETHYLENE
BOP	BOTTOM OF PIPE	PVC	POLYVINYLCHLORIDE
CFF	CAP FOR FUTURE	T&P	TEMPERATURE & PRESSURE
CI	CAST IRON	QTY	QUANTITY
CLG	CEILING	RD	ROOF DRAIN
CW	COLD WATER	REF	REFRIGERATOR
DIA.	DIAMETER	RPBP	REDUCED PRESSURE BACKFLOW PREVENTOR
DF	DRINKING FOUNTAIN	S	SANITARY SEWER
DFU	DRAINAGE FIXTURE UNIT	S.O.V.	SHUT-OFF VALVE
DWG	DRAWING	TYP.	TYPICAL
(E)	EXISTING	UNO	UNLESS NOTED OTHERWISE
EWC	ELECTRIC WATER COOLER	UR	URINAL
FCO	FLOOR CLEAN OUT	V	VENT
FD	FLOOR DRAIN	VBF	VENT BELOW FLOOR
FLR	FLOOR	VTR	VENT THRU ROOF
FW	FILTERED DOMESTIC COLD WATER	W	SANITARY WASTE
HS	HAND SINK	WABG	SANITARY WASTE ABOVE GRADE
HW	HOT WATER	WBEG	SANITARY WASTE BELOW GRADE
IAW	IN ACCORDANCE WITH	WC	WATER CLOSET
IJS	IN JOIST SPACE	WCO	WALL CLEAN OUT
I.E.	INVERT ELEVATION	WHA	WATER HAMMER ARRESTOR
IW	INDIRECT WASTE	WSFU	WATER SUPPLY FIXTURE UNIT

PLUMBING NOTES

A. PRIOR TO BID THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS, ELEVATIONS, POINTS OF CONNECTIONS AND CHARACTERISTICS OF ALL UTILITY PIPING AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.

B. PROVIDE PIPING, EQUIPMENT, AND MATERIALS IN ACCORDANCE WITH APPLICABLE PLUMBING CODE REGULATIONS, STANDARDS, AUTHORITY HAVING JURISDICTION REQUIREMENTS AND AS OTHERWISE RECOMMENDED OR DIRECTED BY MANUFACTURERS.

C. COORDINATE INSTALLATION OF PIPING BELOW GRADE WITH STRUCTURAL COMPONENTS AND OTHER SYSTEM INSTALLATIONS.

D. COORDINATE INSTALLATION OF PIPING, FIXTURES, EQUIPMENT, ETC. WITH ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL PRIOR TO INSTALLATION.

E. CLEANOUTS SHALL BE PROVIDED AS REQUIRED BY CODE AND SHALL BE READILY ACCESSIBLE. THE CONTRACTOR SHALL COORDINATE ALL LOCATIONS WITH EQUIPMENT, CABINETS, ETC., WITH ARCHITECT PRIOR TO ANY INSTALLATION. ALL CLEANOUTS SHALL BE SIZED PER CODE.

F. SEE PLUMBING FIXTURE SCHEDULE FOR PIPE CONNECTION SIZES. PROVIDE LOOSE KEY STOPS TO ALL FIXTURES.

G. PROVIDE CEILING ACCESS PANELS FOR ALL VALVES LOCATED ABOVE INACCESSIBLE CEILING SYSTEMS. MAINTAIN FIRE RATINGS WHERE REQUIRED.

H. SEE ARCHITECTURAL DRAWINGS FOR EXACT FIXTURE LOCATIONS.

I. ALL SEWER / DRAINAGE PIPING BELOW GRADE SHALL BE SLOPED AT 2% (1/4" PER FOOT) UNO.

J. DO NOT RUN ANY PIPES OVER ANY ELECTRICAL PANEL OR SWITCHGEAR. NO PLUMBING WORK SHALL BE INSTALLED ABOVE ELECTRICAL SERVICE EQUIPMENT. COORDINATE PIPE LOCATIONS TO AVOID ELECTRICAL PANELS.

K. PROVIDE MANUFACTURER'S RECOMMENDED AND CODE REQUIRED CLEARANCES AROUND ALL PIECES OF EQUIPMENT. PIPING & CONDUIT SHALL NOT INTERFERE WITH REQUIRED ACCESS.

L. EQUIPMENT LAYOUT IS BASED ON EQUIPMENT LISTED IN EQUIPMENT SCHEDULES. ANY OTHER EQUIPMENT USED IS SUBJECT TO MEETING PERFORMANCE REQUIREMENTS OF LISTED EQUIPMENT. CONTRACTOR SHALL MAKE ALL NECESSARY ADJUSTMENTS TO ASSURE OTHER EQUIPMENT WILL FIT IN AVAILABLE SPACE AND WILL NOT EXCEED WEIGHT AND ELECTRICAL REQUIREMENTS.

M. CLEANOUTS SHALL BE FLUSH WITH FINISHED FLOOR AT SEALED CONCRETE / TILE.

N. REFER TO STRUCTURAL DRAWINGS FOR ALLOWABLE METHODS/LOADS FOR HANGING PIPING FROM STRUCTURAL MEMBERS.

O. ANCHORAGE DETAILS FOR EQUIPMENT ARE SUBJECT TO APPROVAL OF THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION AND INSPECTION. UNLESS SPECIFICALLY SHOWN ON THESE PLANS, NO STRUCTURAL MEMBER SHALL BE CUT, DRILLED NOR NOTCHED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER.

P. SEAL ALL PIPE PENETRATIONS OF WALLS WITH AIRTIGHT SEALANT (FIRE RATED SYSTEM AT RATED WALLS). REFER TO ARCHITECTURAL DRAWINGS FOR RATED WALL LOCATIONS.

Q. EACH PLUMBING VENT SHALL TERMINATE NOT LESS THAN TEN (10) FEET FROM TO THREE (3) FEET ABOVE ANY WINDOW, DOOR, AIR INTAKE, OR VENT SHAFT, AND SHALL HAVE A VANDAL RESISTANT VENT CAP.

R. REFER TO ARCHITECTURAL CODE PLAN FOR AREAS WHERE FIRE PENETRATION MATERIALS ARE REQUIRED.

S. MOUNT HOSE BIBBS @ 36" ABOVE GRADE/FF. UNO. PROVIDE WITH NON-REMOVABLE VACUUM BREAKER.

T. PROVIDE INSULATION FOR PIPES PER CALIFORNIA STATE ENERGY CODE (TITLE 24) AND PER SPECIFICATIONS. IN THE EVENT OF CONFLICTS, PROVIDE MATERIAL WHICH MEETS THE MOST STRINGENT REQUIREMENT.

U. PROVIDE ISOLATION VALVE AT EACH BRANCH CONNECTION TO MAIN (CW AND HW).

V. DIELECTRIC ISOLATION FITTINGS AT POINTS OF CONNECTION OF ALL COPPER TUBING AND ANY DISSIMILAR METALS.

W. GRAVITY FLOW WASTE PIPE SIZES SHALL REMAIN AT INDICATED DOWNSTREAM SIZE WHERE SIZES ARE NOT SHOWN.

X. WHERE DOMESTIC COLD AND/OR HOT WATER PIPING DROPS INTO A PIPE CHASE, THE SIZE SHOWN FOR THE PIPE DROPS SHALL BE USED TO THE LAST FIXTURE.

Y. PROVIDE FIRE STOPS ON PIPING TO MAINTAIN RATING OF FIRE RATED WALLS WHERE PENETRATED BY PIPING.

Z. WHERE DOMESTIC HW/CW PIPE SIZES ARE NOT INDICATED, SUPPLY PIPE SIZE SHALL REMAIN LAST INDICATED UPSTREAM SIZE. CIRCULATION PIPE SHALL REMAIN LAST INDICATED DOWNSTREAM SIZE.

AA. WHERE INDICATED PIPE SIZE IS NOT COMMERCIALLY AVAILABLE, PROVIDE NEXT LARGER AVAILABLE SIZE.

AB. PROVIDE WATER HAMMER ARRESTOR (WHA) ON HOT AND COLD WATER BRANCHES THAT SERVE WATER CLOSETS, SINKS, URINALS, WASHING MACHINES, DISHWASHERS, HOSE BIBS, SHOWERS, TUBS, AND OTHER FIXTURES WITH QUICK-CLOSING VALVES. PLACE WHA WITHIN 6 FEET UPSTREAM OF FIXTURE. PROVIDE WITH ACCESS PANEL IF REQUIRED BY LOCAL CODE.

AC. PROVIDE MINIMUM 1/8" SLOPE ON ALL CONDENSATE PIPING. CONDENSATE PIPING SHALL BE INSULATED AND JACKETED.

AD. ALL BURRED ENDS OF WATER PIPING AND TUBING SHALL BE REAMED TO THE FULL BORE OF THE PIPE OR TUBE AND ALL CHIPS SHALL BE REMOVED (SEE CALIFORNIA PLUMBING CODE, 2019 EDITION, SECTION 309.3) ADDITIONALLY, TOOLS USED IN CUTTING OR REAMING SHALL BE KEPT FREE FROM OIL OR GREASE AND WHERE SUCH CONTAMINATION HAS OCCURRED, THE ITEMS AFFECTED SHALL BE REWORKED AND RINSED.

PLUMBING SHEET INDEX

P0.01	PLUMBING LEGENDS, ABBREVIATION & GENERAL NOTES
P1.11	PLUMBING SITE PLAN
P2.11	FIRST FLOOR PLUMBING PLAN
P2.12	SECOND FLOOR PLUMBING PLAN
P2.13	PLUMBING ROOF PLAN
P2.14	FIRST FLOOR PLUMBING PLAN - POOL EQUIPMENT
P4.01	ENLARGED PLUMBING PLAN
P4.02	ENLARGED PLUMBING PLAN
P5.01	PLUMBING DETAILS
P5.02	PLUMBING DETAILS
P6.01	PLUMBING SCHEDULES
P7.01	PLUMBING SCHEMATICS
P8.01	PLUMBING WASTE & VENT RISER DIAGRAM
P8.02	PLUMBING WATER RISER DIAGRAM
P8.03	PLUMBING GAS RISER DIAGRAM

PIPE SCHEDULE

SERVICE	LOCATION	PIPING MATERIALS: TYPE K COPPER	TYPE L COPPER	SCH 40 STEEL	SCH 40 GALV. STEEL	SCH 80 GALV. STEEL	SCH 80 STEEL	FITTINGS (REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION)
WATER	ABOVE GROUND		●					LEAD FREE SOLDERED JOINTS AND FITTINGS
	BELOW GROUND	●						LEAD FREE SOLDERED JOINTS AND FITTINGS
WASTE, STORM DRAIN	ABOVE FLR			●				PROVIDE TYLER 2-BAND NO-HUB COUPLINGS
	BELOW FLR			●				PROVIDE TYLER 4-BAND NO-HUB COUPLINGS
VENT	ABOVE FLR			●				PROVIDE TYLER 2-BAND NO-HUB COUPLINGS
	BELOW FLR			●				PROVIDE TYLER 2-BAND NO-HUB COUPLINGS
CONDENSATE DRAIN	INSIDE	●						95-5 SOLDERED FITTINGS
	OUTSIDE	●						95-5 SOLDERED FITTINGS
NATURAL GAS	INSIDE				●			-
	OUTSIDE						●	-

LEAD-FREE NOTE

ALL PLUMBING PIPING/FITTINGS AND PLUMBING FIXTURES INTENDED TO CONVEY OR DISPENSE WATER FOR DRINKING OR COOKING SHALL BE "LEAD FREE" IN COMPLIANCE WITH AB 1953. CONTRACTOR SHALL PROVIDE CERTIFICATION AS PART OF THE PLUMBING SUBMITTALS THAT ALL PLUMBING PRODUCTS COMPLY WITH AB 1953.

APPLICABLE CODES AND STANDARDS

1. CITY OF BELL GARDENS MUNICIPAL CODE
2. 2019 CALIFORNIA BUILDING CODE
3. 2019 CALIFORNIA ELECTRICAL CODE
4. 2019 CALIFORNIA MECHANICAL CODE
5. 2019 CALIFORNIA PLUMBING CODE
6. 2019 CALIFORNIA ENERGY CODE
7. 2019 CALIFORNIA GREEN BUILDING CODE
8. 2019 CALIFORNIA FIRE CODE
9. ALL CODES TO INCLUDE COUNTY OF LOS ANGELES CODE AMENDMENTS

GREEN BUILDING COMPLIANCE

A. PLUMBING FIXTURES AND FITTINGS SHALL MEET THE STANDARDS REFERENCED IN 2019 CALIFORNIA GREEN BUILDING STANDARD CODE 5.303.

B. PER 2019 CALIFORNIA GREEN BUILDING STANDARD CODE SECTION 4.303, PLUMBING FIXTURES (WATER CLOSETS AND URINALS) AND FITTINGS (FAUCETS AND SHOWERHEADS) SHALL COMPLY WITH THE FOLLOWING:

1. WATER CLOSETS SHALL NOT EXCEED 1.28 GALLONS PER FLUSH.
2. URINALS SHALL NOT EXCEED 0.5 GALLONS PER FLUSH.
3. SHOWERHEADS SHALL HAVE A MAXIMUM FLOW RATE OF 1.8 GALLONS PER MINUTE AT 80 PSI.
4. LAVATORY FAUCETS SHALL NOT EXCEED 1.2 GALLONS PER MINUTE AT 60 PSI.
5. KITCHEN FAUCETS SHALL NOT EXCEED 1.8 GALLONS PER MINUTE AT 60 PSI.

PLUMBING SCOPE OF WORK

TENANT IMPROVEMENT OF THE EXISTING TWO-FLOOR WAREHOUSE OFFICE SPACE.

1. REPLACEMENT OF THE EXISTING PLUMBING FIXTURES IN THE CORE RESTROOM AND JANITOR'S CLOSET ON LEVEL 1 AND THE UNI-SEX RESTROOM AND JANITOR'S CLOSET ON LEVEL 2.
2. REPLACEMENT OF EXISTING STORAGE TYPE WATER HEATERS IN JANITOR CLOSET.
3. PROVISION OF THE PLUMBING SERVICES TO NEW PANTRIES AND WELLNESS ROOM IN TENANT SPACES.

MEDIUM PRESSURE GAS SIZING CHART

A. POOL EQUIPMENT (2 @ 1500)	3000 CFH
B. MAKE-UP AIR UNIT (1 @ 120)	120 CFH
C. WATER HEATER (1 @ 285)	285 CFH
GRAND TOTAL CONNECTED LOAD	3405 CFH

PIPE SIZE	CFH
1/2"	433
3/4"	905
1"	1710
1-1/4"	3500
1-1/2"	5250
2"	10100

NOTE: 1. NATURAL GAS SYSTEM BASED ON 2019 CPC, TABLE 1215.2(6) SCHEDULE 40 METALLIC PIPE.
2. SYSTEM DEVELOPED LENGTH = 400 FT.5 PSI, 3.5 PSI PRESSURE DROP

LOW PRESSURE GAS SIZING CHART (POOL AREA)

A. POOL EQUIPMENT (2 @ 1500)	3000 CFH
B. MAKE-UP AIR UNIT (1 @ 120)	120 CFH
C. WATER HEATER (1 @ 285)	285 CFH
GRAND TOTAL CONNECTED LOAD	3405 CFH

PIPE SIZE	CFH
1/2"	172
3/4"	360
1"	678
1-1/4"	1390
1-1/2"	2090
2"	4020

NOTE: 1. NATURAL GAS SYSTEM BASED ON 2019 CPC, TABLE 1215.2(1) - SCHEDULE 40 METALLIC PIPE
2. SYSTEM MAXIMUM DEVELOPED LENGTH = 10 FT. LESS THAN 2 PSI, 0.5" W.C. PRESSURE DROP

ALFATECH
421 EAST HUNTINGTON DRIVE
MONROVIA, CA 91016
PHONE: (213) 212-9860
www.atce.com

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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REGISTERED PROFESSIONAL ENGINEER — NICHOLAS J. KOUREMENOS — No. M31713 — Exp. 6/30/2025 — MECHANICAL — STATE OF CALIFORNIA

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
PLUMBING LEGENDS, ABBREVIATIONS, & GENERAL NOTES
COMMUNITY AQUATICS & SENIOR CENTER
P0.01

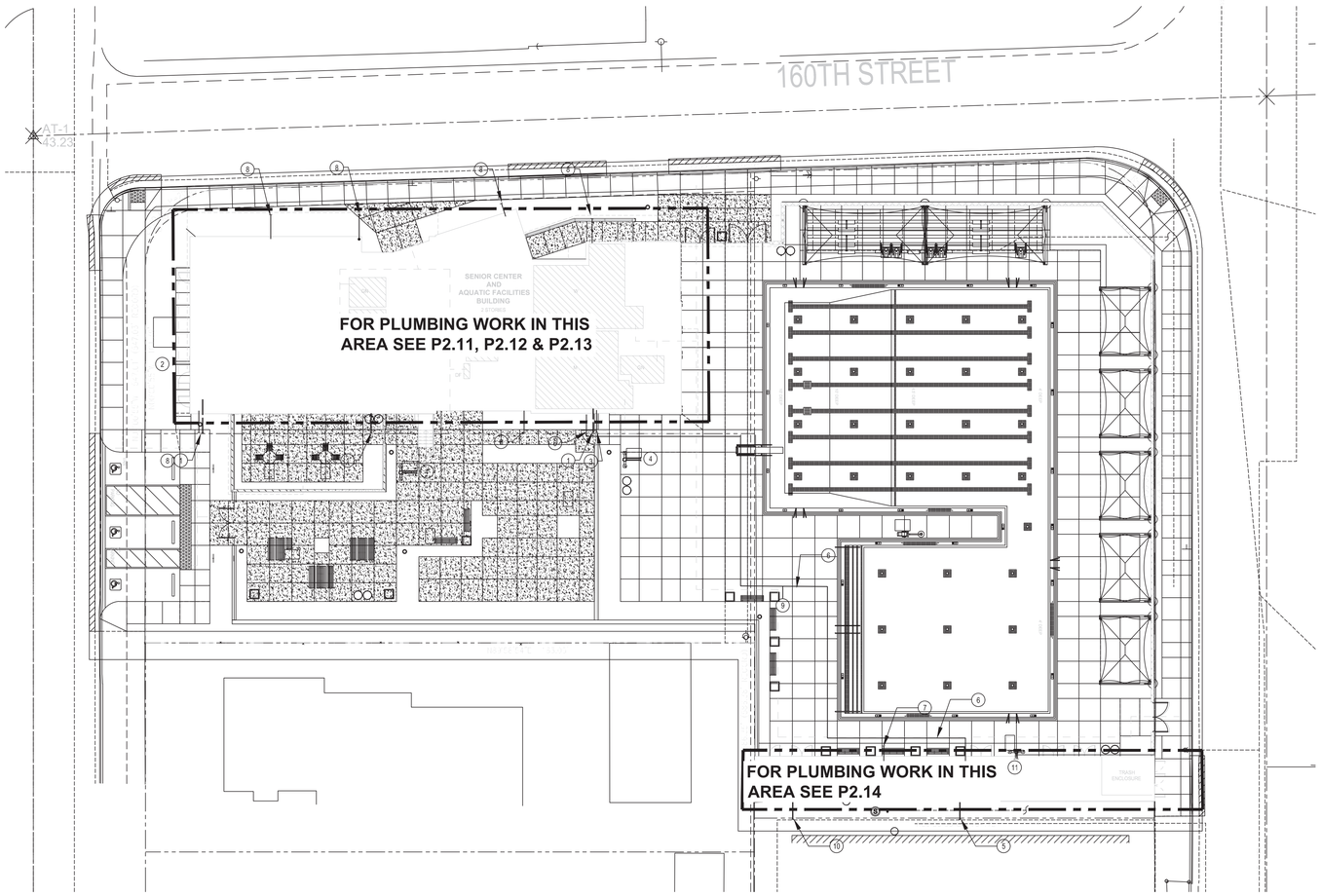
	INITIAL	DATE
DESIGNED BY		05/25/2022
DRAWN BY		04/20/23
CHECKED BY		04/21/23

APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS
SHT. 127 OF 176 DWG. NO. 5-2606

PLOT DATE: 12/26/2023 8:04:11 PM

KEYNOTES

1. 4" W BEL. GRD. TO 5'-0" FR. BLDG. SEE CIVIL FOR CONT.
2. 1-1/4" MPG BEL. GRD.
3. 3" CW BEL. GRD. TO 5'-0" FR. BLDG. SEE CIVIL FOR CONT.
4. 3/4" CW & 2" W BEL. GRD. SEE CIVIL FOR CONT.
5. 6" W BEL. GRD. TO 5'-0" FR. BLDG. SEE CIVIL FOR CONT.
6. 1-1/4" MPG BEL. GRD. TO POOL EQUIPMENT ROOM
7. 2" CW BEL. GRD. TO 5'-0" BEL. GRD. SEE CIVIL FOR CONT.
8. 3" SD BEL. GRD. TO 5'-0" BEL. GRD. SEE CIVIL FOR CONT.
9. 3/4" MPG FR. BEL TO BBQ
10. 2" W BEL. GRD. TO 5'-0" FR. BLDG. SEE CIVIL FOR CONT.
11. 3/4" CW & 2" W BEL. GRD. CONT. TO POOL EQUIPMENT PIPING



1 - PLUMBING SITE PLAN

SCALE: 1/16" = 1'-0"

ALFATECH
421 EAST HUNTINGTON DRIVE
MONROVIA, CA 91016
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PREPARED BY:

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REGISTERED PROFESSIONAL ENGINEER — NICHOLAS J. KOUNTOURIS — No. M31713 — Exp. 6/30/2025 — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

PLUMBING SITE PLAN

COMMUNITY AQUATICS & SENIOR CENTER

P1.11

	INITIAL	DATE
DESIGNED BY		05/25/2022
DRAWN BY		06/20/23
CHECKED BY		06/29/23

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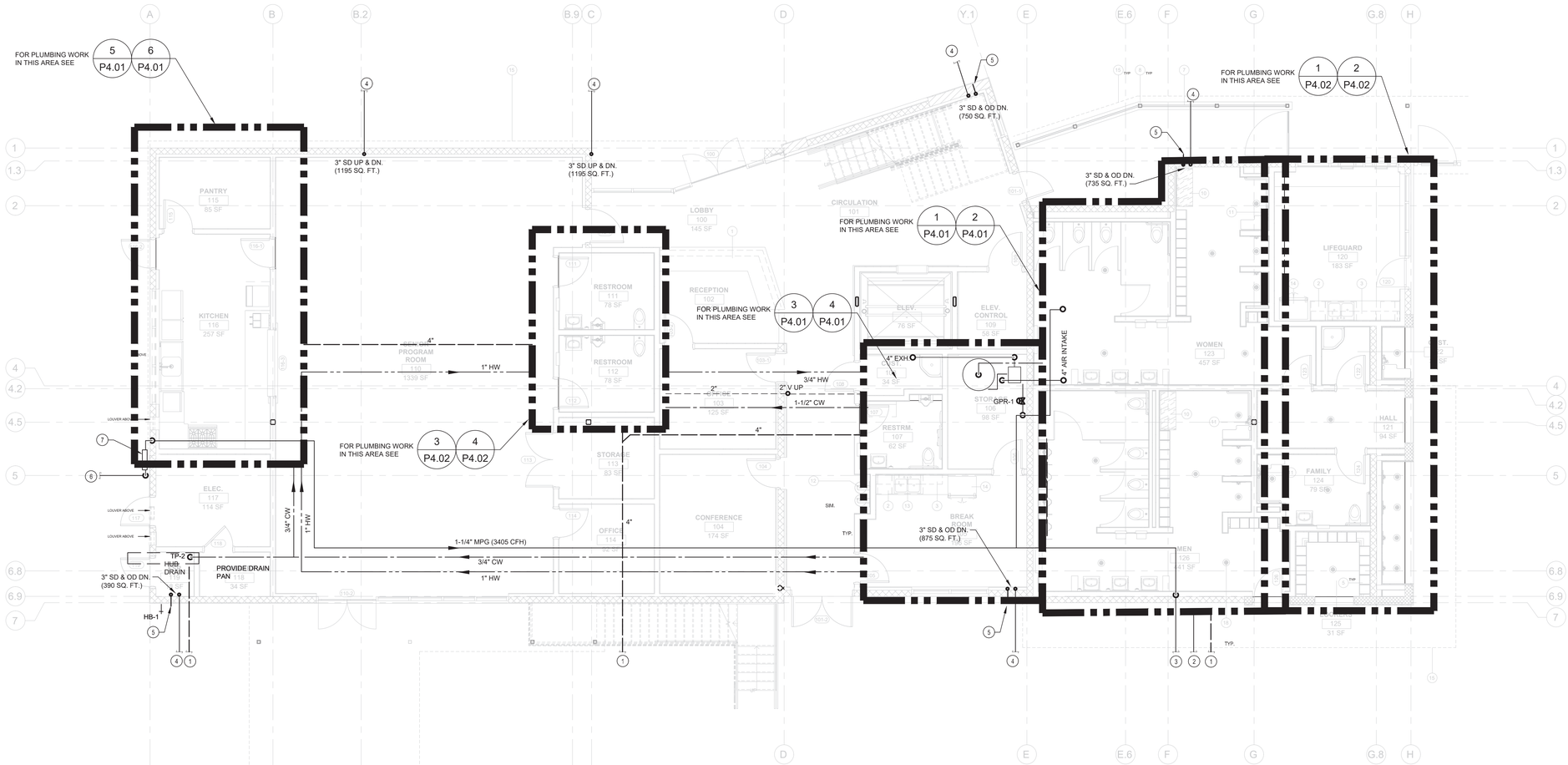
APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 128 OF 176 DWG. NO. 5-2606

PLOT DATE: 6/29/2023 3:56:17 PM

KEYNOTES

1. 4" W BEL. GRD. SEE P1.11 FOR CONT.
2. 2" CW BEL. GRD. SEE P1.11 FOR CONT.
3. 1-1/4" MPG BEL GRD. SEE P1.11 FOR CONT.
4. 3" SD BEL. GRD. SEE P.1.11 FOR CONT.
5. 3" OD +6"AFF. PROVIDE DOWNSPOUT NOZZLE WITH BIRDSCREEN
6. GAS PIPING BEL. GRD. BY SO CAL GAS
7. GAS METER ASSEMBLY. PROVIDE EARTHQUAKE SEISMIC VALVE (SV-1)
8. 2" CW BEL. GRD. SEE P1.11 FOR CONT.
9. 2" CW BEL. GRD. SEE P1.11 FOR CONT.
10. 2" CW BEL. GRD. SEE P1.11 FOR CONT.



1 - FIRST FLOOR PLUMBING PLAN

SCALE: 3/16" = 1'-0"

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REVISIONS

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3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

	INITIAL	DATE
DESIGNED BY		05/25/2022
DRAWN BY		06/20/23
CHECKED BY		06/29/23

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
FIRST FLOOR PLUMBING PLAN
COMMUNITY AQUATICS & SENIOR CENTER
P2.11

APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

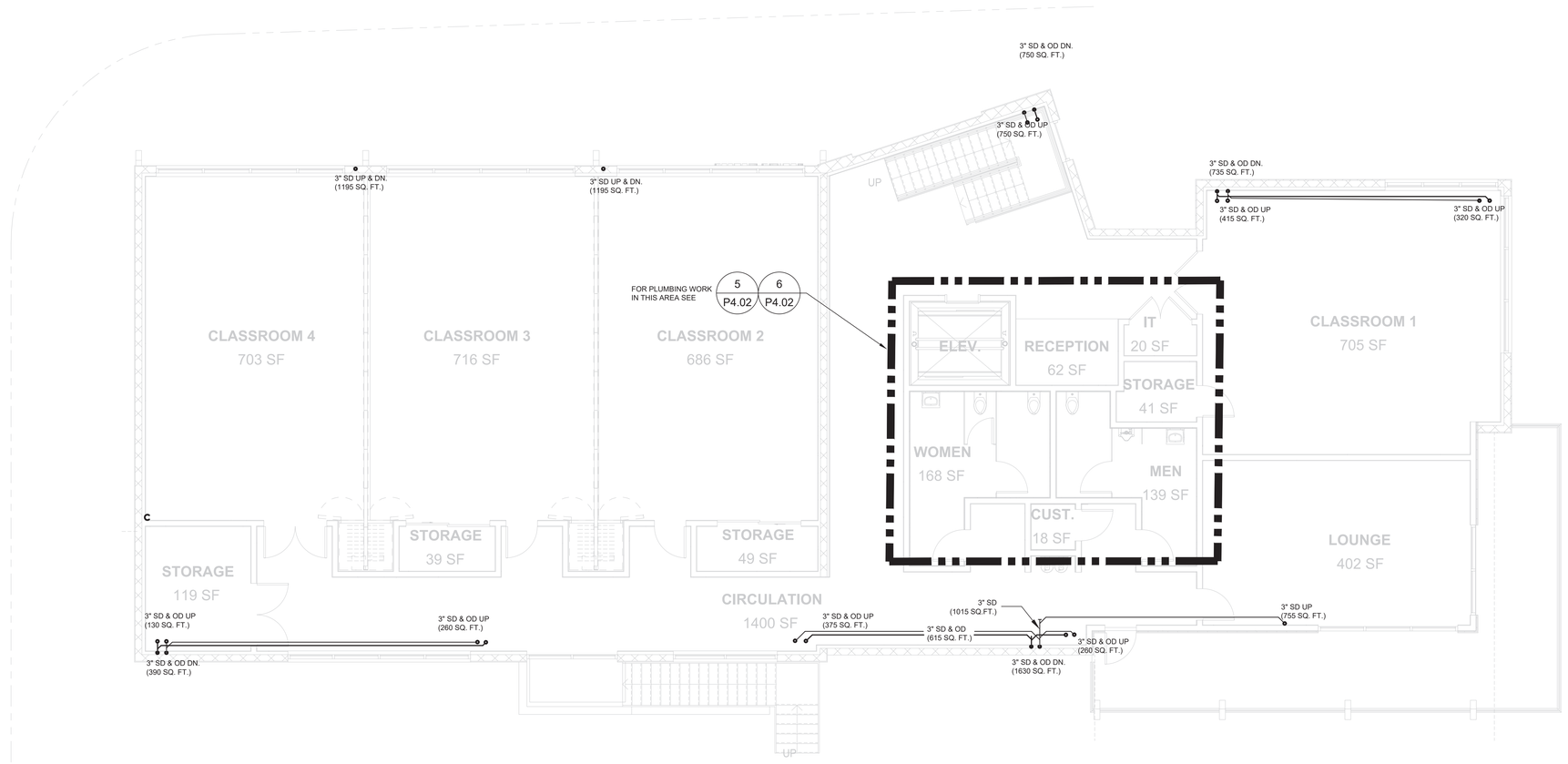
SHT. 129 OF 176 DWG. NO. 5-2606

PLOT DATE: 7/20/2023 8:48:17 PM

KEYNOTES

1 -

2 -



1 - SECOND FLOOR PLUMBING PLAN

SCALE: 3/16" = 1'-0"

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B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

REVISIONS

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3	FINAL SUBMITTAL	06/30/2023	

	INITIAL	DATE
DESIGNED BY		05/25/2022
DRAWN BY		06/20/23
CHECKED BY		06/29/23

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

SECOND FLOOR PLUMBING PLAN

COMMUNITY AQUATICS & SENIOR CENTER

P2.12

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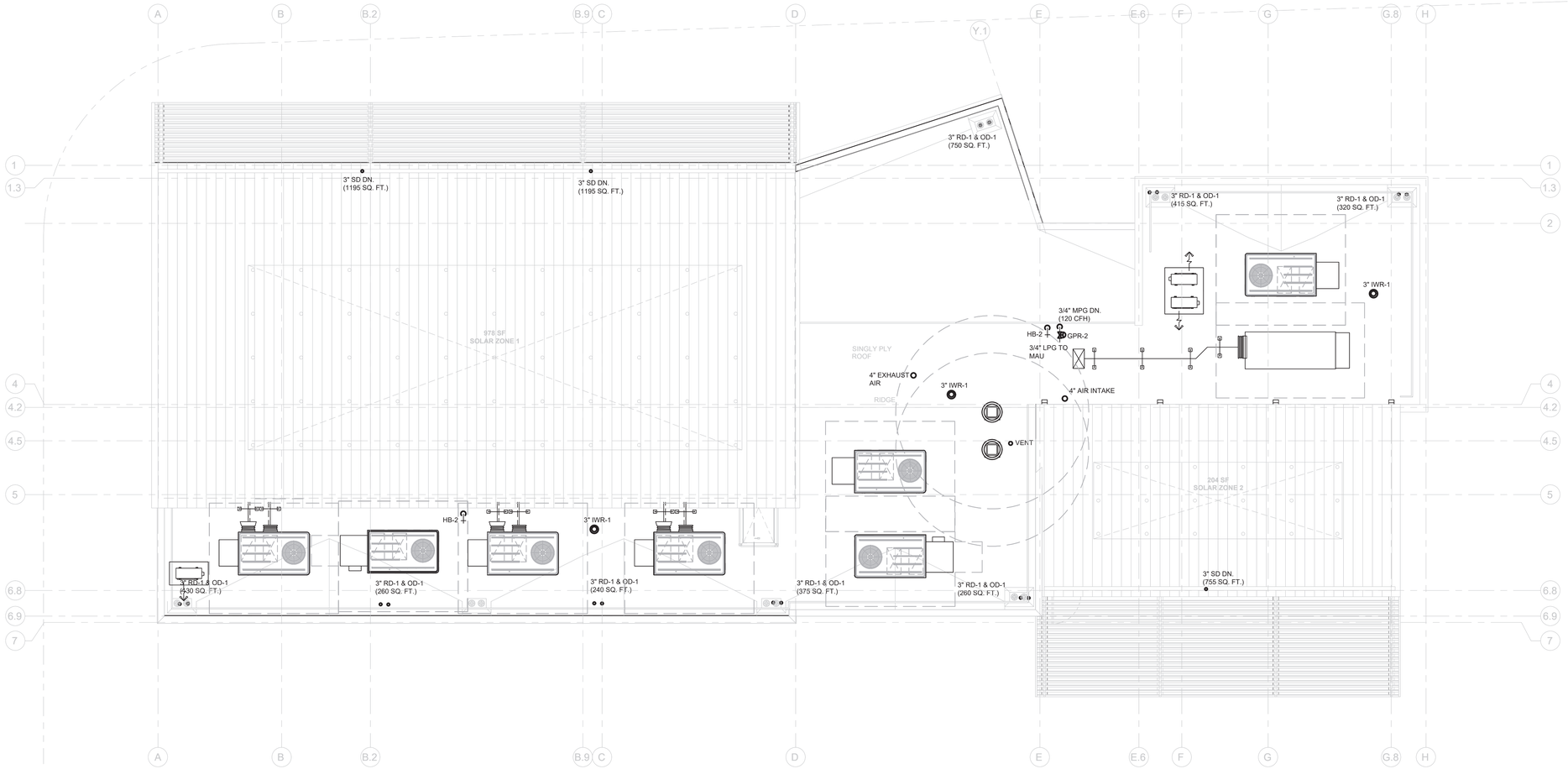
SHT. 130 OF 176 DWG. NO. 5-2606

PLOT DATE: 5/25/2022 5:04:11 PM

KEYNOTES

1 -

2 -



1 - PLUMBING ROOF PLAN

SCALE: 3/16" = 1'-0"

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3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

PLUMBING ROOF PLAN

COMMUNITY AQUATICS & SENIOR CENTER

P2.13

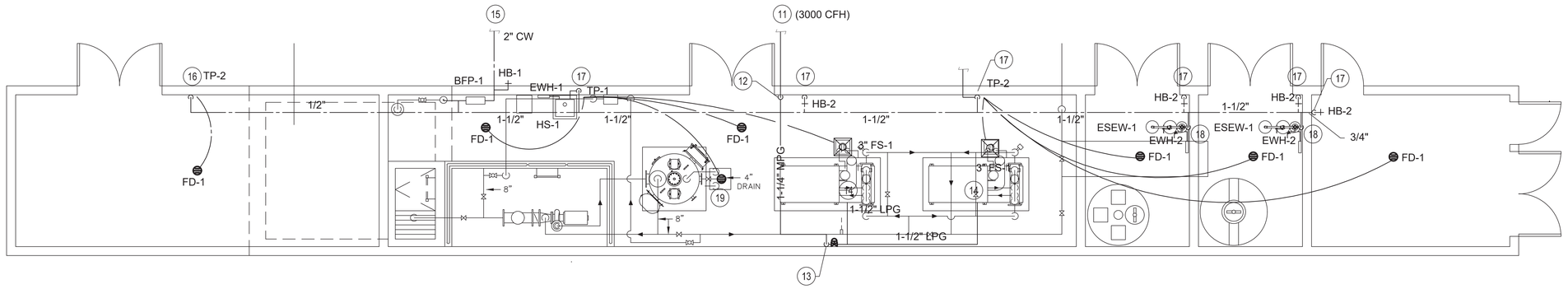
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DESIGNED BY		05/25/2022
DRAWN BY		06/20/23
CHECKED BY		06/29/23

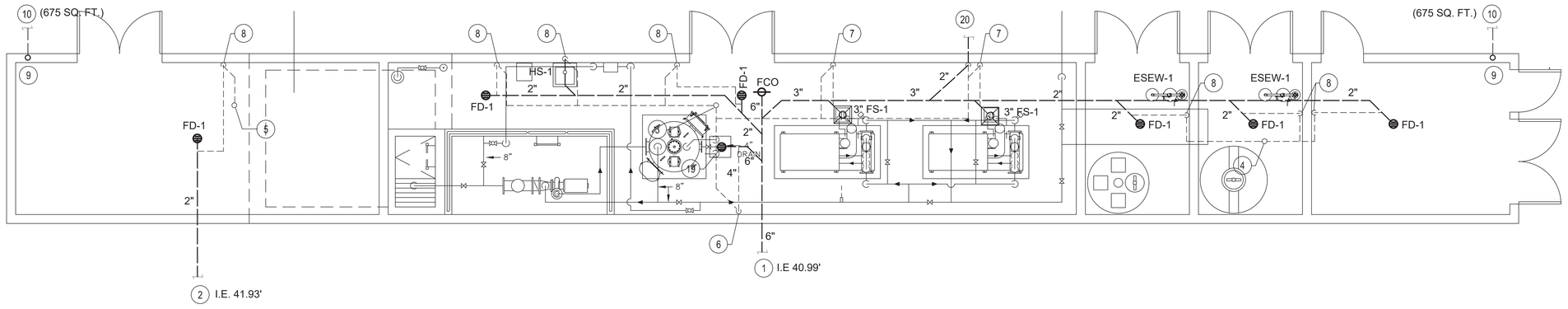
APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 131 OF 176 DWG. NO. 5-2606

PLOT DATE: 6/30/2023 10:41:17 PM





KEYNOTES

1. 6" W BEL. GRD. TO 5'-0" OUTSIDE OF BLDG. SEE CIVIL FOR CONT.
2. 2" W BEL. GRD. TO 5'-0" OUTSIDE OF BLDG. SEE CIVIL FOR CONT.
3. 4" V UP
4. 2" V UP
5. 1-1/2" V UP
6. 4" V RISE UP
7. 2" V RISE UP
8. 1-1/2" V RISE UP
9. 3" SD DN. (675 SQ. FT.)
10. 3" SD BEL. GRD. TO 5'-0" OUTSIDE OF BLDG. SEE CIVIL FOR CONT.
11. 1-1/4" MPG BEL. GRD. TO 5'-0" OUTSIDE. SEE P1.11 FOR CONT.
12. 1-1/4" MPG TIGHT TO BEL. STRUCTURE
13. 1-1/4" MPG DN TO GPR-3
14. 1-1/4' LPG TO POOL EQUIPMENT.
15. 2" CW BEL. GRD. TO 5'-0" OUTSIDE OF BLDG. SEE CIVIL FOR CONT.
16. 1/2" CW DN.
17. 3/4" CW DN.
18. 1-1/2" CW DN. TO TMV-3 AND EWH-2
19. 6" FLOOR DRAIN FOR BACKWASH FLUSH TANK
20. 2" W BEL. GRD.

1 - FIRST FLOOR PLUMBING PLAN

SCALE: 1/4" = 1'-0"

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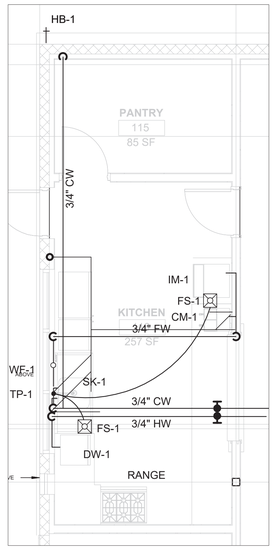
CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
FIRST FLOOR PLUMBING PLAN - POOL EQUIPMENT
COMMUNITY AQUATICS & SENIOR CENTER
P2.14

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SHT. 132 OF 176 DWG. NO. 5-2606

REF FILES:
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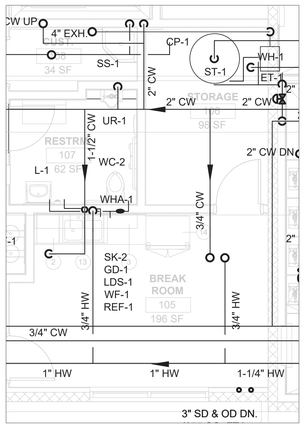
KEYNOTES

1 -
2 -



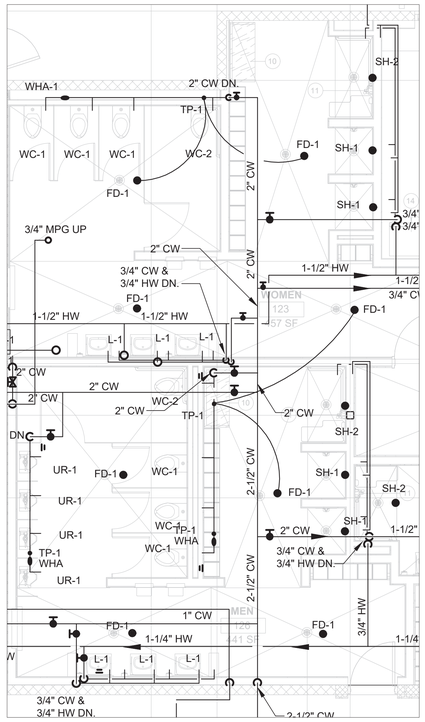
6 - ENLARGED PLUMBING PLAN - KITCHEN WATER & GAS

SCALE: 1/4" = 1'-0"



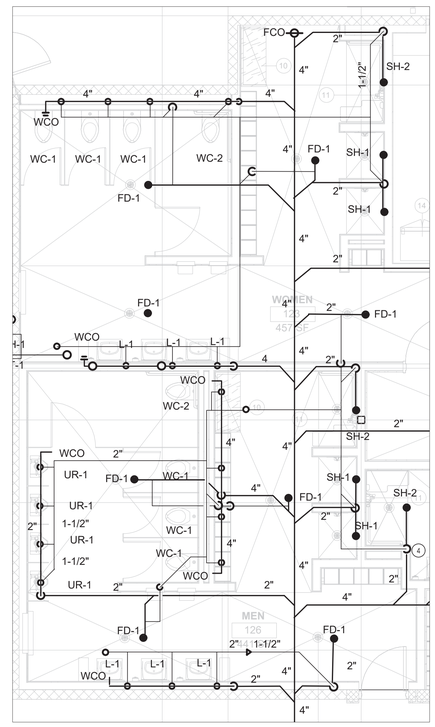
4 - ENLARGED PLUMBING PLAN - RESTROOM & STORAGE WATER & GAS

SCALE: 1/4" = 1'-0"



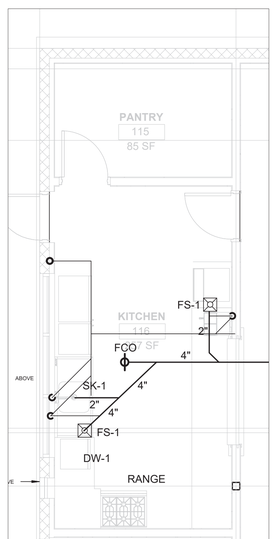
2 - ENLARGED PLUMBING PLAN - MAIN RESTROOM WATER & GAS

SCALE: 1/4" = 1'-0"



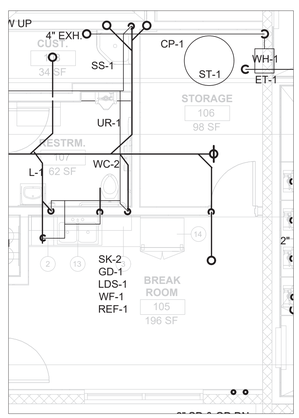
1 - ENLARGED PLUMBING PLAN - MAIN RESTROOM WASTE & VENT

SCALE: 1/4" = 1'-0"



5 - ENLARGED PLUMBING PLAN - KITCHEN WASTE & VENT

SCALE: 1/4" = 1'-0"



3 - ENLARGED PLUMBING PLAN - RESTROOM & STORAGE WASTE & VENT

SCALE: 1/4" = 1'-0"

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REVISIONS

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ELEV. = 43.508'

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DRAWN BY		06/20/23
CHECKED BY		06/29/23

APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 133 OF 176 DWG. NO. 5-2606

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

ENLARGED PLUMBING PLANS

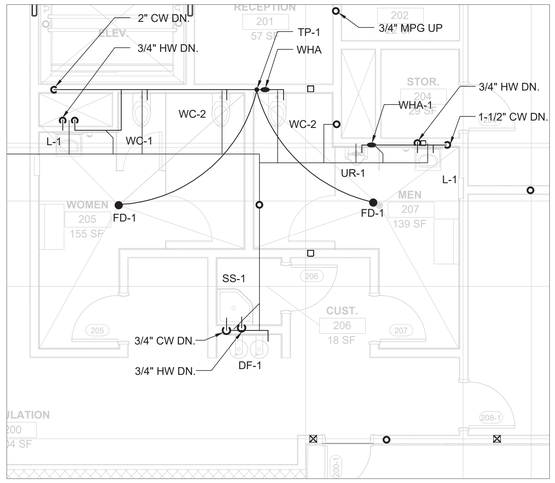
COMMUNITY AQUATICS & SENIOR CENTER

P4.01

FILE PATH: P4.01 PLUMBING.DWG 5/30/2023 3:04:11 PM

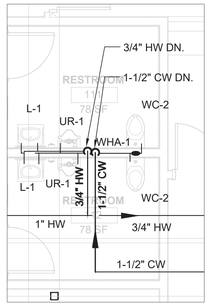
KEYNOTES

1 -
2 -



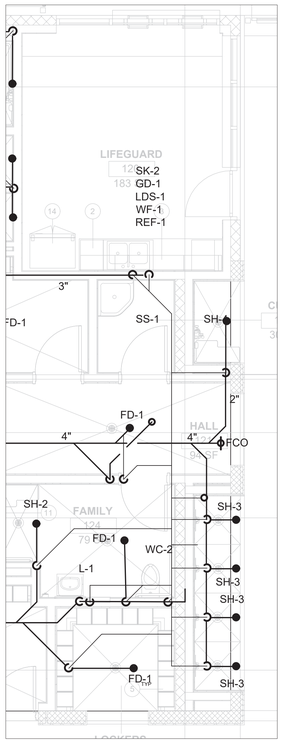
6 - ENLARGED PLUMBING PLAN - LEVEL 2 WATER & GAS

SCALE: 1/4" = 1'-0"



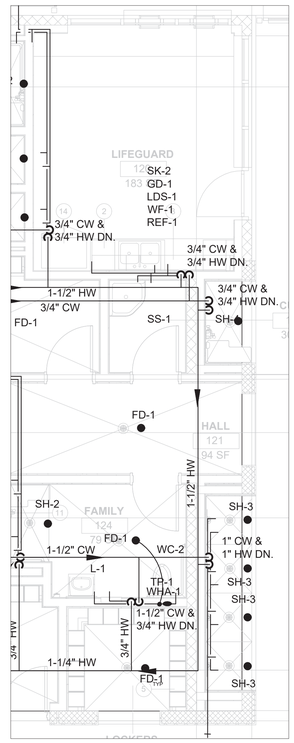
4 - ENLARGED PLUMBING PLAN - RESTROOM WATER & GAS

SCALE: 1/4" = 1'-0"



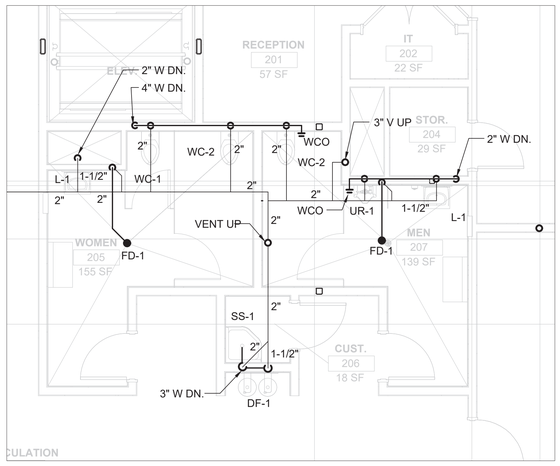
2 - ENLARGED PLUMBING PLAN - LIFEGUARD & FAMILY WATER & GAS

SCALE: 1/4" = 1'-0"



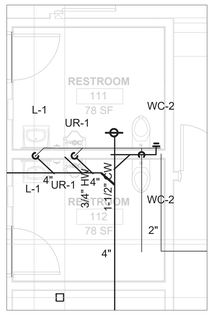
1 - ENLARGED PLUMBING PLAN - LIFEGUARD & FAMILY WASTE & VENT

SCALE: 1/4" = 1'-0"



5 - ENLARGED PLUMBING PLAN - LEVEL 2 WASTE & VENT

SCALE: 1/4" = 1'-0"



3 - ENLARGED PLUMBING PLAN - RESTROOM WASTE & VENT

SCALE: 1/4" = 1'-0"

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ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

ENLARGED PLUMBING PLANS

COMMUNITY AQUATICS & SENIOR CENTER

P4.02

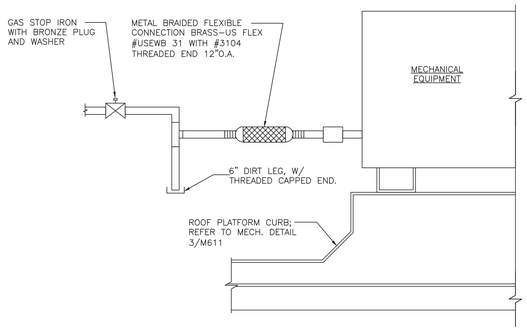
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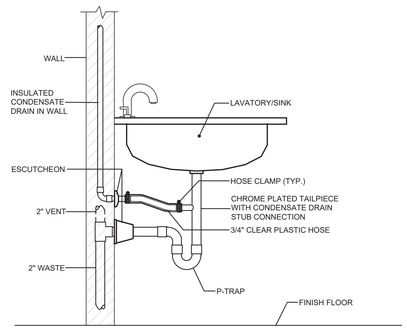
SHT. 134 OF 176 DWG. NO. 5-2606

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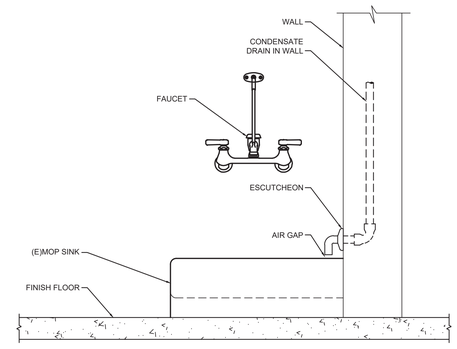
TYPICAL GAS CONNECTION AT MECHANICAL UNIT DETAIL

SCALE NONE | 9



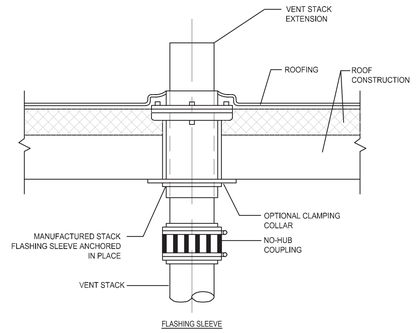
CONDENSATE DRAIN TO TRAP

SCALE NONE | 6



CONDENSATE TO SERVICE SINK

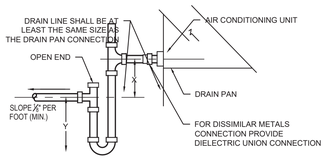
SCALE NONE | 3



FLASHING SLEEVE

VENT THRU ROOF

SCALE NONE | 8



NOMINAL TONS	DRAIN LINE SIZE (IN.)
UP TO 20	3/4
21-40	1
41-90	1-1/4
91-125	1-1/2
126-250	2

BLOW THROUGH COIL
1. X=1"
2. Y=TSP+1"

DRAW THROUGH COIL
1. X=TSP+1"
2. Y= ½ (TSP+1")

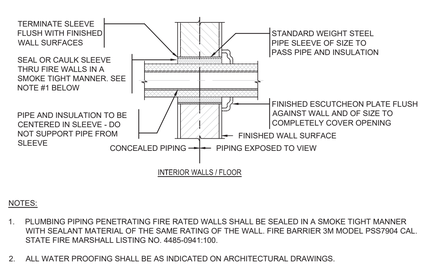
TSP=TOTAL STATIC PRESSURE INSIDE DRAIN PLENUM (INCHES OF WATER COLUMN)

NOTES:

1. WHERE VERTICAL SPACE DOES NOT PERMIT TRAP INSTALLATION AS REQUIRED ABOVE FLOOR SLAB, EXTEND P-TRAP TO BELOW SLAB.
2. FOR INDOOR AND OUTDOOR INSTALLATION PROVIDE INSULATED RAIN LINE TO THE POINT OF DISCHARGE AT APPROVED RECEPTOR.

CONDENSATE DRAIN TRAP

SCALE NONE | 5



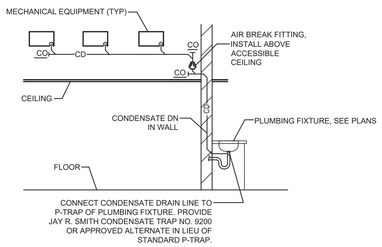
INTERIOR WALLS / FLOOR

NOTES:

1. PLUMBING PIPING PENETRATING FIRE RATED WALLS SHALL BE SEALED IN A SMOKE TIGHT MANNER WITH SEALANT MATERIAL OF THE SAME RATING OF THE WALL. FIRE BARRIER 3M MODEL PSS7904 CAL. STATE FIRE MARSHALL LISTING NO. 4485-0941:100.
2. ALL WATER PROOFING SHALL BE AS INDICATED ON ARCHITECTURAL DRAWINGS.

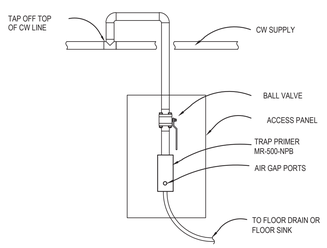
PIPE SLEEVE THRU WALL/FLOOR

SCALE NONE | 2



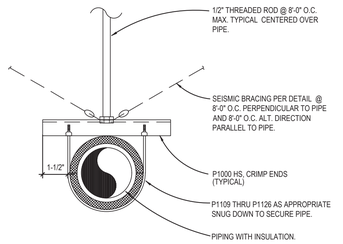
AIR BREAK FITTING

SCALE NONE | 7



TRAP PRIMER DETAIL

SCALE NONE | 4



NOTE:
WHERE PIPE DOES NOT EXCEED 1" DIA. SEISMIC BRACING IS NOT REQUIRED ADDITIONALLY PIPES MAY BE SUPPORTED W/UNISTRUT J1205-J1210 AS APPROPRIATE.

PIPE SUPPORT

SCALE NONE | 1

ALFATECH
421 EAST HUNTINGTON DRIVE
MONROVIA, CA 91016
PHONE: (213) 212-9860
www.atce.com

PREPARED BY:

SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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REGISTERED PROFESSIONAL ENGINEER — NICHOLAS J. KONSTANTELLIS — No. M31713 — Exp. 6/30/2025 — MECHANICAL — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

PLUMBING DETAILS

COMMUNITY AQUATICS & SENIOR CENTER
P5.01

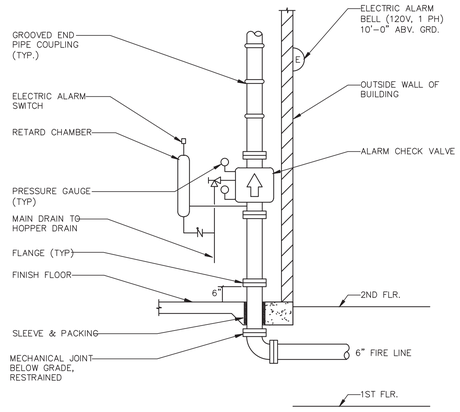
	INITIAL	DATE
DESIGNED BY		06/25/2022
DRAWN BY		06/20/23
CHECKED BY		06/29/23

APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 135 OF 176 DWG. NO. 5-2606

PLOT DATE: 6/30/2023 3:04:11 PM

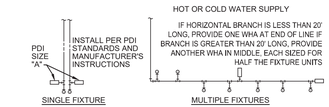


NOTES:
1. ALL REQUIRED ALARM VALVE TRIM NOT SHOWN.
2. THIS DETAIL IS FOR REFERENCE ONLY.

-	SCALE NONE	9

AUTOMATIC SPRINKLER RISER

SCALE NONE	6



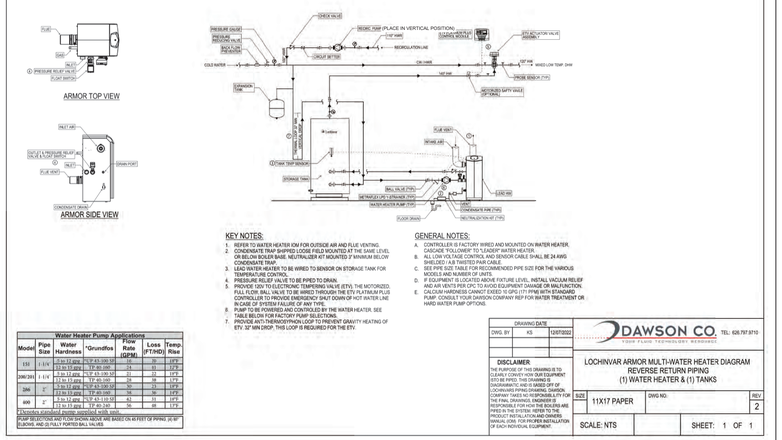
PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD
A	1/2"	1-11
B	3/4"	12-32
C	1"	33-60
D	1-1/4"	61-113
E	1-1/2"	114-154
F	2"	154-330

FIXTURE UNIT TABULATION		
FIXTURE	COLD	HOT
VALVE WATER CLOSET	5	--
TANK WATER CLOSET	2.5	--
URINAL	4	--
LAVATORY/SINK	1	1
JANITOR'S SINK	3	3
LAUNDRY	3	3

PROVIDE WATER HAMMER ARRESTERS. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE UNITS AS SHOWN ON THE DRAWINGS AND/OR PER THE TABLES SHOWN ABOVE. PROVIDE ACCESS PANEL PER CODE.

WATER HAMMER ARRESTOR

SCALE NONE	3



KEY NOTES:
1. REFER TO WATER HEATER IOM FOR OUTSIDE AIR AND FLUE VENTING.
2. CONDENSATE TRAP SHIPPED LOOSE FIELD MOUNTED AT THE SAME LEVEL OR BELOW BOILER BASE. NEUTRALIZER KIT MOUNTED 3' MINIMUM BELOW CONDENSATE TRAP.
3. LEAD WATER HEATER TO BE WIRED TO SENSOR ON STORAGE TANK FOR TEMPERATURE CONTROL.
4. PRESSURE RELIEF VALVE TO BE PIPED TO DRAIN.
5. PROVIDE 120V TO ELECTRONIC TEMPERING VALVE (ETV). THE MOTORIZED, FULL FLOW, BALL VALVE TO BE WIRED THROUGH THE ETV. PLATINUM PLUS CONTROLLER TO PROVIDE EMERGENCY SHUT DOWN OF HOT WATER LINE IN CASE OF SYSTEM FAILURE OF ANY TYPE.
6. PUMP TO BE POWERED AND CONTROLLED BY THE WATER HEATER. SEE TABLE BELOW FOR FACTORY PUMP SELECTIONS.
7. PROVIDE ANTI-THERMOSYPHON LOOP TO PREVENT GRAVITY HEATING OF ETV. 32" MIN DROP. THIS LOOP IS REQUIRED FOR THE ETV.

GENERAL NOTES:
A. CONTROLLER IS FACTORY WIRED AND MOUNTED ON WATER HEATER. CASCADE TO LOWER* TO "LEADER" WATER HEATER.
B. ALL LOW VOLTAGE CONTROL AND SENSOR CABLE SHALL BE 24 AWG SHIELDED, 2 TWISTED PAIR MINIMUM.
C. SEE PIPE SIZE TABLE FOR RECOMMENDED PIPE SIZE FOR THE VARIOUS MODELS AND NUMBER OF UNITS.
D. IF EQUIPMENT IS LOCATED ABOVE FIXTURE LEVEL, INSTALL VACUUM RELIEF AND AIR VENTS PER CPC TO AVOID EQUIPMENT DAMAGE OR MALFUNCTION.
E. CALCIUM HARDNESS CANNOT EXEED 10 GPG (171 PPM) WITH STANDARD PUMP. CONSULT YOUR DAWSON COMPANY REP FOR WATER TREATMENT OR HARD WATER PUMP OPTIONS.

Water Heater Pump Applications

Model	Pipe Size	Water Hardness	*Grundfos	Flow Rate (GPM)	Loss (FT/HD)	Temp. Rise
150	1-1/4"	0 to 17 gpg	TCP 43-100 SF	26	20	18°F
		0 to 10 gpg	TP 80-160	24	31	19°F
200/285	1-1/4"	3 to 17 gpg	TCP 43-150 SF	33	22	19°F
		0 to 13 gpg	TP 80-160	29	46	17°F
399	2"	3 to 17 gpg	TCP 43-150 SF	50	23	18°F
		0 to 13 gpg	TP 80-160	44	46	16°F
600	2"	3 to 17 gpg	TCP 43-150 SF	63	33	18°F
		0 to 13 gpg	TP 80-240	56	88	17°F

*Grundfos standard pump supplied with spool.
PUMP SELECTIONS AND FLOW SHOWN ABOVE ARE BASED ON 40 FEET OF PIPING, 20 90° ELBOWS, AND (3) FULLY PORTED BALL VALVES.

DRAWING DATE		
DWG. BY	KS	12/07/2022

DAWSON CO. HOME FLOW. HOMEBOY. WARMUP. TEL: 626.797.9710

DISCLAIMER
THE PURPOSE OF THIS DRAWING IS TO CLEARLY CONVEY HOW OUR EQUIPMENT IS TO BE INSTALLED. THIS DRAWING, DIAGRAMMATIC AND IS ASSEDLOPT OF LOCHINVARS PIPING DRAWING. DAWSON COMPANY TAKES NO RESPONSIBILITY FOR THE FINAL DRAWINGS. ENGINEER IS RESPONSIBLE FOR ALL PIPING AND WIRE PIPED IN THE SYSTEM. REFER TO THE PRODUCT INSTALLATION AND OWNERS INFORMATION FOR RECOMMENDATION OF EACH INDIVIDUAL EQUIPMENT.

LOCHINVAR ARMOR MULTI-WATER HEATER DIAGRAM
REVERSE RETURN PIPING
(1) WATER HEATER & (1) TANKS

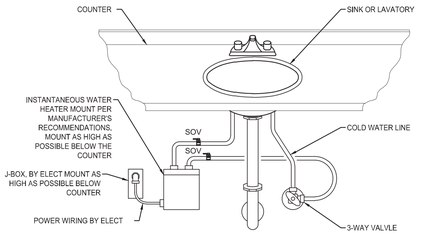
SIZE	11X17 PAPER	DWG NO:	REV 2
SCALE: NTS		SHEET: 1 OF 1	

WATER HEATER DIAGRAM

SCALE NONE	8

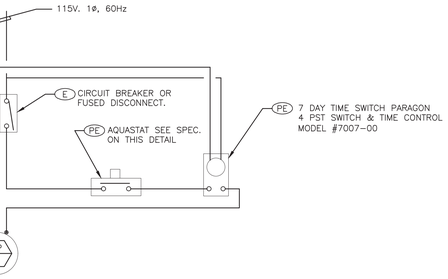
HUB DRAIN DETAIL

SCALE NONE	5



INSTANTANEOUS ELECTRIC WATER HEATER

SCALE NONE	2



SPECIFICATION
AQUASTAT: HONEYWELL NO. L4006A
40 TO 180 DEGREE F RANGE, 5–30 DEGREE F ADJUSTABLE DIFFERENTIAL

PE FURNISHED BY PLUMBER INSTALLED BY ELECTRICAL CONTR.

E FURNISHED AND INSTALLED BY ELECTRICAL CONTR.

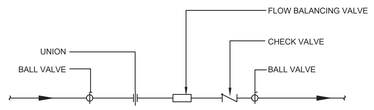
ALL WIRING BY ELECTRICAL CONTR.

PUMP START/STOP AQUASTAT SETTINGS (DEGREES F) :

PUMP #	START	STOP
CP-1	110	120

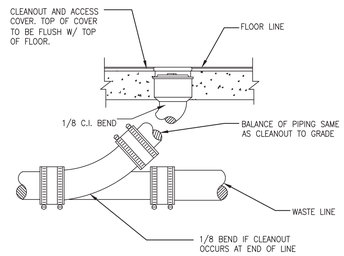
HOT WATER CIRCULATING PUMP AND WIRING DIAGRAM

SCALE NONE	7

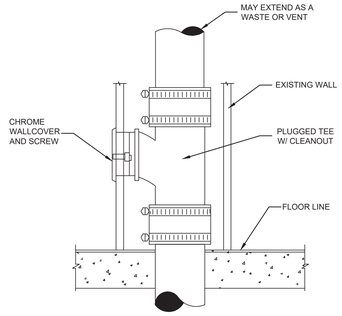


HOT WATER RETURN BALANCING VALVE

SCALE NONE	4



FLOOR CLEAN-OUT DETAIL



WALL CLEAN-OUT DETAIL

TYPICAL CLEANOUTS

SCALE NONE	1

ALFATECH
421 EAST HUNTINGTON DRIVE
MONROVIA, CA 91016
PHONE: (213) 212-9860
www.atce.com

PREPARED BY:

SVA ARCHITECTS
6 HUTTON CENTRE DR. SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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REGISTERED PROFESSIONAL ENGINEER — NICHOLAS J. KOURIS — No. M31713 — Exp. 6/30/2025 — MECHANICAL — STATE OF CALIFORNIA

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

PLUMBING DETAILS

COMMUNITY AQUATICS & SENIOR CENTER
P5.02

	INITIAL	DATE	APPROVED BY:
DESIGNED BY		05/25/2022	
DRAWN BY		04/20/23	
CHECKED BY		04/29/23	APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 136 OF 176 DWG. NO. 5-2606

PLOT DATE: 12/29/2023 8:04:11 PM

PANTRY EQUIPMENT & FIXTURE SCHEDULE

UNIT TAG	ARCH TAG	DESCRIPTION	ROUGH-IN SIZE				REMARKS
			WASTE	VENT	CW	HW	
SK-1	-	SINGLE COMPARTMENT SINK	2"	2"	3/4"	3/4"	REFER TO ARCHITECTURAL DRAWINGS FOR FULL SPECIFICATIONS. PROVIDE APPROVED DOUBLE CHECK VALVE.
SK-2	-	DROP-IN SINK DOUBLE BOWL	2"	2"	3/4"	3/4"	REFER TO ARCHITECTURAL DRAWINGS FOR FULL SPECIFICATIONS. PROVIDE APPROVED DOUBLE CHECK VALVE.
GD-1	-	GARBAGE DISPOSAL	-	-	-	-	REFER TO ARCHITECTURAL DRAWINGS FOR FULL SPECIFICATIONS. PROVIDE APPROVED DOUBLE CHECK VALVE.
REF-1	-	REFRIGERATOR	-	-	1/2"	-	PROVIDE IPS CORP. #FRMB12ABSHA: ICE MACHINE BOX WITH LEAD FREE QUARTER VALVE WITH WATER HAMMER ARRESTOR
IM-1	-	ICE MACHINE	1/2" IW	-	1/2" FCW	-	PROVIDE IPS CORP. #FRMB12ABSHA: ICE MACHINE BOX WITH LEAD FREE QUARTER VALVE WITH WATER HAMMER ARRESTOR
CM-1	-	COFFEE MAKER	-	-	1/2" FCW	-	REFER TO ARCHITECTURAL DRAWINGS FOR FULL SPECIFICATIONS. PROVIDE APPROVED DOUBLE CHECK VALVE.
DW-1	-	DISHWASHER	-	-	-	-	REFER TO ARCHITECTURAL DRAWINGS FOR FULL SPECIFICATIONS. PROVIDE APPROVED DOUBLE CHECK VALVE.

NOTES:
1. REFERENCE ONLY. REFER TO ARCHITECTURAL FOR FULL SCHEDULE AND EXACT EQUIPMENT LOCATIONS.
2. REFER TO ARCHITECTURAL DWG AND MANUFACTURES' INSTALLATION MANUAL FOR INSTALLATION DETAILS.

CIRCULATOR PUMP SCHEDULE

SYMBOL	DESCRIPTION	LOCATION	MANUFACTURER & MODEL NO.	DESIGN POINT			MOTOR				REMARKS
				GPM	HEAD (FEET)	PUMP EFF. (%)	HP	VOL.	PH.	FREQ. (HERTZ)	
CP 1	DOMESTIC RE-CIRCULATION PUMP (140°F)	-	BELL & GOSSETT ECOCIRC	-	-	0	-	-	-	-	.

NOTES:

TANK SCHEDULE

SYMBOL	DESCRIPTION/ SERVICE	MANUFACTURER & MODEL NO.	STORAGE (GALLON)	ASME	WORKING PRESSURE RATING	CONFIGURATION	OPERATING WEIGHT	REMARKS
ST 1	DOMESTIC HOT WATER SYSTEM STORAGE TANK	LOCHINVAR #RGA318	318	YES	ASME 150 PSI	VERTICAL	987 LBS.	-
ET 1	DOMESTIC HOT WATER SYSTEM EXPANSION TANK	AMTROL	-	YES	ASME 150 PSI	-	-	-

NOTES:
1. PROVIDE SEISMIC ATTACHMENT CLIP.
2. 5 YEAR LIMITED WARRANTY.
3. PROVIDE BRASS P&T RELIEF VALVE RATED TO 150 PSI.
4. PROVIDE TEMPERATURE SENSOR WITHIN 3/4" BULBWELL..
5. PROVIDE WITH MAGNESIUM ANODE RODS AND MANWAY.
6. PROVIDE OUTDOOR RATED FOAM INSULATION.
7. INSTALL TANK SENSOR, FACTORY SUPPLIED & SHIPPED LOOSE, IN THE TAPPING PROVIDED IN THE LOWER 25% OF THE STORAGE TANK TO ACHIEVE PROPER OPERATION.
   - WIRE TANK 1 SENSOR TO THE LEAD WATER HEATER CONTROLLER.
   - ALLOW FOR MULTI-MASTER OPERATION

GAS WATER HEATER SCHEDULE

MARK	MANUFACTURE & MODEL NUMBER	AREA SERVED	LOCATION	INCOMING WATER TEMP.	STORAGE TEMP.	TEMP. RISE	STORAGE CAPACITY	RECOVERY @ 100° F RISE	FUEL TYPE	GAS INPUT DATA		THERMAL EFFICIENCY	OPER. WEIGHT	REMARKS
										BTU/HR	ELEC.	%	LBS.	
WH 1	LOCHINVAR ARMOR #AWN286PM	DOMESTIC WATER SYSTEM	STORAGE RM #106	60° F	140° F	80° F	-	332	NATURAL GAS	285	120V/1PH/60HZ	96	280	-

NOTES:
1. PROVIDE T&P RELIEF VALVE RATED AT 150 PSI.
2. UPSIZED WATER HEATER PUMP SHIPPED LOOSE, PIPED AND WIRED BY OTHERS. WATER HEATER CONTROLLER WILL ENABLE/DISABLE, AND PUMP POWERED BY WATER HEATER. UPSIZED PUMPS ARE FOR APPLICATIONS WITH 12-15 GPG WATER HARDNESS. PUMP PART # 100166409 ELECTRICAL 3/4 HP
3. PROVIDE WITH CONDENSATE NEUTRALIZATION KIT.
4. PROVIDE CONCRETE PAD.
5. PROVIDE FACTORY SUPPLIED 5# OR 2# TO 14" WC NON-VENTED GAS REGULATOR TO UNIT.
6. PROVIDE "NO SALT CONDITIONER" (EASYWATER) AS THE WATER CONDITIONER. SEE DETAIL #/?? FOR LOCATION OF EQUIPMENT.
7. ALL LOW VOLTAGE CONTROL AND SENSOR CABLE SHALL BE 24 AWG SHIELDED / A,B TWISTED PAIR CABLE. CONTROLS TO BE MSTP, AND BOILERS TO HAVE MULTI-MASTER FUNCTION.
8. LEAD LAG OR PARALLEL MODULATION, ALTERNATION, MULTI-MASTER WITH ON BOARD CONTROLLER.
9. PROVIDE BMS GATEWAY TO BACNET IP.
5. PROVIDE POLYPROPYLENE VENT PIPE WITH ADAPTOR AND RAIN CAP.

INSTANTANEOUS ELECTRIC WATER HEATER SCHEDULE

MARK	MANUFACTURE & MODEL NUMBER	AREA SERVES	RECOVERY	ACTIVATION GPM	ELECTRICAL DATA			REMARKS
					V/PH/Hz	AMPS	WATTS	
EWH-1	CHRONOMITE CM-20L277	LAVATORY	38° RISE @ 1 GPM	0.20	277/1/60	29	5540	ELECTRIC TANKLESS WATER HEATER. 110°F MAXIMUM OUTPUT TEMPERATURE. INSTALL HAMMER ARRESTER ON CW SUPPLY. COORDINATE WITH ELECTRICAL INSTALLER FOR POWER CONNECTION. PROVIDE SOV AT CW INLET & HW OUTLET.
EWH-2	CHRONOMITE ERB-360L/208_3P	EMERGENCY SHOWER/EYEWASH	26° RISE @ 20 GPM	2.60	208/3/60	208	75000	ELECTRIC TANKLESS WATER HEATER. 110°F MAXIMUM OUTPUT TEMPERATURE. COORDINATE WITH ELECTRICAL INSTALLER FOR POWER CONNECTION. PROVIDE SOV AT CW INLET & HW OUTLET.

PLUMBING FIXTURE SCHEDULE

UNIT TAG	UNIT TAG	DESCRIPTION	MINIMUM CONN.				REMARKS
			WASTE	VENT	CW	HW	
WC-1	-	WATER CLOSET	4"	2"	1-1/2"	-	AMERICAN STANDARD AFWALL "MILLENNIUM FLOWISE #2257.101: WALL MOUNTED, VITREOUS CHINA, ELONGATED FLUSHOMETER TOILET, TOP SPUD, WHITE FINISH. SLOAN "ROYAL" #111 ESS-1.28-TMO-HW: 1.28 GPF SENSOR FLUSHVALVE. J.R. SMITH 200 OR 400 SERIES FLOOR ANCHORED CARRIER.
WC-2	-	WATER CLOSET - ADA	4"	2"	1-1/2"	-	SAME AS WC-1 EXCEPT INSTALL AT ADA APPROVED HEIGHT
UR-1	-	URINAL - ADA	0"–2"	1-1/2"	1-1/4"	-	AMERICAN STANDARD WASHBROOK #6590.001: WALL MOUNTED, VITREOUS CHINA, TOP SPUD, WHITE FINISH. SLOAN "ROYAL" #186 ESS-0.125-DBP-TMO-HW: 0.125 GPF SENSOR FLUSHVALVE. J.R. SMITH FLOOR ANCHORED CARRIER. INSTALL AT ADA APPROVED HEIGHT.
L-1	-	LAVATORY - ADA	2"	1-1/2"	3/4"	3/4"	AMERICAN STANDARD LUCERNE #0.356.421: WALL MOUNTED, VITREOUS CHINA, SINGLE HOLE PUNCH. SLOAN "OPTIMA" EAF-200 PLG-ITM-CP-0.35GPM-MLM-IR-IQ-FCT: 0.35 GPM SENSOR FAUCET, PROVIDE WITH TMV- 2. J.R. SMITH FLOOR ANCHORED CARRIER. INSTALL AT ADA APPROVED HEIGHT.
SH-1	-	SHOWER - ADA	2"	1-1/2"	3/4"	3/4"	SYMMONS #C-96-500-B30-V-X-1.5: 1.5 GPM. PROVIDE WITH TMV-2
SH-2	-	SHOWER (PUBLIC)	2"	1-1/2"	3/4"	3/4"	ACORN #1741FA-04-M-8-EVSP2: WALL MOUNTED PNEUTRONIC 1.5 GPM 14 GAUGE TYPE 304 STAINLESS STEEL SHOWER. PROVIDE WITH TMV-2
SH-3	-	SHOWER - ADA (PUBLIC)	2"	1-1/2"	3/4"	3/4"	SAME AS SH-3 EXCEPT USE #450BADAWH INSTALL AT ADA APPROVED HEIGHT. PROVIDE WITH TMV-2
SH-4	-	SHOWER - ADA (PUBLIC)	2	1-1/2"	3/4"	3/4"	ACORN #110ADA-1-1-8-W-EVS1: 1.5 GPM. PROVIDE WITH TMV-2
HS-1	-	HAND SINK - ADA	2"	1-1/2"	3/4"	3/4"	WILLOUGHBY #CES-912: WALL MOUNTED 16 GAUGE TYPE 304 STAINLESS STEEL FIXTURE. CHICAGO FAUCET #EVR-A12D-43ABCP: 0.35 GPM SENSOR FAUCET. PROVIDE WITH TMV-2. INSTALL AT ADA APPROVIDE HEIGHT.
SS-1	-	SERVICE SINK	3"	2"	3/4"	3/4"	AMERICAN STANDARD FLORWELL #7741.000: FLOOR MOUNTED CORNER TYPE. CHICAGO FAUCET #897-RCF: WALL MOUNTED FAUCET WITH WALL BRACE AND VACUUM BREAKER.
DF-1	-	DRINKING FOUNTAIN (HI-LI)	2"	2"	3/4"	-	ELKAY EZWS-ERPBM28K: PROVIDE WITH BOTTLE FILLER AND 8 GPH CHILLER. 115/1/60
HB-1	-	HOSE BIBB (WALL)	-	-	3/4"	-	ACORN #6151-SSLF: PROVIDE WITH NON-REMOVABLE VACUUM BREAKER.
HB-2	-	HOSE BIBB (ROOF)	-	-	3/4"	-	ACORN #8126CR-LF: PROVIDE WITH NON-REMOVABLE VACUUM BREAKER.
ESEW-1	-	EMERGENCY EYEWASH/SHOWER	2"	2"	1-1/4"	1-1/4"	GUARDIAN #GBF1994: BARRIER FREE
LDS-1	-	LEAK DETECTION SYSTEM	-	-	-	-	FLOODSTOP FS3/4NPT EMERGENCY WATER LEAK DETECTION AND SHUT OFF SYSTEM WITH ONE STRAIGHT VALVE. PROVIDE EXTRA WATER SENSOR AND SENSOR MANIFOLD AS NECESSARY.
LDS-2	-	LEAK DETECTION SYSTEM	-	-	-	-	FLOODSTOP FS3/4H EMERGENCY WATER LEAK DETECTION AND SHUT OFF SYSTEM WITH TWO STRAIGHT VALVES. PROVIDE EXTRA WATER SENSOR AND SENSOR MANIFOLD AS NECESSARY.
FD-1	-	FLOOR DRAIN	2"	2"	1/2"TP	-	J.R SMITH 2005-Y-B SERIES WITH ADJUSTABLE SQUARE NICKEL BRONZE STRAINER & TRAP PRIMER CONNECTION, OR EQUAL.
FD-2	-	SHOWER DRAIN	2"	2"	-	-	SAME AS FD-1 EXCEPT LESS TRAP PRIMER CONNECTION.
FS-1	-	FLOOR SINK	3"	2"	1/2"TP	-	J.R. SMITH #3100Y-C-U-CI: DUCO CAST IRON BODY, FLASHING CLAMP, VANDAL PROOF SCREWS, 1/2 OR 3/4 GRATE. PROVIDE WITH TRAP PRIMER CONNECTION.
FD-3	-	FLOOR DRAIN	6"	4"	1/2"TP	-	J.R. SMITH #6060Y-C-U-: STAINLESS STEEL BODY, FLASHING CLAMP, VANDAL PROOF SCREWS, FULL GRATE. PROVIDE WITH TRAP PRIMER CONNECTION.
RD-1	-	ROOF DRAIN	SEE PLANS FOR SIZES				J.R. SMITH 1010Y: DUCO CAST IRON BODY
OD-1	–	OVERFLOW DRAIN	SEE PLANS FOR SIZES				J.R. SMITH 1080Y: DUCO CAST IRON BODY WITH 2" WATER DAM
TP-1	-	TRAP PRIMER	-	-	1/2"	-	MIFAB MR-500-NPB ALL BRASS CONSTRUCTION, PRESSURE DRIP ACTIVATION, WITH AIR GAP, DISTRIBUTION UNIT AND ACCESS PANEL.
TP-2	-	TRAP PRIMER (ELECTRONIC)	-	-	1/2"	–	MIFAB MI-300-120-VAC, ELECTRONIC TRAP SEAL PRIMER WITH AIR GAP, DISTRIBUTION UNIT AND CONTROL PANEL.
WHA-1	-	WATER HAMMER ARRESTOR	-	-	1/2"	-	MIFAB #WHB, BELLOWS TYPE, OR APPROVED EQUAL.
TMV-1	-	TEMPERATURE MIXTURE VALVE WATER HEATER	-	-	3/4"	-	HEAT TIMER #ETV 915671-00: 3/4" VALVE. 17.84 GPM FLOW RATE. 6 PSI DROP. MAXIMUM WORKING PRESSURE 225. PROVIDE WITH TMC MOTORIZED VALVE #920541-00. CONTROL ASSEMBLY #915671-BAC.
TMV-2	-	TEMPERATURE MIXTURE VALVE LAVATORIES/HAND SINK/SHOWER	-	-	1/2"	-	WATTS MODEL LFUSG-B-M2 POINT OF USE TEMPERATURE MIXING VALVE. TEMPERATURE SET AT 110°F, ASSE 1070 LISTED.
TMV-3	-	TEMPERATURE MIXING VALVE EMERGENCY EYEWASH/SHOWER	-	-	-	-	WATTS POWERS HYDROGUARD XP SERIES EMERGENCY TEMPERATING MIXING VALVE WITH COLD WATER BYPASS, MODEL ES150, ASSE 1071 LISTED.

NOTES:
1. REFER TO ARCHITECTURAL FOR FULL SCHEDULE AND EXACT EQUIPMENT LOCATIONS.
2. REFER TO ARCHITECTURAL DWG AND MANUFACTURES' INSTALLATION MANUAL FOR INSTALLATION DETAILS.

MISCELLANEOUS EQUIPMENT SCHEDULES

UNIT TAG	DESCRIPTION	MINIMUM CONN.				REMARKS
		WASTE	VENT	DCW ICW	DHW IHW	
BV-1	BALANCING VALVE	-	-	-	3/4" DHWR	REFER TO KITCHEN DWG FOR FULL DETAILS. DISCHARGE TO FS-1
GPR-1	GAS PRESSURE REGULATOR	-	-	-	-	3/4" SIZE
GPR-2	GAS PRESSURE REGULATOR	-	-	-	-	3/4" SIZE
GPR-3	GAS PRESSURE REGULATOR	-	-	-	-	1-1/4" SIZE
SV-1	SEISMIC VALVE	-	-	-	-	PACIFIC SEISMIC #312: 1-1/4" SIZE
BFP-1	BACKFLOW PREVENTER	-	-	2" DCW	-	WATTS LF009:

NOTE:
1. LAB FIXTURES SCHEDULE IS SHOWN FOR REFERENCE ONLY. REFER TO ARCHITECTURAL/LAB CONSULTANT DRAWINGS FOR FULL SCHEDULE AND EXACT EQUIPMENT LOCATIONS.
2. REFER TO FLOOR PLAN FOR DOMESTIC OR INDUSTRIAL WATER SYSTEM REQUIREMENT AT LAB SINKS.
3. INDIRECT WASTE (IW) SHALL DISCHARGE TO SANITARY WASTE SYSTEM THROUGH FLOOR SINK WITH AIR GAP PER CPC REQUIREMENT UNLESS NOTED OTHERWISE.

ALFATECH
421 EAST HUNTINGTON DRIVE
MONROVIA, CA 91016
PHONE: (213) 212-9860
www.atce.com

CITY OF GARDENA INCORPORATED 1930

PREPARED BY:
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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REGISTERED PROFESSIONAL ENGINEER — JAMES J. KOUTNIK — No. M31713 — Exp. 6/30/2025 — MECHANICAL — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

	INITIAL	DATE
DESIGNED BY		05/25/2022
DRAWN BY		06/20/23
CHECKED BY		06/29/23

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

PLUMBING SCHEDULES

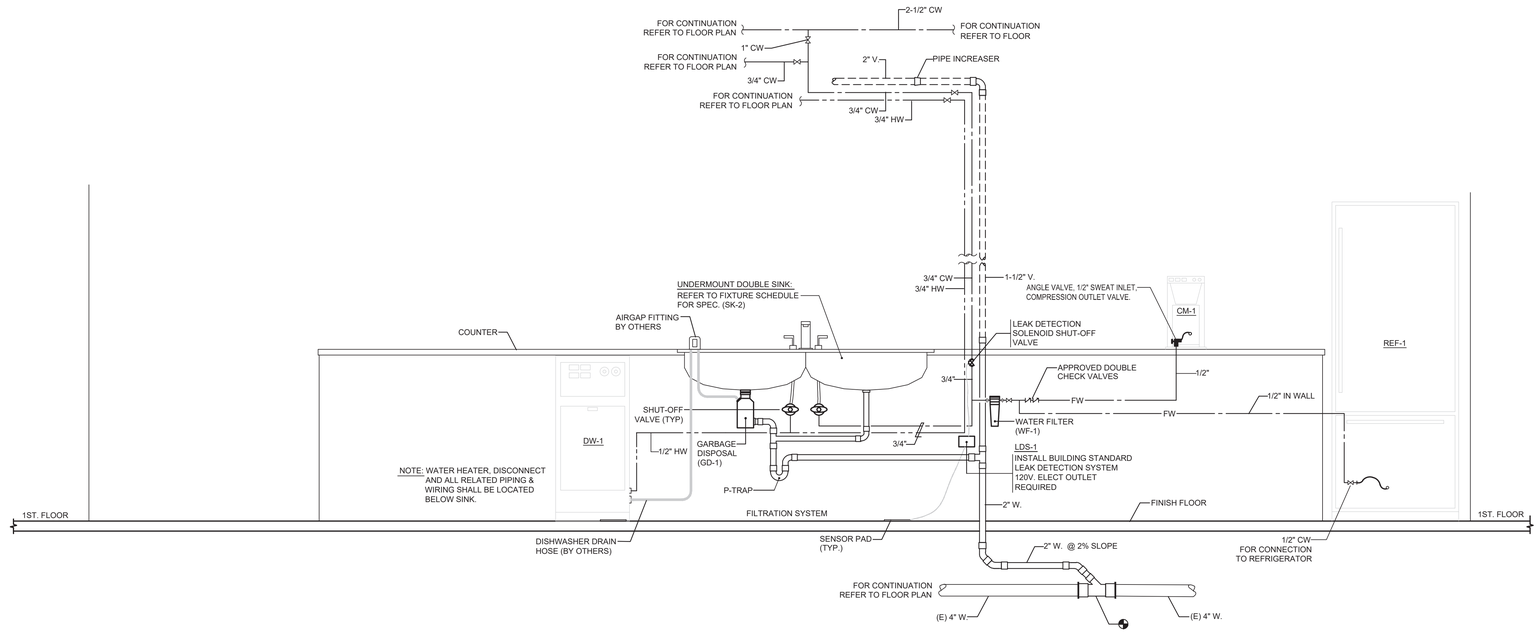
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APPROVED BY:
APPROVED BY: DIRECTOR OF PUBLIC WORKS
SHT. 137 OF 176 DWG. NO. 5-2606

PLOT DATE: 6/30/2023 3:04:11 PM

NOTES:

1. APPLIANCE AND FIXTURES LOCATIONS AND SPECIFICATIONS MAY VARY FROM THE ACTUAL CONDITION. REFER TO ARCHITECTURAL DWGS. FOR EXACT LOCATIONS OF APPLIANCES AND PLUMBING FIXTURES.



1 KITCHEN AREA SCHEMATIC
NTS

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PHONE: (213) 212-9860
www.atce.com

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SVA ARCHITECTS
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SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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CHECKED BY		06/29/23

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

PLUMBING SCHEMATICS

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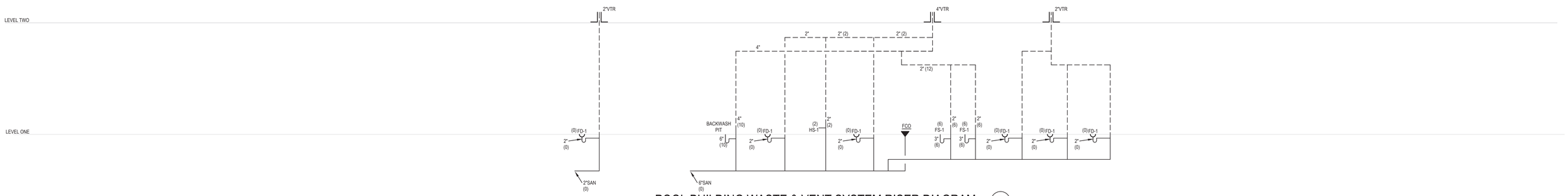
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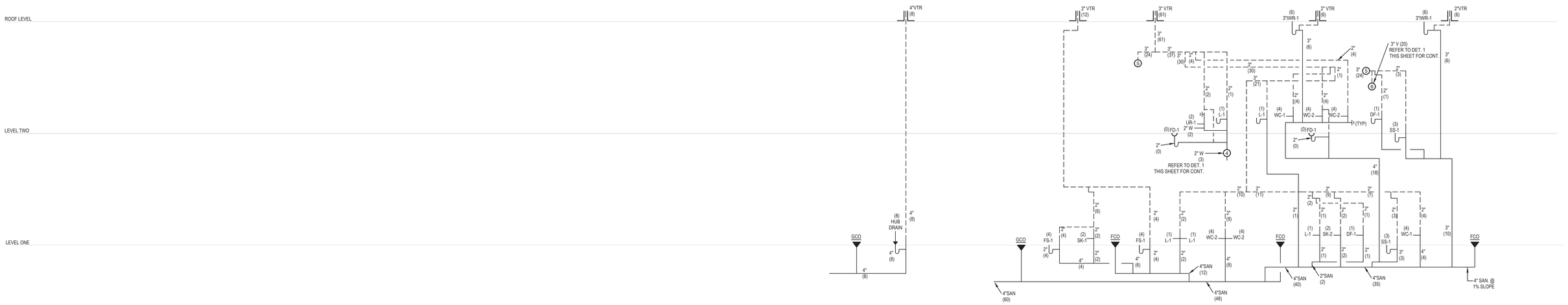
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SHT. 138 OF 176 DWG. NO. S-2606

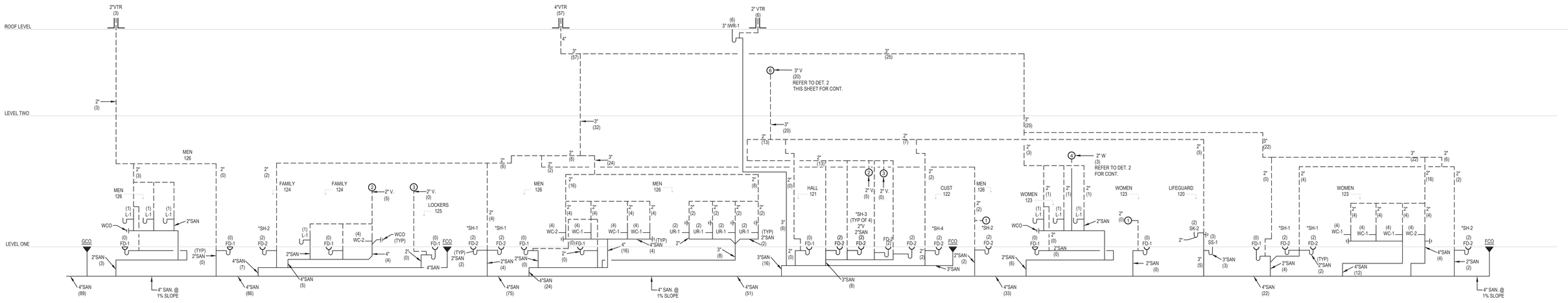
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POOL BUILDING WASTE & VENT SYSTEM RISER DIAGRAM (3)



SENIOR CENTER & FACALITIES BUILDING WASTE & VENT SYSTEM RISER DIAGRAM - CONT (2)



SENIOR CENTER & FACALITIES BUILDING WASTE & VENT SYSTEM RISER DIAGRAM (1)

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421 EAST HUNTINGTON DRIVE
MONROVIA, CA 91016
PHONE: (213) 212-9860
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6 HUTTON CENTRE DR. SUITE 1150
SANTA ANA, CA 92707
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REGISTERED PROFESSIONAL ENGINEER — NICHOLAS J. KOUNTIS — No. M31713 — Exp. 6/30/2025 — MECHANICAL — STATE OF CALIFORNIA

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CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
PLUMBING WASTE & VENT RISER DIAGRAM
COMMUNITY AQUATICS & SENIOR CENTER
P8.01

	INITIAL	DATE
DESIGNED BY		05/25/2022
DRAWN BY		04/20/23
CHECKED BY		04/29/23

APPROVED BY:
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SHT. 139 OF 176 DWG. NO. 5-2606

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ES-LF009

Engineering Specification

Job Name _____ Contractor _____

Job Location _____ Approval _____

Engineer _____ Contractor's P.O. No. _____

Approval _____ Representative _____

LEAD FREE

Series LF009

Reduced Pressure Zone Assemblies

Sizes: ¼" – 3"

Series LF009 Reduced Pressure Zone Assemblies are designed to protect potable water supplies in accordance with national plumbing codes and water authority requirements. This series can be used in a wide variety of industrial and commercial applications to prevent backflow connections in piping systems or for containment at the service line entrance. The coating on this backflow assembly uses AmerStar™ 100 Fusion Bonded Epoxy Coating that is NSF/ANSI 61 Annex G (FBEC) or approved Hybrid substrate. This LF009 features Lead Free* construction to comply with Lead Free* installation requirements.

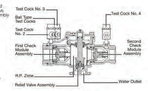
The design includes a bronze body, stainless steel valves, captured springs and replaceable check seats with an intermediate relief valve. Its compact modular design facilitates easy maintenance and assembly access. Sizes ½" – 1" shutoffs have ball handles.



LF009

Features

- Simple, access cover and modular check construction for easy maintenance
- Top entry - all internals immediately accessible
- Captured springs for safe maintenance
- Internal relief valve for reduced installation clearances
- Replaceable seats for economical repair
- UNibio advanced AmorTek™ coating technology to resist microbial growth
- Lead Free* cast nuisance silicon alloy body construction for durability and strength
- Flared epoxy coated cast iron body 2½" and 3"
- Ball valve test cocks – bronze/iron sizes 1" – 2"
- Large body passages provides low pressure drop
- Compact, space saving design
- No special tools required for servicing



Now Available
WattsBox Insulated Enclosures.
For more information, send for literature ES-WB.

Specifications

A Reduced Pressure Zone Assembly shall be installed at each potential health hazard to the supplied potable water as determined by the local water purveyor. The assembly shall consist of two independent differential relief valves located in a zone between two positive seating check valves. During normal flow and at the cessation of normal flow, the differential relief valves shall be maintained in both check modules and the relief valve. There shall be no drippage, or annoy in the waterway exposed to the atmosphere. The pressure differential relief valve shall be located in a valve cover encased with stainless steel bolts. Body and shutoffs shall be constructed using Lead Free* cast copper silicon alloy materials. Lead Free* shall mean not more than a weighted average of 0.25% lead (or as per standards), where applicable, requiring reduced lead content.

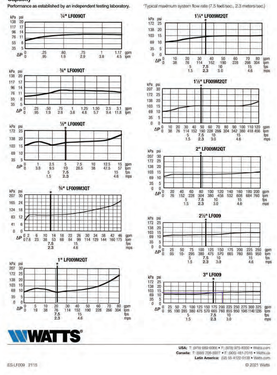
The assembly shall also include two resilient seated isolation valves, four test cocks and a union. The coating on the body shall be FBEC (fusion bonded epoxy coating system with built-in electrochemical corrosion inhibitor and microbial PROtect.™ The assembly shall meet the requirements of USC, ASSE 356, 1013, AWWA Std. C511, CSA B64.4. Shall be a Watts Series LF009.

Watts product specifications in U.S. Customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product designs, construction, materials, dimensions and finishes without prior notice and without incurring any obligation to make such changes and modifications on Watts' products purchased or subsequently sold.

WATTS

Capacity

Performance as established by an independent testing laboratory. *Typical maximum system flow rate (7.5 feet/sec., 2.3 meters/sec.)



NOTICE
Install with governing authorities for local installation requirements.

NOTICE
The information contained herein is not intended to replace the full product installation manual. It is important to completely read the instructions of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

***The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.**

* Armoured, including supplies to the 21½" and 3" models only

WATTS

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Canada – T: (905) 332-4090 • F: (905) 332-7068 • Watts.com
Latin America – T: (52-81) 8122-0530 • Watts.com

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BACKFLOW PREVENTER | SCALE NONE | 4

Model ZW209BP

Pressure Reducing Valve with Low Flow By-Pass

Application:
The Zurn Wilkins Model ZW209BP Pilot Operated Pressure Reducing Valve with Low Flow By-pass is designed for many applications where the reduction of high inlet pressures to safe and stable outlet pressure is required. The pilot assembly is a direct acting, spring loaded, adjustable device that is the main valve to modulate between the open and closed position ensuring a constant downstream set pressure. Once the downstream pressure reaches the pilot setting, the main valve will seat shut. When the main valve closes, the low flow by-pass will open to handle the system demand. The by-pass will handle very low flows up to 10 GPM when there is off peak demand. (An additional bypass may be needed to handle greater demand.) Valve is suitable for potable water use. In addition the Model ZW209BP comes standard with low lead epoxy coating internally and externally for corrosion protection as well as isolation valves and pressure gauges for quick and easy maintenance or repair.

Standards Compliance:
- ANSI/AWWA C530
- Meets the requirements of NSF/ANSI/CAN 61* (0.25% MAX. WEIGHTED AVERAGE LEAD CONTENT)



BODY CONFIGURATIONS		GLOBE STYLE BODY		ANGLE STYLE BODY
END CONNECTION	PRESSURE RATING	2"	2½" - 3"	2"
Threaded	250 psig (17.2 bar) Maximum Working Pressure	1 1/2" [1"]	n/a	1 1/2" [1"]
Flanged	300 psig (20.7 bar) ANSI Class 300 WOG	1 1/2" [1"]	3" [2"]	1 1/2" [1"]
Grooved	300 psig (20.7 bar) MINIMUM INLET PRESSURE TO FLOW	1 1/2" [1"]	n/a	1 1/2" [1"]

Materials

Main Valve Body	Ductile Iron ASTM A536
Main Valve Bonnet	Ductile Iron ASTM A536
Disc Guide	Stainless Steel
Seat	Stainless Steel
Disc	Buna-N Rubber
Diaphragm	Nylon Reinforced Buna-N
Stem	Stainless Steel
Spring	Stainless Steel

*The closing speed control (optional) on this valve should always be open at least three (3) turns off its seat.



Schematic Diagram

Item	Description of Standard Features
1	Main Valve
2	9302L Isolation Valve
3	3/4" Y-Pattern Strainer
4	Pressure Gauge
5	Restriction Fitting
6	PRSL Pressure Reducing Control
7	PRSL Pressure Reducing Control By-Pass

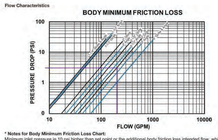
Options
(Add suffix letters to ZW209BP)
Function
☐ A - 4590LX Hydraulic Check with Isolation Valve
☐ L - SCI Closing Speed Control*
☐ O - SCI Opening Speed Control (Standard 1 1/4" - 4")
Body
☐ A - Angle Style Body
☐ R - Reduced Port Body
Connections
☐ S - NPS Sharoned
☐ SV - NPT Threaded
☐ V - ANSI Class 300 Flanges
☐ Main Valve Options
☐ Y - Viton Rubber Internals, Rated 180°F (only available in 1" - 4" sizes)
☐ Z - ZPI Visual Position Indicator
Pilot System
☐ HP - 40-300 psi High Pressure Range PV-PRD Pilot (replaces PRSL)
☐ SP - All Stainless Steel Pilotry (replaces all brass fittings, pilot valve and copper tubing, "SL" Option included).
☐ SH - Stainless Steel Braided Hoses (only replaces Copper Tubing)
☐ GL - Liquid Filled Gauge
☐ SO - Limit Switch Open Trip
☐ SC - Limit Switch Closed Trip
☐ SD - Limit Switch Dual Trip

Zurn Industries, LLC | Wilkins
1747 Commerce Way, Paso Robles, CA U.S.A. 93446 Ph. 805-563-5675 Fax 805-238-5766
In Canada | **Zurn Industries Limited**
7300 Glenway Drive, Unit 10, Brampton, Ontario L6T 5W6, 877-892-5215
www.zurn.com

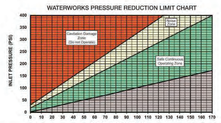
Rev. 0
Date:1422
Product No.: ACV.ZW209BP
Pricing File: Varies ZW209BP
Patent.zurn.com/patents

Page 1 of 4

Flow Characteristics



*** Notes for Body Minimum Friction Loss Chart:**
Minimum inlet pressure is 10 psi higher than set point or the additional body friction loss intended flow, whichever is higher. Shutoff pressure is the set point plus 20% of the set point.
Example: A 4" valve intended to flow 3000 GPM at 150 psi has a friction loss of 25 psi at 3000 GPM. The minimum inlet pressure would be 150 + 20 = 170 psi. When inlet pressure is below set point, the outlet pressure will be the pressure at the inlet minus the friction loss.



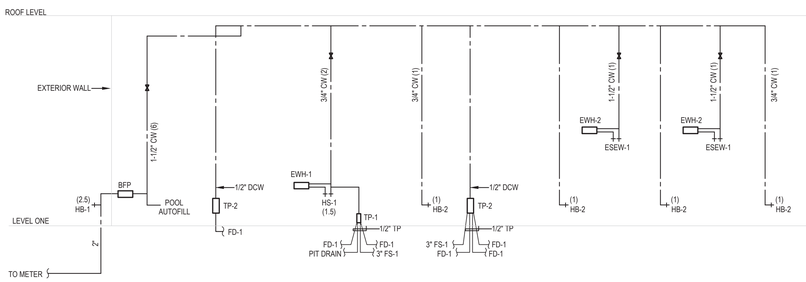
Notes for Pressure Reduction Limit Chart: Verify that the inlet working pressure is within the safe operating zone for your Zurn Automatic Control Valve. First, find the system inlet pressure on the left axis and draw a horizontal line from that point across the chart. Then find the outlet reduced flowing pressure on the bottom axis and draw a vertical line up to where it meets the first line. The point where the lines intersect should be in or above the green "Safe Continuous Operating Zone" below and to the right of the yellow "Noise Zone". If the operating point is in the area labeled "Noise Zone" or "Cavitation Damage Zone", the valve will operate but may be noisy and/or subject to premature failure. Operation in the cavitation zone can cause internal components may cause high pressure downstream and/or external leaks. To move out of the cavitation or noise zone you will need to place two valves in series in order to safely reduce pressure. Use the chart to pick an intermediate pressure in the green zone that you will set the first valve in series to. The intermediate pressure you pick will then become the inlet pressure for the 2nd valve and you can verify it will be in the green zone using the chart.

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Page 4 of 4

PRESSURE REDUCING VALVE | SCALE NONE | 3

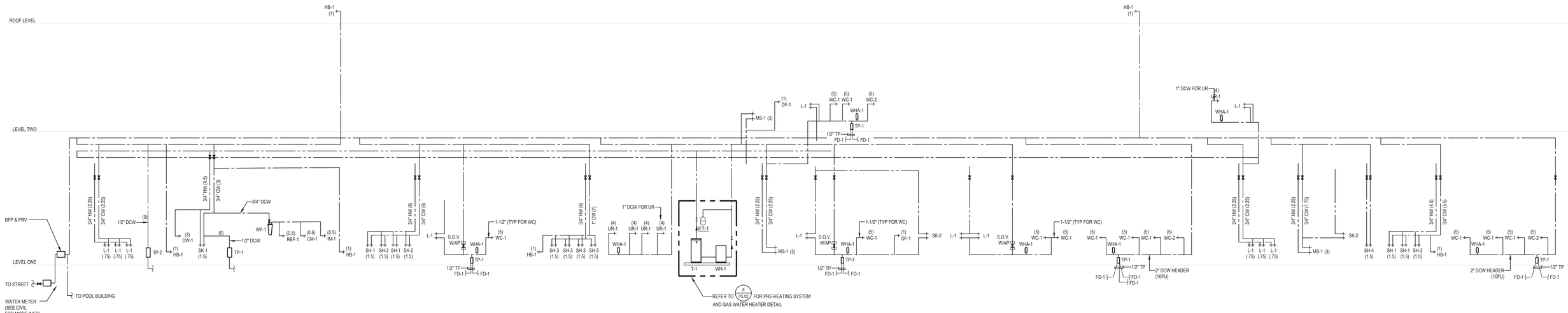
TRAP PRIMER SHALL BE PROVIDED AT EACH FLOOR DRAIN, FLOOR SINK AND FUNNEL DRAIN. REFER TO FLOOR PLAN FOR THE TRAP PRIMER LOCATIONS. CONTRACTOR TO COORDINATE WITH ELECTRICAL FOR POWER REQUIREMENTS.
TRAP PRIMER SHALL BE INSTALLED AT 12" AFF FOR MAXIMUM 20' OF COVERAGE, 24" AFF FOR MAXIMUM 40' OF COVERAGE.



DOMESTIC WATER RISER DIAGRAM - POOL BUILDING (2)

NOT TO SCALE

TRAP PRIMER SHALL BE PROVIDED AT EACH FLOOR DRAIN, FLOOR SINK AND FUNNEL DRAIN. REFER TO FLOOR PLAN FOR THE TRAP PRIMER LOCATIONS. CONTRACTOR TO COORDINATE WITH ELECTRICAL FOR POWER REQUIREMENTS.
TRAP PRIMER SHALL BE INSTALLED AT 12" AFF FOR MAXIMUM 20' OF COVERAGE, 24" AFF FOR MAXIMUM 40' OF COVERAGE.



DOMESTIC WATER RISER DIAGRAM - MAIN BUILDING (1)

NOT TO SCALE

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MONROVIA, CA 91016
PHONE: (213) 212-9860
www.atce.com

PREPARED BY:

SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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REGISTERED PROFESSIONAL ENGINEER — NICHOLAS J. KOUNTOURIS — No. M31713 — exp. 6/30/2025 — MECHANICAL — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

PLUMBING WATER RISER DIAGRAM

COMMUNITY AQUATICS & SENIOR CENTER

P8.02

	INITIAL	DATE
DESIGNED BY		05/25/2022
DRAWN BY		06/20/23
CHECKED BY		06/29/23

APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 140 OF 176 DWG. NO. 5-2606

PLOT DATE: 7/20/2023 8:56:17 PM
FILE NAME:

MEDIUM PRESSURE GAS SIZING CHART

A.	POOL EQUIPMENT (2 @ 1500)	3000 CFH
B.	MAKE-UP AIR UNIT (1 @ 120)	120 CFH
C.	WATER HEATER (1 @ 285)	285 CFH
	GRAND TOTAL CONNECTED LOAD	3405 CFH

PIPE SIZE	CFH
1/2"	433
3/4"	905
1"	1710
1-1/4"	3500
1-1/2"	5250
2"	10100

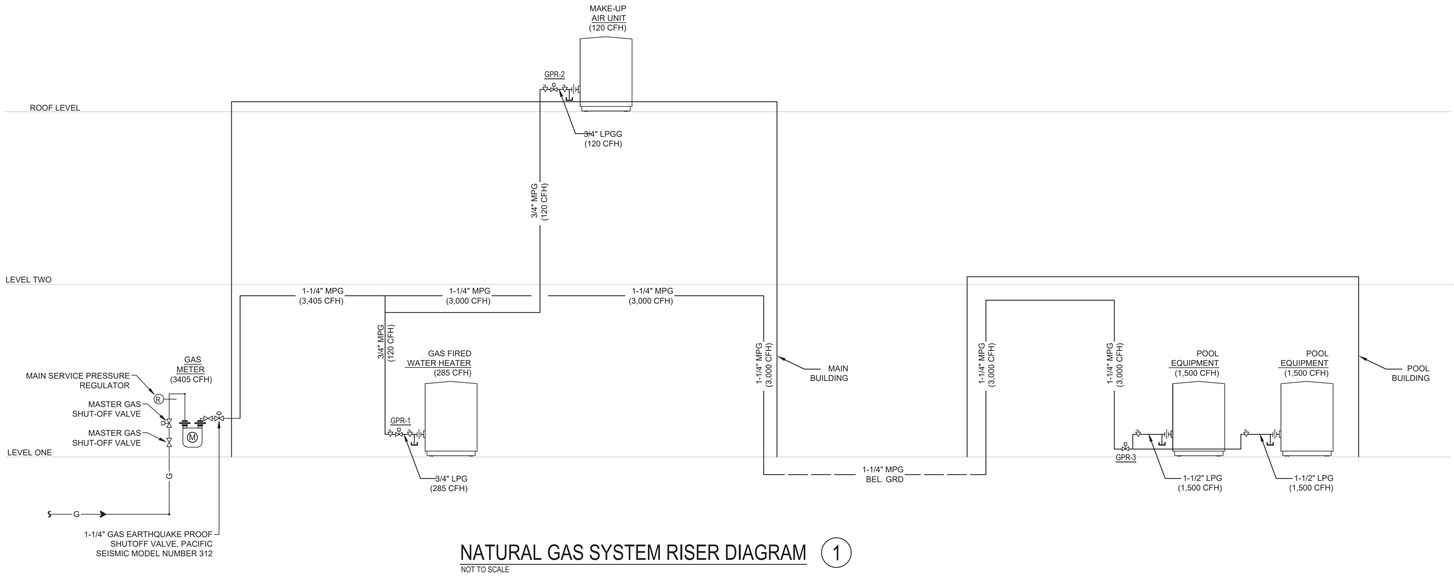
NOTE: 1. NATURAL GAS SYSTEM BASED ON 2019 CPC, TABLE 1215.2(6) SCHEDULE 40 METALLIC PIPE.
2. SYSTEM DEVELOPED LENGTH = 400 FT.5 PSI, 3.5 PSI PRESSURE DROP

LOW PRESSURE GAS SIZING CHART (POOL AREA)

A.	POOL EQUIPMENT (2 @ 1500)	3000 CFH
B.	MAKE-UP AIR UNIT (1 @ 120)	120 CFH
C.	WATER HEATER (1 @ 285)	285 CFH
	GRAND TOTAL CONNECTED LOAD	3405 CFH

PIPE SIZE	CFH
1/2"	172
3/4"	360
1"	678
1-1/4"	1390
1-1/2"	2090
2"	4020

NOTE: 1. NATURAL GAS SYSTEM BASED ON 2019 CPC, TABLE 1215.2(1) - SCHEDULE 40 METALLIC PIPE
2. SYSTEM MAXIMUM DEVELOPED LENGTH = 10 FT. LESS THAN 2 PSI, 0.5" W.C. PRESSURE DROP



NATURAL GAS SYSTEM RISER DIAGRAM (1)

NOT TO SCALE

ALFATECH
421 EAST HUNTINGTON DRIVE
MONROVIA, CA 91016
PHONE: (213) 212-9860
www.atce.com

PREPARED BY:

SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150
SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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REGISTERED PROFESSIONAL ENGINEER — No. M31713 Exp. 6/30/2025 — MECHANICAL — STATE OF CALIFORNIA

B.M.: THE CITY OF GARDENA BENCHMARK NO. SD-15
ELEV. = 43.508'

REVISIONS

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3	FINAL SUBMITTAL	06/30/2023	

	INITIAL	DATE
DESIGNED BY		05/25/2022
DRAWN BY		06/20/23
CHECKED BY		06/29/23

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

PLUMBING GAS RISER DIAGRAM

COMMUNITY AQUATICS & SENIOR CENTER
P8.03

APPROVED BY:

APPROVED BY: DIRECTOR OF PUBLIC WORKS

SHT. 141 OF 176 DWG. NO. 5-2606

PLOT DATE: 6/29/2023 3:06:11 PM

GENERAL NOTES

1. THESES DRAWINGS AND SPECIFICATIONS ARE INTENDED TO COVER A COMPLETE INSTALLATION OF SYSTEMS. THE OMISSION OR EXPRESSED REFERENCE TO ANY ITEM OF LABOR OR MATERIALS REQUIRED FOR THE PROPER EXECUTION OF THE WORK IN ACCORDANCE WITH PRESENT PRACTICE OF THE TRADE SHALL NOT RELIEVE THE CONTRACTOR FROM PROVIDING SUCH ADDITIONAL LABOR AND MATERIALS.

2. THESE PLANS AND SPECIFICATIONS AND ALL WORK AND MATERIALS SHALL BE IN FULL ACCORDANCE WITH ALL LEGAL AND INDUSTRY REQUIREMENTS AND STANDARDS INCLUDING WITHOUT LIMITATION THE FOLLOWING:
   a. CALIFORNIA CODE OF REGULATIONS TITLE 24, PARTS 1 AND 2 (CALIFORNIA BUILDING CODE), 2019 EDITION.
   b. CALIFORNIA CODE OF REGULATIONS TITLE 24, PART 3 (CALIFORNIA ELECTRICAL CODE), 2019 EDITION.
   c. CALIFORNIA CODE OF REGULATIONS TITLE 24, PART 6 (CALIFORNIA ENERGY CODE), 2019 EDITION.
   d. CALIFORNIA CODE OF REGULATIONS TITLE 24, PART 9 (CALIFORNIA FIRE CODE), 2019 EDITION.
   e. OTHER REGULATING AGENCIES WHICH MAY HAVE AUTHORITY OVER ANY PORTION OF THE WORK, INCLUDING THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY, AND THOSE CODES AND STANDARDS LISTED IN THESE NOTES AND SPECIFICATIONS.
   f. THE ELECTRICAL SYSTEMS FUNCTIONALITY STANDARDS SET FORTH IN TITLE 7 OF THE CALIFORNIA CIVIL CODE (THE "RIGHT TO REPAIR ACT").
   g. THE MANUFACTURER'S REQUIREMENTS OR RECOMMENDATIONS FOR ANY INCORPORATED PRODUCTS.
   h. THE MOST CURRENT APPROVED ISSUES OF ANY NOTED SPECIFICATIONS, CODES AND STANDARDS, INCLUDING SUPPLEMENTS, UNLESS NOTED OTHERWISE.

3. THE PLANS REPRESENT ONLY THE FINISHED ELECTRICAL, FIRE ALARM AND LOW VOLTAGE SYSTEMS, AND THEY ARE NOT INTENDED TO INDICATE OR REQUIRE ANY CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES.

4. IN USING THE PLANS FOR BIDDING OR CONSTRUCTION PURPOSES, THE CONTRACTOR IS REQUIRED TO REVIEW ALL OF THE PROJECT'S CONSTRUCTION DOCUMENTS AS A WHOLE IN ORDER TO IDENTIFY ALL REQUIREMENTS THAT DIRECTLY OR INDIRECTLY AFFECT ITS PORTION OF THE ELECTRICAL WORK, EVEN REQUIREMENTS LOCATED IN SECTIONS DESIGNATED AS APPLICABLE TO OTHER TRADES. IN CASE OF CONFLICTS, THE CONTRACTOR SHALL EITHER OBTAIN DIRECTION FROM AN APPROPRIATE OWNER REPRESENTATIVE OR OTHERWISE APPLY THE MORE STRINGENT REQUIREMENT.

5. IN INTERPRETING THE PLANS, THE FOLLOWING GENERAL RULES APPLY:
   a. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DRAWINGS.
   b. SCALED DIMENSIONS AND GRAPHICALLY SHOWN LOCATIONS ARE TO BE CONSIDERED ONLY APPROXIMATE, FIELD VERIFY DIMENSIONS PRIOR TO BID.

6. IN INTERPRETING THE PLANS, THE FOLLOWING GENERAL RULES APPLY:
   a. BECAUSE THE PLANS ARE INTENDED TO SET FORTH THE REQUIREMENTS FOR CONSTRUCTION IN ONLY AN INDUSTRY-STANDARD LEVEL OF QUALITY AND DETAIL, AND THEREFORE ARE INTENDED TO BE SUPPLEMENTED BY APPROPRIATE REQUESTS FOR CLARIFICATION AND INFORMATION, ERRORS AND OMISSIONS AND TO BRING THESE ERRORS AND OMISSIONS TO THE ATTENTION OF AN APPROPRIATE OWNER REPRESENTATIVE IN A TIMELY MANNER AND ASSUMES THE RISK OF THE CONSEQUENCES OF FAILING TO DO SO BEFORE BIDDING OR OTHERWISE PROCEEDING.
   b. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION, AND NOTIFY THE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES OR INCONSISTENCIES.

7. SUBMITTALS WILL BE REVIEWED BY THE ELECTRICAL ENGINEER, IF AT ALL, ONLY PURSUANT TO THE INDUSTRY-STANDARD PROTOCOL SET FORTH IN AIA DOCUMENT A201, AND IN NO EVENT WILL THE THE SUBMITTAL REVIEW PROCESS RELIEVE OR LESSEN THE SUBMITTING CONTRACTOR'S RESPONSIBILITY FOR AN INAPPROPRIATE SUBMITTAL.

8. IN NO EVENT WILL ANY SITE VISITS BY THE ELECTRICAL ENGINEER CONCERN CONSTRUCTION MEANS AND METHODS OR CONSTRUCTION SAFETY, AND ALL SUCH MATTERS SHALL REMAIN THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

9. COPIES OF THE THE PLANS PROVIDED IN ANY ELECTRONIC FORM ARE SUBJECT TO THE SAME PROVISIONS AS THE OTHER INSTRUMENTS OF SERVICE PREPARED BY OR ON BEHALF OF ELECTRICAL ENGINEER FOR THE PROJECT, INCLUDING WITHOUT LIMITATION THE ENGINEER'S COMMON LAW, STATUTORY OR OTHER RESERVED RIGHTS, INCLUDING COPYRIGHTS. A RECIPIENT IS GRANTED AT MOST A TRANSFERABLE NON-EXCLUSIVE LICENSE TO REUSE THE PLANS SOLELY FOR PROJECT PURPOSES; AND NO RECIPIENT IS AUTHORIZED TO USE OR TO ALLOW THE USE OF ALL OR ANY PORTION OF THESE PLANS FOR ANY OTHER PURPOSE, AND ANY USE FOR ANY OTHER PURPOSE WOULD CONSTITUTE ACTIONABLE PLAGIARISM. ELECTRICAL ENGINEER PROVIDES DOCUMENTS IN AN ELECTRONIC FORM ONLY IN ITS STANDARD FORMATS AND CONVENTIONS AND WITH NO GUARANTEE OF COMPATIBILITY WITH ANY RECIPIENT'S SOFTWARE OR HARDWARE AND ANY USE WITH OR CONVERSION TO OTHER FORMATS OR CONVENTIONS, OR THE USE WITH ANY PARTICULAR SOFTWARE OR HARDWARE, IS AT THE RECIPIENT'S SOLE RISK.

10. ALL CONDUIT, STRUCTURES AND INSTALLATION FOR POWER AND TELEPHONE UTILITIES SHALL CONFORM WITH THE REQUIREMENTS (MINIMUM BEND RADIUS, CONCRETE ENCASEMENT, CONDUIT, TYPE, ETC.) OF THE UTILITIES COMPANY. VERIFY ALL REQUIREMENTS WITH UTILITY COMPANY PRIOR TO BID AND INCLUDE ALL COSTS IN BID.

11. CONTRACTOR SHALL OBTAIN SOUTHERN CALIFORNIA EDISON CO. (SCE CO.) CONSTRUCTION DRAWINGS PRIOR TO CONSTRUCTION AND SHALL INSTALL POWER CONDUIT AND STRUCTURES ACCORDING TO SCE CO. DRAWINGS. EXTRA PAYMENTS WILL NOT BE GRANTED FOR FAILURE TO DO SO.

12. LOCATIONS OF EXISTING UTILITIES ARE NOT SHOWN AND CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING ON THIS SITE TO AVOID EXISTING DUCTS, PIPING OR CONDUIT, ETC. AND TO PREVENT HAZARD TO PERSONNEL AND/OR DAMAGE TO EXISTING UNDERGROUND UTILITIES OR STRUCTURES WHETHER OR NOT SHOWN AND INSTALLED BY ANY OTHER CONTRACTS. THE ENGINEER IS NOT RESPONSIBLE FOR THE LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES WHETHER OR NOT SHOWN OR DETAILED BY ANY OTHER CONTRACTS. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER SHOULD SUCH UNIDENTIFIED CONDITIONS BE DISCOVERED. THESE DRAWINGS

13. REFER TO THE DRAWINGS AND SHOP DRAWINGS OF OTHER TRADES FOR ADDITIONAL DETAILS WHICH AFFECT THE PROPER INSTALLATION OF THIS WORK.

14. THE DRAWINGS INDICATE, IN A DIAGRAMMATIC MANNER, THE DESIRED LOCATIONS AND ARRANGEMENT OF THE COMPONENTS OF ELECTRICAL WORK. DETERMINE EXACT CONDUIT ROUTING, CONDUIT BENDS, AUXILIARY JUNCTION BOXES, SUPPORTS AND UNDEFINED CONSTRUCTION DETAILS AS A JOB CONDITION TO BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE CODE REQUIREMENTS. PROPER JUDGEMENT MUST BE EXERCISED IN EXECUTING THE WORK SO AS TO SECURE THE BEST POSSIBLE INSTALLATION IN THE AVAILABLE SPACE AND TO OVERCOME LOCAL DIFFICULTIES DUE TO SPACE LIMITATIONS OR INTERFERENCE OF CONDITIONS ENCOUNTERED.

15. IN THE EVENT CHANGES IN THE INDICATED LOCATIONS OR ARRANGEMENTS ARE NECESSARY, DUE TO DEVELOPED CONDITIONS IN THE BUILDING CONSTRUCTION OR REARRANGEMENT OF EQUIPMENT, SUCH CHANGES SHALL BE MADE WITHOUT COST PROVIDING THE CHANGE IS ORDERED BEFORE THE CONDUIT RUNS, ETC., AND WORK DIRECTLY CONNECTED TO SAME IS INSTALLED AND NO EXTRA MATERIALS ARE REQUIRED.

16. ELECTRICAL PLANS DO NOT SHOW ELECTRICAL REQUIREMENTS FOR MECHANICAL AND PLUMBING EQUIPMENT CONTROL. REFER TO MECHANICAL AND PLUMBING PLANS AND SPECIFICATIONS. WHERE EQUIPMENT IS INDICATED TO BE BY ELECTRICAL CONTRACTOR PROVIDE ALL CONDUIT, WIRE, J-BOX, OUTLET BOXES, RELAY SWITCHES, TIME SWITCHES, CONTROL CIRCUITS, ETC. REQUIRED FOR A COMPLETE AND OPERABLE MECHANICAL AND PLUMBING INSTALLATION. ALL WIRE SHALL BE INSTALLED IN CODE SIZED CONDUIT.

17. LOCATIONS OF DISCONNECT SWITCHES AND CONNECTIONS FOR MECHANICAL AND PLUMBING EQUIPMENT ARE SHOWN DIAGRAMMATICALLY. VERIFY ACTUAL CONNECTION LOCATIONS WITH EQUIPMENT SHOP DRAWINGS AND LOCATE DISCONNECT SWITCHES TO PROVIDE CODE REQUIRED CLEARANCES AND ACCESS. DISCONNECT SWITCHES ON ROOF SHALL BE 30" MINIMUM ABOVE ROOF. MOUNTING OF DISCONNECTS DIRECTLY ON MECHANICAL EQUIPMENT IS NOT ACCEPTABLE. PROVIDE ANGLE IRON SUPPORT BRACKETS BOLTED TO ROOF FRAMING. FIELD GALVANIZE ALL FIELD CUT ENDS OF SUPPORTS. PROVIDE ROOF FLASHING AS REQUIRED.

18. PROVIDE ALL EQUIPMENT WITH ENCLOSURES LISTED OR LABELED FOR USE AND LOCATION WHERE SUCH EQUIPMENT IS INSTALLED.

19. PROVIDE UL LISTED FIRE STOP FOR ALL PENETRATIONS THROUGH FIRE RATED FLOORS, WALLS AND CEILINGS TO MAINTAIN ALL FIRE RATINGS. THE FIRE STOP MATERIALS SHALL BE RE-ENTERABLE AND REUSABLE.

20. GROUNDING SHALL BE EXECUTED IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS, BOTH OF THE STATE OF CALIFORNIA AND LOCAL AUTHORITIES HAVING JURISDICTION.

21. PROVIDE GROUND WIRE IN EACH CONDUIT CONTAINING CIRCUITS FEEDING RECEPTACLES. THE CONDUIT SHALL NOT BE PERMITTED TO SERVE AS THE ONLY ELECTRICAL GROUND RETURN PATH.

22. PROVIDE HANDLE TIES AT CIRCUIT BREAKERS TO SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS OF MULTI-WIRE BRANCH CIRCUITS WITH A SHARED NEUTRAL.

23. UNLESS NOTED OTHERWISE ALL 120 VOLT HOMERUNS OVER 100 FEET SHALL BE #10 AWG MINIMUM, OVER 175 FEET SHALL BE #8 AWG MINIMUM. ADJUST CONDUIT SIZE ACCORDINGLY.

24. CONDUIT FOR TELEPHONE/DATA CABLING SHALL COMPLY WITH THE FOLLOWING ADDITIONAL REQUIREMENTS:
   a. INSIDE BEND RADIUS SHALL BE AT LEAST 10 TIMES ITS INTERNAL DIAMETER.
   b. PROVIDE PULL BOXES WHENEVER CONDUIT LENGTH EXCEEDS 150 FEET AND WHEN COMBINED BENDS ARE GREATER THAN 180 DEGREES.
   c. ALL CONDUIT SHALL BE PROVIDED WITH INSULATED BUSHINGS.
   d. MAINTAIN A MINIMUM CLEARANCE OF 4 FEET FROM MOTORS AND TRANSFORMERS.
   e. MAINTAIN A MINIMUM CLEARANCE OF 12 INCHES FROM POWER CIRCUITS.
   f. MAINTAIN A MINIMUM CLEARANCE OF 12 INCHES FROM FLUORESCENT LIGHT FIXTURES.

25. COORDINATE LOCATION OF ALL CARD READERS, DOOR CONTACTS, ELECTRIC LOCKS AND ASSOCIATED CONDUIT REQUIREMENTS WITH SECURITY/BUILDING ACCESS CONTROLS INSTALLER.

26. COORDINATE MOUNTING HEIGHTS OF RECEPTACLES, SWITCHES, A/V DEVICES, SECURITY DEVICES, ETC. MOUNTED ON COMMON WALLS SO THAT ALL OUTLETS ARE MOUNTED TO ALIGN HORIZONTALLY.

27. NOTIFY THE ARCHITECT IN WRITING WHEN INSTALLATION IS COMPLETE AND THAT A FINAL INSPECTION OF THIS WORK CAN BE PERFORMED. IN THE EVENT DEFECTS OR DEFICIENCIES ARE FOUND DURING THIS FINAL INSPECTION, THEY SHALL BE CORRECTED TO THE SATISFACTION OF THE ARCHITECT BEFORE FINAL ACCEPTANCE CAN BE ISSUED.

28. ALL RECEPTACLES MOUNTED AT +5'-6" OR LOWER IN DWELLING UNITS SHALL BE TAMPER-RESISTANT TYPE, EXCEPT RECEPTACLES FOR FIXED APPLIANCES AND/OR EQUIPMENT. SEE SPECIFICATIONS SECTION 26 05 15.

29. PER 2016 NEC ARTICLE 210.12(A): ALL 120 VOLT, SINGLE PHASE, 15- AND 20- AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATIONS ROOMS,CLOSETS, HALLWAYS, OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER, COMBINATION TYPE, INSTALLED TO PROVIDE PROTECTION OF THE CIRCUIT.

30. GROUNDING AND BONDINGTERMINALS SHALL BE IDENTIFIED FOR USE IN WET AND CORROSIVE ENVIRONMENTS.
FIELD-INSTALLED GROUNDING AND BONDING CONNECTIONS IN A DAMP, WET, OR CORROSIVE ENVIRONMENT SHALL BE COMPOSED OF COPPER, COPPER ALLOY, OR STAINLESS STEEL. THEY SHALL BE LISTED FOR DIRECT BURIAL USE." (680.7, 2019 CEC)

SYMBOL LIST

(ALL SYMBOLS NOT NECESSARILY USED ON THESE DRAWINGS)
ALL SYMBOL DESCRIPTIONS ARE SUBJECT TO MODIFICATION AS NOTED ON THE DRAWINGS.
VERIFY EXACT LOCATIONS AND HEIGHTS OF OUTLETS WITH ARCHITECTURAL INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.

NOTE:
REFER TO E-0.02 FOR LIGHTING FIXTURE SYMBOLS AND E-0.02A FOR LIGHTING CONTROLS.

EXIT SIGN SINGLE FACE, ON FLUSH CEILING MOUNTED OUTLET BOX. ARROW INDICATES DIRECTIONAL ARROW ON EXIT SIGN FACE.

EXIT SIGN DOUBLE FACE, ON FLUSH CEILING MOUNTED OUTLET BOX.

SINGLE POLE TOGGLE SWITCH, ON FLUSH WALL MOUNTED OUTLET BOX, +45". INSTALL MULTIPLE SWITCHES UNDER COMMON COVER PLATE. SUBSCRIPT OR SUPERSCRIPT AT SWITCH SYMBOL INDICATES THE FOLLOWING:

2 - DOUBLE POLE 4 - FOUR WAY M - MANUAL MOTOR STARTERS
3 - THREE WAY P - PILOT LIGHT K - KEY OPERATED
R - SPDT MOMENTARY CONTACT RELAY SWITCH V - VAPOR PROOF
a,b,c,d, ETC. - MULTIPLE SWITCHES WITH IDENTIFICATION OF OUTLET CONTROLLED.

SWITCH FOR CONTROL OF LOW VOLTAGE LIGHTING RELAY(S), ON FLUSH WALL MOUNTED OUTLET BOX, +45". INSTALL MULTIPLE SWITCHES UNDER COMMON COVER PLATE.

OCCUPANCY MOTION SENSOR ON FLUSH CEILING MOUNTED OUTLET BOX. REFER TO E-0.02A.

OCCUPANCY MOTION/PHOTO SENSOR ON FLUSH CEILING MOUNTED OUTLET BOX. REFER TO E-0.02A.

OCCUPANCY MOTION SENSOR SWITCH, ON FLUSH WALL MOUNTED OUTLET BOX, +45". REFER TO E-0.02A.

VACANCY SENSOR SWITCH, ON FLUSH WALL MOUNTED OUTLET BOX, +45". REFER TO E-0.02A.

LOW VOLTAGE LIGHTING SWITCH, ON FLUSH WALL MOUNTED OUTLET BOX, +45". REFER TO E-0.02A.

DUPLEX CONVENIENCE RECEPTACLE VERTICAL ON FLUSH WALL MOUNTED OUTLET BOX, +18". STEM INDICATES WALL MOUNTED OUTLET BOX, TYPICAL.

DUPLEX CONVENIENCE RECEPTACLE HORIZONTAL ON FLUSH WALL MOUNTED OUTLET BOX, +6" ABOVE COUNTER SPLASH.

DUPLEX CONVENIENCE RECEPTACLE SPLIT WIRED, IMPRINTED "CONTROLLED", ON FLUSH WALL MOUNTED OUTLET BOX, +18".

DUPLEX CONVENIENCE RECEPTACLE SPLIT WIRED, ON FLUSH WALL MOUNTED OUTLET BOX, +18".

DOUBLE DUPLEX (FOUR-PLEX) CONVENIENCE RECEPTACLE ON ONE FLUSH WALL MOUNTED OUTLET BOX +18".

DOUBLE DUPLEX (FOUR-PLEX) CONVENIENCE RECEPTACLE SPLIT-WIRED. ONE PLUG TO BE IMPRINTED "CONTROLLED", ON FLUSH WALL MOUNTED OUTLET BOX, +18".

SINGLE RECEPTACLE, NEMA CONFIGURATION PER EQUIPMENT MANUFACTURER REQUIREMENTS, ON FLUSH WALL MOUNTED OUTLET BOX, +18".

DUPLEX CONVENIENCE RECEPTACLE WITH INTEGRAL GROUND FAULT INTERRUPTER, VERTICAL ON FLUSH WALL MOUNTED OUTLET BOX +18".

DUPLEX CONVENIENCE RECEPTACLE WITH INTEGRAL GROUND FAULT INTERRUPTER, HORIZONTAL ON FLUSH WALL MOUNTED OUTLET BOX, +6" ABOVE COUNTER SPLASH.

DUPLEX CONVENIENCE RECEPTACLE IN DAMP LOCATION, WITH INTERNAL GROUND FAULT INTERRUPTER, IN FLUSH WALL MOUNTED OUTLET BOX WITH HINGED DOOR, LOCK AND KEY, +18".

NOTE: RECEPTACLES LOCATED IN "WET LOCATIONS" SHALL HAVE AN ENCLOSURE THAT IS WEATHERPROOF WHETHER OR NOT THE ATTACHMENT PLUG CAP IS INSERTED, PER CEC 406.9 (B)(1). PROVIDE P&S WIUCAST1 OR EQUAL BY HUBBELL.

DUPLEX CONVENIENCE RECEPTACLE IN DAMP LOCATION, WITH INTERNAL GROUND FAULT INTERRUPTER, ON FLUSH WALL MOUNTED OUTLET BOX WITH SPRING DOOR COVER, +18".

NOTE: RECEPTACLES LOCATED IN "WET LOCATIONS" SHALL HAVE AN ENCLOSURE THAT IS WEATHERPROOF WHETHER OR NOT THE ATTACHMENT PLUG CAP IS INSERTED, PER CEC 406.9 (B)(1). PROVIDE P&S WIUCAST1 OR EQUAL BY HUBBELL.

BUILDING ACCESS CONTROLS CARD READER. MOUNTED ON FLUSH WALL MOUNTED OUTLET BOX. REFER TO DETAIL B SHEET E4.01.

DOOR CONTACT. PROVIDE 3/4"C. FROM DOOR FRAME ROUTED TO IDCP IN DATA ROOM 106. REFER TO DETAIL B SHEET E4.01.

DUPLEX CONVENIENCE RECEPTACLE ON FLUSH, FLOOR MOUNTED OUTLET BOX.

DUPLEX CONVENIENCE RECEPTACLES, TYPE ON FLUSH FLOOR MOUNTED OUTLET BOX.

DUPLEX CONVENIENCE RECEPTACLE, ON FLUSH CEILING MOUNTED OUTLET BOX.

JUNCTION BOX, FLUSH WALL MOUNTED, +18".

JUNCTION BOX CONCEALED ABOVE ACCESSIBLE CEILING.

INDICATES CONNECTION TO EQUIPMENT AS REQUIRED, TYPICAL.

RECESSED FLAT PANEL TV/DISPLAY WALL BOX WITH FLUSH GROMMETED COVER PANEL (FSR #PWB-100). REFER TO ARCHITECTURAL ELEVATION PLANS FOR MOUNTING HEIGHT INFORMATION. PROVIDE WITH (1) POWER RECEPTACLE, (2) EHTERNET OUTLETS WITH 3/4"C., & (1) HDMI OUTLET WITH 1 1/4"C. ROUTE CONDUIT TO NEAREST ACCESSIBLE CEILING SPACE OR DIRECT TO IDF CLOSET TEL. BACKBOARD.

PANELBOARD, ADJACENT LINE INDICATES PANEL FRONT. ADJACENT BALLOON INDICATES PANEL DESIGNATION "A", SEE DRAWING E-1 FOR PANEL SCHEDULE.

FLOOR STANDING SWITCHGEAR ADJACENT BALLOON INDICATES EQUIPMENT DESIGNATION "DBA", SEE DRAWING E-1 FOR SINGLE LINE DIAGRAM AND/OR SCHEDULE.

CIRCUIT BREAKER STATIONARY (NON-DRAWOUT), SECONDARY VOLTAGE.

FUSED SAFETY SWITCH (DISCONNECT), HORSE POWER RATED. MOUNT ON WALL +45", OR ON EQUIPMENT +36". PROVIDE SWITCH AND FUSES SIZED PER EQUIPMENT MANUFACTURER REQUIREMENTS.

CONDUIT, INSTALLED CONCEALED IN WALL OR IN CEILING SPACE.

CONDUIT, INSTALLED CONCEALED IN OR UNDER FLOOR OR BELOW GRADE, 3/4" CONDUIT MINIMUM.

CONDUIT, INSTALLED EXPOSED.

HOMERUN TO PANEL "B" FOR CIRCUITS 5, 7, 9 WITH SEPARATE NEUTRALS.

UNDERGROUND CONDUIT STUBOUT, STUB 5'-0" FROM BUILDING OR WALKWAY, CAP, MARK AND RECORD.

CONDUIT STUBOUT. CONDUIT QUANTITY & SIZE PER PLANS. CAP, MARK AND RECORD.

CONNECTED TO SOLID GROUND REFERENCE POINT

TERMINAL CABINET OR EQUIPMENT CABINET. ADJACENT LINE INDICATES CABINET FRONT.

TELEPHONE OUTLET, ON FLUSH WALL MOUNTED OUTLET BOX, +18". PROVIDE 3/4"C.TO NEAREST TELEPHONE BACKBOARD OR AS NOTED. SUBSCRIPT OR SUPERSCRIPT AT SIGNAL SYMBOLS INDICATES THE FOLLOWING:
C - OUTLET HORIZONTAL IN FLUSH WALL MOUNTED OUTLET BOX, +6" ABOVE COUNTER SPLASH.
W - OUTLET ON FLUSH WALL MOUNTED OUTLET BOX, +45".

TELEPHONE OUTLET, ON FLUSH FLOOR MOUNTED OUTLET BOX. PROVIDE 3/4"C.TO NEAREST TELEPHONE BACKBOARD OR AS NOTED. "P" INDICATES PEDESTAL TYPE, ON FLUSH FLOOR MOUNTED OUTLET BOX.

COMBINATION TELEPHONE/DATA OUTLET, ON FLUSH WALL MOUNTED OUTLET BOX +18", OR AS NOTED. PROVIDE 3/4"C.TO NEAREST ACCESSIBLE CEILING SPACE, OR TELEPHONE BACKBOARD, OR AS NOTED.

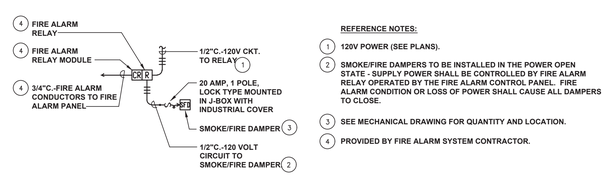
DATA OUTLET, ON FLUSH WALL MOUNTED OUTLET BOX +18", OR AS NOTED. PROVIDE 3/4"C.TO NEAREST ACCESSIBLE CEILING SPACE, OR TELEPHONE BACKBOARD, OR AS NOTED.

SINGLE STATION, CEILING MOUNTED COMBINATION CARBON MONOXIDE & PHOTO ELECTRIC SMOKE ALARM. 120 VOLT WITH BATTERY BACKUP WITH ALARM HORN, VISUAL INDICATORS AND VOICE WARNING "FIRE!FIRE!" AND "WARNING! CARBON MONOXIDE!" INTERCONNECT WITH ALL OTHER COMBINATION CO SMOKE ALARMS IN UNIT. KIDDE #KN-COPE-1 OR EQUAL.

DETAIL CALLOUT, "C" INDICATES DETAIL, "E-2" INDICATES DRAWING WHERE DETAIL OCCURS.

MECHANICAL EQUIPMENT CALLOUT. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS AND REQUIREMENTS OF MECHANICAL EQUIPMENT.

NOTE CALLOUT. REFER TO CORRESPONDING NOTE ON DRAWING WHERE CALLOUT OCCURS.



REFERENCE NOTES:
1. 120V POWER (SEE PLANS).
2. SMOKE/FIRE DAMPERS TO BE INSTALLED IN THE POWER OPEN STATE - SUPPLY POWER SHALL BE CONTROLLED BY FIRE ALARM RELAY OPERATED BY THE FIRE ALARM CONTROL PANEL. FIRE ALARM CONDITION OR LOSS OF POWER SHALL CAUSE ALL DAMPERS TO CLOSE.
3. SEE MECHANICAL DRAWING FOR QUANTITY AND LOCATION.
4. PROVIDED BY FIRE ALARM SYSTEM CONTRACTOR.

SMOKE FIRE DAMPER TO FIRE ALARM SYSTEM INTERCONNECTION DETAIL

SMOKE FIRE DAMPER 120V CIRCUITS

- 1st FLOOR: P1-53
- 2nd FLOOR: P1A-34
- POOL BUILDING: P2-41

NOTES:
1. AREA AND/OR DUCT SMOKE DETECTORS AS REQUIRED SHALL BE PROVIDED BY THE FIRE ALARM SYSTEM CONTRACTOR.

SMOKE FIRE DAMPER WIRING DETAIL — SCALE: NONE — 1

ABBREVIATIONS

A.F.C.I.	ARC FAULT CIRCUIT INTERUPTER
A.F.F.	ABOVE FINISH FLOOR
A.F.G.	ABOVE FINISH GRADE
AWG	AMERICAN WIRE GAUGE
AMP, A	AMPERE
A.I.C.	AMPERES INTERRUPTING CAPACITY (SYMMETRICAL)
AF/AT	AMP FRAME, AMP TRIP
AS/AF	AMP SWITCH, AMP FUSE
CIRC.,CKT.	CIRCUIT
CB	CIRCUIT BREAKER
C	CONDUIT
C.O.	CONDUIT ONLY.
CONN	CONNECTED
CPT	CONTROL POWER TRANSFORMER
CLCB	CURRENT LIMITING CIRCUIT BREAKER
CLF	CURRENT LIMITING FUSE
CT	CURRENT TRANSFORMER
DIA	DIAMETER
EMCS	ENERGY MANAGEMENT CONTROL SYSTEM
EMT	ELECTRICAL METALLIC TUBING
E-O-L	END-OF-LINE CIRCUIT TERMINATOR.
EF	EXHAUST FAN
FT or '	FEET
FA	FIRE ALARM
FLA	FULL LOAD AMPS
GFI	GROUND FAULT INTERRUPTER.
GRD	GROUND
HOA	HAND-OFF-AUTO
HVAC	HEATING, VENTILATION, AIR CONDITIONING
H.,W.,D.,L.	HEIGHT, WIDTH, DEPTH, LENGTH
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
IN. or ''	INCHES
IG	ISOLATED GROUND
J-BOX	JUNCTION BOX
KVA	KILOVOLT AMPERES
KW	KILOWATT
LCL	LONG CONTINUOUS LOAD
L.F.	LINEAR FEET
LTG, LTS	LIGHTING
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
MH	METAL HALIDE
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MILS
MCP	MOTOR CIRCUIT PROTECTOR
MTD	MOUNTED
NEC	NATIONAL ELECTRICAL CODE
NC	NORMALLY CLOSED
NO	NORMALLY OPENED
NF	NON-FUSED
NIC	NOT IN CONTRACT
NO. or #	NUMBER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED.
PRIMARY	OVER 600 VOLTS
PH. or Φ	PHASE
PROVIDE	FURNISH, INSTALL AND CONNECT.
PT	POTENTIAL TRANSFORMER
PA	PUBLIC ADDRESS
REC, RECCPT	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
SECONDARY	600 VOLTS AND LESS
TYP	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
V	VOLTS
VA	VOLT AMPERES
WP	WEATHERPROOF
W	WIRE
Y	WYE CONFIGURATION
Z1	ZONE, "1" INDICATES INITIATING ZONE #1.
Δ	DELTA CONFIGURATION
+45''	MOUNTING HEIGHT TO CENTER LINE OF COVER PLATE
1P	SINGLE POLE
2P	DOUBLE POLE

SHEET INDEX

E-0.01	SYMBOLS LIST AND GENERAL NOTES
E-0.02	LIGHTING FIXTURE SCHEDULE
E-0.02A	LIGHTING CONTROLS
E-0.02B	LIGHTING FIXTURE CUT SHEETS
E-0.02C	LIGHTING FIXTURE CUT SHEETS
E-0.02D	LIGHTING FIXTURE CUT SHEETS
E-0.03	SINGLE LINE DIAGRAM & DETAILS
E-0.04	PANEL SCHEDULES
E-0.05	TITLE 24 - INDOOR
E-0.06	TITLE 24 - OUTDOOR
E-1.01	SITE ELECTRICAL PLAN
E-1.01A	SITE PHOTOMETRIC PLAN
E-2.01	BUILDING LIGHTING PLANS
E-2.01A	EMERGENCY LIGHTING PHOTOMETRIC PLAN
E-3.01	BUILDING POWER & SIGNAL PLANS
E-3.02	ROOF ELECTRICAL PLAN
E-3.03	POOL BUILDING LIGHTING, POWER & SIGNAL PLANS
E-4.01	DETAILS AND ENLARGED ELECTRICAL PLANS

FIRE ALARM SYSTEM GENERAL NOTES

1. THE FIRE ALARM SYSTEM SHALL BE CODE MINIMUM REQUIREMENT AND SHALL BE DESIGN/BUILD BY THE CONTRACTOR.
2. INSTALLATION OF THE FIRE ALARM SYSTEM SHALL NOT BE STARTED UNTIL SHOP DRAWINGS ARE SUBMITTED AND APPROVED BY THE LOCAL AUTHORITIES HAVING JURISDICTION (AHJ).
3. PROVIDE ALL DRAWINGS, ENGINEERING CALCULATIONS, EQUIPMENT SPECIFICATIONS, ETC. AS NECESSARY TO SUBMIT FOR REVIEW AND OBTAIN APPROVAL BY THE AHJ.
4. FIRE ALARM SHALL BE MONITORED BY A U.L. CERTIFICATED CENTRAL STATION MONITORING COMPANY.
5. PROVIDE WIRING INTEGRATION BETWEEN FIRE ALARM SYSTEM AND HVAC CONTROL SYSTEM. SEE MECHANICAL DRAWINGS FOR REQUIREMENTS.
6. FIRE ALARM SYSTEM SHALL MONITOR ALL FIRE SPRINKLER CONTROL VALVES, FLOW SWITCHES,AND PIV.
7. PROVIDE THE QUANTITY OF DEVICES REQUIRED FOR A COMPLETE AND OPERABLE FIRE ALARM SYSTEM TO MEET THE CITY OF GARDENA FIRE DEPARTMENT, AND STATE FIRE MARSHAL REQUIREMENTS.

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UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:
BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:
THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:
FBA Engineering
Consulting Electrical Engineers
150 Paularino Avenue Suite A120
Costa Mesa, CA 92626
949.852.9995 • 949.852.1657 (fax)
fbaengr.com
FBA Job Number: 535050

REGISTERED PROFESSIONAL ENGINEER — No.

FIXTURE NOTES

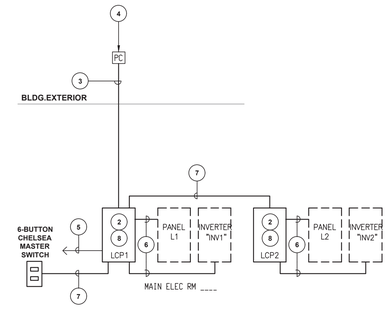
1. **IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ACTUAL CEILING CONSTRUCTION TYPE AS DEFINED ON THE ARCHITECTURAL DRAWINGS AND FURNISH ALL LIGHTING FIXTURES WITH THE CORRECT MOUNTING DEVICES WHETHER OR NOT SUCH VARIATIONS ARE INDICATED BY THE FIXTURE CATALOG NUMBER. THE CONTRACTOR SHALL VERIFY DEPTH OF ALL RECESSED LIGHTING FIXTURES WITH ARCHITECTURAL DRAWINGS PRIOR TO ORDERING FIXTURES. ANY DISCREPANCIES THAT WOULD CAUSE RECESSED FIXTURES NOT TO FIT INTO CEILING SHALL BE REPORTED TO THE ARCHITECT PRIOR TO ORDERING FIXTURES.**
2. **CEILING INSULATION SHALL BE INSTALLED TO ALLOW 3" MINIMUM CLEARANCE FROM SIDES AND TOP OF RECESSED LIGHT FIXTURES.**
3. **VERIFY MOUNTING HEIGHT OF ALL WALL AND PENDANT MOUNTED FIXTURES WITH ARCHITECT PRIOR TO ROUGH-IN.**
4. **REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF ALL LIGHT FIXTURES.**
5. **DO NOT INSTALL LIGHTING FIXTURES IN MECHANICAL ROOMS UNTIL DUCTWORK AND PIPING IS LAID OUT. LOCATE LIGHTING FIXTURES TO AVOID ALL SUCH DUCTWORK AND PIPING TO PROVIDE OPTIMUM LIGHTING.**
6. **LAMPS FOR ALL FIXTURES, INCLUDING DECORATIVE FIXTURES, SHALL BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.**
7. **ADDITIONAL EXIT SIGNS AND EMERGENCY LIGHTING MAY BE REQUIRED AT FINAL. A PRELIMINARY WALK-THROUGH INSPECTION IS RECOMMENDED.**

Site Lighting Fixture Schedule

Symbol	Label	Area Utilized	Mounting	Manufacturer	Catalog Number	Description	Lamp	Lumens	Lumens Per Watt	Wattage
	S1	Pool deck & building exit doors.	Surface, wall, +8'-0" to bottom.	Lithonia	WEDG2-LED-P3-35K-80CRI-VW-MVOLT-SRM-AWS-DDBXD	LED wall mounted wedge fixture. Dark bronze finish.	LED	3200	142	23
U U T U	S2	Pool deck and site areas.	Palm tree ring, +12'-0". Coord. tree ring dia. with Landscape Architect. See detail 5/E4.01.	Hydrel Lighting	Aspen A-P2-80CRI-30K-12-55DEG-FLC Tree Ring: TRAR 6FX Transformer: TM100 277	LED low voltage "bullet" fixture mounted to palm tree via tree ring. (6) fixtures per tree ring, 3-up & 3-down. "U" on symbol denotes "UP" fixtures. Provide with remote 12V transformer.	LED MR16	923 ea.	77 ea	72 total
	S3	Site/pool deck walkway.	12' Pole on concrete base. See detail 6/E4.01.	Visionaire Lighting	PRE-2-M-T3-32LC-7-3K-UNV-PT-BZ-WSC-20 POLE: RNTS-4R-11-12-9BC-343-TR3-BZ	LED pedestrian pole fixture on concrete pole base. Provide with motion sensor.	LED	7687	105	73
	S4	Stage shade structure.	+8'-0" on pole of structure.	Hevi-Lite	HL-360-WT-8LED-E-FL-12-LA-4 xfmr: HLT-DB-50	LED compact adjustable accent light. Machined aluminum. 1/2" NPS adjustable mounting stem. White finish. 3500K. Provide with 12v direct burial transformer.	LED	565	67	8.4

Interior Lighting Fixture Schedule

Symbol	Label	Area Utilized	Mounting	Manufacturer	Catalog Number	Description	Lamp	Lumens	Lumens Per Watt	Wattage
	F1	Offices	Recessed	Lithonia	2BLT4-48L-ADP-GZ1-LP835	LED recessed direct/indirect 2x4 fixture. 3500K	LED	4960	130.5	38
	F1A	classroom	Recessed	Lithonia	2BLT4-72L-ADP-GZ1-LP835	LED recessed direct/indirect 2x4 fixture. 3500K	LED	7245	119	59
	F2	Storage	Recessed	Lithonia	2GTL4-40L-RW-A19-GZ1-LP835	LED recessed prismatic 2x4 fixture. 3500K	LED	3922	131	30
	F3	Corridors/lockers/ restrooms.	Recessed	Lumenpulse	LCRS-A-FD-277-R-L20-35K-80-W-XX-SB-MWH-RD-XX-NA	LED recessed 4" aperture downlight. 3500K	LED	2313	116	20
	F4	Utility rooms	Pendant	Lithonia	ZL1N-L48-5000LM-FST-MVOLT-35K-80CRI-WH-ZACVH	LED 48", pendant mounted, lensed strip light. 3500K	LED	4725	112.5	42
	F4A	Utility rooms	Surface	Lithonia	ZL1N-L48-5000LM-FST-MVOLT-35K-80CRI-WH	LED 48", surface mounted, lensed strip light. 3500K	LED	4725	112.5	42
	F5	Locker rooms/restrooms & kitchen	Surface	Lithonia	LBL4-6000LM-80CRI-35K-MIN1-GZT-MVOLT	LED surface wrap 1x4 nominal. 3500K	LED	6101	123	50
	F6	Classroom	Pendant	3G Lighting	3G-2PLI-DI-L1000-L500-S80-35K-UNV-DIM-FL-WSO-WH-1C-S12	LED 12' linear direct-indirect pendant fixture. 2"W x 4"H. White finish, 3500K.	LED	18000	120	150
	F7	Pool equip./chemical rooms.	Surface	ILLUMINA	BS100LED-4-HT-MO-WT35-SM-EOS	LED surface mounted vapor tight 4' fixture. Corrosion resistant. Integral exterior occupancy sensor.	LED	6615	110	60
	F8	Lounge	Pendant	Delray Lighting	BG67-4-W-LO-W35-CR-D	LED Decorative pendant fixture. 48" dia.	LED	5040	74	68
	F9	Restroom vanity.	Surface, wall above mirror.	Lithonia	FMVTSL-36IN-MVOLT-30K-90CRI-BN	LED surface wall mounted vanity fixture.	LED	1919	73	26
	F10	Outdoor shower	Recessed	Indy	L6-17LM-35K-MVOLT-G4-80CRI-ZT-WPR-CSS-WET	LED recessed 6" aperture downlight. Wet Location. 3500K	LED	1462	92	16
	X1	Egress path	Surface, ceiling or wall per plans.	Lithonia	LE S-1-R-VR	LED exit sign with single face & mounting as shown on plans. provide directional chevrons as shown on plans. Provide vandal resistant shield.	LED	---	---	5
	X2	Egress path	Surface, ceiling or wall per plans.	Lithonia	LE S-2-R-VR	LED exit sign with single face & mounting as shown on plans. provide directional chevrons as shown on plans. Provide vandal resistant shield.	LED	---	---	5
	X1W	Egress path	Surface, ceiling or wall per plans.	Lithonia	WLTE-W-1-R-TP WET LOCATION LISTED	LED exit sign with single face & mounting as shown on plans. provide directional chevrons as shown on plans.	LED	---	---	5
	X2W	Egress path	Surface, ceiling or wall per plans.	Lithonia	WLTE-W-2-R-TP WET LOCATION LISTED	LED exit sign with double face & mounting as shown on plans. provide directional chevrons as shown on plans.	LED	---	---	5



LIGHTING CONTROL SINGLE LINE DIAGRAM NOTES

1. 3/4"C. WITH DATA CONDUCTORS AS REQUIRED.
2. PROGRAMMABLE LIGHTING CONTROL PANEL.
3. 1/2"C. WITH CONDUCTORS AS REQUIRED.
4. OUTDOOR PHOTOCELL ON ROOF. MOUNT TO ROOF PER MANUFACTURERS RECOMMENDATIONS.
5. 1/2"C.O. TO TELEPHONE BACKBOARD.
6. 1"C. WITH CONDUCTORS AS REQUIRED.
7. CAT-5e-3/4"C.- 4 TWISTED PAIR.
8. nLIGHT ARP INTENC08 NLT 8SPR MVOLT 1VB SC SM DTC OR APPROVED EQUAL.

TYPICAL LIGHTING CONTROL PANEL DETAIL

SCALE: NONE — 1

LIGHTING CONTROL PANEL "LCP1"

MOUNTING: SURFACE — PHOTOCELL: YES

PANEL	CIRCUIT	RELAY	DESCRIPTOIN	ZONE TYPE	NOTES
INV1	1	1	PED. POLE LTS.	T/P	EMERGENCY
INV1	2	2	PED. POLE LTS.	T/P	EMERGENCY
INV1	3	3	SITE TREE LTS.	T/P	EMERGENCY
		4	SPARE		
		5	SPARE		
		6	SPARE		
L1	3	7	2ND FLR. EXT. WALL PK		
L1	1	8	1ST FLR. EXT. DN LTS.		

T/T TIMECLOCK ON/OFF
T/P TIMECLOCK ON/ PHOTOCELL OFF
P/T PHOTOCELL ON/TIMECLOCK OFF
P/P PHOTOCELL ON/PHOTOCELL OFF

LIGHTING CONTROL PANEL "LCP2"

MOUNTING: SURFACE — PHOTOCELL: YES

PANEL	CIRCUIT	RELAY	DESCRIPTOIN	ZONE TYPE	NOTES
INV2	1	1	SITE TREE LTS.	T/T	EMERGENCY
INV2	2	2	SITE PED. POLES	T/P	EMERGENCY
INV2	3	3	EXTERIOR BLDG. MTD. LTS.	P/P	EMERGENCY
		4	SPARE		
		5	SPARE		
		6	SPARE		
		7	SPARE		
		8	SPARE		

T/T TIMECLOCK ON/OFF
T/P TIMECLOCK ON/ PHOTOCELL OFF
P/T PHOTOCELL ON/TIMECLOCK OFF
P/P PHOTOCELL ON/PHOTOCELL OFF

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CONSULTANT:
FBA Engineering
Consulting Electrical Engineers
150 Paularino Avenue Suite A120
Costa Mesa, CA 92626
949.852.9995 • 949.852.1657 (fax)
fbaengr.com
FBA Job Number: 535050

REGISTERED PROFESSIONAL ENGINEER — No. 10372 — 09-30-24 — ELECTRICAL — STATE OF CALIFORNIA

05/01/2023

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT — Signature 05/30/2023 — 4/30/2025 — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

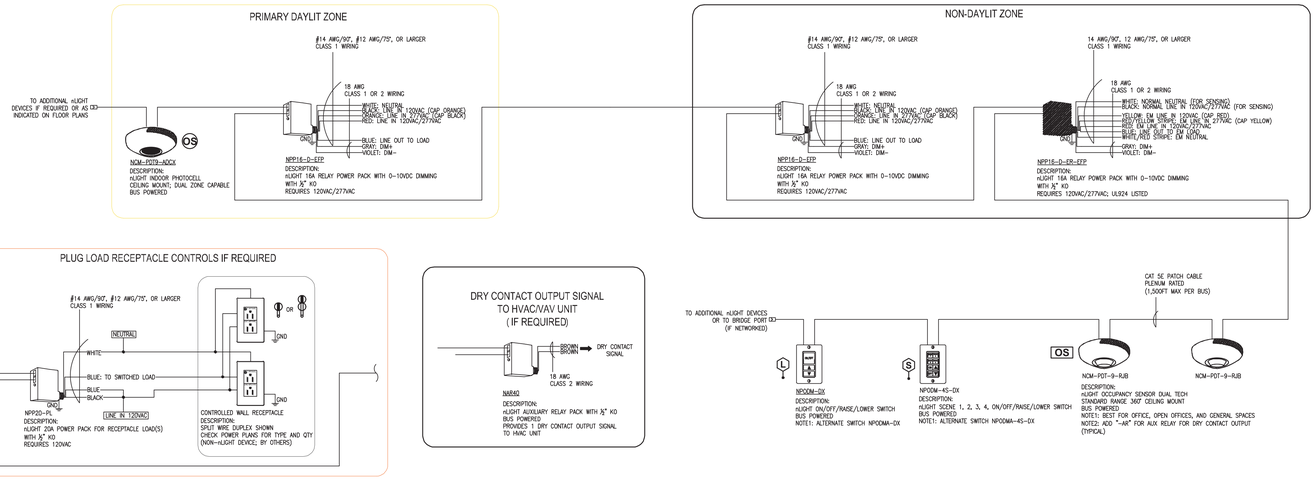
CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
LIGHTING FIXTURE SCHEDULE
COMMUNITY AQUATICS & SENIOR CENTER
E-0.02

	INITAL	DATE	APPROVED BY:
DESIGNED BY	SR	11/14/2022	
DRAWN BY	SR	06/18/2023	DATE
CHECKED BY	BZ	06/29/2023	DIRECTOR OF PUBLIC WORKS

SHT. 143 OF 176 — DWG. NO. 5-2606

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MULTIPLE ZONE SPACE W/ DAYLIGHTING & EM (INV/GEN)

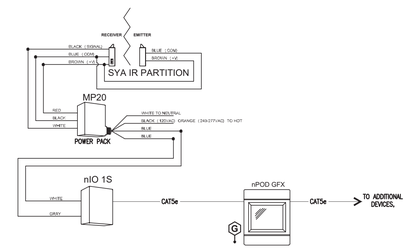


T24 COMPLIANT SEQUENCE OF OPERATION:

1. OCCUPANCY SENSOR PROVIDES AUTOMATIC ON/OFF OF LIGHTS/LOAD BASED ON ROOM OCCUPANCY (USE DEFAULT TIME DELAY FOR OCCUPANCY SENSOR) .
2. DUAL ZONE PHOTOCELL SHALL AUTOMATICALLY REDUCE GENERAL LIGHTING IN BOTH PRIMARY AND SECONDARY DAYLIT ZONES BASED ON DAYLIGHT TO MAINTAIN DESIGN ILLUMINANCE.
3. SWITCH PROVIDES MANUAL OVERRIDE OF THE LIGHTS. NPODM-4S-DX PROVIDES 4 PRESET SCENES PLUS ALL ON/OFF/RAISE/LOWER SCENE SWITCH) . NPOD-TOUCH PROVIDES 16 CHANNELS/ZONES FOR ON/OFF/RAISE/LOWER CONTROL AND 16 PRESET SCENES.
4. UPON LOSS OF NORMAL POWER, ALL "-ER" POWER PACK (S) SHALL SHUNT CLOSED AND KEEP 0-10VDC DIMMING AT HIGH END TRIM LEVEL.

nLIGHT SYSTEM NOTE:

1. OCCUPANCY SENSOR IS CAPABLE OF DOING PARTIAL ON 50%-70% LIGHTING POWER AND FULL AUTO OFF. PROVIDE IN SPACES WHERE REQUIRED SUCH AS CONFERENCE ROOMS, OFFICES < 250SQFT, MULTIPURPOSE ROOMS < 1000SQFT, AND CLASSROOMS.
2. OCCUPANCY SENSORS HAVE DRY CONTACT OUTPUT OPTION FOR HVAC SYSTEM; SPECIFY "-AR" OPTION ON OCCUPANCY SENSOR; REFER TO SPEC SHEET.

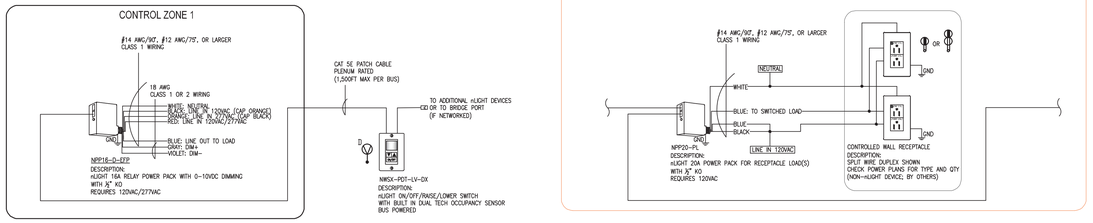


1 — TYPICAL PARTITION CONTROL DETAIL

LIGHTING CONTROL GENERAL NOTES

1. THE TYPICAL CONTROL DIAGRAM IS AN EXAMPLE ONLY AND DEPICTS ONLY THE INTENT OF THE LIGHTING CONTROLS. LIGHTING CONTROL SYSTEM BASIS OF DESIGN IS AN nLIGHT SYSTEM BY ACUITY CONTROLS.
2. PROVIDE MANUFACTURER SPECIFIC INSTALLATION SHOP DRAWINGS. SHOP DRAWINGS SHALL INCLUDE 1/8 SCALE FLOOR PLANS INDICATING ALL REQUIRED CONTROL DEVICE LOCATIONS AND POINT-TO-POINT WIRING. SHOP DRAWINGS SHALL INCLUDE PRODUCT DATA CUT SHEETS AND SINGLE LINE SCHEMATIC DIAGRAM.
3. WHETHER OR NOT DETAILED ON ELECTRICAL DRAWINGS, PROVIDE ALL CONTROL DEVICES AS REQUIRED FOR A COMPLETE, FULLY OPERABLE AND CODE COMPLIANT SYSTEM.
4. PROVIDE UL924 DEVICES IN ANY AREA THAT REQUIRES EMERGENCY EGRESS LIGHTING WHETHER OR NOT SPECIFICALLY HEREIN DETAILED. REFER TO LIGHTING PLANS FOR ALL EMERGENCY EGRESS "EM" LIGHTING FIXTURES.
5. PROVIDE CONTROL DEVICES AS REQUIRED FOR LIGHTING ZONES AS SHOWN ON LIGHTING PLANS. SCHEMATIC DIAGRAM EXAMPLES SHOWN HEREIN ARE NOT SPECIFIC FOR EACH LIGHTING CONTROL CONDITION DEPICTED ON LIGHTING PLANS.
6. ALL 0-10VDC DIMMING CONDUCTORS SHALL BE INSTALLED IN CONDUIT.
7. VERIFY CORRECT LIGHTING CONTROL CONFIGURATIONS AND OPERATION IN EACH ROOM. REFER TO LIGHTING PLANS.
8. SIMULATE NORMAL SOURCE POWER FAILURE BY "OPENING" (TURN OFF) BUILDING MAIN SERVICE DISCONNECT AND VERIFY CONNECTIONS AND OPERATION OF UL 924 DEVICES FOR EMERGENCY LIGHTING FIXTURES.
9. SETUP, PROGRAM, AND FUNCTION TEST LIGHTING CONTROL SYSTEMS TO PERFORM EACH OF THE INDICATED CONTROL FUNCTIONS.
10. REMOTE LED DRIVERS AND/OR LIGHTING CONTROL RELAYS/RELAY PANELS SHALL BE MOUNTED IN NEAREST ACCESSIBLE CEILING SPACE AND/OR UTILITY ROOM CEILING SPACE. WHERE THIS IS NOT POSSIBLE, AND A CEILING ACCESS PANEL IS REQUIRED, THE LOCATION OF THE ACCESS PANEL SHALL BE REVIEWED AND APPROVED BY THE ARCHITECT PRIOR TO INSTALLATION.

1-ZONE SMALL ROOM



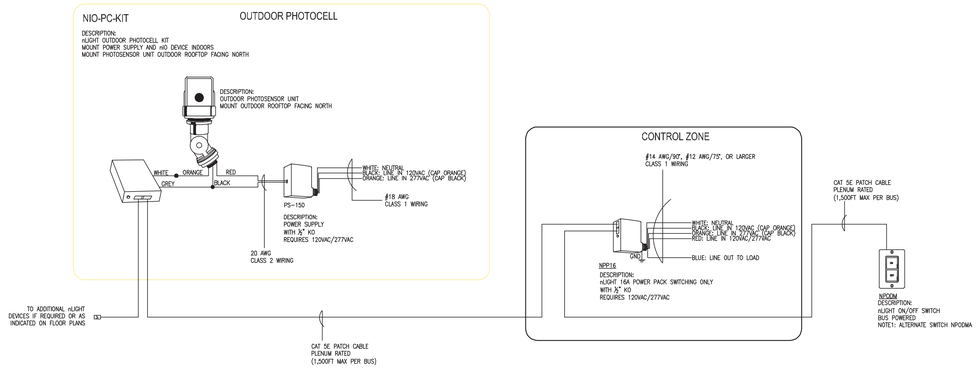
TITLE 24 COMPLIANT SEQUENCE OF OPERATION:

1. OCCUPANCY SENSOR PROVIDES AUTOMATIC ON/OFF OF LIGHTS/LOAD BASED ON ROOM OCCUPANCY (USE DEFAULT TIME DELAY FOR OCCUPANCY SENSOR) .
2. SWITCH PROVIDES MANUAL OVERRIDE OF THE LIGHTS: ON/OFF/RAISE/LOWER.

nLIGHT SYSTEM NOTE:

1. OCCUPANCY SENSOR IS CAPABLE OF DOING PARTIAL ON 50%-70% LIGHTING POWER AND FULL AUTO OFF. PROVIDE IN SPACES WHERE REQUIRED SUCH AS CONFERENCE ROOMS, OFFICES < 250SQFT, MULTIPURPOSE ROOMS < 1000SQFT, AND CLASSROOMS.

EXTERIOR LIGHTS W/ FEW ZONES



T24 COMPLIANT SEQUENCE OF OPERATION:

1. PHOTOCELL OR ASTRONOMICAL TIME-SWITCH CONTROL SHALL AUTOMATICALLY SHUT-OFF EXTERIOR LIGHTING WHEN DAYLIGHT IS AVAILABLE.
2. AUTOMATIC SCHEDULING CONTROLS VIA TIME CLOCK AT NLIGHT ECLYPSE CONTROLLER (NECY) SHALL REDUCE LIGHTING POWER BY 50%-90% AND FULL OFF DURING UNOCCUPIED TIMES.
3. AUTOMATIC SCHEDULING CONTROLS VIA TIME CLOCK AT NLIGHT ECLYPSE CONTROLLER (NECY) SHALL ALLOW SCHEDULING OF A MINIMUM OF TWO NIGHTTIME PERIODS AT DIFFERENT LIGHTING LEVELS.
4. SYSTEM MAY INCLUDE AN OVERRIDE FUNCTION WALL SWITCH THAT TURNS LIGHT ON FOR 2 HOURS MAX DURING DIMMED OR OFF STATE.

nLIGHT SYSTEM NOTE:

1. EXTERIOR LIGHTING SHALL COMPLY WITH T24 2019 PART 6 SECTION 130.2c3 MOTION SENSOR CONTROLS NOT SHOWN IN THIS DIAGRAM.

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fbaengr.com
FBA Job Number: 535050
REGISTERED PROFESSIONAL ENGINEER 10372 06-30-24 ELECTRICAL STATE OF CALIFORNIA
05/01/2023

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone
REGISTERED LANDSCAPE ARCHITECT — STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
LIGHTING CONTROLS
COMMUNITY AQUATICS & SENIOR CENTER
E-0.02A

	INITAL	DATE	APPROVED BY:
DESIGNED BY	SR	11/14/2022	
DRAWN BY	SR	06/18/2023	DATE
CHECKED BY	BZ	06/29/2023	DIRECTOR OF PUBLIC WORKS

SHT. 144 OF 176 DWG. NO. 5-2606

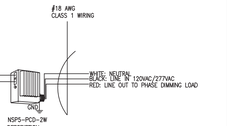
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UL924 EM SHUNT RELAY FOR NSP5-PCD-SERIES DEVICE



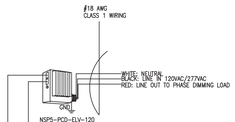
PP16-SHUNT-EITP
DESCRIPTION:
SENSORSWITCH EM UL924 SHUNT RELAY
WITH ½" KO
REQUIRES 120VAC/277VAC UNSWITCHED NORMAL HOT FOR SENSING AND
REQUIRES SEPARATE 120VAC/277VAC UNSWITCHED EM HOT FOR EM LOAD
(REFER TO SPEC SHEET FOR WIRING DETAL TO BYPASS NSP5-PCD DEVICE)
NOTE1: WIRE TO EM POWERED NLIGHT NSP5-PCD-SERIES DEVICE
NOTE2: ONE PER EM POWERED NLIGHT NSP5-PCD-SERIES DEVICE

FORWARD PHASE DIMMING LOADS



NSP5-PCD-2W
DESCRIPTION:
nLIGHT PHASE DIMMING POWER PACK WITH ½" KO
FOR 2-WIRE FORWARD PHASE DIMMING (120-277VAC)
MAX LOAD CAPACITY 575W@120VAC, 1375W@277VAC
NOTE1: WORKS FOR TRIAC, LEADING EDGE AND INCANDESCENT DIMMABLE LOADS

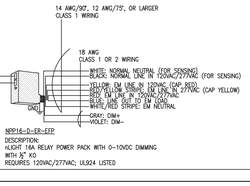
REVERSE PHASE DIMMING LOADS



NSP5-PCD-ELV-120
DESCRIPTION:
nLIGHT PHASE DIMMING POWER PACK WITH ½" KO
FOR ELECTRONIC LOW VOLTAGE, REVERSE PHASE (120VAC ONLY)
MAX LOAD CAPACITY 475W@120VAC
NOTE1: WORKS FOR ELV AND TRAILING EDGE DIMMABLE LOADS

TO ADDITIONAL nLIGHT DEVICES IF REQUIRED OR AS INDICATED ON FLOOR PLANS

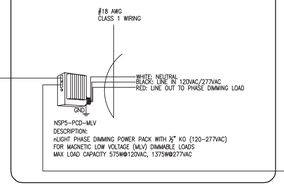
EMERGENCY 0-10VDC DIMMING LOADS



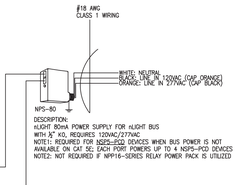
NPP16-D-ER-EITP
DESCRIPTION:
nLIGHT 16A RELAY POWER PACK WITH 0-10VDC DIMMING
WITH ½" KO
REQUIRES 120VAC/277VAC; UL924 LISTED

TO ADDITIONAL nLIGHT DEVICES IF REQUIRED OR AS INDICATED ON FLOOR PLANS

MAGNETIC LOW VOLTAGE DIMMING LOADS



NSP5-PCD-MLV
DESCRIPTION:
nLIGHT PHASE DIMMING POWER PACK WITH ½" KO (120-277VAC)
FOR MAGNETIC LOW VOLTAGE (MLV) DIMMABLE LOADS
MAX LOAD CAPACITY 575W@120VAC, 1375W@277VAC



NPS-80
DESCRIPTION:
nLIGHT 80mA POWER SUPPLY FOR nLIGHT BUS
WITH ½" KO, REQUIRES 120VAC/277VAC
NOTE1: REQUIRED FOR NSP5-PCD DEVICES WHEN BUS POWER IS NOT AVAILABLE ON CAT 5E; EACH PORT POWERS UP TO 4 NSP5-PCD DEVICES
NOTE2: NOT REQUIRED IF NPP16-SERIES RELAY POWER PACK IS UTILIZED

GENERAL SYSTEM NOTES:

ON DIGITAL SYSTEMS, ALL DEVICES TO BE CONNECTED IN A DAISY CHAIN PATTERN SO THAT THE FIRST AND LAST DEVICE IN THE CHAIN HAS AN OPEN PORT. NO T-TAP CONNECTIONS. EXCEPTIONS FOR NLIGHT "RJB" DEVICES UTILIZING THEIR INCLUDED RJ45 SPLITTER INSIDE PACKAGING.

ON DIGITAL SYSTEMS, CONTRACTOR SHALL NOTE AND LABEL ADDRESS AND LOCATION OF EACH DEVICE ON THE SYSTEM ONE-LINE DIAGRAMS OR SYSTEM LAYOUT DRAWINGS AT TIME OF INSTALLATION.

WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.

POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTMENT FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FEED AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR EACH DIMMED LOAD CIRCUIT.

FOR 0-10VDC DIMMING SYSTEMS, VIOLET AND GRAY CONDUCTORS ARE FOR 0-10VDC LOW VOLTAGE TERMINATIONS ONLY. NEVER TERMINATE LINE VOLTAGE (120/230/277VAC) TO VIOLET AND GRAY.

CONTRACTOR IS RESPONSIBLE FOR ALL CONTROL TERMINATIONS. NO SPLICES ARE PERMITTED IN CONTROL WIRING.

POWER AND CONTROL CONDUCTORS MUST NOT SHARE THE SAME RACEWAY OR CONDUIT EXCEPT WHERE ALLOWED.

LIGHTING CONTROL EQUIPMENT MUST BE INSTALLED, MAINTAINED, AND OPERATED IN AN "OFFICE CLEAN" DRY ENVIRONMENT, INDOOR DRY LOCATIONS ONLY, 10% - 90% RELATIVE HUMIDITY; AMBIENT TEMPERATURE 0°- 40°C (32°-104°F) - 0°- 35°C (32°- 95°F) RECOMMENDED.

SENSORS IN ELECTRICAL/MECHANICAL LOCATIONS NEED TO BE VERIFIED WITH AUTHORITY HAVING JURISDICTION. REFER TO NEC 110.26.D.

RELAY AND DIMMER PANEL SCHEDULES SHALL CONTAIN BREAKER PANEL INPUTS AS WELL AS ZONES/AREAS CONTROLLED.

VERIFY MAXIMUM CABLE LENGTHS BASED ON CONTROL SYSTEM. MANUFACTURER IS NOT RESPONSIBLE FOR SYSTEMS EXCEEDING CABLING PARAMETERS.

LOW VOLTAGE CABLE MUST BE INSTALLED AT LEAST 12 INCHES FROM ALL LINE VOLTAGE CONDUCTORS EXCEPT TO CROSS OR MAKE TERMINATIONS. CAT. 5 CABLE MUST BE KEPT AWAY FROM ALL EMF DEVICES SUCH AS BALLASTS OR TRANSFORMERS.

CONTRACTOR/INSTALLER TO VERIFY WITH THE MANUFACTURER TYPE AND QUANTITY OF OCCUPANCY SENSORS TO ENSURE 100% COVERAGE OF THE SPACE(S) WHERE SHOWN CONTROLLED BY OCCUPANCY SENSOR(S).

ONSITE SYSTEM STARTUP, PROGRAMMING AND END USER TRAINING SHALL BE PERFORMED BY FACTORY AUTHORIZED TECHICIAN/REPRESENTATIVE. CONTRACTOR SHALL INCLUDE THIS SERVICE LINE ITEM IN THEIR BID PACKAGE.

IMPORTANT: **MANUFACTURER OR AUTHORIZED LIGHTING REPRESENTATIVE OF CONTROL SYSTEM MUST VERIFY TYPE, QUANTITIES, PLACEMENT OF DEVICES TO MEET DESIGN INTENT AND TITLE 24 CODE COMPLIANCE, AND PROVIDE SHOP DRAWINGS FOR SPECIFIER APPROVAL. THIRD PARTY TAKE-OFFS OR LAYOUTS WILL NOT BE ACCEPTED. NO EXCEPTIONS.**

DIGALERT
DIAL TOLL FREE
1-800-422-4133
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:

BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:
FBA Engineering
Consulting Electrical Engineers
150 Paularino Avenue Suite A120
Costa Mesa, CA 92626
949.852.9995 • 949.852.1657 (fax)
fbaengr.com
FBA Job Number: 535050

REGISTERED PROFESSIONAL ENGINEER
E 10372
Exp. 09-30-24
ELECTRICAL
STATE OF CALIFORNIA
05/01/2023

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

LICENSED LANDSCAPE ARCHITECT
Signature
06-30-2023
Renewal Date
6-721-2603
License
STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
LIGHTING CONTROLS
COMMUNITY AQUATICS & SENIOR CENTER
E-0.02B

	INITAL	DATE
DESIGNED BY	SR	11/14/2022
DRAWN BY	SR	06/18/2023
CHECKED BY	BZ	06/29/2023

APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS
SHT. 145 OF 176 DWG. NO. 5-2606

FBA Engineering / Plot Date: 6/27/2023 6:21 AM / Plotted by: Steve Roth / Drawing Location: I:\535\050\E-0.02_535050.dwg
FILE PATH: I:\535\050\E-0.02_535050.DWG
PLOT TIME: 6/27/2023 6:21:16 AM

TYPE "F6"

3G LIGHTING

3G-2PLI-DI
2" LINEAR PENDANT
DIRECT/INDIRECT



Narrow 2" aperture with one piece extruded aluminum housing
Individual or continuous runs available in multiple run configurations
Direct/indirect distribution with multiple lumen output options
LED system with performance up to 140 lumens per watt
Extruded acrylic lens available in flush, 1° and 2° drop lens options
Widespread and asymmetric optics available
1% dimming standard with several driver options

ORDERING INFORMATION

PROJECT: _____ TYPE: _____

CATALOG #: _____ DATE: _____

CAT. NO.	LUMEN OUTPUT (DIRECT)	LUMEN OUTPUT (INDIRECT)	CRI	COLOR TEMP
3G-2PLI-DI	**L250** - LOW OUTPUT (250 LM/FT)[1] **L500** - MEDIUM OUTPUT (500 LM/FT)[1] **L750** - HIGH OUTPUT (750 LM/FT)[1] **LXDDD** - VERY HIGH OUTPUT (1000 LM/FT)[1,2] **LC___** - CUSTOM OUTPUT (SPECIFY LM/FT)[1] *Specify custom lumen outputs in 50lm increments (ie: LC600, LC650, LC700) Custom output cannot exceed LC1000	**L250** - LOW OUTPUT (250 LM/FT)[1] **L500** - MEDIUM OUTPUT (500 LM/FT)[1] **L750** - HIGH OUTPUT (750 LM/FT)[1] **LXDDD** - VERY HIGH OUTPUT (1000 LM/FT)[1,2] **LC___** - CUSTOM OUTPUT (SPECIFY LM/FT)[1] *Specify custom lumen outputs in 50lm increments (ie: LC600, LC650, LC700) Custom output cannot exceed LC1000	**S80** - 83+ CRI (STANDARD) **H90** - 93+ CRI	**27K** - 2700K **30K** - 3000K **35K** - 3500K **40K** - 4000K

VOLTAGE	DRIVER	LENS OPTION (DIRECT)	LENS OPTION (INDIRECT)	FINISH
UNV - 120-277V **347** - 347V (0-10V ONLY)	**DIM** - 0-10V (STANDARD - 100-1%) **DHL2** - LUTRON HI-LUME 1%DET (100-1% ECOSYSTEM) **DALI** - DALI (100-1%) [4] **D01** - 0-10V (100-0.1%)	**FL** - FLUSH **D01** - 1° DROP LENS **D02** - 2° DROP LENS **DASY** - ASYMMETRIC OPTIC	**FL** - FLUSH **WSO** - WIDESPREAD OPTIC **ASY** - ASYMMETRIC OPTIC	**WH** - WHITE (STANDARD) **SV** - SILVER **BK** - BLACK All mounting canopies standard in white as standard

CABLE LENGTH	CIRCUITING	OPTIONS	LENGTH (FEET)
60 - 60" **120** - 120"	**1C** - 1 CIRCUIT **2C** - 2 CIRCUIT	**EMB** - INTEGRAL EMERGENCY BATTERY (4' SECTION ONLY) **EMC** - EMERGENCY CIRCUIT	**S** - 12'-0" (STRAIGHT RUN)* **L** - ____'X ____' (L-SHAPE) **U** - ____'X ____' X ____' (U-SHAPE) **R** - ____'X ____' (RECTANGLE/SQUARE) **T** - ____'X ____' (T-SHAPE) **X** - ____'X ____' (X-SHAPE) **CUS** - ____ (CUSTOM LAYOUT - PROVIDE DRAWING) * Individual units available in 2', 3', 4', 5', 6', and 8'. Continuous runs available in 3" (inchements) as standard.

1 L250 (250LM/FT) not available in 2' and 3' lengths (Please specify LC400 for 2' and 3' fixture length when outputs lower than 500LM/FT are required)
2 LXDDD (1000LM/FT) not available with H90 (93+ CRI)
3 LXDDD (1000LM/FT) not available with ASY (Indirect Asymmetric optic)
4 DALI-2 (Type D) provided as standard. Please consult factory for DALI (Type 8) options

OCTOBER 5, 2020

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TYPE "F4"

LITHONIA LIGHTING

Catalog Number
Notes
Type

FEATURES & SPECIFICATIONS

INTENDED USE — Built on the compact, low-profile Z strip channel, this LED strip offers long maintenance-free life, several color temperatures, lumen outputs and lengths. Ideal for new construction and retrofit applications in TS and T8 troffers. Ideal for uplight and downlight in commercial, retail, manufacturing, warehouse, core and display applications. **Certain airborne contaminants can diminish the integrity of acrylic and/or polycarbonate. Click here for Acrylic-Polycarbonate Compatibility table for suitable uses.**

CONSTRUCTION — Compact design channel and cover are formed from code-gauge cold-rolled steel. Easy to install one aligner included for continuous row mounting.

Finish: Paint options include high- gloss, baked white enamel (WH), galvanized (GAL1), matte black (MB) and dimple gray (DG1). After fabrication, five- stage iron phosphate pre- treatment ensures superior paint adhesion and rust resistance.

OPTICS — Standard diffuse snap on/snap off lens eliminates pixels, improves uniformity and minimizes glare. LL1ENS option available.

ELECTRICAL — L70–60,000hours. Utilizes high-output LEDs integrated on a two-layer circuit board, ensuring cool-running operation. Optional internal pluggable wiring harness for reduced labor cost in row mounting applications. (See PLK_ ordering information on page 2.) Electronic LED drivers rated for 75 input watts maximum (see Operational Data on page 4 for actual wattage consumption), **multi-volt input and 0-10V dimming standard.** This fixture is designed to withstand a maximum line-surge of 2.5kV at 0.75kA combination wave for indoor locations, for applications requiring higher level of protection additional surge protection must be provided.

LEDs provide nominal 80 CRI at 3000 K, 3500 K, 4000 K, or 5000 K.

Lumen output up to 2,000 lumens per foot. At 86°F (30°C) ambient environments. Luminaire should be installed in applications where ambient temperatures do not exceed 86°F (30°C).

INSTALLATION — Tool-less channel cover for easy installation.

Fixture may be surface mounted (with or without ZSPBG hanger), pendant or stem mounted with appropriate mounting options. Three-point aligner locks in place for easy continuous row mounting.

LISTINGS — CSA certified to US and Canadian safety standards. For use in damp locations between -40°F (-40°C) and 86°F (30°C).

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

BUY AMERICAN — Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT. Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

LED Striplight

ZL1N

24", 48" and 96" Lengths



Buy American

Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is part of an A+ Certified solution for nLight® control networks marked by a shaded background*

To learn more about A+, visit www.acuitybrands.com/aplus.

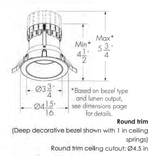
*See ordering tree for details

Specification Sheet

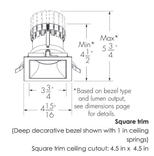
TYPE "F3" downlights - lumencore
Small Downlight
LCRS

Project Name _____ Qty _____
Type _____ Catalog / Part Number _____





Round trim
(Deep decorative bezel shown with 1 in ceiling springs)
Round trim ceiling cutout: Ø4.5 in



Square trim
(Deep decorative bezel shown with 1 in ceiling springs)
Square trim ceiling cutout: 4.5 in x 4.5 in

Photometric Summary

Based on Narrow Optic (nominal 25°), 4000K, CRI 80+

Nominal output (lm)	Delivered output (lm)	Insulated ceiling: Power (120V) (W)	Insulated ceiling: Efficacy (lm/W)	Non-insulated ceiling: Power (120V) (W)	Non-insulated ceiling: Efficacy (lm/W)
700	828	6.5	127	8.5	97
1000	1,070	8	134	10	107
1300	1,484	11	135	13	114
2000	2,313	18	129	20	116

[1] Consult website for lamp/ IES files.

Optics



Colors and Color Temperatures



Controls

ON/OFF | 0-10V | PRO 0-10V | PH | PRO PH DALI

CLUTRON | Lutron EcoSystem | Vive | eldoLED | Lutron Hi-Lume | DALI | DALI/8 | 2-WIRE DIM

Certifications

cULus | RoHS | 5 | Energy Star

Description

The Lumencore Small is a high-performance LED downlight for ceiling applications. Available in an array of trims and finishes, outputs (up to 4000lm), optics, color renderings, accessories, and a WET IP54 option, these luminaires are here to outperform. The Lumencore Small possesses a previously unseen lifespan, is quick to install, and can be used with a number of different control options.

Features

Output (nominal lumens) 700 lm, 1000 lm, 1300 lm, 2000 lm, 3000 lm, 4000 lm

Options Emergency battery backup with hanger bar (Bodine BSL17C-C2), Emergency battery backup with hanger bar (Iota ILB-CP07-A TBTS), IP54 rating suitable for wet locations, For IP55 Shower Rated "Dead Front" applications see Lumencore Small Shower Rated specification sheet

Warranty 5-year limited warranty

Electrical and control

Wattage range 8.5W to 42W (wattage will vary based on voltage, output, color temperature, color rendering, optic, control and installation type, refer to Power Consumption table for details)

Physical

Trim Round, Square trim with round hole, Trimless round, Square, Trimless square

Ceiling Thickness 0.04 in to 1 in ceiling thickness, 1.05 in to 2 in ceiling thickness

Tilt Optics Material Clear polycarbonate

Weight 3.4 lbs with RM installation type, 4.75 lbs with NC installation type, 10.8 lbs with PC, IC, IC/AT and RMR installation types (weights are approximate based on the heaviest fixture configuration), please consult factory if exact fixture weight is needed

lumenpulse™ 1020 Marie-Victorin Blvd., Longueuil, QC, J4G 2H9, CA | www.lumenpulse.com | Info@lumenpulse.com | T United States 617.307.5700 | Canada 1.877.937.3003 | 514.937.3003 | F 514.937.6289 | www.lumenpulse.com/products/1984

LMPG Inc. reserves the right to make changes to this product at any time without prior notice and such modification shall be effective immediately
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EN - 811

TYPE "F1"

LITHONIA LIGHTING

Catalog Number
Notes
Type

DIGITAL NAVIGATION
Ordering Tree | nLight Platform | Sensor Switch XDT | Photometrics | Performance Data

FEATURES & SPECIFICATIONS

INTENDED USE — The BLT Best-in-Value Low Profile LED luminaire features a popular center basket design that offers a clean, versatile style and volumetric distribution. High efficacy LED light engines deliver energy savings and low maintenance compared to traditional sources. An extensive selection of configurations and options make the BLT the perfect choice for many lighting applications including schools, offices and other commercial spaces, retail, hospitality and healthcare facilities. The low profile BLT design (2.3/8") also makes it an excellent choice for renovation projects.

CONSTRUCTION — Prior to fabrication, BLT components are coated with a proprietary paint blend and die-formed for dimensional consistency.

The BLT reflector is available in both smooth and ribbed finishes. Choose RB from the fixture style section below for a ribbed finish.

End plates contain easy-to-position integral T-bar clips for securely attaching the luminaire to the T-grid. For additional T-grid security, optional screw on T-bar clips are available.

Diffusers are extruded from impact modified acrylic for increased durability.

LED boards and drivers are accessible from the plenum.

OPTICS — Volumetric illumination is achieved by creating an optimal mix of light to walls, partitions and vertical and horizontal work surfaces – rendering the interior space, objects and occupants in a more balanced, complimentary luminous environment. High performance extruded acrylic diffusers conceal LEDs and efficiently deliver light in a volumetric distribution. Four diffuser choices available - curved and square designs with ribbed or a smooth frosted finish.

ELECTRICAL — Long-life LEDs, coupled with high-efficiency drivers, provide superior quantity and quality of illumination for extended service life, 80% LED lumen maintenance at 60,000 hours (L80/60,000). Color fluctuation within 3-step MacAdam ellipse (SDCM).

Non-Configurable BLT: Generic 0-10 volt dimming driver. Dims to 10%

Configurable BLT: available in High Efficiency (HE) versions for applications where a lower wattage (over the standard product) is required. The High Efficiency versions deliver 1 x 581 LM per FW and can be specified via the Lumen Package designations in the Ordering Information below.

eldoLED driver options deliver choice of dimming range, and choices for control, while assuring flicker-free, low-current inrush, 89% efficiency and low EMI.

Optional integrated nLight® controls make each luminaire addressable - allowing it to digitally communicate with other nLight enabled controls such as dimmers, switches, occupancy sensors and photocontrols. Connection to nLight is simple. It can be accomplished with integrated nLight AIR wireless 802.15.4 mesh network, or through standard Cat-5 cabling. nLight offers unique plug-and-play convenience as devices and luminaires automatically discover each other and self-commission. nLight AIR is commissioned easily through an intuitive mobile app.

Lumen Management: Unique lumen management system (option NM) provides on board intelligence that actively manages the LED light source so that constant lumen output is maintained over the system life, preventing the energy waste created by the traditional practice of over lighting.

Step-level dimming option (SLO) allows the system to be switched to 50% power for compliance with common energy codes while maintaining fixture appearance.

SENSOR — **Integrated sensor (individual control):** Sensor Switch WSDT/ADCX (IPassive infrared (PIR)) or WSDPET/ADCX (PIR/Microphonic Dual Tech (PET)) integrated occupancy sensor/automatic dimming photocell allows the luminaire to power off when the space is unoccupied or enough ambient light is entering the space. See page 4 for more details on the integrated sensor.

Integrated Sensor (nLight Wired Networking): This sensor is nLight-enabled, meaning it has the ability to communicate over an nLight network. When wired, using CAT-5 cabling, with other nLight enabled sensors, power packs, or WallPods, an nLight control zone is created. Once linked to a Gateway, directly or via a Bridge, the zone becomes capable of remote status monitoring and control via SensorView software. See page 4 for the nLight sensor options.

Integrated Smart Sensor (nLight Air Wireless Platform): The BLT2 sensor is nLight AIR enabled, meaning it has the ability to communicate over the wireless nLight control platform. It is available with an automatic dimming photocell, and either a digital PIR or a microphonic (PET) dual technology occupancy sensor. It pairs to other luminaires and wall switches through our mobile app, CLAIRITY, which allows for simple sensor adjustment. See page 4 for more details on the Integrated Smart Sensor.

Integrated Wireless Sensor (single room control): Sensor Switch VERTEX XDT or ADVTCTEN is luminaire-embedded occupancy and ambient light sensor allows the luminaire to power off when the space is unoccupied or when enough ambient light is entering the space. See page 8 for more details on the integrated wireless sensor.

INSTALLATION — The BLT's low profile design of only 2-3/8" provides increased installation flexibility especially in restrictive plenum applications. The BLT fits into standard 15/16" and narrow 9/16" T-grid ceiling systems.

Suitable for damp location.

For recessed mounting in hard ceiling applications, Drywall Grid Adapters (DGA) are available as an accessory. See Accessories section.

LISTINGS — CSA Certified to meet U.S. and Canadian standards. IC rated. Tested in accordance with ISO 14644-1; suitable for ISO Class 5-9 positive and negative pressure clean rooms.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

BUY AMERICAN — Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT. Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

NOTE: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

BLT Series LED

2BLT4

2' x 4' LED



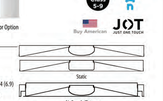


Buy American | JOT Job Ready

Specifications

Length: 47-3/4 (121.2)
Width: 23-3/4 (60.3)
Depth: 2-3/8 (6.0)
Depth with Air supply/return: 2-3/4 (6.9)

All dimensions are inches (centimeters) unless otherwise specified.



Embed nLight controls today. Prepare for tomorrow.

Now	Tomorrow
User-friendly install	Scalability
Enhanced energy savings	Space configuration
Code compliance	Future-ready

Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is part of an A+ Certified solution for nLight® control networks when ordered with drivers marked by a shaded background*
- This luminaire is part of an A+ Certified solution for nLight control networks, providing advanced control functionality at the luminaire level, when selection includes driver and control options marked by a shaded background*

To learn more about A+, visit www.acuitybrands.com/aplus.

*See ordering tree for details

TYPE "F7"

Type: _____
Project: _____

ILLUMINA®

LED | WET | IP66 | IK05 LOGICA CANETROFIT TITLE 20 TITLE 24 DLC WET cULus ENERGY STAR RoHS

BS100LED

- The ILLUMINA® BS100LED is corrosion, flame and vandal resistant.
- HOUSING: 100% UV stabalized polycarbonate, liquid silicone perimeter gasket with memory retention.
- DIFFUSER: Frosted UV stabilized polycarbonate diffuser, providing even light distribution.
- LUMENS: 2FT | 4FT
  LO: 3585 up to 3796 lm | **VLO:** 3954 up to 4187 lm
  MO: 4780 up to 5062 lm | **LO:** 5512 up to 5837 lm
  HO: 5975 up to 6327 lm | **MO:** 6615 up to 7004 lm
  HO: 8366 up to 8857 lm
- OPERATING TEMP: HT (AC Only) -40°F to 104°F (-40°C to 40°C)
  SA (AC & Emergency) 32°F to 104°F(0°C to 40°C)
- WEIGHT: **2FT:** 5 lbs. / 2.2 kg. | **4FT:** 10 lbs. / 4.5 kg

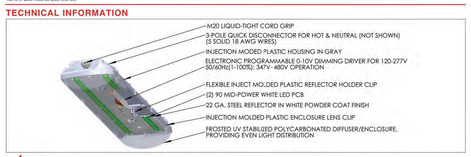
APPLICATION: The BS100LED is ideal for various applications including retail, industrial, parking, garages, carpot, parking structures, warehouses, breezeways, canopies, schools, and much more. It can be installed both indoor and outdoor.

CONFIGURATIONS

MODEL	LENGTH	OPERATION	OUTPUT	COLOR TEMP	INPUT	MOUNTING	OPTIONS
BS100LED	2 (ft)	HT (AC only)	VLO[3]	WT35 (3500K)	120-277V	SM[4] (surface mount)	SS (stainless steel clips)
BS100LED-RK[1]	4 (ft)	SA[2] (AC & EM)	LO	WT40 (4000K)	347V-480V	AC[5] (aviation cable)	FP (fuse protection - 3A)
			MO	WT50 (5000K)		SPK[6] (single pendant kit)	TPS[10] (tamper proof screws)
			HO			SVLSPK[6] (swivel single pendant kit)	TPB (tamper proof under driver bit)
						SVLDPK[6] (swivel double pendant kit)	NDDL[11] (integrated node - LOGICA)
						DPK[6] (double pendant kit)	IOSL[11] (external occupancy sensor - LOGICA)
						CH[6] (chain hang kit)	EOSL[11] (external occupancy sensor - LOGICA)
						TM[6] (trunion mount)	IOS-12 (external occupancy sensor)
						PM (pivot mount)	IOSB[12] (external bluetooth occ. sensor)
						JM[7] (junction mount)	EOS (external occupancy sensor)
						MMP (magnet mount)	SP (surge protection - 10KA)
						QMB[8] (quick mount bracket)	B-H (black housing)
							W-15 (white housing)
							D (dali)
							FA-15(fully assembled)

NOTE 1: RK - Retro Fit Kit; Mounting options do not apply to BS100LED-RK unit.
NOTE 2: Title 20 emergency pack: 120/277V: **2FT:** 1096; 1107 lumens; **4FT:** 1936; 1135 lumens.
NOTE 3: Not available with HT or SA
NOTE 4: Surface mount is standard.
NOTE 5: Specify length for AC50", 73", 100", 150", 250" fully adjustable.
NOTE 6: SPK, DPK, CH, TM, & SVLSPK options must specify length.
NOTE 7: JM option - the unit is no longer wet location, but damp location.
NOTE 8: Magnetic mounts must be installed to steel beam measuring minimum 3/16" (4.7mm) thick.
NOTE 9: QMB must be used with JM.
NOTE 10: 10-8 stainless steel screws.
NOTE 11: Logics (Beghelli wireless and powerless control solutions). Contact factory for more details.
NOTE 12: IOSB-12 is a battery powered occupancy sensor with handheld remote (HAR-P2R) for changing defaults and testing of occupancy sensor. Order as needed (spare #AXS100185). For more details, contact factory.
NOTE 13: Downloadable smart phone app for sensor configuration.
NOTE 14: Does not require MOU for 4ft.
NOTE 15: Contact factory.
NOTE 16: Includes latches and grommets installed at the factory. Can be combined with the JM option.

TECHNICAL INFORMATION



Beghelli USE www.beghelliusa.com 10/28/19

Beghelli reserves the right to change, without notice, specifications or materials that in our opinion will not alter the function or performance of the product. Technical specifications that appear on www.beghelliusa.com supersede all other versions existing in print or electronic form.

TYPE "F5"

LITHONIA LIGHTING

Catalog Number
Notes
Type

FEATURES & SPECIFICATIONS

INTENDED USE — LBL LED wraparound provides a digital lighting platform to deliver general ambient lighting for surface-mount applications. The LED system delivers long life and excellent color to ensure quality, low maintenance lighting installation. Ideal for closets, storage rooms, hallways, stairwells and offices.

CONSTRUCTION — Metal parts are die formed from pre-painted code-gauge steel. Prismatic diffuser is 100% acrylic with sonically welded luminaire ends. Continuous side flanges on fixture body provide light trap and continuous diffuser support to prevent accidental opening and simplify maintenance.

OPTICS — Curved prismatic diffuser with linear side prisms and highly luminous overlay minimizes lamp image and provides high-angle brightness control. Luminous end plates soften appearance for improved aesthetics.

ELECTRICAL — Long-life LEDs, coupled with high-efficiency drivers, provide superior quantity and quality of illumination for extended service life. 90% LED lumen maintenance at 50,000 hours (L90/50,000). The LEDs have a CRI of 82.

eldoLED driver options deliver choice of dimming range and choices for control, while assuring flicker-free, low-current inrush, 89% efficiency and low EMI.

Step-level dimming option allows system to be switched to 50% power for compliance with common energy codes while maintaining fixture appearance.

CONTROLS — Pair the LBL with the fixture mount Sensor Switch LSXR sensor for additional energy savings when the space is unoccupied. The LSXRHL sensor dims the fixture down to a low-level setting when there is no occupancy. This option is ideal for stairwells, back rooms, and closets due to the low occupancy level in those spaces.

Optional nLight® embedded controls continuously monitor system performance, allow for constant lumen management / compensation function, facilitate simple "plug-and-play" network and controls upgrading via Cat-5 cable. Ballast disconnect provided where required to comply with US and Canadian codes.

LISTINGS — CSA certified to meet U.S. and Canadian standards. Damp listed.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

BUY AMERICAN — Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT. Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/support/customer-support/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

Low-Profile Curved-Basket LED Wraparound

LBL4

4' LENGTH, NARROW HOUSING

LED

Buy American | DLC | DLC PREMIUM | eldoLED | nLIGHT

Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is part of an A+ Certified solution for nLight® control networks when ordered with drivers marked by a shaded background*
- This luminaire is part of an A+ Certified solution for nLight control networks, providing advanced control functionality at the luminaire level, when selection includes driver and control options marked by a shaded background*

To learn more about A+, visit www.acuitybrands.com/aplus.

*See ordering tree for details

TYPE "F3A"

JT-1164

ENVIRONMENTALLY FRIENDLY, ENERGY EFFICIENT

- Lumen packages suitable for ceiling heights ranging from 8' to in excess of 100'
- Efficacies up to 124 lm/w
- Superior-quality white LED light output using Chip on Board technology
- Patented Hyperbolic Reflector (U.S. Patent No. 10,670,227 B2)

PRODUCT SPECIFICATIONS

Atrius™ - Ready Product: Select models of the Lxeries product line deliver valuable data and connectivity to the Atrius IoT location based platform services. For more information, please refer to www.acuitybrands.com/Atrius.

OPTICS
Hyperbolic: Patented hyperbolic shape (U.S. Patent No. 10,670,227 B2) optimized for small, directional LED source, maximizes fixture efficiency while creating the "Silent Ceiling" appearance by reducing lamp image and aperture brightness • Geometry of hyperbolic curve provides unique aperture appearance and smoother light distribution
Parabolic/Lens: Computer-optimized parabolic reflector with frosted convexed lens • Replaceable light engine with push in wire connectors mounts directly to heat sink and is easily replaceable
Passive Cooling: Aluminum heat sink integrated directly with housing provides superior thermal management to ensure the long life of LED
LED Driver: Power factor >0.9 • Easily replaceable from above or below the ceiling
Dimming: Dimmable via 0-10V protocol standard • Optional drivers available for use with eldoLED, Lutron EcoSystem, 2-wire dimmers, DMX, or DALI • For a list of compatible dimmers see LED-DIM.
Life: Rated for 60,000 hours at 70% lumen maintenence • Available with optional Lumen Depreciation Indicator, (LDI option (U.S. Patent No. 9,119,269)
Emergency Battery Pack (Optional) output: Provides a minimum of 600 (BR & BR70CL), or 1000 (HBR) lumens for a minimum duration of 90 minutes • BR120C option is CEC Title 20 compliant

A+ Capable options indicated by this color background.

Design2Ship Quick Ship Programs: Options in gates not qualify for Design2Ship — 5 business days from order entry to ship. Refer to Design2Ship brochure for complete program details. Maximum Order Quantity: 50 units.

ORDERING INFORMATION

Complete Catalog# Example includes (Rough-in, option, reflector, accessory) Ordering Example: L6-ORM-35K-MVOLT-G4-80CRI ZT-IZH-HW-CS-PE-HBTL

ROUGH-IN

Series	Light Engine	Color Temperature	Voltage	Generation	CRI	Driver	Rough-In Options
L6 6" L-Series Retro-Construction Downlight LRM6[1] 6" L-Series Remodel Roughin	09LM 700 lm 13LM 1000 lm 15LM 1300 lm 17LM 1600 lm 21LM 2000 lm 28LM 3000 lm 33LM 3300 lm 40LM 4000 lm 45LM 4500 lm 50LM 5000 lm 55LM 5500 lm 60LM 6000 lm 65LM 6500 lm 70LM 7000 lm 75LM 7500 lm 80LM 8000 lm 85LM 8500 lm 90LM 9000 lm	27K 2700K 30K 3000K 35K 3500K 40K 4000K **50K** 5000K	120 120 277 277 MVOLT (120-277)	G4	80CRI 90CRI 97CRI[2]	DALI DALI Control Dimming DHL ROM Driver ELDAB[3,4] eldoLED SOLOdrive DALI, LogicSmart, dimming to +1% ELWB[3,4] eldoLED POWERdrive DALI ROM w/ emergency, LogicSmart, Dimming to +1% ELX[3,4] eldoLED 0-10V ECOdrive, LogicSmart, dimming to +1% ELXW[3,4] eldoLED 0-10V ECOdrive, LogicSmart, Linear dimming to 1% min. 3COLOrdrive, dimming to +1% FDr[3,4] Forward or Reverse Phase Dimming Driver FDL[3,4,5] Forward Phase Dimming Linear Driver ECOD[3,4,5] Lutron Ecosystem Digital Dimming Driver ZT 0-10V Dimming to 10% min EZ1[3] 0-10V Dimming to 1% min	F[6] Fuse and Fuse Holder CP[7] Chicago Plenum LDI Lumen Depreciation Indicator EB[8,9,10] 400 Lumen Emergency Battery Pack w/ Remote Test Switch, CEC Title 20 Compliant HBEB[8,9,10] 1000 Lumen Emergency Battery Pack w/ Remote Test Switch NLTS[11] nLight® Dimming Pack Controls, nLight® dimming pack controls, nLight controls failsafe on emergency circuit NLTSAIR2[11,12,13] nLight® AIR Dimming Pack Controls, Controls failsafe NLTSAIRE2[11,12,13] nLight® AIR Dimming Pack Wireless Controls, Controls failsafe on emergency circuit AECD[14,15] Atrius™ - Ready, VLC Commissioning, Radio (BT Positioning)

Capable Luminaire

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To learn more about A+, visit www.acuitybrands.com/aplus.

*See ordering tree for details

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TYPE "F2"

LITHONIA LIGHTING

Catalog Number
Notes
Type

FEATURES & SPECIFICATIONS

INTENDED USE — The 2GTL LED recessed troffer offers a wide range of lumen packages, color temperatures, and lens options to meet the lighting needs for a wide range of applications such as schools, offices, and hospitals. The light engine delivers long life and excellent color to ensure a sound quality, low-maintenance lighting installation. **Certain airborne contaminants can diminish the integrity of acrylic and/or polycarbonate. Click here for Acrylic-Polycarbonate Compatibility table for suitable uses.**

CONSTRUCTION — Housing formed from 22 gauge cold-rolled steel. Smooth hemmed sides and smooth inward formed end flanges for safe handling. Includes integral T-bar clips. Lighter-weight fixture allows for safe, easy installation.

OPTICS — Highly transmissive pattern #12 lens diffuses the light source without compromising output. Pattern # 19 and satin white lens options also available.

ELECTRICAL — Long-life LEDs, coupled with high-efficiency drivers, provide extended service life. 80% LED lumen maintenance at 72,000 hours (L80/72,000).

eldoLED driver options deliver choice of dimming range, and choices for control, while assuring flicker-free, low-current inrush, 89% efficiency and low EMI.

Optional nLight® embedded controls make each luminaire addressable - allowing it to digitally communicate with other nLight enabled controls such as dimmers, switches, occupancy sensors and photocontrols. Simply connect all the nLight enabled control devices and the GTL luminaires using standard Cat-5 cabling. Unique plug-and-play convenience as devices and luminaires automatically discover each other and self-commission.

Lumen Management: Unique lumen management system (option NM) provides on board intelligence that actively manages the LED light source so that constant lumen output is maintained over the system life, preventing the energy waste created by the traditional practice of over-lighting.

The step-level dimming option (SLO) allows the system to be switched to 50% power for compliance with common energy codes while maintaining fixture appearance.

Ballast disconnect is provided where required to comply with U.S. and Canadian codes.

INSTALLATION — LED boards include plug in connectors for easy of upgradability. Suitable for direct insulation contact. Suitable for damp location.

LISTINGS — CSA certified to meet U.S. and Canadian standards. IC rated. DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check

HYDREL

CATALOG NUMBER: TYPE "S2"
NOTES:
TYPE:



ASPEN LED
12V/120V LED

Specifications

Weight:	1.6 lbs.

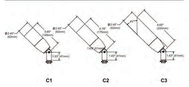
H:	5.85" (149mm) w/C1
	6.79" (172mm) w/C2
	9.65" (245mm) w/C3

HIGHLIGHTS

- Accent lights are suitable for a variety of mounting applications including ground, wall, tree, sign and architectural accents
- Suitable for wet locations
- Integral driver for 120V
- Dimmable using standard Triac dimmer for 120V and dimmable using standard MLV dimmer and magnetic transformer for 12V
- Tapered-sure lock
- Available in 80CRI and 90CRI
- 1,100lm

5 YEAR WARRANTY
66 IP RATED
NLIGHT® LUMINAIRE
Buy American

DIMENSIONS





AIMING DETAILS

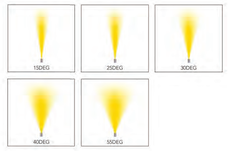


LUMEN PACKAGES

	1SDEG	2SDEG	3SDEG	4SDEG	4DDEG	4SDEG	5SDEG	5SDEG
Delivered Lumens	485	421	407	442	474	466	434	439	441
Watts	11	11	11	11	11	11	11	11	11
LPW	42	37	40	38	41	40	38	38	38
Peak Candela	9,094	2,735	2,827	1830	1569	1212	982	742	664

Note: Information based on 4000K @ P1, 80CRI, 120 Volt with C1 cap and FLC lens

STANDARD DISTRIBUTION



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Phone: 800-705-SERV (7378) • www.hydrel.com

TYPE "S1"



WDGE2 LED
Architectural Wall Sconce

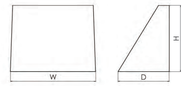
DLC DLC PREMIUM

Catalog Number
Notes
Type

Please scroll down the page to see all interactive elements.

Specifications

Depth: 7"
Height: 9"
Width: 11.5"
Weight: (without options) 13.5 lbs



Introduction

The WDGE LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean rectilinear design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing a true site-wide solution. Embedded with nLight® AIR wireless controls, the WDGE family provides additional energy savings and code compliance.

WDGE2 delivers up to 6,000 lumens with a soft, non-pixelated light source, creating a visually comfortable environment. When combined with multiple integrated emergency battery backup options, including an 18W cold temperature option, the WDGE2 becomes the ideal wall-mounted lighting solution for pedestrian scale applications in any environment.

WDGE LED Family Overview

Luminaire	Standard EM, 0°C	Cold EM, -20°C	Sensor	Lumens (4000K)					
				P1	P2	P3	P4	P5	P6
WDGE1 LED	4W	—	—	1,200	2,000	—	—	—	—
WDGE2 LED	10W	10W	Standalone / nLight	1,200	2,000	3,000	4,500	6,000	—
WDGE3 LED	15W	10W	Standalone / nLight	2,500	4,500	10,000	12,000	—	—
WDGE4 LED	—	—	Standalone / nLight	12,000	16,0K0	18,000	20,000	22,000	25,000

Ordering Information

EXAMPLE: WDGE2 LED P3 40K 80CRI VF MVOLT DDBXD

Series	Package	Color Temperature	CRI	Distribution	Voltage	Mounting	Shipped included	Shipped separately
WDGE2 LED	P1[1] P1W P2[1] P2W P3[1] P3W P4[1] P4W P5[1] P5W Door with small window (SW) is required to accommodate sensor. See page 2 for more details.	27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K[1] 5000K	80CRI 90CRI	VF Visual comfort forward throw VW Visual comfort wide	MVOLT 347[1] 480[1]	SRM Surface-mounting bracket	AWS 120inch Architectural wall spacer BSW Surface-mounted back box PBBW Premium surface-mounted back box (top, left, right conduit entry)	

Options		Finish	
E4WH	Emergency battery backup, CEC compliant (4W, 0°C min)	**Standalone Sensors/Controls** (only available with P3SW, P3SW & P1SW)	DDBXD Dark bronze
E10WH	Emergency battery backup, CEC compliant (10W, 5°C min)	PIR Bi-level (100/35%) motion sensor for 8-15' mounting heights. Intended for use on switched circuits with external dusk to dawn switching.	DBLXD Black
E20WC	Emergency battery backup, CEC compliant (18W, -20°C min)	PIRH Bi-level (100/35%) motion sensor for 15-30' mounting heights. Intended for use on switched circuits with external dusk to dawn switching.	DNAXD Natural aluminum
PE[1]	Photocell, Button Type	PIR1FC3V Bi-level (100/35%) motion sensor for 8-15' mounting heights with photocell pre-programmed for dusk to dawn operation.	DWHXD White
DS[1]	Dual switching (comes with 2 drivers and 2 light engines; see page 3 for details)	PIRH1FC3V Bi-level (100/35%) motion sensor for 15-30' mounting heights with photocell pre-programmed for dusk to dawn operation.	DSSXD Sandstone
DMG[1]	0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately)	**Networked Sensors/Controls** (only available with P3SW, P3SW & P1SW)	DDBTXD Textured dark bronze
BCE	Bottom conduit entry for premium back box (PBBW). Total of 4 entry points.	NLTAIR2 PIR nLight AIR Wireless enabled bi-level motion/ambient sensor for 8-15' mounting heights.	DBLBXD Textured black
		NLTAIR2 PIRH nLight AIR Wireless enabled bi-level motion/ambient sensor for 15-30' mounting heights.	DNAVXD Textured natural aluminum
		See page 4 for rest of bus functionality	DWHGXD Textured white
			DSSTXD Textured sandstone

LITHONIA LIGHTING® COMMERCIAL OUTDOOR

One Lithonia Way • Conyers, Georgia 30012 • Phone: 1-800-705-SERV (7378) • www.lithonia.com

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TYPE "X1" / "X2"

LITHONIA LIGHTING®

Catalog Number
Notes
Type

Signature
Die-Cast Aluminum Exits



LE surface



LRE recessed

LE and LRE

UP TO 20 YEAR WARRANTY
Buy American

FEATURES & SPECIFICATIONS

INTENDED USE — Ideal for applications requiring attractive die-cast aluminum signage, superior illumination and low energy consumption.

CONSTRUCTION — Precision-molded, die-cast aluminum construction — ultra-slim, compact housing. Fine-grain brushed aluminum faceplate with matte black electrostatic polymeric trim. Clear lacquer finish on brushed face inhibits fingerprints and other surface contaminants.
All electronics located inside housing.
Fully overlapping light seal prevents light leaks. Universal directional chevron knockouts are completely concealed and easily removed. Hinged faceplate and spring latches for easy lamp compartment access, no exposed hardware.
Letters 6" high with 3/4" stroke, with 100 ft viewing distance rating, based upon UL924 standards.
U.S. Patent No. 5,739,639, 5,954,423 and 6,502,044. Canada Patent No. 2,204,218. Other patents pending.
OPTICS — Lamp is constructed using new LED technology. Provides perfectly uniform illumination to meet 3:4:1 letter stroke required by code.
The typical life of the exit LED lamp is 10 years, based on continuous operation. Unique LED lamp platform accommodates both single-face and double-face exits.
Low energy consumption — red exit consumes ≤1.0 A, 1.3W (120V), green exit consumes ≤1.6 A, 1.9W (120V). Universal input voltage capabilities (120V through 277V, 50 or 60 HZ).
ELECTRICAL — Solid-state electronic elements to eliminate risk of electromechanical failures.
Surge protection meets ANSI/IEEE C62.41 category B and IEC 1000 immunity standards for high voltage surges, electrostatic discharges, high frequency electrical fast transients and line voltage dips/swells.
Emergency Operation (for EL N option only): Battery: Sealed, maintenance-free nickel-cadmium battery delivers 90 minutes capacity to lamp.
Self-diagnostics (SD option only): Two-state constant-current charger maximizes battery life and automatically recharges after battery discharge. Test switch provided for manual testing.
Self-diagnostic testing for five minutes every 30 days, 30 minutes at 180-day interval, and 90 minutes annually.
Diagnostic evaluation of LED light source, AC to DC transfer, charging and battery condition.
Continuously monitors AC functionality.
Low voltage disconnect prevents excessive deep discharge that can permanently damage the battery.
Single-point microcomputer control for all electronic features.
Crystal-oscillator timing system with watchdog protection for precision accuracy.
AC/DID reset allows battery connection before AC power is applied and prevents battery damage from deep discharge.
Brownout protection is automatically switched to emergency mode when supply voltage drops below 80% of nominal.
Single multi-chromatic LED indicator to display two-state charging, test activation and three-state diagnostic status.
Test switch provides manual activation of 30-second diagnostic testing for on-demand visual inspection.

INSTALLATION — Universal mounting (top, end or back). Double face available with top or end mounting only. LRE: Trim ring has 3/4" depth adjustment to ensure a flush fit against the surface. Protrudes 1/16" from the surface. No exposed hardware.
Die-cast aluminum canopy provided for surface mount only.
LISTINGS — UL damp location listed 50°F - 104°F (10°C - 40°C). Meets UL 924, NFPA 101 (current Life Safety Code), NEC and OSHA illumination standards. North Carolina Department of Insurance.
BUY AMERICAN — Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT.
Please refer to www.acuitybrands.com/buy-american for additional information.
WARRANTY — 5-year limited warranty. (Battery is prorated.) Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions
Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

† Small Battery Chargers Certified in the CA Title 20 Appliance Efficiency Database.

ORDERING INFORMATION For shortest lead times, configure products using **bolded options.** **Example:** LE S 1 R EL N SD

Series	Face type	Housing color	Number of faces	Letter color	Input voltage	Operation	Options
LE LED, surface mount **LRE** LED, recessed	**S** Stencil **P** Panel[1]	**(blank)** Matte black, brushed aluminum face **BZ** Dark bronze **W** White **B** Matte black	**1** Single-face **2** Double-face[2]	**R** Red **G** Green	**(blank)** Universal input voltage 120V, 277V, 50 or 60 HZ)	**(blank)** AC only **EL N** Nickel-cadmium battery back-up **X2** Lamp wired on two separate AC circuits[3]	(blank) None TP Two tamper proof Torx-head screws VR Vandal-resistant shield (1/8" thick polycarbonate)[4] FI FA Field-selectable fire alarm interface or flashing emergency operation with intermittent audible alarm (one flash per minute)[5] FI Fire alarm flashing interface[6] FA Flashing emergency operation and intermittent audible alarm[5] SD Self-diagnostics[7] BAA BAA. Buy America(n) Act Compliant[8]

Accessories: *Order as separate catalog number.*

ELA US12 12" stem kit (see spec sheet ELA-Stemkits)[1,2]
ELA WG1 Back-mount wire guard (see spec sheet ELA-WG)[2]
ELA WGEXT Top-mount wire guard (see spec sheet ELA-WG)[2]
ELA WGEXE End-mount wire guard (see spec sheet ELA-WG)[2]
ELA ERK Recess mounting rough-in kit for LRE only (see spec sheet ELA-ERK)

Notes
1 Panel face available for special wording only (see Custom Signage spec sheet).
2 Not available with LRE models.
3 UL Listed as emergency lighting.
4 VR contains tamper proof screws.
5 Available with SD option only.
6 Available with AC only or EL N operation only.
7 Available with EL N option only.
8 BAA only available for LE.
9 Add W for white.

EMERGENCY LE-LRE

TYPE "F8"

Cylindro II chandeliers (BG67)
circular LED pendants with white acrylic diffuser

delray.

CONSTRUCTION
- Extruded aluminum outer housing, with frosted white acrylic diffuser.
- 6 ft. gray adjustable power cord and aircraft cables, gripper supplied, standard. Specify **XP** for additional length. Default finish/power cord pairings are silver/gray, white/white, black/black.
- For differing fixture/canopy colors, please consult factory.
- Drivers and DMX module installed in surface mount canopy. For remote driver installation, see page 2.
- Drivers are universal voltage, 120–277V.
- Specify: **S**, **C**–standard canopy (10" x 2.25"), which mounts to all standard J-boxes and must attach to structure able to support 75 lb. **SR**, **CR**, **NCR**–remote canopy (3" x 0.45") mounts to 3" mud ring.
- cUL listed for dry and damp locations only.

TYPE:	PROJECT:
ORDER NUMBER:	

MODEL#	DIAMETERS	FINISH	OUTPUT	LEDS	MOUNT STYLE	DRIVER	OPTION
BG67	3-3 ft. 4-4 ft. 5-5 ft.	S-Silver W-White K-Black (see page 3 for more)	LO-Low HO-High	W30 W35 W40 RGBW-color + 3500° K white	S-Separate SR-Separate Remote C-Central CR-Central Remote NCR-Nexus CR	D-Standard BDIM-W11 DMX DA-DALI	EM
Example:							
BG67	345	S	HO	W35	SR	D	

BDMXCON-W-white faceplate (enter quantity):		XL-custom lumen reduction (specify lumens):
BDMXCON-B-black faceplate (enter quantity):		XP-Extra power cord (in inches, 25 ft. max.)
		EB-Earthquake Bracing Kit (enter quantity):
		Specify canopy finish (silver, white, black):
		Specify power cord color (gray, white, black):

SEPARATE
BG67444/SR
BG67444/SR

NEXUS
BG67543/NCR
BG687353/NCR

CENTRAL
BG6743/CR
BG67543/CR
BG6754/CR
BG67543/CR

Note: Drawings indicate mount style only. Stacks and gyroscopes are configured in the field by adjusting aircraft and power cable lengths. Stacked fixtures must all be the same diameter.

delraylighting.com

OCT 2021

HYDREL

CATALOG NUMBER: TYPE "S2" Tree Ring
NOTES:
TYPE:



TRAR
Tree Ring Architectural

IP66

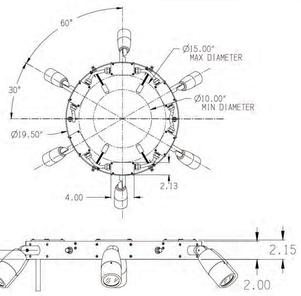
HIGHLIGHTS

- Thoughtful and durable design, available in 2, 3, 4, 5 and 6 fixture configurations
- IP66 rated aluminum junction box
- Stainless Steel fasteners
- Designed for 10"-15" diameter trees. Please consult factory for custom diameters
- For specified Hydrel landscape and accent fixtures
- Matching tree ring and jbox finish

Specifications

Minimum Tree Diameter:	10" (254mm)
Maximum Tree Diameter:	15" (381mm)
Overall Diameter:	19 1/2" (495mm)
Weight	22lbs. based on TRAR 6FX

DIMENSIONS



© 2020 Acuity Brands Lighting, Inc. • One Lithonia Way, Conyers GA 30012
Phone: 800-705-SERV (7378) • www.hydrel.com

TYPE "S3"

PRE-2-M LED Specifications



Project Name:
Catalog Number:
Type:

Contemporary design meets the new generation of LED green technology in this stunning luminaries, the **PRE-2-M**. The PRE-2-M series provides up to fifty percent energy savings over traditional HID light sources; and offers excellent beam control and LED life beyond 100,000 hours for 350 milliamp systems. The PRE-2-M is offered in six optical distributions.

The PRE-2-M's fully-sealed housing features an exceptionally well-designed thermal management system that provides superior heat dissipation.

The PRE-2-M fixture is built with a cast aluminum housing, extruded aluminum arms and a spun aluminum, removable top.

The popular **PRE-2-M** is the perfect compliment to any university campus, business park, or walkway project where contemporary, architectural design is desired.

Ordering Information

MODEL	OPTICS	SOURCE	CURRENT	KELVIN	VOLTAGE	MOUNTING	FINISH	OPTIONS	OPTIONS
PRE-2-M	T3	32LC	7	3K	UNV	PT	BZ		
PRE-2-M	**T1**	**16LC**	**3** 350mA	**3K** 3000K	**UNV** 120-277V	**PT** Post Top - Standard 3" OD tenon X 4.5" tall as standard	**BZ** Bronze	**PC-120** **PC-208** **PC-240**	**DIM** 0-10v Dimming Driver
	T2	**32LC**	**5** 530mA	**4K** 4000K	**8** 347V		**BK** Black	**PC-277** Button Type Photocell	**VWC** Visionaire Wireless Control Installed at Factory
	T3	**48LC**	**7** 700mA	**5K** 5000K	**5** 480V		**SBK** Smooth Black	**WSC-8** Motion Sensor 8' Mounting Height	
	T4						**WH** White	**WSC-20** Motion Sensor 8-20' Mounting Heigh	**IR-(R, B, G** Illuminated Rings (Red, Blue, Green)
	T5						**SWH** Smooth White	**WSC-40** Motion Sensor 21-40' Mounting Height Tenon mounted required (1) ISRI 100 remote for programming	**PER** 3, 5, or 7 Pin Photo Receptacle w/shorting cap
	T5W						**GP** Graphite		
	T5WR						**GY** Grey		
							SL Silver Metallic		
							CC Custom Color		

VISIONAIRE LIGHTING

A

TYPE "X1W" / "X2W"

LITHONIA LIGHTING®

Catalog Number
Notes
Type

Wet Location
Exit Sign

WLTE



FEATURES & SPECIFICATIONS

INTENDED USE — Ideal for wet location areas requiring exit signs for AC only or battery back-up power that are subject to saturation with non-mechanically delivered water.

CONSTRUCTION — White, compact, contemporary design. Engineering-grade thermoplastic housing is impact-resistant, scratch-resistant and corrosion-proof. Universal directional Chevron inserts are easily removed and reinserted. UL94V-0 flame rating. UV-stable resin resists discoloration from natural and man-made light sources. Rugged, heavy-duty, polycarbonate clear housing lens. Housing also available in black or gray. Letters 6" high with 3/4" stroke, with 100 ft. viewing distance rating, based upon UL924 standards.

OPTICS — Low energy consumption — fewer than 5 watts. The typical life of the exit LED lamp is 10 years, based on continuous operation.

ELECTRICAL — Dual voltage input capacity (120/277V).

Battery: (EL Option) — Sealed, maintenance free nickel-cadmium battery delivers 90 minutes rated capacity. Test switch provides manual activation of 30-second diagnostic testing for on-demand visual inspection.

Self-diagnostic testing (SD Option Only) for 30 seconds every 30 days, 30 minutes every 180 days and a 90-minute annual test. Diagnostic evaluation of LED light source, charging and battery condition.

INSTALLATION — Universal (top, end or back mount), canopy included. Junction box hole pattern for 4" octagon mounting. Flexible conduit entry.

LISTINGS — UL listed. Wet location listed. Standard cold temperature rating -4°F to 122°F (-20°C to 50°C). Meets UL 924, NFPA 101 (current Life Safety Code) and NFPA 70-NEC

WARRANTY — 5-year limited warranty. (Battery is prorated.) Complete warranty terms located at www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

Specifications
Length: 12-1/2 (31.8)
Depth: 2-1/2 (6.4)
Height: 8-1/8 (20.6)
Weight: 4.1 lbs (1.9 kg)



All dimensions are inches (centimeters) unless otherwise indicated.

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative. **Example:** WLTE W 1 R EL

WLTE Series	Housing color	Number of faces	Letter color	Operation	Options
WLTE	W White B Black GY Gray	1 Single face 2 Double face	R Red G Green	(blank) AC only EL Nickel-cadmium battery	TP Tamper-resistant screw hardware SD Self-diagnostics[1]

Accessories: *Order as separate catalog number.*

ELA WG1 Wireguard (back mount only)

Notes
1 Only available with EL option.
2 See spec sheet ELA-WG.

EMERGENCY WLTE

LITHONIA LIGHTING®

Catalog Number
Notes
Type

Decorative Indoor

Traditional Square Vanity

VANITY LED



ADA
U.S. PATENT PENDING

FEATURES & SPECIFICATIONS

INTENDED USE
Provides an LED lighting platform to deliver general or task lighting for residential and light commercial applications. Light engine delivers long life and excellent color to ensure a quality, low-maintenance light installation. Ideal for use in bathrooms, lavatories, hallways, corridors, stairways, utility areas and more.

CONSTRUCTION
The Traditional Square Vanity is constructed of an acrylic diffuser with housings available in brushed nickel. The white acrylic diffuser provides even illumination and softens the appearance of the LEDs for improved aesthetics.

OPTICS
2' produces 1500 lumens, 3' produces 1900 lumens, and 4' produces 2500 lumens at 3000K with 90,000 hours of life.
Extruded acrylic diffuser is of highly transmissive material to minimize LED image and provides high-angle brightness control.

ELECTRICAL
Long-life LEDs, coupled with a multivolt driver, provide extended service life. Standard input = 0.5 watts, (2'); 26 watts, (3'); 34 watts, (4'). Fixture is rated to deliver L70 performance at 50,000 hours and operates at 120-277 volts.
Use with non-dimmable switches only.

LISTINGS
UL Listed to US and Canadian safety standards. Listed for damp locations. ENERGY STAR® certified.

WARRANTY
5-year limited warranty. Complete warranty terms located at www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx
NOTE: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

SPECIFICATIONS	2FT	3FT	4FT
Length:	23-7/16 (595)	35-1/4 (895)	47-1/16 (1195)
Weight:	7.3 (3.3)	10 (4.5)	12.7 (5.8)
3000K Lumens (LPW)	1382 (72)	1919 (73)	2551 (75)
4000K Lumens (LPW)	1373 (96)	2024 (77)	2689 (79)



All dimensions are inches (millimeters) unless otherwise indicated. Weights are pounds (kilograms).

ORDERING INFORMATION For shortest lead times, configure product using **bolded options.** **Example:** FMVTSL 36IN MVOLT 30K 90CRI BN

Series	Length	Voltage	Color temperature	CRI	Finish
FMVTSL Traditional Square Vanity	24IN 2' Nominal 36IN 3' Nominal 48IN 4' Nominal	MVOLT MVOLT (120V-277V)	30K 3000 K	90CRI >90	BN Brushed Nickel

DECORATIVE INDOOR FMVTSL

LIGHTING FIXTURE CUT SHEETS
(FOR REFERENCE ONLY)

FBA Engineering / Plot Date: 6/27/2023 6:21 AM / Plotted by: Steve Roth / Drawing Location: I:\535\050\E-0.02_535050.dwg

DIGALERT
DIAL TOLL FREE
1-800-422-4133
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:
BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:
THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CITY OF GARDENA INCORPORATED 1930

CONSULTANT:
FBA Engineering
Consulting Electrical Engineers
150 Pasarino Avenue Suite A120
Costa Mesa, CA 92626
949.852.9995 • 949.852.1657 (fax)
fbaengr.com
FBA Job Number: 535050

REGISTERED PROFESSIONAL ENGINEER 10372 09-30-24 ELECTRICAL STATE OF CALIFORNIA
05/01/2023

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
(949) 493-2690 fax
(949) 493-2600 phone

LICENSED LANDSCAPE ARCHITECT Signature 05/30/2023 Renewal Date 8/31/2023 STATE OF CALIFORNIA

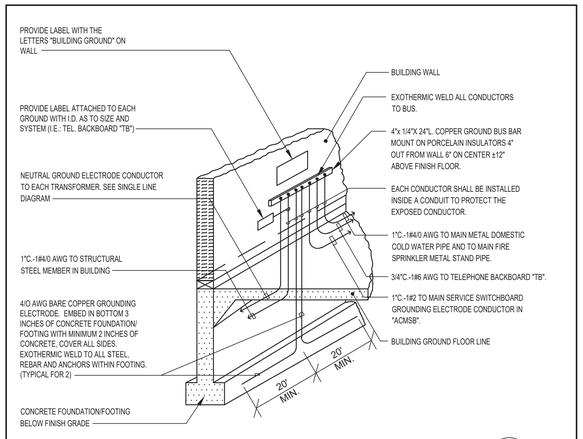
REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/16/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
LIGHTING FIXTURE CUT SHEETS
COMMUNITY AQUATICS & SENIOR CENTER
E-0.02D

	INITAL	DATE
DESIGNED BY	SR	11/14/2022
DRAWN BY	SR	06/18/2023
CHECKED BY	BZ	06/29/2023

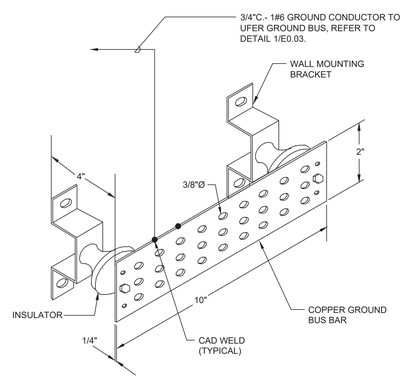
APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS
SHT. 147 OF 176 DWG. NO. 5-2606

REF.PATH: I:\535\050\E-0.02_535050.DWG
PLOT TIME: 6/27/2023 6:21:18 AM



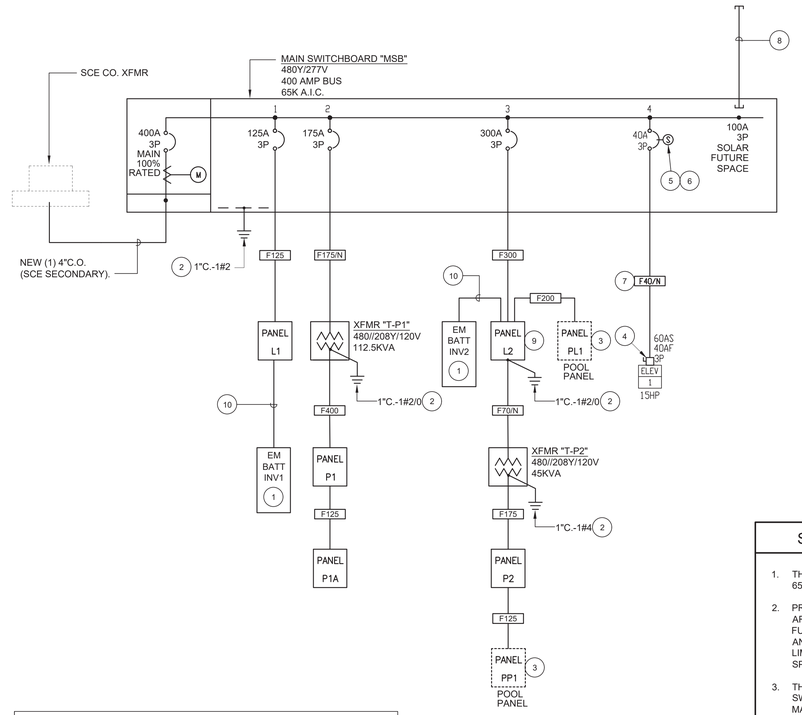
BUILDING ELECTRICAL SERVICE GROUND BUS DETAIL 1

(UFER GROUND) NOT TO SCALE



INTERSYSTEM BONDING TERMINATION BUS BAR 2

SCALE: NONE



SINGLE LINE DIAGRAM PLAN NOTES:

1. EMERGENCY LIGHTING BATTERY INVERTER SYSTEM. 2.8 KVA, 277V INPUT - 277V OUTPUT. (5) 20 AMP-1 POLE (NORMALLY ON) OUTPUT CIRCUIT BREAKERS. MYERS #4-EM4-S-BDA205-2YW OR APPROVED EQUAL.
2. TO UFER GROUND BUS. SEE DETAIL 1/E0.03.
3. PANEL PROVIDED AND INSTALLED BY POOL EQUIPMENT CONTRACTOR.
4. SWITCH AND FUSE SIZE PER ELEVATOR MANUFACTURERS REQUIREMENTS. PROVIDE NORMALLY OPEN AUXILIARY CONTACT FOR CONNECTION TO ELEVATOR CONTROLLER.
5. CONNECT SHUNT TRIP BREAKER RELAY COIL TO FIRE ALARM SYSTEM.
6. SHUNT TRIP CIRCUIT BREAKER. CIRCUIT BREAKER TO OPEN WHEN ELEVATOR MACHINE ROOM OR ELEVATOR SHAFT HEAT DETECTOR IS ACTIVATED.
7. PROVIDE EQUIPMENT GROUND CONDUCTORS. THE CONDUIT SHALL NOT BE USED AS THE SOLE GROUNDING MEANS.
8. (2) 2"C.O. CAP & MARK 12" ABOVE ROOF DECK AND MAKE WEATHERPROOF.
9. PANEL SHALL BE RATED FOR SERVICE ENTRANCE USE.
10. 3/4"C.-2#12, 1#12 GRD.

NOTE: PROVIDE FIELD MARKING PER NEC 110. 24.

SERVICE EQUIPMENT SHALL BE LEGIBLY MARKED IN THE FIELD WITH THE MAXIMUM AVAILABLE FAULT CURRENT. THE FIELD MARKING(S) SHALL INCLUDE THE DATE THE FAULT CURRENT CALCULATION WAS PERFORMED AND BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED.

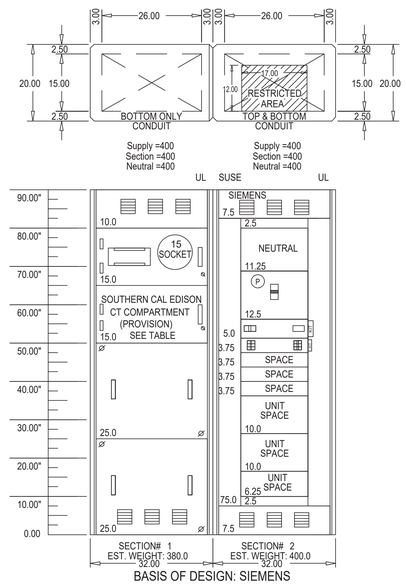
FIELD MARKING EXAMPLE:

⚠ WARNING

Maximum available fault current: 30,000 Symmetrical RMS Amperes Date: ■■/■■/22

AVAILABLE FAULT CURRENT FIELD MARKING DETAIL 3

SCALE: NONE



BASIS OF DESIGN: SIEMENS

SWITCHBOARD "ACMSB" ELEVATION 4

SCALE: NONE

SINGLE LINE DIAGRAM GENERAL NOTES

1. THE ELECTRICAL DISTRIBUTION EQUIPMENT SHALL BE FULLY RATED FOR 65 K A.I.C., SERIES RATING NOT ALLOWED.
2. PROVIDE SHORT CIRCUIT PROTECTIVE DEVICE COORDINATION AND ARC-FLASH STUDY INCLUDING THE ENGINEERED SETTINGS FOR EACH FUSE AND ADJUSTABLE CIRCUIT BREAKER SHOWING THE CORRECT TIME AND CURRENT SETTINGS TO PROVIDE COORDINATION WITHIN THE LIMITS OF THE SPECIFIED EQUIPMENT. REFER TO ELECTRICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
3. THE BASIS OF DESIGN AND DIMENSIONS USED FOR SWITCHBOARDS/METER BANKS ARE BASED UPON SIEMENS MANUFACTURED PRODUCTS. IF ANOTHER MANUFACTURES PRODUCT IS FURNISHED, CONTRACTOR SHALL INSURE THAT THE PRODUCT WILL FIT WITHIN THE SPACE PROVIDED.
4. PROVIDE EQUIPMENT GROUND CONDUCTOR IN ELEVATOR FEEDER. THE CONDUIT SHALL NO BE USED AS THE SOLE GROUNDING MEANS.

UTILITY CO. : SOUTHERN CAL EDISON	
DESCRIPTION	PG NO.
CT COMPARTMENT	6-18/EUSERC P320
UGPS	6-14, 6-15/EUSERC P345
LINE TERMINATION	6-12, 6-13/EUSERC P347
METER PLATES	6-24/EUSERC P332

LOAD SUMMARY - "MSB"

ITEM	DESCRIPTION	VA
1	PANEL "L1"	15000
2	XFMR "T-P1"	150000
3	POOL PANEL "PL1"	133000
4	ELEVATOR	17000
5	SPACE	
6		
	TOTAL	315000

379	AMPS @
480	VOLTS
3	PH
4	WIRE
400A	BUS

SHORT CIRCUIT AND VOLTAGE DROP CALCULATIONS - "MSB"

FEEDERS

DESIGNATION	FEEDER LENGTH (ft)	PHASE ϕ	CONDUCTORS			CONDUIT MAG=1 NON=2	L-L VOLTAGE	L-N VOLTAGE	STARTING Isc	CONNECTED LOAD AMPACITY	BUS AVAILABLE Isc 3 ϕ	BUS AVAILABLE Isc 1 ϕ L-N	VOLTAGE DROP %
			Cu	SIZE	PARALLEL RUNS								
MSB-1 TO PANEL L1	25	3	Cu	#1/0	1	1	480	277	65,000	80	39,226	N/A	0.10
L1 TO INVERTER INV1	15	1	Cu	#12	1	1		277	39,226	9		5,194	0.18
MSB-2 TO XFMR T-P1	10	3	Cu	#2/0	1	1	480		39,226	135	34,664	N/A	0.06
XFMR T-P1 TO PANEL P1	10	3	Cu	#3/0	2	1	208	120	6,237	312	6,113	N/A	0.12
PANEL P1 TP PANEL P1A	5	3	Cu	#1/0	1	1	208	120	6,113	100	5,943	N/A	0.05
MSB-1 TO POOL BLDG. PANEL L2	316	3	Cu	350 kcmil	1	1	480	277	39,226	240	11,995	N/A	1.55
L2 TO INVERTER INV2	15	1	Cu	#12	1	1		277	11,995	9		4,327	0.18
L2 TO POOL PANEL PL1	80	3	Cu	#3/0	1	1	480	277	11,995	160	9,448	N/A	0.43
L2 TO XFMR T-P2	10	3	Cu	#4	1	1	480		11,995	80	10,770	N/A	0.09
XFMR T-P2 TO PANEL P2	10	3	Cu	#2/0	1	1	208	120	10,770	175	9,941	N/A	0.16
PANEL P2 TO POOL PANEL PP1	80	3	Cu	#1/0	1	1	208	120	9,941	100	5,706	N/A	0.88

TRANSFORMERS

TRANSFORMER DESIGNATION	XFMR KVA	PHASE ϕ	XFMR %Z	XFMR PRIMARY L-L VOLTAGE	XFMR SECONDARY L-L VOLTAGE	XFMR PRIMARY Isc	XFMR PRIMARY FLA	XFMR SECONDARY FLA	WORST CASE XFMR %Z	WORST CASE L-L VOLTAGE	XFMR SECONDARY Isc L-L	MOTOR CONTRIBUTION	TOTAL Isc
T-P1	112.5	3	5.70	480	208	35,860	135	312	5.13	229	6,237		6,237
T-P2	45	3	5.70	480	208	10,770	54	125	5.13	229	2,439		2,439

FEEDER SCHEDULE

FEEDER TYPE	CONDUIT SIZE QUANTITY		CONDUCTORS IN EACH CONDUIT PHASE/NEUTRAL		CONDUCTORS IN EACH CONDUIT EQUIPMENT GROUND WIRE SIZE
	QUAN.	SIZE	QUAN.	SIZE	
F20	1	3/4"	4	12	12
F30	1	3/4"	4	10	10
F40	1	1"	4	8	10
F50	1	1 1/4"	4	6	10
F60	1	1 1/2"	4	4	10
F70	1	1 1/2"	4	4	8
F80	1	2"	4	2	8
F90	1	2"	4	2	8
F100	1	2"	4	1	8
F110	1	2"	4	1	6
F125	1	2"	4	1/0	6
F150	1	2"	4	1/0	6
F175	1	2"	4	2/0	6
F200	1	2 1/2"	4	3/0	6
F225	1	3"	4	4/0	4
F250	1	3"	4	250KCM	4
F275	1	4"	4	250KCM	4
F300	1	4"	4	350KCM	4
F350	1	4"	4	500KCM	2
F400	2	2 1/2"	4	3/0	2
F500	2	3"	4	250KCM	2
F600	2	4"	4	350KCM	1
F700	2	4"	4	500KCM	1/0
F800	3	4"	4	350KCM	1/0
F900	3	4"	4	250KCM	2/0
F1000	3	4"	4	500KCM	2/0
F1200	4	4"	4	350KCM	3/0
F1600	5	4"	4	500KCM	4/0
F2000	6	4"	4	500KCM	250KCM
F2500	7	4"	4	500KCM	350KCM
F3000	8	4"	4	500KCM	500KCM
F4000	11	4"	4	500KCM	500KCM
F20/N	1	3/4"	3	12	12
F30/N	1	3/4"	3	10	10
F40/N	1	1"	3	8	10
F50/N	1	1"	3	6	10
F60/N	1	1 1/4"	3	4	10
F70/N	1	1 1/4"	3	4	8
F80/N	1	1 1/4"	3	2	8
F90/N	1	1 1/4"	3	2	8
F100/N	1	1 1/2"	3	1	8
F110/N	1	1 1/2"	3	1	6
F125/N	1	2"	3	1/0	6
F150/N	1	2"	3	1/0	6
F175/N	1	2"	3	2/0	6
F200/N	1	2"	3	3/0	6
F225/N	1	2 1/2"	3	4/0	4
F250/N	1	2 1/2"	3	250KCM	4
F275/N	1	3"	3	250KCM	4
F300/N	1	3"	3	350KCM	4
F350/N	1	4"	3	500KCM	2
F400/N	2	2"	3	3/0	2
F450/N	2	2 1/2"	3	4/0	2
F500/N	2	2 1/2"	3	250KCM	2
F600/N	2	3"	3	350KCM	1
F700/N	2	4"	3	500KCM	1/0
F800/N	3	3"	3	250KCM	1/0
F900/N	3	3"	3	350KCM	2/0

DIGALERT — DIAL TOLL FREE 1-800-422-4133 AT LEAST TWO DAYS BEFORE YOU DIG — UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:

BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:

FBA Engineering
Consulting Electrical Engineers
150 Paularino Avenue Suite A120
Costa Mesa, CA 92626
949.852.9995 • 949.852.1657 (fax)
fbaengr.com
FBA Job Number: 535050

REGISTERED PROFESSIONAL ENGINEER — No. 10372 — Ex. 09-30-24 — ELECTRICAL — STATE OF CALIFORNIA

05/01/2023

PREPARED UNDER THE SUPERVISION OF:

RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
(949) 493-2690 fax
(949) 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT — STATE OF CALIFORNIA — 01/31/2023 RENEWAL

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

SINGLE LINE DIAGRAM

COMMUNITY AQUATICS & SENIOR CENTER

E-0.03

	INITAL	DATE
DESIGNED BY	SR	11/14/2022
DRAWN BY	SR	06/18/2023
CHECKED BY	BZ	06/29/2023

APPROVED BY:

DATE
DIRECTOR OF PUBLIC WORKS

SHT. 148 OF 176 DWG. NO. 5-2606

FILE PATH: I:\535\050\E-0.03_535050.DWG
PLOT DATE: 7/7/2023 8:33:37 AM

FBA Engineering / Plot Date: 7/5/2023 8:35 AM / Plotted by: Steve Roth / Drawing Location: I:\535\050\E-0.03_535050.dwg

GARDENA AQUATIC CENTER — PROJECT NO. 535050

VOLTS 277/480
PHASE 3PH, 4W
MTG SURFACE

PANELBOARD L2 — MAIN 300A-3P, BUS 400A

LOCATION POOL EQUIP. ELECT. RM.
PANEL SHALL BE RATED FOR SERVICE ENTRANCE USE.

CKT	A LOAD (VA)	B LOAD (VA)	C LOAD (VA)	TYPE	BKR	OUTLET QUAN	DESCRIPTION
1	-----	-----		20/1			SPARE
3	-----	-----		20/1			SPARE
5	-----	-----		20/1			SPARE
7	-----	-----		20/1			SPARE
9	-----	-----		20/1			SPARE
11	-----	-----		20/1			SPARE
13	-----	-----					PROVISION
15	-----	-----					PROVISION
17	-----	-----					PROVISION
19	-----	-----					PROVISION
21	-----	-----					PROVISION
23	-----	-----					PROVISION
25	-----	-----					PROVISION
27	-----	-----					PROVISION
29	-----	-----					PROVISION
31	-----	-----					PROVISION
33	-----	-----					PROVISION
35	-----	-----					PROVISION
37	44333	-----	-----	G	200/3	1	POOL PANEL PL1
39	-----	44333	-----	G	-	-	(SUBFEED)
41	-----	-----	44333	G	-	-	----

CKT	A LOAD (VA)	B LOAD (VA)	C LOAD (VA)	TYPE	BKR	OUTLET QUAN	DESCRIPTION
2	684	-----	-----	L	20/1	12	RM. 302-306 LTS.
4	-----	-----	-----		20/1		SPARE
6	-----	-----	-----		20/1		SPARE
8	-----	-----	-----		20/1		SPARE
10	-----	-----	-----		20/1		SPARE
12	-----	-----					PROVISION
14	-----	-----					PROVISION
16	-----	-----					PROVISION
18	-----	-----					PROVISION
20	-----	-----					PROVISION
22	-----	-----					PROVISION
24	-----	-----					PROVISION
26	-----	-----					PROVISION
28	-----	-----					PROVISION
30	-----	-----					PROVISION
32	-----	-----					PROVISION
34	-----	-----					PROVISION
36	-----	-----	1018	L	20/1	1	
38	13567	-----	-----	G	70/3	1	XFMR T-P2
40	-----	13387	-----	G	-	-	(SUBFEED)
42	-----	-----	12810	G	-	-	----

CONNECTED: VA 58584, AMPS 211 / PHASE B = 57720, 208 / PHASE C = 58161, 210 / TOTAL =174465, 210

L.C.L. @ 125% = 2128
RECEPT. ( ) 10 kVA @ 50% =
KITCHEN @ 65% =
OTHER LOAD @ 100% = 172763
TOTAL VA = 174891
TOTAL AMPS = 210

LOAD TYPE:
G - GENERAL (100%) M - MOTOR (100%)
L - L.C.L. (125%) M1 - MOTOR (125%)
R - RECEPTACLE (50%) X - X-RAY (100%)
(10 kVA @ 100%) X1 - X-RAY (50%)
K - KITCHEN (65%)

GARDENA AQUATIC CENTER — PROJECT NO. 535050

VOLTS 277/480
PHASE 3PH, 4W
MTG SURFACE

PANELBOARD L1 — MAIN L.G. BUS 225A

LOCATION ELECT. RM.

CKT	A LOAD (VA)	B LOAD (VA)	C LOAD (VA)	TYPE	BKR	OUTLET QUAN	DESCRIPTION
1	2242	-----	-----	L	20/1	59	FIRST FLOOR LIGHTS
3	-----	3514	-----	L	20/1	68	SECOND FLOOR LIGHTS
5	-----	-----	2147	L	20/1	1	INVERTER "INV1"
7	-----	-----			20/1		SPARE
9	-----	-----			20/1		SPARE
11	-----	-----			20/1		SPARE
13	-----	-----			20/1		SPARE
15	-----	-----			20/1		SPARE
17	-----	-----					PROVISION
19	-----	-----					PROVISION
21	-----	-----					PROVISION
23	-----	-----					PROVISION
25	-----	-----					PROVISION
27	-----	-----					PROVISION
29	-----	-----					PROVISION
31	-----	-----					PROVISION
33	-----	-----					PROVISION
35	-----	-----					PROVISION
37	762	-----	-----	M	15/3	1	MAU 1-1 @ ROOF
39	-----	762	-----	M	--	-	----
41	-----	-----	762	M	--	-	----

CKT	A LOAD (VA)	B LOAD (VA)	C LOAD (VA)	TYPE	BKR	OUTLET QUAN	DESCRIPTION
2	5263	-----	-----	M1	25/3	1	RTU 1-1 @ ROOF
4	-----	5263	-----	M1	--	-	----
6	-----	-----	5263	M1	--	-	----
8	3047	-----	-----	M	15/3	1	RTU 1-2 @ ROOF
10	-----	3047	-----	M	--	-	----
12	-----	-----	3047	M	--	-	----
14	3047	-----	-----	M	15/3	1	RTU 2-1 @ ROOF
16	-----	3047	-----	M	--	-	----
18	-----	-----	3047	M	--	-	----
20	3047	-----	-----	M	15/3	1	RTU 2-2 @ ROOF
22	-----	3047	-----	M	--	-	----
24	-----	-----	3047	M	--	-	----
26	3047	-----	-----	M	15/3	1	RTU 2-3 @ ROOF
28	-----	3047	-----	M	--	-	----
30	-----	-----	3047	M	--	-	----
32	3324	-----	-----	M	15/3	1	RTU 2-4 @ ROOF
34	-----	3324	-----	M	--	-	----
36	-----	-----	3324	M	--	-	----
38	3047	-----	-----	M	15/3	1	RTU 2-5 @ ROOF
40	-----	3047	-----	M	--	-	----
42	-----	-----	3047	M	--	-	----

CONNECTED: VA 26826, AMPS 97 / PHASE B = 28098, 101 / PHASE C = 25731, 97 / TOTAL = 81655, 98

L.C.L. @ 125% = 29615
RECEPT. ( ) 10 kVA @ 50% =
KITCHEN @ 65% =
OTHER LOAD @ 100% = 57963
TOTAL VA = 87578
TOTAL AMPS = 105

LOAD TYPE:
G - GENERAL (100%) M - MOTOR (100%)
L - L.C.L. (125%) M1 - MOTOR (125%)
R - RECEPTACLE (50%) X - X-RAY (100%)
(10 kVA @ 100%) X1 - X-RAY (50%)
K - KITCHEN (65%)

GARDENA AQUATIC CENTER — PROJECT NO. 535050

VOLTS 120/208
PHASE 3PH, 4W
MTG SURFACE

PANELBOARD P2 — MAIN 175A-3P, BUS 225A

LOCATION POOL EQUIP. ELECT. RM.

CKT	A LOAD (VA)	B LOAD (VA)	C LOAD (VA)	TYPE	BKR	OUTLET QUAN	DESCRIPTION
1	900	-----	-----	R	20/1	5	RM. 303-306 REC.
3	-----	720	-----	R	20/1	4	RM. 301-303 REC.
5	-----	-----	360	R	20/1	2	ELEC. 301 REC.
7	-----	-----	-----		20/1		SPARE
9	-----	-----	-----		20/1		SPARE
11	-----	-----	250	G	20/1		ELEC. 301 "LCP2"
13	-----	-----	-----		20/1		SPARE
15	-----	-----	-----		20/1		SPARE
17	-----	-----	-----		20/1		SPARE
19	-----	-----	-----		20/1		SPARE
21	-----	-----	-----		20/1		SPARE
23	-----	-----					PROVISION
25	-----	-----					PROVISION
27	-----	-----					PROVISION
29	-----	-----					PROVISION
31	-----	-----					PROVISION
33	-----	-----					PROVISION
35	-----	-----					PROVISION
37	667	-----	-----	M	20/1	1	CHEM. 304 EF/3-1
39	-----	667	-----	M	20/1	1	CHEM. 305 EF/3-2
41	-----	-----	200	G	20/1	2	POOL BLDG. SMOKE/FIRE DAMPERS

CKT	A LOAD (VA)	B LOAD (VA)	C LOAD (VA)	TYPE	BKR	OUTLET QUAN	DESCRIPTION
2	-----	-----	-----		20/1		SPARE
4	-----	-----	-----		20/1		SPARE
6	-----	-----	-----		20/1		SPARE
8	-----	-----	-----		20/1		SPARE
10	-----	-----	-----		20/1		SPARE
12	-----	-----					PROVISION
14	-----	-----					PROVISION
16	-----	-----					PROVISION
18	-----	-----					PROVISION
20	-----	-----					PROVISION
22	-----	-----					PROVISION
24	-----	-----					PROVISION
26	-----	-----					PROVISION
28	-----	-----					PROVISION
30	-----	-----					PROVISION
32	-----	-----					PROVISION
34	-----	-----					PROVISION
36	-----	-----					PROVISION
38	12000	-----	-----		125/3	1	POOL PANEL "PP1"
40	-----	12000	-----		-	-	----
42	-----	-----	12000		-	-	----

CONNECTED: VA 12967, AMPS 113 / PHASE B = 13387, 112 / PHASE C = 12810, 107 / TOTAL = 39764, 110

L.C.L. @ 125% =
RECEPT. ( ) 10 kVA @ 50% = 1980
KITCHEN @ 65% =
OTHER LOAD @ 100% = 37784
TOTAL VA = 39764
TOTAL AMPS = 110

LOAD TYPE:
G - GENERAL (100%) M - MOTOR (100%)
L - L.C.L. (125%) M1 - MOTOR (125%)
R - RECEPTACLE (50%) X - X-RAY (100%)
(10 kVA @ 100%) X1 - X-RAY (50%)
K - KITCHEN (65%)

COMMUNITY AQUATICS & SENIOR CENTER — PROJECT NO. 535.50

VOLTS 120/208
PHASE 3PH, 4W
MTG FLUSH

PANELBOARD P1 — MAIN 400A-3P, BUS 400A

LOCATION ELECTRICAL RM.

CKT	A LOAD (VA)	B LOAD (VA)	C LOAD (VA)	TYPE	BKR	OUTLET QUAN	DESCRIPTION
1	1080	-----	-----	R	20/1	6	RM. 120 REC.
3	-----	1080	-----	R	20/1	6	RM. 121-126 REC.
5	-----	-----	900	R	20/1	5	RM. 101,106-108 REC.
7	1200	-----	-----	K	20/1	1	RM. 105 REC.
9	-----	1200	-----	K	20/1	1	RM. 105 GD.
11	-----	-----	1200	K	20/1	1	RM. 105 REC.
13	1200	-----	-----	K	20/1	1	RM. 105 REFER.
15	-----	540	-----	R	20/1	3	RM. 105 REC.
17	-----	-----	1200	M	20/1	1	RM. 126 HAND DRY.
19	1200	-----	-----	M	20/1	1	RM. 126 HAND DRY.
21	-----	1200	-----	M	20/1	1	RM. 123 HAND DRY.
23	-----	-----	1200	M	20/1	1	RM. 123 HAND DRY.
25	1200	-----	-----	K	20/1	1	RM. 120 REC.
27	-----	1200	-----	K	20/1	1	RM. 120 REC.
29	-----	-----	1200	K	20/1	1	RM. 120 GD
31	1200	-----	-----	K	20/1	1	RM. 120 REC.
33	-----	1200	-----	K	20/1	1	RM. 120 REFER.
35	-----	-----	1200	G	20/1	1	RM. 101 IF.
37	360	-----	-----	R	20/1	2	RM. 117 TEL. BKBRD.
39	-----	500	-----	G	20/1	1	RM. 117 FACP
41	-----	-----	500	G	20/1	1	RM. 117 FACP
43	100	-----	-----	G	15/1	1	FIRE SPRINKLER BELL
45	-----	-----	-----		20/1		SPARE
47	-----	-----			20/1		SPARE
49	-----	-----			20/1		SPARE
51	-----	-----			20/1		SPARE
53	-----	-----	600	G	20/1	6	1st FLOOR SMOKE/FIRE DAMPERS

CKT	A LOAD (VA)	B LOAD (VA)	C LOAD (VA)	TYPE	BKR	OUTLET QUAN	DESCRIPTION
2	1200	-----	-----	K	20/1	1	KITCH. 116 REC.
4	-----	1200	-----	K	20/1	1	KITCH. 116 REC.
6	-----	-----	1200	K	20/1	1	KITCH. 116 REC.
8	1200	-----	-----	K	20/1	1	KITCH. 116 GD.
10	-----	1200	-----	K	20/1	1	KITCH. 116 DW.
12	-----	-----	1200	K	20/1	1	KITCH. 116 REC.
14	1200	-----	-----	K	20/1	1	KITCH. 116 REC.
16	-----	1200	-----	K	20/1	1	KITCH. 116 REC.
18	-----	-----	1200	K	20/1	1	KITCH. 116 REC.
20	1200	-----	-----	K	20/1	1	KITCH. 116 REC.
22	-----	1200	-----	K	20/1	1	KITCH. 116 REC.
24	-----	-----	1200	K	20/1	1	KITCH. 116 & 114 REC.
26	1080	-----	-----	R	20/1	6	RM. 110 REC.
28	-----	1080	-----	R	20/1	6	RM. 111,112,113 REC.
30	-----	-----	900	R	20/1	5	RM. 114 REC.
32	720	-----	-----	R	20/1	4	RM. 104 REC.
34	-----	900	-----	R	20/1	5	RM. 102,103 REC.
36	-----	-----	720	R	20/1	4	RM. 102 REC.
38	250	-----	-----	G	20/1	1	RM. 118 "LCP1"
40	-----	360	-----	R	20/1	2	ELEV. PIT REC.
42	-----	-----	300	L	20/1	3	ELEV. PIT LTS.
44	500	-----	-----	M	20/1	2	ELEV. LTS/FAN
46	-----	200	-----	R	20/1	2	RM. 109 REC. /LT.
48	-----	-----					SPARE
50	6525	-----	-----	G	125/3	1	PANEL "P1A"
52	-----	7925		G	-	-	(SUBFEED)
54	-----	-----	7968	G	-	-	----

CONNECTED: VA 21415, AMPS 178 / PHASE B = 22185, 185 / PHASE C = 22688, 189 / TOTAL = 66288, 184

L.C.L. @ 125% = 375
RECEPT. ( ) 10 kVA @ 50% = 9380
KITCHEN @ 65% = 16731
OTHER LOAD @ 100% = 30868
TOTAL VA = 57354
TOTAL AMPS = 159

LOAD TYPE:
G - GENERAL (100%) M - MOTOR (100%)
L - L.C.L. (125%) M1 - MOTOR (125%)
R - RECEPTACLE (50%) X - X-RAY (100%)
(10 kVA @ 100%) X1 - X-RAY (50%)
K - KITCHEN (65%)

GARDENA AQUATIC CENTER — PROJECT NO. 535050

VOLTS 120/208
PHASE 3PH, 4W
MTG SURFACE

PANELBOARD P1A — MAIN L.G. BUS 125A

LOCATION ELECT. RM.

CKT	A LOAD (VA)	B LOAD (VA)	C LOAD (VA)	TYPE	BKR	OUTLET QUAN	DESCRIPTION
1	687	-----	-----	M	15/1	3	RM. 116-118 EX. FANS
3	-----	360	-----	R	20/1	2	1T 202 TEL. BKBRD. REC.
5	-----	-----	360	R	20/1	2	1T 202 TEL. BKBRD. REC.
7	-----	-----	-----		20/1		SPARE
9	-----	-----	-----		20/1		SPARE
11	-----	-----	-----		20/1		SPARE
13	-----	-----	-----		20/1		SPARE
15	-----	-----	-----		20/1		SPARE
17	-----	-----					PROVISION
19	-----	-----					PROVISION
21	-----	-----					PROVISION
23	-----	-----					PROVISION
25	720	-----	-----	R	20/1	4	ROOF REC.
27	-----	667	-----	M	15/1	1	EF 2-1 @ ROOF
29	-----	-----	1840	M	40/1	1	EF 1-4 @ ROOF
31	1144	-----	-----	M1	30/2	1	CU 1-1 @ ROOF
33	-----	1144	-----	M1	-	-	----
35	-----	-----	1144	M1	30/2	1	CU 1-2 @ ROOF
37	1144	-----	-----	M	--	-	----
39	-----	1144	-----	M	30/2	1	CU 1-3 @ ROOF
41	-----	-----	1144	M	--	-	----

CKT	A LOAD (VA)	B LOAD (VA)	C LOAD (VA)	TYPE	BKR	OUTLET QUAN	DESCRIPTION
2	100	-----	-----	G	15/1	1	RM. 115 TRAP PRIMER TP-2
4	-----	900	-----	R	20/1	5	RM. 200,210,211,214 REC.
6	-----	-----	900	R	20/1	5	RM. 213 REC.
8	900	-----	-----	R	20/1	5	RM. 209,211 REC.
10	-----	1260	-----	R	20/1	7	RM. 201,205-208 REC.
12	-----	-----	1080	R	20/1	6	RM. 201,203 REC.
14	1080	-----	-----	R	20/1	6	RM. 203,208 REC.
16	-----	1200	-----		20/1	2	CIRC. 200 DF.
18	-----	-----			20/1		SPARE
20	-----	-----	-----		20/1		SPARE
22	-----	-----	-----		20/1		SPARE
24	-----	-----			20/1		SPARE
26	-----	-----	-----		20/1		SPARE
28	-----	-----					PROVISION
30	-----	-----					PROVISION
32	-----	-----					PROVISION
34	-----	500	-----	G	20/1	5	2nd FLOOR SMOKE/FIRE DAMPERS
36	-----	-----	750	G	20/2	1	RM. 211-213 PARTITION
38	750	-----	-----	G	-	-	----
40	-----	750	-----	G	20/2	1	RM. 209-211 PARTITION
42	-----	-----	750	G	-	-	----

CONNECTED: VA 6525, AMPS 54 / PHASE B = 7925, 66 / PHASE C = 7968, 66 / TOTAL = 22418, 62

L.C.L. @ 125% = 4290
RECEPT. ( ) 10 kVA @ 50% = 7560
KITCHEN @ 65% =
OTHER LOAD @ 100% = 11426
TOTAL VA = 23276
TOTAL AMPS = 65

LOAD TYPE:
G - GENERAL (100%) M - MOTOR (100%)
L - L.C.L. (125%) M1 - MOTOR (125%)
R - RECEPTACLE (50%) X - X-RAY (100%)
(10 kVA @ 100%) X1 - X-RAY (50%)
K - KITCHEN (65%)

EMERGENCY BATTERY INVERTER "INV1"

CIRC. NO.	OUTLETS	VOLT AMPS	AMP	POLE	REMARKS
1	2	146	20	1	PED. POLE LTS.
2	3	219	20	1	PED. POLE LTS.
3	3	216	20	1	TREE LTS.
4	21	726	20	1	FIRST FLR. EM LTS.
5	15	840	20	1	SECONF FLR. EM LTS.
6			20	1	SPARE
7			20	1	SPARE
8			20	1	SPARE
9			20	1	SPARE
10			20	1	SPARE
TOTAL		2,147 WATTS x 1.25 LCL =			2,684 WATTS

INV1	NAME
SUB ELEC. RM.	LOCATION
277	VOLTAGE
2800	VA

EMERGENCY BATTERY INVERTER "INV2"

CIRC. NO.	OUTLETS	VOLT AMPS	AMP	POLE	REMARKS
1	12	738	20	1	SITE TREE LTS.
2	2	146	20	1	SITE PED. POLES
3	4	92	20	1	EXT. BLDG. MTD. LTS.
4	1	42	20	1	ELEC. 301 LTS.
5			20	1	SPARE
6			20	1	SPARE
7			20	1	SPARE
8			20	1	SPARE
9			20	1	SPARE
10			20	1	SPARE
TOTAL		1,018 WATTS x 1.25 LCL =			1,273 WATTS

INV2	NAME
SUB ELEC. RM.	LOCATION
277	VOLTAGE
2800	VA

SEPARATION OF ELECTRICAL CIRCUITS FOR ELECTRICAL ENERGY MONITORING NOTE:
PER 2019 TITLE 24, PART 6 CALIFORNIA ENERGY CODE, SECTION 130.5(b) SEPARATION OF ELECTRICAL CIRCUITS, THE SWITCHBOARDS AND PANELBOARDS SPECIFIED HEREIN CAN ACCOMMODATE THE FOLLOWING METERING SYSTEMS
MANUFACTURERS:
EATON PX-BCM
EATON PX-MP
SEIMENS SEM3
GE MULTILIN EPM4600

PANEL SCHEDULE NOTES:

1 ROUTE CIRCUIT THROUGH DESIGNATED RELAY IN RESPECTIVE LIGHTING CONTROL PANEL REFER TO LIGHTING CONTROL SCHEDULES ON E0.02A.

2 PROVIDE RED CIRCUIT BREAKER AND LOCK-ON DEVICE.

FBA Engineering / Plot Date: 6/27/2023 6:21 AM / Plotted by: Steve Roth / Drawing Location: I:\535\050\E-0.04_535050.dwg

DIGALERT — DIAL TOLL FREE 1-800-422-4133 — AT LEAST TWO DAYS BEFORE YOU DIG — UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:
BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:
THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:
FBA Engineering
Consulting Electrical Engineers
150 Pausatino Avenue Suite A120
Costa Mesa, CA 92626
949.852.9995 • 949.852.1657 (fax)
fbaengr.com
FBA Job Number: 535050

REGISTERED PROFESSIONAL ENGINEER — No. 10372 — Exp. 09-30-24 — ELECTRICAL — STATE OF CALIFORNIA
05/01/2023

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
(949) 493-2690 fax
(949) 493-2600 phone

LICENSED LANDSCAPE ARCHITECT — Signature — 05-30-2023 Renewal Date — 6-22-2023 — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

PANEL SCHEDULES

COMMUNITY AQUATICS & SENIOR CENTER

E-0.04

	INITAL	DATE
DESIGNED BY	SR	11/14/2022
DRAWN BY	SR	06/18/2023
CHECKED BY	BZ	06/29/2023

APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS

SHT. 149 OF 176 — DWG. NO. S-2606

FILE PATH: I:\535\050\E-0.04_535050.DWG
PLOT TIME: 6/27/2023 6:21:35 AM

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Community Aquatics & Senior Center	Report Page:	(Page 3 of 8)
Project Address:	1700 W. 162nd St.	Date Prepared:	9/15/2022

F. INDOOR LIGHTING FIXTURE SCHEDULE

F5	50w LED Surface Wrap 1x4 Nominal, 3500K	No	No	50	Mfr. Spec	5	No	250	☐	☐
F6	150w LED 12' Linear Direct-Indirect Pendant Fixture. 2"W x 4"H White Finish, 3500K	No	No	150	Mfr. Spec	12	No	1,800	☐	☐
F7	60w LED Surface Mounted Vapor Tight 4' Fixture. Corrosion Resistant. Integral Exterior Occupancy Sensor.	No	No	60	Mfr. Spec	10	No	600	☐	☐
F8	68w LED Decorative Pendant Fixture, 48" Dia.	No	No	68	Mfr. Spec	5	No	340	☐	☐
						Total Designed Watts: CONDITIONED SPACES		6,366		

Designed Wattage: Unconditioned Spaces

01	02	03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change[1]	Watts per luminaire[2]	How is Wattage determined	Total Number of Luminaires	Excluded per §140.6(a)3	Design Watts	Field Inspector	
									Pass	Fail
F3	20w LED Recessed 4" Aperture Downlight, 3500K	No	No	20	Mfr. Spec	2	No	40	☐	☐
						Total Designed Watts: UNCONDITIONED SPACES		40		

[1] *FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per §140.6(a)4B is adjusted to be 75% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.*

[2] *Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c) Wattage used must be the maximum rated for the luminaire, not the lamp.*

G. MODULAR LIGHTING SYSTEMS

This section does not apply to this project.

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Community Aquatics & Senior Center	Report Page:	(Page 2 of 8)
Project Address:	1700 W. 162nd St.	Date Prepared:	9/15/2022

C. COMPLIANCE RESULTS

Controls Compliance (See Table H for Details)	COMPLIES
Rated Power Reduction Compliance (See Table Q for Details)	

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. INDOOR LIGHTING FIXTURE SCHEDULE

This table includes all permanent designed lighting and all portable lighting in offices.

Designed Wattage: Conditioned Spaces

01	02	03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change[1]	Watts per luminaire[2]	How is Wattage determined	Total Number of Luminaires	Excluded per §140.6(a)3	Design Watts	Field Inspector	
									Pass	Fail
F1	38w LED Recessed Direct/Indirect 2x4, 3500K	No	No	38	Mfr. Spec	18	No	684	☐	☐
F1A	59w LED recessed Direct/Indirect 2x4 Fixture, 3500K	No	No	59	Mfr. Spec	12	No	708	☐	☐
F2	30w LED Recessed Prismatic 2x4, 2500K	No	No	30	Mfr. Spec	3	No	90	☐	☐
F3	20w LED Recessed 4" Aperture Downlight, 3500K	No	No	20	Mfr. Spec	59	No	1,180	☐	☐
F4	42w LED 48" Pendant, Lensed Strip, 3500K	No	No	42	Mfr. Spec	11	No	462	☐	☐
F4A	42w LED 48" Surface Mounted, Lensed Strip Light, 3500K	No	No	42	Mfr. Spec	6	No	252	☐	☐

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Community Aquatics & Senior Center	Report Page:	(Page 1 of 8)
Project Address:	1700 W. 162nd St.	Date Prepared:	9/15/2022

This document is used to demonstrate compliance with requirements in §110.9, §110.12(c), §130.0, §130.1, §140.6 and §141.0(b)2 for indoor lighting scopes using the prescriptive path.

A. GENERAL INFORMATION

01 Project Location (city)	Gardena	04 Total Conditioned Floor Area (ft²)	9,892
02 Climate Zone	8	05 Total Unconditioned Floor Area (ft²)	94
03 Occupancy Types Within Project (select all that apply):		06 # of Stories (Habitable Above Grade)	1

● Classroom ● Convention Center ● Office ● Support Areas ● : See Table I

B. PROJECT SCOPE

This table includes any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.6 or §141.0(b)2 for alterations.

Scope of Work	Conditioned Spaces		Unconditioned Spaces	
01	02	03	04	05
My Project Consists of (check all that apply):	Calculation Method	Area (ft²)	Calculation Method	Area (ft²)
☒ New Lighting System	Area Category Method	9892	Area Category Method	94
☐ New Lighting System - Parking Garage				
Total Area of Work (ft²)	9892		94	

C. COMPLIANCE RESULTS

If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per §140.6(b)1	Allowed Lighting Power per §140.6(b) (Watts)						Adjusted Lighting Power per §140.6(a) (Watts)				Compliance Results
	01	02	03	04	05		06	07		08	09
	Complete Building §140.6(c)1	Area Category §140.6(c)2	Area Category Additional §140.6(c)2G (+)	Tailored §140.6(c)3 (+)	**Total Allowed** (Watts)		Total Designed (Watts)	Adjustments PAF Lighting Control Credits §140.6(a)2 (-)		**Total Adjusted** (Watts) *Includes Adjustments	**05 must be >= 08** §140.6
	(See Table I)	(See Table I)	(See Table J)	(See Table K)			(See Table F)	(See Table P)			
Conditioned		6,618.4	0		6,618	≥	6,366	0	=	6366	COMPLIES
Unconditioned		56.4	0		56	≥	40	0	=	40	COMPLIES

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E
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CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Community Aquatics & Senior Center	Report Page:	(Page 6 of 8)
Project Address:	1700 W. 162nd St.	Date Prepared:	9/15/2022

L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY

This section does not apply to this project.

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING

This section does not apply to this project.

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED ORNAMENTAL/SPECIAL EFFECTS

This section does not apply to this project.

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE

This section does not apply to this project.

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))

This section does not apply to this project.

Q. RATED POWER REDUCTION COMPLIANCE FOR ALTERATIONS

This section does not apply to this project.

R. 80% LIGHTING POWER FOR ALL ALTERATIONS - CONTROLS EXCEPTIONS

This section does not apply to this project.

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)

This section does not apply to this project.

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Community Aquatics & Senior Center	Report Page:	(Page 5 of 8)
Project Address:	1700 W. 162nd St.	Date Prepared:	9/15/2022

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Conference First Floor	Convention, Conference, Multipurpose and Meeting Center Areas	0.85	174	147.9	No	No
Multipurpose First Floor	Convention, Conference, Multipurpose and Meeting Center Areas	0.85	1,339	1,138.1	No	No
Lobby First Floor	Main Entry Lobby	0.85	849	721.6	No	No
Locker Room First Floor	Locker Dressing Room	0.45	51	23	No	No
Misc First Floor	All Other Space Types	0.4	268	107.2	No	No
Storage Second Floor	All Other Space Types	0.4	229	91.6	No	No
Classroom Second Floor	Classroom, Lecture, or Training Vocational Area	0.7	2,810	1,967	No	No
Misc Second Floor	All Other Space Types	0.4	18	7.2	No	No
Electrical Room Second Floor	Electrical Mechancial Telephone Room	0.4	22	8.8	No	No
Corridor Second Floor	Corridor Area	0.6	1,461	876.6	No	No
Lounge Second Floor	Lounge Breakroom or Waiting Area	0.65	400	260	No	No
Electrical/Mechanical Pool Building	Electrical Mechancial Telephone Room	0.4	520	208	No	No
Storage Pool Building	All Other Space Types	0.4	511	204.4	No	No
			TOTALS:	9,892	6,618.4	See Tables J, or P for detail

Unconditioned Spaces

01	02	03	04	05	06	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowance / Adjustment	
					Area Category	PAF
Corridor First Floor	Corridor Area	0.6	94	56.4	No	No
			TOTALS:	94	56.4	See Tables J, or P for detail

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

This section does not apply to this project.

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE

This section does not apply to this project.

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Community Aquatics & Senior Center	Report Page:	(Page 4 of 8)
Project Address:	1700 W. 162nd St.	Date Prepared:	9/15/2022

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

*This table includes lighting controls for conditioned and unconditioned spaces. When a control having a * is shown, the notes section of this table provides more detail on how compliance is achieved. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank.*

Building Level Controls

01	02	03	
		Field Inspector	
		Pass	Fail
Mandatory Demand Response §110.12(c)	Shut-off controls §130.1(c)		
Required > 10,000 SF	Whole Building Auto Time Switch	☐	☐

Area Level Controls

04	05	06	07	08	09	10	11	12	
Area Description	Complete Building or Area Category Primary Function Area	Area Controls §130.1(a)	Multi-Level Controls §130.1(b)	Shut-Off Controls §130.1(c)	Primary/Sky lit Daylighting §130.1(d)	Secondary Daylighting §140.6(d)	Interlocked Systems §140.6(a)1	Field Inspector	
								Pass	Fail

*NOTES: Controls with a * require a note in the space below explaining how compliance is achieved.
EX: Conference 1: Primary/Skylight Daylighting: Exempt because less than 120 watts of general lighting; EXCEPTION 1 to §130.1(d)2

13

Plan Sheet Showing Daylit Zones:

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Each area complying using the Complete Building or Area Category Methods per §140.6(b) are included in this table. Column 06 indicates if additional lighting power allowances per §140.6(c) or adjustments per §140.6(a) are being used .

Conditioned Spaces

01	02	03	04	05	06	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowance / Adjustment	
					Area Category	PAF
Food Prep Area First Floor	Kitchen/ Food Preparation Area	0.95	538	511.1	No	No
Electrical Room First Floor	Electrical Mechancial Telephone Room	0.4	304	121.6	No	No
Storage First Floor	All Other Space Types	0.4	181	72.4	No	No
Office First Floor	Office 250 square feet or less	0.7	217	151.9	No	No

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Community Aquatics & Senior Center	Report Page:	(Page 8 of 8)
Project Address:	1700 W. 162nd St.	Date Prepared:	9/15/2022

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Steve Zajicek	Documentation Author Signature:
Company: FBA Engineering	Signature Date: 2022-09-15
Address: 150 Paularino Avenue Suite A120	CEA/ HERS Certification Identification (if applicable): E10372
City/State/Zip: Costa Meas CA 92626	Phone: 9498529995

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Stephen R. Zajicek, P.E.	Responsible Designer Signature:
Company: FBA Engineering	Date Signed: 2022-09-15
Address: 150 Paularino Ave., Suite A120	License: E10372
City/State/Zip: Costa Mesa CA 92626	Phone: 949-852-9995

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Community Aquatics & Senior Center	Report Page:	(Page 7 of 8)
Project Address:	1700 W. 162nd St.	Date Prepared:	9/15/2022

T. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Form/Title	Field Inspector	
	Pass	Fail
NRCI-LTI-01-E - Must be submitted for all buildings	☐	☐

U. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selection have been changed by the permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and any with "-A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified		Field Inspector	
			Pass	Fail
NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	☐	☐		
NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	☐	☐		

FBA Engineering / Plot Date: 6/27/2023 6:21 AM / Plotted by: Steve Roth / Drawing Location: I:\535\050\E-0.05_535050.dwg

DIGALERT
DIAL TOLL FREE 1-800-422-4133
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:

BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:

FBA Engineering
Consulting Electrical Engineers
150 Paularino Avenue Suite A120
Costa Mesa, CA 92626
949.852.9995 ● 949.852.1657 (fax)
fbaengr.com
FBA Job Number: 535050

REGISTERED PROFESSIONAL ENGINEER No. E 10372 Exp. 09-30-24 ELECTRICAL STATE OF CALIFORNIA
05/01/2023

PREPARED UNDER THE SUPERVISION OF:

RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT STEPHEN ROBERT JURCA Signature 04/30/2023 My License Renewal Date 4/30/2025 STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
TITLE 24 - INDOOR
COMMUNITY AQUATICS & SENIOR CENTER
E-0.05

	INITAL	DATE	APPROVED BY:
DESIGNED BY	SR	11/14/2022	
DRAWN BY	SR	04/18/2023	DATE
CHECKED BY	RZ	06/29/2023	DIRECTOR OF PUBLIC WORKS

SHT. 150 OF 176 DWG. NO. 5-2606

REF PATH: I:\535\050\E-0.05_535050.DWG
PLOT TIME: 6/27/2023 6:21:28 AM

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Community Aquatics & Senior Center	**Report Page:**	**(Page 3 of 6)**
Project Address:	1700 W. 162nd St.	**Date Prepared:**	9/15/2022

F. OUTDOOR LIGHTING FIXTURE SCHEDULE

For new or altered lighting systems demonstrating compliance with §140.7 all new luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application are included in the Table below. For altered lighting systems using the Existing Power method per §141.0(b)2I, only new luminaires being installed and replacement luminaires being installed as part of the project scope are included (ie, existing luminaires remaining or existing luminaires being moved are not included).

Designed Wattage:

01	02		03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description		Watts per luminaire[1,2]	How is Wattage determined	Total number luminaires [2]	Luminaire Status[3]	Excluded per §140.7(a)	Design Watts	Cutoff Req. > 6,200 initial lumen output §130.2(b) [4]	Field Inspector Pass	Field Inspector Fail
S1	23w LED Wall Mounted Wedge Fixture. Dark Bronze Finish.	☐ Linear	22.5	Mfr. Spec	8	New	☐	180	NA: < 6200 lumens	☐	☐
S2	LED Low Voltage Bullet Fixture Mounted To Palm Tree Via Tree Ring.	☐ Linear	12.3	Mfr. Spec	45	New	☐	553.5	NA: < 6200 lumens	☐	☐
S3	73w LED Pedestrian Pole Fixture On Concrete Pole Base.	☐ Linear	73	Mfr. Spec	7	New	☐	511	NA: < 6200 lumens	☐	☐
S4	8.4w LED Compact Adjustable Accent Light.	☐ Linear	8.4	Mfr. Spec	2	New	☐	16.8	NA: < 6200 lumens	☐	☐
							Total Design Watts:	1261.3			

* NOTES: Selections with a * require a note in the space below explaining how compliance is achieved.
EX: Luminaire is lighting a statue; EXCEPTION 2 to §130.2(b)

[1] FOOTNOTES: Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c)
[2] For linear luminaires, wattage should be indicated as W/lf instead of Watts/luminaire. Total linear feet should be indicated in column 05 instead of number of luminaires.
[3] Select "New" for new luminaires in a new outdoor lighting project, or for added luminaires in an alteration. Select "Altered" for replacement luminaires in an alteration. Select "Existing to Remain" for existing luminaires within the project scope that are not being altered and are remaining. Select "Existing Reinstalled" for existing luminaires which are being removed and reinstalled as part of the project scope.
[4] Compliance with mandatory cutoff requirements is required for luminaires with initial lumen output >= 6,200 unless exempted by §130.2(b)

G. CUTOFF REQUIREMENTS (BUG)

This section does not apply to this project.

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Community Aquatics & Senior Center	**Report Page:**	**(Page 2 of 6)**
Project Address:	1700 W. 162nd St.	**Date Prepared:**	9/15/2022

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through I. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.

Calculations of Total Allowed Lighting Power (Watts) §140.7 or §141.0(b)2L										Compliance Results		
01		02		03		04		05	06	07	08	09
General Hardscape Allowance §140.7(d1) (See Table I)	+	Per Application §140.7(d)2 (See Table J)	+	Sales Frontage §140.7(d)2 (See Table K)	+	Ornamental §140.7(d)2 (See Table L)	+	Per Specific Area §140.7(d)2 (See Table M)	OR Existing Power Allowance §141.0(b)2L (See Table N)	= **Total Allowed** (Watts)	≥	**Total Actual** (Watts)	**07 must be >= 08**
1,344.69	+	---	+	---	+	---	+	---	OR ---	= 1,344.69	≥	1,261.3	COMPLIES
									Cutoff Compliance (See Table G for Details)				N/A
									Controls Compliance (See Table H for Details)				COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Community Aquatics & Senior Center	**Report Page:**	**(Page 1 of 6)**
Project Address:	1700 W. 162nd St.	**Date Prepared:**	9/15/2022

A. GENERAL INFORMATION

01	Project Location (city)	Gardena	04	Total Illuminated Hardscape Area (ft²) 19703
02	Climate Zone	8		
03	Outdoor Lighting Zone per Title 24 Part 1 §10.114 or as designated by Authority Having Jurisdiction (AHJ):			
☐ LZ-0: Very Low - Undeveloped Parkland	☐ LZ-2: Moderate - Rural Areas	☐ LZ-4: High - Must be reviewed by CA Energy Commission for Approval		
☐ LZ-1: Low - Developed Parkland	☒ LZ-3: Moderately High - Urban Areas			

B. PROJECT SCOPE

This table includes outdoor lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.7 or §141.0(b)2L for alterations.

My Project Consists of:

01	02
☒ New Lighting System	Must Comply with Allowances from §140.7
☐ Altered Lighting System	Is your alteration increasing the connected lighting load (Watts)? ○ Yes ○ No

03	04	05
% of Existing Luminaires Being Altered[1]	Sum Total of Luminaires Being Added or Altered	Calculation Method
☐ < 10% ☐ >= 10% and < 50% ☐ >= 50%		

Please proceed to Table F. Outdoor Lighting Fixture Schedule to define the project's luminaires.

[1] FOOTNOTES: % of Existing Luminaires Being Altered = (Sum Total of Luminaires Being Added or Altered / Existing Luminaires within the Scope of the Permit Application) x 100.

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Community Aquatics & Senior Center	**Report Page:**	**(Page 6 of 6)**
Project Address:	1700 W. 162nd St.	**Date Prepared:**	9/15/2022

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Steve Zajicek	Documentation Author Signature:
Company: FBA Engineering	Signature Date: 2022-09-15
Address: 150 Paularino Avenue Suite A120	CEA/ HERS Certification Identification (if applicable): E10372
City/State/Zip: Costa Meas CA 92626	Phone: 9498529995

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Stephen R. Zajicek, P.E.	Responsible Designer Signature:
Company: FBA Engineering	Date Signed: 2022-09-15
Address: 150 Paularino Ave., Suite A120	License: E10372
City/State/Zip: Costa Mesa CA 92626	Phone: 949-852-9995

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Community Aquatics & Senior Center	**Report Page:**	**(Page 5 of 6)**
Project Address:	1700 W. 162nd St.	**Date Prepared:**	9/15/2022

J. LIGHTING ALLOWANCE: PER APPLICATION

This section does not apply to this project.

K. LIGHTING ALLOWANCE: SALES FRONTAGE

This section does not apply to this project.

L. LIGHTING ALLOWANCE: ORNAMENTAL

This section does not apply to this project.

M. LIGHTING ALLOWANCE: PER SPECIFIC AREA

This section does not apply to this project.

N. EXISTING CONDITIONS POWER ALLOWANCE (alterations only)

This section does not apply to this project.

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Form/Title	Field inspector Pass	Field inspector Fail
NRCI-LTO-01-E - Must be submitted for all buildings	☐	☐

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no NRCA forms required for this project.

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Community Aquatics & Senior Center	**Report Page:**	**(Page 4 of 6)**
Project Address:	1700 W. 162nd St.	**Date Prepared:**	9/15/2022

H. OUTDOOR LIGHTING CONTROLS

This table demonstrates compliance with controls requirements for all new or altered luminaires installed as part of the permit application. For alteration projects, luminaires which are existing to remain (ie untouched) and luminaires which are removed and reinstalled (wiring only) do not need to be included in this table even if they are within the spaces covered by the permit application.
*When an option having a * is selected, the notes section of this table must be completed. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank.*

Mandatory Controls

01	02	03	04	05	
Area Description	Shut-Off §130.2(c)1	Auto-Schedule §130.2(c)2	Motion Sensor §130.2(c)3	Field Inspector Pass	Field Inspector Fail

* NOTES: Controls with a * require a note in the space below explaining how compliance is achieved.
EX: Not permitted by health & safety to be turned off; EXCEPTION 1 to §130.2(c)

I. LIGHTING POWER ALLOWANCE (per §140.7)

This table includes areas using allowance calculations per §140.7. General Hardscape Allowance is per Table 140.7-A while "Use it or lose it" Allowances are per Table 140.7-B . Indicate which allowances are being used to expand sections for user input. Luminaires that qualify for one of the "Use it or lose it" allowances shall not qualify for another "Use it or lose it" allowance.

01				
☒ General Hardscape Allowance Table I (below)	"Use it or lose it" Allowance (select all that apply) (select all that apply) ☐ Per Application Table J	☐ Sales Frontage Table K	☐ Ornamental Table L	☐ Per Specific Area Table M

Calculated General Hardscape Lighting Power Allowance per Table 140.7-A (LZ 0, 1 & 4)

Calculated General Hardscape Lighting Power Allowance per Table 140.7-A (LZ 2 & 3)

02	03	04	05	06	07	08	09	10
Area Description	Surface Type	Area Wattage Allowance (AWA) Illuminated Area (ft²)	Area Wattage Allowance (AWA) Allowed Density (W/ft²)	Area Wattage Allowance (AWA) Area Allowance (Watts)	Area Wattage Allowance (AWA) Perimeter Length (lf)	Area Wattage Allowance (AWA) Allowed Density (W/lf)	Area Wattage Allowance (AWA) Linear Allowance (Watts)	Total General AWA + LWA (Watts)
Pedestrian Hardscape	Concrete	19703	0.03	591.1	1009	0.4	403.6	995
						Initial Wattage Allowance for Entire Site (Watts):		350
						Total General Hardscape Allowance (Watts):		1345

FBA Engineering / Plot Date: 6/27/2023 6:21 AM / Plotted by: Steve Roth / Drawing Location: I:\535\050\E-0.06_535050.dwg

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BASIS OF BEARINGS:

BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:
FBA Engineering
Consulting Electrical Engineers
150 Paularino Avenue Suite A120
Costa Mesa, CA 92626
949.852.9995 ● 949.852.1657 (fax)
fbaengr.com
FBA Job Number: 535050

REGISTERED PROFESSIONAL ENGINEER No. 10372 EXP. 09-30-24 ELECTRICAL STATE OF CALIFORNIA
05/01/2023

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2650 fax
[949] 493-2600 phone

LICENSED LANDSCAPE ARCHITECT — JAMES R. MARINO — No. 2987 — Signature 04-30-2023 — 4-30-2025 — STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

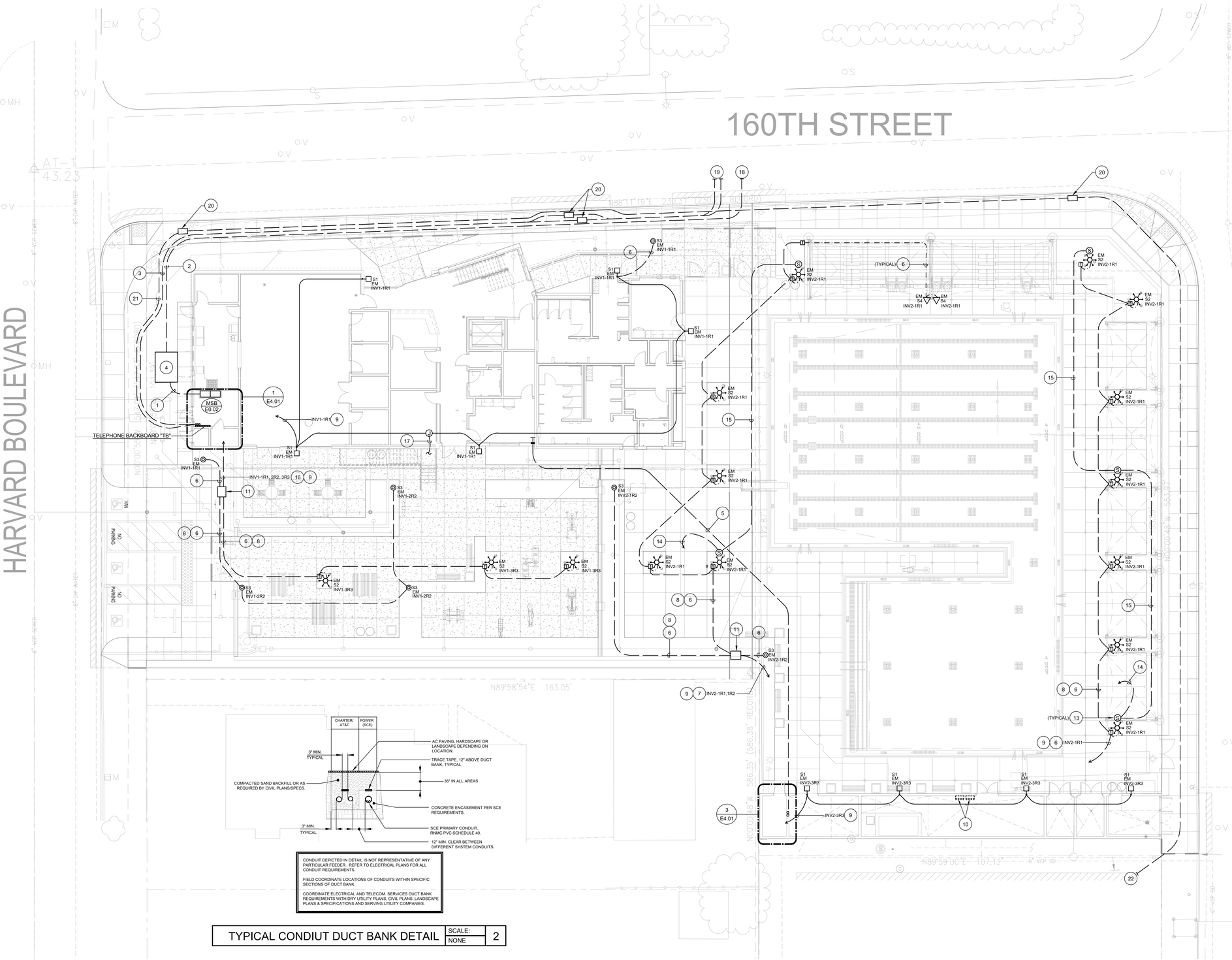
CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
TITLE 24 - OUTDOOR
COMMUNITY AQUATICS & SENIOR CENTER
E-0.06

	INITAL	DATE
DESIGNED BY	SR	11/14/2022
DRAWN BY	SR	06/18/2023
CHECKED BY	BZ	06/29/2023

APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS

SHT. 151 OF 176 DWG. NO. 5-2606

REFERENCE: I:\535\050\E-0.06_535050.DWG
PLOT TIME: 6/27/2023 6:21:21 AM



CONDUIT DEPICTED IN DETAIL IS NOT REPRESENTATIVE OF ANY PARTICULAR FEEDER. REFER TO ELECTRICAL PLANS FOR ALL CONDUIT REQUIREMENTS.

FIELD COORDINATE LOCATIONS OF CONDUITS WITHIN SPECIFIC SECTIONS OF DUCT BANK.

COORDINATE ELECTRICAL AND TELECOM. SERVICES DUCT BANK REQUIREMENTS WITH DRY UTILITY PLANS, CIVIL PLANS, LANDSCAPE PLANS & SPECIFICATIONS AND SERVING UTILITY COMPANIES.

TYPICAL CONDIUT DUCT BANK DETAIL | SCALE: NONE | 2

SITE ELECTRICAL PLAN | SCALE: 3/32"=1'-0" | 1

PLAN NOTES

1. (1) 4"C.O. (SCE COMPANY TRANSFORMER SECONDARY). COORDINATE EXACT REQUIREMENTS WITH DRY UTILITY PLANS. SEE DETAIL 2/E-1.01.
2. (1) 5"C.O. (SCE COMPANY TRANSFORMER PRIMARY). COORDINATE EXACT REQUIREMENTS WITH DRY UTILITY PLANS. SEE DETAIL 2/E-1.01.
3. (1) 2"C. (AT&T) & (1) 3"C. (CHARTER) COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DRY UTILITY PLANS. SEE DETAIL 2/E-1.01.
4. 94"' X 72" TRANSFORMER PAD BOX PER SCE COMPANY REQUIREMENTS. COORDINATE EXACT REQUIREMENTS WITH DRY UTILITY PLANS.
5. (2) 1 1/4"C.O. (TELECOM.). STUB UP INTO ACCESSIBLE CEILING SPACE OF BREAK ROOM AND +12" A.F.F. IN POOL BUILDING ELECTRICAL ROOM.
6. 3/4" C. - 2#12, 1#12 GRD.
7. 3/4" C. - 4#12, 1#12 GRD.
8. CONTINUE THROUGH REST OF BRANCH CIRCUIT RUN, UNLESS NOTED OTHERWISE.
9. ROUTE CIRCUIT THROUGH DESIGNATED RELAY IN DESIGNATED LIGHTING CONTROL PANEL (LCP#) SEE SCHEDULES ON E-0.02.
10. POOL PANELS "PL1 & PP1" PROVIDED & INSTALLED BY POOL EQUIPMENT CONTRACTOR. SEE E-0.03 FOR FEEDER REQUIREMENTS. COORDINATE EXACT LOCATION & REQUIREMENTS WITH POOL EQUIPMENT PLANS & SPECIFICATIONS.
11. PLACE CODE SIZED COMPOSITE PULLBOX IN PLANTER. LABEL "LIGHTING".
12. LOW VOLTAGE CABLING PER MANUFACTURER'S REQUIREMENTS.
13. 4S WEATHERPROOF J-BOX AT BASE OF TREE FOR SPEAKER CABLING. SEE DETAIL 3/E-4.01.
14. 1"C.O. (SPEAKER CABLING) TO TEL. BACKBOARD "TBP" IN POOL BUILDING.
15. 3/4"C.O. (SPEAKER CABLING).
16. 3/4"C.-6#12, 1#12 GRD.
17. UP TO LIGHTS AT SECOND FLOOR STAIR LANDING. SEE E-2.01, NOTE #3 FOR CONTINUATION.
18. INTERCEPT EXISTING 5"C. (SCE PRIMARY). COORDINATE EXACT LOCATION WITH SCE.
19. INTERCEPT EXISTING CHARTER AND AT&T CONDUITS. COORDINATE EXACT LOCATION WITH SERVING UTILITY.
20. 17" X 30" PULL BOX PER CHARTER/AT&T REQUIREMENTS. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH SERVING UTILITY.
21. (1) 3"C.O. (CITY FIBER OPTIC) PER AT&T REQUIREMENTS. COORDINATE REQUIREMENTS WITH CITY.
22. INTERCEPT EXISTING FIBER OPTIC. COORDINATE REQUIREMENTS WITH THE CITY.

SITE PLAN GENERAL NOTES:

1. LOCATIONS OF EXISTING UTILITIES ARE NOT SHOWN AND CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING ON THIS SITE TO AVOID EXISTING DUCTS, PIPING, OR CONDUITS, ETC., AND TO PREVENT HAZARDS TO PERSONNEL AND/OR DAMAGE TO EXISTING UNDERGROUND UTILITIES OR STRUCTURES WHETHER OR NOT SHOWN AND INSTALLED BY ANY OTHER CONTRACTS. THE ENGINEER IS NOT RESPONSIBLE FOR THE LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES, WHETHER OR NOT SHOWN OR DETAILED AND INSTALLED BY ANY OTHER CONTRACTS. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER, THE ENGINEER SHOULD SEARCH UNIDENTIFIED CONDITIONS BE DISCOVERED. THESE DRAWINGS AND SPECIFICATIONS DO NOT INCLUDE THE NECESSARY ELEMENTS FOR CONSTRUCTION SAFETY.
2. CONTRACTOR SHALL VERIFY THE LOCATION OF ANY EXISTING UNDERGROUND UTILITIES AND STRUCTURES PRIOR TO COMMENCEMENT OF WORK BY CONTACTING UNDERGROUND SERVICE ALERT (U.S.A.) AT 1(800) 422-4133, OR OTHER LOCAL APPLICABLE UNDERGROUND SERVICE ALERT AGENCIES.
3. THE DRAWINGS ILLUSTRATE LOCATIONS OF EQUIPMENT AND ASSEMBLIES, PULLBOXES, MANHOLES, HANDHOLES, AND VAULTS, INCLUDING OTHER ELECTRICAL UNDERGROUND STRUCTURES AND PATHWAYS. CONTRACTOR SHALL CLOSELY COORDINATE EXACT LOCATIONS AND MOUNTING DEPTHS OF ALL DEVICES, STRUCTURES AND PATHWAYS WITH OTHER TRADES PRIOR TO PLACEMENT, TO ENSURE FINAL LOCATIONS ARE OUTSIDE FEATURE LANDSCAPE AND ARCHITECTURAL AREAS AND ARE NOT IN CONFLICT WITH THE INSTALLATION OF MATERIALS BY OTHER TRADES.
4. SEE ARCHITECTURAL, CIVIL AND LANDSCAPE PLANS FOR EXACT LOCATION OF FIXTURES, PULLBOXES, MANHOLES, OTHER ELECTRICAL EQUIPMENT AND DEVICES, ETC. COORDINATE ALL UNDERGROUND STRUCTURES AND CONDUIT ROUTING WITH ARCHITECT OR OWNERS' REPRESENTATIVE PRIOR TO ROUGH-IN, TO ENSURE SUCH ITEMS ARE NOT PLACED IN PLANTING / HARDSCAPE AREAS.
5. ALL EQUIPMENT LOCATED OUTDOORS SHALL BE WEATHERPROOF, NEMA 3R RATED.
6. ALL UNDERGROUND CONDUIT SIZE SHALL NOT BE LESS THAN ¾" - U.N.O.
7. MINIMUM CONDUCTOR SIZE SHALL BE #10 AWG. - U.N.O.
8. ALL SITE BRANCH CIRCUIT CONDUIT RUNS SHALL INCLUDE AN EQUIPMENT GROUND THAT AT A MINIMUM, MATCHES THE SIZE OF THE LARGEST BRANCH CIRCUIT CONDUCTOR.
9. PROVIDE PULL STRING IN ALL EMPTY CONDUITS.
10. THE MEANS OF EGRESS TRAVEL SHALL BE ILLUMINATED AT ANY TIME THE BUILDING IS OCCUPIED WITH A LIGHT INTENSITY OF NOT LESS THAN 1 FOOT-CANDLE AT THE FLOOR LEVEL. BUILDING CODE 1008.2.1.

SITE UTILITY GENERAL NOTES

1. UTILITY POINTS OF SERVICE AND WORK/MATERIAL SHOWN ARE BASED UPON PRELIMINARY INFORMATION ONLY BY THE UTILITY COMPANIES AND ARE FOR BID PURPOSES ONLY, NOT FOR CONSTRUCTION.
2. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR FINAL AND EXACT WORK AND MATERIAL REQUIREMENTS AND CONSTRUCT TO UTILITY COMPANY ENGINEERING PLANS AND SPECIFICATIONS ONLY. CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUIT, PULL WIRES, CABLES, PULLBOXES, CONCRETE ENCASEMENT OF CONDUITS, TRANSFORMER PAD, BREAKERS, TRENCHING AND BACKFILL, AND PAY ALL UTILITY COMPANY FEES AND INCLUDE ALL REQUIREMENTS IN SCOPE OF WORK.
3. LOCATIONS OF UTILITIES WHERE SHOWN ARE APPROXIMATE AND CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING ON SITE TO AVOID EXISTING DUCTS, PIPING, OR CONDUITS, ETC. AND TO PREVENT HAZARD TO PERSONNEL AND/OR DAMAGE TO EXISTING UNDERGROUND UTILITIES OR STRUCTURES WHETHER OR NOT SHOWN AND INSTALLED BY ANY OTHER CONTRACTS. THE ENGINEER IS NOT RESPONSIBLE FOR THE LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES WHETHER OR NOT SHOWN OR DETAILED AND INSTALLED BY ANY OTHER CONTRACTS. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER SHOULD SUCH UNIDENTIFIED CONDITIONS BE DISCOVERED. THESE DRAWINGS AND SPECIFICATIONS DO NOT INCLUDE THE NECESSARY ELEMENTS FOR CONSTRUCTION SAFETY.
4. UNLESS SPECIFICALLY SHOWN AS (E), (R), (ER), (D), EXISTING OR NON-BOLD, ALL ELECTRICAL LINE WORK SHOWN IS NEW.

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BASIS OF BEARINGS:
BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:
THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:
FBA Engineering
Consulting Electrical Engineers
150 Paularino Avenue Suite A120
Costa Mesa, CA 92626
949.852.9905 • 949.852.1657 (fax)
fbaengr.com
FBA Job Number: 535050

REGISTERED PROFESSIONAL ENGINEER — No. 10372 — Exp. 09-30-24 — ELECTRICAL — STATE OF CALIFORNIA
05/01/2023

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT — 05/30/2023 — 11/30/2023 — STATE OF CALIFORNIA

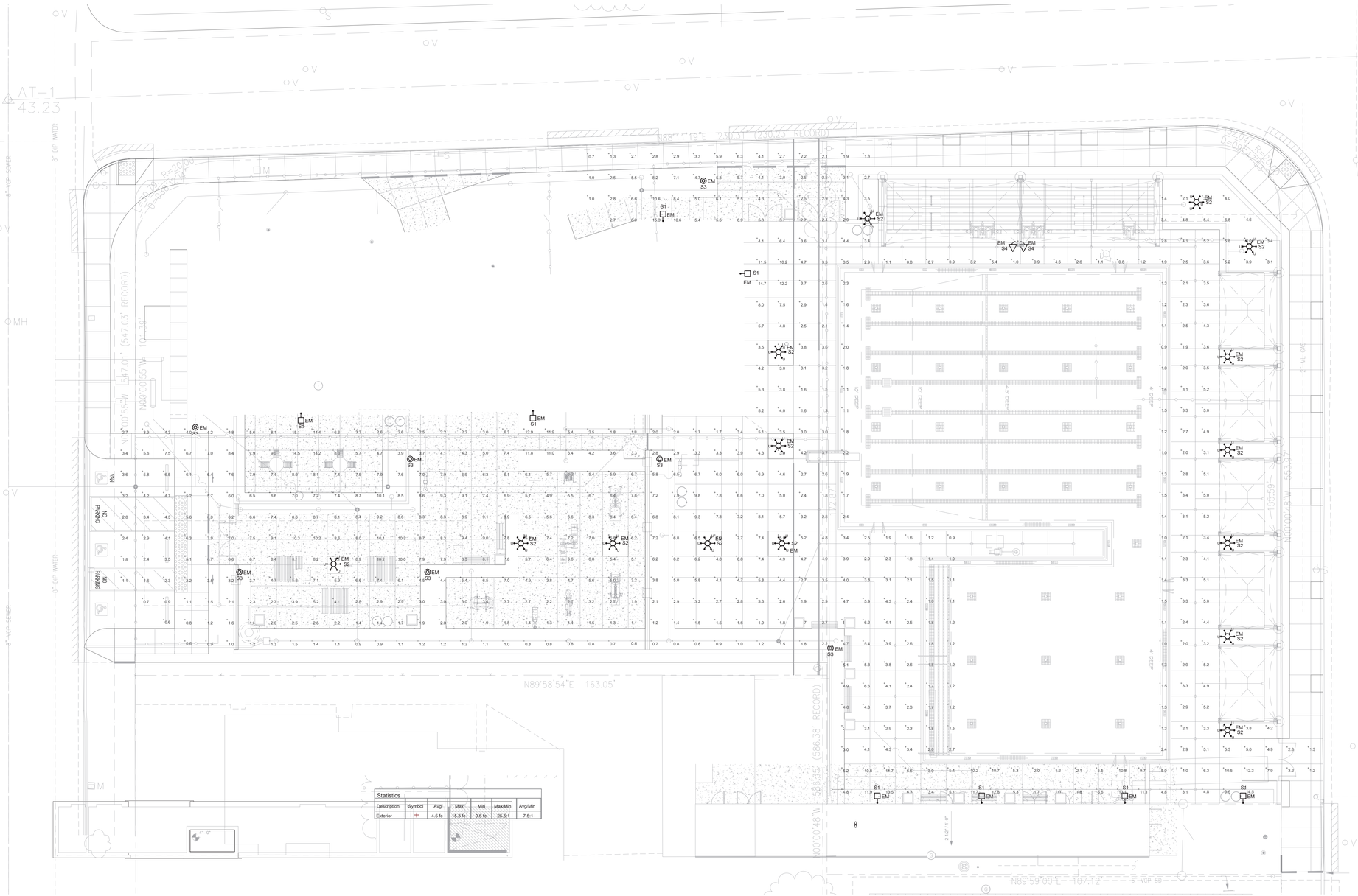
REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/18/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
SITE ELECTRICAL PLAN
COMMUNITY AQUATICS & SENIOR CENTER
E-1.01

	INITAL	DATE
DESIGNED BY	SR	11/14/2022
DRAWN BY	SR	06/18/2023
CHECKED BY	BZ	06/29/2023

APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS
SHT. 152 OF 176 DWG. NO. S-2606

FBA Engineering / Plot Date: 7/13/2023 11:24 AM / Plotted by: Steve Roth / Drawing Location: I:\535\050\E-1.01_535050.dwg
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PLOT TIME: 7/13/2023 11:24:11 AM



SITE PHOTOMETRIC PLAN | SCALE: 3/32"=1'-0" | 1

FBA Engineering / Plot Date: 6/27/2023 6:21 AM / Plotted by: Steve Roth / Drawing Location: I:\535\050\E-1.01_535050.dwg

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BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:

FBA Engineering
Consulting Electrical Engineers
150 Paularino Avenue Suite A120
Costa Mesa, CA 92626
949.852.9995 • 949.852.1657 (fax)
fbaengr.com
FBA Job Number: 535050

REGISTERED PROFESSIONAL ENGINEER 10372 09-30-24 ELECTRICAL STATE OF CALIFORNIA

05/01/2023

PREPARED UNDER THE SUPERVISION OF:

RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2650 fax
[949] 493-2600 phone

LICENSED LANDSCAPE ARCHITECT — Signature — 04/30/2023 — Renewal Date — 4/30/2023 — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

SITE PHOTOMETRIC PLAN

COMMUNITY AQUATICS & SENIOR CENTER

E-1.01A

	INITAL	DATE
DESIGNED BY	SR	11/14/2022
DRAWN BY	SR	06/18/2023
CHECKED BY	BZ	06/29/2023

APPROVED BY:

DATE

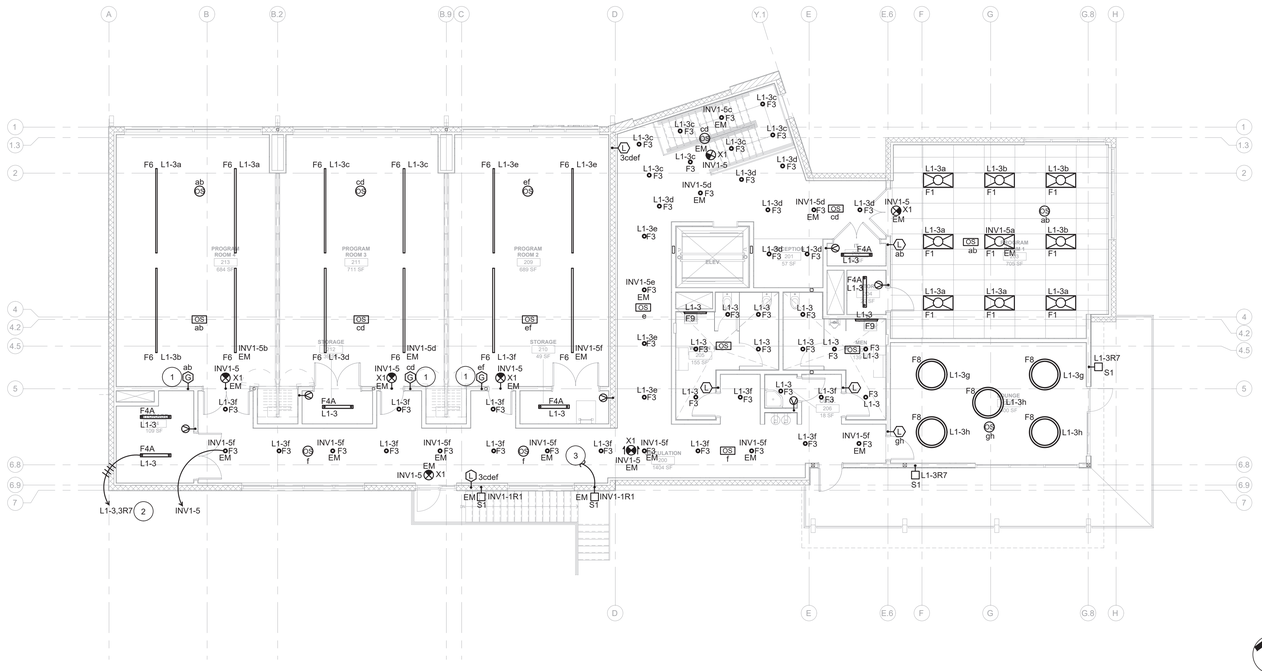
DIRECTOR OF PUBLIC WORKS

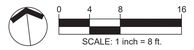
SHT. 153 OF 176 DWG. NO. 5-2606

REF FILES: I:\535\050\E-1.01_535050.DWG
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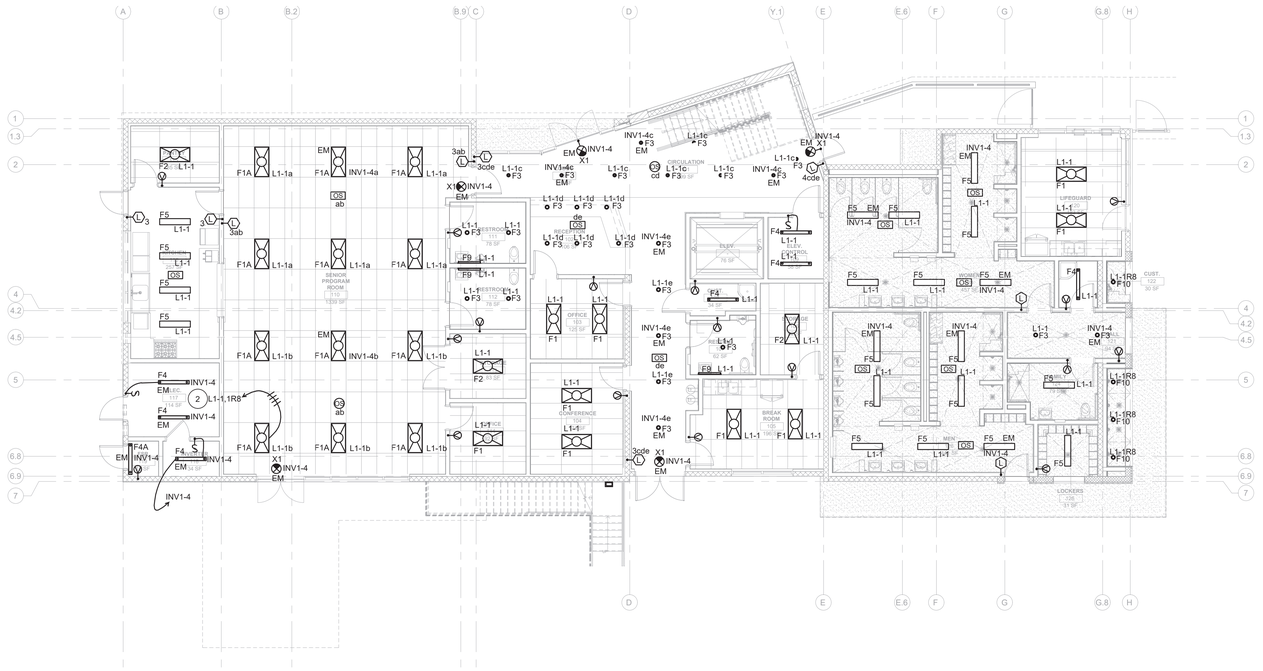
PLAN NOTES

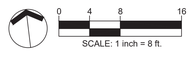
1. PROVIDE PARTITION CONTROLS TO PROVIDE CONTROL OF SPACE ENTIRE SPACE DEPENDING ON MOVEABLE PARTITION POSITION. SEE DETAIL 1/E-0.02A FOR ADDITIONAL INFORMATION.
2. ROUTE CIRCUIT THROUGH DESIGNATED RELAY IN LIGHTING CONTROL PANEL "LCP1", REFER TO SCHEDULE ON SHEET E-0.02.
3. DOWN TO LIGHTS BELOW. SEE E-1.01, NOTE #17 FOR CONTINUATION.





BUILDING SECOND FLOOR LIGHTING PLAN | SCALE: 1/8"=1'-0" | 2





BUILDING FIRST FLOOR LIGHTING PLAN | SCALE: 1/8"=1'-0" | 1

GENERAL NOTES

1. REFER TO TYPICAL LIGHTING CONTROL DIAGRAMS & NOTES ON E0.02.
2. FOR CLARITY, BRANCH CIRCUIT CONDUIT & CONDUCTOR REQUIREMENTS HAVE NOT BEEN SHOWN ON PLANS FOR NORMAL & EMERGENCY LIGHTING. FOR LIGHTING THROUGHOUT ALL SPACES, PROVIDE CONDUIT AND CONDUCTORS IN ACCORDANCE WITH ELECTRICAL SPECIFICATION. PROVIDE #12 CONDUCTORS UNLESS SPECIFICALLY NOTED OTHERWISE.
3. FOR EMERGENCY LIGHTING "EM" POWER BRANCH CIRCUITS, PROVIDE CONDUIT AND CONDUCTORS, SEPARATE FROM NORMAL POWER LIGHTING BRANCH CIRCUIT CONDUIT & CONDUCTORS. REFER TO NOTE #2 ABOVE. EMERGENCY LIGHTING BRANCH CIRCUITS SHALL HAVE SEPARATE NEUTRAL CONDUCTOR FOR EACH PHASE CONDUCTOR, SHARED NEUTRAL IS NOT ALLOWED. PROVIDE A NON-CONTROLLED (NON-SWITCHED) HOT CONDUCTOR, FROM EMERGENCY POWER SOURCE, FOR CONNECTION TO EXIT SIGNS.
4. THE MEANS OF EGRESS TRAVEL, INCLUDING THE EXIT DISCHARGE, SHALL BE ILLUMINATED AT ALL TIMES THE BUILDING SPACE SERVED BY THE MEANS OF EGRESS IS OCCUPIED WITH A LIGHT INTENSITY OF NOT LESS THAN 1 FOOT-CANDLE AT THE WALKING SURFACE AS REQUIRED BY BUILDING CODE 1008.2.
5. IN THE EVENT OF POWER SUPPLY FAILURE IN ROOMS, SPACES AND BUILDINGS THAT REQUIRE TWO OR MORE MEANS OF EGRESS, AN EMERGENCY ELECTRICAL SYSTEM FOR A DURATION OF NOT LESS THAN 90 MINUTES IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN BUILDING CODE 1008.3.
6. THE PATH OF EGRESS TRAVEL TO EXITS SHALL BE MARKED BY READILY VISIBLE EXIT SIGNS TO CLEARLY INDICATE THE DIRECTION OF EGRESS TRAVEL AS REQUIRED BY BUILDING CODE 1013.1; AND SHALL BE INTERNALLY OR EXTERNALLY ILLUMINATED AS REQUIRED BY SECTION 1013.3 AND 1013.5. NOTE: ADDITIONAL EXIT SIGNS MAY BE REQUIRED AT THE TIME OF FIELD INSPECTION

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BENCHMARK:

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CONSULTANT:
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Consulting Electrical Engineers
150 Pacifica Avenue Suite A120
Costa Mesa, CA 92626
949.852.9995 • 949.852.1657 (fax)
fbaeng.com
FBA Job Number: 535050

REGISTERED PROFESSIONAL ENGINEER
No. 10372
09-30-24
ELECTRICAL
STATE OF CALIFORNIA
05/01/2023

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/16/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

BUILDING LIGHTING PLANS

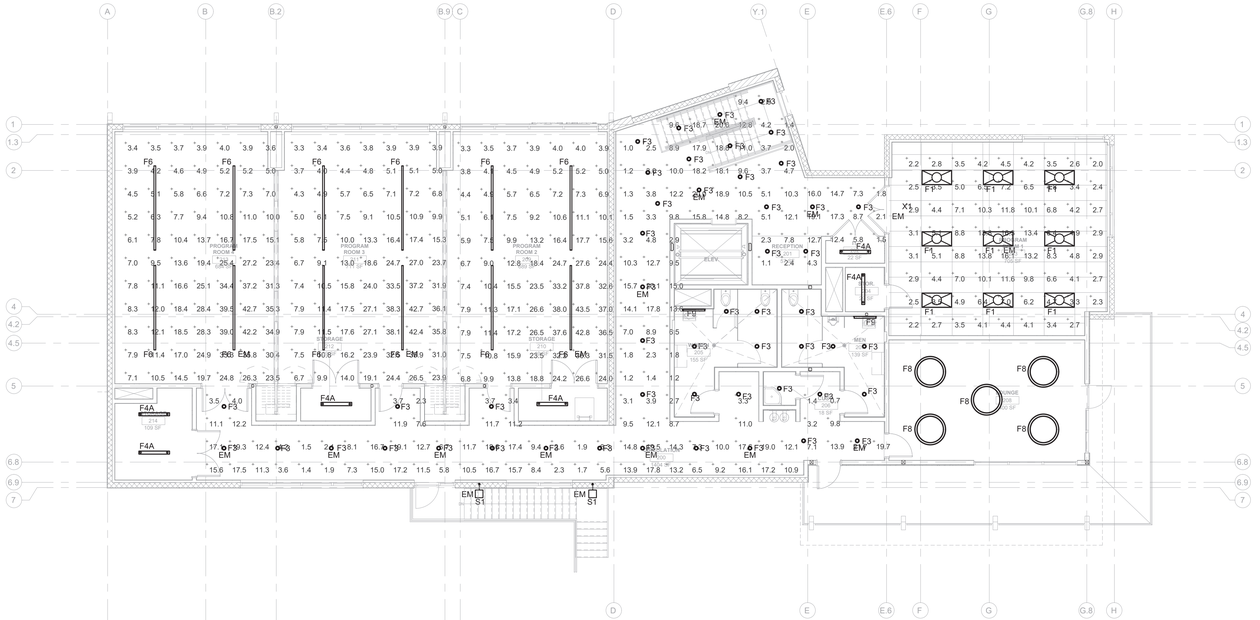
COMMUNITY AQUATICS & SENIOR CENTER

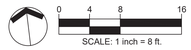
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	INITAL	DATE	APPROVED BY:
DESIGNED BY	SR	11/14/2022	
DRAWN BY	SR	06/18/2023	DATE
CHECKED BY	BZ	06/29/2023	DIRECTOR OF PUBLIC WORKS

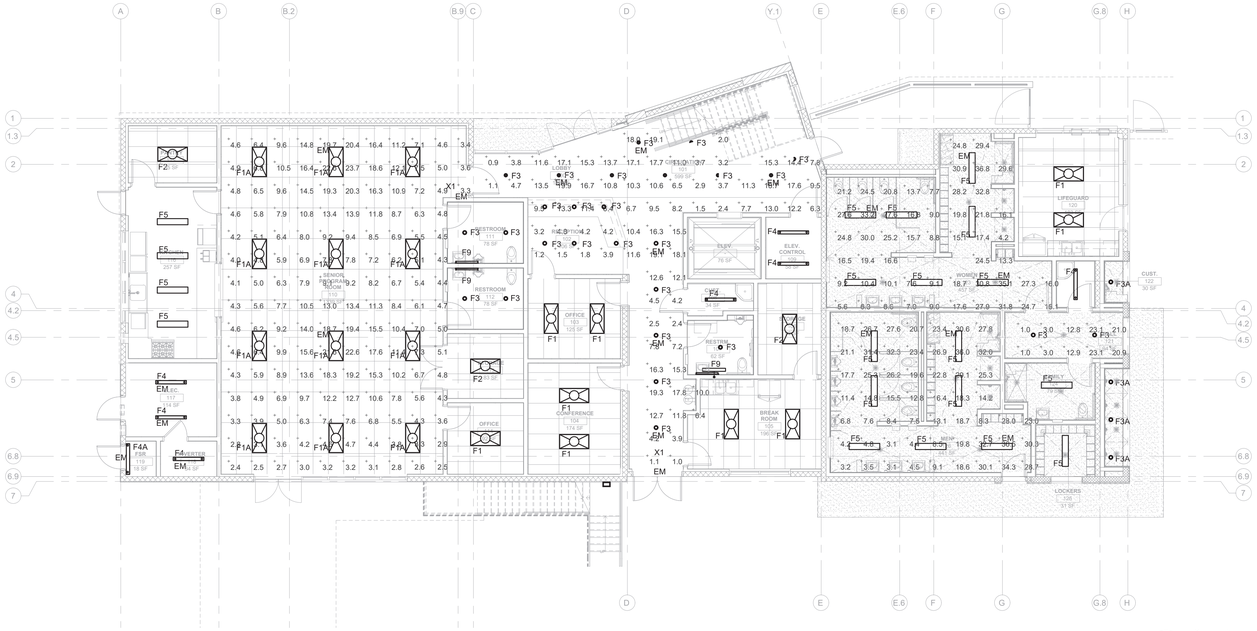
SHT. 154 OF 176 DWG. NO. 5-2606

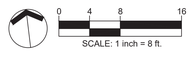
FBA Engineering / Plot Date: 6/27/2023 6:21 AM / Plotted by: Steve Roth / Drawing Location: I:\535\050\E-2.01_535050.dwg
REF FILE: I:\535\050\E-2.01_535050.DWG
PLOT TIME: 6/27/2023 6:21:40 AM





BUILDING SECOND FLOOR EGRESS LIGHTING CALCULATION | SCALE: 1/8"=1'-0" | 2





Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
FL1_Hall	+	12.2 fc	23.1 fc	1.0 fc	23.1:1	12.2:1
FL1_Lobby	+	9.4 fc	19.9 fc	0.9 fc	22.1:1	10.4:1
FL1_MEN	+	19.1 fc	36.5 fc	3.1 fc	11.8:1	6.2:1
FL1_Senior Daycare	+	8.3 fc	23.7 fc	2.4 fc	9.9:1	3.5:1
FL1_Womens	+	19.4 fc	36.8 fc	4.2 fc	8.8:1	4.6:1
FL2_Circulation	+	9.3 fc	21.7 fc	0.7 fc	31.0:1	13.3:1
FL2_Classroom 1	+	5.8 fc	16.3 fc	2.0 fc	8.2:1	2.9:1
FL2_Classroom 2	+	15.3 fc	43.5 fc	3.3 fc	13.2:1	4.6:1
FL2_Classroom 3	+	15.2 fc	42.7 fc	3.3 fc	12.9:1	4.6:1
FL2_Classroom 4	+	15.5 fc	42.7 fc	3.4 fc	12.6:1	4.6:1

BUILDING FIRST FLOOR EGRESS LIGHTING CALCULATION | SCALE: 1/8"=1'-0" | 1

FBA Engineering / Plot Date: 6/27/2023 6:21 AM / Plotted by: Steve Roth / Drawing Location: I:\535\050\E-2.01_535050.dwg

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BASIS OF BEARINGS:

BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:

FBA Engineering
Consulting Electrical Engineers
150 Pacifica Avenue Suite A120
Costa Mesa, CA 92626
949.852.9995 • 949.852.1657 (fax)
fbaeng.com
FBA Job Number: 535050

REGISTERED PROFESSIONAL ENGINEER
No. 10372
09-30-24
ELECTRICAL
STATE OF CALIFORNIA

05/01/2023

PREPARED UNDER THE SUPERVISION OF:

RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949) 493-2690 fax
[949) 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT
STEVEN A. BANCROFT
No. 5900
01-31-2025
STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/18/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
BUILDING EGRESS LIGHTING CALCULATIONS
COMMUNITY AQUATICS & SENIOR CENTER
E-2.01A

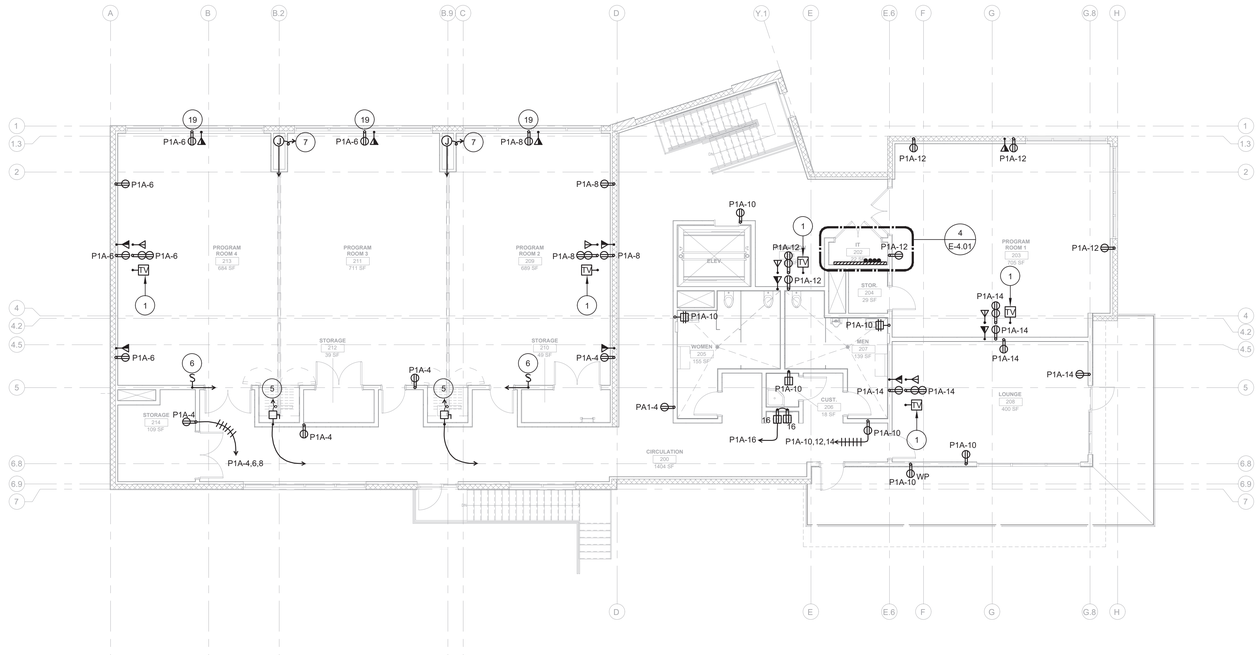
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CHECKED BY	BZ	06/29/2023

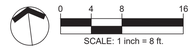
APPROVED BY:

DATE
DIRECTOR OF PUBLIC WORKS

SHT. 155 OF 176 DWG. NO. 5-2606

REF FILE: I:\535\050\E-2.01_535050.DWG
PLOT DATE: 6/27/2023 6:21:46 AM





BUILDING SECOND FLOOR POWER & SIGNAL PLAN

SCALE: 1/8"=1'-0" | 2

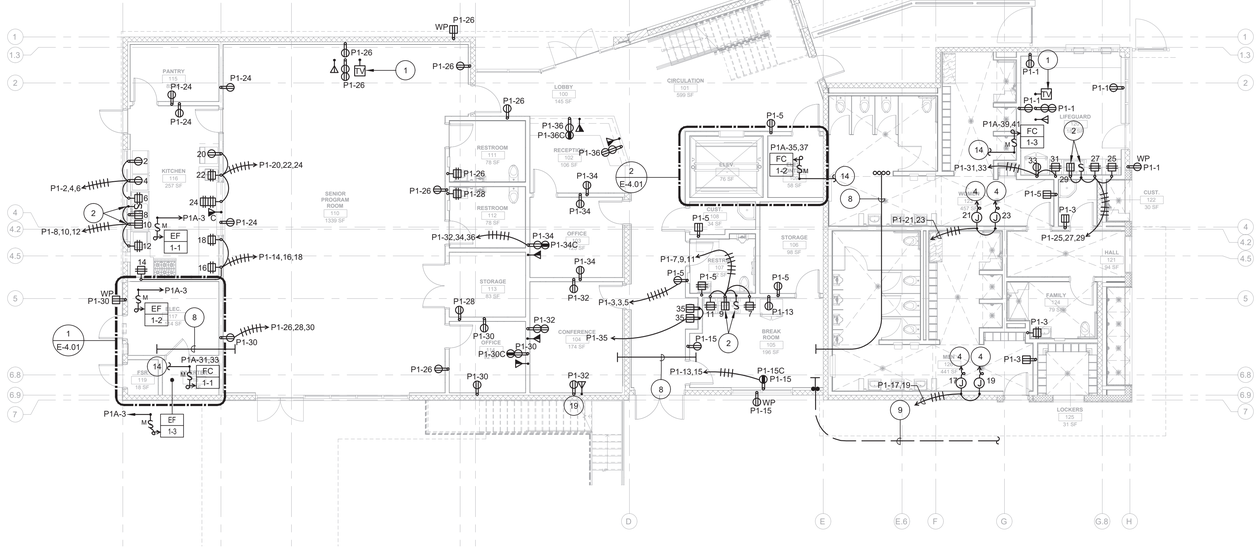
PLAN NOTES

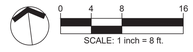
1. OUTLETS FOR MONITOR . MOUNT +6'-0" AFF. COORDINATE EXACT LOCATION WITH ARCHITECT. REFER TO SYMBOLS LIST FOR OUTLET BOX REQUIREMENTS.
2. RECEPTACLE & SWITCH FOR GARBAGE DISPOSAL. MOUNT SWITCH +6" ABOVE COUNTER SPLASH. MOUNT RECEPTACLE UNDER SINK IN CABINET SPACE.
3. STUB INTO ACCESSIBLE CEILING SPACE.
4. CONNECT AS REQUIRED TO HAND DRYER. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH ARCHITECT.
5. CONNECT AS REQUIRED TO MOTORIZED PARTITION. PROVIDE WIRING AND CONNECTIONS AS REQUIRED PER MANUFACTURERS REQUIREMENTS FOR A COMPLETE AND OPERABLE PARTITION.
6. SWITCH FOR PARTITION CONTROL. PROVIDE WIRING AND CONNECTIONS AS REQUIRED. COORDINATE EXACT LCOATION WITH ARCHITECT.
7. PARTITION SYSTEM LIMIT SWITCH. PROVIDE WIRING AND CONNECTIONS AS REQUIRED PER MANUFACTURERS REQUIREMENTS FOR A COMPLETE AND OPERABLE PARTITION. PROVIDE 3/4"C. WITH WIRING AND CONNECTIONS AS REQUIRED TO PARTITION MOTOR.
8. (4) 2"C. (TELECOM.) STUB INTO ACCESSIBLE CEILING SPACE AND UP INTO 2nd FLOOR IT CLOSET.
9. (4) 1 1/4"C.O. (TELECOM.) TO POOL BUILDING. REFER TO NOTE #5 ON E-1.01 FOR CONTINUATION
10. 3/4"C. - 3#12,1#12 GRD.
11. 3/4"C. - 3#10, 1#10 GRD.
12. 3/4"C.-2#12,1#12 GRD.
13. TO RECEPTACLE CIRCUIT IN ROOM.
14. POWERED BY OUTDOOR UNIT ON ROOF. PROVIDE 3/4"C.-2#12,1#12 GRD. TO RESPECTIVE OUTDOOR INIT ON ROOF.
15. CONTROLLED BY LINE VOLTAGE T-STAT. COORDINATE EXACT LOCATION & REQUIREMENTS WITH MECHANICAL.
16. DDC CONTROL PANEL BY MECHANICAL. COORDINATE LOCATION & REQUIREMENTS WITH MECHANICAL.
17. PROVIDE POWER CONNECTION TO AUTO SENSOR FOR FAUCETS AND URINALS. PROVIDE 3/4"C.-2#12, 1#12 GRD. FROM RESTROOM RECEPTACLE CIRCUIT P1-#. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH PLUMBING.
18. RECEPTACLES FOR MICROWAVE BELOW COUNTER. COORDINATE EXACT LOCATION WITH ARCHITECT.
19. RECEPTACLE AVAILABLE FOR ASSITIVE LISTENING SYSTEM.

POWER & SIGNAL GENERAL NOTES:

1. ALL WALL MOUNTED DEVICE HEIGHTS SHALL BE VERIFIED WITH ARCHITECTURAL ROOM ELEVATIONS PRIOR TO ROUGH-IN.
2. PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE PROTECTED WITH AN APPROVED FIRE STOP SYSTEM EQUAL TO OR GREATER THAN THE RATING OF THE WALL BEING PENETRATED.
3. ALL DEVICES MOUNTED BACK-TO-BACK ON COMMON WALLS SHALL BE INSTALLED IN SEPARATE BOXES OFFSET 24-INCHES MINIMUM OR PROVIDED WITH PUTTY OR ANOTHER APPROVED SOUNDPROOF BACKING.
4. WHEN EXPOSED CEILING OR OPEN GRID CONDITIONS EXIST, CONTRACTOR SHALL PROVIDE:
   - A. ALL BRANCH CIRCUITS TO BE INSTALLED IN EMT.
   - B. ALL BRANCH CIRCUITS SHALL BE ROUTED PARALLEL TO BUILDING STRUCTURES AND RACKED NEATLY IN GROUPS OF MULTIPLE PATHWAYS.
   - C. ALL LOW VOLTAGE CABLES SHALL BE:
     1) INSTALLED IN EMT CONDUIT PATHWAYS OR
     2) INSTALLED NEATLY IN CABLE MANAGEMENT OPEN BASKET OR LADDER TYPE WIREWAY SUPPORTED INDEPENDENTLY FROM STRUCTURE ABOVE.

   EXPOSED LOW VOLTAGE CABLING IN OPEN TYPE CEILING APPLICATIONS INSTALLED ON D-RINGS, J-HOOKS OR SIMILAR APPARATUS WILL NOT BE ACCEPTED UNLESS APPROVED IN WRITING BY ARCHITECT/ENGINEER PRIOR TO ANY ROUGH-IN OR INSTALLATION. CONTRACTOR SHALL INCLUDE AN ALLOWANCE IN HIS BASE BID FOR THE INSTALLATION OF LOW VOLTAGE CABLES IN OPEN CEILING AS DESCRIBED.
5. EXPOSED CABLE/CONDUCTORS INSTALLED IN A PLENUM SPACE SHALL BE LISTED FOR SUCH ENVIRONMENT AND INSTALLATION SHALL CONFORM TO NEC OR CEC WHERE ADOPTED ARTICLE 300.22(C).
6. ALL RECEPTACLES MOUNTED AT 5-FEET-6-INCHES OR LOWER SHALL BE TAMPER-RESISTANT TYPE, EXCEPT RECEPTACLES FOR FIXED APPLIANCES AND/OR EQUIPMENT.
7. COORDINATE LOCATION OF ALL OUTLETS, RECEPTACLES, AND SWITCHES WITH ARCHITECT PRIOR TO ROUGH-IN.





BUILDING FIRST FLOOR POWER & SIGNAL PLAN

SCALE: 1/8"=1'-0" | 1

SMOKE/FIRE DAMPER (SFD) GENERAL NOTES:

1. ELECTRICAL PLANS DO NOT SHOW ELECTRICAL REQUIREMENTS FOR SMOKE/FIRE DAMPERS (SFD). PROVIDE ALL CONDUIT, WIRE, J-BOXES, OUTLET BOXES, ETC. REQUIRED FOR A COMPLETE AND OPERABLE MECHANICAL INSTALLATION. CONNECT NO MORE THAN TEN DAMPERS PER CIRCUIT. REFER TO DETAIL 1/E-0.01.
2. REFER TO MECHANICAL PLANS FOR SMOKE/FIRE DAMPER LOCATIONS AND QUANTITIES.
3. PROVIDE QUANTITY OF AREA AND/OR DUCT SMOKE DETECTORS AS REQUIRED.
4. POWER FOR SMOKE/FIRE DAMPERS TO BE CONTROLLED BY FIRE ALARM RELAY OPERATED BY FIRE ALARM PANEL. CONTACT OF RELAY TO OPEN WITH FIRE ALARM CONDITION DISCONNECTING POWER FROM DAMPERS.

CONTROLLED RECEPTACLE DETAIL

"#, #C — DUPLEX

"#, #C — DOUBLE DUPLEX

NOTE:

SUBSCRIPT / SUPERSCRIPT "#,#C" INDICATES SPLIT WIRED RECEPTACLE CONTROLLED BY ROOM'S LIGHTING CONTROLS. REFER TO LIGHTING CONTROL SYSTEM DIAGRAM ON SHEET E002A FOR ADDITIONAL REQUIREMENTS. CONTROLLED PORTION OF RECEPTACLE SHALL BE IMPRINTED "CONTROLLED". REFER TO SYMBOLS LIST FOR ADDITIONAL INFORMATION.

BRANCH CIRCUIT GENERAL NOTES

1. FOR CLARITY, SOME BRANCH CIRCUIT CONDUIT & CONDUCTOR REQUIREMENTS HAVE NOT BEEN SHOWN ON PLANS FOR POWER BRANCH CIRCUITS. FOR POWER THROUGHOUT ALL SPACES, PROVIDE CONDUIT AND CONDUCTORS IN ACCORDANCE WITH ELECTRICAL SPECIFICATIONS. PROVIDE #12 CONDUCTORS UNLESS SPECIFICALLY NOTED OTHERWISE.

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BASIS OF BEARINGS:

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BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:

FBA Engineering
Consulting Electrical Engineers
150 Paularino Avenue Suite A120
Costa Mesa, CA 92626
949.852.9995 • 949.852.1657 (fax)
fbaengr.com
FBA Job Number: 535050

REGISTERED PROFESSIONAL ENGINEER — No. 10372 — EXP. 09-30-24 — ELECTRICAL — STATE OF CALIFORNIA

05/01/2023

PREPARED UNDER THE SUPERVISION OF:

RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT — Signature — 05/30/2023 — 4/30/2025 — STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

BUILDING POWER & SIGNAL PLANS

COMMUNITY AQUATICS & SENIOR CENTER
E-3.01

	INITAL	DATE	APPROVED BY:
DESIGNED BY	SR	11/14/2022	
DRAWN BY	SR	06/18/2023	DATE
CHECKED BY	BZ	06/29/2023	DIRECTOR OF PUBLIC WORKS

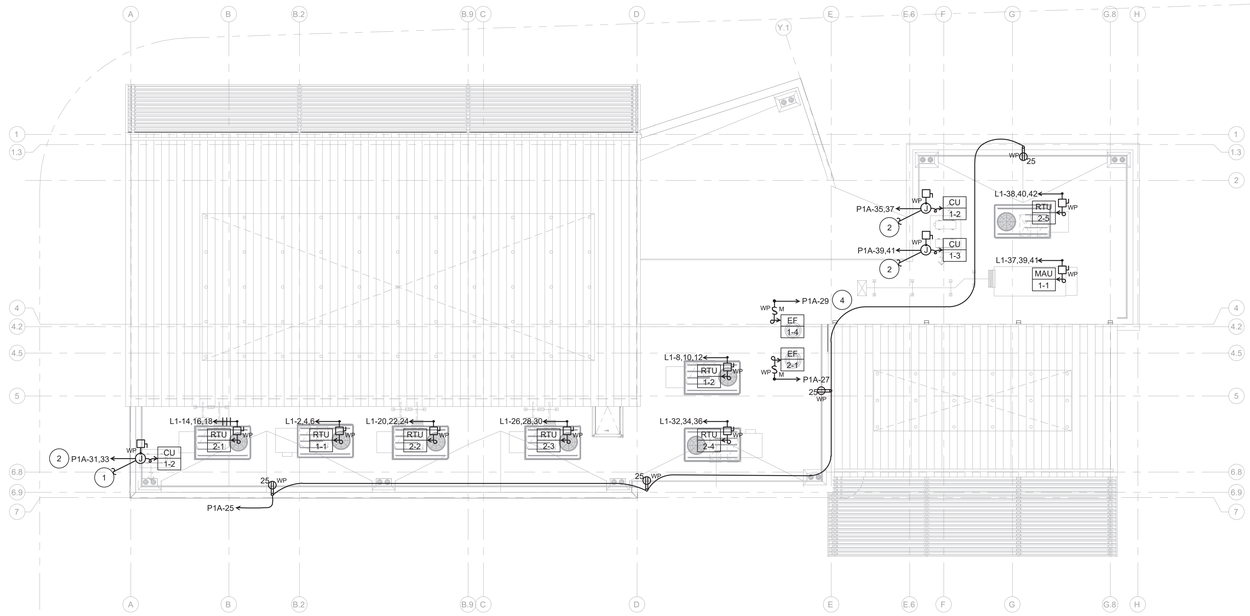
SHT. 156 OF 176 DWG. NO. 5-2606

FBA Engineering / Plot Date: 6/27/2023 6:21 AM / Plotted by: Steve Roth / Drawing Location: I:\535\050\E-3.01_535050.dwg

REF FILES: I:\535\050\E-3.01_535050.DWG
PLOT TIME: 4/27/2023 6:21:47 AM

PLAN NOTES

1. 3/4"C - 2#12, 1#12 GRD.TO RESPECTIVE INDOOR FANCOIL UNIT. SEE NOTE #8 ON E3.01 FOR CONTINUATION.
2. 3/4"C - 2#10, 1#10 GRD.
3. 3/4"C - 3#10, 1#10 GRD.
4. 3/4"C - 2#8, 1#8 GRD.



SCALE: 1 inch = 8 ft.

ROOF ELECTRICAL PLAN | SCALE: 1/4"=1'-0" | 1

MECHANICAL EQUIPMENT GENERAL NOTES

1. VERIFY EXACT LOCATION OF MECHANICAL EQUIPMENT WITH MECHANICAL CONTRACTOR PRIOR TO INSTALLATION OF CONDUIT.
2. ALL EQUIPMENT, DEVICES, SAFETY SWITCH, JUNCTION BOXES CONNECTIONS, ETC. MOUNTED ON THE ROOF OR EXTERIOR SHALL BE WEATHERPROOF.
3. REFER TO MECHANICAL CONTROL DIAGRAMS FOR ALL SENSORS, TIME CLOCKS, RELAYS, TIMERS, STARTERS, LINE AND LOW VOLTAGE CONDUIT AND PROVIDE AS REQUIRED.
4. SAFETY SWITCHES SHALL BE HORSEPOWER RATED WITH CURRENT LIMITING FUSES, SIZED PER THE MANUFACTURER'S RECOMMENDATION. SWITCHES SHALL HAVE "RK-1" FUSE REJECTION CLIPS.
5. ELECTRICAL PLAN DO NOT INDICATE MECHANICAL AND PLUMBING EQUIPMENT CONTROL. REFER TO MECHANICAL AND PLUMBING PLANS AND SPECIFICATIONS AND PROVIDE ALL CONDUIT, WIRE, J-BOXES, OUTLET BOXES, RELAY SWITCHES, TIME SWITCHES, CONTROL CIRCUITS, ETC. REQUIRED FOR A COMPLETE AND OPERABLE MECHANICAL AND PLUMBING INSTALLATION. ALL WIRE SHALL BE INSTALLED IN CODE SIZED CONDUIT.
6. LOCATIONS OF SAFETY SWITCHES AND CONNECTIONS FOR MECHANICAL AND PLUMBING EQUIPMENT ARE SHOWN DIAGRAMMATICALLY. VERIFY ACTUAL LOCATIONS WITH EQUIPMENT SHOP DRAWINGS AND LOCATE SAFETY SWITCHES AS TO PROVIDE CODE REQUIRED CLEARANCES AND ACCESS. SAFETY SWITCHES LOCATED ON THE ROOF SHALL BE MOUNTED 30" MINIMUM ABOVE THE ROOF.

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CONSULTANT:

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Consulting Electrical Engineers
150 Paularino Avenue Suite A120
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949.852.9995 • 949.852.1657 (fax)
fbaengr.com
FBA Job Number: 535050

REGISTERED PROFESSIONAL ENGINEER 10372 EXP. 09-30-24 ELECTRICAL STATE OF CALIFORNIA

05/01/2023

PREPARED UNDER THE SUPERVISION OF:

RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
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REGISTERED LANDSCAPE ARCHITECT Signature 05/30/2023 6/30/2023 STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
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2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

ROOF ELECTRICAL PLAN

COMMUNITY AQUATICS & SENIOR CENTER
E-3.02

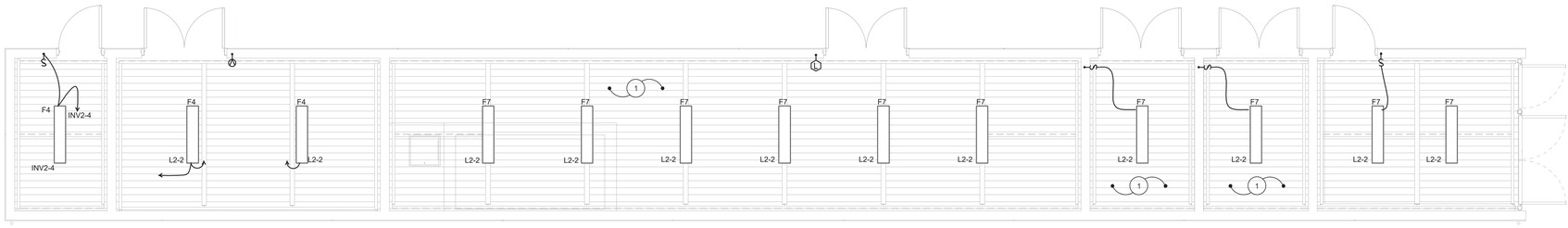
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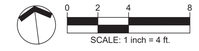
SHT. 157 OF 176 DWG. NO. 5-2606

REF FILES: I:\535\050\E-3.02_535050.DWG
PLOT TIME: 4/27/2023 6:21:35 AM

PLAN NOTES

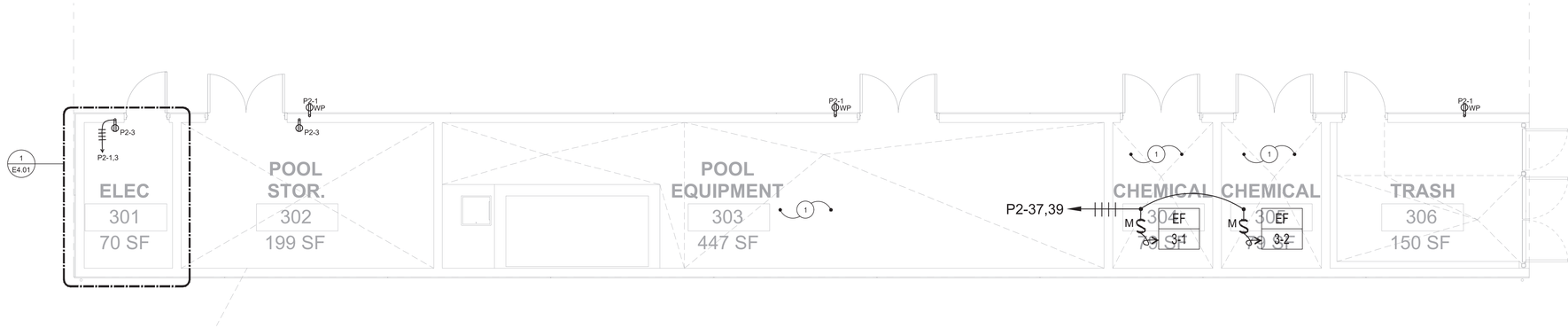
1. ELECTRICAL INSTALLATION SHALL BE SUITABLE FOR A CORROSIVE ENVIRONMENT.

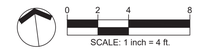




POOL BUILDING LIGHTING PLAN

SCALE: 1/4"=1'-0" | 2





POOL BUILDING POWER & SIGNAL PLAN

SCALE: 1/4"=1'-0" | 1

GENERAL NOTES

1. REFER TO TYPICAL LIGHTING CONTROL DIAGRAMS & NOTES ON E0.02.
2. FOR CLARITY, BRANCH CIRCUIT CONDUIT & CONDUCTOR REQUIREMENTS HAVE NOT BEEN SHOWN ON PLANS FOR NORMAL & EMERGENCY LIGHTING. FOR LIGHTING THROUGHOUT ALL SPACES, PROVIDE CONDUIT AND CONDUCTORS IN ACCORDANCE WITH ELECTRICAL SPECIFICATION . PROVIDE #12 CONDUCTORS UNLESS SPECIFICALLY NOTED OTHERWISE.
3. FOR EMERGENCY LIGHTING "EM" POWER BRANCH CIRCUITS, PROVIDE CONDUIT AND CONDUCTORS, SEPARATE FROM NORMAL POWER LIGHTING BRANCH CIRCUIT CONDUIT & CONDUCTORS. REFER TO NOTE #2 ABOVE. EMERGENCY LIGHTING BRANCH CIRCUITS SHALL HAVE SEPARATE NEUTRAL CONDUCTOR FOR EACH PHASE CONDUCTOR, SHARED NEUTRAL IS NOT ALLOWED. PROVIDE A NON-CONTROLLED (NON-SWITCHED) HOT CONDUCTOR, FROM EMERGENCY POWER SOURCE, FOR CONNECTION TO EXIT SIGNS.
4. COORDINATE WITH POOL ELECTRICAL PLANS, SPECIFICATIONS AND CONTRACTOR FOR ADDITIONAL ITEMS THAT MAY IMPACT THE ELECTRICAL SCOPE OF WORK AND ELECTRICAL INSTALLATION.

POWER & SIGNAL GENERAL NOTES:

1. ALL WALL MOUNTED DEVICE HEIGHTS SHALL BE VERIFIED WITH ARCHITECTURAL ROOM ELEVATIONS PRIOR TO ROUGH-IN.
2. PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE PROTECTED WITH AN APPROVED FIRE STOP SYSTEM EQUAL TO OR GREATER THAN THE RATING OF THE WALL BEING PENETRATED.
3. ALL DEVICES MOUNTED BACK-TO-BACK ON COMMON WALLS SHALL BE INSTALLED IN SEPARATE BOXES OFFSET 24-INCHES MINIMUM OR PROVIDED WITH PUTTY OR ANOTHER APPROVED SOUNDPROOF BACKING.
4. WHEN EXPOSED CEILING OR OPEN GRID CONDITIONS EXIST, CONTRACTOR SHALL PROVIDE:
   - A. ALL BRANCH CIRCUITS TO BE INSTALLED IN EMT.
   - B. ALL BRANCH CIRCUITS SHALL BE ROUTED PARALLEL TO BUILDING STRUCTURES AND RACKED NEATLY IN GROUPS OF MULTIPLE PATHWAYS.
   - C. ALL LOW VOLTAGE CABLES SHALL BE:
     1) INSTALLED IN EMT CONDUIT PATHWAYS OR
     2) INSTALLED NEATLY IN CABLE MANAGEMENT OPEN BASKET OR LADDER TYPE WIREWAY SUPPORTED INDEPENDENTLY FROM STRUCTURE ABOVE.

     EXPOSED LOW VOLTAGE CABLING IN OPEN TYPE CEILING APPLICATIONS INSTALLED ON D-RINGS, J-HOOKS OR SIMILAR APPARATUS WILL NOT BE ACCEPTED UNLESS APPROVED IN WRITING BY ARCHITECT/ENGINEER PRIOR TO ANY ROUGH-IN OR INSTALLATION. CONTRACTOR SHALL INCLUDE AN ALLOWANCE IN HIS BASE BID FOR THE INSTALLATION OF LOW VOLTAGE CABLES IN OPEN CEILING AS DESCRIBED.
5. EXPOSED CABLE/CONDUCTORS INSTALLED IN A PLENUM SPACE SHALL BE LISTED FOR SUCH ENVIRONMENT AND INSTALLATION SHALL CONFORM TO NEC OR CEC WHERE ADOPTED ARTICLE 300.22(C).
6. ALL RECEPTACLES MOUNTED AT 5-FEET-6-INCHES OR LOWER SHALL BE TAMPER-RESISTANT TYPE, EXCEPT RECEPTACLES FOR FIXED APPLIANCES AND/OR EQUIPMENT.
7. COORDINATE LOCATION OF ALL OUTLETS, RECEPTACLES, AND SWITCHES WITH ARCHITECT PRIOR TO ROUGH-IN.
8. GROUNDING AND BONDINGTERMINALS SHALL BE IDENTIFIED FOR USE IN WET AND CORROSIVE ENVIRONMENTS. FIELD-INSTALLED GROUNDING AND BONDING CONNECTIONS IN A DAMP, WET, OR CORROSIVE ENVIRONMENT SHALL BE COMPOSED OF COPPER, COPPER ALLOY, OR STAINLESS STEEL. THEY SHALL BE LISTED FOR DIRECT BURIAL USE." [680.7, 2019 CEC]

BRANCH CIRCUIT POWER GENERAL NOTES:

1. FOR CLARITY, SOME BRANCH CIRCUIT CONDUIT & CONDUCTOR REQUIREMENTS HAVE NOT BEEN SHOWN ON PLANS FOR POWER BRANCH CIRCUITS. FOR POWER THROUGHOUT ALL SPACES, PROVIDE CONDUIT AND CONDUCTORS IN ACCORDANCE WITH ELECTRICAL SPECIFICATIONS. PROVIDE #12 CONDUCTORS UNLESS SPECIFICALLY NOTED OTHERWISE.

SMOKE/FIRE DAMPER (SFD) GENERAL NOTES:

1. ELECTRICAL PLANS DO NOT SHOW ELECTRICAL REQUIREMENTS FOR SMOKE/FIRE DAMPERS (SFD). PROVIDE ALL CONDUIT, WIRE, J-BOXES, OUTLET BOXES, ETC. REQUIRED FOR A COMPLETE AND OPERABLE MECHANICAL INSTALLATION. CONNECT NO MORE THAN TEN DAMPERS PER CIRCUIT. REFER TO DETAIL 1/E-0.01.
2. REFER TO MECHANICAL PLANS FOR SMOKE/FIRE DAMPER LOCATIONS AND QUANTITIES.
3. PROVIDE QUANTITY OF AREA AND/OR DUCT SMOKE DETECTORS AS REQUIRED.
4. POWER FOR SMOKE/FIRE DAMPERS TO BE CONTROLLED BY FIRE ALARM RELAY OPERATED BY FIRE ALARM PANEL. CONTACT OF RELAY TO OPEN WITH FIRE ALARM CONDITION DISCONNECTING POWER FROM DAMPERS.

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UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:

BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:

FBA Engineering
Consulting Electrical Engineers
150 Paularino Avenue Suite A120
Costa Mesa, CA 92626
949.852.9995 • 949.852.1657 (fax)
fbaengr.com
FBA Job Number: 535050

REGISTERED PROFESSIONAL ENGINEER — No. 10372 — EXP. 09-30-24 — ELECTRICAL — STATE OF CALIFORNIA

05/01/2023

PREPARED UNDER THE SUPERVISION OF:

RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

LICENSED LANDSCAPE ARCHITECT — Signature — 05/30/2023 — Renewal 08/31/2023 — STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
POOL BUILDING LIGHTING, POWER & SIGNAL PLANS
COMMUNITY AQUATICS & SENIOR CENTER
E-3.03

	INITAL	DATE	APPROVED BY:
DESIGNED BY	SR	11/14/2022	
DRAWN BY	SR	06/18/2023	DATE
CHECKED BY	BZ	06/29/2023	DIRECTOR OF PUBLIC WORKS

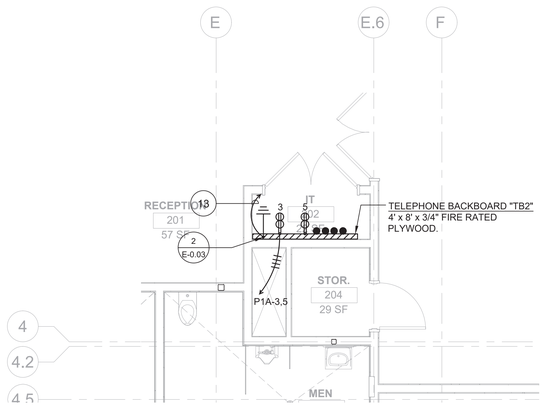
SHT. 158 OF 176 DWG. NO. 5-2606

FBA Engineering / Plot Date: 6/27/2023 6:21 AM / Plotted by: Steve Roth / Drawing Location: I:\535\050\E-3.03_535050.dwg

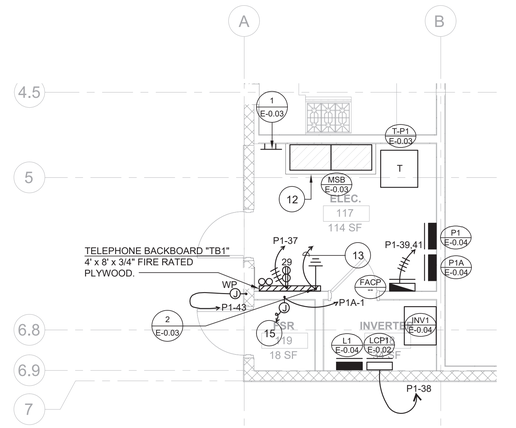
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PLOT TIME: 4/27/2023 6:21:33 AM

PLAN NOTES

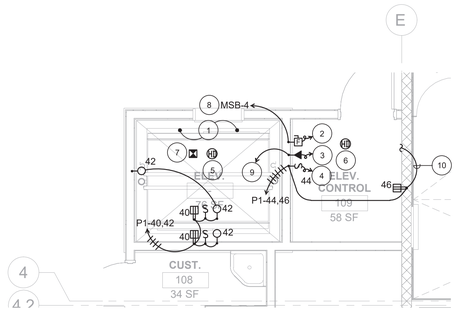
1. LOCATE DEVICES IN ELEVATOR PIT/SHAFT PER ELEVATOR SUPPLIER REQUIREMENTS. LIGHT FIXTURE TO BE WALL MOUNTED, 2-FT, 4,000 LUMEN LED, VAPORTITE WITH HIGH IMPACT LENS AND WET LOCATION LISTED. METALUX #2VT2-LD5-4-DR-UNV-L840-CDI-WL OR EQUAL.
2. CONNECT TO ELEVATOR IN ACCORDANCE WITH THE ELEVATOR MANUFACTURER REQUIREMENTS. VERIFY EXACT LOCATION WITH ELEVATOR SUPPLIER.
3. CONNECT TO ELEVATOR FOR CAR EMERGENCY PHONE. VERIFY EXACT LOCATION WITH ELEVATOR SUPPLIER.
4. 120-VOLT, 20-AMP, SINGLE-PHASE, LOCKABLE, FUSED S.P.S.T. SWITCH FOR ELEVATOR CAR LIGHTS AND BLOWER WITH CONDUIT AND WIRE EXTENDED TO STUDS ON EACH ELEVATOR CONTROLLER. VERIFY EXACT LOCATION WITH ELEVATOR SUPPLIER.
5. HEAT DETECTOR IN ELEVATOR SHAFT LOCATED WITHIN 2'-0" PF SPRINKLER HEAD CONNECT TO FIRE ALARM SYSTEM AND TO SHUNT TRIP CIRCUIT BREAKER TO SHUT-OFF POWER TO ELEVATOR WHEN DETECTOR IS ACTIVATED. PROVIDE ACCESS FROM OUTSIDE SHAFT TO SERVICE DETECTOR.
6. HEAT DETECTOR IN ELEVATOR MACHINE ROOM LOCATED WITHIN 2'-0" OF EVERY SPRINKLER HEAD. VERIFY LOCATIONS AND QUANTITIES WITH FIRE PROTECTION DRAWINGS. CONNECT TO FIRE ALARM SYSTEM AND TO SHUNT TRIP CIRCUIT BREAKER TO SHUT-OFF POWER TO ELEVATOR WHEN DETECTOR IS ACTIVATED.
7. SMOKE DETECTOR LOCATED IN ELEVATOR SHAFT FOR ELEVATOR RECALL. PROVIDE ACCESS TO DETECTOR FROM OUTSIDE SHAFT.
8. REFER TO SINGLE LINE DIAGRAM, SHEET E-0.03 FOR FEEDER REQUIREMENTS.
9. 3/4"C.O. TO TELEPHONE BACKBOARD IN 2nd FLOOR IT CLOSET.
10. UP TO LIGHT FIXTURE IN ROOM. REFER TO E-2.01 FOR CONTINUATION.
11. DOOR SHALL OPEN IN THE DIRECTION OF EGRESS FROM ROOM AND BE PROVIDED WITH PANIC HARDWARE.
12. 3"H. CONCRETE HOUSEKEEPING PAD EXTENDING 3" BEYOND EQUIPMENT FOOTPRINT.
13. 3/4"-1#6 TO UFER GROUND BUS. SEE DETAIL 1/E-0.03.
14. 3/4"-1#6 TO POOL BUILDING GROUND ELECTRODE.
15. CONNECT AS REQUIRED TO TRAP PRIMER. VERIFY LOCATION & REQUIREMENTS WITH PLUMBING.



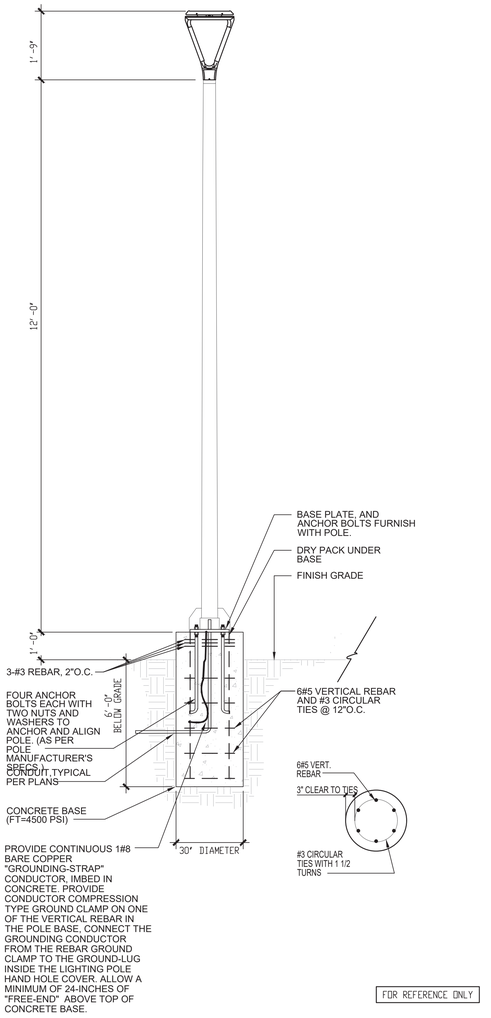
ENLARGED ELECTRICAL IT ROOM PLAN | SCALE: 1/4"=1'-0" | 4



ENLARGED ELECTRICAL ROOM PLAN | SCALE: 1/4"=1'-0" | 1

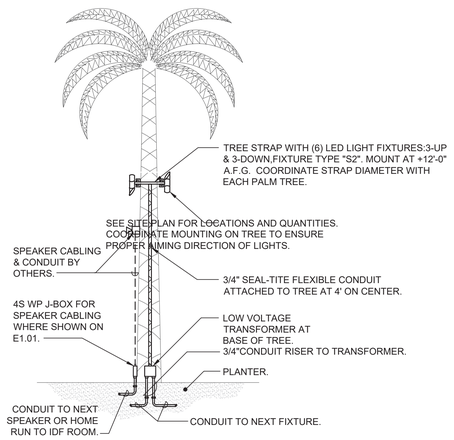


ENLARGED ELEVATOR DETAIL | SCALE: 1/4"=1'-0" | 2

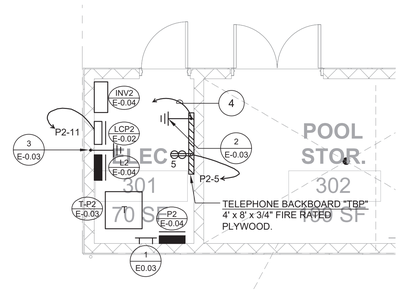


FOR REFERENCE ONLY

FIXTURE TYPE "S3" POLE BASE DETAIL | SCALE: NONE | 6



FIXTURE TYPE "S2" MOUNTING DETAIL | SCALE: NONE | 5



POOL BLDG. ENLARGED ELECTRICAL ROOM PLAN | SCALE: 1/4"=1'-0" | 3

FBA Engineering / Plot Date: 6/27/2023 6:21 AM / Plotted by: Steve Roth / Drawing Location: I:\535\050\E-4.01_535050.dwg

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UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:

BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:

FBA Engineering
Consulting Electrical Engineers
150 Paularino Avenue Suite A120
Costa Mesa, CA 92626
949.852.9995 • 949.852.1657 (fax)
fbaengr.com
FBA Job Number: 535050

REGISTERED PROFESSIONAL ENGINEER — No. 10372 — 09-30-24 — ELECTRICAL — STATE OF CALIFORNIA
05/01/2023

PREPARED UNDER THE SUPERVISION OF:

RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

LICENSED LANDSCAPE ARCHITECT — No. 5004 — 04/30/2023 — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

ELECTRICAL DETAILS

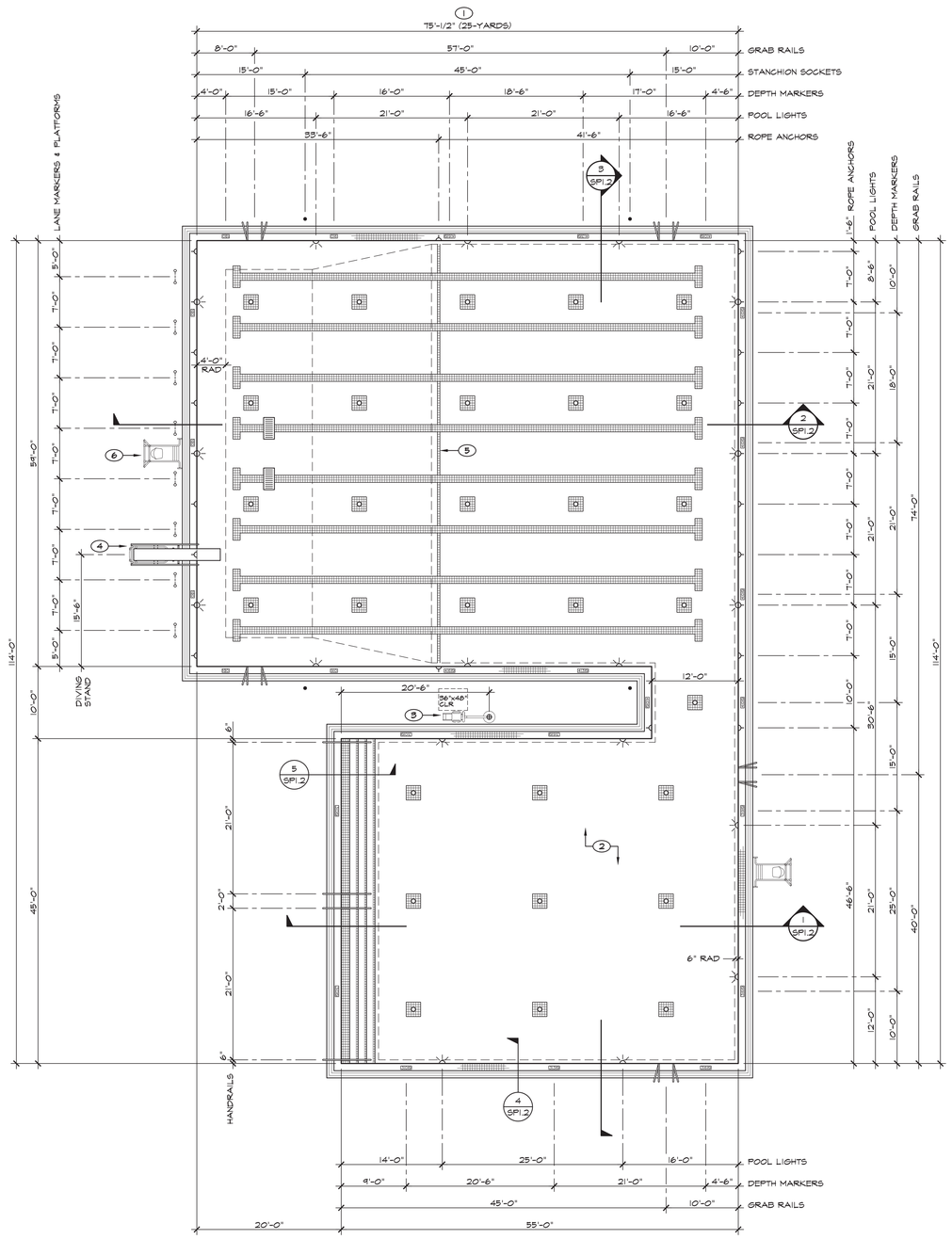
COMMUNITY AQUATICS & SENIOR CENTER
E-4.01

	INITAL	DATE
DESIGNED BY	SR	11/14/2022
DRAWN BY	SR	06/18/2023
CHECKED BY	BZ	06/29/2023

APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS

SHT. 159 OF 176 DWG. NO. 5-2606

REF PATH: I:\535\050\E-4.01_535050.DWG
PLOT TIME: 6/27/2023 6:21:37 AM



SWIMMING POOL PLAN

SCALE: 1/8" = 1'-0"

NORTH

KEYED NOTES

1. FINISHED DIMENSION OF POOL SHALL BE 75.04' MIN & 75.08' MAX. THIS TOLERANCE APPLIES TO ALL POINTS ON THE TURNING WALL FROM WATERLINE TO 5'-0" BELOW.
2. 1/2" MIN WHITE PLASTER FINISH
3. DISABLED ACCESS LIFT, SEE 5/SP2.1
4. 3/4 METER DIVING STAND, SEE 10/SP2.1
5. 4" WIDE SLIP-RESISTANT RED SLOPE BREAK TILE BAND
6. PORTABLE LIFEGUARD CHAIR (TYP 2)

GENERAL NOTES

1. SET GUTTER CAP TILE LEVEL WITHIN A TOLERANCE OF ± 0.05" AROUND PERIMETER OF POOL.
2. DIMENSIONS ARE TYP FOR OPPOSITE SIDE OF POOL UNO.
3. SEE SHEET SP4.1 FOR FLOOR INLET & MAIN DRAIN DIMENSIONS.
4. SEE SHEET SP4.1 FOR SAFETY SIGNS & SAFETY EQUIPMENT LOCATIONS.

SYMBOLS

SYMBOL	DESCRIPTION	REFERENCE
	DEPTH MARKER (TYP 26)	1/SP2.1
	ROPE ANCHOR (TYP 22)	3/SP2.1
	GRAB RAILS (TYP 5 PR)	4/SP2.1
⊕	DISABLED LIFT SOCKET	5/SP2.1
	STARTING PLATFORM ANCHOR (TYP 8)	6/SP2.1
•	STANCHION SOCKET (TYP 4)	7/SP2.1
	POOL LIGHT (TYP 18)	8/SP2.1
	BLACK TILE LANE MARKER & TURN TARGETS (TYP 8)	9/SP2.1
	FLOOR INLET W/ WHITE TILE (TYP 30)	1/SP4.3
	MAIN DRAIN GRATE (TYP 2)	2/SP4.3

DECK | POOL

POOL DATA

1. SURFACE AREA = 7,020 SQ FT
2. PERIMETER = 464 FT
3. VOLUME = 264,000 GALLONS
4. TURNOVER RATE = 850 GPM (5.2 HOURS)
5. FILTER AREA = 700 SQ FT (1.2 GPM/SQ FT)
6. MAIN DRAIN CAPACITY = 2,480 GPM
7. 10" SUCTION PIPE VELOCITY = 3.8 FT/SEC
8. 8" RETURN PIPE VELOCITY = 5.9 FT/SEC
9. SURGE CAPACITY = 7,200 GALLONS (5,100 GALLONS IN CHAMBER & 2,100 IN GUTTER)
10. UNDERWATER LIGHT LEVEL = 1.3 WATTS / SQ FT
11. BATHER LOAD = 351 PEOPLE

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UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:

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BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508

CONSULTANT:

JONES & MADHAVAN ARCHITECTURE ENGINEERING
100 EAST THOUSAND OAKS BOULEVARD, SUITE 211
THOUSAND OAKS, CALIFORNIA 91360
TEL 805.777.8449 • FAX 805.777.8489

LICENSED ARCHITECT MANOHAR M. MADHAVAN C-25855 REN. 11-30-23 STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:

RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
(949) 493-2690 fax
(949) 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT RYAN J. MCCARTHY 5148 07-31-2023 STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

SWIMMING POOL PLAN

COMMUNITY AQUATICS & SENIOR CENTER

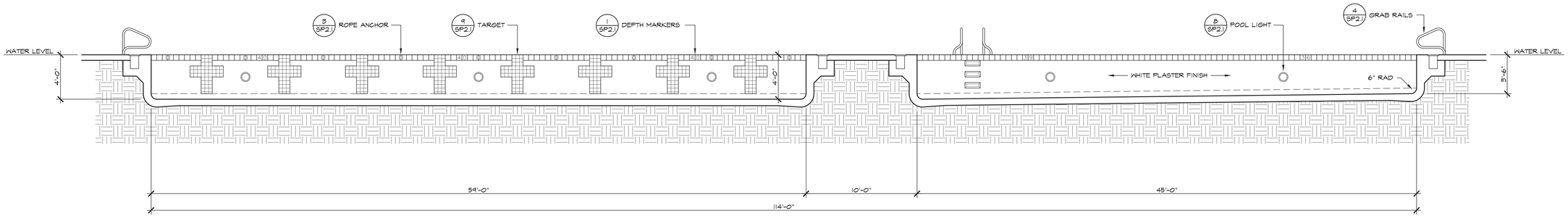
SP1.1

	INITIAL	DATE
DESIGNED BY	NM	06/30/2023
DRAWN BY	JMAE	06/30/2023
CHECKED BY	DJ	06/30/2023

APPROVED BY:

DATE DIRECTOR OF PUBLIC WORKS

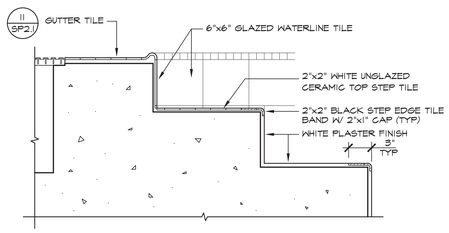
SHT. 160 OF 176 DWG. NO. 5-2606



SWIMMING POOL SECTION

SCALE: 1/4" = 1'-0"

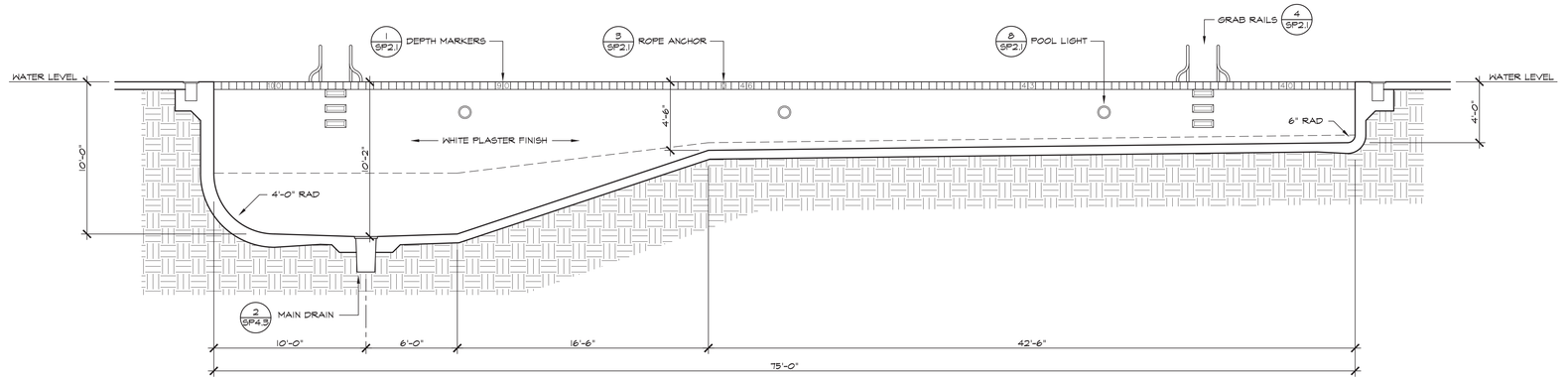
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STAIR TILE

SCALE: 1 1/2" = 1'-0"

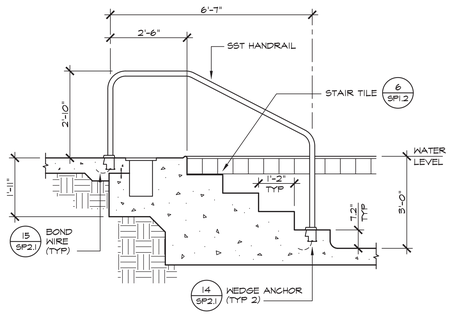
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SWIMMING POOL SECTION

SCALE: 1/4" = 1'-0"

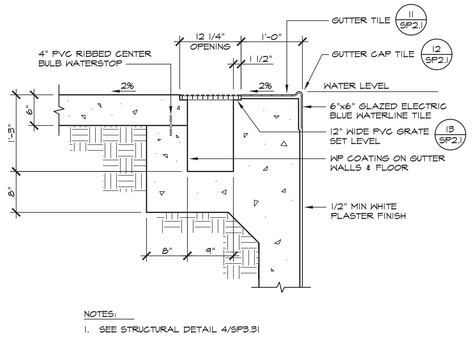
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STAIR SECTION

SCALE: 1/2" = 1'-0"

5



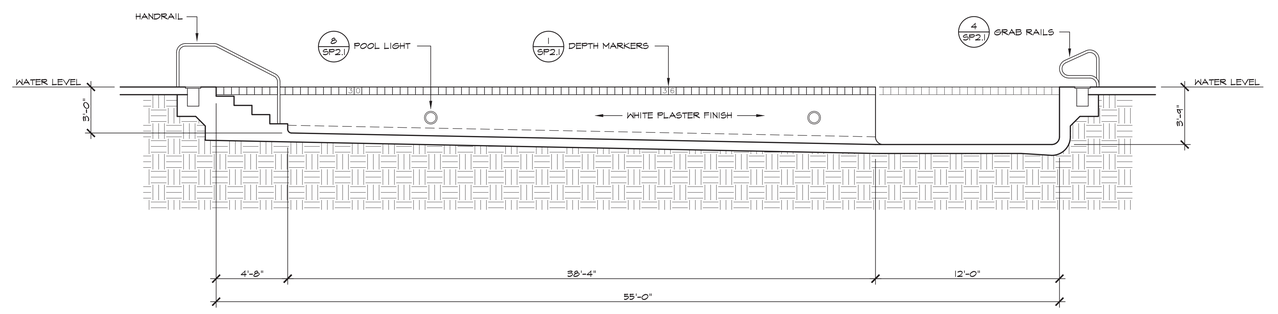
NOTES:

1. SEE STRUCTURAL DETAIL 4/SP3.31

GUTTER SECTION

SCALE: 1" = 1'-0"

4



SWIMMING POOL SECTION

SCALE: 1/4" = 1'-0"

1

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AT LEAST TWO DAYS BEFORE YOU DIG

UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:

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BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:

JONES & MADHAVAN ARCHITECTURE ENGINEERING

100 EAST THOUSAND OAKS BOULEVARD, SUITE 211
THOUSAND OAKS, CALIFORNIA 91360
TEL 805.777.8449 = FAX 805.777.8489

LICENSED ARCHITECT NAGAMPA M. MADHAVAN C-25855 REN. 11-30-23 STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:

RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

LICENSED LANDSCAPE ARCHITECT DAVID JUNG 5616 STATE OF CALIFORNIA 05/31/2023 RENEWAL 05/31/2025

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA

DEPARTMENT OF PUBLIC WORKS - ENGINEERING

SWIMMING POOL SECTIONS

COMMUNITY AQUATICS & SENIOR CENTER

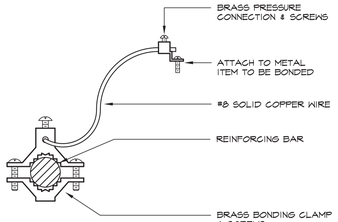
SP1.2

	INITIAL	DATE
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DRAWN BY	JMAE	06/30/2023
CHECKED BY	DJ	06/30/2023

APPROVED BY:

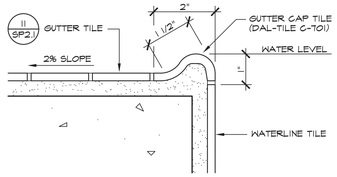
DATE DIRECTOR OF PUBLIC WORKS

SHT. 161 OF 176 DWG. NO. S-2606



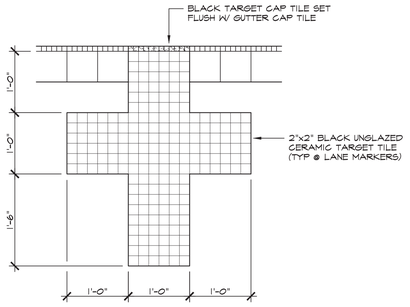
BOND WIRE 15

SCALE: NONE



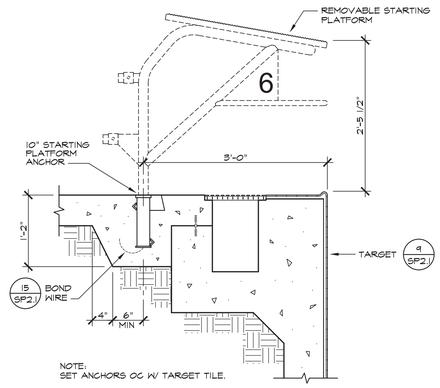
GUTTER CAP TILE 12

SCALE: HALF SIZE



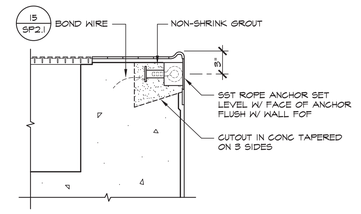
TARGET 9

SCALE: 1" = 1'-0"



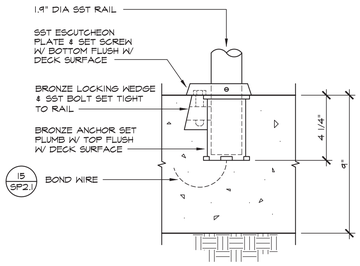
PLATFORM ANCHOR 6

SCALE: 1" = 1'-0"



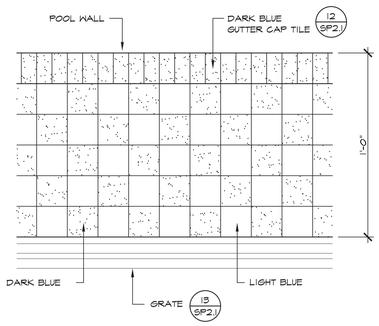
ROPE ANCHOR 3

SCALE: 1 1/2" = 1'-0"



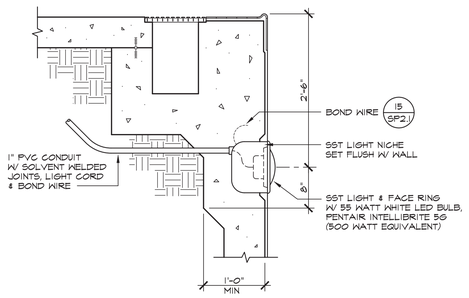
WEDGE ANCHOR 14

SCALE: 3" = 1'-0"



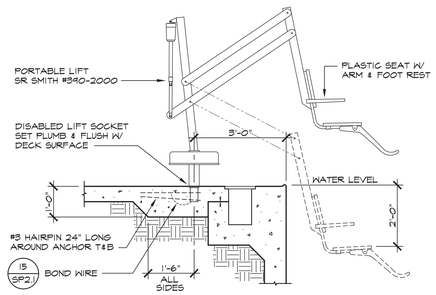
GUTTER TILE 11

SCALE: 3" = 1'-0"



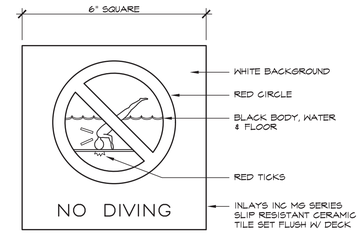
POOL LIGHT 8

SCALE: 1" = 1'-0"



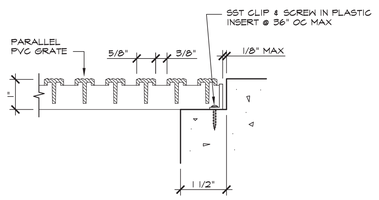
DISABLED LIFT 5

SCALE: 1/2" = 1'-0"



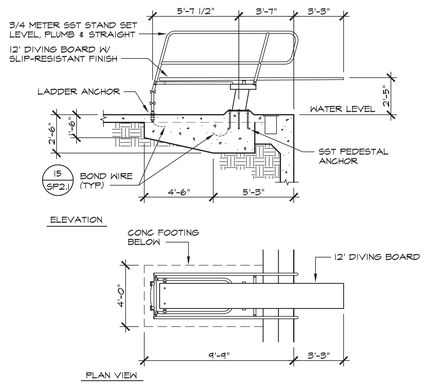
NO DIVING GRAPHIC 2

SCALE: HALF SIZE



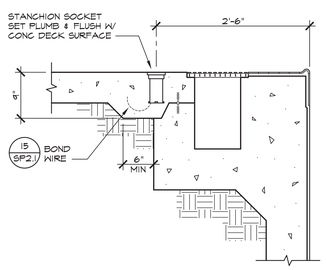
GUTTER GRATE 13

SCALE: HALF SIZE



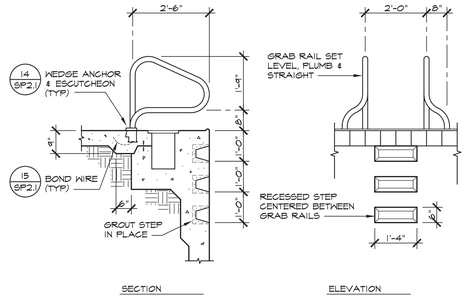
DIVING STAND 10

SCALE: 1/4" = 1'-0"



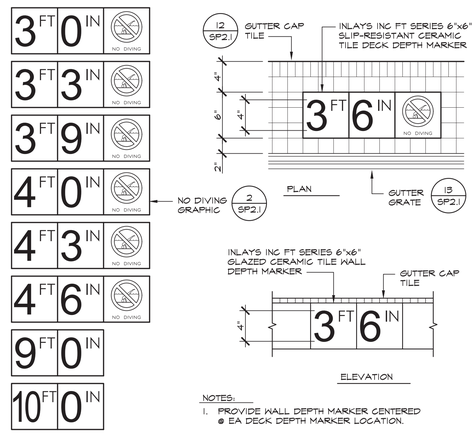
STANCHION SOCKET 7

SCALE: 1" = 1'-0"



GRAB RAILS 4

SCALE: 1/2" = 1'-0"



DEPTH MARKERS 1

SCALE: 1 1/2" = 1'-0"

DIGALERT
DIAL TOLL FREE
1-800-422-4133
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:

BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. SD-15 ELEV. = 43.508

CONSULTANT:

JONES & MADHAVAN ARCHITECTURE ENGINEERING
100 EAST THOUSAND OAKS BOULEVARD, SUITE 211
THOUSAND OAKS, CALIFORNIA 91360
TEL 805.777.8449 - FAX 805.777.8489

LICENSED ARCHITECT MADHAVAN M. MADHAVAN C-25855 REN. 11-30-25 STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:

RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
(949) 493-2690 fax
(949) 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT RYAN JAMES MAHAN LICENSE NO. 6482 STATE OF CALIFORNIA 07/31/2023 RENEWAL 08/31/2025

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
SWIMMING POOL DETAILS
COMMUNITY AQUATICS & SENIOR CENTER
SP2.1

	INITIAL	DATE
DESIGNED BY	NM	06/30/2023
DRAWN BY	JMAE	06/30/2023
CHECKED BY	DJ	06/30/2023

APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS
SHT. 162 OF 176
DWG. NO. S-2606

ABBREVIATIONS

AB	ANCHOR BOLT
ADDL	ADDITIONAL
ALT	ALTERNATE
APA	AMERICAN PLYWOOD ASSOCIATION
ARCH	ARCHITECTURAL
AWPA	AMERICAN WOOD PRESERVERS ASSOCIATION
B	BOTTOM
BLKG	BLOCKING
BM	BEAM
BN	BOUNDARY NAIL
BOF	BOTTOM OF FOOTING
BRG	BEARING
BTN	BETWEEN
BOT	BOTTOM
CBC	CALIFORNIA BUILDING CODE
CIP	CAST-IN-PLACE
CJ	CEILING JOIST
CL	CENTER LINE
CLR	CLEAR
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
DBL	DOUBLE
DF	DOUGLAS FIR/LARCH
DL	DEAD LOAD
DP	DEEP
DIA	DIAMETER
DIM	DIMENSION
DO	DITTO (REPEAT)
DWG	DRAWING
DWL	DOWEL
E	EXISTING
EA	EACH
EF	EACH FACE
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMBED	EMBEDMENT
EN	EDGE NAIL
EQ	EQUAL OR EQUIVALENT
ES	EACH SIDE
EW	EACH WAY
EXT	EXTERIOR
FA	FRAMING/SHEAR CONNECTOR
FDN	FOUNDATION
FF	FINISHED FLOOR
FJ	FLOOR JOIST
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FRM	FRAMING
FRT	FIRE-RETARDANT TREATED
FS	FAR SIDE
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GLB	GLUED LAMINATED BEAM
GR	GRADE
H	HORIZONTAL
HDR	HEADER
HGR	HANGER
HT	HEIGHT
HORIZ	HORIZONTAL
HSH	HORIZONTALLY SLOTTED HOLES
ID	INSIDE DIAMETER
IF	INSIDE FACE
I JST	I-JOIST
INT	INTERIOR
IOR	INSPECTOR OF RECORD
JST	JOIST
JT	JOINT
LDGR	LEDGER
LL	LIVE LOAD
LSL	TIMBERSTRAND
LTWT	LIGHT WEIGHT
LVL	MICROLLAM
MATL	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MTL	METAL
NIC	NOT IN CONTRACT
NO	NUMBER
NS	NEAR SIDE
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
ORIG	ORIGINAL
OSB	ORIENTED STRAND BOARD
PL	PLATE
PLCS	PLACES
PLYWD	PLYWOOD
PSL	PARALLAM
PT	PRESERVATIVE TREATED
PW	PLATE WASHER
R	RADIUS
REF	REFERENCE
REINF	REINFORCEMENT
REQD	REQUIRED
RF	ROOF
RT	RAFTER CROSSTIE
RR	ROOF RAFTERS
RW	RETAINING WALL
SCHED	SCHEDULE
SECT	SECTION
SEOR	STRUCTURAL ENGINEER OF RECORD
SEP	SEPARATION
SIM	SIMILAR
SN	SHEAR NAIL
SOG	SLAB ON GRADE
SP	SEE PLAN
SPEC	SPECIFICATION
SQ	SQUARE
STD	STANDARD
STGR	STAGGER
STIFF	STIFFENERS
STR	STRUCTURAL
STR I	STRUCTURAL I
T	TOP
T&B	TOP & BOTTOM
T&G	TONGUE & GROOVE
THK	THICKNESS/THICK
THR	THREADED
TN	TOENAIL
TOP	TOP OF PARAPET
TOS	TOP OF SLAB
TOW	TOP OF WALL
TYP	TYPICAL
UBC	UNIFORM BUILDING CODE
UNO	UNLESS NOTED OTHERWISE
V	VERTICAL
VERT	VERTICAL
VSH	VERTICAL SLOTTED HOLES
WD	WOOD
WP	WATERPROOF OR WORK POINT
WPJ	WEAKENED PLANE JOINT
WT	WEIGHT
WWF	WELDED WIRE FABRIC
W/	WITH
W/O	WITH OUT
WO	WHERE OCCURS
XS	EXTRA STRONG (STEEL PIPE)
XXS	DOUBLE EXTRA STRONG (STEEL PIPE)

GENERAL:

THE STRUCTURAL CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE STRUCTURE IS DESIGNED TO BE A STABLE UNIT AS A COMPLETED WHOLE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DESIGN, ERECT AND INSPECT TEMPORARY SHORES, BRACES, ETC. TO SUPPORT THE STRUCTURE AGAINST ALL ANTICIPATED LOADS INCLUDING GRAVITY, WIND AND LATERAL EARTH PRESSURE UNTIL ITS COMPLETION. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THESE METHODS OF CONSTRUCTION. CONSTRUCTION MATERIAL SHALL BE PLACED ON FRAMED FLOORS AND ROOFS SUCH THAT THE DESIGN LIVE LOADS ARE NOT EXCEEDED.

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND SITE CONDITIONS PRIOR TO STARTING CONSTRUCTION. RESOLVE ANY DISCREPANCY WITH THE ARCHITECT.

WORKMANSHIP AND MATERIALS SHALL COMPLY WITH THE 2019 CALIFORNIA BUILDING CODE AND ALL OTHER APPLICABLE REGULATIONS.

NOTES AND DETAILS ON THE DRAWINGS TAKE PRECEDENCE OVER THE GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS. "TYPICAL" DETAILS ARE NOT FLAGGED ON THE DRAWINGS, BUT APPLY UNLESS NOTED OTHERWISE.

APPROVED FABRICATORS SHALL BE LICENSED BY GARDENA CITY BUILDING DEPARTMENT.

COORDINATION:

ALL DRAWINGS ARE CONSIDERED TO BE PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE DRAWINGS AND SPECIFICATIONS AMONG THE SUBCONTRACTORS PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES THAT ARE FOUND SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO START OF CONSTRUCTION. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY CODE REQUIREMENTS SHALL BE CORRECTED BY THE CONTRACTOR AT HIS OWN EXPENSE AND AT NO EXPENSE TO THE OWNER OR ARCHITECT.

COORDINATION SHALL INCLUDE, BUT NOT BE LIMITED TO, VERIFYING THE LOCATION AND WEIGHT OF ALL MECHANICAL AND ELECTRICAL EQUIPMENT AS WELL AS THE SIZE AND LOCATION OF ALL MECHANICAL OPENINGS IN ROOFS, FLOORS AND WALLS. UNLESS OTHERWISE NOTED ON THE DRAWINGS, DO NOT PENETRATE ANY STRUCTURAL ELEMENTS SUCH AS BEAMS, COLUMNS, WALLS, SLABS, ETC. WITHOUT PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER THROUGH THE ARCHITECT.

COORDINATION SHALL INCLUDE, BUT NOT BE LIMITED TO, DETERMINING THE LOCATION OF ALL EXISTING UTILITY LINES THAT MAY INTERFERE WITH THE INSTALLATION OF THE NEW STRUCTURAL ELEMENTS. THE CONTRACTOR SHALL INFORM THE OWNER IF INTERFERENCE IS ENCOUNTERED. THE OWNER WILL DETERMINE IF THE LINES ARE TO BE REMOVED OR RELOCATED.

SHOP DRAWINGS:

SHOP DRAWING SUBMITTAL TO THE ENGINEER ARE REQUIRED FOR ALL STRUCTURAL WORK, UNLESS OTHERWISE AGREED TO BY THE ARCHITECT/ENGINEER. NO WORK SHALL PROCEED WITHOUT THE REVIEW AND APPROVAL OF SHOP/ERECTION/LAYOUT DRAWINGS BY THE ARCHITECT AND ENGINEER. ALL SUBMITTALS SHALL BE MADE IN A TIMELY MANNER ALLOWING ADEQUATE TIME AS NEEDED BY THE ARCHITECT AND ENGINEER FOR REVIEW.

THE CONTRACTOR SHALL REVIEW AND APPROVE ALL SHOP DRAWINGS PRIOR TO ENGINEERING REVIEW. SUBMISSIONS FOR ENGINEERING REVIEW SHALL INCLUDE A REPRODUCIBLE AND ONE COPY; REPRODUCIBLE WILL BE MARKED AND RETURNED.

INSPECTIONS:

THE OWNER SHALL EMPLOY AN INSPECTOR TO PROVIDE INSPECTION PER CBC SECTION 1701 AND LOCAL CODES. ALL SPECIAL INSPECTORS SHALL BE APPROVED BY GARDENA CITY BUILDING DEPARTMENT.

CODE:

2019 CALIFORNIA BUILDING CODE

DESIGN LOADS:

POOL WALLS:

1. AT REST PRESSURE	88 PCF (TRIANGULAR)
2. SURCHARGE (100 PSF x0.30 AT-REST)	30 PSF (UNIFORM AT 8 FT. IN DEPTH)
3. SEISMIC EARTH LOAD	35 PCF (INVERTED TRIANGULAR AT RETAINING GREATER THAN 6 FT.)

SEISMIC:

SITE CLASS	D
Sds	1.196

FOUNDATION:

GEOTECHNICAL REPORT BY: SOUTHERN CALIFORNIA GEOTECHNICAL
22885 SAVI RANCH PARKWAY, SUITE E
YORBA LINDA, CA 92887

PROJECT NO. 21G242-1
NOVEMBER 18, 2021

ALLOWABLE SOIL BEARING PRESSURE:
2000 PSF NET ALLOWABLE SOIL BEARING PRESSURE
18" MIN. DEPTH, SBC MAY BE INCREASED BY 1/3 FOR SEISMIC

BACKFILL NOTES:

DO NOT PLACE BACKFILL BEHIND POOL WALLS BEFORE CONCRETE HAS REACHED FULL DESIGN STRENGTH. BACKFILL OPERATION SHALL NOT IMPART LATERAL PRESSURE AGAINST POOL WALLS. USE VERTICAL COMPACTION EQUIPMENT UNDER DIRECTION OF GEOTECHNICAL ENGINEER. WHEEL OR TRACK COMPACTION OF SOIL BEHIND POOL WALL IS NOT ALLOWED WITHOUT ADEQUATE TEMPORARY BRACING. THE CONTRACTOR SHALL PROVIDE FOR DESIGN, PERMITS AND INSTALLATION OF SUCH BRACING.

CONCRETE:

CONCRETE CONSTRUCTION SHALL CONFORM WITH THE LATEST EDITION OF ACI 301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" AND ACI 318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE". SUBMIT MIX DESIGNS FOR EACH CLASS OF CONCRETE.

CONCRETE CONTAINING SUPERPLASTICIZING ADMIXTURE SHALL HAVE A SLUMP NOT EXCEEDING 3", TO BE FIELD VERIFIED, PRIOR TO ADDING ADMIXTURE, AND NOT EXCEEDING 8" AT PLACEMENT. ADDITION OF WATER TO A MIX WITH INSUFFICIENT SLUMP WILL NOT BE PERMITTED.

MECHANICALLY VIBRATE ALL CONCRETE WHEN PLACED, EXCEPT THAT SLABS ON GRADE NEED BE VIBRATED ONLY AROUND UNDER-FLOOR DUCTS, ETC.

SHOT PINS AT CURBS AND SLAB EDGES ARE NOT ALLOWED. THE USE OF EXPANSION ANCHORS AT CURBS IS NOT ALLOWED.

MINIMUM CONCRETE DESIGN STRENGTH SHALL BE AS FOLLOWS:

FOOTINGS	4000 PSI @ 28 DAYS	HARDROCK (145 PCF)
SLAB-ON-GRADE	4000 PSI @ 28 DAYS	HARDROCK
STRUCTURAL SLAB	4000 PSI @ 28 DAYS	HARDROCK
CONC. WALL	4000 PSI @ 28 DAYS	HARDROCK

REINFORCING STEEL:

DEFORMED BARS:

ASTM A615 GRADE 40 FOR #3 AND GRADE 60 FOR #4 AND LARGER. REINFORCING TO BE WELDED SHALL BE ASTM A706, GRADE 60, LOW ALLOY.

CLEAR CONCRETE COVERAGE (APPLIES UNLESS NOTED OTHERWISE):
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH ---------- 3"
FORMED CONCRETE EXPOSED TO EARTH OR WEATHER ---------- 2"
FORMED CONCRETE NOT EXPOSED TO EARTH OR WEATHER ---------- 1 1/2"
FROM TOP SURFACE OF SLAB ON GRADE ---------- 1 1/2"
CONCRETE FILL OVER METAL DECK ---------- 1"

WELDING:

UNLESS NOTED OTHERWISE, WELDING OF REINFORCING STEEL IS PROHIBITED. WHERE WELDING IS NOTED, WELD IN ACCORDANCE WITH AWS D1.1 USING E90 SERIES ELECTRODES. SUBMIT MILL TEST REPORTS ON THE REINFORCING TO BE WELDED AND THE PROPOSED WELDING PROCEDURE. (WPS) IN CONFORMANCE W/ 2001 CBC & AWS D1.4.

LAP SPLICES IN CONCRETE:

SEE TYPICAL DETAIL FOR LAP SPLICES IN CONCRETE BEAMS, WALLS, SLABS AND FOOTINGS. (UNLESS NOTED OTHERWISE, LAP SPLICES IN CONCRETE BEAMS, WALLS, SLABS and FOOTINGS SHALL BE CLASS "B" TENSION LAP SPLICES AND LAP SPLICES IN CONCRETE COLUMNS SHALL BE STANDARD COMPRESSION LAP SPLICES PER LATEST EDITION OF ACI 318. STAGGER ALTERNATE SPLICES A MINIMUM OF ONE LAP LENGTH.) LAPS IN WELDED WIRE FABRIC SHALL BE MADE SO THAT THE OVERLAP MEASURED BETWEEN OUTERMOST CROSS WIRES OF EACH FABRIC SHEET IS NOT LESS THAN THE SPACING OF CROSS WIRES PLUS 2 INCHES. ALL SPLICE LOCATIONS SUBJECT TO APPROVAL.

PROVIDE BENT CORNER BARS TO MATCH AND LAP WITH HORIZONTAL BARS AT CORNERS AND INTERSECTIONS OF FOOTINGS AND WALLS. SPACING SHOWN FOR REINFORCING BARS ARE MAXIMUM ON CENTERS. ALL BARS PER CRSI SPECIFICATIONS AND HANDBOOK. DOWEL ALL VERTICAL REINFORCING TO THE FOUNDATION. CONCRETE COLUMN DOWEL EMBEDMENT SHALL BE A STANDARD COMPRESSION DOWEL EMBEDMENT LENGTH ACCORDING TO THE LATEST EDITION OF ACI 318. SECURELY TIE ALL BARS IN POSITION PRIOR TO PLACING CONCRETE. SUPPORT SLAB REINFORCEMENT WITH CONCRETE BLOCKS OR SUPPORT CHAIRS. REINFORCING SHALL NOT BE SUPPORTED BY STAKES DRIVEN INTO THE GROUND.

SHOTCRETE NOTES:

1. REINFORCING STEEL SHALL BE SECURELY TIED IN PLACE IN A MANNER THAT PREVENTS ANY MOVEMENT DURING THE WET MIX SHOTCRETING.
2. THE HEIGHT OF A LAYER SHALL BE LIMITED TO NOT MORE THAN THREE FEET AND A SUCCEEDING LAYER SHALL NOT BE PLACED IN LESS THAN THREE HOURS. NO SLOUGHING OR SAGGING SHALL BE PERMITTED.
3. REFER TO DRAWINGS FOR PLACEMENT OF DOWEL AND REINFORCEMENT.
4. REFER TO DRAWINGS FOR SHOTCRETE COLD JOINT DETAIL.
5. THE MINIMUM SLUMP SHALL BE ½" AND THE MAXIMUM SLUMP SHALL BE 2½". SLUMP SHALL BE MEASURED AT THE POINT OF DISCHARGE FROM THE MIXER, EXCEPT THE BUILDING INSPECTOR MAY REQUIRE SLUMP TESTS AT THE DISCHARGE POINT WHERE WATER MAY HAVE BEEN ADDED.
6. A CAPABLE NOZZLEMAN'S HELPER WITH AN AIR BLOW PIPE SHALL BE PROVIDED TO ASSIST THE NOZZLEMAN IN KEEPING ALL REBOUND BUILD-UP OUT OF THE WORK.
7. ADDITIONAL WORKERS MAY BE REQUIRED TO TAKE THE REBOUND FROM THE WORK IF THE REBOUND CANNOT BE REMOVED BY THE AIR BLOW PIPE.
8. NO KEYWAYS OR EMBEDMENTS SHALL BE PLACED IN FRONT FACE THAT WILL INTERFACE WITH THE STREAM FROM THE NOZZLE.
9. THE CONTRACTOR AGREES TO PROVIDE A DESIGNATED LIAISON BETWEEN HIS CREW, THE DEPUTY INSPECTOR AND THE BUILDING INSPECTOR.
10. THE DEPUTY INSPECTOR SHALL BE INTERVIEWED AND APPROVED BY DEPARTMENT REPRESENTATIVES PRIOR TO INSPECTING THE WORK AT THE JOB SITE AND ONE DEPUTY SHALL BE ASSIGNED TO EACH NOZZLE.
11. RIGID OR OTHER APPROVED BACKING SHALL BE PLACED AGAINST THE EARTH WHERE THERE IS ANY LIKELIHOOD OF SOIL BEING DISLODGED IN SUFFICIENT QUANTITY TO DAMAGE THE CONCRETE DURING THE APPLICATION OF WET MIX SHOTCRETE. RIGID OR OTHER APPROVED BACKING SHALL BE USED WHERE A VOID IN THE EMBANKMENT IS TO BE BRIDGED.
12. IN THE EVENT THAT A PREVIOUSLY PRESUMED SOLID EMBANKMENT SHOULD SLOUGH OR SHED DIRT IN SUFFICIENT QUANTITY TO DAMAGE THE CONCRETE, THE WET MIX SHOTCRETE PLACEMENT WORK IN THAT AREA SHALL CEASE UNTIL A RIGID BACKING IS INSTALLED AND ANY CONTAMINATED SHOTCRETE IS REMOVED.

GENERAL NOTES FOR STRUCTURAL OBSERVATION:

1. STRUCTURAL OBSERVATION IS REQUIRED FOR THE STRUCTURAL SYSTEM IN ACCORDANCE WITH 2019 CBC CHAPTER 17. STRUCTURAL OBSERVATION IS THE VISUAL OBSERVATION OF THE ELEMENTS AND CONNECTIONS OF THE STRUCTURAL SYSTEMS AT SIGNIFICANT CONSTRUCTION STAGES AND THE COMPLETED STRUCTURE FOR GENERAL CONFORMANCE TO THE APPROVED PLANS AND SPECIFICATIONS. STRUCTURAL OBSERVATION DOES NOT WAIVE THE RESPONSIBILITY FOR THE INSPECTIONS REQUIRED OF THE BUILDING INSPECTOR OR THE DEPUTY INSPECTOR.
2. THE OWNER SHALL EMPLOY A CIVIL OR STRUCTURAL ENGINEER OR ARCHITECT TO PERFORM THE STRUCTURAL OBSERVATION. THE ENGINEER OR ARCHITECT SHALL BE REGISTERED OR LICENSED IN THE STATE OF CALIFORNIA. THE DEPARTMENT OF BUILDING AND SAFETY RECOMMENDS THE USE OF THE ENGINEER OR ARCHITECT RESPONSIBLE FOR THE STRUCTURAL DESIGN WHEN THEY ARE INDEPENDENT OF THE CONTRACTOR.
3. THE STRUCTURAL OBSERVER SHALL PROVIDE EVIDENCE OF EMPLOYMENT BY THE OWNER. A LETTER FROM THE OWNER OR A COPY OF THE AGREEMENT FOR SERVICES SHALL BE SENT TO THE BUILDING INSPECTOR BEFORE THE FIRST SITE VISIT. THE STRUCTURAL OBSERVER SHALL ALSO INFORM THE OWNER OF THE REQUIREMENTS FOR A PRECONSTRUCTION MEETING AND SHALL PRESIDE OVER THIS MEETING.
4. THE OWNER OR OWNER'S REPRESENTATIVE SHALL COORDINATE AND CALL FOR A MEETING BETWEEN THE ENGINEER OR ARCHITECT RESPONSIBLE FOR THE STRUCTURAL DESIGN, STRUCTURAL OBSERVER, CONTRACTOR, AFFECTED SUBCONTRACTORS AND DEPUTY INSPECTORS. THE PURPOSE OF THE MEETING SHALL BE IDENTIFY THE MAJOR STRUCTURAL ELEMENTS AND CONNECTIONS THAT AFFECT THE VERTICAL AND LATERAL LOAD SYSTEMS OF THE STRUCTURE AND TO REVIEW SCHEDULING OF THE REQUIRED OBSERVATIONS. A RECORD OF THE MEETING SHALL BE INCLUDED IN THE FIRST OBSERVATION REPORT SUBMITTED TO THE BUILDING INSPECTOR.
5. THE STRUCTURAL OBSERVER SHALL PERFORM SITE VISITS AT THOSE STEPS IN THE PROGRESS OF THE WORK THAT ALLOW FOR CORRECTION OF DEFICIENCIES WITHOUT SUBSTANTIAL EFFORT OR UNCOVERING OF THE WORK INVOLVED. AT A MINIMUM, THE FOLLOWING SIGNIFICANT CONSTRUCTION STAGES REQUIRE A SITE VISIT AND AN OBSERVATION REPORT FROM THE STRUCTURAL OBSERVER.

   CONSTRUCTION STAGES ELEMENTS/CONNECTIONS TO BE OBSERVED

   a) PRIOR TO CONCRETE PLACEMENT/FOUNDATION REINFORCEMENT AND ANCHOR BOLTS (IF ANY)
   b) STRUCTURAL SLAB REINFORCEMENT
6. THE STRUCTURAL OBSERVER SHALL PREPARE A REPORT ON THE DEPARTMENT FOR EACH SIGNIFICANT STAGE OF CONSTRUCTION OBSERVED. THE ORIGINAL OF THE OBSERVATION REPORT SHALL BE SENT TO THE BUILDING INSPECTOR'S OFFICE AND SHALL BE SIGNED AND SEALED (WET STAMP) BY THE RESPONSIBLE STRUCTURAL OBSERVER. ONE COPY OF THE OBSERVATION REPORT SHALL BE ATTACHED TO THE APPROVED PLANS. THE COPY ATTACHED TO THE PLANS NEED NOT BE SEALED BUT SHALL BE SIGNED BY THE RESPONSIBLE STRUCTURAL OBSERVER OR THEIR DESIGNEE. COPIES OF THE REPORT SHALL ALSO BE GIVEN TO THE OWNER, CONTRACTOR, AND DEPUTY INSPECTOR.
7. A FINAL OBSERVATION REPORT MUST BE SUBMITTED WHICH SHOWS THAT ALL OBSERVED DEFICIENCIES WERE RESOLVED AND THE STRUCTURAL SYSTEM GENERALLY CONFORMS WITH THE APPROVED PLANS AND SPECIFICATIONS. THE DEPARTMENT OF BUILDING AND SAFETY WILL NOT ACCEPT THE STRUCTURAL WORK WITHOUT THIS FINAL OBSERVATION REPORT AND THE CORRECTION OF SPECIFIC DEFICIENCIES NOTED DURING NORMAL BUILDING AND DEPUTY INSPECTION.
8. THE STRUCTURAL OBSERVER SHALL SEND THE ORIGINAL OBSERVATION REPORT TO THE FOLLOWING INSPECTION OFFICE:

   INSPECTION GROUP NAME:
   STREET ADDRESS:

   CA, ZIP CODE:
9. WHEN THE OWNER ELECTS TO CHANGE THE STRUCTURAL OBSERVER OF RECORD, THE OWNER SHALL:

   A. NOTIFY THE BUILDING INSPECTOR IN WRITING BEFORE THE NEXT INSPECTION.
   B. CALL AN ADDITIONAL PRECONSTRUCTION MEETING, AND.
   C. FURNISH THE REPLACEMENT STRUCTURAL OBSERVER WITH A COPY OF ALL PREVIOUS OBSERVATION REPORT.

   THE REPLACEMENT STRUCTURAL OBSERVER SHALL APPROVE THE CORRECTION OF THE ORIGINAL OBSERVED DEFICIENCIES UNLESS OTHERWISE APPROVED BY PLAN CHECK SUPERVISION. THE POLICY OF THE DEPARTMENT SHALL BE TO CORRECT ANY PROPERLY NOTED DEFICIENCIES WITHOUT CONSIDERATION OF THEIR SOURCE
10. THE ENGINEER OR ARCHITECT OF RECORD SHALL DEVELOP ALL CHANGES RELATING TO THE STRUCTURAL SYSTEMS. THE BUILDING DEPARTMENT SHALL REVIEW AND APPROVE ALL CHANGES TO THE APPROVED PLANS AND SPECIFICATIONS.

SPECIAL INSPECTIONS:

CONTINUOUS DEPUTY INSPECTION IS REQUIRED PER CHAPTER 17, 2019 CBC, FOR THE FOLLOWING:

1) FOOTING EXCAVATIONS SHALL BE INSPECTED & APPROVED BY GEOTECHNICAL ENGINEER PRIOR TO PLACING ANY FORMWORK, REINF., OR CONCRETE.
2) ALL CONCRETE PLACEMENT & VERIFICATION OF CONCRETE REINFORCEMENT.

ALL SPECIAL INSPECTORS SHALL REPORT TO THE CITY OR AND SHALL BE APPROVED BY GARDENA CITY BUILDING DEPARTMENT.

SUBMITTAL REQUIREMENTS

CATEGORY	REQUIRED DOCUMENTATION
CONCRETE REINF.	SHOP DRAWINGS & MILL CERT.
CONCRETE	MIX DESIGNS

EXPANSION ANCHOR BOLTS - CONCRETE:

ALL NEW EXPANSION BOLTS NOTED IN DRAWINGS ARE TO BE DEWALT POWER-STUD+SD2 AND SHALL BE DESIGNED AND INSTALLED PER ESR-2502 U.N.O.

ALL FIELD INSTALLED CONCRETE EXPANSION ANCHORS SHALL BE APPROVED FOR THE TYPE AND INSTALLATION FOR SPECIFIED APPLICATION AND MATERIALS. ALL BOLTS SHALL HAVE AN APPROVED ICC-ES REPORT NUMBER.

WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING NON-PRESTRESSED REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. WHEN INSTALLING ANCHORS INTO EXISTING PRESTRESSED CONCRETE (PRE- OR POST-TENSIONED) LOCATE THE PRESTRESSED TENDONS BY USING A NON-DESTRUCTIVE METHOD PRIOR TO INSTALLATION. EXERCISE EXTREME CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE TENDONS DURING INSTALLATION. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE REINFORCEMENT AND THE DRILLED-IN ANCHOR.

ALL DRILLED HOLES SHALL BE BLOWN OUT WITH COMPRESSED AIR COMPLETELY BEFORE BOLT INSTALLATION.

EXPANSION BOLTS SHALL NOT BE INSTALLED INTO CONCRETE PATCHES, GROUT POCKETS, OR OTHERWISE INADEQUATE CONCRETE SUBSTRATE. WHERE AN ANCHOR IS SHOWN INTO SUCH MATERIALS THE SEOR SHALL BE NOTIFIED AND CONSTRUCTION SHALL WAIT FOR FURTHER INSTRUCTION.

ALL WALL ANCHOR TIES USING EXPANSION BOLT ANCHORS SHALL BE INSTALLED TIGHT TO THE WALL OR LEDGER. THERE SHALL BE NO GAP BETWEEN THE NUT AND STRAP OR STRAP AND WALL/LEDGER.

ALL WALL ANCHORS SHALL BE PROTECTED FROM WEATHER EXPOSURE. ANY EXPOSED EXTERIOR ANCHOR BOLTS SHALL BE STAINLESS STEEL.

PERIODIC SPECIAL INSPECTION IS REQUIRED DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, ANCHOR SPACING, EDGE DISTANCE, CONCRETE MEMBER THICKNESS, TIGHTENING TORQUE, HOLE DIMENSIONS, ANCHOR EMBEDMENT, AND ADHERENCE TO THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.

ANY PANEL JOINTS, COLD JOINTS, OR WALL ENDS THAT OCCUR WITHIN 1.5 X EMBEDMENT OF THE ANCHOR SHALL BE REPORTED TO THE SEOR UNLESS THE MINIMUM EDGE DISTANCE IS SPECIFICALLY DETAILED AND SHOWN IN A DETAIL.

ALL ANCHORS SHALL BE TORQUED AS FOLLOWS FOR PROPER INSTALLATION: (HARDROCK OR LIGHTWEIGHT CONCRETE)

BOLT DIAMETER (IN) -POWER-STUD+SD2	3/8"	1/2"	5/8"	3/4"	-
TORQUE (FT-LBS)	20	40	80	110	-

APPLY PROOF TEST LOADS TO ANCHORS WITHOUT REMOVING THE NUT IF POSSIBLE. IF NOT, REMOVE THE NUT AND INSTALL A THREADED COUPLER NUT TO THE SAME TIGHTNESS OF THE ORIGINAL NUT USING A TORQUE WRENCH AND APPLY LOAD.

MINIMUM ANCHOR EMBEDMENT AND EDGE DISTANCE ARE AS FOLLOWS:

BOLT DIAMETER (IN) -POWER-STUD+SD2	3/8"	1/2"	5/8"	3/4"	-
MIN. EMBEDMENT	2"	2"	3 1/4"	3 3/4"	-
MIN. EDGE DISTANCE	2 1/2"	2 3/4"	4 1/4"	5"	-

TENSION TEST NOTES WHEN APPLICABLE:

REACTION LOADS FROM TEST FIXTURES MAY BE APPLIED CLOSE TO THE ANCHOR BEING TESTED, PROVIDED THE ANCHOR IS NOT RESTRAINED FROM WITHDRAWING BY THE FIXTURE(S).

TEST EQUIPMENT SHALL BE CALIBRATED BY AN APPROVED TESTING LABORATORY IN ACCORDANCE WITH STANDARD RECOGNIZED PROCEDURES.

THE FOLLOWING TEST LOADS SHALL BE USED: FOR 3000 PSI CONCRETE

BOLT DIAMETER (IN) -POWER-STUD+SD2	3/8"	1/2"	5/8"	3/4"	-
TENSION LOAD (LBS)	1401	1605	3325	4120	-

THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF INSTALLED ANCHORS: HYDRAULIC RAM METHOD: THE ANCHOR SHOULD HAVE NO OBSERVABLE MOVEMENT AT THE APPLICABLE TEST LOAD. A PRACTICAL WAY TO DETERMINE OBSERVABLE MOVEMENT IS THAT THE WASHER UNDER THE NUT BECOMES LOOSE. TORQUE WRENCH METHOD: THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN ONE-QUARTER (1/4) TURN FOR 3/8" AND ONE-HALF (1/2) TURN FOR 1/2" EXPANSION ANCHOR AND UP.

TESTING BASED ON THE ICC-ESR SHOULD OCCUR 24 HOURS MINIMUM AFTER INSTALLATION OF THE SUBJECT ANCHORS.

IF ANY ANCHOR FAILS TESTING, NOTIFY THE SEOR FOR FURTHER TESTING FREQUENCY.

SHEET INDEX:

SP3.11	GENERAL NOTES
SP3.12	GENERAL NOTES
SP3.13	TYPICAL CONCRETE DETAILS
SP3.21	POOL FOUNDATION PLAN
SP3.22	POOL SECTIONS
SP3.31	POOL DETAILS
SP3.32	EQUIP ANCHORAGE DETAILS

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AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:
BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:
THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

PREPARED BY:
COFFMAN ENGINEERS
16133 Ventura Boulevard, Suite 1010
Encino, CA 91436
ph. 818.285.2650
www.coffman.com
CEI Job# 222224

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

	INITIAL	DATE
DESIGNED BY	JNP	04/18/22
DRAWN BY	JNP	06/20/23
CHECKED BY	FVS	06/30/23

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
GENERAL NOTES
COMMUNITY AQUATICS & SENIOR CENTER
SP3.11

APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS

SHT. 163 OF 176
DWG. NO. 5-2606

City of Garden Grove
Code Program

GARDEN GROVE **STRUCTURAL OBSERVATION REPORT FORM**

STRUCTURAL OBSERVATION *means the visual observation of the structural system, for general conformance to the approved plans and specifications, at significant construction stages and at completion of the structural system. Structural observation does not include or waive the responsibility for the inspections required by Section 108, 1704 or other sections of the code.*

Report No. _____

This report includes all construction work through ___day of _____, 20___Page No. _____of _____

Project Address:		Structural Observer of Record (SOR):	Phone No. of SOR:
1654 West 160th St., Gardena, CA 90247		Paul Van Benschoten	818.285.2650
Building Permit No.:	Structural Observation performed by:	Professional Lic./Reg. No. of Observer:	Phone No. of Observer:
	Paul Van Benschoten	S-4715	818.285.2650

OBSERVED STRUCTURAL ELEMENTS AND THEIR CONNECTIONS

FOUNDATION	WALL	FRAME	FLOOR	ELEMENT/ CONNECTION OBSERVATION LOCATION
☐ Footing, Stem Walls, Piers	☐ Concrete	☐ Steel Moment Frame	☐ Concrete	
☐ Mat Foundation	☐ Modulus of Elasticity* Concrete Shear Wall	☐ Steel Braced Frame	☐ Steel Deck	
☐ Caisson, Piles, Grade Beams	☐ Masonry	☐ Concrete Moment Frame	☐ Wood	
☐ Retaining Foundation Hillside Special Anchors	☐ Wood	☐ Modulus of Elasticity* Seismic Moment Frames	☐ Others:	
☐ Others:	☐ Others:	☐ Others:		

* For concrete buildings more than 160 feet in Structural Height: Concrete mix meets the modulus of elasticity requirements in design for seismic force resisting systems.

NOTED DEFICIENCIES with the proposed corresponding corrective actions with respect to general conformance with the approved plans or in the load path: *(A final report by the structural observer which states that all observed deficiencies have been resolved is required before acceptance of the work by the building officials.)*

I DECLARE THAT THE FOLLOWING STATEMENTS ARE TRUE TO THE BEST OF MY KNOWLEDGE:

1. I AM THE ENGINEER OR ARCHITECT RETAINED BY THE OWNER TO BE IN RESPONSIBLE CHARGE FOR THE STRUCTURAL OBSERVATION IN ACCORDANCE WITH THE REQUIREMENTS OF THE **CITY OF GARDEN GROVE**.
2. I, OR ANOTHER ENGINEER OR ARCHITECT WHO I HAVE DESIGNATED ABOVE AND IS UNDER MY RESPONSIBLE CHARGE, HAS PERFORMED THE REQUIRED SITE VISITS AT EACH SIGNIFICANT CONSTRUCTION STATE TO VERIFY IF THE STRUCTURE IS IN GENERAL CONFORMANCE WITH APPROVED PLANS AND SPECIFICATIONS;
3. ALL NOTED DEFICIENCES WHICH REMAIN TO BE CORRECTED HAVE BEEN INDICATED ABOVE;
4. I RECOMMEND THAT ACCEPTANCE OF THE STRUCTURAL SYSTEMS BY THE **CITY OF GARDEN GROVE** BE WITHHELD UNTIL ALL OBSERVED DEFICIENCIES ARE CORRECTED.

SIGNATURE OF STRUCTURAL OBSERVER **DATE** **STAMP OF STRUCTURAL**

OBSERVATION REPORT (Rev 11/2/11b)

Project: *Community Aquatic and Senior Center*
Location: *1654 West 160th Street, Gardena, CA 90247*

Special Requirements for Seismic & Wind Resistance

This Statement of Special Inspections includes the following building systems:

- ☒ Soils and Foundations
- ☒ Cast-in-Place Concrete
- ☐ Precast Concrete
- ☐ Masonry
- ☐ Structural Steel
- ☐ Cold-Formed Steel Framing
- ☐ Spray Fire Resistant Material
- ☐ Wood Construction
- ☐ Exterior Insulation and Finish System
- ☐ Mechanical & Electrical Systems
- ☐ Architectural Systems
- ☐ Special Cases

Approved Agencies	Name of Individual and Firm	Address, Telephone, e-mail
1. **Special Inspection Coordinator**		
2. Inspector		
3. Inspector		
4. Testing Agency		
5. Testing Agency		
6. Other		

Note: The inspectors and testing agencies shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official, prior to commencing work.

Project: *Community Aquatic and Senior Center*
Location: *1654 West 160th Street, Gardena, CA 90247*

Special Requirements for Seismic & Wind Resistance

Quality Assurance for Seismic Resistance

Seismic Design Category	*D*
Seismic Requirements Necessary (Y/N)	*N*
Structural Observation Required (Y/N)	*Y*

Description of seismic force resisting system and designated seismic systems:

N/A

Quality Assurance for Wind Requirements

Basic Wind Speed (3 second gust)	*110 MPH*
Wind Exposure Category	*C*
Wind Requirements Necessary (Y/N)	*N*
Structural Observation Required (Y/N)	*N*

Description of wind force resisting system and designated wind resisting components:

N/A

Statement of Responsibility

Each contractor responsible for the construction or fabrication of a system or component designated above must submit a Statement of Responsibility.

Project: *Community Aquatic and Senior Center*
Location: *1654 West 160th Street, Gardena, CA 90247*

Construction Observation

Structural Observation

3.1.1 Structural Observation of construction for Seismic and/or Wind Resistance is required when indicated in the Special Requirements for Seismic and Wind Section above. The structural Observer shall, as a minimum, perform Structural Observation at the following Scheduled Intervals or Stages of Construction, and at the completion of the structural system.

Structural Observer: *Paul Van Benschoten, SE (S-4715) Coffman Engineers (818) 285-2650*

Item	Scheduled Interval or Stage of Construction
1	*Footings: excavations, reinforcement, formwork, bolts and embeds*
2	*Structural Slab On Grade reinforcing*
3	*Pool Wall reinforcing*

WORK REQUIRING SPECIAL INSPECTION AND STRUCTURAL OBSERVATION:

CBC 1704 and 1708

			TYPE OF INSPECTION		STRUCT OBSERV
			CONTINUOUS	PERIODIC	
SOILS (TABLE 1704.7)	1.a	VERIFY MATERIALS BELOW FOOTINGS FOR DESIGN BEARING CAPACITY	-	x	GEO ENG
	b	VERIFY DEPTH OF EXCAVATION AND TYPE OF MATERIALS REACHED	-	x	GEO ENG
	c	VERIFY THE SUBGRADE AND SITE PREPARATIONS FOR CONTROLLED FILL	-	x	GEO ENG
	d	VERIFY MATERIALS USED, DENSITIES, LAYERED THICKNESS AND COMPACTION OF BACKFILLS	x		
	e	PERFORM CLASSSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS		x	
STEEL (TABLE 1704.3)	4.a	VERIFY ID MARKINGS AND MILL CERTIFICATIONS ON STEEL MEMBERS PER APPROVED PLANS	-	x	
	b	VERIFY MARKINGS / CERTIFICATIONS AND TOUGHNESS REQUIREMENTS OF FILLER MATERIALS	-	x	
	c	VERIFY MARKINGS AND CERTIFICATION OF HIGH STRENGTH BOLTS / NUTS & WASHERS	-	x	
	d	INSPECT THE INSTALLATION OF NON-SLIP CRITICAL BOLTED CONNECTIONS		x	
	e	COMPLETE / PARTIAL PENETRATION GROOVE WELDS AND FILLET WELDS >5/16"	x		
	f	SINGLE PASS FILLET WELDS ≤5/16" , FLOOR AND ROOF DECK WELDS	-	x	
	g	STRUCTURAL STEEL ERECTION - BRACING & STIFFENING / JOINT DETAILS AT EACH LOCATION	-	x	
CONCRETE (TABLE 1704.4)	5.a.	VERIFY AND INSPECT REINFORCING STEEL	-	x	
	b	VERIFY WELDABILITY AND INSPECT REINFORCING STEEL WELDING (PER AWS D1.4)	x		
	c	INSPECT BOLT INSTALLATION / EMBEDMENTS, BEFORE AND DURING PLACEMENT OF CONCRETE	x		
	d	VERIFY CONCRETE MIX DESIGN AND MOLDING OF COMPRESSION TEST SAMPLES	-	x	
	e	VERIFY THE SLUMP / AIR CONTENT AND TEMPERATURE OF FRESH CONCRETE DELIVERED	x	-	
	f	INSPECT CONCRETE PLACEMENT AND APPLICATION TECHNIQUES	x	-	
	g	VERIFY DIMENSIONS, SHAPE AND LOCATION OF CONCRETE MEMBER BEING FORMED	-	x	
MASONRY (TABLE 1704.5)	6.a	VERIFY / CONFIRM PREMIXED MORTAR	-	x	
	b	VERIFY SPECIFICATIONS FOR SIZE/GRADE/ TYPE OF MASONRY UNIT & REINFORCEMENT DETAILS	-	x	
	c	PLACEMENT OF MASONRY UNITS AND CONSTRUCTION OF MASONRY JOINTS	-	x	
	d	PLACEMENT OF REINFORCEMENTS & CONNECTORS	-	x	
	e	VERIFY CLEANOUTS, GROUT SPACE CLEARANCES, CLEANLINESS AND MORTAR PROJECTIONS.	-	x	
	f	VERIFY WELDABILITY AND INSPECT REINFORCING STEEL WELDING (PER AWS D1.4)	x	-	
	g	PREPARING REQUIRED GROUT / MORTAR SPECIMENS AND/OR PRISMS FOR TESTING	x	-	
	h	INSPECT GROUT PLACEMENT	x	-	
LIGHT FRAMED 1704.6	7.a	VERIFY LUMBER SPECIES, GRADING, SIZE, MOISTURE CONTENT, SURFACE TREATMENT, CAMBER AND STRUCTURAL PANEL SHEATHING	-	x	
	b	INSPECT CERTIFICATES AND METAL STUD IDENTIFICATION, SECTION PROPERTIES AND FINISH COATING	-	x	
	c	VERIFY NAIL, STAPLE, SCREW, AND BOLT / FASTENER TYPE, GRADE AND LOCATION	-	x	
	d	VERIFY MATERIALS AND INSTALLATION DETAILS FOR HOLD-DOWN, STRAP, TIE ROD, ANCHOR; AND (PREFABRICATED) ENGINEERED SYSTEM / STRUCTURAL PANEL SHEATHING	-	x	
	e	IDENTIFY LATERAL SYSTEM AND LOAD PATH FOR LOCATION OF PLATES, SHEAR WALLS, DIAPHRAGMS, SQUASH BLOCKS, HOLD-DOWN AND STRAPPING BEAMS / COLUMNS		x	
	f	INSPECT AND VERIFY SEISMIC CONNECTIONS OF ITEM 7.e (ABOVE) FOR COMPLIANCE	-	x	
1707.3 & 1707.4	g	VERIFY STUD SPACING, BLOCKING, NAILING (FIELD & EDGE); OPENING / PENETRATION TREATMENT AND SECONDARY ATTACHMENT CONDITIONS	-	x	
SEISMIC RESISTANCE 1707.1	8.a	INSTALLATION OF (CHEMICAL / EPOXY) ADHESIVE ANCHORS, RODS AND DOWELS	X		
	b	INSTALLATION AND TORQUE TESTING EXPANSION ANCHORS IN CONCRETE OR MASONRY	-	X	

CONCRETE INSPECTIONS & VERIFICATION

IBC Table 1704.4

	VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	STRUCT OBSERV
1.	Inspection of reinforcing steel, including prestressing tendons, and placement.	---	X	
2.	Inspection of reinforcing steel welding in accordance with Table 1704.3, Item 5b.	X	---	
3.	Inspect bolts to be installed in concrete prior to and during placement of concrete where allowable loads have been increased.	X	---	
4.	Verifying use of required design mix.	---	X	
5.	At the time fresh concrete is sampled to fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	X	---	
6.	Inspection of concrete and shotcrete placement for proper application techniques.	X	---	
7.	Inspection for maintenance of specified curing temperature and techniques.	---	X	
8.	Inspection of prestressed concrete:	---	---	
	a. Application of prestressing forces.	X	---	
	b. Grouting of bonded prestressing tendons in the seismic-force-resisting system.	X	---	
9.	Erection of precast concrete members.	---	X	
10.	Verification of in-situ concrete strength, prior to stressing of tendons in posttensioned concrete and prior to removal of shores and forms from beams and structural slabs.	---	X	
11.	Inspect formwork for shape, location and dimensions of the concrete member being formed.	---	X	
12.		---	---	---
13.		---	---	---
14.				
15.				
16.				
17.				

FOUNDATION INSPECTIONS & VERIFICATION

	VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	*ENGR OBSERV*
	SOILS - IBC Table 1704.7			
1.	Verify subgrade materials below the footing for design bearing capacity.	---	X	
2.	Verify depth of excavation and type of subgrade materials reached.	---	X	
3.	Perform classification and compaction testing of controlled backfill materials.		X	
4.	Verify materials used, layered thicknesses and compaction of back fills.	X		
5.	Verify the subgrade and site preparations for controlled fill.	---	X	
	PILE FOUNDATONS - IBC Table 1704.8			
6.	Verify pile sizes, lengths and material specifications for each location.	X	---	
7.	Determine capacities of test piles and conduct additional load tests, as required.	X	---	
8.	Observe driving operations and maintain complete and accurate records for each pile.	X	---	
9.	Verify placement locations and plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and document any pile damage.		---	
10.	For steel piles, perform additional inspections in accordance with Section 1704.3.	---	---	
11.	For concrete piles and concrete-filled piles, perform additional inspections in accordance with Section 1704.4.	---	---	
12.	For specialty piles, perform additional inspections as determined by the registered design professional in responsible charge.	---	---	
13.	For augered uncased piles and caisson piles, perform inspections in accordance with Section 1704.9.	---	---	
	PIER FOUNDATIONS - IBC Table 1704.9			
14.	Observe drilling operations to monitor and record drilled lengths, diameters and bell size (if applicable) for each pier.	X	---	
15.	Verify placement locations and plumbness, confirm pier diameters, bell diameters (if applicable), lengths, embedment into bedrock (if applicable) and adequate end bearing strata capacity.	X	---	
16.	For concrete piers, perform additional inspections in accordance with Section 1704.4.	---	---	
17.	For masonry piers, perform additional inspections in accordance with Section 1704.5.	---	---	
18.				
19.				

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BASIS OF BEARINGS:

BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

PREPARED BY:
COFFMAN ENGINEERS
16133 Ventura Boulevard, Suite 1010
Encino, CA 91436
ph 818.285.2650
www.coffman.com
CEI Job# 222224

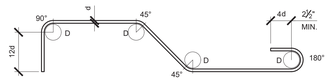
PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

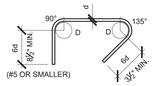
CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
GENERAL NOTES
COMMUNITY AQUATICS & SENIOR CENTER
SP3.12

	INITIAL	DATE
DESIGNED BY	JNP	04/18/23
DRAWN BY	JNP	04/20/23
CHECKED BY	PVB	04/30/23

APPROVED BY:
DATE DIRECTOR OF PUBLIC WORKS
SHT. 164 OF 176 DWG. NO. 5-2606



TYPICAL HOOKS & BENDS



D = 6d FOR #3 THRU #8
D = 8d FOR #9 THRU #11
D = 10d FOR #14S & #18S
D = 4d FOR TIES & STIRRUPS (#5 OR SMALLER)

TIES & STIRRUPS

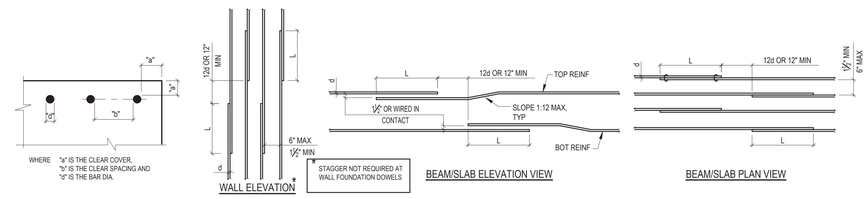
3 REINFORCING BAR DETAILS

LAP SPLICE SCHEDULE "CLASS B" (STRAIGHT BARS)																			
	CONCRETE STRENGTH f'c	BAR																	
		#4		#5		#6		#7		#8		#9		#10		#11	
		TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER
CLEAR COVER ≥ d AND CLEAR SPACING ≥ 2d	3000 PSI	37	29	47	36	56	43	81	63	93	72	105	81	118	91	131	101
	4000 PSI	33	25	41	31	49	37	71	54	81	62	91	70	102	79	113	87
	5000 PSI	29	23	36	28	43	34	63	49	72	56	81	63	92	70	102	78
OTHER CASES	3000 PSI	56	43	70	54	84	65	122	94	139	107	157	121	177	136	196	151
	4000 PSI	49	37	61	47	73	56	106	81	121	93	136	105	153	118	170	131
	5000 PSI	43	32	54	42	65	50	95	73	108	83	122	94	137	106	152	117

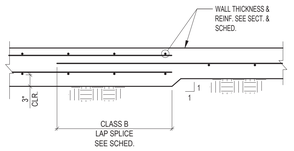
DEVELOPMENT LENGTH SCHEDULE "CLASS A" (STRAIGHT & HOOKED BARS)																			
		CONCRETE STRENGTH f'c	BAR																
			#4		#5		#6		#7		#8		#9		#10		#11	
			TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER
STRAIGHT	CLEAR COVER ≥ d AND CLEAR SPACING ≥ 2d	3000 PSI	29	22	36	28	43	33	63	48	72	55	81	62	91	70	101	78
		4000 PSI	25	19	31	24	37	29	54	42	62	48	70	54	79	61	87	67
		5000 PSI	23	17	28	22	34	26	49	38	56	43	63	48	70	54	78	60
	OTHER CASES	3000 PSI	43	33	54	42	65	50	94	72	107	83	121	93	136	105	151	116
		4000 PSI	37	29	47	36	56	43	81	63	93	72	105	81	118	91	131	101
		5000 PSI	34	26	42	32	50	39	73	56	83	64	94	72	106	81	117	90
HOOK	STANDARD	3000 PSI	11		14		17		20		22		25		28		31	
		4000 PSI	10		12		15		17		19		22		25		27	
		5000 PSI	9		11		13		15		17		20		22		24	

NOTE:
1. T=TOP BAR, L=LAP SPLICE LENGTH
2. "d" INDICATES BAR DIAMETER.
3. ALL DIMENSIONS SHOWN IN TABLE ABOVE ARE IN INCHES.

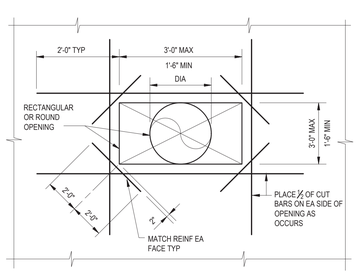
NOTES:
1. TABULATED VALUES AND NOTES ARE PER ACI318-14.
2. SPLICES SHALL BE CONTACT TENSION LAP SPLICES U.N.O.
3. LENGTHS SHOWN ARE FOR GRADE 60 UNCOATED BARS.
4. ALL LAP SPLICES SHALL BE CLASS B, UNLESS CLASS A IS SPECIFICALLY APPROVED BY THE ENGINEER.
5. THE SCHEDULES SHOWN ON THIS DETAIL APPLY TO NORMAL WEIGHT CONCRETE.
6. FOR LIGHTWEIGHT CONCRETE, INCREASE LAP SPLICE LENGTH BY 33%.
7. ALL HORIZONTAL AND VERITICAL SPLICES SHALL BE STAGGERED AS SHOWN BELOW WHERE POSSIBLE U.N.O. WHERE SPLICES ARE NOT STAGGERED THE LAP SPLICE LENGTH SHALL BE INCREASED BY 30%.
8. THE SMALLER BAR LAP LENGTH SHALL BE USED WHEN SPLICING BARS OF DIFFERENT SIZES.
9. TOP BARS ARE HORIZONTAL BARS PLACED SO THAT MORE THAN 12" OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.
10. LAP LENGTHS SPECIFICALLY DETAILED ON DRAWINGS SHALL GOVERN IN LIEU OF THE LAP LENGTHS SCHEDULED. OTHERWISE, ALL DETAILING AND PLACEMENT OF REINFORCING SHALL COMPLY WITH THE LAP SPLICE SCHEDULES AND DETAILS.
11. BUNDLED BAR SPLICES:
    a) INDIVIDUAL BAR SPLICES WITHIN THE BUNDLE SHALL NOT OVERLAP EACH OTHER.
    b) INCREASE LAP LENGTH 20% AT THREE BAR BUNDLES.
    c) INCREASE LAP LENGTH 33% AT FOUR BAR BUNDLES.
12. FOR #14 AND #18 BARS, USE MECHANICAL SPLICE IN ACCORDANCE WITH ACI-318 REQUIREMENTS.
13. EPOXY COATED BAR DEVELOPMENT & SPLICES:
    HOOKS: INCREASE DEVELOPMENT & LAP LENGTH 20%.
13. CONT.
    STRAIGHT BARS:
    a) WHEN CONCRETE COVER IS LESS THAN 3d OR CLEAR SPACING IS LESS THAN 6d, INCREASE DEVELOPMENT & LAP LENGTH 50%.
    b) FOR OTHER CASES, INCREASE LAP LENGTH 20%.
14. HOOK PORTION OF SCHEDULE ASSUMES A STANDARD 90° HOOK.
15. SEISMIC CONDITIONS:
    a) SEISMIC DIAPHRAGM AND COLLECTOR BARS REQUIRE NO INCREASE TO HOOK OR LAP SPLICE LENGTHS.
    b) VERTICAL BARS OF SPECIAL REINFORCED CONCRETE WALLS SHALL HAVE A BOTTOM BAR LAP SPLICE INCREASED BY 25%.
    c) DEVELOPMENT LENGTHS AND LAP SPLICES FOR CONCRETE SPECIAL MOMENT RESISTING FRAMES ARE NOT COVERED BY THIS DETAIL AND MUST MEET ALL ACI 318 CHAPTER 18 REQUIREMENTS.



9 TYPICAL NORMAL WEIGHT CONCRETE REINFORCING LAP SPLICE SCHEDULE



8 DOUBLE TO SINGLE WALL REINFORCING TRANSITION PLAN



PLAN

13 POOL CONC WALL OPENING DETAIL

DIGALERT
DIAL TOLL FREE
1-800-422-4133
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:
BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:
THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

PREPARED BY:
COFFMAN ENGINEERS
16133 Ventura Boulevard, Suite 1010
Encino, CA 91436
p/h 818.285.2650
www.coffman.com
CEI Job# 222224

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31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

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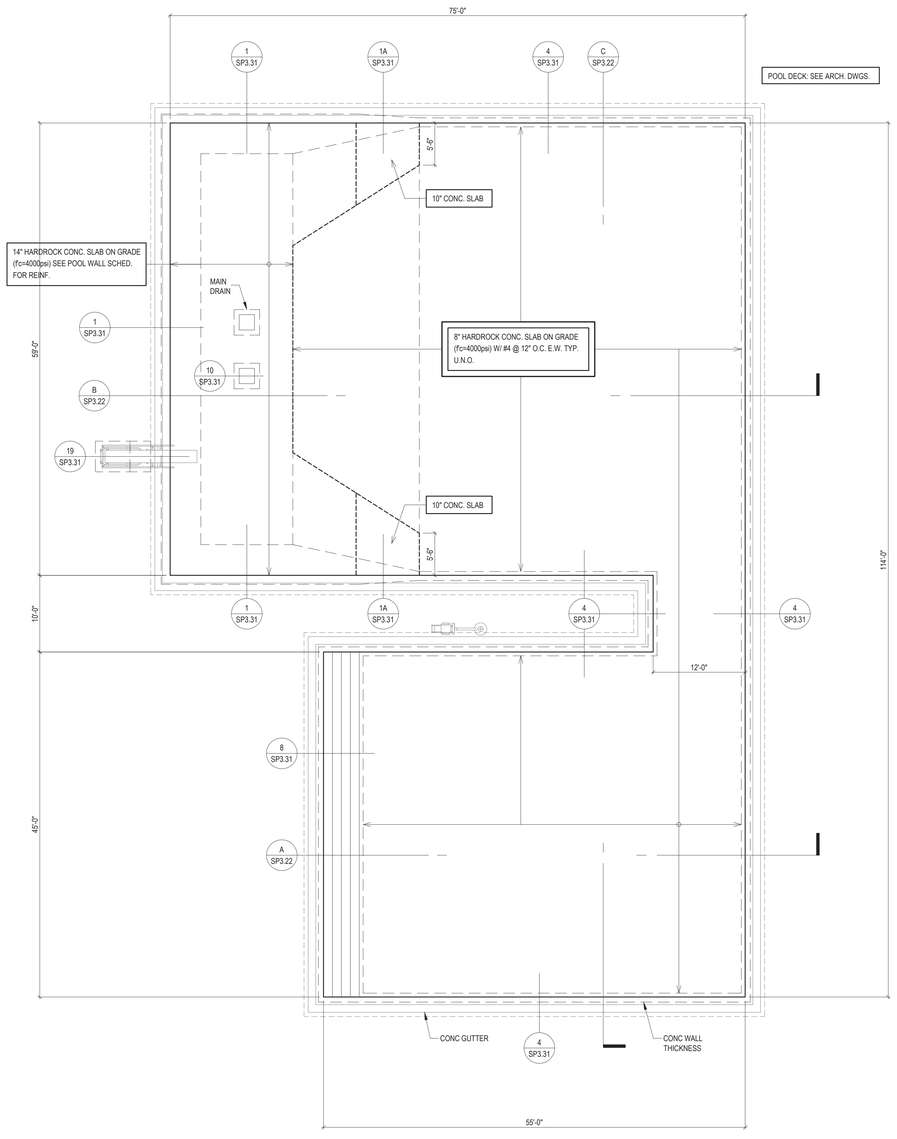
CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
TYPICAL CONCRETE DETAILS
COMMUNITY AQUATICS & SENIOR CENTER
SP3.13

	INITIAL	DATE
DESIGNED BY	JNP	04/18/23
DRAWN BY	JNP	04/20/23
CHECKED BY	FVB	04/30/23

APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS

SHT. 165 OF 176 DWG. NO. S-2606

PLOT DATE: 7/27/2023



NOTES:

1. FOR GENERAL STRUCTURAL NOTES, SEE SHEET SP3.11 THRU SP3.12.
2. FOR TYPICAL DETAILS SEE SHEET SP3.13.
3. ~~1'-0" MIN OVEX EXCAVATION BELOW BOTTOM OF FOOTING.~~ SEE GEOTECHNICAL REPORT FOR REQUIREMENTS.
4. SEE ARCHITECTURAL DRAWINGS FOR POOL APPURTENANCES & OTHER INFORMATION.

LEGEND:

1. _ _ _ _ _ _ _ _ INDICATES SWIMMING POOL CONC. WALL ALONG PERIMETER.

POOL FOUNDATION PLAN

SCALE: 1/8"=1'-0"

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CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

POOL FOUNDATION PLAN

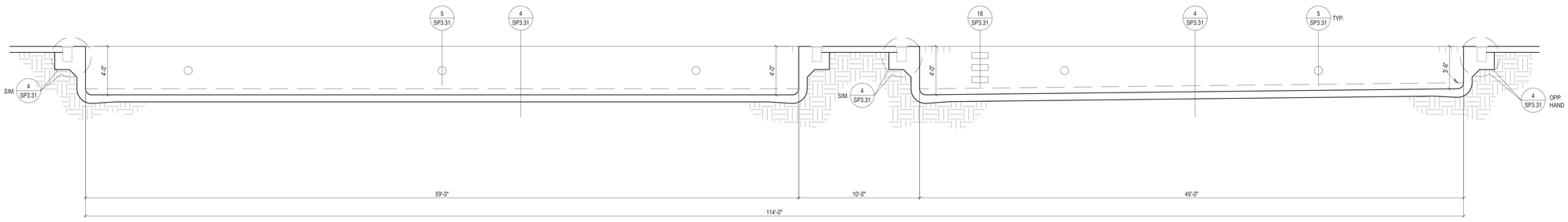
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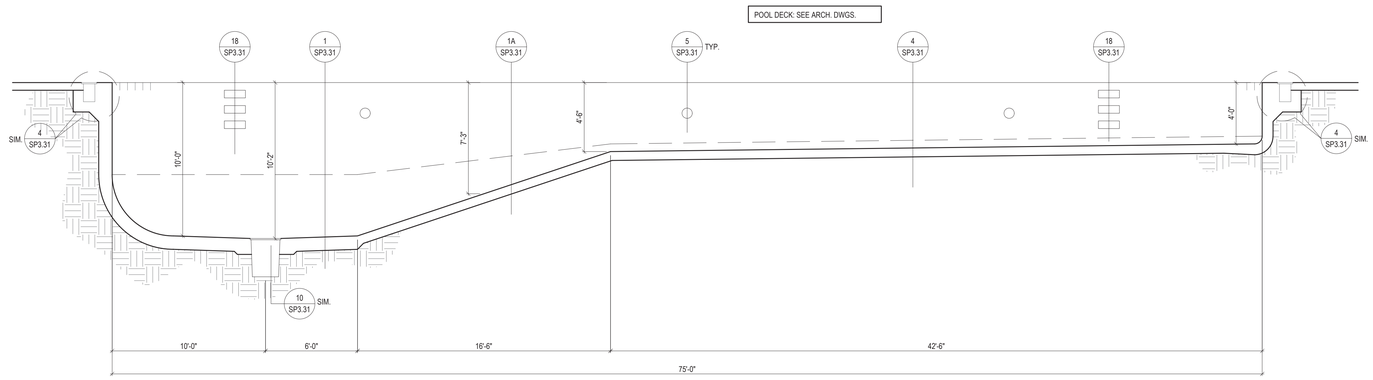
SHT. 166 OF 176 DWG. NO. 5-2606

PLOT DATE: 7/27/2023



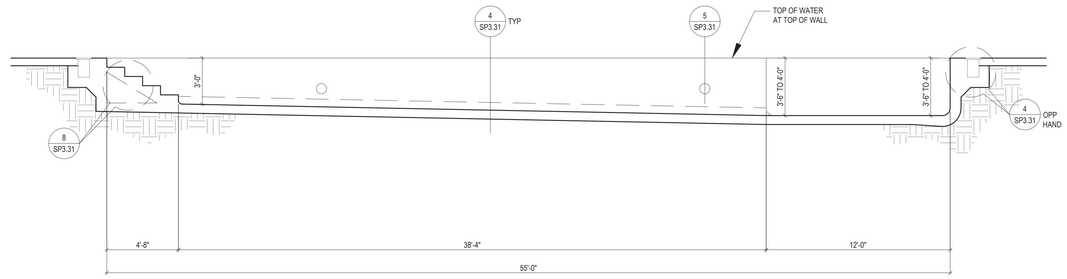
C POOL SECTION

1/4"=1'-0"



B POOL SECTION

1/4"=1'-0"



A POOL SECTION

1/4"=1'-0"

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CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

POOL SECTIONS

COMMUNITY AQUATICS & SENIOR CENTER
SP3.22

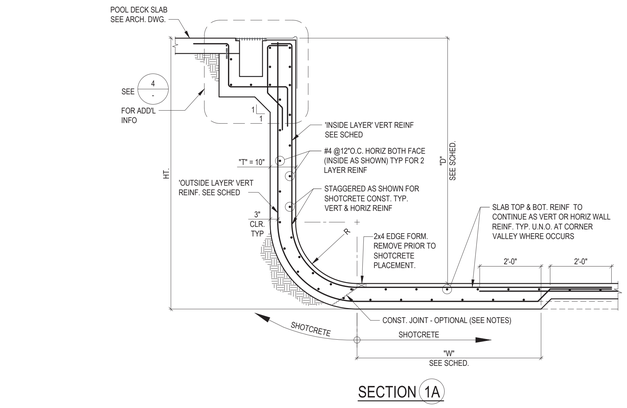
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DESIGNED BY	JNP	04/18/23
DRAWN BY	JNP	04/20/23
CHECKED BY	PVS	04/30/23

APPROVED BY:

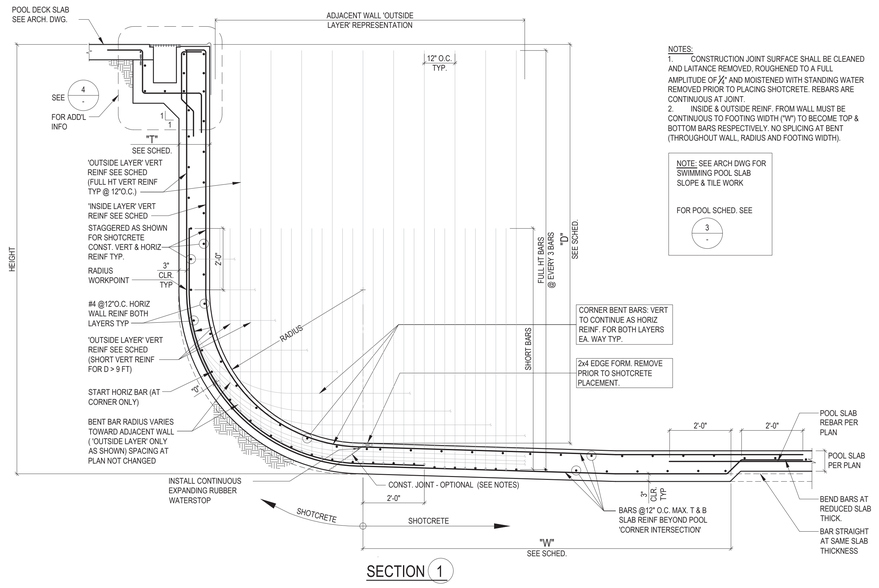
DATE DIRECTOR OF PUBLIC WORKS

SHT. 167 OF 176 DWG. NO. S-2606

PLOT DATE: 7/27/2023



SECTION 1A



SECTION 1

NOTES:
1. CONSTRUCTION JOINT SURFACE SHALL BE CLEANED AND LAITANCE REMOVED, ROUGHENED TO A FULL AMPLITUDE OF ¼" AND MOISTENED WITH STANDING WATER REMOVED PRIOR TO PLACING SHOTCRETE. REBARS ARE CONTINUOUS AT JOINT.
2. INSIDE & OUTSIDE REINF. FROM WALL MUST BE CONTINUOUS TO FOOTING WIDTH ("W") TO BECOME TOP & BOTTOM BARS RESPECTIVELY. NO SPLICING AT BENT (THROUGHOUT WALL, RADIUS AND FOOTING WIDTH).

NOTE: SEE ARCH DWG FOR SWIMMING POOL SLAB SLOPE & TILE WORK.

FOR POOL SCHED. SEE 3 -

1 MAIN POOL WALL SECTION

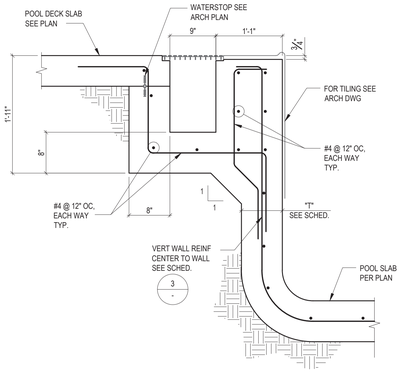
1/2"=1'-0"

SHOTCRETE POOL WALL SCHEDULE						
MAX. DEPTH OF WATER "D" (FT)	WALL THICKNESS "T" (IN.)	BENT RADIUS (FT)	FTG WIDTH "W" (FT)	VERT WALL REINF		
				OUTSIDE LAYER	CENTER	INSIDE LAYER
3.0	8	0.5	1	-	#5 @ 12"	-
3.5	8	0.5	2	-	#5 @ 12"	-
4.5	8	0.5	3	-	#5 @ 12"	-
7.25	10	2	8	#7 @ 6"	-	#5 @ 12"
10	14	4	12	#7 @ 4" ●	-	#5 @ 12"

● FULL HT. BARS @ 12" O.C. SEE SECTION 1 & 11

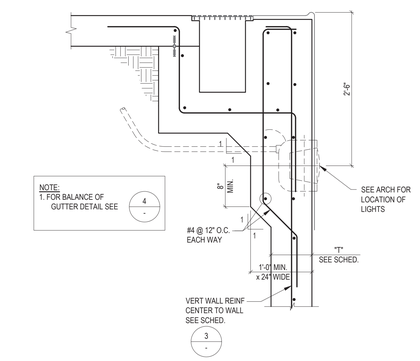
3 POOL WALL SCHEDULE

NO SCALE



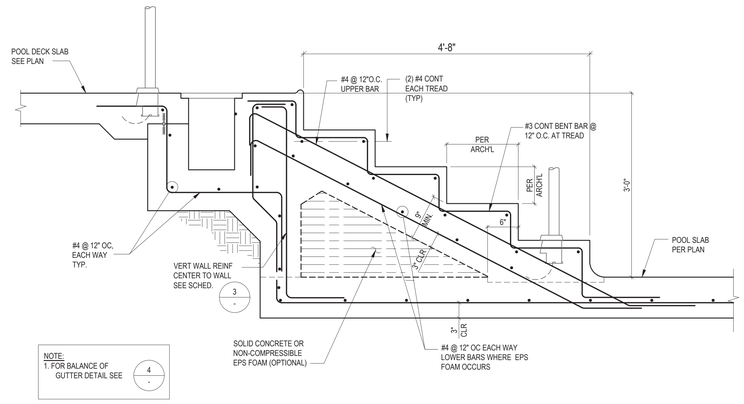
4 POOL GUTTER/WALL SECTION

1"=1'-0"



5 SECTION AT POOL LIGHT

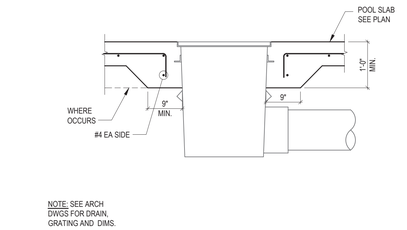
1"=1'-0"



NOTE:
1. FOR BALANCE OF GUTTER DETAIL SEE 4 -

8 POOL STAIRS SECTION

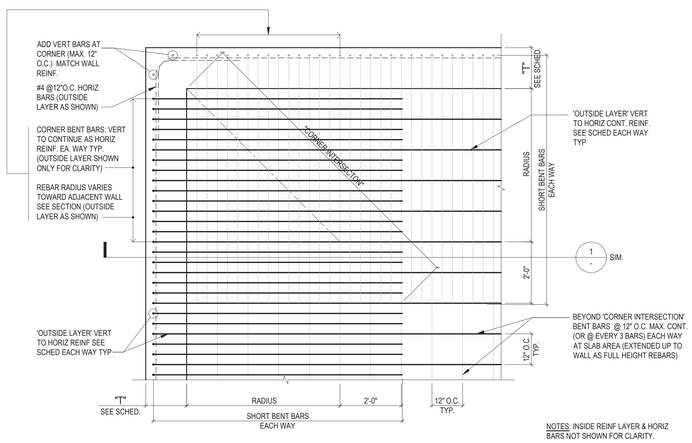
1"=1'-0"



NOTE: SEE ARCH DWGS FOR DRAIN, GRATING AND DIMS.

10 MAIN DRAIN DETAIL

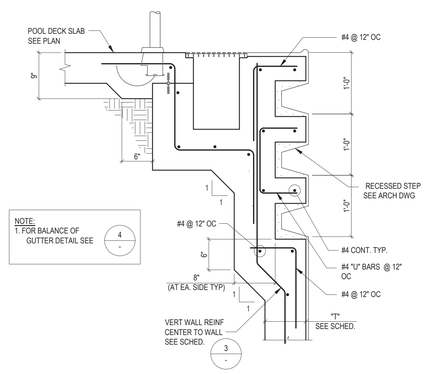
3/4"=1'-0"



NOTES: INSIDE REINF LAYER & HORIZ BARS NOT SHOWN FOR CLARITY.

11 PLAN AT CORNER DEEP END OF POOL OUTSIDE LAYER BENT EA WAY AS SHOWN

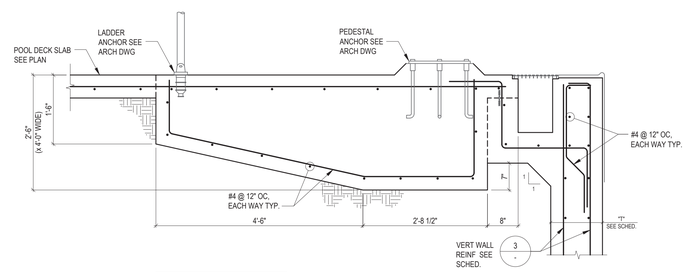
1/2"=1'-0"



NOTE:
1. FOR BALANCE OF GUTTER DETAIL SEE 4 -

18 SECTION @ EMBED STEPS

1"=1'-0"



NOTE:
1. FOR BALANCE OF GUTTER DETAIL SEE 4 -

NOTE:
SEE ARCH'L FOR DIVING STAND DETAILS

19 DIVING STAND PAD DETAIL

3/4"=1'-0"

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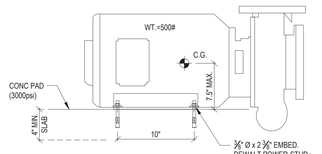
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CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
POOL DETAILS
COMMUNITY AQUATICS & SENIOR CENTER
SP3.31

	INITIAL	DATE
DESIGNED BY	JNP	04/18/23
DRAWN BY	JNP	04/20/23
CHECKED BY	PVB	04/30/23

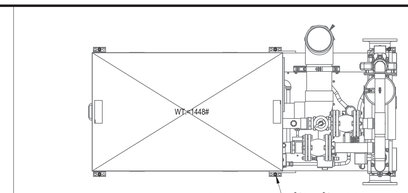
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DATE
DIRECTOR OF PUBLIC WORKS
SHT. 168 OF 176
DWG. NO. S-2606



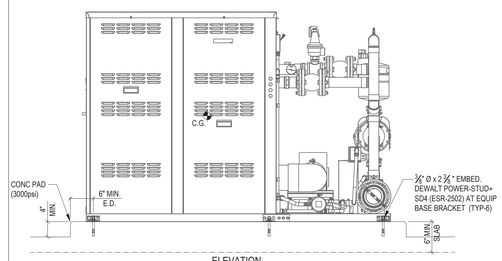
ELEVATION

3 PUMP ANCHORAGE (TYP)

1 1/2"=1'-0"



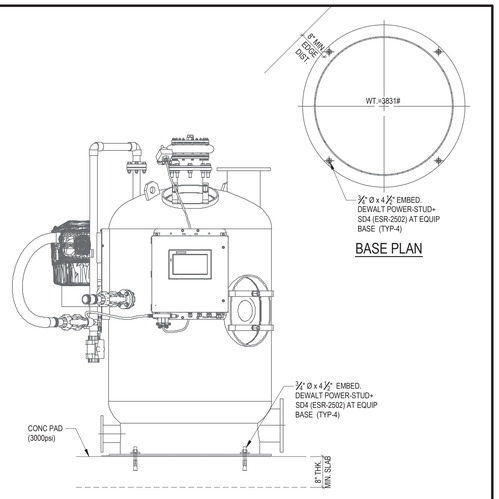
PLAN



ELEVATION

4 POOL HEATER ANCHORAGE

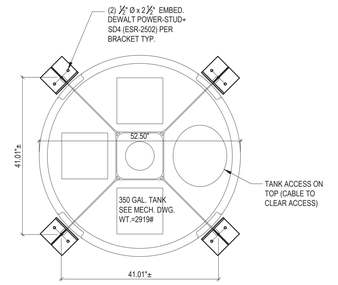
3/4"=1'-0"



BASE PLAN

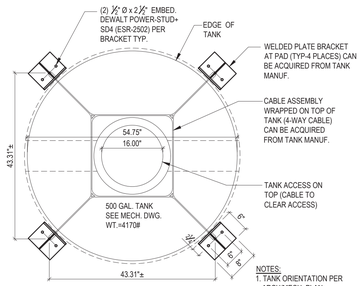
5 FILTER TANK ANCHORAGE

3/4"=1'-0"



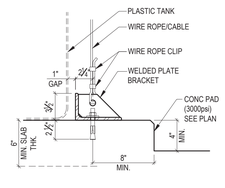
PLAN - ACID TANK

NOTES:
1. FOR BALANCE OF INFO SEE 500 GAL. TANK PLAN



PLAN - CHLORINE TANK

NOTES:
1. TANK ORIENTATION PER ARCH/MECH. PLAN.



TIE DOWN DETAIL

1½"=1'-0"

9 CHEM STORAGE TANK ANCHORAGE

3/4"=1'-0"

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CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

EQUIP. ANCHORAGE DETAILS

COMMUNITY AQUATICS & SENIOR CENTER

SP3.32

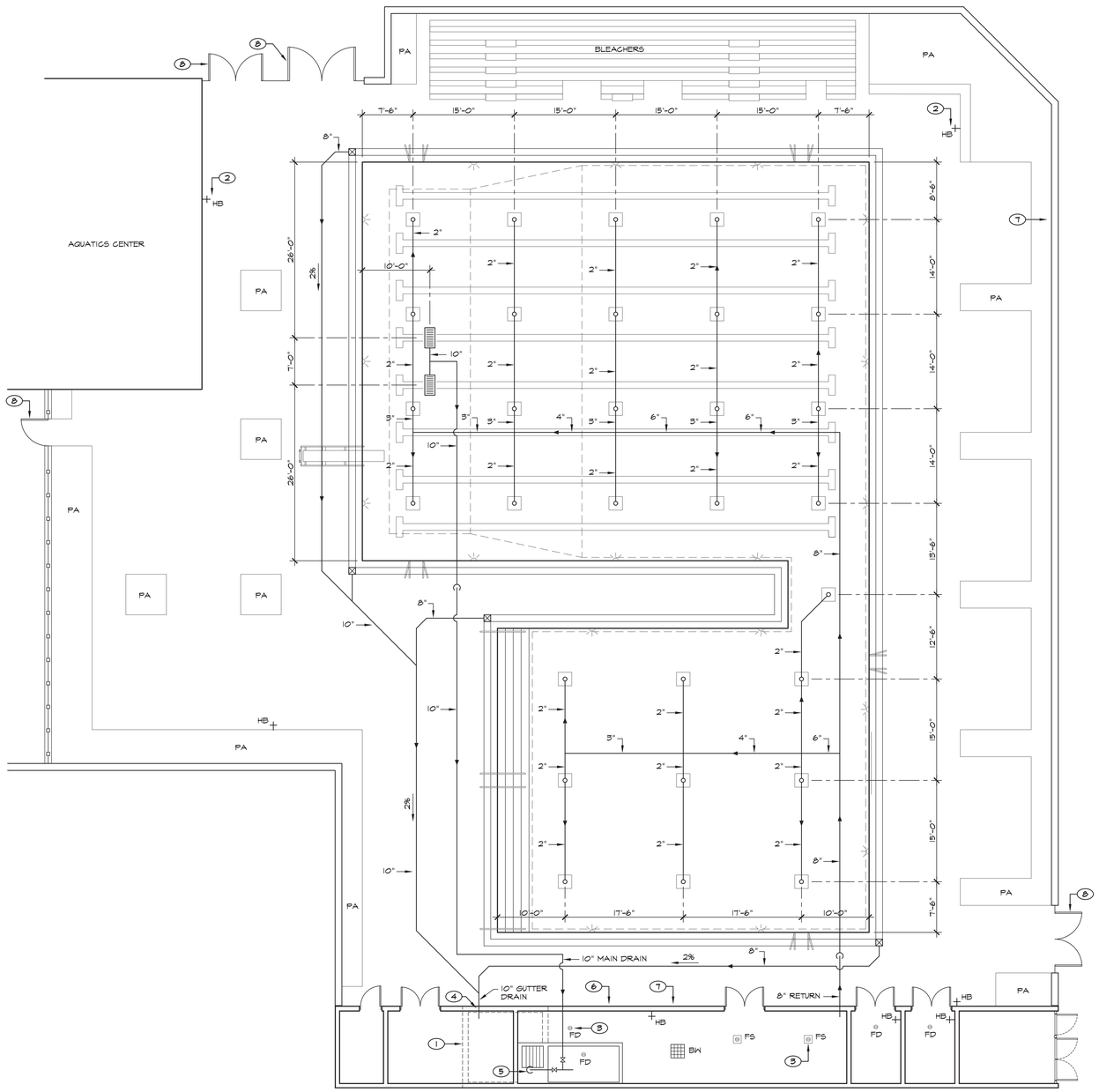
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APPROVED BY:

DATE DIRECTOR OF PUBLIC WORKS

SHT. 169 OF 176 DWG. NO. S-2606

PLOT DATE: 7/27/2023



POOL PLUMBING PLAN

SCALE: 1/8" = 1'-0"

NORTH

KEYED NOTES

1. SURGE CHAMBER
2. POTABLE WATER HOSE BIBB W/ VACUUM BREAKER AROUND DECK PERIMETER & INSIDE EQUIPMENT ROOM SPACED SO ALL PARTS OF THE DECK CAN BE REACHED W/ A 75' HOSE, SEE BLDG PLUMBING DWGS & LANDSCAPE DWGS.
3. SLOPE CONC EQUIPMENT ROOM FLOOR SLAB 2% TO DRAINS, SEE BLDG PLUMBING DWGS
4. SURGE CHAMBER PIPE PENETRATION (TYP), SEE 4/SP4.3
5. ANCHOR 10" SURGE CHAMBER SUCTION PIPE @ FLOOR, SEE 5/SP4.3
6. MOUNT REQ'D POOL SAFETY SIGNS ON WALL INCLUDING POOL CAPACITY, DIARRHEA, ARTIFICIAL RESPIRATION W/ CPR & EMERGENCY PHONE NUMBER SIGN W/ FACILITY ADDRESS
7. MOUNT RING BUOY W/ THROW LINE & 16' RESCUE POLE W/ BODY HOOK ON WALL (TYP 2 LOCATIONS)
8. MOUNT KEEP CLOSED SIGN ON EXTERIOR SIDE OF ALL GATES

GENERAL NOTES

1. ALL POOL PIPING SHALL BE SCH 80 PVC W/ SOLVENT WELDED JOINTS UNO.
2. LOCATE BURIED PIPING IN TRENCHES W/ SAND BEDDING PER DETAIL 6/SP4.3
3. HYDROSTATICALLY PRESSURE TEST ALL BURIED PIPING @ 80 PSI PRIOR TO BACKFILLING & MAINTAIN 40 PSI PRESSURE THROUGHOUT CONSTRUCTION.
4. USE 45° ELBOWS & WYES IN GUTTER DRAIN LINES AS INDICATED & SLOPE PIPING 2% MIN TO SURGE CHAMBER.

SYMBOLS

SYMBOL	DESCRIPTION	REFERENCE
○	FLOOR INLET (TYP 30)	1/SP4.3
▯	MAIN DRAIN GRATE (TYP 2)	2/SP4.3
⊠	GUTTER DRAIN (TYP 4)	3/SP4.3

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UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:

BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:
JONES & MADHAVAN ARCHITECTURE ENGINEERING
100 EAST THOUSAND OAKS BOULEVARD, SUITE 211
THOUSAND OAKS, CALIFORNIA 91360
TEL 805.777.8449 = FAX 805.777.8489

REGISTERED PROFESSIONAL ENGINEER — DONALD R. KAMP — NO. M25446 EXP. 9-30-24 — MECHANICAL — STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:
RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
[949] 493-2690 fax
[949] 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT — STATE OF CALIFORNIA — 07-30-2023 — 06-30-2025

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

POOL PLUMBING PLAN

COMMUNITY AQUATICS & SENIOR CENTER

SP4.1

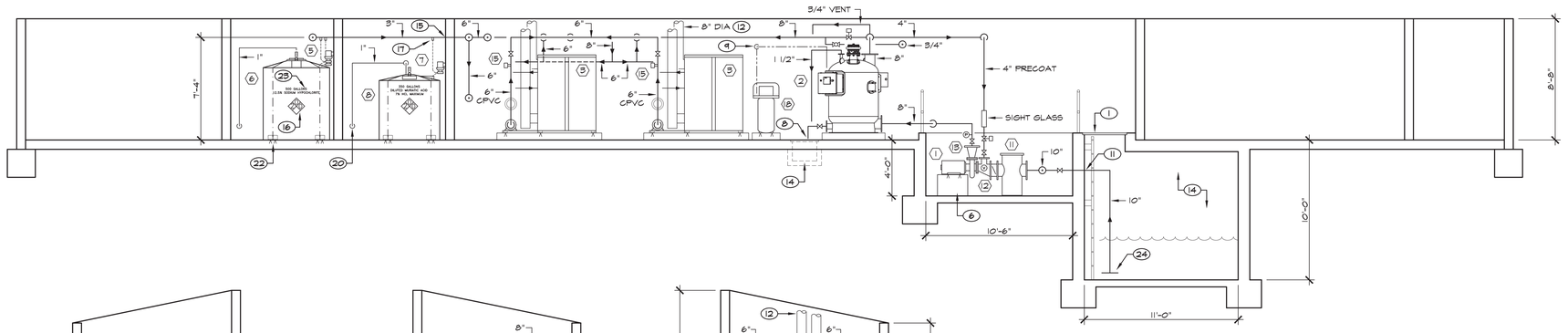
	INITIAL	DATE
DESIGNED BY	DJ	06/30/2023
DRAWN BY	JMAE	06/30/2023
CHECKED BY	NM	06/30/2023

APPROVED BY:

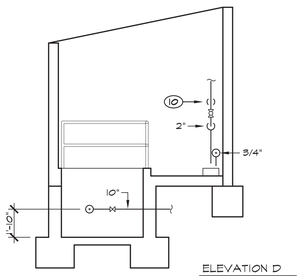
DATE

DIRECTOR OF PUBLIC WORKS

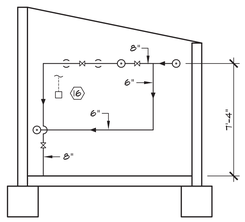
SHT: 170 OF 176 DWG. NO. 5-2606



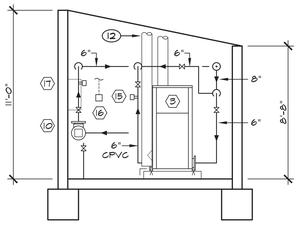
ELEVATION C



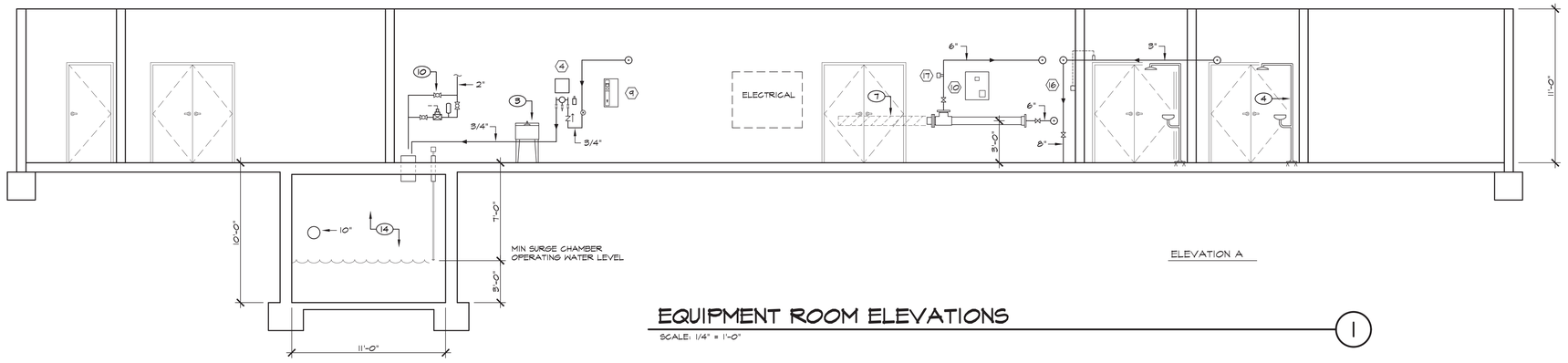
ELEVATION D



ELEVATION B @ WALL



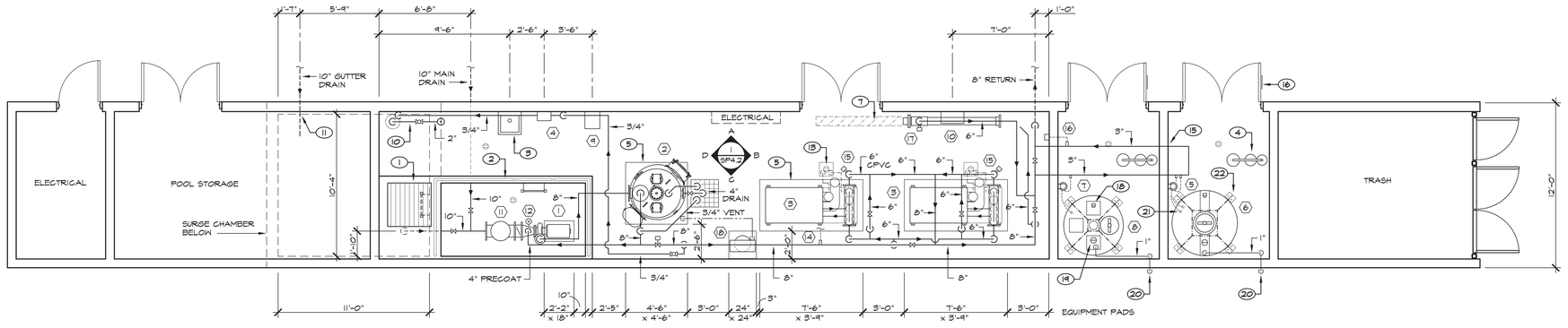
ELEVATION B



ELEVATION A

EQUIPMENT ROOM ELEVATIONS

SCALE: 1/4" = 1'-0"



EQUIPMENT ROOM PLAN

SCALE: 1/4" = 1'-0"

NORTH

KEYED NOTES

1. SURGE CHAMBER ACCESS HATCH & LADDER, SEE 10/SP4.3
2. PUMP PIT GUARDRAIL & LADDER, SEE ARCHITECTURAL DWGS
3. UTILITY SINK, SEE BLDG PLUMBING DWGS
4. EYEWASH & SHOWER, SEE BLDG PLUMBING DWGS
5. 6" HIGH CONC EQUIPMENT PAD (TYP)
6. 18" HIGH CONC PUMP PAD
7. MAINTAIN CLEARANCE FOR UV LAMP REMOVAL
8. 1" MIN AIR GAP ON 4" FILTER DRAIN PIPE @ 21" x 21" x 18" DEEP BACKWASH PIT W/ GRATING, SEE 13/SP4.3
9. 1/2" TYPE L COPPER COMPRESSED AIR PIPING W/ BALL VALVE @ FILTER
10. POOL FILL SYSTEM MANIFOLD, SEE 7/SP4.3
11. SURGE CHAMBER PIPE PENETRATION, SEE 4/SP4.3
12. HEATER EXHAUST & COMBUSTION AIR VENTS, SEE 9/SP4.3
13. RUN 3/4" COPPER PRESSURE RELIEF VALVE DISCHARGE & 3/4" PVC CONDENSATE DRAIN LINE TO FLOOR SINK
14. INSTALL XYPEX WATERPROOF COATING ON ALL INTERIOR SURFACES OF SURGE CHAMBER & BACKWASH PIT
15. 1 HOUR PIPE SLEEVE @ CHEMICAL ROOM WALL PENETRATIONS, SEE 12/SP4.3
16. CHEMICAL HAZARD SIGN ON DOOR & TANKS, SEE 1/SP4.4
17. CHEMICAL PUMP INJECTION, SEE 2/SP4.4
18. TANK FILL PORT W/ CAM ACTION COUPLER, SEE 3/SP4.4
19. TANK LEVEL GAUGE, SEE 4/SP4.4
20. 1" TANK VENT LINE TO OUTSIDE OF BLDG, SEE 5/SP4.4
21. 3/8" SUCTION TUBING THROUGH BULKHEAD FITTING, SEE 6/SP4.4
22. CHEMICAL TANK ANCHOR BRACKETS & CABLE
23. PLASTIC LABEL W/ 1 1/2" HIGH LETTERS ON EA TANK
24. ANCHOR 10" SURGE CHAMBER SUCTION PIPE @ FLOOR, SEE 5/SP4.3

GENERAL NOTES

1. ALL POOL PIPING SHALL BE SCH 80 PVC W/ SOLVENT WELDED JOINTS UNO.
2. ALL PVC FITTINGS IN EQUIPMENT ROOM SHALL BE MOLDED TO MEET DIMENSIONAL REQUIREMENTS.
3. ALL PIPING SHALL BE RESTRAINED PER SMACNA SEISMIC GUIDELINES W/ LATERAL SEISMIC BRACING. PROVIDE PIPE HANGERS OR SUPPORTS ADJACENT TO MECHANICAL EQUIPMENT & @ 8' MAX INTERVALS, SEE 8/SP4.3
4. PROVIDE 6'-8" MIN CLEARANCE UNDER OVERHEAD PIPING.
5. BOND PUMP, HEATERS & UV SYSTEM TO POOL SHELL REINFORCING GRID, SEE 15/SP2.1
6. PROVIDE 15 DIA MIN OF STRAIGHT PIPE BEFORE FLOW SENSORS & 5 DIA AFTER.
7. PLUMB EA POOL HEATER W/ BYPASS LOOP & ISOLATION VALVES AS SHOWN.
8. INSTALL SHUT-OFF VALVE, SERVICE UNION & DRIP LEG ON GAS LINE @ HEATERS.
9. INSTALL EQUIPMENT LABELS, PIPE FLOW ARROWS, PIPE LABELS, VALVE TAGS & VALVE CHART.
10. RESTRICT MAIN DRAIN BUTTERFLY VALVE TO PROVIDE 80% FLOW OVER GUTTER.
11. RESTRICT POOL RETURN VALVE TO APPLY BACK PRESSURE ON MECHANICAL SYSTEMS.
12. CIRCULATION PUMP VFD SHALL MAINTAIN CONSTANT FLOW RATE BASED ON 4-20 MILLIAMP SIGNAL FROM FLOW SENSOR W/ INTERLOCK TO FILTER CONTROL PANEL FOR BUMPING OPERATION.
13. THE REQUIRED TURNOVER RATE OF 850 GPM SHALL BE PERMANENTLY LABELED ON VFD CONTROL PANEL.
14. CHEMICAL CONTROLLER SHALL CONTROL CHLORINE & ACID PUMPS W/ SAFETY FLOW SWITCH TO DISABLE FEED PUMPS UPON LOSS OF FLOW. UNIT SHALL ALSO CONTROL POOL WATER LEVEL.
15. INTERLOCK HEATERS W/ CIRCULATION PUMP TO ONLY FIRE WHEN PUMP IS RUNNING.
16. INTERLOCK UV SYSTEM TO OPERATE CONTINUOUSLY W/ CIRCULATION PUMP.
17. TIME CLOCK IN FILTER CONTROL PANEL SHALL OPERATE CIRCULATION PUMP W/ FIREMAN SWITCH FOR HEATER COOL DOWN.
18. RUN 1 1/2" FILTER TANK VENT & 3/4" SYSTEM VENT LINES TO BACKWASH PIT PER MFR'S INSTRUCTIONS.
19. INSTALL POLYETHYLENE TUBING FROM FILTER CONTROLLER TO PNEUMATIC VALVES PER MFR'S INSTRUCTIONS.
20. SEE STRUCTURAL DWGS FOR EQUIPMENT ANCHORING DETAILS.

EQUIPMENT SCHEDULE

1. CIRCULATION PUMP - 20 HP, 480V, 3Ø, 1,760 RPM W/ 850 GPM @ 65', 5"x4", PACO #40457 LC
2. FILTER SYSTEM - 700 SQ FT, PERLITE MEDIA, FIBERGLASS TANK, 120V CONTROLLER, AQUIFY #PMF-42-700-FRP
3. HEATER - 1,500,000 BTU W/ 120V, 1Ø PUMPS, 360 GPM, RAYPAK XTHERM INDIRECT #1505A (TYP 2)
4. CHEMICAL CONTROLLER & SENSOR CELL - 120V, 1Ø, CHEMTROL #PC3000
5. CHLORINE PUMP - 120 GPD, 120V, 1Ø, STENNER #170DM4
6. CHLORINE STORAGE TANK - 500 GALLON DOUBLE WALL W/ 16" NON-VENTED MANWAY, CHEM-TAINER #TC597IDC
7. ACID PUMP - 85 GPD, 120V, 1Ø, STENNER #85M5
8. ACID STORAGE TANK - 350 GALLON DOUBLE WALL W/ 16" NON-VENTED MANWAY, CHEM-TAINER #TC5256DC
9. VARIABLE FREQUENCY DRIVE - 480V, 20 HP W/ FUSED DISCONNECT, PENTAIR ACU DRIVE X5
10. UV SYSTEM - 566 GPM CAPACITY, 1.2B KW, 240V, 1Ø, PENTAIR #CLP64AB-XN
11. STRAINER - 10"x10" FIBERGLASS W/ SST BASKET, AQUIFY #STR-1010-FRP
12. PRECOAT TEE - 10"x5"x4" ECCENTRIC FIBERGLASS TEE W/ 10" CHECK VALVE, AQUIFY #TEE-100504-FRP
13. CONCENTRIC REDUCER - 8"x4" FIBERGLASS, AQUIFY #RDC-0804-FRP
14. FLOW SENSOR - 8" MAGNETIC SENSOR, 24V W/ DISPLAY & 4 TO 20 mA OUTPUT, SIGNET #2551
15. HEATER FLOW METER - 6" DIGITAL PIPE MOUNT METER & SENSOR FOR 360 GPM, SIGNET #8150 & 515 (TYP 2)
16. CHEMICAL BYPASS FLOW METER - 3" DIGITAL WALL MOUNT METER & SENSOR FOR 100 GPM, SIGNET #8150 & 515
17. UV FLOW METER - 6" DIGITAL PIPE MOUNT METER & SENSOR FOR 550 GPM, SIGNET #8150 & 515
18. AIR COMPRESSOR - 2 HP, 120V, 1Ø, 20 GAL TANK, INGERSOLL RAND #P1.5IU-A9

FIRE CODE DATA

CHEMICAL STORAGE COMPLIANCE: MAXIMUM ALLOWABLE AMOUNT PER CFC TABLE 5003.1.1(2)

	ACID ROOM	CHLORINE ROOM
a. CHEMICAL	7% HYDROCHLORIC ACID HCl	12.5% SODIUM HYPOCHLORITE NaOCl
b. FORM	LIQUID	LIQUID
c. CAS NUMBER	7647-01-0	7681-52-9
d. HEALTH HAZARD	IRRITANT	IRRITANT
e. PHYSICAL HAZARD	NONE	NONE
f. ALLOWABLE AMOUNT IN USE & STORAGE	NO LIMIT CLOSED SYSTEM	NO LIMIT CLOSED SYSTEM
g. PROPOSED AMOUNT IN USE & STORAGE	350 GALLONS	500 GALLONS

SYMBOLS

- M – BUTTERFLY VALVE
- N – CHECK VALVE
- BALL VALVE
- BUTTERFLY VALVE W/ ACTUATOR
- PRESSURE GAUGE
- VACUUM GAUGE
- Y-STRAINER
- RISER DOWN
- RISER UP
- TEE DOWN
- DIRECTION OF FLOW

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CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

EQUIPMENT ROOM PLAN & ELEVATIONS

COMMUNITY AQUATICS & SENIOR CENTER

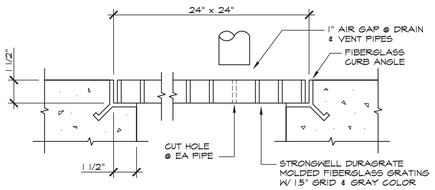
SP4.2

	INITIAL	DATE
DESIGNED BY	DJ	06/30/2023
DRAWN BY	JMAE	06/30/2023
CHECKED BY	NM	06/30/2023

APPROVED BY:

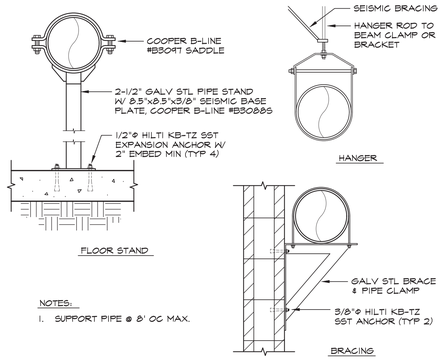
DATE DIRECTOR OF PUBLIC WORKS

SHT. 171 OF 176 DWG. NO. S-2606



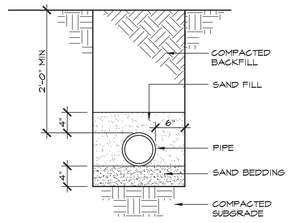
BACKWASH PIT GRATING 13

SCALE: 3" = 1'-0"



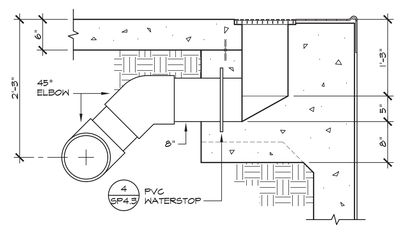
PIPE SUPPORT 8

SCALE: 1" = 1'-0"



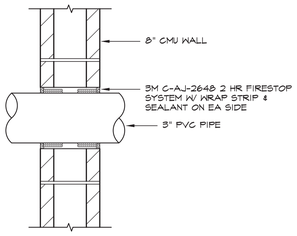
PIPE TRENCH 6

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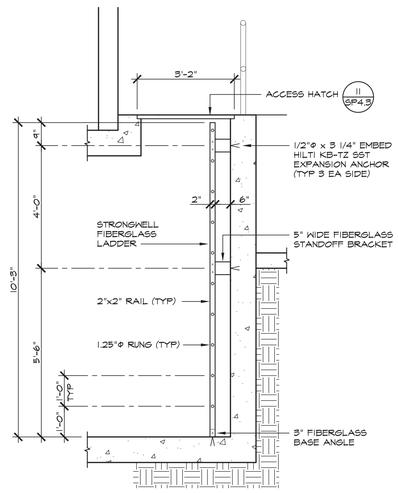
GUTTER DRAIN 3

SCALE: 1" = 1'-0"



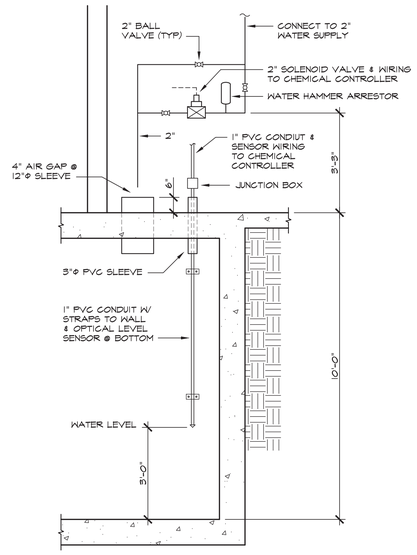
PIPE WALL PENETRATION 12

SCALE: 1 1/2" = 1'-0"



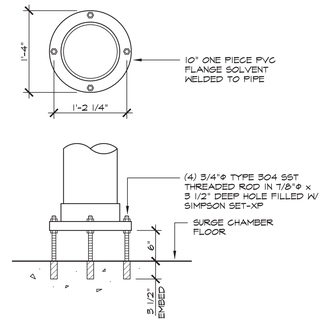
LADDER 10

SCALE: 1/2" = 1'-0"



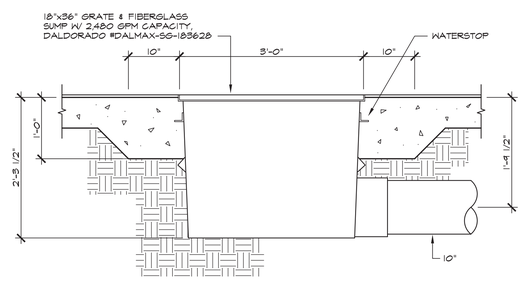
FILL SYSTEM 7

SCALE: 1/2" = 1'-0"



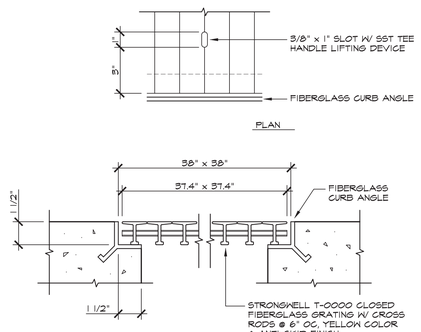
PIPE ANCHOR 5

SCALE: 1" = 1'-0"



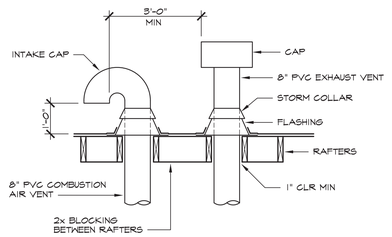
MAIN DRAIN SUMP 2

SCALE: 1" = 1'-0"



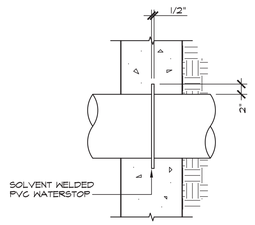
ACCESS HATCH 11

SCALE: 3" = 1'-0"



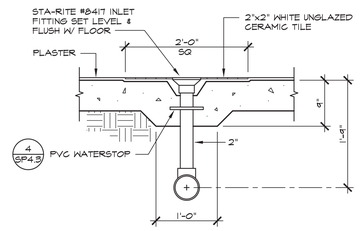
HEATER VENT 9

SCALE: NTS



PVC WATERSTOP 4

SCALE: 1" = 1'-0"



NOTE:

SET INLET CAPS TO 3/4 TURNS OPEN & ADJUST IN 1/4 TURN INCREMENTS FOR EVEN FLOW AFTER STARTING SYSTEM. LOCK IN PLACE W/ SST SCREW.

FLOOR INLET 1

SCALE: 1" = 1'-0"

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THOUSAND OAKS, CALIFORNIA 91360
TEL 805.777.8449 • FAX 805.777.8489

REGISTERED PROFESSIONAL ENGINEER — RICHARD R. KRAUS — No. M25446 — EXP. 9-30-24 — MECHANICAL — STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:

RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
(949) 493-2690 fax
(949) 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT — RYAN J. MADDEN — No. 5906 — 05/31/2023 — STATE OF CALIFORNIA

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
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CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

POOL PLUMBING DETAILS

COMMUNITY AQUATICS & SENIOR CENTER

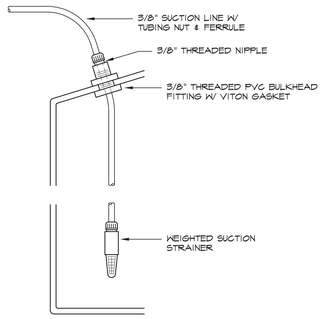
SP4.3

	INITIAL	DATE
DESIGNED BY	DJ	06/30/2023
DRAWN BY	JAAE	06/30/2023
CHECKED BY	NM	06/30/2023

APPROVED BY:

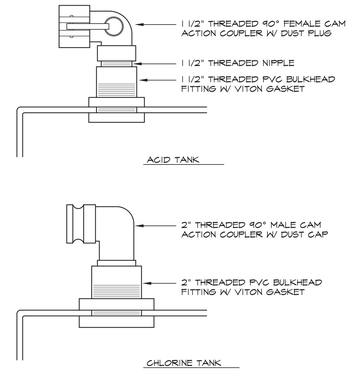
DATE DIRECTOR OF PUBLIC WORKS

SHT. 172 OF 176 DWG. NO. 5-2606



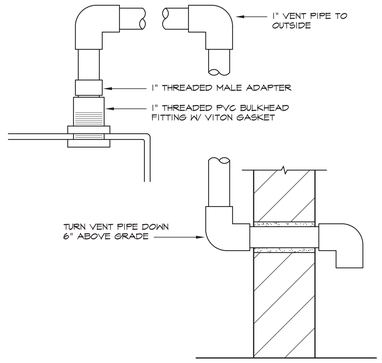
SUCTION LINE

SCALE: 3" = 1'-0" — 6



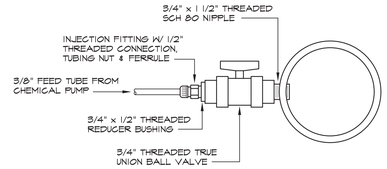
TANK FILL PORT

SCALE: 3" = 1'-0" — 3



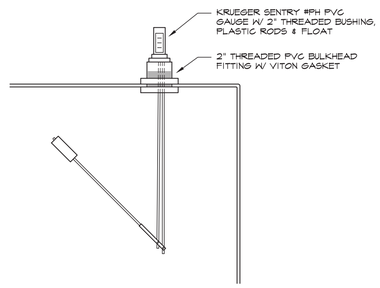
TANK VENT

SCALE: 3" = 1'-0" — 5



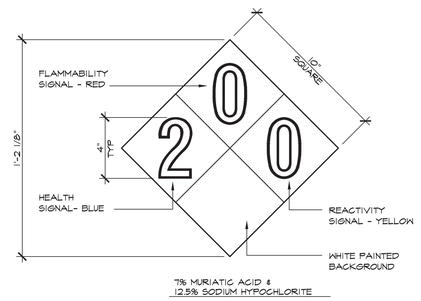
CHEMICAL INJECTION

SCALE: 3" = 1'-0" — 2



TANK LEVEL GAUGE

SCALE: 1 1/2" = 1'-0" — 4



NOTE:
MOUNT ALUMINUM SIGNS 60" AFF ON DOOR & MOUNT SELF-ADHESIVE VINYL SIGNS ON CHEMICAL STORAGE TANKS.

CHEMICAL SIGNS

SCALE: 3" = 1'-0" — 1

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AT LEAST TWO DAYS
BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

BASIS OF BEARINGS:

BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 162 ND STREET (FORMERLY MARKET STREET) BEING N 89° 55' 30" E SHOWN ON TRACT NO. 10901, M.B. 254/31-32

BENCHMARK:

THE CITY OF GARDENA BENCHMARK NO. 5D-15 ELEV. = 43.508

CONSULTANT:

JONES & MADHAVAN ARCHITECTURE ENGINEERING
100 EAST THOUSAND OAKS BOULEVARD, SUITE 211
THOUSAND OAKS, CALIFORNIA 91360
TEL 805.777.8449 = FAX 805.777.8489

REGISTERED PROFESSIONAL ENGINEER — DONALD R. KOONCE — NO. M25446 — EXP. 9-30-24 — MECHANICAL — STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:

RJM DESIGN GROUP
31591 Camino Capistrano
San Juan Capistrano, CA 92675
www.RJMdesigngroup.com
(949) 493-2690 fax
(949) 493-2600 phone

REGISTERED LANDSCAPE ARCHITECT — STATE OF CALIFORNIA — 07-30-2023 — 06-30-2025

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

POOL PLUMBING DETAILS

COMMUNITY AQUATICS & SENIOR CENTER

SP4.4

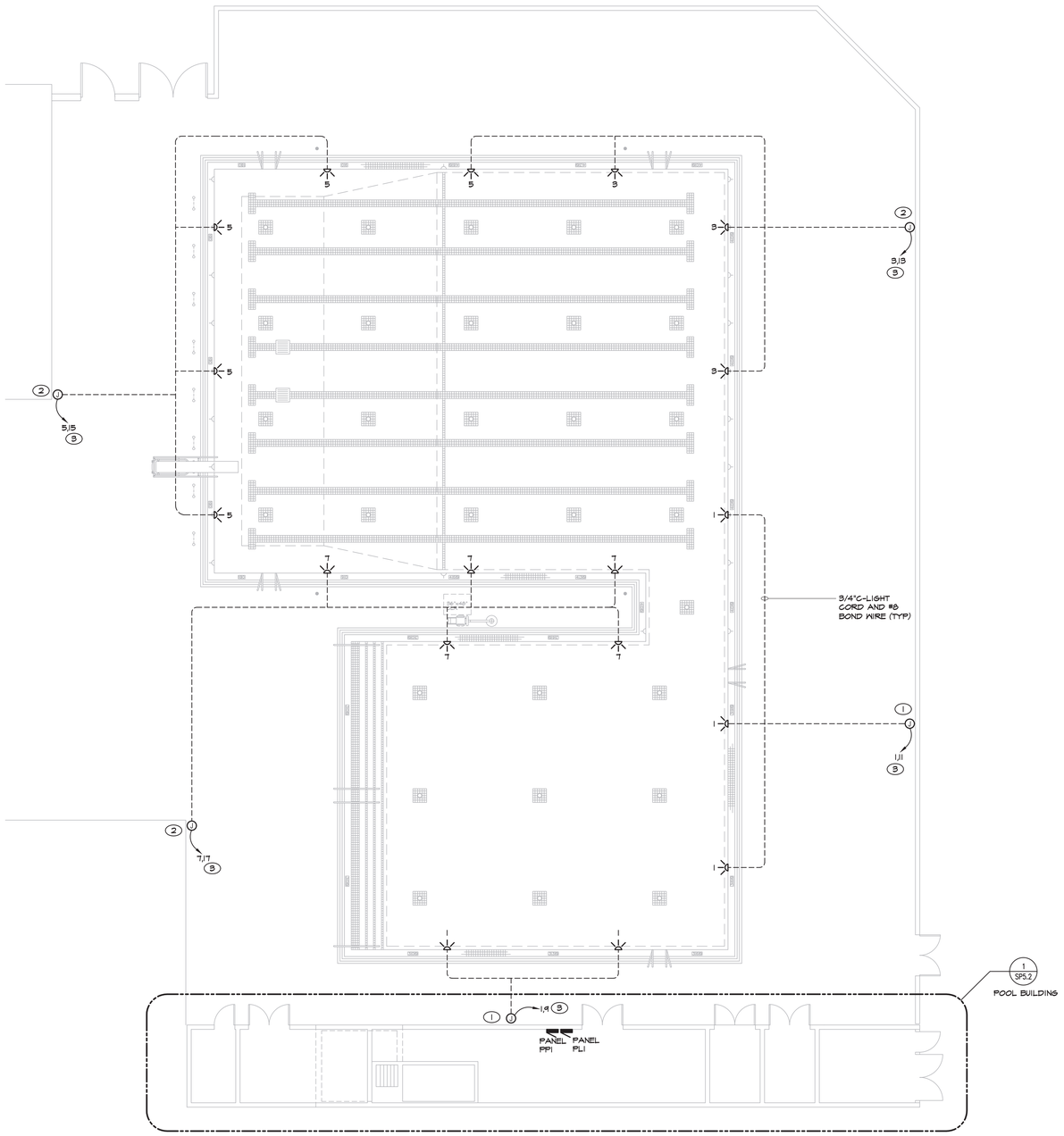
	INITIAL	DATE
DESIGNED BY	DJ	06/30/2023
DRAWN BY	JMAE	06/30/2023
CHECKED BY	NM	06/30/2023

APPROVED BY:

DATE

DIRECTOR OF PUBLIC WORKS

SHT. 173 OF 176 DWG. NO. 5-2606



ELECTRICAL POOL PLAN

SCALE: 1/8" = 1'-0"

NORTH

GENERAL NOTES

1. ALL CIRCUITS SHOWN ARE TO PANEL PPI.
2. GROUNDING AND BONDING TERMINALS SHALL BE IDENTIFIED FOR USE IN WET AND CORROSIVE ENVIRONMENTS. FIELD-INSTALLED GROUNDING AND BONDING CONNECTIONS IN A DAMP, WET, OR CORROSIVE ENVIRONMENT SHALL BE COMPOSED OF COPPER, COPPER ALLOY, OR STAINLESS STEEL. THEY SHALL BE LISTED FOR DIRECT BURIAL USE.
3. HOMERUNS FOR UNDERWATER LIGHTS AND DECK RECEPTACLES SHALL BE 1"G WITH #10 CONDUCTORS UNLESS NOTED OTHERWISE.
4. EXTERIOR CONDUIT SHALL BE SCH.40 PVC.
5. CONDUCTORS SHALL BE COPPER TYPE THWN/THHN TERMINATED AT 60°C

KEYED NOTES

(1) POOL LIGHT J-BOX. SEE DETAIL 1/SP5.3
(2) POOL LIGHT J-BOX, SEE DETAIL 6/SP5.3
(3) ROUTE POOL LIGHT CIRCUIT THROUGH LIGHTING CONTACTOR. SEE DETAIL 2/SP5.3

SYMBOLS

SYMBOL	DESCRIPTION
	POOL LIGHT
	PANELBOARD
J	JUNCTION BOX
X:#	HOME RUN X=PANELBOARD #=BRANCH CIRCUIT NUMBER

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BENCHMARK:
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ph 818.285.2650
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REGISTERED PROFESSIONAL ENGINEER
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ELECTRICAL
STATE OF CALIFORNIA
EXPIRES 6-30-25

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LICENSED LANDSCAPE ARCHITECT
MICHAEL J. RUSSELL
No. 5178
STATE OF CALIFORNIA
05/30/2023
RENEWAL 08/31/2025

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	90% CD SUBMITTAL	12/15/2022	
2	100% CD SUBMITTAL	05/01/2023	
3	FINAL SUBMITTAL	06/30/2023	

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CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

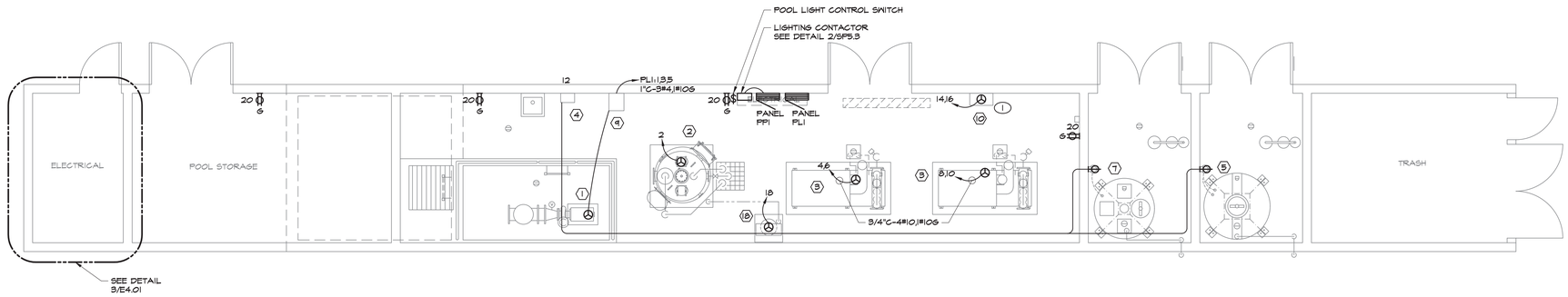
ELECTRICAL POOL PLAN

COMMUNITY AQUATICS & SENIOR CENTER
SP5.1

APPROVED BY:

DATE DIRECTOR OF PUBLIC WORKS

SHT. 174 OF 176 DWG. NO. 5-2606



ELECTRICAL POOL EQUIPMENT ROOM PLAN

SCALE: 1/4" = 1'-0"

NORTH

PROJECT:	GARDENA CASC POOL	PP1
Location:	Feed-Thru to:	Date: 5/1/2023

Ckt	Description	Phase	Amp	Poles	Notes	Ckt Totals
1	SOUTH POOL LIGHTS	A	20	1	1	0.25
3	NORTH POOL LIGHTS	B	20	1	1	0.25
5	NORTHWEST POOL LIGHTS	C	20	1	1	0.20
7	CENTER POOL LIGHTS	A	20	1	1	0.20
9	SE DECK RECEPTACLE	B	20	1	1	1.00
11	EAST DECK RECEPTACLE	C	20	1		1.00
13	NE DECK RECEPTACLE	A	20	1		1.00
15	NW DECK RECEPTACLE	B	20	1		1.00
17	SW DECK RECEPTACLE	C	20	1		1.00
19	SPARE	A	20	1		
21	SPARE	B	20	1		
23	SPARE	C	20	1		
25	SPARE	A	20	1		
27	SPARE	B	20	1		
29	SPARE	C	20	1		
31	SPACE	A				
33	SPACE	B				
35	SPACE	C				
37	SPACE	A				
39	SPACE	B				
41	SPACE	C				
2	POOL FILTER	A	20	1		0.50
4	POOL HEATER 1 CIRCUIT 1	B	25	1		1.90
6	POOL HEATER 1 CIRCUIT 2	C	25	1		1.40
8	POOL HEATER 2 CIRCUIT 1	A	25	1		1.90
10	POOL HEATER 2 CIRCUIT 2	B	25	1		1.40
12	CHEM CONTROLLER	C	20	1		0.50
14	UV SYSTEM	A	20	2		0.65
16	-	B	-	-		0.65
18	AIR COMPRESSOR	C	20	1		1.80
20	POOL BUILDING RECEPTACLES	A	20	1		0.72
22	SPARE	B	20	1		
24	SPARE	C	20	1		
26	SPARE	A	20	1		
28	SPARE	B	20	1		
30	SPARE	C	20	1		
32	SPACE	A				
34	SPACE	B				
36	SPACE	C				
38	SPACE	A				
40	SPACE	B				
42	SPACE	C				

Specifications	
Voltage (L-L):	208
Phase/Wire:	3PH / 4W
Bus Current Rating (Amps):	125
Bus Material:	CU/AL
Short Circuit Current Rating (Amps)	14kAIC
Main Type:	MCB
Main Rating:	125
Neutral Type:	FULL
Mounting/Encl.: SURFACE	NEMA 1

2019 CEC Sections Used in Demand Calculations

Factor #	NEC Reference	Notes
1	TBL 220.44 Receptacles ND	1st 10k @100%, Remainder @50%
2	TBL 220.42 Apartments General Lighting	1st 20k@50%, 20-100k @40%, >100k @30%
3	430.24 Motors	Largest @125% Remainder @100%
4	210.19(A)1 Cont Loads	125%
5	Non-Cont Loads	100%
6	220.51 Heating	100%

Feeder Load Breakdown	Conn(KVA)	Dmd Fact
Non-Dwelling Receptacles	5.72	1.00
Dwelling General Illumination	0.00	0.00
Non-Continuous Lighting	0.00	1.00
Continuous Lighting	0.00	1.25
Exterior Lighting	0.90	1.25
Kitchen Appliances	0.00	1.00
Motors	8.90	1.00
Largest Motor (per phase)	1.90	0.25
Fixed Heating	0.00	1.00
Fixed Cooling	0.00	1.00
Non-Diversity Loads	0.00	1.00
Other	1.80	1.00

Connected Feeder Load Summary

	CONN KVA	CONN AMPS	NEC KVA	NEC AMPS
PHASE A:	5.22	43.47	5.81	48.36
PHASE B:	6.20	51.63	6.74	56.10
PHASE C:	5.90	49.13	6.43	53.50
TOTAL:	17.32	48.08	18.97	52.66

Notes: 1. GFI TYPE BREAKER.

Panel Loading: ACCEPTABLE

PROJECT:	GARDENA CASC POOL	PL1
Location:	Feed-Thru to:	Date: 5/1/2023

Ckt	Description	Phase	Amp	Poles	Notes	Ckt Totals
1	POOL CIRC PUMP	A	60	3		7.50
3	20HP	B	-	-		7.50
5	-	C	-	-		7.50
7		A				
9		B				
11		C				
13		A				
15		B				
17		C				
19		A				
21		B				
23		C				
25		A				
27		B				
29		C				
31		A				
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18		C				
20		A				
22		B				
24		C				
26		A				
28		B				
30		C				
32		A				
34		B				
36		C				
38		A				
40		B				
42		C				

Specifications	
Voltage (L-L):	480
Phase/Wire:	3PH / 4W
Bus Current Rating (Amps):	200
Bus Material:	CU/AL
Short Circuit Current Rating (Amps)	10kAIC
Main Type:	MCB
Main Rating:	200
Neutral Type:	FULL
Mounting/Encl.: SURFACE	NEMA 1

2019 CEC Sections Used in Demand Calculations

Factor #	NEC Reference	Notes
1	TBL 220.44 Receptacles ND	1st 10k @100%, Remainder @50%
2	TBL 220.42 Apartments General Lighting	1st 20k@50%, 20-100k @40%, >100k @30%
3	430.24 Motors	Largest @125% Remainder @100%
4	210.19(A)1 Cont Loads	125%
5	Non-Cont Loads	100%
6	220.51 Heating	100%

Feeder Load Breakdown	Conn(KVA)	Dmd Fact
Non-Dwelling Receptacles	0.00	0.00
Dwelling General Illumination	0.00	0.00
Non-Continuous Lighting	0.00	1.00
Continuous Lighting	0.00	1.25
Exterior Lighting	0.00	1.25
Kitchen Appliances	0.00	1.00
Motors	22.50	1.00
Largest Motor (per phase)	7.50	0.25
Fixed Heating	0.00	1.00
Fixed Cooling	0.00	1.00
Non-Diversity Loads	0.00	1.00
Other	0.00	1.00

Connected Feeder Load Summary

	CONN KVA	CONN AMPS	NEC KVA	NEC AMPS
PHASE A:	7.50	27.06	9.38	33.83
PHASE B:	7.50	27.06	9.38	33.83
PHASE C:	7.50	27.06	9.38	33.83
TOTAL:	22.50	27.06	28.13	33.83

Notes:

Panel Loading: ACCEPTABLE

GENERAL NOTES

1. CIRCUIT NUMBERS SHOWN ARE FROM PP1 PANEL UNLESS NOTED OTHERWISE.
2. ALL CIRCUITS ARE 3/4"C-2#12, 1#12G UNLESS NOTED OTHERWISE.
3. GROUNDING AND BONDING TERMINALS SHALL BE IDENTIFIED FOR USE IN WET AND CORROSIVE ENVIRONMENTS. FIELD-INSTALLED GROUNDING AND BONDING CONNECTIONS IN A DAMP, WET, OR CORROSIVE ENVIRONMENT SHALL BE COMPOSED OF COPPER, COPPER ALLOY, OR STAINLESS STEEL. THEY SHALL BE LISTED FOR DIRECT BURIAL USE.
4. INTERIOR CONDUIT SHALL BE RMC OR IMC CONDUIT.
5. CONDUCTORS SHALL BE COPPER TYPE THAN/THHN TERMINATED AT 60°C
6. POOL MOTORS SHALL BE WIRED PER CEC 680.21.

KEYED NOTES

(1) INTERLOCK UV SYSTEM WITH CIRCULATION PUMP

(2) CONTROL WIRING

POOL EQUIPMENT SCHEDULE

(1) CIRCULATION PUMP - 20 HP, 480V, 3PH, 1,760 RPM W/ 850 GPM @ 65', 5"x4", PACO #40457 LC

(2) FILTER SYSTEM - 700 SQ FT, PERLITE MEDIA, FIBERGLASS TANK, 120V CONTROLLER, AQUIFY #PMF-42-700-FRP

(3) HEATER - 1,500,000 BTU W/ 120V, 1PH PUMPS, 360 GPM, RAYPAK XTHERM INDIRECT #1505A (TYP 2)

(4) CHEMICAL CONTROLLER & SENSOR CELL - 120V, 1PH, CHEMTROL #PC3000

(5) CHLORINE PUMP - 120 GPD, 120V, 1PH, STENNER #170DM4

(7) ACID PUMP - 85 GPD, 120V, 1PH, STENNER #85M3

(9) VARIABLE FREQUENCY DRIVE - 480V, 20 HP W/ FUSED DISCONNECT, PENTAIR AGU DRIVE X3

(10) UV SYSTEM - 566 GPM CAPACITY, 1.28 KW, 240V, 1PH, PENTAIR #CLP64A8-XN

(18) AIR COMPRESSOR - 2 HP, 120V, 1PH, 20 GAL TANK, INGERSOLL RAND #P1.5IU-A9

SYMBOLS

- EQUIPMENT CONNECTION
- DUPLEX RECEPTACLE;
  X = AS FOLLOWS:
  G - GROUND FAULT CIRCUIT INTERRUPTER
- SINGLE RECEPTACLE
- POOL EQUIPMENT TAG
- HOME RUN
  X:#
  X=PANELBOARD
  #=BRANCH CIRCUIT NUMBER

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BENCHMARK:
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REGISTERED PROFESSIONAL ENGINEER
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REGISTERED LANDSCAPE ARCHITECT
STATE OF CALIFORNIA

REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
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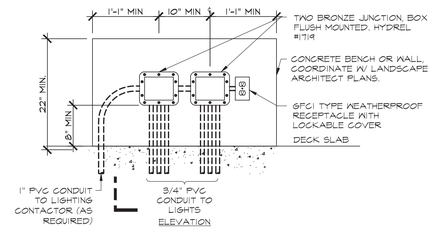
CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING
ELECTRICAL POOL EQUIPMENT ROOM PLAN
COMMUNITY AQUATICS & SENIOR CENTER
SP5.2

	INITAL	DATE
DESIGNED BY	NM	06/30/2023
DRAWN BY	JMAE	06/30/2023
CHECKED BY	DJ	06/30/2023

APPROVED BY:
DATE
DIRECTOR OF PUBLIC WORKS
SHT. 175 OF 176 DWG. NO. 5-2606

NOTES:

1. PROVIDE STRAIN RELIEF ON LIGHT CORDS ENTERING JUNCTION BOX.
2. INSTALL IN CONCRETE BENCH OR WALL. SEE LANDSCAPE PLANS.

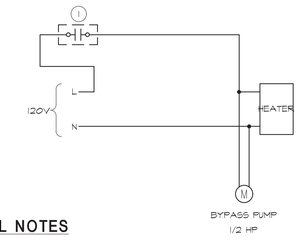


ELEVATION

POOL LIGHT MULTI J-BOX

NOT TO SCALE

6



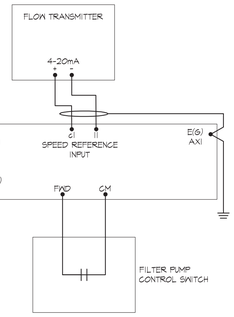
DETAIL NOTES

(1) CIRCULATION PUMP RUN RELAY CONTACT

HEATER CONTROL DIAGRAM (TYP.)

NOT TO SCALE

3



NOTES

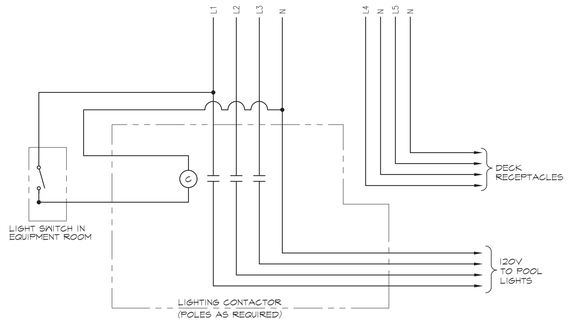
VFD SHALL OPERATE TO MAINTAIN CONSTANT FLOW FROM THE PUMP. A MAXIUM FREQUENCY LIMIT SHALL BE SET. COORDINATE SETTINGS WITH MECHANICAL ENGINEER.

CONTROL SCHEMATIC

VARIABLE SPEED DIRVE (VFD)

NOT TO SCALE

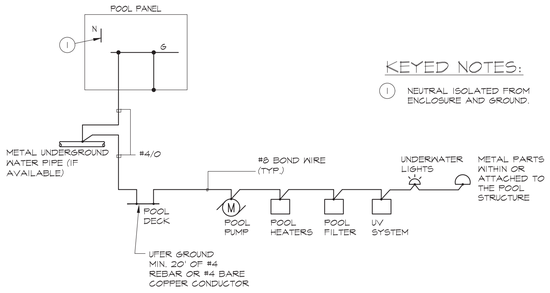
5



LIGHTING WIRING DIAGRAM

NOT TO SCALE

2



KEYED NOTES:

(1) NEUTRAL ISOLATED FROM ENCLOSURE AND GROUND.

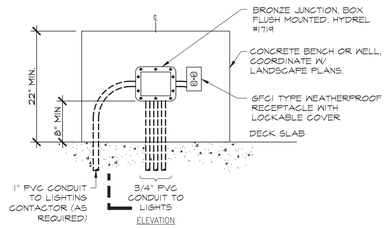
POOL GROUNDING AND BONDING DETAIL

NOT TO SCALE

4

NOTES:

1. PROVIDE STRAIN RELIEF ON LIGHT CORDS ENTERING JUNCTION BOX.
2. INSTALL IN CONCRETE BENCH OR WALL. SEE LANDSCAPE PLANS.



ELEVATION

POOL LIGHT SINGLE J-BOX

NOT TO SCALE

1

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STATE OF CALIFORNIA
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RENEWAL 08/31/2023

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CITY OF GARDENA
DEPARTMENT OF PUBLIC WORKS - ENGINEERING

ELECTRICAL DETAILS

COMMUNITY AQUATICS & SENIOR CENTER
SP5.3

	INITAL	DATE
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CHECKED BY	DJ	06/30/2023

APPROVED BY:

DATE DIRECTOR OF PUBLIC WORKS

SHT. 176 OF 176 DWG. NO. 5-2606