



DEPARTMENT of COMMUNITY DEVELOPMENT

1700 WEST 162nd STREET / GARDENA, CALIFORNIA 90247-3732 / WWW.CITYOFGARDENA.ORG / PHONE (310) 217-9530

LOW IMPACT DEVELOPMENT (LID) Requirements and Checklist
Nonresidential and Multifamily Residential Developments

All development must comply with the County of Los Angeles' Title 12, Ch. 12.84 (LID).

Permit Application No. _____

Address: _____

LID standards are intended to distribute stormwater and urban runoff across developed sites to help reduce adverse water quality impacts and replenish groundwater supplies. The LID Manual is available at the following link: <https://pw.lacounty.gov/idd/web/Forms.aspx> - Select manual1 selected from the HYDROLOGY menu.

Under the NPDES permit and the County of Los Angeles LID ordinance, priority projects are required to prohibit the discharge of pollutants from property developments. Preventing these pollutants from entering stormwater discharge system will be accomplished by requiring the installation and maintenance of post-construction treatment controls. (Best Management Practices (BMPs)

Use **Table 1** and **Table 2** to determine project type (Designated or Non-Designated) and the associated requirements for each project type.

See separate handout for small scale (four units or less) residential projects.

Step 1: Use Tables 1 and 2 to se

Table 1 Select Project Type			
		Project Type	Applies?
DESIGNATED PROJECTS	1	All new development projects involving one (1) acre or greater of disturbed area and adding more than ten thousand (10,000) square feet of impervious surface area	
	2	New industrial parks with ten thousand (10,000) square feet or more of surface area	
	3	New commercial malls with ten thousand (10,000) square feet or more of surface area	
	4	New retail gasoline outlets with five thousand (5,000) square feet or more of surface area	
	5	New restaurants (SIC 5812) with five thousand (5,000) square feet or more of surface area	
	6	New parking lots with five thousand (5,000) square feet or more of impervious surface area, or with twenty-five (25) or more parking spaces	
	7	New automotive service facilities (SIC 5013, 5014, 5511, 5541, 7532-7534 and 7536-7539) with five thousand (5,000) square feet or more of surface area	
	8	New development located in or directly adjacent to or discharging directly to a Significant Ecological Area ("SEA"), as defined in Section 22.14.190 of this Code, which will discharge stormwater runoff that is likely to impact a sensitive biological species or habitat and create two thousand five hundred (2,500) square feet or more of impervious surface area	
	Redevelopment Projects		
	9	Redevelopment that results in the creation or addition or replacement of either: (i) five thousand (5,000) square feet or more of impervious surface area on a site that has been previously developed as described in subsections 1-8, above; or (ii) ten thousand (10,000) square feet or more of impervious surface area on a site that has been previously developed with a single family home	
	9a	Where more than fifty percent (50%) of impervious surfaces of a previously developed site is proposed to be altered, and the previous development project was not subject to post-construction stormwater quality control requirements, the entire development site (i.e., both the existing development and the proposed alteration) shall comply with the provisions of subsection C of Section 12.84.440 , below	
	9b	Where less than fifty percent (50%) of impervious surfaces of a previously developed site is proposed to be altered, and the previous development project was not subject to post-construction stormwater quality control requirements, only the proposed alteration shall comply with the provisions of subsection C of Section 12.84.440 , and not the entire development site	
	9c	Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of facility or emergency redevelopment activity required to protect public health and safety. Impervious surface replacement, such as the reconstruction of parking lots and roadways which does not disturb additional area and maintains the original grade and alignment, is considered a routine maintenance activity. Redevelopment does not include the repaving of existing roads to maintain original line and grade	

Table 1 Select Project Type			
		Project Type	Applies?
NON-DESIGNATED PROJECTS	1	Where the development project involves a previously undeveloped site or results in an addition or alteration of at least fifty percent (50%) of the impervious surfaces of an existing developed site, the entire site shall be brought into compliance with the provisions for a Designated Project .	
	2	Where the development project results in an addition or alteration of less than fifty percent (50%) of the impervious surfaces of an existing developed site, only such incremental development shall comply with the provisions for a Designated Project .	
STREETS AND ROADS	1	In addition to complying with all other applicable provisions of Section 12.84.440 , development projects involving street and road construction of ten thousand (10,000) square feet or more of impervious surface area shall follow USEPA guidance regarding "Managing Wet Weather with Green Infrastructure: Green Streets 26" (December 2008 EPA-833-F-08-009) to the maximum extent practicable. This subsection applies to standalone streets, roads, highways, and freeway projects, and also applies to streets within larger projects.	

<p>Table 2 LID Requirements by Project Type</p>	
DESIGNATED PROJECTS	<p>Runoff shall be controlled through infiltration, bioretention, and/or rainfall harvest and use. Projects must retain the onsite Stormwater Quality Design Volume (SWQDv) as defined by the greater of:</p> <ol style="list-style-type: none"> 1. The 0.75", 24-hour rain event, or 2. The 85th percentile, 24-hour rain event as determined from the Los Angeles County 85th percentile precipitation isohyetal map (www.dpw.lacounty.gov/wrd/hydrologygis)
	<p>Bioretention and biofiltration systems shall meet the design specifications provided in Appendix E of LA County's LID Manual.</p>
	<p>Biofiltration systems shall be entirely open-bottom.</p>
	<p>When evaluating the potential for onsite retention, each project must consider the maximum potential for evapotranspiration from green roofs and rainfall harvest and reuse for both indoor and outdoor use.</p>
	<p>To demonstrate technical infeasibility, it must be shown that a project site cannot reliably retain 100 percent of the SWQDv onsite. Technical infeasibility may result from the following:</p> <ol style="list-style-type: none"> 1. The infiltration rate of saturated in-situ soils less than 0.3 inch per hour. 2. Seasonal high ground water is within 5 to 10 feet of the surface. 3. Locations within 100 feet of a ground water well used for drinking water. 4. Brownfield development sites where infiltration poses a risk of pollutant mobilization. 5. Locations with potential geotechnical hazards.
	<p>When technical infeasibility has been demonstrated the site must biofiltrate using the following equation for the volume required (Bv):</p> $Bv = 1.5 * (SWQDv - Rv)$ <p style="text-align: right;"><i>Where: Bv = Biofiltration volume</i> <i>SWQDv is defined above</i> <i>Rv = Volume of reliably retained onsite (amount infiltrated)</i></p> <p><u>Note:</u> For additional alternative compliance measures see Regional Water Quality Control Board Order No. R4-2012-0175 section VI.D.7.c.iii (http://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/municipal/index.shtml)</p>
	<p>Project sites that outlet to natural drainage systems that are subject to hydromodification shall be in compliance with LA County's LID Manual, Section 8.</p>
	<p>The plans must show complete construction details, materials, manufacturer, model number, dimensions, location, structures, slopes, construction notes, specifications, cross sections, elevations, GPS x-y coordinates for each BMP, and setbacks from property lines needed to construct proposed LID BMPs. BMPs shall not adversely impact building foundations, pavement, slope stability, or an adjacent property.</p>
	<p>Clearly show driveway/access road drainage and provide BMPs for treatment of driveway flows. Provide elevations, cross sections, or slopes as applicable.</p>
	<p>Submit and obtain approval from Environmental Programs Division, Industrial Waste Unit. An annual operating permit may be required. Environmental Programs Division (EPD), Industrial Waste Unit - 900 S. Fremont, Alhambra, Annex Building, 3rd floor, (626) 458-3517. Please contact EPD for required fees and minimum submittal requirements. Please note: prior to obtaining approval from EPD the location and the design flows for all BMPs must be shown on plans and approved by Building and Safety. (This may apply to non-residential projects that propose proprietary filters, drywells, or hydrodynamic separators)</p>
	<p>Pre-treatment BMPs are required.</p>

Table 2 LID Requirements by Project Type	
NON-DESIGNATED PROJECTS	<u>Development which alters less than 50% of impervious surfaces:</u> Only the proposed new impervious areas need to meet LID requirements as described above for <i>Designated Projects</i> .
	<u>Development which alters 50% or more of impervious surfaces:</u> Entire site shall meet LID requirements as described above for <i>Designated Projects</i> .
	The Delta Stormwater Quality Design Volume (the difference in the volume of runoff between undeveloped -1% impervious surfaces- and post-developed condition, Δ SWQDv) using the water quality design storm event shall be infiltrated at the lot level. If Δ SWQDv cannot be infiltrated due to geotechnical or technical feasibility as indicated in Section 7 of the LA County's LID Manual, the onsite storage or other water conservation requirements must be implemented.
	Provide calculations for sizing the proposed BMPs. The calculations must consider Δ SWQDv, percolation rate, and geotechnical considerations.
	Plans must show complete construction details, materials, manufacturer, model number, dimensions, location, structures, slopes, construction notes, specifications, cross sections, elevations, GPS x and y coordinates for each BMP, and setbacks from property lines needed to construct proposed LID BMPs. BMPs should be designed as not to adversely impact building foundations, pavement, slope stability, or an adjacent property.
	Hydrology Calculations to determine the increase in volume due to development is required. For smaller sites, the County's Hydrocalc Program may be used for determining pre- and post-construction volumes. See Section 6 of LA County's LID Manual.
	A drain system is required for all infiltration basins. Drain systems shall discharge to an approved location and must be shown on site drainage or grading plans. Calculations for sizing of the infiltration basins are required.
	Applicable to all LID Projects: All catch basins and inlets that discharge into an existing or proposed storm drain must be labeled to discourage dumping of pollutants. Stencils are available at your local Building and Safety office.

All Infiltration basins, dry wells, or planters must comply with the setbacks in Table 3, below:

Table 3 Infiltration Facility Setbacks	
Setback from	Distance in feet
Property lines and public right-of-way	5' min.
Any foundation	15', or within a 1:1 plan drawn up from the bottom of the foundation*
Face of any slope	H/2, 5'-min. (H is the height of the slope)*
Seasonal high ground water	10' min. depth to invert
Water wells	100' min.

*Unless otherwise recommended by a geotechnical engineer.

Infiltration time shall comply with Table 4:

Table 4 Required Infiltration Time (due to vector control)	
BMP Type	Duration
Open above ground (includes planting soil or open gravel pit)	48-hrs. to drain completely
Underground retention	96-hrs. to drain completely

Additional requirements and documentation are outlined in Table 5, below:

Table 5 Additional Documentation Requirements for all LID	
Document Description	Provided
An Infiltration Report by a Soils Engineer and the grading plans must be submitted for review to approval of an Infiltration/Retention - Low Impact Development (LID) BMP. The Infiltration Report must comply with Los Angeles County GMED Geotechnical Memo GS 200.1 and should be presented as its own report. All recommendations and notes as indicated in the soils engineering report and/or GMED review sheets must be incorporated into the grading plans. The GS 200.1 memo can be found at: http://dpw.lacounty.gov/gmed/permits/docs/policies/GS200.1.pdf .	
Rainwater harvest and reuse systems that are NOT gravity fed require approval from LA County Public Health, Cross Connection & Water Pollution Control Program. The application and further information is found at: http://publichealth.lacounty.gov/eh/EP/cross_con/cross_con_main.htm . In addition, approval from LA County, Building and Safety Plumbing Section is required. Rainwater harvest design and plans must comply with County of Los Angeles, Plumbing Code, Chapter 16 –Non-Potable Rainwater Catchment Systems.	
Different types of infiltration facilities such as dry wells, unlined sumps, seepage pits, and infiltration galleries are some of the terms used to describe Class V injection wells as defined by the EPA. Register the proposed infiltration facility at the following online registration form: http://www.epa.gov/uic/forms/underground-injection-wells-registration .	
A recorded covenant indicating that the owner of the subject development is aware and agrees to maintain all stormwater BMP features for this project is required. The covenant shall include operation and maintenance guidelines prepared by the project civil engineer/architect. See attached LID Covenant Preparation and Recordation instructions. A draft copy of the covenant including all exhibits must be reviewed prior to recordation.	

The following information must be provided on the plans for LID Projects:

Date of Maintenance Agreement:	<input type="text"/>		
Proposed Impervious Area:	<input type="text"/>		sq. ft.
Design Storm (check one):	<input type="checkbox"/> 85 th Percentile	<input type="checkbox"/> 0.75 in.	
SWQDv:	<input type="text"/> cu. ft.	<input type="text"/> Percent retained onsite	
LID Solution (check one):	<input type="checkbox"/> Infiltration	<input type="checkbox"/> Biofiltration	

INSTRUCTIONS FOR PREPARATION AND RECORDATION OF LID COVENANT AND SUPPORTING DOCUMENTS

1. SUBMIT the following documents to your Plan Checker:
 - a. LID Covenant
 - b. LID Site Diagram on 8 ½ x 11 sheets with X and Y coordinates of LID BMP's (Exhibit 1)
 - c. LID Maintenance Guidelines (Exhibit 2)

Submit these documents to your plan checker for approval as to form prior to signing and notarizing. Plan checker will notify applicant if documents are ready for recordation or if corrections are needed.

2. COVENANTS MUST BE SIGNED, NOTARIZED, AND RECORDED. Sign, notarize and record documents after notification that the documents are ready to record.

Note: RECORDATION is the responsibility of the applicant The main Recorder's Office is located at 12400 Imperial Highway, Norwalk, CA 90650. Additional branch offices for recording documents are available.

Information for the County's Recorder's office can be obtained on the internet at <http://www.lavote.net> or by calling (562) 462-2125 for more information.

Applicant must provide copy of the recorded LID Covenant and Exhibits stamped by the recorder's office. A conformed copy will be stamped by the County Recorder, if necessary, for immediate plan approval. (It is recommended applicants obtain a copy of the recorded document.) Otherwise, the original should be returned to the designated section by the County Recorder in approximately three (3) weeks.

3. For any required forms mentioned below please see:
<http://dpw.lacounty.gov/bsd/publications/index.cfm> (under headings: Drainage and Grading, LID and NPDES)

RECORDING REQUESTED BY AND
MAIL TO:

CITY OF GARDENA
BUILDING AND SAFETY DEPARTMENT
1700 West 162nd Street
Gardena, CA 90247-3732

Space above this line is for Recorder's use

COVENANT AND AGREEMENT
REGARDING THE MAINTENANCE OF LOW IMPACT DEVELOPMENT (LID) &
NATIONAL POLLUTANTS DISCHARGE ELIMINATION SYSTEM (NPDES) BMPs

The undersigned, _____ ("Owner"), hereby certifies that it owns the real property described as follows ("Subject Property"), located in the County of Los Angeles, State of California:

LEGAL DESCRIPTION

ASSESSOR'S ID # _____ TRACT NO. _____ LOT NO. _____

ADDRESS: _____

Owner is aware of the requirements of County of Los Angeles' Green Building Standards Code, Title 31 Section 4.106.4 (LID), and the National Pollutant Discharge Elimination System (NPDES) permit. The following post-construction BMP features have been installed on the Subject Property:

- ☐ Porous pavement
- ☐ Cistern/rain barrel
- ☐ Infiltration trench/pit
- ☐ Bioretention or biofiltration
- ☐ Rain garden/planter box
- ☐ Disconnect impervious surfaces
- ☐ Dry Well
- ☐ Storage containers
- ☐ Landscape and landscape irrigation
- ☐ Green roof
- ☐ Other _____

The location, including GPS x-y coordinates, and type of each post-construction BMP feature installed on the Subject Property is identified on the site diagram attached hereto as Exhibit 1.

Owner hereby covenants and agrees to maintain the above-described post-construction BMP features in a good and operable condition at all times, and in accordance with the LID/NPDES Maintenance Guidelines, attached hereto as Exhibit 2.

Owner further covenants and agrees that the above-described post-construction BMP features shall not be removed from the Subject Property unless and until they have been replaced with other post-construction BMP features in accordance with County of Los Angeles' Green Building Standards Code, Title 31.

Owner further covenants and agrees to maintain all drainage devices located within his or her property in good condition and operable condition at all times.

Owner further covenants and agrees that if Owner hereafter sells the Subject Property, Owner shall provide printed educational materials to the buyer regarding the post-construction BMP features that are located on the Subject Property, including the type(s) and location(s) of all such features, and instructions for properly maintaining all such features.

Owner makes this Covenant and Agreement on behalf of itself and its successors and assigns. This Covenant and Agreement shall run with the Subject Property and shall be binding upon Owner, future owners, and their heirs, successors and assignees, and shall continue in effect until the release of this Covenant and Agreement by the County of Los Angeles, in its sole discretion.

Owner(s):

By: _____ Date: _____

By: _____ Date: _____

A notary public or other officer completing the attached certificate verifies only the identity of the individual who signed the document to which the certificate is attached, and not the truthfulness, accuracy, or validity of that document.

(PLEASE ATTACH NOTARY)

FOR DEPARTMENT USE ONLY:

MUST BE APPROVED BY CITY OF GARDENA BUILDING AND SAFETY DIVISION PRIOR TO RECORDING.

APPROVED BY: _____
(Print Name)

(Signature)

Date _____