

CITY OF EL CENTRO RETENTION BASIN STANDARDS

DEFINITION

A retention basin is an on site (within a development) depressed area for stormwater collection that is designed to temporarily retain the stormwater and resulting runoff within a development. A retention basin is an open space area not a park.

PURPOSE OF RETENTION BASINS

The primary purpose of a retention basin is to reduce the maximum flow rate and load on the stormwater drainage collection system, which is currently operated and maintained by the Imperial Irrigation District. The secondary purpose of a retention basin is to incorporate pollution control and groundwater recharge concepts. Also, these efforts to design and construct storage areas for the percolation of stormwater further reduce runoff and the potential adverse impact to the receiving waters.

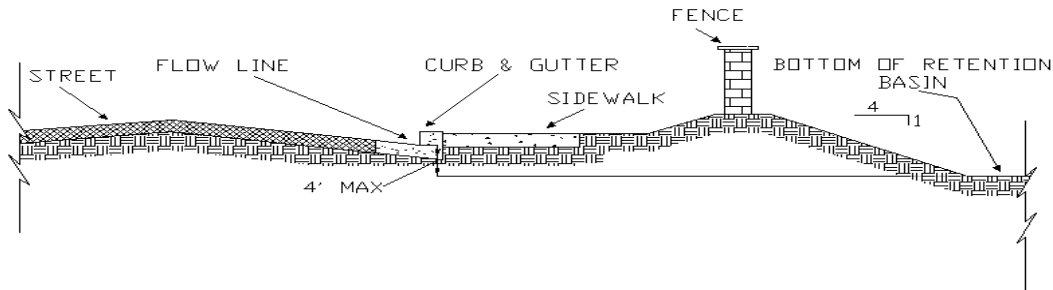
USE OF THIS DOCUMENT

The intent of this document is to outline the minimum acceptable standards for the design and construction of retention basins as well as define the responsibility of the developer in the planning, constructing, and financing of these public improvements; and to establish procedures for review and approval of engineering plans. All improvements in retention basins, that are required as a condition of approval, shall be the responsibility of the developer.

ENGINEERING DESIGN

- Retention basins shall be limited to five (5) acres or less.
- The Volume of the Retention Basin shall be based on calculating a depth of 3 inches for the entire area of the development.
- Collection System piping shall be based on a 1 inch per hour intensity.
- The Retention Basin must be drained within 72 hours after the Rainfall Event, to eliminate and prevent Mosquito development.
- Engineering, Landscaping and Irrigation Plans shall be submitted to Engineering and Planning for review and approval.

- Developer may submit an alternative design of drainage system if approved by the City and Imperial Irrigation District (IID).

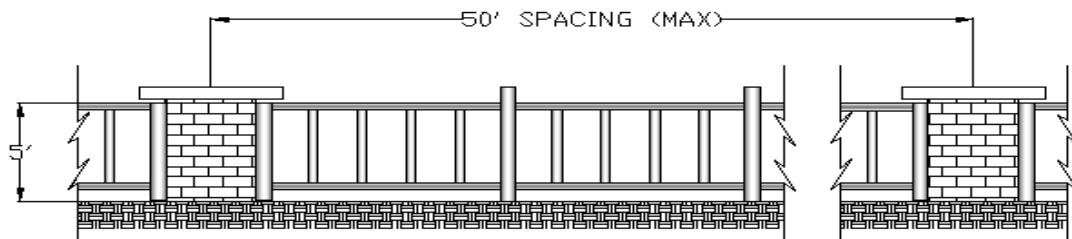


STREET RETENTION BASIN CROSECTION
(NTS)

- Depth of retention basin shall not exceed four feet maximum.
- Depth shall be measured from adjacent street's gutter flow line (used as datum).
- The slope of the retention basin shall not exceed a 4:1 slope.
- In cases where the depth of the retention basin exceeds four feet, the depth shall be a minimum of five feet above the water table at its highest point during the preceding year.
- Water meters shall be installed on all retention basins as per City Code Chapter 28-5.
- Each service connection from the City's water system shall be protected against backflow of the water from the premise into the public water system and meet the requirements of City Code Chapter 28-24, 28-25, 28-26, 28-27, 28-28.

ACCESS AND FENCING

- Retention basin shall be enclosed with wrought iron fence with pilasters spaced fifty feet maximum on center.
- An alternative decorative fence may be proposed and submitted to the Director of Public Works/City Engineer for review and approval.



WROUGHT IRON FENCE W/ PILASTERS
(NTS)



Wrought Iron Fence with Pilasters

- The retention basin fence shall have lockable personnel gates to restrict access during storm events.
- At least one access gate shall include an ADA accessible concrete ramp down to the bottom of the retention basic (and to the walking path, if provided). This ramp shall be integrated with access to an adjacent street sidewalk and have a turn around area at the end of the path for wheelchair and vehicle access. This pathway shall have lighting with a photocell switch.



Lockable Personnel Access Gate with ADA Ramp



ADA Ramp with Landing and Lighting

- The retention basin fence shall have a vehicle access gate and concrete paved driveway off an adjacent street down to the bottom of the retention basin. A curb cut and driveway approach shall be provided. The gate shall have a lock.



Maintenance Vehicle Access Gate and Driveway with Landing

PERIMETER LIGHTING

- Retention Basin shall have Perimeter Lighting. Lighting shall be “Directional Lighting” (directed away from homes). It shall be placed at a maximum spacing of 300 feet around the perimeter, except when adjacent to streets that have lighting spaced at 300 feet, on the retention side of the street. The Power level of the lighting shall be at least 150W. Solar powered lighting should be considered.

LIGHTING-LANDSCAPE-DISTRICT (LLD) MAINTENANCE

- The Developer shall be responsible for the establishment and cost of a Lighting Landscape District, for the maintenance of the Retention Basin and any other Development Amenities.
- The Developer is to consider installing recreation facilities, such as tennis and basketball courts.
- Developer may use park (Quimby) fees for improvements, such as tot lots, tennis and basketball courts, restrooms and drinking fountains.
- Developer shall include a drinking fountain with drain into a small leach line within the retention basin, unless an exception is granted by the Director of Public Works.
- Any necessary stormwater pumps shall be maintained by the Lighting and Landscape District.
- On retention basins over 3 acres, developer shall (at City’s discretion) provide restrooms.

LANDSCAPING

- Slopes shall have low maintenance drought tolerant landscaping with drip or bubbler type automatic irrigation system.



Slopes with Drought Tolerant Landscaping

- The bottom of the retention basin shall have grass with an automatic sprinkler system.



Retention Basin Bottom with Grass

- Soil on slopes and bottom of retention basin shall be treated with additives and amenities to ensure proper nutrient/chemical balance necessary to support landscaping. Importing of topsoil will be performed when necessary. The landscape contractor shall warranty and maintain the landscaping for one year. If, after a year, the landscaping (plants, groundcover, and grass) does not appear to be healthy and growing, the contractor shall extend the warranty another year and correct the deficiencies.

- An alternative landscaped plan may be proposed and submitted to the Director of public Works/City Engineer for review and then presented to the Planning Commission and City Council for approval.
- If an alternative landscape plan is proposed with “non-grass” groundcover (concrete or stone), then a walking path should be provided.

TOT LOT

- If a tot lot is installed, it shall adhere to the following:
 - a. Be at least six inches above the bottom of the retention basin.
 - b. Have state approved/certified playground equipment.
 - c. Have an impact absorbent surface material with perimeter curb to contain the material.



Tot Lot

SEPARATION FROM YARDS

- Homes that have yards that front the retention basin shall have a block wall separating the yard and retention basin on the property line.



Block Wall Defining Property Line