

Patterson Irrigation District Policy Regarding Urban Developments and Encroachments

The purpose of this policy is to set reasonable requirements for new developments impacting DISTRICT's mission, facilities and/or liabilities to ensure the continued reliable, safe passage of irrigation water and/or irrigation surface drainage return water flowing through or adjacent to developed areas.

The term of "new development(s)" shall include, but not be limited to: any new subdivision, any new construction on a development parcel whether or not a subdivision or parcel map was required for construction, and any action which destroys, or damages the ability of the District or and District facility to transport irrigation water in the facility's normal manner.

Applicability:

DISTRICT Construction Standards shall apply to all governmental, residential, commercial and industrial developments within an urban sphere of influence that are adjacent to or over DISTRICT canals, pipelines and associated appurtenances

Background:

DISTRICT has established consistent practices involving the modifications of its facilities as a result of new developments directly impacting its facilities (relocation, pipelining, etc.) or indirectly impacting DISTRICT facilities by changing the surrounding land use, ground level, drainage paths, etc.

These established practices are the culmination of experience in conveying water safely and consistently to DISTRICT constituents throughout the District. With increasing urbanization, certain restrictions have emerged to address critical health and safety concerns pertaining to DISTRICT's operation and maintenance of its distribution system.

Elements Used to Establish Policy:

Two elements were used to establish this policy:

1. **Maintaining DISTRICT's Mission:** DISTRICT Distribution facilities are needed to accomplish the requirements established by the District to deliver flows from the San Joaquin River, Delta-Mendota Canal, groundwater wells, surface irrigation drainage return flow retention reservoirs to irrigable lands, or lands with water use within the sphere of influence of the District. Any new developments shall not adversely impact such flows or the deliverability of such flows.
2. **Health and Safety:** New developments that change the existing land use adjacent to DISTRICT facilities shall not introduce new liabilities associated with these facilities that adversely affect the health and safety of the public at large.

Objectives:

The objectives of this policy are to:

1. Maintain existing service to DISTRICT constituents.
2. Maintain existing or create new capacities for DISTRICT drainage and irrigation-designated facilities.
3. Prevent flooding of developments.
4. Prevent failure of existing DISTRICT facilities due to changes in adjacent settings.
5. Mitigate the potential for Right of Way or near Right of Way in DISTRICT facilities within and adjacent to the development area.
6. Prevent exposure of DISTRICT facilities to new or higher concentration pollutants affecting the beneficial use of the facilities.

Definitions:

1. Development Shall Mean:
 - a. A change in the land use or zone change, e.g., from agricultural to urban, with the development of buildings, parking lots and paved areas, or other types of urban improvements; or
 - b. Parcel splits and/or division of land for: (1) development; (2) sale; (3) lease; (4) or, any parcel on or adjacent to an DISTRICT facility created by such land division that is ten acres or less.
2. Pipeline Assembly: A pipeline assembly shall include the required pipeline, transition structures, manholes, delivery structures, control structures, gates, valves and other required appurtenances to provide for a complete system capable of performing the required function of conveying irrigation water, irrigation surface drainage return water and conveying sediment loads.

DISTRICT Administrative Requirements:

The following items provide an outline of the DISTRICT required process for developments that impact DISTRICT facilities.

1. DISTRICT staff will meet with the developer during the initial planning phase(s) of the development to review the development, DISTRICT's requirements and to provide general information at the developer's request. Information on other impacts to DISTRICT not addressed by this policy may also be discussed.
2. A Letter Agreement will be signed and appropriate fees will be submitted to DISTRICT so that a project file can be created.
3. DISTRICT will perform a hydraulic design of DISTRICT facilities impacted and provide the developer with required information as applicable, including required pipeline sizes, transition structures and/or lining requirements.

4. Plans and Specifications:
 - a. The developer shall cause plans and specifications for required improvements to be prepared by competent persons legally qualified and licensed by the State of California to perform the engineering and design work.
 - b. Plans and specifications shall be submitted to DISTRICT for review and approval prior to commencement of the work.
 - c. Developer shall cause a signature/approval block, for the signature of the DISTRICT Engineer, to be placed on the cover sheet of the Improvement Plans and/or Tentative/Final Parcel Map.
5. A Construction Agreement shall be executed by DISTRICT and the Developer and required bonds and insurance will be provided prior to DISTRICT signing the plans
6. No work shall occur within DISTRICT Right Of Way or on DISTRICT facilities until the Construction Agreement, bonds, insurance and DISTRICT approved plans are complete.

DISTRICT Facility Requirements:

1. Open channels and pipeline assemblies where it is determined by the DISTRICT a pipeline facility is required:
 - a. The replacement of an existing DISTRICT pipeline assembly shall be required due to changes in the required pipeline capacity, type and/or required strength, alignment or elevation to accommodate a proposed development.
 - b. Existing open channels shall be replaced with a pipeline assembly if the existing open channel:
 - i. Is contiguous to the proposed development.
 - ii. Is located within the proposed development.
 - c. Execute a letter agreement with the developers, the City of Patterson and the District providing for a legally binding long-term commitment to fund the annual sediment clean-up from the improved pipeline facilities, in perpetuity.
 - d. Purchase and provide for DISTRICT installation, DISTRICT approved flow meters at locations to be determined by the DISTRICT in the improved facilities for metering of flows in the improved, closed pipeline system.
2. Open, manmade channels where it is determined by the DISTRICT an open channel may continue to meet DISTRICT facility requirements:
 - a. Previously Lined Open Channels:
 - i. DISTRICT will inspect the existing liner and determine if the liner must be repaired or replaced.

- ii. Open channels contiguous to the proposed development: A minimum 6 foot high masonry block wall shall be constructed outside of and adjacent to the DISTRICT Right Of Way along the length of the development adjacent to or contiguous to the DISTRICT Right of Way .
 - iii. Open channels within a proposed development: A minimum 6 foot high masonry block wall shall be constructed outside of and adjacent to both sides of the DISTRICT Right Of Way.
 - iv. Required access gates will be determined during the design review process.
 - v. Adjacent property owners will not have access rights to the DISTRICT facility and cannot place gates in the block wall or fence.
- b. Earthen channels: Earthen channels shall be lined as follows:
- i. Open channels contiguous to the proposed development:
 - 1. Liner shall include the bottom of the channel and the inside slope of the channel adjacent to the development, up to one vertical foot above the high water elevation.
 - 2. A minimum 6 foot high masonry block wall shall be constructed outside of and adjacent to the DISTRICT Right Of Way along the length of the development adjacent to or contiguous to the DISTRICT Right Of Way.
 - ii. Open channels within a proposed development:
 - 1. Liner shall include the bottom of the channel and both sides of the inside slope of the channel, up to one vertical foot above the high water elevation.
 - 2. A minimum 6 foot high masonry block wall shall be constructed outside of and adjacent to both sides of the DISTRICT Right Of Way.
 - iii. Required access will be determined during the design review process.
 - iv. Adjacent property owners will not have access rights to the DISTRICT facility and cannot place gates in the block wall or fence.

Required Right-of-Way:

DISTRICT shall be granted the following exclusive rights-of-way (Right Of Way) width to compensate for the following pipeline nominal inside diameters (these widths may be

reduced by 5-feet if the Right Of Way is directly adjacent to a roadway or other DISTRICT approved accessible public Right Of Way):

Nominal Pipeline Diameter (inches)	RIGHT OF WAY Width
Less than or equal to 42-inches	20-feet
48-inches to 54-inches	25-feet
60-inches to 72-inches	30-feet
78-inches to 84-inches	35-feet
> 84-inches	To be determined by DISTRICT
Box Culverts	Right Of Way width shall be the same as for a pipeline with a nominal diameter equal to the outside width of the box culvert.
All pipe sizes	In addition to the required Right Of Way above, a minimum of 12-feet drivable Right Of Way shall be provided adjacent to one side of new or existing structures.
Open Channels	If required by DISTRICT, a Right Of Way shall be granted to DISTRICT from outside left bank toe of slope to outside right bank toe of slope.

Pipeline Material

Pipelines 36-inches in diameter or larger shall be rubber gasket reinforced concrete pipe (RGRCP). Pipelines less than 36-inches in diameter shall be RGRCP or Polyvinyl Chloride (PVC) Pipe. RGRCP and PVC Pipelines shall be manufactured in accordance with the requirements listed below.

The following pipeline materials are approved for use on DISTRICT facilities:

1. Reinforced concrete pipe with rubber gaskets shall be manufactured in accordance with ASTM C361. In addition, all pipe shall contain sufficient reinforcement to sustain external loads under ASTM C76 based on the class of pipe per design engineer's recommendation and DISTRICT approval.
2. Polyvinyl Chloride (PVC) with rubber gaskets shall be manufactured in accordance with ASTM D1784 and D2241. Gaskets shall meet the requirements of ASTM F 477 and the pipe joint shall be manufactured in accordance with ASTM D 3139. The Dimension Ratio (DR) shall be per design engineer's recommendation and DISTRICT approval.
3. Alternative pipeline materials may be submitted to DISTRICT for review and approval.

Pipeline Installation

Pipeline assemblies, shall be provided, installed and constructed in accordance with DISTRICT standard details and specifications, and per DISTRICT comments on design review plans and specifications.

Deviations and Variances

The General Manager is authorized to grant deviations and variances from any requirement under this policy if the General Manager determines the variance would be in the best interests of the DISTRICT.