

SECTION 7: BUILDING SEWERS

Section 7.01 Building Sewer Standards:

- A. These building sewer criteria shall govern the installation of an individual building sewer upper lateral.
- B. The requirements for a building sewer lower lateral shall generally conform to Sections 3 and 5 of these Standard Specifications except where otherwise provided in this Section.
- C. In the case of development projects, the building sewer lower lateral is installed normal to the installation of the development's sewer improvements and shall conform to the Standard Specifications.

Section 7.02 Permit Required:

- A. Prior to performing any work that would alter in any way the building sewer or any sewer appurtenance, a written permit must be obtained from the District.

Section 7.03 Costs Borne by Owner/Applicant:

- A. All costs and expenses incidental to the installation and connection of any building sewer to the District's facilities shall be borne jointly and severally by the owner/applicant thereof and said owner/applicant shall indemnify the District from loss or damage that may directly or indirectly be occasioned to any party by the installation of the building sewer.

Section 7.04 Use of Existing Building Sewers:

- A. Existing building sewers may be used in connection with new structures only when they are found, after examination and test, to meet all of the requirements of the Standard Specifications.
- B. All examinations and testing shall be done by the record owner of the real property under District inspection.
 - 1. Said owner shall be responsible for all associated costs for such examinations and testing, and shall be responsible to correct all deficiencies at his/her expense prior to making connection; provided however, that in cases when the building sewer lower lateral has previously been in service with the District, the District may opt to perform repairs on the lower lateral at its expense.

Section 7.05 Separate Building Sewer Required:

- A. A separate and independent building sewer shall be provided for every structure on a parcel; provided, however, that the provisions of this Section may be waived by the General Manager.

1. If waived by the General Manager, two or more structures on a single parcel, under one ownership, may be served by the same common building sewer if it is unlikely, under local agency zoning and general plans, that the parcel can be subdivided in the future.
2. If for any reason, the property is subsequently divided, each building is required to then be separately and independently connected to the public sewer.
 - a) It shall be unlawful for the owner(s) of the subdivided property to thereafter continue to use in common the same building sewer.

Section 7.06 Material:

A. Upper Lateral:

1. The building sewer upper lateral may be cast iron, ductile iron pipe conforming to ANSI/AWWA Standard C151/A21.51 with ceramic epoxy lining, vitrified clay pipe ASTM designation C700, or that plastic material known as ABS Schedule 40 ASTM designation D2661 or equal.
2. The building sewer upper lateral shall be laid on a firm bedding which meets the approval of the District.

B. Lower Lateral:

1. The building sewer lower lateral may be ductile iron pipe conforming to ANSI/AWWA Standard C151/A21.51 with ceramic epoxy lining, vitrified clay pipe ASTM designation C700, or when approved by the District that plastic material known as PVC SDR 26 ASTM designation D3034; to be the same material as the collector sewer to which it connects.
2. The lower lateral shall be bedded in accordance with Section 5.12 of these Specifications.

- C. All joints on the building sewer shall be gas tight and waterproof. No paint, varnish or other coating materials shall be permitted on the joints.

Section 7.07 Size and Slope:

A. Single Family Residential:

1. Building sewers shall be four inches (4") in diameter.
2. Slope shall not be less than 1/4 inch per foot unless otherwise approved by the District.

B. Commercial:

1. Commercial building sewers and multi-family residential building sewers shall be not less than six inches (6") in diameter.
2. Slope shall not be less than 1/8 inch per foot unless otherwise approved by the district.

Section 7.08 Installation:

- A. The installation of building sewers shall be as follows unless otherwise permitted by the District:

1. Excavation:

a) Open Trench Required

- 1) All excavation required for the installation of a building sewer shall be open trench work unless otherwise approved by the District, and shall be in conformance with all applicable rules, regulations, and laws of any city, county, state, or federal agency having jurisdiction.

b) Safety

- 1) All excavations for sewer installations shall be adequately guarded in accordance with current California Occupational Safety and Health Administration (Cal OSHA) regulations and local governing agency requirements so as to protect the public from hazard.

c) Restoration

- 1) Streets, sidewalks, parkways, utilities, and other public property disturbed in the course of work shall be restored to the satisfaction of the District and to the satisfaction of the governing body of the entity in which the public property affected may be situated.

d) Trench Foundation

- 1) Whenever the bottom of the trench is soft or rocky or in the opinion of the District, otherwise unsuitable as a foundation for the pipe, the unsuitable material shall be removed and replaced with crushed rock or other material as directed by the District, so as to provide a stable and satisfactory base.
- 2) Ductile Iron pipe may be required as determined by the District.

2. Pipe Laying:

a) Elevation

- 1) Whenever possible, the building sewer shall be brought to the building below the lowest floor elevation.

b) Grade and Alignment

- 1) The building sewer shall be laid at a uniform grade and in straight alignment.
- 2) Changes in direction shall be made only as necessary and with properly curved pipe fittings.
- 3) Ninety degree fittings shall be the long-sweep type.
- 4) No building sewer shall be laid parallel to or within three feet (3') of any bearing wall.

c) Depth

- 1) The depth of cover shall be in accordance with the latest edition of the Uniform Plumbing Code (UPC).
- 2) If the depth of cover within the public right-of-way is less than three feet (3') as measured from the finish surface to the top of pipe, the entire pipe within the right-of-way shall be ductile iron pipe.

3. Cleanouts:

a) Property Line Cleanout

- 1) A Property Line Cleanout (PLCO) shall be required on the building sewer at the property line /easement—right-of-way line.

b) Other Cleanouts

- 1) Other cleanouts, including, but not limited to, building cleanouts, change in alignment cleanouts, and in-line cleanouts shall be required and installed in accordance with the latest addition of the UPC.

c) Accessibility

- 1) All cleanouts shall be extended to finished grade, properly fitted with appropriate cap/plug and be readily accessible for the purpose intended.
- 2) The surrounding area shall be graded to drain away from any cleanout.

4. Backwater Valves:

a) Elevations Requirement

- 1) A backwater valve shall be provided on any building sewer where the building pad elevation is lower than the top of manhole immediately up stream on the collector sewer serving the parcel or in instances where the manhole immediately up stream will not provide relief.

b) Installation

- 1) The backwater valve shall conform to and be installed in accordance with the latest edition of the UPC and as otherwise required by the District.
- 2) The backwater valve shall be readily accessible.

5. Private Sewage Pump Systems:

a) Where Required

- 1) In all buildings in which any building drain is too low to permit gravity flow to the collector sewer, wastewater carried by such drain shall be lifted by artificial means and discharged to the building sewer lower lateral.
- 2) Such artificial means and discharge facility shall be in accordance with the latest edition of the UPC and the following:

I. Residential Sewage Pump Systems

- i. The residential pump system and its components shall be designed for the purpose intended, and shall be of such design as to provide the most optimum number of pump cycle times throughout the day and/or night so as to prevent a septic waste discharge to the public sewer.
- ii. Prior to installation, the owner/applicant/contractor shall submit, for District approval, the pump design parameters demonstrating that it is appropriate for the application.

II. Commercial Sewage Pump Systems

- i. Complete improvement plans for the design of a commercial sewage pump system shall be submitted to the District for review and approval.

III. General Requirements

- i. The building sewer discharge line from the building drain shall be gravity flow to the sewage pump tank and must include a two-way cleanout within 2' of the building.
- ii. No sewage pump tank shall be located within five feet (5') of any exterior wall or any structure.
- iii. The electrical connections and tank venting shall be inspected by and meet the codes and regulations of the building department of the jurisdiction issuing the building permit.
- iv. Prior to installation, the owner/applicant/contractor shall submit, for District approval, the pump design parameters demonstrating that it is appropriate for the application.
- v. Tank capacity shall not exceed 100 gallons unless approved by the District.

6. Taps into Collector Sewer:

- a) When the installation of an individual building sewer requires a connection of the lower lateral to the collector sewer, the tap will be made by the District unless otherwise authorized.

1) Field Meet Required

- I. The owner/applicant/contractor shall contact the District to arrange a field meet prior to the tap and sewer installation.

2) Payment of Fees

- I. The Tap Fee, in accordance with the District's Fee Schedule Resolution, shall be paid prior to the tap.

3) Owner/Applicant/Contractor Responsibility

- I. The owner/applicant/contractor responsibilities generally include, but are not limited to, all excavation, necessary safety devices, acquisition of any permits required by other agencies, exposing the collector sewer, providing pipe, bedding and backfill materials, and backfilling and surface restoration.

4) District Responsibility

- I. The District will provide the tap fitting/material and make the connection to the collector sewer.
- II. The District will install the lower lateral to the property line/right-of-way line using the owner/applicant/contractor supplied pipe and bedding materials.

Section 7.09 Inspections:

- A. All sewer work related to the installation of a building sewer shall be subject to District inspection.
- B. The applicable inspection fee, in accordance with the District's Fee Schedule Resolution shall be paid prior to inspection.
- C. No backfill shall be placed until the work has been inspected by the District, and in the event of a violation of this requirement, the sewer facilities must be uncovered at the owner/applicant's expense, and the District shall have the right to disconnect the property from the District sewer system until such violation is corrected.
- D. The owner of the property shall pay to the District a reconnection charge in accordance with the District's Fee Schedule Resolution prior to the reconnection, together with all costs and expenses incurred by the District in making such reconnection.

Section 7.10 Testing:

- A. Testing of the building sewer is required and will be inspected by the District as part of the "Rough Inspection".
- B. Either a water test or air test is acceptable and shall be performed as follows:
 1. WATER TEST
 - a) The test shall be performed in accordance with the latest edition of the UPC.
 2. AIR TEST
 - a) The air test shall be performed in accordance with Section 5 of these specifications.

Section 7.11 Water, Dirt and Debris Entering the System:

- A. At no time shall any water, dirt or debris be allowed to enter the existing system.

- B. The only exception to this is clean water used for testing the building sewer.
- C. It is the owner's responsibility to ensure compliance by use of appropriate cap or plug over pipe ends at any time work is not in progress.
- D. If it becomes necessary for the existing sewer system to be cleaned, because of owner's non-compliance, the owner will be required to perform the cleaning work under District inspection, at the owner's expense.
- E. In some instances the District may perform the work and will require that the owner reimburse the District for labor, equipment, materials, etc. prior to acceptance.
- F. A CCTV inspection may be required, at the discretion of the District, at the owner's expense.

Section 7.12 Abandonment:

- A. Any building sewer to be abandoned or that will be unused, including building sewers from structures to be demolished, shall be done in the following manner:
 - 1. The Building sewer upper lateral shall be physically disconnected from the building sewer lower lateral immediately behind the Property Line Clean Out (PLCO), or disconnected at that point in cases where there is no PLCO, by removing a short section of the upper lateral and securely capping both ends of the exposed building sewer.
 - 2. The point of disconnection shall be properly backfilled.
 - 3. If there is no PLCO, the pipe end shall be marked with a 4" x 4" x 4' (long) redwood post, painted green, and a #8 copper wire attached to both the post and the pipe end.
 - 4. The District may, in certain cases, require that the building sewer lower lateral be physically removed up to the collector sewer, and the Wye, Tee or connection fitting securely plugged off.
 - 5. The abandonment of a building sewer shall be done in the presence of the District and all work is subject to District inspection and approval.

Section 7.13 Building Sewer Repairs:

- A. Repairs made to existing building sewers shall conform to applicable provisions of this Section including, but not limited to, permits, costs, materials, excavation, inspection and backfill.

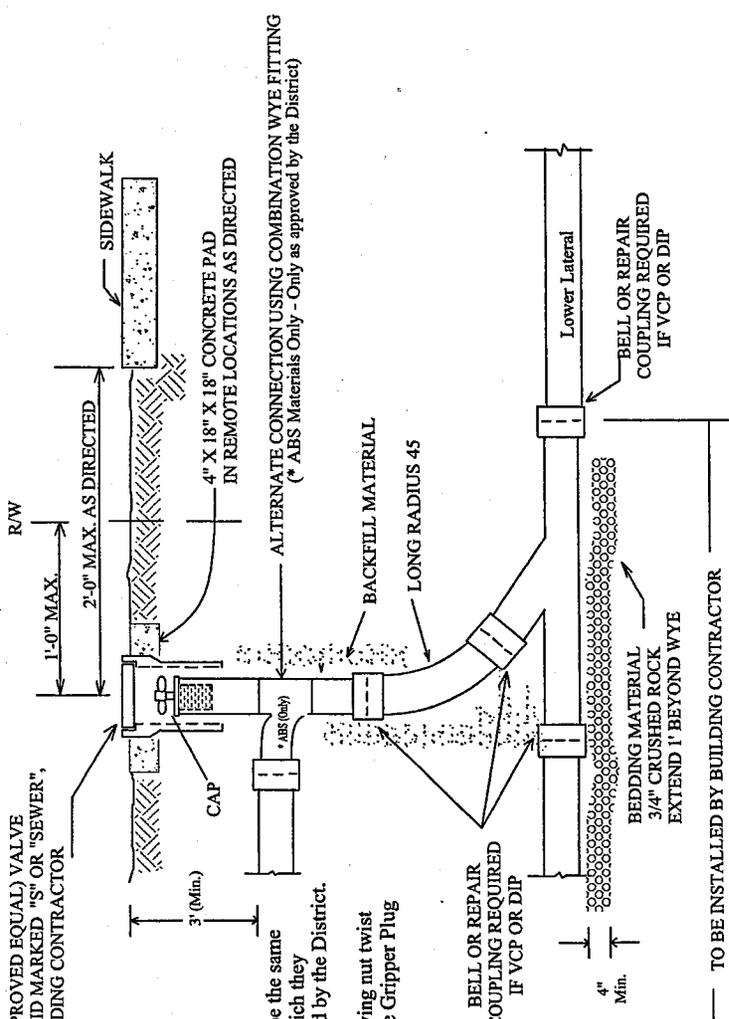
Section 7.14 Damage to Existing Facilities:

- A. Any damage to the District sewer facilities or lower lateral caused as a result of the installation of a building sewer shall be the responsibility of the owner/applicant, and the owner/applicant shall be responsible for all costs incurred by the District.

Section 7.15 Building Sewer Detail Drawings:

- A. Detail drawings related to the installation of a building sewer are contained in this section as follows:
 - 1. Drawing “A”—Property Line Cleanout to Grade
 - 2. Drawing “B”—Backwater Valve, Typical
 - 3. Drawing “C”—Building Sewer
 - 4. Drawing “D”—Residential Pump System

F-8 CHRISTY (OR APPROVED EQUAL) VALVE BOX WITH METAL LID MARKED "S" OR "SEWER", INSTALLED BY BUILDING CONTRACTOR



NOTES:

1. All cleanout pipe and fittings shall be the same size and material as the sewer to which they connect - Unless otherwise approved by the District.
2. Cap shall be non-corrosive, inside wing nut twist plug - Chemne Industries End of Pipe Gripper Plug Model 270245 or approved equal.

BELL OR REPAIR COUPLING REQUIRED IF VCP OR DIP

4" Min.

BEDDING MATERIAL 3/4" CRUSHED ROCK EXTEND 1' BEYOND WYE

Lower Lateral

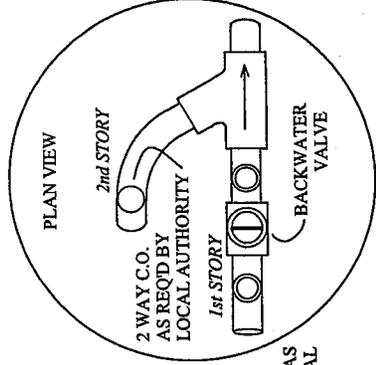
BELL OR REPAIR COUPLING REQUIRED IF VCP OR DIP

TO BE INSTALLED BY BUILDING CONTRACTOR

SPMUD: SECTION 7 - DETAILS

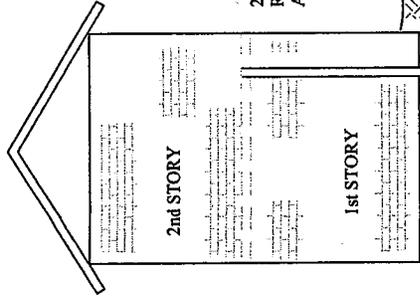
DRAWING 'A'

PROPERTY LINE CLEANOUT TO GRADE



**** NOTE:**

BACKWATER VALVES SET MORE THAN 24" BELOW FINISHED GRADE SHALL HAVE AN INTERGAL GATE RETRIEVAL DEVICE - MAINLINE BACKFLOW PRODUCTS "ADAPT-A-VALVE" OR APPROVED EQUAL.

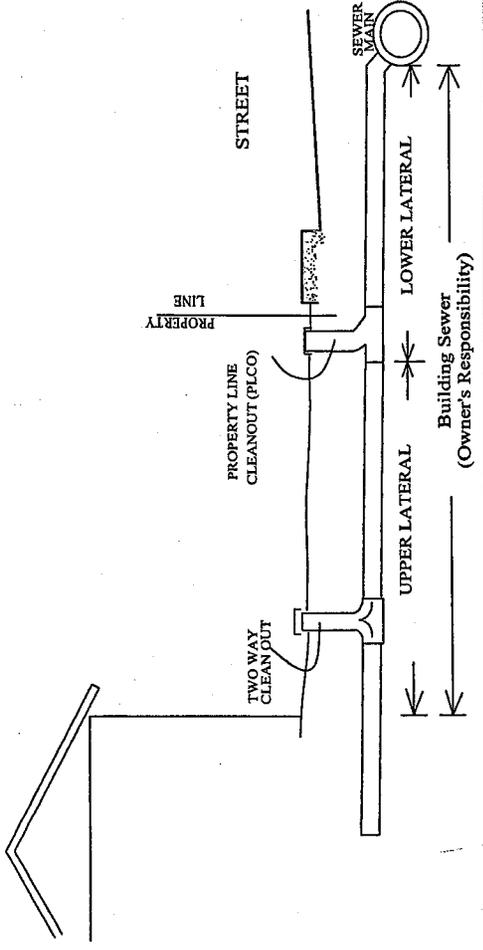


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DRAWING 'B'

BACKWATER VALVE - TYPICAL

NOTE: SEE 'DRAWING C' FOR BACKWATER VALVES AND CLEANOUT ARRANGEMENTS.



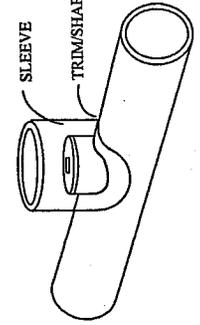
BUILDING SEWER

<p>FOOTING</p> <p>2'</p> <p>3"</p> <p>ABOVE GRADE</p>	<p>FLUSH W/GROUND</p> <p>2'</p> <p>FOOTING</p> <p>BELOW GRADE</p>	<p>INSIDE WING NUT TWIST PLUG Chemie Industries Model 270245 or Approved Equal. (Any Cleanout)</p> <p>RUBBER GEM CAP (TWO WAY & IN-LINE CLEANOUTS ONLY)</p> <p>THREADED ABS PLUG WITH SLIP X THREAD COUPLING (TWO-WAY & IN-LINE CLEANOUTS ONLY)</p>
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TWO WAY CLEANOUT

<p>FOOTING</p> <p>2'</p> <p>PVC ACCESS SLEEVE</p> <p>CLEANOUT BOX(S) MARKED WITH 'S' OR 'SEWER' SET TO GRADE. TRAFFIC RATED BOX(S) REQUIRED IN DRIVEWAYS</p> <p>BACKWATER VALVE</p> <p>BELOW GRADE</p>	<p>FOOTING</p> <p>2'</p> <p>PVC ACCESS SLEEVE WITH CAP - TYPICAL (See also Drawing 'B' of this specification for more information regarding backwater valves.)</p> <p>BACKWATER VALVE</p> <p>ABOVE GRADE</p>
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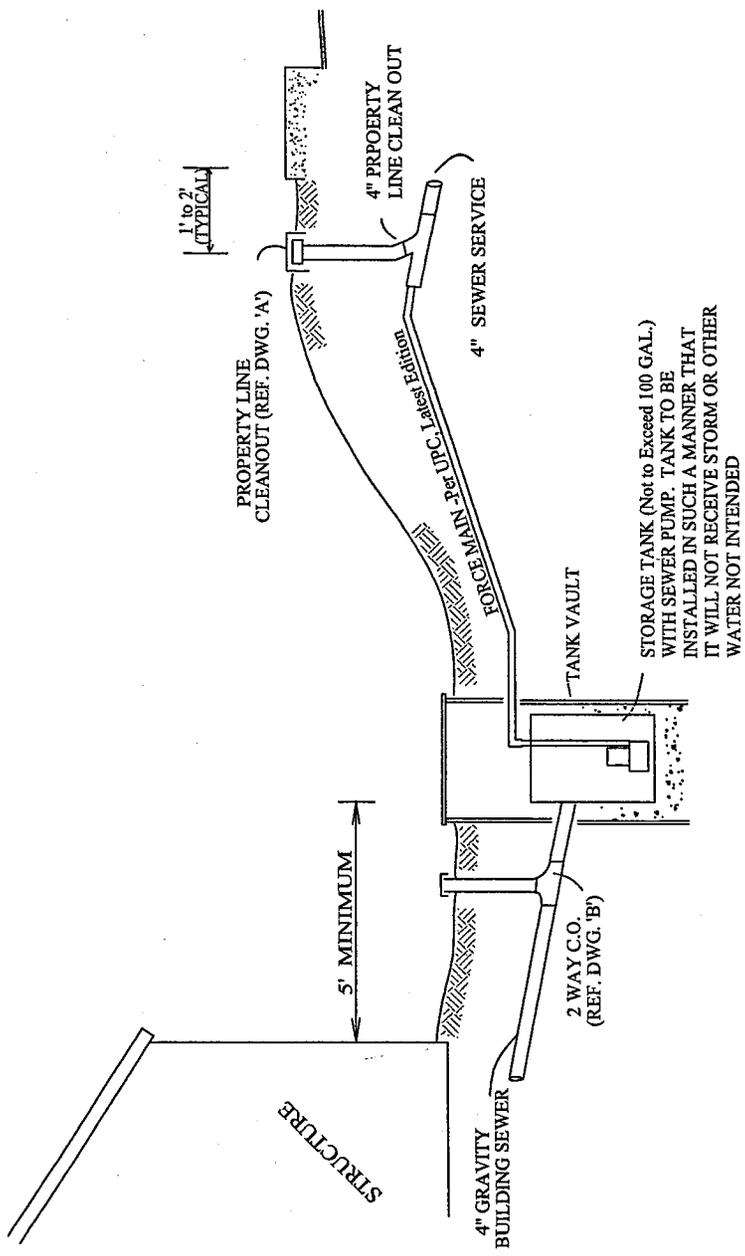
BACKWATER VALVES AND CLEANOUT ARRANGEMENTS



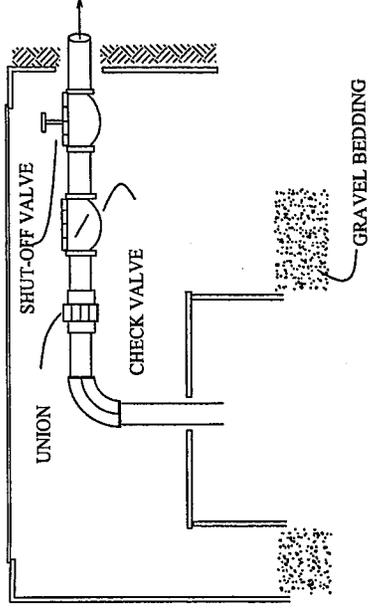
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DRAWING 'C'

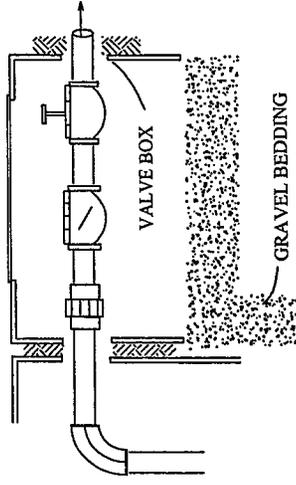
BUILDING SEWER



TOP DISCHARGE-TYPICAL



SIDE DISCHARGE-TYPICAL



NOTES:

1. ELECTRICAL CONNECTIONS AND TANK VENTING TO BE INSPECTED & APPROVED BY GOVERNING CITY, TOWN, OR COUNTY.
2. PRIOR TO INSTALLATION, THE OWNER/APPLICANT/CONTRACTOR SHALL SUBMIT, FOR DISTRICT APPROVAL, THE PUMP DESIGN PARAMETERS DEMONSTRATING THAT IT IS APPROPRIATE FOR THE APPLICATION.
3. TANK CAPACITY NOT TO EXCEED 100 GAL. UNLESS APPROVED BY SPMUD.

SPMUD: SECTION 7 - DETAILS

DRAWING 'D'

RESIDENTIAL PUMP SYSTEM