

12.150 Water Dedication

A. Purpose

B. Contribution

C. Required Dedication

D. Development not in a subdivision

E. Development above the east canal

Section 4: Design Requirements

A. The intent of this section is to ensure that adequate culinary and irrigation water accompany property proposed for development. Such water shares or water rights shall be provided in accordance with the provisions of this section, thereby enabling the City to meet additional demands for both culinary and secondary water created by a proposed development without diminishing the quality, quantity, or level of service to existing users.

B. Contribution Of Water Right Or Water Stock: As a condition of approval of a subdivision, the City Council shall require each owner/developer of real property that has received preliminary approval of a project to dedicate water rights and/or water shares to the City as required by this section prior to final approval being granted. Developments shall be required to dedicate, at a pro-rata basis one water share or right per acre of development. (For example, a development of 2.5 acres would require 2.5 shares or water rights.) The City shall have the right of first refusal to purchase any excess water shares that an owner/developer sells as a result of developing real property.

C. The requirement for usable water may be satisfied through the application of one or a combination of the following options:

1. Culinary quality water, per State Testing, would qualify for conversion to a municipal use with a point of diversion residing in an existing city diversion point or that may be transferrable to an existing city diversion point.
2. Secondary or irrigation quality water from a canal or irrigation company operating within the corporate limits of Hyde Park City. Secondary water shares that are dedicated to the subdivision property as required by the ordinance must remain with the property. It is recommended that appropriate notice be given to the Canal Company for any unused shares to prevent loss of excess water shares. The development agreement will specify the actual number of shares that will be dedicated to the lots within the subdivision. High water or partial season water will not be accepted.
3. If the if the land being developed is above the upper canal, or by any other unique situation is not able to be served by secondary water, a subdivider or developer may in lieu of providing water, pay the amount identified in the most current "prevailing fee schedule" as set forth by the city council. Fees collected by the city shall be earmarked for the purpose of obtaining additional water rights or developing existing water resources. The city may refund any fees received in accordance with this option if the subdivider or developer provides water in accordance with A or B of this section 12.150.
4. The subdivider or developer may choose this option to use in conjunction with 1 -3 above by constructing a secondary distribution system within the development or a portion of the development using these guidelines.
 - A. A distribution system shall be installed so that secondary water is used for watering on each building lot created. The developer is required to create a water entity (HOA or Distribution Coop) whose ownership and management is to be turned over to the subdivision's residents at the earliest possible point in the development timeline, unless title to the required water share(s) can be transferred directly to each lot owner entitled to and responsible for the same. The purpose of the entity is to provide management of

the business requirements related to the water share(s) (pay bills, make assessments, etc.), hold title to the water shares owned and used by the entity for the benefit of the lot owners and other subdivision property, and to maintain the delivery system.

- B. The water entity (HOA or Distribution Coop) is required to provide a method for ensuring the timely payment of assessments to the canal company, for the water dedicated to the subdivision and for payment of assessments. The subdivider shall work with irrigation, drainage or ditch companies to determine:
1. Methods of covering, realigning or eliminating ditches or canals within or adjoining the subdivision.
 2. Methods of distributing available secondary water to each lot and irrigated open space in the subdivision.
 3. The size of pipe and culverts required.
 4. The responsibility for the periodic inspection, cleaning and maintenance of such ditches, pipes and culverts. In cases where canals or ditches cross public roads or proposed public roads, specifications and grades for pipe or culvert must be approved by the public works personnel in cooperation with the DRC and/or the City engineer.

5. Table showing required dedication of water per Residential Zone.

Residential Water Right Requirements in Acre Foot per year.

Zone	Indoor requirement .45 Acre Ft/house	Outdoor Requirement 1.87 Acre Ft/Acre	Total Lot Requirement House + Lot	Per Acre Development Requirement
A1 - Residential Estate 43,560 sq.ft	0.45	1.71	2.16	2.16
A1 - Bonus Density 20,000 sq.ft	0.45	0.86	1.31	2.62
RE20 - Single Family 20,000 sq.ft	0.45	0.86	1.31	2.62
RE20 - Bonus Density 12,000 Sq.ft	0.45	0.52	0.97	3.52
R1 - City Core 13,000 sq.ft	0.45	0.56	1.01	3.38
PUD All Age	0.45	0.24	0.69	3.45
PUD Senior - 55+	0.38	0.24	0.62	3.1

Explanation of calculations

.45 per house and 1.87 per acre for landscape numbers are taken from the Utah Code Title 19, Chapter 4- Safe Drinking Water Act

Household use for Seniors has a reduction from .45 per home to .38 per home determined by the Eagle Mountain Multifamily Project.

Landscaped lot size factor (from random sampling city wide)

A1 = .92-acre

A1 Bonus Density and RE20 = .46-acre

RE20 Bonus Density = .28-acre

R1 = .30-acre

PUDs are .07-acre per the house yard + .06-acre for open space = .13

(This uses a lot size of 6,000 sq.ft plus one fifth of the 30% open space requirement.)

Example:

A proposed subdivision within the RE 20 (Bonus Density) zoning will have 10 acres of buildable land (roads, etc already being taken subtracted). This will allow for 36 building lots. Each building lot would require 0.45 acre feet of water for indoor uses and 0.25 acre feet of water for outdoor use, for a total of 0.70 acre feet of water per building lot. Thus, the entire subdivision would require 25.20 acre feet of water. This could be accomplished by doing one or more of the following:

1. Dedication of 25.20 acre feet of culinary quality water to the city.
2. Dedication of 25.20 acre feet (or 25 shares) of water from a canal or irrigation company operating in Hyde Park.
3. Pay the amount identified in the "fee schedule" for the 25.20 acre feet.
4. Secondary water system can be created to serve the 36 building lots within the subdivision. This would satisfy 16.20 acre feet of water. The other 9 acre feet of water would be satisfied by one of the above options.

D. Property not in a Subdivision:

The building of a home in an area not included in a platted subdivision shall contribute the equivalent shares or rights on a prorated basis for the entire acreage of the proposed building lot (see chart above). If the proposed development anticipates a remainder parcel or agricultural property in excess of the residential use and that land or remainder parcel meets the requirements for future developable land, the city shall only require those shares associated with the residential development consistent with the lot size of the zone in which the property is located; for instance, if one house is being built on a ten (10) acre parcel in the A-1 zone the builder would convey only one acre right. Water shares/rights on remaining land will be subject to review at the time that future development occurs. The city council may approve exceptions in cases where the property owner certifies that it is their intent to irrigate their lot using irrigation water. A partial conveyance to account for indoor water usage and outside watering adjacent to the residence shall be the minimum requirement.

E. Secondary Water development East of the Upper Canal.

1. Dry secondary water lines will be provided in new development as stated in section 7.2 of the Hyde Park City Master Water Plan. (dated 12-14-2016)
2. The developers engineer will work in concert with the City engineer to design a secondary system for the project using the guidelines in Section 4

SECTION 4: DESIGN REQUIREMENTS

Section 4 outlines design criteria that will be required. All submitted plans shall meet at a minimum the criteria provided and use the highest engineering practices. Developers engineer will be required to use design criteria unless otherwise specified by City Engineer.

4.01 Secondary Water System

This section provides general guidance for the City's secondary water system. Items may be added, replaced or eliminated as deemed necessary by the City. Additional information may also be required.

4.01.01 Policies.

1. The distribution system shall be designed to maintain a minimum of 40 psi at all points of connection, under all conditions of flow, but especially during peak instantaneous flow conditions.
2. There shall be no physical connections, public or private, which would result in cross connections to any potable water main from secondary water mains. No connections shall be made to any sewer, storm drain, or appurtenances thereto, which could permit the passage of any wastewater or polluted water into the secondary supply.

4.01.02 Secondary Water Design

1. Minimum Line Size. The minimum line size serving cul-de-sacs or linear looped streets shall be 4 inch, when serving less than eight lots. The minimum line size serving cul-de-sacs or linear looped streets shall be 6 inch, when not more than 12 homes/units are connected to the main. The minimum line size in all other conditions shall be 8 inch. Actual flows must be modeled to ensure that minimum sizes are adequate for normal flow requirements as well as when some looping lines are out of service. Sizes are subject to engineering review.
2. Water Line Placement.
 - a. All secondary water distribution mains within residential subdivisions shall be placed in the park strip area.
 - b. Secondary water mains shall be laid at least ten feet horizontally from any existing or proposed sewer line.
 - c. Secondary water mains shall not be installed at side or rear property lines. All lines will be installed within a Public Right of Way.
 - d. Magnetic Locator Tape Required. All pipe shall include a 3-inch wide magnetic locator tape installed in the pipeline trench approximately 12 inches above the pipe.
 - e. Service laterals shall typically be run one for every two lots, and shall be 1 ½ inch diameter ips polyethylene pipe. Where single service lines run under the street (long side), the services shall be 1

- ½ inch diameter ips polyethylene pipe. Short side services shall be 1" diameter ips polyethylene pipe.
3. Cover Requirements. All water lines and appurtenances shall have a minimum cover of 36 inches.
 4. Pipe Material.
 - a. Polyvinyl Chloride Pipe (PVC) C900 may be used for buried sizes 8 inches and smaller. Ductile iron pipe PC – 350 or CL-52 shall be used for all pipe 10 inches and larger. All fittings and valves 4 inches and larger shall be ductile iron and must meet the requirements of NSF 61 and ANSI/AWWA C-153.
 - b. All PVC pipe shall be Purple and all ductile iron shall have AWWA C105 purple polyethylene wrap.
 5. Slope water pipe and position drains at low points.
 6. Locate air release stations at the end of cul-de-sacs, on all dead-end pipes, high points within the system and as directed by the City Engineer.
 7. Connection to existing pipeline shall be made as such times and within the time limits as directed by the city.

4.01.03

Valves.

1. Valves. Manufacturer's name and pressure rating marked on valve body. Valves 8" and smaller shall be gate valves, valves 10" and larger shall be butterfly valves.
2. Gate Valves Up To 3 Inches.
 - a. Brass or Bronze body, non-rising stem, inside screw, single wedge or disc, IPS ends, and hand wheel.
 - b. Product: Powell U.S. Bronze Gate Valves or accepted equal.
 - c. Substitutions: See Section 01600 – Product Requirements
3. Gate Valves 3 Inches and Over
 - a. AWWA C500, iron body, bronze trim, non-rising stem with square nut, single wedge, mechanical joint or flanged ends as indicated, and cast iron valve box.
 - b. AWWA C509, iron body, bronze trim, non-rising stem with square nut, single wedge, resilient seat, mechanical joint or flanged ends as indicated, and cast iron valve box.
 - c. Product: Mueller Gate Valve or Resilient Seat Gate Valve with appropriate type Tyler 564A Cast Iron Valve Box, or accepted equal
4. Ball Valves Up To 2 Inches.
 - a. PVC body, PTFE seat seal, PVC ball and ABS handle.
 - b. Product: To be approved by Hyde Park City.
5. Swing Check Valves from 2 inches to 24 inches.
 - a. AWWA C508, iron body, bronze trim, 45 degree swing disc, renewable disc and seat, flanged ends.
 - b. Product: Mueller Swing-Type Check Valve, or accepted equal.
6. Butterfly Valves From 2 Inches to 24 Inches.

- a. AWWA C504, iron body, bronze disc, resilient replacement seat, mechanical joint or flanged ends as indicated, manual worm gear operator, and cast iron valve box where required.
 - b. Underground manual operators shall be totally enclosed, factory grease packed and sealed, bronze worm gear operators with self-locking gearing; stops shall be provided to prevent over travel of valve disc.
 - c. Valve operator shall be geared to close valves slowly. Number of turns to close valve from full open position shall be: 32 for 10-inch and smaller valves, 52 for 12-inch thru 16 inch valves, and 76 for 18-inch through 24-inch valves. Closing times for larger valves shall be accepted by the Engineer.
 - d. Product: Mueller "Linesal III" Butterfly Valve with appropriate type Tyler 564A Cast Iron Valve Box, or accepted equal.
- 7. Corporation Stops. shall be type for connecting to copper or polyethylene pipe; Mueller No. H-15000, or accepted equal, for up to 2-inch service line
 - 8. Air Release Valves. shall be combination air release valves; APCO Combination Air Release Valves, or acceptable equal, of size indicated on the drawings.
 - 9. Stop & Waste. Mueller-MUH 10288-010 or Ford b11-4445 SWM . (see drawing SW-01)
 - 10. Valve Box lid shall be triangular and marked irrigation
 - a. Product: Olympic VBU-8500 D&L M-9009

4.01.04

Location of Isolation Valves.

- 1. Placed at the entrance to a cul-de-sac.
- 2. Placed at intervals not to exceed 800 feet in residential areas and 500 feet in commercial areas.
- 3. Placed at intersections on all branches of the system.
- 4. Placed within 10 feet of the upstream and downstream ends of an augured or trenched casing.
- 5. If valves are located in an undeveloped area, a vertical valve marker will be required.
- 6. Valves shall be placed in clusters where possible, and at property lines and point of curves.

4.01.05

Accessories.

- 1. Service Clamps: shall be bronze, double-strap type; Mueller No. H-16000, or acceptable equal, for up to 2-inch service lines.
- 2. Meter Nut: All brass conforms to AWWA standard C800 and shall be able to connect directly to the PVC ball valve and the Neptune T-10 positive displacement meter.

- a. Product: Straight Meter Coupling

4.01.06

Preparation.

- 1. Cut pipe ends square, ream pipe ends to full pipe diameter, remove burrs.
- 2. Remove scale and dirt on inside and outside before assembly.

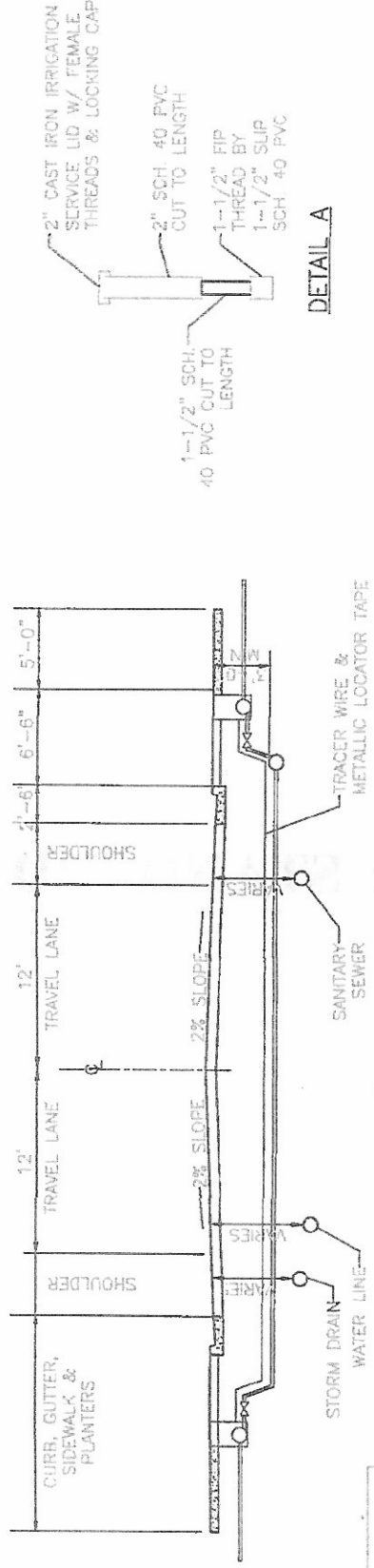
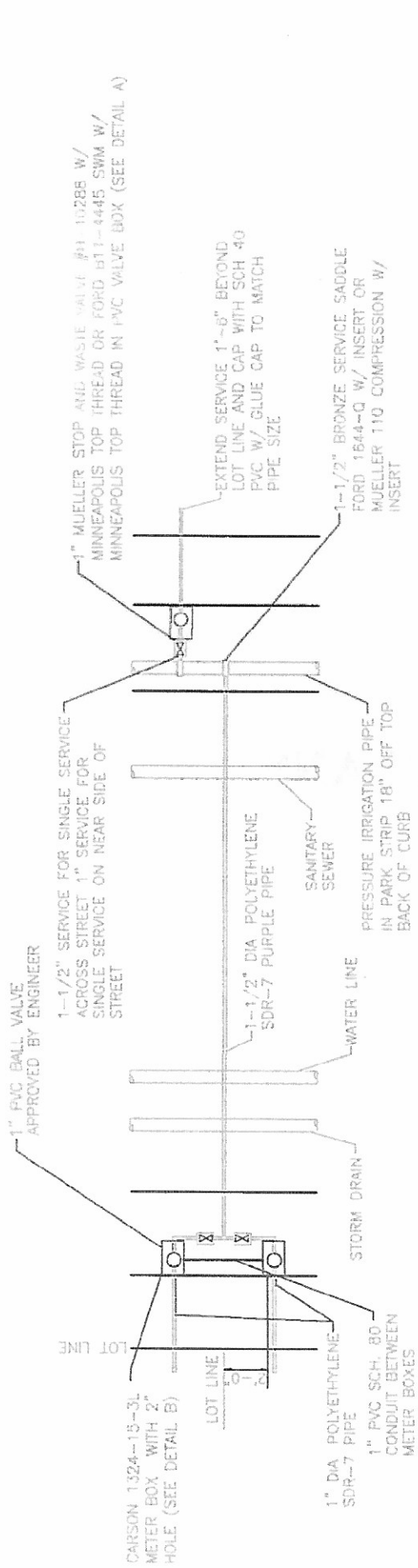
3. Prepare pipe connections to equipment with flanges or mechanical joints.

4.01.07

Service Connections.

1. Service lines shall be installed at uniform grades and alignments; and shall be free of low spots or adverse grades.
2. Service lines shall be cleaned, flushed and tested in accordance with applicable requirements of these specifications.

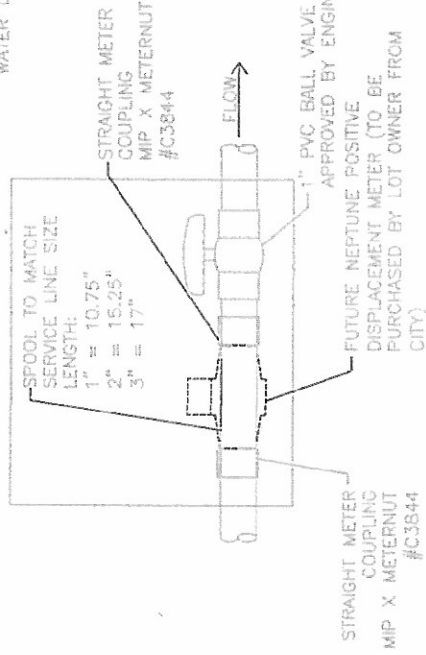
SECTION 5: STANDARD PLANS



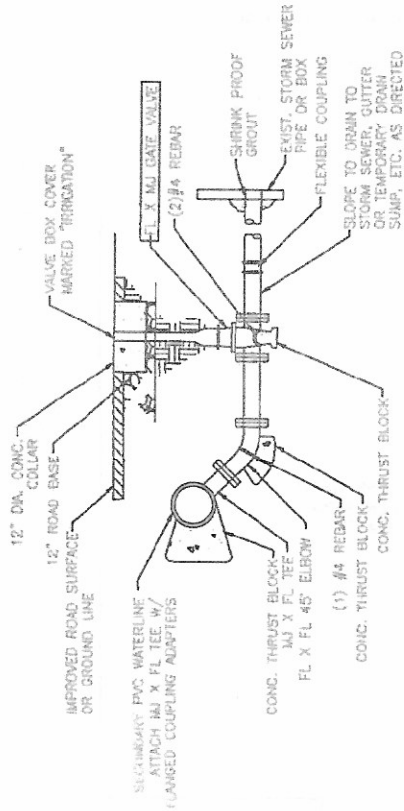
LOCAL - 60' RIGHT-OF-WAY

- NOTES:
1. MINIMUM SURFACE RESTORATION SHALL BE 3" (OR EXISTING +1" IF GREATER) BITUMINOUS OVER 8" ROADBASE COMPACTED TO 95% AT MAJOR STREETS. CITY ENGINEER WILL PROVIDE PAVEMENT DESIGN.
 2. SERVICES MAY BE TUNNELED OR JETTED UNDER CURB AND GUTTER, DRIVEWAYS, OR SIDEWALKS. OTHER STRUCTURES MAY BE OPEN CUT WITH FULL SURFACE RESTORATION AT THE ENGINEER'S DISCRETION.
 3. IF TAPPING SADDLES ARE USED, METHOD OF SAWING/DRILLING TAP HOLES, TYPE OF SADDLE, PROCEDURES MUST BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
 4. POLYETHYLENE PIPE SHALL BE SDR-7-PE 3408 MANUFACTURED TO MEET THE REQUIREMENTS OF ASTM D-2737.
 5. MAIN IRRIGATION LINES 6" OR 8" SHALL BE PVC PURPLE C-900. MAIN IRRIGATION LINES 10" AND LARGER SHALL BE DUCTILE IRON WITH PURPLE POLYETHYLENE WRAP.
 6. ALL CONNECTIONS SHALL BE MADE WITH FORD Q W/ INSERT OR MUELLER 110 COMPRESSION W/ INSERT.
 7. MINIMUM DISTANCE BETWEEN TAPS SHALL BE 24".
 8. ALL PIPE SHALL BE BURIED WITH METALLIC LOCATOR TAPE AND TRACER WIRE 6" MIN ABOVE THE PIPE TO ALL VALVES AND METER BOXES.
 9. CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL OF THE REQUIREMENTS ESTABLISHED FOR SAFE TRENCHING. (SEE OSHA REQUIREMENTS)
 10. ALL CONSTRUCTION SHALL COMPLY WITH HERRIMAN CITY STANDARDS, SPECIFICATIONS & ORDINANCES.
 11. TRENCHING SHALL CONFORM TO CW-02.
 12. ALL SECONDARY WATER LINES SHALL BE PRESSURE TESTED USING CULINARY WATER METHOD DISCUSSED IN THE COMMISSIONING OF WATER LINES IN SECTION 5 IF NO WATER IS AVAILABLE TO TEST AN AIR TEST MAY BE USED. AIR TESTS ARE REQUIRED TO HOLD 35 PSI FOR 2 HOURS.

DETAIL A



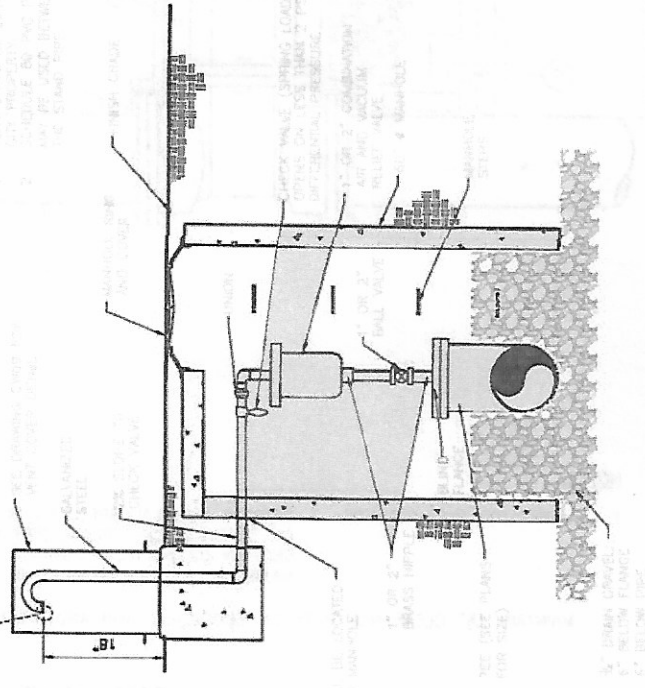
DETAIL B



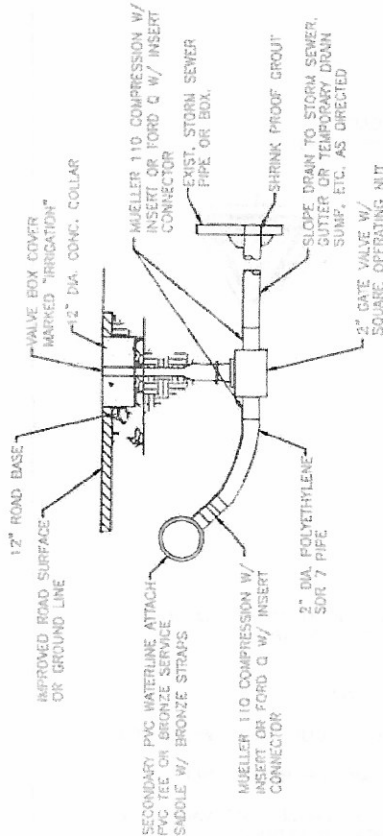
4" DRAIN VALVE DETAIL

2 1/4" ST. BOLTS
RING - SIZE AS REQ'D
TO MATCH FLANGE

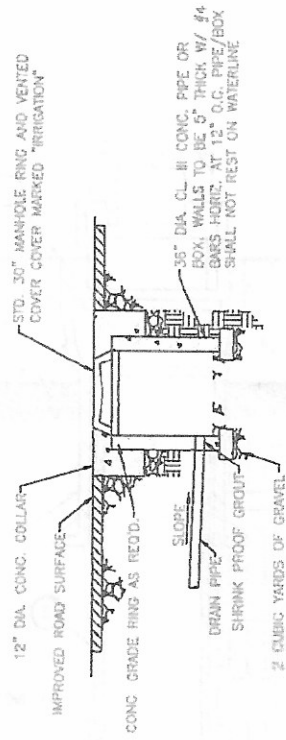
- NOTES:
1. VALVE SHALL BE SUPPLIED BY THE STATE OF UTAH.
 2. VALVE SHALL BE 12" DIA. CONCRETE RING AND VENTED COVER COVER MARKED "IRRIGATION".
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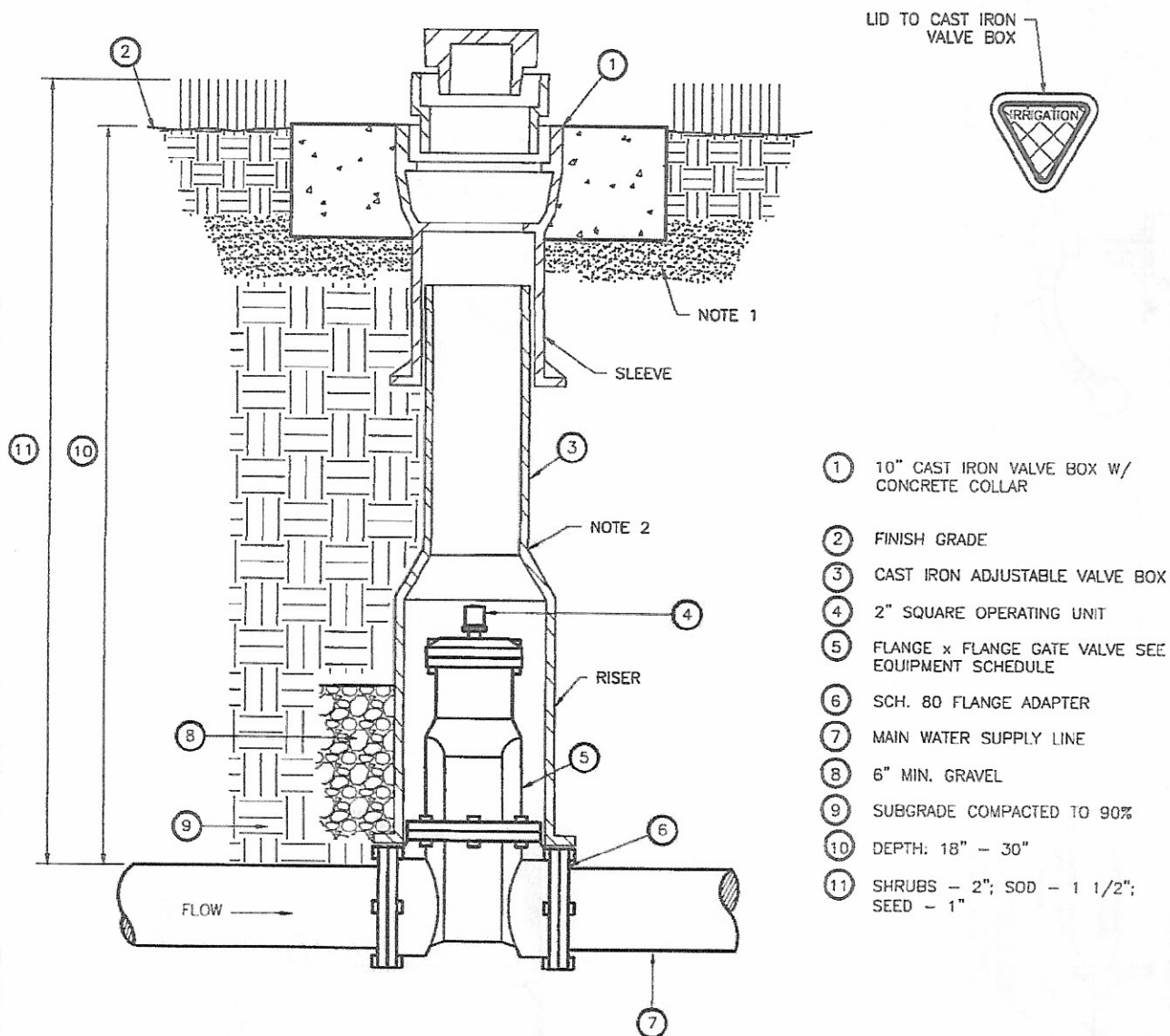
1" & 2" AIR VACUUM RELIEF DETAIL



2" DRAIN VALVE DETAIL



TEMPORARY GRAVEL DRAIN SUMP DETAIL



NOTES:

1. UNTREATED BASE COURSE: PROVIDE MATERIAL SPECIFIED IN APWA SECTION 02060. DO NOT USE GRAVEL OR SEWER ROCK. PLACE PER APWA SECTION 02322. COMPACT PER APWA SECTION 02324 TO A MODIFIED PROCTOR DENSITY OF 95% OR GREATER. MAXIMUM LIFT THICKNESS IS 8" BEFORE COMPACTION.
2. MAINTAIN 1 1/2" CLEARANCE BETWEEN SLEEVE SECTION AND RISER SECTION.

GATE VALVE

HYDE PARK CITY

113 E CENTER ST.
HYDE PARK, UT 84318
(435) 563-8507



GATE VALVE

IR-07

DATE: 02-25-2020