

CITY OF UNION GAP, WA

**WATER
DEVELOPER
STANDARDS**

G&O #00005

ADOPTED NOVEMBER 13, 2000

TABLE OF CONTENTS

DIVISION 1	Developer Agreement for Watermain Extensions
DIVISION 2	Instructions to Developers
DIVISION 3	Developer's Bond Easement for Water Pipeline Bill of Sale
DIVISION 4	General Conditions
DIVISION 5	Water Works General Specifications for Materials and Construction
DIVISION 6	Standard Details

11/13/00

DIVISION 1
DEVELOPER AGREEMENT FOR
WATERMAIN EXTENSIONS

CITY OF UNION GAP

DEVELOPER AGREEMENT

This agreement, by and between the City of Union Gap, a municipal corporation, hereinafter referred to as "City," and the property owner or party responsible for the property, _____, hereinafter referred to as "Developer":

WITNESSETH: That whereas the City of Union Gap, a municipal corporation provides water service within the corresponding water service area boundary, and the above-named Developer is preparing to construct an extension, modification, or additions hereto, and said development requires the City's water service;

WHEREFORE, THE PARTIES AGREE AS FOLLOWS:

1. Developer agrees to construct the water system additions, or changes thereto, to be connected to the City's water lines, with the agreements conditioned as set forth below. The water system additions or changes thereto, are to be located within that area commonly referred to as _____, which property is described in Exhibit "A" attached hereto and referred to hereinafter as "Premises".
2. As a condition precedent to City's obligations under this agreement, the Developer shall construct the proposed water system addition, or changes thereto, within said premises so as to conform with City's Standard Specifications and Details for construction (see Divisions 4, 5, and 6), as adopted together with any amendments thereto hereinafter made, and further to conform with the City's comprehensive planning documents, as amended, which agreement shall include any oversizing of water source, storage, and distribution facilities necessitated by the comprehensive planning documents.
3. The Developer agrees that the construction of the water system addition or changes thereto, shall not commence until the following conditions have been fulfilled:
 - a. The Developer shall furnish the City with three (3) sets of detailed plans for the water system addition or changes thereto, prepared by a qualified engineer (who shall be currently licensed and registered as a professional engineer in the State of Washington) at the Developer's own expense.
 - b. The Developer shall submit a project construction cost estimate prepared by the Developer's engineer (who shall be currently

licensed and registered as a professional engineer in the State of Washington) at the time plans are submitted to the City for review.

- c. The Developer shall pay a non-refundable fee for review of design documents and inspection of public works improvements. Review and inspection fees shall be based on the quantity of each item to be constructed. For the purpose of calculating review and inspection fees, the value of public works improvements must be approved in writing by the City. Materials used to construct public works improvements must be approved in writing by the City. Review and inspection fee calculations shall be calculated and submitted by a Washington State licensed professional Engineer.

For proposals involving public works improvements valued at less than five hundred thousand dollars (\$500,000), review and inspection fees shall equal the greater of three hundred dollars (\$300) or five percent of the value of the public works improvements. For proposals involving public works improvements valued between five hundred thousand dollars and one million dollars (\$500,000 - \$1,000,000), review and inspection fees shall be twenty-five thousand dollars (\$25,000). For proposals involving public works improvements valued at more than one million dollars (\$1,000,000), review and inspection fees shall be equal to two and one-half percent of the cost of the public works improvements.

Proposals will ordinarily be reviewed and inspected in the order they are submitted to the City. An applicant may request expedited review or inspection. However, an applicant shall have no right to such expedited review or inspection. The City may determine the terms and conditions of such expedited review or inspection, including, without limitation, compensation for overtime work.

- d. Upon plan completion meeting the City's requirements, the City will approve, in writing, the Developer's plans.
- e. Five copies of the final approved plans shall be submitted to the City by the Developer.
- f. Minimum requirements for all plans for water system additions or changes thereto, submitted to the City for review are:

- (1) All preliminary plans and documents shall be submitted in triplicate, wherein one set is to be retained by the City, one set is to be returned to the applicant, and one set is to be retained by the City's consultant.
 - (2) A preliminary plat of the area in which said water system additions or changes thereto, are to be constructed, which plat has been approved by the Yakima County Planning Department or City Planning Commission and/or City Council.
 - (3) A map showing the location of the plat in relation to the surrounding area.
 - (4) A contour map of the plat with contour intervals of five feet or less extending fifty (50) feet beyond the plat/property lines.
 - (5) A map showing the location and depth of all proposed utilities and any connections and/or interconnections to existing facilities or future extensions.
 - (6) A 1"-50' plan of the water system showing streets, lot lines, dimensions, and location of bench marks and monuments for the proposed plat, together with an indication of the development of the adjacent property.
 - (7) A profile 1"=50' horizontal and 1"=5' vertical of the finished road grades with the water lines and other pertinent underground utilities located, with elevations noted thereon. The elevation datum shall be the same as used by the City.
 - (8) Full-sized detail sheets shall be included as part of the construction drawings, as required to clearly indicate the details for all of the water system addition or changes thereto, to be constructed, consistent with City standards.
 - (9) Specifications as required describing the work, consistent with City's standard specifications.
 - (10) Approval from all regulatory agencies.
- g. Construction requirements in addition to the City's standard specifications and details for developer extensions, as adopted, are as follows:

- (1) All streets and/or roadways shall be graded to within six inches of final grade before installation of water lines.
 - (2) All lots shall be fully staked to assist all parties involved in the proper location of water services.
 - (3) All contractors shall have a Washington State Contractors License.
 - (4) The Developer's water system addition or changes thereto, on Premises shall not be connected to City's system until authorized by City, and such connection shall be performed under the supervision and direction of the City. Valves shall not be turned by anyone other than City personnel without prior written permission from the City's Public Works Department.
- h. Developer hereby agrees to hold harmless the City and its officials, employees and agents from any liability, damage, cost, or expense of any type, including court costs and reasonable attorneys fees, in any manner relating to, caused by, or arising out of this project, specifically including but not limited to personal injury or death, property damage, or any damages resulting to the City's water facilities or users thereof, together with any expense or liability incurred by City or its officials, employees or agents by reason of Developer's (or Developer's agents', or Developer's contractors' or subcontractors' agents') breach of any covenant contained on any franchise granted for the purpose of enabling the Developer to undertake construction. Developer further agrees that in the event any agent of the City discovers that the Developer is violating such franchise in any respect or if the Developer damages any of the City's facilities, the City shall give the Developer such notice as is reasonable under the circumstances to make repairs or restoration. In such event that the City deems it necessary to make any repairs or restoration (emergency or otherwise), the City shall be reimbursed for all costs thereof. Notice to the Developer shall be given at the following address:

Name: _____

Address: _____

Telephone: _____

4. The construction of Developer's water system addition or changes thereto, on the Premises shall be supervised by the City or its consultant in such a manner and at such times as the City deems reasonably necessary to assure that construction of the system will conform with the above-mentioned plans and specifications. The Developer herewith agrees to allow such inspections and agrees to cooperate providing reasonable advance notice on his construction schedule during the various construction phases as requested by the engineers.
5. The Developer's water system addition or changes thereto, on Premises shall not be accepted for service and use until the same have been fully inspected and approved, and the following requirements have been performed:
 - a. Prior to request for final acceptance, submit to the City the original tracings with all changes from the original design corrected to reflect the as-built conditions (any unconstructed facilities and notes which no longer apply shall be completed removed from the as-built drawings). The Developer's Engineer (who shall be currently licensed and registered as a professional engineer in the State of Washington) shall certify the accuracy of the record drawings and shall affix his seal and signature to each and every sheet. As-built drawings shall include, at a minimum, the following items:
 - Water lines: materials, lengths, size, and location
 - Water valves: location, depth of bury and types
 - Fire hydrants: location and types. (Projects which involve the installation of new fire hydrants may be required to be flow tested by the affected fire department or district. The Developer, his contractor and/or engineer shall coordinate the required flow testing and the information shall be included on the as-built drawings in a separate table or note. If the affected fire department or district elects not to flow test the hydrants, written documentation of such shall be submitted to the City prior to acceptance of the project. All hydrants will be assigned an identification number by the City and said number shall be stamped into the hydrant's operating nut by the Developer as directed by the City.)
 - Blow-offs: location and types

- Air and vacuum relief valves: location
 - Pressure reducing valve: location
 - Water main blocking: location
 - Water meters: sizes and locations shown on a table (Stationing of the meter box and setter, depth of service line, size of service line and address or addresses served.)
 - Water services: sizes locations and materials
 - Public utility easements: locations and widths, recording number (both the County's and the City's recording number)
 - Detailed connections (all valves, tees, fittings, and appurtenances)
 - Fire Sprinkler connection:
 - Location of line
 - Size of line
 - Location of detector vault
 - Location of service valve
 - Location of fire department connection
 - Location of post valve indicator valve if required
- b. Payment of all permit fees and equivalent assessment charges and any other applicable City charges required for Premises.
- c. Payment of all plan check and inspection fees.
- d. Prepare, furnish for review, and then record the required easements in accordance with City's standard form, and furnish the recorded document to the City. New public utility easements shall be a minimum of 20 feet in width. All easements shall be shown on the Developer's plans and indicate both the assigned City of Union Gap easement number and the recorded Yakima County easement number. See Division 3.
- e. Furnish the City with an affidavit warranting there are no liens against the improvements constructed on Premises by him/her, this affidavit to be in the form prescribed by the City (see Exhibit "B").
- f. Furnish the City with a Bill of Sale conveying the water system addition or changes thereto, which is to become the property of the City and is defined in the Bill of Sale. Water system additions or changes thereto sold to the City shall include a two-year guarantee, in the form of a developer's bond, that the improvement will be free of defects in labor and materials. Form to be as prescribed by the City.
- g. Where the Developer is allowed to use private property adjacent to the work, the property so used shall be returned to its original or superior condition. The Developer shall make all arrangement in advance with such property owners, to insure that no conflicts will ensue after the property is restored as described above. The Developer shall furnish the City with a

written release from said private property owners, if the City deems it to be necessary to obtain such document. Upon performing all requirements, including those as set forth in Paragraph 5 above, the City shall accept the water system additions or changes thereto which are defined in the Bill of Sale, and agree therewith to take on the operation and maintenance of said system.

6. In the event any warranty repairs are required, the City agrees, whenever feasible, to provide the Developer with reasonable notice before directly undertaking such repairs. The City reserves the right, however, to effect emergency repairs as deemed necessary by the City's engineers and/or supervisors. The Developer shall reimburse the City for all costs and expenses thereof.
7. For the purpose of applying RCW 4.24.115 to this Agreement, the Developer and the City agree that the term "damages" applies only to the finding in a judicial proceeding and is exclusive of third party claims for damages preliminary thereto.

The Developer agrees to indemnify and hold harmless the City from all claims for damages by third parties, including costs and reasonable attorney's fees in the defense of claims for damages, arising from performance of the Developer's express or implied obligations under this Agreement. The Developer waives any right of contribution against the City.

It is agreed and mutually negotiated that in any and all claims against the City or any of its agents or employees by any employee of the Developer, any contractor or subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation hereunder shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Developer or any contractor or subcontractor under Workmen's Compensation Acts, disability benefits acts or other employees' benefits acts. The City and the Developer agree that all third party claims for damages against the City for which the Developer's insurance carrier does not accept defense of the City may be tendered by the City by the Developer who shall, if so tendered by the City, accept and undertake to defend or settle with the Claimant. The City retains the right to approve claim investigation and counsel assigned to said claim and all investigation and legal work product regarding said claim shall be performed under a fiduciary relationship to the City. In the event that the City agrees or a court finds that the claim arises from the sole negligence of the City, this indemnification shall be void and the City shall be responsible for all damages payable to the third party claimant. In the event that the City and the Developer agree or a court finds that the claim arises from or includes negligence of both the Developer and the City, the Developer shall be responsible for all damages payable by the Developer

to the third party claimant under the court findings, and, in addition thereto, the Developer shall hereunder indemnify the City for all damages paid or payable to the City under the court findings in an amount not to exceed the percentage of total fault attributable to the Developer. For example, where the Developer is 25% negligent, the Developer shall not be required to indemnify the City in any amount in excess of 25% of the claimant's total damages.

8. Under no circumstances shall the Developer or his contractor affect emergency repairs to the water system in the event that construction activities should disrupt or damage the water system, without first contacting and receiving authorization from the City. In the event the Developer in his operation damages or disrupts existing improvements, the repairs shall be made at the Developer's expense. In the event they are so damaged or the service disrupted and the Developer fails or is unable to immediately restore the service, then Owners of the improvements may cause the repairs to be made by others and all costs for the same shall be at the Developer's own expense.

Where the construction crosses or is adjacent to existing utilities, the Developer shall exercise extreme care to protect such utilities from damage.

The Developer is alerted to the existence of Chapter 19.122 RCW, a law relating to underground utilities. If any damage is done to an existing utility, the Developer shall notify the utility company involved, and comply with the provisions of RCW 19.122. Any cost to the Developer incurred as a result of this law shall be at the Developer's expense.

The Developer shall be aware that some of the existing City-owned facilities are known to contain asbestos cement (AC) pipe. The Developer shall conduct all work related to existing AC pipe in strict accordance with current WISHA safety regulations and provisions contained within WAC 296-62-077, and all other applicable federal, state, and local rules and regulations. All costs related to work in compliance with established rules and regulations shall be the responsibility of the Developer. Demolition of existing AC pipe, if required, will be permitted only after the proper permits have been obtained. The Developer shall be responsible for all associated fees and permits required for asbestos removal and disposal. Work crews shall be provided with proper protective clothing and equipment. Hand tools shall be used, and the AC pipe shall be scored and broken in lieu of sawing or other methods which release fibers into the atmosphere. Waste AC pipe shall be buried in the trench or removed and wastehailed to a state authorized asbestos-handling waste disposal facility. AC pipe to be abandoned in place shall not be disturbed, except as noted herein, and shall remain in its original position.

The Developer is cautioned that all existing drainage systems, whether open ditch, buried pipe, or drainage structures, are not on record. It shall be in the

responsibility of the Developer to repair or replace all such systems found during construction, which are damaged by the Developer's construction, in a manner which is satisfactory to the City.

- 9. Upon performing all requirements, including those as set forth in Paragraph 5 above, the City shall approve the water system additions or changes thereto which are to remain the property of the Developer. The Developer shall remain responsible for all operation and maintenance of the said property.

SUBMITTED this ____ day of _____, 20__.

BY DEVELOPER *:

* If this Developer Agreement is signed by anyone other than the duly recognized property owner, the Developer shall provide written verification of authorization to act on the project.

CITY OF UNION GAP
DEVELOPER AGREEMENT

Accepted this ____ day of _____, 20__.

City Manager

11/13/00

CITY OF UNION GAP
DEVELOPER AGREEMENT
EXHIBIT "A"

PLAT NAME: _____

DEVELOPER: _____

LEGAL DESCRIPTION: _____

EXHIBIT "B"

AFFIDAVIT OF NO LIENS

STATE OF WASHINGTON)
) ss.
COUNTY OF YAKIMA)

Re: _____

The undersigned, being first duly sworn upon oath, depose and say:

I am the Developer of a water system addition or changes thereto, for the above mentioned plat, and hereby certify as follows:

- 1. That there are no liens against or which may be filed against said project.
2. That all debts, labor bills, and the state sales taxes have been paid in connection with the above-referenced improvements.

By: _____

SUBSCRIBED AND SWORN to before me this ____ day of _____,
20__.

Notary Public in and for the State
of Washington, residing at _____

(Notary Seal)

11/13/00

DIVISION 2
INSTRUCTIONS TO DEVELOPERS
CHECKLISTS

INSTRUCTIONS TO DEVELOPERS

Insofar as possible, the City will provide the water supply and storage. Regardless, it is required that water system additions or changes thereto shall conform to the City's comprehensive planning documents.

1. At the time that the preliminary plot plan is submitted to the City, a letter requesting the availability of water should be submitted to the City for approval. A map showing the area to be served shall accompany this request, as well as documentation of proposed water usage from the water system additions or changes thereto.
2. Plans which include, in whole or part, water system additions or changes thereto shall be submitted to the Department of Health (DOH) for their review and approval. The Developer shall bear all costs to obtain DOH approval. City approval of said plans will not be given until written verification of approval by DOH is received by the City.
3. Prior to the installation of water mains, a "Developer Agreement" for water system additions or changes thereto must be signed by the Developer, and approved by the City. At this time, the Developer should authorize his consulting engineer to proceed with design and furnish the City three (3) copies of the preliminary drawings. After review and approval by all applicable agencies, the Developer's consulting engineer shall provide to the City five (5) copies of the final design of the water system additions or changes thereto. The City's approval of said plans is VOID after one (1) year from the approval date.
4. After the plans are complete and approved, the Developer, if he/she wishes, may call for bids for the work described herein. On all projects, the Developer is responsible for obtaining all necessary permits which may be required by federal, state, or local laws, which may include, but not be limited to, the following:
 - a) SEPA Checklist.
 - b) Approval by Union Gap, including Fire Chief, building official, planning committee, Water/Sewer committee, and City Council where determined necessary.
 - c) City of Union Gap Building Permit.
 - d) City of Union Gap business license (a current City of Yakima business license will be accepted in lieu of a City of Union Gap business license).
 - e) State of Washington Permit and Bond for all work in existing State rights-of-way.

- f) Yakima County Permit and Bond for all work in existing County rights-of-way.
 - g) Department of Health approval of Developer's plans.
 - h) Yakima Regional Clean Air Authority approval of Developer's dust control/abatement plan.
 - i) Department of Ecology construction permit for stormwater control.
 - j) Department of Fish & Wildlife Hydraulic Project Approval (HPA).
5. On projects that are in public right-of-way or otherwise to be turned over to the City upon completion:
- a) The Developer shall only employ contractors that have the following qualifications (written verification of contractor's and subcontractor's qualifications shall be submitted to the City prior to beginning work on the project):
 - Licensed and bonded in the state of Washington;
 - Current Washington State Department of Labor and Industries Workman's Compensation account number;
 - Current Washington State Department of Licensing Contractor's Registration number;
 - Successfully completed five (5) projects of a similar nature and scope which have been completed by the contractor/subcontractor within the last 10 years. Projects shall have been for a municipality, county or state government, private utility company or special utility district. The general nature of the contractor's/subcontractor's work for each project shall be identified. Provide reference names and telephone numbers for all projects listed.
 - b) The Developer shall secure a Developer's Bond guaranteeing the completion of this work and payment of bills and guarantee the materials and workmanship for two (2) years.
6. After the award of the Contract and before proceeding with any work on the job, the Developer shall notify, in writing, the City Public Works Department at least 7 days in advance of start of work. The City, at this time may require a pre-construction conference. Any work that is performed without proper notification of the City will be summarily rejected. The City of Union Gap Standards and Specifications are contained in other sections of this document. It is the responsibility of the Developer and his contractor to familiarize themselves with the City's Standards and Specifications prior to starting work. On all construction work, the Developer shall be responsible for the performance of the work and any advice given by the City's

Inspector is just that, and the Developer shall be responsible for directing his contractor. Nothing contained herein or advice given by the City's Inspector shall relieve the Developer of his responsibility for conformance with the approved plans and specifications and the City's Standards and Specifications.

7. During the progress of the work, the Developer shall keep the City informed of the work progress. The Developer shall request inspection by the City prior to covering pipe and at other major phases of construction.
8. The Developer and contractor shall notify the City Public Works Department, in writing, at least 7 days prior to request for cut-in, unless otherwise directed by the City. All connections to the City water system will be made by the City, including individual service connections and cut-ins.
9. All fees must be paid prior to ordering meters. This includes, but is not limited to, installation fees and connection charges that might be applicable to this development as stated in the City's municipal code. At this time, the Developer may order and secure meters from the City. Special water meters may require 60 days for delivery to the City.
10. After completion of construction, the Developer and contractor shall notify the City Public Works Department, in writing, at least 7 days prior to the desired date of the City's final inspection and recommendation for acceptance. This inspection shall be performed with the City, Contractor and the Developer in attendance.
11. The Developer shall furnish the City with a cost breakdown showing the total cost of construction for the construction.
12. The Developer shall furnish the City permanent easements that are necessary or applicable to the water system additions or changes thereto and all necessary as-built drawings, as detailed in the Developer Agreement.

PROJECT #: _____

**CITY OF UNION GAP
DEVELOPER EXTENSION CHECKLIST**

NAME OF PROJECT/PLAT: _____

DEVELOPER/OWNER: _____

CONTACT PERSON: _____ PHONE: _____

DEVELOPER'S ENGINEER: _____ PHONE: _____

CONTRACTOR: _____ PHONE: _____

CURRENT ZONING: _____

PROPOSED LAND USE: _____

		Applies to project? (Y / N)	City Dept.	Dept. Initial	Date
1.	Letter requesting availability of water, along with service area map submitted for approval (See Division 1, Item 1).		PWD		
2.	Developer Agreement submitted (See Division 1).		PWD		
3.	Corporate acknowledgement (See Division 3).		PWD		
4.	Cost breakdown furnished (See Division 2, Item 11).		PWD, CE		
5.	Three (3) copies of the detailed construction plans and specifications submitted for Plan Review (See Division 2, Item 3).		PWD		
6.	DOH approval of plans received (See Division 2, Item 2 and Division 2, Item 4f).		PWD		
7.	Master plan received (as applicable) (See Division 2, Item 1).		UC		

8.	Building Department review and approval of plans (See Division 2, Item 4b).		BO		
9.	SEPA checklist received (See Division 2, Item 4a).		UC		
10.	D.N.S., M.D.N.S., or D.S. made (See Division 2, Item 4).		BO		
11.	E.I.S. required/approved (See Division 2, Item 4).		BO		
12.	Fire Department review (See Division 2, Item 4).		FD		
13.	All applicable permits and business license(s) acquired (See Division 2, Item 4).		CM, BO		
14.	Easements received, reviewed, and approved by City attorney (See Division 3).		CA		
15.	Utility committee meeting (See Division 2, Item 4b).		UC		
16.	City Council action required on preliminary project (See Division 2, Item 4b).		UC		
17.	Five (5) copies of the final approved drawings submitted to the City (See Division 2, Item 3).		PWD		
18.	Developers Bond received, reviewed and approved by City Attorney (See Division 3).		CA		
19.	Contractor's insurance certificate approved by City Attorney (See Division 4, Section 22).		CA		

20.	Qualifications and references submitted for the Developer's contractor(s) and subcontractor(s) (See Division 2, Item 5a. and Division 4, Section 26).		CM, PWD		
21.	PRE-CONSTRUCTION CONFERENCE:				
	A. Submit written notification to begin construction (See Div. 2, Item 6).		PWD		
	B. Submit Dewatering Plan. Submit approved HPA from WA State Dept. of Fish & Wildlife as required. (See Division 2, Item 4i).		PWD		
	C. Submit Dust Abatement Plan and Yakima Regional Clean Air Authority approval of said plan (See Division 2, Item 4g).		PWD		
	D. Submit Traffic Control Plan (See Division 5, Section 3).		PWD		
	E. Submit Stormwater Control Plan. Submit construction permit from WA State Dept. of Ecology as required (See Division 2, Item 4h).		PWD		
	F. Submit Erosion Control Plan (See Division 2, Item 4g).		PWD		
22.	CONSTRUCTION:				
	A. Insurance certificate provided to City (See Division 4, Section 22).		PWD		
	B. Project officially begins (See Division 4, Section 5).		CE		
	C. Punchlist items completed (See Division 4, Section 5).		CE		
	D. Final inspection (See Division 4, Section 5d).		CE		
	E. City inspector recommends acceptance of construction as complete (See Division 4, Section 5d).		CE		
23.	City staff approval of construction (See Division 4, Section 5d).		CM, PWD		
24.	Written release from private property owners (as applicable) (See Division 4).		PWD		

25.	Bill of Sale received, reviewed and approved by City Attorney (See Division 3).		CA		
26.	Affidavit of No Liens received, reviewed and approved by City Attorney (See Division 1, Exhibit "B").		CA		
27.	Record Drawings completed, submitted, approved and in City's possession (See Division 1, Item 12).		PWD		
28.	All engineering fees, inspection fees, installation fees, and connection charges as applicable paid in full (See Division 2, Item 9, and Division 4, Section 5c).		CM		
29.	City Council – Final approval and acceptance of the project (See Division 2, Item 4b).		CM		
30.	Two year warranty period expires (See Division 2, Item 5b).		CM		

PROJECT CLOSEOUT:

_____ **CITY MANAGER**

City Department Abbreviations:

- UC - Utility Committee**
- CM - City Manager**
- BO - Building Official**
- PWD - Public Works Department**
- CA - City Attorney**
- FD - Fire Department**
- CE - City Engineer**
- PC - Planning Commission**

11/13/00

DIVISION 3

**DEVELOPER'S BOND
EASEMENT FOR WATER PIPELINE
BILL OF SALE**

**These documents are required only for those projects which be
turned over to the City upon completion of construction and
approval and acceptance of the work by the City.**

DEVELOPER'S BOND

Developer: _____

Surety: _____

City: _____

Amount: _____

Development: _____

KNOW ALL MEN BY THESE PRESENTS: Whereas the City of Union Gap, Yakima County, Washington, has accepted an agreement by the Developer for the construction of an extension to the City's water system additions, or changes thereto, to serve the development, in accordance with the City's regulations governing developer extensions, which regulations are incorporated into this agreement by reference, and which require the Developer to furnish a bond for the faithful performance of the work, and completion of the project within 365 days (within twelve months) from the date of approval of the Developer Agreement.

NOW, THEREFORE, we, the Developer and surety, are held and firmly bound to the City of Union Gap in the amount named above for the payment of which we do jointly and severally bind ourselves, our heirs, personal representatives, successors, and assigns by these presence.

THE CONDITIONS OF THIS OBLIGATION are such that if the Developer, or the Developer's heirs, personal representatives, successors, and assigns shall well and truly keep all the provisions of the regulations of the City applicable to the work described in the Developer's Agreement, and pay all laborers, mechanics, subcontractors, and materialmen, and all persons who shall supply such person or subcontractors with provisions and supplies for carrying on such work and shall indemnify and save harmless the City, its officers and agents, from any pecuniary loss resulting from the breach of said regulations, including the obligation of the Developer to replace or correct any defective work or materials discovered by the City within two years from the date of acceptance of the work, then this obligation shall become void; otherwise, it shall remain in full force and effect.

No change, extension of time, alteration or addition to the work to be performed by the Developer, shall affect the obligation of the principal or surety on this bond, and the surety waives notice of any such change, extension, alteration, or addition thereunder.

11/13/00

This bond is furnished pursuant to the requirements of Chapter 39.08 of the Revised Code of Washington, and the regulations of the City, and in addition to the foregoing, is made for the benefit of the City, together with all laborers, mechanics, subcontractors, materialmen, and all persons who supply such person or subcontractors with supplies and equipment for the carrying on of the work covered by this agreement, whether or not such work is deemed to be "public work" under the laws of the state of Washington.

In witness whereof, the Developer and surety have caused this bond to be signed and sealed by their duly authorized officers or representatives this _____ day of _____, 20 ____.

Developer

By: _____

Surety

By: _____

(Corporate Acknowledgement)

STATE OF WASHINGTON)
)ss:
COUNTY OF YAKIMA)

On this _____ day of _____, 20____, before me, the undersigned a Notary Public in and for the State of Washington, duly commissioned and sworn personally appeared _____ AND _____ to me to be the _____ President and _____ Secretary, respectively, of _____ the corporation that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation for the uses and purposes therein mentioned, and on oath stated that he/she authorized to execute the said instrument and that the seal affixed is the corporate seal of said corporation.

WITNESS my hand and official seal hereto affixed the day and year in this certificate above written.

NOTARY PUBLIC IN AND FOR THE STATE OF
WASHINGTON, RESIDING AT _____

APPROVED AS TO FORM:

City Attorney

CITY OF UNION GAP, YAKIMA COUNTY
BILL OF SALE

KNOW ALL MEN BY THESE PRESENCE that for and in consideration of the sum of One Dollar (\$1.00) and other good and sufficient consideration, receipt whereof is hereby acknowledged, the undersigned grantor(s) _____ do(es) by these presence hereby convey, set over, assign, transfer and sell to the City of Union Gap, Yakima County, Washington, a municipal corporation, the following described water system additions and all appurtenances thereto, situated in Yakima County, Washington:

DESCRIPTION ALONG FROM TO SIZE LENGTH

The said grantor(s) hereby warrants that he, they, it, is/are the sole owner(s) of all the property above described; that no liens or encumbrances of any type, including but not limited to material or labor liens, in any way encumber or will be filed against the property transferred herein; that the grantor(s) have full power to convey all rights herein conveyed and agree to hold the City of Union Gap harmless from any and all claims which might result from execution of this document.

IN WITNESS WHEREOF the grantor(s) has/have executed these presence this _____ day of _____, 20 ____.

XX

(Individual Acknowledgement – see page 3 for Corporate Acknowledgement as needed.)

STATE OF WASHINGTON)

)ss.

COUNTY OF YAKIMA)

On this _____ day of _____, 20____, before me, the undersigned Notary Public, in and for the state of Washington, duly commissioned and sworn, personally appeared, _____, to me known to be the individual(s) who executed the within and foregoing instrument and knowledged that he/she signed the same as his/her free and voluntary act and deed, for the uses and purposes therein mentioned.

GIVEN under my hand and official seal the day and year in this certificate above written.

NOTARY PUBLIC IN AND FOR THE STATE OF
WASHINGTON, RESIDING AT _____

11/13/00

DIVISION 4
GENERAL CONDITIONS

**CITY OF UNION GAP, GENERAL CONDITIONS
FOR JOBS CONSTRUCTED BY DEVELOPERS**

SECTION 1: DEFINITIONS

The following terms are used in these contract documents and shall be defined and interpreted as follows:

“CITY”: City of Union Gap, Washington, Yakima County, and duly authorized representatives and agents.

“CITY’S ENGINEER”: The City’s Consulting Engineer and duly authorized assistants and inspectors approved by the City.

“DEVELOPER”: The party having an agreement with the City to cause the installation of water system additions, or changes thereto, to become a part of the City’s water system upon completion and acceptance. The term shall also include the Developer’s officers, employees, agents, contractor(s) and subcontractor(s) and their agents.

“CONTRACT DOCUMENTS”: The contract documents shall consist of the following and in case of conflicting provisions, the first mention shall have precedence:

- (1) Developer Agreement
- (2) Plans
- (3) Standard Details
- (4) City’s General Specifications for Materials and Construction
- (5) WSDOT Standard Specifications, including APWA supplement, current edition
- (6) Addenda
- (7) Change Orders
- (8) General Conditions

These documents shall form the Contract.

“WORK”: The labor or materials or both, superintendence, equipment, transportation, and other facilities necessary to complete the Contract.

SECTION 2. STATUS OF ENGINEER AND PUBLIC WORKS DIRECTOR

The City’s Engineer, under the direction of the City Public Works Director, may supervise work. If the City’s Engineer reasonably believes stoppage of the work is necessary to ensure the proper execution of the contract, the City’s Engineer is authorized to stop work, provided that the City’s Engineer has first notified and received approval from the Public Works Director. Should the City’s Engineer after reasonable effort be unable to so notify the Public Works Director, the City’s Engineer is authorized to stop work without prior approval. The City’s Engineer shall advise the Public Works Director

when questions arise in the execution of the work or interpretation of the contract documents, but all final decisions shall be made by the Public Works Director.

SECTION 3. PRECONSTRUCTION CONFERENCE AND PLANS

At the City's option, a preconstruction conference may be required prior to beginning work on the project. At a minimum, the City, the Developer, and his contractor shall attend the preconstruction conference.

At least seven days prior to the start of construction, the Developer shall submit to the City Public Works Department the following (see Division 5 for additional information on requirements for these Plans):

- a) Dewatering Plan
- b) Traffic Control Plan
- c) Stormwater Plan and construction permit from the Washington State Department of Ecology, as required
- d) Erosion Control Plan
- e) Dust Abatement Plan and the approval of said plan from the Yakima Regional Clean Air Authority

The Developer shall not begin any construction on the project until all required plans and copies of permits and approvals have been submitted to and reviewed by the City.

SECTION 4. INSPECTION OF WORK

The Developer and his contractor(s) shall coordinate and direct all communications through the City Public Works Department. Under no circumstances shall the Developer or his contractor(s) contact the City's Engineers directly.

Prior to the start of construction within City right-of-way, the Developer shall notify the City Public Works Department in writing at least 7 days in advance of starting work (see Instructions to Developers, Item 4).

The Developer shall give the City timely notice (24 hours) that the work, or any part thereof, is ready for inspection. In no event shall the work, or any portion thereof, be covered up until the City has completed its inspection and approved the same. If any work should be covered up without prior inspection and approval by the City, it must, if required by the City, be uncovered for examination at the Developer's expense. The City and its representatives shall at all times have access to the work wherever it is in preparation or progress and the Developer shall provide proper facilities for such access and for such inspection. The Developer is reminded that 7 days advance written notice to

the City Public Works Department is required prior to request for cut-ins and the final inspection (see Instructions to Developers, Items 6 and 8).

The Developer shall make such reasonable tests of the work, at the Developer's expense, as the City shall request. If the specifications, the City's instructions, laws, ordinances, or any public authority shall require any work to be specially tested or approved, the Developer shall give the City timely notice of its readiness for inspection and, if the inspection is by other authority than the City, the date fixed for such inspection. All inspections by the City will be made with all reasonable promptness but, in no event, shall the lack of prompt inspections be construed to allow the Developer to cover up the work or any portion of it without inspection.

Re-examination of questioned work may be ordered by the City, and, if so ordered, the work must be uncovered by the Developer. If such work be found in accordance with the contract documents, the City shall pay the cost of re-examination and replacement. If such work be found not in accordance with the contract documents, the Developer shall pay such cost.

SECTION 5. FINAL INSPECTION AND ACCEPTANCE

Before final acceptance of the project by the City, the following conditions shall be met:

- a) All materials and completed work shall be subject to final inspection by the City, with the Developer and his contractor(s) in attendance.
- b) All final record drawings shall be submitted to the City by the Developer. See Division 1, Item 5.
- c) All applicable fees, connection charges, and other City costs as required shall be paid in full by the Developer.
- d) All testing shall be conducted as determined by the City. The City shall have the right to subject all piping, machinery and equipment and work to such tests as will, in the City's opinion, assist in determining whether the contract has been faithfully performed. The City shall have the right to inspect all material and equipment storage sites.

SECTION 6: PLANS AND SPECIFICATIONS ACCESSIBILITY

The Developer shall keep a copy of the plans, specifications, and Record Drawings constantly accessible on the job.

SECTION 7. OMISSIONS

Minor items of work or material omitted from the original plans or specifications, but clearly inferable from the information presented and which are called for by accepted good practice, shall be provided and/or performed by the Developer as part of his project.

SECTION 8. OWNERSHIP OF DRAWINGS

All drawings and specifications prepared or furnished by or for the Developer become the property of the City.

SECTION 9. MATERIALS AND FACILITIES

Unless otherwise stipulated, all materials shall be new and both workmanship and materials shall be of good quality. The Developer shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

The Developer shall at all times enforce strict discipline and good order among his employees, and shall not employ on the work any person not skilled in the work assigned to him.

SECTION 10. MATERIAL AND EQUIPMENT LIST

The Developer shall file a material and equipment list with the City prior to the beginning of construction and within ten (10) days after the execution of the Contract. This list shall include the quantity, manufacturer, and model number if applicable, of material and equipment to be installed under the Contract.

SECTION 11. DETERMINATION OF "OR EQUAL"

The City shall be the sole judge in the question of "Or Equal" or any supplies or materials furnished by the Developer.

SECTION 12. ROYALTIES AND PATENTS

The Developer shall pay all royalties and license fees. He shall defend all suits and claims for infringement of any patent rights and shall save the City harmless from loss an account thereof.

SECTION 13. SURVEYS, PERMITS, AND REGULATIONS

The Developer shall furnish and pay for all surveys, licenses, permits, easements, and rights-of-way. The Developer shall obtain and pay for franchise to lay pipelines in public rights-of-way.

The Developer shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the work as drawn and specified, including the Manual of Uniform Traffic Control Devices (MUTCD).

SECTION 14. POINTS AND INSTRUCTION

The Developer shall carefully preserve bench marks, reference points and stakes, and in case of destruction, he shall be charged with the resulting expense and shall be responsible for any mistakes that may be caused by their absence or disturbance.

SECTION 15. PROTECTION OF WORK AND PROPERTY

The Developer shall continuously maintain adequate protection of all his work from damage and shall protect the City's property from injury or loss arising in connection with this Contract. He shall make good any such damage, injuries, or loss. He shall adequately protect the adjacent property as provided by law and the Contract Documents. He shall provide and maintain all passage ways, guard fences, lights, traffic control devices per MUTCD, signage, and other facilities for protection required by public authority or local conditions. The Developer shall bear the risk of loss or damage for all finished or partially finished work until the entire contract is completed and accepted by the City.

SECTION 16. SAFETY

The Developer shall be responsible to ensure that all work is performed in a safe manner. The Developer shall observe all rules and regulations of the Washington State Department of Labor and Industries, rules and regulations of OSHA, WISHA, MUTCD, and all other applicable safety standards. The Developer shall be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and not be limited to normal working hours.

The City's review of the Developer's work plan, safety plan, construction sequence, schedule, or performance does not and is not intended to include review or approval of the adequacy of the Contractor's safety measures in, on, or near the construction site. The City does not purport to be a safety expert, is not engaged in that capacity at any time, and has neither the authority nor the responsibility to enforce construction safety laws, rules, regulations, or procedures, or to order the stoppage of work for claimed violations thereof.

The Developer shall exercise every precaution at all times for the prevention of accidents and the protection of persons (including employees) and property. All exposed moving parts of equipment capable of inflicting injury by accidental contact shall be protected with sturdy removable guards in accordance with applicable safety regulations.

The Developer shall maintain at the project office or other well-known place at the project site all articles necessary for giving first-aid to the injured, and shall make standing arrangements for the immediate removal to a hospital or a doctor's care of persons who may be injured on the project site.

The Develop and the project shall be governed at all times by applicable provisions of the federal law(s), including but not limited to, the latest amendments of the following:

Williams-Steiger Occupational Safety & Health Act of 1970, Public Law 91-596

Part 1910 – Occupational Safety and Health Standards, Chapter XVII of Title 29, Code of Federal Regulations

Part 1518 – Safety and Health Regulations for Construction, Chapter XIII of Title 29, Code of Federal Regulations

All accidents, injuries, or health hazards shall be reported immediately to the City in writing. This shall not obviate nay mandatory reporting under the provisions of the Occupational Safety & Health Act of 1970.

SECTION 17. REPLACING IMPROVEMENTS

Whenever it is necessary in the course of construction to remove or disturb culverts, driveways, roadways, pipelines or other existing improvements, they shall be replaced to a condition equal to that existing before they were so removed or disturbed.

Asphalt pavement shall be repaired in kind or patched within 72 hours of removal, unless otherwise approved in writing by the Public Works Director. All temporary repairs and patching shall be brought up to and maintained within 0.2 feet of the adjacent surface (refer to WSDOT Standard Specifications Section 1-07.23(1)).

If it is necessary to trench through private lawns, the sod shall be removed before trenching and replaced after backfilling. The Developer shall either maintain the removed sod or replace it in kind. In either case, it is the Developers responsibility to provide water, fertilizer, or other maintenance treatments as required to produce a uniform stand of grass. A uniform stand of grass is defined as an even stand of grass with no more than two (2) percent bare spots in any given area. (See Division 5 for additional information on grass sod repair.)

SECTION 18. ACCESS

Bridging shall be provided across private driveways and roadways, during the period that trenches must be open, in such a manner as not to constitute a hazard to the people who use them. All construction operations shall be conducted in such a manner as to interfere as little as possible with the normal procedure of traffic.

SECTION 19. DEVELOPER'S SUPERINTENDENT

The Developer shall keep on his work during its process a competent superintendent and any necessary assistants, all satisfactory to the City.

The superintendent shall not be changed except with the consent of the City, unless the superintendent proves to be unsatisfactory to the Developer and ceases to be in his employ. The superintendent shall represent the Developer in his absence and all directions given to the superintendent shall be as binding as though given to the Developer. Directions to the Developer shall be confirmed in writing, upon his request in each case. The Developer shall give efficient supervision to the work, using his best skill and attention.

If the Developer, in the course of the work, finds any discrepancy between the drawings and the physical conditions of the locality, or any errors or omissions, it shall be his duty to inform the City immediately, in writing, and the City shall promptly verify the same.

SECTION 20. DEFECTS AND THEIR REMEDIES

It is agreed that if the work or any part thereof, shall be deemed by the City as not in conformity with the Specifications, the Developer shall forewith rebuild or otherwise remedy such defects within seven (7) days of notice of discovery thereof by the City and shall complete such work in full accordance with this Contract.

The Developer shall be responsible for correcting all defects in workmanship and material appearing within two years after completion of this contract. The Developer shall start work to remedy such defects within seven (7) days of notice of discovery thereof by the City and shall complete such work within a reasonable time. In emergencies, where damage may result from delaying or where loss of service may result, such corrections may be made by the City, in which case all costs shall be borne by the Developer. In the event the Developer does not accomplish corrections at the time specified, the work will be otherwise accomplished and the cost of same shall be paid by the Developer.

SECTION 21. USE OF COMPLETED PORTIONS

The City shall have the right to take possession of and use any completed or partially completed portions, of the work, notwithstanding that the time may not have expired for completing the entire work or such portions. Such taking possession and use shall not be deemed an acceptance of any work not completed in accordance with the Contract Documents.

SECTION 22. LIMITS OF LIABILITY, SUMMARY OF COVERAGE AND INDEMNITY

The Contractor shall carry liability and property damage insurance covering all work under this Contract including that done by subcontractors. This insurance shall also protect the City from any contingent liability under the Contract.

The limits of liability for the below listed exposures will be at least \$500,000 Property Damage, and \$1,000,000 for Bodily Injury per occurrences.

- (1) Contractor's Liability & Property Damages
 - (a) Workman's Compensation & Employer's Liability.
 - (b) Public Liability, Bodily Injury, and Property Damage.
 - (c) Automobile, Truck Public Liability, Bodily Injury and Property Damage.
 - (d) Comprehensive, Storm, Vandalism, etc.
 - (e) Fire.

- (2) Owner's Protective Liability & Property Damage
 - (a) Contingent Liability.
 - (b) Bodily Injury.
 - (c) Fire.
 - (d) Comprehensive, Storm, Vandalism, etc.

- (3) Contractual Liability & Property Damage
 - (a) Contractor's Agents and Subcontractors.
 - (b) Owner's Agents.
 - (c) Others not in the Employ of Contractor or Owner.

The aforementioned general public liability insurance shall name the City and the City's Engineer as a beneficiary thereof and a certificate of such insurance shall be filed by the Contractor with the City prior to the commencement of construction. Such certificate(s) shall contain a clause requiring a minimum of thirty (30) days written notice to the City by the insurance company before any cancellation or reduction thereof. The word "endeavor" is not acceptable language regarding this required notification period.

The Developer shall indemnify and save harmless the City and its officers, employees, and agents from and against any and all losses and all claims, demands, payments, suits, actions, recoveries, and judgments of every nature and description brought or recovered against the City or its officers, employees or agents, by reason of any act or omission of the Developer, his agents or employees, in the execution of the work or in the guarding of it, or in any manner relating to or arising out of the work or the contract documents.

SECTION 23. ASSIGNMENT

Neither party to the Contract shall assign the Contract or sublet it as a whole without the written consent of the other.

SECTION 24. SEPARATE CONTRACTS

The City reserves the right to let other contracts in connection with this work. The Developer shall afford other developers reasonable opportunity for access to the work introduction and storage of their materials and the execution of their work, and shall properly connect and coordinate his work with theirs.

If any part of the Developer's work depends for proper execution or results upon the work of any other developer, the Developer shall inspect and promptly report to the City any defects in such work which render it unsuitable for such proper execution and results. His failure to so inspect and report shall constitute an acceptance of the other developer's work as fit and proper for the reception of his work, except as to defects which may develop in the other work after the execution of his work. To insure the proper execution of his subsequent work, the Developer shall measure work already in place and shall report at once to the City any discrepancy between the executed work and the drawing.

SECTION 25. RIGHTS OF VARIOUS INTERESTS

Wherever work being done by the City's employees or agents or by other developers is contiguous to work covered by this contract the respective rights of the various interests involved shall be established by the City, to secure the completion of the various portions of the work in general harmony.

SECTION 26. SUBCONTRACTS

The Developer shall, at least ten (10) days prior to the start of a subcontractor's work, notify the City in writing of the name of the subcontractor proposed for the work. The Developer agrees to employ only such subcontractors as are qualified by previous experience to perform the various subcontracts.

The Developer agrees that he is fully responsible to the City for the acts and omissions of his subcontractors and of persons either directly or indirectly employed by said subcontractors, including but not limited to agents, independent contractors, and employees. Nothing contained in the contract documents shall create any contractual relation between any subcontractor and the City.

SECTION 27. SANITATION

Necessary sanitation conveniences for the use of workmen on the job, properly secluded from public observation, shall be provided and maintained by the Developer.

SECTION 28. CLEAN-UP

The Developer shall keep the construction site reasonably clear during the progress of the work.

Before this contract shall be considered complete, the Developer shall backfill the trenches, clean out ditches that may have been filled during the work, replace damaged surfacing, remove surplus materials and trash, wastehaul and dispose of brush and other debris, repair all damages, and otherwise leave the job in a neat, orderly and workmanlike condition. Refuse, brush, trash, and debris shall be hauled to a waste site secured by the Developer and shall be disposed in such a manner as to meet all requirements of federal, state, and local regulations regarding health, safety and public welfare. The Developer shall be responsible for acquiring signed property release forms in the format detailed below for all properties which have been disturbed or damaged by the Developer's project, other than the City's property or right-of-way.

PROPERTY RELEASE

(Property Address)

I, _____, owner of _____,
(Property owner name) (Property description or address)

hereby release _____ from any property damage or
(Developer)

personal injury resulting from construction adjacent, to or on my property located at

_____ during construction of the following project:

(Name of Developer's project)

My signature below is acknowledgement and acceptance that my property, as identified above, was returned to a satisfactory condition.

Name: _____

Signed: _____ Date: _____

Address: _____

Phone: _____

11/13/00

DIVISION 5

**WATER WORKS GENERAL SPECIFICATIONS FOR
MATERIALS AND CONSTRUCTION**

WATER WORKS - GENERAL SPECIFICATIONS FOR MATERIALS AND CONSTRUCTION

All extensions to the City's water system or changes thereto shall conform to the design standards of the City. The water system must provide adequate domestic supply and fire flow as required by the Washington State Department of Health and local fire district jurisdiction. The system shall also be capable of future expansion and be constructed of permanent materials.

All water main materials and workmanship shall conform to the Standard Specifications for Road, Bridge, and Municipal Construction (WSDOT and APWA, latest edition). All material shall be new and undamaged. Where possible, the same manufacturer of each item shall be used throughout the job. The following items are necessary to meet these conditions:

GENERAL

1. The Developer shall notify the City in writing at least 7 days prior to starting construction on the project. Refer to Instructions to Developer Items 4, 6, and 8 for additional information regarding notifications to the City.
2. Dead end lines shall be avoided unless extenuating circumstances require such installation. Approval of dead end lines of any size will be at the discretion of the City's Public Works Director and Engineer.
3. Generally speaking, persons interested in extending the system should contemplate expenditure for 8" mains with hydrants every 300 - 600 feet (600 feet in single family residential areas and 300 feet in commercial and multi-family residential areas). Additional hydrant locations shall be building specific and as determined by the Fire Chief in accordance with the Uniform Fire Code. Valving shall be spaced every 500 to 800 feet and at all intersections. Hydrants shall be placed at all roadway intersections.
4. Generally speaking, pipe shall be located North and West of road centerline and 5' to 10' from the property lines so that both pipe and hydrants are located in the road right-of-way.
5. Developer shall be responsible for installing individual pressure reducing valves in areas of excessive pressure.
6. All water lines which dead end in public or private right-of-way and which will be extended in the future shall have a valve installed and restrained with an M.J. plug fitted into the end of the valve not connected to the pipeline. If a blow off is required, a tapping plug may be used.

7. Where new water piping crosses an existing natural gas pipeline, the water line shall be provided with adequate cathodic protection.
8. All commercial developments, irrigation systems, and multi-family water service connections shall be protected by a double check valve assembly or a reduced pressure backflow assembly. Developer shall comply with Washington State Department of Health Cross Connection Control requirements.

SPECIFIC MATERIAL REQUIREMENTS

SECTION 1. WATER PIPE

Water pipe shall be ductile iron Class 52 ductile iron (DI) pipe shall be centrifugally cast in 18-foot nominal lengths conforming to AWWA C151, and shall be bituminous coated and have a cement mortar lining conforming to AWWA C104. Ductile iron pipe flanged spools shall be Standard Thickness Class 53.

Joints shall be rubber gasket push-on type, or mechanical conforming to AWWA C111.

SECTION 2. FITTINGS AND ACCESSORIES

All fittings must be cast iron, brass or D.I. short body. Fittings shall be Class 250 cast iron conforming to AWWA C100 and C110 and shall be bituminous coated inside and out. Flanges, where called out, shall comply with ANSI B16.1, Class 125. Flange gaskets shall be full face.

Mechanical joint fittings may be ductile iron Class 250 compact fittings manufactured in conformance with ANSI/AWWA C153/A21.53.

Straight and transition couplings shall be Romac Style 501, 4-inch and larger. Two-inch and smaller transition couplings shall be Romac Type 702.

SECTION 3. VALVES

Valves up to 12" diameter shall be resilient seat gate valves. Valves larger than 12" shall be butterfly type valves.

Valves shall be non-rising stem type, open counter clockwise, and equipped with a 2-inch square AWWA standard operating nut.

Valves shall generally be flanged by mechanical joint or as otherwise noted on the Plans.

SECTION 4. VALVE BOXES

Valve boxes shall be Rich 940, or equal, and shall accommodate 5-1/4" shafts. Each valve shall be furnished with a valve box.

SECTION 5. FIRE HYDRANTS

Hydrants shall be capable of providing at least 500 gallons per minute at 20 pounds per square inch residual pressure. Notwithstanding any other provisions, hydrants shall provide at least the minimum amount of water required to protect the structures with the respective area in accordance with the Uniform Fire Code.

Hydrants supplied for use in the Union Gap Water System shall be Mueller Centurion, Clow 2500, or M&H 929 only, with a drain port incorporated to protect from freezing. Hydrants shall have a 5-1/4" main valve, two 2-1/2" I.D. hose outlets, and one 4-1/2" I.D. pumper nozzle with a 5" Stortz coupling installed. All connection threads shall be of the National Standard Thread type. Operating nut shall be 1-1/4" Pentagon, point to flat, operating left (counter clockwise).

Hydrants shall be so constructed that direction of the hose connections may be rotated to face the roadway. Hydrant leads from the mainline exceeding 50 feet, and in commercial areas, shall be at least 8" in diameter. All other leads shall be at least 6". All hydrant leads shall have a MJxFL gate valve bolted directly to the mainline tee. Hydrants shall be field painted above finished grade after installation and all testing has been satisfactorily completed with two (2) coats of Rustoleum brand paint (Yellow No. 7745).

SECTION 6. FIRE SERVICE CONNECTIONS (FIRE LOOPS)

- Fire service connections shall comply with the AWWA Cross Connection Control manual, latest edition.
- Post Indicator Valves shall be located outside the building.
- A double detector check valve assembly (DDCVA) complete with 3/4" bypass double check valve assembly (DCVA) with 3/4" Sensus SR-II water meter reading in cubic feet is required on the fire service line to any building which is equipped with a fire sprinkler system. Meter to be provided by the City at cost plus 10%.
- The DDCVA shall be located in the building or in a vault at or near the property line. DDCVAs located within the building shall be located within 50 feet of an access door.

- Upon approval of the installation by the City, the DDCVA and the DCVA shall be tested by a Washington State certified backflow assembly tester, and the test report results shall be submitted to the City prior to use of the City's water system.
- The domestic water service shall not be connected directly to a fire system service line, but rather shall be a separate connection at the main line.
- The fire department connection shall be located within 15 feet of a fire hydrant but not less than 10 feet.
- All underground fire sprinkler piping shall be installed by a Washington State licensed sprinkler contractor.
- Any fire system that is required will be designed (from water main through DDCVA to top of riser in the building) by a Washington State certified level III designer or civil engineer licensed in the State of Washington.

SECTION 7. WATER METERS

The City will supply water meters, 1" or less, to the Developer at cost plus 10% fee. The Developer shall submit, for the City's review and approval, all water meters larger than 1". The submittal shall include DDCVA, DCVA, or RPBA, where applicable.

SECTION 8. DOUBLE CHECK VALVE ASSEMBLY (DCVA)

DCVAs shall be a model listed as approved in the Washington State Department of Health (DOH) manual "Backflow Prevention Assemblies Approved for Installation in Washington State", current edition.

SECTION 9. DOUBLE DETECTOR CHECK VALVE ASSEMBLY (DDCVA)

DDCVAs shall be a model listed as approved in the DOH manual "Backflow Prevention Assemblies Approved for Installation in Washington State", current edition.

SECTION 10. POST INDICATOR VALVES (PIV)

PIVs shall be ITT-Kennedy Style 2945, or equal.

SECTION 11. REDUCED PRESSURE BACKFLOW ASSEMBLY (RPBA)

RPBAs shall be a model listed as approved in the DOH manual "Backflow Prevention Assemblies Approved for Installation in Washington State", current edition

Brass or dielectric unions shall be installed immediately downstream of all backflow assemblies 2 inches and smaller. A Dresser Style 127, or equal, flanged coupling adapter shall be installed on the immediate upstream side of all backflow assemblies 3" and larger.

SECTION 12. METERSETTER

Metersetters shall be copper tube inlet, angle ball valve with padlock wings, equal to Ford "Coppersetter" and each will be equipped with an integral check valve.

SECTION 13. CORPORATION STOP

Corporation stops shall be Ford 1101 or equal. AWWA thread where inserted directly into water mains. IPS thread where inserted in a service clamp.

SECTION 14. SERVICE CLAMPS

Pipe saddles, if used, shall be of galvanized malleable iron, cast iron, or brass, with galvanized straps, Smith-Blair or equal. For less than 8" pipe sizes, use single strap pipe saddle. For 8" and larger pipe, use double strap pipe saddles.

SECTION 15. CURB STOP

Curb stops shall be Ford ball valve curb stops, with padlock wings, or equal.

SECTION 16. CONCRETE METER BOX

Meter box for up to 3/4" meters shall be Fog-Tite #1 D meter box.

Meter box for 1" and 1-1/2" meters shall be Fog-Tite #2.

Meter box for 2" and 2-1/2" shall be Fig-Tite #3.

All 3" and larger meters shall be installed in a precast vault, complete with drainage holes in the base, steps, adjustment rings, and traffic rated hatch.

All meter box lids shall be 3/16" diamond plate metal lid, and cast-in-place angle iron frame.

In the event a meter box will be placed where it may potentially be under traffic, an H20-rated meter box, frame, and lid shall be used – the Developer shall obtain City approval for materials prior to use.

SECTION 17. SERVICE PIPE

Water service piping 1-1/2" and smaller shall be Wirsbo Aquapex tubing. Tubing shall be ASTM F876 and ASTM F877 listed and NSF standard 14 and 61 certified.

Service pipe greater than 1-1/2-inch and small than 3-inch diameter shall be copper type K. Compression fittings shall be provided.

Water service piping 3" and larger shall be ductile iron.

SECTION 18. AIR AND VACUUM RELIEF VALVES

Two-inch (2") air and vacuum release valve installations shall be installed at principal high points in the system.

Air vacuum relief valves shall be 2-inch APCO #145C or equal in a concrete meter box, offset from the water main and as detailed in the City's Standard Plan or as shown on the project drawings. Only new materials shall be used.

SECTION 19. HYDRANT GUARD POSTS

Reinforced concrete posts equal to WSDOT specifications, 8" x 8" x 6' long or 9" diameter by 6' long. (WSDOT Standard Detail)

SECTION 20. VALVE MARKER POSTS

Valve marker posts shall be reinforced concrete posts equal to "Right-of-Way Markers", 4" x 4" on one end and 6" x 6" on the other end, 42" long.

SECTION 21. FOUNDATION GRAVEL

Foundation gravel shall be coarse graded gravel or crushed rock passing a 3" mean. Bank run passed through a 3" screen may be used provided that it is, in the opinion of the City, properly graded and otherwise suitable.

SECTION 22. TRENCH/EXCAVATION SUPPORT

Timbering, sheeting, trench shields and other safety provisions as needed to comply with any and all safety laws, regulations, and requirements shall be the responsibility of the Developer. Shoring is required where in the opinion of the

SECTION 25. GRAVEL BASE

This material shall conform to Section 9-03.19 of the WSDOT Standard Specifications.

SECTION 26. FIRE HYDRANT DRAIN ROCK

The drain rock to be furnished and installed around the base of the hydrant shall be graded as follows:

Sieve Size	Percent Passing	
	Minimum	Maximum
3" Square Opening	100	100
2-1/2" Square Opening	95	100
2" Square Opening	75	100
1-1/2" Square Opening	30	60
1-1/4" Square Opening	0	15
3/4" Square Opening	0	1

SECTION 27. CONCRETE THRUST BLOCKS

Concrete thrust blocks shall rest on undisturbed material and shall be provided as shown on the Plans and per Section 7-11.3(13) of the WSDOT Standard Specifications (latest edition). The size of thrust blocking can be increased by the Developer if warranted by the soil conditions and if directed by the City.

Class 3000 concrete in accordance with Section 6-02 of the WSDOT Standard Specifications shall be used for concrete.

SPECIFIC CONSTRUCTION REQUIREMENTSSECTION 1. GENERAL

Except as otherwise noted herein, all work shall be accomplished as recommended in applicable American Water Works Association (AWWA) specifications and according to the recommendations of the manufacturer of the material or equipment concerned. Principal fittings, including modifications, shall be staked out. Pipe shall be laid to the grade and alignment indicated on the approved drawings. Horizontal alignment deviation shall not exceed plus or minus 0.5 feet. Vertical grades shall be consistent. Air releases or air-vacuum releases may be required at high points along the piping, including those that result from grade changes during construction.

SECTION 2. DEWATERING PLAN

Historically, most pipeline projects within the City of Union Gap have had to deal with groundwater during trenching, pipelaying, and backfill/compaction. In many cases, groundwater was encountered immediately below the ground surface, with flows ranging from 300 to 3,000 gpm. It is unknown at what depth and flow rate the groundwater may be encountered during the construction of the Developer's project. Therefore, prior to beginning work, the Developer shall submit to the City for a dewatering plan for the control and disposal of groundwater which may be encountered during construction. Said plan may require the Developer to obtain a Hydraulic Project Approval (HPA) permit from the Washington State Department of Fish & Wildlife. Other State or Federal agencies may also require permits to be obtained. It is the Developer's responsibility to determine if any permits are required, and if so, to obtain the permits and provide copies to the City along with the dewatering plan.

A copy of all agreements to use private property for dewatering operations shall be submitted to the City. In addition, the Developer shall obtain and submit to the City signed property releases from said property owners before the project will be accepted.

At a minimum, the plan shall contain a graphical and narrative presentation identifying proposed methods, and equipment sizes and contingency plans should dewatering cause settlement of adjacent facilities. The dewatering plan should show specific locations where dewatering is expected as well as a general discussion of methods should water be encountered in other locations.

It shall be the Developer's sole responsibility to control the rate and effect of the dewatering in such a manner as to avoid all objectionable settlement and subsidence.

Before construction operations begin, the Developer shall have on site sufficient pumping equipment and/or other machinery to assure that the operation of the dewatering system can be maintained. Dewatering operations shall be sufficient to maintain the groundwater at or below the surface of the trench bottom, and shall be accomplished prior to laying and jointing pipe. The dewatering operation shall be carried out so that it does not destroy or weaken the strength of the soil under or alongside the excavation. If well points or wells are used, they shall be adequately spaced to provide the necessary dewatering and shall be sandpacked or provided with some other means to prevent pumping of fine sands or silts from the subsurface. A continual check by the Developer shall be made to ensure that the subsurface soil is not being removed by the dewatering operation. Where critical structures or facilities exist immediate adjacent to areas of proposed dewatering, reference points shall be established and observed at frequent intervals to detect any settlement which may develop.

Should settlement be observed the Developer shall cease dewatering operations and implement contingency plans as outlined in the submitted dewatering plan. The responsibility for conducting the dewatering operation in a manner which will protect adjacent structures and facilities rests solely with the Developer. The cost of repairing any damage to adjacent structures and restoration of facilities shall be the responsibility of the Developer. Permanent piping systems shall not be incorporated into the Developer's dewatering plan.

SECTION 3. TRAFFIC CONTROL PLAN

The Developer shall so conduct its operations as to offer the least possible obstruction and inconvenience to the public, and it shall have under construction no greater length or amount of work than it can prosecute properly with due regards to the rights of the public. The Developer shall not open up sections of the work and leave them unfinished; the work shall be finished as it proceeds, insofar as practicable.

The Developer shall provide a schedule of construction to the City prior to beginning work on the project. The schedule shall be revised by the Developer to ensure that the necessary notification can be made to the public and emergency services in regard to congestion and detouring. All detours or restrictive use shall be scheduled by the Developer and coordinated with the City seven (7) days prior to the initiation of construction. The Developer shall be responsible for traffic control in the immediate vicinity of the work being performed to include barricading, flagmen and detouring.

Roadway crossings shall be made in such a way that no more than half of the roadway is closed to traffic at any time, except where suitable detours or other arrangements are agreed to.

All public traffic shall be permitted to pass through the work with as little inconvenience and delay as possible. As a minimum, the Developer shall maintain one lane of traffic adjacent to the construction during working hours and two lanes of traffic adjacent to construction during non-working hours. The Developer is responsible for furnishing flagmen when directed by the City due to emergency situations and/or any devices for the control of traffic during non-working hours, as well as maintenance of those devices, all at no additional cost to the City. The Developer shall keep all existing roads and streets adjacent to or within the limits of the Project open and maintained in a good and safe condition for traffic at all times. The Developer shall remove any deposits or debris and shall repair any damage resulting from his operations.

Construction shall be conducted so as to cause as little inconvenience as possible to abutting property owners. Convenient access to driveways, houses and buildings along the line of work shall be maintained and temporary approaches to crossing or intersecting streets shall be provided and kept in good condition. When the abutting owners' access across the right-of-way line is to be replaced under the Contract by other access, the existing access shall not be closed until the replacement access facility is available.

Upon completion of trench backfilling and compacting, the surface of the road bed shall be brought to a smooth, even condition free of bumps and depressions, satisfactory for the use of public traffic with crushed surfacing top course, unless otherwise marked on the Plans. Asphalt concrete pavement repair is required in areas specifically marked on the Plans. All trenches and excavations shall be repaired in kind or temporarily patched within 72 hours of removal, unless otherwise approved in writing by the Public Works Director. All temporary repairs and patching shall be brought up to and maintained within 0.1 feet of the adjacent surface.

Roadways, streets and appurtenances, including sidewalks, shall be swept clean at the conclusion of each day's operations and at such other times to ensure the safety of the traveling public and to prevent inconvenience to the public and owners of private property adjacent to the Project. The City reserves the right to restrict the Developer to various streets and times of construction during the entire Project, all costs of which shall be included in other pay items involved on the Project. No separate compensation will be made for this item.

Flagmen, barricades, signs and traffic control furnished or provided shall conform to the standards established in the latest edition of the *Manual on Uniform Traffic Control Devices*, published by the U.S. Department of Transportation.

The Developer, at its own expense, shall provide state-certified flagmen, signs, barricades, and other devices and shall erect and maintain all barricades, guards, standard construction signs, warning signs and detour signs, as are necessary to warn and protect the public at all times from injury or damage as a result of the Developer's operations which may occur on highways, roads, or streets affected by such operations.

When flagmen are employed by the Developer to safeguard highway traffic, the Developer shall furnish equipment identical to that furnished for and used by flagmen on maintenance and engineering operations. This equipment shall be used by flagmen while actually flagging traffic and at no other time. The Developer shall patrol the traffic control area and reset all disturbed signs and traffic control devices immediately. All control signs necessary for nighttime traffic control shall be fully reflectorized. Lighted signs will be required where directed by the City.

Upon failure of the Developer to provide immediately such flagmen and provide, erect, maintain, and remove standard signs when ordered to do so by the City, the City shall be at liberty, without further notice to the Developer, to provide the necessary flagmen, to provide, erect, maintain and remove barricades and lights and to erect, maintain and remove standard signs the costs of such work shall be paid to the City by the Developer before the City will accept the final project.

The Developer shall be responsible for providing flagmen, barricades, lights, and signs for the protection of the work and the public at all times and the Developer shall be liable for injuries and damages to persons and property suffered by reason of the Developer's operations or any negligence in connection therewith.

The Developer shall provide a traffic plan of scale not less than 1" = 400', indicating traffic flow during construction as well as a signing plan to be approved by the local, state, or federal agency having jurisdiction over the various

public right(s)-of-way.

SECTION 4. STORMWATER PLAN

The Developer shall conform to all regulations and requirements for stormwater control and surface water management, including obtaining a construction permit if required by the Washington State Department of Ecology. The Developer shall submit a stormwater plan which shall contain a graphical and narrative presentation identifying proposed methods, construction details, materials, and contingency plans should a storm event cause excess surface water to overwhelm the Developer's stormwater plan. The stormwater plan should show specific locations where control structures and devices are expected as well as a general discussion of methods should water be encountered in other locations.

The Developer shall be responsible for keeping excavations for the structures, trenches and other areas free from surface water as required to permit continuous progress of, or to prevent damage to, its own work or the work of others. The Developer's operations shall be conducted in such a manner as to prevent sediment from reaching the existing sewers, storm drainage system, creeks or streams. Temporary erosion control and settling ponds shall be provided in the work area if approved by the City as required to trap runoff until the turbidity has settled and the water can be diverted into the storm drainage systems.

The Developer shall protect exposed excavated areas and spoil piles when runoff from rain causes turbid waters to enter local waterways and/or wetlands. The Developer shall suspend work in the rain if such work cannot be performed without causing turbid runoff.

To avoid solids or turbid runoff from entering local waterways, the Developer shall cover, secure, and/or berm excavated areas and spoil piles and employ other methods as necessary such as silt fences around storm drainage systems or around construction sites; use of cut and cover construction method, or use of sedimentation basins.

All site runoff shall be diverted into temporary erosion control facilities until solids settle before routing to a creek or off-site (routing to a creek will require the Developer to obtain an HPA from the Washington State Department of Fish & Wildlife).

SECTION 5. EROSION CONTROL PLAN

The Developer shall submit an erosion control plan which shall contain a graphical and narrative presentation identifying proposed methods, construction details, and materials. The erosion control plan should show specific locations where control structures and devices are expected to be placed.

Erosion control measures including silt fences, filter fabric, sedimentation ponds, placement of hay bales along the peripheries of construction sites, temporary detention ponds, and terraced slopes shall be employed as appropriate and shall be in place prior to any clearing, excavation or grading activity.

SECTION 6. DUST ABATEMENT PLAN

The Developer shall submit a dust abatement plan to the Yakima Regional Clean Air Authority (YRCAA) for approval, and subsequently submit to the City the approved plan along with documentation of YRCAA approval. No site work shall be started without an approved plan. See Appendix 1.

In addition to the requirements of the YRCAA-approved dust abatement plan, the Developer shall not discharge smoke, dust, and other contaminants into the atmosphere that violate the regulations of any legally constituted authority. Internal combustion engines shall not be allowed to idle for prolonged periods of time. The Developer shall maintain construction vehicles and equipment in good repair. Equipment with exhaust emissions that are excessive shall be repaired or replaced.

SECTION 7. TRENCH EXCAVATION

Trenching shall be started only after rough grading of the streets and rights-of-way is completed. All roads shall be graded to within 6 inches of their final grade prior to starting construction of the water system additions, or changes thereto.

Minimum cover (top of pipe to finished grade) over the pipe shall be 42". Except for unusual circumstances where approved by the City, the trench sides shall be excavated vertical and the trench width shall be excavated to only such widths as is necessary for adequate working space. The maximum trench width at the top of the pipe shall normally be the outside diameter of the pipe barrel plus 20". No trench width less than 30" will be required. The top width of the trench shall not exceed the outside diameter of the pipe plus 36". The trench shall be kept free from water until jointing material has set. Boulders, rocks, roots, and other obstructions shall be entirely removed or cut out to the width of the trench and to a depth 6" below water main grade. Where material is removed from below water main grade, the trench shall be backfilled to grade with material satisfactory to the Engineer and City and thoroughly compacted.

If soft clay, muck, or other unsuitable material is encountered, the material shall be removed, wastehauled, and disposed and the excavation backfilled with gravel base.

Trenching operations shall not proceed more than 300 feet in advance of pipe laying except with written approval of the City.

When trenching operations cut through concrete pavement, the pavement shall be removed to a width of 18" greater than the top width of the trench. The concrete shall be cut on a straight line and shall be beveled so that the cut will be approximately 1" wider at the top than at the bottom. Asphalt paving shall be cut ahead of the backhoe to prevent excessive tearing up of the surfacing and to eliminate ragged edges.

SECTION 8. TIMBERING AND SHEETING

The Developer shall provide and install timbering and sheeting as necessary to protect workmen, the work and existing buildings, utilities, and other property.

All timbering and sheeting above the pipe shall be removed prior to backfilling. All sheeting below the top of the pipes shall be cut off and left in place. Removal of timbering shall be accomplished in such a manner that there will be no damage to the work or to other properties.

SECTION 9. LAYING DUCTILE IRON PIPE

All piping work shall be performed in accordance with the Uniform Plumbing Code and AWWA specifications, current editions and revisions thereto.

Pipe and accessories shall be handled in such a manner as to insure delivery on site in sound, undamaged condition. Particular care shall be taken not to injure pipe coating. No other pipe or material of any kind shall be placed inside of lined pipe or fittings after lining has been applied. All pipe and fittings shall be unloaded, stored, handled in such a manner as to insure against damage. Dropping of pipe or fittings shall be cause for rejection.

All pipe shall be carefully placed and supported at the proper lines and grades and, where possible, shall be sloped to permit complete drainage. Piping runs shown on the plans shall be followed as closely as possible, except for minor adjustments to avoid architectural and structural features. If major relocations are required, they shall be approved by the City.

The interior of all piping shall be cleaned after assembly and before connecting to equipment.

All piping for which no location dimensions are shown shall be installed in a neat and workmanlike manner in accordance with best trade practice. Wherever possible, runs and rises shall be grouped and kept parallel. Properly lay out all miscellaneous piping to clear obstructions, such as passageways, equipment, larger sized pipes, lights, etc.

Whenever pipe requires field cutting to fit in line, work shall be done by a machine in a satisfactory manner so as to leave a smooth end at right angles to axis of pipe.

All piping to be buried below structures, foundations or slabs shall be installed with extreme care. When all joints have been made, Contractor shall demonstrate to City's satisfaction that all of piping is watertight and that all lines are clear before proceeding with any work above this piping. It shall be Contractor's

responsibility to see that these lines are kept clear until final acceptance of the project, providing suitable tight wooden bulkheads or plugs for open end pipes. All blockage of these systems due to earth, debris, cement slurry or anything else shall be rectified at Contractor's expense before project is accepted.

All pipe shall be installed in strict accordance with manufacturer's recommendations and/or specifications, and best commercial trade practice.

The bottom of the trench shall be finished to grade with hand tools in such a manner that the pipe will have bearing along the entire length of the barrel. The bell holes shall be excavated with hand tools of sufficient size for proper caulking or taking up of bolts. Bolts on M.J. pipe and fittings shall be tightened uniformly with a "torque" wrench which measures torque applied.

SECTION 10. BACKFILLING AND COMPACTING

Prior to backfilling, all mains and appurtenances shall be inspected and approved for backfilling by the City of Union Gap.

Bedding material shall be placed and compacted in 6-inch lifts around the water mains by hand tools to the dimensions indicated in the Standard Details. Trench backfill above the bedding material shall consist of native material, except at road and driveway crossings, where full depth bank run gravel shall be used. During placement of the initial lifts, the backfill material shall not be bulldozed into the trench or dropped directly on the pipe. All backfill above the pipe bedding shall be placed and compacted in horizontal lifts not to exceed ten (10) inches in thickness. All backfill shall be compacted to 95% maximum density per standard Proctor test, ASTM D698.

Tunneling, jacking, and boring may be ordered by the City under pavements or otherwise. Tunnels shall be not less than 4" high and 2" wide and not less than 1" wider than the outside diameter of the pipe. Tunnels shall be backfilled with materials acceptable to the City and backfill shall be mechanically compacted. Appropriate jacking and boring equipment shall be used and operated by personnel trained in the correct use of the equipment. All appropriate safety devices and methods shall be utilized.

SECTION 11. PIPE IN FILLS

Special treatment may be required at the discretion of the City. This treatment may consist of compacting the backfill in 6" layers, careful choice of backfill materials, use of mechanical joint D.I. pipe in short lengths or such other reasonable methods or combinations as may be necessary in the opinion of the City.

SECTION 12. HIGHWAY CROSSINGS

The Developer shall comply with all requirements of the lead agency having jurisdiction over the highway, including obtaining permits, construction means, methods, and materials. The Developer shall submit to the City all documentation of compliance and permits obtained from the lead agency.

SECTION 13. FIRE HYDRANT INSTALLATION

Fire Hydrants shall be set as shown in Standard Details. Fire hydrants shall be inspected in the field upon arrival to ensure proper working order. Hydrant assemblies shall be installed in conformance with Section 7-14.3 of the WSDOT Standard Specifications, as shown on the Plans and as indicated herein. A minimum three (3) feet radius unobstructed working area shall be provided around all hydrants.

A pit of 2 feet by 2 feet shall be excavated at the base of the hydrant, and filled with compacted drain rock placed around the bowl of the hydrant to a level of 6" to facilitate drainage.

Hydrant trenches shall not be excavated to more than two (2) feet beyond the backside of the hydrant. Back face of the trench shall be cut vertical for hydrant blocking. Hydrant guard posts shall be installed at all hydrants if required by the City.

The sidewalk flange shall be set three (3) inches above the finished grade. Hydrant breakaway features shall be installed according to manufacturer's recommendations.

The depth of bury shall be 3 1/2-feet unless otherwise specified.

All hydrants shall be flushed of debris prior to final acceptance.

After all installation and testing has been conducted to the satisfaction of the City, the hydrants shall be painted above finished ground with two (2) coats of paint.

Any hydrant not in service, new or existing, shall at all times while not in service, be wrapped in burlap or covered in some other suitable manner as approved by the City, to clearly indicate that the hydrant is not in service.

Guard posts shall be installed only when shown on the Plans.

SECTION 14. VALVE INSTALLATION

Valves shall be set in the ground vertical and shall be opened and shut under pressure and the packing gland adjusted so that to permit easy operation and at the same time, show no leakage.

All valves shall be inspected upon delivery in the field to ensure proper working order before installation. Valves and valve boxes shall be set plumb and valve boxes shall be placed over the valve in a manner that the valve box does not transmit shock or stress to the valve. The cast iron valve box shall be set flush with the roadbed or finished paved surface.

The Developer shall install eighteen (18) inch by eighteen (18) inch by four (4) inch thick cement concrete patch around each valve box with four (4) number 4 rebar each way, when brought to grade, not already situated within a paved roadway.

SECTION 15. VALVE MARKER INSTALLATION

Valve markers shall be installed on all valves outside of pavement and where required for future locating. The post shall be set at right angles to the road from the valve and shall be situated in a safe and reasonable conspicuous location, normally on the property line.

SECTION 16. CONCRETE BLOCKING

Concrete blocking shall be cast from 1:3:6 mix with a slump of not more than six (6) inches. Concrete blocking shall be cast in place and have a minimum of $\frac{1}{4}$ square foot bearing against the fitting and 2 square feet bearing area against undisturbed soil. Additional bearing area may be required by the City. Blocking shall bear against fittings only and shall be clear of joints so as to permit taking up or dismantling joint. All hydrants, bends, tees, and other locations designated by the City shall be blocked.

SECTION 17. TESTING

After completion of construction, the standard pressure test shall be performed. All pipe and appurtenances shall be tested, where possible, upon completion in sections under a hydrostatic pressure equal to 200 psi. All pumps, gauges, plugs, saddles, corporation stops, miscellaneous hose and piping, and measuring equipment necessary for performing the test shall be furnished and operated by the Developer.

Pipes and appurtenances shall be backfilled sufficiently to prevent movement under pressure. All thrust blocks shall be in place and sufficient time (5 days

minimum) allowed for the concrete to cure before testing. Where permanent blocking is not required, the Developer shall furnish and install temporary blocking and remove it after testing.

The pipe shall be filled with water and allowed to stand under pressure a sufficient length of time to allow the escape of air and allow the lining of the pipe to absorb water.

The test shall be accomplished by pumping the line up to the test pressure, stop the pump for 15 minutes, and then pump the line up to the test pressure again. During the test, the section being tested shall be observed to detect any visible leakage. A clean container shall be used for holding water for pumping up pressure on the line being tested. If the line has been previously, or is in the process of being disinfected, this make-up water shall be disinfected by the addition of chlorine to a concentration of 50 mg/l.

The quantity of water required to restore the pressure shall be accurately determined by pumping through a positive displacement water meter with a sweep hand registering 1 gallon per revolution. The meter shall be approved by the City and shall be tested in the presence of the City to prove accuracy prior to performing any pressure testing.

Acceptability of the test will be determined as follows:

The quantity of water lost from the main shall not exceed the number of gallons per hour as determined by the formula.

$$L = \frac{ND(P)^{1/2}}{7,400}$$

in which

L = allowable leakage, gallons/hour

N = number of joints in the length of pipeline tested

D = nominal diameter of the pipe in inches

P = average test pressure during the leakage test, psi

There shall not be an appreciable or abrupt loss in pressure during the 15-minute test period.

The above formula allows the following loss for ductile iron pipe:

12" Diameter = 0.127 gallon/hour/100 feet

10" Diameter = 0.106 gallon/hour/100 feet

8" Diameter = 0.085 gallon/hour/100 feet

Any visible leakage detected shall be corrected by the Developer regardless of the allowable leakage specified above.

Should the tested section fail to meet the pressure test successfully as specified, the Developer shall, at his expense, locate and repair the defects and then retest.

All tests shall be made with the hydrant isolation gate valves open and pressure against the hydrant valve. After the test has been completed, each gate valve (including the hydrant isolation valves) shall be tested by closing each in turn and relieving the pressure beyond. This test of the gate valve will be acceptable if there is no immediate loss of pressure on the gauge when the pressure comes against the valve being checked. The Developer shall verify that the pressure differential across the valve does not exceed the rated working pressure of the valve.

Where testing, as specified above, is not possible then it shall be visually inspected at each joint at line pressure.

The cost of all testing shall be included in the price quoted for installation of pipe.

SECTION 18. DISINFECTION AND FLUSHING OF WATER MAINS

After the pressure test, lines shall be disinfected, flushed, and tested. Before being placed into service, all new pipe and appurtenances shall be disinfected and a satisfactory bacteriological report obtained in accordance with Section 7-11.3(12) of the WSDOT Standard Specifications (latest edition).

As each pipe is laid, sufficient high-test dry calcium hypochlorite (65-70 percent chlorine) shall be placed in the pipe to yield a dosage of not less than 50 mg/l available chlorine, calculated on the volume of water which the pipe and appurtenances will contain. Minimum free chlorine residual after 24 hours shall be 25 mg/l.

During the process of disinfection, all valves, hydrants, and/or other appurtenances shall be operated to insure complete contact.

All closure fittings shall be swabbed with a very strong chlorine solution at least as strong as liquid household bleach (5-6 percent chlorine).

Following chlorination, all pipe shall be flushed to remove any solids until a test shows no more than 0.2 parts per million available chlorine. If no hydrant is installed at the end of the main, then a tap shall be provided large enough to develop a velocity of at least 2.5 FPS in the main.

Before placing the lines into service, a satisfactory report shall be received from the local or state health department on samples collected from representative

points in the new pipe after the 24-hour disinfection period has elapsed. Samples will be collected by the Developer for bacteriological tests.

Should the initial treatment result in unsatisfactory bacteriological test or should corrective work be required because of testing, then the chlorination procedure shall be repeated by the Developer at his own expense until satisfactory results are obtained. These repeat procedures shall follow Section 7-11.3(12) of the *WSDOT* Standard Specifications (latest edition), or as amended, as appropriate and as necessary for the addition of chlorine.

All costs of disinfection, as herein specified, shall be included in the unit prices bid for the various sizes of pipes.

SECTION 19. SURFACE RESTORATION

Developer shall repair and replace all culverts, driveways, mailboxes, and other structures encountered in construction. Driveway culverts damaged during construction shall be replaced with minimum 12" diameter galvanized metal culvert pipe. All improvements which are disturbed in any fashion during the construction shall be replaced by the Developer to the satisfaction of the City of Union Gap.

The Developer shall restore all roadway and driveway surfaces excavated or disturbed to a condition acceptable to the government agency having control of the road and to the City. Before replacing asphalt surfacing, the edges of the existing asphalt shall be saw-cut, as necessary, to make a smooth joint.

Asphalt pavement shall be repaired in kind or patched within 72 hours of removal, unless otherwise approved in writing by the Public Works Director. All temporary repairs and patching shall be brought up to and maintained within 0.1 feet.

If it is necessary to trench through private lawns, the sod shall be removed before trenching and replaced after backfilling. The Developer shall either maintain the removed sod or replace it in kind. In either case, it is the Developer's responsibility to provide water, fertilizer, or other maintenance treatments as required to produce a uniform stand of grass. A uniform stand of grass is defined as an even stand of grass with no more than two (2) percent bare spots in any given area.

SECTION 20. SERVICE CONNECTION

All service connections shall be made using saddles or direct taps to the main. Connections shall be as shown in Standard Details.

SECTION 21. CONNECTIONS TO EXISTING WATER PIPE LINES

Cut-ins to existing pipelines shall be made by the City and paid for by the Developer. The City shall install the cut-in tee and valve (both furnished by Developer) and the Developer shall proceed from that point. The City may, at its option, allow the Developer to perform the cut-ins to the existing mains as shown in the Standard Detail under City supervision— in either case the Developer shall pay all cost of said work.

All cut-ins shall be made as shown in the Standard Details.

11/13/00

DIVISION 6
STANDARD DETAILS

FINISHED GRADE

COMPACTED BACKFILL MATERIAL CONSISTING OF EXCAVATED MATERIAL OR GRAVEL BASE AS AGREED TO IN THE FIELD BY THE CITY

SPECIAL PRECAUTIONS TO PROTECT PIPE TO THIS LEVEL

CLASS 52 DUCTILE IRON PIPE

GRAVEL BASE

DEPTH OF AUTHORIZED EXCAVATION

FOUNDATION GRAVEL AS AGREED TO IN THE FIELD BY THE CITY

SLOPE AS REQUIRED

METALIC MARKING TAPE

42" MIN

1'-0"

4"

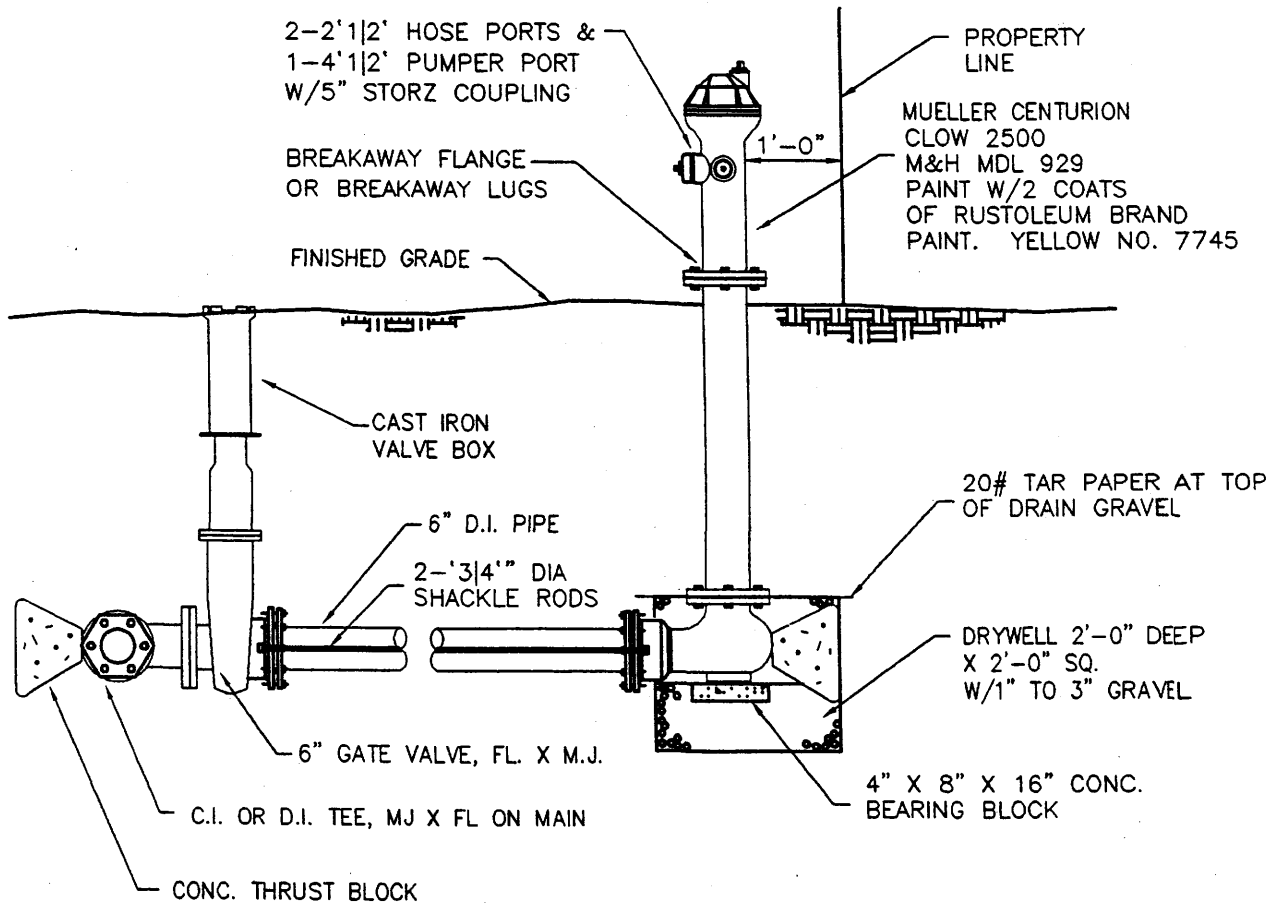
VARIES

DUCTILE IRON WATER MAIN TYPICAL TRENCH SECTION

NOT TO SCALE

CITY OF UNION GAP

W-1



NOTES:

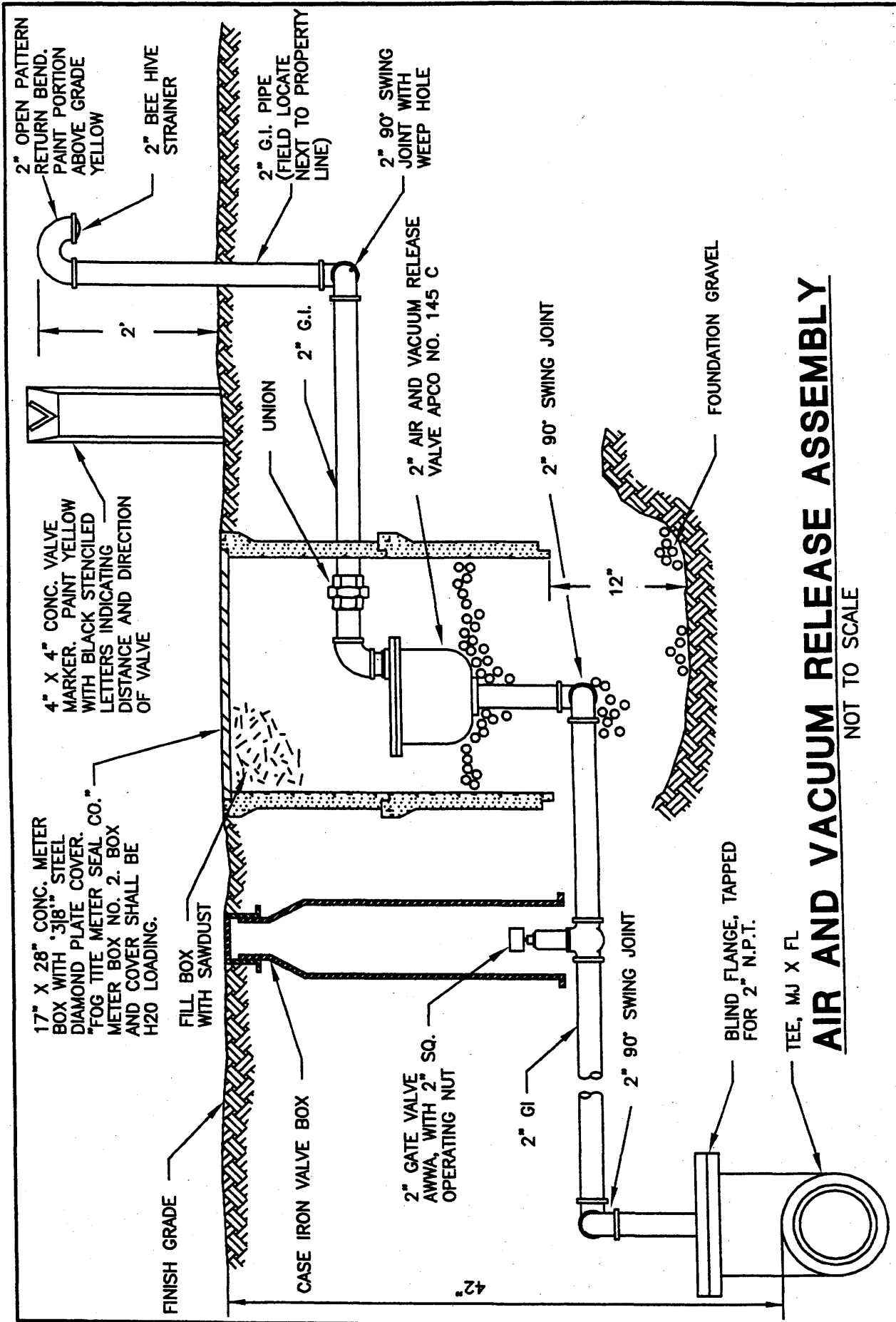
1. "MEGA-LUG" RESTRAINED JOINT ON ALL FITTINGS BETWEEN VALVE AND HYDRANT. CONTRACTOR MAY USE SHACKLE RODS WHERE NECESSARY.
2. "SAFETY STEM COUPLING SYSTEM" SHALL BE PROVIDED WITH HYDRANT.

5-1/4" STANDARD FIRE HYDRANT

NOT TO SCALE

CITY OF UNION GAP

W-2



2" OPEN PATTERN
RETURN BEND.
PAINT PORTION
ABOVE GRADE
YELLOW

2" BEE HIVE
STRAINER

2" G.I. PIPE
(FIELD LOCATE
NEXT TO PROPERTY
LINE)

2" 90° SWING
JOINT WITH
WEEP HOLE

4" X 4" CONC. VALVE
MARKER. PAINT YELLOW
WITH BLACK STENCILED
LETTERS INDICATING
DISTANCE AND DIRECTION
OF VALVE

17" X 28" CONC. METER
BOX WITH 3/8" STEEL
DIAMOND PLATE COVER.
"FOG TITE METER SEAL CO."
METER BOX NO. 2. BOX
AND COVER SHALL BE
H2O LOADING.

FILL BOX
WITH SAWDUST

CASE IRON VALVE BOX

2" GATE VALVE
AWWA, WITH 2" SQ.
OPERATING NUT

2" AIR AND VACUUM RELEASE
VALVE APCO NO. 145 C

2" 90° SWING JOINT

2" 90° SWING JOINT

BLIND FLANGE, TAPPED
FOR 2" N.P.T.

TEE, MJ X FL

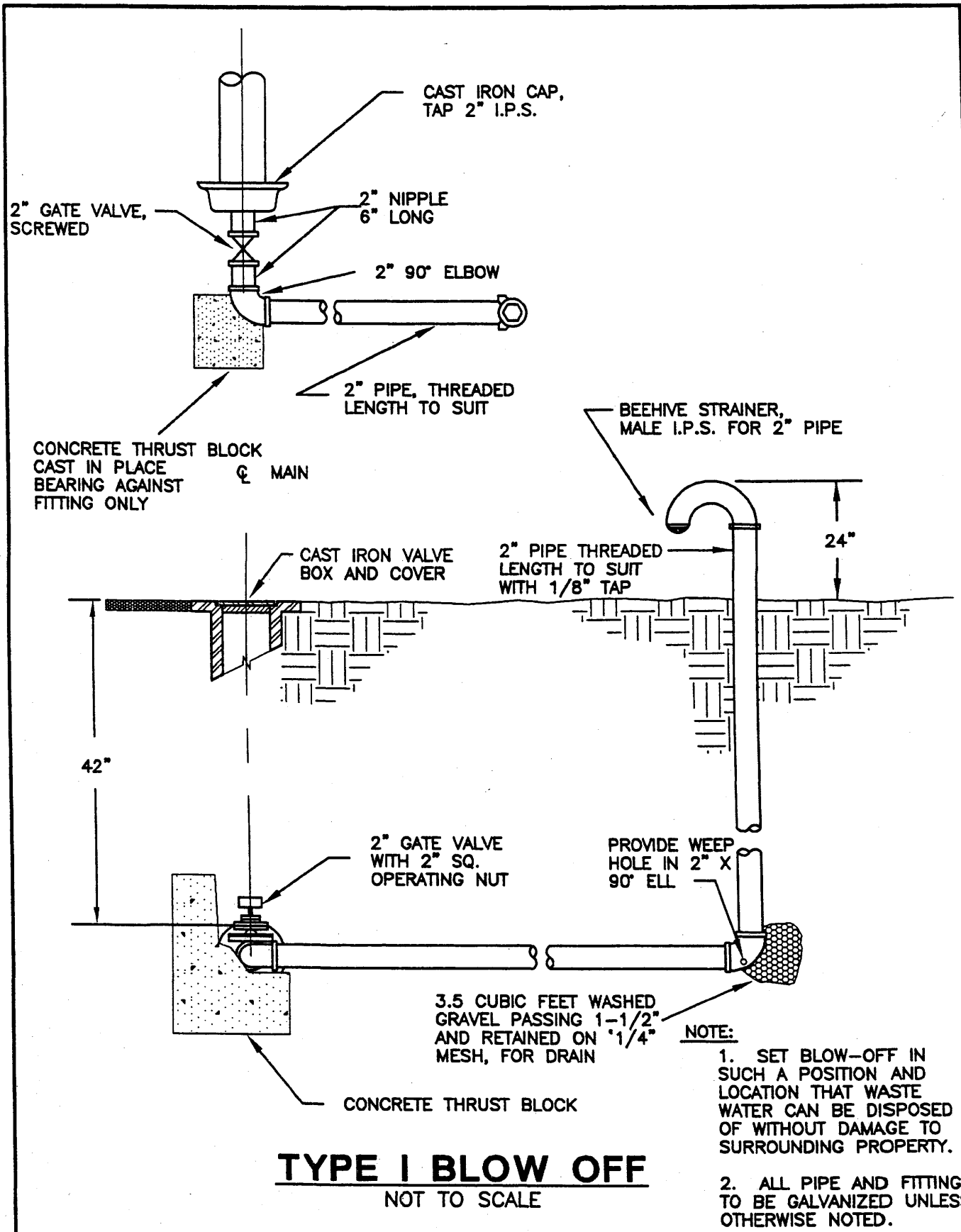
FOUNDATION GRAVEL

AIR AND VACUUM RELEASE ASSEMBLY

NOT TO SCALE

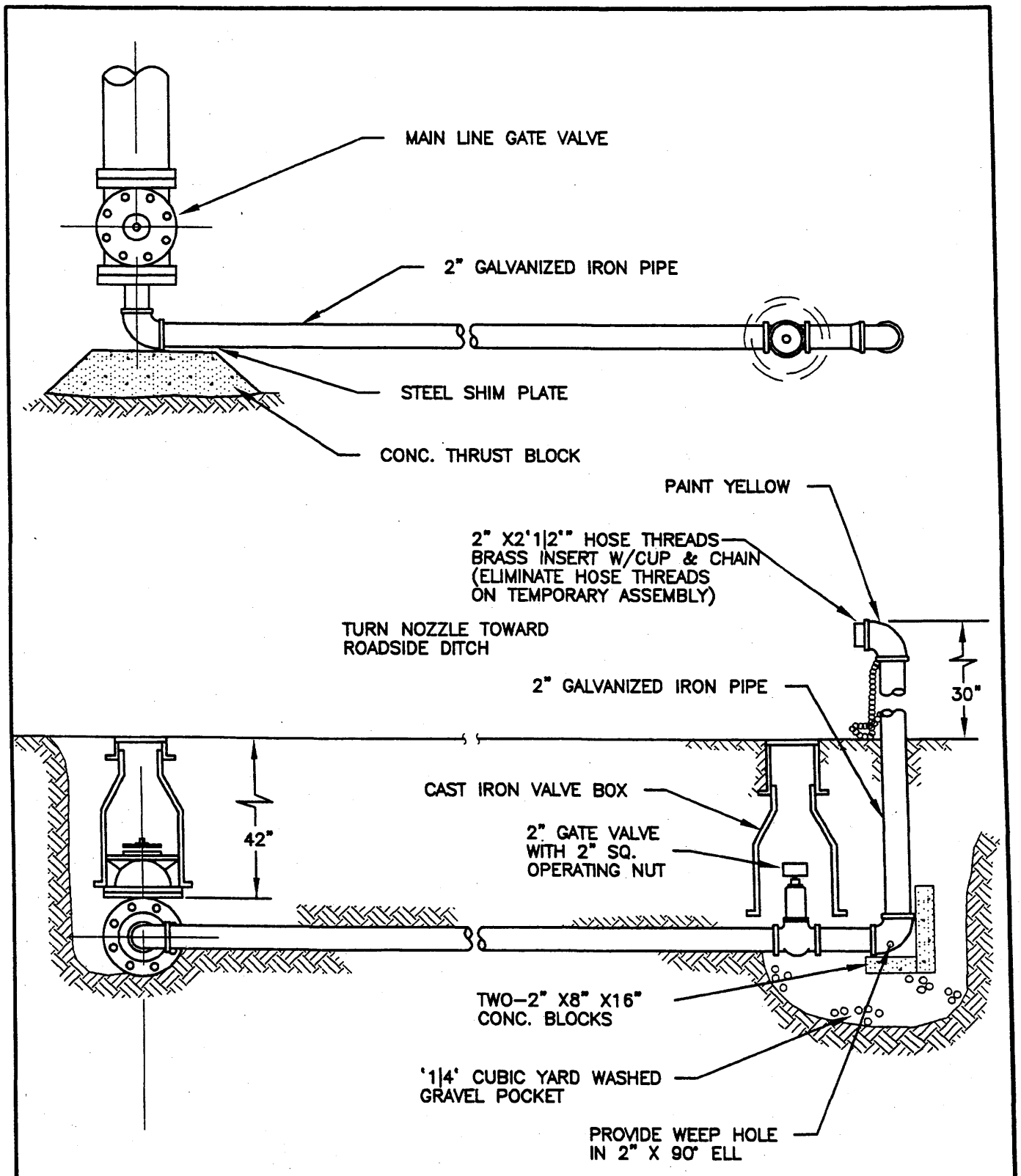
CITY OF UNION GAP

W-3



CITY OF UNION GAP

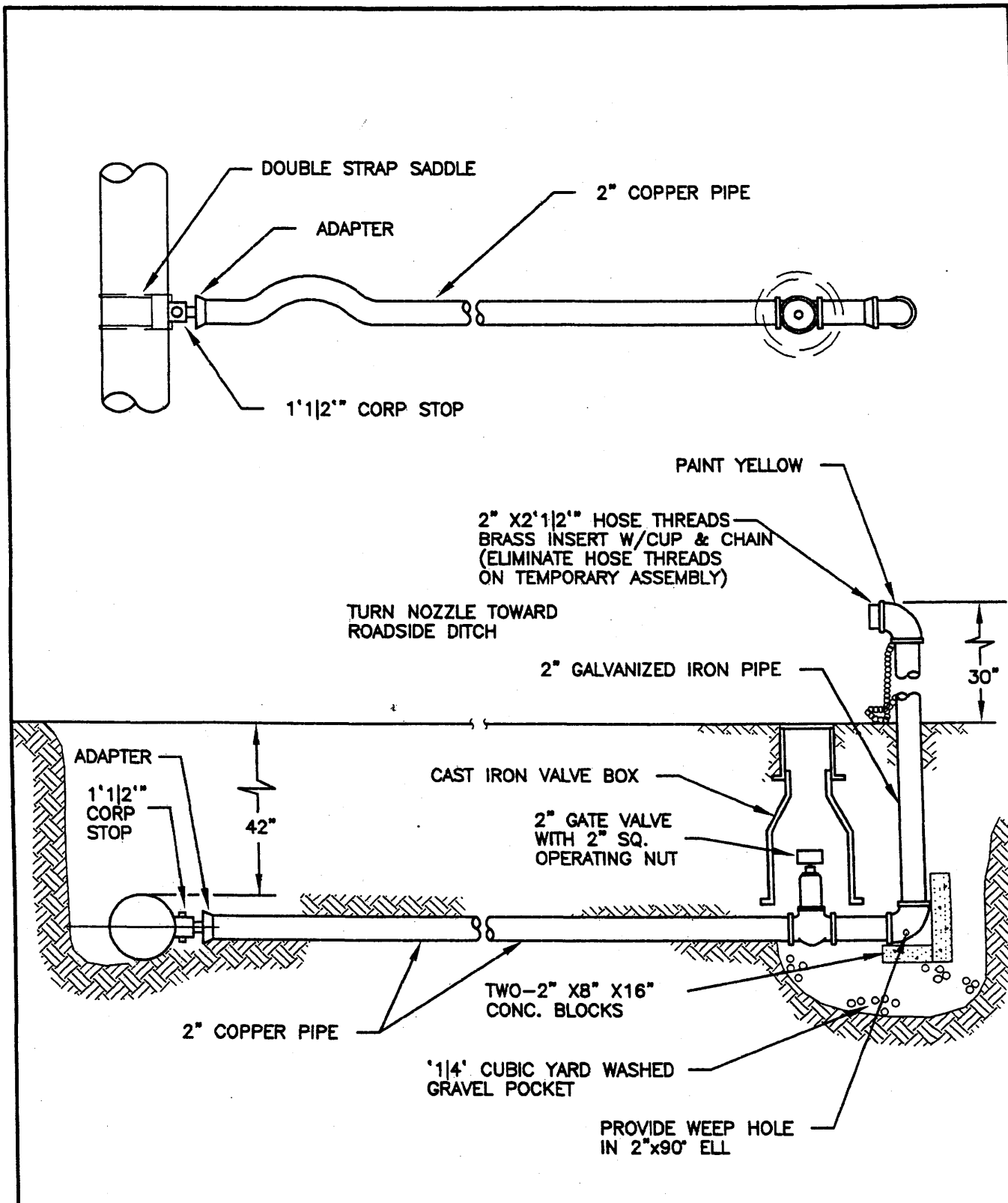
W-4



TYPE II BLOW OFF
NOT TO SCALE

CITY OF UNION GAP

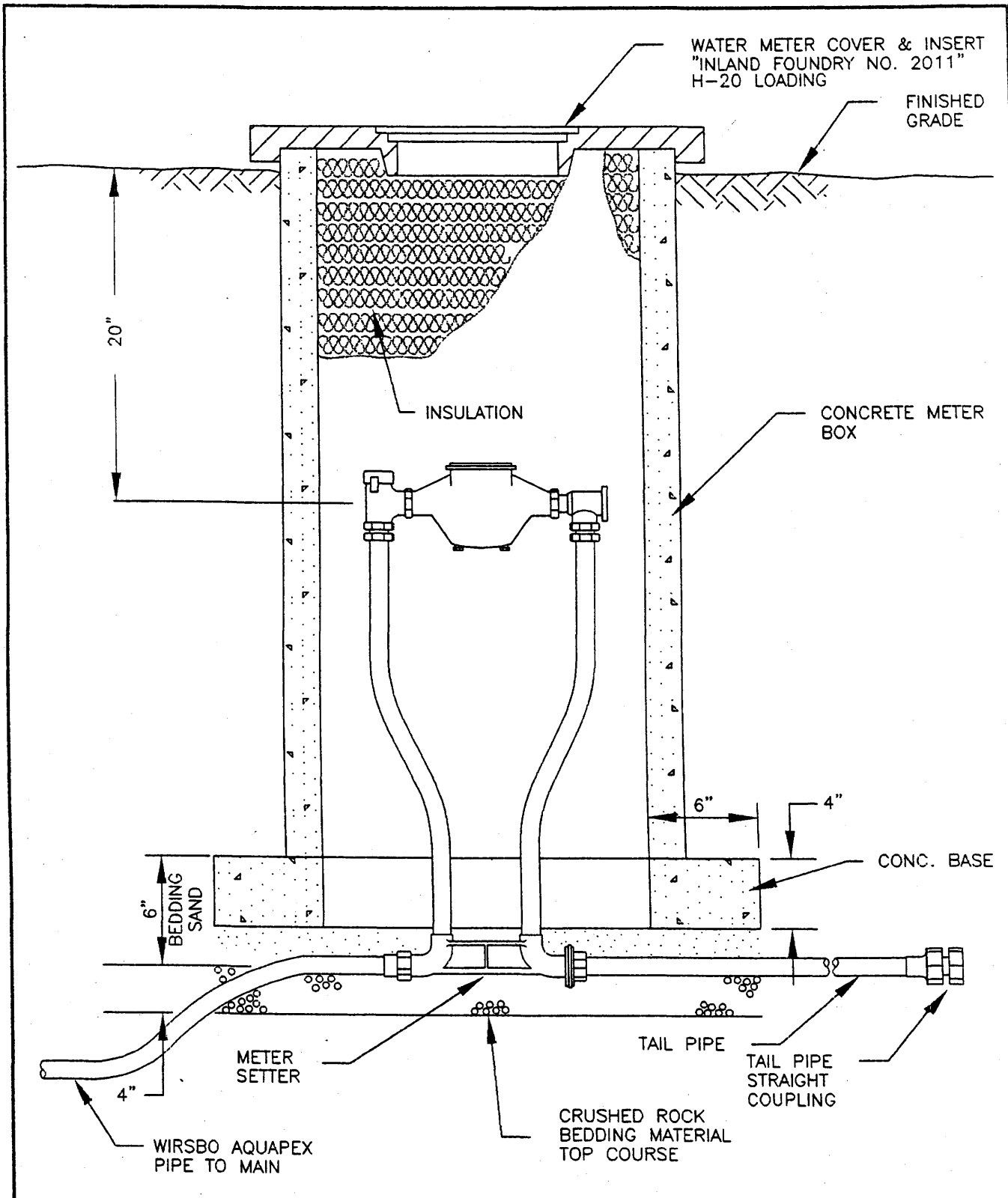
W-5



TYPE III BLOW OFF
NOT TO SCALE

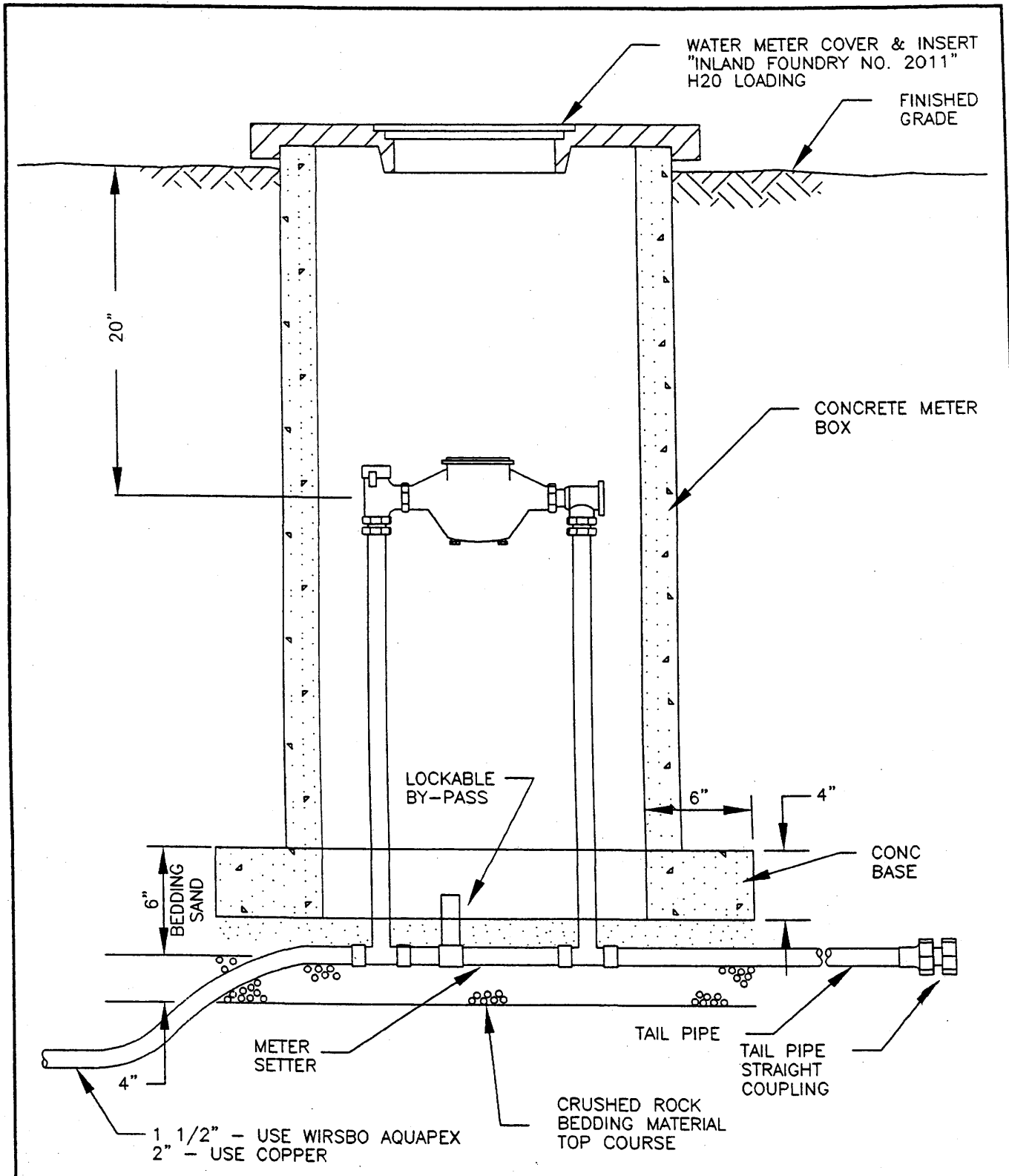
CITY OF UNION GAP

W-6



TYPICAL 3/4" & 1" CONNECTION DETAIL

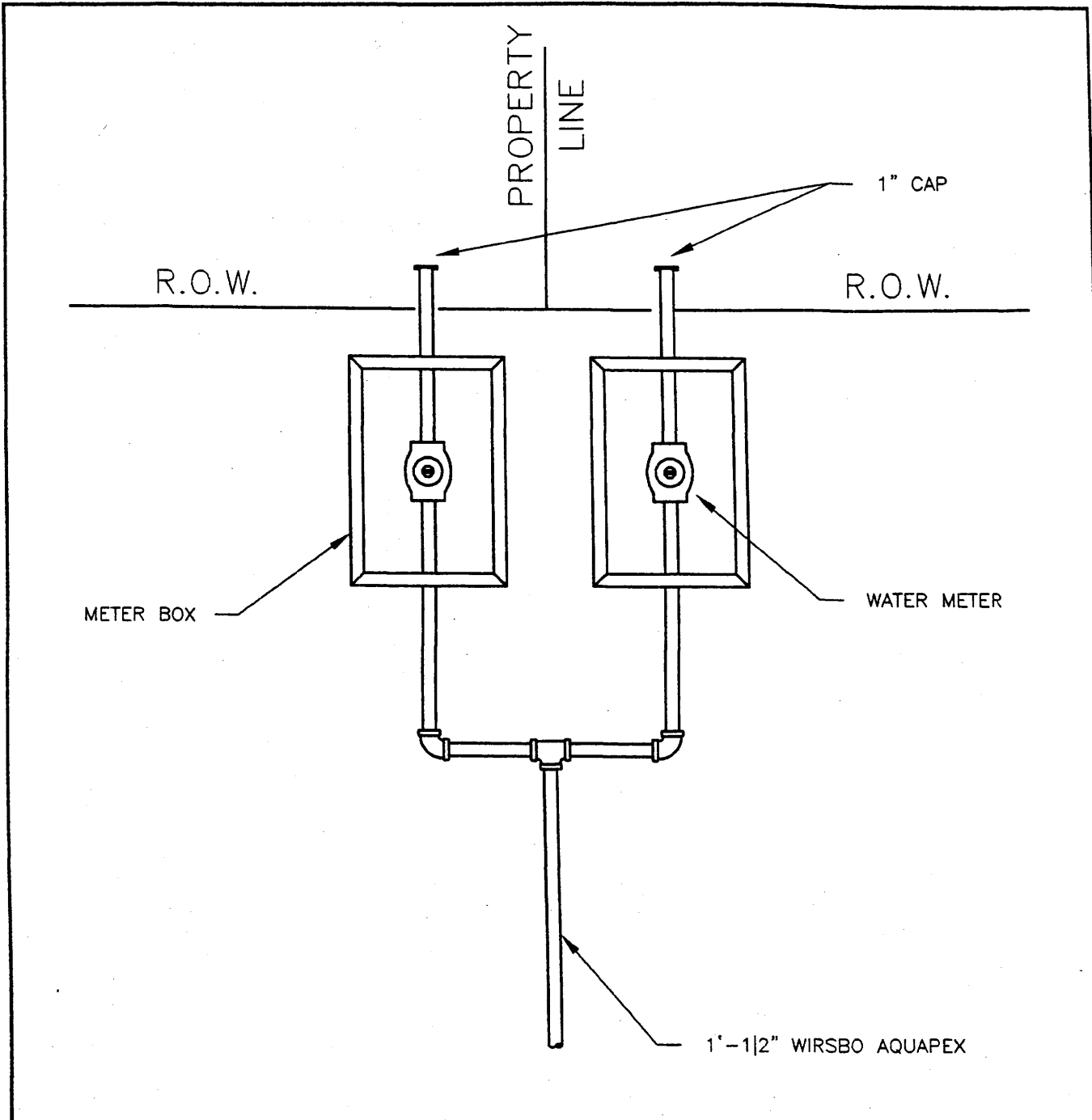
NOT TO SCALE



1-1/2" AND 2" SERVICE CONNECTION

NOT TO SCALE

M:\U-GAP\00005\W-METER 2



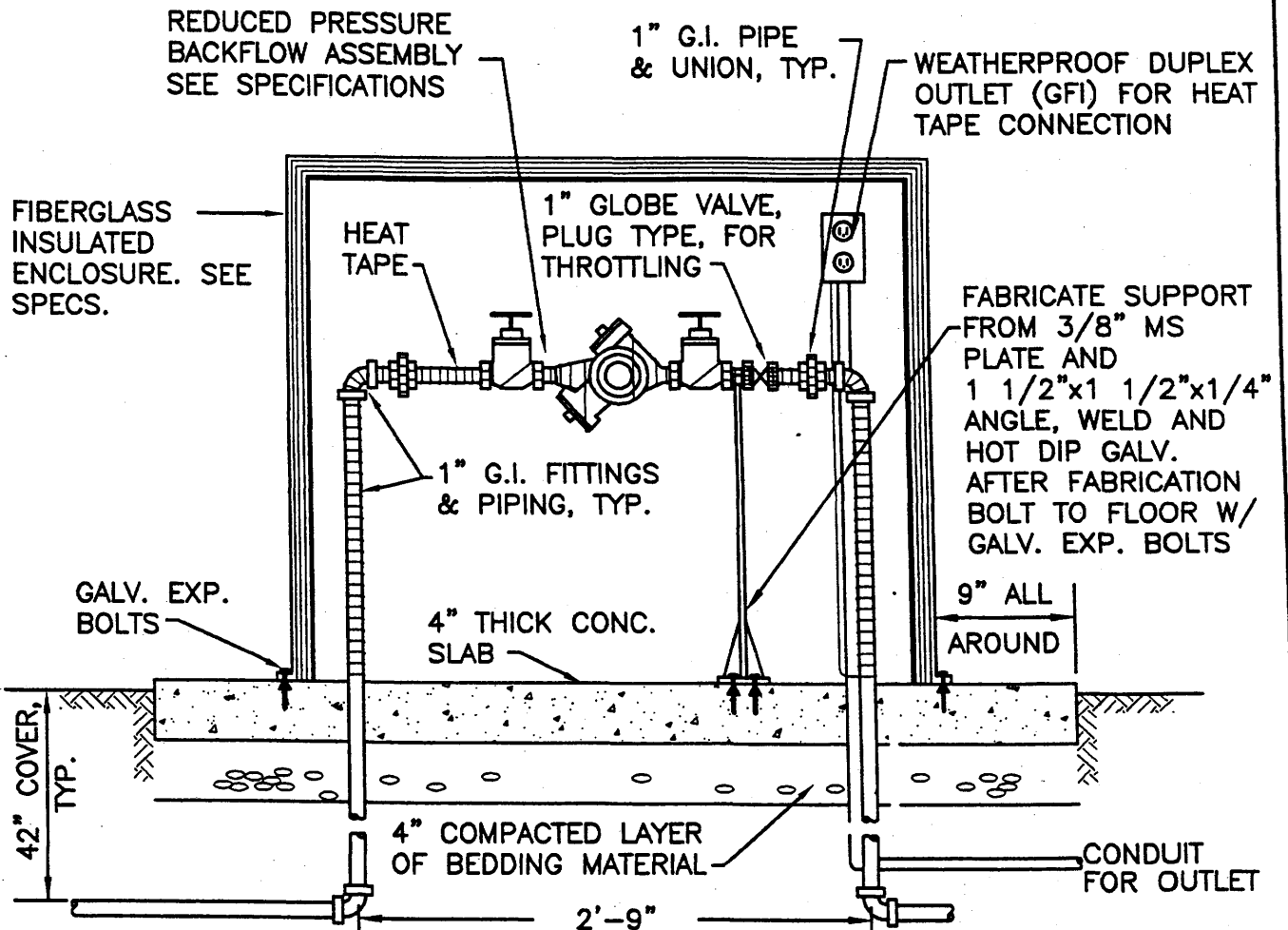
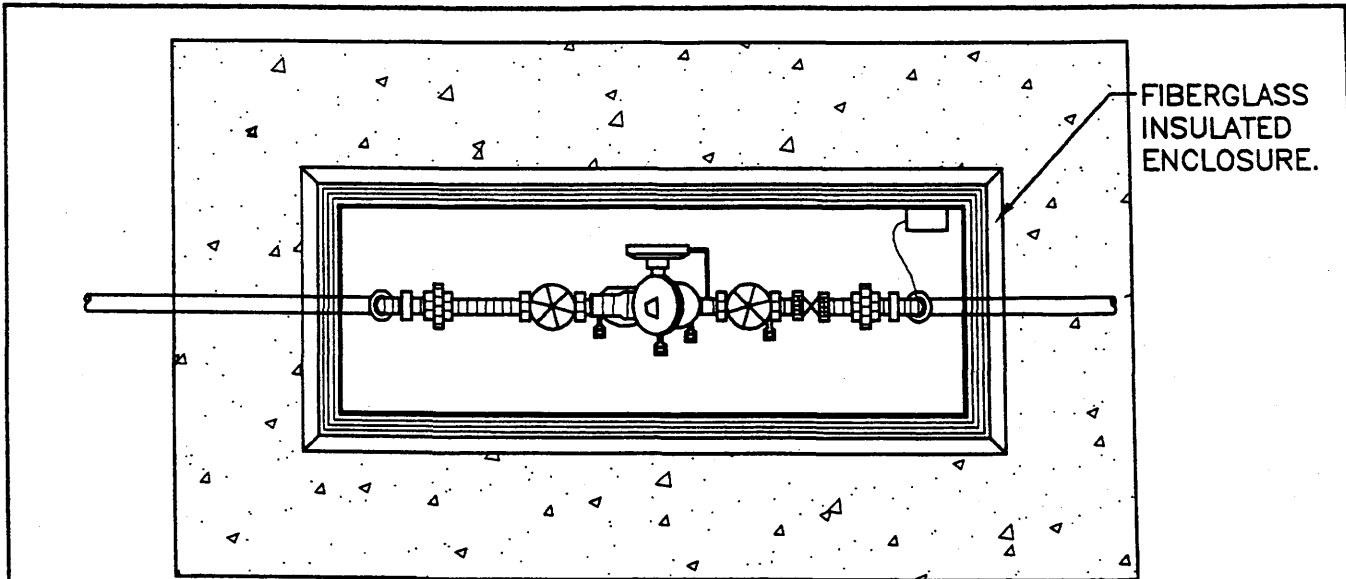
DOUBLE WATER SERVICE CONNECTION

NOT TO SCALE

CITY OF UNION GAP

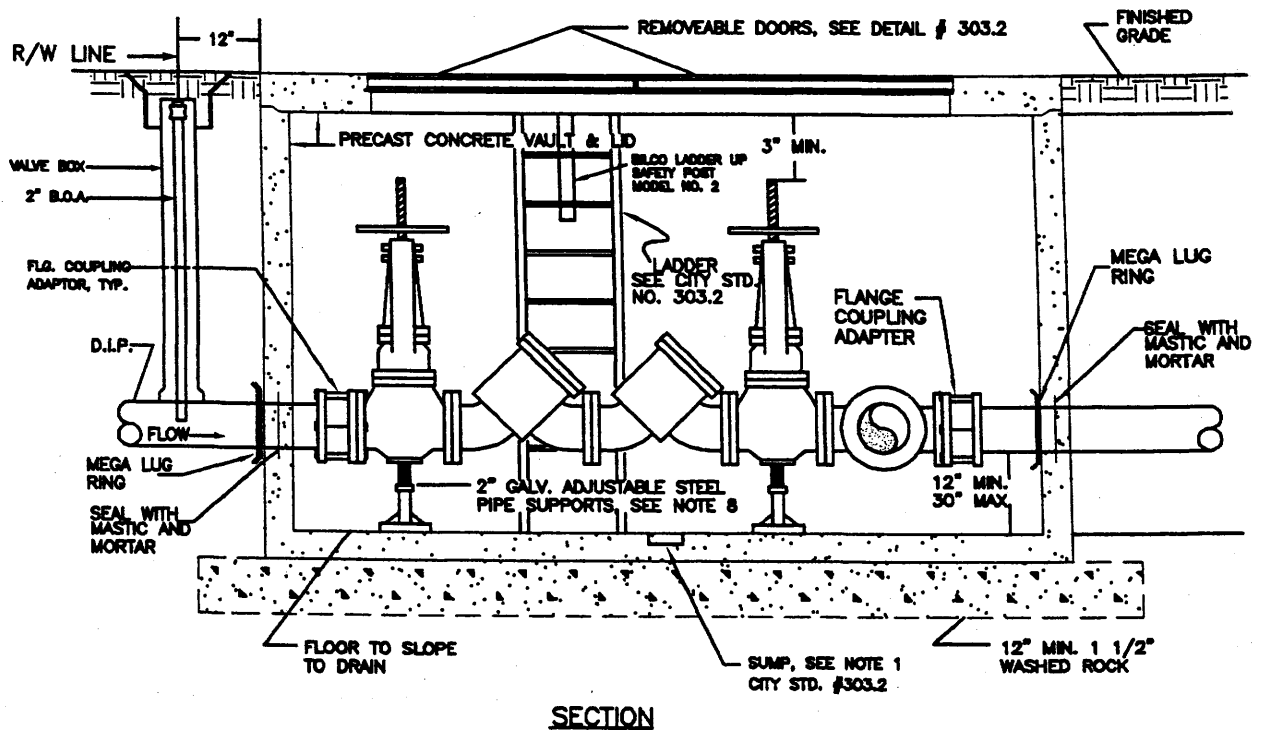
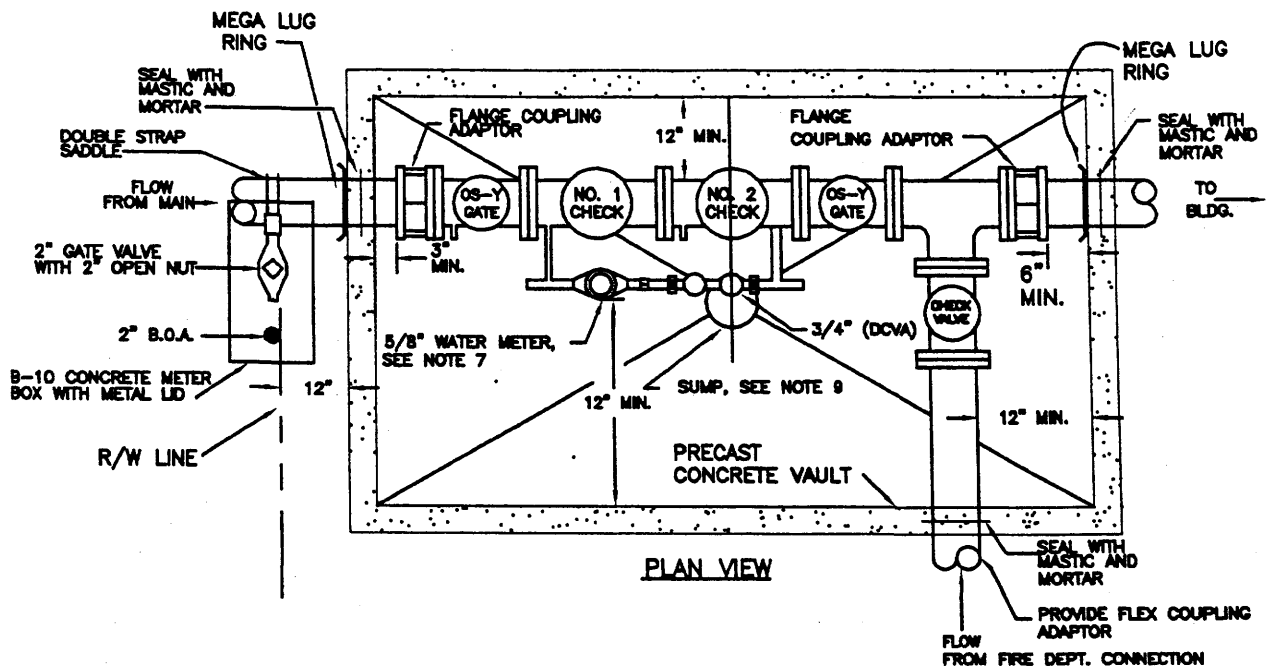
W-9

M:\U-GAP\00005\W-WAT-SER2



2" & SMALLER REDUCED PRESSURE BACKFLOW ASSEMBLY

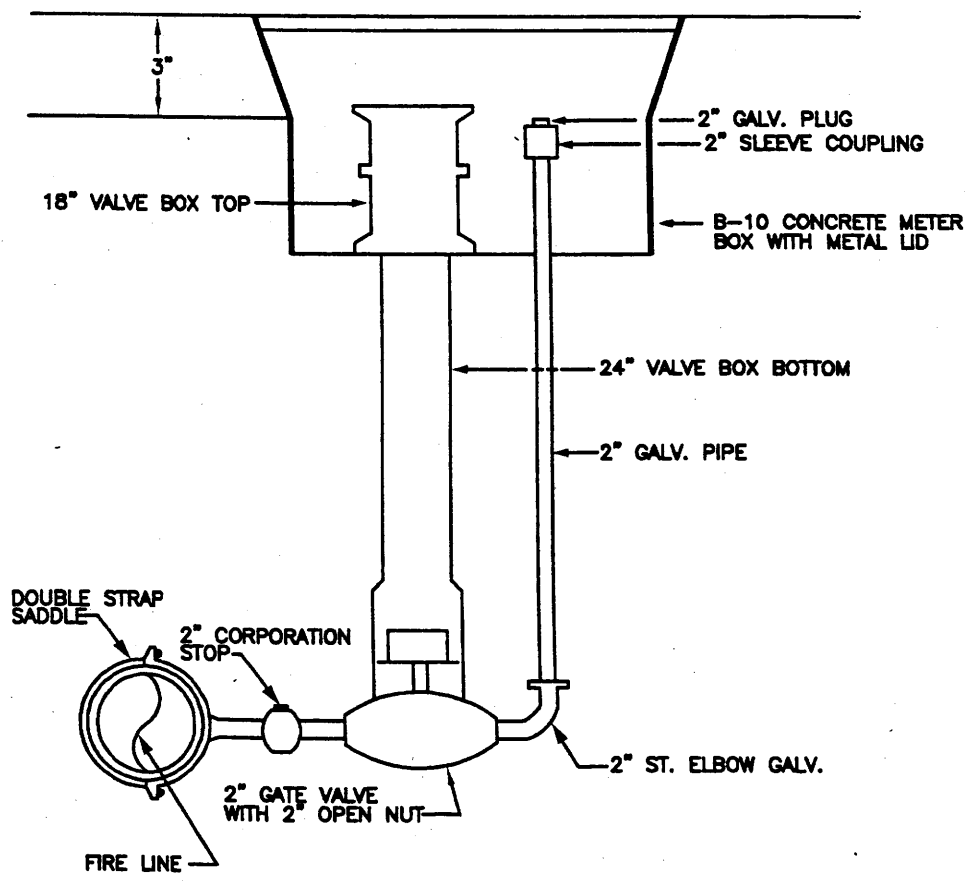
NOT TO SCALE



FIRE SUPPRESSION SYSTEM

CITY OF UNION GAP

W-11A

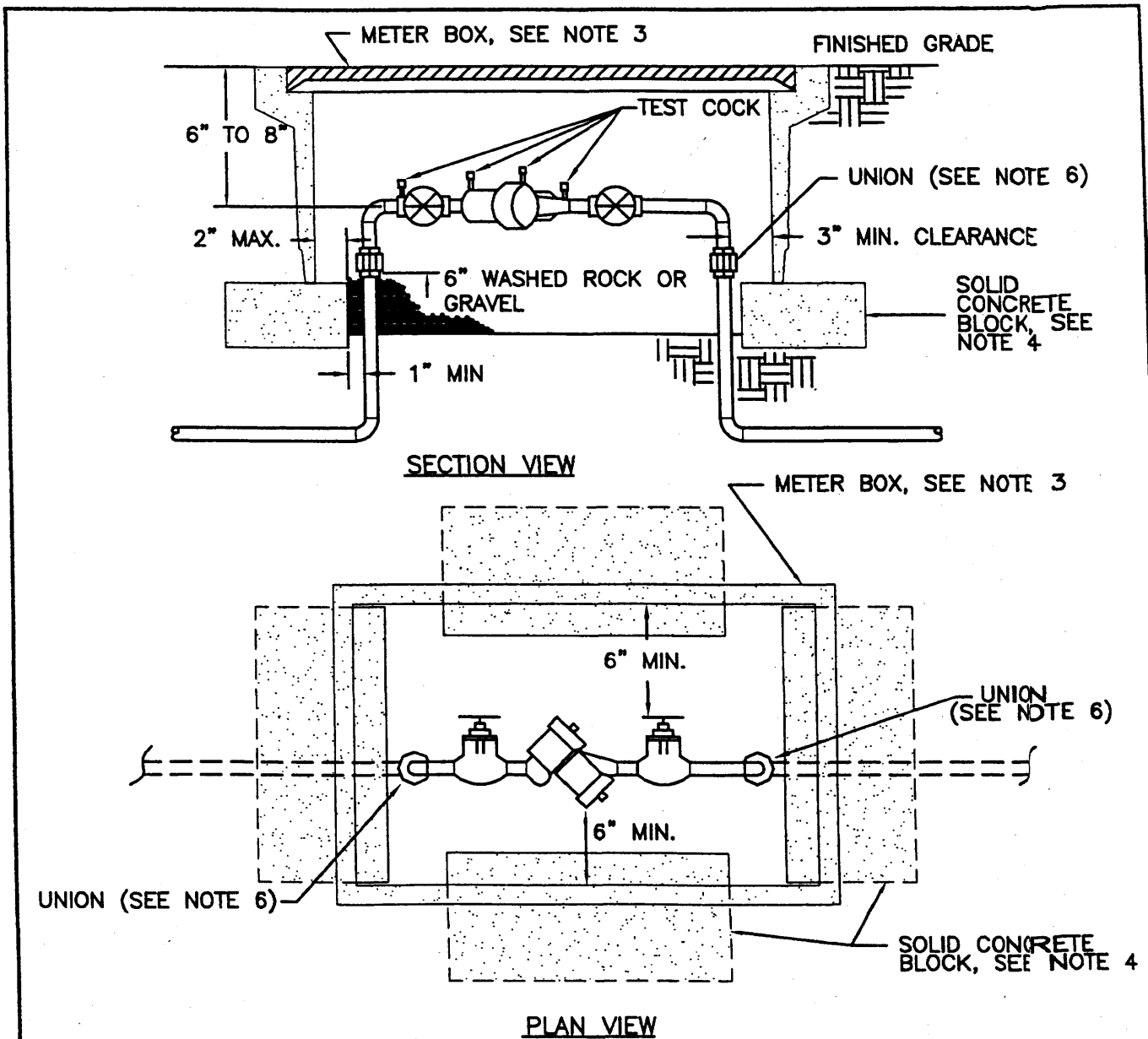


CITY OF UNION GAP

W-11B

NOTES FOR: DOUBLE DETECTOR CHECK VALVE ASSEMBLY (DDCVA) INSTALLATION

1. INSTALLATION OF THE APPROVED BACKFLOW ASSEMBLY SHALL BE IN ACCORDANCE WITH THE "ACCEPTED PROCEDURE AND PRACTICE IN CROSS-CONNECTION CONTROL" MANUAL, OF THE CROSS-CONNECTION CONTROL COMMITTEE, PACIFIC N.W. SECTION OF THE A.W.W.A., DECEMBER 1995, 6TH EDITION MANUAL OR CURRENT ADDITION AND AWWA MANUAL M14 CURRENT EDITION.
2. BACKFLOW ASSEMBLY MUST BE SELECTED FROM WASHINGTON STATE DEPARTMENT OF HEALTH LIST OF BACKFLOW PREVENTION ASSEMBLIES APPROVED FOR INSTALLATION IN WASHINGTON STATE, LATEST EDITION.
3. UPON INSTALLATION OF THE APPROVED BACKFLOW ASSEMBLY, (AND YEARLY THEREAFTER), THE ASSEMBLY SHALL BE TESTED BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER, WHO SHALL PROMPTLY FORWARD THE TEST RESULTS TO: THE CITY OF UNION GAP PUBLIC WORKS DEPARTMENT, PRIOR TO OCCUPANCY.
4. DOUBLE DETECTOR CHECK VALVE ASSEMBLY OS & Y GATE VALVES SHALL HAVE SUPERVISED TAMPER SWITCHES.
5. ALL ELECTRICAL SHALL BE INSPECTED BY BY A WASHINGTON STATE ELECTRICAL INSPECTOR.
6. DDCVA MUST BE PURCHASED AS A UNIT. NO MODIFICATIONS TO ASSEMBLY ARE ALLOWED.
7. PIPE SUPPORTS SHALL BE RUST-PROTECTED WITH ALUMINUM PAINT.
8. THE FIRE DEPARTMENT CONNECTION SHALL BE LOCATED WITHIN 15 FEET OF A FIRE HYDRANT BUT NOT LESS THAN 10 FEET.
9. WHEN DDCVA IS LOCATED WITHIN A BUILDING, THE BALL DRIP SHALL DRAIN TO THE NEAREST APPROVED CATCH BASIN.
10. A 2" BLOWOFF ASSEMBLY IS REQUIRED WHEN THE DOUBLE DETECTOR CHECK VALVE ASSEMBLY IS LOCATED FURTHER THAN 18' FROM THE LOOPED WATER LINE SUPPLY.

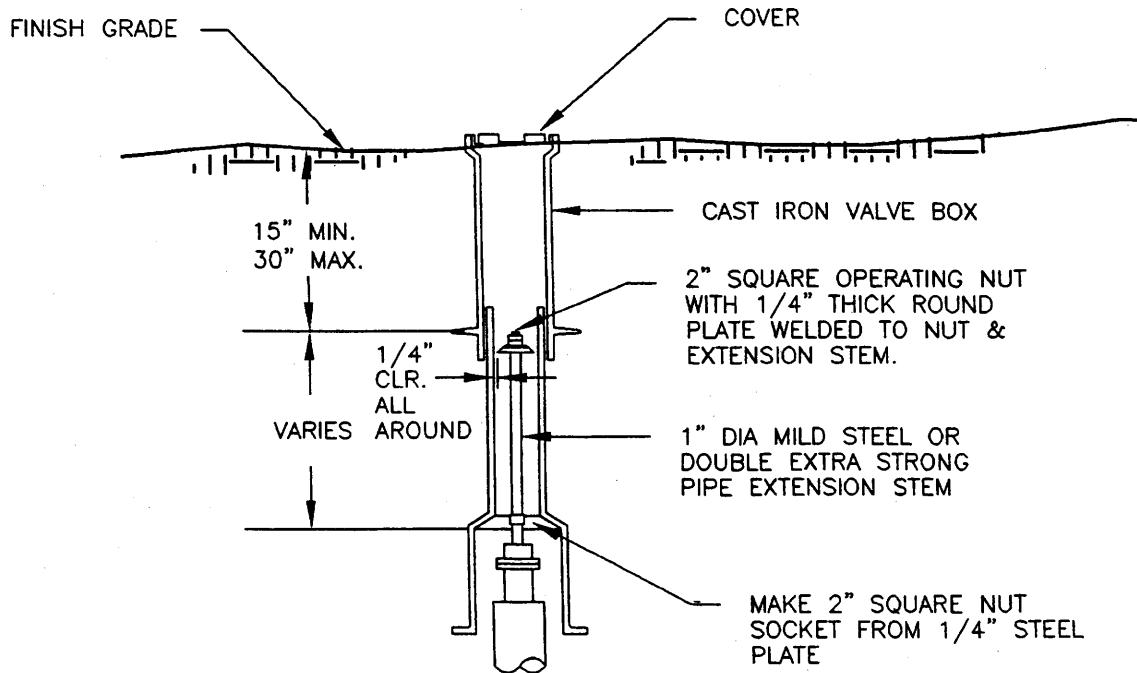


NOTES: 2" AND SMALLER DCVA INSTALLATION

1. DCVA IS TO BE PLACED IMMEDIATELY DOWNSTREAM OF WATER METER.
2. DCVA IS TO BE PROTECTED FROM FREEZING.
3. METER BOX SHALL BE LARGE ENOUGH TO ALLOW THE MINIMUM SET BACKS ILLUSTRATED ABOVE. METER BOX LID SHALL BE A TRAFFIC METER READER LID. H-20 LOADING.
4. METER BOX SHALL BE SUPPORTED BY FOUR 16"x8"x4" SOLID CONCRETE BLOCKS
5. DCVA SHALL BE TESTED, UPON INSTALLATION, BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER, AND THE REPORT FORM SHALL BE RECEIVED BY THE WATER OPERATIONS INSPECTOR PRIOR TO OCCUPANCY.
6. DIELECTRIC UNIONS MUST BE USED TO SEPARATE DISSIMILAR MATERIALS.

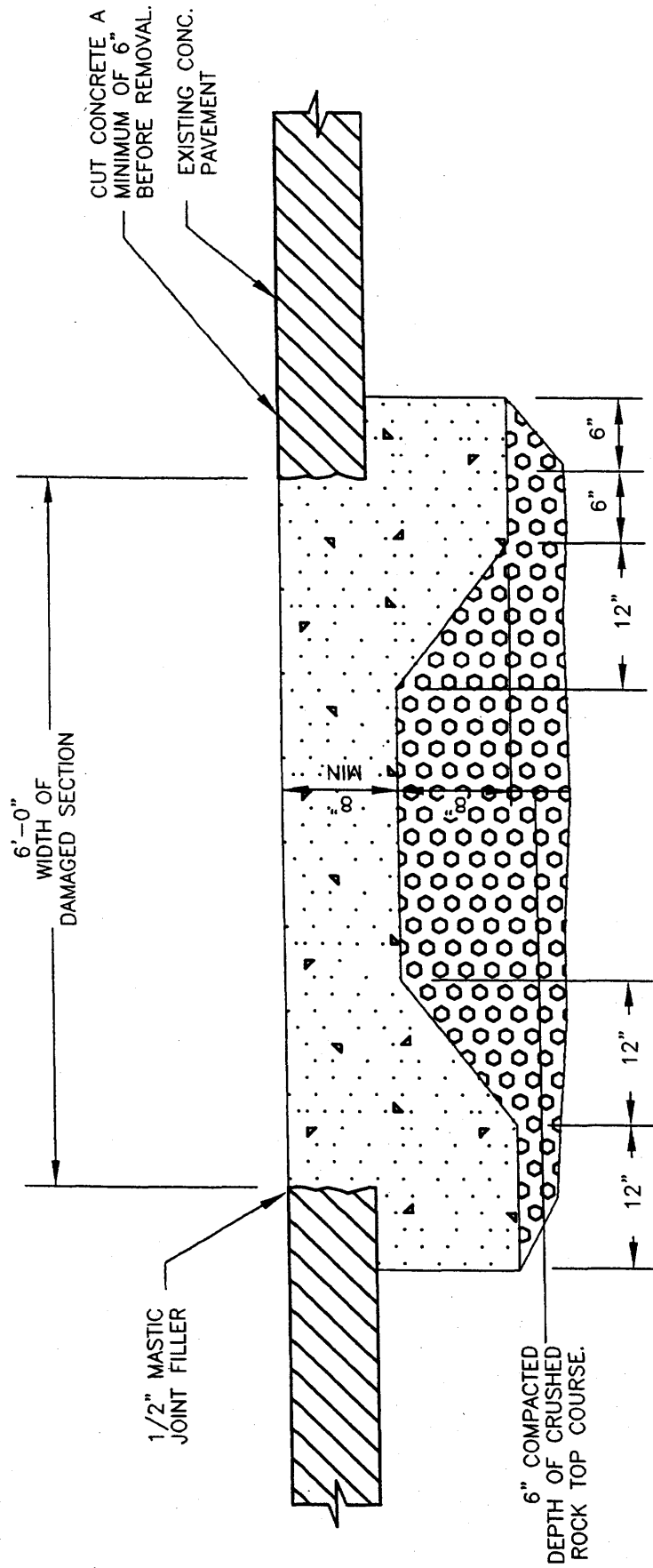
2" AND SMALLER DOUBLE CHECK VALVE ASSEMBLY INSTALLATION

NOT TO SCALE



VALVE STEM EXTENSION DETAIL

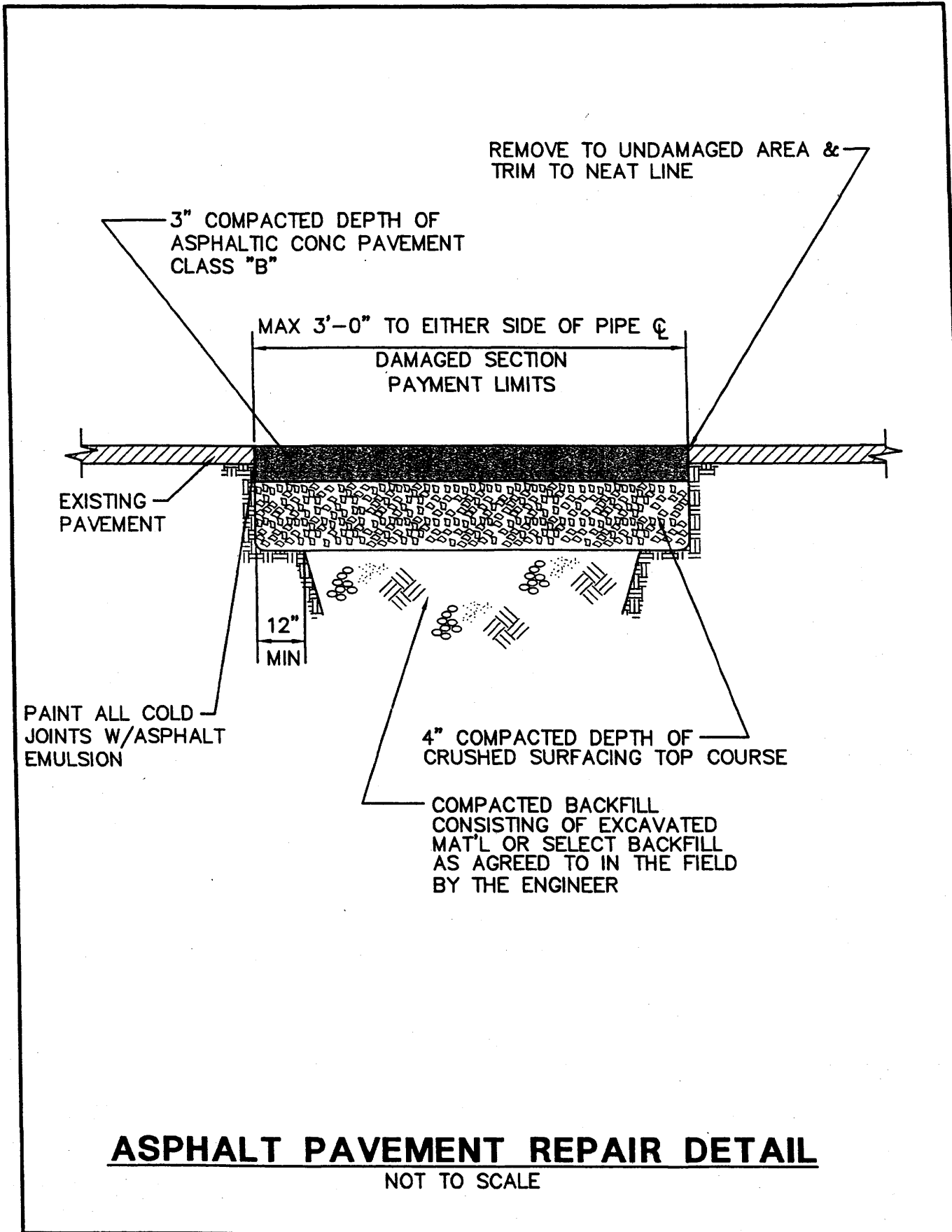
NOT TO SCALE



CEMENT CONCRETE PAVEMENT REPAIR

NOT TO SCALE

M:\U-GAP\00005\W-CON-REP

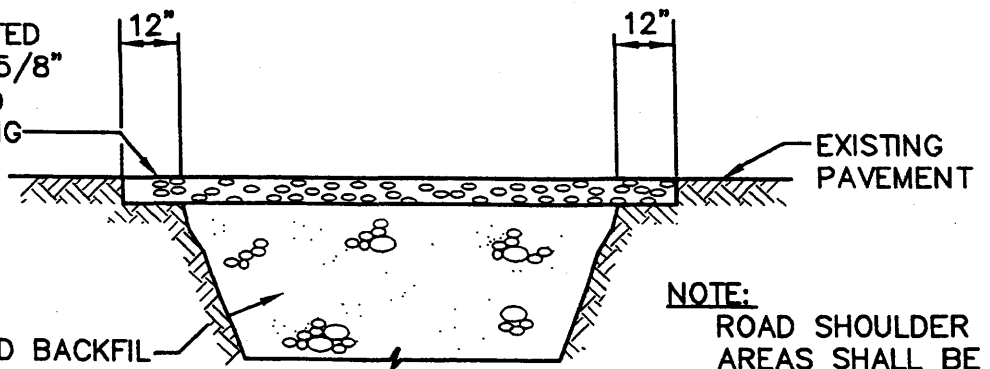


ASPHALT PAVEMENT REPAIR DETAIL

NOT TO SCALE

M:\U-GAP\00005\ASPHALT REPAIR

2" OF COMPACTED
THICKNESS OF 5/8"
MINUS CRUSHED
ROCK SURFACING



EXISTING
PAVEMENT

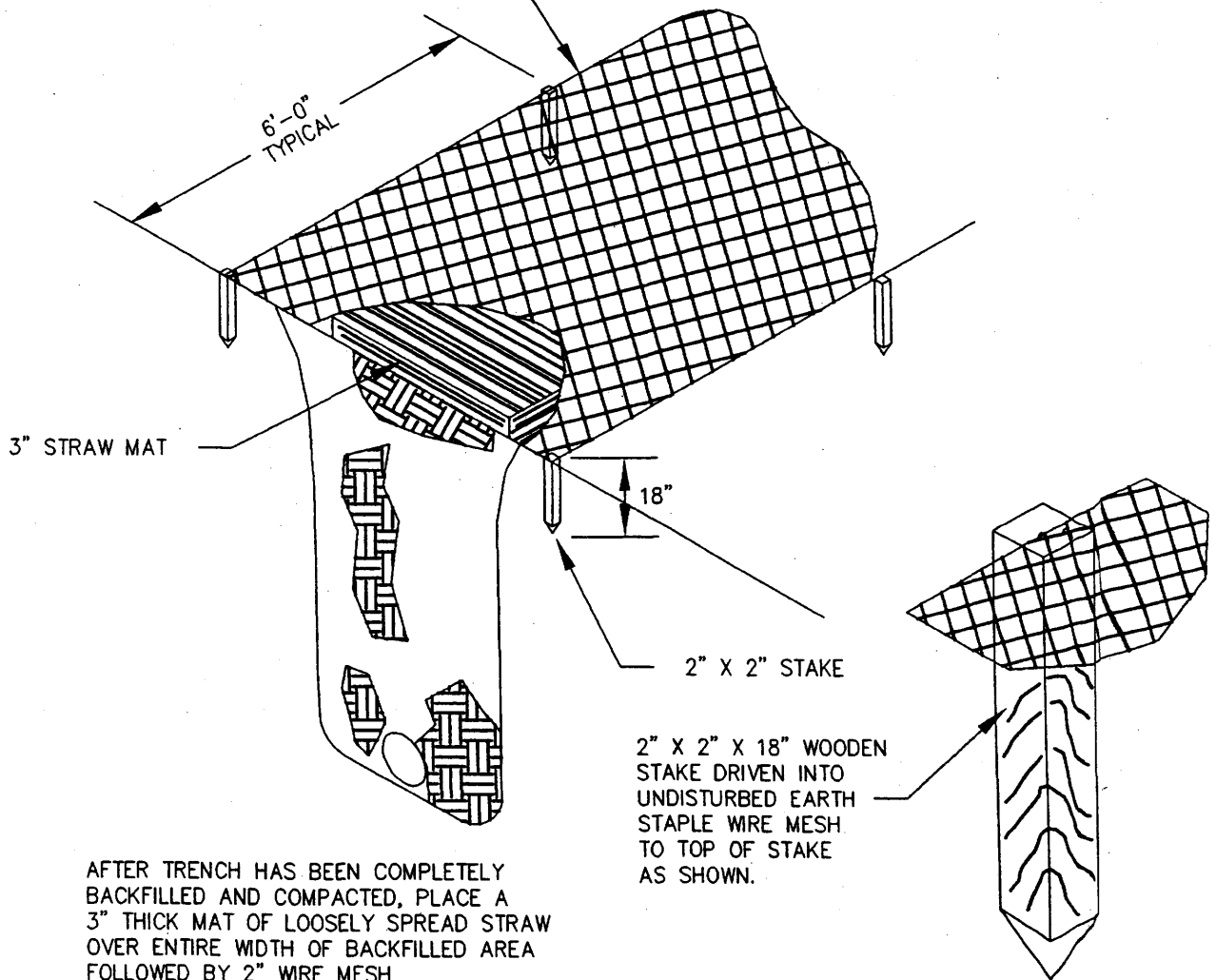
COMPACTED BACKFIL
CONSISTING OF
EXCAVATED MATERIAL
OR GRAVEL BASE

NOTE:
ROAD SHOULDER
AREAS SHALL BE
COMPACTED

CRUSHED ROCK REPAIR

NOT TO SCALE

10' WIDTH OF 2" MESH GALVANIZED
CHICKEN WIRE LAID OVER STRAW
AND STAPLED TO 2" X 2" STAKES



AFTER TRENCH HAS BEEN COMPLETELY
BACKFILLED AND COMPACTED, PLACE A
3" THICK MAT OF LOOSELY SPREAD STRAW
OVER ENTIRE WIDTH OF BACKFILLED AREA
FOLLOWED BY 2" WIRE MESH

WIRE MESH FOR SLOPE PROTECTION
SHALL BE USED WHEN SO DIRECTED
BY THE DISTRICT AND/OR ENGINEER.

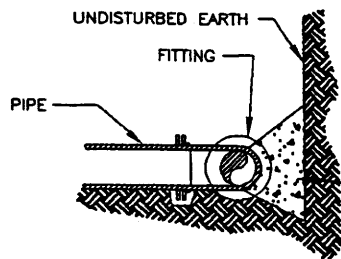
THIS SLOPE PROTECTION DETAIL
REPRESENTS MIN. REQUIREMENTS
FOR MATERIALS AND INSTALLATION.

SLOPE PROTECTION DETAIL

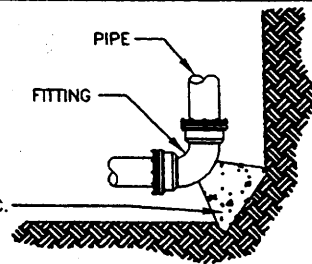
NOT TO SCALE

CITY OF UNION GAP

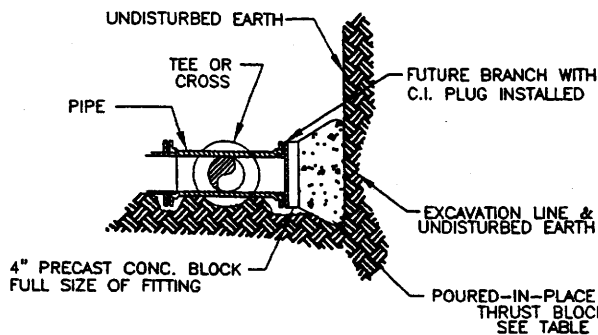
W-17



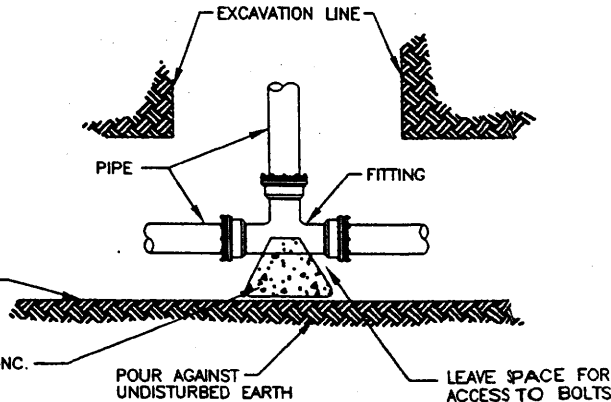
SECTION



PLAN

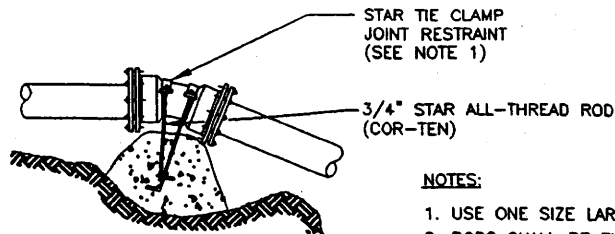


SECTION



PLAN

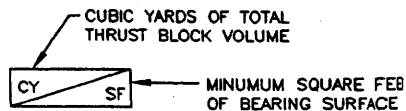
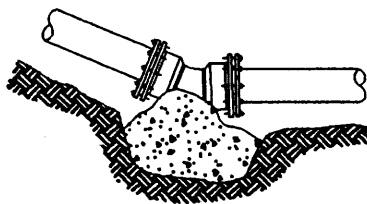
PIPE SIZE	11-1/4' BEND	22-1/2' BEND
6"	0.5 CY	1.0 CY
8"	1.0 CY	1.5 CY
12"	1.5 CY	3.0 CY



NOTES:

- 1. USE ONE SIZE LARGER THAN NOMINAL SIZE
- 2. RODS SHALL BE EMBEDDED 2 FT. INTO CONCRETE.

PIPE SIZE	11-1/4' BEND	22-1/2' BEND
6"	0.5	1
8"	1	1.5
12"	1.5	3



**VERTICAL SECTIONS
CONCRETE THRUST BLOCK DETAIL**

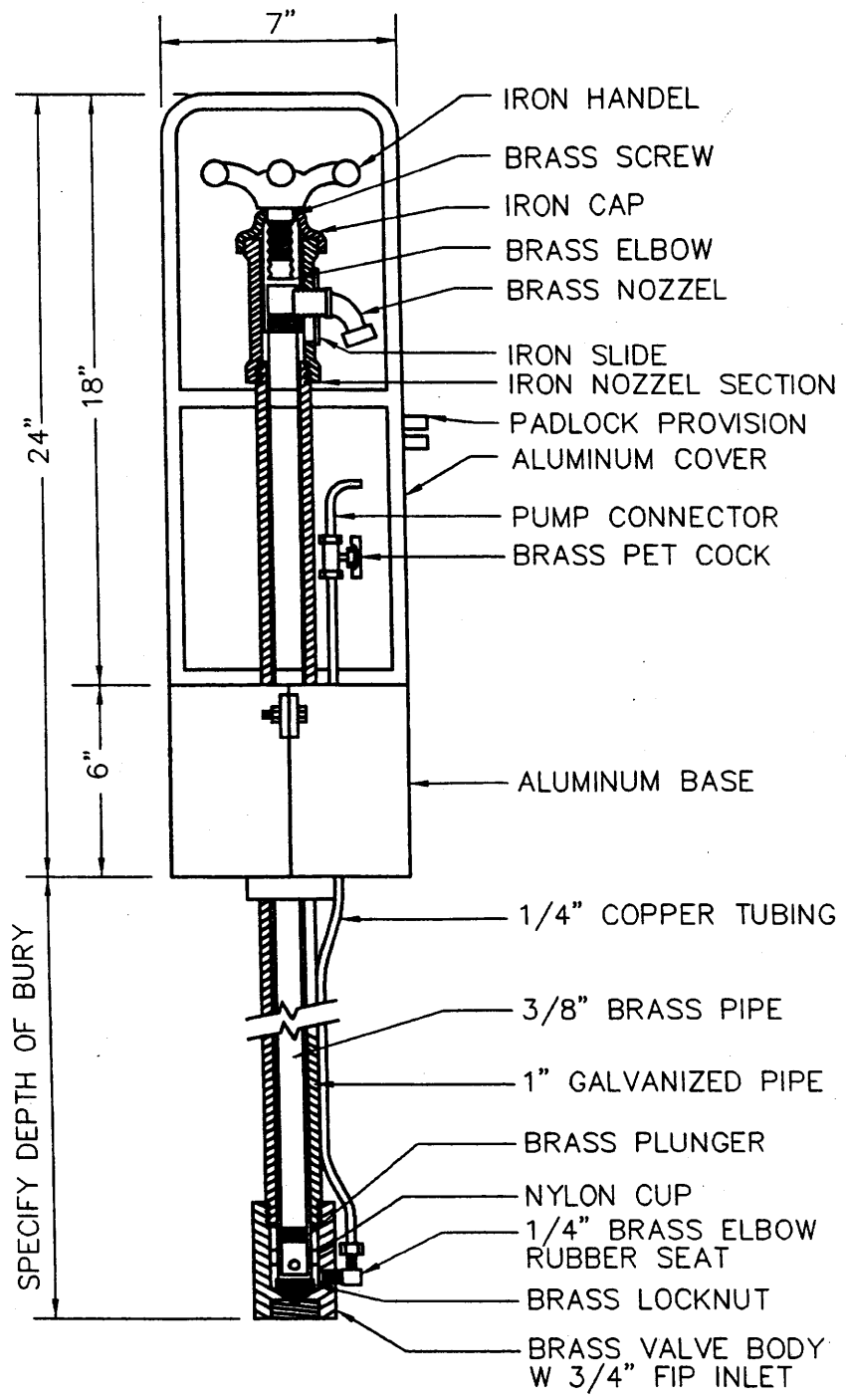
NTS

CONCRETE THRUST BLOCK - SIZE DETAILS

PIPE SIZE	11-1/4" BEND	22-1/2" BEND	45° BEND	90° BEND	TEE OR PLUG
4"	1/4 2	1/3 3	1/3 3	1/3 4	1/3 3
6"	1/4 3	1/3 3.5	1/2 4	2/3 4.5	1/2 4
8"	1/3 6	1/2 6	2/3 6.5	3/4 8	2/3 6.5
10"	2/3 9	2/3 9	3/4 10	1-1/2 12	3/4 10
12"	1 12	1 12	1-1/4 15	2 16	1-1/4 15

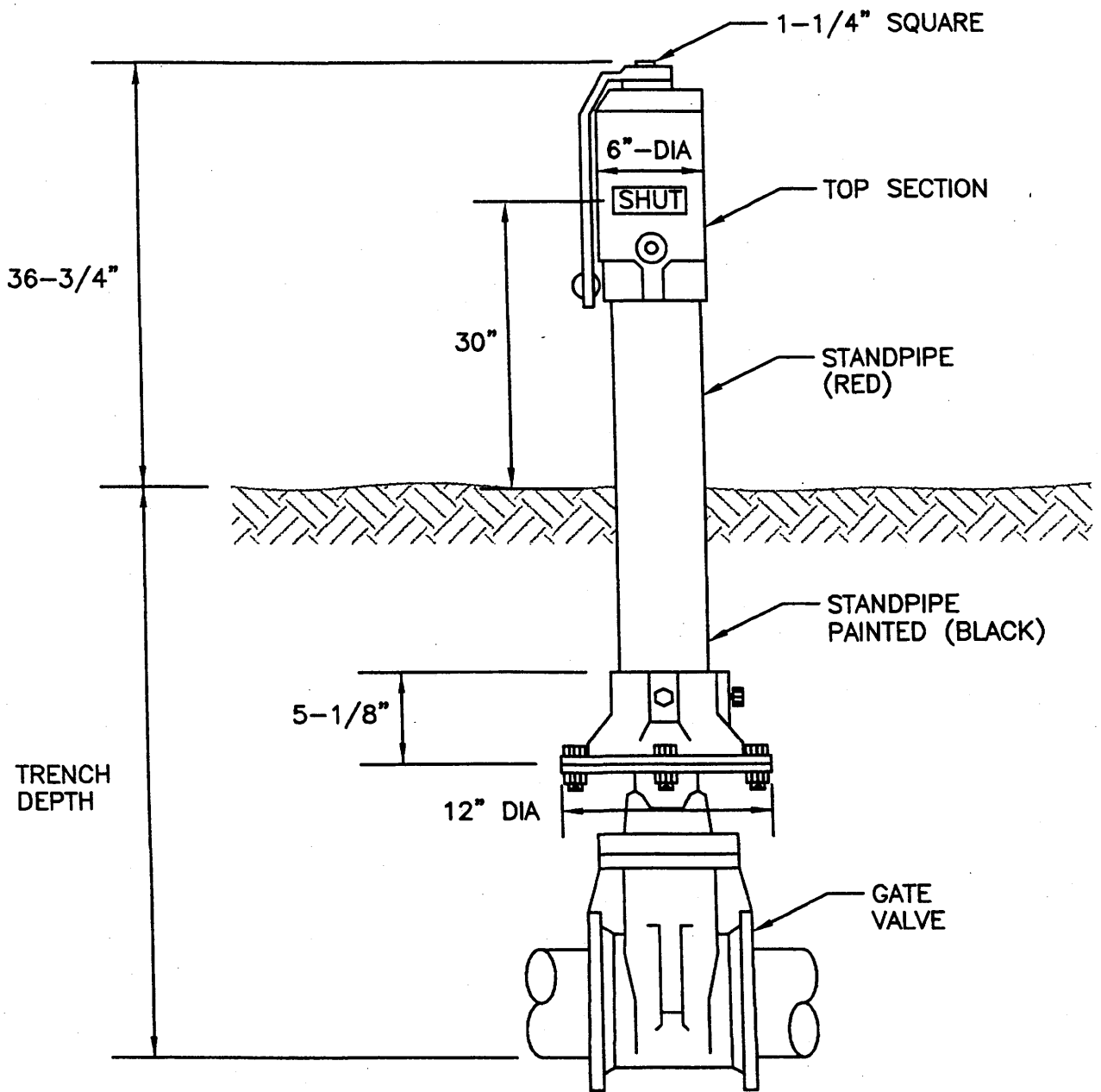
NOTE:
PLACE VISQUEEN SHEET SO CONCRETE THRUST BLOCK IS NOT POURED DIRECTLY AGAINST FITTING. PROVIDE VISQUEEN BONDBREAK.

**THRUST BLOCK DETAIL
NOT TO SCALE**



SAMPLING STATION
NOT TO SCALE

M:\U-GAP\00005\W-SAMP-STA

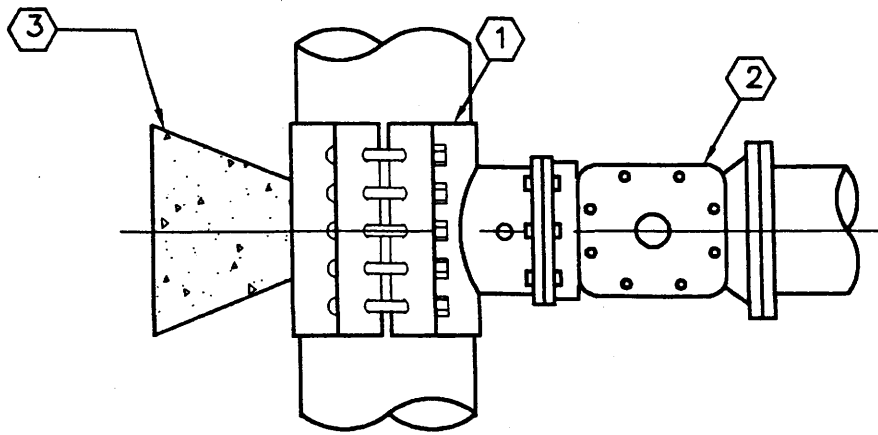


GATE POST POSITION INDICATOR

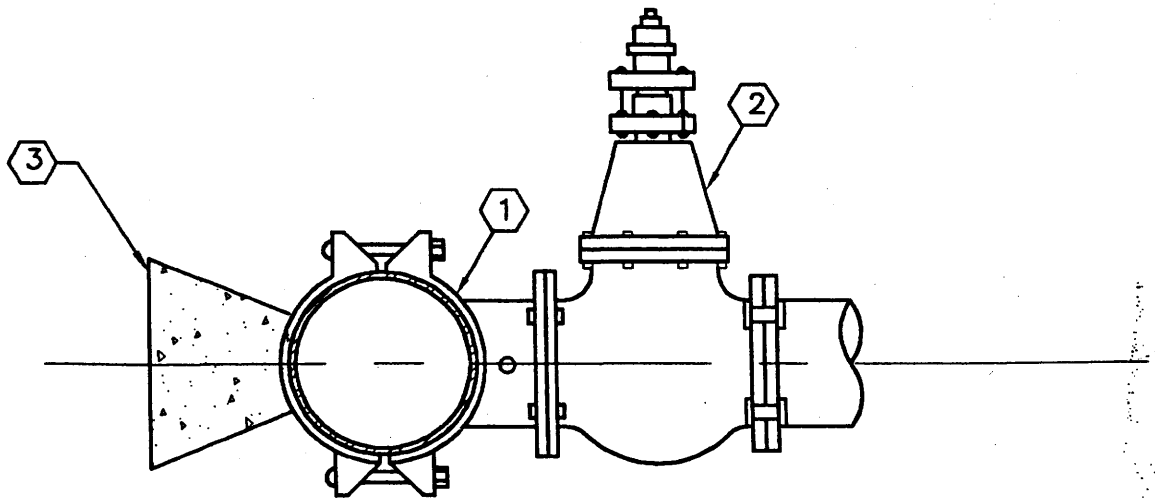
NOT TO SCALE

CITY OF UNION GAP

W-20



PLAN

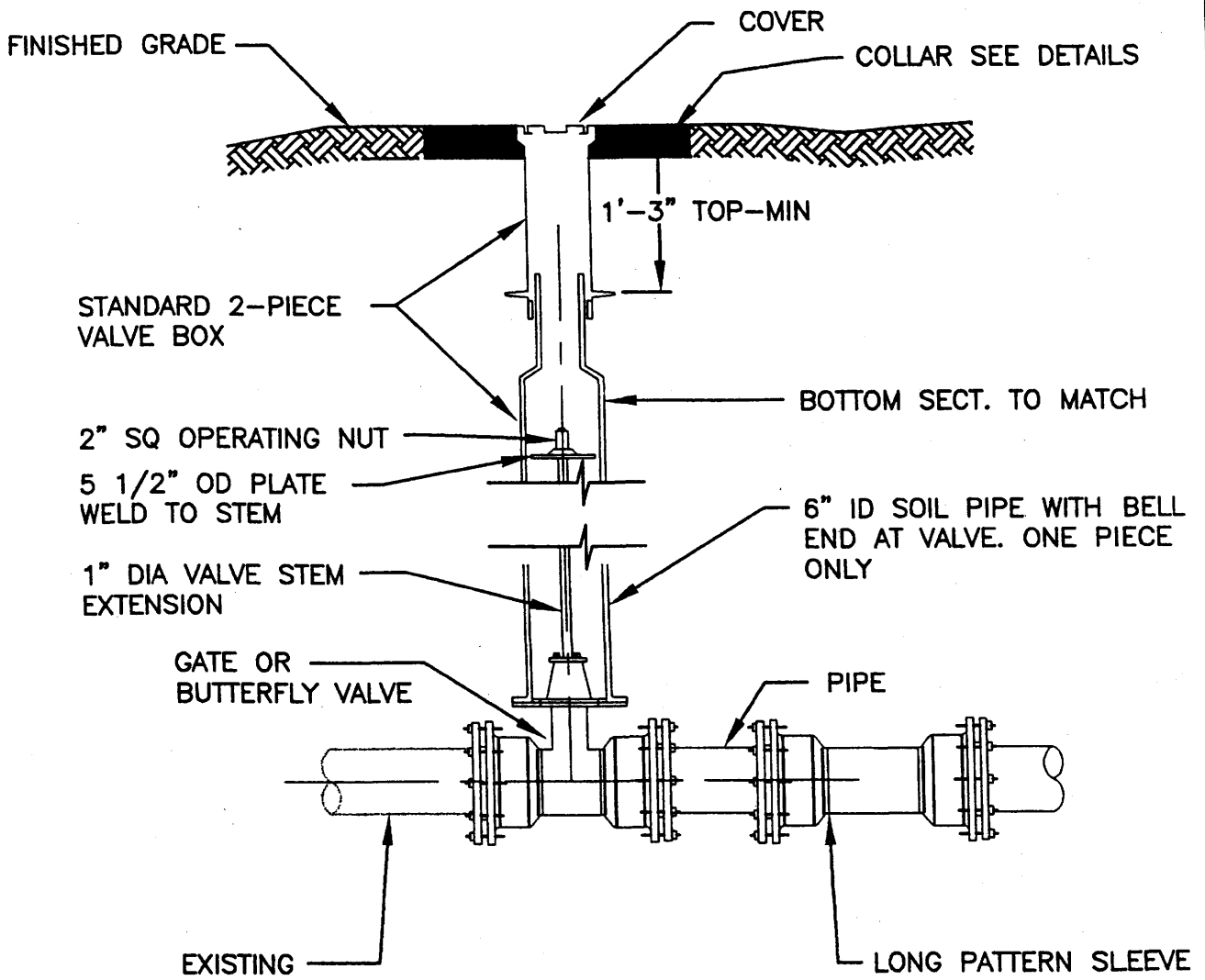


ELEVATION

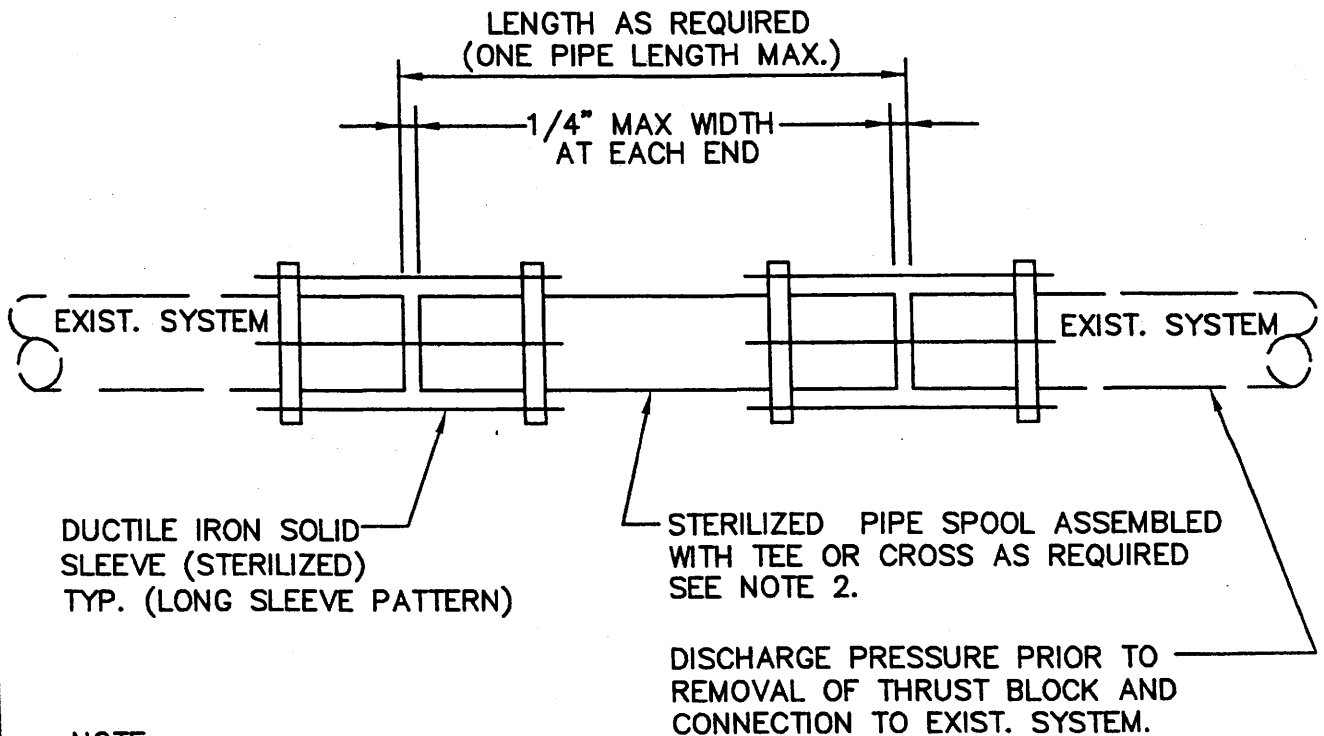
- ① DUCTILE IRON OR FABRICATED STEEL TAPPING SLEEVE WITH FULL CIRCLE SEAL
- ② RESILIENT SEAT TAPPING GATE VALVE
- ③ CONCRETE THRUST BLOCK. OPERATION SHALL BE BY DISTRICT PERSONNEL ONLY. CONTRACTOR SHALL NOT OPERATE VALVE.

TAPPING SLEEVES AND TAPPING VALVE

NOT TO SCALE



TYPICAL WATER VALVE DETAIL
NTS



NOTE:

1. NO DEFLECTION SHALL BE ALLOWED AT EITHER COUPLING
2. CUT-IN CONNECTIONS ON STEEL PIPE TO USE D.I. X O.D. STEEL TRANSITION COUPLINGS ROMAC OR EQUAL.
3. IN-LINE VALVE(S) IN EXISTING SYSTEM MAY BE REQUIRED AT THE SOLE DISCRETION OF THE CITY AT ALL NEW INTERTIE LOCATIONS. (NOTE: VALVE(S) ARE NOT SHOWN ABOVE FOR CLARITY)

STANDARD WATERLINE CUT IN
NOT TO SCALE

11/13/00

APPENDIX 1
DUST CONTROL PLAN

YAKIMA REGIONAL CLEAN AIR AUTHORITY

6 South Second Street - Room 1016
Yakima, Washington 98901
(509) 574-1410 / Fax (509) 574-1411

PROJECT DUST CONTROL PLAN

No. _____

Project Name _____

Location _____

Project Description _____

Start Dates _____

Size Of Property _____

Soil Type(s) _____

Property Owner _____

Name

Address

Contact Person

Phone

General Contractor Of Builder _____

Name

Address

Contact Person

Phone

Site Developer Or Excavator _____

Name

Address

Contact Person

Phone

Date Received _____

Date Approved _____

By _____

**YAKIMA REGIONAL CLEAN AIR AUTHORITY
PROJECT DUST CONTROL PLAN**

Describe the dust preventive reasonable precautions you will use, including method of application, specific to each area, such as, spoil piles, alleyways, employee parking, accesses, etc.

Describe contingency measures you will implement in the event of the preventive control measures become ineffective.

List the name and phone number of a person available 24 hours a day to mitigate any episodes of dust in the event preventive measures become ineffective.

Name	Phone Number
------	--------------

I, the undersigned, accept direct responsibility for the implementation of the above dust control plan.

Signature	Company Name	Date
-----------	--------------	------

I, the undersigned, accept transfer of direct responsibility for all or part (circle one) of the above property and for the implementation of the dust control plan. If you circled "part", indicate for what portion of the subject property you are accepting responsibility.

Signature	Company Name	Date
-----------	--------------	------