

# RUSA WRF WATERLINE CIVIL CONSTRUCTION PLANS



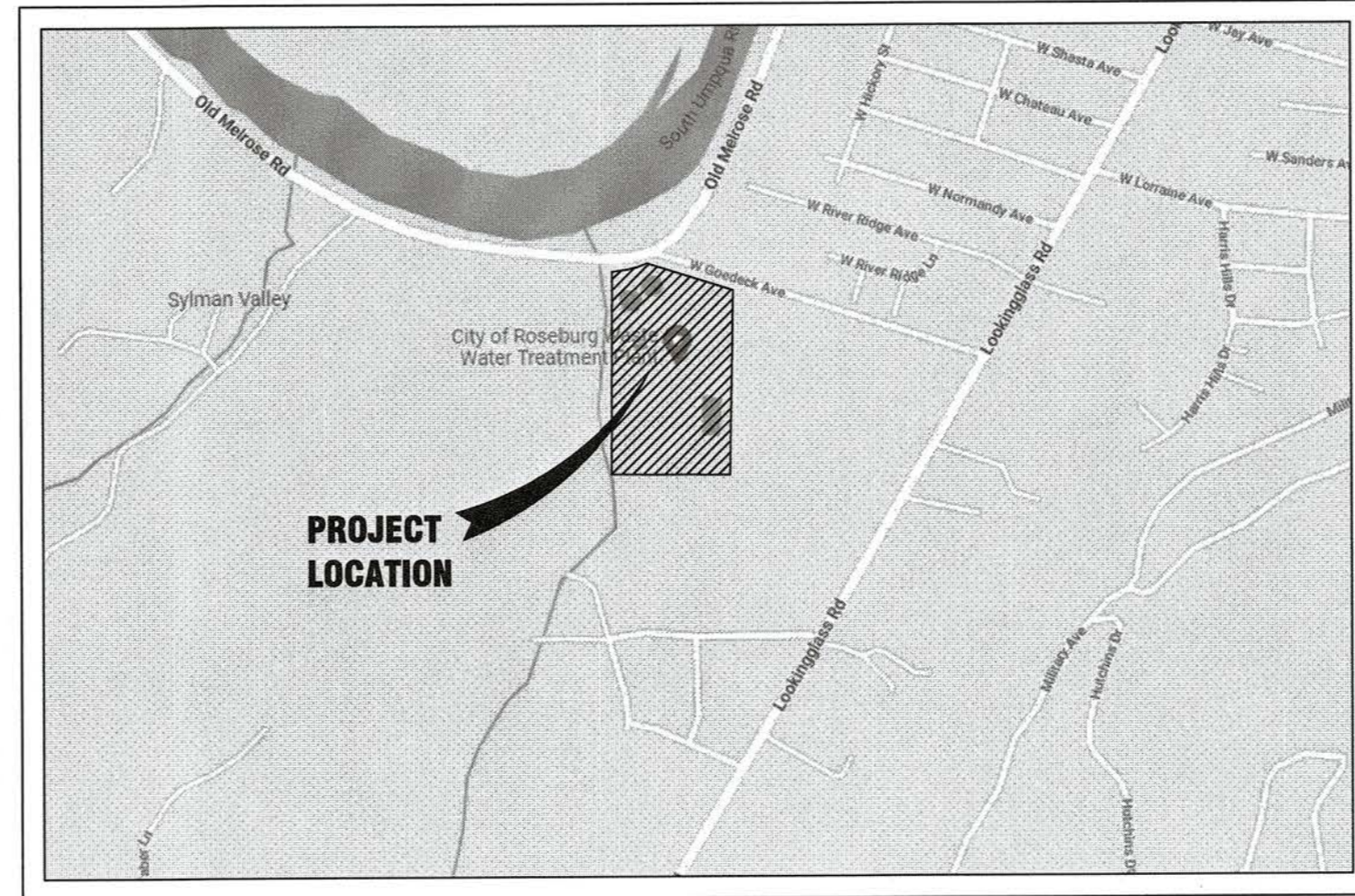
i.e. Engineering, Inc.  
899 SE Pine St  
Roseburg, OR  
ieengineering.com



## CITY PROJECT #23WA08- 3465 W GOEDECK MAIN EXTENSION

### GENERAL NOTES:

1. THE CONTRACTOR SHALL REPLACE ANY AND ALL SURVEY MONUMENTS WHICH ARE AFFECTED BY THE CONSTRUCTION. ALL MONUMENTS WILL BE RESET BY A LICENSED LAND SURVEYOR.
2. LOCATIONS SHOWN ON ENGINEERING DRAWINGS ARE APPROXIMATE. CONSTRUCTION STAKES SHALL BE PROVIDED BY CONTRACTOR'S SURVEYOR.
3. THE CONTRACTOR SHALL NOTIFY ALL AFFECTED UTILITY COMPANIES FOR LOCATIONS OF MAINLINE AND SERVICE LINE LOCATIONS PRIOR TO DIGGING. CONTRACTOR TO CONTACT ONE-CALL AT LEAST 48 HOURS PRIOR TO CONSTRUCTION AT 1-800-332-2344.  
ATTENTION:  
OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN THE OAR 952-001-0010 THROUGH OAR 952-001-0090, AND OREGON LAWS 1995, CHAPTER 691, SECTION 7. YOU MAY OBTAIN COPIES OF THE RULES BY CALLING THE CENTER.
4. CONTRACTOR TO FIELD VERIFY TYPE, LOCATION, AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF NEW PIPING. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BRACING AND PROTECTION OF EXISTING UTILITY LINES, MARKED & UNMARKED, AT NO ADDITIONAL COST TO THE OWNER.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS FOR WORKING IN PUBLIC RIGHT OF WAYS. (i.e. ODOT, CITY, COUNTY).
6. PROTECT OPEN EXCAVATIONS DURING NON WORKING HOURS WITH METAL PLATES OR OTHER APPROVED METHODS.
7. REPLACE DISTURBED AREAS OUTSIDE OF ROADWAY IN KIND..



VICINITY MAP  
NTS

### GENERAL WATER NOTES:

1. ALL WATER SYSTEM WORK SHALL BE IN CONFORMANCE WITH ODOT 2021 STANDARD SPECIFICATIONS WITH SPECIAL PROVISIONS PROVIDED BY THE CITY. IN CASES OF CONFLICT, THE CITY OF ROSEBURG SPECIAL PROVISIONS SHALL TAKE PRECEDENCE OVER THE STANDARD SPECIFICATIONS.
2. A PRECONSTRUCTION MEETING SHALL BE HELD WITH THE ENGINEER AND CONTRACTOR PRIOR TO START OF CONSTRUCTION.
3. ALL PIPE FOR WATER MAINLINES SHALL BE THICKNESS CLASS DUCTILE IRON AS SPECIFIED IN ANSI/AWWA C151/A21.51-09, TABLE 3, UNLESS OTHERWISE SPECIFIED. 4-INCH DI PIPE SHALL BE CLASS 52, 6-INCH DI SHALL BE CLASS 51, AND 8-INCH THROUGH 16-INCH DI SHALL BE CLASS 50. 18-INCH & LARGER DI PIPE SHALL BE CLASS 52.
4. ALL METALIC WATER MAIN PIPE SHALL BE ENCASED WITH V-BIO POLYETHYLENE ENCASEMENT OR APPROVED EQUAL (INCIDENTAL)
5. GATE VALVE BRAND MANUFACTURES APPROVED BY THE CITY OF ROSEBURG INCLUDE: AMERICAN FLOW CONTROL SERIES 2500, AMERICAN AVK SERIES 65, AND EAST JORDAN (EJ) FLOWMASTER.
6. FIRE HYDRANT BRAND MANUFACTURES APPROVED BY THE CITY OF ROSEBURG INCLUDE: AMERICAN FLOW CONTROL - WATEROUS PACER WB-67-250, AMERICAN AVK SERIES 2780 NOSTALGIC, AND EAST JORDAN (EJ) WATERMASTER 5CD250 3-NOZZLE.
7. THE CONTRACTOR SHALL HYDROSTATICALLY TEST, AND CHLORINATE ALL NEW WATER MAINLINES INSTALLED. THE ENGINEER SHALL WITNESS ALL TESTS MADE BY THE CONTRACTOR TO INSURE THEY ARE PERFORMED PROPERLY. TEST PRESSURES SHALL BE DETERMINED BY THE ENGINEER PRIOR TO THE TEST.
8. THE OWNER / DEVELOPER MUST COORDINATE WITH THE CITY OF ROSEBURG FIRE DEPARTMENT FOR PAYMENT OF FEES PRIOR TO PUBLIC WORKS SCHEDULING OF FIRE HYDRANT FLOW TESTING.
9. ALL CONSTRUCTION & TESTING IS SUBJECT TO INSPECTION BY THE CITY OF ROSEBURG PUBLIC WORKS DEPARTMENT AND THE ENGINEER. THE CONTRACTOR SHALL GIVE THE CITY AND THE ENGINEER 48 HOURS NOTICE PRIOR TO BEGINNING CONSTRUCTION AND 24 HOURS NOTICE PRIOR TO TESTING. THE CITY SHALL BE ON SITE TO WITNESS THE INSTALLATION OF JOINT RESTRAINT SYSTEMS.
10. NO OTHER MAJOR UTILITIES SHALL RUN PARALLEL WITHIN THREE (3) FEET OF THE NEW WATER MAIN.
11. RESTRAINED JOINT DUCTILE IRON PIPE AND FITTINGS SHALL BE PROVIDED AS IDENTIFIED ON THE ENGINEERED CONSTRUCTION DRAWINGS. ALL FITTINGS SHALL BE RESTRAINED TO THE SPECIFIED RESTRAINT DISTANCES AS REQUIRED FOR APPLICATION AND AS SHOWN ON THE ENGINEERED CONSTRUCTION DRAWINGS. OTHERWISE, MECHANICAL RESTRAINTS (i.e. MEGA-LUGS OR APPROVED EQUAL) SHALL BE REQUIRED AT ALL FITTINGS IN ADDITION TO THRUST BLOCKS. WHEN SPECIAL CIRCUMSTANCE DICTATES, THE CITY MAY REQUIRE 100% JOINT RESTRAINT ON ALL FITTINGS.
12. SERVICE WORK SHALL BE PROVIDED BY THE CONTRACTOR. CONTRACTORS CREWS WILL PROVIDE SERVICE LINE FROM MAIN AND SET THE METER BOX. CITY CREWS WILL SET METER AND APPURTENANCES. FOR STANDARD SERVICE CONNECTION SEE CITY STANDARD DRAWINGS.
13. ALL CITY WATER FACILITIES OUTSIDE RIGHT-OF-WAYS SHALL BE WITHIN 15 FT WIDE EASEMENTS CENTERED ON THE WATER UTILITY.
14. THE CITY OF ROSEBURG SHALL BE THE SOLE OPERATOR OF ALL WATERLINE VALVES ON THE EXISTING WATER SYSTEM. AT NO TIME SHALL THE CONTRACTOR OPERATE EXISTING VALVES TO SHUT OFF OR PRESSURIZE THE PIPELINE.
15. TONE WIRE FOR WATER LINES SHALL BE NO. 12 AWG SOLID COPPER WIRE WITH HIGH MOLECULAR WEIGHT POLYETHYLENE (HMWPE) INSULATION. THE HMWPE INSULATED COVER SHALL BE BLUE AND SHALL HAVE A MINIMUM THICKNESS OF 45 MILS. THE WIRE SHALL BE UL RATED FOR 140°F. JOINTS OR SPLICES IN WIRE SHALL BE WATERPROOF.
16. MARKING TAPE SHALL CONSIST OF INERT POLYETHYLENE PLASTIC THAT IS IMPERVIOUS TO ALL KNOWN ALKALIS, ACIDS, CHEMICAL REAGENTS AND SOLVENTS LIKELY TO BE ENCOUNTERED IN THE SOIL. THE TAPE SHALL BE A MINIMUM OF 6-INCHES IN WIDTH. THE TAPE SHALL BE BLUE AND SHALL BE IMPRINTED CONTINUOUSLY OVER IT'S ENTIRE LENGTH IN PERMANENT BLACK INK WITH THE WORDS "CAUTION BURIED WATER LINE BELOW".
17. MARKER BALLS (OMNI MODEL 161 (BLUE) OR APPROVED EQUAL), SHALL BE INSTALLED ON ALL PIPE 12-INCHES IN DIAMETER AND GREATER. MARKER BALLS ARE TO BE INSTALLED DIRECTLY ABOVE THE PIPE ALIGNMENT AT A DEPTH NOT LESS THAN 3 FEET AND NOT MORE THAN 4.5 FEET BELOW FINISH GRADE AT A SPACING OF 50 LINEAL FEET ON PIPE WITH STRAIGHT HORIZONTAL ALIGNMENT OR DEFLECTED RADIUS OF CURVATURE AND ALL VERTICAL AND HORIZONTAL BENDS, TEES, CROSSES, GATE VALVES AND TERMINATION POINTS. (INCIDENTAL)
18. A PRECONSTRUCTION MEETING SHALL BE HELD WITH THE ENGINEER AND CONTRACTOR PRIOR TO START OF CONSTRUCTION.
19. MATERIAL SUBMITTALS ARE TO BE PROVIDED TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO ORDERING MATERIALS. MATERIALS DELIVERED ON-SITE ARE TO BE INSPECTED BY THE CITY PRIOR TO INSTALLATION.
20. WATER MAINS SHALL BE SURVEY STAKED FOR ALIGNMENT AND GRADE PRIOR TO INSTALLATION.
21. PRIOR TO FINAL APPROVAL AND ISSUANCE OF CERTIFICATE OCCUPANCY BY THE CITY, THE FOLLOWING SHALL BE PROVIDED TO THE CITY:
  - 1)COPIES OF RECORDED UTILITY EASEMENTS (IF ANY).
  - 2)AS-BUILT DRAWINGS (PDF AND AUTOCAD FORMAT).
  - 3)ONE YEAR PROJECT GUARANTEE (SIGNED BY CONTRACTOR).
  - 4)CERTIFICATE OF COMPLETION (SIGNED BY ENGINEER)

### ASBESTOS GENERAL NOTES:

MATERIALS CONTAINING ASBESTOS MAY BE PRESENT IN UNDERGROUND PIPE SYSTEMS. ALL APPROPRIATE FEDERAL, STATE, COUNTY AND MUNICIPAL RULES, REGULATIONS AND GUIDELINES MUST BE FOLLOWED WHEN WORKING WITH ASBESTOS-CONTAINING MATERIAL. NONFRIABLE MATERIAL MUST BE HANDLED, TRANSPORTED AND DISPOSED OF IN A WAY THAT PREVENTS IT FROM BECOMING FRIABLE AND RELEASING ASBESTOS FIBERS. IF AC PIPE IS SHATTERED, DAMAGED OR BADLY WEATHERED, IT IS CONSIDERED TO BE FRIABLE AND WILL LIKELY RELEASE ASBESTOS FIBERS. DEQ LICENSED ASBESTOS ABATEMENT CONTRACTOR USING DEQ CERTIFIED WORKERS MUST REMOVE ALL FRIABLE ASBESTOS MATERIAL. ANY AND ALL PERMITS AND FEES THAT ARE REQUIRED BY THE DEQ, DOUGLAS, COUNTY AND ANY OTHER REGULATORY AGENCY MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO DISPOSING OF THE ASBESTOS CONTAINING MATERIAL. FOR INFORMATION ABOUT ASBESTOS RULES, CONTACT THE DEQ WESTERN REGION OFFICE IN MEDFORD, OREGON.

### SHEET INDEX

- C.1 COVER SHEET
- C.2 DEMO & UTILITY PLAN
- C.3 STANDARD DETAILS

### PROJECT INFORMATION

**SITE LOCATION**  
3485 W GOEDECK AVE  
ROSEBURG, OR 97471

### OWNER INFORMATION

RUSA  
3485 W GOEDECK AVE  
ROSEBURG, OR 97471

### UTILITY COMPANIES & CONTACTS

COMPANY	CONTACT	PHONE	FAX
<b>Avista Utilities</b> P.O. Box 1520 Roseburg, OR 97470	Ryan Forsloff Corporate Office	541-440-1162 800-659-4427	541-672-571
<b>Century Link</b>	Christopher J. Silva	541-608-4511	
<b>Charter Communications</b> 310 NE Boston St Roseburg, OR 97470	Mike Wilcox	541-921-9189	
<b>ComSpan</b> 1016 SE Oak Roseburg, OR 97470	Mary Roberts	541-229-2122	541-229-2148
<b>Douglas Fast Net</b> 4025 Old Hwy 99 South Roseburg, OR 97470	Todd Way	541-673-4242	
<b>Pacific Power</b> 4025 Old Hwy 99 South Roseburg, OR 97470	Shannon Watson, Engr. Mgr. Martha Warner, Estimator	541-679-3671 541-679-3642	541-679-3626
<b>Roseburg, City of</b> 900 SE Douglas Roseburg, OR 97470	Public Works	541-492-6730	
<b>RUSA</b> 1297 NE Grandview PO Box 1185 Roseburg, OR 97470	Ryon Kershner	541-672-1551	541-672-7548

### LEGEND

(ELEV.) ELEV.	EXISTING ELEV. NEW ELEV.	□ EXISTING CURB INLET (CI) □ NEW CURB INLET (CI)
---	SAW CUT	□ EXISTING CATCH BASIN (CB) □ NEW CATCH BASIN (CB)
TV	EXISTING CABLE TV	○ CLEANOUT
POH	EXISTING EDGE OF AC OR GRAVEL	○ GUY WIRE
PUG	EXISTING POWER (OVERHEAD)	○ GAS METER
UGU	EXISTING POWER (UNDERGROUND)	○ EXISTING FIRE HYDRANT
UGU	NEW UNDERGROUND (TV, POWER, PHONE)	○ NEW FIRE HYDRANT
UGU	EXISTING GAS	○ LANDSCAPING
UGU	EXISTING RIGHT-OF-WAY	○ EXISTING VALVE
R/W	NEW RIGHT-OF-WAY	○ EXISTING MANHOLE (MH)
X	EXISTING FENCE	○ NEW MANHOLE (MH)
W	NEW FENCE	○ POWER POLE
WM	EXISTING WATER	○ PHONE PED
W	EXISTING WATER MAIN	○ EXISTING LIGHT POLE
W	NEW WATER	○ NEW LIGHT POLE
STS	EXISTING STORM SEWER (STS)	○ MAIL BOX
STS	NEW STORM SEWER (STS)	○ EXISTING WATER SERVICE
SS	EXISTING SANITARY SEWER (SS)	○ NEW WATER SERVICE
SS	NEW SANITARY SEWER (SS)	○ BLOWOFF
PS	EXISTING PRESSURE SEWER (PS)	○ CABLE TV PED (TV)
PS	NEW PRESSURE SEWER (PS)	○ EXISTING GATE
FM	EXISTING FORCE MAIN (FM)	○ CONCRETE HATCH
S-F	NEW FORCE MAIN (FM)	○ PERMIT OF ENTRY
S-F	SILT FENCE (S-F)	○ CONTROL POINT
○	NEW ELECTRICAL CONDUIT	
TC	TOP OF CURB	
AC	ASPHALT	
BW	BACK OF WALK	
FC	FINISH GRADE	
FF	FINISH FLOOR	
OG	ORIGINAL GROUND	
TW	TOP OF WALK	

Description

Dwg

Date

Rev.

WRF WATERLINE

3485 W GOEDECK AVE  
ROSEBURG, OR 97471

CITY OF ROSEBURG  
Public Works Dept.  
Development Plan Review

Approved for Development

By Dawn Casper

Date 3/1/23

Approved with Conditions

COVER SHEET

SCALE NTS

12.06.2022

DRW: KLV

CHK: ER

ISSUE FOR CONSTRUCTION

2: \085\0151-ROSA\0151-35 WRF Waterline\VERSION\0151-35-C.dwg

Mar 01, 2023

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C.1

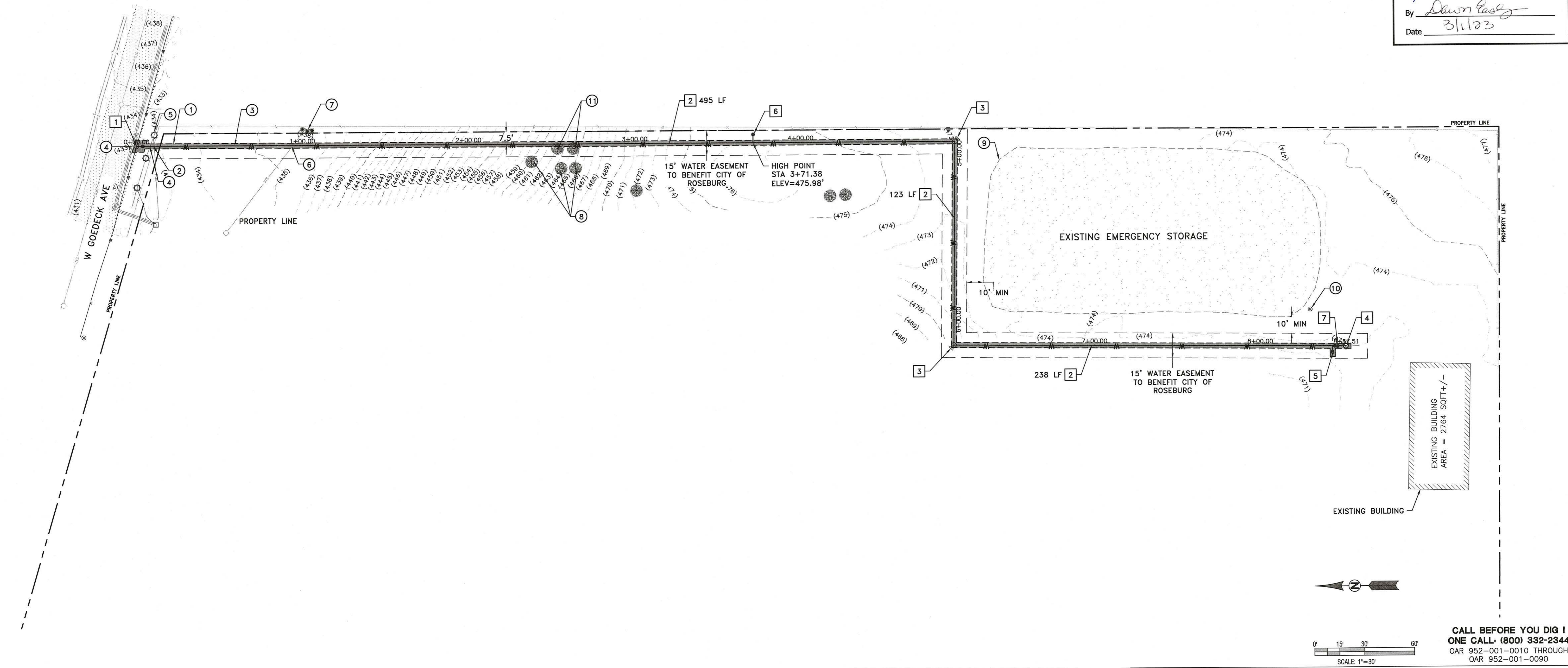
CALL BEFORE YOU DIG I  
ONE CALL (800) 332-2344  
OAR 952-001-0010 THROUGH  
OAR 952-001-0090

**KEYED DEMOLITION NOTES:** #

1. SAWCUT, REMOVE AND DISPOSE OF EXISTING AC IF/AS NEEDED.
2. REMOVE AND REPLACE FENCE AS NECESSARY.
3. TRENCH AND SAVE MATERIAL FOR REUSE.
4. PROTECT EXISTING UNDERGROUND UTILITIES.
5. PROTECT EXISTING POWER STRUCTURE.
6. PROTECT EXISTING STORM SEWER PIPE.
7. PROTECT EXISTING BOLLARDS.
8. PROTECT EXISTING TREES AND SHRUBS.
9. PROTECT EXISTING POND STRUCTURE.
10. PROTECT EXISTING FROST-FREE WATER SPIGOT.
11. REMOVE AND DISPOSE OF EXISTING TREES.

**KEYED CONSTRUCTION NOTES:** #

1. HOT TAP EXISTING WATER MAIN PER DETAIL. 1  
C.3
2. INSTALL 6" D.I. WATER MAINLINE PER DETAIL. 5  
C.3 LENGTH PER PLAN.
3. INSTALL 90° MJ BEND WITH MEGA LUGS AND THRUST BLOCK PER DETAIL. 7  
C.3
4. INSTALL FIRE HYDRANT AND APPURTENANCES PER DETAIL. 2  
C.3 3  
C.3
5. INSTALL 5/8" SERVICE CONNECTION FOR FUTURE CONSTRUCTION PER DETAIL. 4  
C.3
6. INSTALL 1" COMBINATION AIR RELEASE VALVE ASSEMBLY PER DETAIL. 6  
C.3
7. INSTALL KEYWAY THRUST BLOCK PER DETAIL. 7  
C.3



**CITY OF ROSEBURG**  
Public Works Dept.  
Development Plan Review

Approved for Development     Approved with Conditions  
 By Dawn Casey  
 Date 3/1/23

civil  
structural  
surveying  
architecture  
planning

i.e.

i.e. Engineering, Inc.  
809 SE Pine St  
Roseburg, OR  
ieengineering.com

REGISTERED PROFESSIONAL ENGINEER  
 No. 72679  
 Erik Ranger  
 OREGON REGISTERED PROFESSIONAL ENGINEER  
 EXPIRES: 12.31.2022

Rev.	Date	Dwg	Description

**WRF WATERLINE**  
 3485 W GOEDECK AVE  
 ROSEBURG, OR 97471  
**DEMO & UTILITY PLAN**  
 AS SHOWN  
 12.06.2022  
 ISSUE FOR CONSTRUCTION

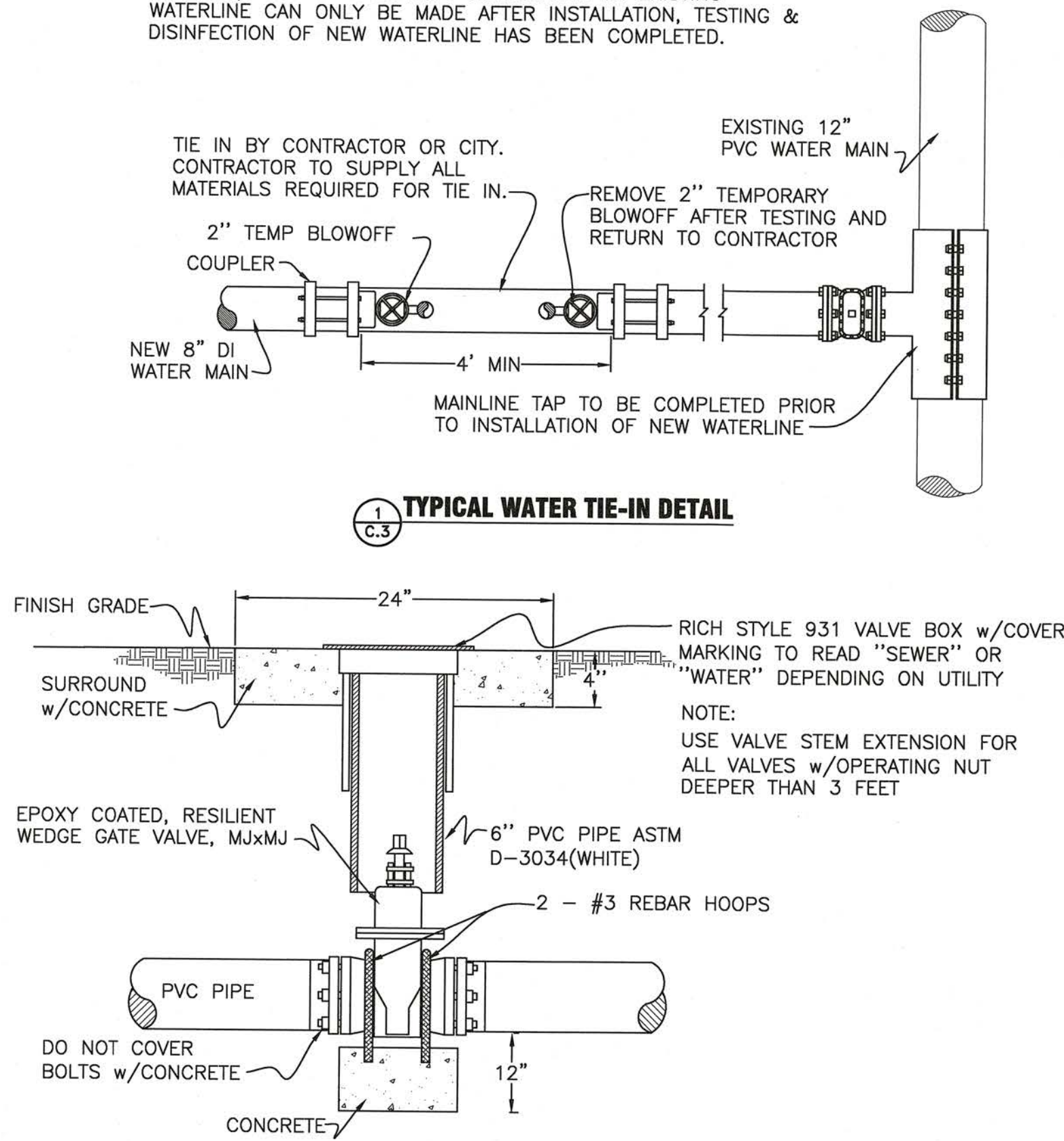
PROJECT NO. 0151-35  
 DRW. KLV  
 CHK. ER

C.2

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 ONE CALL® (800) 332-2344  
 OAR 952-001-0010 THROUGH  
 OAR 952-001-0090

**TIE-IN NOTES:**

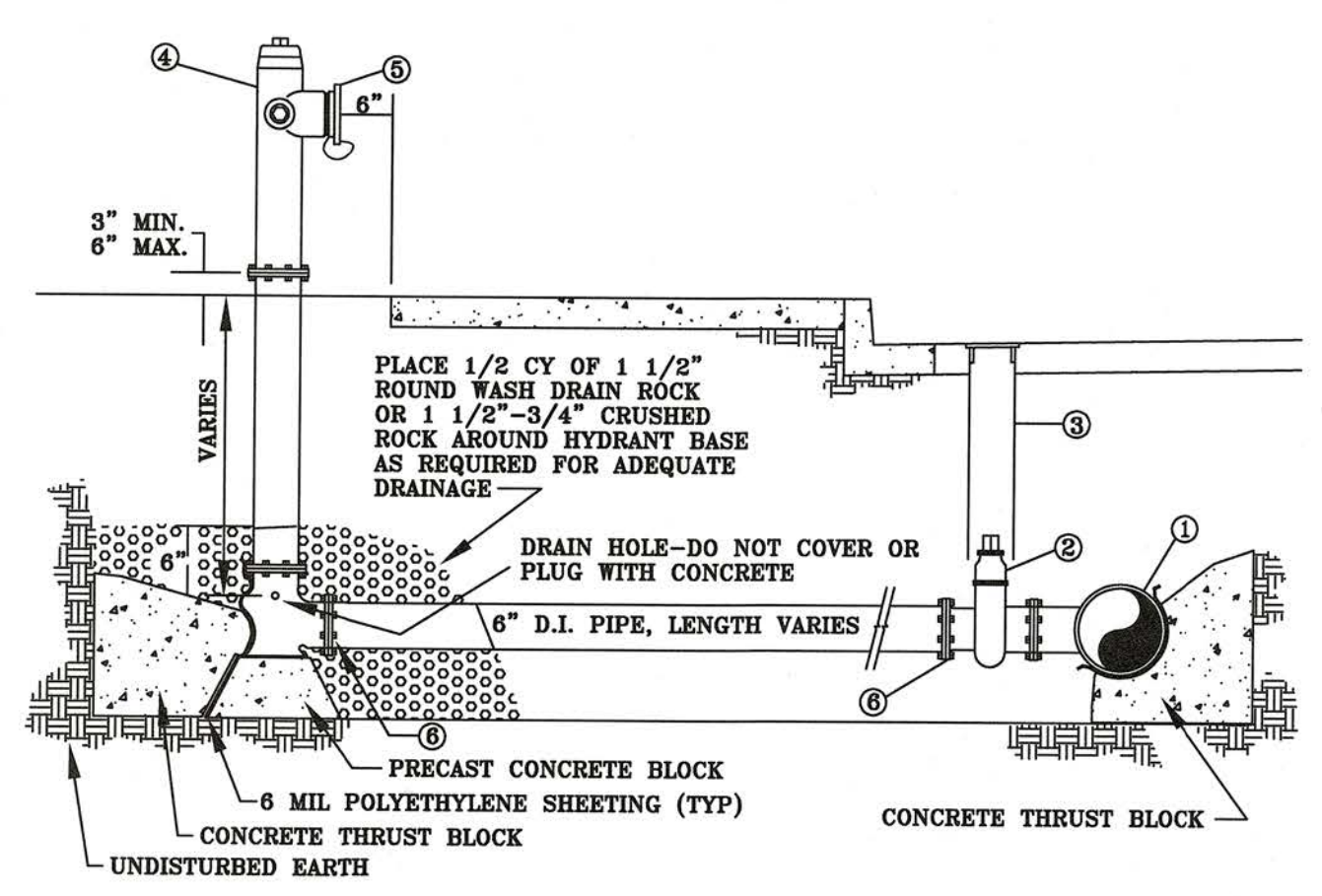
- ALL PIPE AND FITTINGS FOR TIE-IN TO BE CLEAN AND WIPED w/CHLORINE PRIOR TO INSTALLATION
- CONTRACTOR TO ALIGN NEW MAINLINE IN BOTH ALIGNMENT AND GRADE w/EXISTING WATERLINE. CONNECTION TO EXISTING WATERLINE CAN ONLY BE MADE AFTER INSTALLATION, TESTING & DISINFECTION OF NEW WATERLINE HAS BEEN COMPLETED.



1 C.3 TYPICAL WATER TIE-IN DETAIL

3 C.3 TYPICAL MAINLINE GATE VALVE DETAIL

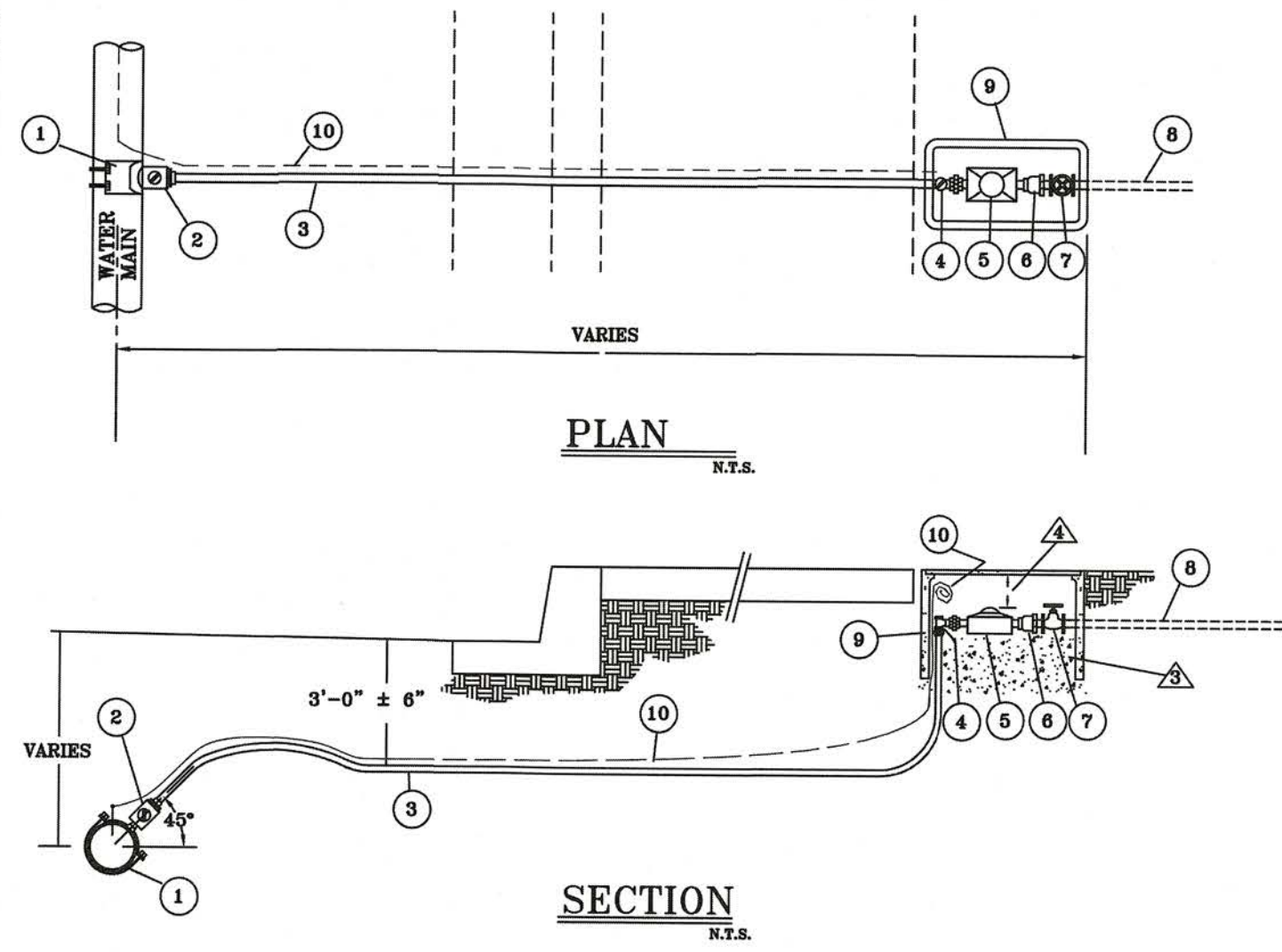
**TYPICAL FIRE HYDRANT INSTALLATION (THRUST BLOCKED)**



- LEGEND**
- MAIN SIZE X 6" FLG. TEE
  - 6" FLG. X M.A. GATE VALVE
  - 6" VALVE BOX PIPE WITH LID
  - PRE ASSEMBLED FIRE HYDRANT
  - 5" PUMPER CONNECTION ADAPTER "STORZ" WITH CAPS
  - 6" MEGALUG ASSEMBLY KIT

CITY OF ROSEBURG WATER DEPARTMENT DATE: 10/13/1983 STANDARD DWG. NO. 105

**TYPICAL SINGLE 5/8" x 3/4" METER INSTALLATION ASSEMBLY**

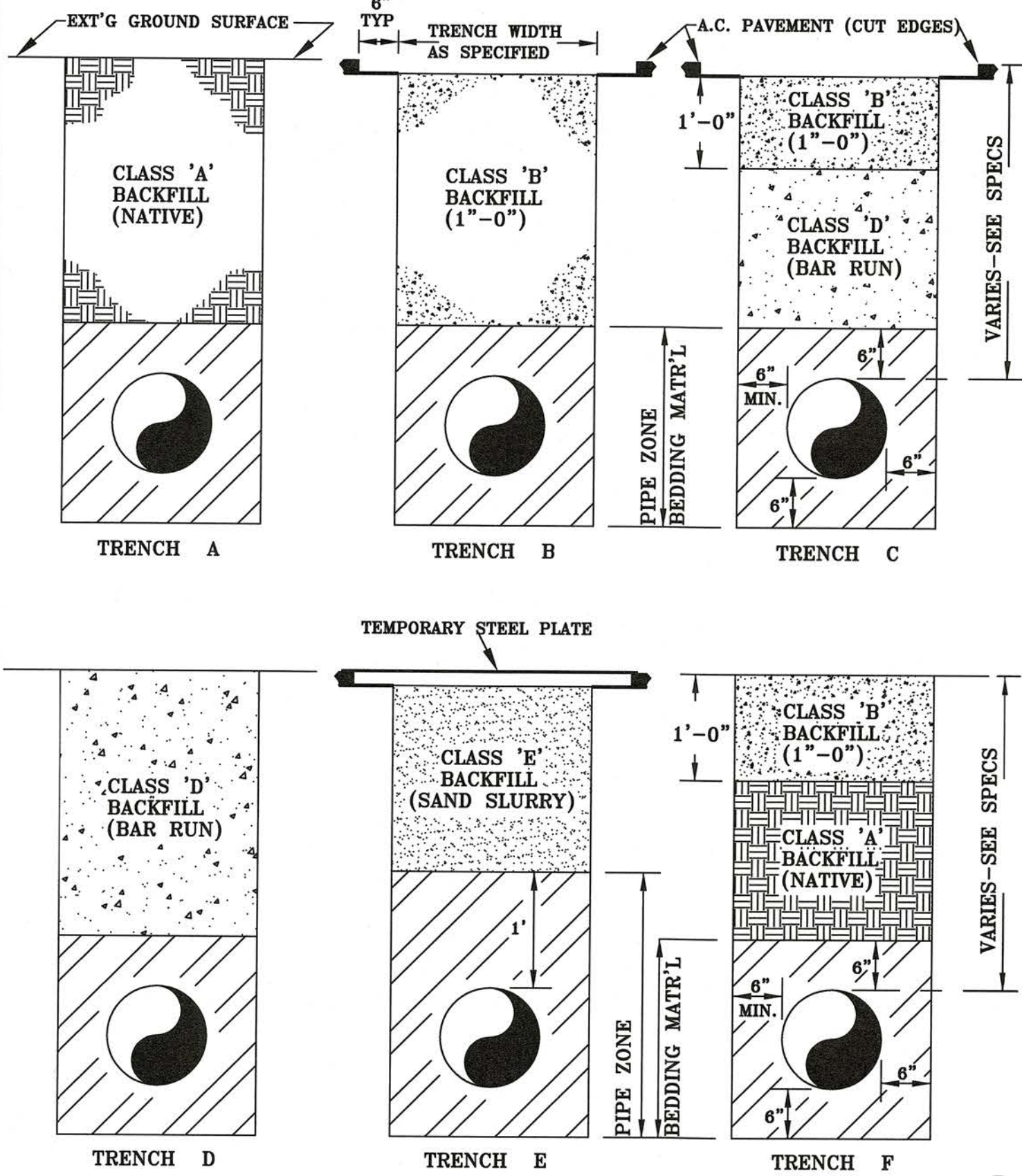


ITEM	SIZE	DESCRIPTION	TYPE	QTY
1	AS REQ'D	SERVICE SADDLE	NYLON COATED ROMAC 1" CC X PIPE SIZE & MATERIAL	1
2	1"	COMP STOP	FORD, P1001 (CC X PACK JOINT)	1
3	1"	SERVICE PIPE	200 P.S.I. POLYETHYLENE SIDRY (PE 3408)	AS REQ'D
4	1" x 3/4"	ANGLE STOP	FORD, KWS-345W (PACK JOINT)	1
5	5/8"x3/4"	METER	EXISTING OR AS SUPPLIED BY CITY	1
6	3/4"	STRAIGHT CHECK VALVE	FORD, H39-323 (METER NUT X MPT)	1
7	3/4"	VALVE	BRONZE, HAND WHEEL, PFT	1
8	—	CUSTOMER SERVICE	PER STATE PLUMBING CODE	—
9	—	METER BOX	DFW METER BOX 480WB AND LID 486C	1
10	NO. 12	TOPE WIRE	ELECTRICAL THIN STRANDED COPPER WIRE, COIL 15' IN METER BOX, AS REQ'D	—

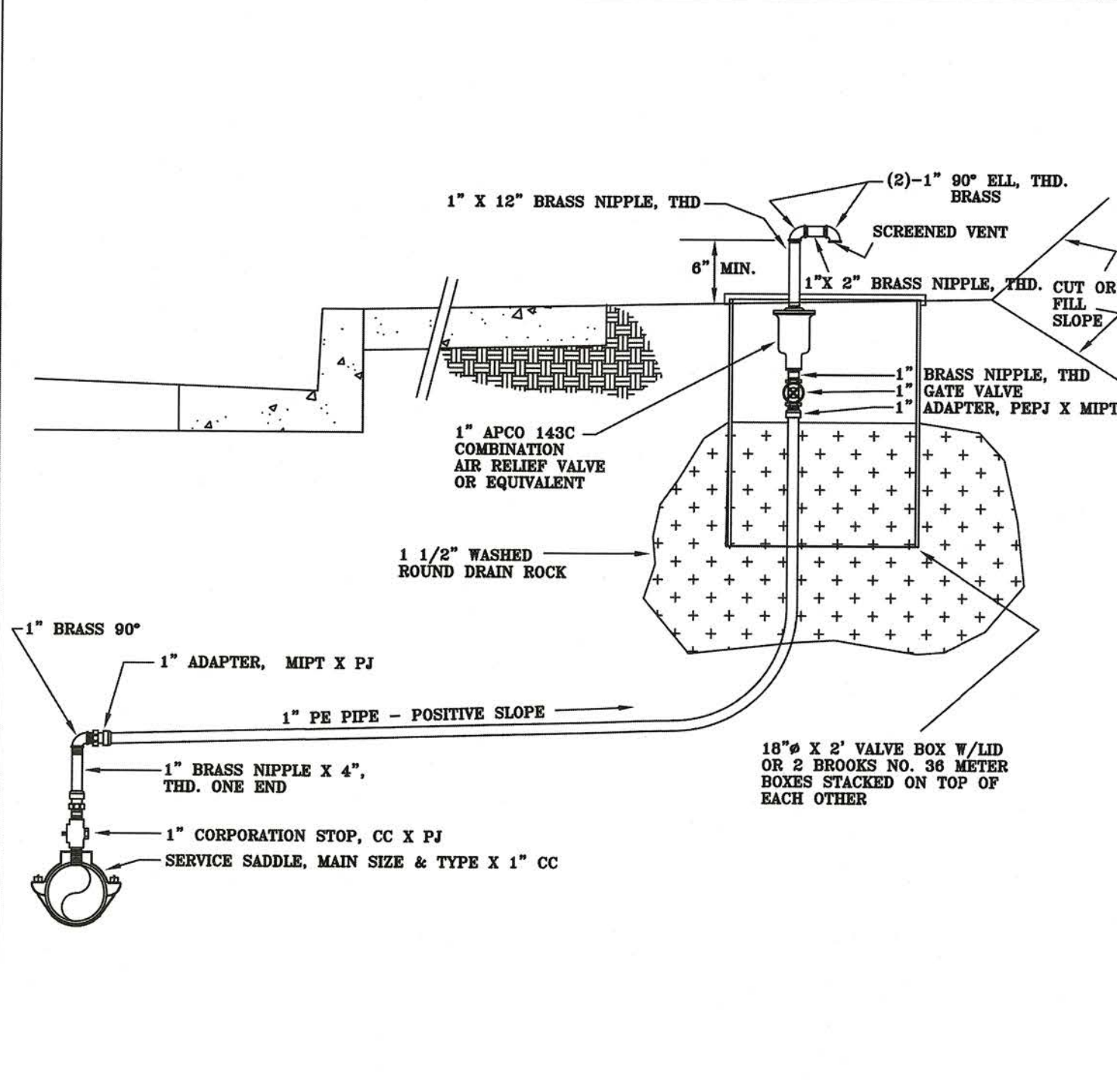
- NOTES:**
- OR APPROVED EQUAL. SEE GENERAL SPECIFICATIONS.
  - TYPE AS APPROVED BY MANUFACTURER FOR WATER MAIN TYPE & SIZE.
  - PLACE 12" OF 3/4" - 0" CRUSHED ROCK IN THE BOTTOM OF THE METER BOX HOLE.
  - TOP OF METER SHALL BE 4" TO 6" BELOW BOTTOM OF LID.

CITY OF ROSEBURG WATER DEPARTMENT DATE: 10/7/1983 STANDARD DWG. NO. 108

**STANDARD TRENCH SECTIONS FOR WATER MAINS**



CITY OF ROSEBURG WATER DEPARTMENT DATE: 10/13/83 STANDARD DWG. NO. 101



**TYPICAL 1" COMBINATION AIR RELEASE VALVE ASSEMBLY**

CITY OF ROSEBURG WATER DEPARTMENT DATE: 10/13/1983 STANDARD DWG. NO. 107A

**THRUST BLOCKING**

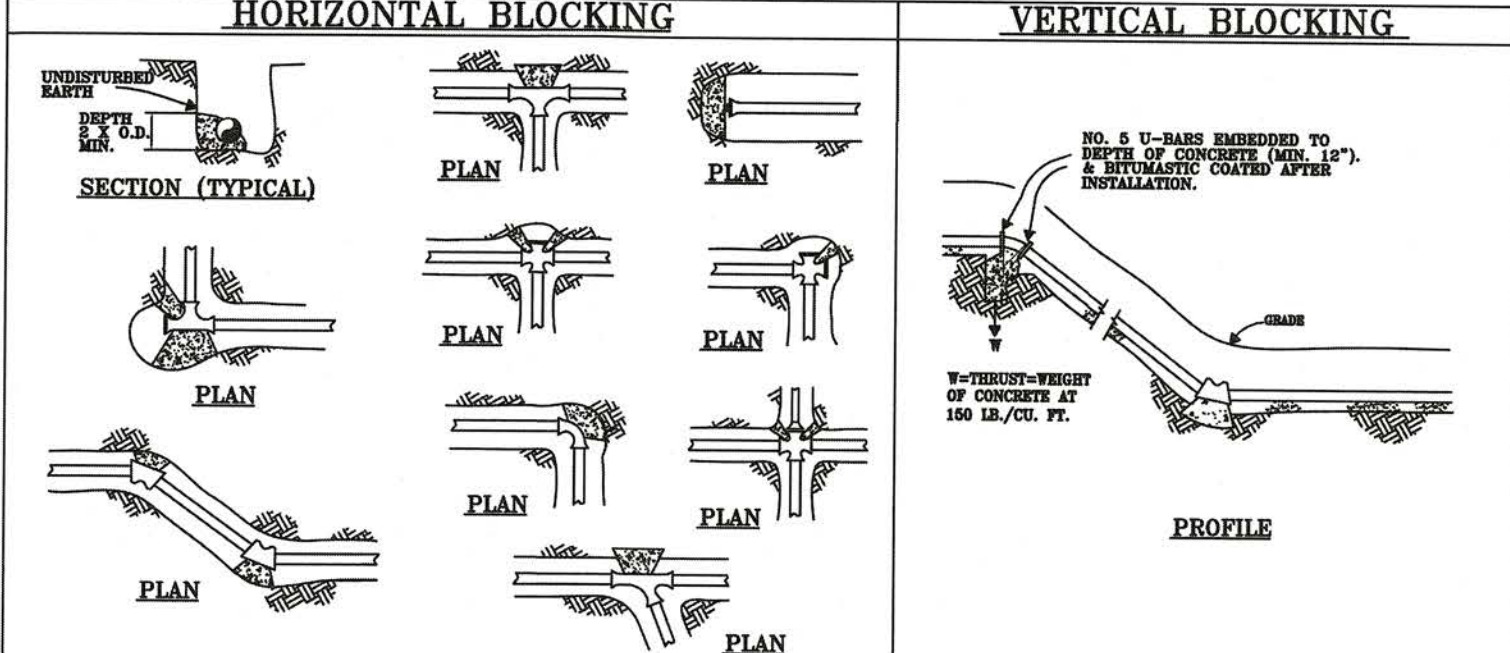
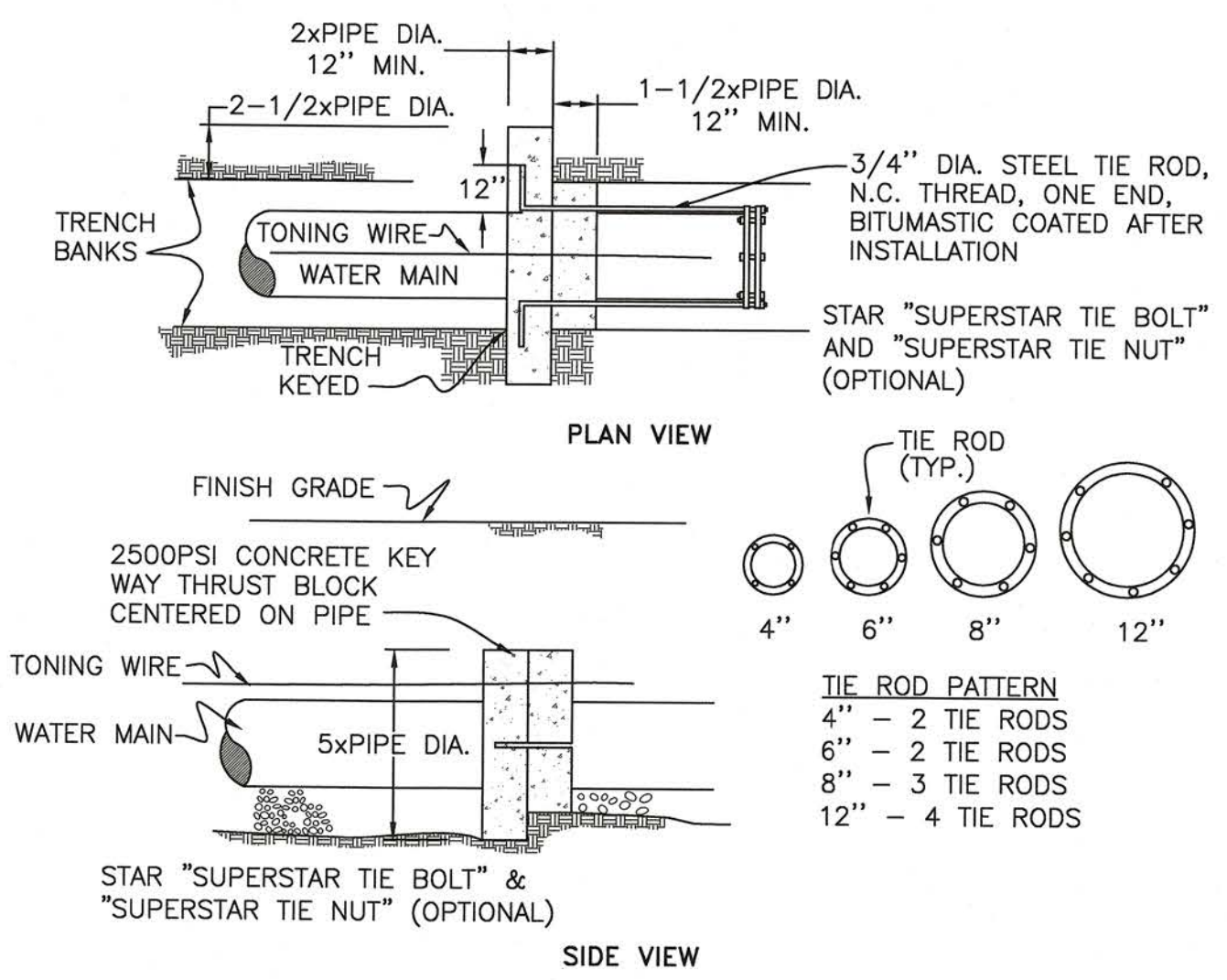


TABLE A THRUST AT FITTINGS IN POUNDS AT 150 POUNDS PER SQUARE INCH OF WATER PRESSURE				TABLE B SAFE BEARING LOAD OF VARIOUS SOILS	
PIPE SIZE	PLUG OR TEE	90° BEND	45° BEND	SOIL TYPE	SAFE BEARING LOAD, LB./SQ. FT.
4"	2780	3920	2130	MULCH, PEAT, ETC...	0
6"	5700	8060	4370	CLAY	1000
8"	9870	13,950	7560	SAND	2000
10"	16,130	22,800	12,360	SAND & GRAVEL	3000
12"	22,970	32,460	17,580	SAND & GRAVEL CEMENTED WITH CLAY	4000
				HARD SHALE	10,000

- NOTES:**
- THRUST BLOCKING SHALL BE PLACED BETWEEN UNDISTURBED EARTH AND THE FITTING TO BE ANCHORED. THE MINIMUM BEARING AREA AGAINST UNDISTURBED EARTH FOR THRUST BLOCKING SHALL BE CALCULATED BY DIVIDING THE THRUST (TABLE A) BY THE SAFE BEARING LOAD (TABLE B). EXAMPLE: A 6", 45° HORIZONTAL BEND WILL BE BLOCKED AGAINST CLAY. THE REQUIRED BLOCKING AREA AGAINST UNDISTURBED EARTH, A=4370 lb./1000 lb./sq.ft.=4.37 sq. ft..
  - ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS.
  - THRUST BLOCKING SHALL BE PLACED SO THAT THE PIPE AND FITTING JOINTS WILL BE ACCESSIBLE FOR REPAIRS. INSTALL 6 MIL POLYETHYLENE SHEETING BETWEEN CONTACT POINTS OF CONCRETE AND FITTINGS.
  - THRUST BLOCKING FOR PIPES LARGER THAN 12", PRESSURES GREATER THAN 150 PSI OR OTHER SITUATIONS NOT SHOWN HERE ON SHALL BE AS DIRECTED BY THE ENGINEER.

CITY OF ROSEBURG WATER DEPARTMENT DATE: 10/10/1983 STANDARD DWG. NO. 102



**TYPICAL KEYWAY THRUST BLOCK**

CITY OF ROSEBURG  
Public Works Dept.  
Development Plan Review

Approved with Development  Approved with Conditions

By: *Lawn Pasky* 3/1/03  
Date: 3/1/03

CITY OF ROSEBURG WATER DEPARTMENT DATE: 10/10/1983 STANDARD DWG. NO. 102