WSU SUNRISE ORCHARD
INSTALL IRRIGATION MAINLINE
SECTION 15 & 16, T. 21 N., R. 22 E.W.M.
DOUGLAS COUNTY, WA
FITTINGS, FLANGES, OR OTHER QUALIFIED TYPES OF MANUFACTURED TRANSITION FITTINGS. FITTING OR FLANGE PRESENT IN BEND 100 X PIPE OD DIAMETER ON EITHER SIDE OF THE FITTING LOCATION.

PROOF. AS SOON AS THE JOINT COOLS TO NEAR AMBIENT TEMPERATURE, IT IS READY FOR USE. IF THE JOINT IS NOT PROPERLY COOLED, THE CHANGE IN DIMENSIONS OF THE PE PIPELINE CAN LEAD TO DAMAGING THE FITTING OR FLANGE PRESENT IN THE PIPE. END THRUST FROM BENDS OR END CAPS IS TRANSMITTED THROUGH THE PIPE'S LENGTH IN PR OPORTION TO POISSON'S RATIO. IN AN ALL PE PIPE SYSTEM THE PIPE'S LENGTH EFFECTS FROM THESE TWO FORCES TEND TO CANCEL EACH OTHER OUT. AS A RESULT, EROSION AND SEDIMENT CONTROL MEASURES SHAL TAKE WHATEVER PRECAUTIONS THAT MAY BE REQUIRED. CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXTENT OF THE HAZARD BASED ON THE MAPPING OF TRENCH, THAT WOULD CREATE LESS RISK OF ENCOUNTERING CULTURALLY SENSITIVE AREAS REQUIRING SEEDING WITHIN THE PROJECT (COVER WITH STRAW):

- SHELTERING SEEDS WITH STRAW OR MULCH.
- PERENNIAL RYEGRASS
- NEW ZEALAND WHITE CLOVER

CIVIL NOTES

BID SET

C-002
DOCUMENT SHALL INCLUDE A CLAUSE REQUIRING THE INSURER TO NOTIFY
LICENSE REQUIREMENTS MAY REMAIN AT THE DISCRETION OF
CONTRACT FILE REFERENCE NUMBER THAT HAS BEEN ASSIGNED AND THE
OWNER AT NO COST TO BNSF.

A UTILITY AGREEMENT LICENSE ALLOWING A UTILITY OWNER THE PRIVILEGE
VARIOUS TYPES OF UTILITY LINES NOT SPECIFICALLY DISCUSSED HEREIN

THAT EXTREME HARDSHIP AND/OR UNUSUAL CONDITIONS PROVIDE
SCOPE

(1)

(2)

(3)

7.

3.

2.

CONTROL. BRUSH OVER FIVE (5) FEET IN HEIGHT, WHICH IS TO BE REMOVED,
OTHER MATERIAL THAT IS APPROVED AND DOES NOT INTERFERE WITH

JOIN TO DETAIL THE TYPES OF SETTLEMENT POINTS THAT WILL BE

(prefixing and construction inspection will be required.

WATER JETTING IS NOT PERMITTED.

ARRANGED PRIOR TO ANY CONSTRUCTION ON BNSF PROPERTY.

THE EXECUTION OF THE WORK ON RAILROAD PROPERTY SHALL BE

WHEN WORK IS PERFORMED WITHIN BNSF RIGHT-OF-WAY, RAILROAD

BID SET

BID SET

BID SET
PIPELINE PLAN 13+00 TO 27+00

SCALE: 1" = 50'

EXISTING GROUND SURFACE

135 PSI - 75 PSI (NO POND)
85 PSI - 25 PSI (WITH POND)

75 PSI - 70 PSI (NO POND)
25 PSI - 20 PSI (WITH POND)

SEE SHEET C-314 FOR ALTERNATE 1 WORK
EXISTING 12" HDPE

FILE: M:\1jobs2021\20210257.0000\Dwg\Final\20210257.0000-E2 Pipeline 24.dwg

February 28, 2023, 3:01 PM

ORIGINAL PAPER SIZE: 22" x 34"

FOR ALTERNATIVE 1 CONSTRUCTION PLAN

SEE SHEET C-315

EXISTING AC LINE

FOR ALTERNATIVE 1 CONSTRUCTION PLAN

SEE SHEET C-315

EXISTING 12" Ø VALVE

12" Ø GATE VALVE (FLXFL)

MATERIAL TRANSITION LOCATION

BEFORE ORDERING MATERIALS

FIELD VERIFY LOCATION & PIPE DIAMETER

INFORM ENGINEER OF EXISTING PIPE

TIE-IN HDPE FLANGE END TO EXISTING

PLUG CUT STEEL LINE
W/ NON-SHRINK GROUT

INSTALL 12" HDPE DR 17 PIPELINE

PIPELINE PLAN 26+00 TO 37+00

PIPELINE PROFILE 26+00 TO 37+00

75 PSI - 70 PSI (NO POND)
25 PSI - 20 PSI (WITH POND)

INSTALL IRRIGATION MAINLINE

EAST WENATCHEE, WA 98802

WSU SUNRISE ORCHARD

FACILITY NO. 3300

COPYRIGHT:

WASHINGTON STATE UNIVERSITY

DESIGN FIRM:

ERLANDSEN

PH: 509.884.2562
TOLL FREE (800) 732-7442
http://www.erlandsen.com

DESIGN BY:

ERLANDSEN

PH: 509.884.2562
TOLL FREE (800) 732-7442
http://www.erlandsen.com

DRAWN BY:

ERLANDSEN

PH: 509.884.2562
TOLL FREE (800) 732-7442
http://www.erlandsen.com

BID SET

PROJECT No.

DATE

MARK

COPY

DESCRIPTION

CHECKED BY:

PROVISIONAL STAMP:

SHEET

SHEET TITLE

FACILITY NO. 3300

INSTALL IRRIGATION MAINLINE

EAST WENATCHEE, WA 98802

WSU SUNRISE ORCHARD

FACILITY NO. 3300

COPYRIGHT:

WASHINGTON STATE UNIVERSITY

DESIGN FIRM:

ERLANDSEN

PH: 509.884.2562
TOLL FREE (800) 732-7442
http://www.erlandsen.com

DESIGN BY:

ERLANDSEN

PH: 509.884.2562
TOLL FREE (800) 732-7442
http://www.erlandsen.com

DRAWN BY:

ERLANDSEN

PH: 509.884.2562
TOLL FREE (800) 732-7442
http://www.erlandsen.com

BID SET
EXISTING 12" HDPE PIPELINE

START ALTERNATIVE WORK

INSTALL 12" HDPE DR 17 PIPELINE

WILL HAVE HDPE PIPE CONTINUE TO POND WITH NO ALTERNATIVE FOR REPLACEMENT OF ENTIRE PIPELINE

C-950

INSTALL IRRIGATION MAINLINE

FLANGE CONNECTION
NOTES:
1. See Standard Specifications Section 7-08.3(3) for Pipe Zone Backfill.
2. See Standard Specifications Section 9-03.12(3) for Gravel Backfill for Pipe Zone Bedding.
4. For sanitary sewer installation, concrete pipe shall be bedded to spring line.

CLEARANCE BETWEEN PIPES FOR MULTIPLE INSTALLATIONS

<table>
<thead>
<tr>
<th>PIPE</th>
<th>SIZE</th>
<th>MINIMUM DISTANCE BETWEEN BARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIRCULAR (DIAMETER)</td>
<td>12&quot;</td>
<td>15&quot;</td>
</tr>
<tr>
<td></td>
<td>18&quot;</td>
<td>15&quot;</td>
</tr>
<tr>
<td>PIPE ARCH (SPAN)</td>
<td>16&quot;</td>
<td>15&quot;</td>
</tr>
<tr>
<td>METAL ONLY</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PEN STABILIZATION MARKER PER DETAIL C-950(

EXISTING STEEL PUMP HEADER TO BE ABANDONED IN PLACE.
EXISTING 1/4" DOMESTIC WATER LINE TO BE UNEARTHED, LOCATION ASSUMED

TRENCH CORRIDOR CONSTRUCTION - CONDITION C

INSTALL IRRIGATION MAINLINE

WSU SUNRISE ORCHARD

FACULTY NO. 3300

IRRIGATION PIPELINE DETAILS - I

PH: 509-335-5571
Facilities Services
225 SE Idaho Street
FAX 509-335-6875
Pullman, Wa. 99164-3611

WASHINGTON STATE UNIVERSITY

PROVISIONAL STAMP:

ERLANDSEN
250 SIMON ST. SE
EAST WENATCHEE, WA 98802
PH: 509.884.2562
TOLL FREE (800) 732-7442
http://www.erlandsen.com

FILE:
M:\1jobs2021\20210257.0000\Dwg\Final\20210257.0000-E2 Pipeline 24.dwg

PLOT DATE:
February 28, 2023, 3:01 PM

ORIGINAL PAPER SIZE: 22" x 34"
PROFILE

30" MIN COVER

1/4" Ø DRAIN HOLE

CONCRETE THRUST BLOCK - MIN.

BEARING AREA ONE (1) SQ. FT.

2" x 2-1/2" BRASS ADAPTOR SCREWED x NATIONAL STD. HOSE THREADS OR CAM-LOC

2-1/2" CAP W/ GASKET, VENTED

3-6" CLEAR

2" COUPLING - THRD

2" GALV PIPE AND FITTINGS

CONCRETE METER BOX, EQUAL TO FOG-TITE I-D

2" MIN MAINLINE & FITTINGS

8" OR 18" CAST IRON VALVE BOX TOP EQUAL TO RICH VALVE BOX '940 SEATTLE' OR EQUAL. LID TO HAVE TABS.

2" RS GATE VALVE (THRD) W/ 2" SQUARE NUT

5" PLASTIC PIPE

NOTE:

AIR & VACUUM VALVE ASSEMBLY MUST BE INSTALLED AT HIGHEST POINT OF LINE. IF HIGH POINT FALLS IN A LOCATION WHERE ASSEMBLY CANNOT BE INSTALLED, PROVIDE ADDITIONAL DEPTH OF LINE TO CREATE HIGH POINT AT A LOCATION WHERE ASSEMBLY CAN BE INSTALLED.

2" PIPE TO FIT 2" PIPE TO FIT

180° RETURN

2" RS GATE VALVE W/ 2" SQUARE NUT

NON-RISING STEM -THREADED

(5) 90° STREET ELBOWS

2" AIR VAC ASSY - APCO NO. 145C OR EQUAL

METER BOX W/ EXTENSIONS EQUAL TO FOG-TITE METER SEAL CO. NO. 2 BOX

FORD FC202 2" SERVICE SADDLE W/ F1700-7 CORP STOP

GROUND GATE VALVE DETAIL

UTILITY MARKER POSTS

NOTES:

1. EASEMENT/UTILITY MARKER POST SHALL BE INSTALLED WHERE CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

2. POST SHALL INCORPORATE 1" HIGH LETTERING BRANDED/BURNED INTO THE PADDLE. LETTERING SHALL INCLUDED THE AGENCY OF JURISDICTION ALONG WITH THE UTILITY IDENTIFIED. THE COLOR SHALL BE AS SHOWN ABOVE.

3. INSTALL OVER CENTERLINE OF UTILITY UNLESS NOTED OTHERWISE.

4. EACH POST TO HAVE A SAME COLOR DECAL WITH VERTICAL LETTERS STATING "CAUTION (LINE TYPE) PIPELINE" AND 811 CALL BEFORE YOU DIG INSTRUCTIONS.

UTILITY MARKER COLORS

BLUE POTTABLE WATER

GREEN SEWER/DRAIN LINES

PURPLE RECLAIMED WATER/IRRIGATION/SLURRY LINES

WHITE GENERAL PURPOSE

RED ELECTRIC POWER LINES

PINK TEMPORARY SURVEY MARKINGS

YELLOW GAS/OIL/STEAM

ORANGE COMM LINES/CABLE/CONDUIT

IRRIGATION PIPELINE DETAILS - II

WSU SUNRISE ORCHARD

FACULTY NO. 3300

WASHINGTON STATE UNIVERSITY

PH: 509-335-5571
FAX 509-335-6875

225 SE Idaho Street
Pullman, Wa. 99164-3611

BID SET

C-951
NOTE: SCALE BAR IS ESTABLISHED FOR FULL SIZE WITH SCALE BAR EQUAL TO 2"

CONTACT WSDOT NORTH DISTRICT FOR UTILITY PERMIT COORDINATION & REQUIREMENT PHONE: (360)-705-7000

CONTRACTOR TO OBTAIN AND COORDINATE PERMIT PRIOR TO START OF WORK

FIELD LOCATE AND POTHOLE EXITING CASING ENDS. CASING SIZE & EXITING CASING SPACER TO BE VERIFIED AND VERIFY LINE REPLACEMENT AND SCHEDULE.

4" HDPE FLANGE END AT END OF NEW WATER LINE
INSTALL 4" GATE VALVE (FLXFL) AT THIS CONNECTION POINT.
CONNECT TO EXITING 4" WATER LINE WITH ROMAC RFCA OR RFCA-PVC COUPLING ADAPTER AS ALLOWABLE BY PIPE MATERIAL
FIELD VERIFY EXITING WATER LINE PIPE SIZE AND MATERIAL PRIOR TO ORDERING

FIELD VERIFY EXISTING WATER LINE PIPE SIZE AND MATERIAL PRIOR TO ORDERING
INSTALL IRRIGATION MAINLINE

SR 28 WSDOT PROFILE

SCALE: HORIZ: 1" = 10' / VERT: 1" = 5'

NOTE: PRIOR TO START OF WORK IN LOCATE AND POTENTIALLY EXISTING CASING, CEMENT CASING SPACER AND AIM FOR CEMENT CASING SPACER TO BE VERIFIED AND VERIFY LINE REPLACEMENT AND SCHEDULE.

APRIL 4, 2024

WASHINGTON STATE UNIVERSITY

WSU SUNRISE ORCHARD

BID SET

C-989