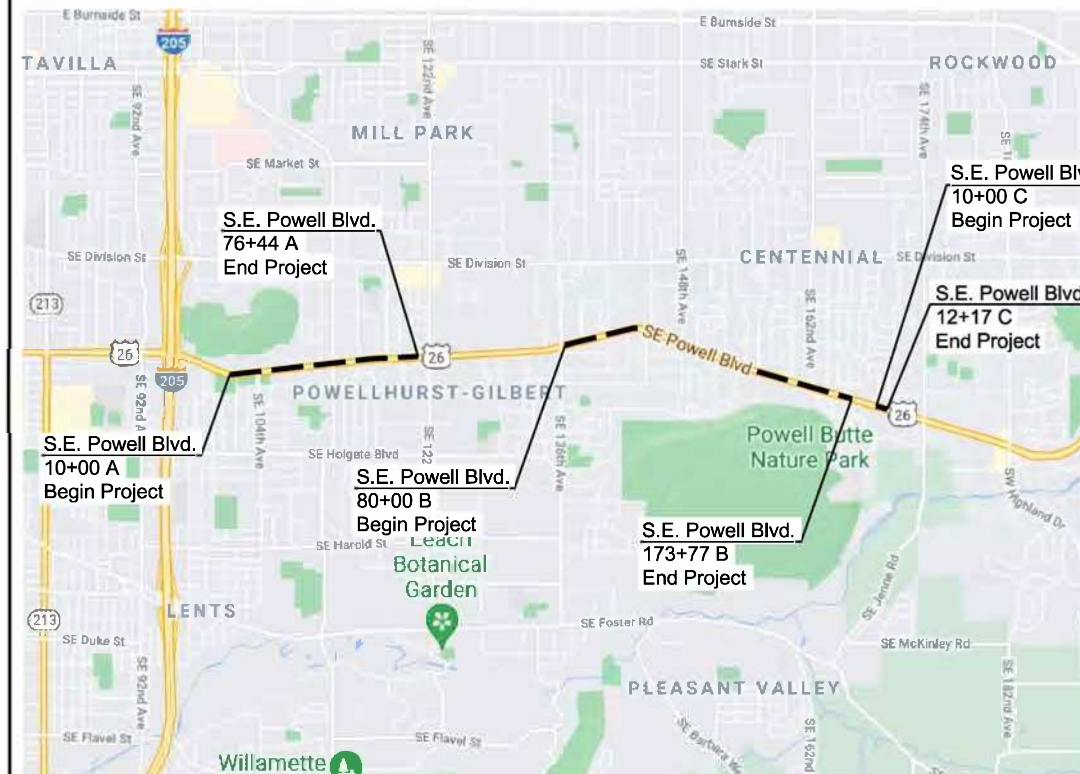
S.E. Powell Blvd.

Legend

	Existing	Proposed	Profile
Water Main	U W		
Connection to Main			
Gate Valve or Butterfly Valve			
Reducer			
Air Release			
Plug / Cap			
Fire Hydrant	FH		
Water Valve	W.V.		
Water MH	W.M.H.		
Water Meter	W.M.		
Vent	Vent		
Blow-off Assembly	Blow off		
Water Vault	W. Vault		
Power Line (overhead)	A E		
Power Pole			
Anchor			
Electric (underground)	U E		
Junction box			
Yard Light			
Electric Vault	Electric vault		
Telephone riser	Qwest riser		
Telephone junction box	Tel J-box		
Telephone Pole			
Telephone (overhead)	A T		
Telephone (underground fiber optic)	U T FO		
Television (overhead)	U TV		
Gas Line	G		
Gas Valve / CIV	G.V.		
Gas Vent	Vent		
Gas Meter	G.M.		
Fuel	Fuel		
Storm Sewer			
Storm Sewer MH	S.S.M.H.		
Storm Sewer Inlet	Inlet		
Sanitary			
Sanitary Manhole			
Sanitary Vault			
Sanitary Cleanout	C.O.		
Right of Way Line			
Permanent Easement			
Temporary Easement			
Edge of Concrete			
Edge of AC Pavement			
Edge of Gravel			
Gutter			
Curb			
Sidewalk			
Bike Curb			
Fence			
Gate			
Mailbox			
Bollard			
Signal Pole	Sig. Pole		
Signal Cabinet	Sig. cabinet		
Signal Junction box	Sig. J-box		
Traffic Sign			

General Notes

1. All works to be constructed in accordance with the most recent version of the Oregon Standard Construction Specifications and the Oregon Administrative Rule (OAR), Chapter 333.
2. ATTENTION: Oregon law requires you to follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 952-001-0010 through OAR 952-001-0090. You may obtain copies of the rules by calling the Center. The Center business number is 503-232-1987. Excavators are required to notify the Center at least 2 business days, but not more than 10 business days, before commencing an excavation. To comply, call 811 or 1-800-332-2344.
3. When crossing under sanitary sewer or with less than 1 $\frac{1}{2}$ feet clearance, notify PWB Representative and Engineer.
4. When ductile iron (DI) pipe crosses a main that is cathodically protected:
   a. Center a full length of DI pipe over the crossing and sleeve the barrel of the DI pipe in schedule 80 PVC pipe and seal the sleeve ends with Fernco type coupling, per Detail 3, Sheet XX.
   b. Where the piping configuration does not permit the above installation, wrap or encase the DI pipe in 40 mil reinforced PVC geomembrance for 20' length, 10' each side of the crossing, per Detail 3, Sheet XX. Fill around the geomembrane shall be sand or 1/4" minus aggregate.
5. Provide "As Constructed" drawings indicating all changes in grade, alignment, fittings and materials installed or any other utilities or obstacles not so indicated on these plans.
6. Minimum Hydrostatic Test Pressure shall be 150 psi at highest elevation of pipe being tested.
7. All elevations shown on the plans are NAVD88.
8. All connections to existing water mains and installation fo meters will be made by the Portland Water Bureau, after the pipe has been tested, disinfected, and the installation accepted by the Agency. The contractor shall ensure alignment of the pipe both vertically and horizontally at the points of connection.
9. Main shall have minimum of 3 feet of cover from top of pipe to finished street grade, for 4", 6", and 8" mains and 3.5 feet of cover for 12" mains or as shown or approved by the Engineer and PWB Owners Representative.



Location Map
NTS

Vicinity Map, See Sheets U02 & U03

1/4 Section
3440
3441
3442
3444
3334
3345
3445
3446
3447
3448

PRELIMINARY
NOT FOR CONSTRUCTION

HDR ENGINEERING, INC
1050 SW 6TH AVE., SUITE 1800
PORTLAND, OR 97204
503.423.3700

US26 (POWELL BLVD):
SE 99TH AVE - EAST CITY LIMITS SEC.
MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl | Reviewer: Paul Woerrlein
Drafter: Tam Nguyen | Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
Title Sheet

SHEET NO.
U01

SAP Project No	Township/Range	Street Opening Permit Number and Date	Synergen Work Order Number	Locate Call in Reference Number
WOXXXX	T01S, R02E & R03E	XXXXXX	XXXXXX	XXXXXX

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

FIRST M. LAST, Chief Engineer, PE No ###### Date
FIRST M. LAST, Engineering Manager, PE No ###### Date

CITY OF PORTLAND OREGON 1851

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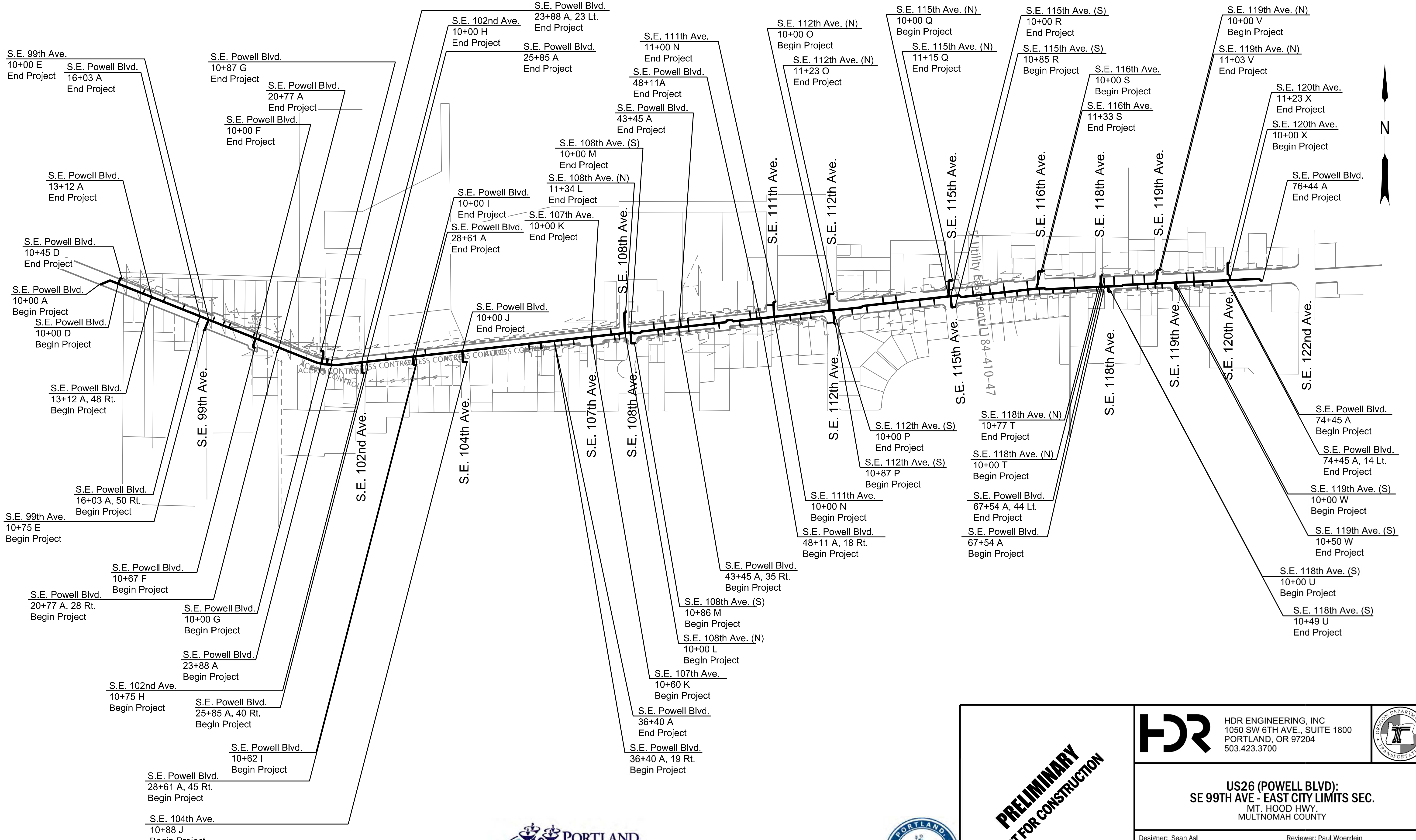

PORTLAND WATER BUREAU
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FIRST M. LAST, Engineering Manager, PE No ######

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HDR ENGINEERING, INC
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PORTLAND, OR 97204
503.423.3700

US26 (POWELL BLVD):
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MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl
Reviewer: Paul Woerrlein
Drafter: Tam Nguyen
Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
Vicinity Map

SHEET NO.
U02

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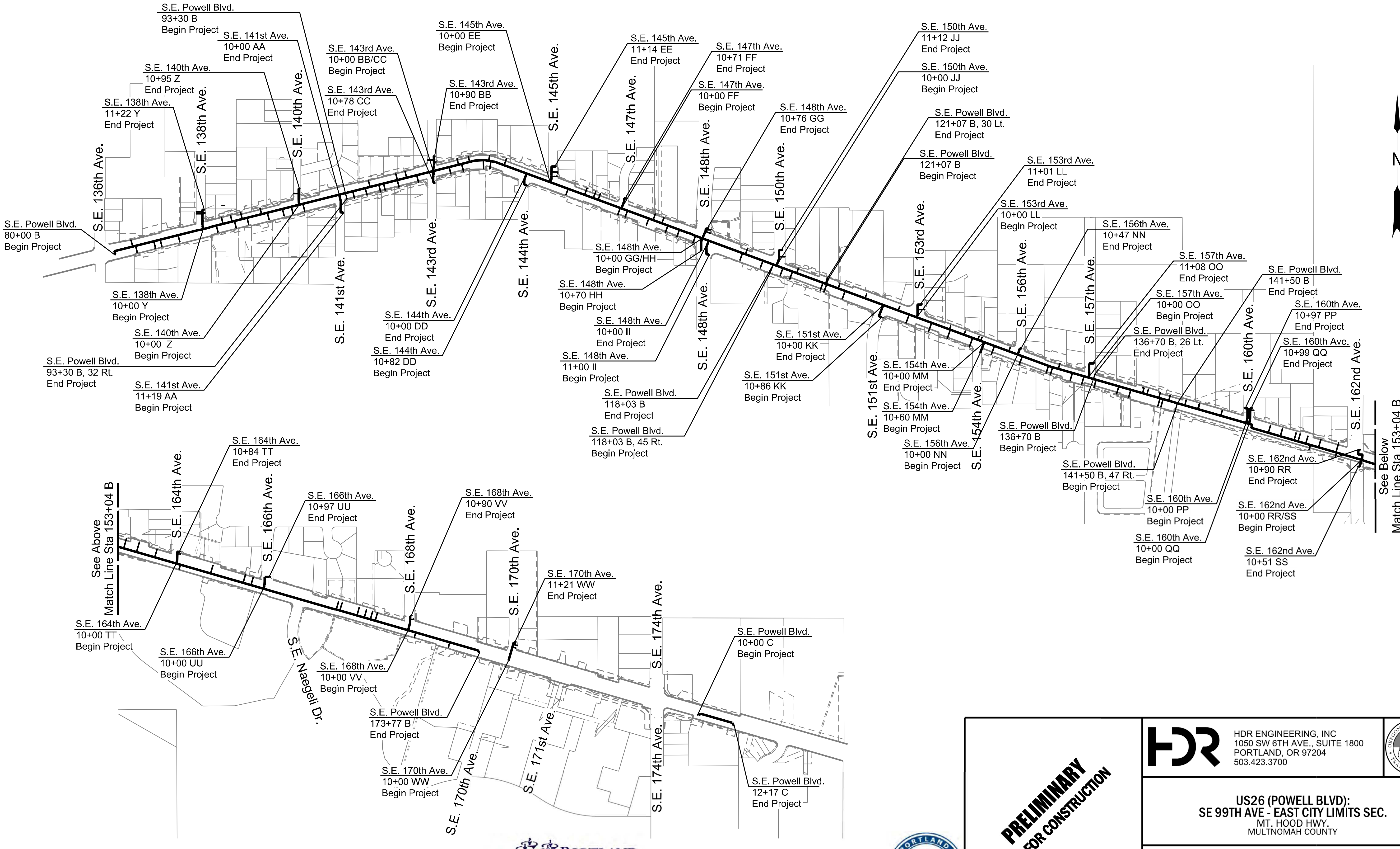
Rotation: 0° Scale: 1"=500'



PORTLAND WATER BUREAU
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FIRST M. LAST, Engineering Manager, PE No ###### Date

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503.423.3700

OREGON DEPARTMENT OF TRANSPORTATION

US26 (POWELL BLVD):
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MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl	Reviewer: Paul Woerrlein
Drafter: Tam Nguyen	Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.) Vicinity Map	SHEET NO. U03

FINAL ELECTRONIC DOCUMENT
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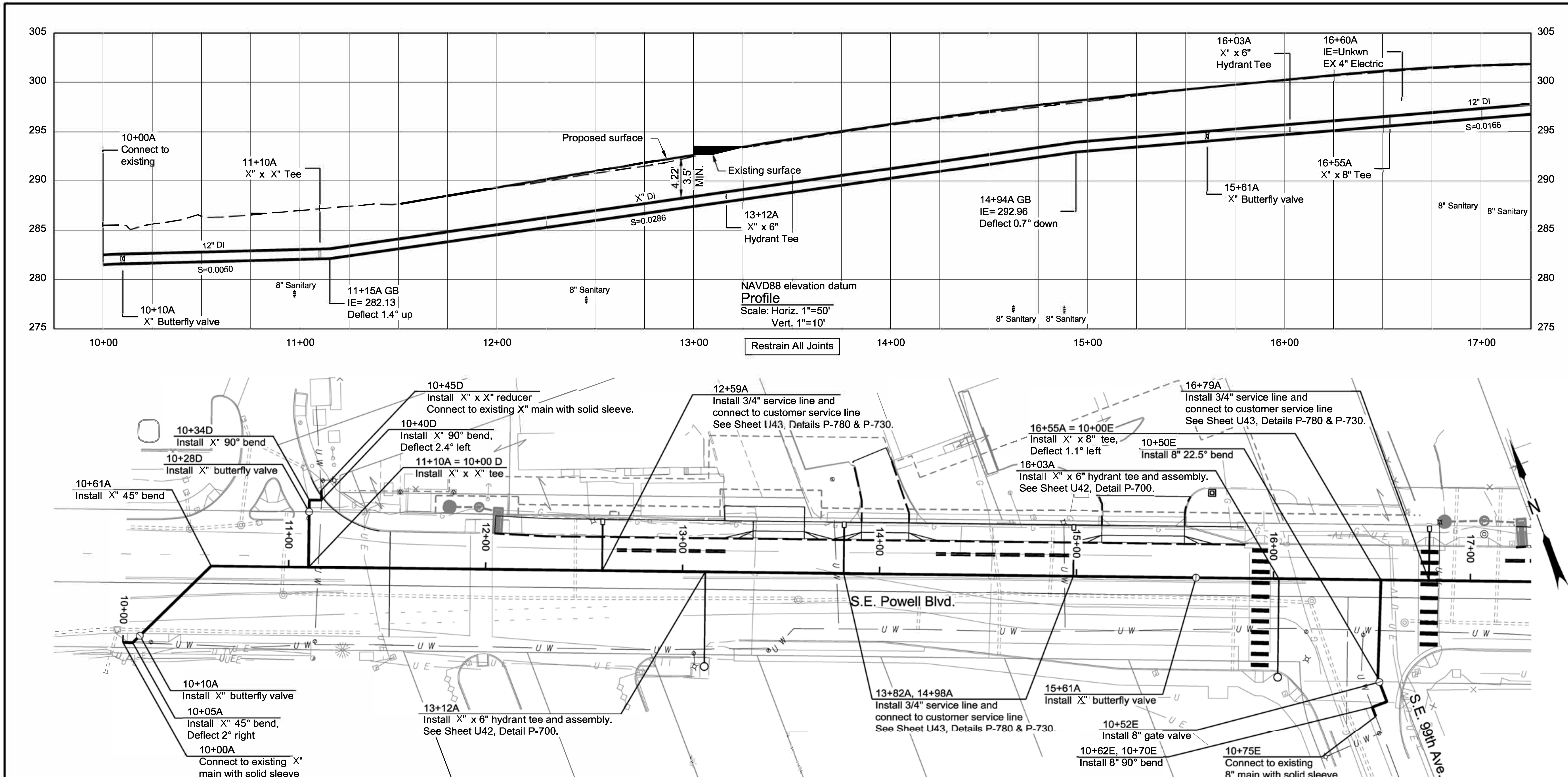

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MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl | Reviewer: Paul Woerrlein
Drafter: Tam Nguyen | Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
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SHEET NO.
U04

PORTLAND WATER BUREAU
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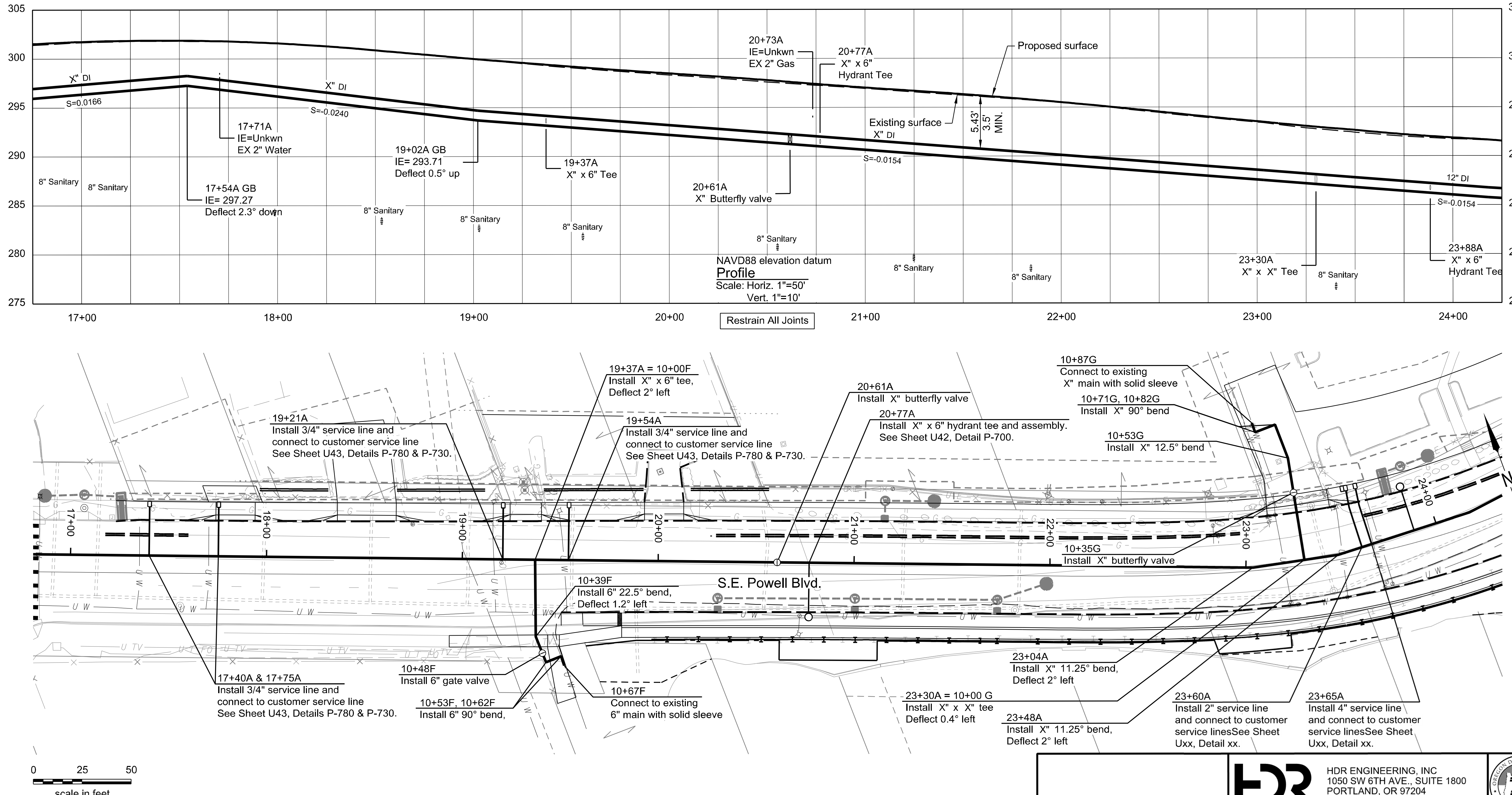

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MULTNOMAH COUNTY

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SHEET NO.
U05

PORTLAND WATER BUREAU
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U_K21178_UT02.dgn :: U05   10/21/2021 1:32:54 PM   TANGUYEN

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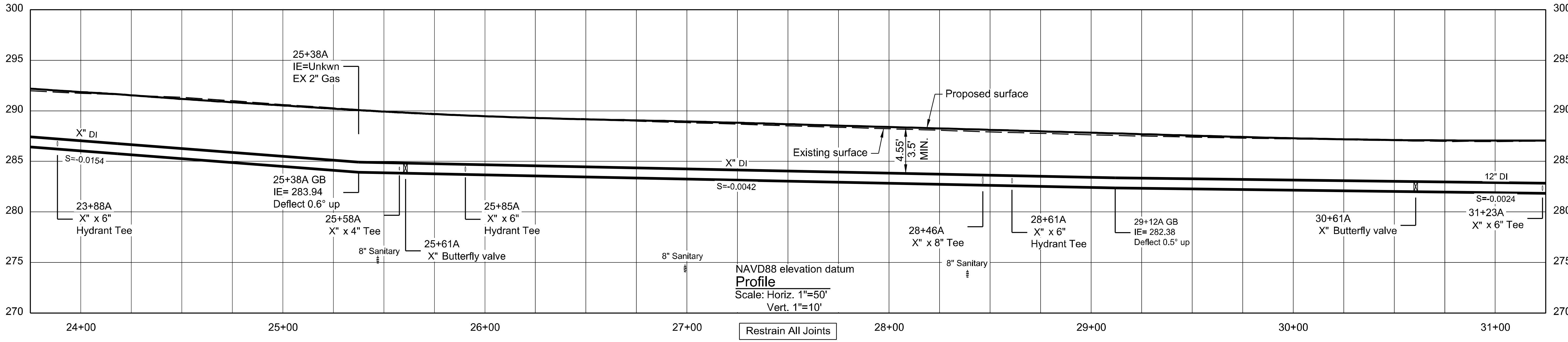

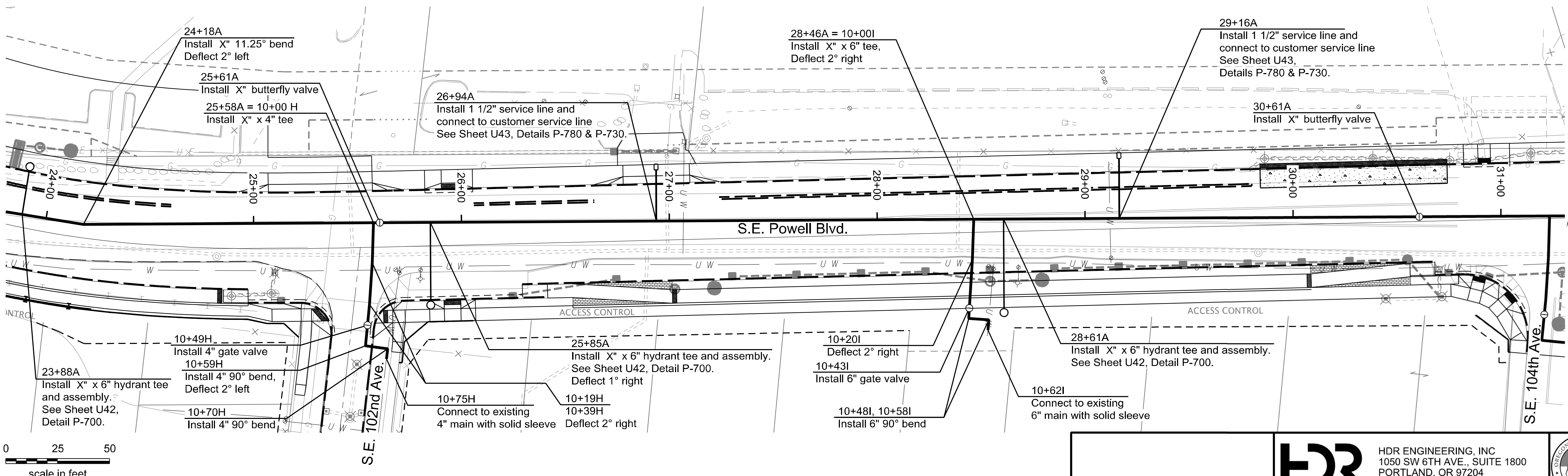

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MULTNOMAH COUNTY

Designer: Sean Asl | Reviewer: Paul Woerrlein
Drafter: Tam Nguyen | Checker: Gabe Alvarado

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SHEET NO.
U06

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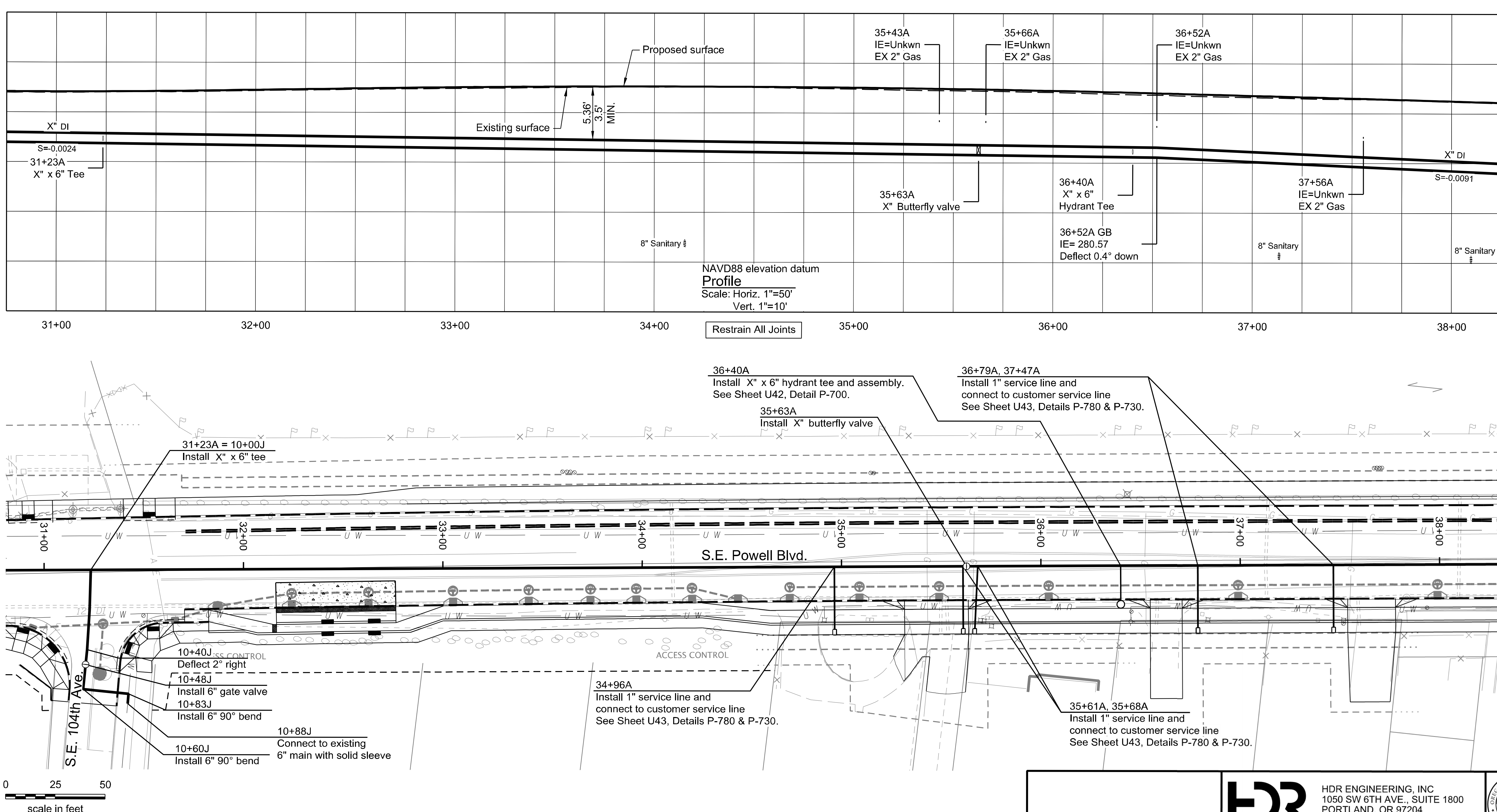

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US26 (POWELL BLVD): SE 99TH AVE - EAST CITY LIMITS SEC.

MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl
Reviewer: Paul Woerrlein
Drafter: Tam Nguyen
Checker: Gabe Alvarado

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SHEET NO.
U07

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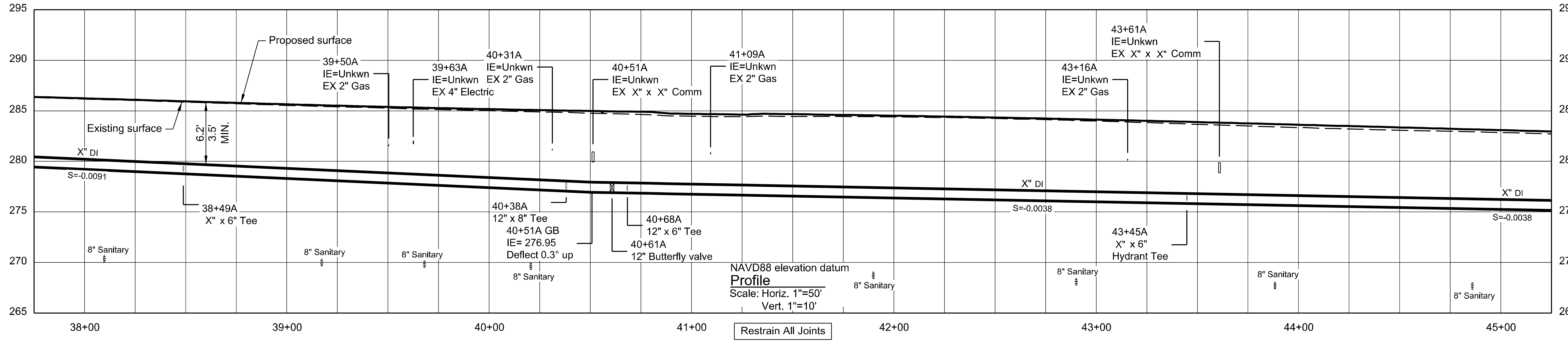

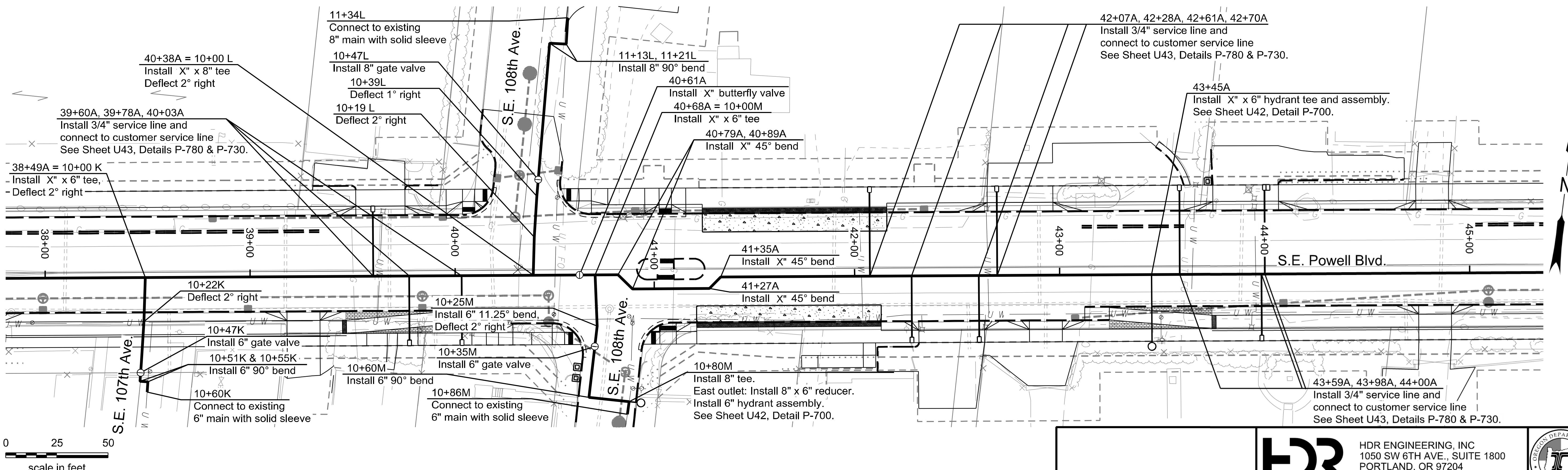

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OREGON DEPARTMENT OF TRANSPORTATION

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SE 99TH AVE - EAST CITY LIMITS SEC.
MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl
Reviewer: Paul Woerrlein
Drafter: Tam Nguyen
Checker: Gabe Alvarado

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SHEET NO.
U08

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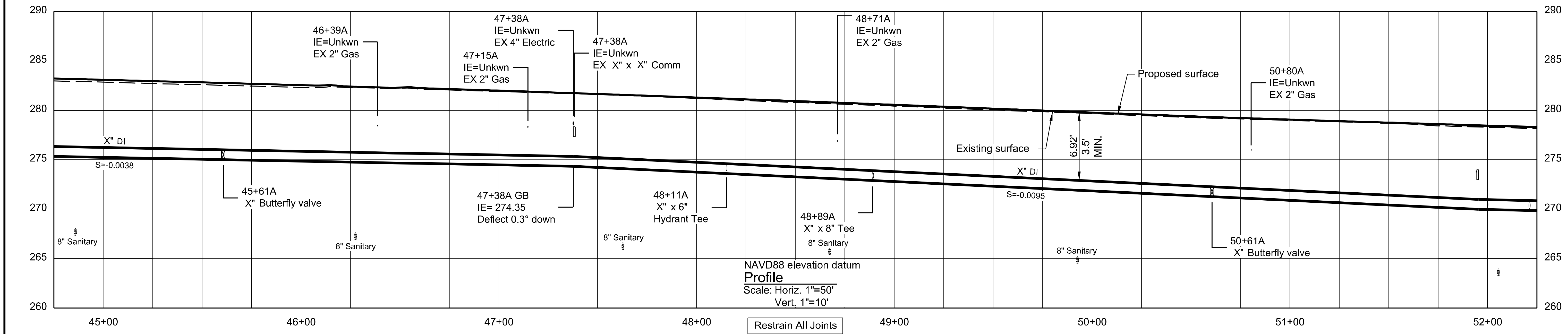

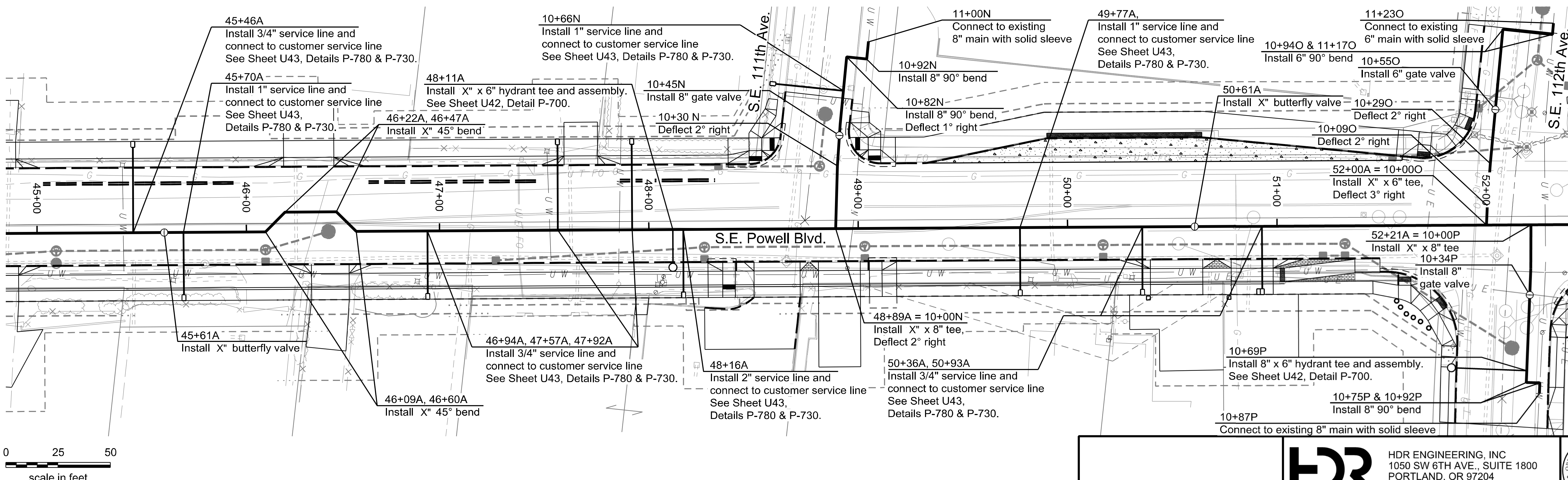

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US26 (POWELL BLVD):
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Drafter: Tam Nguyen | Checker: Gabe Alvarado

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SHEET NO. U09

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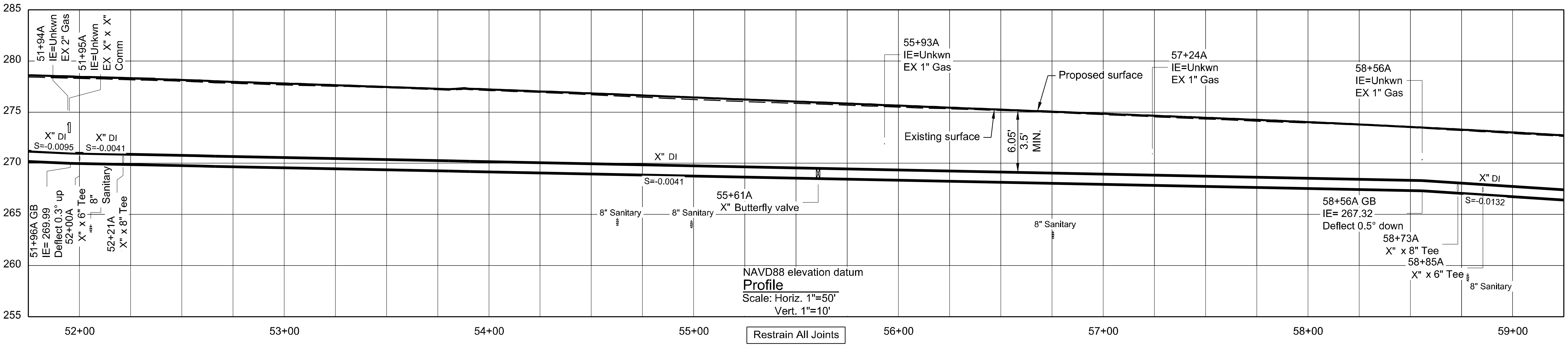

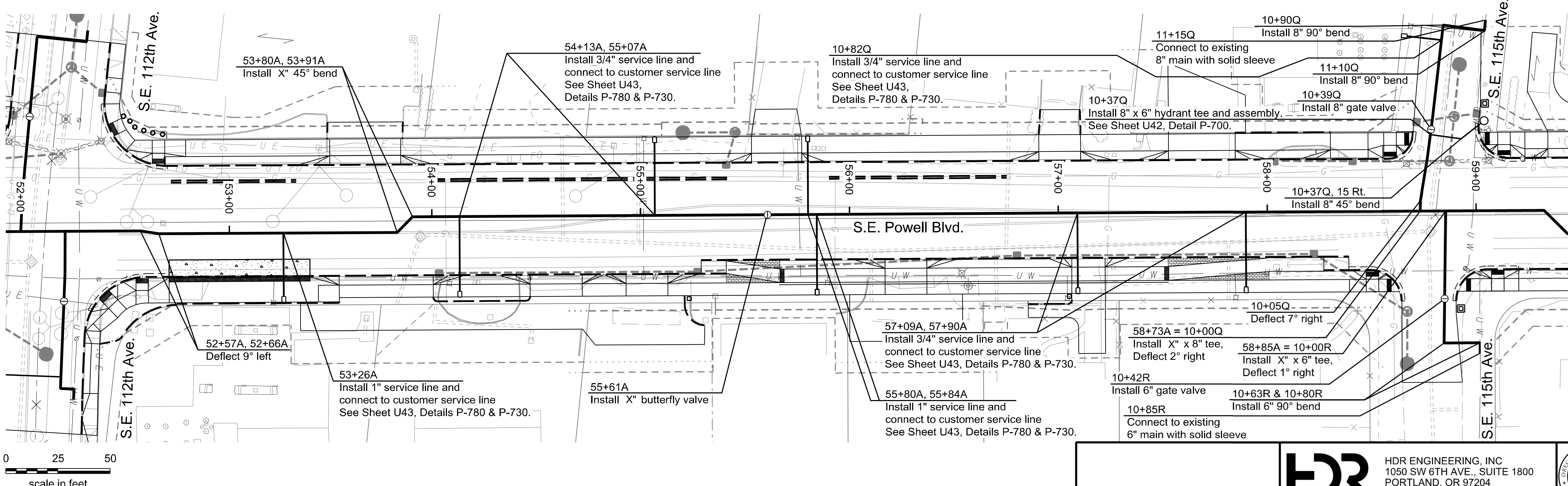

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US26 (POWELL BLVD):
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MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl | Reviewer: Paul Woerrlein
Drafter: Tam Nguyen | Checker: Gabe Alvarado

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U10

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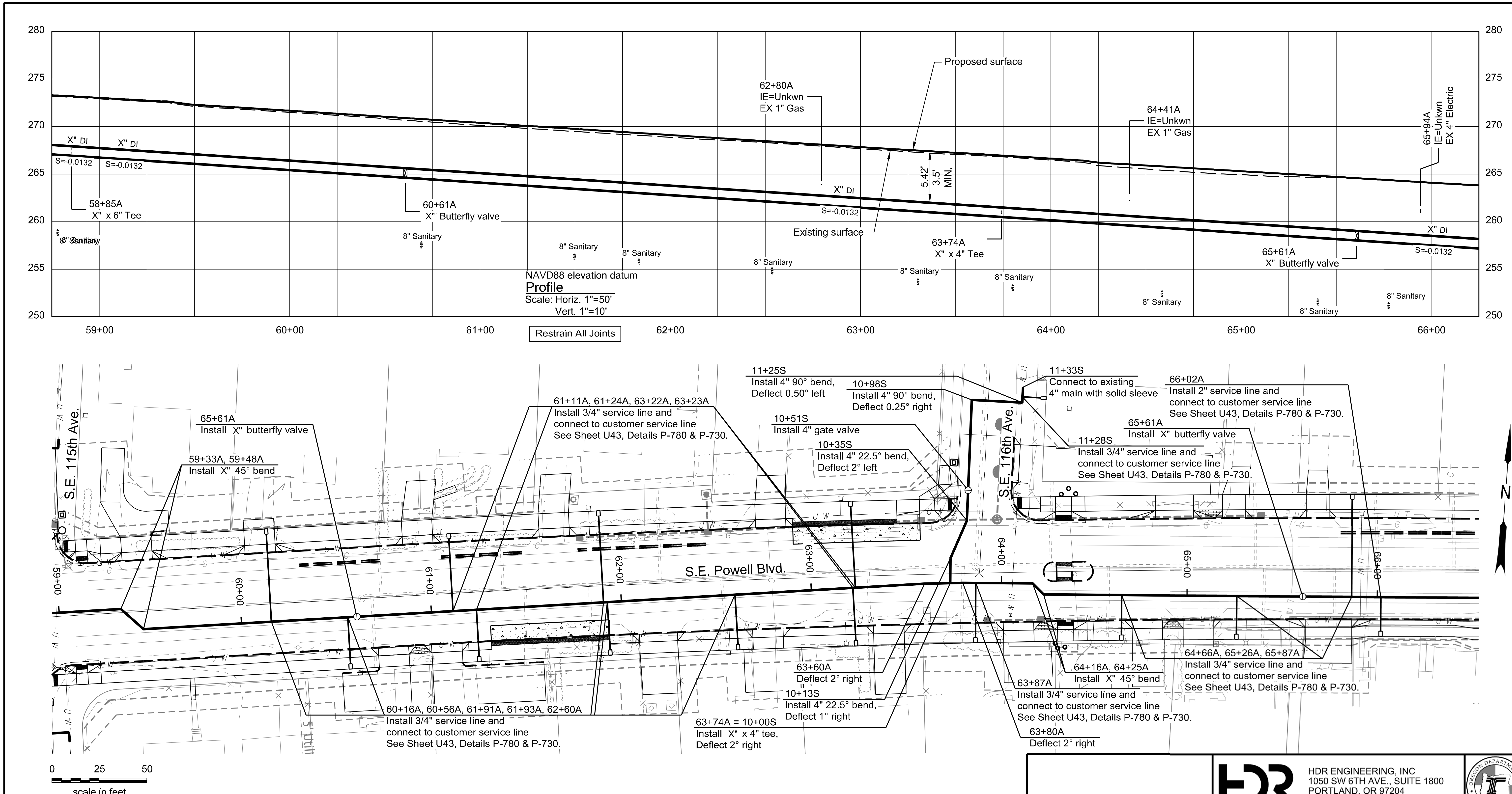

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503.423.3700

OREGON DEPARTMENT OF TRANSPORTATION

US26 (POWELL BLVD):
SE 99TH AVE - EAST CITY LIMITS SEC.
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MULTNOMAH COUNTY

Designer: Sean Asl
Reviewer: Paul Woerrlein
Drafter: Tam Nguyen
Checker: Gabe Alvarado

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SHEET NO.
U11

PORTLAND WATER BUREAU
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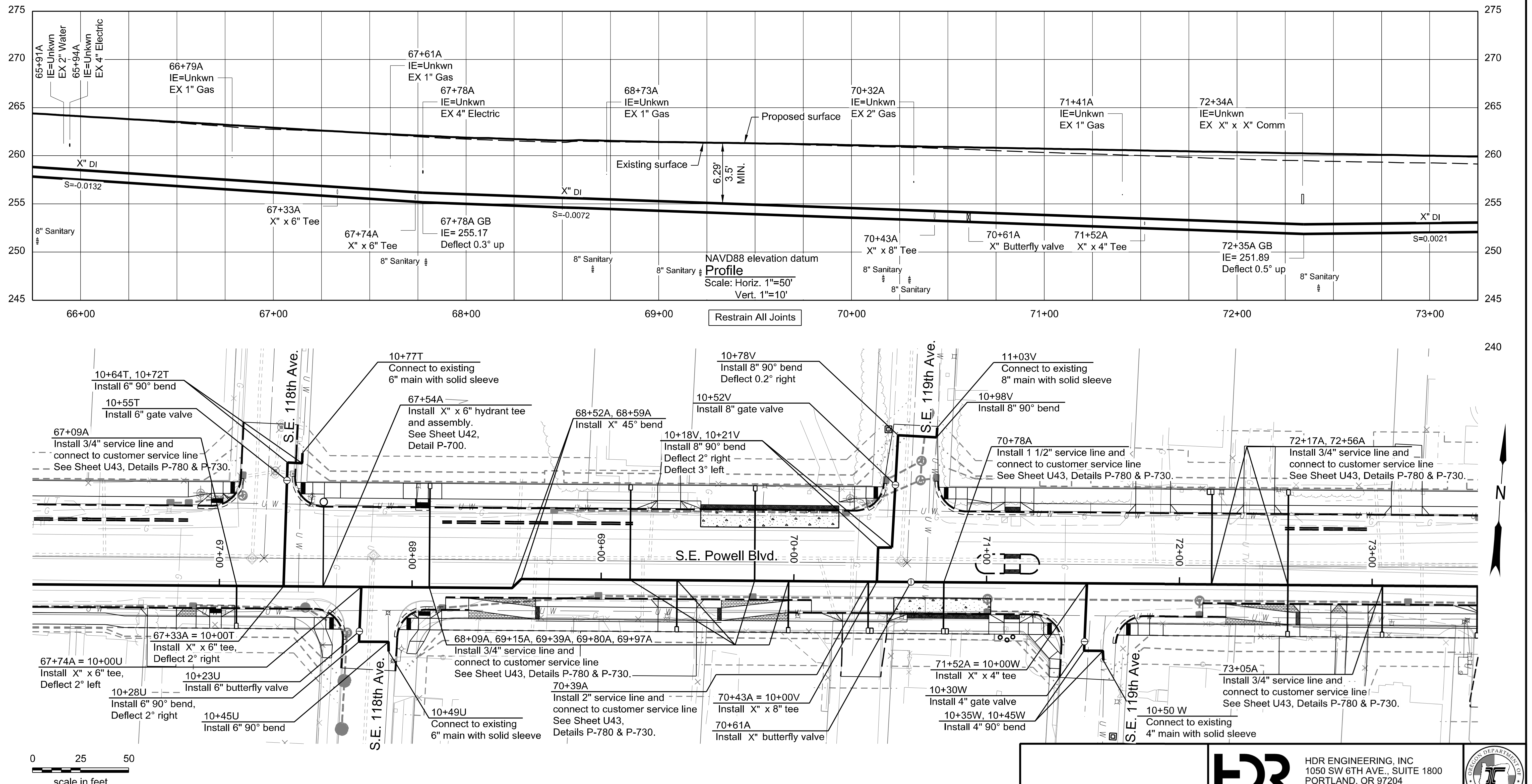

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MULTNOMAH COUNTY

Designer: Sean Asl | Reviewer: Paul Woerrlein
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S.E. 99th Ave. - S.E. 122nd Ave.

SHEET NO.
U12

PORTLAND WATER BUREAU
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FINAL ELECTRONIC DOCUMENT
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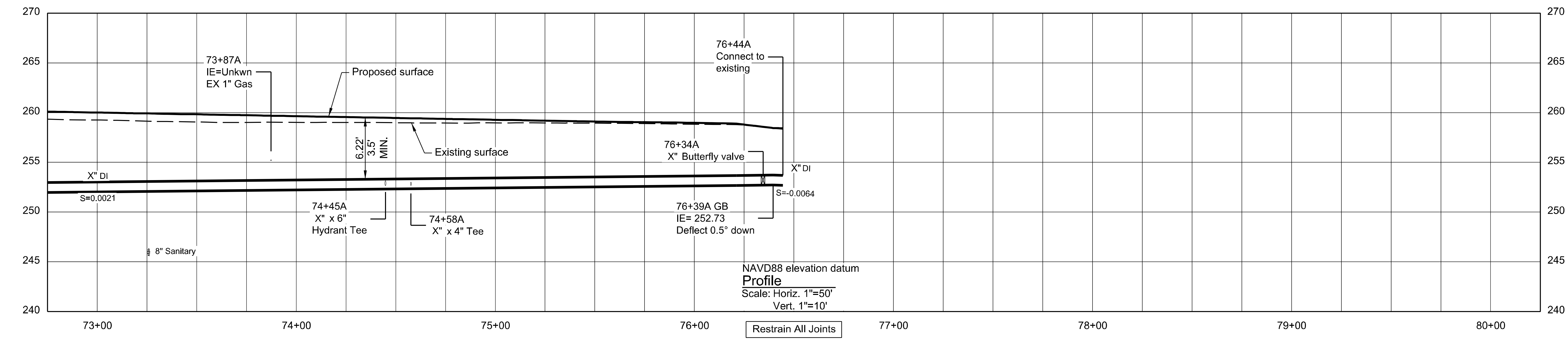

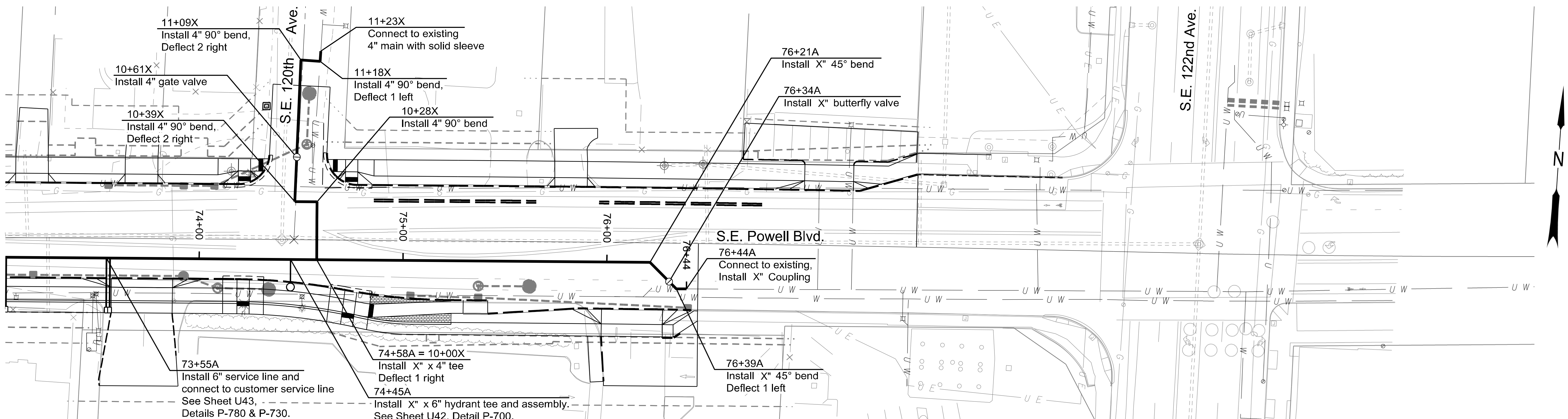

0 25 50
scale in feet

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US26 (POWELL BLVD):
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MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl
Reviewer: Paul Woerrlein
Drafter: Tam Nguyen
Checker: Gabe Alvarado

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S.E. 99th Ave. - S.E. 122nd Ave.

SHEET NO.
U13

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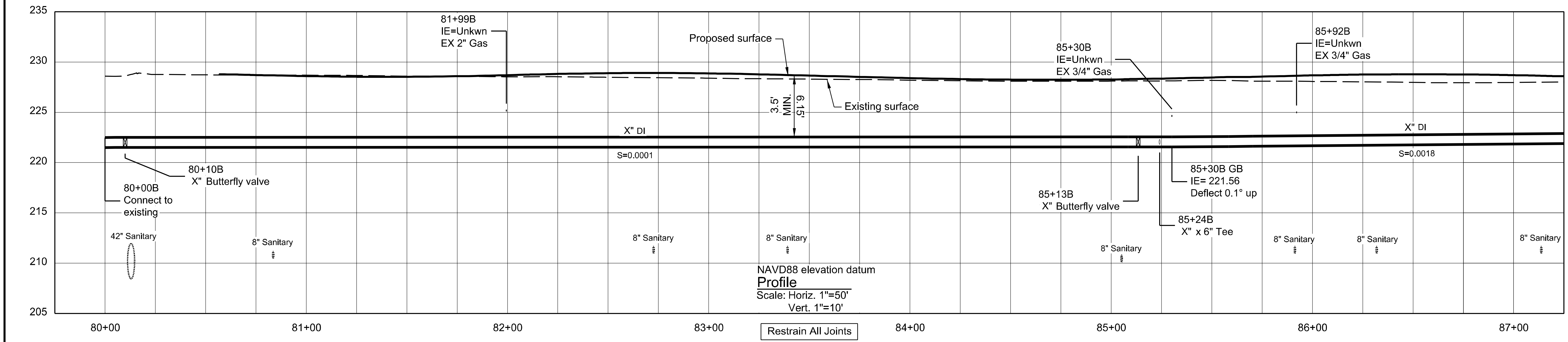

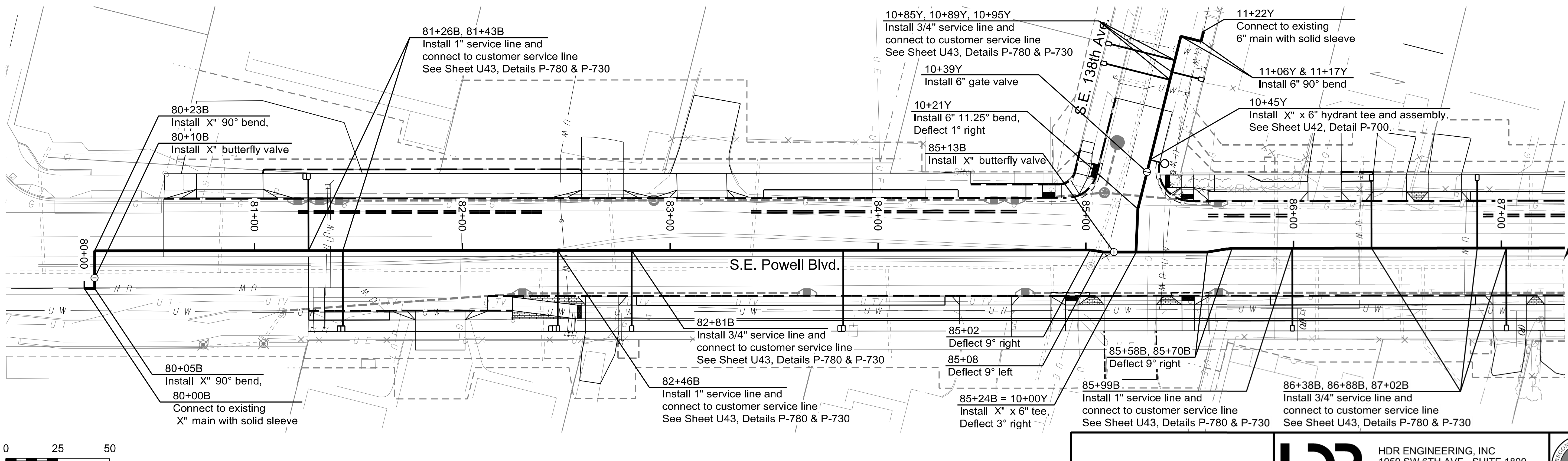

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MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl
Reviewer: Paul Woerrlein
Drafter: Tam Nguyen
Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
S.E. 136th Ave. - S.E. 174th Ave.

SHEET NO.
U14

PORTLAND WATER BUREAU
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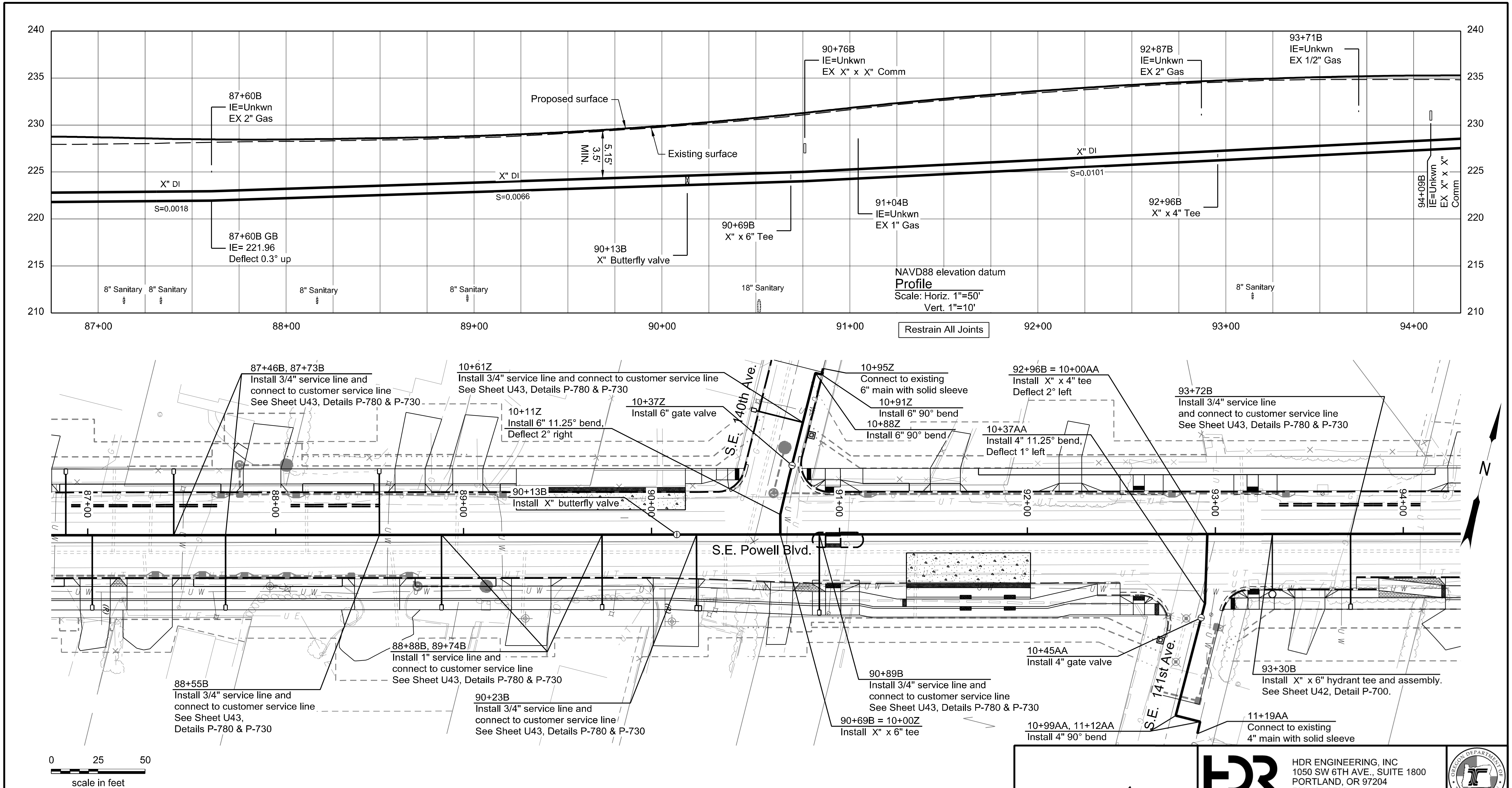

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503.423.3700

US26 (POWELL BLVD):
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MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl
Reviewer: Paul Woerrlein
Drafter: Tam Nguyen
Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
S.E. 136th Ave. - S.E. 174th Ave.

SHEET NO.
U15

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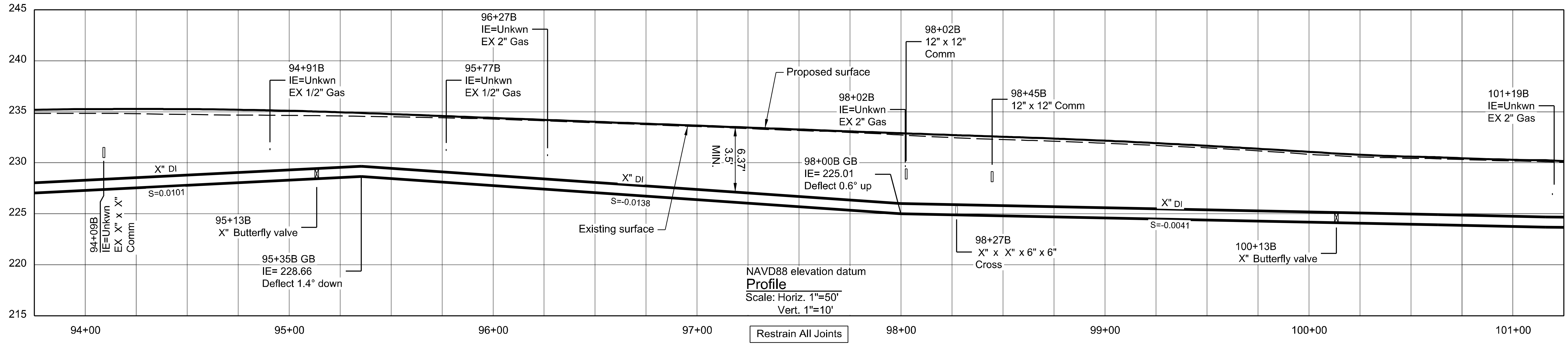
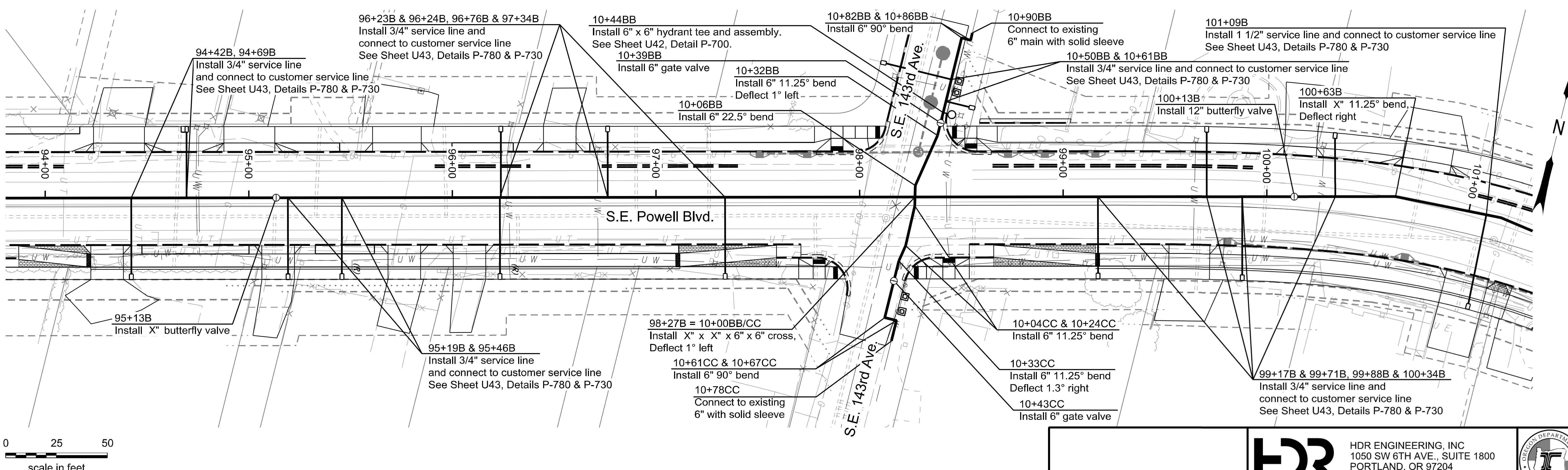
Rotation: 14° Scale: 1"=50'





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PORTLAND, OR 97204
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US26 (POWELL BLVD):
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MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl
Reviewer: Paul Woerrlein
Drafter: Tam Nguyen
Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
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SHEET NO.
U16

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

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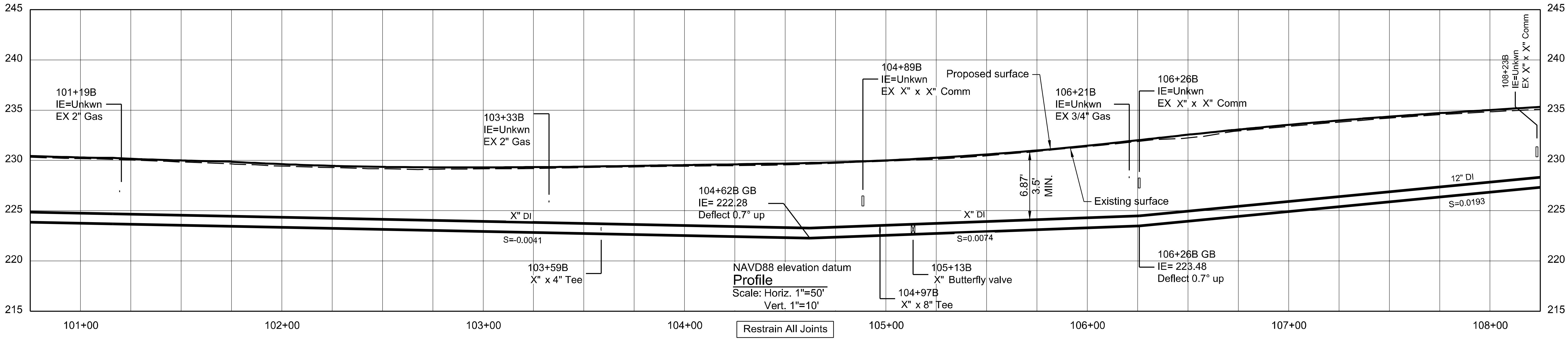
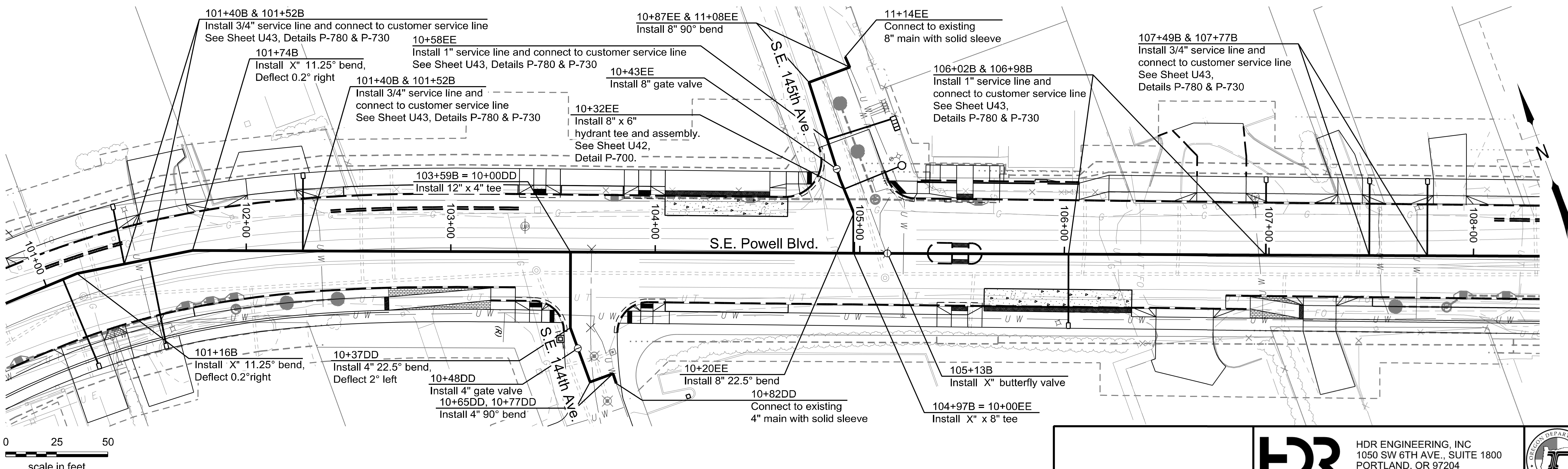
U_K21178_UT03.dgn :: U16 10/21/2021 1:53:36 PM TANGUYEN
Rotation: 14° Scale: 1"=50'





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PORTLAND, OR 97204
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MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl
Reviewer: Paul Woerrlein
Drafter: Tam Nguyen
Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
S.E. 136th Ave. - S.E. 174th Ave.

SHEET NO.
U17

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

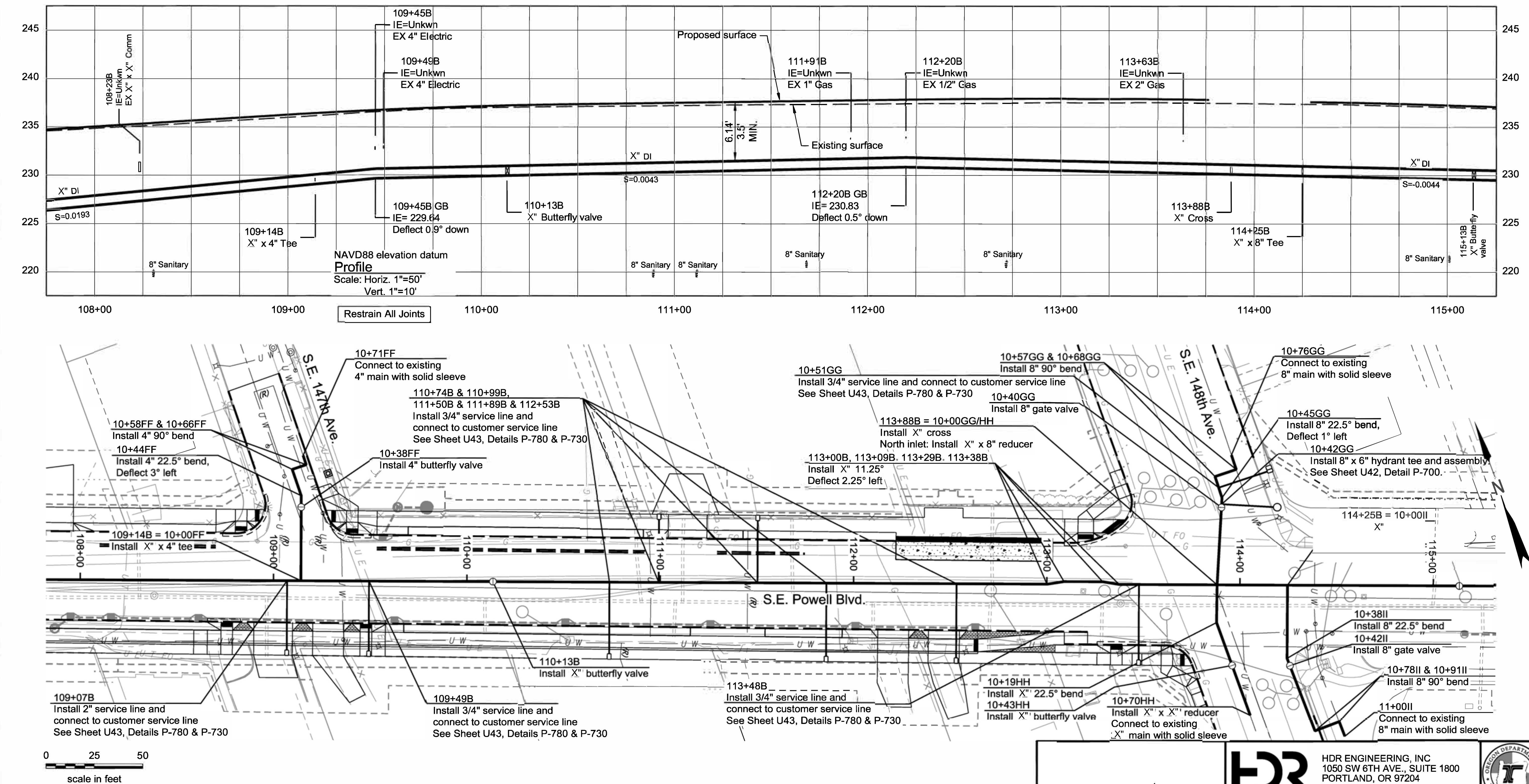
FIRST M. LAST, Engineering Manager, PE No ######
Date

Confidential

U_K21178_UT03.dgn :: U17 10/21/2021 1:52:51 PM TANGUYEN

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

Rotation: 340° Scale: 1"=50'



PRELIMINARY
NOT FOR CONSTRUCTION

HDR ENGINEERING, INC
1050 SW 6TH AVE., SUITE 1800
PORTLAND, OR 97204
503.423.3700

US26 (POWELL BLVD):
SE 99TH AVE - EAST CITY LIMITS SEC.
MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl	Reviewer: Paul Woerrlein
Drafter: Tam Nguyen	Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
S.E. 136th Ave. - S.E. 174th Ave.

SHEET NO.
U18

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

FIRST M. LAST, Engineering Manager, PE No ###### Date

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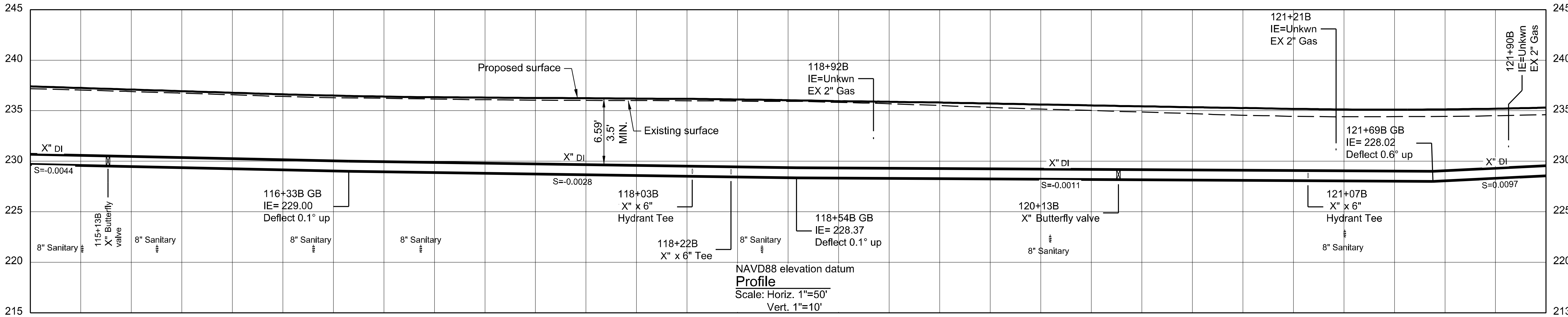
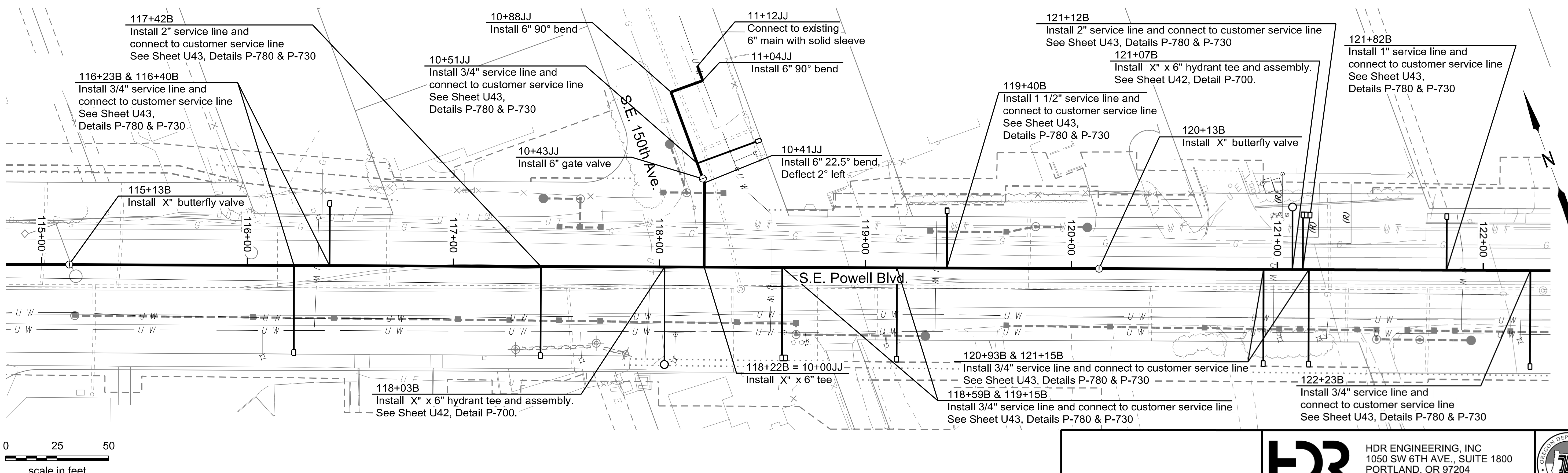
FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

U_K21178_UT03.dgn :: U18 10/21/2021 1:52:10 PM TANGUYEN

Rotation: 340° Scale: 1"=50'



Restrain All Joints



PRELIMINARY
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HDR ENGINEERING, INC
1050 SW 6TH AVE., SUITE 1800
PORTLAND, OR 97204
503.423.3700

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

US26 (POWELL BLVD):
SE 99TH AVE - EAST CITY LIMITS SEC.
MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl
Reviewer: Paul Woerrlein
Drafter: Tam Nguyen
Checker: Gabe Alvarado

FIRST M. LAST, Engineering Manager, PE No ######
Date

X" DI WATER MAIN (S.E. Powell Blvd.)
S.E. 136th Ave. - S.E. 174th Ave.

SHEET NO.
U19

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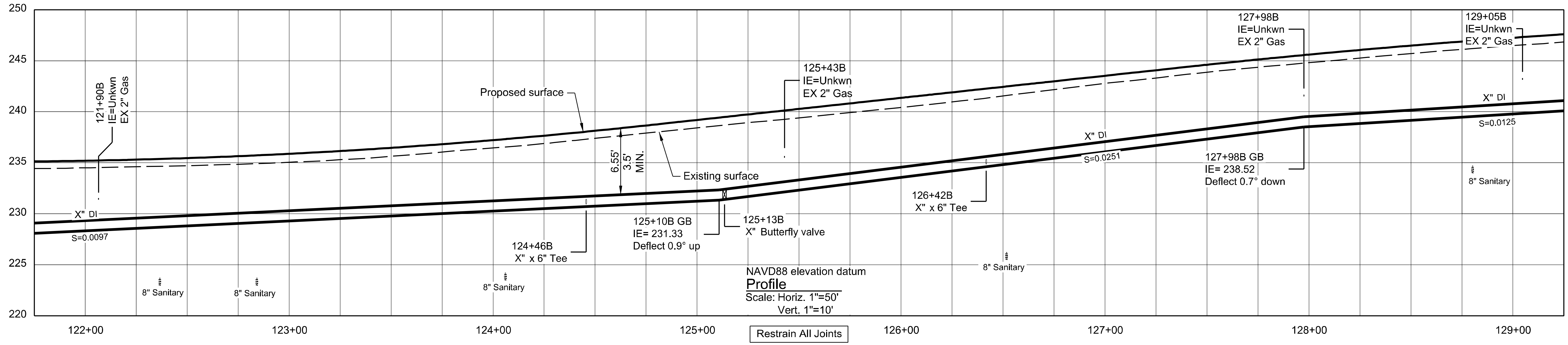
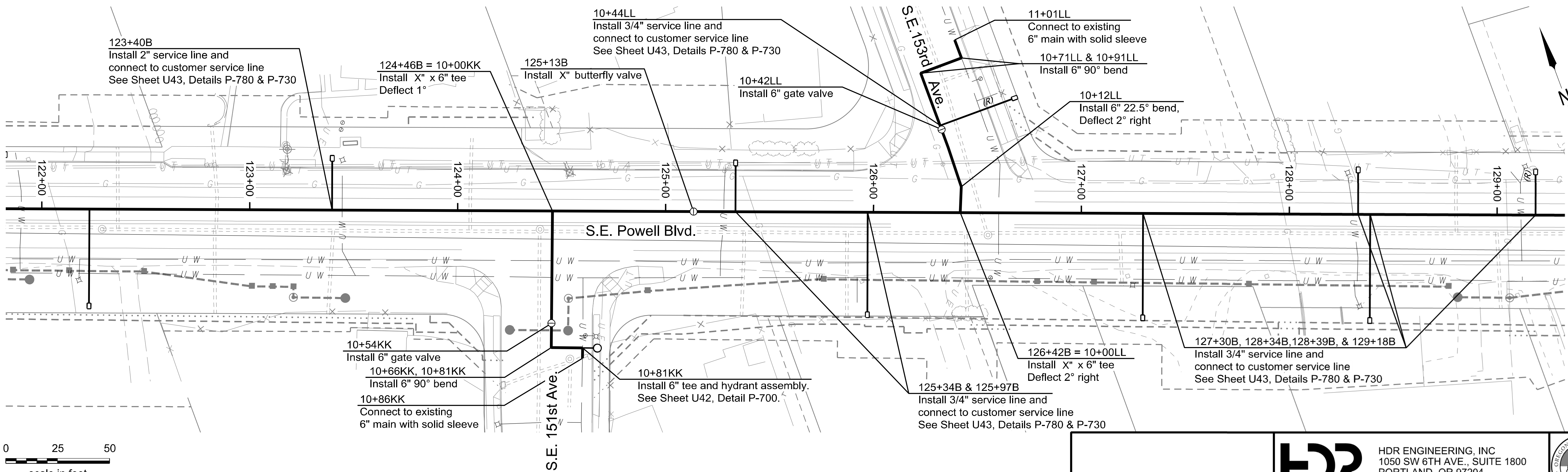
FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST





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PORTLAND, OR 97204
503.423.3700

US26 (POWELL BLVD):
SE 99TH AVE - EAST CITY LIMITS SEC.
MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl | Reviewer: Paul Woerrlein
Drafter: Tam Nguyen | Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
S.E. 136th Ave. - S.E. 174th Ave.

SHEET NO.
U20

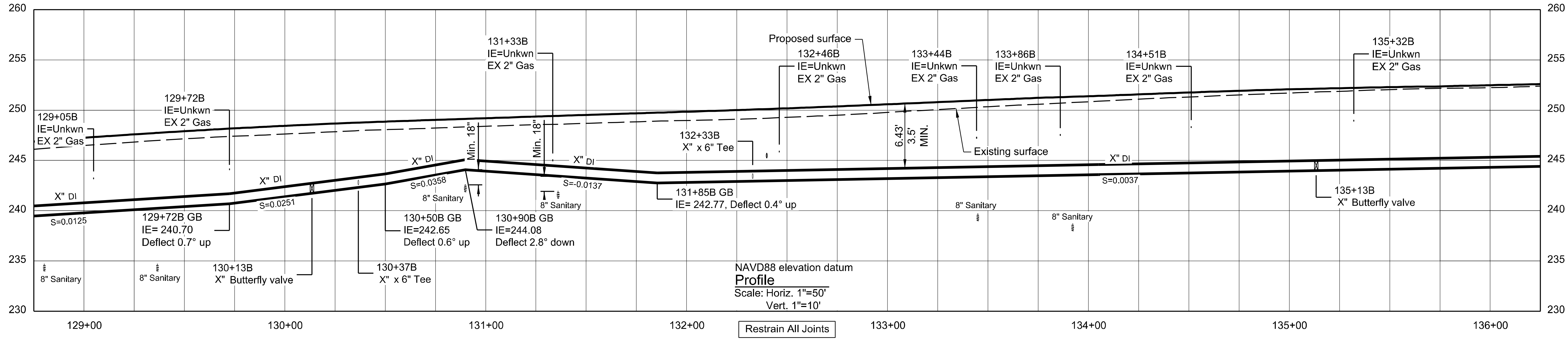
PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

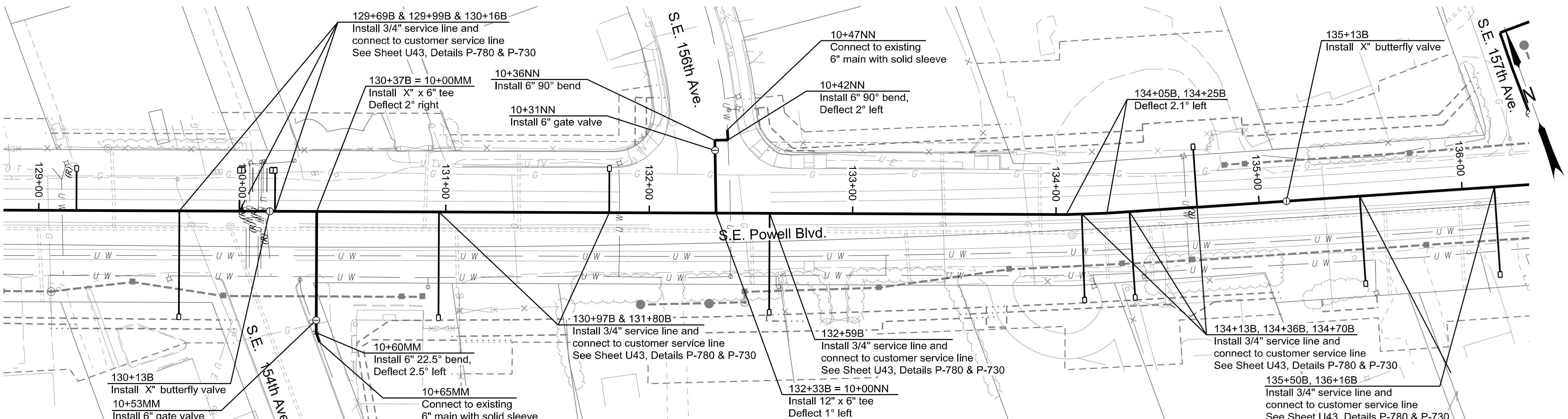
FIRST M. LAST, Engineering Manager, PE No ###### Date

Confidential

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

U_K21178_UT03.dgn :: U20 10/21/2021 1:50:47 PM TANGUYEN Rotation: 340° Scale: 1"=50'





0 25 50
scale in feet

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HDR ENGINEERING, INC
1050 SW 6TH AVE., SUITE 1800
PORTLAND, OR 97204
503.423.3700

OREGON DEPARTMENT OF TRANSPORTATION

US26 (POWELL BLVD):
SE 99TH AVE - EAST CITY LIMITS SEC.
MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl | Reviewer: Paul Woerrlein
Drafter: Tam Nguyen | Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
S.E. 136th Ave. - S.E. 174th Ave.

SHEET NO.
U21

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

FIRST M. LAST, Engineering Manager, PE No ###### Date

CITY OF PORTLAND OREGON 1851

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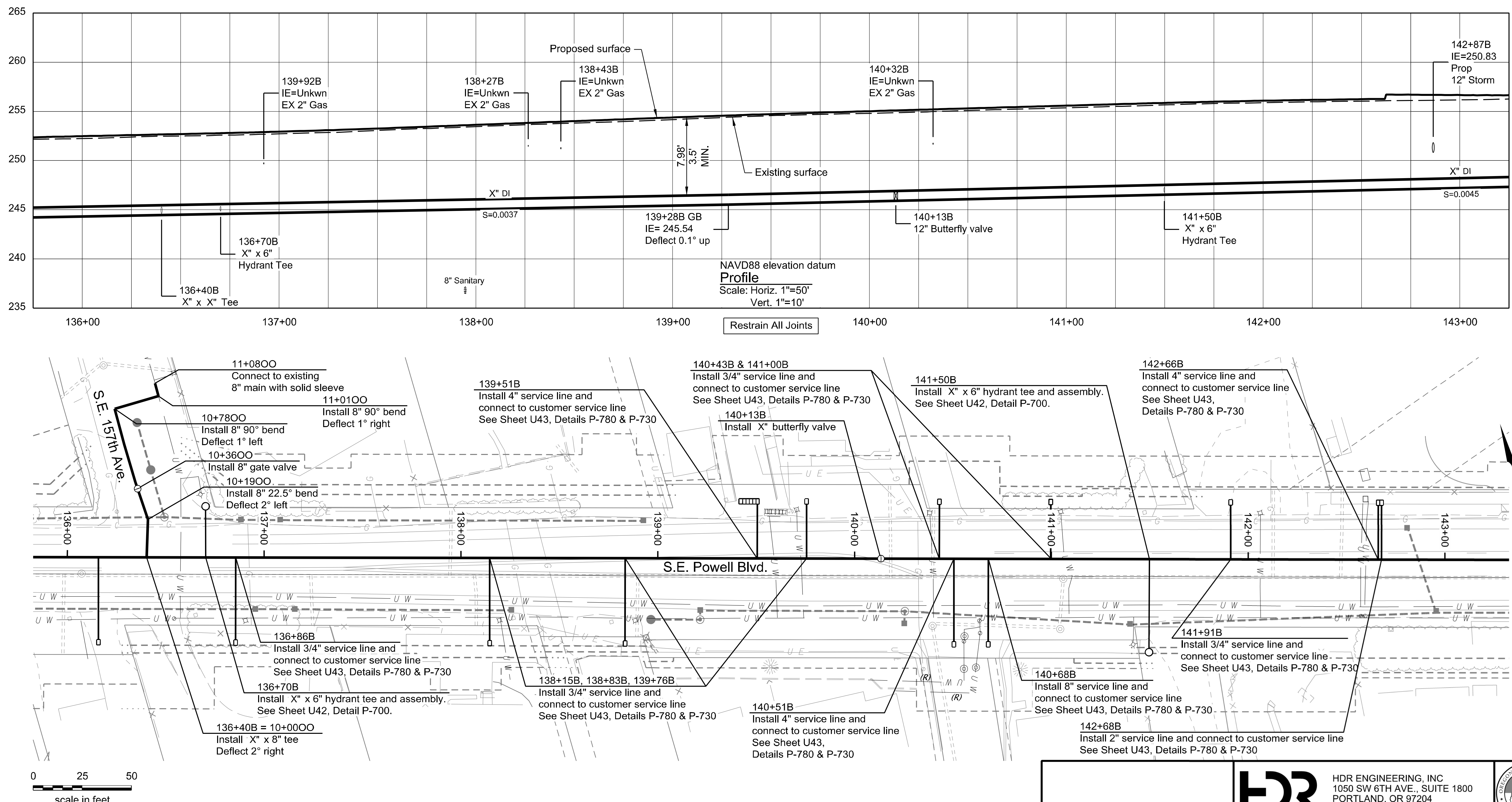
U_K21178_UT03.dgn :: U21 10/21/2021 1:50:00 PM TANGUYEN

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

Rotation: 340° Scale: 1"=50'



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HDR ENGINEERING, INC
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PORTLAND, OR 97204
503.423.3700

US26 (POWELL BLVD):
SE 99TH AVE - EAST CITY LIMITS SEC.
MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl	Reviewer: Paul Woerrlein
Drafter: Tam Nguyen	Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
S.E. 136th Ave. - S.E. 174th Ave.

SHEET NO.
U22

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

FIRST M. LAST, Engineering Manager, PE No ###### Date

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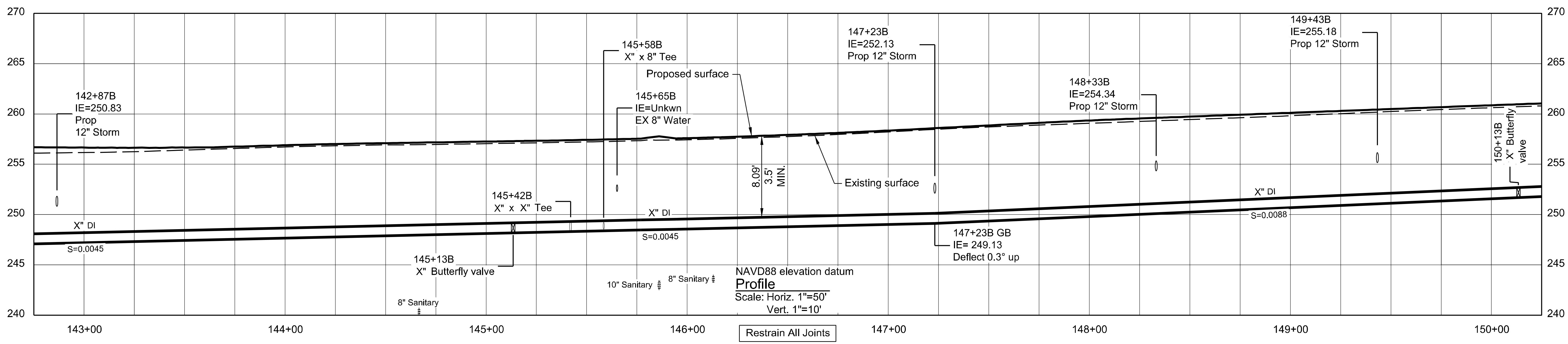
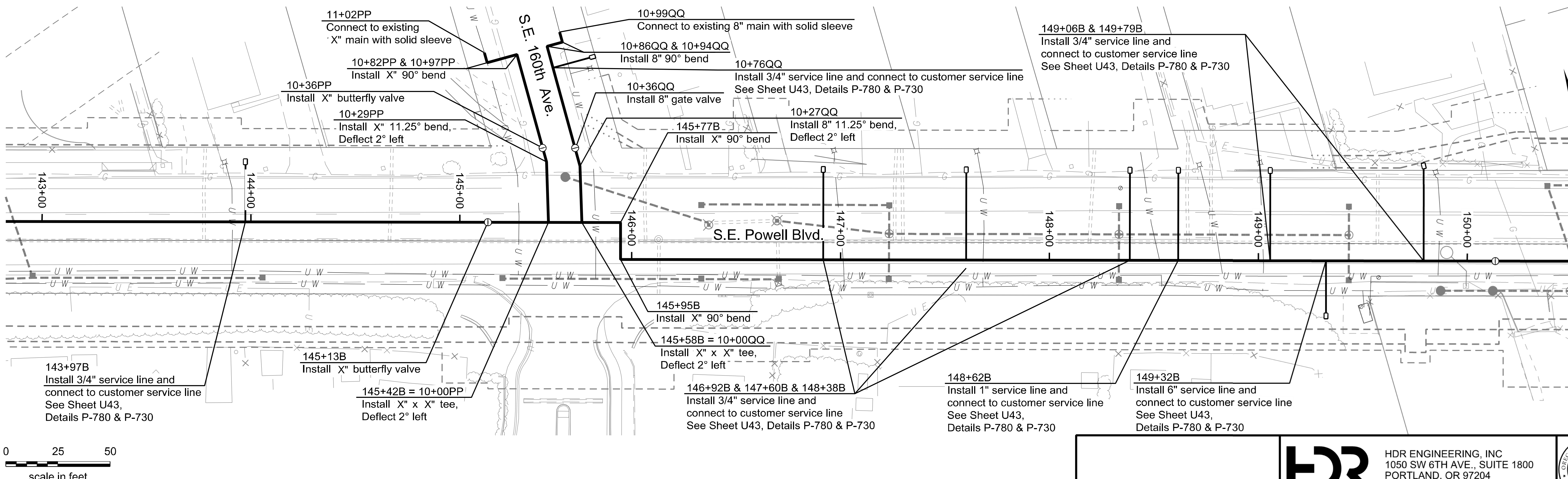
FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST



Restrain All Joints



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HDR ENGINEERING, INC
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PORTLAND, OR 97204
503.423.3700

US26 (POWELL BLVD):
SE 99TH AVE - EAST CITY LIMITS SEC.
MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl | Reviewer: Paul Woerrlein
Drafter: Tam Nguyen | Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
S.E. 136th Ave. - S.E. 174th Ave.

SHEET NO.
U23

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

FIRST M. LAST, Engineering Manager, PE No ###### Date

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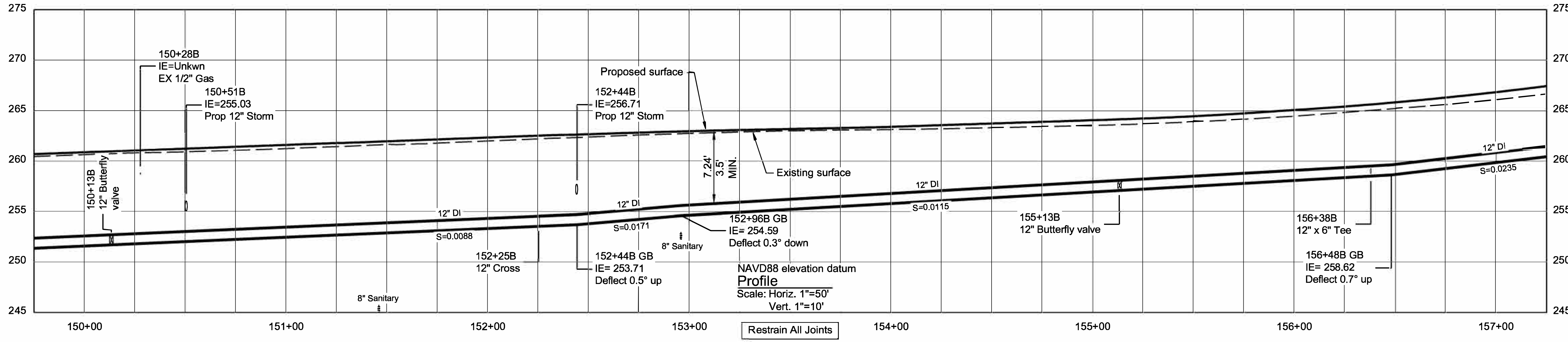
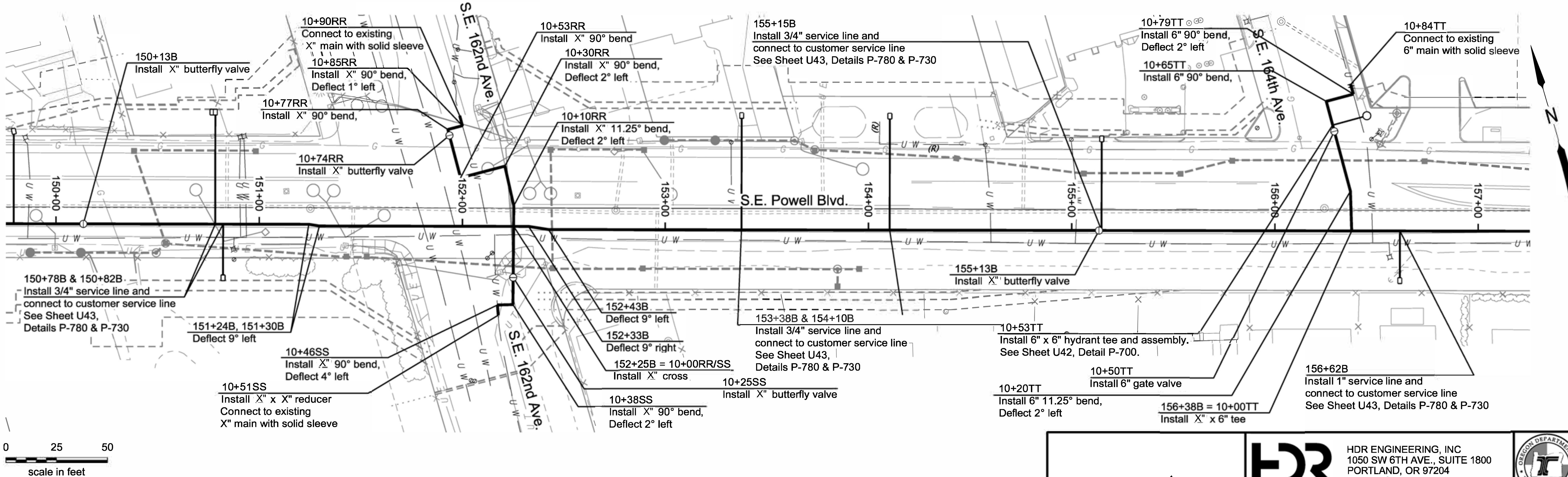
U_K21178_UT03.dgn :: U23 10/21/2021 1:48:03 PM TANGUYEN

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

Rotation: 344° Scale: 1"=50'





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HDR ENGINEERING, INC
1050 SW 6TH AVE., SUITE 1800
PORTLAND, OR 97204
503.423.3700

US26 (POWELL BLVD):
SE 99TH AVE - EAST CITY LIMITS SEC.
MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl
Reviewer: Paul Woerrlein
Drafter: Tam Nguyen
Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
S.E. 136th Ave. - S.E. 174th Ave.

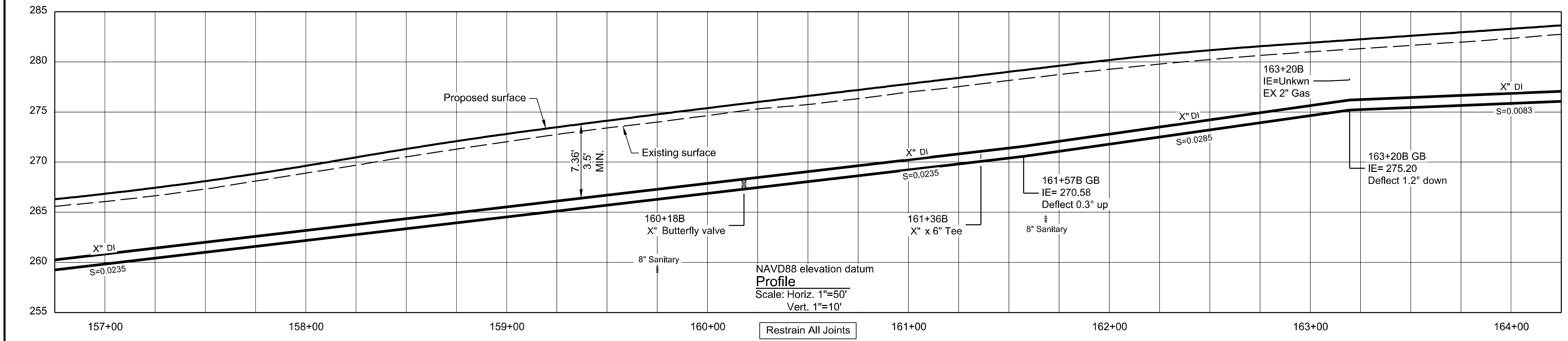
SHEET NO.
U24

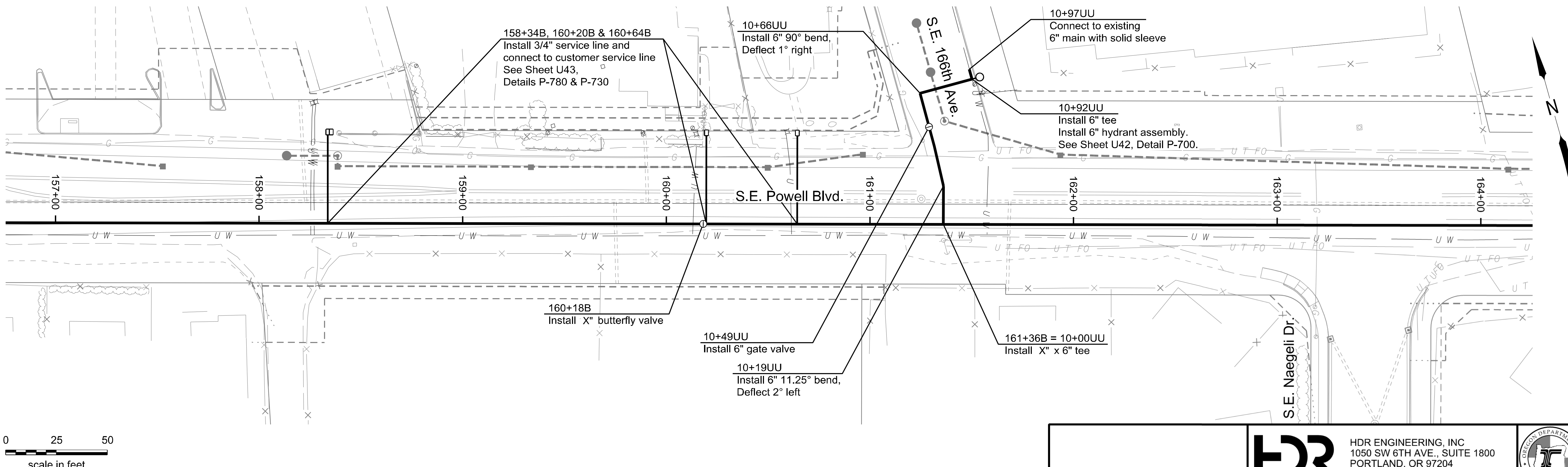
PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

FIRST M. LAST, Engineering Manager, PE No ######
Date

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

Confidential





PRELIMINARY
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HDR ENGINEERING, INC
1050 SW 6TH AVE., SUITE 1800
PORTLAND, OR 97204
503.423.3700

US26 (POWELL BLVD):
SE 99TH AVE - EAST CITY LIMITS SEC.
MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl
Reviewer: Paul Woerrlein
Drafter: Tam Nguyen
Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
S.E. 136th Ave. - S.E. 174th Ave.

SHEET NO.
U25

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

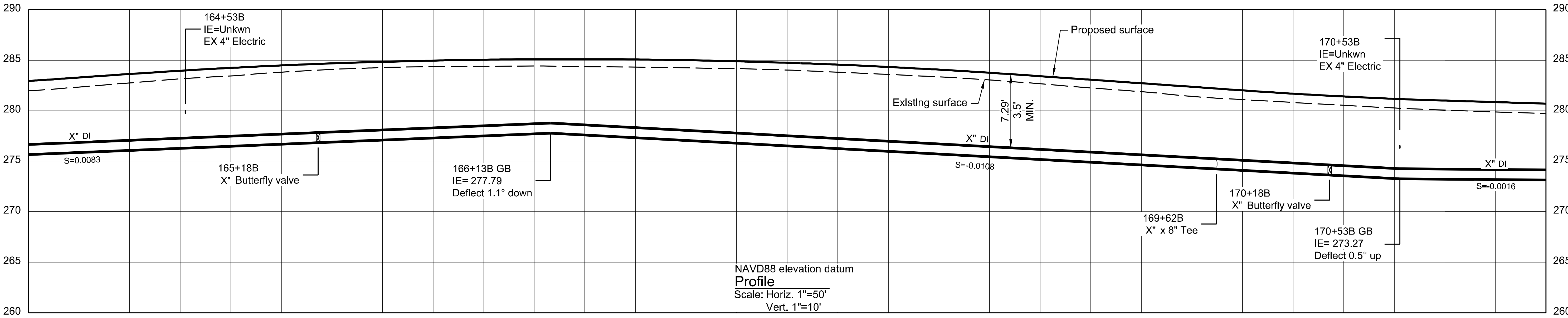
FIRST M. LAST, Engineering Manager, PE No ######
Date

Confidential

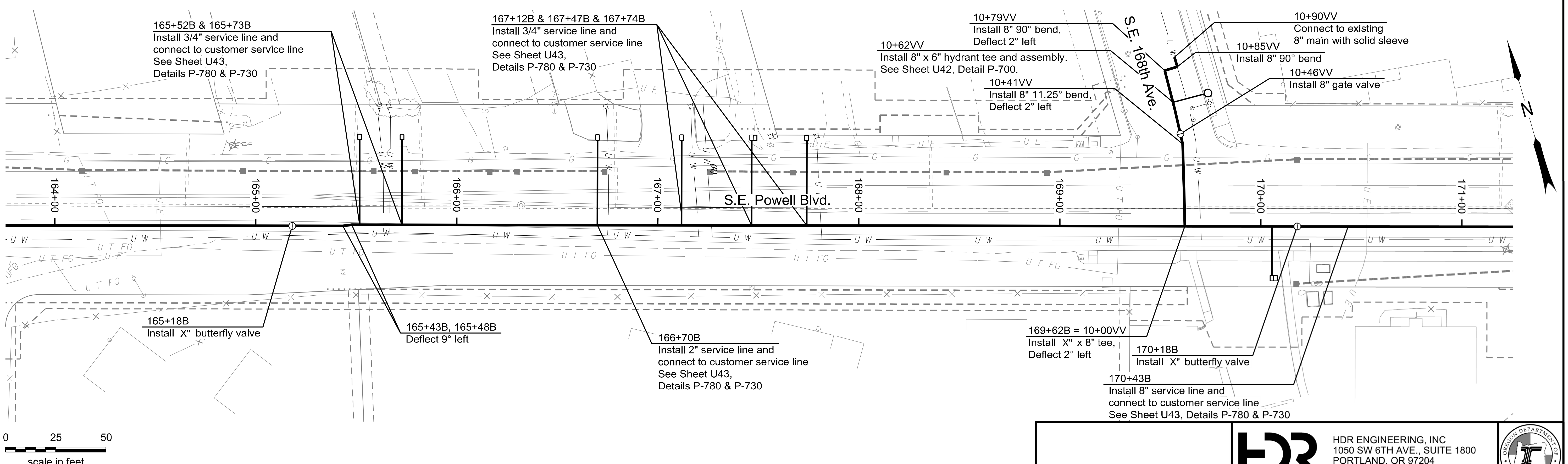
U_K21178_UT03.dgn :: U25 10/21/2021 1:45:48 PM TANGUYEN

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

Rotation: 344° Scale: 1"=50'



Restrain All Joints



PRELIMINARY
NOT FOR CONSTRUCTION

HDR ENGINEERING, INC
1050 SW 6TH AVE., SUITE 1800
PORTLAND, OR 97204
503.423.3700

US26 (POWELL BLVD):
SE 99TH AVE - EAST CITY LIMITS SEC.
MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl
Reviewer: Paul Woerrlein
Drafter: Tam Nguyen
Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
S.E. 136th Ave. - S.E. 174th Ave.

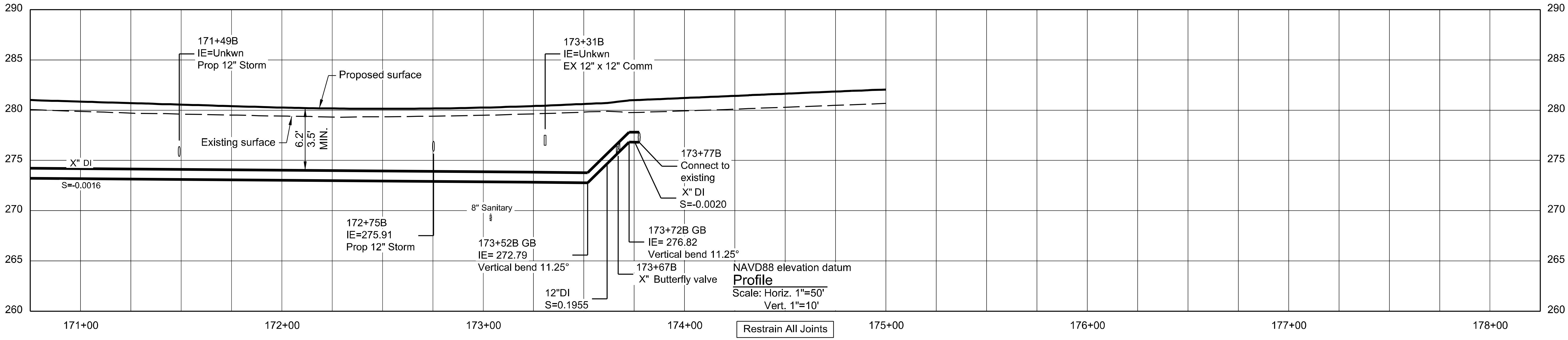
SHEET NO.
U26

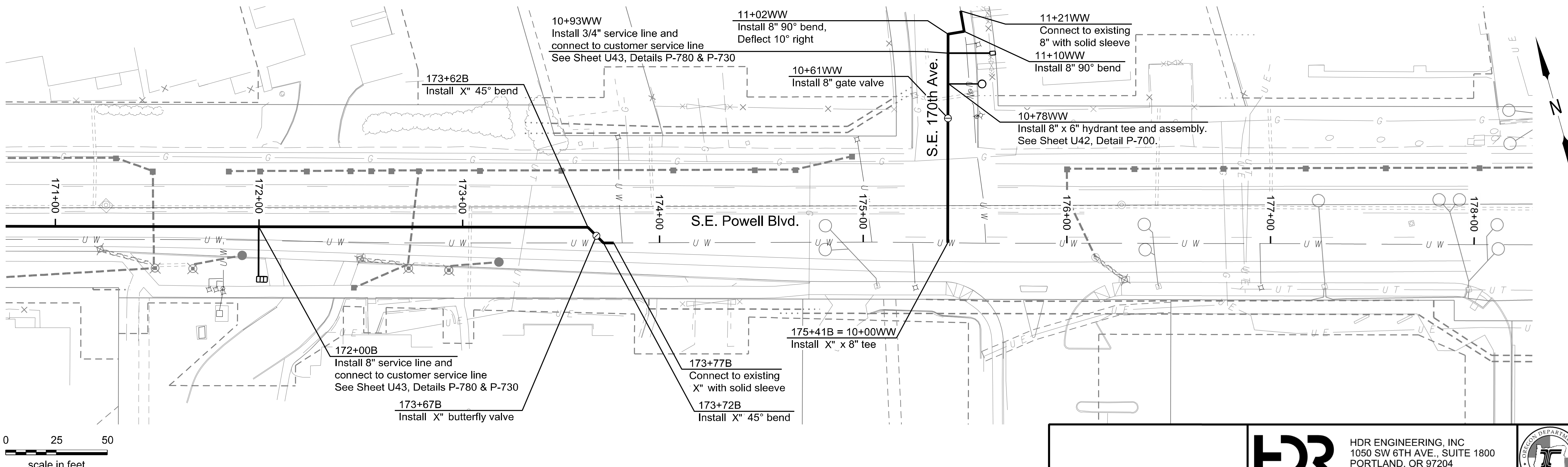
PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

FIRST M. LAST, Engineering Manager, PE No ###### Date

Confidential

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST





PRELIMINARY
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HDR ENGINEERING, INC
1050 SW 6TH AVE., SUITE 1800
PORTLAND, OR 97204
503.423.3700

US26 (POWELL BLVD):
SE 99TH AVE - EAST CITY LIMITS SEC.
MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl
Reviewer: Paul Woerrlein
Drafter: Tam Nguyen
Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
S.E. 136th Ave. - S.E. 174th Ave.

SHEET NO.
U27

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

FIRST M. LAST, Engineering Manager, PE No ######
Date

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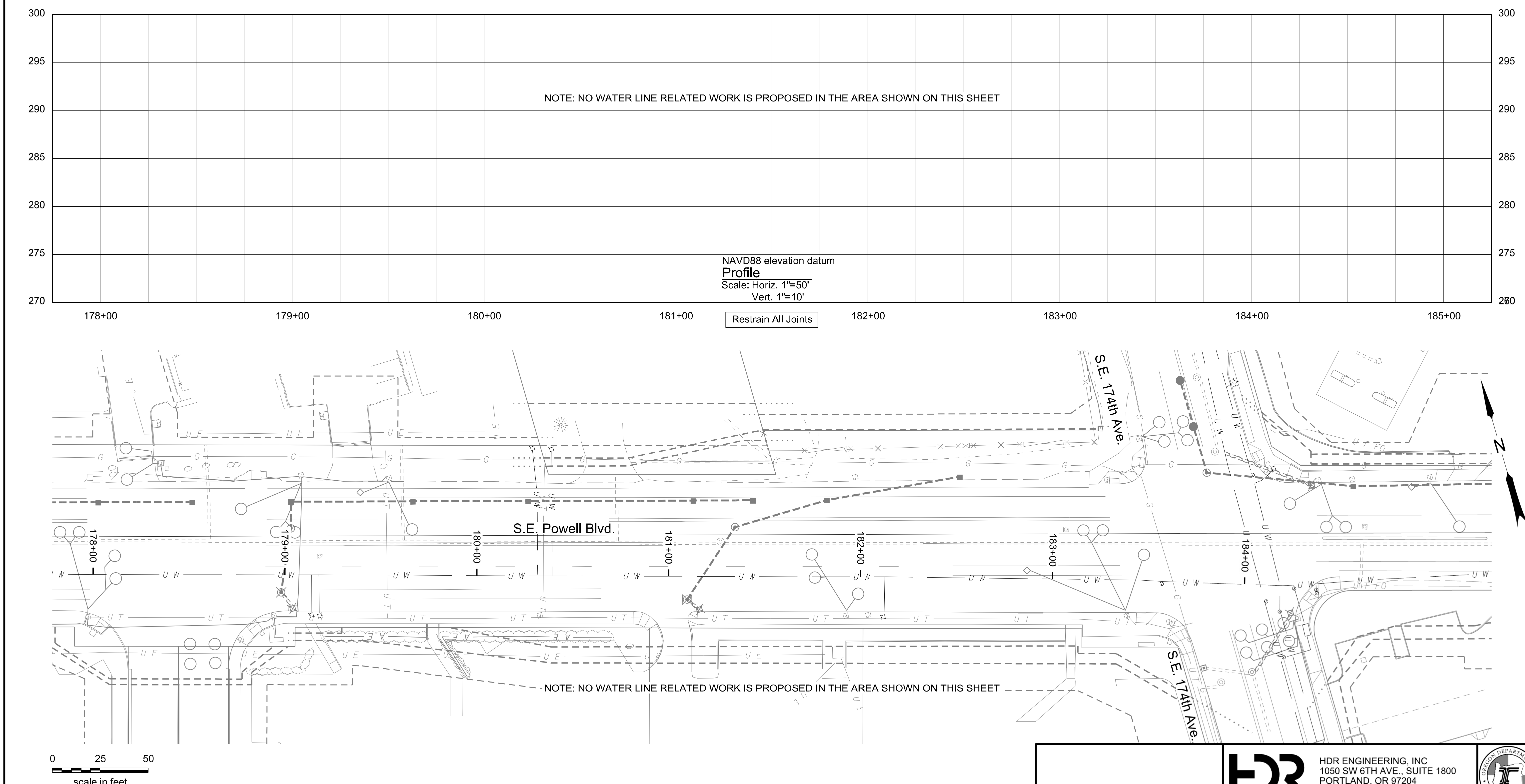
FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

U_K21178_UT03.dgn :: U27 10/21/2021 1:44:18 PM TANGUYEN
Rotation: 344° Scale: 1"=50'



PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

FIRST M. LAST, Engineering Manager, PE No ######

Date

PRELIMINARY
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FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

HDR ENGINEERING, INC
1050 SW 6TH AVE., SUITE 1800
PORTLAND, OR 97204
503.423.3700

US26 (POWELL BLVD):
SE 99TH AVE - EAST CITY LIMITS SEC.
MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl
Reviewer: Paul Woerrlein
Drafter: Tam Nguyen
Checker: Gabe Alvarado

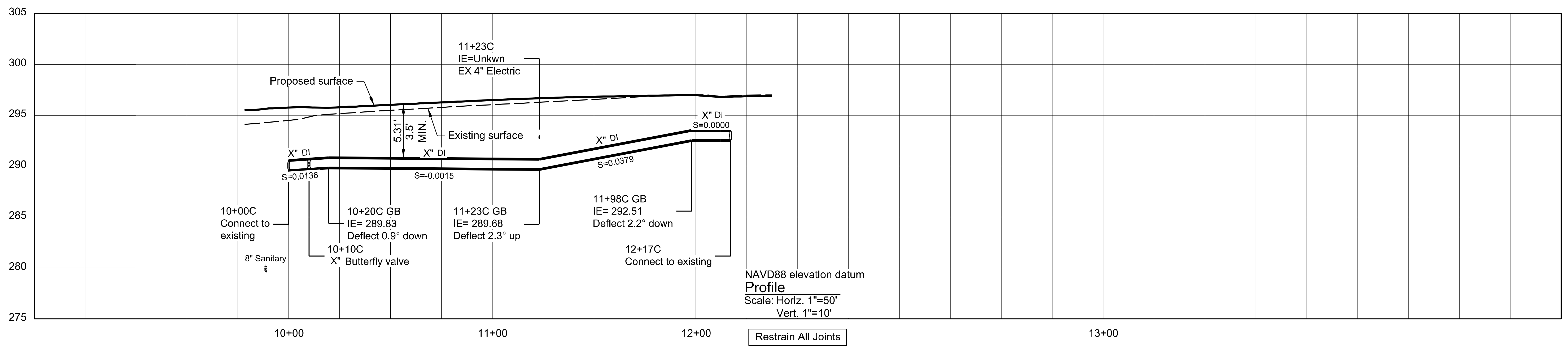
X" DI WATER MAIN (S.E. Powell Blvd.)
S.E. 136th Ave. - S.E. 174th Ave.

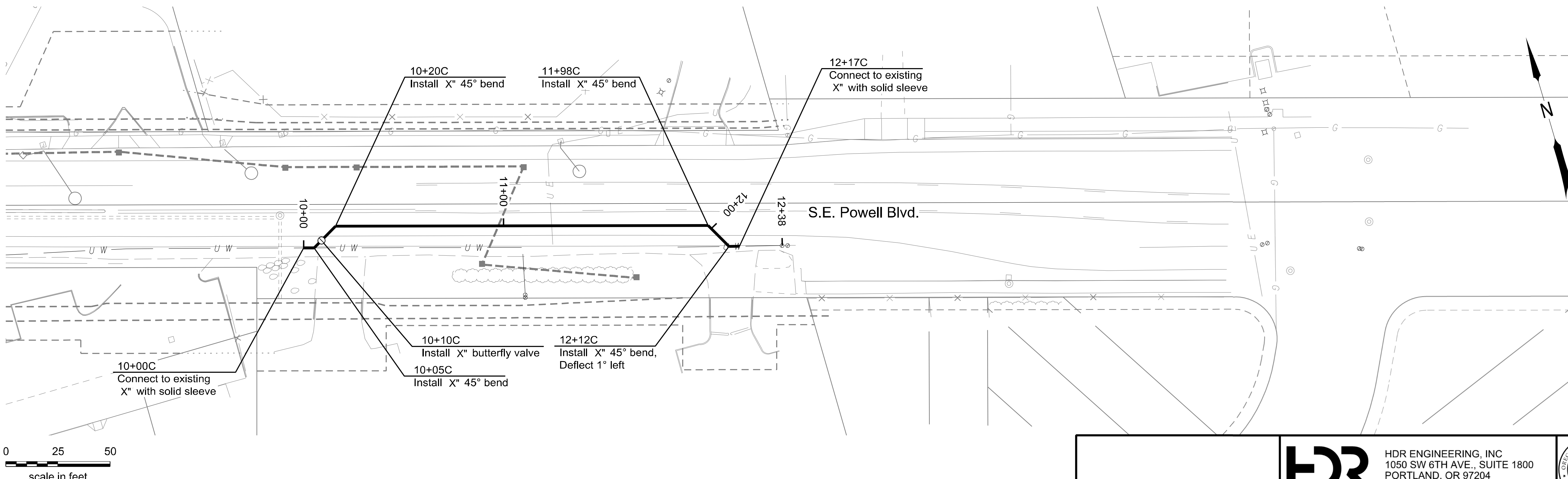
SHEET NO.
U28

Confidential

U_K21178_UT03.dgn :: U28 10/21/2021 1:43:37 PM TANGUYEN

Scale: 1"=50'





PRELIMINARY
NOT FOR CONSTRUCTION

HDR ENGINEERING, INC
1050 SW 6TH AVE., SUITE 1800
PORTLAND, OR 97204
503.423.3700

US26 (POWELL BLVD):
SE 99TH AVE - EAST CITY LIMITS SEC.
MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl
Reviewer: Paul Woerrlein
Drafter: Tam Nguyen
Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
S.E. 136th Ave. - S.E. 174th Ave.

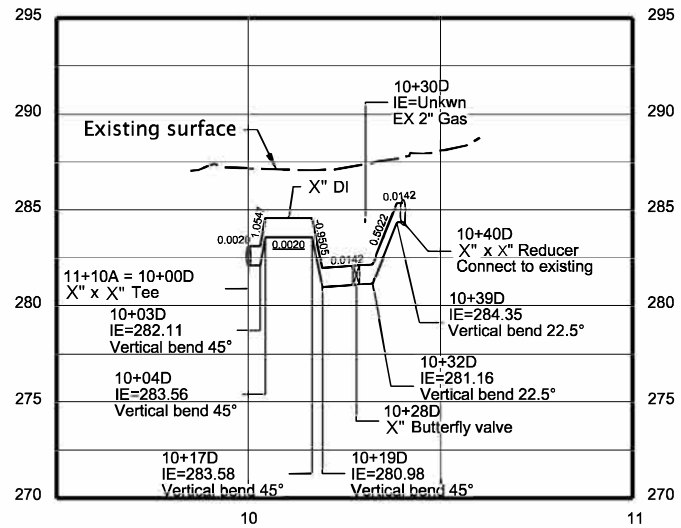
SHEET NO.
U29

FIRST M. LAST, Engineering Manager, PE No ######
Date

Confidential

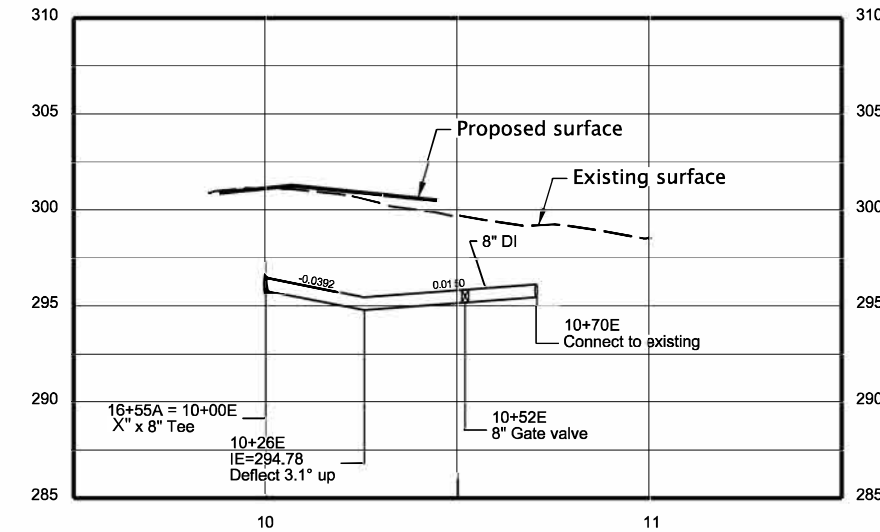
FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

U_K21178_UT03.dgn :: U29 10/21/2021 1:42:53 PM TANGUYEN
Rotation: 344° Scale: 1"=50'



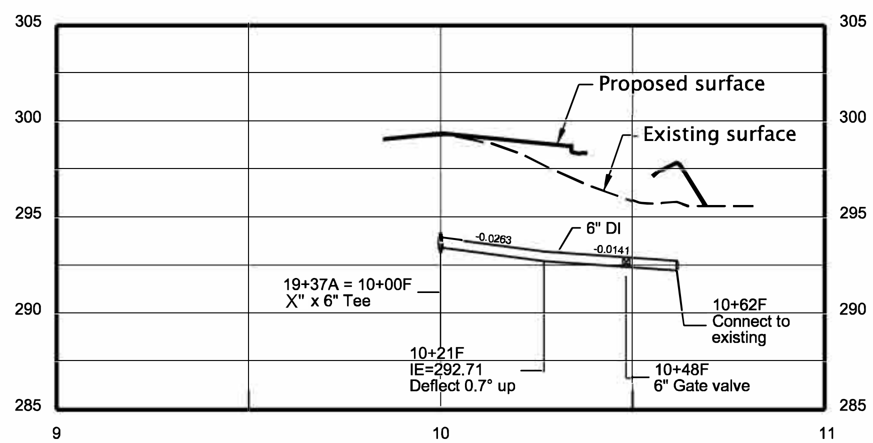
D - KELLY BUTTE ACCESS RD

NAVD88 elevation datum
Profile
Scale: Horiz. 1"=50'
Vert. 1"=10'



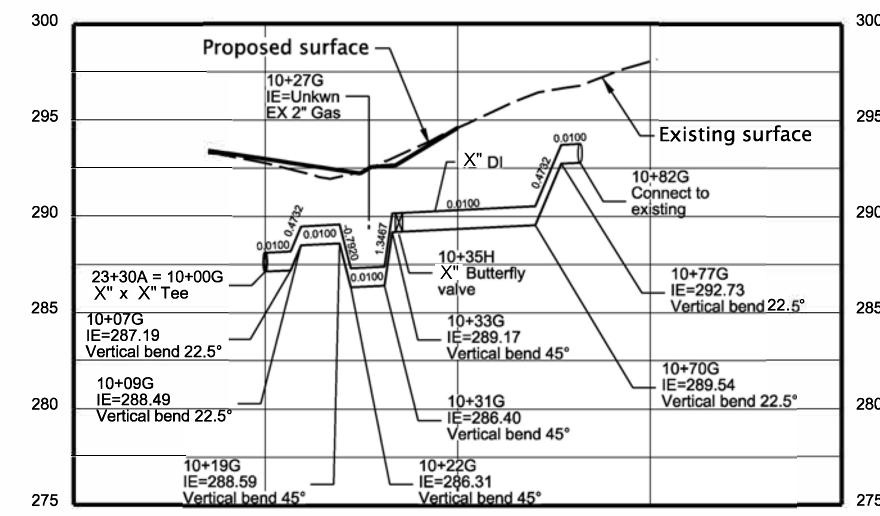
E - 99TH AVE

NAVD88 elevation datum
Profile
Scale: Horiz. 1"=50'
Vert. 1"=10'



F - SE 101ST AVE

NAVD88 elevation datum
Profile
Scale: Horiz. 1"=50'
Vert. 1"=10'



G - PRIVATE DRIVEWAY

NAVD88 elevation datum
Profile
Scale: Horiz. 1"=50'
Vert. 1"=10'

PRELIMINARY
NOT FOR CONSTRUCTION

HDR ENGINEERING, INC
1050 SW 6TH AVE., SUITE 1800
PORTLAND, OR 97204
503.423.3700

US26 (POWELL BLVD):
SE 99TH AVE - EAST CITY LIMITS SEC.
MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl | Reviewer: Paul Woerrlein
Drafter: Tam Nguyen | Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
PROFILES: SIDE STREETS

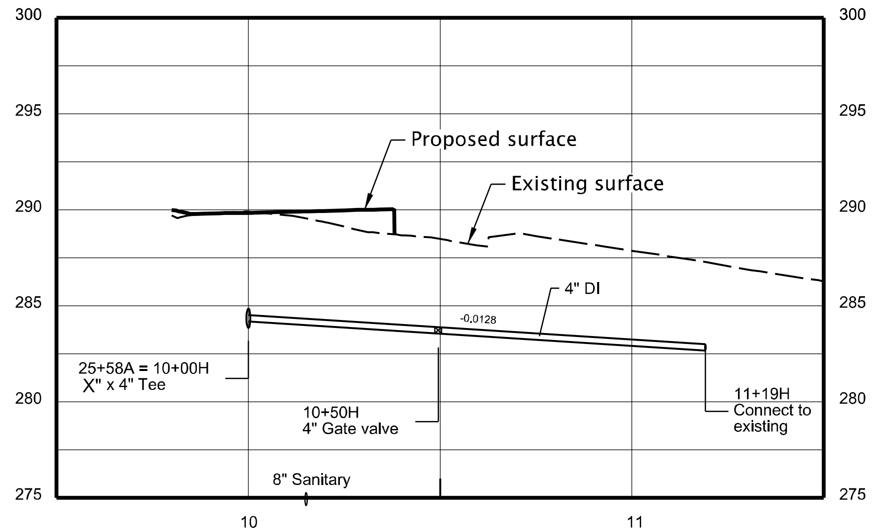
SHEET NO.
U30

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

FIRST M. LAST, Engineering Manager, PE No ###### Date

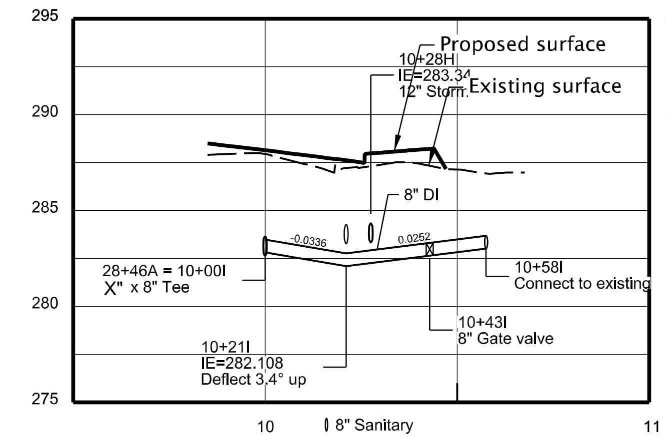
FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

Rotation: 0° Scale: 1"=50'



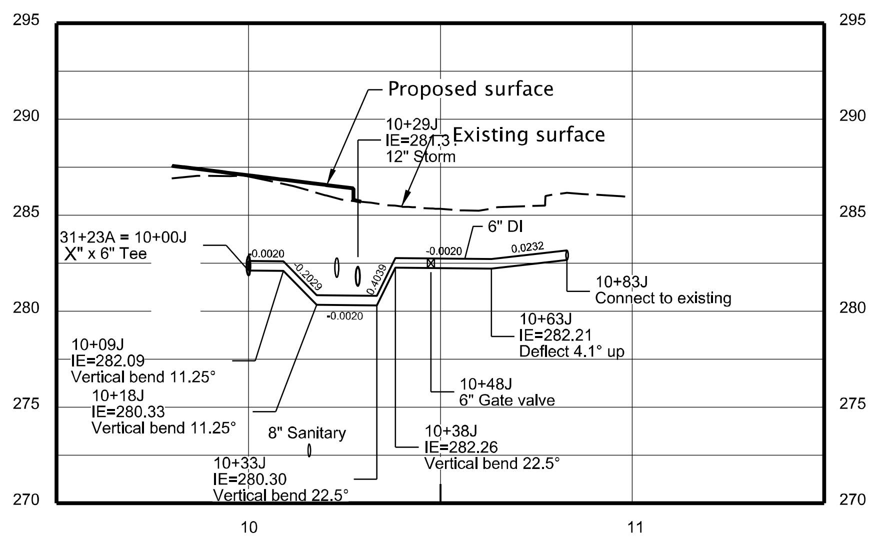
H - 102ND AVE

NAVD88 elevation datum
Profile
Scale: Horiz. 1"=50'
Vert. 1"=10'



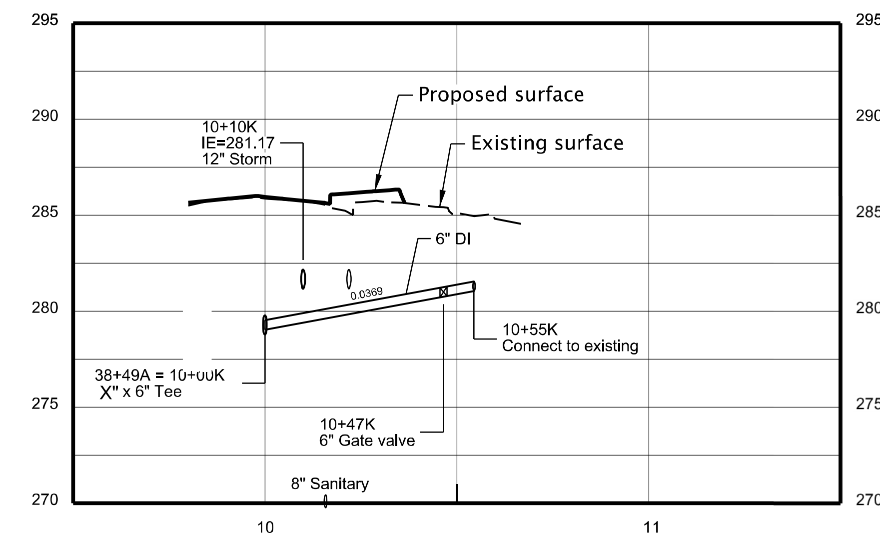
I - PARK ACCESS

NAVD88 elevation datum
Profile
Scale: Horiz. 1"=50'
Vert. 1"=10'



J - 104TH AVE

NAVD88 elevation datum
Profile
Scale: Horiz. 1"=50'
Vert. 1"=10'



K - SE 107TH AVE

NAVD88 elevation datum
Profile
Scale: Horiz. 1"=50'
Vert. 1"=10'

PRELIMINARY
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HDR ENGINEERING, INC
1050 SW 6TH AVE., SUITE 1800
PORTLAND, OR 97204
503.423.3700

US26 (POWELL BLVD):
SE 99TH AVE - EAST CITY LIMITS SEC.
MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl | Reviewer: Paul Woerrlein
Drafter: Tam Nguyen | Checker: Gabe Alvarado

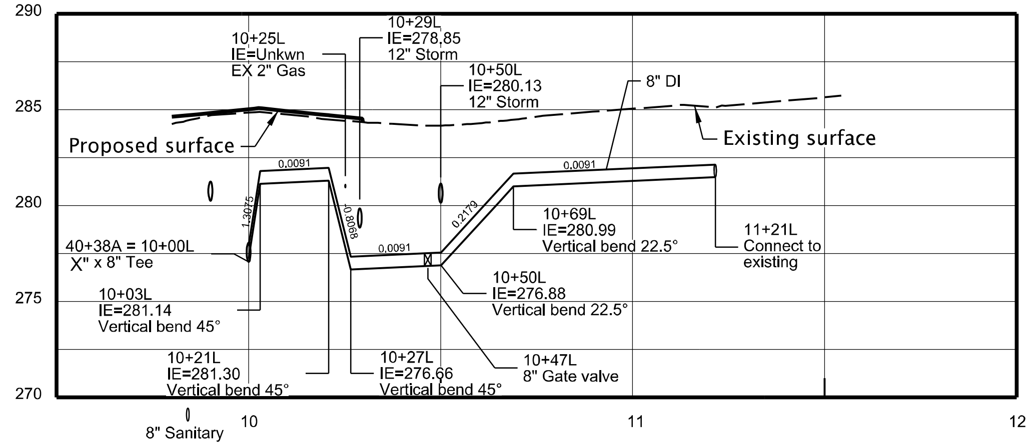
X" DI WATER MAIN (S.E. Powell Blvd.)
PROFILES: SIDE STREETS

SHEET NO.
U31

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

FIRST M. LAST, Engineering Manager, PE No ######
Date

Confidential

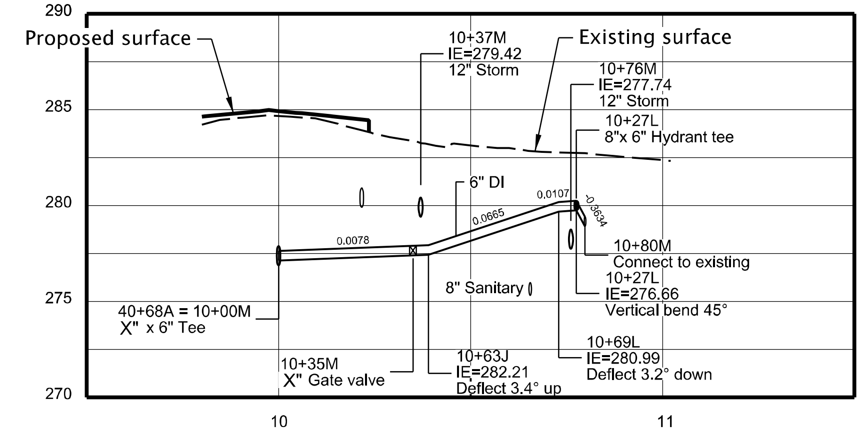


L - 108TH AVE

NAVD88 elevation datum

Profile

Scale: Horiz. 1"=50'
Vert. 1"=10'

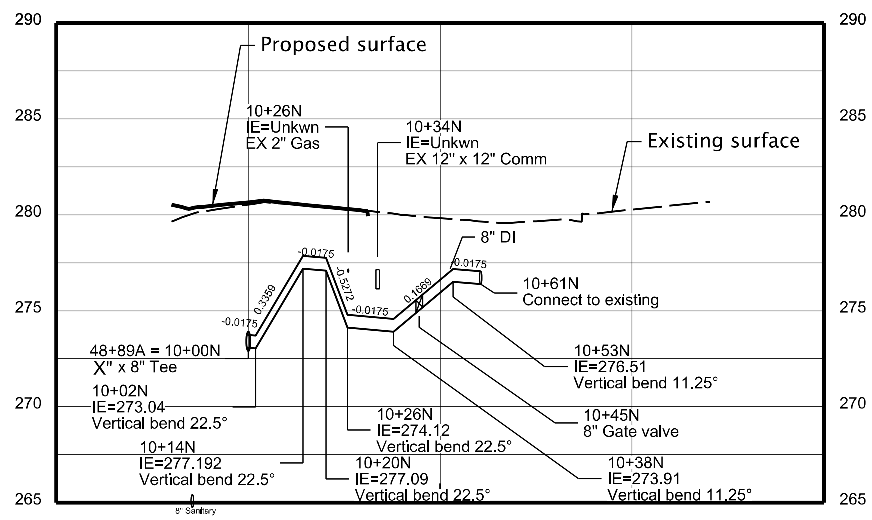


M - 108TH AVE

NAVD88 elevation datum

Profile

Scale: Horiz. 1"=50'
Vert. 1"=10'

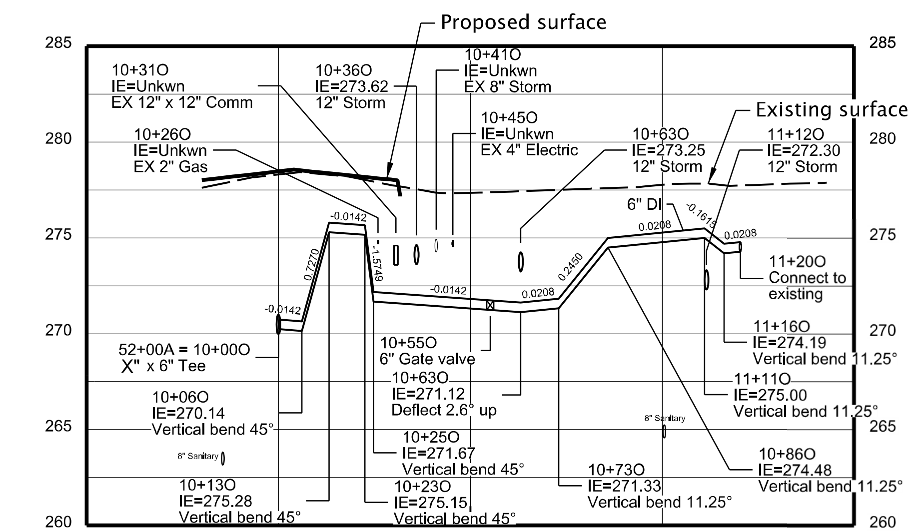


N - 111TH AVE

NAVD88 elevation datum

Profile

Scale: Horiz. 1"=50'
Vert. 1"=10'



O - 112TH AVE

NAVD88 elevation datum

Profile

Scale: Horiz. 1"=50'
Vert. 1"=10'

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

FIRST M. LAST, Engineering Manager, PE No ###### Date

PRELIMINARY
NOT FOR CONSTRUCTION

HDR ENGINEERING, INC
1050 SW 6TH AVE., SUITE 1800
PORTLAND, OR 97204
503.423.3700

US26 (POWELL BLVD):
SE 99TH AVE - EAST CITY LIMITS SEC.
MT. HOOD HWY.
MULTNOMAH COUNTY

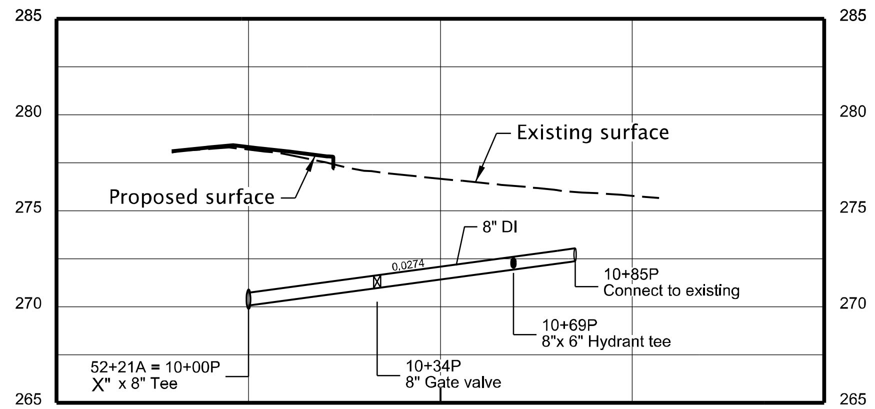
Designer: Sean Asl | Reviewer: Paul Woerrlein
Drafter: Tam Nguyen | Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
PROFILES: SIDE STREETS

SHEET NO.
U32

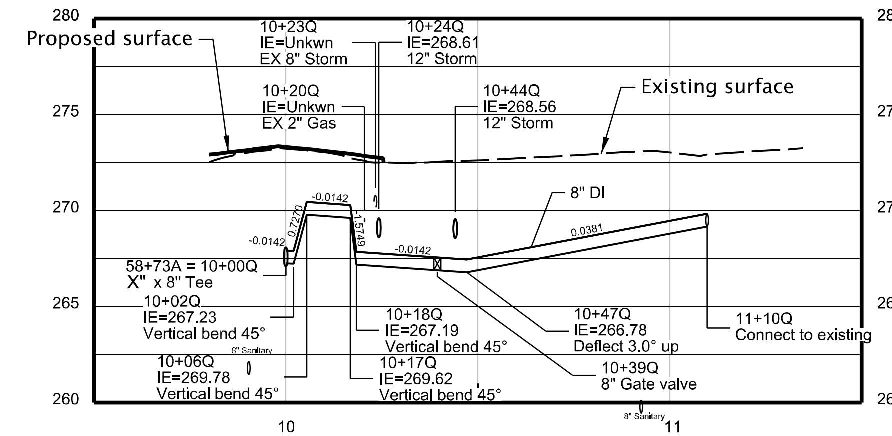
Confidential

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST



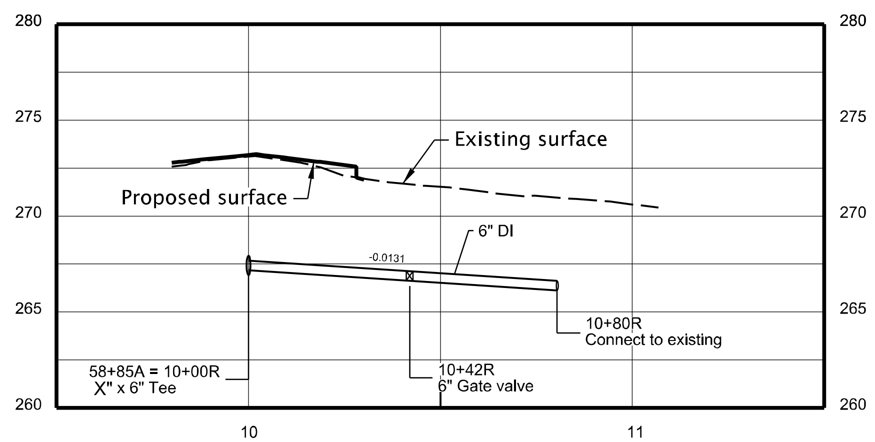
P - 112TH AVE

NAVD88 elevation datum
Profile
Scale: Horiz. 1"=50'
Vert. 1"=10'



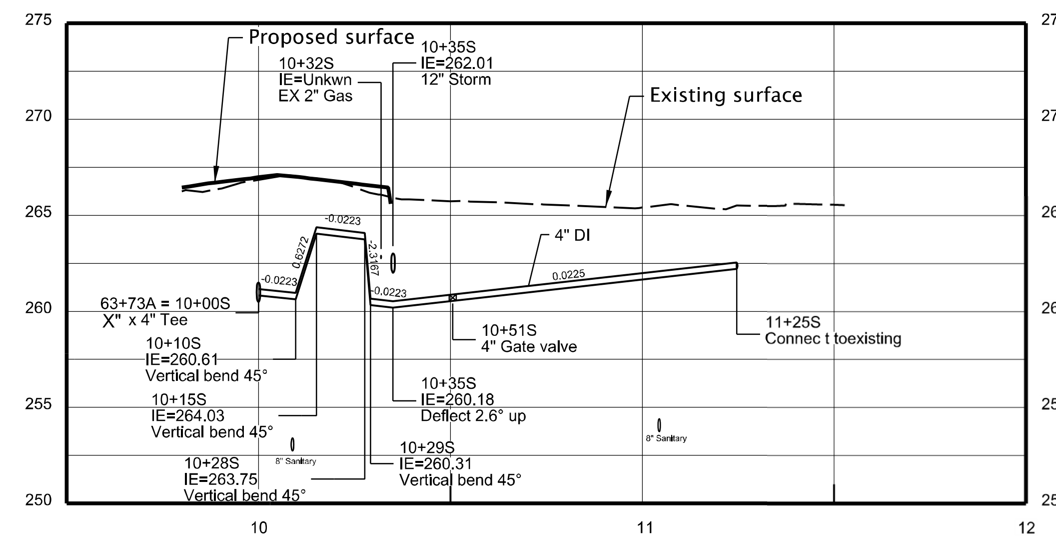
Q - 115TH AVE

NAVD88 elevation datum
Profile
Scale: Horiz. 1"=50'
Vert. 1"=10'



R - 115TH AVE

NAVD88 elevation datum
Profile
Scale: Horiz. 1"=50'
Vert. 1"=10'



S - 116TH AVE

NAVD88 elevation datum
Profile
Scale: Horiz. 1"=50'
Vert. 1"=10'

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HDR ENGINEERING, INC
1050 SW 6TH AVE., SUITE 1800
PORTLAND, OR 97204
503.423.3700

US26 (POWELL BLVD):
SE 99TH AVE - EAST CITY LIMITS SEC.
MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl | Reviewer: Paul Woerrlein
Drafter: Tam Nguyen | Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
PROFILES: SIDE STREETS

SHEET NO.
U33

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

FIRST M. LAST, Engineering Manager, PE No ###### Date

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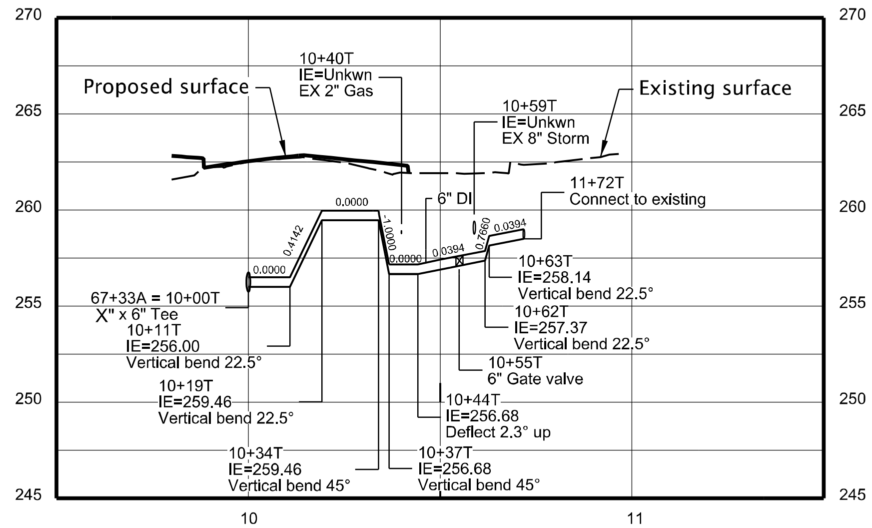
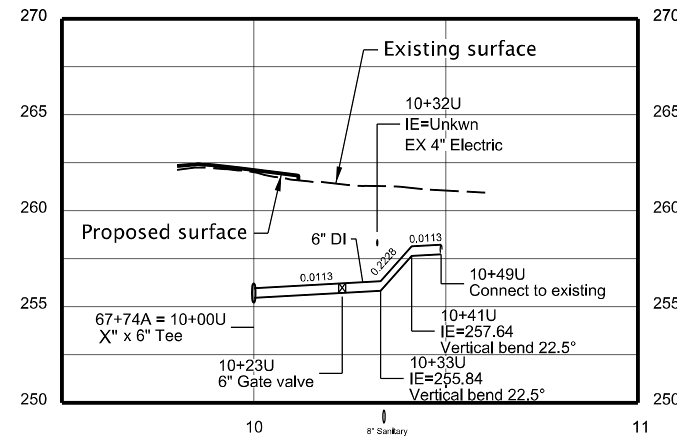


T - 118TH AVE

NAVD88 elevation datum

Profile

Scale: Horiz. 1"=50'
Vert. 1"=10'

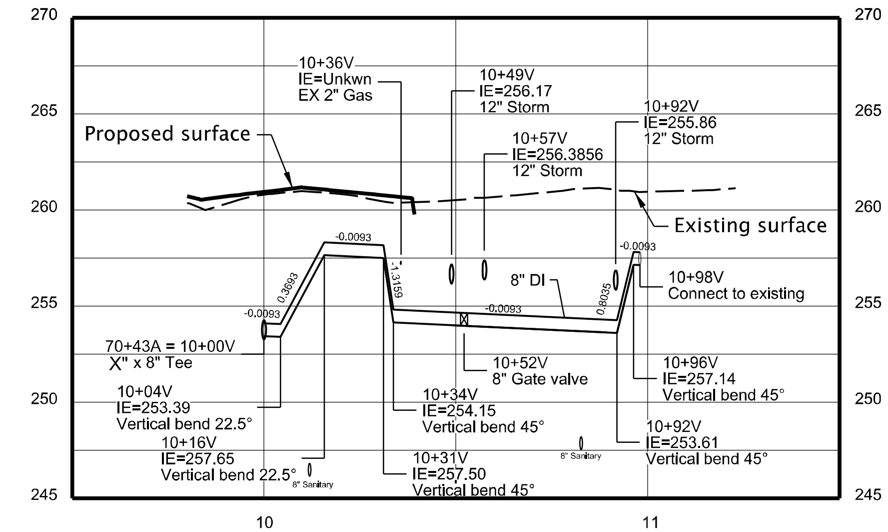


U - 118TH AVE

NAVD88 elevation datum

Profile

Scale: Horiz. 1"=50'
Vert. 1"=10'

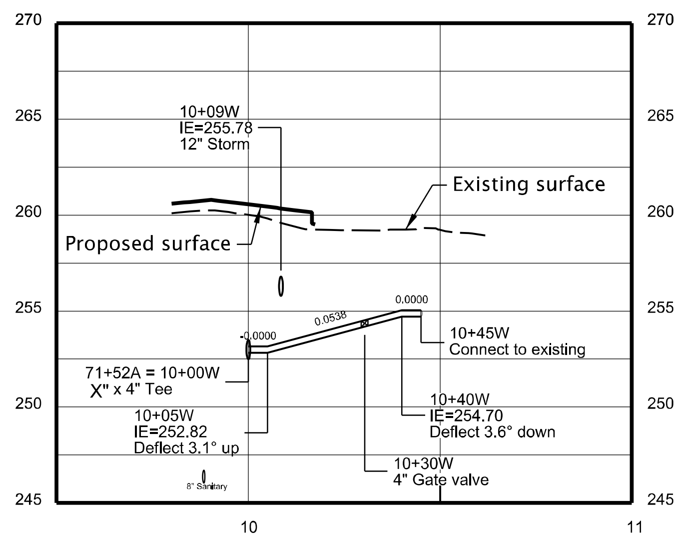


V - 119TH AVE

NAVD88 elevation datum

Profile

Scale: Horiz. 1"=50'
Vert. 1"=10'

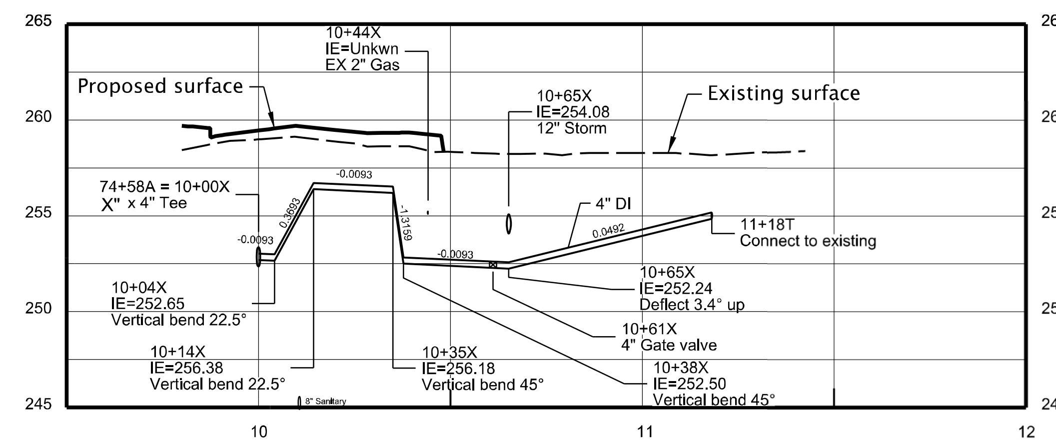


W - 119TH AVE

NAVD88 elevation datum

Profile

Scale: Horiz. 1"=50'
Vert. 1"=10'



X - 120TH AVE

NAVD88 elevation datum

Profile

Scale: Horiz. 1"=50'
Vert. 1"=10'

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PORTLAND WATER BUREAU
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Date

CITY OF PORTLAND OREGON 1851

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PORTLAND, OR 97204
503.423.3700

OREGON DEPARTMENT OF TRANSPORTATION

US26 (POWELL BLVD):
SE 99TH AVE - EAST CITY LIMITS SEC.
MT. HOOD HWY.
MULTNOMAH COUNTY

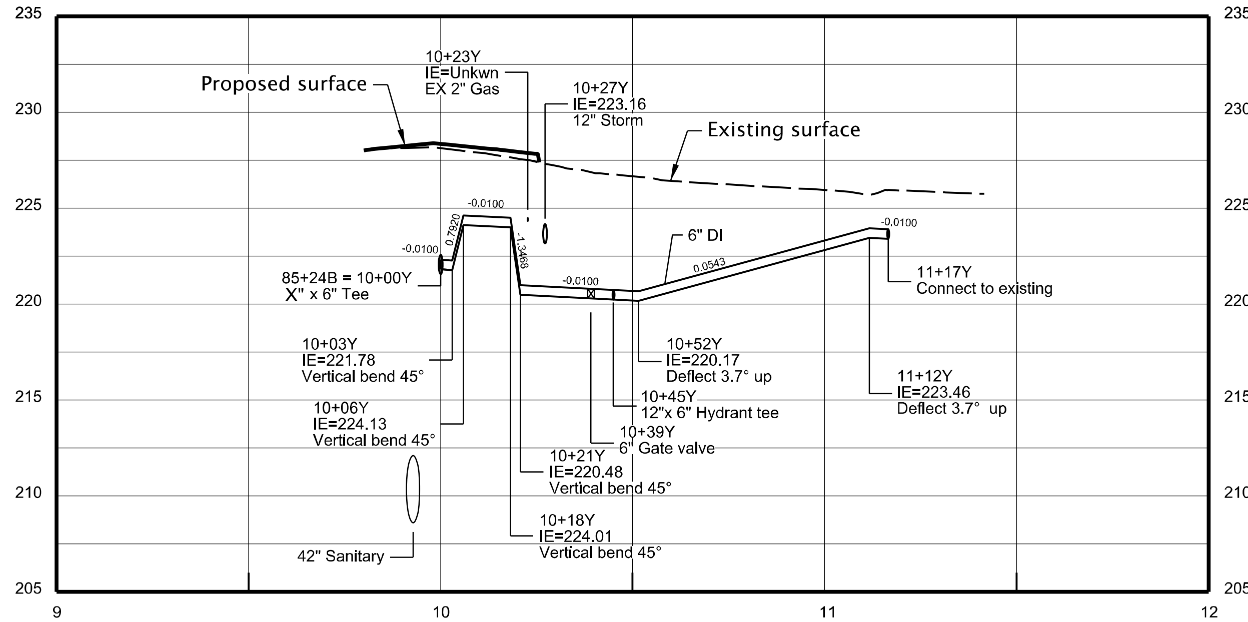
Designer: Sean Asl | Reviewer: Paul Woerrlein
Drafter: Tam Nguyen | Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
PROFILES: SIDE STREETS

SHEET NO.
U34

U_K21178_UT04.dgn :: U34 10/21/2021 1:58:12 PM TANGUYEN

Rotation: 0° Scale: 1"=50'

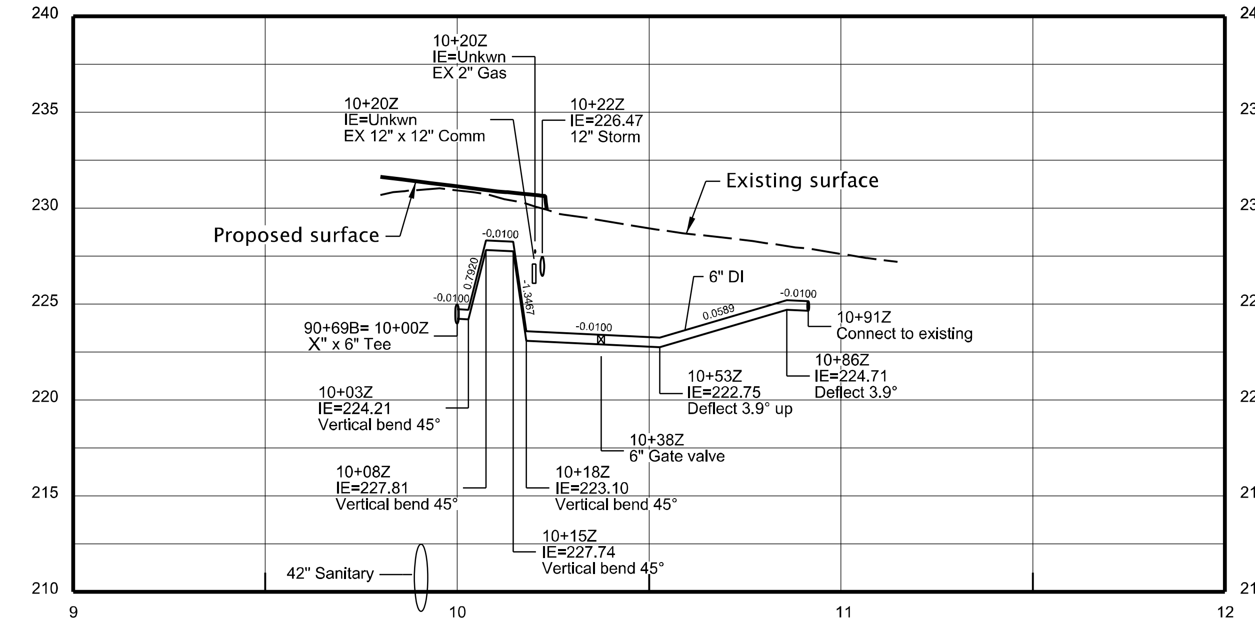


Y - 138TH AVE

NAVD88 elevation datum

Profile

Scale: Horiz. 1"=50'
Vert. 1"=10'

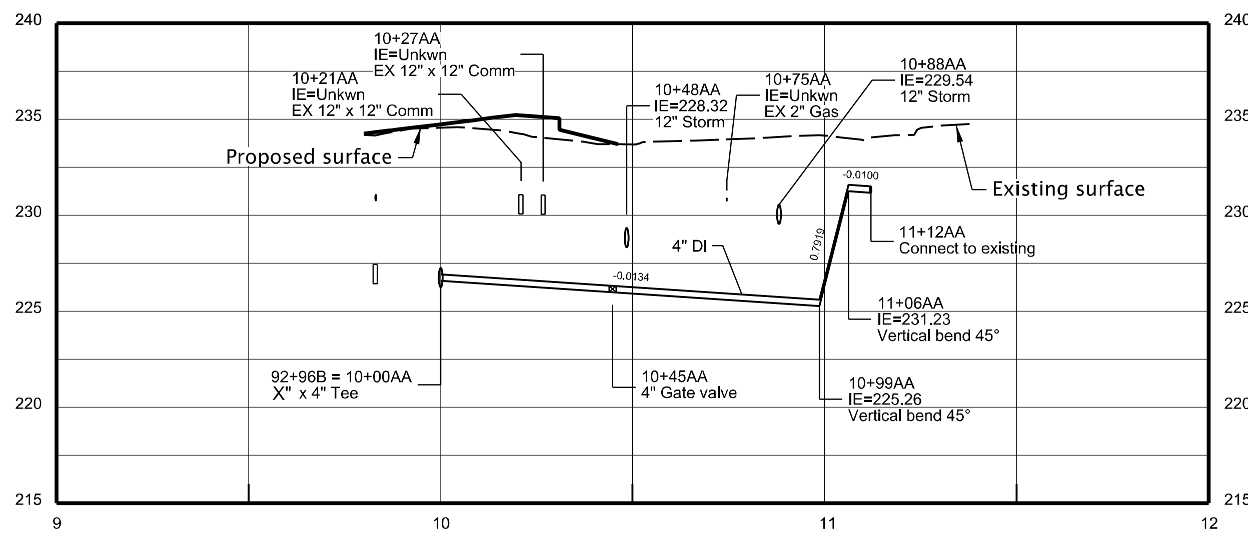


Z - 140TH AVE

NAVD88 elevation datum

Profile

Scale: Horiz. 1"=50'
Vert. 1"=10'

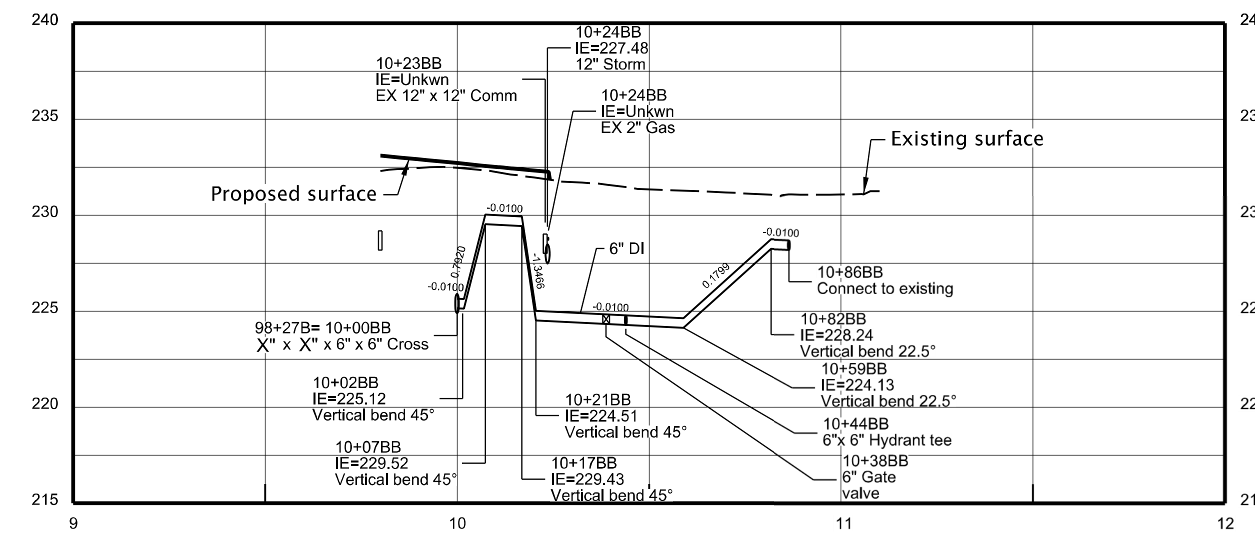


AA - 141ST AVE

NAVD88 elevation datum

Profile

Scale: Horiz. 1"=50'
Vert. 1"=10'



BB - 143RD AVE - North

NAVD88 elevation datum

Profile

Scale: Horiz. 1"=50'
Vert. 1"=10'

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MULTNOMAH COUNTY

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Drafter: Tam Nguyen | Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
PROFILES: SIDE STREETS

SHEET NO.
U35

PORTLAND WATER BUREAU
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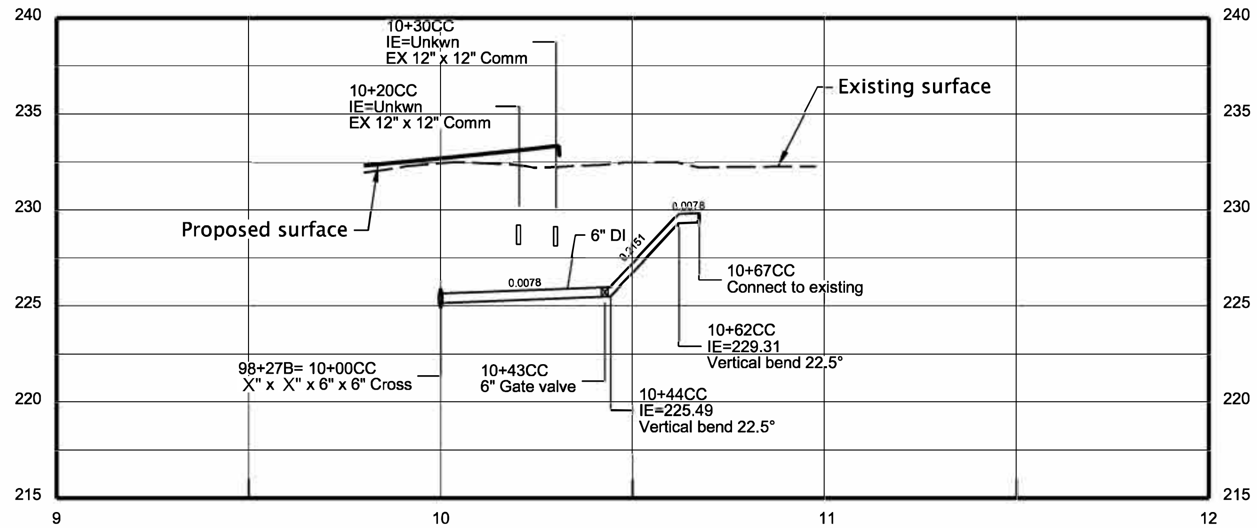
U_K21178_UT05.dgn :: U35 10/21/2021 1:59:19 PM TANGUYEN

Rotation: 0° Scale: 1"=50'

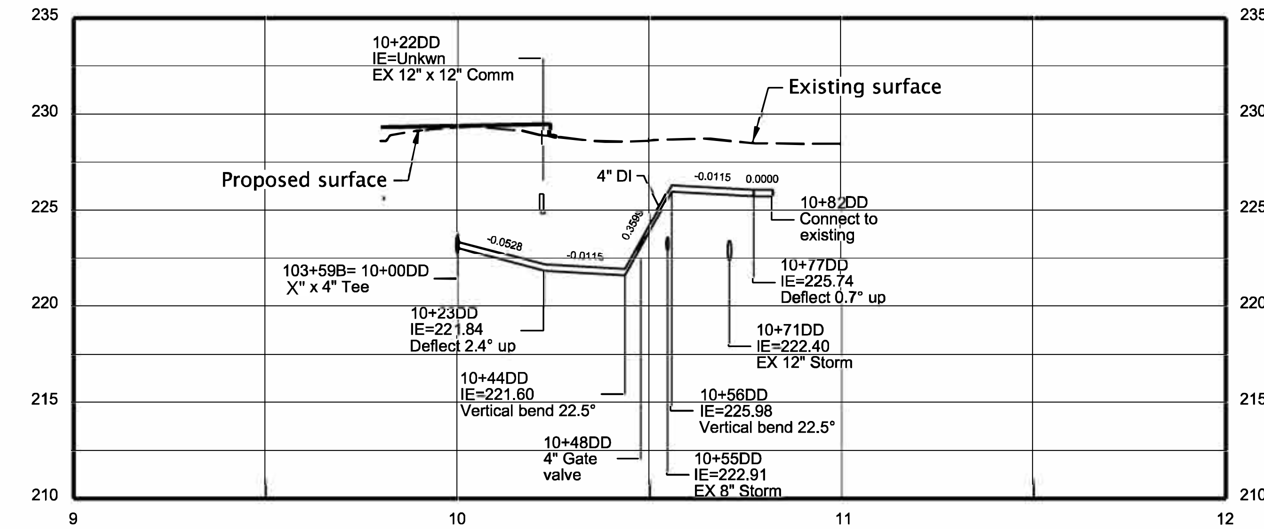


CC - 143RD AVE - South

NAVD88 elevation datum

Profile

Scale: Horiz. 1"=50'
Vert. 1"=10'

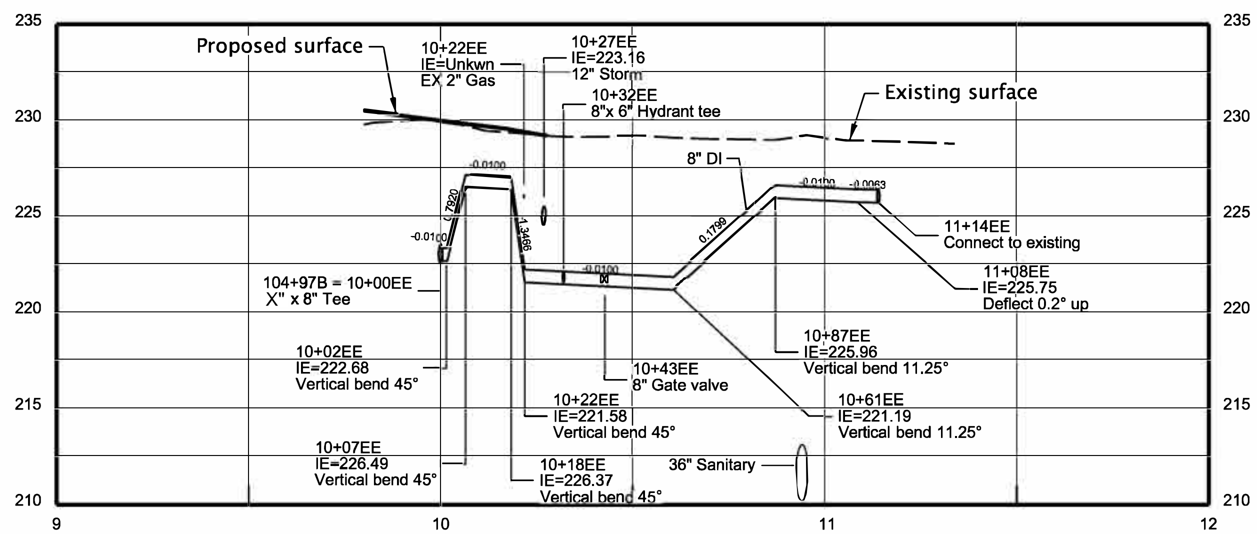


DD - 144TH AVE

NAVD88 elevation datum

Profile

Scale: Horiz. 1"=50'
Vert. 1"=10'

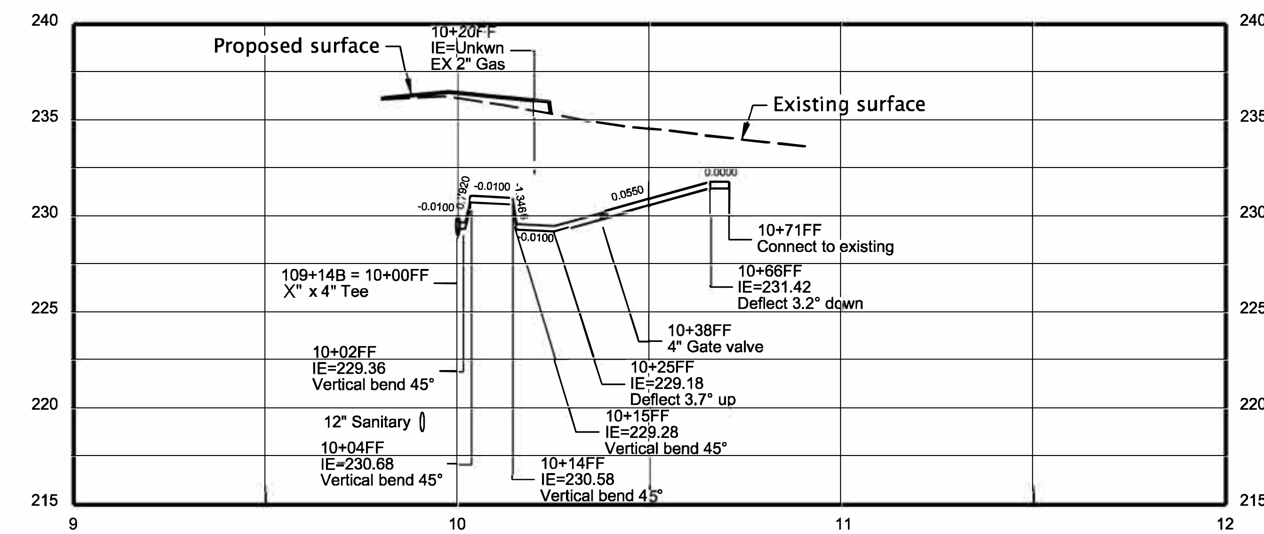


EE - 145TH AVE

NAVD88 elevation datum

Profile

Scale: Horiz. 1"=50'
Vert. 1"=10'



FF - 147TH AVE

NAVD88 elevation datum

Profile

Scale: Horiz. 1"=50'
Vert. 1"=10'

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MULTNOMAH COUNTY

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X" DI WATER MAIN (S.E. Powell Blvd.)
PROFILES: SIDE STREETS

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U36

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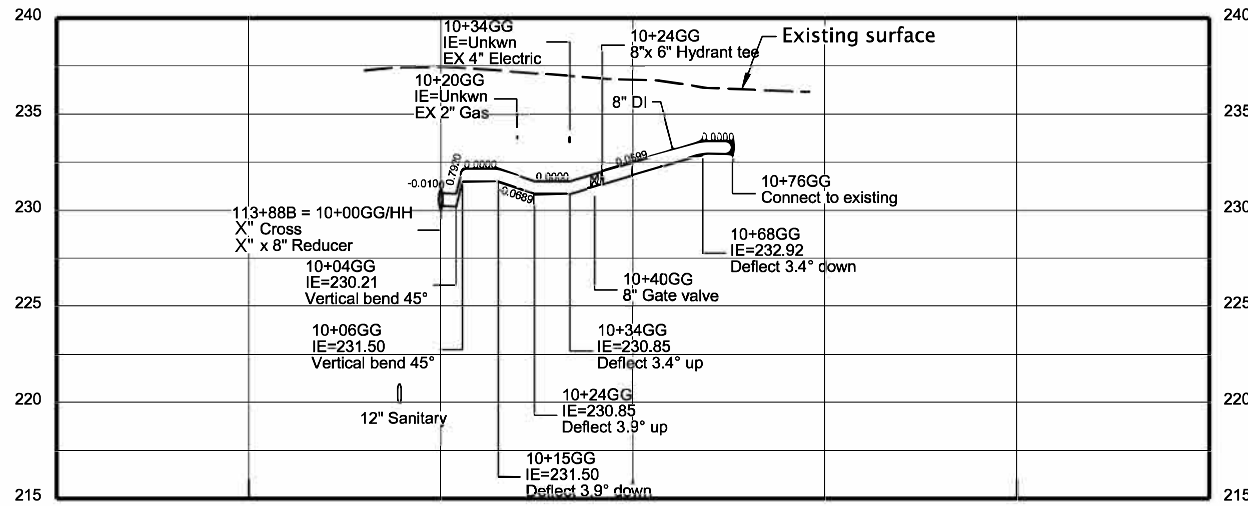
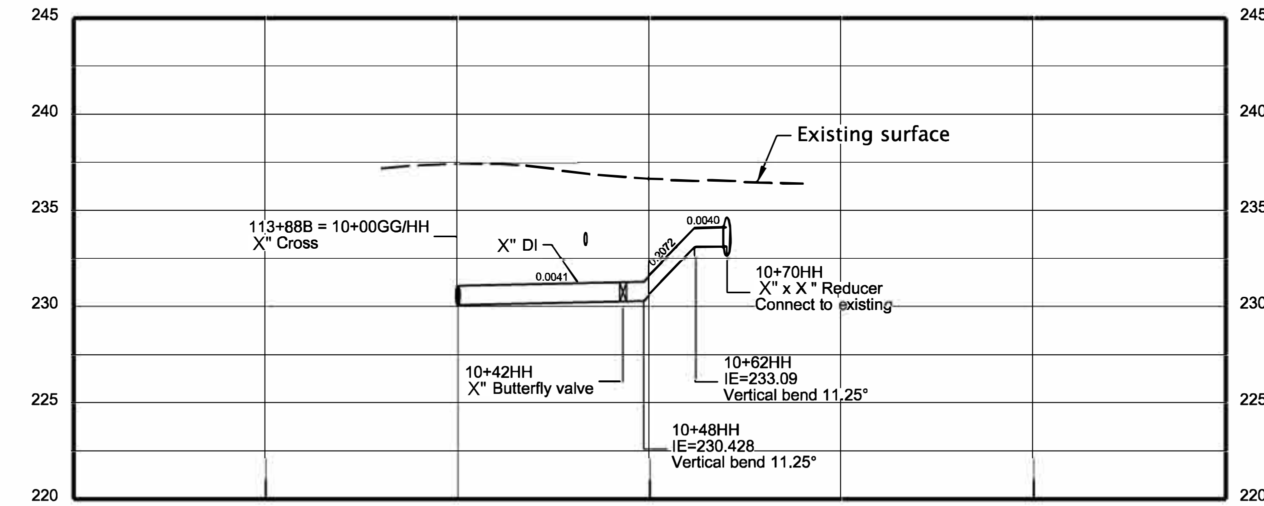


GG - 148TH AVE - North

NAVD88 elevation datum

Profile

Scale: Horiz. 1"=50'
Vert. 1"=10'

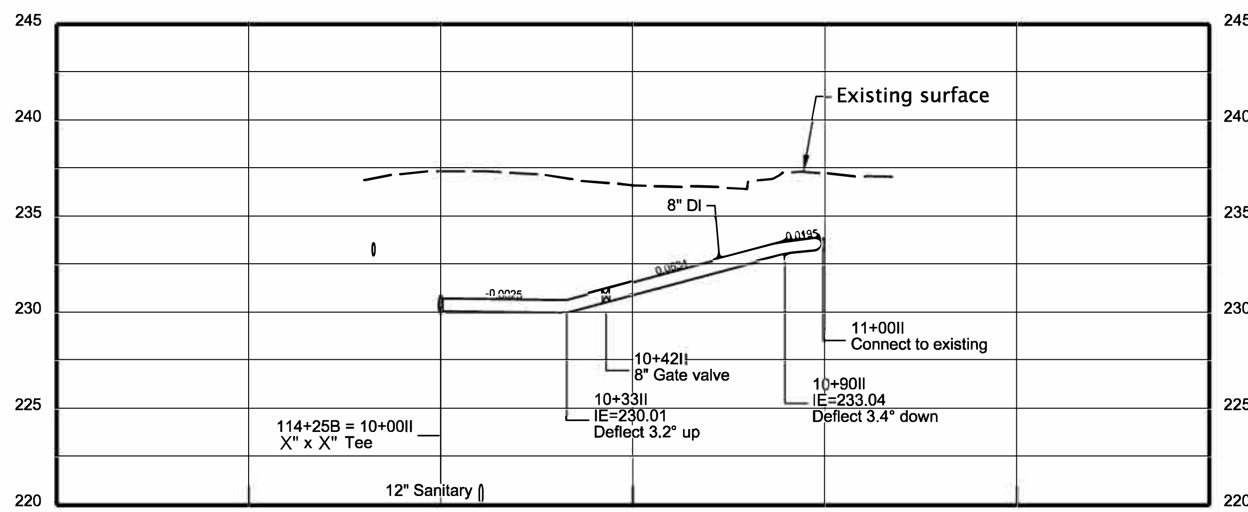


HH - 148TH AVE - South

NAVD88 elevation datum

Profile

Scale: Horiz. 1"=50'
Vert. 1"=10'

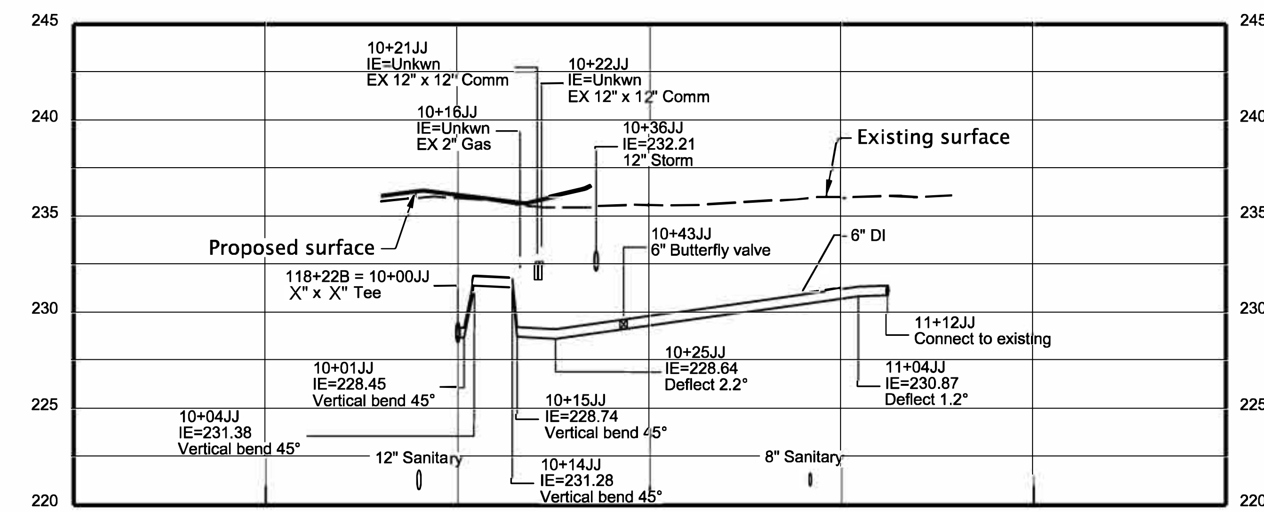


II - 148TH AVE - South

NAVD88 elevation datum

Profile

Scale: Horiz. 1"=50'
Vert. 1"=10'



JJ - 150TH AVE

NAVD88 elevation datum

Profile

Scale: Horiz. 1"=50'
Vert. 1"=10'

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MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl	Reviewer: Paul Woerrlein
Drafter: Tam Nguyen	Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
PROFILES: SIDE STREETS

SHEET NO.
U37

PORTLAND WATER BUREAU
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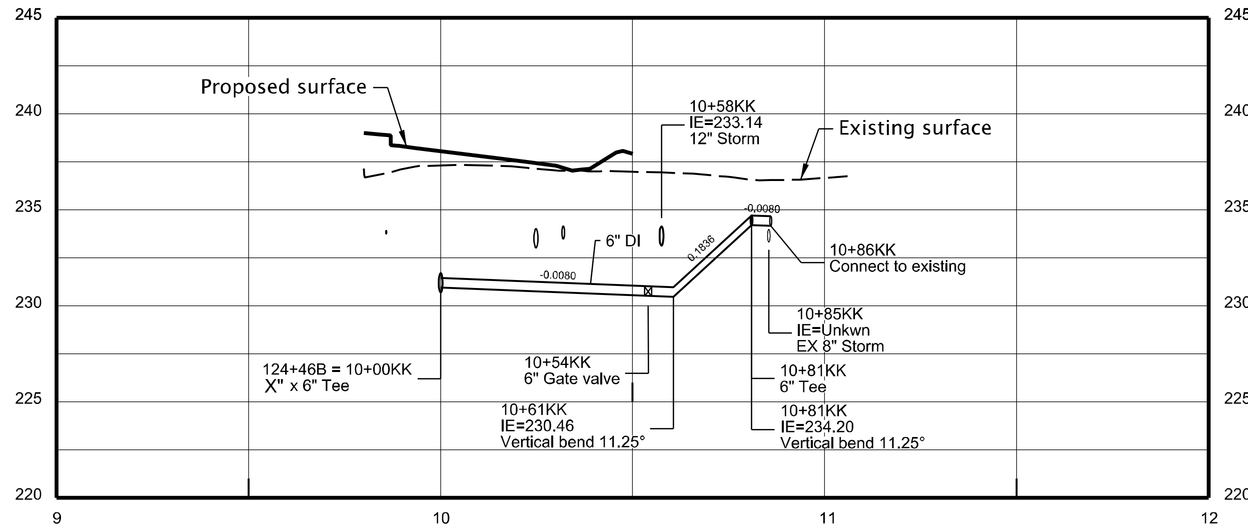
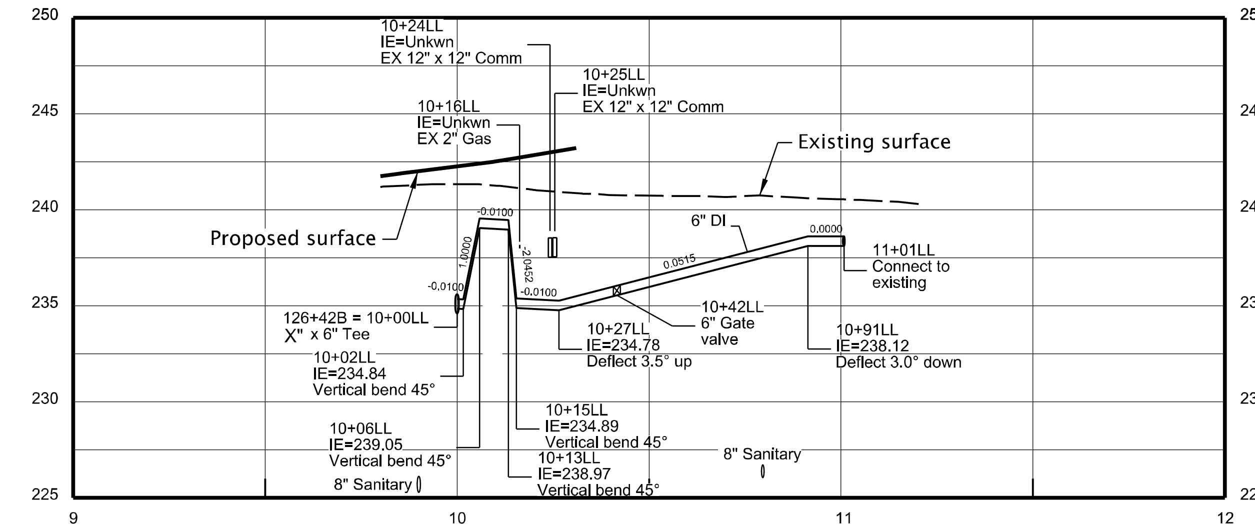


KK - 151ST AVE

NAVD88 elevation datum

Profile

Scale: Horiz. 1"=50'
Vert. 1"=10'

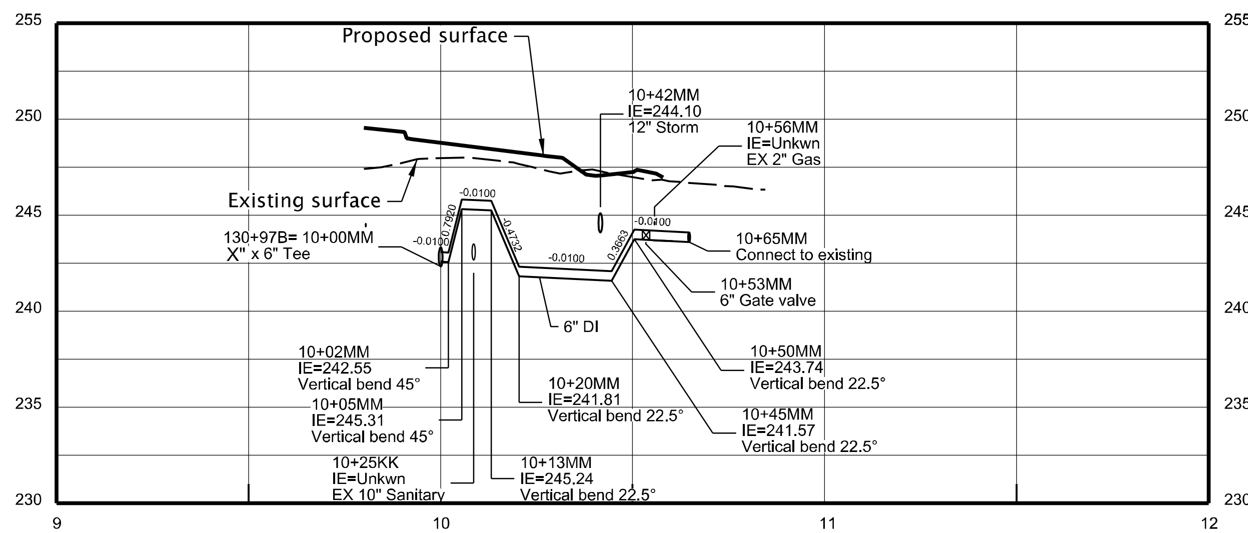


LL - 153RD AVE

NAVD88 elevation datum

Profile

Scale: Horiz. 1"=50'
Vert. 1"=10'

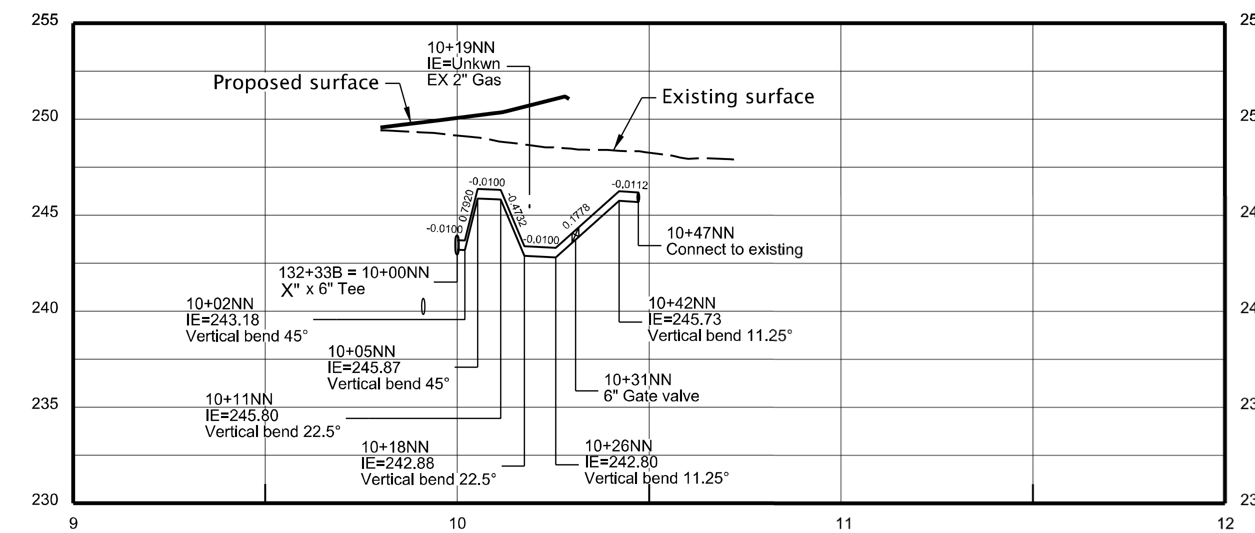


MM - 154TH AVE

NAVD88 elevation datum

Profile

Scale: Horiz. 1"=50'
Vert. 1"=10'



NN - 156TH AVE

NAVD88 elevation datum

Profile

Scale: Horiz. 1"=50'
Vert. 1"=10'

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MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl | Reviewer: Paul Woerrlein
Drafter: Tam Nguyen | Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
PROFILES: SIDE STREETS

SHEET NO.
U38

PORTLAND WATER BUREAU
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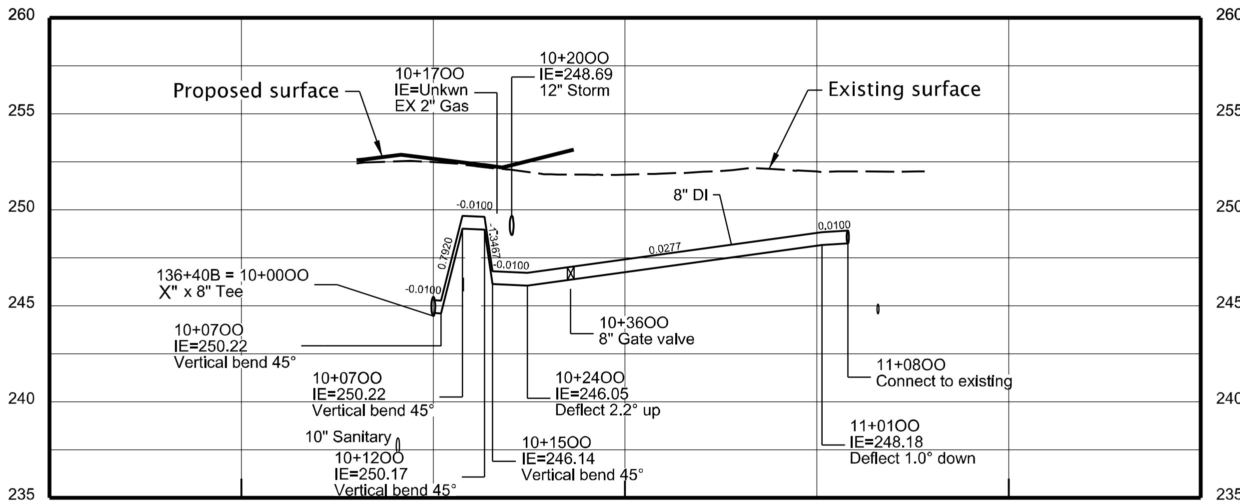
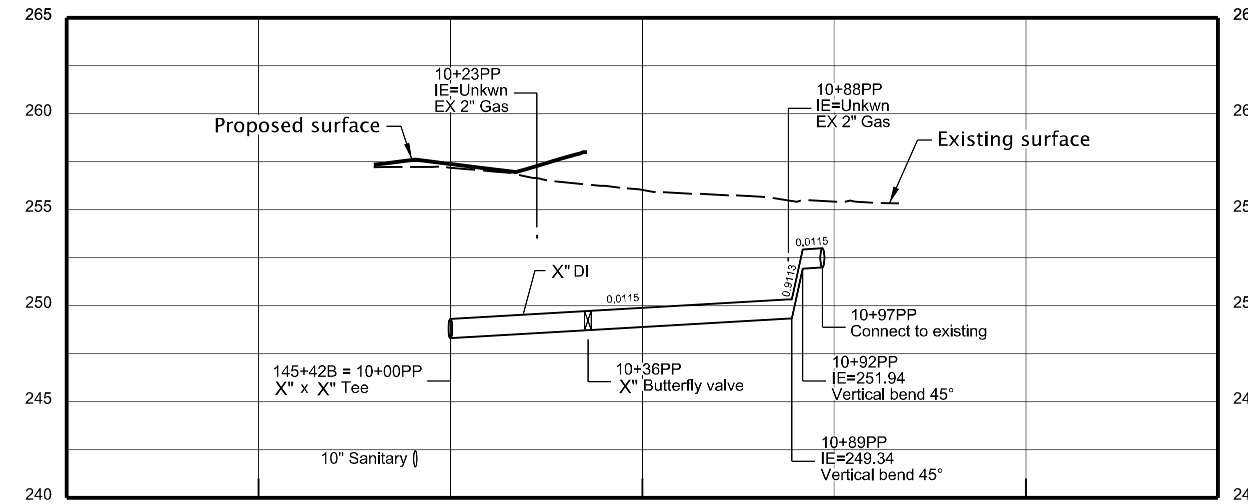


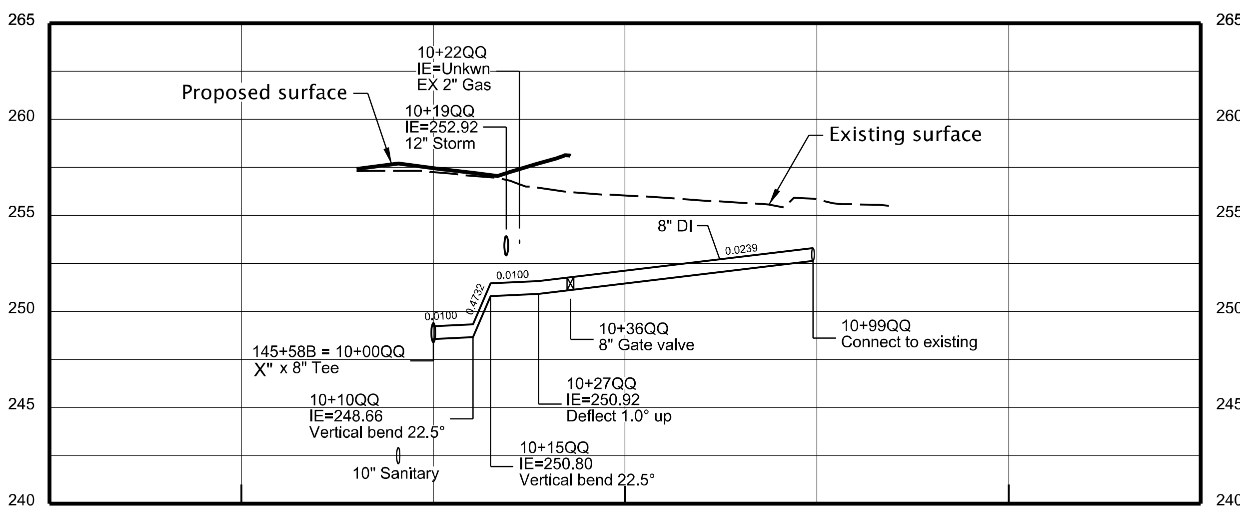
OO - 157TH AVE

NAVD88 elevation datum
Profile
Scale: Horiz. 1"=50'
Vert. 1"=10'



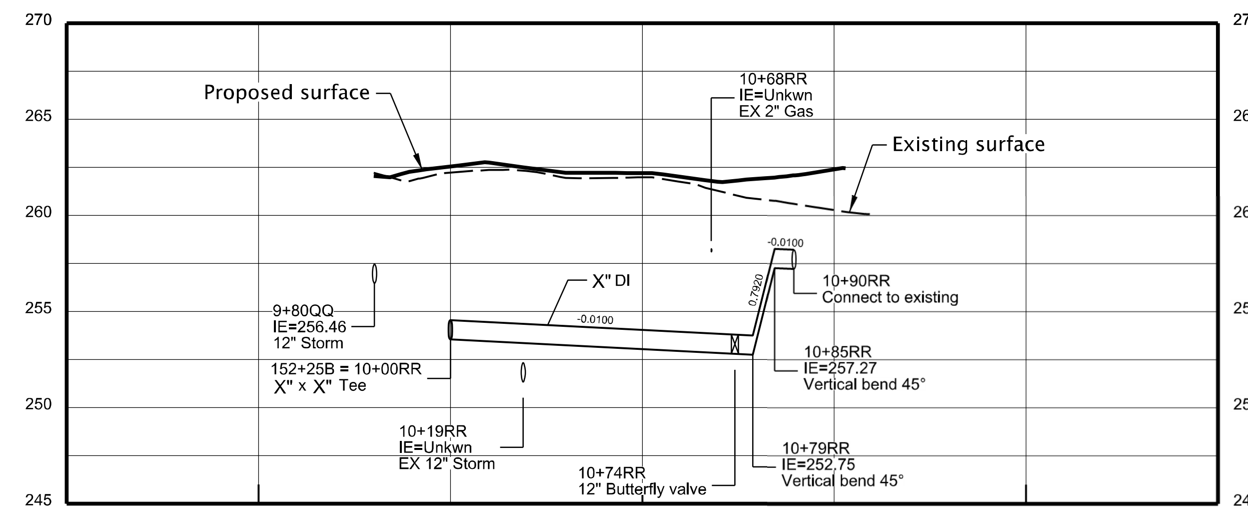
PP - 160TH AVE - NorthWest

NAVD88 elevation datum
Profile
Scale: Horiz. 1"=50'
Vert. 1"=10'



QQ - 160TH AVE - NorthEast

NAVD88 elevation datum
Profile
Scale: Horiz. 1"=50'
Vert. 1"=10'



RR - 162ND AVE - North

NAVD88 elevation datum
Profile
Scale: Horiz. 1"=50'
Vert. 1"=10'

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MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl
Reviewer: Paul Woerrlein
Drafter: Tam Nguyen
Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
PROFILES: SIDE STREETS

SHEET NO.
U39

PORTLAND WATER BUREAU
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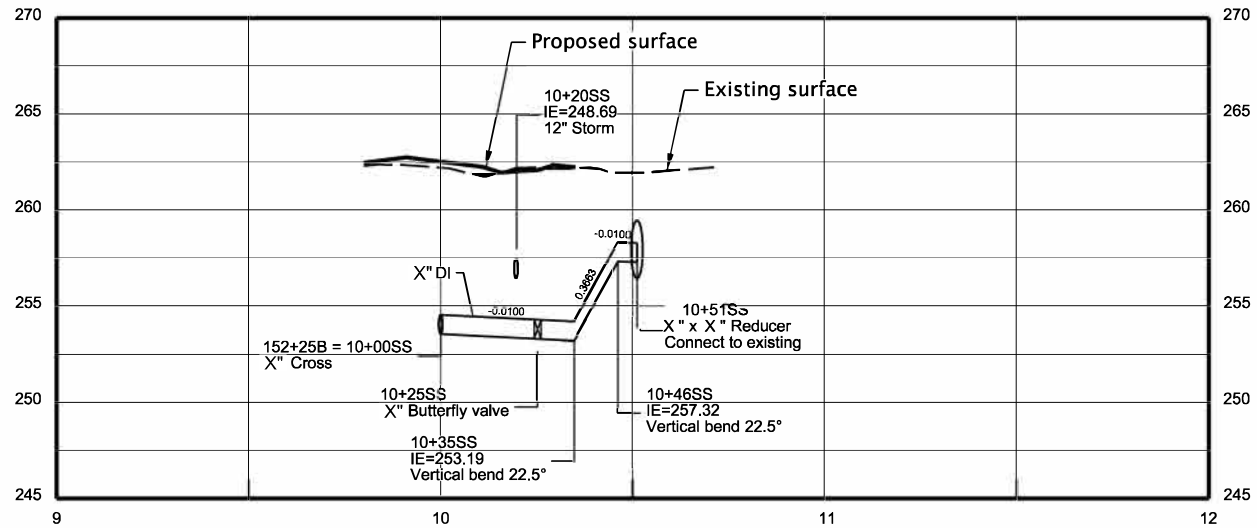
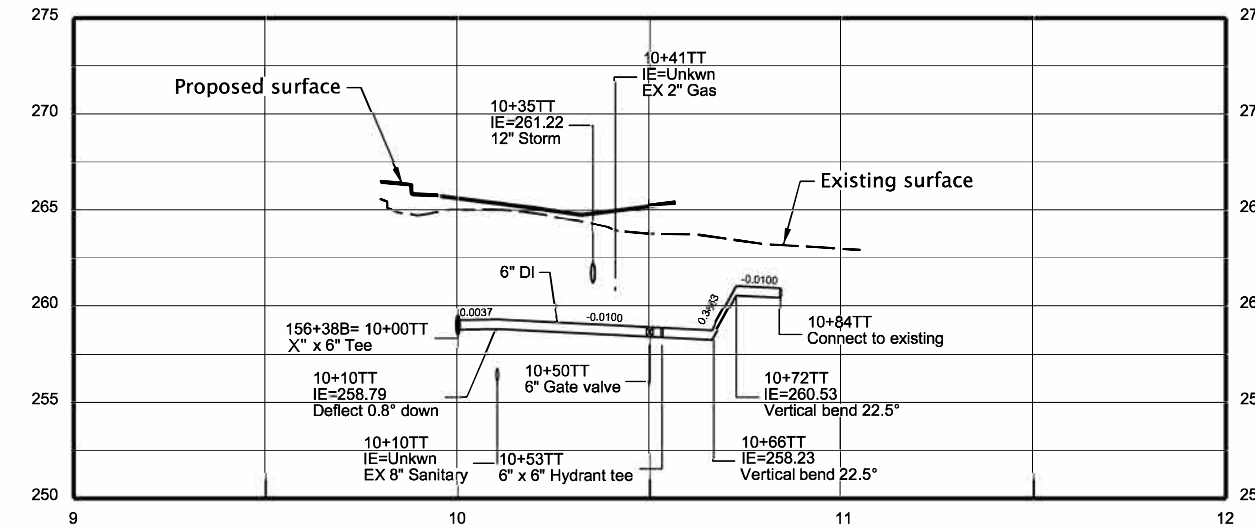


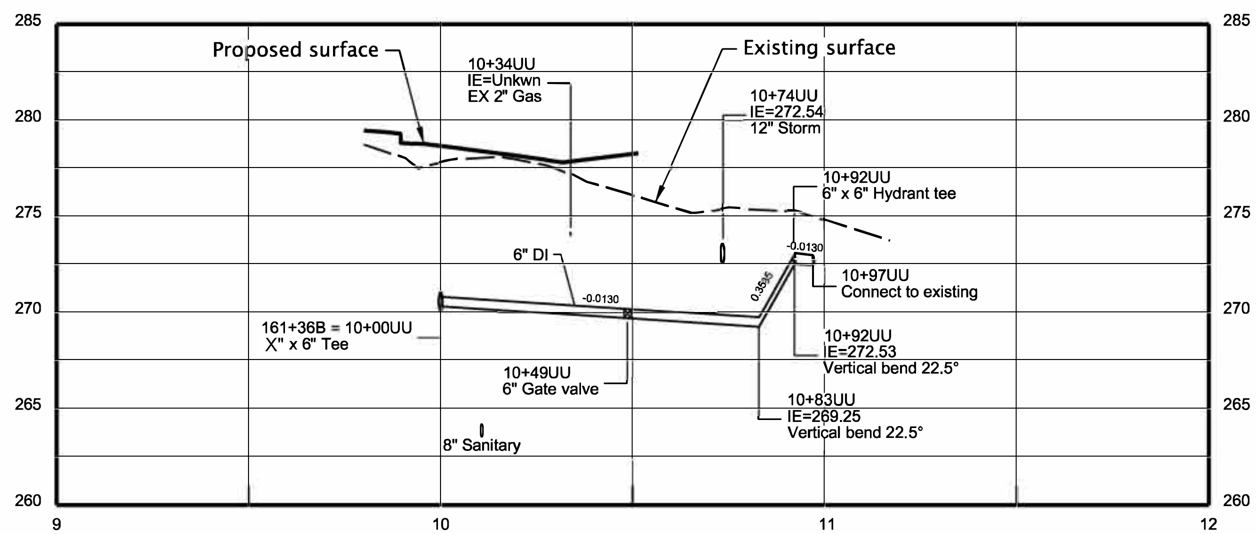
SS - 162ND AVE - South

NAVD88 elevation datum
Profile
Scale: Horiz. 1"=50'
Vert. 1"=10'



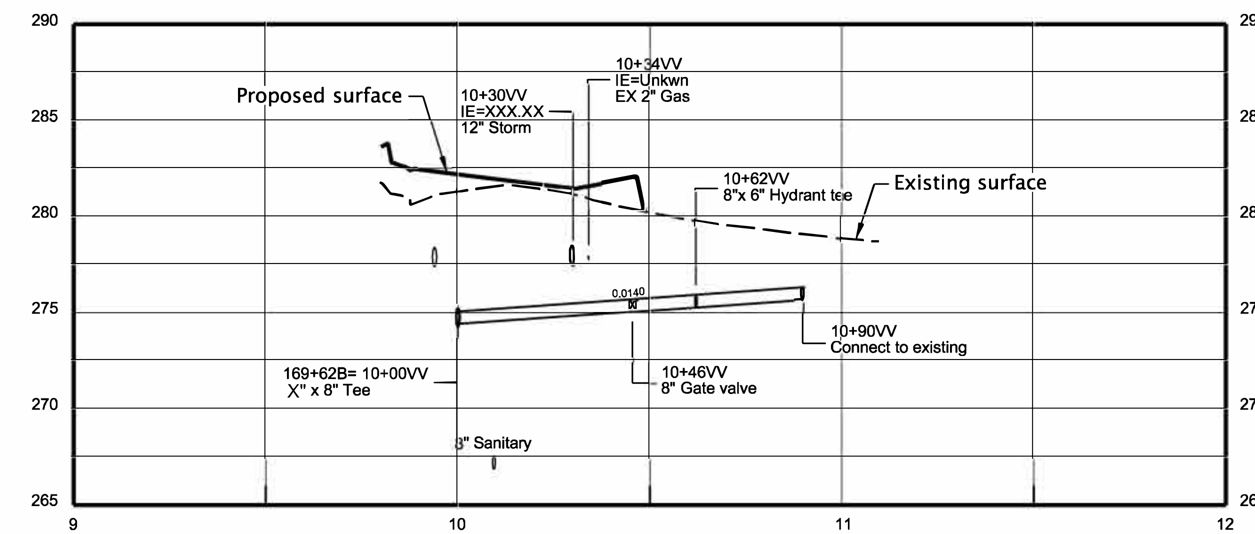
TT - 164TH AVE

NAVD88 elevation datum
Profile
Scale: Horiz. 1"=50'
Vert. 1"=10'



UU - 166TH AVE

NAVD88 elevation datum
Profile
Scale: Horiz. 1"=50'
Vert. 1"=10'



VV - 168TH AVE

NAVD88 elevation datum
Profile
Scale: Horiz. 1"=50'
Vert. 1"=10'

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PORTLAND, OR 97204
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MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl
Reviewer: Paul Woerrlein
Drafter: Tam Nguyen
Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
PROFILES: SIDE STREETS

SHEET NO.
U40

PORTLAND WATER BUREAU
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Date

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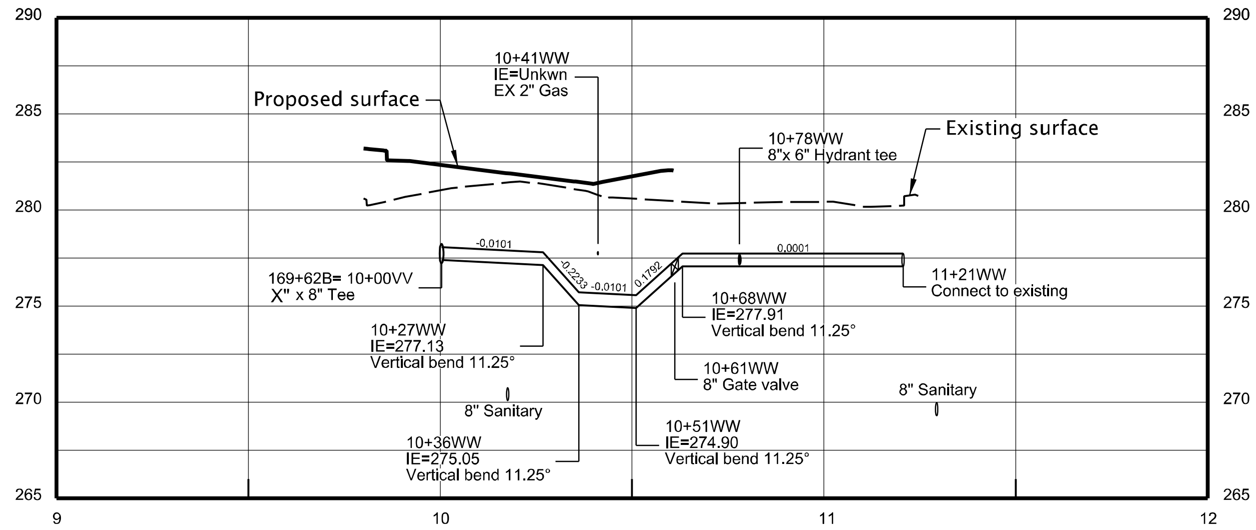

WW - 170TH AVE

NAVD88 elevation datum

Profile

Scale: Horiz. 1"=50'
Vert. 1"=10'

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MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl
Reviewer: Paul Woerrlein
Drafter: Tam Nguyen
Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
PROFILES: SIDE STREETS

SHEET NO. U41

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

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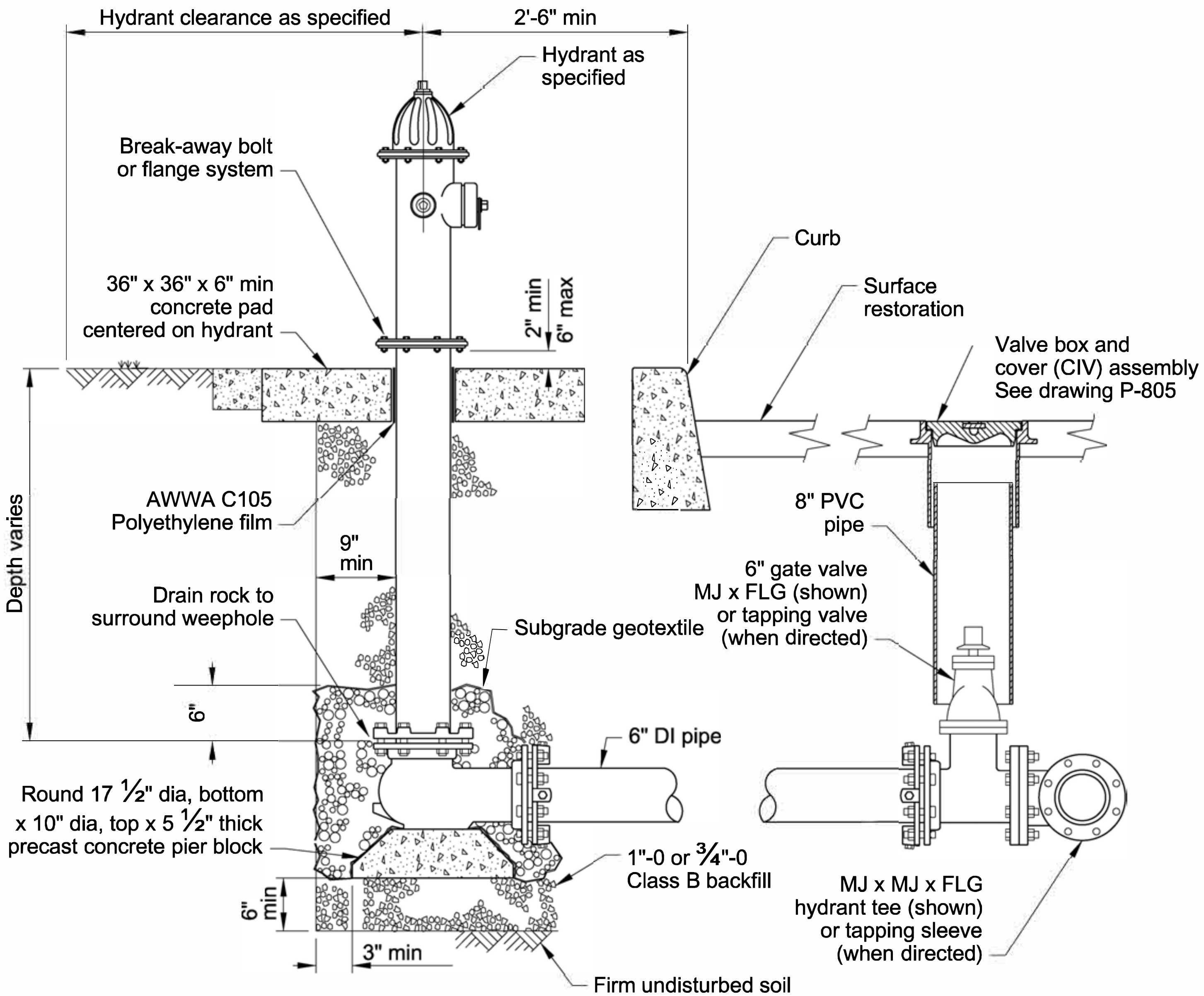


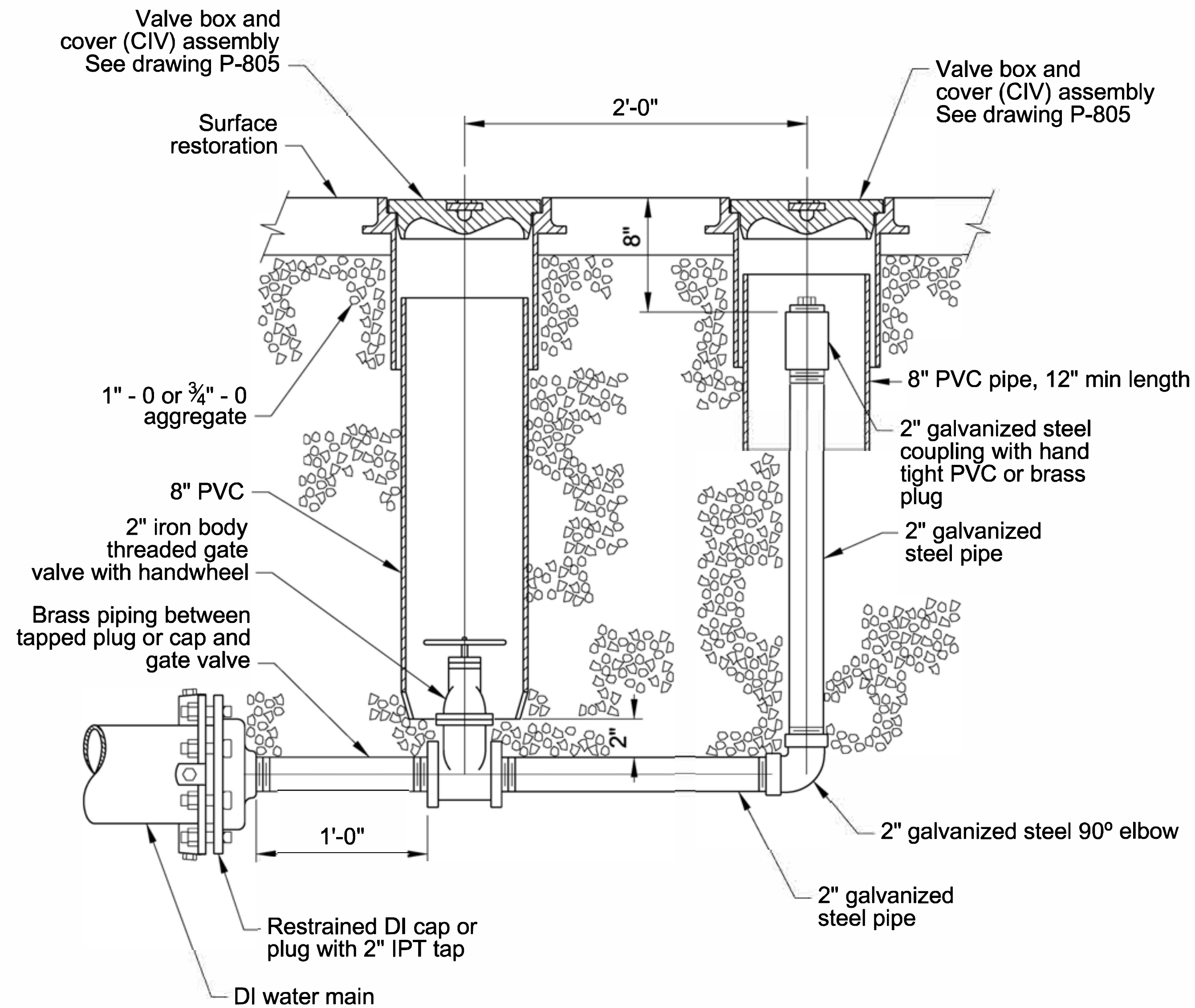
Notes:

1. All joints to be restrained.
2. Hydrant to be painted as specified.
3. Concrete pad and sidewalk replacement as needed to match existing scoring pattern.
4. Extend concrete pad to curb or sidewalk when the distance between the concrete pad and the curb or sidewalk is 1' or less.

Standard Detail P-700

Fire Hydrant Assembly

NTS



Note:

Notch PVC to sleeve over pipe and clear valve bonnet.

Standard Detail P-720

2" Blow-Off Assembly

NTS

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US26 (POWELL BLVD):
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MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl
Reviewer: Paul Woerrlein
Drafter: Tam Nguyen
Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
Standard Details

SHEET NO.
U42

PORTLAND WATER BUREAU
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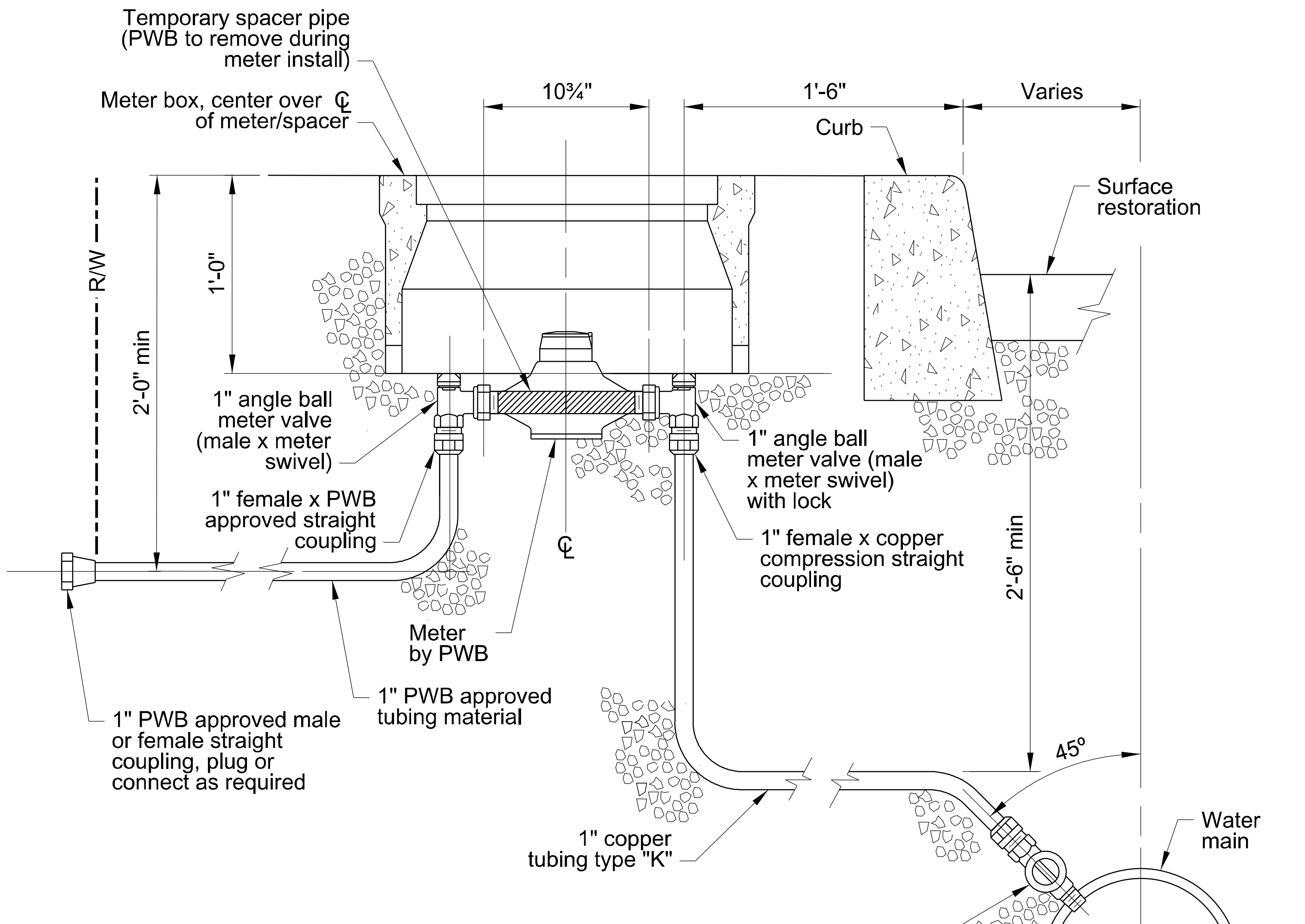
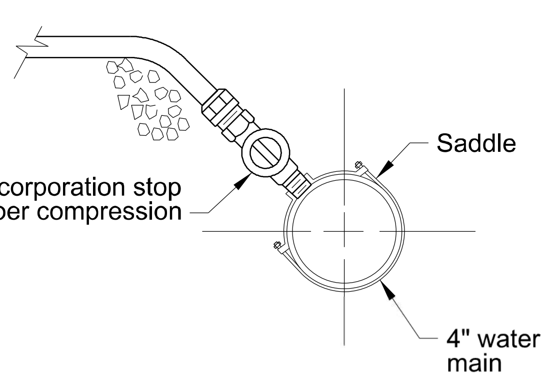
Date

CITY OF PORTLAND OREGON 1851



Notes:

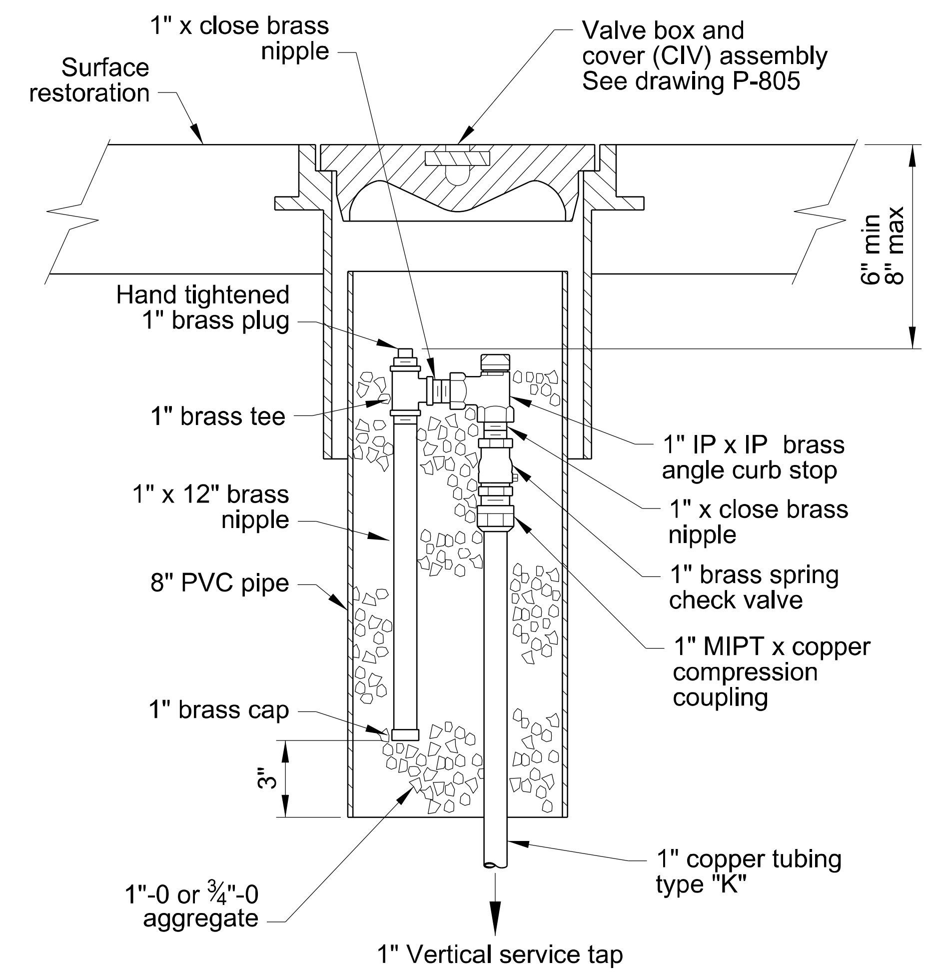
1. Install service branches at right angles to the main, except in cul-de-sacs.
2. Service saddle required if water main is 4" diameter (optional on other sizes).
3. Meter and lock provided and installed by PWB.
4. Meter box and temporary spacer pipe provided by PWB.
5. Meter lengths are end of thread, does not include bushing.
6. Install temporary meter spacer pipe, angle ball meter valves and cap or connect per PWB.
7. Upstream angle ball meter valve to remain locked until PWB removes spacer pipe, lock and activates service.



Standard Detail P-780

<u>1" Service Assembly</u>

NTS



Standard Detail P-730

<u>1" Manual Air Release Assembly</u>

NTS

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OREGON DEPARTMENT OF TRANSPORTATION

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Drafter: Tam Nguyen
Checker: Gabe Alvarado

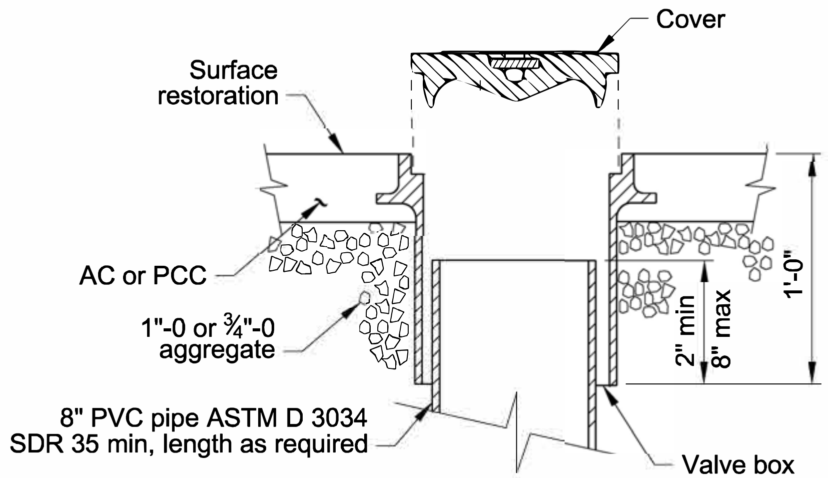
X" DI WATER MAIN (S.E. Powell Blvd.)
Standard Details

SHEET NO.
U43

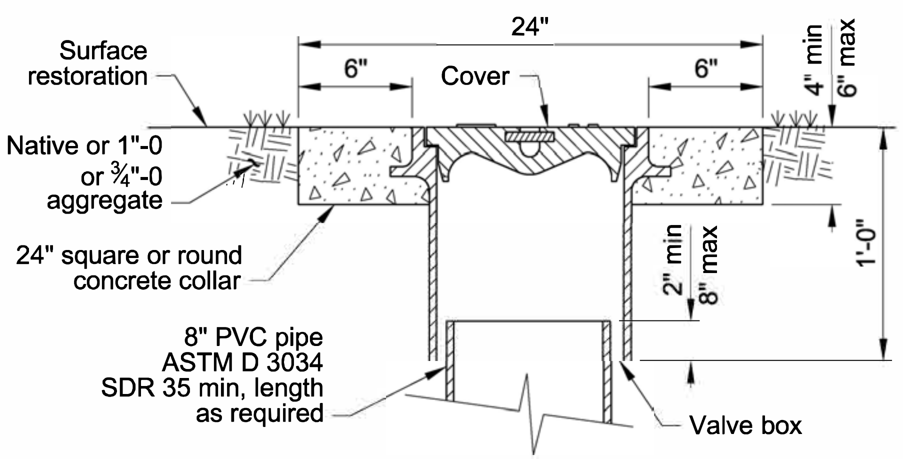
U_K21178_UT06.dgn :: U43 10/21/2021 2:04:11 PM TANGUYEN

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

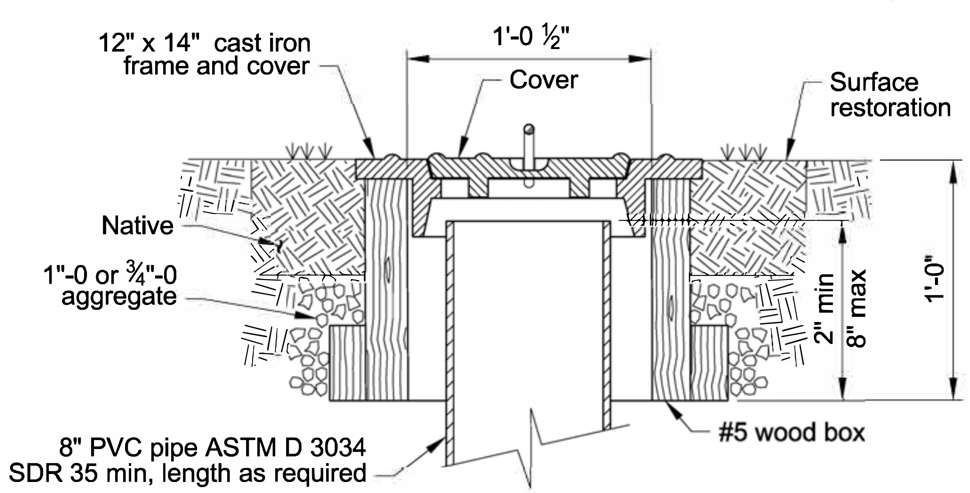
Rotation: 0° Scale: 1"=50'



Type 1



Type 2



Type 3

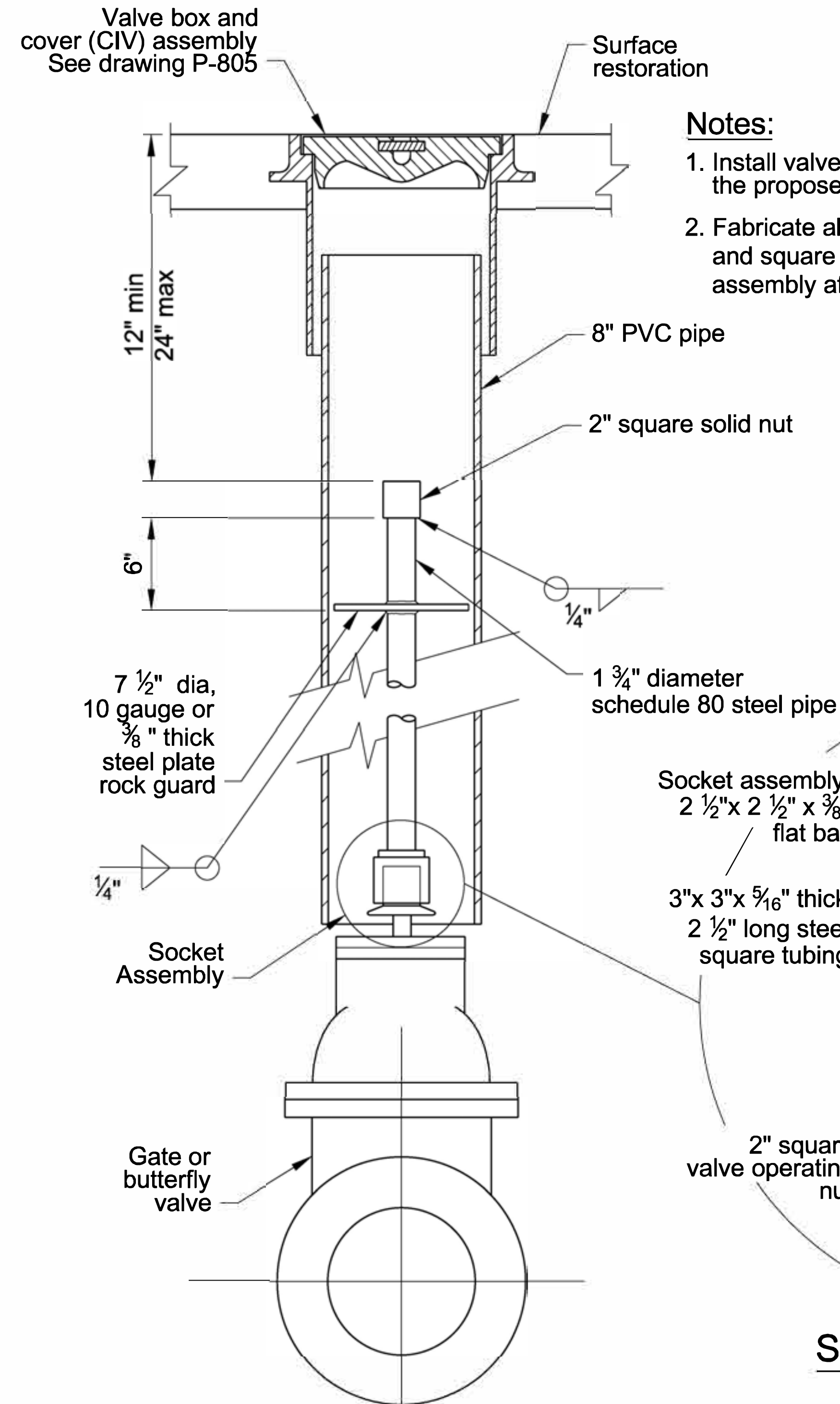
Note:

Cast iron valve boxes, covers, frames and #5 wood box provided by PWB.

Standard Detail P-805

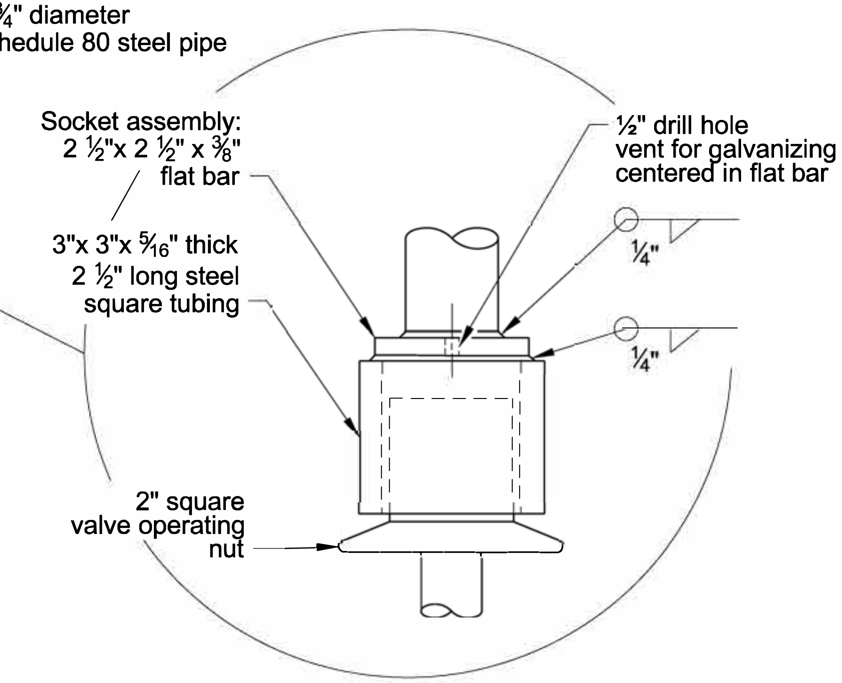
Valve Box & Cover (CIV) Assembly

NTS



Notes:

1. Install valve operator extension if top of valve operator nut is 48" or more below the proposed final grade.
2. Fabricate all valve operator extension components from A36 steel, center and square along the axis of the steel pipe. Hot-dip galvanize completed assembly after fabrication.



Socket Assembly Detail

Standard Detail P-810

Valve Operator Extension Assembly

NTS

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

FIRST M. LAST, Engineering Manager, PE No ###### Date

PRELIMINARY
NOT FOR CONSTRUCTION

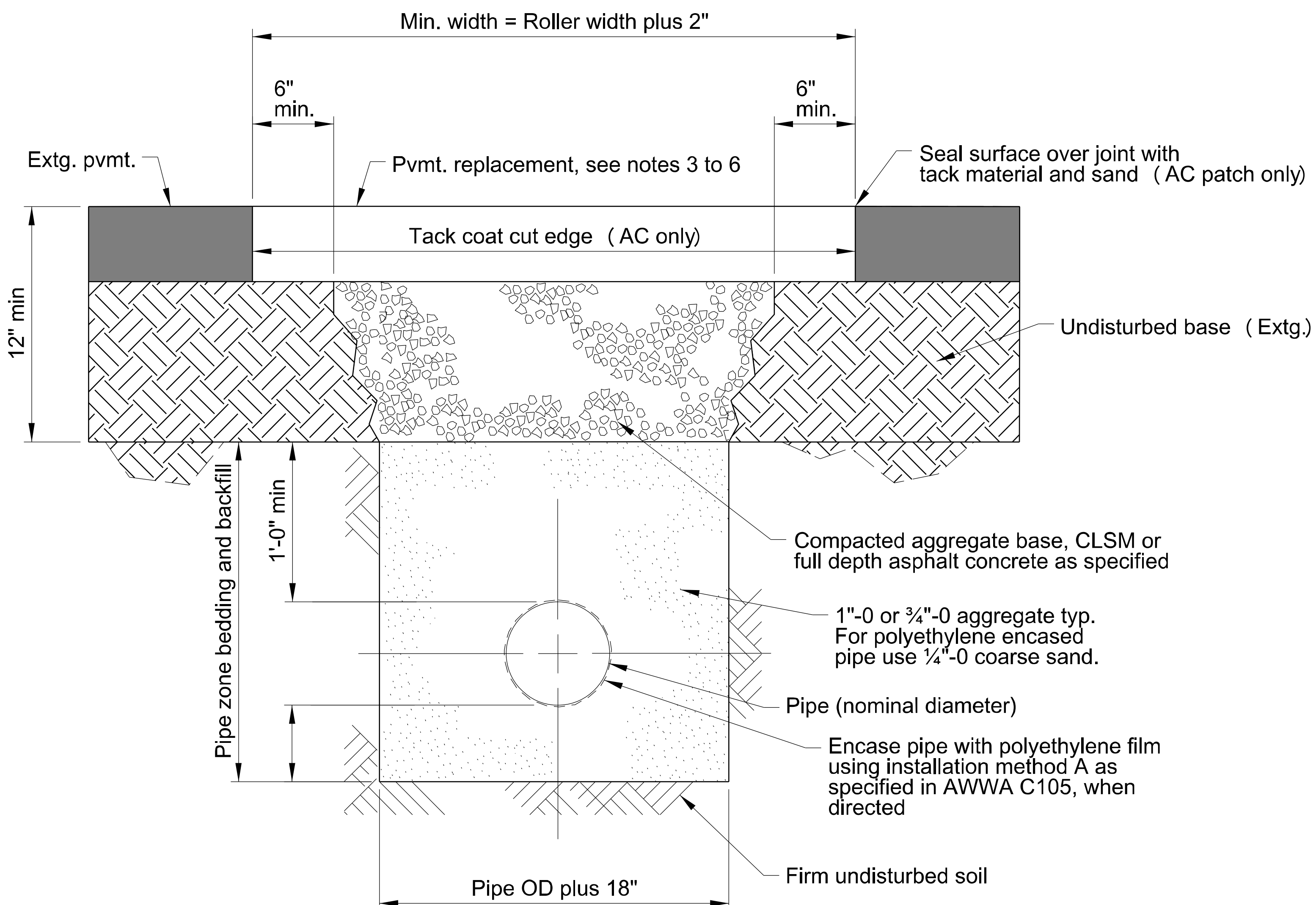
HDR ENGINEERING, INC
1050 SW 6TH AVE., SUITE 1800
PORTLAND, OR 97204
503.423.3700

US26 (POWELL BLVD):
SE 99TH AVE - EAST CITY LIMITS SEC.
MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl	Reviewer: Paul Woerrlein
Drafter: Tam Nguyen	Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.) Standard Details

SHEET NO. U44



Notes:

1. For compaction requirements see project general notes and specifications.
2. For pipe diameter above 16", install as specified.
3. All existing AC or PCC pavement shall be sawcut prior to repaving.
4. Concrete pavement shall be replaced with concrete to a minimum thickness of 8" or to the thickness of removed pavement, whichever is greater.
5. For joining new concrete to existing concrete, see contract plans for sepecific details.
6. Place AC mix minimum thkn. of 6" or the thkn. of the removed pavement, whichever is greater. Compact as specified.

Detail 1

Typical Street Trench Section

NTS

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

FIRST M. LAST, Engineering Manager, PE No ######

Date

PRELIMINARY
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1050 SW 6TH AVE., SUITE 1800
PORTLAND, OR 97204
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MT. HOOD HWY.
MULTNOMAH COUNTY

Designer: Sean Asl | Reviewer: Paul Woerrlein
Drafter: Tam Nguyen | Checker: Gabe Alvarado

X" DI WATER MAIN (S.E. Powell Blvd.)
Standard Details

SHEET NO.
U45