

NORTH BURLINGTON PIPELINE REPLACEMENT

BURLINGTON, SKAGIT COUNTY, WA

P.N. 03498

CP4804

AUGUST 9, 2024



PUBLIC UTILITY DISTRICT

NO. 1 OF SKAGIT COUNTY

DISTRICT OFFICIALS

JOE LINDQUIST PRESIDENT
 ANDREW MILLER VICE PRESIDENT
 CORRIN HAMBURG SECRETARY

GEORGE SIDHU, P.E. GENERAL MANAGER
 MARK C. HANDZLIK, P.E. ENGINEERING MANAGER
 MICHAEL FOX OPERATIONS MANAGER

UTILITY CONTACTS

CASCADE NATURAL GAS
 1520 SOUTH 2nd STREET
 MOUNT VERNON, WA 98273
 CONTACT: JAMES HOBBS
 TEL: (360) 336-3876

FRONTIER COMMUNICATION
 595 PEASE ROAD
 BURLINGTON, WA 98233
 CONTACT: BRET MURDOCK
 TEL: (360) 707-0641

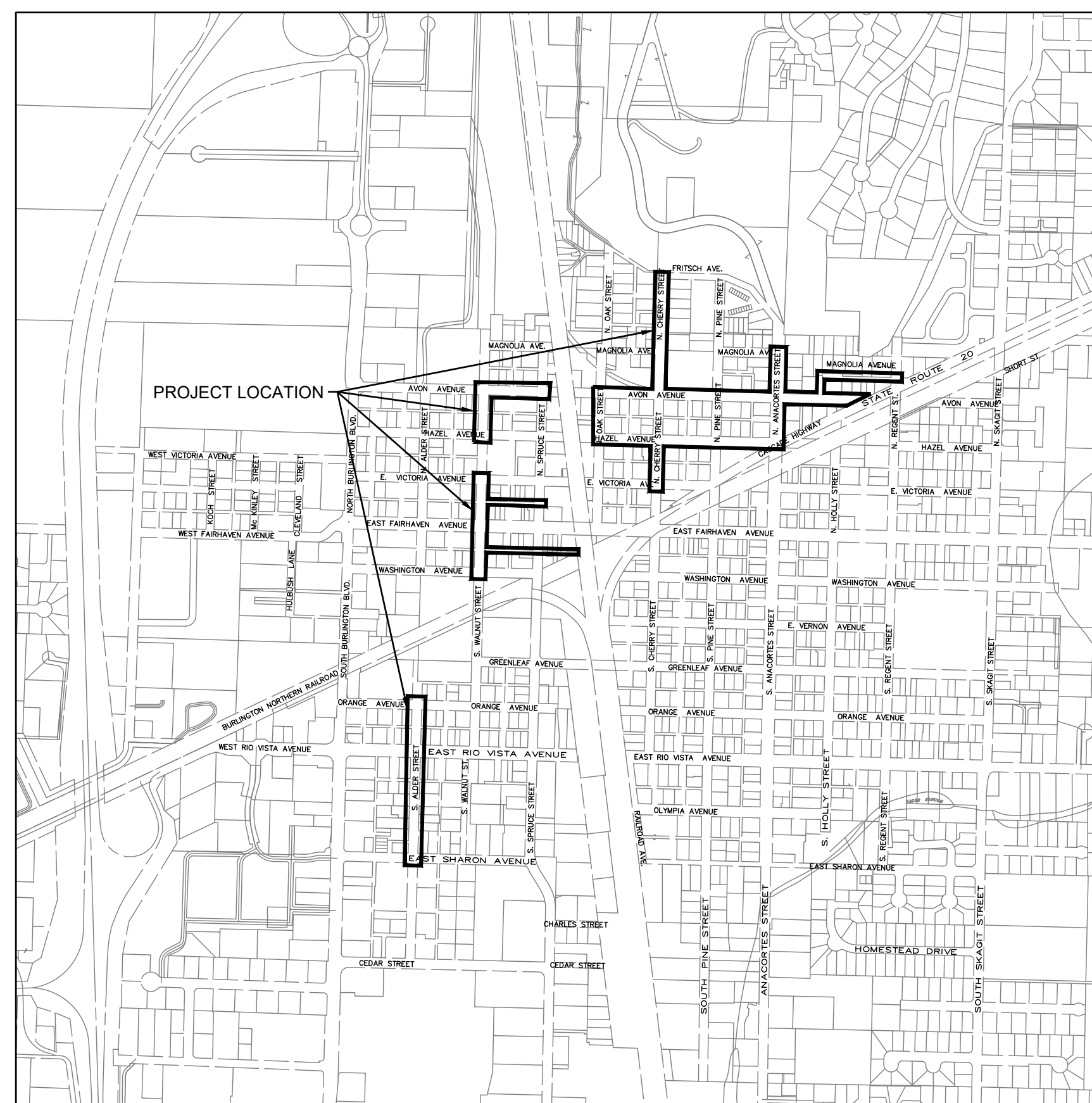
COMCAST XFINITY
 400 SEQUOIA DRIVE
 BELLINGHAM, WA 98226
 CONTACT: CASEY JONES
 TEL: (360) 527-8243

ATT FIBER OPTICS
 C/O SIENA ENGINEERING GROUP, INC.
 11241 WILLOW RD NE, SUITE 130
 REDMOND, WA 98052
 CONTACT: LOUIE VAN HOLLEBEKE
 TEL: (425) 896-9850

PUGET SOUND ENERGY
 PO BOX 90868 - MAIL STOP BOT01G
 BELLEVUE, WA 98009-0868
 CONTACT: CUSTOMER CONSTRUCTION SERVICES
 TEL: (888) 321-7779

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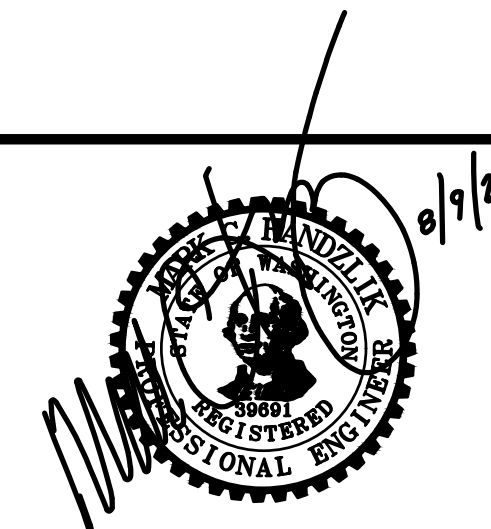
VICINITY MAP
 NOT TO SCALE

Approved Hydrant
 Per
 Fire Marshal
 07/12/2024 10:50:08 AM
 Kelly Blaine F.M.

APPROVED FOR CONSTRUCTION
 _____ DATE
 CHIEF OF FIRE PREVENTION
 APPROVAL VOID ONE YEAR FROM DATE SHOWN

Brian Dempsey | 7/15/24
 APPROVED FOR CONSTRUCTION | DATE
 CITY OF BURLINGTON ENGINEER

ISSUE	REVISIONS	BY	DATE
1.	30% DESIGN	MCH	11/20/23
2.	60% DESIGN	MCH	2/2/24
3.	100% DESIGN	MCH	6/6/24
4.	ISSUED FOR BIDDING	MCH	8/9/24



DATUM: HOR: NAD 83 VERT: NAVD 88	DSGN BY: KAN DWN BY: KAN APPVD BY: MCH
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NORTH BURLINGTON PIPELINE REPLACEMENT
 COVER

SCALE: NONE JOB ID : CP4804 SHEET: COVER

SURVEY SYMBOLS

SYMBOL	DESCRIPTION	BLOCK	LAYER
⊙	MONUMENT	SMON	SV-CTRL-EXST-SYM
⊕	MONUMENT IN CASE	SMIC	SV-CTRL-EXST-SYM
⊗	REBAR & CAP	RCS	SV-CTRL-EXST-SYM
△	SCRIBED "X"	SAP	SV-CTRL-EXST-SYM
X	PK NAIL	PK	SV-CTRL-EXST-SYM
B-101	SOIL BORING	BORE	SV-SOIL-EXST-SYM
TP-101	SOIL TEST PIT	TP	SV-SOIL-EXST-SYM
⊗	UTILITY POTHOLE/ GROUND WATER MONITORING WELL	P_SSB	UT-MISC-EXST-SYM

SURFACE FEATURE SYMBOLS

SYMBOL	DESCRIPTION	BLOCK	LAYER
⊥	METAL SIGN POST	E1S1	SF-SIGN-EXST-SYM
⊥	WOOD SIGN POST	SFSN	SF-SIGN-EXST-SYM
GTP ⊙	GATE POST	POST	SF-FENC-EXST-SYM
★	CONIFEROUS TREE	SFC	SF-VEGE-EXST-SYM
⊙	DECIDUOUS TREE	SFD	SF-VEGE-EXST-SYM
⊙	BUSH/SHRUB	PUDBUSH	SF-VEGE-EXST-SYM
⊙	STUMP	STUMP	SF-VEGE-EXST-SYM

UTILITY SYMBOLS

SYMBOL	DESCRIPTION	BLOCK	LAYER
⊙	SANITARY SEWER MANHOLE	PUDMH	SS-STCR-EXST-SYM
⊙	STORM DRAIN MANHOLE	SDMH	SD-STCR-EXST-SYM
□	CATCH BASIN	CBIN	SD-STCR-EXST-SYM
⊥	INLET/YARD DRAIN	SDGI	SD-STCR-EXST-SYM
⊥	GAS VALVE	GV	GS-VALV-EXST-SYM
⊥	GAS METER	P_GMET	GS-VALV-EXST-SYM
TR ⊗	TRAFFIC JUNCTION BOX	TJB1	TF-STCR-EXST-SYM
EL ⊗	ELEC. JUNCTION BOX	TJB1	PO-STCR-EXST-SYM
PM ⊗	POWER METER	EM	PO-STCR-EXST-SYM
TC ⊗	TELECOM. JUNCTION BOX	TJB1	TL-STCR-EXST-SYM
TV ⊗	CABLE TV JUNCTION BOX	TJB1	TV-STCR-EXST-SYM
⊗	JUNCTION BOX	TJB1	UT-STCR-EXST-SYM
T ⊥	TELEPHONE RISER	TELR	TL-STCR-EXST-SYM
⊥	UTILITY POLE	UP	PO-STCR-EXST-SYM
UG ⊥	UTILITY POLE W/CONDUIT	UP	PO-STCR-EXST-SYM
←	GUY ANCHOR	UPA	PO-STCR-EXST-SYM
GP ⊙	GUY POLE	GUP	PO-STCR-EXST-SYM
▲	TRANSFORMER	TRAN	PO-STCR-EXST-SYM
P	POWER VAULT	POWRV	PO-STCR-EXST-SYM
⊗	TRANSMISSION TOWER	PTWR	PO-STCR-EXST-SYM
T	TELEPHONE VAULT	TV	TL-STCR-EXST-SYM
→	PEDESTRIAN SIGNAL HEAD	TPSH	TF-SIGL-EXST-SYM
→	PEDESTRIAN SIGNAL BUTTON	TPB	TF-SIGL-EXST-SYM
→	TRAFFIC SIGNAL POLE W/LIGHT	TSPL	TF-SIGL-EXST-SYM
→	LUMINAIRE	TSLA	PO-STCR-EXST-SYM
→	YARD LIGHT	SFL	PO-STCR-EXST-SYM
MW	MONITORING WELL		UT-STCR-EXST-SYM
⊙	WATER MANHOLE	WMH	WA-STCR-EXST-SYM
SH ⊙	SPRINKLER HEAD	SPRHD	WA-MISC-EXST-SYM
IRBX ⊙	IRRIGATION BOX	ICV	WA-MISC-EXST-SYM

WATER SYMBOLS

SYMBOL	DESCRIPTION	BLOCK	LAYER
EXIST.]	CAP/PLUG	X_CAP/P_CAP	WA-FITT-XXXX-SYM
PROG. #	COUPLING	X_COUP/P_COUP	WA-FITT-XXXX-SYM
=	SLEEVE	X_SLV/P_SLV	WA-FITT-XXXX-SYM
○	GUARD POST	X_GPOST/P_GPOST	WA-FITT-XXXX-SYM
▷	REDUCER	X_RED/P_RED	WA-FITT-XXXX-SYM
◁	THRUST BLOCK	X_TB/P_TB	WA-FITT-XXXX-SYM
⊞	WATER METER	X_MTR/P_MTR	WA-METR-XXXX-SYM
FIRE HYDRANTS:			
○	2 NOZZLE	X_HYD2/P_HYD2	WA-FHYD-XXXX-SYM
○	3 NOZZLE	X_HYD3/P_HYD3	WA-FHYD-XXXX-SYM
JOINTS:			
	FLANGE/BLIND FL	X_FL/P_FL	WA-FITT-XXXX-SYM
[MECHANICAL	X_MJ/P_MJ	WA-FITT-XXXX-SYM
C	PUSH-ON/HUB	X_PHUB/P-PHUB	WA-FITT-XXXX-SYM
	THREAD	X_THREAD/P_THREAD	WA-FITT-XXXX-SYM
VALVES			
○	AIR RELIEF VALVE	X_AR/P_AR	WA-VALV-XXXX-SYM
○	BLOW-OFF VALVE	X_BO/P_BO	WA-VALV-XXXX-SYM
⊗	BUTTERFLY VALVE	X_BFV/P-BFV	WA-VALV-XXXX-SYM
⊗	CHECK VALVE	X_CV/P_CV	WA-VALV-XXXX-SYM
⊗	GATE VALVE	X_GV/P_GV	WA-VALV-XXXX-SYM
⊗	PLUG VALVE	X_PLUGV/P_PLUGV	WA-VALV-XXXX-SYM
ELBOWS			
⋄	90° ELBOW MxMJ		WA-FITT-XXXX-SYM
⋄	45° ELBOW MxMJ		WA-FITT-XXXX-SYM
⋄	22.5° ELBOW MxMJ		WA-FITT-XXXX-SYM
⋄	11.25° ELBOW MxMJ		WA-FITT-XXXX-SYM
⋄	CROSS MxMJ		WA-FITT-XXXX-SYM
⋄	TEE MxMJ		WA-FITT-XXXX-SYM
⋄	VERTICAL ELBOW MxMJ		WA-FITT-XXXX-SYM
⋄	45° ELBOW MxFL		WA-FITT-XXXX-SYM
⋄	22.5° ELBOW MxFL		WA-FITT-XXXX-SYM
⋄	11.25° ELBOW MxFL		WA-FITT-XXXX-SYM
⋄	CROSS MxFL		WA-FITT-XXXX-SYM
⋄	TEE MxFL		WA-FITT-XXXX-SYM
⋄	CROSS FLxFL		WA-FITT-XXXX-SYM
⋄	TEE FLxFL		WA-FITT-XXXX-SYM
⋄	VERTICAL MxFL		WA-FITT-XXXX-SYM
⋄	TAPPING SLEEVE		WA-FITT-XXXX-SYM

NOTATION SYMBOLS

SYMBOL	DESCRIPTION	BLOCK	LAYER
⊙	CATHODIC PROTECTION TEST STATION	CATH	G-ANNO-PROP-SYM
◆	CHANGE IN PIPING MATERIAL	PMAT	G-ANNO-PROP-SYM
⊙	TRENCH BACKFILL AND SURFACE RESTORATION CODE	KEYNOTE	G-ANNO-PROP-SYM
①	CONSTRUCTION NOTE	KEYNOTES	G-ANNO-PROP-SYM

TEXT	DESCRIPTION	HEIGHT	LAYER
1+00	ROAD STATIONING	.10	SV-CNTL-EXST-TXT
PXXXXX	PARCEL NUMBER	.20	SV-PRCL-EXST-TXT
N/A	ADDRESS	.15	G-MISC-EXST-TXT

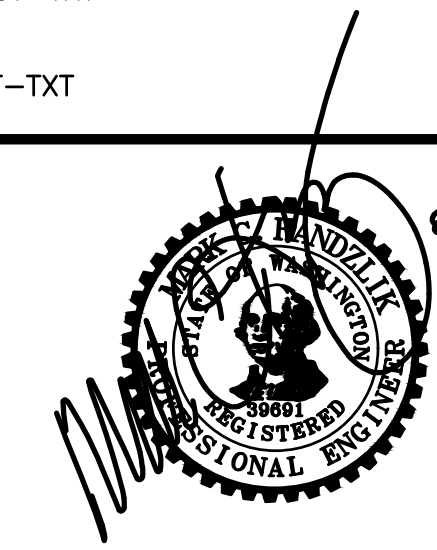
LINE TYPES

LINE TYPE	DESCRIPTION	LAYER
— GAS —	GENERIC GAS LINE	GS-PLIN-EXST-LIN
— GAS —	HIGH PRESSURE GAS	GS-PLIN-EXST-LIN
— GAS —	LOW PRESSURE GAS	GS-PLIN-EXST-LIN
— IRR —	IRRIGATION	WA-IRRI-EXST-LIN
— SD —	STORM DRAIN	SD-GLIN-EXST-LIN
=====	EXISTING CULVERT	SD-CULV-EXST-LIN
— SS —	SANITARY SEWER	SS-GLIN-EXST-LIN
— SS —	SS FORCEMAIN	SS-PLIN-EXST-LIN
— W — W —	WATER LINE	WA-PLIN-EXST-LIN
— UGE —	UNDERGROUND POWER	PO-BLIN-EXST-LIN
— UGF —	UNDERGROUND FIBER OPTIC	FO-BLIN-EXST-LIN
— UGT —	UNDERGROUND TELEPHONE	TL-BLIN-EXST-LIN
— UGTV —	UNDERGROUND TELEVISION	TV-BLIN-EXST-LIN
— OHE —	OVERHEAD ELECTRIC	PO-ALIN-EXST-LIN
— OHF —	OVERHEAD FIBER OPTIC	FO-ALIN-EXST-LIN
— OHT —	OVERHEAD TELEPHONE	TL-ALIN-EXST-LIN
— OHTV —	OVERHEAD TELEVISION	TV-ALIN-EXST-LIN
~~~~~	VEGETATION LINE	SF-VEGE-EXST-LIN
---	EDGE OF GRAVEL	SF-GRVL-EXST-LIN
---	EDGE OF ASPHALT	SF-ASPH-EXST-LIN
---	CURB/CONCRETE LINE	SF-CONC-EXST-LIN
---	DITCH FLOWLINE	SF-DTCH-EXST-LIN
— X — X —	EXISTING FENCE	SF-FENC-EXST-LIN
---	TOP/TOE OF SLOPE	SF-GRAD-EXST-LIN
	RAILROAD TRACKS	SF-RAIL-EXST-LIN
---	CENTERLINE	SV-CNTL-EXST-LIN
---	RIGHT OF WAY	SV-ROFW-EXST-LIN
---	EASEMENT LINE	SV-ESMT-EXST-LIN
---	PROPERTY LINE	SV-PROP-EXST-LIN
---	PROPOSED WATERLINE	WA-PLIN-PROP-LIN
---	PROPOSED METER LINE	WA-METR-PROP-LIN
---	RECLAIMED WATER LINE	WA-RCW-EXST-LIN
---	FOG LINE	SF-STRP-EXST-LIN
⚡	SHUTOFF DETAIL LINES	VARIES

### HATCHING

DESCRIPTION	LAYER
ASPHALT - SOLID	SF-ASPH-EXST-HCH
GRAVEL - AR-SAND, 0', SCALE=1.6667	SF-FEAT-EXST-HCH
CONCRETE - AR-CONC, 0', SCALE=1.6667	SF-FEAT-EXST-HCH
WETLAND - GRASS, 0', SCALE=.10 OF DWG SCALE	SF-FEAT-EXST-HCH
<b>PAVEMENT RESTORATION:</b>	
ASPHALT - SOLID	SF-ASPH-PROP-HCH

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NORTH BURLINGTON PIPELINE  
REPLACEMENT  
LEGEND

# DISTRICT STANDARD GENERAL NOTES

(Minimum Requirements)

- UNLESS STATED OTHERWISE, ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH THE MOST CURRENT WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION AND THE DISTRICT REQUIREMENTS AS OUTLINED IN THE DISTRICT'S WATER POLICY MANUAL.
- THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH THE DISTRICT ENGINEERING DEPARTMENT, (360) 424-7104, A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION.
- PERMITS FOR THE INSTALLATION OF THE PROPOSED WATER SYSTEM IMPROVEMENTS ARE ATTACHED IN APPENDIX B OF THE TECHNICAL SPECIFICATIONS.
- DISTRICT REFERENCE DOCUMENTS, SUCH AS STANDARD DETAILS, WATER POLICY MANUAL, DRAWING STANDARDS, ETC., CAN BE FOUND ON THE DISTRICT WEBSITE AT WWW.SKAGITPUD.ORG.
- ALL TIE-INS, SHUTDOWN, FLUSHING, AND HEALTH SAMPLES SHALL BE COORDINATED WITH THE DISTRICT. THE CONTRACTOR SHALL NOT OPERATE ANY VALVES. CONTRACTOR SHALL FURNISH ALL MATERIALS AND PERFORM ALL EXCAVATION, SHORING, DEWATERING, BACKFILL AND RESTORATION NECESSARY FOR DISTRICT CREWS TO PERFORM ALL TIE-INS TO ANY ACTIVE PUD OWNED AND OPERATED PIPELINE.
- A LIST OF ALL MATERIALS, INDICATING THE MANUFACTURER, MODEL, AND SIZE, FOR THE WATER SYSTEM IMPROVEMENTS REQUIRE APPROVAL BY THE DISTRICT PRIOR TO CONSTRUCTION. CONTACT DISTRICT FOR SUBMITTAL REQUIREMENTS.
- PIPE MATERIAL:
  - PVC PIPE SHALL BE IN ACCORDANCE WITH SECTION C909-16 OF THE AWWA STANDARDS.
  - DUCTILE IRON PIPE WILL BE MINIMUM CLASS 50 AWWA C151 PER WSDOT STANDARD SPECIFICATIONS 9-30.1 AND 9-30.1(1). ALL DUCTILE IRON WATER PIPE AND FITTINGS SHALL BE COMPLETELY WRAPPED WITH A MINIMUM OF EIGHT-MIL POLYETHYLENE PIPE ENCASEMENT AND INSTALLED IN ACCORDANCE WITH AWWA C105 AND WSDOT STANDARD SPECIFICATIONS 7-09.3(17) AND 9-30.1(2).
  - PVC PIPE SHALL BE IN ACCORDANCE WITH SECTION 9-30.1(5)A OF THE STANDARD SPECIFICATIONS.
- ALL BOLTS USED IN BURIED FLANGES SHALL BE ASTM A307 GRADE B UNFINISHED WITH NUTS TO ASTM A563 GRADE A AND WASHERS TO ASTM F844, OR ASTM A325 TYPE 3 (CORTEN STEEL) UNFINISHED, WITH NUTS TO ASTM A563C3 OR A563DH3 AND WASHERS TO ASTM F436-1. ALL BOLTS, NUTS AND WASHERS USED IN EXPOSED OR ABOVE GROUND LOCATIONS SHALL BE ASTM A307 GRADE B UNFINISHED OR HOT-DIP GALVANIZED.
- ALL GATE VALVES TO BE RESILIENT SEATED GATE VALVES, AWWA C515 OR C509 (DUCTILE IRON BODY ONLY) WITH STAINLESS STEEL NUTS, BOLTS AND TRIM.
- ALL BUTTERFLY VALVES TO BE RUBBER SEATED BUTTERFLY VALVES, AWWA C504 WITH STAINLESS STEEL NUTS, BOLTS AND TRIM.
- RESTRAINED JOINTS MAY BE USED IN PLACE OF CONCRETE BLOCKING AS DIRECTED BY THE PROJECTS DESIGN ENGINEER AND ACCEPTED BY THE DISTRICT.
- ALL BURIED DUCTILE IRON FITTING AND VALVES SHALL BE WRAPPED WITH ANTI CORROSION WAX/PETROLEUM TAPE BY TRENTON ANTICORROSION MATERIALS INC, DENSO NORTH AMERICA INC OR EQUAL.
- ALL FIRE HYDRANTS SHALL CONFORM TO AWWA C502 WITH STORZ ADAPTORS. ACCEPTABLE FIRE HYDRANTS INCLUDE CLOW MEDALLION, MUELLER CENTURION OR SUPER CENTURION, AMERICAN DARLING B62B AND AMERICAN AVK NOSTALGIC.
- A #10 SOLID COPPER WIRE WITH BLUE INSULATION IS TO BE INSTALLED WITH/AND ATTACHED TO ALL NEW WATER PIPELINES AND SERVICE PIPELINES. REFER TO DISTRICT DETAILS FOR INSTALLATION REQUIREMENTS. UNLESS OTHERWISE SPECIFIED, ALL WATER PIPELINE INSTALLATIONS REQUIRE A 36-INCH MINIMUM COVER AND 48-INCH TYPICAL TRENCH DEPTH TO EXISTING OR FUTURE FINISH GRADE AND A MINIMUM OF 1-FOOT VERTICAL AND 5-FOOT HORIZONTAL CLEARANCE BETWEEN WATER PIPELINE AND ALL OTHER UTILITIES UNLESS OTHERWISE SPECIFIED.
- WHEN INSTALLING WATER PIPELINE ACROSS EXISTING OR PROPOSED SANITARY SEWER, A FULL LENGTH OF PIPE SHALL BE INSTALLED WITH MID-SPAN OF THE WATER PIPE OVER THE SEWER. A MINIMUM 10-FOOT HORIZONTAL SEPARATION AND 18-INCH VERTICAL SEPARATION BETWEEN WATER PIPELINES AND SANITARY SEWER PIPELINES IS REQUIRED, UNLESS AN ALTERNATIVE PROPOSAL FROM THE DESIGN ENGINEER IS SUBMITTED TO AND APPROVED BY THE DISTRICT.
- BEDDING MATERIAL FOR WATER PIPELINE SHALL BE SELECT, NATIVE, GRANULAR MATERIAL FREE FROM WOOD WASTE, ORGANIC MATERIAL OR OTHER EXTRANEIOUS OR OBJECTIONABLE MATERIALS AND SHALL BE A MAXIMUM SIZE OF 1 1/2-INCHES OR APPROVED PIPE BEDDING PER WSDOT SPECIFICATION 7-09.3(9) AND 9-03.12(3). PEA GRAVEL AND BUCKSHOT ARE NOT ACCEPTABLE.
- BACKFILL TRENCHES IN PAVEMENT AREAS WITH PIT-RUN GRAVEL COMPACTED TO AT LEAST 95 PERCENT MINIMUM DENSITY PER WSDOT SPECIFICATION 7-09.3(11). THE CONTRACTOR SHALL MAKE ALL PAVEMENT REPAIRS AND PERFORM ALL RESTORATION.
- DISINFECTION AND FLUSHING OF THE WATER PIPELINES ARE TO BE IN ACCORDANCE WITH SKAGIT PUD'S WATERLINE DISINFECTION AND TESTING PROCEDURES AVAILABLE ON THE PUD'S WEBSITE. USE DECHLORINATION EQUIPMENT WHEN FLUSHING OR, WITH PERMISSION OF THE APPROPRIATE SEWER UTILITY, FLUSH INTO SANITARY SEWER MANHOLES. DO NOT FLUSH INTO OR ALLOW CHLORINATED WATER TO DRAIN INTO ANY CREEK, WETLAND, OR CATCH BASIN. THE CONTRACTOR WILL SUBMIT A PRESSURE TESTING, DISINFECTION, AND FLUSHING PLAN TO THE DISTRICT PRIOR TO CONSTRUCTION.
- ALL SALVAGED USABLE DISTRICT OWNED MATERIALS ARE TO BE DELIVERED TO THE DISTRICT OFFICE AT 1415 FREEWAY DRIVE, MOUNT VERNON, OR AS DIRECTED BY THE DISTRICT.
- THE UTILITY LOCATIONS MARKED ON THIS MAP ARE APPROXIMATE. THE CONTRACTOR IS TO VERIFY ACTUAL LOCATION AND DEPTH PRIOR TO CONSTRUCTION. CALL THE UNDERGROUND UTILITY LOCATE CENTER AT 800-424-5555.
- ALL PRIVATE FIRE SPRINKLERS OR PRIVATE FIRE HYDRANT PIPELINES ARE REQUIRED TO BE INSTALLED WITH A WASHINGTON STATE DEPARTMENT OF HEALTH (WSDOH) APPROVED DOUBLE CHECK DETECTOR ASSEMBLY(IES) OR REDUCED PRESSURE DETECTOR ASSEMBLY(IES), LOCATED IMMEDIATELY AFTER THE FIRE SERVICE CONNECTION. A BADGER RECORDALL METER WITH A REMOTE TOUCH-READ PAD WILL BE SUPPLIED AND INSTALLED BY THE DISTRICT WITHIN 6-INCHES OF THE VAULT LID'S HINGE AND BRASS PLUGS IN THE TEST PORTS. METER SUPPLY AND INSTALLATION WILL BE INCLUDED WITH THE CHARGES IN THE WORK ORDER.
- A LEAD FREE, WASHINGTON STATE APPROVED, REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY SHALL BE INSTALLED AT TEMPORARY CONNECTIONS BETWEEN THE EXISTING DISTRICT PIPELINES AND NEW WATER PIPELINES FOR FILLING, FLUSHING AND PRESSURE TESTING OF THE IMPROVEMENTS. UPON TEMPORARY CONNECTION, AND PRIOR TO FILLING, THE ASSEMBLY SHALL HAVE BEEN SUCCESSFULLY TESTED BY A BACKFLOW ASSEMBLY TESTER (BAT) AND THE TEST REPORT IS TO BE PROVIDED TO THE DISTRICT.
- BEFORE FINAL CONNECTION TO THE EXISTING DISTRICT SYSTEM, ALL NEW WATER PIPELINES AND REPAIRED PORTIONS OF/OR EXTENSION TO EXISTING PIPELINES SHALL BE ADEQUATELY DISINFECTED AND A SATISFACTORY BACTERIOLOGICAL REPORT OBTAINED.
- PRESSURE TEST NEW PIPELINE, INCLUDING FIRE HYDRANTS AND SERVICE LINES AS IN ACCORDANCE WITH SKAGIT PUD'S WATERLINE DISINFECTION AND TESTING PROCEDURES AVAILABLE ON THE PUD'S WEBSITE.

STATION _____  
 TEST DATE _____ TEST PRESSURE _____  
 TIME START _____ TIME END _____  
 PRESSURE DROP _____ MAKE-UP WATER _____

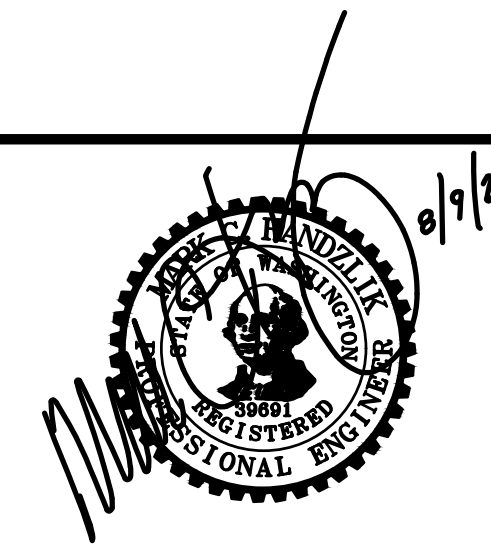
STATION _____  
 TEST DATE _____ TEST PRESSURE _____  
 TIME START _____ TIME END _____  
 PRESSURE DROP _____ MAKE-UP WATER _____

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 NO. 1 of SKAGIT COUNTY  
 1415 Freeway Drive  
 P.O BOX 1436  
 Mount Vernon, WA 98273  
 (360) 424-7104  
 www.SkagitPud.org

NORTH BURLINGTON PIPELINE  
 REPLACEMENT  
 GENERAL NOTES & ESC NOTES AND  
 DETAILS

# CONSTRUCTION NOTES

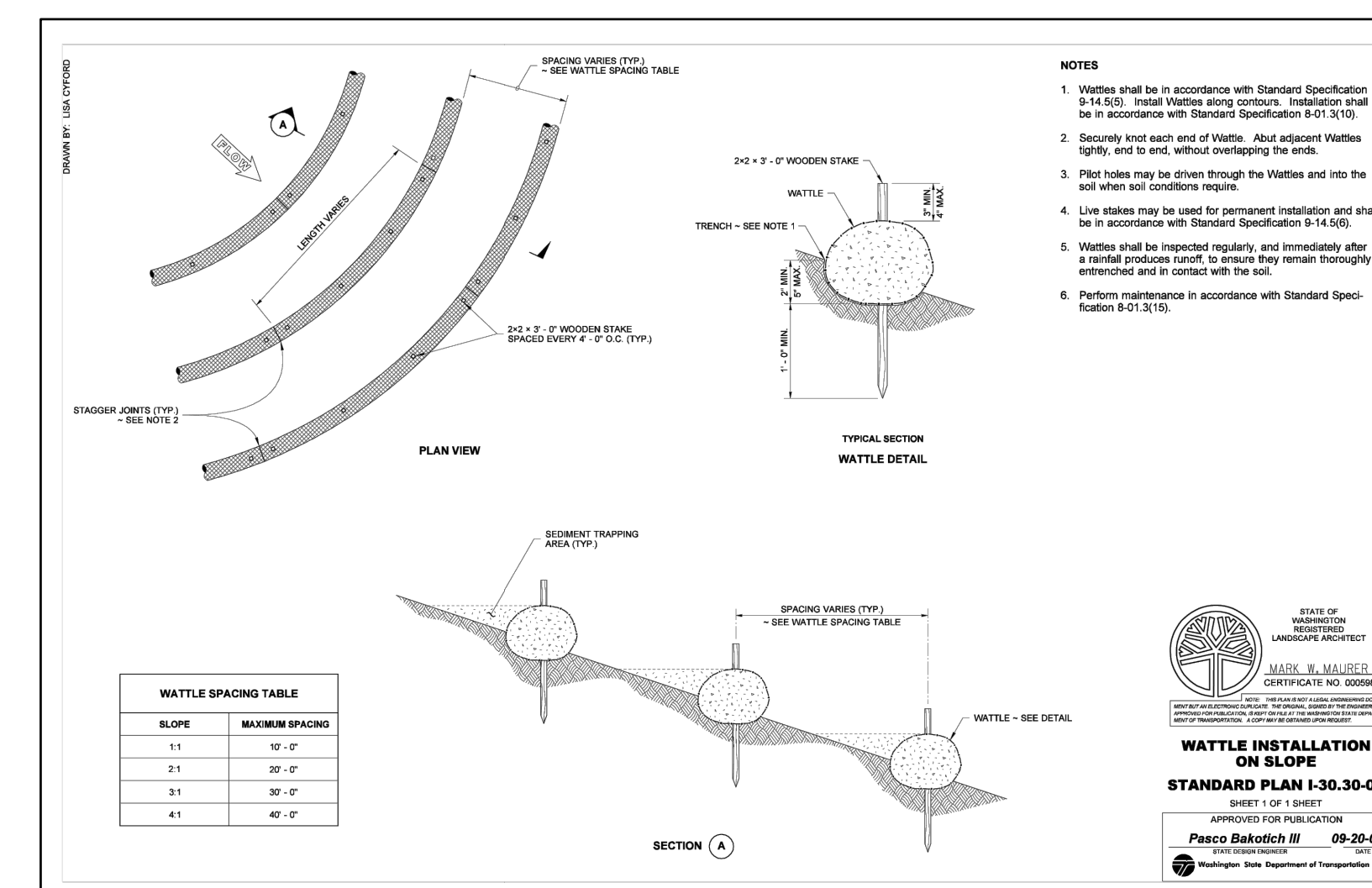
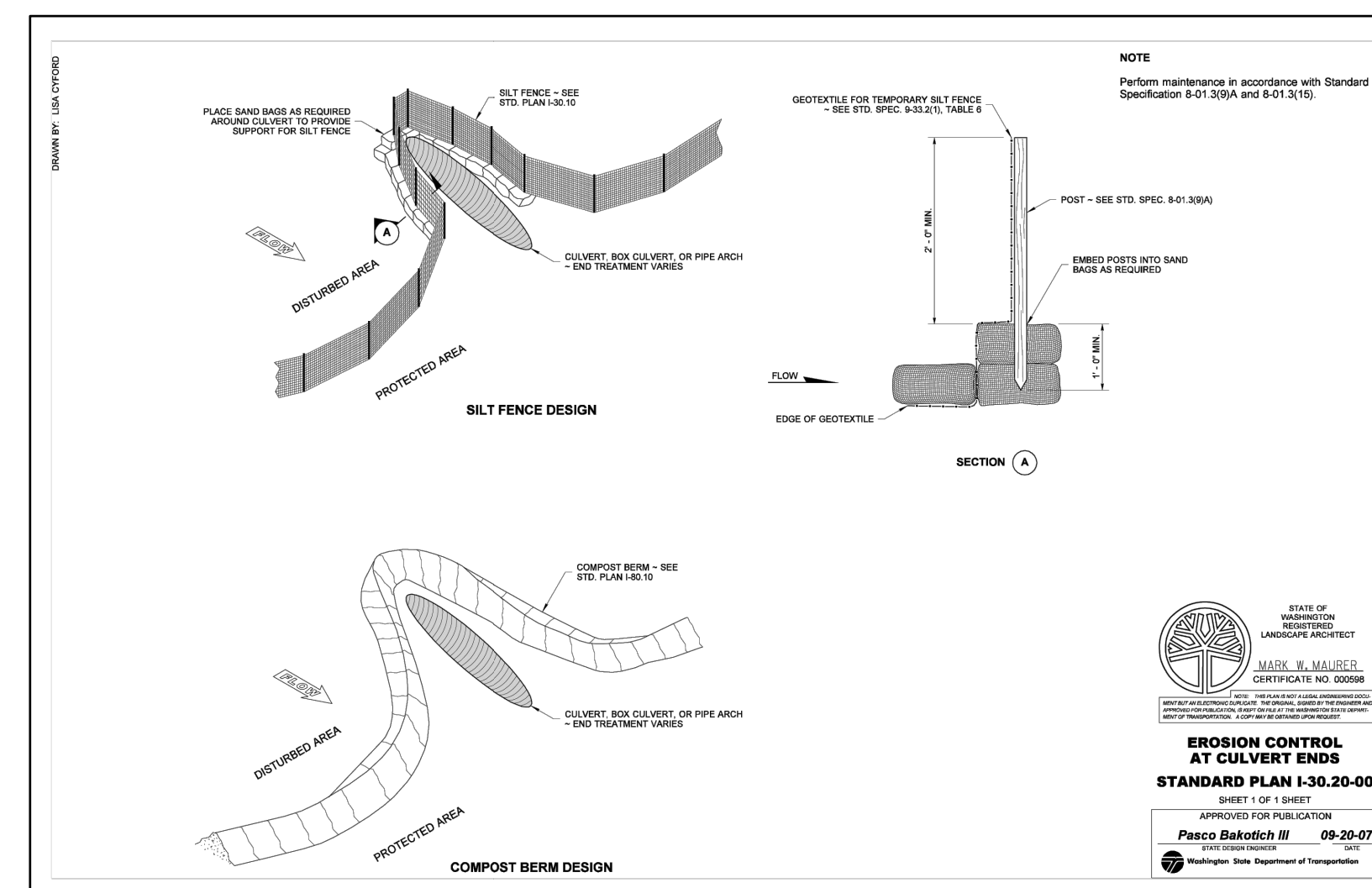
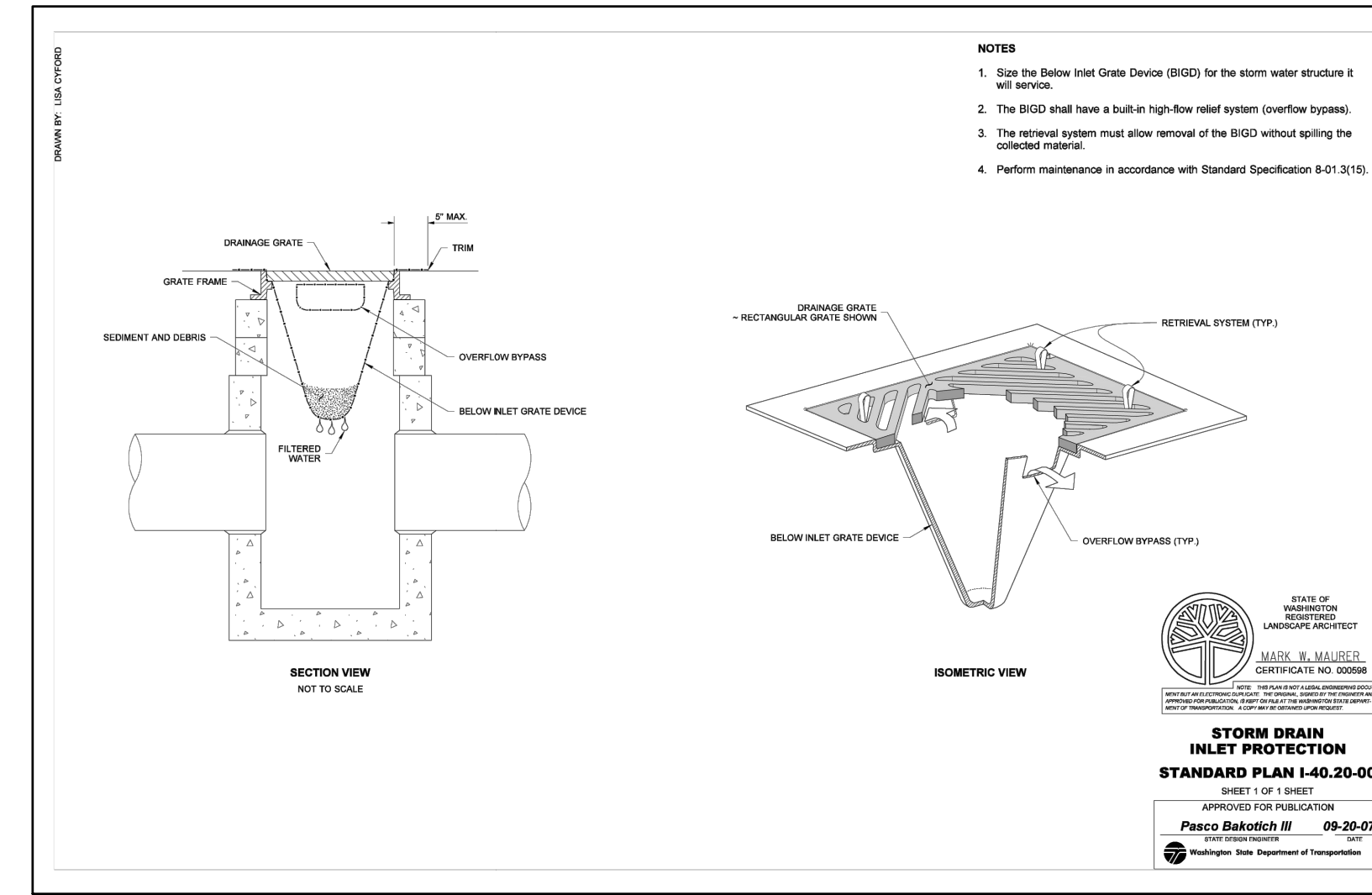
- VERIFY THE LOCATIONS, ELEVATIONS, DIAMETERS, MATERIALS, AND OTHER PARAMETERS OF EXISTING FACILITIES TO WHICH NEW FACILITIES CONNECT BEFORE BEGINNING ANY WORK.
- VERIFY INVERT ELEVATION OF EXISTING UTILITIES BY POTHOLING A MINIMUM OF 200 FEET AHEAD OF WATERLINE INSTALLATION.
- PROTECT ALL EXISTING UTILITIES, SERVICE CONNECTIONS AND ALL SURFACE IMPROVEMENTS. CONTRACTOR SHALL REPAIR ALL SERVICE CONNECTIONS WHETHER SHOWN ON THESE PLANS OR NOT.
- PROTECT ALL EXISTING UTILITIES AND SURFACE IMPROVEMENTS. CONTRACTORS SHALL COORDINATE WITH PROPERTY OWNERS DURING CONSTRUCTION TO AVOID DAMAGING EXISTING FACILITIES. CONTRACTOR SHALL BE RESPONSIBLE TO IDENTIFY AND LOCATE ALL EXISTING UTILITIES ON PRIVATE PROPERTY.
- CONSTRUCTION ACTIVITIES SHALL NOT EXTEND BEYOND THE LIMITS SHOWN IN THE PLANS WITHOUT PRIOR APPROVAL OF THE ENGINEER.
- CONTRACTOR TO COORDINATE WORK WITH & WITHIN APPROVED TRAFFIC CONTROL PLANS.
- REFER TO EROSION AND SEDIMENTATION CONTROL DRAWINGS FOR PROTECTION REQUIREMENTS.
- CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTING, MAINTAINING AND REMOVING TEMPORARY ACCESS ROADS AND RESTORATION OF CONSTRUCTION AREAS TO PRE-CONSTRUCTION CONDITION OR BETTER.
- PROVIDE AND MAINTAIN TEMPORARY PAVEMENT MARKINGS UNTIL PERMANENT MARKINGS RESTORATION. PROVIDE PERMANENT RESTORATION OF PAVEMENT MARKINGS AFTER PAVEMENT RESTORATION IS COMPLETED.
- SUPPORT POWER AND TELEPHONE POLES DURING PIPELINE INSTALLATION. COORDINATE WITH PUGET SOUND ENERGY TO PROVIDE TEMPORARY GUYS OR SUPPORTS AS NECESSARY.
- EXCESS TRENCH MATERIALS MUST BE HAULED OFF SITE. NO SPOILS SHALL BE SPREAD IN WETLANDS OR WETLAND BUFFERS. NO MATERIALS SHALL BE STOCKPILED IN WETLANDS OR WETLAND BUFFERS.
- REMOVE AND REPLACE ALL MAILBOXES AS REQUIRED FOR CONSTRUCTION OF THE PIPELINE.
- REMOVE AND REPLACE ALL TRAFFIC AND ROADWAY SIGNS AS REQUIRED FOR CONSTRUCTION.
- MINIMUM 12-INCH SAND CUSHION IS DESIRED BETWEEN WATERLINE AND EXISTING PIPELINES OR OTHER CONDUITS WHEN ENCOUNTERED DURING CONSTRUCTION. NOTIFY DISTRICT INSPECTOR IF LESS THAN 12-INCHES OF CUSHION WILL OCCUR.
- TURBID WATER GENERATED FROM CONSTRUCTION ACTIVITIES, INCLUDING TURBID DEWATERING WATER, SHALL NOT BE DISCHARGED DIRECTLY TO ANY SURFACE WATER. TEMPORARY SEDIMENT PONDS OR BAKER TANKS SHALL BE USED, AS NECESSARY, TO ALLOW THE TURBID WATER TO SETTLE BEFORE DISCHARGE. DEWATERED GROUNDWATER CAN BE TREATED USING BAKER TANKS ONSITE OR TREATED AND DISPOSED OFFSITE, UPON APPROVAL OF ENGINEER, AND PER APPLICABLE RULES AND GUIDELINES OF DEPARTMENT OF ECOLOGY AND OTHER REQUIREMENTS OF APPLICABLE JURISDICTIONS.



**Standard ESC Plan Notes**

- AS DIRECTED BY PUBLIC WORKS DIRECTOR PRIOR TO COMMENCING CONSTRUCTION, ALL CRITICAL AREAS, INCLUDING WETLAND BUFFERS, STREAM CORRIDOR, LANDFILL AREAS, AND STEEP SLOPES SHALL BE CONTINUOUSLY DEMARCATED IN THE FIELD USING FLAGGING TAPE OR FENCING.
- EROSION CONTROL METHODS AND MATERIALS SHALL MEET REQUIREMENTS OF SECTION 8-01 OF THE APWA/WASHINGTON STATE DEPARTMENT OF TRANSPORTATION 1998 STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, AND REQUIREMENTS SET FORTH IN VOLUME II OF THE "STORMWATER MANAGEMENT MANUAL FOR THE PUGET SOUND BASIN (THE TECHNICAL MANUAL)", BY THE WASHINGTON STATE DEPARTMENT OF ECOLOGY, CURRENT EDITION. THE CONTRACTOR SHALL FOLLOW RECOMMENDATIONS MADE BY SUPPLIERS AND MANUFACTURERS OF MATERIALS AND EQUIPMENT USED.
- THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT-LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS, AND MUST BE INSTALLED AND IN OPERATION PRIOR TO ANY GRADING OR LAND CLEARING. WHEREVER POSSIBLE, MAINTAIN NATURAL VEGETATION FOR SILT CONTROL.
- THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED (E.G. ADDITIONAL SUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.) AS NEEDED FOR UNEXPECTED STORM EVENTS. ADDITIONALLY, MORE ESC FACILITIES MAY BE REQUIRED TO ENSURE COMPLETE SILTATION CONTROL. THEREFORE, DURING THE COURSE OF CONSTRUCTION, IT SHALL BE THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY HIS ACTIVITIES AND TO PROVIDE ADDITIONAL FACILITIES OVER AND ABOVE THE MINIMUM REQUIREMENTS AS MAY BE NEEDED.
- ANY PERMANENT RETENTION/DETENTION FACILITY USED AS A TEMPORARY SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY. IF THE PERMANENT FACILITY IS TO FUNCTION ULTIMATELY AS AN INFILTRATION OR DISPERSION SYSTEM, THE FACILITY SHALL NOT BE USED AS A TEMPORARY SETTLING BASIN. NO UNDERGROUND DETENTION TANK, DETENTION VAULT, OR SYSTEM, WHICH BACKS UNDER OR INTO A POND, SHALL BE USED AS A TEMPORARY SETTLING BASIN.
- WHERE SEEDING FOR TEMPORARY EROSION CONTROL IS REQUIRED, FAST GERMINATING GRASSES SHALL BE APPLIED AT AN APPROPRIATE RATE (EXAMPLE: ANNUAL OR PERENNIAL RYE APPLIED AT APPROXIMATELY 80 POUNDS PER ACRE).
- WHERE STRAW MULCH IS REQUIRED FOR TEMPORARY EROSION CONTROL, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF TWO (2) INCHES.
- ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH SPECIFICATIONS OF THE CITY OR COUNTY IN WHICH THE WORK OCCURS.
- THE ESC FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS ON THE APPROVED PLANS. LOCATIONS MAY BE MOVED TO SUIT FIELD CONDITIONS, SUBJECT TO APPROVAL.
- A COPY OF THE APPROVED EROSION CONTROL PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
- OFF-SITE STREETS MUST BE KEPT CLEAN AT ALL TIMES. IF DIRT IS DEPOSITED ON THE PUBLIC STREET SYSTEM, THE STREET SHALL BE IMMEDIATELY CLEANED WITH POWER SWEEPER OR OTHER EQUIPMENT. ALL VEHICLES SHALL LEAVE THE SITE BY WAY OF THE CONSTRUCTION ENTRANCE AND SHALL BE CLEANED OF ALL DIRT THAT WOULD BE DEPOSITED ON THE PUBLIC STREETS.
- ANY CATCH BASINS COLLECTING RUNOFF FROM THE SITE, WHETHER THEY ARE ON OR OFF THE SITE, SHALL HAVE THEIR GRATES COVERED WITH FILTER FABRIC DURING CONSTRUCTION.
- THE WASHED GRAVEL BACKFILL ADJACENT TO THE FILTER FABRIC FENCE SHALL BE REPLACED AND THE FILTER FABRIC CLEANED IF IT IS NONFUNCTIONAL BY EXCESSIVE SILT ACCUMULATION. ALL INTERCEPTOR SWALES SHALL BE CLEANED IF SILT ACCUMULATION EXCEEDS ONE-QUARTER DEPTH.

- ROCK FOR EROSION PROTECTION OF ROADWAY DITCHES, WHERE REQUIRED, MUST BE OF SOUND QUARRY ROCK, PLACED TO DEPTH OF ONE (1) FOOT AND MUST MEET THE FOLLOWING SPECIFICATIONS: 4" - 8" ROCK/40%-70% PASSING; 2"-4" ROCK/30%-40% PASSING; AND 1"-2" ROCK/10%-20% PASSING.
- IF ANY PART (S) OF THE CLEARING LIMIT; BOUNDARY OR TEMPORARY EROSION/SEDIMENTATION CONTROL PLAN IS/ARE DAMAGED, IT SHALL BE REPAIRED IMMEDIATELY.
- ALL PROPERTIES ADJACENT TO THE PROJECT SITE SHALL BE PROTECTED FROM SEDIMENT DEPOSITION AND RUNOFF DO NOT FLUSH CONCRETE BY PRODUCTS OR TRUCKS NEAR OR INTO THE STORM DRAINAGE SYSTEM. IF EXPOSED AGGREGATE IS FLUSHED INTO THE STORM SYSTEM, IT COULD MEAN RECLEANING THE ENTIRE DOWNSTREAM STORM SYSTEM, OR POSSIBLY RELAYING THE STORM LINE.
- THE IMPLEMENTATION OF THESE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/ESC SUPERVISOR UNTIL ALL CONSTRUCTION IS APPROVED.
- THE ESC LEAD'S NAME IS: _____
- THE APPLICANT'S NAME IS : PUD NO. 1 OF SKAGIT COUNTY, 24 HR. CONTACT NUMBER: 360-424-7104.
- THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/ESC LEAD AND MAINTAINED TO ENSURE CONTINUED PROPER FUNCTIONING. WRITTEN RECORDS SHALL BE KEPT OF WEEKLY REVIEWS OF THE ESC FACILITIES DURING THE WET SEASON (OCT. 1 TO APRIL 30) AND OF THE MONTHLY REVIEWS DURING THE DRY SEASON (MAY 1 TO SEPT. 30).
- ANY AREAS OF EXPOSED SOILS, INCLUDING ROADWAY EMBANKMENTS, THAT WILL NOT BE DISTURBED FOR TWO DAYS DURING THE WET SEASON OR SEVEN DAYS DURING THE DRY SEASON SHALL BE IMMEDIATELY STABILIZED WITH THE APPROVED ESC METHODS (E.G., SEEDING, MULCHING, PLASTIC COVERING, ETC.).
- ANY AREA NEEDING ESC MEASURES NOT REQUIRING IMMEDIATE ATTENTION SHALL BE ADDRESSED WITHIN FIFTEEN (15) DAYS.
- THE ESC FACILITIES ON ACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN FORTY-EIGHT (48) HOURS FOLLOWING A STORM EVENT.
- AT NO TIME SHALL MORE THAN ONE (1) FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.
- STABILIZED CONSTRUCTION ENTRANCES AND ROADS SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
- ANY PERMANENT FLOW CONTROL FACILITY USED AS A TEMPORARY SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY. IF THE FACILITY IS TO FUNCTION AS ULTIMATELY AS AN INFILTRATION SYSTEM, THE TEMPORARY FACILITY MUST BE GRADED SO THAT THE BOTTOM AND SIDES ARE AT LEAST THREE FEET ABOVE THE FINAL GRADE OF THE PERMANENT FACILITY.
- PRIOR TO THE BEGINNING OF THE WET SEASON (OCT. 1), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION FOR THE WINTER RAINS. DISTURBED AREAS SHALL BE SEEDED WITHIN ONE WEEK OF THE BEGINNING OF THE WET SEASON. A SKETCH MAP OF THOSE AREAS TO BE SEEDED AND THOSE AREAS TO REMAIN UNCOVERED SHALL BE SUBMITTED TO THE CITY INSPECTOR. THE CITY INSPECTOR CAN REQUIRE SEEDING OF ADDITIONAL AREAS IN ORDER TO PROTECT SURFACE WATERS, ADJACENT PROPERTIES, OR DRAINAGE FACILITIES.
- CONTRACTOR SHALL MAINTAIN ALL BMP'S UNTIL DISTURBED AREAS HAVE STABILIZED.



ISSUE	REVISIONS	BY	DATE
1.	30% DESIGN	MCH	11/20/23
2.	60% DESIGN	MCH	2/2/24
3.	100% DESIGN	MCH	6/6/24
4.	ISSUED FOR BIDDING	MCH	8/9/24



DATUM:  
HOR: NAD 83  
VERT: NAVD 88

DSGN BY: KAN  
DWN BY: KAN  
APPVD BY: MCH

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TWP: 34.35 N  
RGE: 04 E

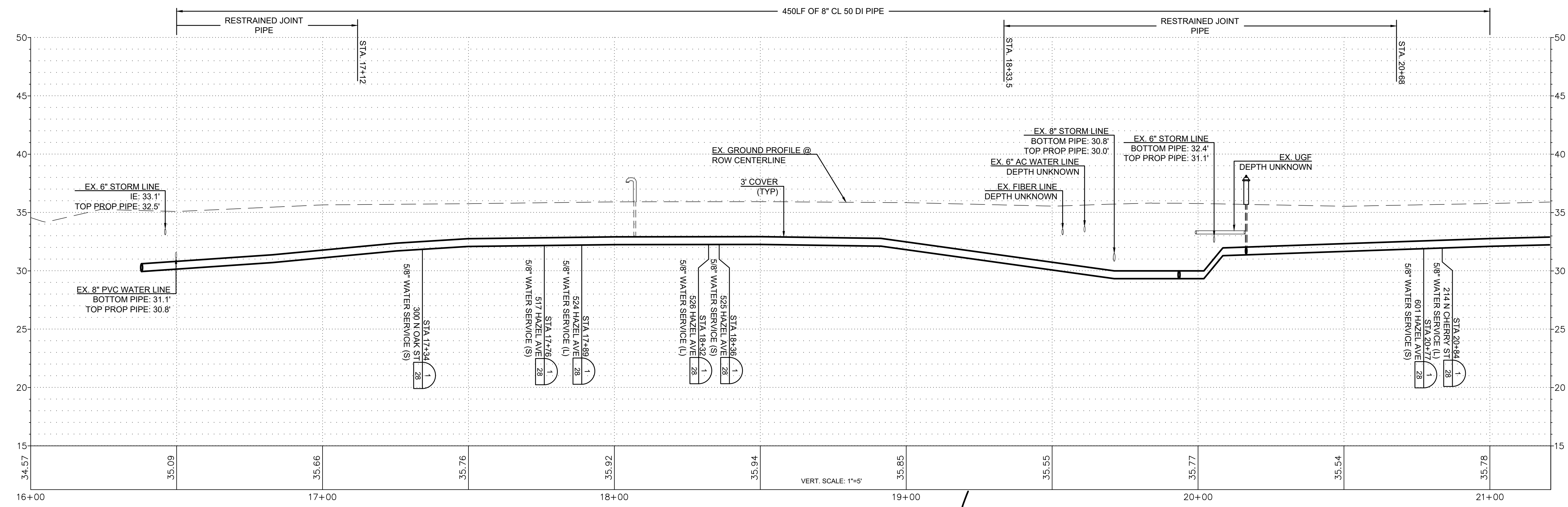
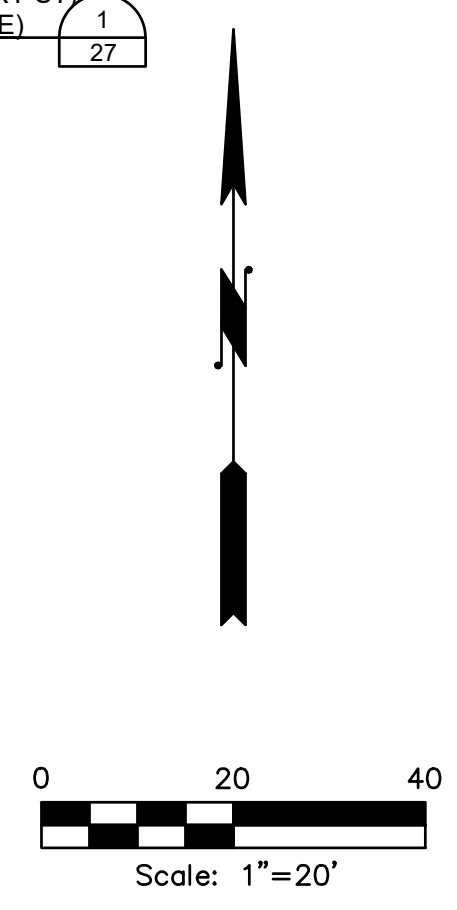
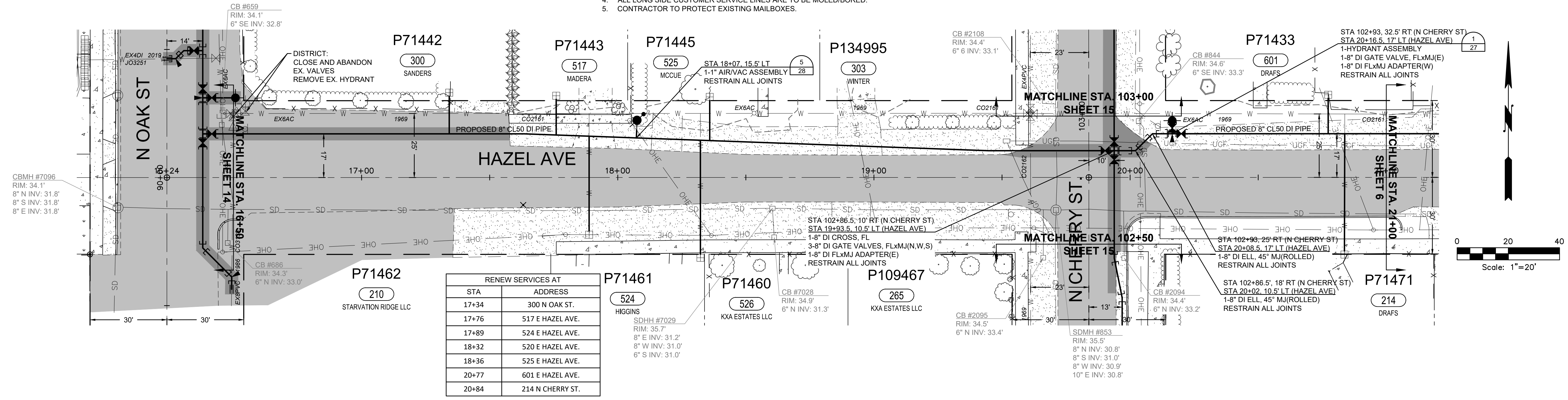


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Mount Vernon, WA 98273  
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www.SkagitPud.org

**NORTH BURLINGTON PIPELINE REPLACEMENT**  
BMP AND STORM DETAILS

SCALE: 1"=20'  
JOB ID : CP4804  
SHEET: 4 OF 29

- NOTES:
1. CONTRACTOR TO EXPOSE EX. METER SETTERS FOR DISTRICT CONNECTIONS.
  2. CONTRACTOR TO POT HOLE EX. TO ESTABLISH LINE AND GRADE FOR CONNECTIONS
  3. CONTRACTOR RESPONSIBLE FOR ALL EXCAVATION, SHORING, DEWATERING, TRAFFIC CONTROL, CONCRETE THRUST BLOCKING, BACKFILL, COMPACTION, AND SURFACE RESTORATION.
  4. ALL LONG SIDE CUSTOMER SERVICE LINES ARE TO BE MOLED/BORED.
  5. CONTRACTOR TO PROTECT EXISTING MAILBOXES.



ISSUE	REVISIONS	BY	DATE
1.	30% DESIGN	MCH	11/20/23
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3.	100% DESIGN	MCH	6/6/24
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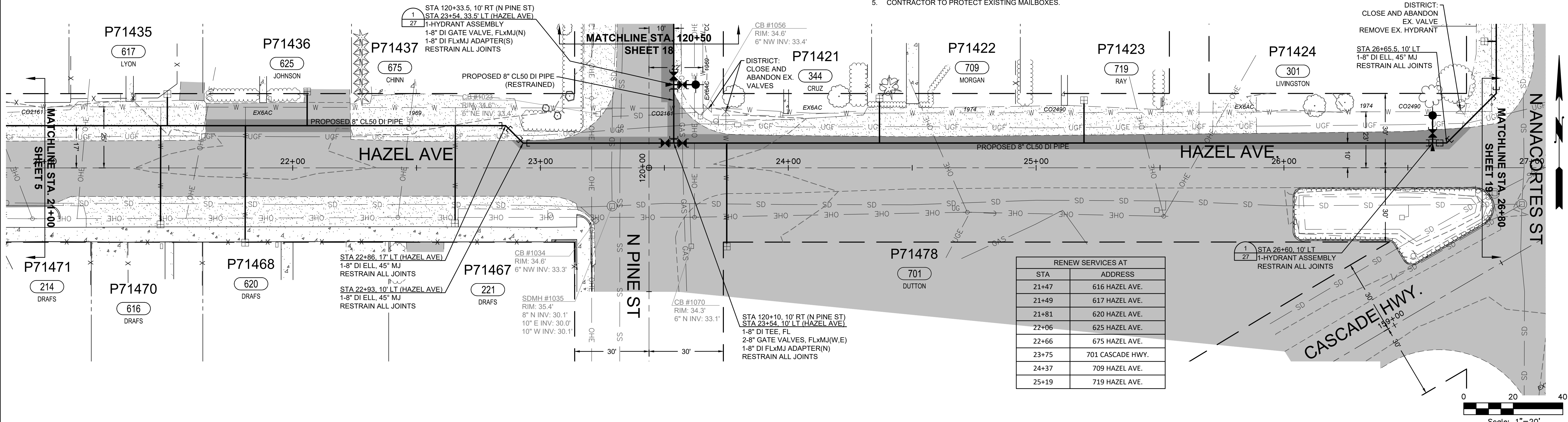
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DATE PRINTED:	SEC: 05.32
8/6/24	TWP: 34.35 N
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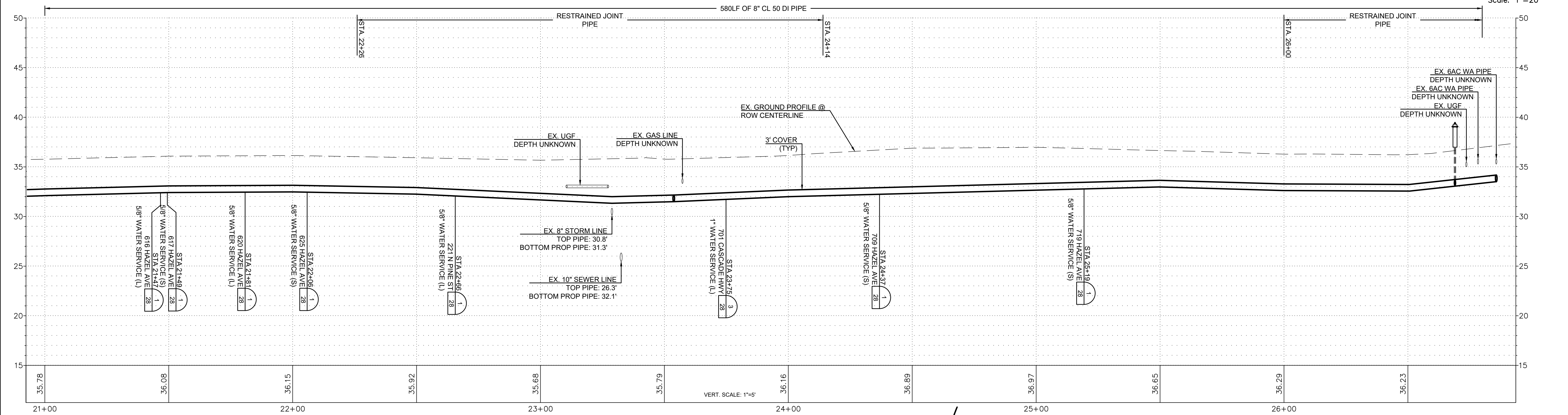
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Mount Vernon, WA 98273  
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NORTH BURLINGTON PIPELINE REPLACEMENT  
HAZEL AVE  
PLAN AND PROFILE  
STA 16+50 TO STA 21+00

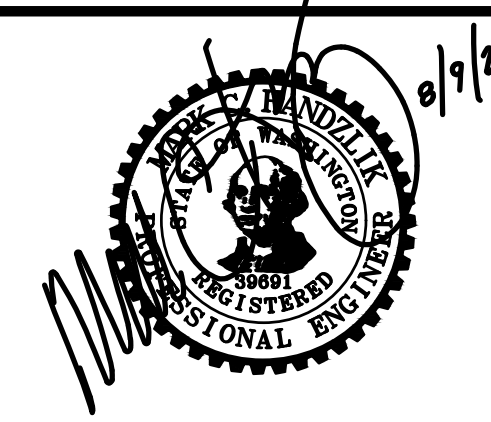
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RENEW SERVICES AT	
STA	ADDRESS
21+47	616 HAZEL AVE.
21+49	617 HAZEL AVE.
21+81	620 HAZEL AVE.
22+06	625 HAZEL AVE.
22+66	675 HAZEL AVE.
23+75	701 CASCADE HWY.
24+37	709 HAZEL AVE.
25+19	719 HAZEL AVE.



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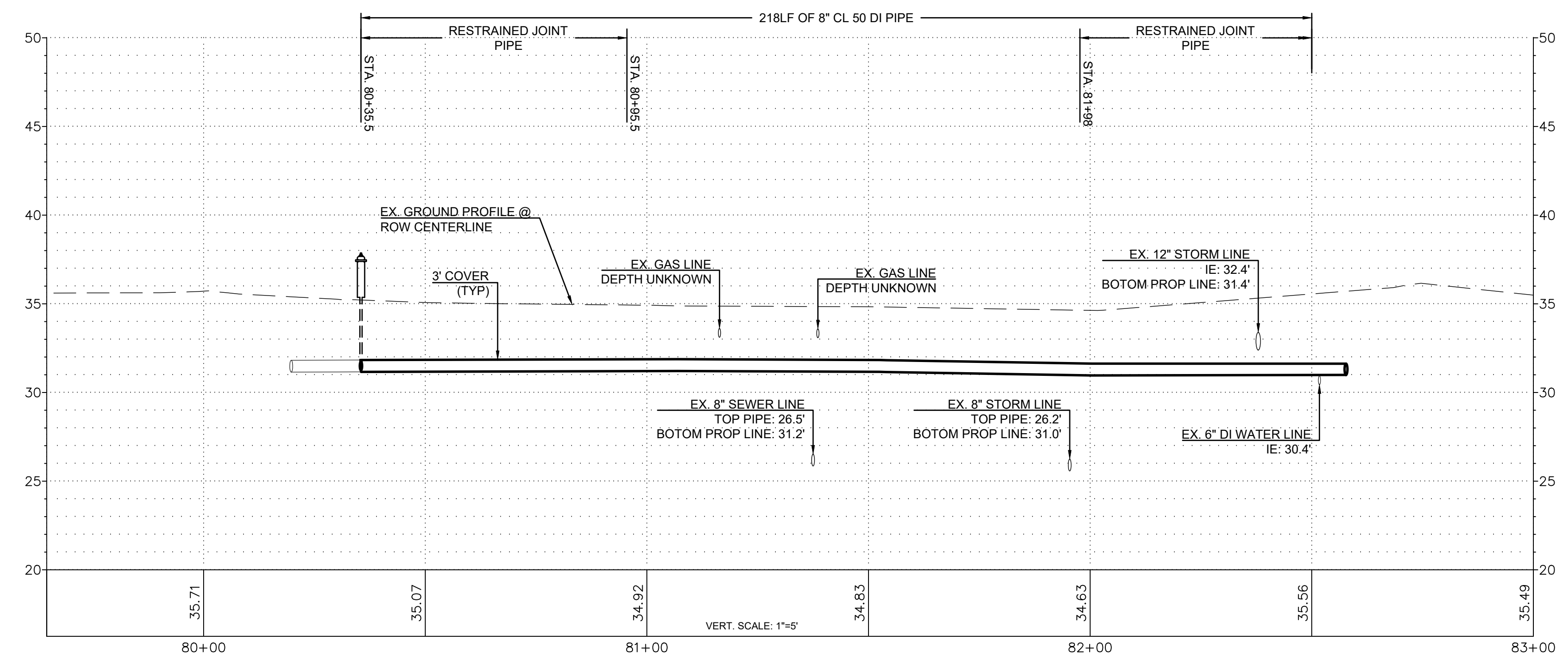
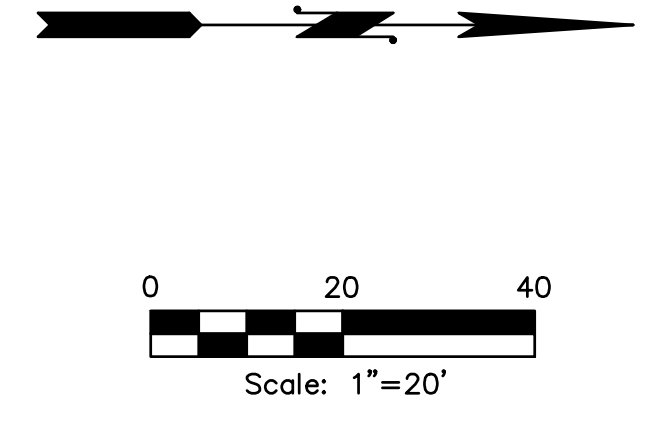
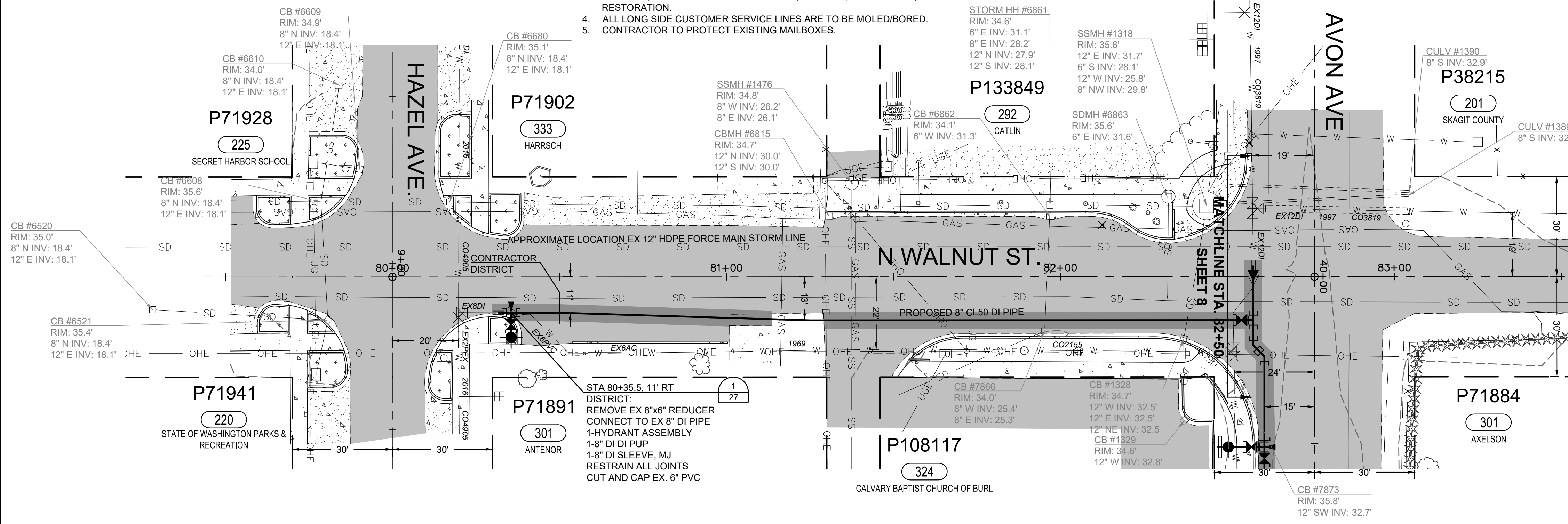


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NORTH BURLINGTON PIPELINE  
REPLACEMENT  
HAZEL AVE  
PLAN AND PROFILE  
STA 21+00 TO STA 26+80

SCALE: 1"=20'  
JOB ID: CP4804  
SHEET: 6 OF 29

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3.	100% DESIGN	MCH	6/6/24
4.	ISSUED FOR BIDDING	MCH	8/9/24



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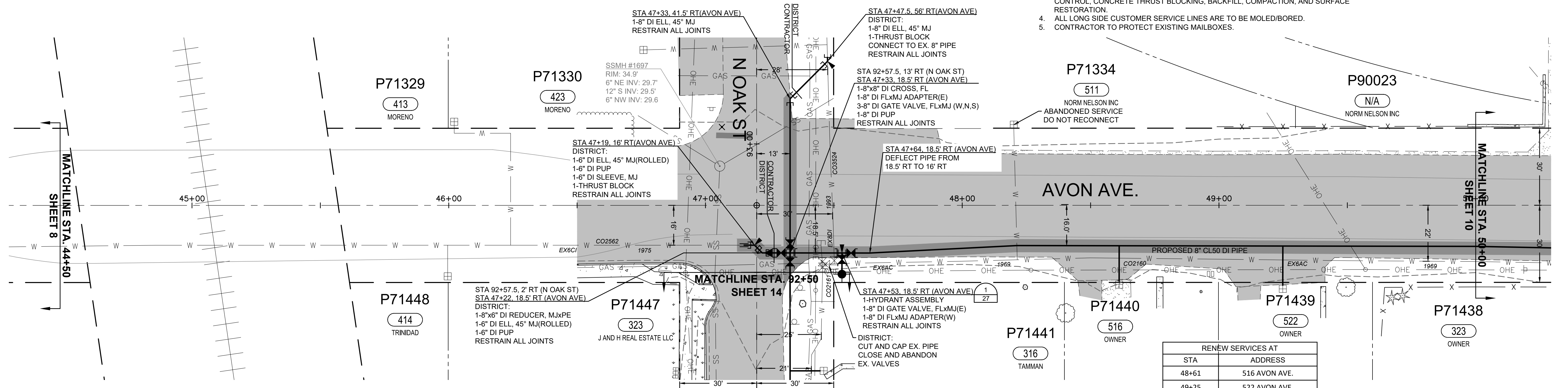


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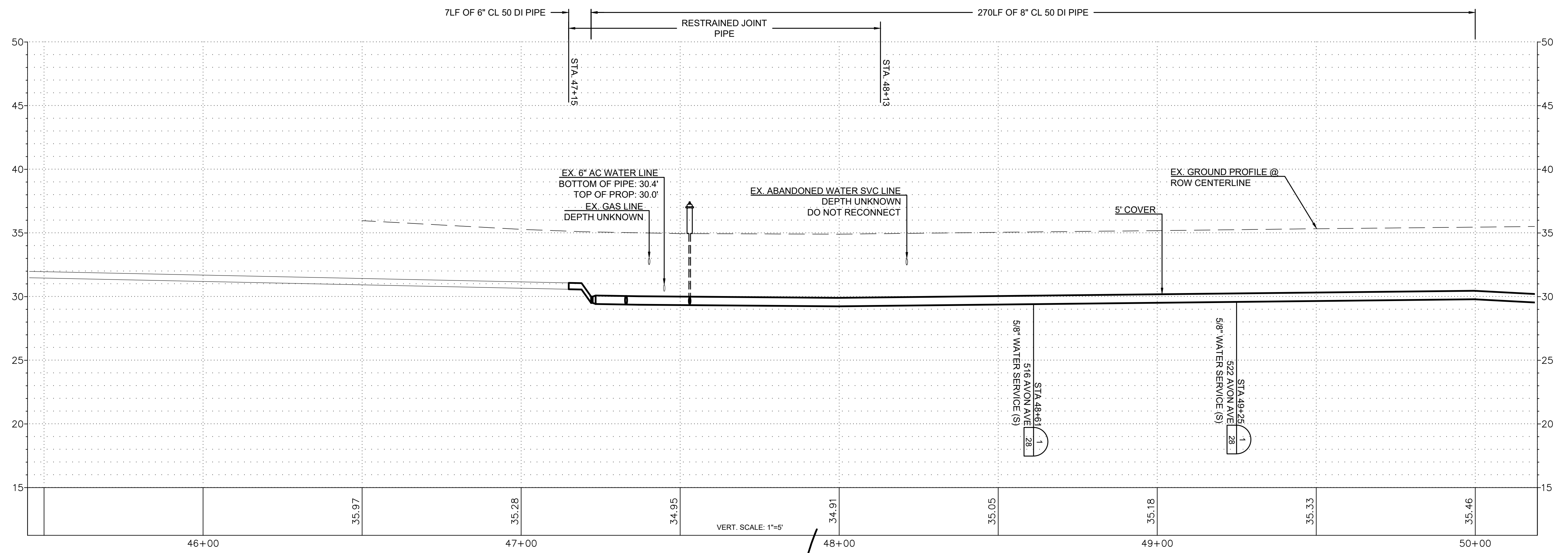
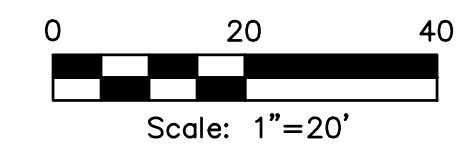
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REPLACEMENT  
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PLAN AND PROFILE  
STA 80+00 TO STA 82+50



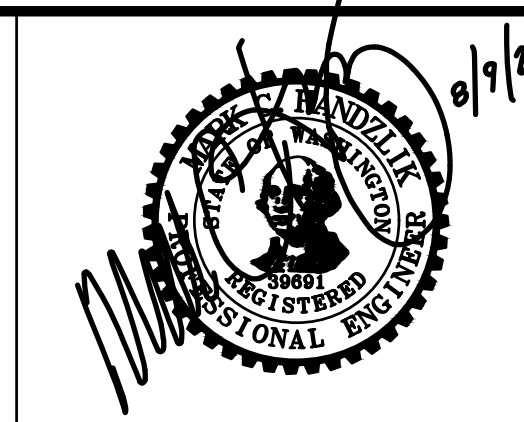
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RENEW SERVICES AT	
STA	ADDRESS
48+61	516 AVON AVE.
49+25	522 AVON AVE.



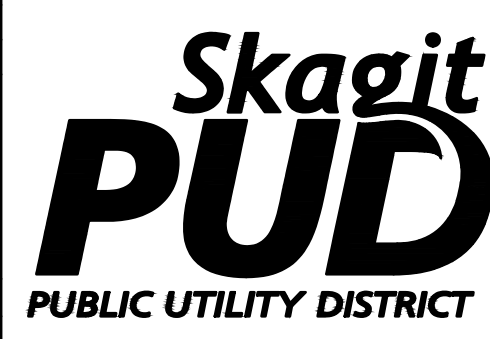
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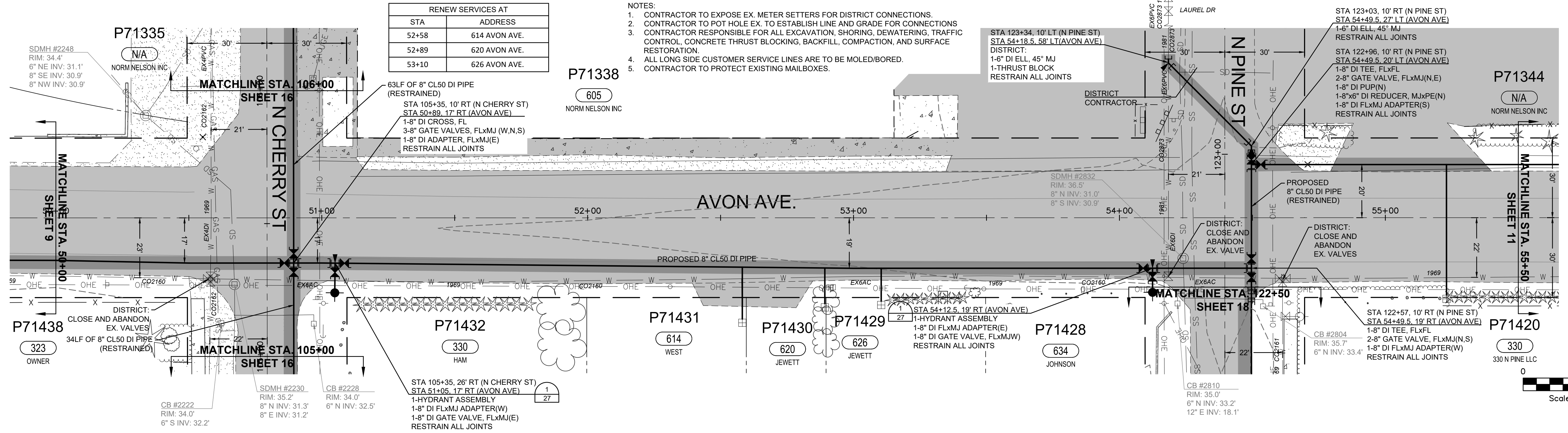
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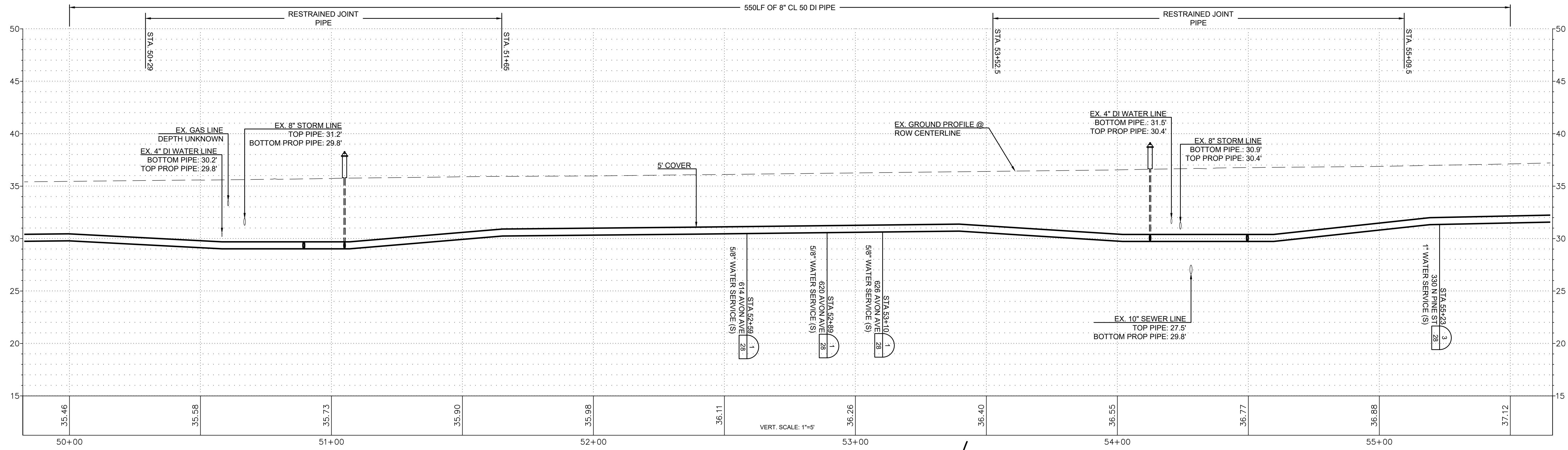
NORTH BURLINGTON PIPELINE  
REPLACEMENT  
AVON AVE  
PLAN AND PROFILE  
STA 44+50 TO STA 50+00

SCALE: 1"=20'    JOB ID: CP4804    SHEET: 9 OF 29



RENEW SERVICES AT	
STA	ADDRESS
52+58	614 AVON AVE.
52+89	620 AVON AVE.
53+10	626 AVON AVE.

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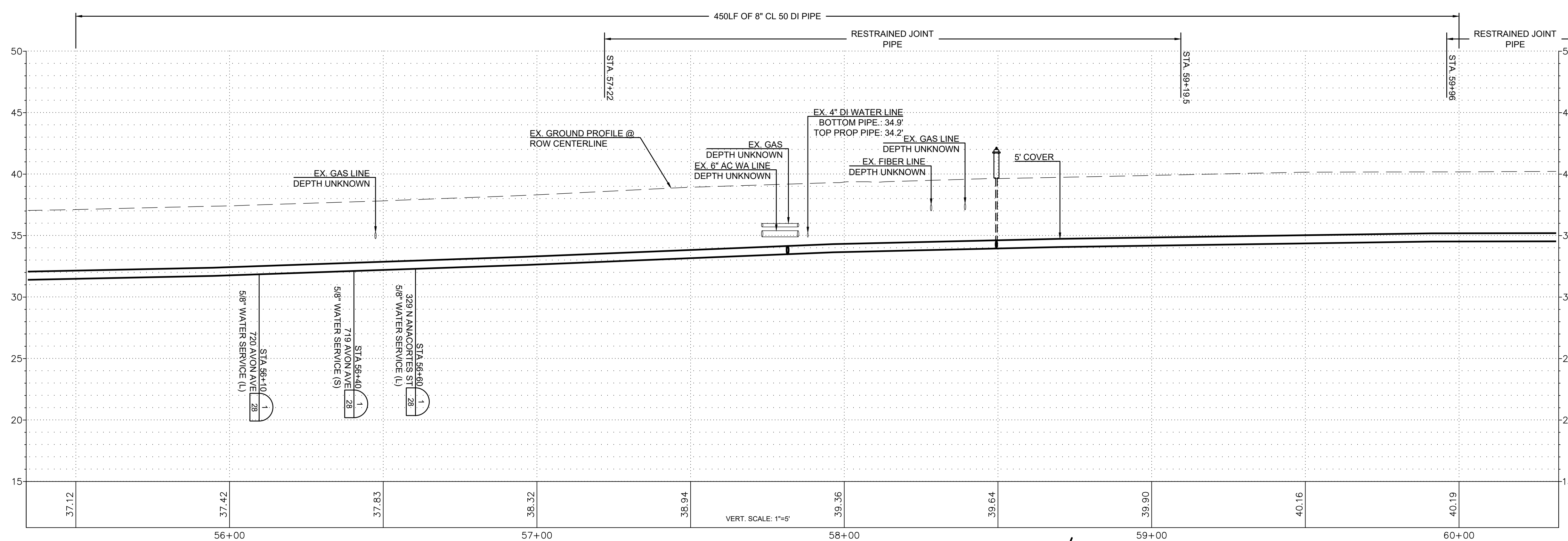
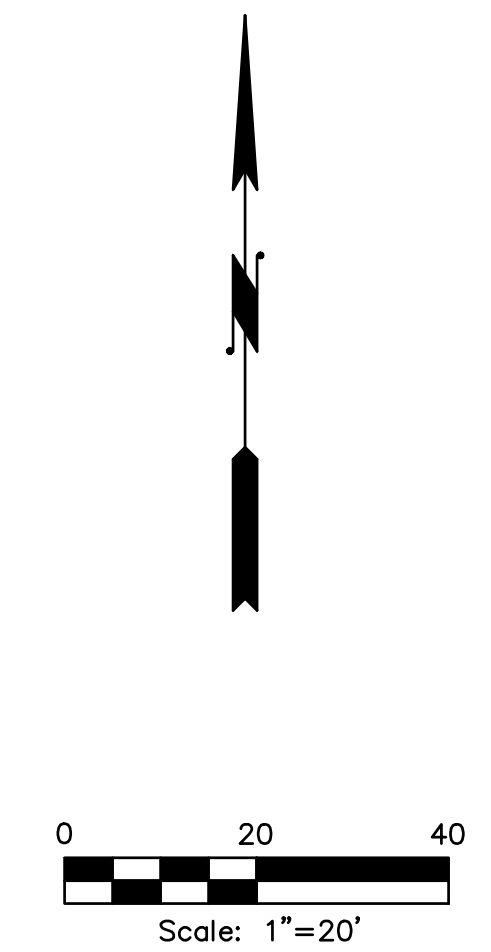
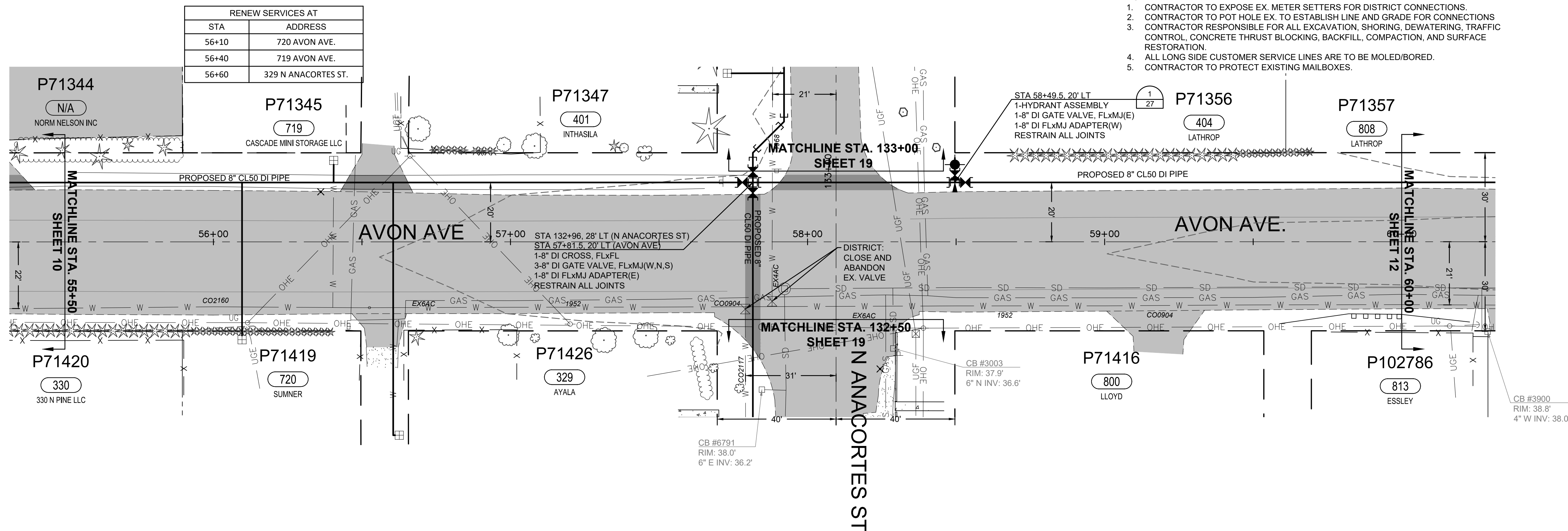


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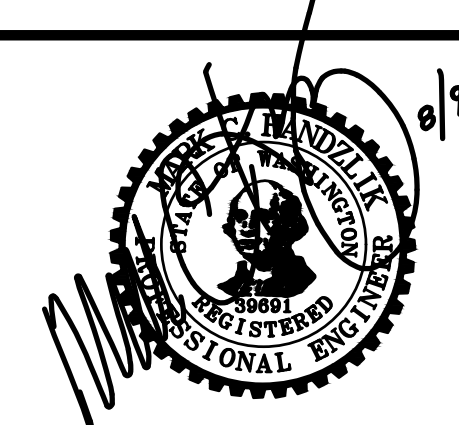


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AVON AVE  
PLAN AND PROFILE  
STA 50+00 TO STA 55+50



ISSUE	REVISIONS	BY	DATE
1.	30% DESIGN	MCH	11/20/23
2.	60% DESIGN	MCH	2/2/24
3.	100% DESIGN	MCH	6/6/24
4.	ISSUED FOR BIDDING	MCH	8/9/24



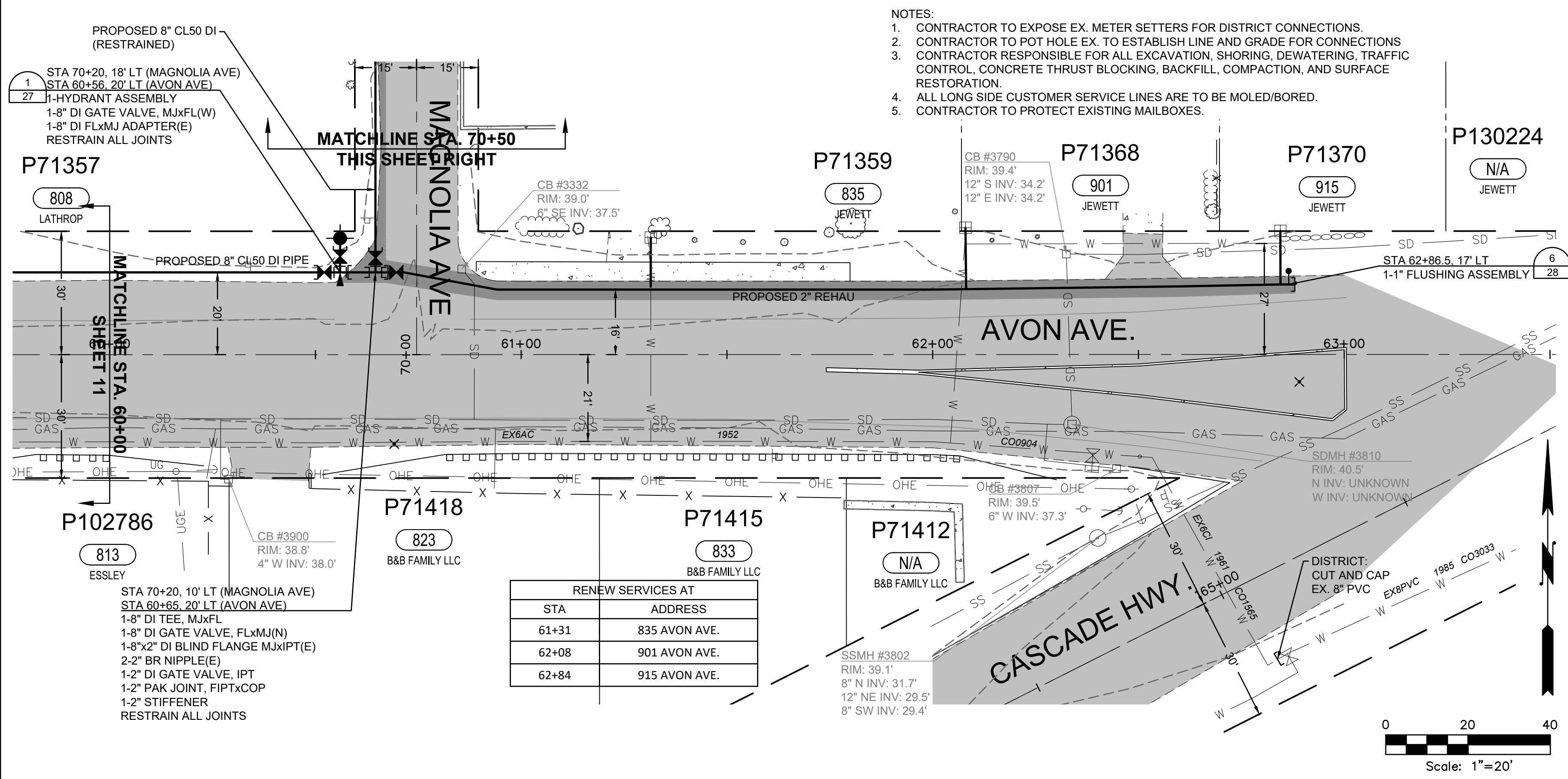
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DATE PRINTED: 8/6/24	SEC: 05.32 TWP: 34.35 N RGE: 04 E



PUBLIC UTILITY DISTRICT  
NO. 1 of SKAGIT COUNTY  
1415 Freeway Drive  
P.O. BOX 1436  
Mount Vernon, WA 98273  
(360) 424-7104  
www.SkagitPud.org

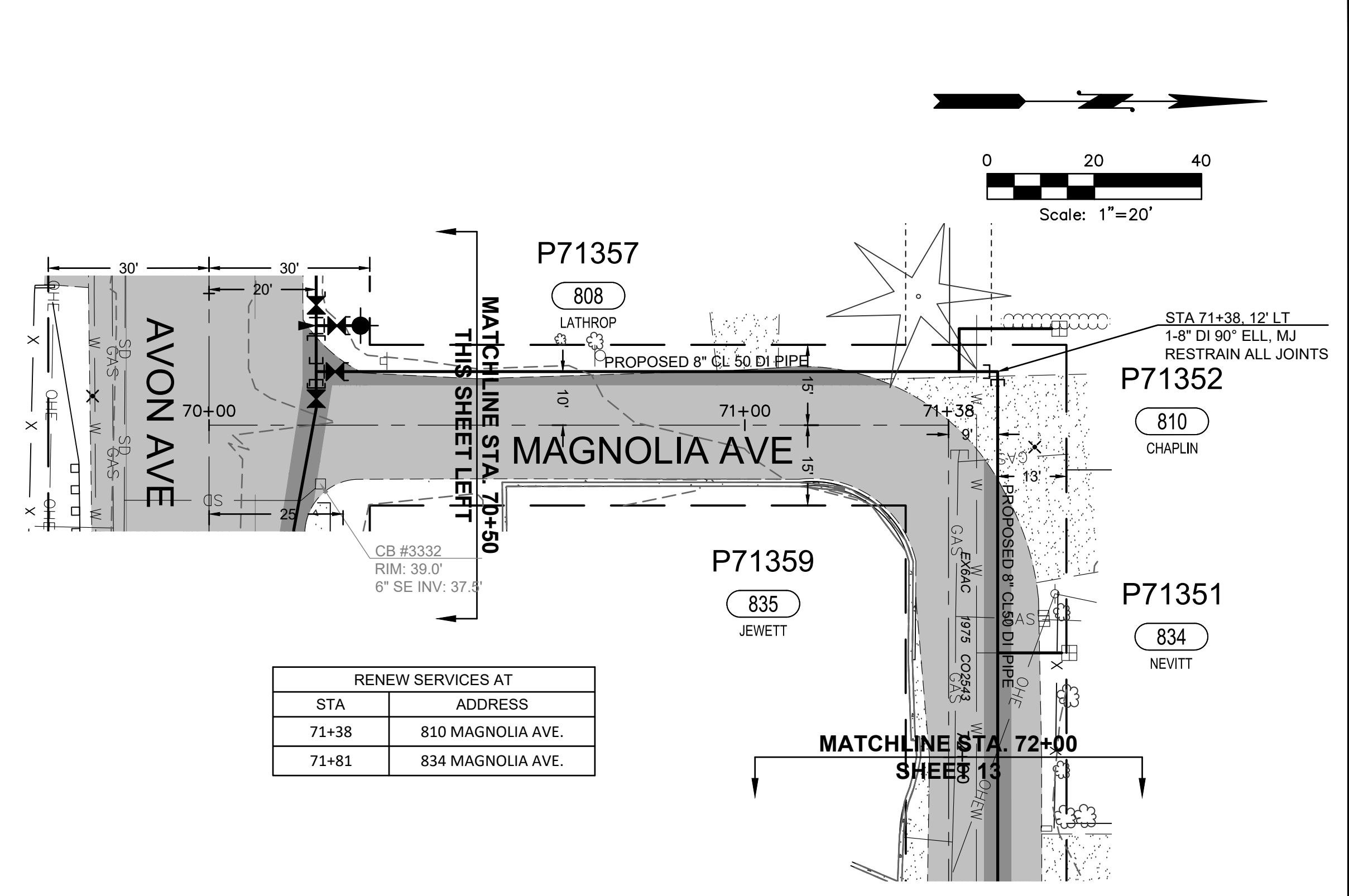
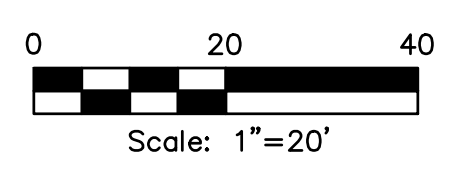
**NORTH BURLINGTON PIPELINE REPLACEMENT**  
AVON AVE  
PLAN AND PROFILE  
STA 55+50 TO STA 60+00

SCALE: 1"=20'    JOB ID: CP4804    SHEET: 11 OF 29

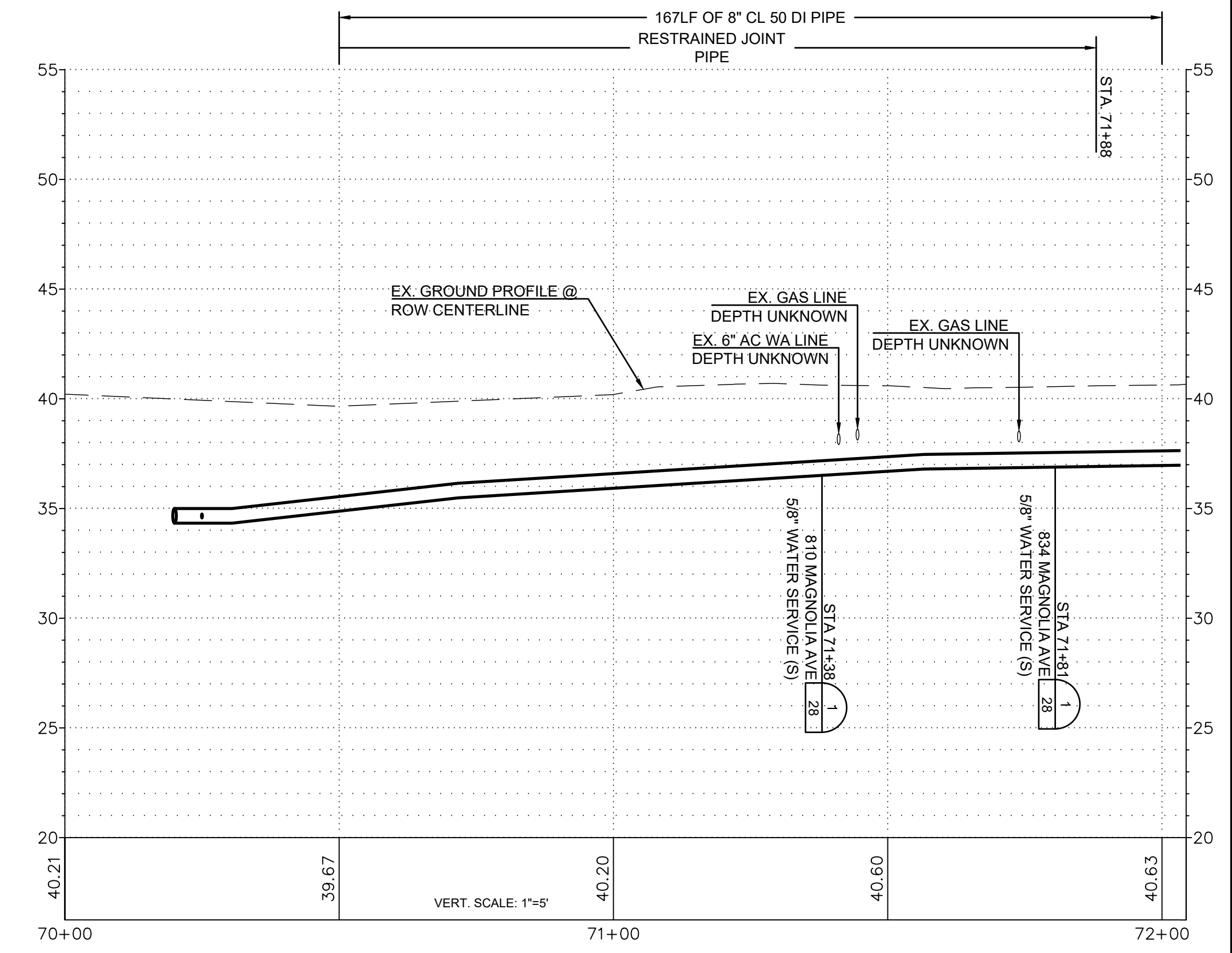
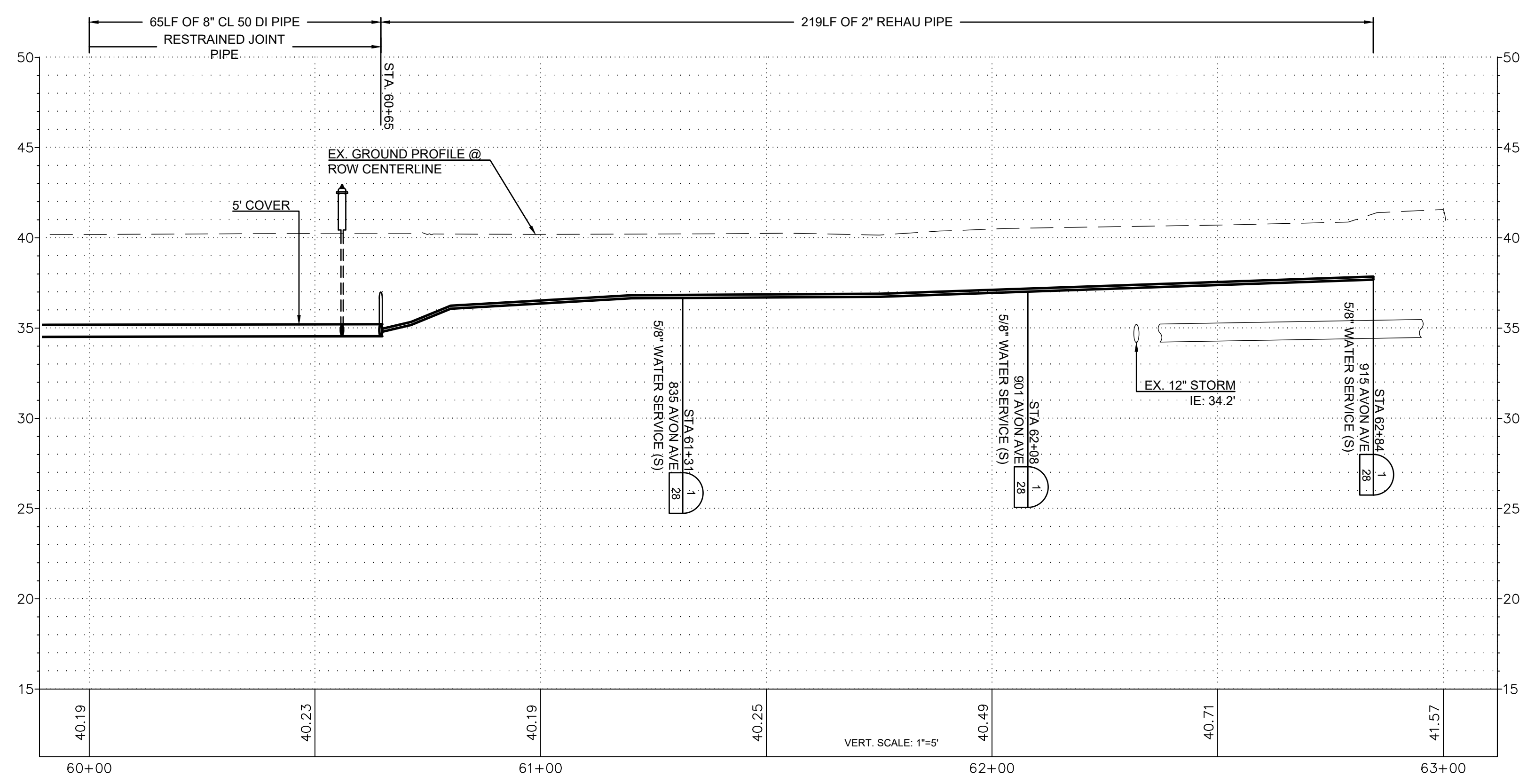
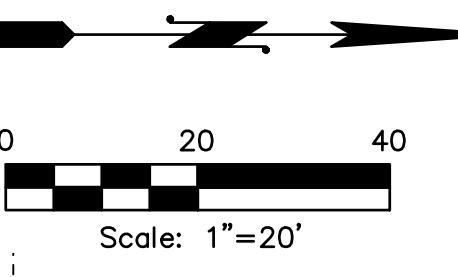


- NOTES:
1. CONTRACTOR TO EXPOSE EX. METER SETTERS FOR DISTRICT CONNECTIONS.
  2. CONTRACTOR TO POT HOLE EX. TO ESTABLISH LINE AND GRADE FOR CONNECTIONS
  3. CONTRACTOR RESPONSIBLE FOR ALL EXCAVATION, SHORING, DEWATERING, TRAFFIC CONTROL, CONCRETE THRUST BLOCKING, BACKFILL, COMPACTION, AND SURFACE RESTORATION.
  4. ALL LONG SIDE CUSTOMER SERVICE LINES ARE TO BE MOLED/BORED.
  5. CONTRACTOR TO PROTECT EXISTING MAILBOXES.

STA	ADDRESS
61+31	835 AVON AVE.
62+08	901 AVON AVE.
62+84	915 AVON AVE.



STA	ADDRESS
71+38	810 MAGNOLIA AVE.
71+81	834 MAGNOLIA AVE.



ISSUE	REVISIONS	BY	DATE
1.	30% DESIGN	MCH	11/20/23
2.	60% DESIGN	MCH	2/2/24
3.	100% DESIGN	MCH	6/6/24
4.	ISSUED FOR BIDDING	MCH	8/9/24



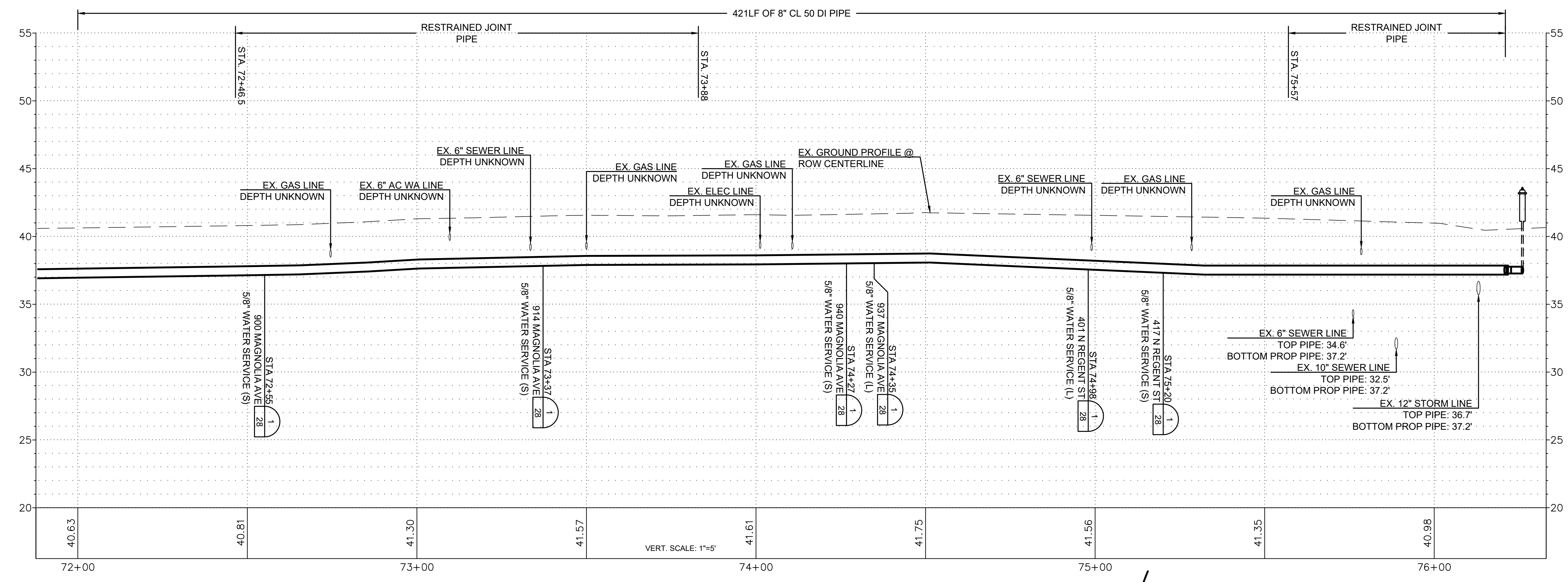
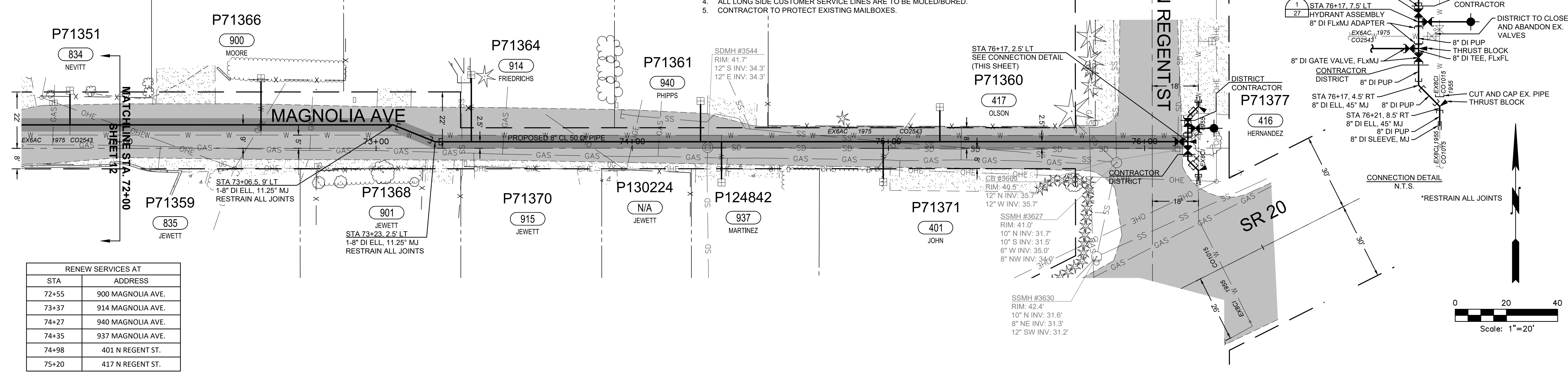
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HOR:	NAD 83	TWP:	34.35 N
VERT:	NAVD 88	RGE:	04 E



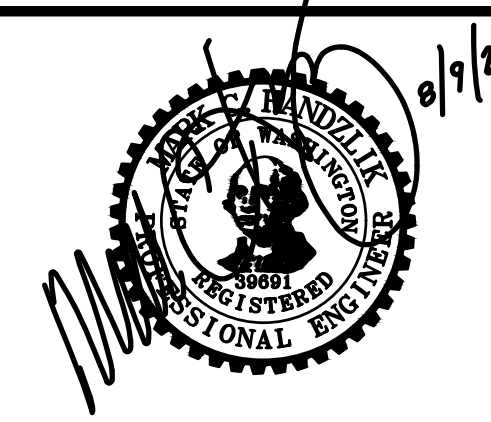
PUBLIC UTILITY DISTRICT  
NO. 1 of SKAGIT COUNTY  
1415 Freeway Drive  
P.O. BOX 1436  
Mount Vernon, WA 98273  
(360) 424-7104  
www.SkagitPud.org

NORTH BURLINGTON PIPELINE REPLACEMENT  
AVON AVE/MAGNOLIA AVE  
PLAN AND PROFILE  
STA 70+00 TO STA 63+00/  
STA 70+50 TO STA 72+00  
SCALE: 1"=20'  
JOB ID: CP4804  
SHEET: 12 OF 29

- NOTES:
- CONTRACTOR TO EXPOSE EX. METER SETTERS FOR DISTRICT CONNECTIONS.
  - CONTRACTOR TO POT HOLE EX. TO ESTABLISH LINE AND GRADE FOR CONNECTIONS
  - CONTRACTOR RESPONSIBLE FOR ALL EXCAVATION, SHORING, DEWATERING, TRAFFIC CONTROL, CONCRETE THRUST BLOCKING, BACKFILL, COMPACTION, AND SURFACE RESTORATION.
  - ALL LONG SIDE CUSTOMER SERVICE LINES ARE TO BE MOLED/BORED.
  - CONTRACTOR TO PROTECT EXISTING MAILBOXES.



ISSUE	REVISIONS	BY	DATE
1.	30% DESIGN	MCH	11/20/23
2.	60% DESIGN	MCH	2/2/24
3.	100% DESIGN	MCH	6/6/24
4.	ISSUED FOR BIDDING	MCH	8/9/24



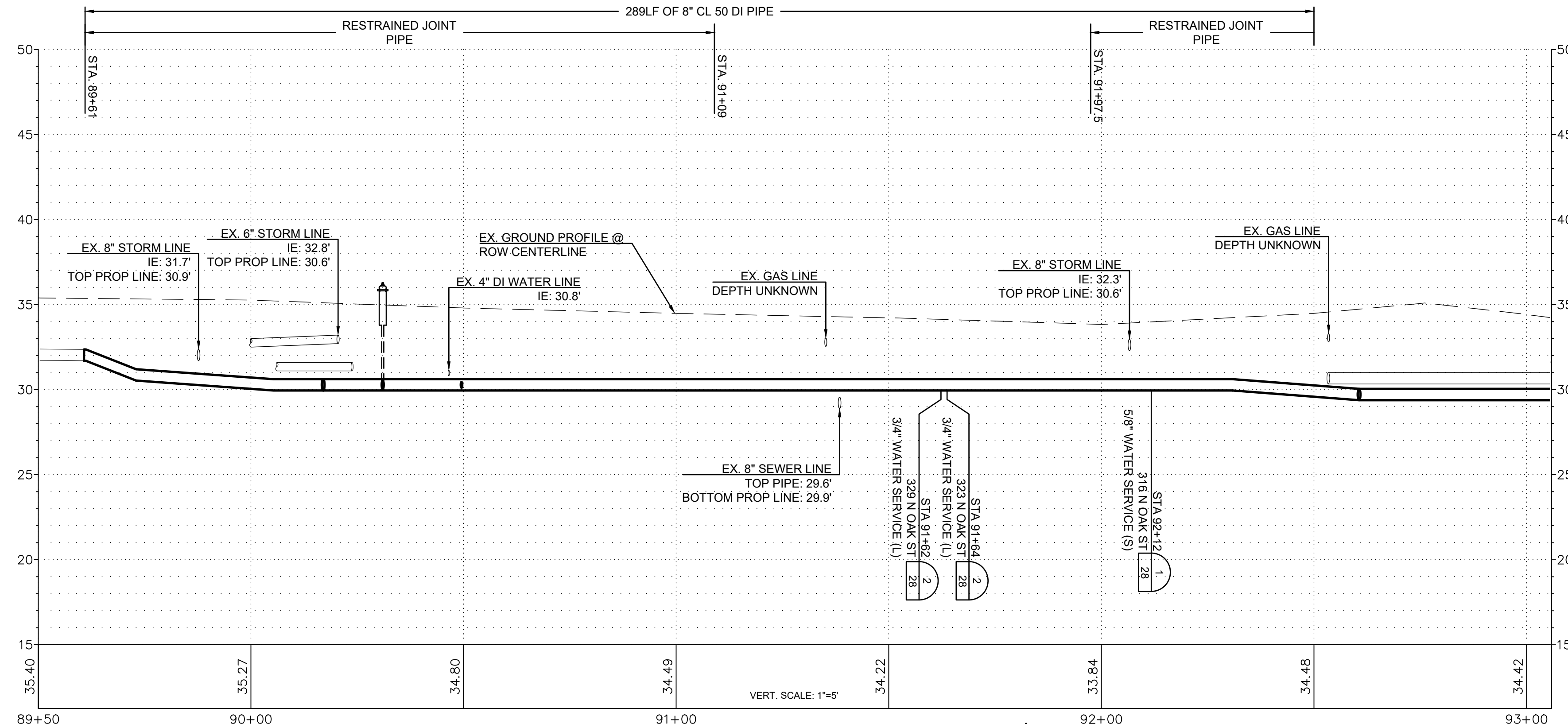
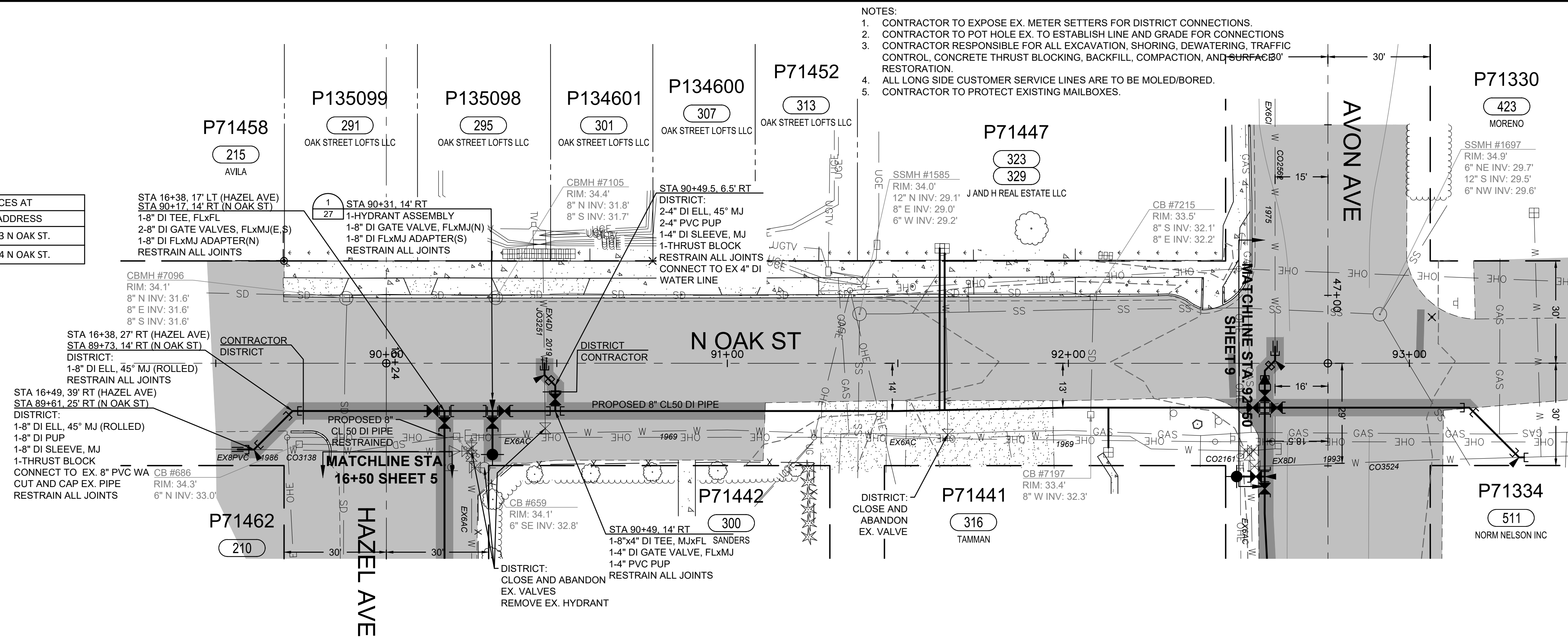
DATE PRINTED: 8/6/24  
 SEC: 05.32  
 TWP: 34.35 N  
 RGE: 04 E



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 1415 Freeway Drive  
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 www.SkagitPud.org

NORTH BURLINGTON PIPELINE  
 REPLACEMENT  
 MAGNOLIA AVE  
 PLAN AND PROFILE  
 STA 72+00 TO STA 76+26  
 SCALE: 1"=20'  
 JOB ID : CP4804  
 SHEET:  
 13 OF 29

RENEW SERVICES AT	
STA	ADDRESS
91+64	323 N OAK ST.
92+12	324 N OAK ST.



ISSUE	REVISIONS	BY	DATE
1.	30% DESIGN	MCH	11/20/23
2.	60% DESIGN	MCH	2/2/24
3.	100% DESIGN	MCH	6/6/24
4.	ISSUED FOR BIDDING	MCH	8/9/24

**811**  
Know what's below.  
Call before you dig.

**Skagit PUD**  
PUBLIC UTILITY DISTRICT

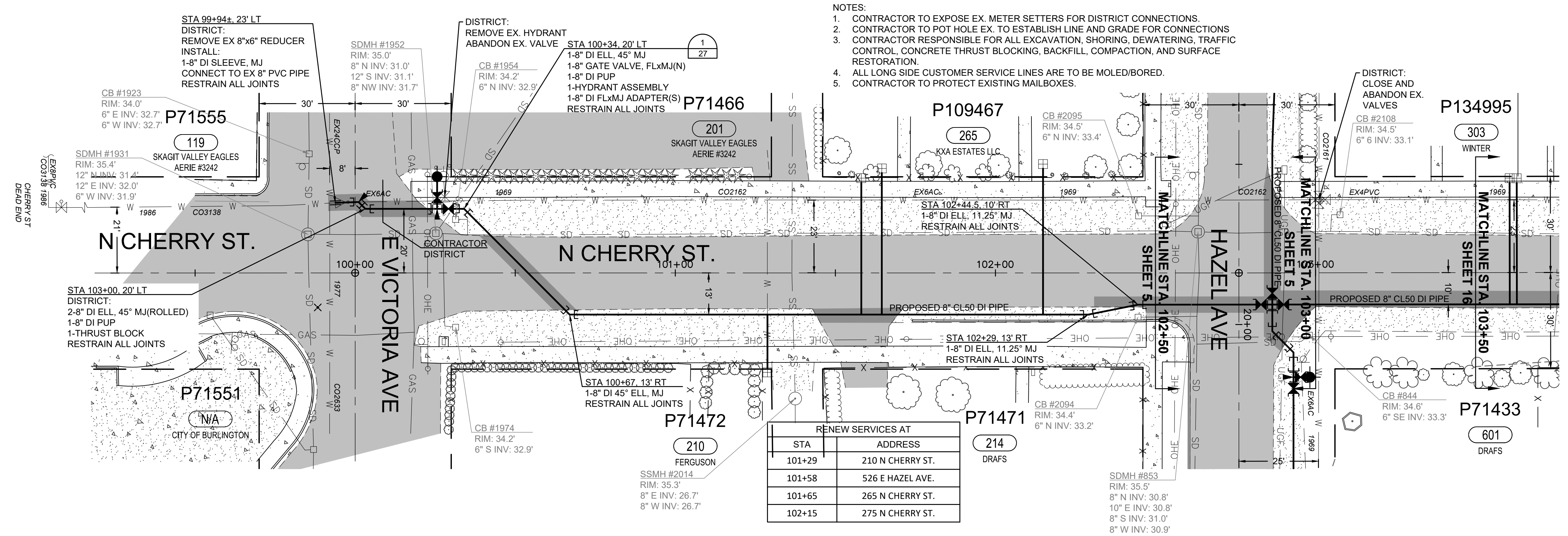
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DWN BY: KAN  
APPVD BY: MCH

DATE PRINTED: 8/6/24  
SEC: 05.32  
TWP: 34.35 N  
RGE: 04 E

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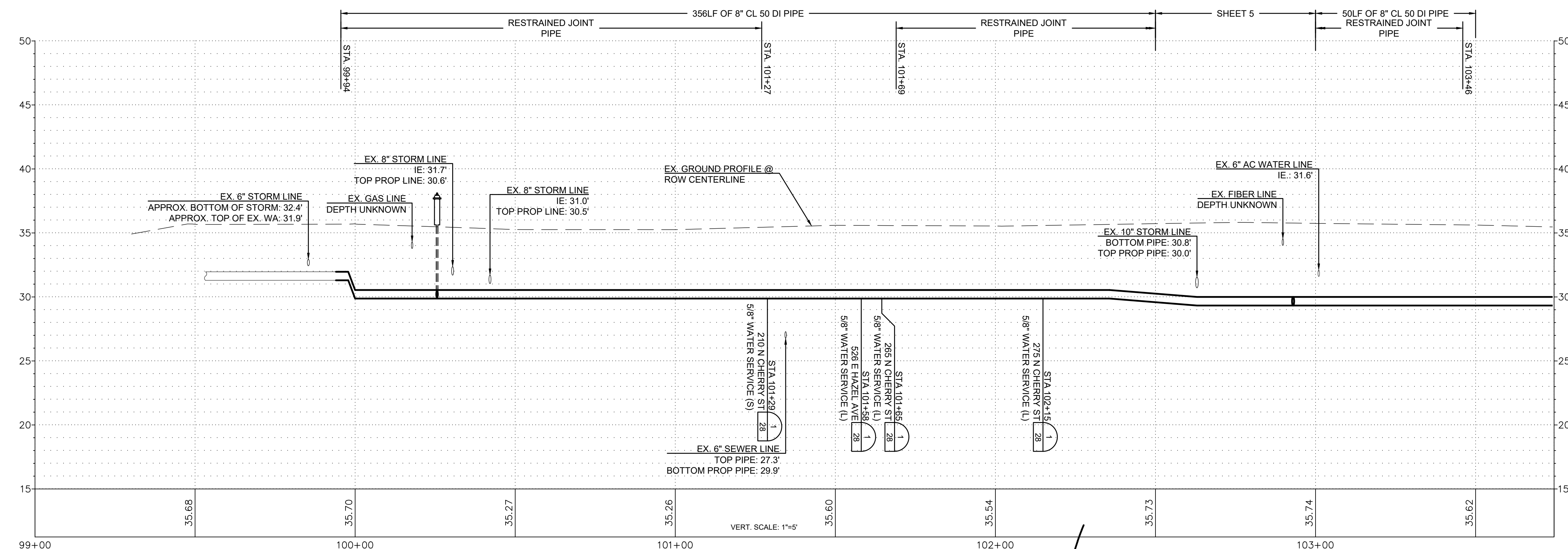
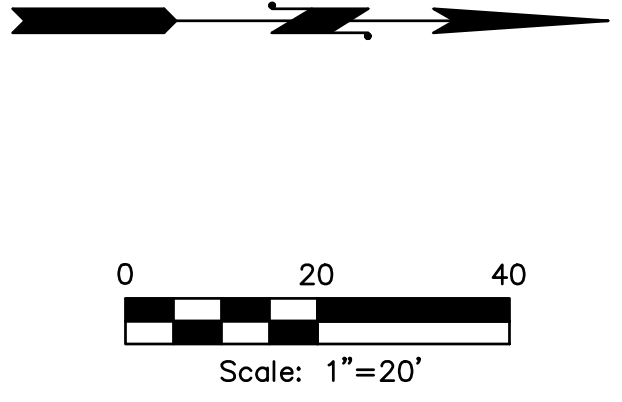
**NORTH BURLINGTON PIPELINE REPLACEMENT**  
N OAK ST  
PLAN AND PROFILE  
STA 89+50 TO STA 92+50

SCALE: 1"=20'  
JOB ID: CP4804  
SHEET: 14 OF 29



- NOTES:
1. CONTRACTOR TO EXPOSE EX. METER SETTERS FOR DISTRICT CONNECTIONS.
  2. CONTRACTOR TO POT HOLE EX. TO ESTABLISH LINE AND GRADE FOR CONNECTIONS
  3. CONTRACTOR RESPONSIBLE FOR ALL EXCAVATION, SHORING, DEWATERING, TRAFFIC CONTROL, CONCRETE THRUST BLOCKING, BACKFILL, COMPACTION, AND SURFACE RESTORATION.
  4. ALL LONG SIDE CUSTOMER SERVICE LINES ARE TO BE MOLED/BORED.
  5. CONTRACTOR TO PROTECT EXISTING MAILBOXES.

RENEW SERVICES AT	
STA	ADDRESS
101+29	210 N CHERRY ST.
101+58	526 E HAZEL AVE.
101+65	265 N CHERRY ST.
102+15	275 N CHERRY ST.



ISSUE	REVISIONS	BY	DATE
1.	30% DESIGN	MCH	11/20/23
2.	60% DESIGN	MCH	2/2/24
3.	100% DESIGN	MCH	6/6/24
4.	ISSUED FOR BIDDING	MCH	8/9/24



DATUM:  
HOR: NAD 83  
VERT: NAVD 88

DSGN BY: KAN  
DWN BY: KAN  
APPVD BY: MCH

DATE PRINTED: 8/6/24  
SEC: 05.32  
TWP: 34.35 N  
RGE: 04 E



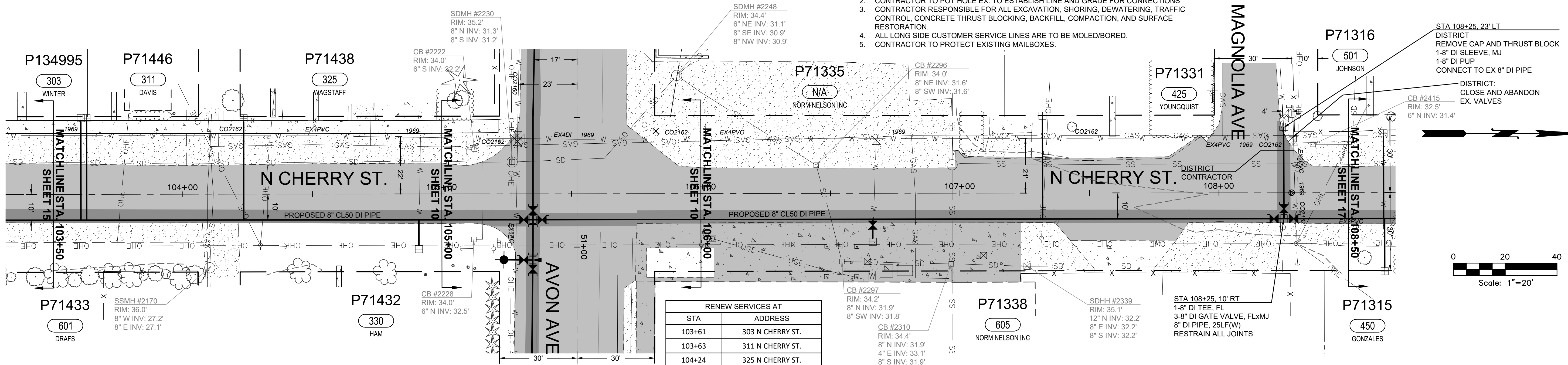
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Mount Vernon, WA 98273  
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NORTH BURLINGTON PIPELINE  
REPLACEMENT  
N CHERRY ST  
PLAN AND PROFILE  
STA 99+50 TO STA 103+50

SCALE: 1"=20'

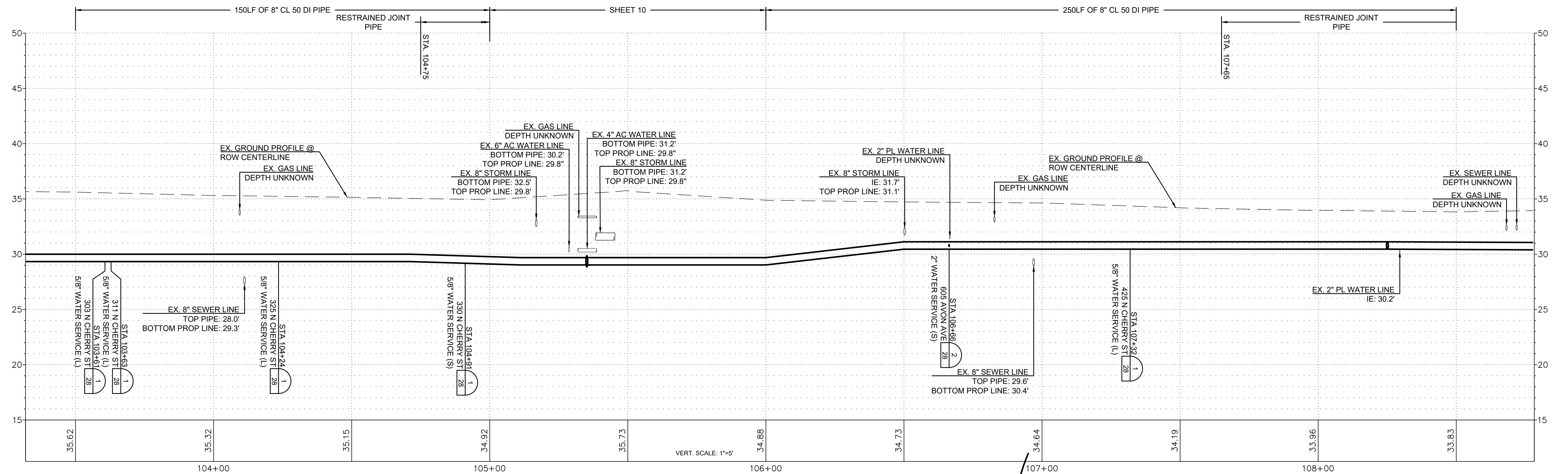
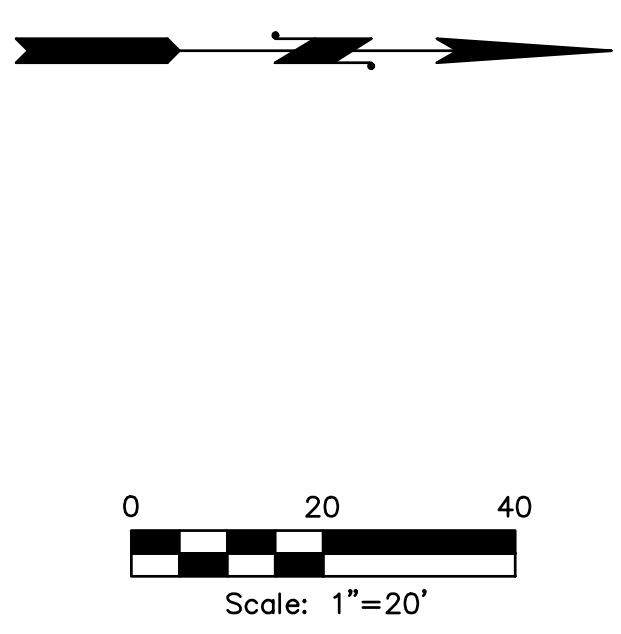
JOB ID : CP4804

SHEET:  
15 OF 29

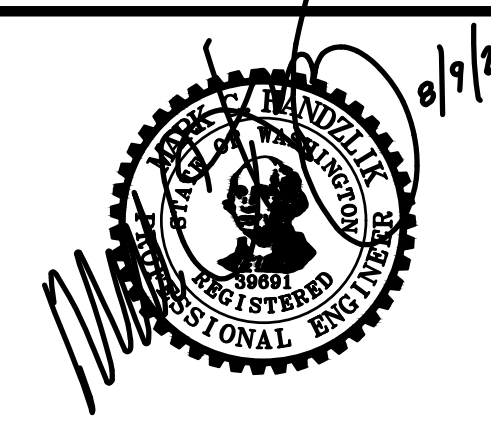


- NOTES:
- CONTRACTOR TO EXPOSE EX. METER SETTERS FOR DISTRICT CONNECTIONS.
  - CONTRACTOR TO POT HOLE EX. TO ESTABLISH LINE AND GRADE FOR CONNECTIONS
  - CONTRACTOR RESPONSIBLE FOR ALL EXCAVATION, SHORING, DEWATERING, TRAFFIC CONTROL, CONCRETE THRUST BLOCKING, BACKFILL, COMPACTION, AND SURFACE RESTORATION.
  - ALL LONG SIDE CUSTOMER SERVICE LINES ARE TO BE MOLED/BORED.
  - CONTRACTOR TO PROTECT EXISTING MAILBOXES.

STA	ADDRESS
103+61	303 N CHERRY ST.
103+63	311 N CHERRY ST.
104+24	325 N CHERRY ST.
104+91	330 N CHERRY ST.
106+66	605 AVON AVE.
107+32	425 N CHERRY ST.



ISSUE	REVISIONS	BY	DATE
1.	30% DESIGN	MCH	11/20/23
2.	60% DESIGN	MCH	2/2/24
3.	100% DESIGN	MCH	6/6/24
4.	ISSUED FOR BIDDING	MCH	8/9/24



DATUM:  
HOR: NAD 83  
VERT: NAVD 88

DSGN BY: KAN  
DWN BY: KAN  
APPVD BY: MCH

DATE PRINTED: 8/6/24  
SEC: 05.32  
TWP: 34.35 N  
RGE: 04 E

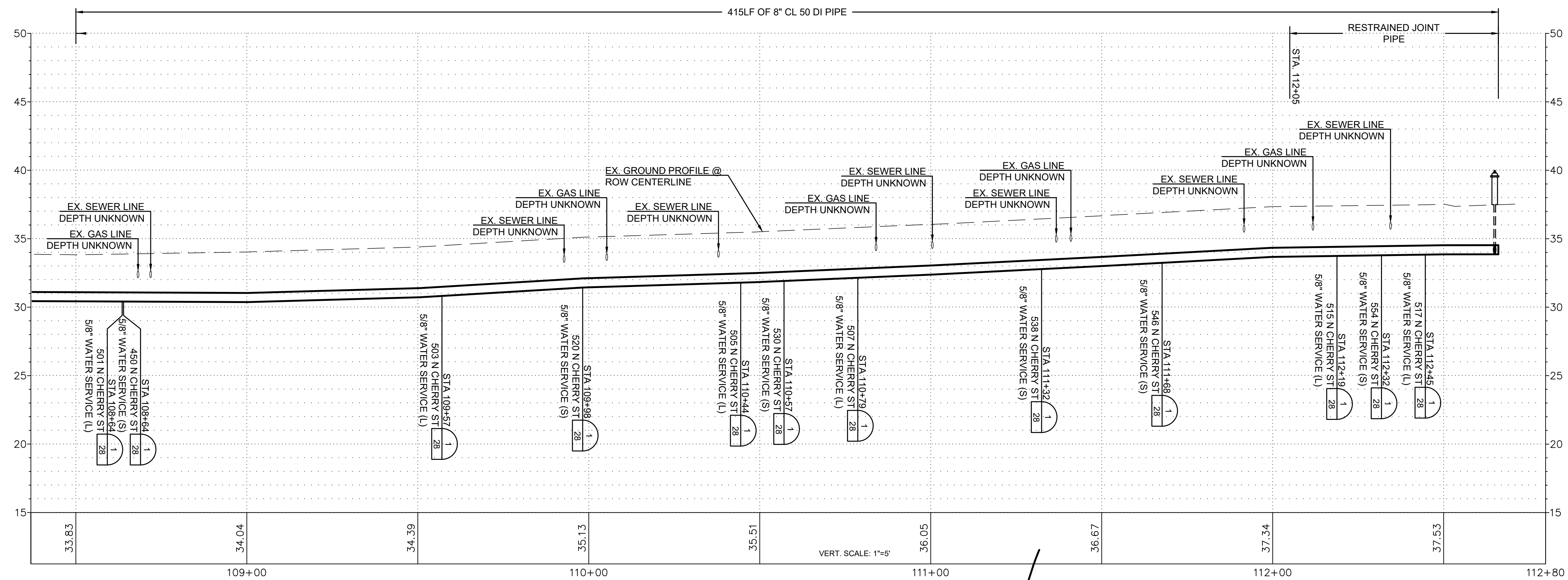
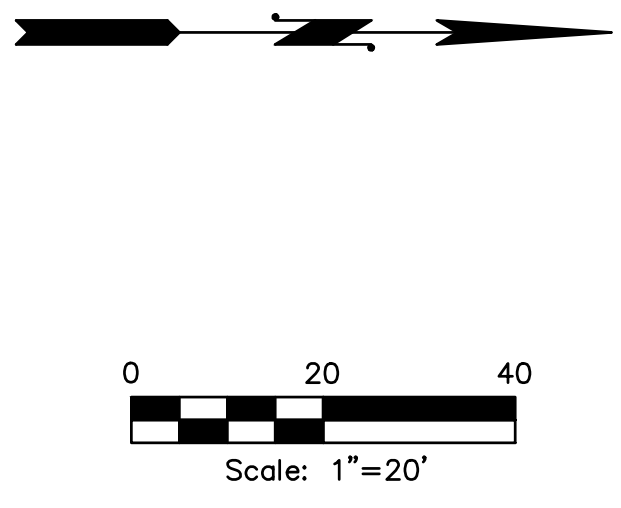
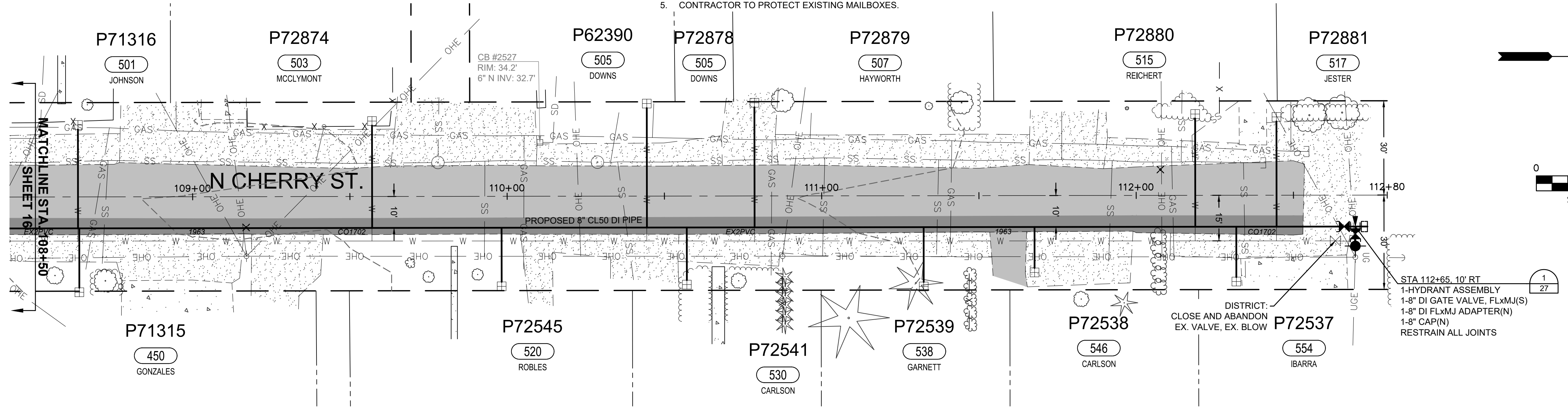


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Mount Vernon, WA 98273  
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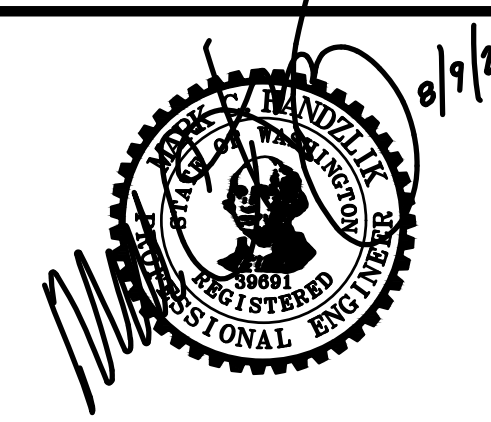
NORTH BURLINGTON PIPELINE  
REPLACEMENT  
N CHERRY ST  
PLAN AND PROFILE  
STA 103+50 TO STA 108+50

- NOTES:
1. CONTRACTOR TO EXPOSE EX. METER SETTERS FOR DISTRICT CONNECTIONS.
  2. CONTRACTOR TO POT HOLE EX. TO ESTABLISH LINE AND GRADE FOR CONNECTIONS
  3. CONTRACTOR RESPONSIBLE FOR ALL EXCAVATION, SHORING, DEWATERING, TRAFFIC CONTROL, CONCRETE THRUST BLOCKING, BACKFILL, COMPACTION, AND SURFACE RESTORATION.
  4. ALL LONG SIDE CUSTOMER SERVICE LINES ARE TO BE MOLED/BORED.
  5. CONTRACTOR TO PROTECT EXISTING MAILBOXES.

RENEW SERVICES AT	
STA	ADDRESS
108+64	501 N CHERRY ST.
108+64	450 N CHERRY ST.
109+57	503 N CHERRY ST.
109+98	520 N CHERRY ST.
110+44	505 N CHERRY ST.
110+57	530 N CHERRY ST.
110+79	507 N CHERRY ST.
111+32	538 N CHERRY ST.
111+68	546 N CHERRY ST.
112+19	515 N CHERRY ST.
112+32	554 N CHERRY ST.
112+45	517 N CHERRY ST.



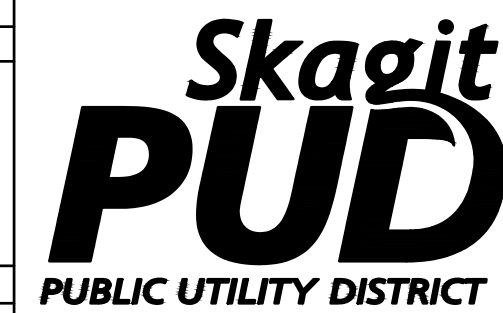
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1.	30% DESIGN	MCH	11/20/23
2.	60% DESIGN	MCH	2/2/24
3.	100% DESIGN	MCH	6/6/24
4.	ISSUED FOR BIDDING	MCH	8/9/24



DATUM:  
HOR: NAD 83  
VERT: NAVD 88

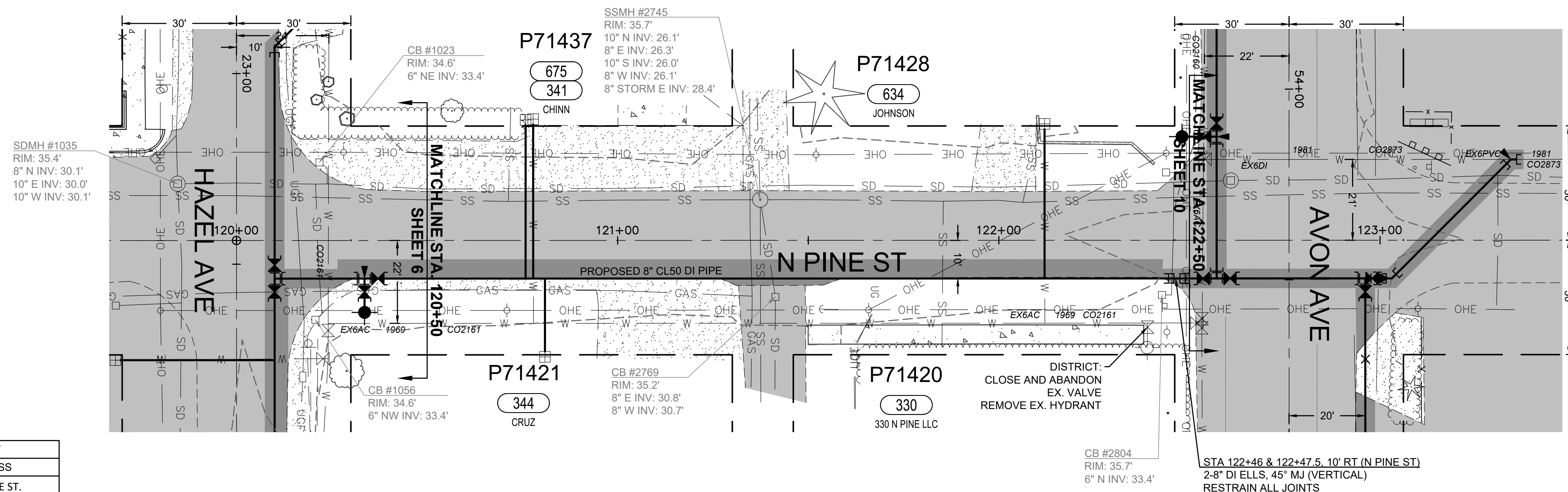
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APPVD BY: MCH

DATE PRINTED: 8/6/24  
SEC: 05.32  
TWP: 34.35 N  
RGE: 04 E



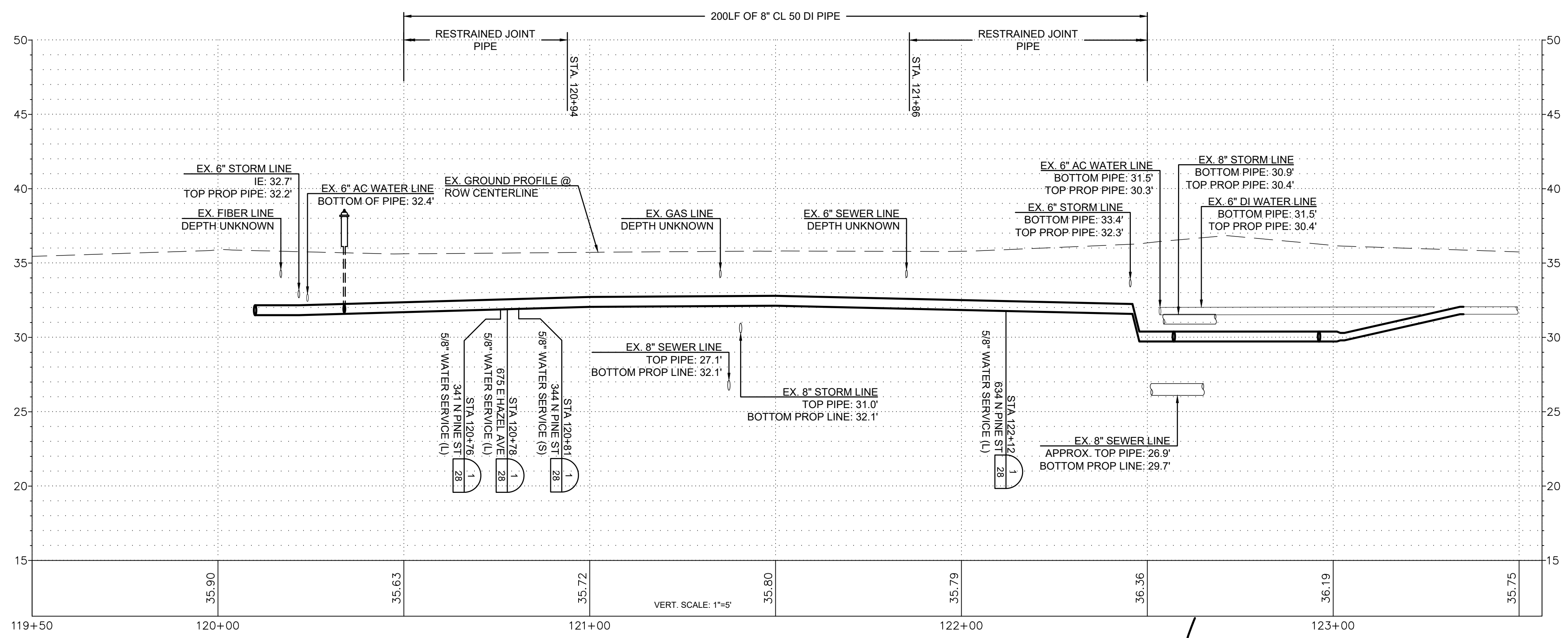
PUBLIC UTILITY DISTRICT  
NO. 1 of SKAGIT COUNTY  
1415 Freeway Drive  
P.O. BOX 1436  
Mount Vernon, WA 98273  
(360) 424-7104  
www.SkagitPud.org

NORTH BURLINGTON PIPELINE  
REPLACEMENT  
N CHERRY ST  
PLAN AND PROFILE  
STA 108+50 TO STA 112+80



- NOTES:
1. CONTRACTOR TO EXPOSE EX. METER SETTERS FOR DISTRICT CONNECTIONS.
  2. CONTRACTOR TO POT HOLE EX. TO ESTABLISH LINE AND GRADE FOR CONNECTIONS
  3. CONTRACTOR RESPONSIBLE FOR ALL EXCAVATION, SHORING, DEWATERING, TRAFFIC CONTROL, CONCRETE THRUST BLOCKING, BACKFILL, COMPACTION, AND SURFACE RESTORATION.
  4. ALL LONG SIDE CUSTOMER SERVICE LINES ARE TO BE MOLED/BORED.
  5. CONTRACTOR TO PROTECT EXISTING MAILBOXES.

RENEW SERVICES AT	
STA	ADDRESS
120+76	341 N PINE ST.
120+78	675 E HAZEL AVE.
120+81	344 N PINE ST.
122+12	634 AVON AVE.



ISSUE	REVISIONS	BY	DATE
1.	30% DESIGN	MCH	11/20/23
2.	60% DESIGN	MCH	2/2/24
3.	100% DESIGN	MCH	6/6/24
4.	ISSUED FOR BIDDING	MCH	8/9/24



DATUM:  
HOR: NAD 83  
VERT: NAVD 88

DSGN BY: KAN  
DWN BY: KAN  
APPVD BY: MCH

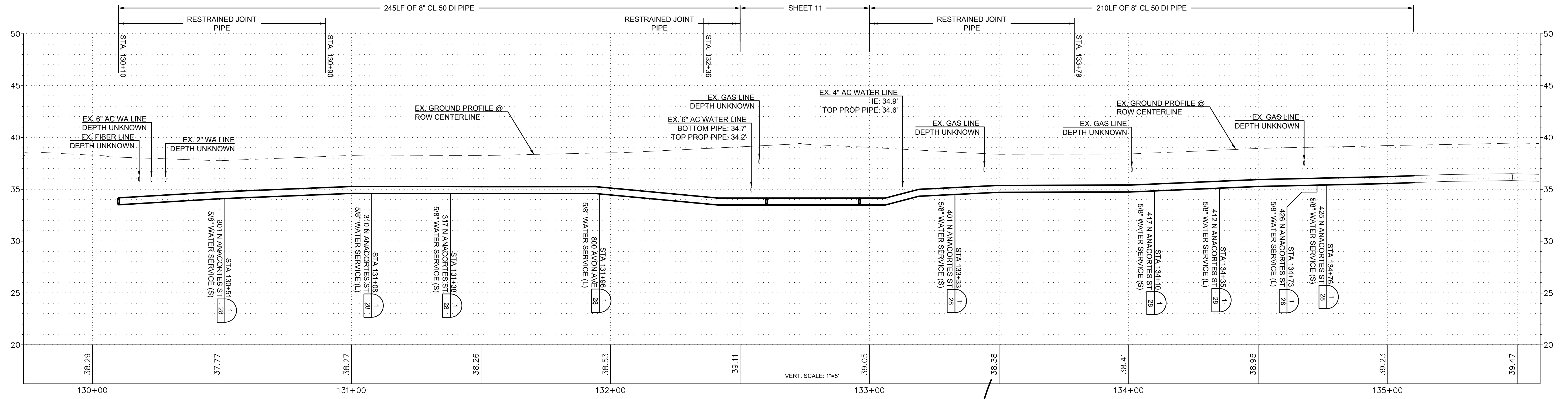
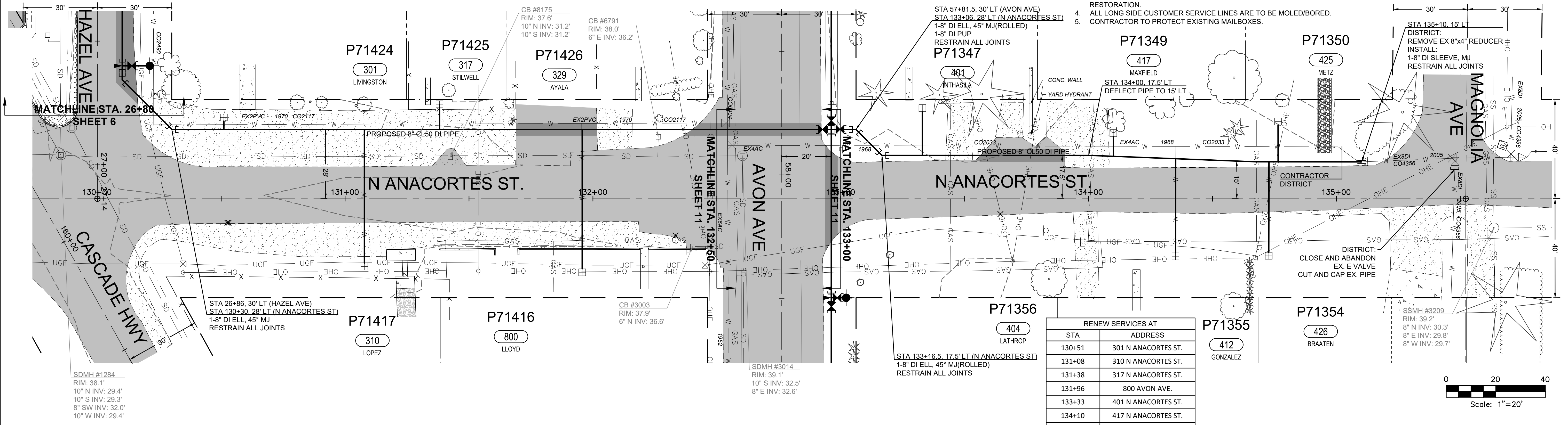
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RGE: 04 E



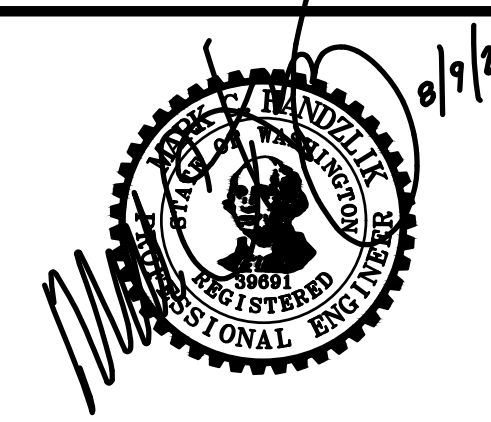
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(360) 424-7104  
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NORTH BURLINGTON PIPELINE  
REPLACEMENT  
N PINE ST  
PLAN AND PROFILE  
STA 120+50 TO STA 122+50

- NOTES:
- CONTRACTOR TO EXPOSE EX. METER SETTERS FOR DISTRICT CONNECTIONS.
  - CONTRACTOR TO POT HOLE EX. TO ESTABLISH LINE AND GRADE FOR CONNECTIONS
  - CONTRACTOR RESPONSIBLE FOR ALL EXCAVATION, SHORING, DEWATERING, TRAFFIC CONTROL, CONCRETE THRUST BLOCKING, BACKFILL, COMPACTION, AND SURFACE RESTORATION.
  - ALL LONG SIDE CUSTOMER SERVICE LINES ARE TO BE MOLED/BORED.
  - CONTRACTOR TO PROTECT EXISTING MAILBOXES.



ISSUE	REVISIONS	BY	DATE
1.	30% DESIGN	MCH	11/20/23
2.	60% DESIGN	MCH	2/2/24
3.	100% DESIGN	MCH	6/6/24
4.	ISSUED FOR BIDDING	MCH	8/9/24



DATUM:  
HOR: NAD 83  
VERT: NAVD 88

DSGN BY: KAN  
DWN BY: KAN  
APPVD BY: MCH

DATE PRINTED: 8/6/24  
SEC: 05.32  
TWP: 34.35 N  
RGE: 04 E



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Mount Vernon, WA 98273  
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NORTH BURLINGTON PIPELINE  
REPLACEMENT  
N ANACORTES ST  
PLAN AND PROFILE  
STA 130+00 TO STA 135+50

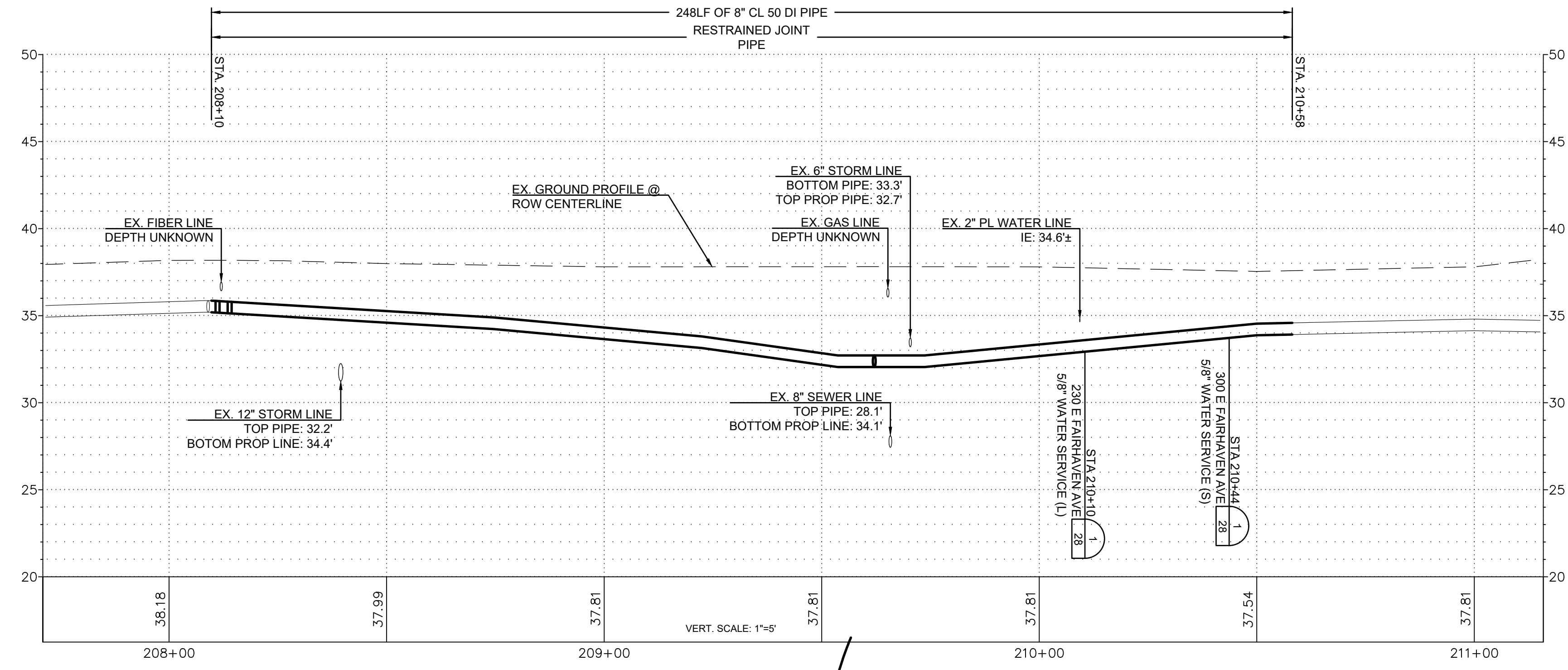
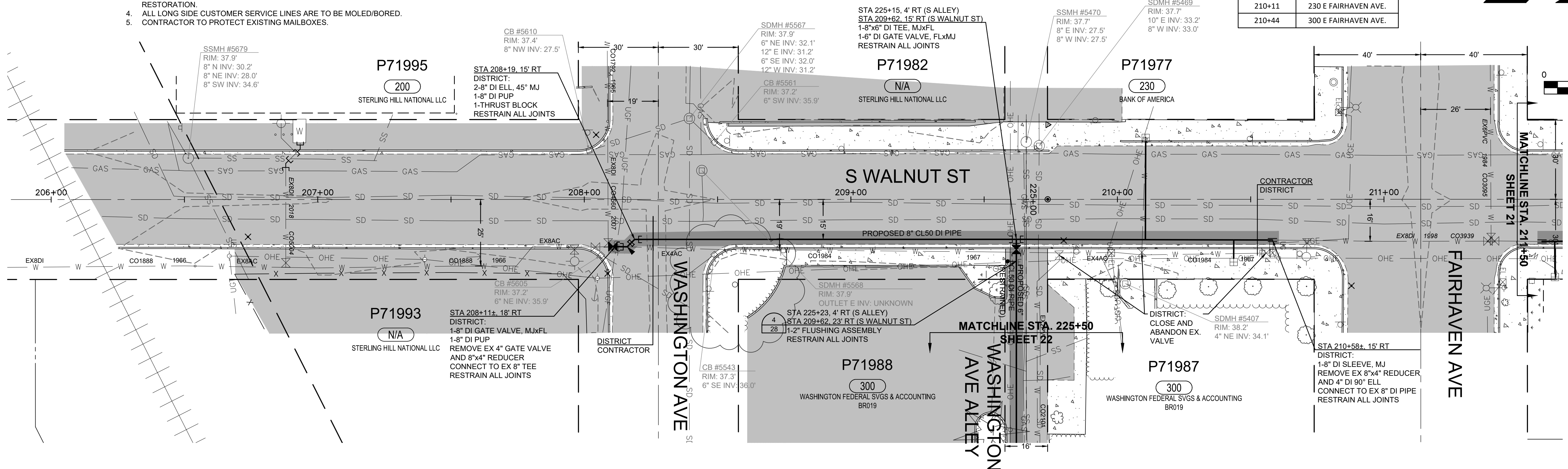
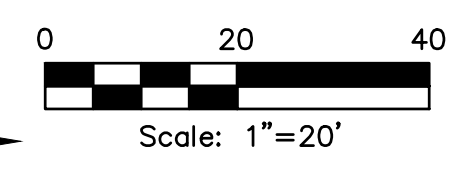
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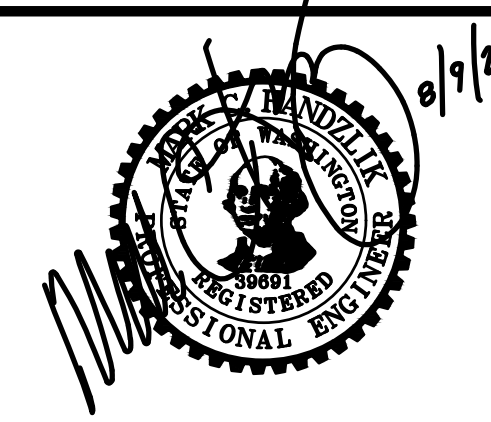
SHEET:  
19 OF 29

- NOTES:
1. CONTRACTOR TO EXPOSE EX. METER SETTERS FOR DISTRICT CONNECTIONS.
  2. CONTRACTOR TO POT HOLE EX. TO ESTABLISH LINE AND GRADE FOR CONNECTIONS
  3. CONTRACTOR RESPONSIBLE FOR ALL EXCAVATION, SHORING, DEWATERING, TRAFFIC CONTROL, CONCRETE THRUST BLOCKING, BACKFILL, COMPACTION, AND SURFACE RESTORATION.
  4. ALL LONG SIDE CUSTOMER SERVICE LINES ARE TO BE MOLED/BORED.
  5. CONTRACTOR TO PROTECT EXISTING MAILBOXES.

RENEW SERVICES AT	
STA	ADDRESS
210+11	230 E FAIRHAVEN AVE.
210+44	300 E FAIRHAVEN AVE.



ISSUE	REVISIONS	BY	DATE
1.	30% DESIGN	MCH	11/20/23
2.	60% DESIGN	MCH	2/2/24
3.	100% DESIGN	MCH	6/6/24
4.	ISSUED FOR BIDDING	MCH	8/9/24



DATUM:  
HOR: NAD 83  
VERT: NAVD 88

DSGN BY: KAN  
DWN BY: KAN  
APPVD BY: MCH

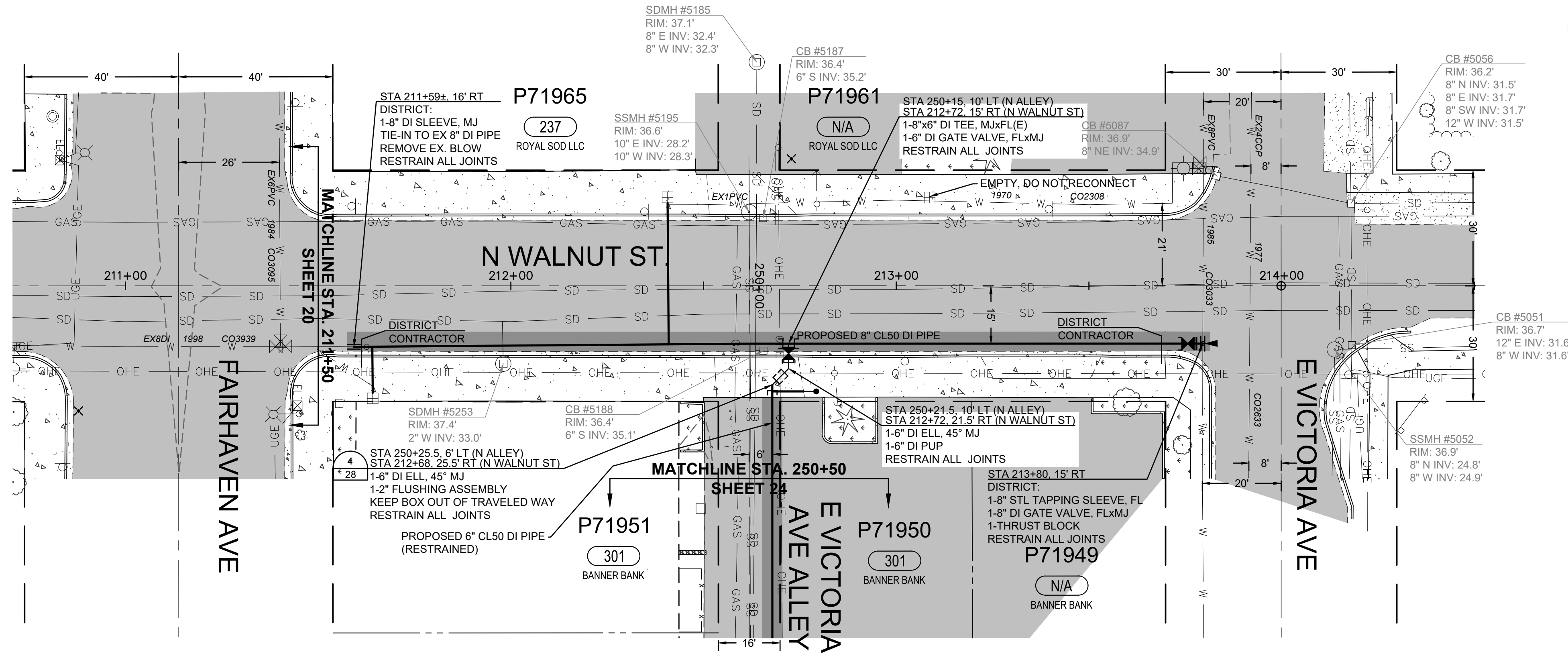
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RGE: 04 E



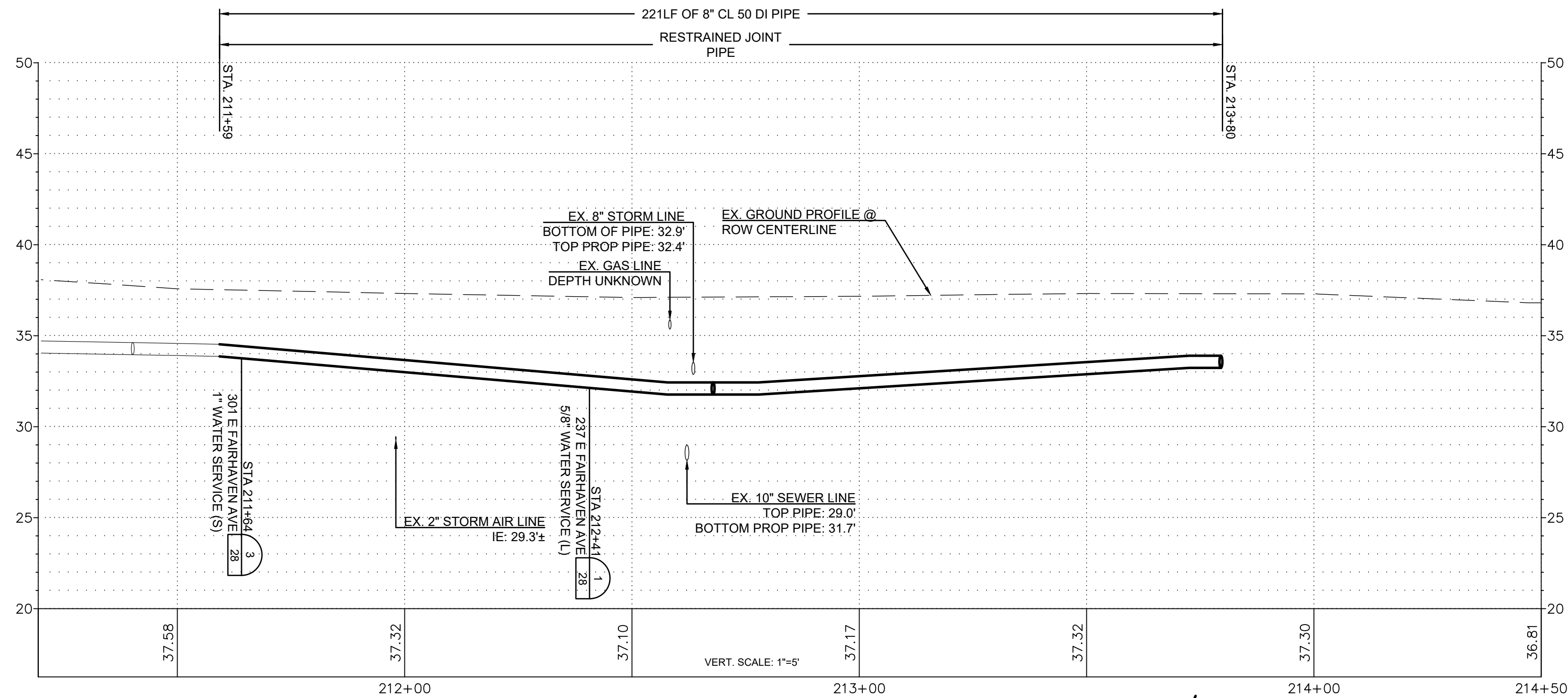
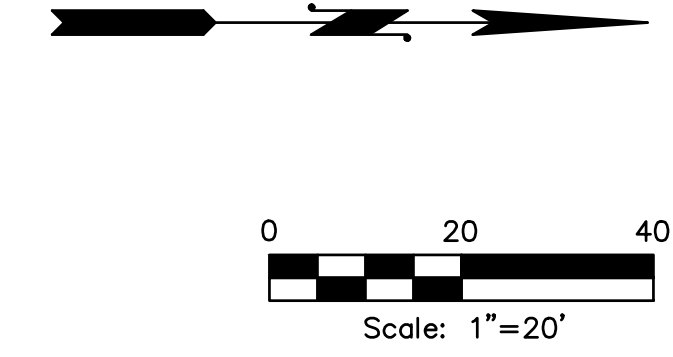
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www.SkagitPud.org

NORTH BURLINGTON PIPELINE  
REPLACEMENT  
S WALNUT ST  
PLAN AND PROFILE  
STA 206+00 TO STA 211+50

RENEW SERVICES AT	
STA	ADDRESS
211+64	301 E FAIRHAVEN AVE.
212+41	237 E FAIRHAVEN AVE.



- NOTES:
- CONTRACTOR TO EXPOSE EX. METER SETTERS FOR DISTRICT CONNECTIONS.
  - CONTRACTOR TO POT HOLE EX. TO ESTABLISH LINE AND GRADE FOR CONNECTIONS
  - CONTRACTOR RESPONSIBLE FOR ALL EXCAVATION, SHORING, DEWATERING, TRAFFIC CONTROL, CONCRETE THRUST BLOCKING, BACKFILL, COMPACTION, AND SURFACE RESTORATION.
  - ALL LONG SIDE CUSTOMER SERVICE LINES ARE TO BE MOLED/BORED.
  - CONTRACTOR TO PROTECT EXISTING MAILBOXES.



ISSUE	REVISIONS	BY	DATE
1.	30% DESIGN	MCH	11/20/23
2.	60% DESIGN	MCH	2/2/24
3.	100% DESIGN	MCH	6/6/24
4.	ISSUED FOR BIDDING	MCH	8/9/24



DATUM: HOR: NAD 83 VERT: NAVD 88		DSGN BY: KAN DWN BY: KAN APPVD BY: MCH
DATE PRINTED: 8/6/24	SEC: 05.32 TWP: 34.35 N RGE: 04 E	

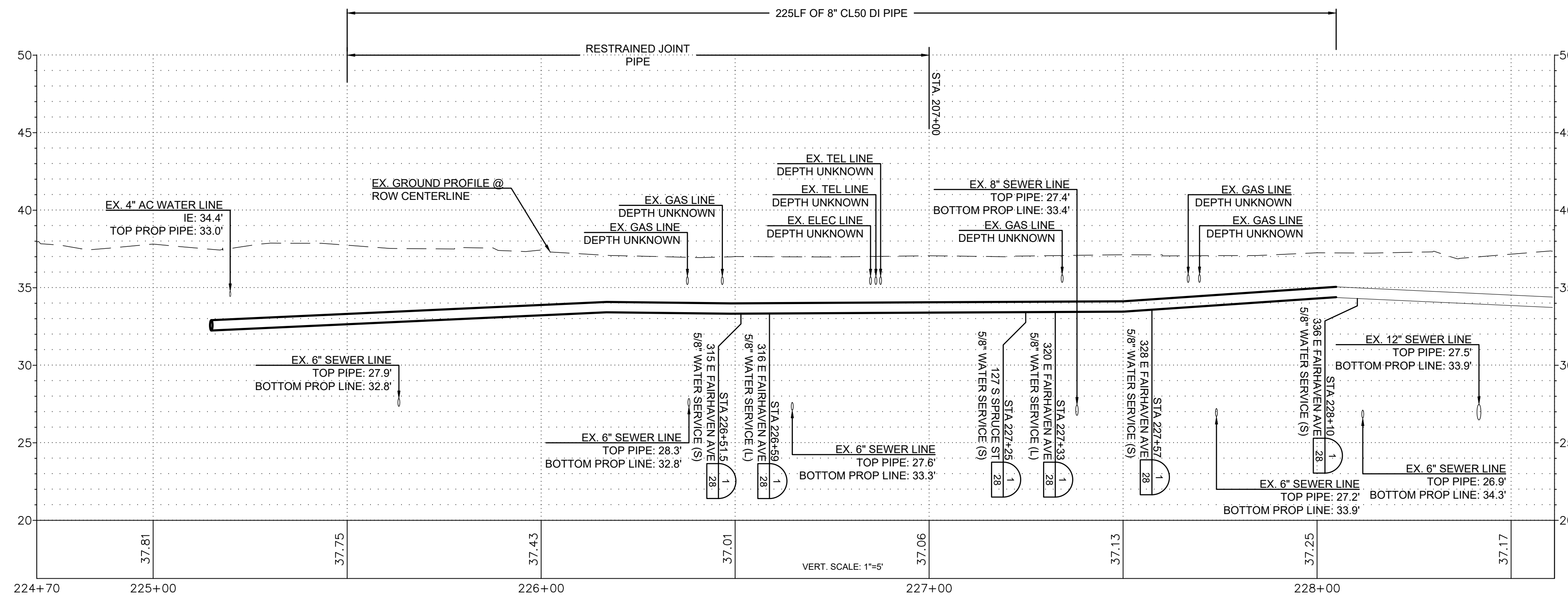
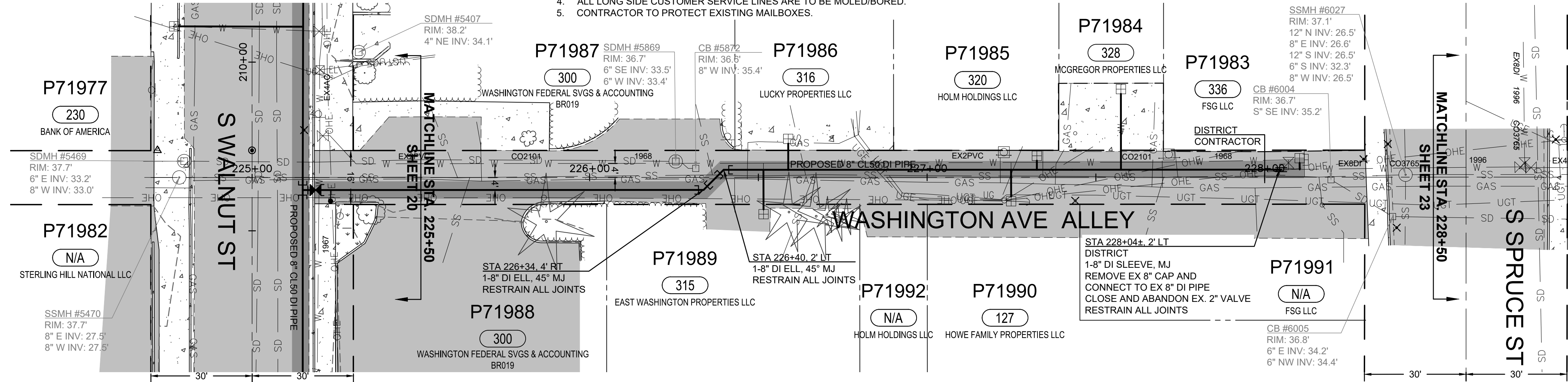


PUBLIC UTILITY DISTRICT  
NO. 1 of SKAGIT COUNTY  
1415 Freeway Drive  
P.O. BOX 1436  
Mount Vernon, WA 98273  
(360) 424-7104  
www.SkagitPud.org

NORTH BURLINGTON PIPELINE  
REPLACEMENT  
N WALNUT ST  
PLAN AND PROFILE  
STA 211+50 TO STA 214+00

- NOTES:
- CONTRACTOR TO EXPOSE EX. METER SETTERS FOR DISTRICT CONNECTIONS.
  - CONTRACTOR TO POT HOLE EX. TO ESTABLISH LINE AND GRADE FOR CONNECTIONS
  - CONTRACTOR RESPONSIBLE FOR ALL EXCAVATION, SHORING, DEWATERING, TRAFFIC CONTROL, CONCRETE THRUST BLOCKING, BACKFILL, COMPACTION, AND SURFACE RESTORATION.
  - ALL LONG SIDE CUSTOMER SERVICE LINES ARE TO BE MOLED/BORED.
  - CONTRACTOR TO PROTECT EXISTING MAILBOXES.

RENEW SERVICES AT	
STA	ADDRESS
226+51.5	315 E FAIRHAVEN AVE.
226+59	316 E FAIRHAVEN AVE.
227+25	127 S SPRUCE ST.
227+33	320 E FAIRHAVEN AVE.
227+57	328 E FAIRHAVEN AVE.
228+10	336 E FAIRHAVEN AVE.



ISSUE	REVISIONS	BY	DATE
1.	30% DESIGN	MCH	11/20/23
2.	60% DESIGN	MCH	2/2/24
3.	100% DESIGN	MCH	6/6/24
4.	ISSUED FOR BIDDING	MCH	8/9/24



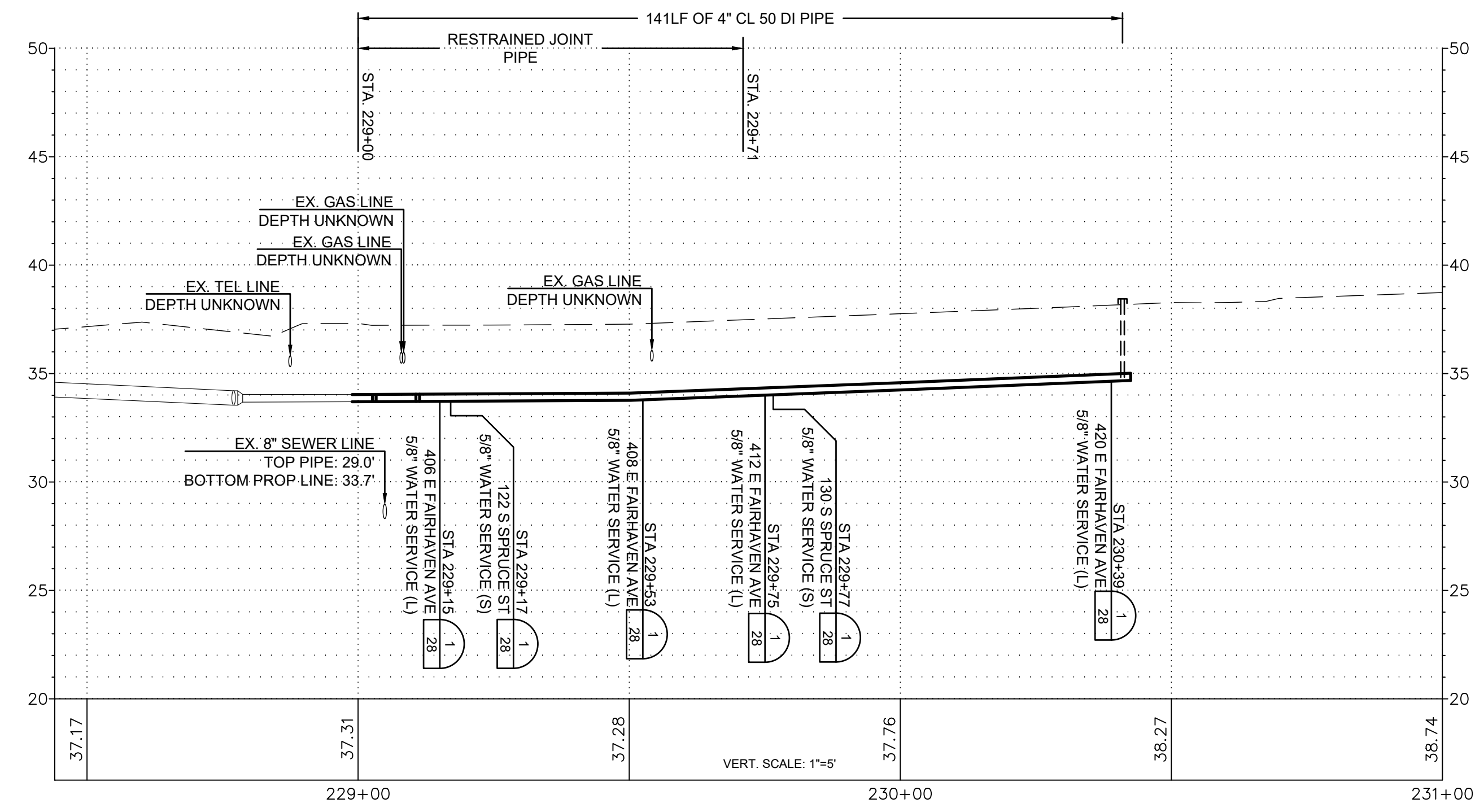
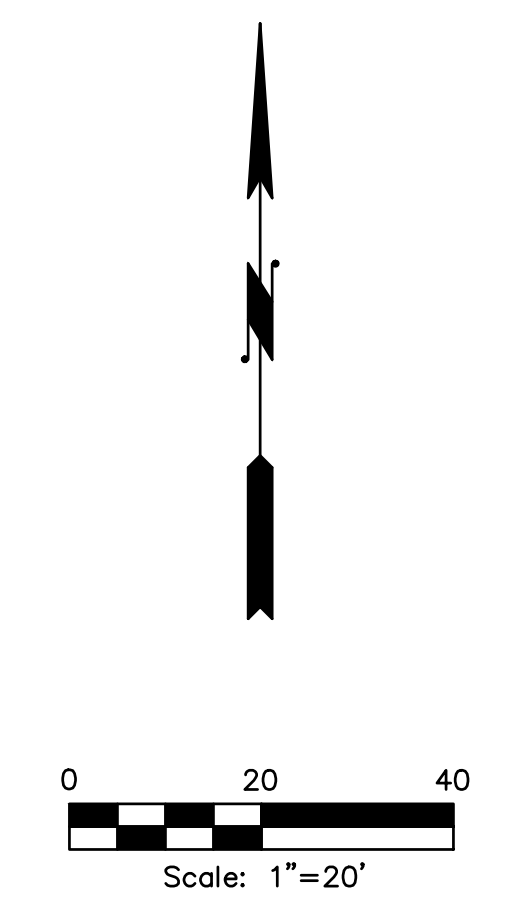
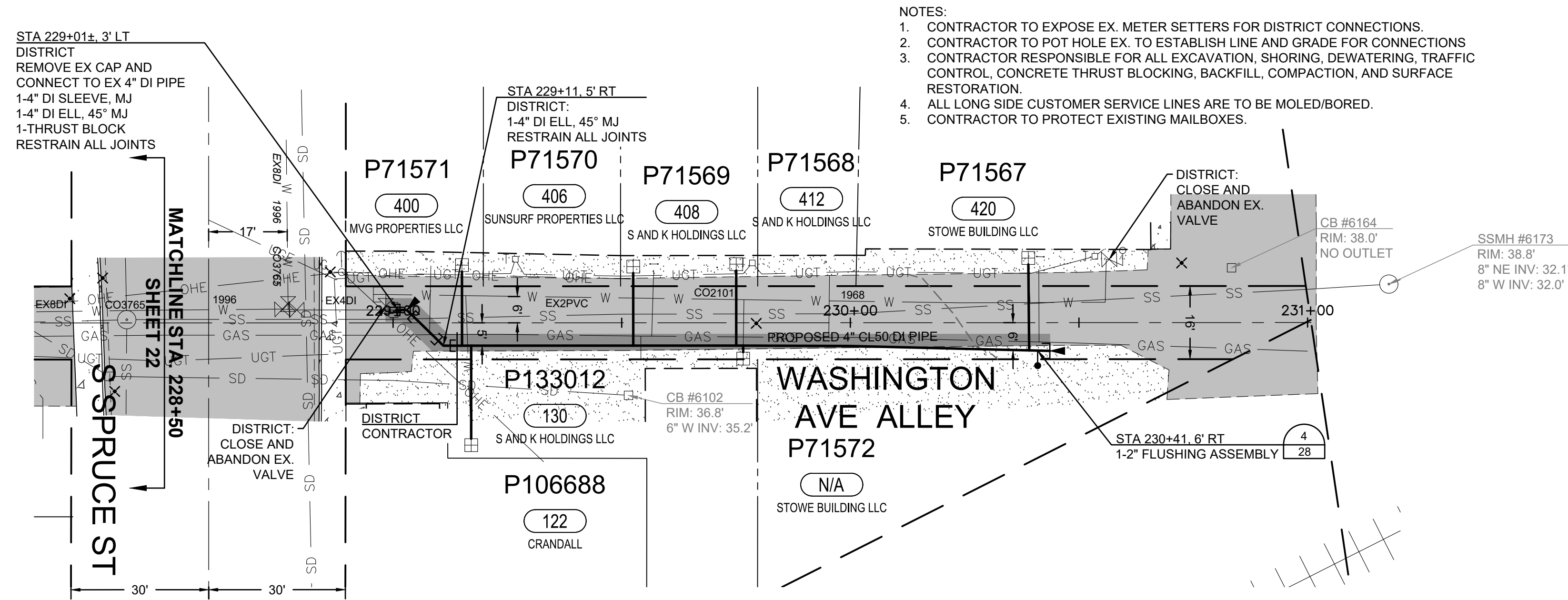
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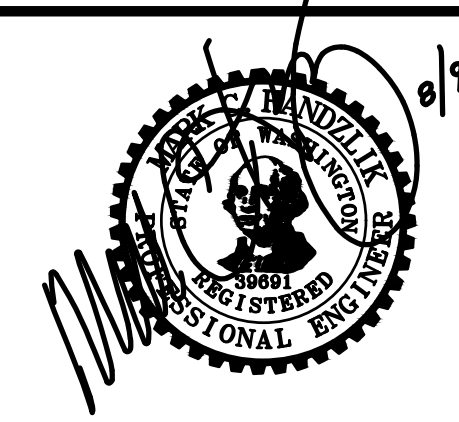
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Mount Vernon, WA 98273  
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NORTH BURLINGTON PIPELINE  
REPLACEMENT  
WASHINGTON AVE ALLEY  
PLAN AND PROFILE  
STA 225+50 TO STA 228+50

RENEW SERVICES AT	
STA	ADDRESS
229+15	404 E FAIRHAVEN AVE.
229+17	122 S SPRUCE ST.
229+53	408 E FAIRHAVEN AVE.
229+75	412 E FAIRHAVEN AVE.
229+77	130 S SPRUCE ST.
230+39	420 E FAIRHAVEN AVE.



ISSUE	REVISIONS	BY	DATE
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2.	60% DESIGN	MCH	2/2/24
3.	100% DESIGN	MCH	6/6/24
4.	ISSUED FOR BIDDING	MCH	8/9/24



DATUM: HOR: NAD 83 VERT: NAVD 88	DSGN BY: KAN DWN BY: KAN APPVD BY: MCH
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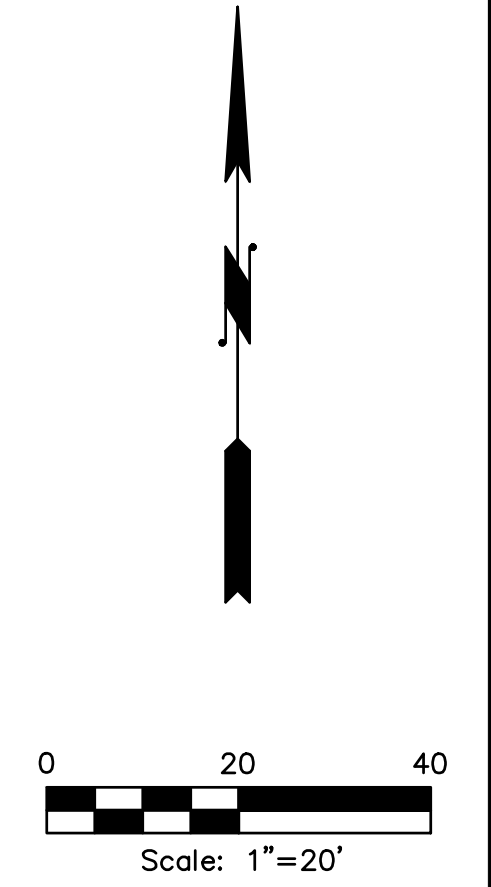
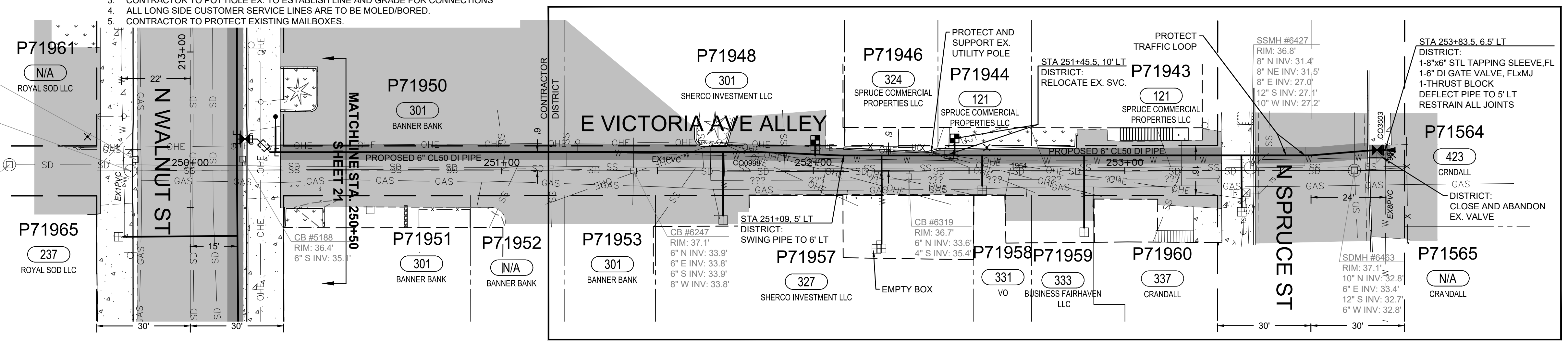
PUBLIC UTILITY DISTRICT  
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1415 Freeway Drive  
P.O. BOX 1436  
Mount Vernon, WA 98273  
(360) 424-7104  
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NORTH BURLINGTON PIPELINE  
REPLACEMENT  
WASHINGTON ALLEY  
PLAN AND PROFILE  
STA 228+50 TO STA 231+00

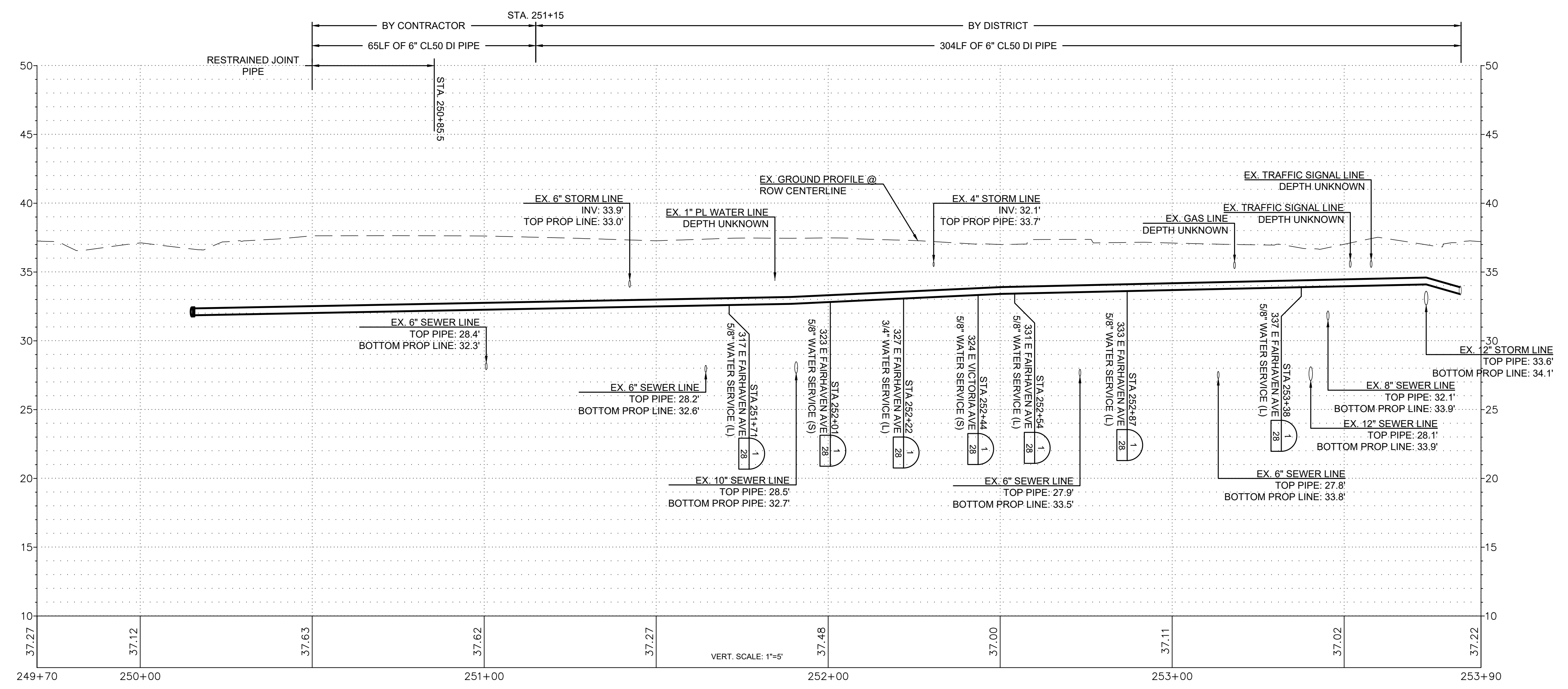
SCALE: 1"=20'      JOB ID : CP4804      SHEET:  
23 OF 29

- NOTES:
1. PUD CREW RESPONSIBLE FOR EXCAVATION, SHORING, RESTORATION AND INSTALLATION OF WATERMAIN FROM STA 251+15 TO STA 253+83.5.
  2. CONTRACTOR RESPONSIBLE FOR EXCAVATION, SHORING, RESTORATION AND INSTALLATION OF WATERMAIN FROM STA 250+50 TO STA 251+15.
  3. CONTRACTOR TO POT HOLE EX. TO ESTABLISH LINE AND GRADE FOR CONNECTIONS.
  4. ALL LONG SIDE CUSTOMER SERVICE LINES ARE TO BE MOLED/BORED.
  5. CONTRACTOR TO PROTECT EXISTING MAILBOXES.

RENEW SERVICES AT	
STA	ADDRESS
251+71	317 E FAIRHAVEN AVE.
252+01	323 E FAIRHAVEN AVE.
252+22	327 E FAIRHAVEN AVE.
252+44	324 E VICTORIA AVE.
252+54	331 E FAIRHAVEN AVE.
252+87	333 E FAIRHAVEN AVE.
253+38	337 E FAIRHAVEN AVE.



WORK DONE BY DISTRICT  
SEE NOTE ON THIS PAGE



ISSUE	REVISIONS	BY	DATE
1.	30% DESIGN	MCH	11/20/23
2.	60% DESIGN	MCH	2/2/24
3.	100% DESIGN	MCH	6/6/24
4.	ISSUED FOR BIDDING	MCH	8/9/24

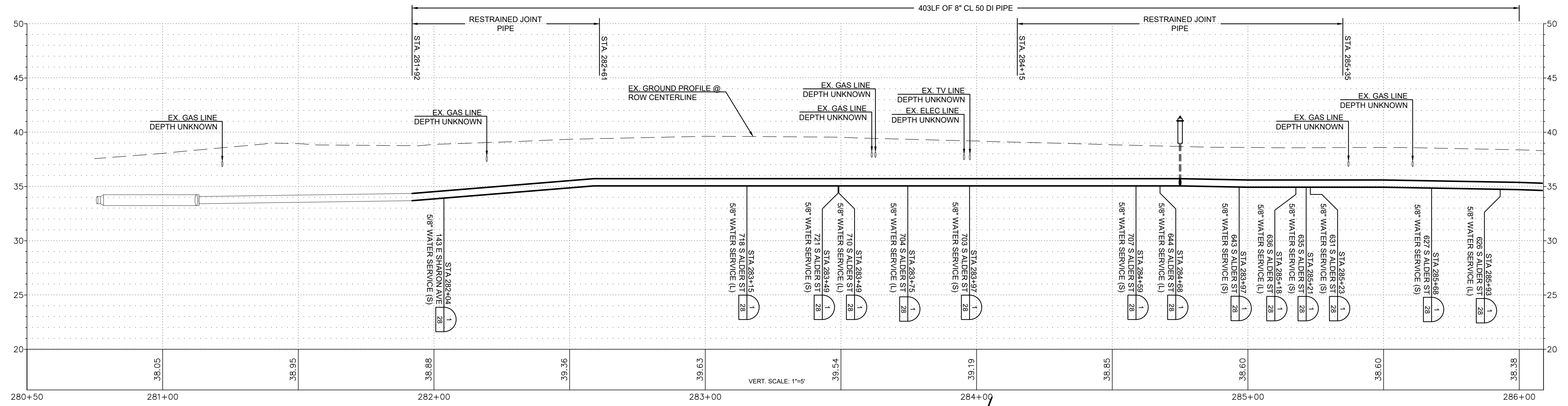
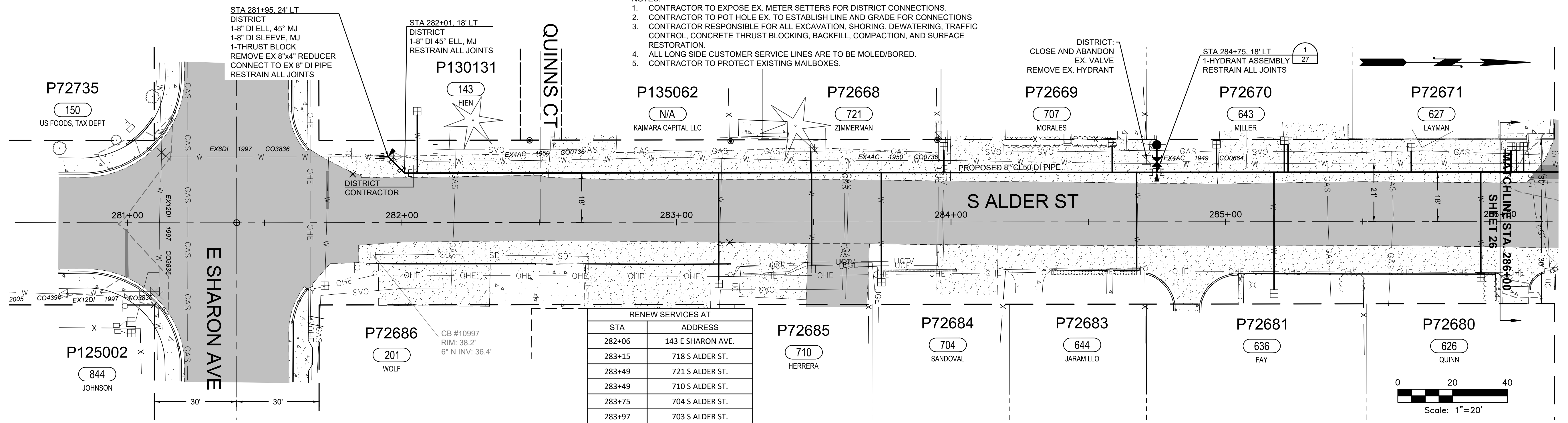


DATUM: HOR: NAD 83 VERT: NAVD 88	DSGN BY: KAN DWN BY: KAN APPVD BY: MCH
DATE PRINTED: 8/6/24	SEC: 05.32 TWP: 34.35 N RGE: 04 E

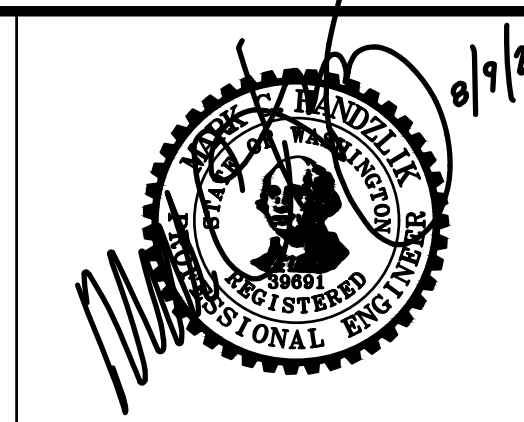


PUBLIC UTILITY DISTRICT  
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NORTH BURLINGTON PIPELINE  
REPLACEMENT  
E VICTORIA AVE ALLEY  
PLAN AND PROFILE  
STA 250+15 TO STA 253+84



ISSUE	REVISIONS	BY	DATE
1.	30% DESIGN	MCH	11/20/23
2.	60% DESIGN	MCH	2/2/24
3.	100% DESIGN	MCH	6/6/24
4.	ISSUED FOR BIDDING	MCH	8/9/24



DATUM:  
HOR: NAD 83  
VERT: NAVD 88

DSGN BY: KAN  
DWN BY: KAN  
APPVD BY: MCH

DATE PRINTED: 8/6/24  
SEC: 05.32  
TWP: 34.35 N  
RGE: 04 E

**Skagit PUD**  
PUBLIC UTILITY DISTRICT

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NO. 1 of SKAGIT COUNTY  
1415 Freeway Drive  
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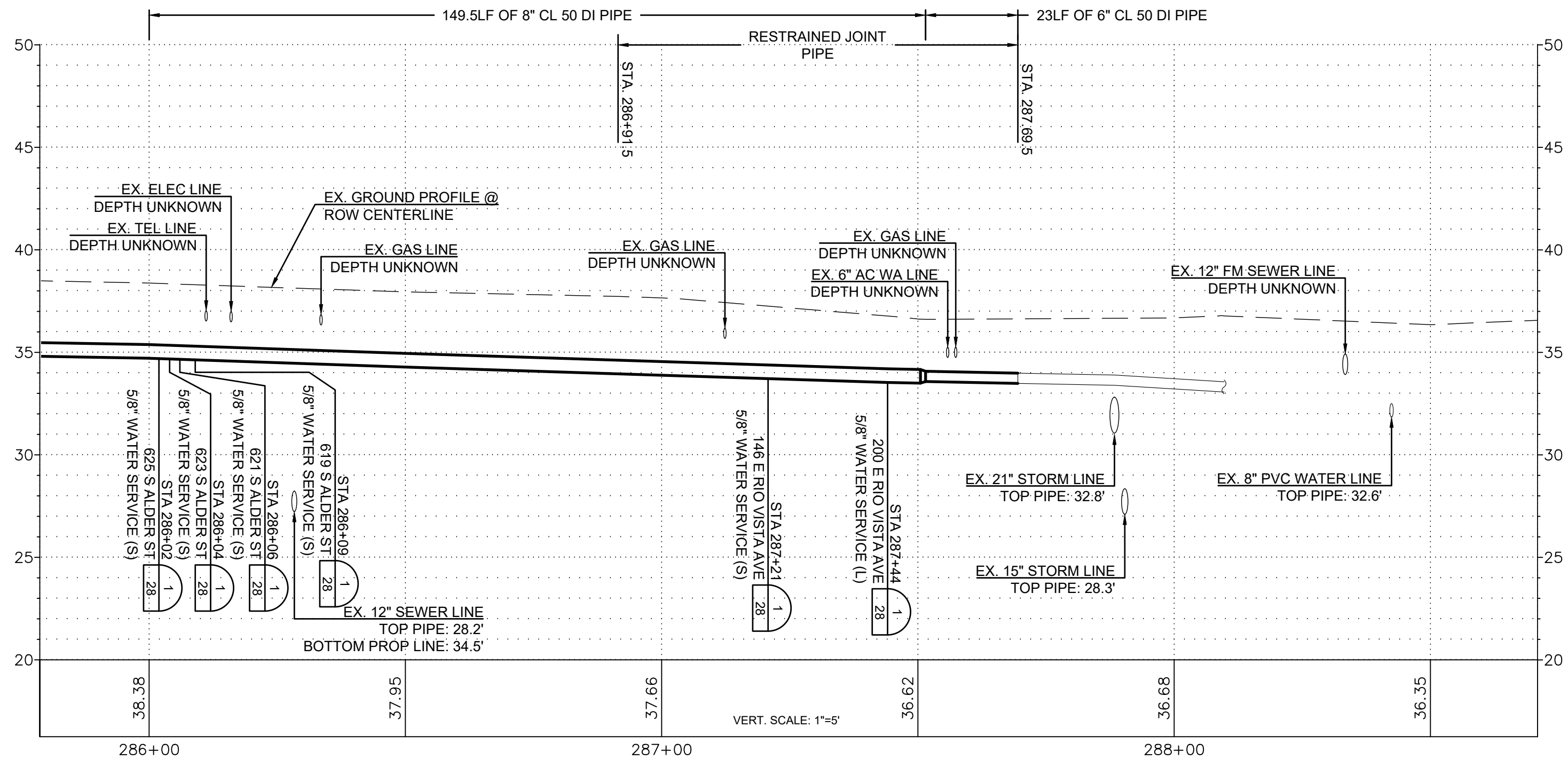
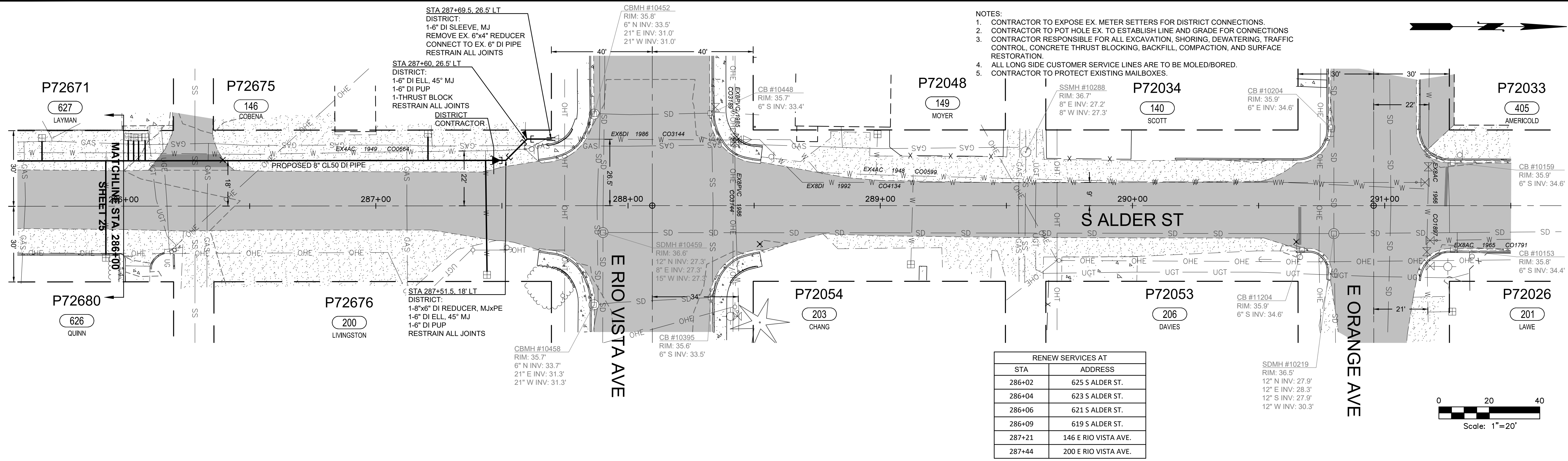
**NORTH BURLINGTON PIPELINE REPLACEMENT**

S ALDER ST  
PLAN AND PROFILE  
STA 281+00 TO STA 286+00

SCALE: 1"=20'

JOB ID : CP4804

SHEET:  
25 OF 29



ISSUE	REVISIONS	BY	DATE
1.	30% DESIGN	MCH	11/20/23
2.	60% DESIGN	MCH	2/2/24
3.	100% DESIGN	MCH	6/6/24
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NORTH BURLINGTON PIPELINE  
REPLACEMENT  
S ALDER ST  
PLAN AND PROFILE  
STA 286+00 TO STA 291+50  
SCALE: 1"=20'  
JOB ID : CP4804  
SHEET:  
26 OF 29

**STANDARD INSTALLATION OF CAST IRON VALVE BOX & VALVE OPERATING NUT EXTENSION**

SCALE: NTS  
DATE: 3-25-06  
REVISED: 5/9/14  
DRAWN BY: CAS  
APPROVED BY: GJS

PUD NO. 1 OF SKAGIT COUNTY ENGINEERING MANAGER

APPROVED ON: MAY 6, 2014

STANDARD  
WH-1a

SHEET 1/2

**BILL OF MATERIALS**

NO.	NOMENCLATURE	REQ'D
1	TEE WITH FLANGED BRANCH	1
2	6" VALVE WITH FLANG CONNECTIONS (SEE NOTE 6)	1
3	CASING, 6" PVC SEWER PIPE	1
4	PIPE, 6" CLASS 50 DUCTILE IRON, FIELD CUT	1
5	FIRE HYDRANT WITH PUMPER PORT, GLOW MEDALLION OR AS APPROVED BY JURISDICTIONAL FIRE DEPARTMENT DISTRICT (SEE PULL DETAIL)	1
6	VALVE BOX, CAST IRON OLYMPIC FOUNDRY #B007/SKAGIT (SEE PULL DETAIL)	1
7	BLOCK, PRECAST CONCRETE, SEE NOTE 8	1
8	FABRIC, GEOTEXTILE, NON-WOVEN (MIRAF 140N)	1
9	1/4" OF GRAN ROCK, 1-1/2" TO 3/4", NO FINES	2
10	MED-A-LUX, 8" (2SP) RING 8"	1
11	HYDRANT ADAPTER STORZ STYLE S-37 W/SC CAP & CABLE, 5"X1/2"	1

*OR EQUIVALENT APPROVED BY THE DISTRICT

**NOTES:**

- ALL MATERIALS AND BRANDS MUST BE APPROVED BY P.U.D.
- BLOCK, TEE AND HYDRANT WITH POURED CONCRETE ON ALL WATER MAINS OTHER THAN DUCTILE IRON AND ON ALL TAPPING SECTIONS AS REQUIRED PER DISTRICT BLOCKING DETAIL. IN ADDITION, 6" MEGALUX (OR APPROVED EQUIVALENT) SHALL BE INSTALLED AT VALVE AND HYDRANT M.J. OUTLETS. RESTRAIN ANY JOINTS IN THE PIPELINE WITH "FLEX LOW" GASKETS (OR APPROVED EQUIVALENT) INSTALLED IN THE BELLS OF TYTON JOINT PIPE OR "MEGALUX" ON M.J. BELLS.
- NO THROUGH BLOCKS ALLOWED. REPAIRS TO DUCTILE IRON OR LARGER MAINS, PROTECTIVE BARRIER POSTS MAY BE NECESSARY AT SOME HYDRANT INSTALLATIONS. CONTACT FIRE DEPARTMENT/DISTRICT FOR SPECIFIC REQUIREMENTS.
- HYDRANT LENGTH AND TRENCH DEPTH SHALL BE 50' AS TO PROVIDE FOR HYDRANT SETTING AT 2' MIN. AND 6" MAX. ELEVATION ABOVE FINISH GRADE.
- SET HYDRANT VERTICAL, USE LEVEL. COMPACT ALL BACKFILL.
- VALVE SHALL BE ANNA STANDARD GATE, 10" RING PACKING, NON-RISING STEM, 2" OPERATING NUT, RESILIENT WEDGE.
- HYDRANT LOCATIONS ARE DETERMINED BY THE FIRE MARSHAL WITH AUTHORITY FOR AREA CONCERNED.
- CONCRETE BLOCK WILL BE BELOW THE DRAIN HOLES AND DRAIN ROCK. TAKE CARE TO NOT PLUG DRAIN HOLES OR CONTAMINATE DRAIN ROCK.
- SET MINIMUM 1" SOFT CONCRETE SUPPORT RIGHT UP UNDER VALVE AND HYDRANT.
- HYDRANT BARREL, LEAD, TEE, AND VALVE MUST BE WRAPPED WITH POLYETHYLENE PIPE ENGAGEMENT TAPE WHICH IS A MINIMUM OF 8-MIL THICK. IT MUST BE INSTALLED AS PER W.S.D.O.T. STANDARDS AND IN ACCORDANCE WITH A.W.W.A. C105.
- WHERE HYDRANTS ARE INSTALLED IN THE SIDEWALK, THERE SHALL BE A MINIMUM 3/8" EXPANSION JOINT AROUND THE BARREL OF THE HYDRANT AND AN EXPANSION JOINT PERPENDICULAR ACROSS THE SIDEWALK, INTERSECTING THE HYDRANT BARREL.
- PROVIDE A MINIMUM OF 2'-0" LEVEL WORKING AREA AROUND HYDRANT USING 6" THICK LAYER OF 5/8" MINUS CRUSHED ROCK COMPACTED TO 95%.

**SEE SHEET 2/2 FOR WALL REQUIREMENTS FOR HYDRANTS**

**STANDARD INSTALLATION OF FIRE HYDRANT "CENTER STEM TYPE"**

SCALE: NTS  
DATE: 3-25-06  
REVISED: 5/9/14  
DRAWN BY: CAS  
APPROVED BY: GJS

PUD NO. 1 OF SKAGIT COUNTY ENGINEERING MANAGER

APPROVED ON: MAY 6, 2014

STANDARD  
WH-1a

SHEET 1/2

**THRUST BLOCKING REQUIREMENTS**

PIPE SIZE	KEY BLOCKS & TEE/CAP OR PLUG		BEARING AREA REQUIRED IN SQUARE FEET	
	90 Degree BEND	45 Degree BEND	22.5 Degree BEND	11.25 Degree BEND
8"	200	225	250	200
10"	250	275	300	250
12"	300	325	350	300
14"	350	375	400	350
16"	400	425	450	400
18"	450	475	500	450
20"	500	525	550	500
24"	600	625	650	600

**KEY BLOCKING SPECIFICATION:**  
MATERIALS SHALL INCLUDE 3/4"-INCH RESTRAINING RODS, HEX NUTS AND WASHERS OF HIGH STRENGTH LOW ALLOY STEEL. MEETING ANNA C-111-90 COMPOSITION SPECIFICATIONS. ROMAC "DUCTILE LUG" OR 90° EYE BOLTS AND "900" SERIES PIPE RESTRAINING SYSTEM. THRUST RESTRAINT TO BE CALCULATED AT 7000 POUNDS PER BOLT OR AS RECOMMENDED BY ENGINEER. ALL RODS, EYE BOLTS AND PIPE RESTRAINING SYSTEMS ARE TO BE CLEAN. TWO SEPARATE BRUSH COATS OF ASPHALT COATING AS APPROVED BY THE ENGINEER TO BE APPLIED. A 3-INCH MINIMUM CLEARANCE IS REQUIRED BETWEEN WATER PIPE AND CONCRETE. SOIL IS TO BE COMPACTED TO 95% REBAR TO BE MINIMUM #6 (3/4") SIZE AND HAVE A MINIMUM 9-INCH CLEARANCE FROM ANY CONCRETE SURFACE.

**BEARING AREA REQUIRED IN SQUARE FEET**

SAFE BEARING LOAD LBS./SQ. FT.  
SOFT CLAY, SILT.....1,000  
SAND, SANDY SILT.....2,000  
SAND AND GRAVEL.....3,000  
SAND AND GRAVEL CEMENTED W/ CLAY.....4,000  
HARD SHALE.....10,000

**FORMULAS:**  
T = PA  
T + K = BEARING AREA REQUIRED IN SQUARE FEET AT ALL PIPE BENDS.  
T = 2PA (SIN 1/2 ANGLE) WHERE ANGLE IS TO BE NOT SHOWN SHALL HAVE APPROVAL OF THE P.U.D.  
T + K = BEARING AREA REQUIRED IN SQ. FEET

**WHEN:**  
T = THRUST IN POUNDS  
P = TEST PRESSURE IN PSI  
A = CROSS-SECTIONAL AREA OF PIPE IN SQ. INCHES  
K = ASSUMED 2000 PSF SOIL BEARING PRESSURE

**KEY BLOCK USE:**  
THE INSTALLATION OF A KEY BLOCK IS TO BE CONSIDERED ONLY FOR TEMPORARY BLOCKING FOR 5-10 YEARS. IF THE PIPELINE IS TO REMAIN DEADEND OR AN EXTENSION IS LIKELY TO BE MORE THAN 10 YEARS AWAY, THEN A STANDARD BLOCK FOR CAP OR PLUG WILL BE INSTALLED. USE OF KEY BLOCK IS TO BE APPROVED BY THE DISTRICT.

**STANDARD**  
SCALE: NTS  
DATE: 3-25-06  
REVISED: 5/9/14  
DRAWN BY: CAS  
APPROVED BY: GJS

PUD NO. 1 OF SKAGIT COUNTY ENGINEERING MANAGER

APPROVED ON: MAY 6, 2014

HORIZONTAL THRUST BLOCKING DETAILS  
WT-1

**RECOMMENDED PROCEDURE FOR RAISING AND SETTING CAST IRON VALVE BOX IN ASPHALT PAVING**

- LOCATE BURIED VALVE BOX USING REFERENCE MEASUREMENTS AND/OR ELECTRONIC OR MAGNETIC LOCATOR. MARK LOCATION WITH WHITE PAINT.
- BREAK OUT SMALL HOLE IN PAVEMENT AND LOCATE THE VALVE BOX COVER.
- CAREFULLY BREAK OUT AN 18-INCH DIAMETER HOLE WITH 9-INCH RADIUS FROM THE CENTER OF THE VALVE BOX. A CIRCLE TEMPLATE 18 INCHES IN DIAMETER IS HANDY TO MARK OUT THE PERIMETER OF THIS HOLE. USE A CURVED SAW WITH A JACKHAMMER TO CUT A NEAT VERTICAL FACE HOLE IN THE ASPHALTIC CONCRETE PAVEMENT. DO NOT CRACK OR DAMAGE THE PAVEMENT BEYOND THIS HOLE. IF IT IS SUSPECTED THE VALVE CASING IS NOT VERTICAL OR CENTERED OVER THE VALVE OPERATING NUT REMOVE JUST ENOUGH PAVEMENT TO ALLOW ADJUSTMENT OF THE VALVE BOX LID SO IT CAN BE DETERMINED IF CASING ADJUSTMENT IS NEEDED. IT IS VERY IMPORTANT TO NOT REMOVE ANY MORE FINISHED PAVEMENT THAN ABSOLUTELY NECESSARY.
- COMPLETELY REMOVE THE WHOLE VALVE BOX. DO NOT DISTURB THE SURROUNDING EARTH ANY MORE THAN NECESSARY. EXAMINE THE CASING PIPE MAKE SURE IT IS VERTICAL, SYMMETRICAL AROUND THE VALVE NUT AND CLEAN OF ALL ROCKS, DEBRIS AND DIRT. CLEAN AND CORRECT AS NECESSARY. CHECK WITH A VALVE WRENCH TO VERIFY OPERATION IS SMOOTH.
- TRIM OR ADD TO THE CASING PIPE (6-INCH PVC PLASTIC OR CONCRETE) AS NEEDED SO THE TOP OF THE CASING PIPE IS A MINIMUM OF 4 INCHES TO MAXIMUM OF 6 INCHES BELOW THE FINISHED PAVEMENT GRADE. THE LID WILL NOT FIT TIGHT IF THE CASING IS HIGHER. VALVE BOX WILL HAVE POOR SUPPORT IF THE CASING PIPE IS LOWER. TO ADD CASING PIPE, USE A PIECE OF 6-INCH PVC PLASTIC SEWER PIPE CUT 12 INCHES LONGER THAN NEEDED. SAW-OUT THIS PIECE ALONG ONE SIDE IN A STRAIGHT LINE THE FULL LENGTH. FOLD THE PIPE OVER THE SAW-OUT AND INSERT IT INSIDE THE CASING PIPE IN THE GROUND. SLIDE UP OR DOWN TO ACHIEVE DESIRED LEVEL.
- IF THE VALVE OPERATING NUT IS OVER 3 FEET BELOW FINISH PAVEMENT GRADE, INSTALL A STANDARD VALVE OPERATING EXTENSION, PER STANDARD SPECIFICATIONS.
- USING A 1-INCH ROD OR CARPET 3/4-INCH PIPE, THOROUGHLY POUND THE EARTH ALL AROUND THE CASING PIPE TO STABILIZE MAXIMUM EARTH COMPACTION.
- FILL THE VOID BETWEEN THE CASING PIPE AND EARTH WALL UP TO EXACTLY 12 INCHES (1 FOOT) BELOW FINISH PAVEMENT GRADE WITH 5/8-INCH MINUS CRUSHED ROCK AND THOROUGHLY COMPACT USING ROD OR PIPE AS STEP 7. KEEP ADDING AND COMPACTING CRUSHED ROCK UNTIL HARD, TIGHT LEVEL SURFACE IS EXACTLY 12 INCHES BELOW PAVEMENT GRADE.
- INSERT THE VALVE BOX, USING A STRAIGHT BOARD OR ROD, CHECK THAT THE TOP RIM OF THE VALVE BOX IS EXACTLY LEVEL WITH THE FINISHED PAVEMENT. THE BOX MUST SET EVENLY ON THE CRUSHED ROCK BASE. IT MUST NOT ROCK OR WIGGLE. REMOVE THE BOX AND ADJUST THE CRUSHED ROCK AS OFTEN AS NECESSARY TO ACHIEVE EXACT GRADE WITH PAVEMENT AND UNIFORM BOX SUPPORT. PUT CAST IRON LID ON THE BOX. MAKE SURE IT FITS CORRECTLY AND IS FLUSH WITH THE BOX RIM. REPLACE LID IF INCORRECT FIT. REPLACE ENTIRE VALVE BOX IF BOX RIM PREVENTS A SNUG FIT OF THE LID.
- ADD 5/8-INCH MINUS CRUSHED ROCK UNIFORMLY IN THE SPACE BETWEEN THE VALVE BOX AND OUTSIDE EARTH WALL IN MAXIMUM 4-INCH LIFTS. COMPACT EACH LIFT COMPLETELY WITH 1-INCH ROD OR PIPE AS BEFORE. FILL AND COMPACT THE SPACE UP TO 2 INCHES BELOW FINISHED PAVEMENT GRADE.
- ADD HOT MIX ASPHALTIC CONCRETE MATERIAL AND THOROUGHLY COMPACT WITH ROD OR PIPE TO THE FINISH PAVEMENT GRADE. SMOOTH OFF THE SURFACE AS MUCH AS POSSIBLE.
- USING A BRUSH, PAINT THE SURFACE OF THE PATCH WITH ASPHALT TACK MATERIAL EXTENDING MINIMUM OF 1 INCH OVER PAVEMENT AND ONTO EDGE OF VALVE BOX METAL RIM. DO NOT ALLOW ANY TACK MATERIAL TO FLOW INTO METAL RIM OR ON BOX COVER. USE A BRUSH TO CONTROL APPLICATION OF THIS TACK COAT AND PREVENT A NEAT SEAL SURFACE.
- CHECK AGAIN THAT VALVE CASING IS CLEAR. THAT VALVE WRENCH CAN BE PUT ON OPERATING NUT AND VALVE CAN BE OPERATED PROPERLY.
- CLEAN THE TACK SAND OVER THE TACK COAT SO THAT VEHICLE TIRES WILL NOT LIFT THE TACK MATERIAL BEFORE IT CURES AND SETS UP.
- EACH VALVE BOX IN A CLUSTER OF TWO TO THREE SHOULD BE ADJUSTED INDEPENDENTLY AS OUTLINED ABOVE. CUTTING OUT TRIANGLES OR SQUARES OF FINISHED PAVEMENT RESULTS IN VALVE BOXES THAT DO NOT REMAIN EVEN WITH PAVEMENT. LEAN TOGETHER, AND BREAK OUT UNDER TRAFFIC BEATING.

CAREFULLY FOLLOWING THIS OUTLINED PROCEDURE RESULTS IN VALVE BOX SETTINGS THAT WILL REMAIN FIRM AND IN PLACE, AND ARE VIRTUALLY UNNOTICED BY THE PUBLIC PASSING OVER THEM IN THEIR VEHICLES.

PUD NO. 1 OF SKAGIT COUNTY ENGINEERING MANAGER

APPROVED ON: MAY 6, 2014

STANDARD  
SCALE: NTS  
DATE: 3-25-06  
REVISED: 5/9/14  
DRAWN BY: CAS  
APPROVED BY: GJS

STANDARD  
WH-1b

SHEET 2/2

**LEGEND:**

- INSTALL CORNERSTONE F100 BLOCK UNITS WITH CAPS, STACK TO DESIRED HEIGHT (4' MAX.) ADHERE CAPS TO THE BLOCK UNITS WITH A CONCRETE ADHESIVE.
- COMPACTED SELECT FILL MATERIAL AS REQUIRED BY THE DISTRICT'S INSPECTOR.
- ESTABLISH A COMPACTED AGGREGATE LEVELING PAD USING 5/8" MINUS CRUSHED ROCK COMPACTED TO 95% BASE SHALL BE A MINIMUM OF 8" DEEP PLUS ONE INCH PER EVERY ONE FOOT OF WALL HEIGHT. PLACE FIRST COURSE OF BLOCKS ON LEVELING SAND.
- FILL ANY VOIDS IN BLOCKS WITH GRAVEL.

**STANDARD INSTALLATION OF FIRE HYDRANT "CENTER STEM TYPE"**

SCALE: NTS  
DATE: 3-25-06  
REVISED: 5/27/14  
DRAWN BY: KDM  
APPROVED BY: GJS

PUD NO. 1 OF SKAGIT COUNTY ENGINEERING MANAGER

APPROVED ON: MAY 16, 2014

STANDARD  
WH-1b

SHEET 2/2

**TYPICAL TRENCH SECTION**

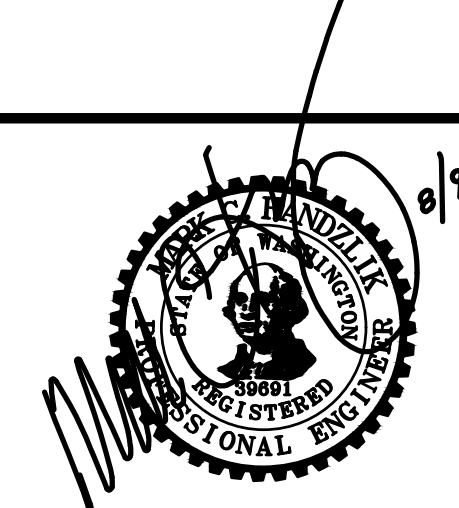
SCALE: 1"=1'  
DATE: 11-15-11  
REVISED: 9/9/22  
DRAWN BY: JLB  
APPROVED BY: MCH

PUD NO. 1 OF SKAGIT COUNTY ENGINEERING MANAGER

APPROVED ON: SEPTEMBER 9, 2022

STANDARD  
WT-1-1

ISSUE	REVISIONS	BY	DATE
1.	30% DESIGN	MCH	11/20/23
2.	60% DESIGN	MCH	2/2/24
3.	100% DESIGN	MCH	6/6/24
4.	ISSUED FOR BIDDING	MCH	8/9/24



DATUM:  
HOR: NAD 83  
VERT: NAVD 88

DSGN BY: KAN  
DWN BY: KAN  
APPV BY: MCH

DATE PRINTED: 8/6/24

SEC: 05.32  
TWP: 34.35 N  
RGE: 04 E



PUBLIC UTILITY DISTRICT  
NO. 1 of SKAGIT COUNTY  
1415 Freeway Drive  
P.O. BOX 1436  
Mount Vernon, WA 98273  
(360) 424-7104  
www.SkagitPud.org

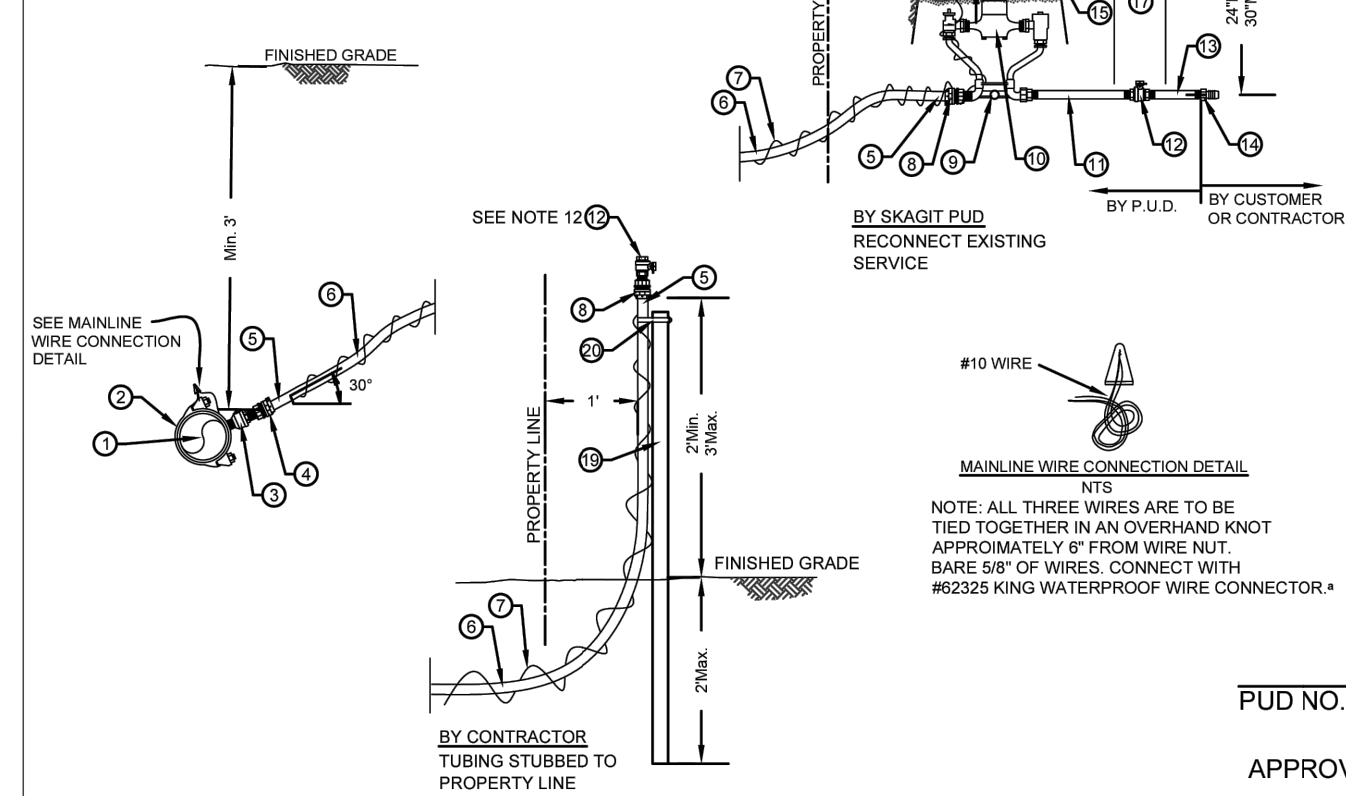
NORTH BURLINGTON PIPELINE REPLACEMENT  
STANDARD DETAILS

BILL OF MATERIALS					
NO.	NOMENCLATURE	REQ'D.	NO.	NOMENCLATURE	REQ'D.
1	WATER MAIN		11	NIPPLE BRASS 1" x 1/2"	1
2	CLAMP SERVICE DOUBLE STRAP X 1" I.P.T., ALL BRASS (FORD #2028)	1	12	BALL VALVE BRASS 1" (FORD B1-444R-NL)*	1
3	CORP. 1" (FORD #B800-4P)	1	13	NIPPLE BRASS 1" x 6"	1
4	ADAPTER BRASS PAC JOINT, 1" I.P.T. x 1" COP (FORD #C14-44-NL)*	1	14	ADAPTER BRASS 1" I.P.T. x 1" INSERT	1
5	INSERT, STIFFENER, 3/4" (FORD #71)*	2	15	METER BOX & COVER, CARSON L SERIES 1419-12 W/COVER 1419-418*	1
6	PIPE, 1" REHAU MUNIPEX TYPE A, 200 P.S.I.		16	EXTENSION METER BOX, CARSON L SERIES 1419-12 W/COVER 1419-418*	1
7	WIRE, #10 SOLID COPPER, BLUE COATED, EXTEND MIN. 18" INTO BOX, NEAR LID		17	CASING, 8" PVC SEWER PIPE	1
8	ADAPTER BRASS PAC JOINT, 1" M.I.P.T. x 1" COP (FORD #C14-44-NL)*	1	18	8" PVC CAP	1
9	COPPERSETTER, 3/4" (FORD #B800-4P)	1	19	POST, 4" MIN. METAL FENCE POST W/SPADE REMOVED	1
10	METER, BADGER MODEL M25 (S2) OR M33 (34)* BRONZE METER (BY PUD)		20	HOSE CLAMP, 1-1/4" STAINLESS STEEL	1

**NOTES**

- CORP TO BE IN FULL OPEN POSITION BEFORE BACKFILL. INSTALL SERVICE LINE PERPENDICULAR TO MAIN UNLESS OTHERWISE SHOWN ON WATER CONSTRUCTION PLAN.
- SERVICE LINE IS TYPICALLY 1" TO NORTH OR WEST OF METER BOX AND COVER. WATER SERVICES TO BE INSTALLED BY PUD. WATER SERVICES TO BE INSTALLED BY PUD. WATER SERVICES TO BE INSTALLED BY PUD. WATER SERVICES TO BE INSTALLED BY PUD.
- METER BOX & COVER, CARSON L SERIES 1419-12 W/COVER 1419-418* IS TO BE INSTALLED BY PUD. WATER SERVICES TO BE INSTALLED BY PUD. WATER SERVICES TO BE INSTALLED BY PUD. WATER SERVICES TO BE INSTALLED BY PUD.
- IF METER IS NOT INSTALLED IN COPPERSETTER, INSTALL A PVC NIPPLE BETWEEN METER CONNECTIONS. IF CONNECTION IS NOT MADE TO CUSTOMER'S PLUMBING, INSTALL A WATERTIGHT WRAP OF ELECTRICAL TAPE OVER END OF ADAPTER#14). SET COPPERSETTER FLUSH, PLUMB AND CENTERED IN BOX.
- FLUSH OUT SERVICE TUBING AND COPPERSETTER BEFORE INSTALLING METER. DO NOT ALLOW MUD OR FOREIGN MATERIAL TO ENTER ANY TUBING OR FITTINGS.
- FILL BOX WITH FINE DIRT TO TOP OF METER.
- IF THE METER BOX IS LOCATED IN ASPHALT OR CONCRETE AREA A TRAFFIC BOX, CARSON 1324-2500 W/COVER 1324-4508 WILL BE REQUIRED. NOT FOR THROUGH-WAY TRAFFIC APPLICATIONS.
- IF THERE IS PETROLEUM-BASED CONTAMINATED SOIL PRESENT, THE SERVICE PIPELINE SHALL BE OF TYPE K COPPER WITH BRASS AND COPPER FITTINGS.
- IF SERVICE LINE HAS LESS THAN 2" OF COVER, CONTACT DISTRICT ENGINEERING DEPARTMENT FOR FREEZE PROTECTION REQUIREMENTS.
- BACKFLOW PROTECTION AT THE SERVICE CONNECTION IS REQUIRED FOR NON-RESIDENTIAL, AGRICULTURAL, AND IRRIGATION USES. ON LARGE SIZED PROPERTIES WITH EXISTING WELLS AND BOOSTER/SEWAGE PUMPS, AND IN OTHER SITUATIONS AS DESCRIBED IN THE DISTRICT'S CROSS CONNECTION CONTROL MANUAL.
- BALL VALVE TO BE REMOVED BY DISTRICT PRIOR TO CONNECTING TO METER.

ALL BRASS FITTINGS TO BE LEAD FREE DOMESTIC BRASS



PUD NO. 1 OF SKAGIT COUNTY ENGINEERING MANAGER

APPROVED ON: DECEMBER 5, 2023

STANDARD INSTALLATION OF SINGLE 5/8" OR 3/4" METERED SERVICE WITH 200 P.S.I. REHAU SERVICE LINE FOR PIPELINE REPLACEMENT PROJECTS

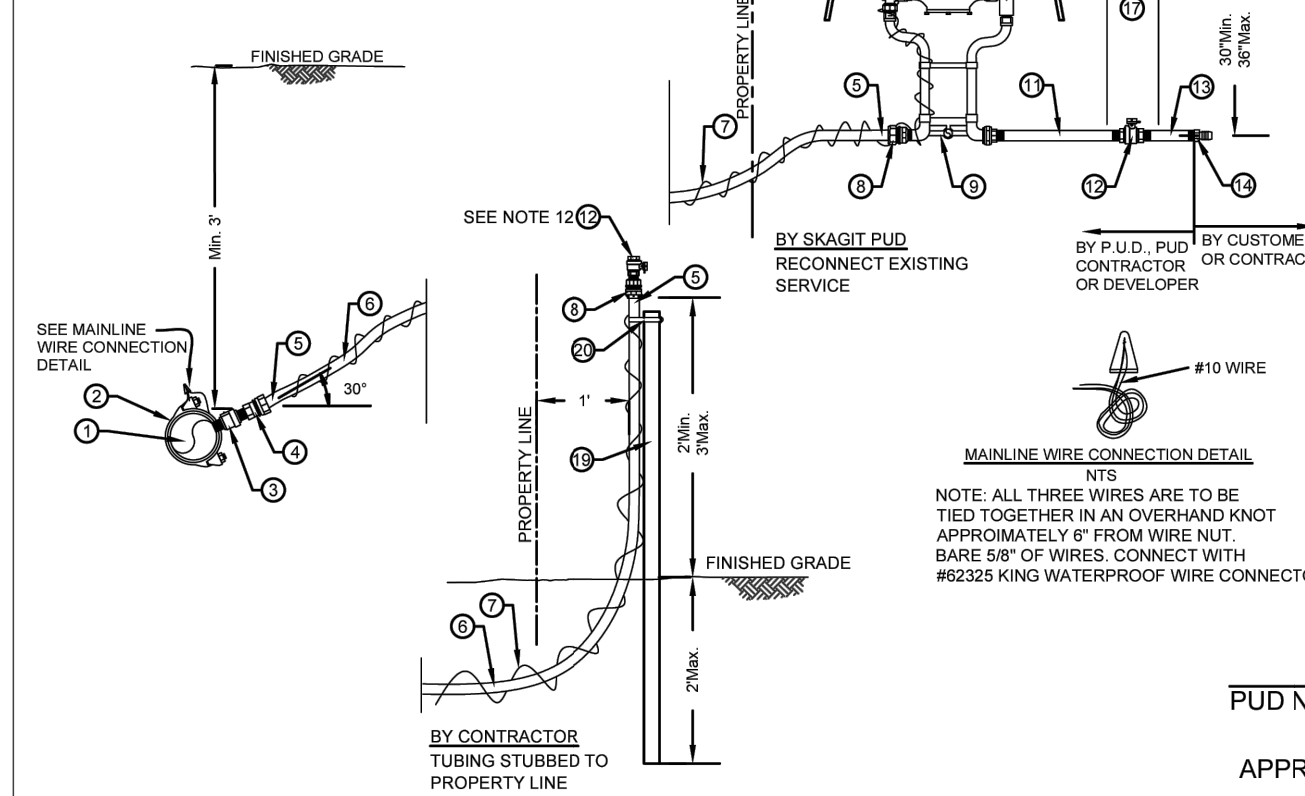
SCALE: 1" = 2'  
DATE: 12/5/23  
REVISED: 12/5/23  
DRAWN BY: JLB  
APPROVED BY: MCH

BILL OF MATERIALS					
NO.	NOMENCLATURE	REQ'D.	NO.	NOMENCLATURE	REQ'D.
1	WATER MAIN		11	NIPPLE BRASS 1" x 1/2"	1
2	CLAMP SERVICE DOUBLE STRAP X 1" I.P.T., ALL BRASS (FORD #2028)	1	12	BALL VALVE BRASS 1" (FORD B1-444R-NL)*	1
3	CORP. 1" (FORD #B800-4P)	1	13	NIPPLE BRASS 1" x 6"	1
4	ADAPTER BRASS PAC JOINT, 1" I.P.T. x 1" COP (FORD #C14-44-NL)*	1	14	ADAPTER BRASS 1" I.P.T. x 1" INSERT	1
5	INSERT, STIFFENER, 3/4" (FORD #71)*	2	15	METER BOX AND COVER, CARSON 1324 (15" DEPTH) W/FLUSH COVER*	1
6	PIPE, 1" REHAU MUNIPEX TYPE A, 200 P.S.I.		16	EXTENSION METER BOX, CARSON 1324(WHEN REQUIRED BY SITE CONDITIONS)	1
7	WIRE, #10 SOLID COPPER, BLUE COATED, EXTEND MIN. 18" INTO BOX, NEAR LID		17	CASING, 8" PVC SEWER PIPE	1
8	ADAPTER BRASS PAC JOINT, 1" M.I.P.T. x 1" COP (FORD #C14-44-NL)*	1	18	8" PVC CAP	1
9	COPPERSETTER, 1" (FORD #B800-4P)	1	19	POST, 4" MIN. METAL FENCE POST W/SPADE REMOVED	1
10	METER, BADGER MODEL M70 1/2" BRONZE METER (BY PUD)		20	HOSE CLAMP, 1-1/4" STAINLESS STEEL	1

**NOTES**

- CORP TO BE IN FULL OPEN POSITION BEFORE BACKFILL. INSTALL SERVICE LINE PERPENDICULAR TO MAIN UNLESS OTHERWISE SHOWN ON WATER CONSTRUCTION PLAN.
- SERVICE LINE IS TYPICALLY 1" TO NORTH OR WEST OF METER BOX AND COVER. WATER SERVICES TO BE INSTALLED BY PUD. WATER SERVICES TO BE INSTALLED BY PUD. WATER SERVICES TO BE INSTALLED BY PUD. WATER SERVICES TO BE INSTALLED BY PUD.
- METER BOX AND COVER, CARSON 1324 (15" DEPTH) W/FLUSH COVER* IS TO BE INSTALLED BY PUD. WATER SERVICES TO BE INSTALLED BY PUD. WATER SERVICES TO BE INSTALLED BY PUD. WATER SERVICES TO BE INSTALLED BY PUD.
- IF METER IS NOT INSTALLED IN COPPERSETTER, INSTALL A PVC NIPPLE BETWEEN METER CONNECTIONS. IF CONNECTION IS NOT MADE TO CUSTOMER'S PLUMBING, INSTALL A WATERTIGHT WRAP OF ELECTRICAL TAPE OVER END OF ADAPTER#14). SET COPPERSETTER FLUSH, PLUMB AND CENTERED IN BOX.
- FLUSH OUT SERVICE TUBING AND COPPERSETTER BEFORE INSTALLING METER. DO NOT ALLOW MUD OR FOREIGN MATERIAL TO ENTER ANY TUBING OR FITTINGS.
- FILL BOX WITH FINE DIRT TO TOP OF METER.
- IF THE METER BOX IS LOCATED IN ASPHALT OR CONCRETE AREA A TRAFFIC BOX, CARSON 1324-2500 W/COVER 1324-4508 WILL BE REQUIRED. NOT FOR THROUGH-WAY TRAFFIC APPLICATIONS.
- IF THERE IS PETROLEUM-BASED CONTAMINATED SOIL PRESENT, THE SERVICE PIPELINE SHALL BE OF TYPE K COPPER WITH BRASS AND COPPER FITTINGS.
- IF SERVICE LINE HAS LESS THAN 2" OF COVER, CONTACT DISTRICT ENGINEERING DEPARTMENT FOR FREEZE PROTECTION REQUIREMENTS.
- BACKFLOW PROTECTION AT THE SERVICE CONNECTION IS REQUIRED FOR NON-RESIDENTIAL, AGRICULTURAL, AND IRRIGATION USES. ON LARGE SIZED PROPERTIES WITH EXISTING WELLS AND BOOSTER/SEWAGE PUMPS, AND IN OTHER SITUATIONS AS DESCRIBED IN THE DISTRICT'S CROSS CONNECTION CONTROL MANUAL.
- BALL VALVE TO BE REMOVED BY DISTRICT PRIOR TO CONNECTING TO METER.

ALL BRASS FITTINGS TO BE LEAD FREE DOMESTIC BRASS



PUD NO. 1 OF SKAGIT COUNTY ENGINEERING MANAGER

APPROVED ON: FEBRUARY 14, 2024

STANDARD INSTALLATION OF 1" METERED SERVICE WITH 200 P.S.I. REHAU SERVICE LINE FOR PIPELINE REPLACEMENT PROJECTS

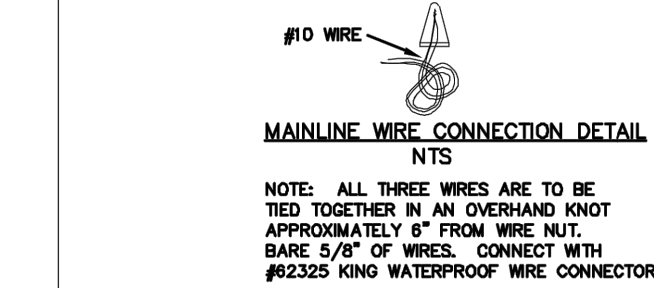
SCALE: 1" = 2'  
DATE: 3/10/25  
REVISED: 2/14/24  
DRAWN BY: KAN  
APPROVED BY: MCH

BILL OF MATERIALS					
NO.	NOMENCLATURE	REQ'D.	NO.	NOMENCLATURE	REQ'D.
1	WATER MAIN		11	ADAPTER BRASS PAC JOINT, 1" M.I.P.T. x 1" COP (FORD #C14-44-NL)*	4-7
2	CLAMP SERVICE DOUBLE STRAP X 1" I.P.T., ALL BRASS (FORD #2028)	1	12	UTILITY VALVE BRASS 1/2" W/200-P COVER (SEE NOTE 3)	1
3	CORP. 1" BRASS FB-500*	1	14	VALVE, 1" COMBINATION AIR (APO) (W/ STAINLESS STEEL TRIM)*	1
4	NIPPLE BRASS 1/2"	1	15	PIPE, 1" PVC SCH 80	1
5	CLUB STOP, 1" B1-444	1	16	HOSE CLAMP, 3/4" STAINLESS STEEL	1
6	VALVE BOX, CAST IRON OLYMPIC FOUNDRY VB-007-SKAIT (SEE PUD DETAIL)	1	17	REND, 1" COPPER, 180°, WITH INSECT SCREEN	1
7	CASING, 8" PVC SEWER PIPE	1	18	WIRE, #10 SOLID COPPER, BLUE COATED, EXTEND MIN. 18" INTO BOX, NEAR LID	1
8	BELL 1" BRASS, 8" STREET	4	19	POST, 4" MIN. METAL FENCE POST W/SPADE REMOVED (PRESSURE TREATED 4" x 4" POST W/SPADE WHERE APPROPRIATE)	1
9	BELL 1" BRASS, 2"	2	20	NIPPLE 1/2" BRASS	1
10	UNION, BRASS 1"	1	21	CONCRETE SUPPORT, MIN. 1 FT. SQUARE X 1-1/4" H. TRUCK	2

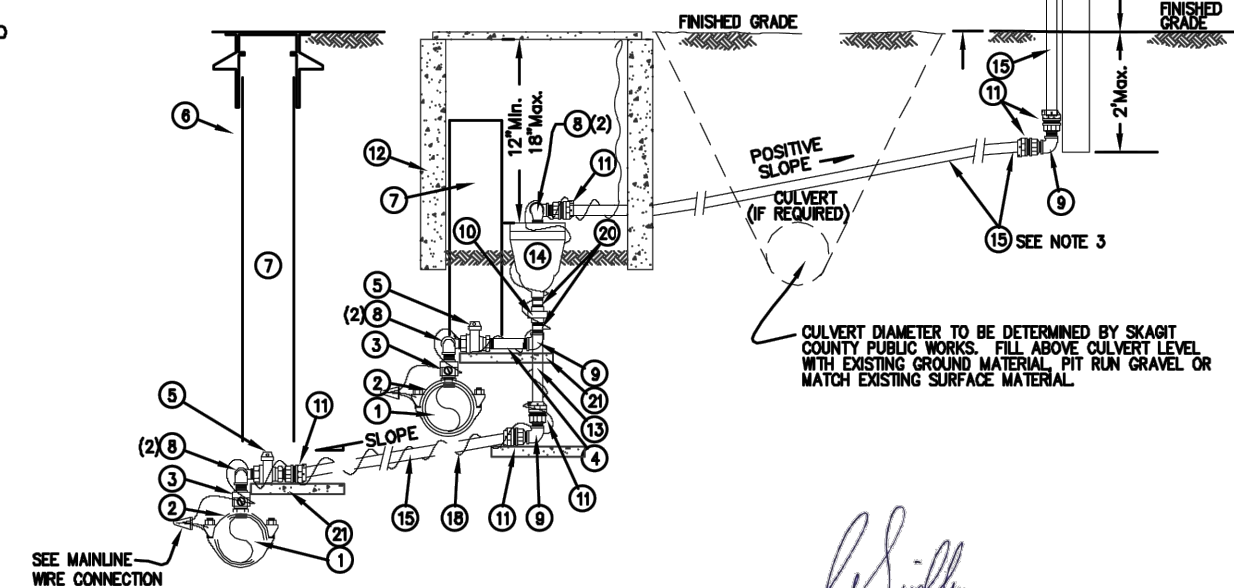
* OR EQUIVALENT APPROVED BY THE DISTRICT  
ALL BRASS FITTINGS TO BE LEAD FREE DOMESTIC BRASS PER UNITED STATES BILL S.3874.

**NOTES**

- CORP TO BE IN FULL "ON" POSITION BEFORE BACKFILL.
- SET VALVE CASING AND VAULT TO FINISHED GRADE. PROVIDE CONCRETE BLOCK SUPPORT UNDER CASING. DO NOT REST ON PIPE. REFER TO DETAIL OF STANDARD VALVE CASING INSTALLATION.
- INSTALL LINE PERPENDICULAR TO MAIN OR AS SHOWN ON WATER PLAN.
- CARSON INDUSTRIES BOX 1730-15 W/COVER 1730-3L MAY BE USED IN LAWN OR LANDSCAPED AREA UPON APPROVAL BY PUD.
- IF THERE IS A GROUND DEPRESSION OR DITCH BETWEEN AIR VALVE LOCATION AND VENT PIPE WHICH AFFECTS THE SLOPE OF THE HORIZONTAL VENT PIPE, INSTALL A CULVERT IF IT IS A DRAINAGE PATH OR FILL WITH DIRT.



NOTE: ALL THREE WIRES ARE TO BE TIED TOGETHER IN AN OVERHAND KNOT APPROXIMATELY 8" FROM WIRE NUT. BARE 5/8" OF WIRES. CONNECT WITH #82325 KING WATERPROOF WIRE CONNECTOR.*



PUD NO. 1 OF SKAGIT COUNTY ENGINEERING MANAGER

APPROVED ON: MAY 21, 2014

STANDARD INSTALLATION OF 1" COMBINATION AIR VALVE ASSEMBLY

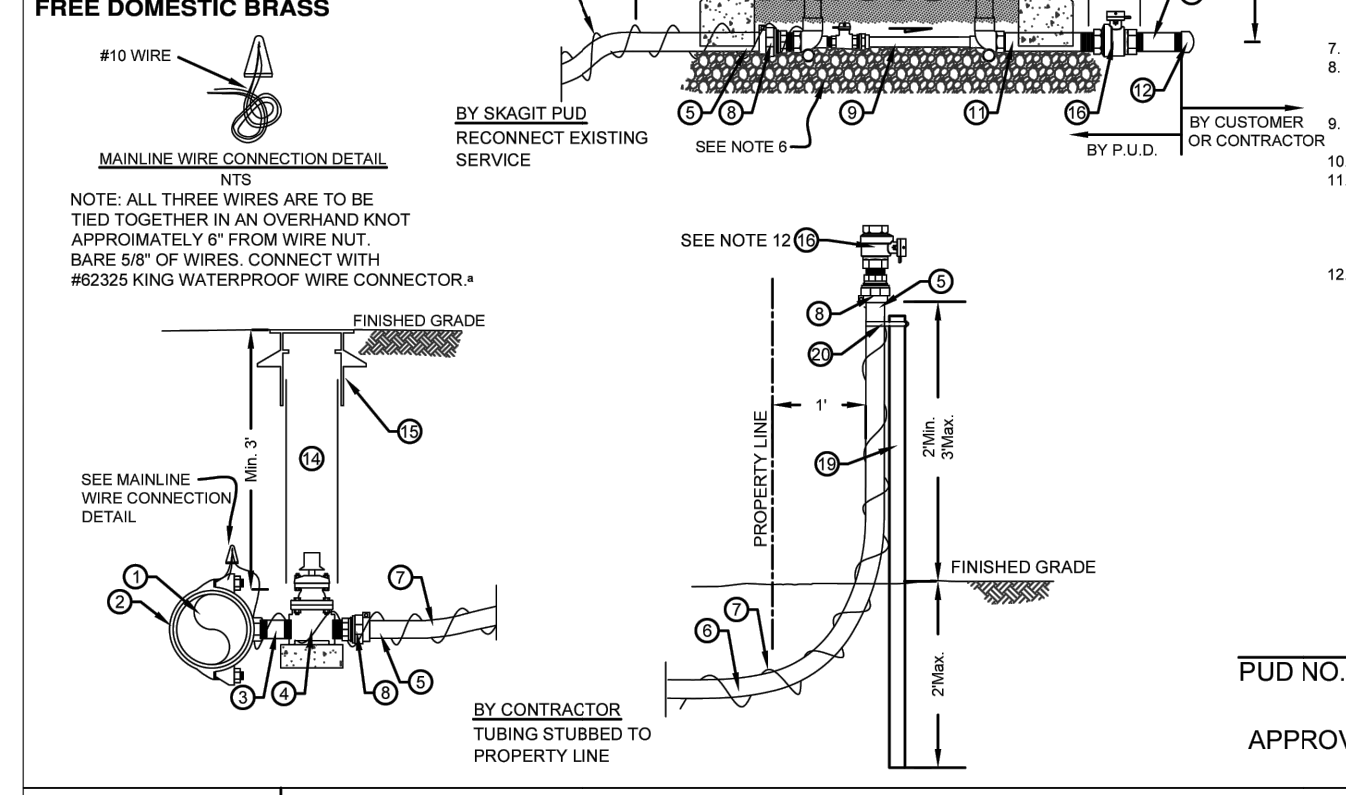
SCALE: 1" = 2'  
DATE: 3-25-05  
REVISED: 5/21/14  
DRAWN BY: CAS  
APPROVED BY: GJS

BILL OF MATERIALS					
NO.	NOMENCLATURE	REQ'D.	NO.	NOMENCLATURE	REQ'D.
1	WATER MAIN		13	VAULT, OLDCASTLE 964-LA W/COVER 9642-2438*	
2	CLAMP SERVICE DOUBLE STRAP X 2" I.P.T., ALL BRASS (FORD #2028)	1	14	CASING, 8" PVC SEWER PIPE	1
3	NIPPLE BRASS 2"	1	15	VALVE BOX, CAST IRON OLYMPIC FOUNDRY VB-007-SKAIT (SEE PUD DETAIL)	1
4	VALVE, 2" DUCTILE IRON, RESILIENT WEDGE, 2" I.P.T.	1	16	BALL VALVE BRASS 2" (FORD B1-777R-NL)*	1
5	INSERT, STIFFENER, 1-1/2" (FORD #74)*	2	17	NIPPLE BRASS 2" (FORD B1-777R-NL)*	1
6	WIRE, #10 SOLID COPPER, BLUE COATED, EXTEND MIN. 18" INTO BOX, NEAR LID		18	8" PVC CAP	1
7	PIPE, 2" REHAU MUNIPEX TYPE A, 200 P.S.I.		19	POST, 4" MIN. METAL FENCE POST W/SPADE REMOVED	1
8	BRASS PAC JOINT, 2" M.I.P.T. x 2" COP (FORD #C34-74-NL)*	2	20	HOSE CLAMP, 1-1/4" STAINLESS STEEL	1
9	COPPERSETTER, 2" (FORD #B800-4P)	1			
10	METER, BADGER MODEL M70 BRONZE METER (BY PUD)				
11	NIPPLE BRASS 2" x 1/2"	1			
12	CAP, 2" GALVANIZED	1			

**NOTES**

- INSTALL SERVICE LINE PERPENDICULAR TO MAIN UNLESS OTHERWISE SHOWN ON WATER CONSTRUCTION PLAN.
- IF METER IS NOT INSTALLED IN COPPERSETTER, INSTALL A PVC NIPPLE BETWEEN METER CONNECTIONS. IF CONNECTION IS NOT MADE TO CUSTOMER'S PLUMBING, INSTALL CAP#12).
- SUPPORT COPPERSETTER WITH 1" TO 2" ROD OR PIPE THROUGH EACH EYELET. SET COPPERSETTER FLUSH, PLUMB AND CENTERED IN VAULT/BOX. LOCK BYPASS WITH P.U.D. LOCK PADLOCK.
- PUD OWNERSHIP ENDS AT THE METER AND METER BOX. WATER SERVICES TO BE CONNECTED TO AN ACTIVE WATERLINE ARE REQUIRED TO BE INSTALLED BY PUD. WATER SERVICES TO BE INSTALLED BY PUD. WATER SERVICES TO BE INSTALLED BY PUD. WATER SERVICES TO BE INSTALLED BY PUD.
- IF SERVICE LINE HAS LESS THAN 2" OF COVER, CONTACT DISTRICT ENGINEERING DEPARTMENT FOR FREEZE PROTECTION REQUIREMENTS.
- SET VALVE CASING AND VAULT TO FINISH GRADE. DO NOT REST CASING OR VAULT ON NIPPLES OR PIPE. PLACE 8 INCHES OF 3/4" MINUS CRUSHED GRAVEL COMPACTED TO 80% UNDER CONCRETE VAULT. SUPPORT VALVE CASING WITH 0.2 SAFT. OF CONCRETE ON EACH SIDE OF VALVE. SUPPORT 2" VALVE WITH MIN. OF 1.50 FT. OF CONCRETE BLOCK ON UNDISTURBED GROUND OR COMPACTED 3/4" CRUSHED GRAVEL.
- A CONCRETE UTILITY VAULT WILL BE REQUIRED IF THERE IS PETROLEUM-BASED CONTAMINATED SOIL PRESENT. THE SERVICE PIPELINE SHALL BE OF TYPE K COPPER WITH BRASS AND COPPER FITTINGS.
- METER SENSING PAD TO BE LOCATED IN STEEL LID OF UTILITY VAULT WITH 8 INCHES OF HINGE NEAR STREET END.
- SEAL VAULT LIDS AND SEGMENTS WITH 1-1/2"X1" JOINT MASTIC.
- BACKFLOW PROTECTION AT THE SERVICE CONNECTION IS REQUIRED FOR NON-RESIDENTIAL, AGRICULTURAL, AND IRRIGATION USES. ON LARGE SIZED PROPERTIES, PROPERTIES WITH EXISTING WELLS AND BOOSTER/SEWAGE PUMPS, AND IN OTHER SITUATIONS AS DESCRIBED IN THE DISTRICT'S CROSS CONNECTION CONTROL MANUAL.
- BALL VALVE TO BE REMOVED BY DISTRICT PRIOR TO CONNECTING TO METER.

ALL BRASS FITTINGS TO BE LEAD FREE DOMESTIC BRASS



PUD NO. 1 OF SKAGIT COUNTY ENGINEERING MANAGER

APPROVED ON: DECEMBER 5, 2023

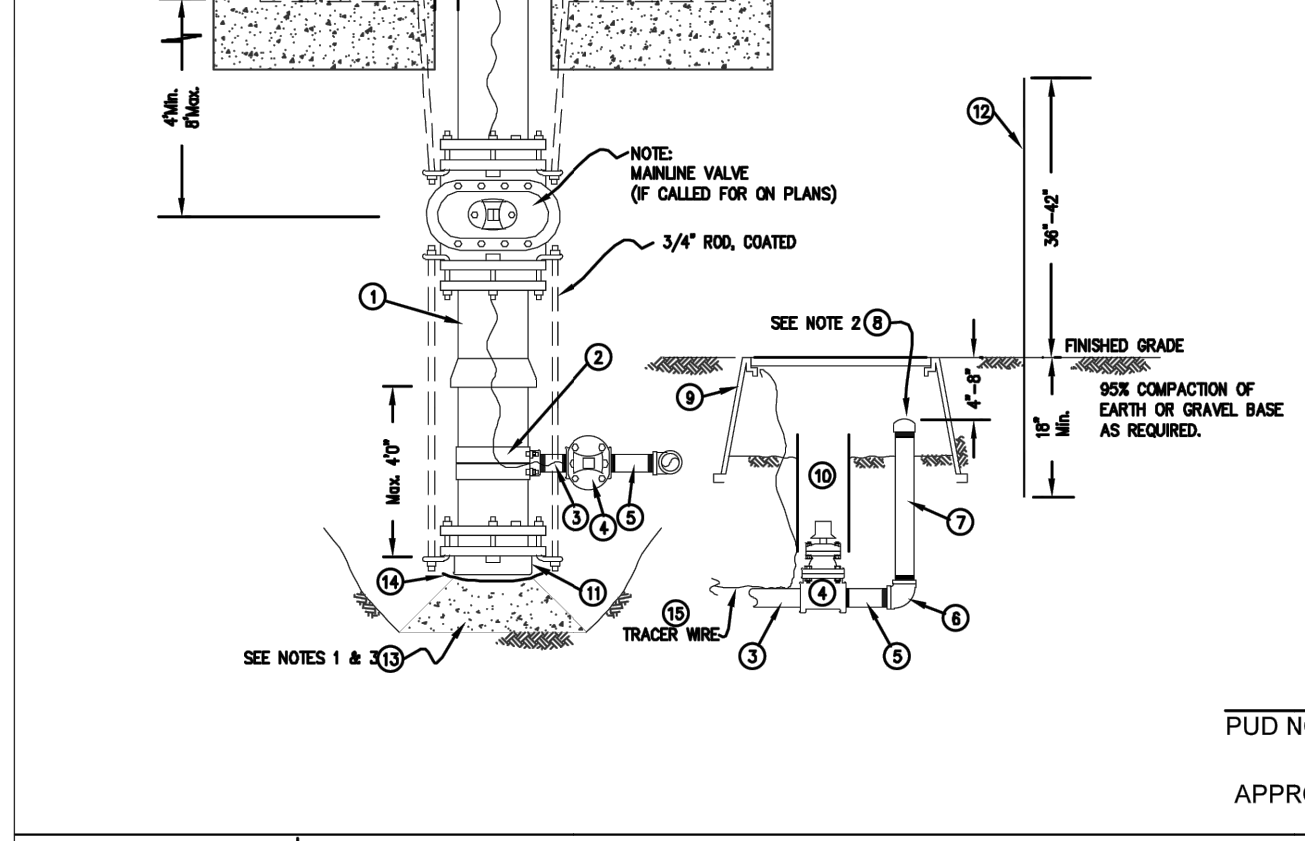
STANDARD INSTALLATION OF 2" METERED SERVICE WITH 200 P.S.I. REHAU SERVICE LINE FOR PIPELINE REPLACEMENT PROJECTS

SCALE: 1" = 2'  
DATE: 12/5/23  
REVISED: 2/14/24  
DRAWN BY: JLB  
APPROVED BY: MCH

BILL OF MATERIALS					
NO.	NOMENCLATURE	REQ'D.	NO.	NOMENCLATURE	REQ'D.
1	WATER MAIN (4", 6", OR 8")		1	WATER MAIN (4", 6", OR 8")	
2	CLAMP SERVICE DOUBLE STRAP X 2" I.P.T., ALL BRASS (FORD #2028)	1	2	NIPPLE 2" x 1/2" BRASS	1
3	NIPPLE 2" x 1/2" GALVANIZED	1	3	NIPPLE 2" x 1/2" GALVANIZED	1
4	PIPE, 2" SOLID COPPER, BLUE COATED, EXTEND MIN. 18" INTO BOX, NEAR LID (MID-STATES PLASTIC, INC. W/SPACER 1324-18 NOT FOR THROUGH-WAY TRAFFIC APPLICATIONS)	1	4	PIPE, 2" SOLID COPPER, BLUE COATED, EXTEND MIN. 18" INTO BOX, NEAR LID (MID-STATES PLASTIC, INC. W/SPACER 1324-18 NOT FOR THROUGH-WAY TRAFFIC APPLICATIONS)	1
5	CAP, 2" PVC	1	5	CAP, 2" PVC	1
6	POST, 4" MIN. METAL FENCE POST W/SPADE REMOVED	1	6	POST, 4" MIN. METAL FENCE POST W/SPADE REMOVED	1
7	CONCRETE UTILITY VAULT (SEE HORIZONTAL THRUST BLOCKING DETAIL)	1	7	CONCRETE UTILITY VAULT (SEE HORIZONTAL THRUST BLOCKING DETAIL)	1
8	OR EQUIVALENT APPROVED BY THE DISTRICT		8	OR EQUIVALENT APPROVED BY THE DISTRICT	

**NOTES**

- BLOCK AS PER PUD. HORIZONTAL THRUST BLOCKING DETAIL. BEARING AREA TO BE AGAINST UNDISTURBED EARTH AND TO BE DETERMINED BY THE ENGINEER. USE FORMING AS NECESSARY TO PREVENT INTERFERING WITH CAP (#1), CLAMP (#2) OR VALVE (#4).
- PLASTIC THREADED CAP (#3) TO BE HAND TIGHT ONLY.
- IF A MAINLINE VALVE IS INSTALLED UPSTREAM OF FLUSHING ASSEMBLY, KEY BLOCK VALVE AND CAP, SEE THRUST BLOCKING DETAIL.
- KEY BLOCK TO BE INSTALLED ONLY IF PIPE IS EXPECTED TO EXCEED WITH TEN (10) YEARS OF INSTALLATION. SEE HORIZONTAL THRUST BLOCKING DETAIL.



PUD NO. 1 OF SKAGIT COUNTY ENGINEERING MANAGER

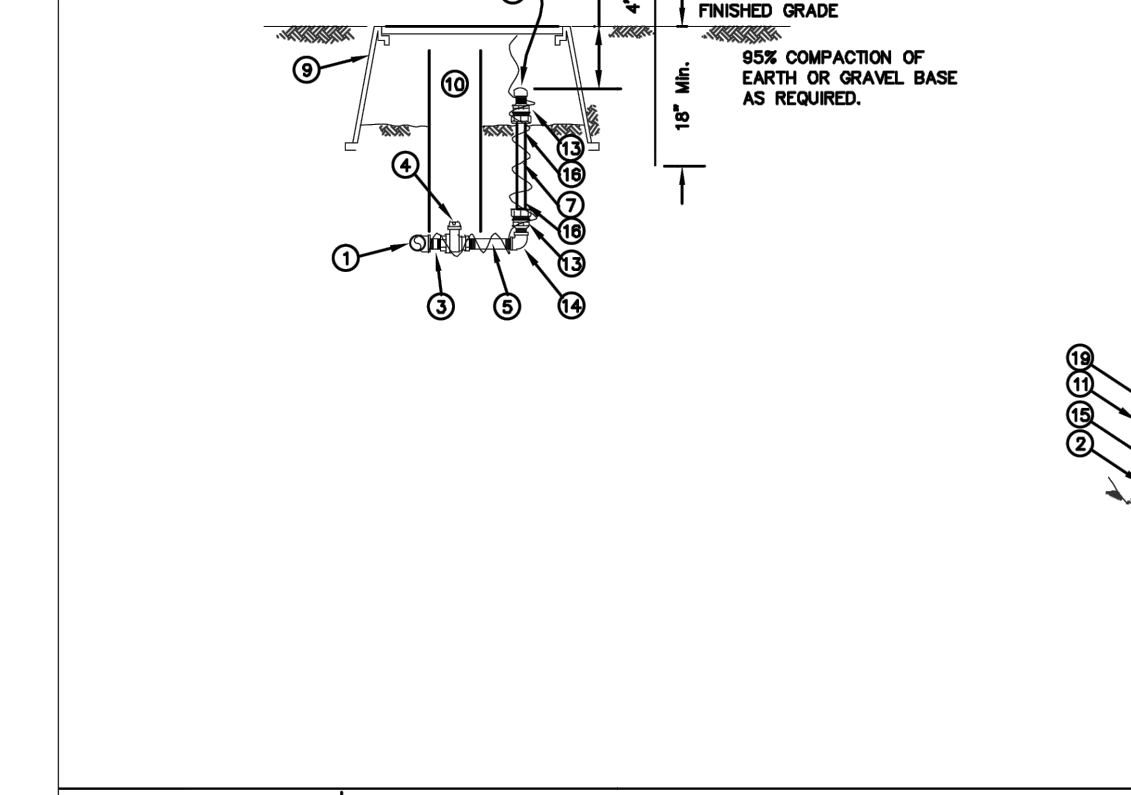
APPROVED ON: MAY 6, 2014

STANDARD 2-INCH FLUSHING ASSEMBLY

SCALE: 1" = 2'  
DATE: 3-25-05  
REVISED: 5/8/14  
DRAWN BY: CAS  
APPROVED BY: GJS

BILL OF MATERIALS					
NO.	NOMENCLATURE	REQ'D.	NO.	NOMENCLATURE	REQ'D.
1	WATER MAIN (4", 6", OR 8")		1	WATER MAIN (4", 6", OR 8")	
2	CLAMP SERVICE DOUBLE STRAP X 2" I.P.T., ALL BRASS (FORD #2028)	1	2	NIPPLE 2" x 1/2" BRASS	1
3	NIPPLE 2" x 1/2" GALVANIZED	1	3	NIPPLE 2" x 1/2" GALVANIZED	1
4	PIPE, 2" SOLID COPPER, BLUE COATED, EXTEND MIN. 18" INTO BOX, NEAR LID (MID-STATES PLASTIC, INC. W/SPACER 1324-18 NOT FOR THROUGH-WAY TRAFFIC APPLICATIONS)	1	4	PIPE, 2" SOLID COPPER, BLUE COATED, EXTEND MIN. 18" INTO BOX, NEAR LID (MID-STATES PLASTIC, INC. W/SPACER 1324-18 NOT FOR THROUGH-WAY TRAFFIC APPLICATIONS)	1
5	CAP, 2" PVC	1	5	CAP, 2" PVC	1
6	POST, 4" MIN. METAL FENCE POST W/SPADE REMOVED	1	6	POST, 4" MIN. METAL FENCE POST W/SPADE REMOVED	1
7	CONCRETE UTILITY VAULT (SEE HORIZONTAL THRUST BLOCKING DETAIL)	1	7	CONCRETE UTILITY VAULT (SEE HORIZONTAL THRUST BLOCKING DETAIL)	1
8	OR EQUIVALENT APPROVED BY THE DISTRICT		8	OR EQUIVALENT APPROVED BY THE DISTRICT	

ALL BRASS FITTINGS TO BE LEAD FREE DOMESTIC BRASS PER UNITED STATES BILL S.3874.



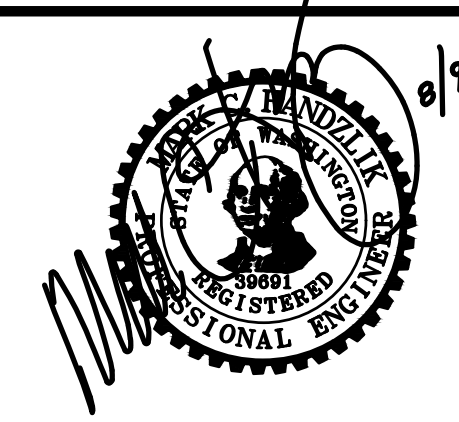
PUD NO. 1 OF SKAGIT COUNTY ENGINEERING MANAGER

APPROVED ON: MAY 16, 2014

STANDARD 1" FLUSHING ASSEMBLY

SCALE: 1" = 2'  
DATE: 3-25-05  
REVISED: 5/16/14  
DRAWN BY: CAS  
APPROVED BY: GJS

ISSUE	REVISIONS	BY	DATE
1.	30% DESIGN	MCH	11/20/23
2.	60% DESIGN	MCH	2/2/24
3.	100% DESIGN	MCH	6/6/24
4.	ISSUED FOR BIDDING	MCH	8/9/24



DATUM:	DSGN BY: KAN
HOR: NAD 83	DWN BY: KAN
VERT: NAVD 88	APPV BY: MCH

**Skagit PUD**  
PUBLIC UTILITY DISTRICT  
1415 Freeway Drive  
P.O. BOX 1436  
Mount Vernon, WA 98273  
(360) 424-7104  
www.SkagitPud.org

**NORTH BURLINGTON PIPELINE REPLACEMENT**  
STANDARD DETAILS

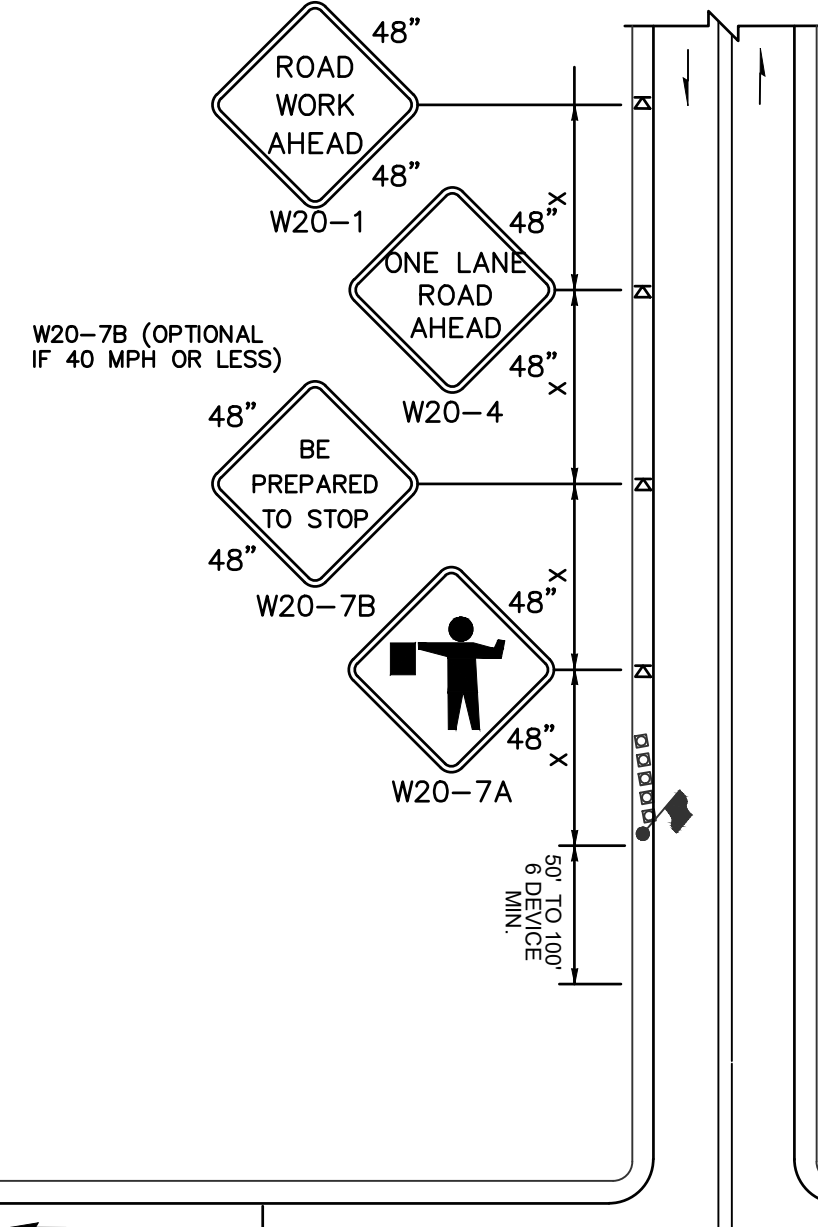
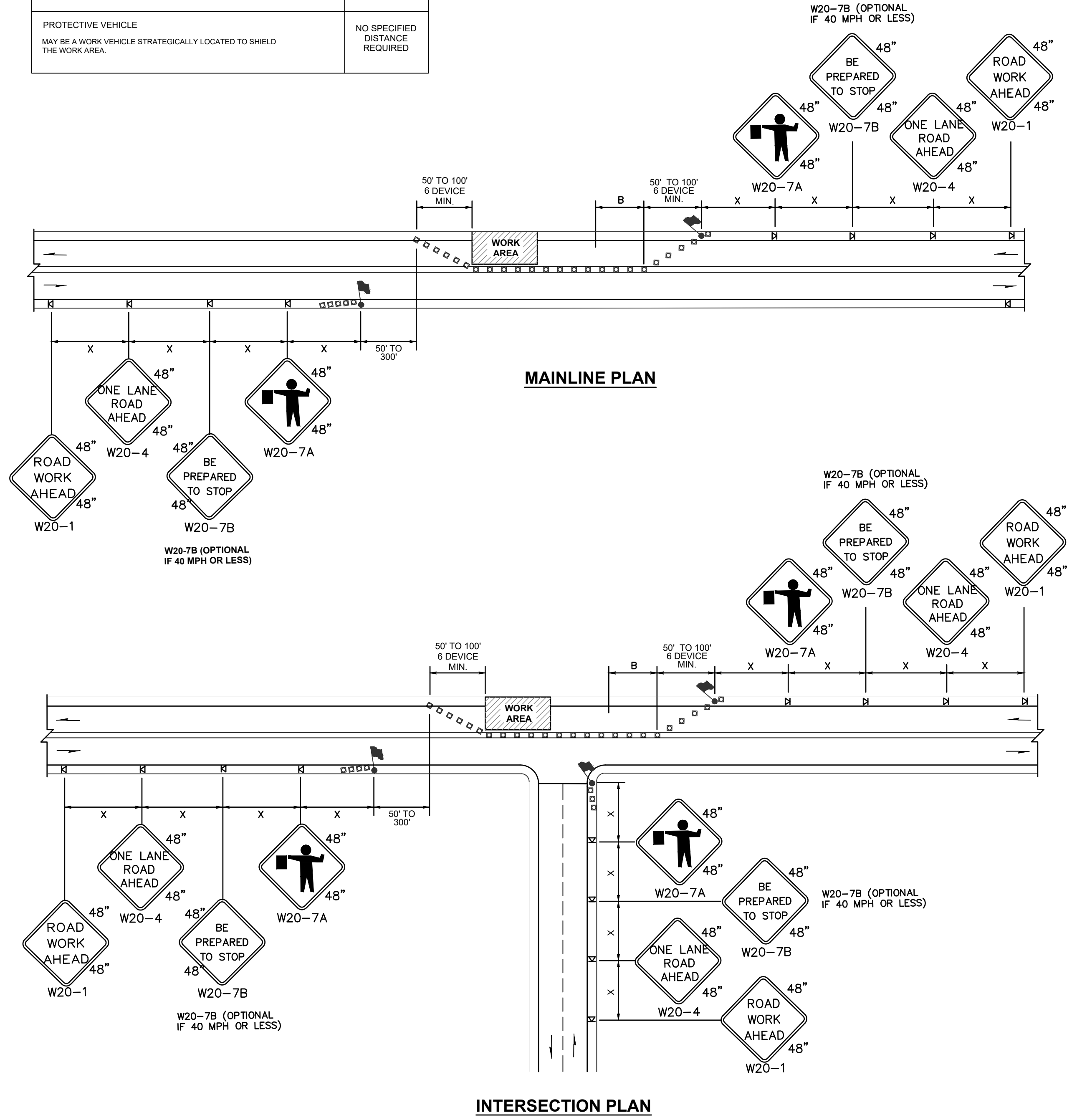
SCALE: 1"=20'      JOB ID : CP4804      SHEET: 28 OF 29

BUFFER DATA										
LONGITUDINAL BUFFER SPACE = B										
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	-
BUFFER VEHICLE ROLL AHEAD DISTANCE = R										
TRANSPORTABLE ATTENUATOR					30 FEET MIN. TO 100 FEET MAX.					
MINIMUM HOST VEHICLE WEIGHT 15,000 LBS. THE MAXIMUM WEIGHT SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATION.										
PROTECTIVE VEHICLE					NO SPECIFIED DISTANCE REQUIRED					
MAY BE A WORK VEHICLE STRATEGICALLY LOCATED TO SHIELD THE WORK AREA.										

SIGN SPACING = X (1)		
RURAL HIGHWAYS	60 / 65 MPH	800' ?
RURAL ROADS	45 / 55 MPH	500' ?
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' ?
RURAL ROADS, URBAN ARTERIALS, RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200' ? (2)
URBAN STREETS	25 MPH OR LESS	100' ? (2)

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERSECTIONS AND DRIVEWAYS.  
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

CHANNELIZATION DEVICE SPACING (feet)		
MPH	TAPER	TANGENT
50/65	10 to 20	80
35/45	10 to 20	60
25/30	10 to 20	40



### UTILITY TRENCHING - SUBGRADE AND TOP COURSE - STREET CUTS

- CLASS 1/2-INCH HMA PAVEMENT COMPACTED TO 92% MAX DENSITY. TWO 2" LIFTS, OR MATCH DEPTH TO EXISTING.
- COMPACTED DEPTH OF CRUSHED SURFACING 2" TOP COURSE & 2" BASE COURSE MATERIAL, TO BE COMPACTED TO 92% MAX DENSITY. REFER TO ASPHALT SECTIONS.
- GRAVEL BORROW COMPACTED TO 92% OF MAX DENSITY. LOOSE LIFT THICKNESS SHALL NOT EXCEED 8" IN DEPTH.
- 8" DEPTH OF BEDDING MATERIAL AS SPECIFIED TO BE HAND COMPACTED ABOVE CROWN OF PIPE. PEA GRAVEL AND BUCKSHOT NOT ALLOWED IN WATERLINE TRENCHES. WATERLINE SHALL BE COVERED AS NOTED ON PUD WATER NOTES. PEA GRAVEL OR BUCKSHOT TO BE USED IN SANITARY SEWER TRENCHES.
- HAND COMPACTED BEDDING MATERIAL AS SPECIFIED TO BE TAMPED AROUND THE PIPE. THICKNESS = OUTSIDE DIAMETER OF PIPE.
- 8" DEPTH OF BEDDING MATERIAL AS SPECIFIED BACKFILL TO BE HAND COMPACTED. PEA GRAVEL AND BUCKSHOT NOT ALLOWED IN WATER LINE TRENCHES. WATERLINE TRENCHES SHALL BE COVERED AS NOTED ON PUD WATER NOTES. PEA GRAVEL OR BUCKSHOT TO BE USED IN SANITARY SEWER TRENCHES.
- EXISTING ASPHALT.
- TACK ALL EDGES AND FACES OF EXISTING ASPHALT. SEAL SURFACE JOINT AS SPECIFIED.
- 6" DISTANCE MINIMUM FOR UTILITIES INSTALLED WITHIN THE LIMITS OF EXISTING ASPHALT.
- TRENCH LINE.
- UNDISTURBED EARTH.
- TRACER TAPE PLACED 12"-18" BELOW FINISHED GRADE, AND PER WSDOT STD SEC P-15.1B.
- 2" PVC SPARE CONDUIT, 24" BELOW TOP OF ASPHALT.

ALL UTILITY TRENCHES FOR POWER, GAS, TELEPHONE, TELEVISION CABLE, FIBER OPTIC, WATER LINES, SANITARY SEWER AND STORM DRAINS SHALL BE EXCAVATED TO ALLOW A MINIMUM OF 6" BETWEEN THE EDGE OF THE UTILITY AND THE TRENCH WALL. TRENCHES SHALL BE EXCAVATED TO THE DEPTH AS REQUIRED FOR GRAVITY UTILITIES AND SHALL BE EXCAVATED TO ALLOW A MINIMUM OF 36" OF COVER OVER TOP OF PROPOSED WATER LINES TO FINISH GRADE UNLESS OTHERWISE REQUIRED. THE DEPTH OF THE UTILITY TRENCHES FOR POWER, TELEPHONE, TELEVISION CABLE, FIBER OPTIC AND GAS, SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFIC UTILITY COMPANY. THE CONTRACTOR SHALL COORDINATE ALL SITE REQUIREMENTS AND SCHEDULING WITH THE NECESSARY UTILITY COMPANIES.

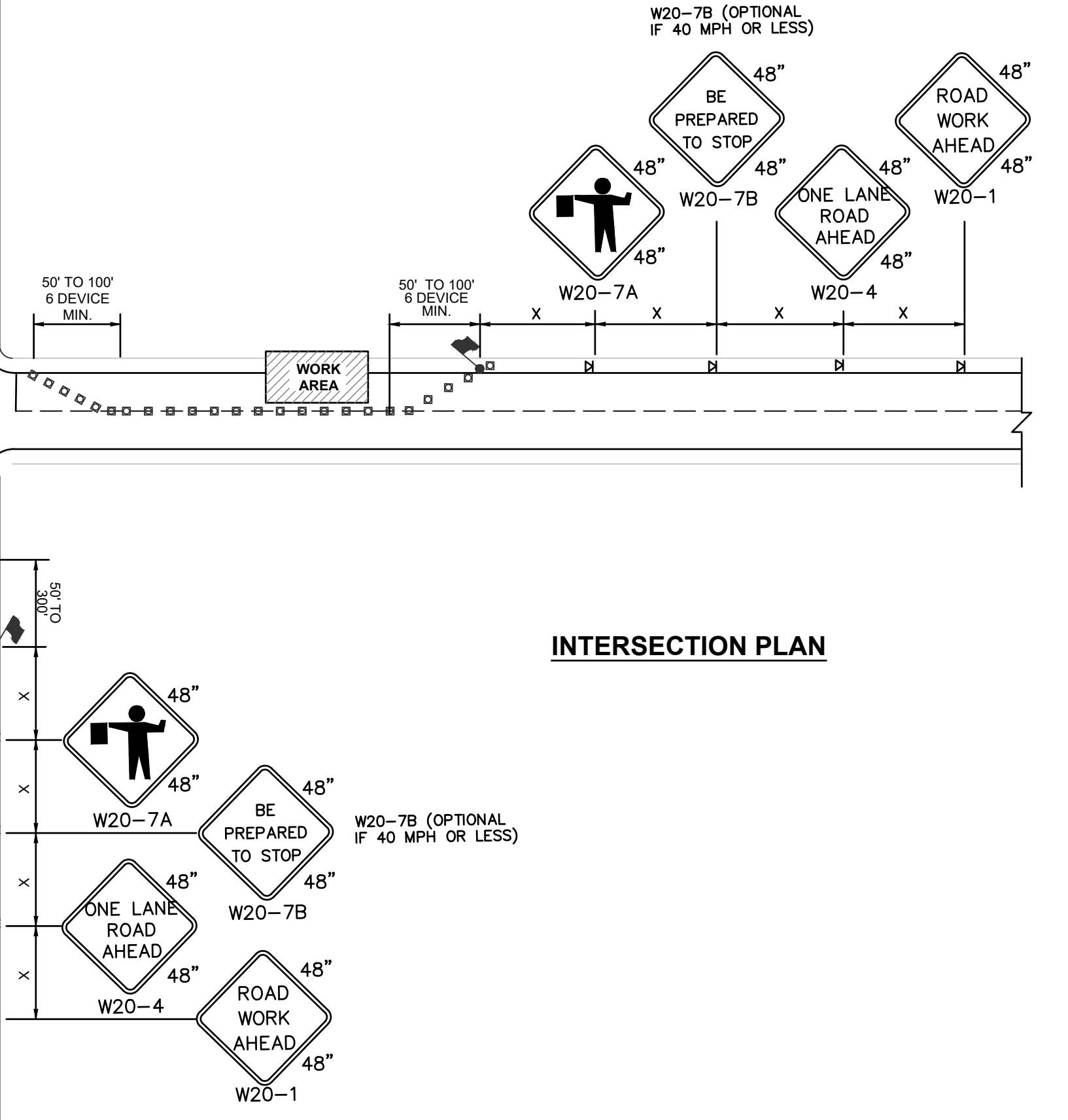
ALL SUBGRADE CONDITIONS SHALL BE PREPARED AND COMPACTED CONFORMING TO WSDOT SECTION 2-06.3 (1) AND 2-06.3 (2). THE SUBGRADE CONDITIONS SHALL BE COMPACTED TO A MINIMUM OF 92% MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT OF +/- 2% FROM OPTIMUM. THE CONTRACTOR SHALL PERFORM ALL WORK NECESSARY TO ACHIEVE THE REQUIRED SUBGRADE CONDITIONS, INCLUDING PROTECTING THE SUBGRADE FROM EXCESSIVE MOISTURE AND CONDITIONING THE NATIVE SUBGRADE TO REMOVE MOISTURE.

THE CONTRACTOR MUST HAVE ALL SUBGRADES, AT THE BOTTOM OF GRAVEL AND CRUSHED ROCK, INSPECTED AND TESTED BY A SOILS ENGINEER AND INSPECTED BY THE CITY OF BURLINGTON PRIOR TO HOT MIX ASPHALT PATCHING OR POURING OF NEW CONCRETE. HMA COMPACTION TESTING FOR 92% RICE DENSITY.

CITY OF BURLINGTON - TRENCHING DETAIL

SCALE: N/A

DATE: 08/14/2019



ISSUE	REVISIONS	BY	DATE
1.	30% DESIGN	MCH	11/20/23
2.	60% DESIGN	MCH	2/2/24
3.	100% DESIGN	MCH	6/6/24
4.	ISSUED FOR BIDDING	MCH	8/9/24



DATE PRINTED: 8/6/24	SEC: 05.32
HOR: NAD 83	TWP: 34.35 N
VERT: NAVD 88	RGE: 04 E
DSGN BY: KAN	
DWN BY: KAN	
APPVD BY: MCH	



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P.O. BOX 1436  
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(360) 424-7104  
www.SkagitPud.org

NORTH BURLINGTON PIPELINE REPLACEMENT	
TRAFFIC CONTROL PLAN AND DETAILS	
SCALE: 1"=20'	JOB ID : CP4804
SHEET: 29 OF 29	