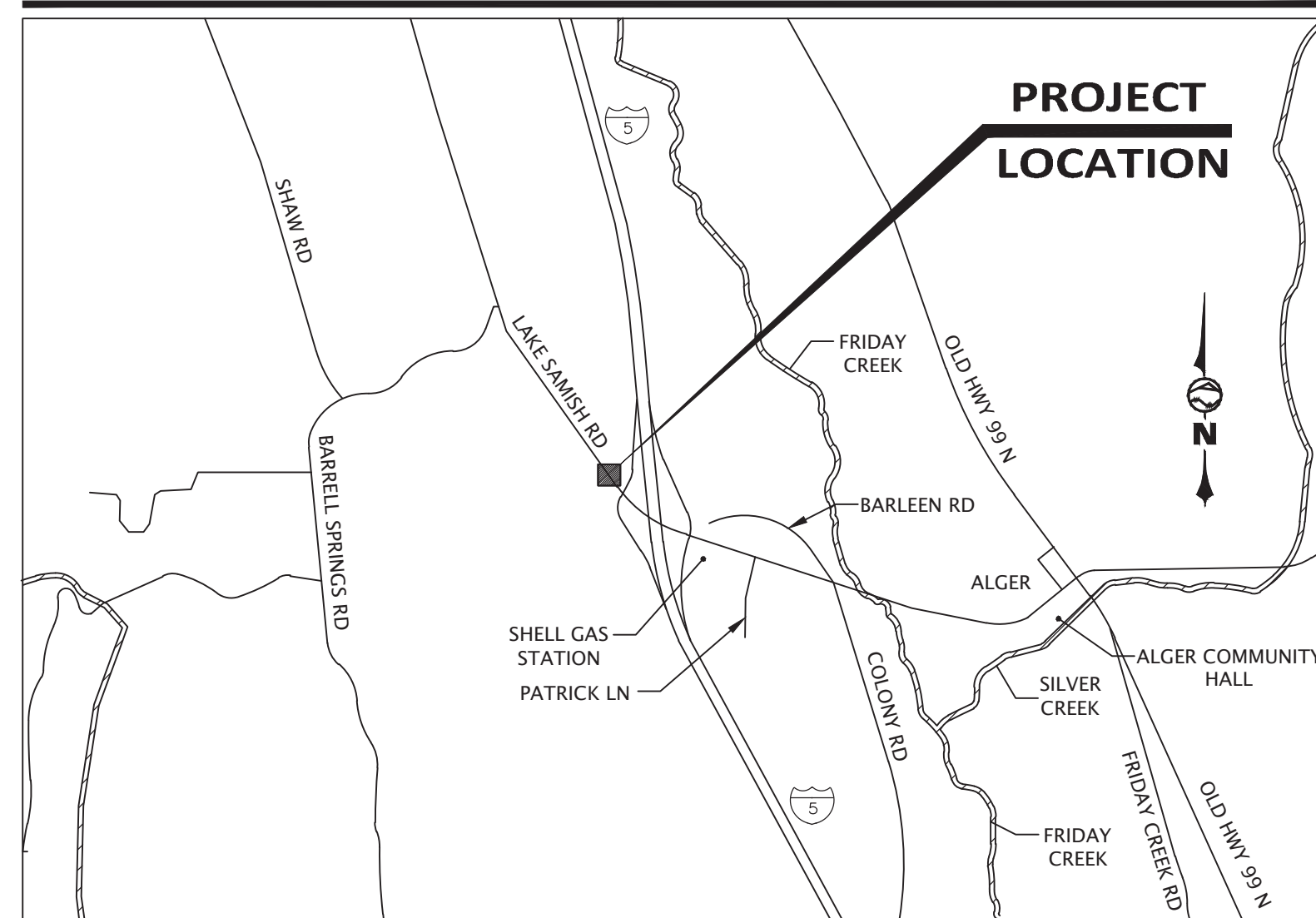


SKAGIT COUNTY PUBLIC UTILITY DISTRICT

PIPELINE RELOCATION AT ALGER INTERCHANGE

PUD PROJECT CP#14017

VICINITY MAP - NOT TO SCALE



INDEX TO DRAWINGS

1.	SHEET C0.1	COVER SHEET
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10.	SHEET C4.3	CIVIL DETAILS
11.	SHEET C5.1	TRAFFIC CONTROL PLAN
12.	SHEET C5.2	TRAFFIC CONTROL PLAN
13.	SHEET C5.3	TRAFFIC CONTROL PLAN

COUNTY NOTES

- ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE MOST CURRENT EDITION OF THE STATE OF WASHINGTON, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND SKAGIT COUNTY ROAD STANDARDS.
- ALL UTILITY WORK MUST BE IN ACCORDANCE WITH SKAGIT COUNTY ROAD STANDARDS.
- BURIED UTILITIES ARE SHOWN IN THEIR APPROXIMATE LOCATION. THE CONTRACTOR SHALL HAVE THE UTILITIES VERIFIED ON THE GROUND PRIOR TO ANY CONSTRUCTION.
- ONSITE EROSION CONTROL MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND BE IN PLACE PRIOR TO CONSTRUCTION. ANY PROBLEMS OCCURRING BEFORE FINAL ACCEPTANCE BY SKAGIT COUNTY AND WITHIN 24 MONTHS THEREAFTER SHALL BE CORRECTED BY THE CONTRACTOR.
- PROJECT WILL COMPLY WITH ALL SKAGIT COUNTY PERMIT CONDITIONS. SEE SPECIFICATION APPENDICES.
- COPIES OF ALL MATERIALS TESTING AND INSPECTIONS DESCRIBED IN "TESTING NOTES" SHALL BE PROVIDED TO THE COUNTY IN A TIMELY MANNER. ANY DEFICIENCIES SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE COUNTY ENGINEER.

GENERAL NOTES

- CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.
 - IF THERE ARE ANY DISCREPANCIES BETWEEN DIMENSIONS IN DRAWING AND EXISTING CONDITIONS WHICH WILL AFFECT THE WORK, THE CONTRACTOR SHALL BRING SUCH DISCREPANCIES TO THE ATTENTION OF THE ENGINEER FOR ADJUSTMENT BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER FITTING OF ALL WORK AND FOR THE COORDINATION OF ALL TRADES, SUBCONTRACTORS, AND PERSONS ENGAGED UPON THIS CONTRACT.
 - CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR OR REPLACE ANY EXISTING IMPROVEMENTS OR UNDERGROUND FACILITIES DAMAGED BY HIM, HIS SUBCONTRACTORS, OR HIS MATERIAL SUPPLIERS WITHIN 48 HOURS OF THE DAMAGE OCCURRENCE AND/OR AS REQUIRED BY THE ENGINEER.
 - EXISTING UTILITIES AND UNDERGROUND FACILITIES INDICATED ARE FOR INFORMATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND DEPTH. THE ENGINEER ASSUMES NO RESPONSIBILITY THAT THE UTILITIES AND UNDERGROUND FACILITIES INDICATED WILL BE THE UTILITIES AND UNDERGROUND FACILITIES ENCOUNTERED.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ELEVATIONS OF THE EXISTING STORM DRAINS, SEWERS, AND WATER TO BE EXTENDED, CROSSED, OR CONNECTED TO PRIOR TO COMMENCING THE WORK. NOTIFY ENGINEER IF ACTUAL IS DIFFERENT FROM PLANS.
 - ALL WORK SHALL BE CONSTRUCTED IN STRICT COMPLIANCE WITH THE APPLICABLE SECTIONS OF WASHINGTON AND FEDERAL OSHA REQUIREMENTS AND OTHER APPLICABLE SAFETY ORDINANCES. CONTRACTOR SHALL BEAR FULL RESPONSIBILITY FOR SHORING DESIGN AND INSTALLATION.
 - THE CONTRACTOR IS RESPONSIBLE FOR MATCHING EXISTING STREETS, SURROUNDING LANDSCAPE, AND OTHER IMPROVEMENTS WITH A SMOOTH TRANSITION IN PAVING, CURBS, GUTTERS, SIDEWALKS, GRADING, ETC. AND TO AVOID ANY ABRUPT OR APPARENT CHANGES IN GRADES OR CROSS SLOPES, LOW SPOTS, OR HAZARDOUS CONDITIONS.
 - CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR OBTAINING PERMITS FROM THE WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES FOR REMOVING AND REPLACING ALL SURVEY MONUMENTATION THAT MAY BE AFFECTED BY CONSTRUCTION ACTIVITY, PURSUANT TO WAC 332-120. APPLICATIONS MUST BE COMPLETED BY A REGISTERED LAND SURVEYOR. APPLICATIONS FOR PERMITS TO REMOVE MONUMENTS MAY BE OBTAINED FROM THE WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES (DNR), OR BY CONTACTING THEIR OFFICE BY TELEPHONE AT (206) 902-1190.
- WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES
PUBLIC LAND SURVEY OFFICE
1111 WASHINGTON STREET S.E.
OLYMPIA, WASHINGTON 98504-7060
- UPON COMPLETION OF CONSTRUCTION, ALL MONUMENTS DISPLACED, REMOVED, OR DESTROYED SHALL BE REPLACED BY A REGISTERED LAND SURVEYOR, AT THE COST OF THE CONTRACTOR, PURSUANT TO THESE REGULATIONS. THE APPROPRIATE FORMS FOR REPLACEMENT OF SAID MONUMENTS SHALL BE COMPLETED AND FILED WITH DNR AT THE CONTRACTOR'S EXPENSE.
- REPLACE ALL FENCES, PAVEMENT STRIPING, SIGNAGE, AND OTHER SURFACE FEATURES AFFECTED BY CONSTRUCTION IN KIND.
 - ALL PIPES SHALL BE CLEANED AND TESTED PRIOR TO PAVING IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. TESTING SHALL TAKE PLACE AFTER ALL UNDERGROUND UTILITIES ARE INSTALLED AND COMPACTION OF THE ROADWAY SUBGRADE IS COMPLETED.
 - PRIOR TO BACKFILL, ALL PIPES AND APPURTENANCES SHALL BE INSPECTED AND APPROVED BY ENGINEER. APPROVAL SHALL NOT RELIEVE THE CONTRACTOR FROM CORRECTION OF ANY DEFICIENCIES AND/OR FAILURES AS DETERMINED BY SUBSEQUENT TESTING AND/OR INSPECTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE INSPECTOR FOR REQUIRED INSPECTIONS.
 - TRAFFIC SHALL BE MAINTAINED AND CONTROLLED IN ACCORDANCE WITH WSDOT SECTION 1-07.23. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) INCLUDING MODIFICATIONS.

CONTACT INFORMATION

CIVIL ENGINEER

WILSON ENGINEERING, LLC
805 DUPONT STREET
BELLINGHAM, WA 98225
DANIELLE JOHNSTON, PE
djohnston@wilsonengineering.com
PHONE 360.733.6100 EXT. 1229

SURVEYOR

WILSON ENGINEERING, LLC
805 DUPONT STREET
BELLINGHAM, WA 98225
PAUL DARROW, PL
pdarrow@wilsonengineering.com
PHONE 360.733.6100 EXT. 1242

DISTRICT OFFICIALS

ANDREW MILLER - PRESIDENT
CORRIN HAMBURG - VICE PRESIDENT
JOSEPH LINDQUIST - SECRETARY

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

DISTRICT STANDARD GENERAL NOTES (MINIMUM REQUIREMENTS)

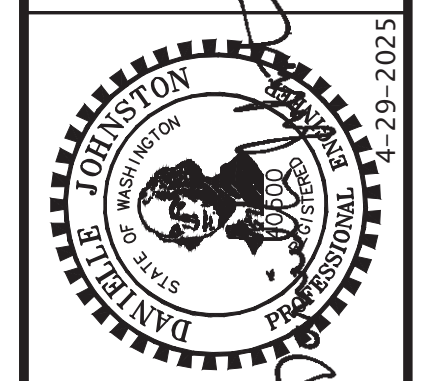
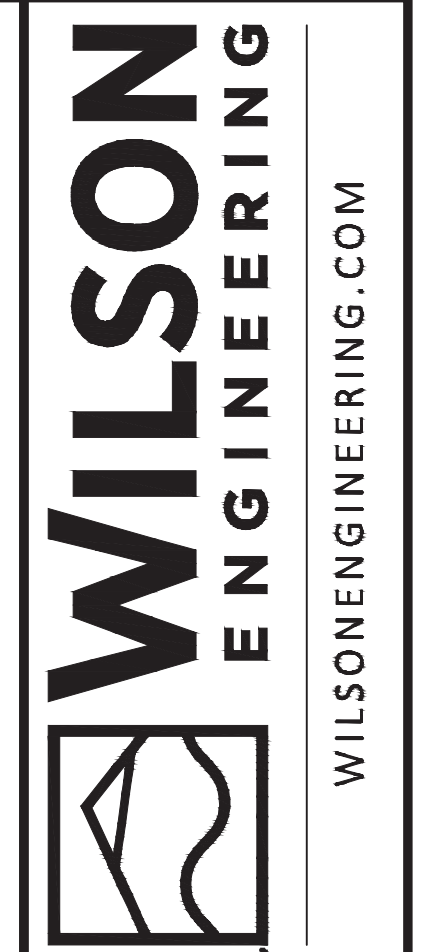
- UNLESS STATED OTHERWISE, ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH THE MOST CURRENT WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION AND THE DISTRICT REQUIREMENTS AS OUTLINED IN THE DISTRICT'S WATER POLICY MANUAL.
- THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH THE DISTRICT ENGINEERING DEPARTMENT, (360) 424-7104, A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION.
- 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.
- A LIST OF ALL MATERIALS, INDICATING THE MANUFACTURER, MODEL, AND SIZE, FOR THE WATER SYSTEM IMPROVEMENTS WILL BE APPROVED BY THE DISTRICT PRIOR TO CONSTRUCTION. CONTACT DISTRICT FOR SUBMITTAL REQUIREMENTS.
- 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(1) AND 9-30.1(2).
- 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 PROJECT'S DESIGN ENGINEER AND ACCEPTED BY THE DISTRICT.
- 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. DISTRICT STANDARD GENERAL NOTES-C900 PVC REVISED OCTOBER 30, 2015 PAGE 2 OF 3
- 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 THE DUCTILE IRON PIPE SHALL BE SELECT, NATIVE, GRANULAR MATERIAL FREE FROM WOOD WASTE, ORGANIC MATERIAL OR OTHER EXTRANEOUS 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 PER WSDOT SPECIFICATIONS. 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. DISTRICT STANDARD GENERAL NOTES-C900 PVC REVISED OCTOBER 30, 2015 PAGE 3 OF 3.
- PRESSURE TEST NEW PIPELINE, INCLUDING FIRE HYDRANTS AND SERVICE LINES AS PER WSDOT STANDARDS.
TEST DATE TEST PRESSURE _____
TIME START TIME END _____
PRESSURE DROP MAKE-UP WATER _____

48-HOUR NOTICE REQUIRED TO SKAGIT COUNTY PUBLIC WORKS PRIOR TO START OF EXCAVATION AND 24-HOURS NOTICE PRIOR TO BACKFILL OF THE WATER MAIN & PROTECTIVE PLATES. ADEQUATE DOCUMENTATION OF CONDITIONS BY PUBLIC WORKS STAFF IS REQUIRED AND CONTRACTOR WILL BE DIRECTED TO REMOVE BACKFILL ABOVE PLATES AT CONTRACTOR'S EXPENSE, IF NECESSARY

Skagit
PUD
PUBLIC UTILITY DISTRICT

811 Call 811
two business days
before you dig

BID SET



DESIGNED BY	DR/MDS
DRAWN BY	MDS
CHECKED BY	DRJ

SKAGIT COUNTY PUBLIC UTILITY DISTRICT
WASHINGTON
ALGER
PIPELINE RELOCATION AT ALGER INTERCHANGE
COVER SHEET

DATE	05-01-2025
SCALE	AS SHOWN
JOB NUMBER	2023-065
SHEET	C0.1
PAGE	1 OF 13

PLOT SETTINGS: Adobe PDF, ANSI full bleed B (17.00 x 11.00 inches), Portait, 1:2, WE APWA_UNSCREENED.ctb
W:\2023\2023-065 SKAGIT PUD WATER PIPELINE RELOCATION.DWG V2024_2023-065 C-02 LEGEND & ABBREVIATIONS.DWG - 4/29/2025 2:14 PM - Jeff Smith

LEGEND & ABBREVIATIONS- SIZE & SCALE MAY VARY

EXISTING HATCH PATTERNS and PROPOSED HATCH PATTERNS table with columns for pattern and description.

SURFACE FEATURES EXISTING PLAN LINETYPES table with columns for linetype and description.

SURFACE FEATURES PROPOSED PLAN LINETYPES table with columns for linetype and description.

SURFACE FEATURES PROPOSED PLAN LINETYPES table with columns for linetype and description.

UTILITIES EXISTING PLAN LINETYPES table with columns for linetype and description.

UTILITIES PROPOSED PLAN LINETYPES table with columns for linetype and description.

UTILITIES PROPOSED PLAN LINETYPES table with columns for linetype and description.

SURVEY PLAN LINETYPES table with columns for linetype and description.

PROFILE LINETYPES table with columns for linetype and description.

DEMOLITION and GRADING table with columns for linetype and description.

SECTION /DETAIL CALL-OUTS table with columns for call-out and description.

MISC. SYMBOLS table with columns for existing/proposed symbols and descriptions.

SANITARY SEWER SYMBOLS and STORM DRAIN SYMBOLS table with columns for existing/proposed symbols and descriptions.

PIPE CALL-OUT table with columns for call-out and description.

SYMBOLS, SPOT ELEVATIONS, and DIRECTIONAL ABBREVIATIONS table with columns for symbols and descriptions.

WATER SYMBOLS table with columns for existing/proposed symbols and descriptions.

SURVEY SYMBOLS table with columns for symbols and descriptions.

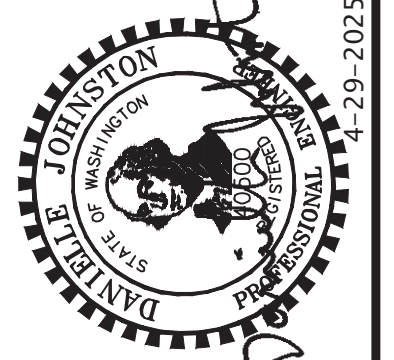
PIPE CALL-OUTS table with columns for call-out and description.

DIRECTIONAL ABBREVIATIONS table with columns for symbols and descriptions.

ABBREVIATIONS table with columns for symbol and description.



BID SET



DESIGNED BY DRJ/MDS, DRAWN BY JGS, CHECKED BY DRJ

SKAGIT COUNTY PUBLIC UTILITY DISTRICT WASHINGTON PIPELINE RELOCATION AT ALGER INTERCHANGE ALGER

DATE 05-01-2025, SCALE AS SHOWN, SHEET C0.2, PAGE 2 OF 13, JOB NUMBER 2023-065

THIS SURVEY WAS PREPARED UNDER THE DIRECT SUPERVISION OF:
PAUL J. DARROW, WA PLS #50697
SURVEY MANAGER
WILSON ENGINEERING LLC
805 DUPONT STREET, SUITE 7
BELLINGHAM, WA 98225
360-733-6100 (EXT. 1243)
pdarrow@wilsonengineering.com

CONTROL NOTES

HORIZONTAL DATUM:

WASHINGTON STATE PLANE NORTH (NAD83(11))

BASIS OF COORDINATES: COORDINATION AND MENSURATION ARE LOCAL GROUND VALUES, BASED UPON HOLDING THE PUBLISHED WSDOT POSITION FOR THE BRASS DISK MONUMENT AT THE LAKE SAMISH ROAD UNDERCROSSING OF I-5, PUBLISHED AS WSDOT DESIGNATION GP29005-52. SAID MONUMENT HAS THE FOLLOWING PUBLISHED POSITION:

NORTHING = 595,070.80 USFT
EASTING = 1,272,031.37 USFT

BASIS OF BEARINGS: BEARINGS ARE NAD83(11), BASED UPON HOLDING THE PUBLISHED POSITIONS MONUMENTED BY WSDOT MONUMENTS GP29005-52 AND PHD-11, AN IRON PIPE MONUMENT ON THE OF WEST SIDE OF THE NORTHBOUND OFF-RAMP AT EXIT 240.

THE DERIVED INVERSE BETWEEN SAID MONUMENTS GP29005-52 AND PHD-11 IS **NORTH 47°52'04" WEST**, AT A DISTANCE OF **374.81 USFT**. THE PUBLISHED POSITION FOR PHD-11 IS:

NORTHING = 594,819.36 USFT
EASTING = 1,272,309.33 USFT

VERTICAL DATUM:

NAVD 88

BASIS OF ELEVATIONS: ELEVATIONS ARE NAVD88 VALUES, BASED UPON HOLDING THE PUBLISHED ELEVATION FOR GP29005-52 SAID MONUMENT HAS THE FOLLOWING PUBLISHED ELEVATION:
ELEVATION = 298.96 FEET

SOURCE OF CONTOURS: THE CONTOURS, IF ANY, DEPICTED ON THIS SURVEY WERE DERIVED/COMPUTED BASED ON FIELD OBSERVATIONS.

CONTOUR ACCURACY: ACCURACY STANDARDS FOR CONTOURS ARE PER THE NSPS "MODEL STANDARDS FOR TOPOGRAPHIC SURVEYS" POSITIONAL ACCURACY TABLE, SECTION E.8.

CONTOUR INTERVAL LABELING: MAJOR CONTOURS AT 5-FOOT INTERVALS HAVE BEEN EXPLICITLY LABELED.

ON-SITE SURVEY CONTROL TABLE

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
115	595,194.76	1,271,819.74	305.77	MAG NAIL
119	595,424.00	1,271,621.66	313.21	HUB & TACK

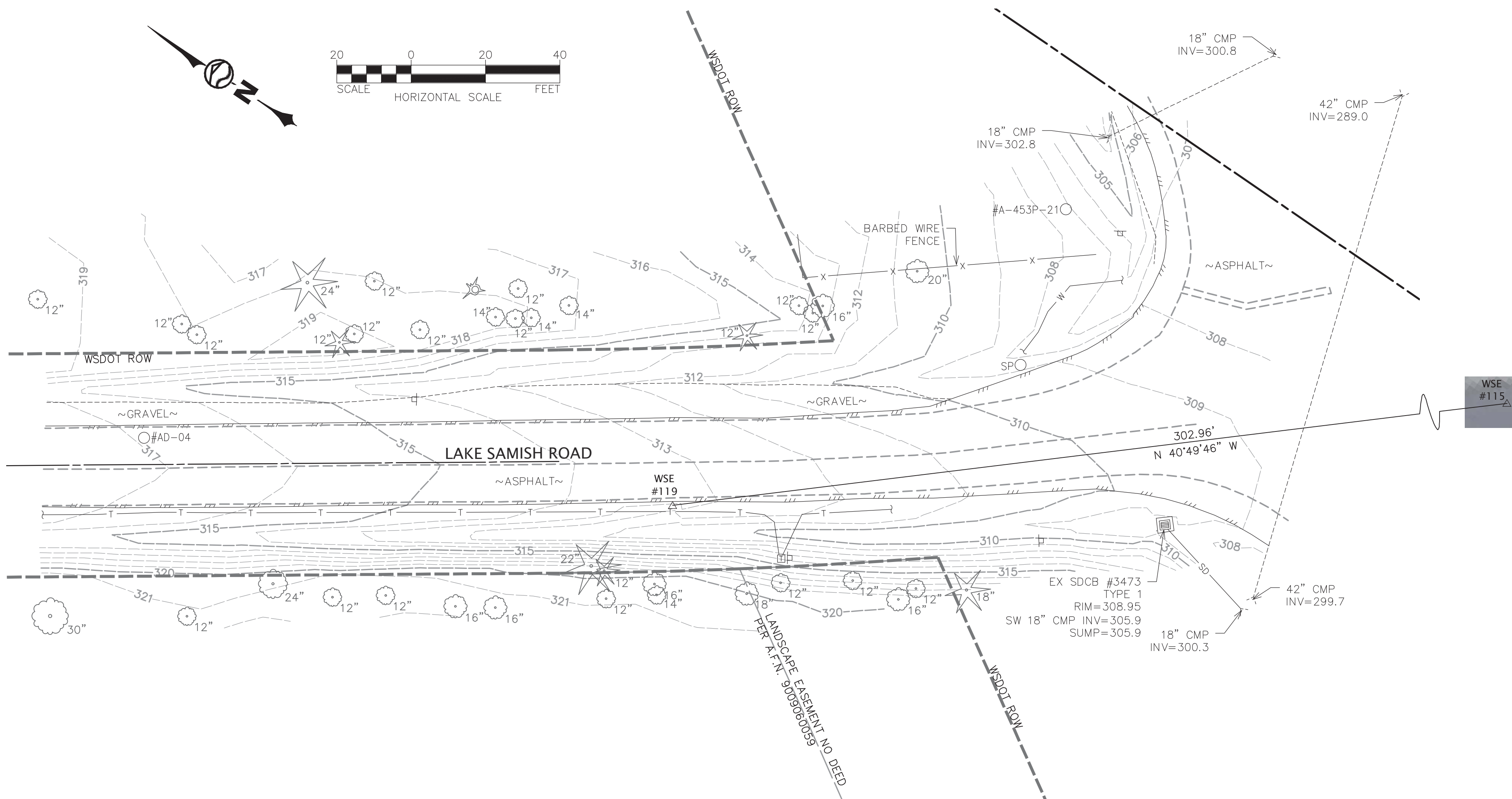
SURVEYOR'S NOTES

- THIS SURVEY WAS PERFORMED FOR THE PURPOSE SKAGIT PUD #1 WATER PIPELINE RELOCATION.
- THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT, AND WILSON CANNOT, AND DOES NOT, GUARANTEE THAT ALL EXTANT INTERESTS-- WHICH MIGHT HAVE BEEN REVEALED BY A CURRENT TITLE REPORT-- ARE HEREON DEPICTED.
- BOUNDARIES SHOWN HEREON WERE DERIVED FROM SKAGIT COUNTY ASSESSOR'S MAPS AND THE ACCOMPANYING "REFERENCE DOCUMENTS". THIS IS NOT A BOUNDARY SURVEY AND NO CLAIMS ARE MADE TO THE COMPLETENESS OR ACCURACY OF THE BOUNDARIES DERIVED FROM THESE SOURCES.
- UTILITY LOCATIONS DEPICTED HEREON ARE BASED UPON OBSERVATIONS OF PAINTED MARKINGS SET BY OTHERS, AND WILSON CAN NOT AND DOES NOT GUARANTEE THEIR ACCURACY RELATIVE TO THE PURPORTED FACILITIES.
- WITHIN THIS SET OF PLANS LEGACY DATA SUPPLIED TO THE ENGINEER BY SKAGIT PUD HAS BEEN USED TO SUPPLEMENT THIS SURVEY. WE MAKE NO CLAIMS TO THE ACCURACY OF THIS THIRD PARTY DATA.

REFERENCE DOCUMENTS

- RECORD OF SURVEY FOR GEORGIA-PACIFIC CORPORATION A.F.N. 9009060059
- SKAGIT COUNTY ROAD PROJECT: "ALGER-LAKE SAMISH ROAD, ALGER INTERCHANGE", APPROVED JULY, 1964.
- SHEET 16 OF 17 "CHUCKANUT DRIVE TO ALGER" WSDOT RIGHT-OF-WAY PLAN APPROVED JAN. 26, 1960.

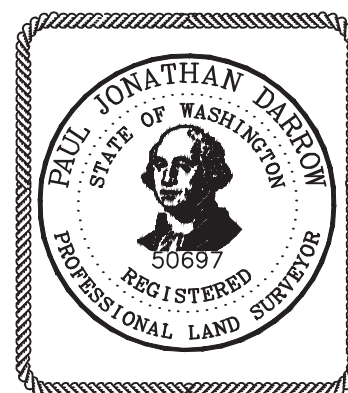
TOPOGRAPHIC SURVEY
IN THE NE 1/4 OF THE SE 1/4 SECTION 12, TOWNSHIP 36 NORTH, RANGE 4 EAST, W.M.
SKAGIT COUNTY, WASHINGTON



SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I AM A LICENSED LAND SURVEYOR IN THE STATE OF WASHINGTON, THAT THIS MAP IS BASED ON AN ACTUAL FIELD SURVEY DONE BY ME OR UNDER MY DIRECT SUPERVISION AND THAT ALL DATA SHOWN HEREON ACTUALLY EXISTS IN THE LOCATIONS SHOWN AT THE TIME OF THIS SURVEY. THIS EXISTING CONDITIONS TOPOGRAPHIC MAP WAS DONE AT THE REQUEST OF SKAGIT PUD IN 2024.

PAUL JONATHAN DARROW, P.L.S. NO. 50697 DATE



BID SET

DESIGNED BY
DRAWN BY
CLM
CHECKED BY
PID

SKAGIT COUNTY PUBLIC UTILITY DISTRICT
WASHINGTON

ALGER
PIPELINE RELOCATION AT ALGER INTERCHANGE

EXISTING CONDITIONS

DATE
05-01-2025

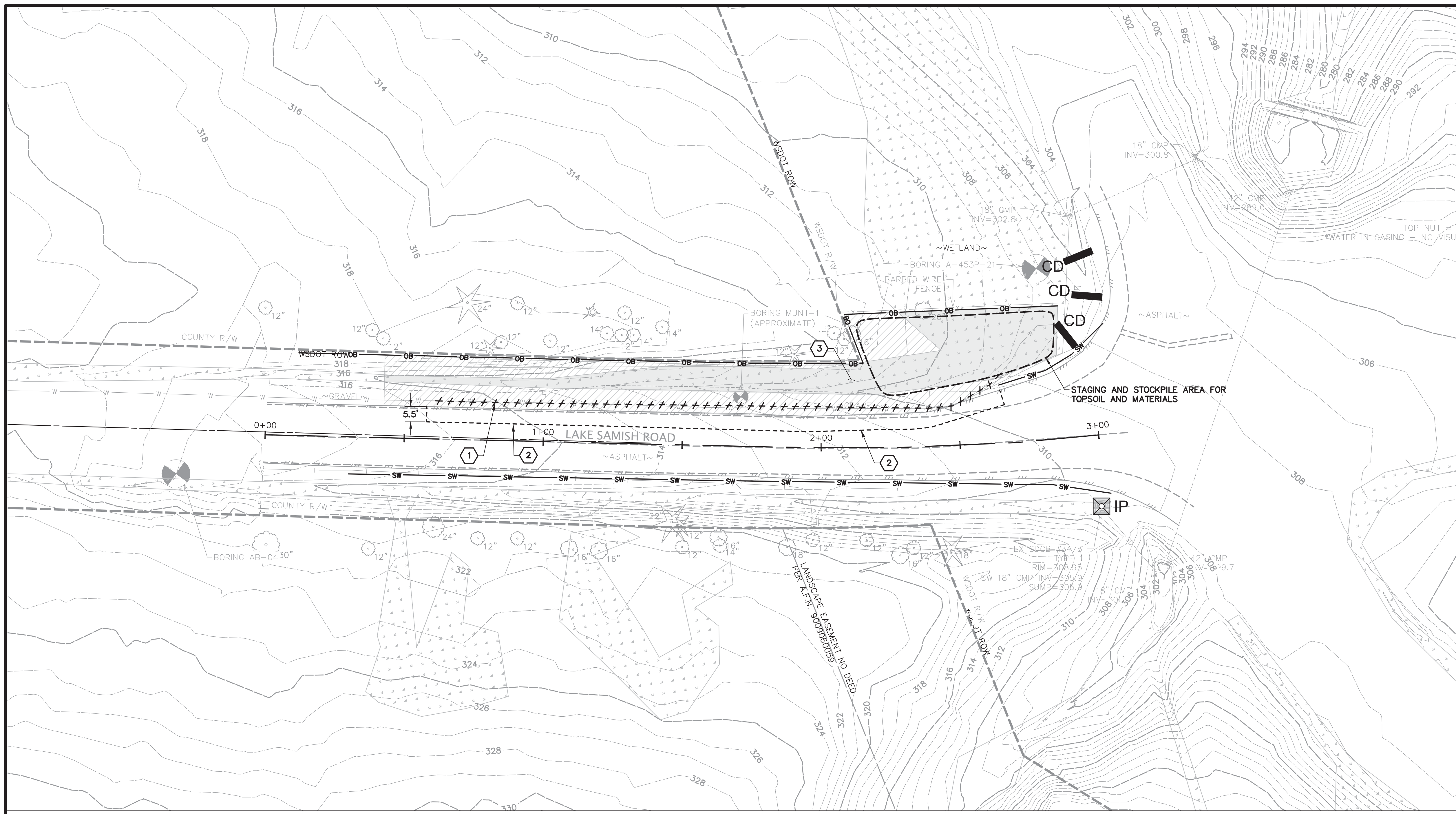
SCALE
AS SHOWN

JOB NUMBER
2023-065

SHEET
C1.1

PAGE
3 OF 13

PLOT SETTINGS: Adobe PDF1.pc3, ANSI full bleed B (17.00 x 11.00 inches), Portrait, 1:2, WE APWA_UNSCREENED.ctb
W:\2023\2023-065 SKAGIT PUD WATER PIPELINE RELOCATION\DWG\2024_2023-065 C2.1 DEMO AND TESC.DWG - 4/29/2025 2:15 PM - Jeff Smith



- KEYED NOTES**
- ① = REMOVE EXISTING 12" DUCTILE IRON WATER MAIN
 - ② = STA 0+58 TO STA 2+67 SAWCUT ASPHALT
 - ③ = STOCKPILE TOPSOIL TYPE B FROM DISTURBED WETLAND AREAS FOR RESTORATION.
- LEGEND**
- IP = EXISTING STRUCTURE INLET PROTECTION PER C2.2
 - CD = CHECK DAM PER C2.2
 - SW = BMP C235 STRAW WATTLE PER C2.2
 - OB = ORANGE BARRIER FENCING PER C2.2
 - Disturbed Wetland Area: 2550 SF
 - Disturbed Non-Wetland Area: 2810 SF

NOTE: RESTORE ALL DISTURBED SOIL PER BMP T5.13; POST CONSTRUCTION SOIL QUALITY AND DEPTH

OTHER RECOMMENDED BMP'S:
BMP C130 SURFACE ROUGHENING
BMP C140 DUST CONTROL
BMP C152 SAWCUTTING AND SURFACING POLLUTION PREVENTION

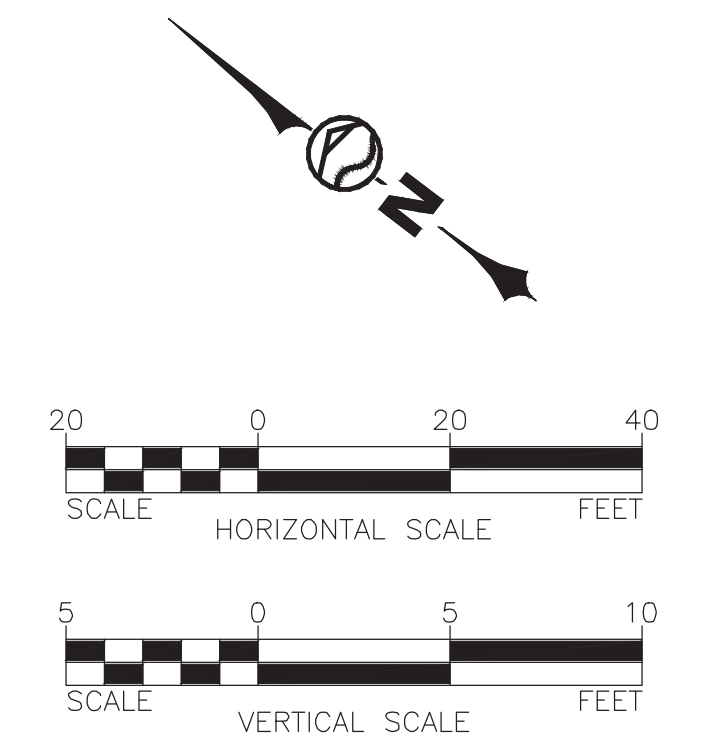
POLLINATOR SEED MIX
SEED OF THE FOLLOWING COMPOSITION, PROPORTION, AND QUANTITY SHALL BE APPLIED AT A RATE OF 55 POUNDS PER ACRE ON AREAS REQUIRING SEEDING, FERTILIZING, AND MULCHING.

GROUP	TYPE OF SEED	COMMON NAME	# POUNDS OF PLS/ACRE
GROUP 1	AGROSTIS EXARATA* KOELERIA CRISTATA DESCHAMPSIA CESPITOSA	SPIKE BENTGRASS PRARIE JUNEGRASS TUFTED HAIRGRASS	2.0
GROUP 2	FESTUCA RUBRA* (COMMUTATA) SPP. RUBRA FESTUCA ROEMERI RESTUCA RUBRA 'MOLATE'	'CHEWING'S' FESCUE 'ROEMER'S' FESCUE 'MOLATE' CREEPING RED FESCUE	17.0
GROUP 3	LUPINUS BICOLOR* LUPINUS SERICEOUS	MINIATURE LUPINE SILKY LUPINE	5.0
GROUP 4	ANAPHALIS MARGARITACEA* ERIOGON SPECIOSUS	PEARLY EVERLASTING SHOWY FLEABANE	0.50
GROUP 5	ACHILLEA MILLEFOLIUM	COMMON YARROW	0.50
GROUP 6	TRIFOLIUM INCARNATUM	CRIMSON CLOVER	2.0
GROUP 7	ESCHSCHOLZIA CALIFORNICA	CALIFORNIA POPPY	5.5
GROUP 8	GAILLARDIA ARISTATA	BLANKET FLOWER	6.0

GROUP	TYPE OF SEED	COMMON NAME	# POUNDS OF PLS/ACRE
GROUP 9	LINUM LEWISII* ERIOGONUM HERACLEOIDES GILIA CAPITATA ERIOGONIUM UMBELLATUM	LEWIS FLAX PARSNIPFLOWER BLUEHEAD GILIA SULPHUR FLOWER	9.5
GROUP 10	PENSTEMON ERIANTHURUS* PRUNELLA VULGARIS L. SSP. LANCEOLATA* PENSTEMON STRICTUS PENSTEMON VENUSTUS	FUZZYTONGUE PENSTEMON SELFHEAL ROCKY MOUNTAIN PENSTEMON VENUS PENSTEMON	7.0
TOTAL			55

INSTRUCTIONS FOR USING THE SEED CHOICE CHART:

THE CONTRACTOR SHALL CHOOSE A MINIMUM OF ONE SEED TYPE FROM EACH SEED GROUP 1 THROUGH 10 TO MEET THE REQUIRED POUNDS OF PURE LIVE SEED (PLS) FOR THAT GROUP. THE CONTRACTOR MAY CHOOSE MORE THAN ONE SEED TYPE FROM EACH GROUP TO MEET THE TOTAL POUNDS OF PURE LIVE SEED. THE SEED TYPE WITH AN ASTERISK (*) REPRESENTS THE PREFERRED SEED CHOICE FOR THAT GROUP.



BID SET

NO.
REVISIONS
BY
DATE

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DESIGNED BY
DR/MDS

DRAWN BY
MDS

CHECKED BY
DRJ

SKAGIT COUNTY PUBLIC UTILITY DISTRICT

WASHINGTON

PIPELINE RELOCATION AT ALGER INTERCHANGE

ALGER

DEMOLITION AND TESC PLAN

DATE
05-01-2025

SCALE
AS SHOWN

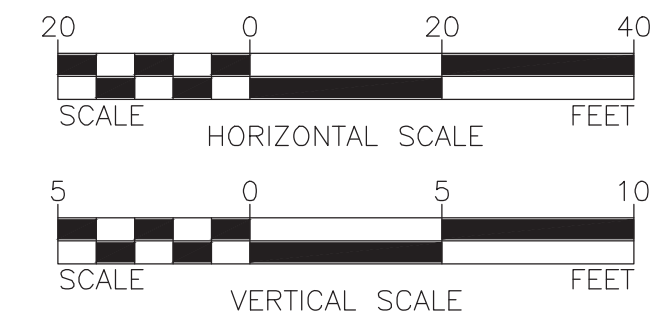
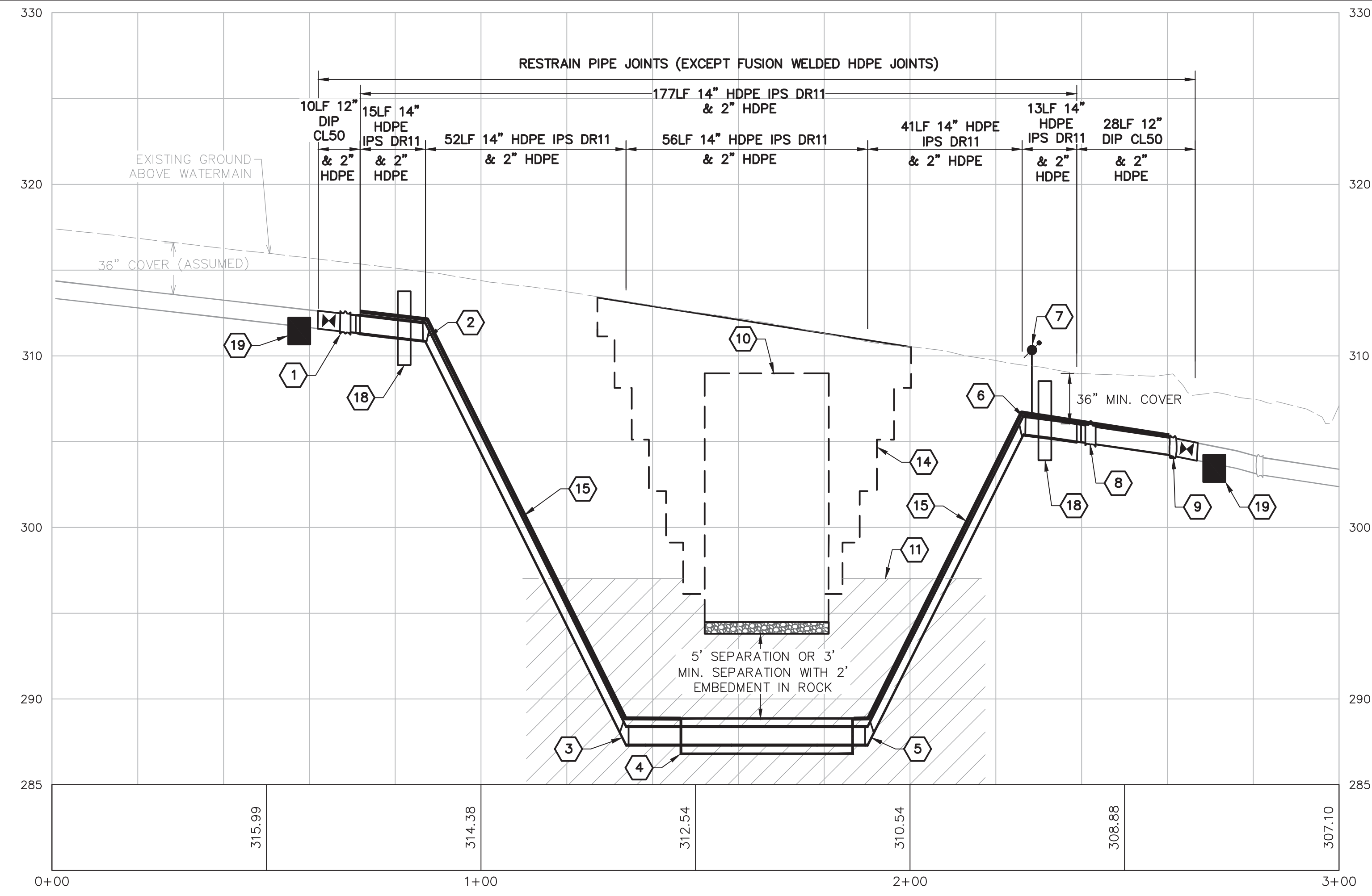
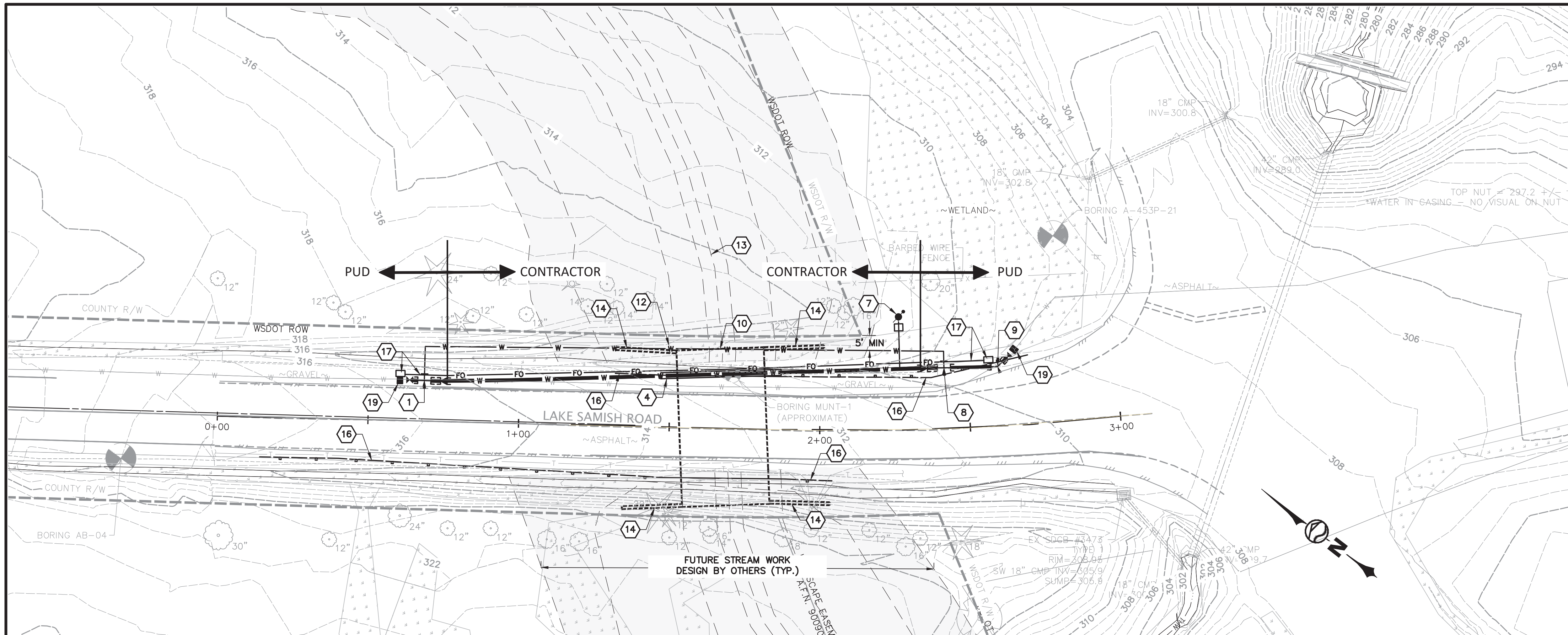
JOB NUMBER
2023-065

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W:\2023\2023-065 SKAGIT PUD WATER PIPELINE RELOCATION\DWG\2024_2023-065 C3.1 PLAN AND PROFILES.DWG - 4/29/2025 2:15 PM - Jeff Smith



SHEET NOTES:

- ALL DI FITTINGS TO BE WRAPPED WITH DENSO OR WAX TAPE SYSTEM.
- CONTRACTOR WILL SUPPLY ALL PARTS FOR TIE-INS. CONTRACTOR IS RESPONSIBLE FOR ALL EXCAVATION, SHORING, DEWATERING, TRAFFIC CONTROL, CONCRETE THRUST BLOCKING, BACKFILL, COMPACTION, AND RESTORATION WORK NECESSARY FOR THE DISTRICT TO CONNECT THE NEW SYSTEM TO THE EXISTING WATER SYSTEM, AS SHOWN ON THE PLANS.

NO.	REVISIONS	BY	DATE

- KEYED NOTES**
- = STA 0+68.40, 13.46' LT
PUD TO CUT EXISTING 12" DI AND INSTALL:
(1) 12"x8" DI TEE, MxFLxFL
(1) 12" DI BUTTERFLY VALVE, MxFL
(1) 12" BLIND FLANGE
(1) 12" TO 14" DI REDUCER, FLxFL
AFTER INSTALLATION OF 14" HDPE:
REMOVE 12" BLIND FLANGE AND 8" TEMPORARY BYPASS, AND INSTALL
(1) 8" BLIND FLANGE
 - = STA 0+87.06, 13.85' LT
14" HDPE 22.5' BEND, BUTT FUSION WELDED (VERTICAL) INV. = 310.89
 - = STA 1+33.72, 16.22' LT
14" HDPE 22.5' BEND, BUTT FUSION WELDED (VERTICAL) INV. = 287.36
 - = STA 1+46.80, 16.90' LT TO STA 1+87.14, 19.00' LT
40LF 24" MIN. C-900 PVC WATERMAIN CASING INSTALLED PER (2) C4.2
 - = STA 1+90.20, 19.10' LT
14" HDPE 22.5' BEND, BUTT FUSION WELDED (VERTICAL) INV. = 287.36
 - = STA 2+26.49, 20.21' LT
14" HDPE 22.5' BEND, BUTT FUSION WELDED (VERTICAL) INV. = 305.43
 - = STA 2+26.04, 36' LT
3" AIR RELEASE VALVE PER (1) C4.2
 - = STA 2+42.08, 19.96' LT
PUD TO INSTALL
(1) 12"x8" DI TEE, FL
(1) 12" BLIND FLANGE
(1) 12" TO 14" DI REDUCER, FL
AFTER INSTALLATION OF 14" HDPE:
REMOVE 12" BLIND FLANGE AND 8" TEMP BYPASS, INSTALL (1) 8" BLIND FLANGE.
 - = STA 2+59.90, 19.67' LT
PUD TO CUT EXISTING 12" DI AND INSTALL:
(1) 12" DI BUTTERFLY VALVE, MJ
(1) 12" DI 45 BEND, MJ
17LF 12" DI PIPE
(1) THRUST BLOCK (BY CONTRACTOR)
 - = FUTURE PRECAST BOX CULVERT BY OTHERS. BEDDING BOTTOM ELEV. = 293.81
 - = INFERRED BEDROCK ELEVATION AT FUTURE CULVERT OUTLET (WSDOT BORING MUNT-1) = 297'±
 - = 8" HDPE IPS DR11 WATERMAIN TEMPORARY BYPASS BY CONTRACTOR
 - = APPROXIMATE FUTURE STREAM ALIGNMENT. DESIGN BY OTHERS.
 - = FUTURE STEPPED WINGWALL FOOTING BY OTHERS
 - = INSTALL PROTECTION PLATES OVER PIPELINE PER (2) C4.1
 - = FUTURE BARRIER/GUARDRAIL INSTALLATION BY WSDOT.
 - = STA 0+61, 15' LT TO STA 2+57, 22' LT CONTRACTOR TO INSTALL CONTINUOUS 2" HDPE CONDUIT FOR FUTURE FIBER. TERMINATE CONDUIT IN 2'x3' VAULT PER (3) C4.2
 - = TRENCH DAM PER (4) C4.3
 - = KEY BLOCK PER (1) C4.1



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MDS

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2023-065

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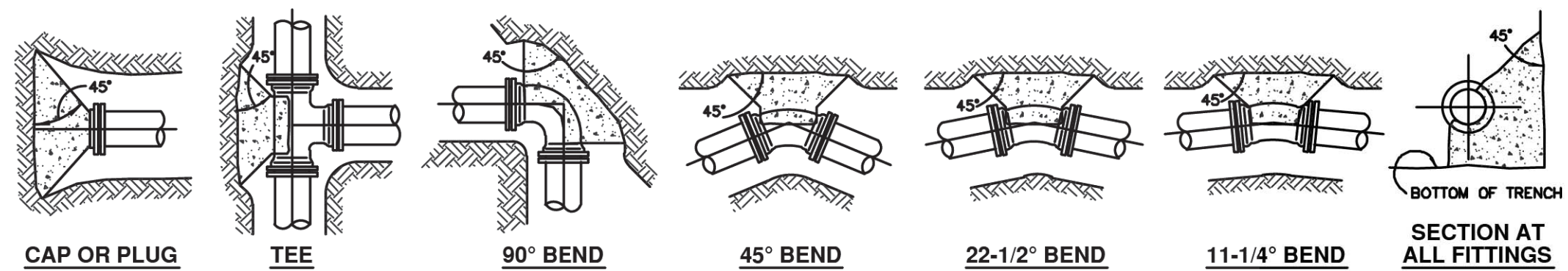
SKAGIT COUNTY PUBLIC UTILITY DISTRICT

WASHINGTON

ALGER

PIPELINE RELOCATION AT ALGER INTERCHANGE

WATERMAIN REPLACEMENT PLAN AND PROFILE



THRUST BLOCK REQUIREMENTS

PIPE SIZE nominal	PIPE SIZE outside dia.	BEARING AREA REQUIRED IN SQUARE FEET														
		90 Degree BEND			45 Degree BEND			22.5 Degree BEND			11.25 Degree BEND					
200	225	250	200	225	250	200	225	250	200	225	250	200	225	250		
4	4.80	1.8	2.0	2.3	2.8	2.9	3.2	1.4	1.5	1.7	0.7	0.8	0.9	0.4	0.4	0.4
6	6.30	3.1	4.2	4.7	5.3	5.9	6.6	2.9	3.2	3.6	1.5	1.6	1.8	0.7	0.8	0.9
8	8.05	6.4	7.5	8.0	9.1	10.2	11.4	4.9	5.5	6.2	2.5	2.8	3.1	1.3	1.4	1.6
12	13.20	13.7	15.4	17.1	18.4	21.8	24.2	10.5	11.8	13.1	5.3	6.0	6.7	2.7	3.0	3.4
16	17.40	23.9	28.8	32.7	33.9	37.8	42.7	18.9	20.5	22.7	9.3	10.4	11.6	4.7	5.2	5.8
18	19.50	28.9	33.8	37.3	42.2	47.5	52.8	22.9	25.7	28.6	11.7	13.1	14.6	5.9	6.6	7.3
24	25.80	52.3	58.8	65.3	73.9	83.2	92.4	40.0	45.0	50.0	20.4	22.9	25.5	10.2	11.5	12.8

NOTES:

- ALL CONCRETE BLOCKING SHALL BE POURED AGAINST DRY, UNDISTURBED SUBGRADE. TABLE IS BASED ON 2000 POUNDS PER SQUARE FOOT ALLOWABLE SOIL BEARING. WEAKER SOIL WILL REQUIRE INCREASED BEARING AREA. SEE SOIL BEARING LOAD CHART.
- KEEP CONCRETE CLEAR OF JOINTS AND ACCESSORIES. USE FORMING AS NECESSARY.
- HORIZONTAL ANCHOR BLOCKING CONFIGURATIONS FOR FITTINGS NOT SHOWN SHALL HAVE APPROVAL OF THE P.U.D.
- THE SQUARE FOOT AREAS REQUIRED FOR BEARING ARE CALCULATED BY THE FOLLOWING FORMULAS:
FORMULA AT TEE & CAP OR PLUG:
T = PA
T + K = BEARING AREA REQUIRED IN SQUARE FEET
FORMULA AT ALL PIPE BENDS:
T = 2PA (SN 1/2 ANGLE) WHERE ANGLE = THE DEGREE BEND OF THE FITTING
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
- FITTINGS SHALL BE WRAPPED WITH POLYETHYLENE ENCASEMENT WITH A MIN. OF 8-MIL THICKNESS. IT MUST BE INSTALLED AS PER W.S.D.O.T. STANDARDS AND IN ACCORDANCE WITH A.W.W.A. C105.

BEARING AREA REQUIRED IN SQUARE FEET

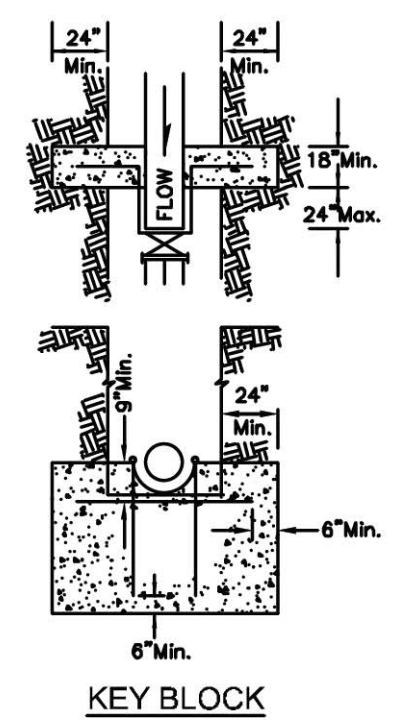
THE SAFE SOIL BEARING LOADS SHOWN BELOW ARE FOR HORIZONTAL THRUSTS WHEN THE DEPTH OF COVER OVER THE PIPE EXCEEDS 2 FEET.

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

*MIN MUCK OR PEAT. ALL THRUSTS SHALL BE RESTRAINED BY PILES OR THE ROADS. FOUNDATIONS OR BY REMOVAL OF MUCK OR PEAT AND REPLACEMENT WITH BALLAST OF SUFFICIENT STABILITY TO RESIST THRUSTS.

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 DEAD 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.

***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 "600" SERIES PIPE RESTRAINING SYSTEM. THRUST RESTRAINT TO BE CALCULATED AT 7500 POUNDS PER BOLT OR AS RECOMMENDED BY ENGINEER. ALL RODS, EYE BOLTS AND PIPE RESTRAINTS 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.



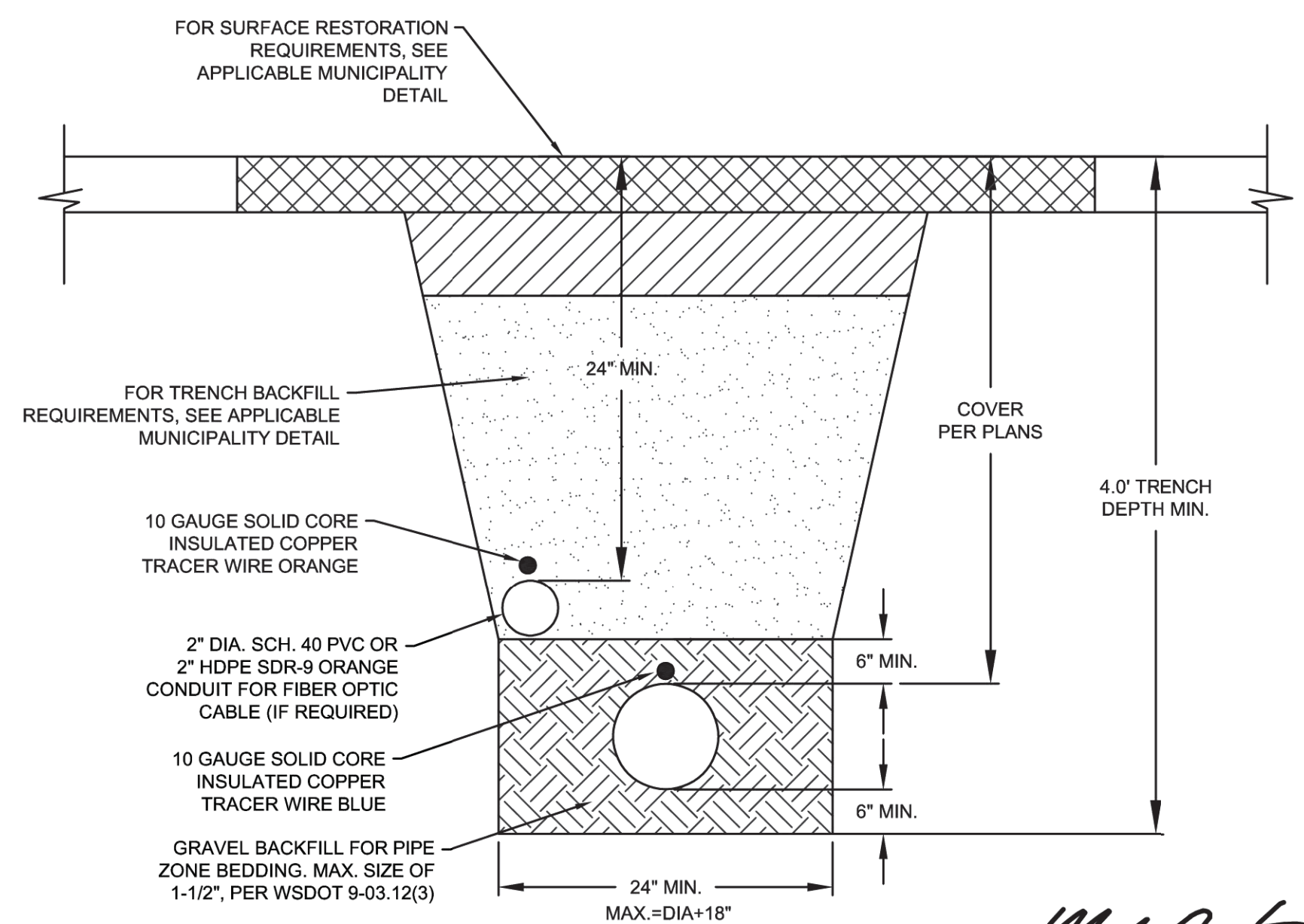
PUD NO. 1 OF SKAGIT COUNTY ENGINEERING MANAGER
APPROVED ON: MAY 6, 2014

SCALE: NTS	STANDARD
DATE: 3-05-06	
REVISED: 5/6/14	WT-1
DRAWN BY: CAS	
APPROVED BY: GJS	

HORIZONTAL THRUST BLOCKING DETAILS

THRUST BLOCK DETAIL
NOT TO SCALE

PROJECT SPECIFIC NOTE: PROTECTION PLATES SHALL BE PLACED BETWEEN THE PIPE ZONE BEDDING AND THE TRENCH BACKFILL AND SHALL BE CENTERED ON THE PIPE, EXTENDING AT LEAST 4" BEYOND EITHER SIDE OF THE PIPE.



NOTES:

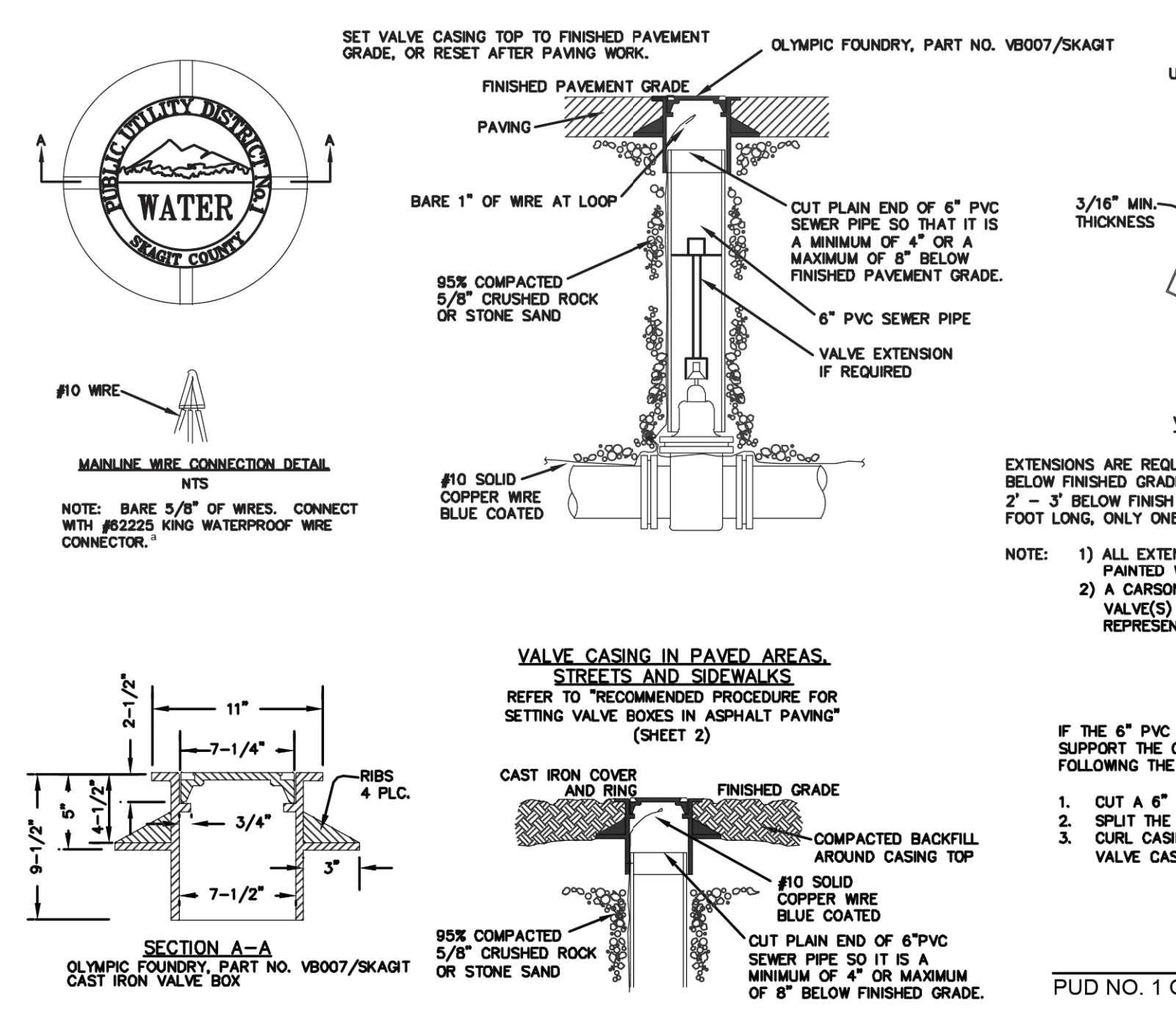
- DEPTH OF BEDDING BELOW PIPE DEPENDANT ON SOIL CONDITIONS. CONSULT WITH ENGINEER.

PUD NO. 1 OF SKAGIT COUNTY ENGINEERING MANAGER
APPROVED ON: SEPTEMBER 9, 2022

SCALE: 1" = 1'	STANDARD
DATE: 11-16-11	
REVISED: 9/8/22	WT-1-1
DRAWN BY: JLB	
APPROVED BY: MCH	

TYPICAL TRENCH SECTION

TRENCH DETAIL
NOT TO SCALE



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

WATER VALVE DETAIL
NOT TO SCALE

SCALE: NTS	STANDARD
DATE: 3-25-05	
REVISED: 5/6/14	WV-1a
DRAWN BY: CAS	
APPROVED BY: GJS	

PUD NO. 1 OF SKAGIT COUNTY ENGINEERING MANAGER
APPROVED ON: MAY 6, 2014

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 SPADE 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 REMOVAL 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 8 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-CUT THIS PIECE ALONG ONE SIDE IN A STRAIGHT LINE THE FULL LENGTH. FOLD THE PIPE OVER THE SAW-CUT 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 FINISHED PAVEMENT GRADE, INSTALL A STANDARD VALVE OPERATING EXTENSION, PER STANDARD SPECIFICATIONS.
 - USING A 1-INCH ROD OR CAPPED 3/4-INCH PIPE, THOROUGHLY POUND THE EARTH AROUND THE CASING PIPE TO OBTAIN MAXIMUM EARTH COMPACTION.
 - FILL THE VOID BETWEEN THE CASING PIPE AND EARTH WALL UP TO EXACTLY 12 INCHES (1 FOOT) BELOW FINISHED PAVEMENT GRADE WITH 5/8-INCH MINUS CRUSHED ROCK AND THOROUGHLY COMPACT USING ROD OR PIPE AS IN 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 SHUD 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 PROVIDE 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.
 - SPREAD CLEAN FINE 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 FOUR VALVES MUST 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.

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

WATER VALVE INSTALLATION DETAIL
NOT TO SCALE

SCALE: NTS	STANDARD
DATE: 3-25-05	
REVISED: 5/6/14	WV-1b
DRAWN BY: CAS	
APPROVED BY: GJS	

PUD NO. 1 OF SKAGIT COUNTY ENGINEERING MANAGER
APPROVED ON: MAY 6, 2014



WILSON ENGINEERING
WILSONENGINEERING.COM

DESIGNED BY: DRJ/MDS
DRAWN BY: MDS
CHECKED BY: DRJ

DATE: 05-01-2025
SCALE: AS SHOWN
JOB NUMBER: 2023-065

SKAGIT COUNTY PUBLIC UTILITY DISTRICT
WASHINGTON
ALGER
PIPELINE RELOCATION AT ALGER INTERCHANGE
PUD STANDARD DETAILS

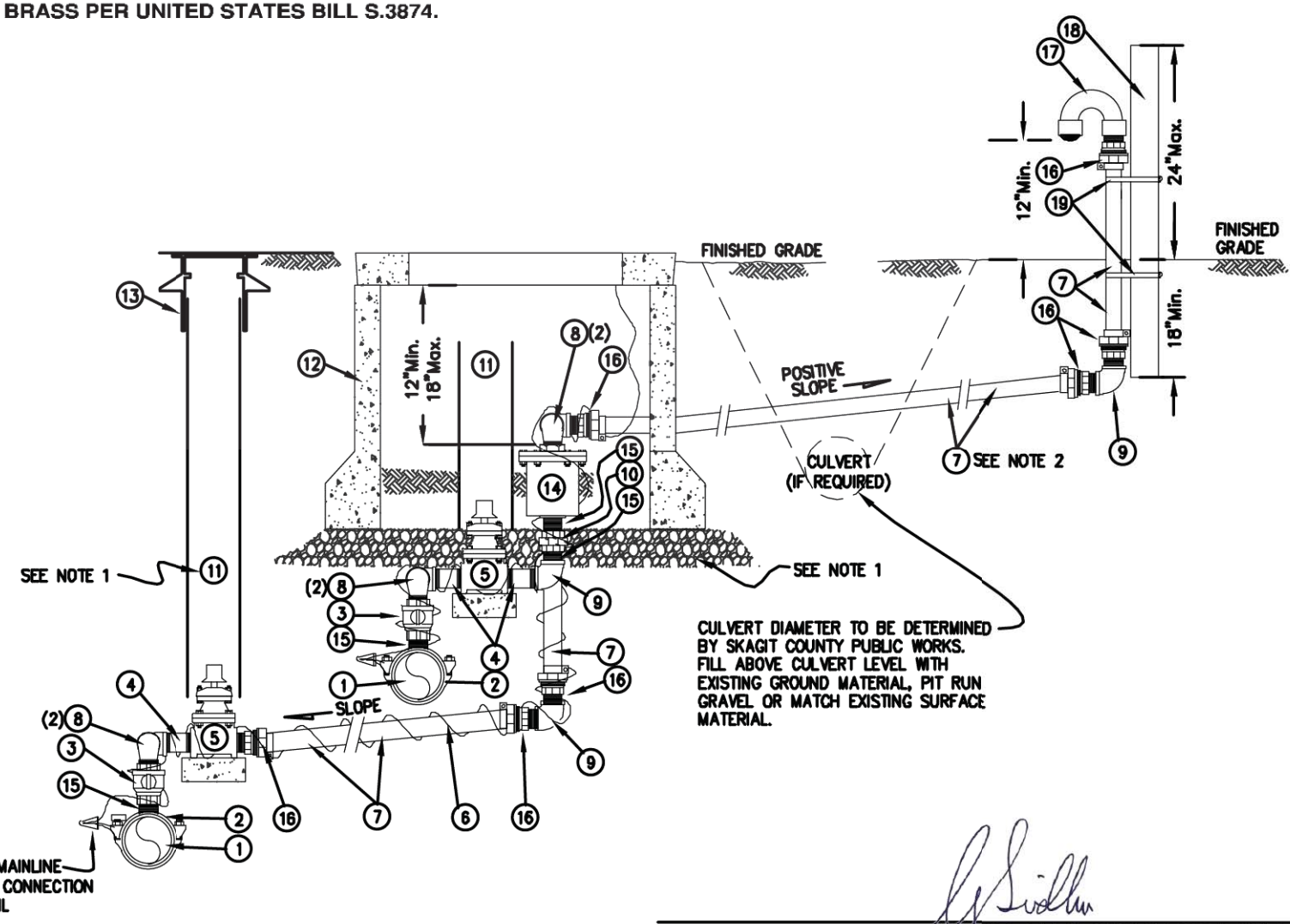
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BILL OF MATERIALS					
NO.	NOMENCLATURE	REQ'D.	NO.	NOMENCLATURE	REQ'D.
1	WATER MAIN	1	11	CASING, 8" P.V.C. SEWER PIPE	1
2	CLAMP, SERVICE, DOUBLE STRAP X 2" L.P.T., ALL BRASS, (FORD #2029)	1	12	UTILITY VAULT 36x42-LA W/2436P LOCKING STEEL COVER	1
3	VALVE, 2" BALL BRASS, IP116PT (FORD #F13-777W)	1	13	VALVE BOX, CAST IRON OLYMPIC FOUNDRY VB-007-SKAGIT (SEE PUD DETAIL)	1
4	NIPPLE, BRASS 2x4	1-2	14	VALVE, COMBINATION AIR (APCO 145C.2 SERIES) W/SST TRM	1
5	VALVE, 2" DUCTILE IRON, RESILIENT WEDGE	1	15	NIPPLE, BRASS, 2" X CLOSE	1
6	WIRE, #10 SOLID COPPER, ELITE COATED, EXTEND MIN. 18" INTO BOX, NEAR LID	1	16	ADAPTED BRASS PAK JOINT, 2" ALI.P.T. X P.V.C (FORD #C87-777) 4-7	3
7	PIPE, 2" P.V.C. SCH. 80 (LENGTHS AS REQUIRED)	1	17	ISCO, 2" COPPER, 18", WITH INSECT SCREEN	1
8	ELL, 2" BRASS, 90° STREET	4	18	POST, 4"-Ø MIN. METAL FENCE POST W/SPADE REMOVED	1
9	ELL, 2" BRASS, 90°	2	19	HOSE CLAMP, 2", STAINLESS STEEL	2
10	UNION, 2" BRASS	1			

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

- NOTES:**
- SET VALVE CASING AND VAULT/BOX TO FINISH GRADE. DO NOT REST CASING OR VAULT ON NIPPLES OR PIPE. PLACE 6 INCHES OF 3/4" MINUS CRUSHED GRAVEL, COMPACTED TO 90% UNDER CONCRETE VAULTS. SUPPORT VALVE CASING WITH 0.5' SOFT. OF CONCRETE ON EACH SIDE OF VALVE. SUPPORT 2" VALVE WITH MIN. OF 1' SOFT. OF CONCRETE BLOCK ON UNDISTURBED GROUND OR COMPACTED 3/4" CRUSHED GRAVEL.
 - INSTALL LINE PERPENDICULAR TO MAIN OR AS SHOWN ON WATER PLAN.
 - 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.



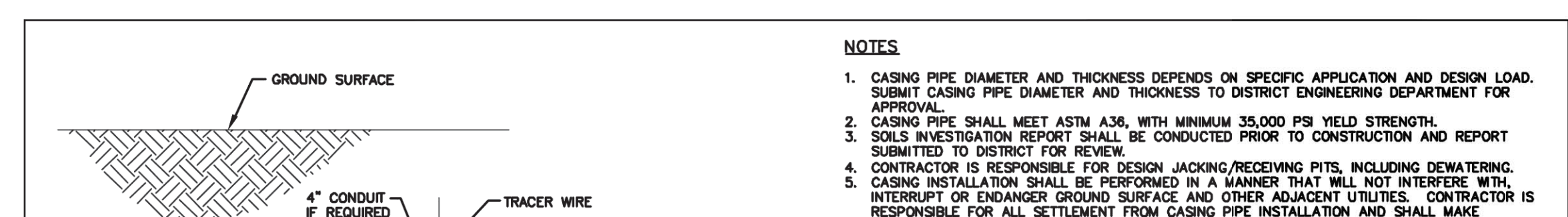
MAINLINE WIRE CONNECTION DETAIL

NOTE: ALL THREE WIRES ARE TO BE TIED TOGETHER IN AN OVERHAND KNOT APPROXIMATELY 6" FROM WIRE NUT. BARE 5/8" OF WIRES. CONNECT WITH #32325 KING WATERPROOF WIRE CONNECTOR.

PUD NO. 1 OF SKAGIT COUNTY ENGINEERING MANAGER
APPROVED ON: MAY 21, 2014

	STANDARD INSTALLATION OF 2" COMBINATION AIR VALVE ASSEMBLY	SCALE: 1" = 2"	STANDARD WV2-1
		DATE: 3-25-05 REVISED: 5/21/14 DRAWN BY: CAS APPROVED BY: GJS	

1 COMBINATION AIR VALVE
NOT TO SCALE



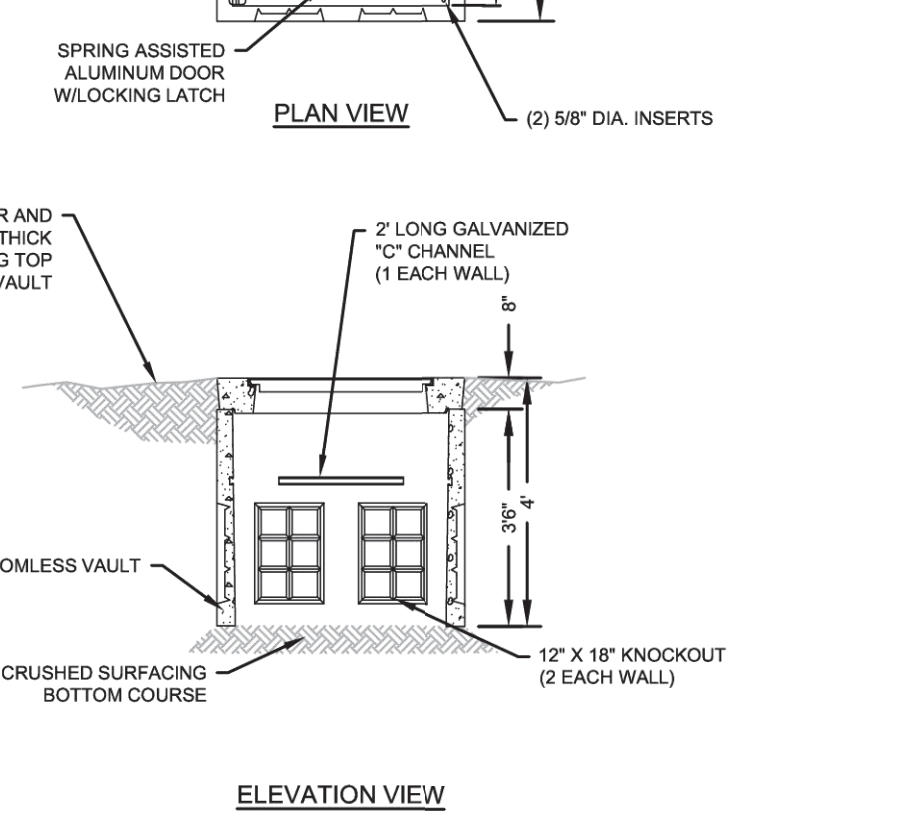
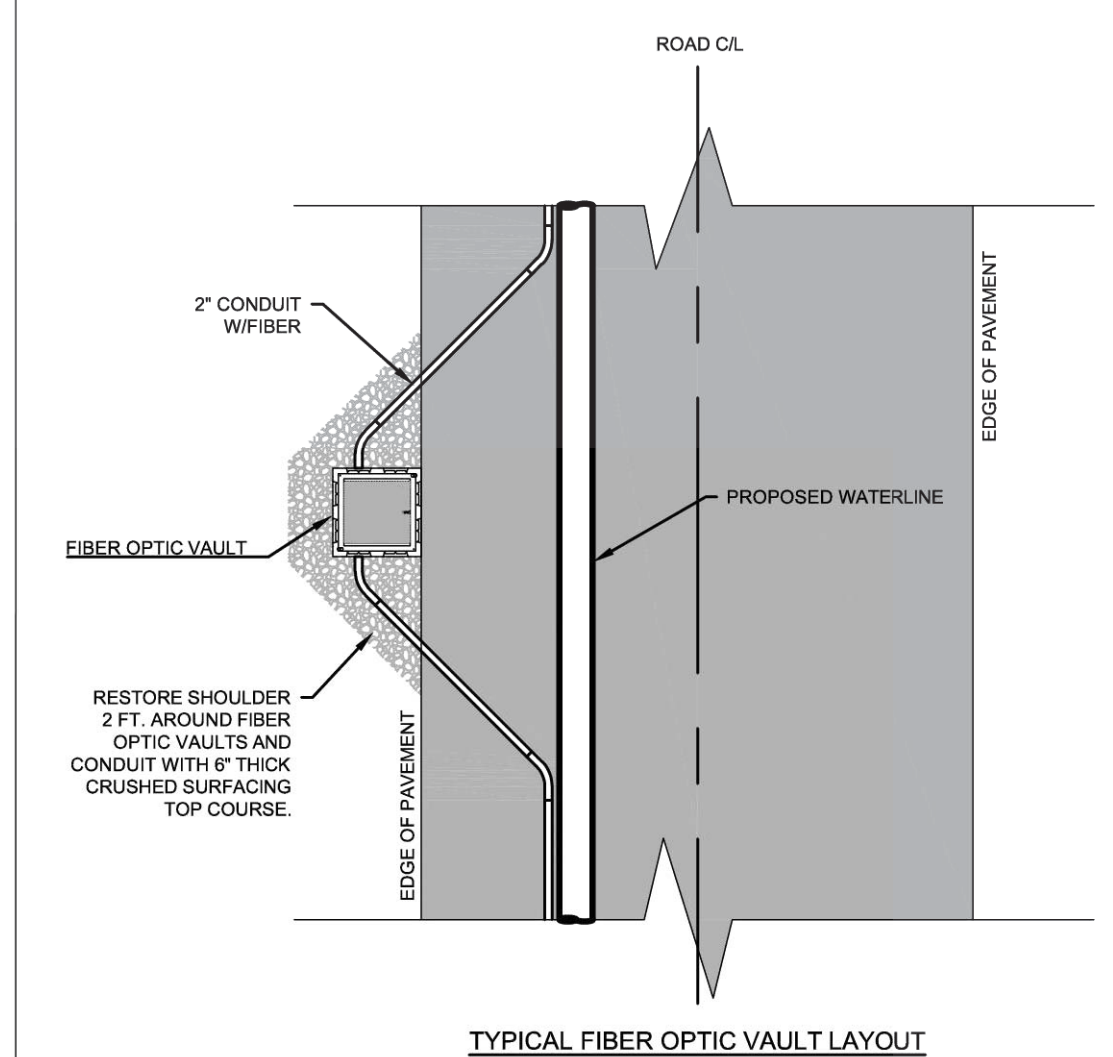
- NOTES:**
- CASING PIPE DIAMETER AND THICKNESS DEPENDS ON SPECIFIC APPLICATION AND DESIGN LOAD. SUBMIT CASING PIPE DIAMETER AND THICKNESS TO DISTRICT ENGINEERING DEPARTMENT FOR APPROVAL.
 - CASING PIPE SHALL MEET ASTM A36, WITH MINIMUM 35,000 PSI YIELD STRENGTH.
 - SOILS INVESTIGATION REPORT SHALL BE CONDUCTED PRIOR TO CONSTRUCTION AND REPORT SUBMITTED TO DISTRICT FOR REVIEW.
 - CONTRACTOR IS RESPONSIBLE FOR DESIGN JACKING/RECEIVING PITS, INCLUDING DEWATERING.
 - CASING INSTALLATION SHALL BE PERFORMED IN A MANNER THAT WILL NOT INTERFERE WITH, INTERRUPT OR ENDANGER GROUND SURFACE AND OTHER ADJACENT UTILITIES. CONTRACTOR IS RESPONSIBLE FOR ALL SETTLEMENT FROM CASING PIPE INSTALLATION AND SHALL MAKE RESTORATION TO ALL DAMAGED PROPERTY.
 - CASING SPACER SHALL BE CONSTRUCTED OF TYPE 304 STAINLESS STEEL WITH MINIMUM THICKNESS OF 12 GAUGE. RUNNERS SHALL BE MADE OF REINFORCED POLYMER.
 - CASING END SEAL SHALL BE A SYNTHETIC RUBBER SLEEVE ATTACHED WITH STAINLESS STEEL BAND CLAMPS. GROUT MAY BE USED IF APPROVED BY DISTRICT.
 - A CONDUIT FOR FIBER OPTIC CABLE MAY BE REQUIRED TO BE INSTALLED. IN THAT CASE, THE CASING PIPE WILL NEED TO BE LARGER AND THE CASING SPACERS AND END SEALS MAY NEED TO BE MODIFIED.
 - ALL PERMITTING FOR CASING PIPE INSTALLATION TO BE COMPLETED BY CONTRACTOR AND APPROVED PERMITS SHALL BE SUBMITTED TO DISTRICT.
 - ALL CARRIER PIPE WITHIN CASING TO BE POLY ENCASED PER DISTRICT STANDARDS, WITH TRACER WIRE ATTACHED.
 - CARRIER PIPE WITHIN CASING TO BE PRESSURE TESTED SEPARATELY AND PRIOR TO CONNECTING TO PIPE AT EITHER END.
 - ALL CARRIER PIPE WITHIN THE CASING, AND FOR THE APPROPRIATE DISTANCE ON EITHER SIDE, SHALL HAVE RESTRAINED JOINTS.

PUD NO. 1 OF SKAGIT COUNTY ENGINEERING MANAGER
APPROVED ON: MAY 22, 2014

	STANDARD PIPE CASING INSTALLATION	SCALE: NO SCALE	STANDARD WC-1
		DATE: 10/22/12 REVISED: 5/22/14 DRAWN BY: KDM APPROVED BY: GJS	

2 PIPE CASING INSTALLATION DETAIL
NOT TO SCALE

- NOTES:**
- VAULTS SHALL BE PRE-CAST CONCRETE MEETING ASTM C478. TOP SLAB SHALL BE DESIGNED TO CARRY HS-20 LOADING.
 - RIGID NON-METALLIC CONDUIT (PVC) FOR FIBER SHALL BE U.L. 651 LISTED, NEMA TC-2, SCHEDULE 40 APPROVED FOR CONCRETE ENCASUREMENT. PVC CONDUIT SWEEPS SHALL NOT BE USED.
 - FIBERGLASS CONDUIT SWEEPS FOR FIBER SHALL BE U.L. 1684 LISTED, NEMA TC-14, APPROVED FOR CONCRETE ENCASUREMENT. FIBERGLASS CONDUIT SWEEPS SHALL BE A MINIMUM RADIUS OF 36 INCHES.
 - CONDUITS SHALL CONTAIN NO MORE THAN THREE-QUARTER BENDS (270 CUMULATIVE DEGREES) BETWEEN FIBER OPTIC VAULTS.
 - DURING FIBER OPTIC CABLE INSTALLATION, A MINIMUM OF 150 FEET OF SLACK CABLE SHALL BE INSTALLED ON MOUNTING HARDWARE WITHIN EACH FIBER OPTIC VAULT.
 - FIBER OPTIC VAULTS SHALL BE A MAXIMUM OF 2,500 FEET APART.
 - REFER TO TYPICAL TRENCH SECTION DETAIL WT1-1 FOR FIBER CONDUIT MATERIAL.



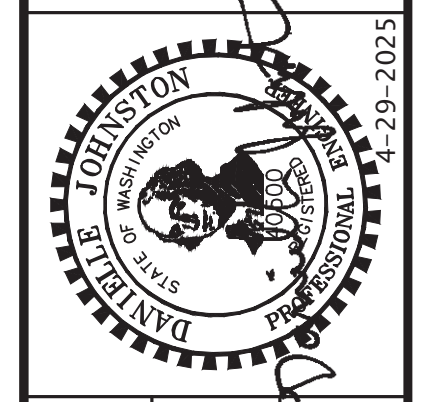
PUD NO. 1 OF SKAGIT COUNTY ENGINEERING MANAGER
APPROVED ON: SEPTEMBER 9, 2022

	STANDARD FIBER OPTIC VAULT AND STANDARD FIBER OPTIC VAULT LAYOUT	SCALE: NONE	STANDARD WFO-1
		DATE: 10/22/12 REVISED: 9/6/22 DRAWN BY: JLB APPROVED BY: MCH	

3 FIBER OPTIC VAULT DETAIL
NOT TO SCALE

NO.	REVISIONS	BY	DATE
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WILSON ENGINEERING
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DESIGNED BY: DR/MDS
DRAWN BY: MDS
CHECKED BY: DRU

SKAGIT COUNTY PUBLIC UTILITY DISTRICT
WASHINGTON
ALGER
PIPELINE RELOCATION AT ALGER INTERCHANGE
PUD STANDARD DETAILS

SHEET	C4.2	DATE	05-01-2025
PAGE	9	SCALE	AS SHOWN
	OF 13	JOB NUMBER	2023-065



BID SET

PLOT SETTINGS: Adobe PDF.pc3, ANSI full bleed B (17.00 x 11.00 inches), Portroit, 1-2, WE APWA_UNSCREENED.ctb
W:\2023\2023-065 SKAGIT PUD WATER PIPELINE RELOCATION\DWG V2024_2023-065 C4.1 DETAILS.DWG - 4/29/2025 2:15 PM - Jeff Smith

- LEGEND:**
- = RIGHT-OF-WAY (EXISTING)
 - - - - = EXISTING ROAD STRIPING
 - ==== = EDGE OF PAVEMENT
 - = OVERPASS
 - = TRAFFIC FLOW DIRECTION
 - ☐ = PROTECTIVE VEHICLE (SEE NOTE 2)
 - ☐ = FLAGGER
 - ☐ = CHANNELIZATION DEVICE (SEE NOTE 3)
 - ☐ = TEMPORARY SIGN LOCATION
 - ☐ = UNIFORMED POLICE OFFICER

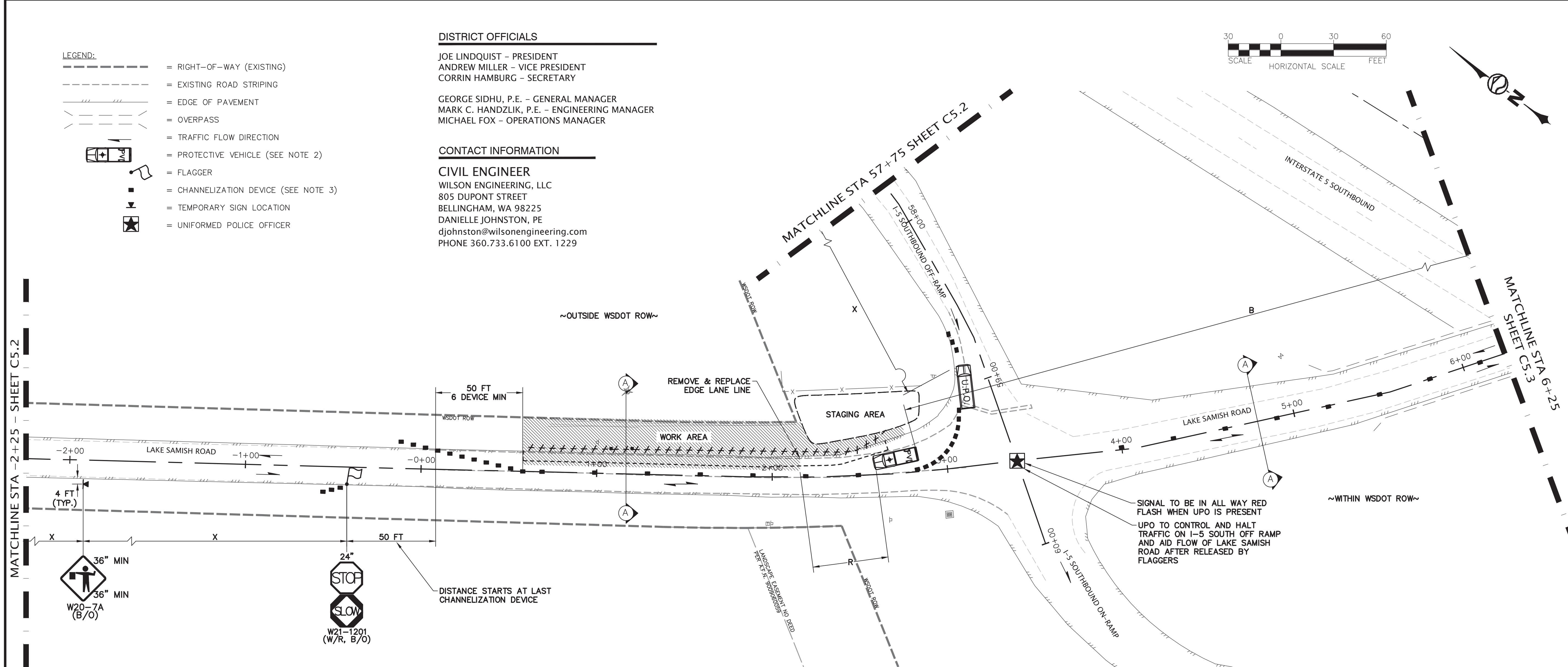
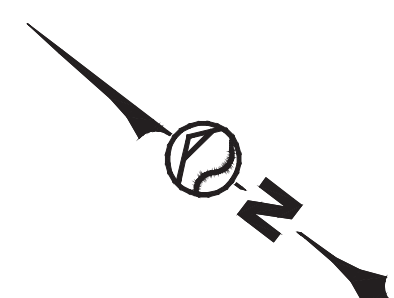
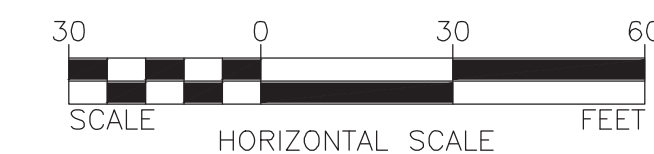
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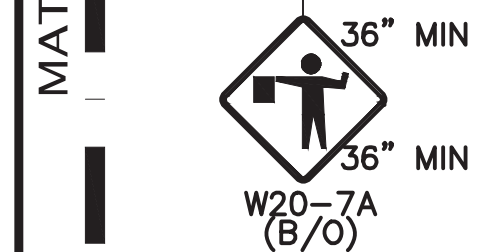
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 djohnston@wilsonengineering.com
 PHONE 360.733.6100 EXT. 1229



MATCHLINE STA -2+25 - SHEET C5.2

MATCHLINE STA 6+25 - SHEET C5.3

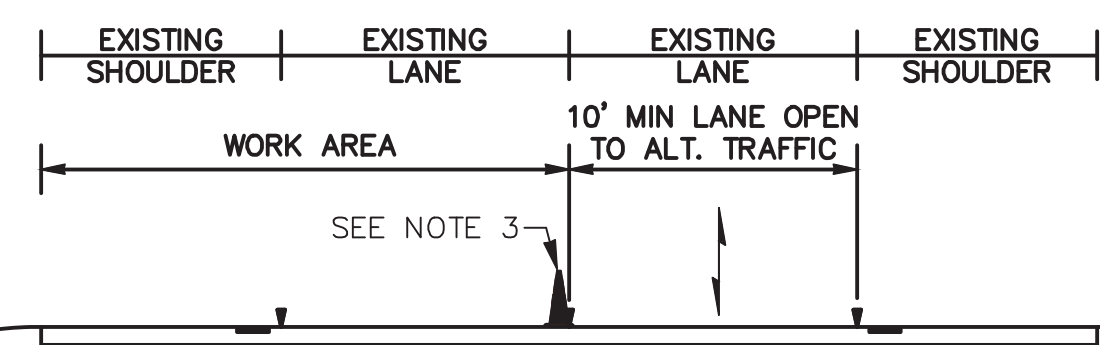


WSDOT NOTES:

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SECTION A
NOT TO SCALE

PROTECTIVE VEHICLE ROLL AHEAD DISTANCE = R
 STRATEGICALLY POSITION WORK VEHICLE TO PROJECT WORK CREW.
 40 FT - 80 FT RECOMMENDED.

RECOMMENDED SIGN SPACING = X (1)

ROAD TYPE	SPEED (MPH)	SPACING (FEET)
RURAL ROADS & URBAN ARTERIALS	35-40 MPH	350' ±
RURAL ROADS & URBAN ARTERIALS RESIDENTIAL & BUSINESS DISTRICTS	25-30 MPH	200' ± (2)
UBRAN STREETS	25 MPH OR LESS	100' ± (2)

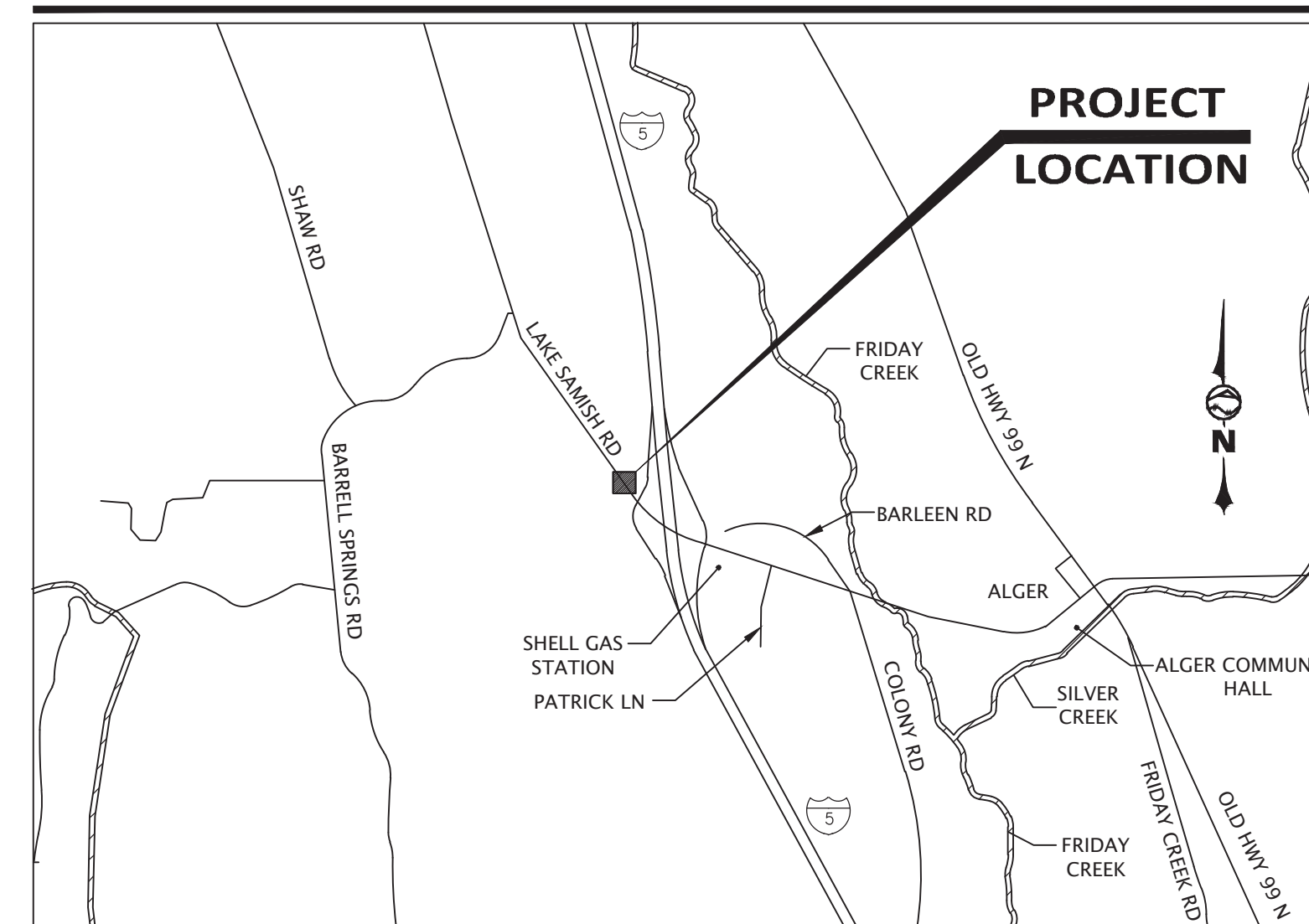
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MAXIMUM CHANNELIZATION DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
35-40	10-20	60
20-30	10-20	40

OPTIONAL LONGITUDINAL BUFFER SPACE = B					
SPEED (MPH)	20	25	30	35	40
B (FEET)	115	155	200	250	305

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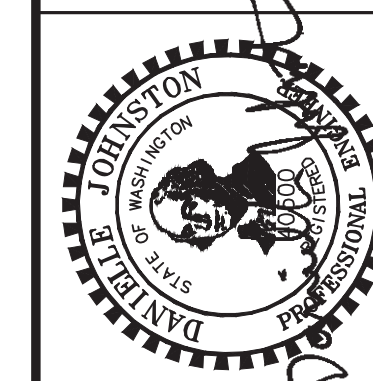
VICINITY MAP - NOT TO SCALE



BID SET



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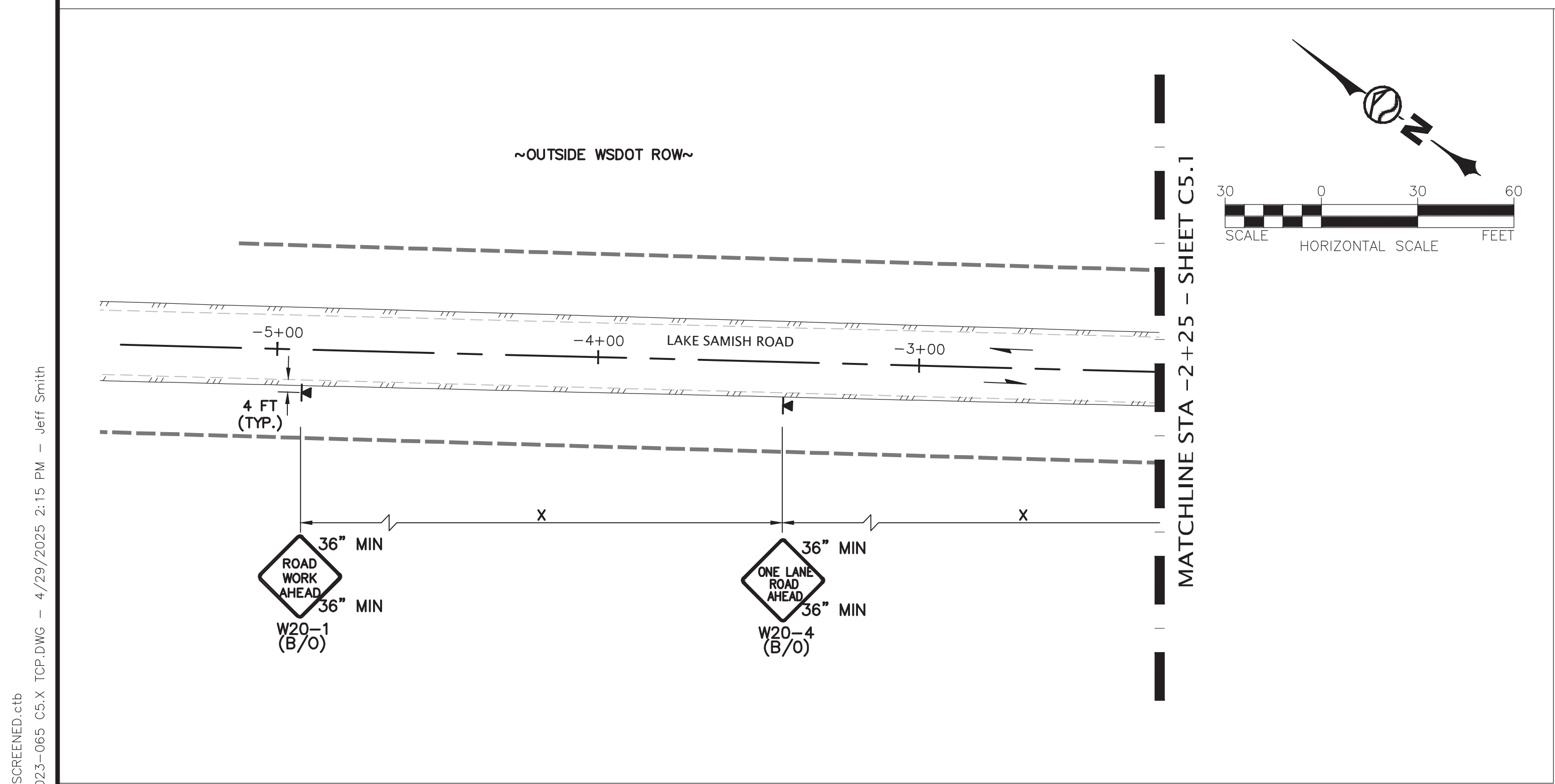
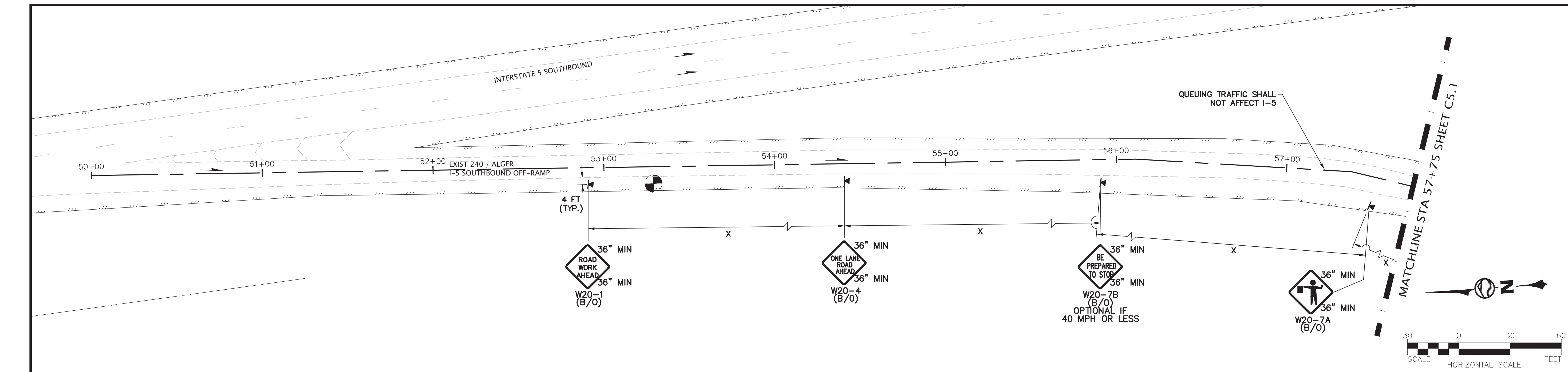
DESIGNED BY: KK
 DRAWN BY: KK
 CHECKED BY: DRJ

SKAGIT COUNTY PUBLIC UTILITY DISTRICT
 WASHINGTON
PIPELINE RELOCATION AT ALGER INTERCHANGE
 ALGER
TRAFFIC CONTROL PLAN

DATE: 05-01-2025
 SCALE: AS SHOWN
 JOB NUMBER: 2023-065

SHEET: **C5.1**
 PAGE: 11 OF 13

PLOT SETTINGS: RICOH 8X11 - B&W.pc3, Letter, Portrait, 1:1.05, WE, APWA_UNSCREENED.ctb
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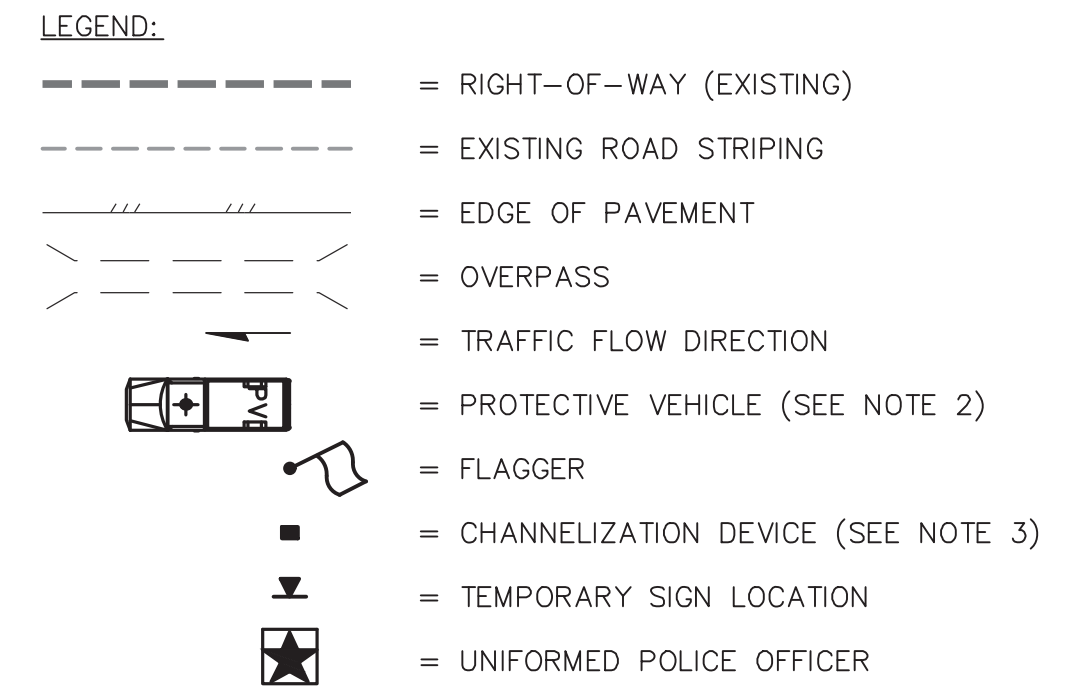
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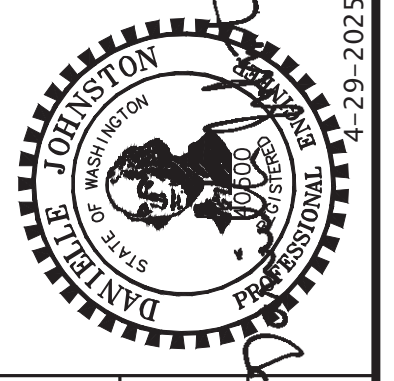
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BID SET



DESIGNED BY: KK
 DRAWN BY: KK
 CHECKED BY: DRJ

SKAGIT COUNTY PUBLIC UTILITY DISTRICT

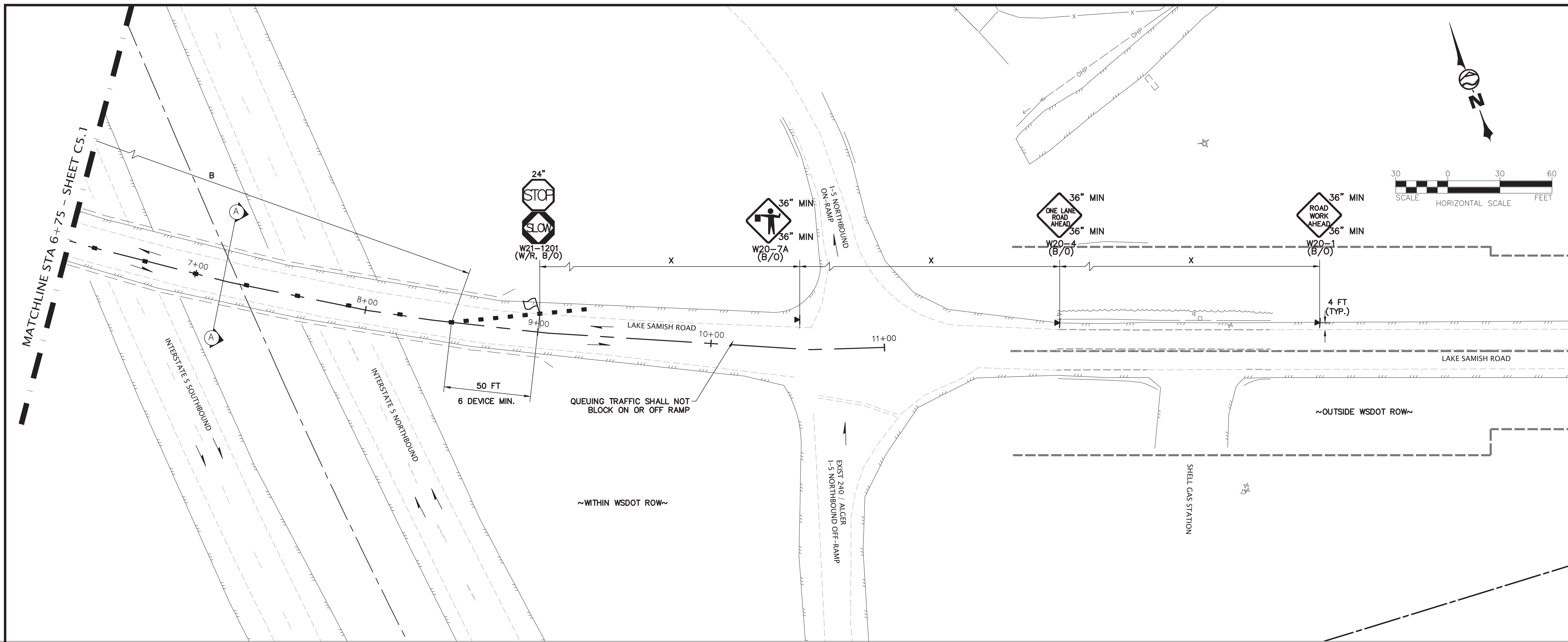
PIPELINE RELOCATION AT ALGER INTERCHANGE

TRAFFIC CONTROL PLAN

DATE: 05-01-2025
 SCALE: AS SHOWN
 SHEET: C5.2
 PAGE: 12 OF 13
 JOB NUMBER: 2023-065

PLOT SETTINGS: RICOH 8X11 - B&W.pcs3 Letter, Portrait, 1:1.05, WE APWA_UNSCREENED.ctb W:\2023\2023-065 SKAGIT PUD WATER PIPELINE RELOCATION\DWG V2023-065 C5.X TCP.DWG - 4/29/2025 2:15 PM - Jeff Smith

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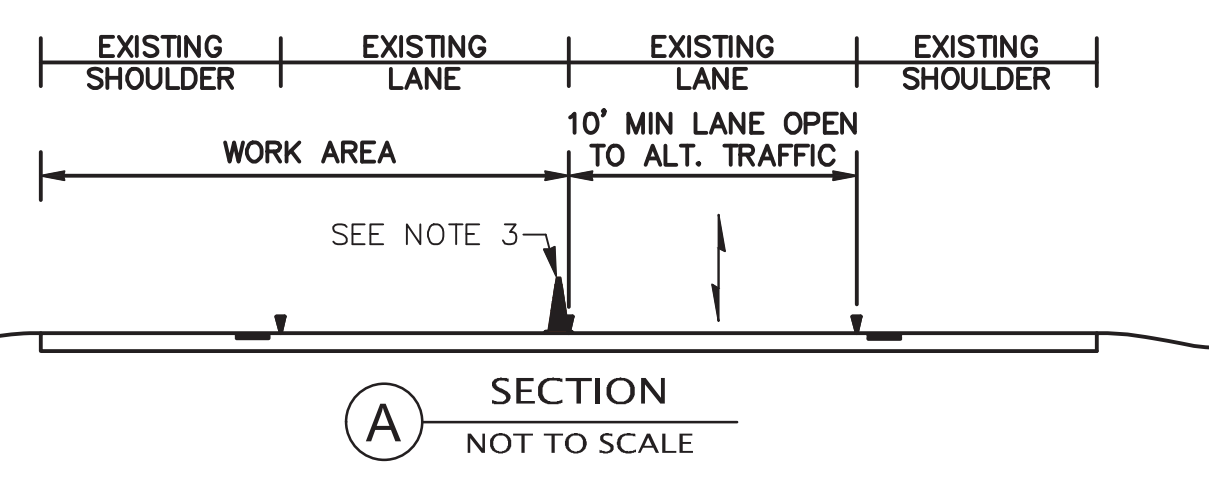
DANIELLE JOHNSTON
 WASHINGTON STATE PROFESSIONAL ENGINEER
 LICENSE NO. 44292-2025

DESIGNED BY: KK
 DRAWN BY: KK
 CHECKED BY: DRJ

SKAGIT COUNTY PUBLIC UTILITY DISTRICT
 WASHINGTON
 ALGER
PIPELINE RELOCATION AT ALGER INTERCHANGE
 TRAFFIC CONTROL PLAN

DATE: 05-01-2025
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SHEET: **C5.3**
 PAGE: 13 OF 13



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BID SET