

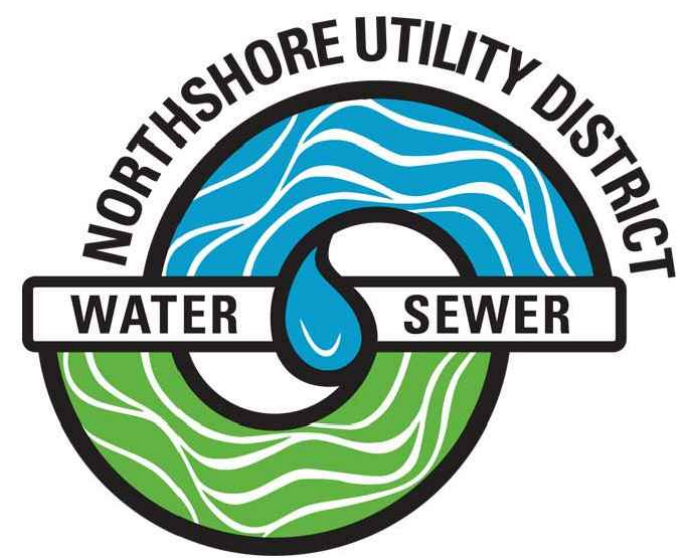
NORTHSHORE UTILITY DISTRICT

King County, Washington

CONTRACT 2023-03

120-84 WATER MAIN REPLACEMENT

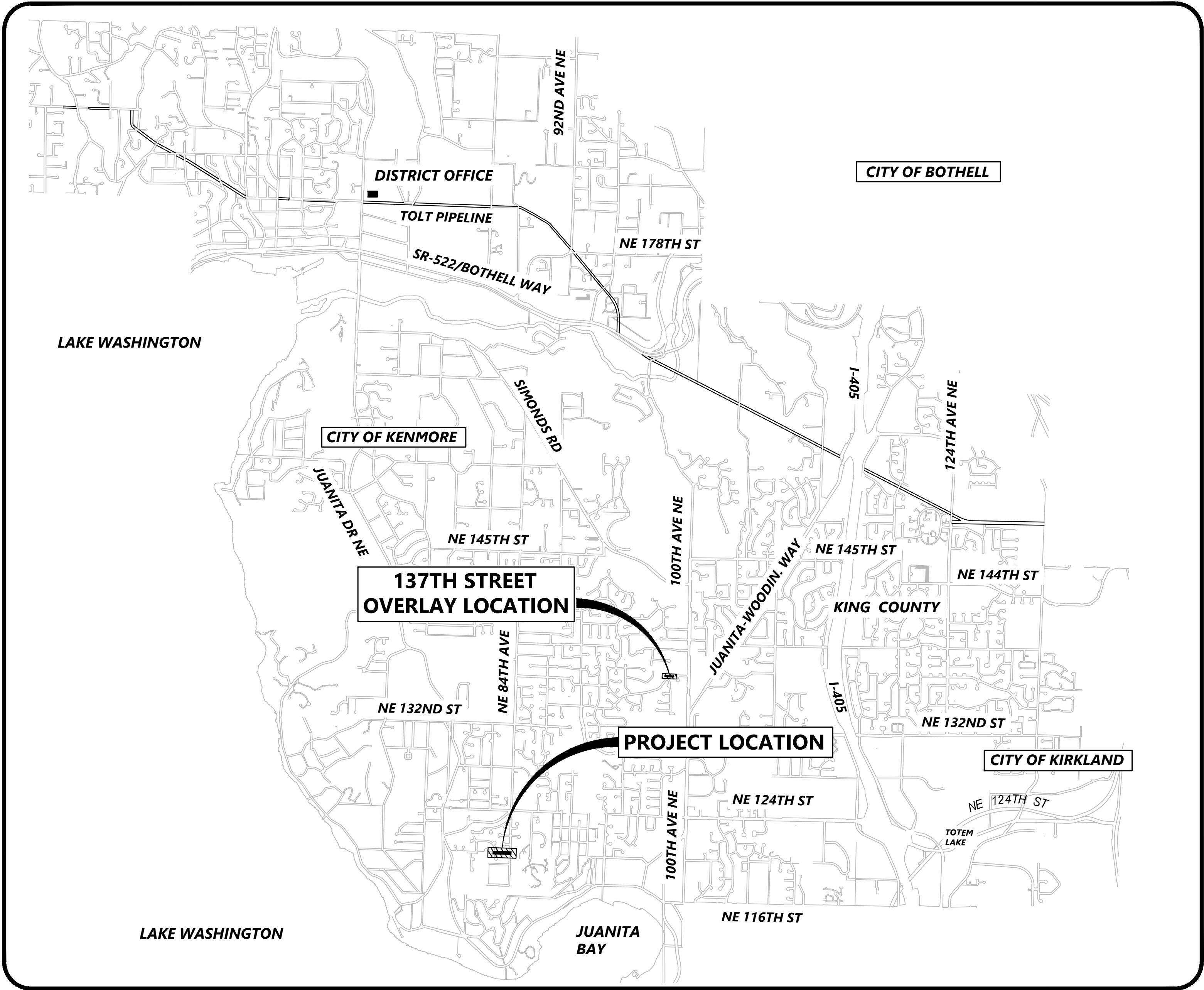
APRIL 2023



BID SET

SUZANNE GREATHOUSE	President of the Board
TRUDY C. ROLLA	Secretary of the Board
D. BRUCE GARDINER	Commissioner
MATT BREYSSE	Commissioner
THOMAS D. MORTIMER	Commissioner
AMANDA CAMPBELL	Acting General Manager

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	COVER
2	GENERAL NOTES, LEGEND, & ABBREVIATIONS
3	SURVEY CONTROL DATA
4	WATER MAIN PLAN & PROFILE
5	WATER MAIN CONNECTION DETAILS
6	RESTORATION PLAN
7	137TH STREET PAVEMENT RESTORATION
8	WATER DETAILS
9	WATER DETAILS
10	MISCELLANEOUS DETAILS
11	RESTORATION DETAILS
12	RESTORATION DETAILS
13	RESTORATION DETAILS
14	TRAFFIC CONTROL
15	TRAFFIC CONTROL



VICINITY MAP
NOT TO SCALE

C2213
SHEET
1 OF 15

ABBREVIATIONS

Table listing abbreviations such as AC (Asbestos Cement Pipe), ADJ (Adjust), ALT (Alternate), etc., with their corresponding full names.

Table listing required items (REQD) and their descriptions (REQUIRED), including RET (Retaining), RJ (Restrained Joint), etc.

LINETYPES

Table showing line types for surface features, survey, and utilities, with columns for existing, proposed, and description.

WATER SYMBOLS

Table showing water symbols for existing and proposed conditions, including descriptions like CAP/PLUG, COUPLING/ADAPTER, etc.

SURFACE FEATURES/LANDSCAPING

Table showing symbols for surface features and landscaping, including MAIL BOX, SIGN, ROCK WALL, etc.

SURVEY SYMBOLS

Table showing survey symbols for existing and proposed conditions, including MONUMENT (IN CASE), BENCH MARK, etc.

GENERAL NOTES :

- 1. IN GENERAL, EXISTING STRUCTURES AND FACILITIES ARE NOTED AS "EXISTING" AND ARE SHOWN IN LIGHT LINE WEIGHTS OR AS SCREENED BACKGROUND. NEW CONSTRUCTION, STRUCTURES, FACILITIES, AND FEATURES ARE SHOWN IN HEAVY LINE WEIGHTS.
2. MANY OF THE SYMBOLS SHOWN ON THIS LEGEND ARE USED ONLY WHERE THEY PROVIDE CLARITY AND ARE NOT NECESSARILY USED IN ALL APPLICATIONS. SOME CONTRACT DRAWINGS MAY HAVE ADDITIONAL LEGENDS APPLICABLE FOR THAT SPECIFIC DRAWING. SYMBOLS SHOWN ON SPECIFIC DRAWINGS GOVERN.
3. THE CONTRACTOR SHALL VERIFY ALL PLANIMETRIC FEATURES AND DIMENSIONS PRIOR TO STARTING WORK AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES
4. ALL DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS AND DESCRIBED IN THE SPECIFICATIONS REFER TO THE HORIZONTAL AND VERTICAL PROJECTED PLANES, UNLESS OTHERWISE INDICATED.
5. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED IN THE CONTRACT SPECIFICATIONS.
6. THE APPROXIMATE LOCATIONS OF EXISTING UTILITIES ARE SHOWN ON THE PLANS FOR CONVENIENCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF UTILITY LOCATIONS SHOWN, FOR THE PROTECTION AND REPAIR OF DAMAGED UTILITIES, AND FOR THE DISCOVERY OF POSSIBLE ADDITIONAL UTILITIES NOT SHOWN ON THE PLANS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND UTILITIES LOCATED BY THE APPROPRIATE UTILITY PURVEYORS PRIOR TO BEGINNING CONSTRUCTION. ANY DISCREPANCIES FOUND IN THE FIELD FROM THOSE SHOWN HEREIN SHALL BE REPORTED TO THE OWNER PRIOR TO COMMENCING WORK. FOR UTILITY LOCATES IN KING COUNTY, CALL 1-800-424-5555 (811) PRIOR TO DIGGING.
7. ALL RIGHT-OF-WAY AND PROPERTY LINES SHOWN WITHIN THE CONTRACT DRAWINGS ARE BASED UPON AVAILABLE DATA AND ARE SHOWN AS APPROXIMATE.
8. A PRE-CONSTRUCTION CONFERENCE WILL BE HELD AT THE DISTRICT OFFICE PRIOR TO START OF CONSTRUCTION.
9. THE CONTRACTOR SHALL NOTIFY NORTHSORE UTILITY DISTRICT A MINIMUM OF FIVE (5) DAYS IN ADVANCE OF BEGINNING CONSTRUCTION. CONSTRUCTION SHALL NOT BEGIN WITHOUT PRIOR WRITTEN NOTICE TO PROCEED BY THE DISTRICT.

GENERAL WATER NOTES :

- 1. ALL WATER MAIN AND FITTINGS SHALL BE RESTRAINED JOINT (RJ) PER SPECIFICATIONS.
2. ALL BURIED DUCTILE IRON PIPE SHALL BE ENCASED WITH POLYETHYLENE ENCASEMENT PER SPECIFICATIONS.
3. CONTRACTOR SHALL VERIFY EXACT SIZE, LOCATION, DEPTH, AND MATERIAL OF EXISTING WATER MAIN PRIOR TO FINAL CONNECTION.
4. AFTER NEW WATER MAIN HAS BEEN CONNECTED TO THE EXISTING SYSTEM, THE EXISTING WATER MAIN AND APPURTENANCES SHALL BE ABANDONED IN PLACE. OPEN ENDS SHALL BE CAPPED WITH WATERTIGHT FITTING AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH THE SPECIFICATIONS.
5. CLOSE ALL VALVES TO BE ABANDONED, REMOVE AND WASTEHAUL EXISTING VALVE BOXES, AND BACKFILL WITH WITH CRUSHED ROCK.
6. THE CONTRACTOR SHALL NOT OPERATE ANY VALVES OR MAKE ANY CONNECTIONS TO THE EXISTING SYSTEM WITHOUT PRIOR APPROVAL FROM THE DISTRICT.

GENERAL RESTORATION NOTES :

- 1. FINAL PLACEMENT OF HMA WEARING COURSE FOR ROAD RECONSTRUCTION SHALL BE PLACED TOGETHER IN A SINGULAR OPERATION WITH THE 2-INCH OVERLAY IN ORDER TO REDUCE JOINTS.
2. PROVIDE SMOOTH TRANSITIONS AT ALL PAVEMENT JOINTS.
3. PROTECT ALL EXISTING CURB, CURB AND GUTTER, SIDEWALK, DRIVEWAYS, LUMINAIRES, UTILITY POLES, WALLS, VAULTS, TREES, SHRUBS, VEGETATION, LANDSCAPING, MONUMENTS, SURVEY CONTROL POINTS, PROPERTY CORNERS, UTILITIES, UTILITY STRUCTURES, IRRIGATION, MAILBOXES, AND ALL OTHER EXISTING FEATURES UNLESS OTHERWISE NOTED ON THE PLANS.
4. RESTORE ALL LANDSCAPING AND SURFACE FEATURES TO PRE-CONSTRUCTION CONDITION OR BETTER.

GAS/POWER/TELEPHONE SYMBOLS

Table showing symbols for gas, power, and telephone utilities, including descriptions like GAS METER, GAS VALVE, etc.

SANITARY/STORM SEWER SYMBOLS

Table showing symbols for sanitary and storm sewer systems, including descriptions like STORM DRAIN MANHOLE, etc.

TEMPORARY EROSION AND SEDIMENTATION CONTROL NOTES

- 1. THE TEMPORARY EROSION AND SEDIMENTATION CONTROL (TESC) FACILITIES SHALL BE IMPLEMENTED PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES, AND IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT WATER DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS. MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE TESC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED.
2. THE STORM DRAIN INLET PROTECTION DEVICE SHALL BE SILT SACK OR EQUAL. ALL CATCH BASINS WITHIN THE VICINITY OF THE CONSTRUCTION SHALL HAVE INLET PROTECTION MEASURES.
3. CONTRACTOR SHALL MAINTAIN ALL EXISTING DRAINAGE CHANNELS, CULVERTS, SWALES AND STRUCTURES. WHENEVER EXISTING DRAINAGE FACILITIES ARE DISTURBED, THE CONTRACTOR SHALL PROVIDE SUITABLE MEANS FOR DIVERTING AND MAINTAINING ALL FLOWS DURING CONSTRUCTION IN THAT AREA AT ITS EXPENSE. AFTER CONSTRUCTION HAS BEEN COMPLETED, ALL DRAINAGE CHANNELS, CULVERTS, SWALES AND STRUCTURES DISTURBED SHALL BE RETURNED TO THEIR ORIGINAL CONDITIONS.
4. THE TESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, TESC FACILITIES SHALL BE MAINTAINED AND UPGRADED AS NECESSARY BY THE CONTRACTOR.
5. CONTRACTOR SHALL INSPECT THE TESC FACILITIES AT THE END OF EACH WORKING DAY TO ASSURE ITSELF THAT THEY ARE IN GOOD CONDITIONS. IF TESC FACILITIES REQUIRE REPAIR/MAINTENANCE, IT SHALL BE PERFORMED PRIOR TO THE END OF THE WORKING DAY. ALL DISTURBED AREAS SHALL BE PROMPTLY AND THOROUGHLY STABILIZED AGAINST EROSION DURING PERIODS OF WET WEATHER WHEN WORK IS NOT BEING PERFORMED AT THE SITE.
6. ALL UNSUITABLE OR SURPLUS EXCAVATED OR CLEARED MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN AN APPROVED, LEGAL FILL SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ACCEPTABLE DISPOSAL SITES AND ASSURE THAT ALL SURPLUS MATERIAL IS DISPOSED OF IN SAME.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING ALL APPROPRIATE MEASURES NEEDED (STREET SWEEPERS, WATER TRUCKS, ETC.) TO KEEP STREETS AND ROADS USED AS HAUL ROUTES FOR EXPORT OR IMPORT OF MATERIAL CLEAN AND FREE FROM DEBRIS, MUD, ETC.. ADDITIONAL MEASURES MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

Table with columns for NO, BY, APPD, REVISION, and DATE, used for tracking changes to the drawing.

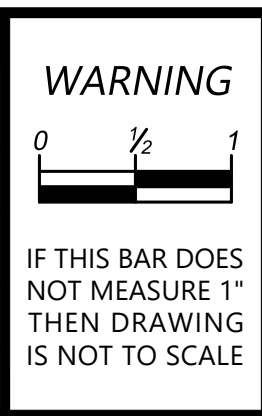
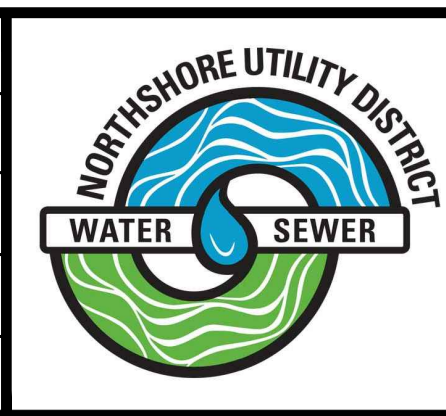


Table with columns for DESIGNED BY, DRAWN BY, CHECKED BY, APPROVAL, and DATE, listing the project team members.



NORTHSORE UTILITY DISTRICT
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CONTRACT 2023-03
120-84 WATER MAIN REPLACEMENT
GENERAL NOTES, LEGEND, & ABBREVIATIONS

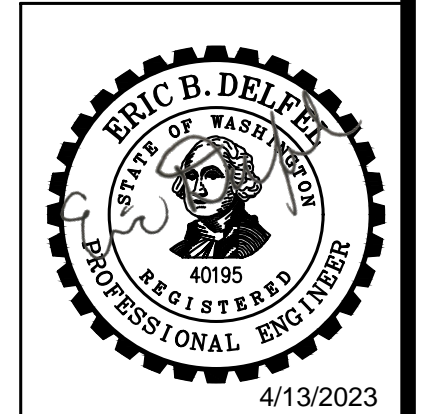
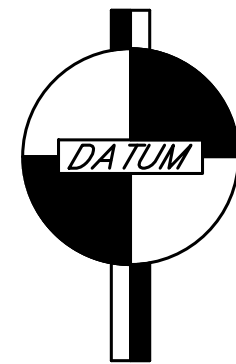


Table with columns for DWG: LEGEND, SHEET, and page number 2 OF 15.

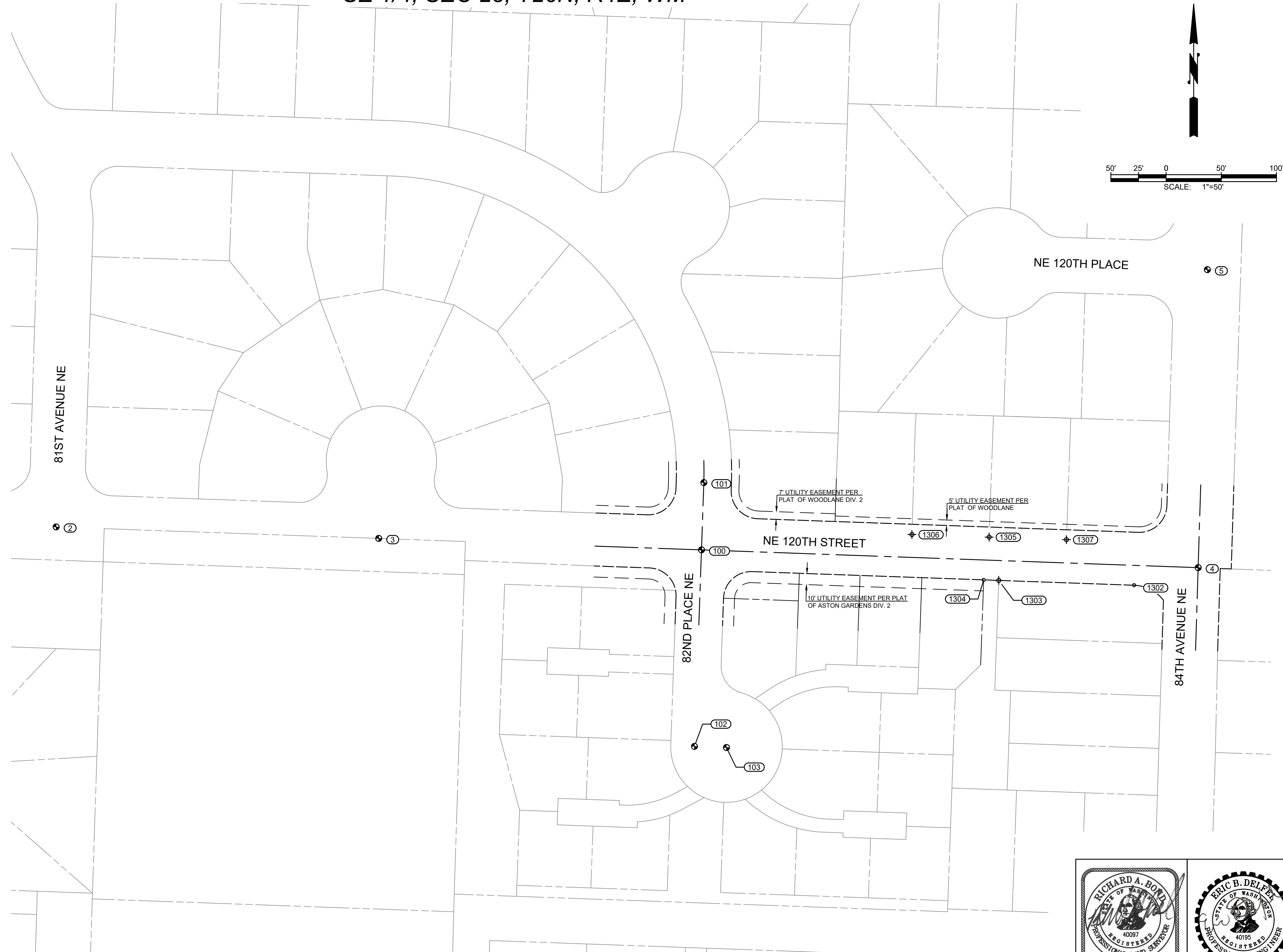
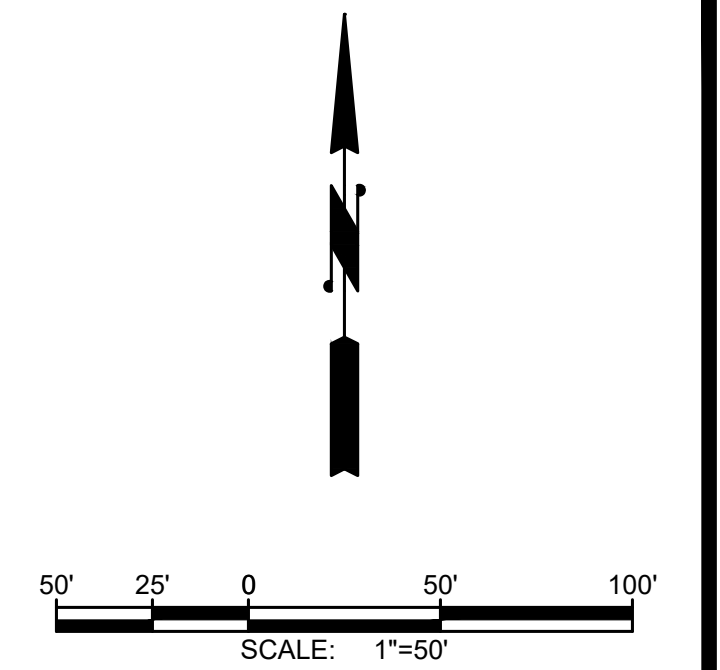
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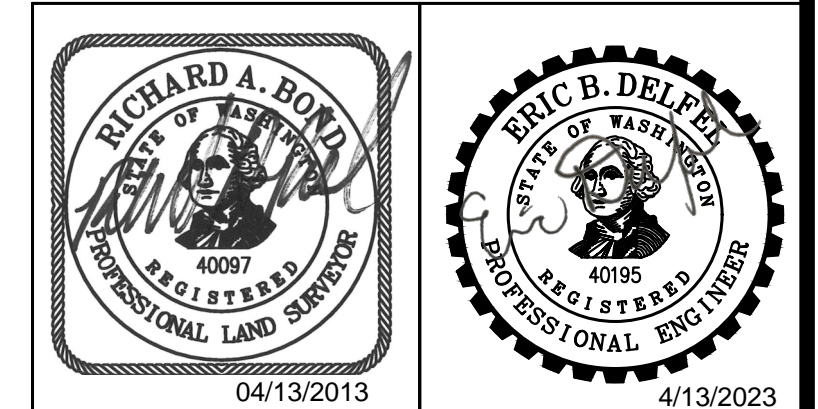
DATUM

VERTICAL: NAVD88
HORIZONTAL: NAD83/2011, EPOCH 2010.00
 W.S.P.C.S. N. ZONE, GRID NORTH

CONTROL COORDINATES TABLE				
NORTHSHORE UTILITY DISTRICT - 120-84 WATER MAIN REPLACEMENT (C2213)				
G&O PROJECT NUMBER - 23430.00				
HORIZONTAL DATUM: NAD83/2011, EPOCH 2010.00				
WA. PLANE COORDINATE SYSTEM, NORTH ZONE, GRID NORTH				
MODIFIED GROUND COORDINATES, SCALED TO GROUND USING AVG. CGF OF 0.99995288658 AT BASE POINT G&O #2				
VERTICAL DATUM: NAVD88				
HOLDING WSDOT PUBLISHED ELEVATION ON WSDOT "GP17405-329" (G&O #1)				
POINT	NORTHING	EASTING	ELEV.	DESCRIPTION
1	263724.81	1307737.24	180.87	SFM=FOUND SURFACE MONUMENT, WSDOT "GP17405-329" MON ID: 6988. PROJECT GROUND COORDINATE.
2	261391.24	1295622.79	353.61	SFMC=FOUND MONUMENT IN CASE. TACK IN LEAD SET IN CONCRETE. DOWN 0.4' IN CASE. INTX NE 120TH ST & 81ST AVE NE. CENTERLINE 120TH ST HEADING W. 28' E OF CENTERLINE DRIVEWAY TO 8101 120TH ST.
3	261380.80	1295914.87	380.50	SFMC, TACK IN LEAD SET IN CONCRETE. DOWN 0.45' IN CASE. S EDGE ASPHALT NE 120TH ST AND CENTERLINE EXTENDED OF HORSESHOE SHAPED ROAD W OF PROJECT LIMITS (8114-8130 NE 120TH ST).
4	261354.36	1296656.83	416.52	SFMC, 2 1/2" DISC W/ PUNCH SET IN CONC. DOWN 0.4' IN CASE. E OF CENTERLINE 84TH AVE NE. S OF CENTERLINE NE 120TH NE IN INTX. 8.5' N OF CENTERLINE DRIVEWAY TO 12004 84TH AVE NE.
5	261624.14	1296665.17	399.12	SFMC, TACK IN LEAD SET IN CONCRETE. DOWN 0.45' IN CASE. E OF CENTERLINE 84TH AVE NE AT CENTERLINE NE 120TH PL.
100	261370.43	1296207.15	396.26	SFMC, 2" DISC W/ PUNCH & "29281" SET IN CONCRETE POST. DOWN 0.7' IN CASE. INTX NE 120TH ST & 82ND PL NE. S OF CENTERLINE NE 120TH ST.
101	261431.34	1296209.25	395.42	SFMC, TACK IN LEAD SET IN CONCRETE. DOWN 0.35' IN CASE. AT PC IN CENTERLINE OF 82ND PL NE. 60' N OF INTX W/ NE 120TH ST.
102	261192.55	1296200.74	398.31	SFMC, 2" BRASS DOME W/ PUNCH & "29291." DOWN 0.55' IN CASE. CENTERLINE OF 82ND PL NE, 175' S OF INTX W/ NE 120TH ST.
103	261191.50	1296229.72	398.91	SFMC, 2" BRASS DISC W/ PUNCH & "29291." DOWN 0.65' IN CASE. AT CENTER OF CULDESAC OF 82ND PL NE.
1302	261338.45	1296598.84	414.45	SFRC=FOUND REBAR W/ CAP, 1/2" REBAR W/ YELLOW PLASTIC "AXIS 38011" CAP. UP 0.2' ABOVE GRADE.
1303	261342.81	1296476.28	408.19	SFLT=FOUND LEAD W/ TACK, W/ SMALL ILLEGIBLE WASHER.
1304	261343.24	1296462.68	407.64	SFRC, 1/2" REBAR W/ YELLOW PLASTIC "AXIS 38011" CAP. SMALL MAG NAIL IN EDGE OF CAP.
1305	261382.00	1296467.58	407.25	SFLT, TACK W/ SMALL ILLEGIBLE WASHER.
1306	261384.34	1296397.68	404.53	SFLT, TACK W/ SMALL ILLEGIBLE WASHER.
1307	261379.70	1296537.59	410.63	SFLT, TACK W/ SMALL ILLEGIBLE WASHER.



RIGHT-OF-WAY DISCLAIMER
 THE RIGHT-OF-WAY AND/OR PROPERTY LINES SHOWN HEREON ARE BASED ON AVAILABLE INFORMATION, NOT ON A SURVEYED LOCATION AND ARE ONLY APPROXIMATE.



NO	BY	APPD	REVISION	DATE
BID SET				

WARNING

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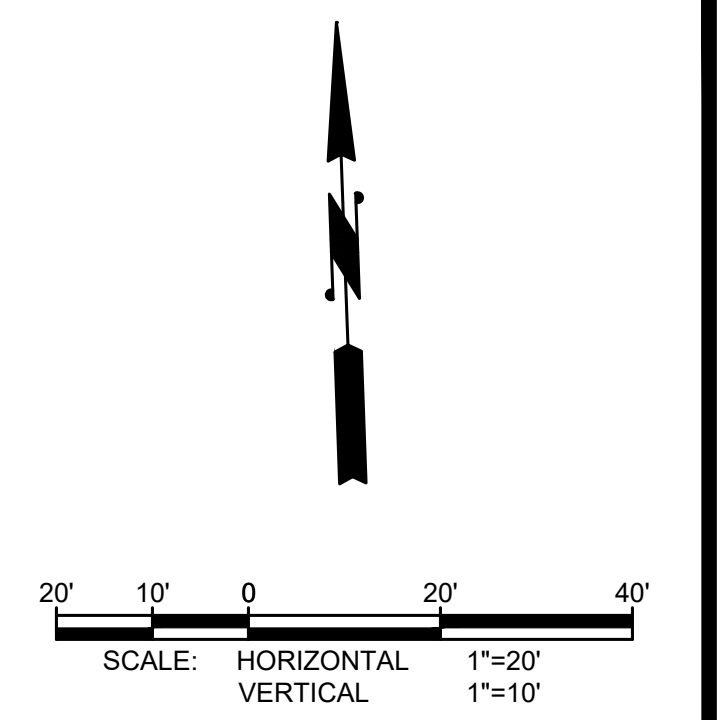
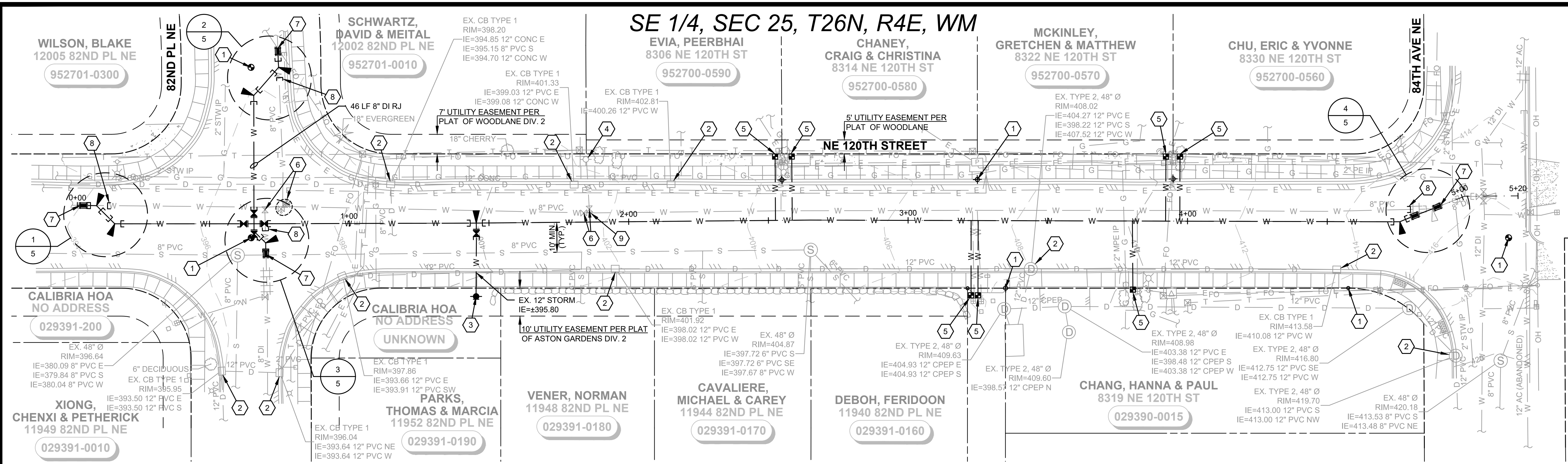
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APPROVAL	EBD
DATE	APR 2023

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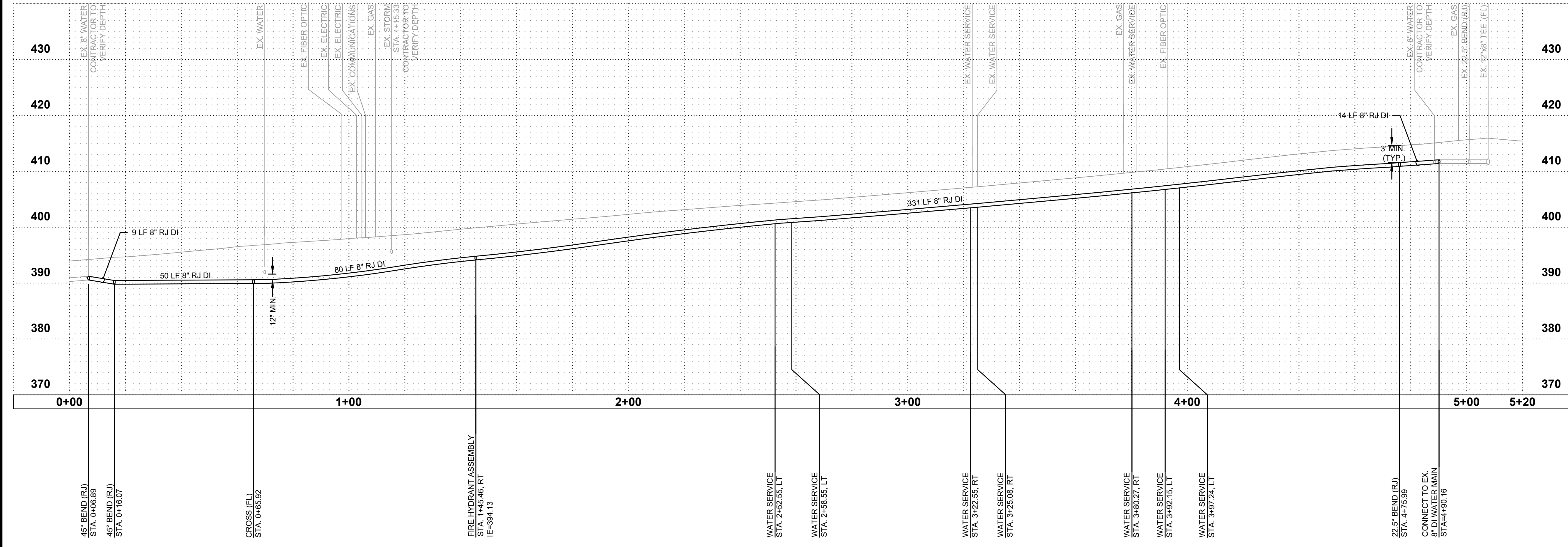
CONTRACT 2023-03
 120-84 WATER MAIN REPLACEMENT
SURVEY CONTROL DATA

DWG: SURVEY
C2213
SHEET
3 OF 15



CONSTRUCTION NOTES

- PROTECT EXISTING SURVEY MONUMENT/PROPERTY CORNER.
- INSTALL STORM DRAIN INLET PROTECTION PER CITY OF KIRKLAND PRE-APPROVED PLAN CK-E.11 AS SHOWN ON SHEET 10.
- INSTALL FIRE HYDRANT ASSEMBLY PER DETAIL 3, SHEET 8.
- SALVAGE EXISTING FIRE HYDRANT ASSEMBLY AND DELIVER TO DISTRICT YARD IN A CLEAN AND OPERABLE CONDITION.
- INSTALL 1" WATER SERVICE PER DETAIL 4, SHEET 8. RECONNECT TO EXISTING WATER SERVICE PER DETAIL 9, SHEET 9. REMOVE EXISTING WATER METER FROM EXISTING SERVICE AND INSTALL IN NEW METER SETTER. COORDINATE WITH THE DISTRICT PRIOR TO RECONNECTION OF EXISTING WATER SERVICE AND REMOVAL AND REINSTALLATION OF METER INTO THE NEW METER SETTER. ONCE NEW WATER MAIN IS IN SERVICE, REMOVE AND WASTEHAUL EXISTING METER BOX, SETTER, U-BRANCH, ANGLE STOPS AND MISCELLANEOUS PIPE AND FITTINGS, INCLUDING A RE-SETTER, IF A RE-SETTER EXISTS. CAP AND ABANDON EXISTING SERVICE LINE IN PLACE PER SPECIFICATIONS.
- CLOSE VALVE(S), REMOVE AND WASTEHAUL VALVE BOX(S), AND BACKFILL WITH CRUSHED ROCK.
- REMOVE AND WASTEHAUL EXISTING WATER MAIN, FITTINGS, BLOCKING, AND VALVES AS REQUIRED TO INSTALL NEW FACILITIES.
- ABANDON EXISTING WATER MAIN IN PLACE AND CAP OPEN END OF EXISTING PIPE WITH WATERTIGHT ROMAC INDUSTRIES MODEL EC501, OR APPROVED EQUAL.
- CONTRACTOR SHALL COORDINATE WITH DISTRICT TO CLOSE HYDRANT VALVE AND BAG HYDRANT PRIOR TO EXCAVATION BEHIND EXISTING HYDRANT TEE.



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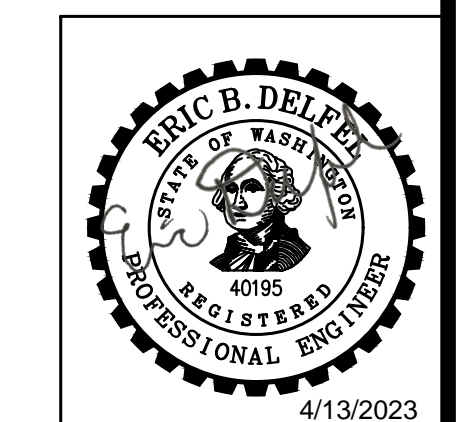
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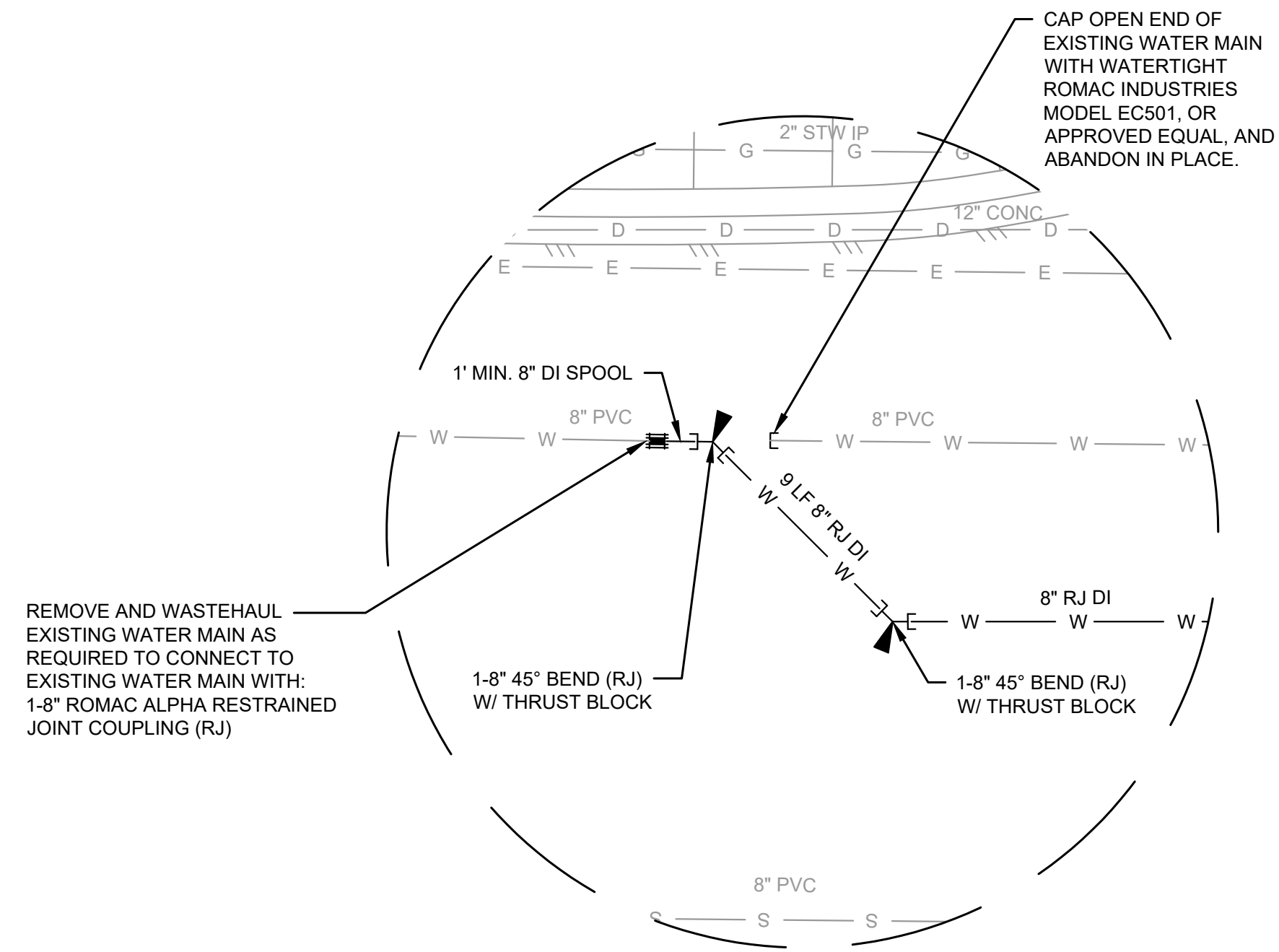
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120-84 WATER MAIN REPLACEMENT

WATER MAIN PLAN & PROFILE

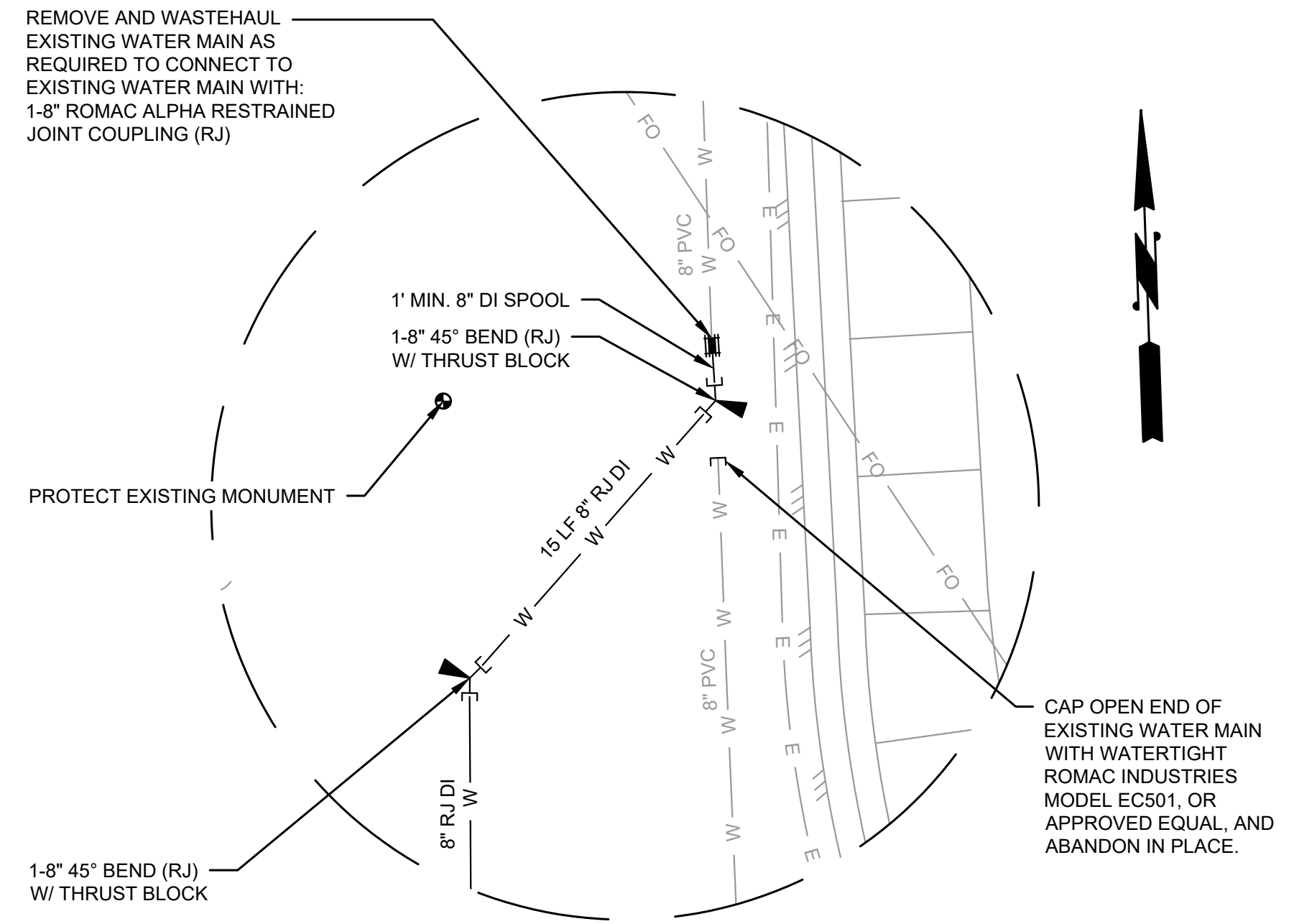


DWG: C_PLAN-WTR
C2213
SHEET
4 OF 15

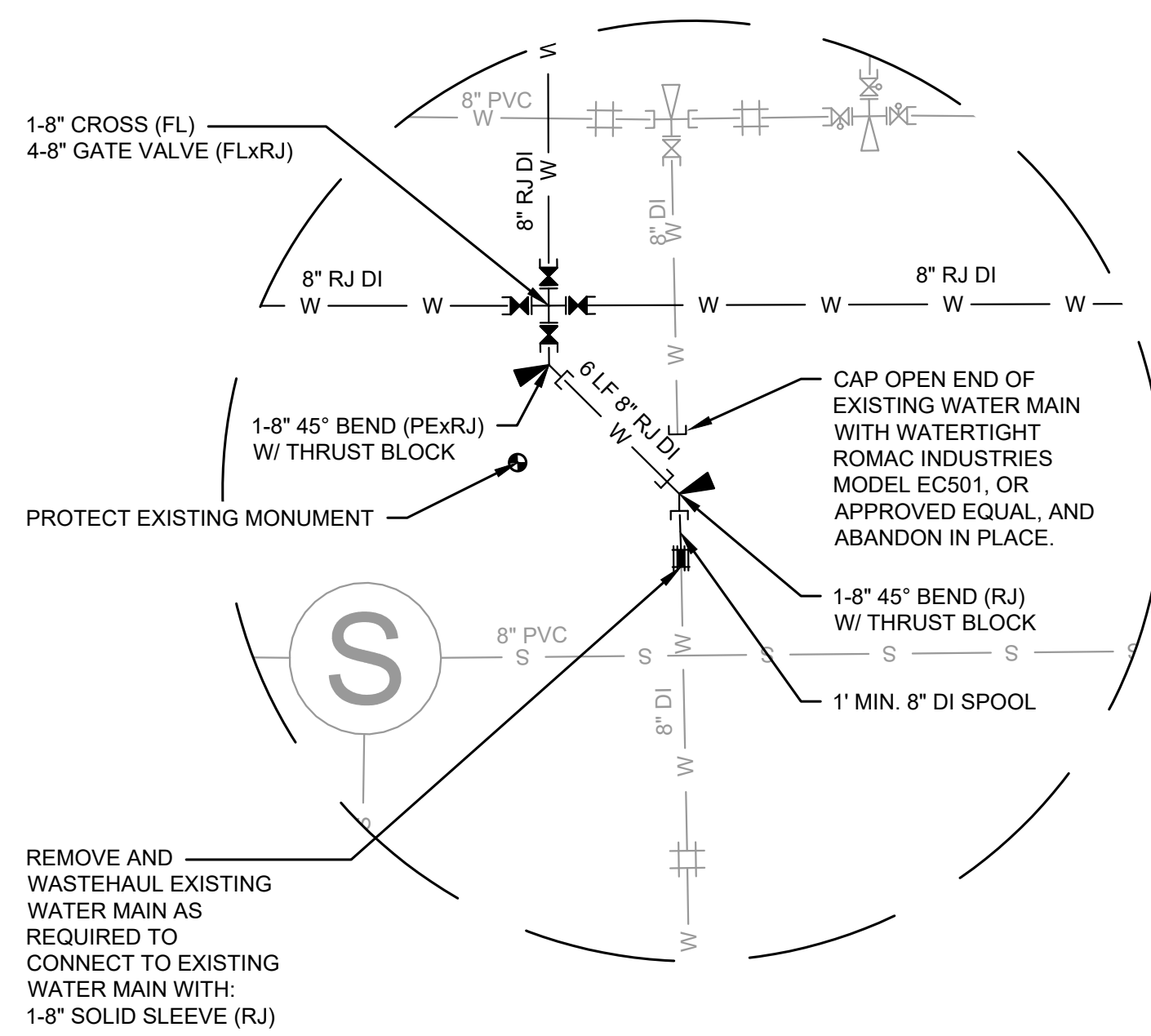
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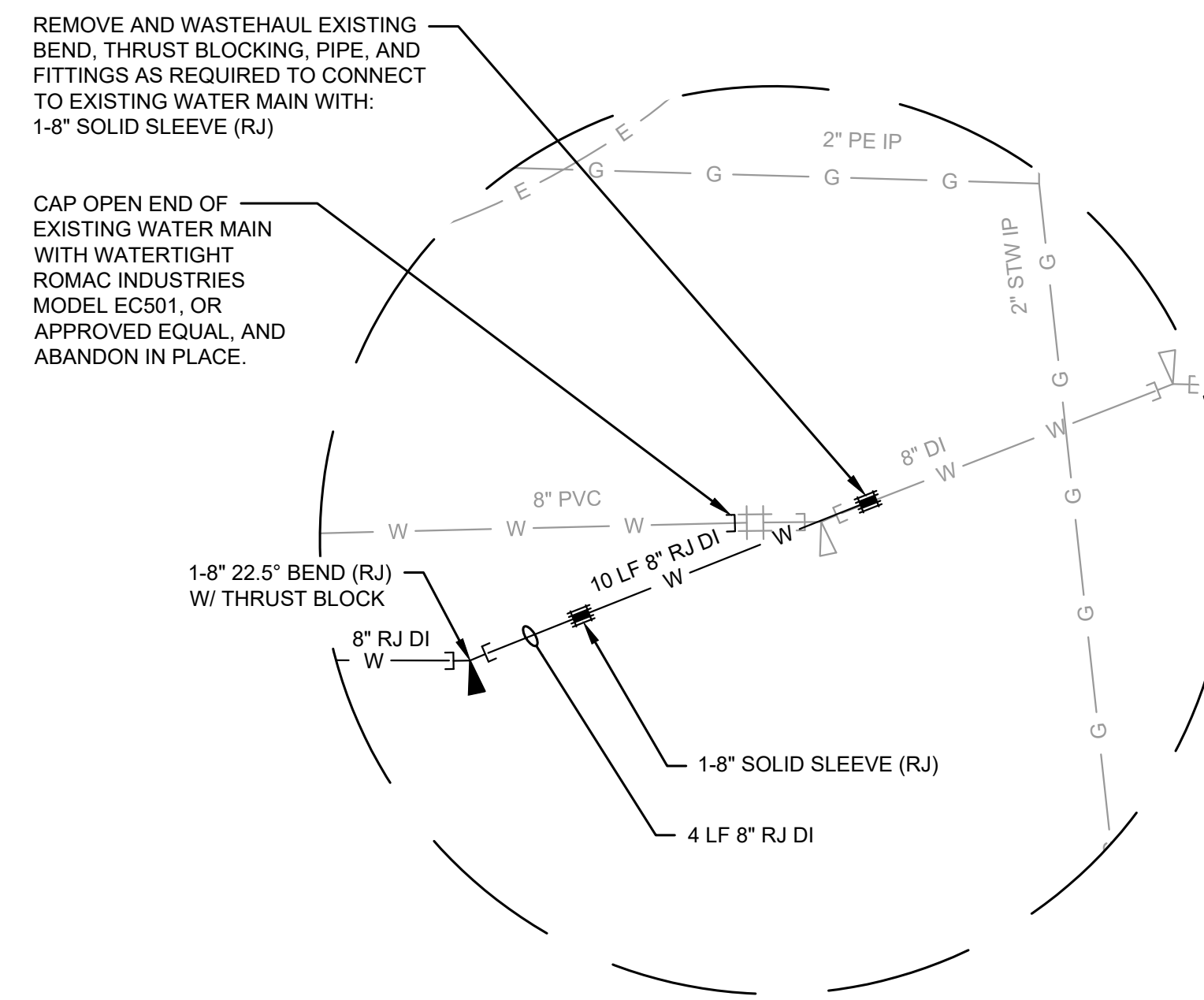
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NE 120TH STREET & 82ND PLACE NE
SCALE: 1"=5'



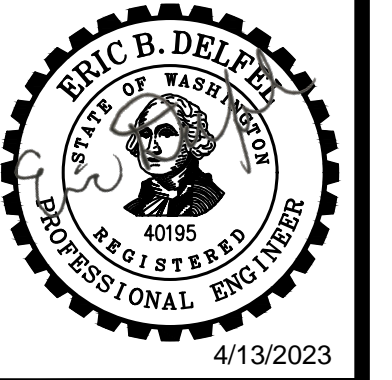
2
82ND PLACE NE & NE 120TH STREET
SCALE: 1"=5'



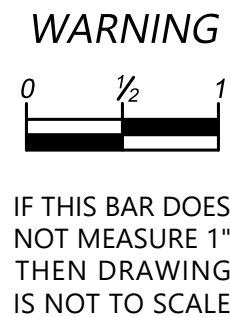
3
82ND PLACE NE & NE 120TH STREET
SCALE: 1"=5'



4
NE 120TH STREET & 84TH AVENUE NE
SCALE: 1"=5'



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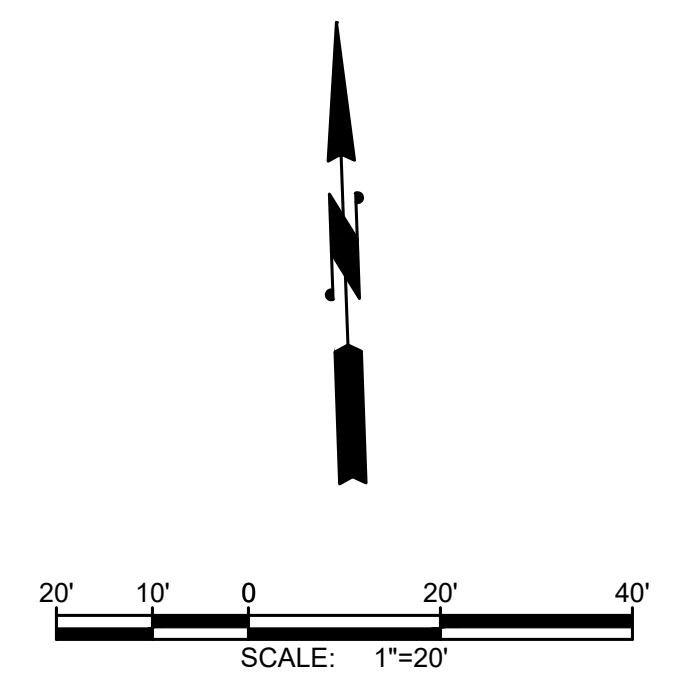
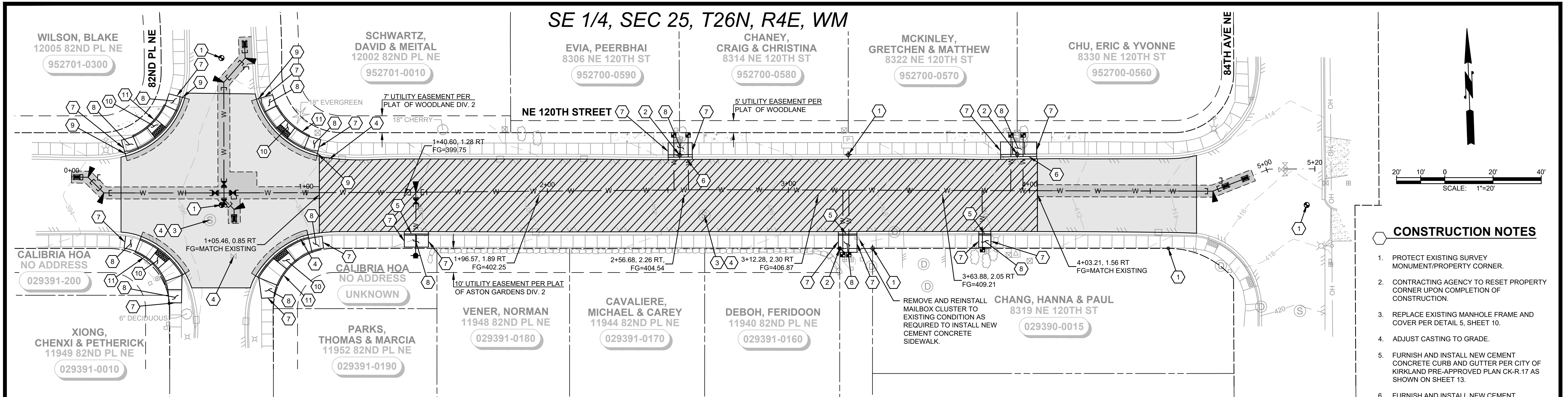
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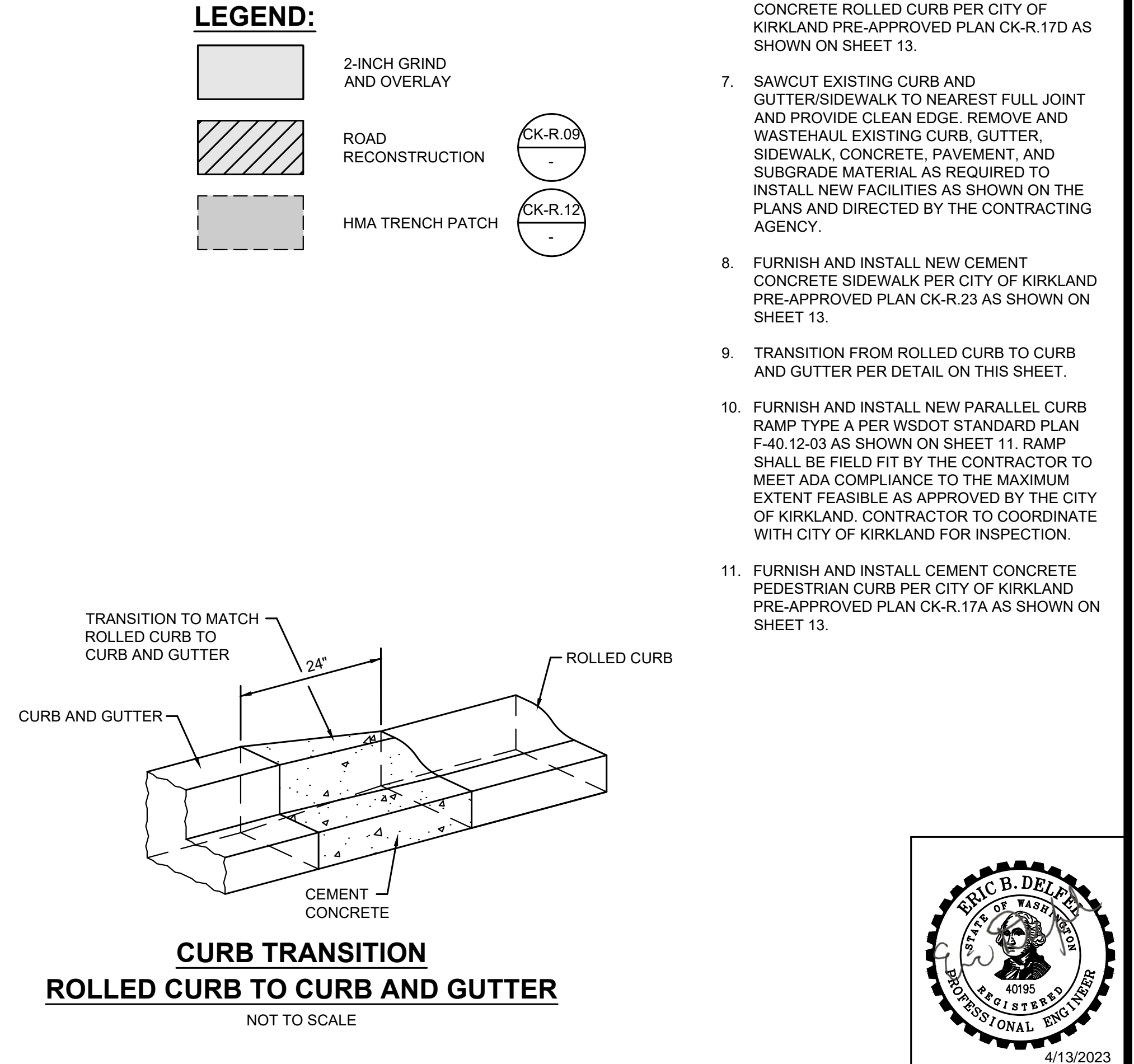
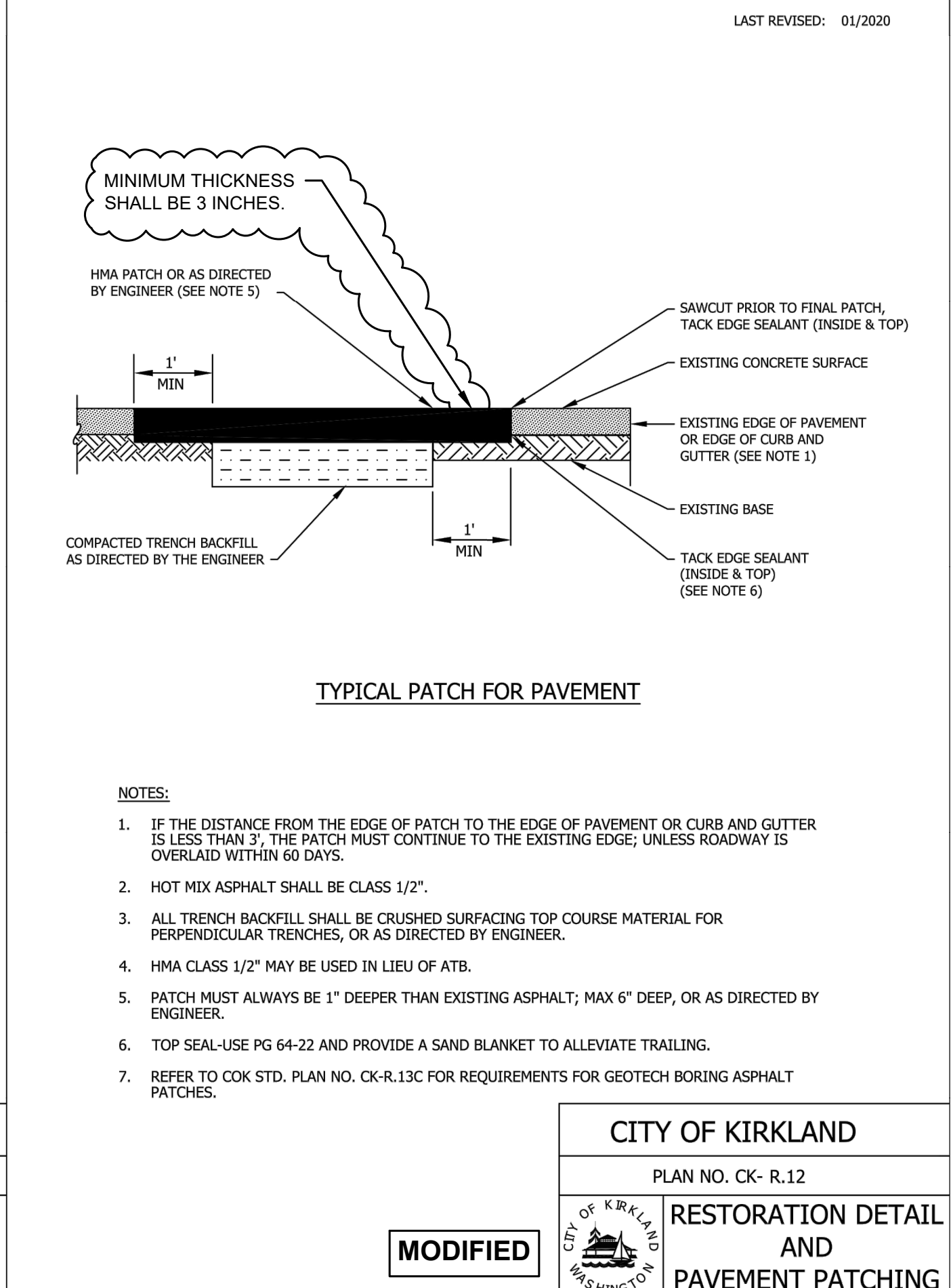
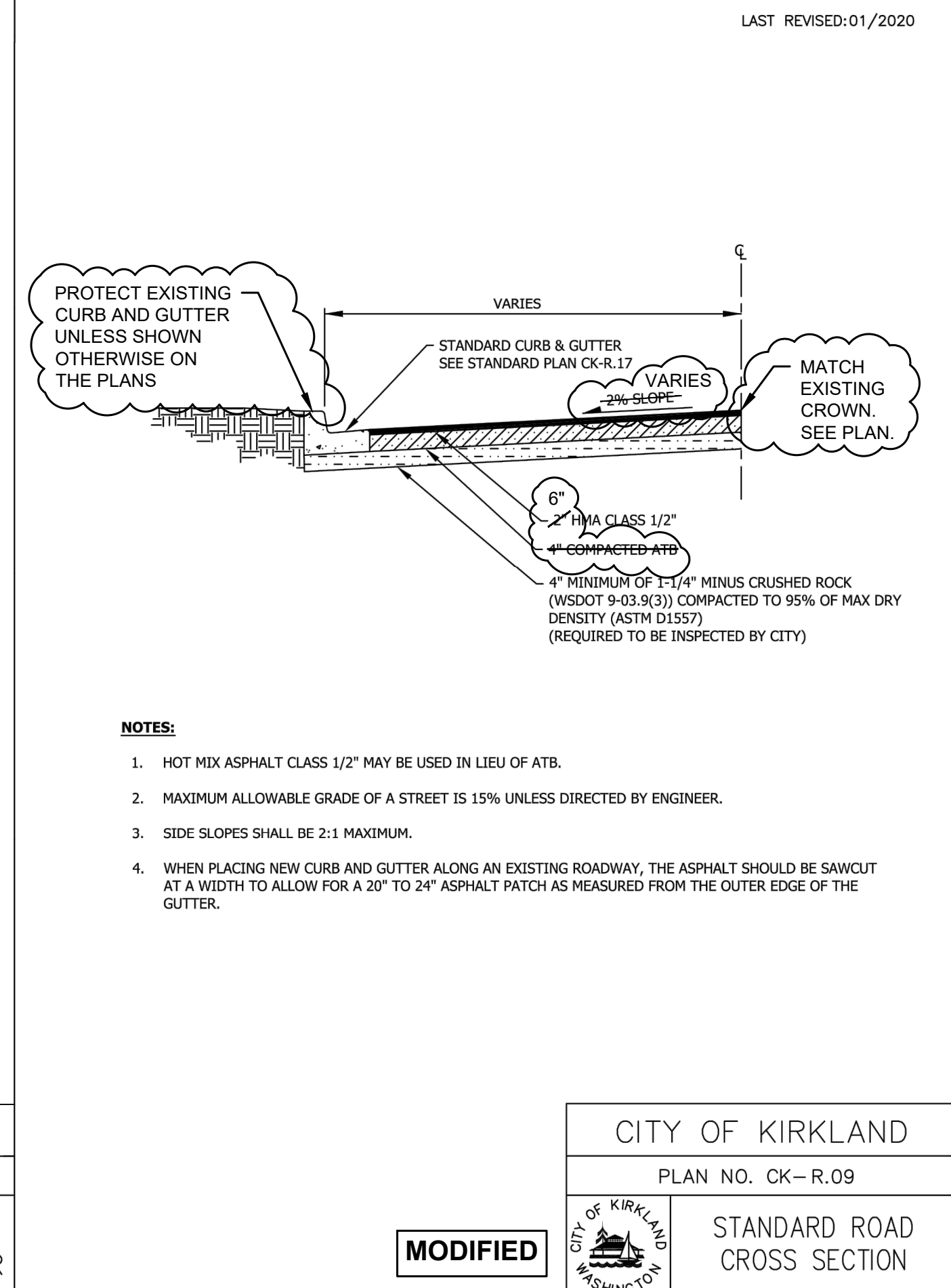
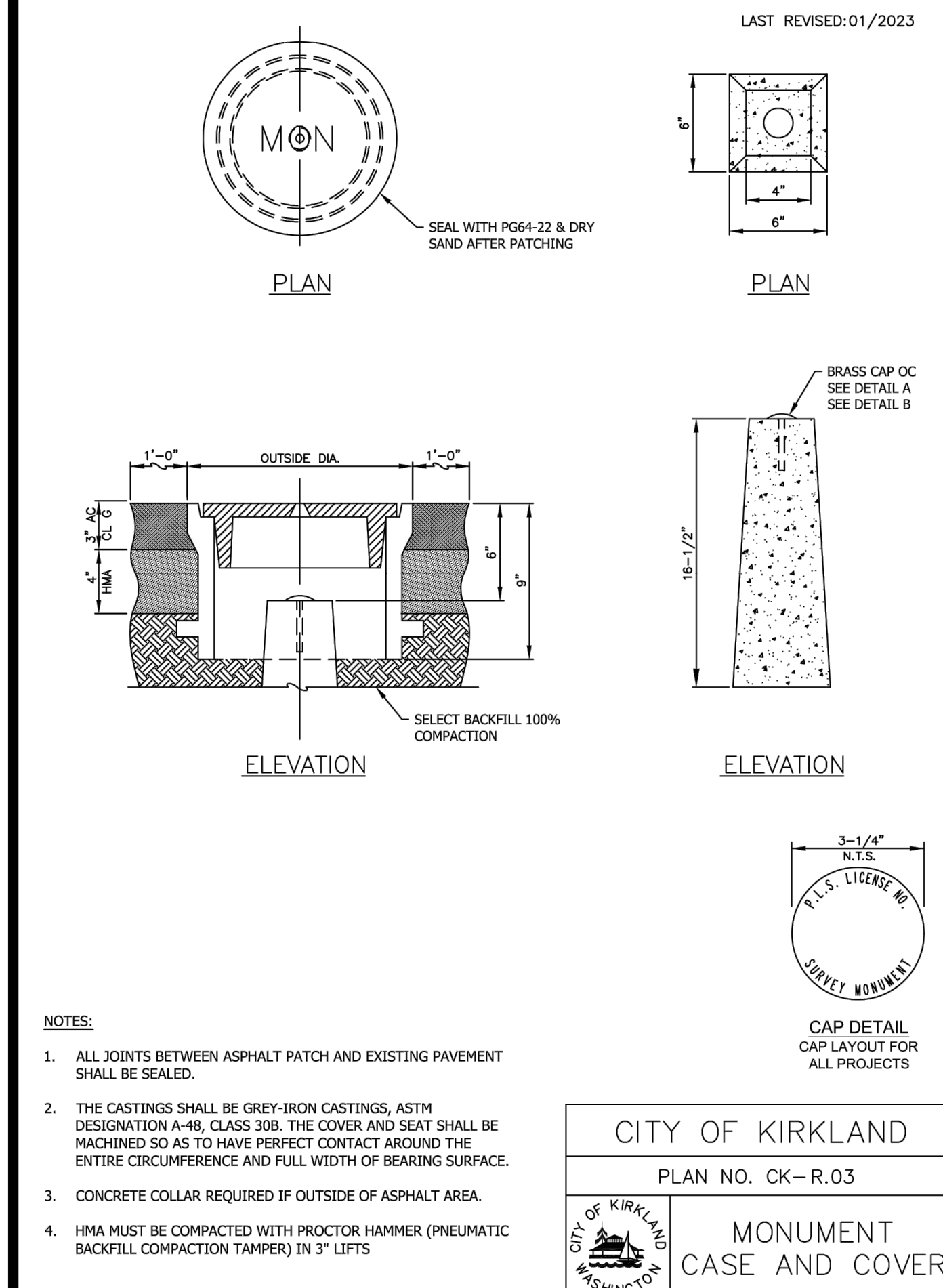
CONTRACT 2023-03
120-84 WATER MAIN REPLACEMENT
**WATER MAIN CONNECTION
DETAILS**

DWG: C_PLAN-WTR
C2213
SHEET
5 OF 15



CONSTRUCTION NOTES

- PROTECT EXISTING SURVEY MONUMENT/PROPERTY CORNER.
- CONTRACTING AGENCY TO RESET PROPERTY CORNER UPON COMPLETION OF CONSTRUCTION.
- REPLACE EXISTING MANHOLE FRAME AND COVER PER DETAIL 5, SHEET 10.
- ADJUST CASTING TO GRADE.
- FURNISH AND INSTALL NEW CEMENT CONCRETE CURB AND GUTTER PER CITY OF KIRKLAND PRE-APPROVED PLAN CK-R.17 AS SHOWN ON SHEET 13.
- FURNISH AND INSTALL NEW CEMENT CONCRETE ROLLED CURB PER CITY OF KIRKLAND PRE-APPROVED PLAN CK-R.17D AS SHOWN ON SHEET 13.
- SAWCUT EXISTING CURB AND GUTTER/SIDEWALK TO NEAREST FULL JOINT AND PROVIDE CLEAN EDGE. REMOVE AND WASTEHAUL EXISTING CURB, GUTTER, SIDEWALK, CONCRETE, PAVEMENT, AND SUBGRADE MATERIAL AS REQUIRED TO INSTALL NEW FACILITIES AS SHOWN ON THE PLANS AND DIRECTED BY THE CONTRACTING AGENCY.
- FURNISH AND INSTALL NEW CEMENT CONCRETE SIDEWALK PER CITY OF KIRKLAND PRE-APPROVED PLAN CK-R.23 AS SHOWN ON SHEET 13.
- TRANSITION FROM ROLLED CURB TO CURB AND GUTTER PER DETAIL ON THIS SHEET.
- FURNISH AND INSTALL NEW PARALLEL CURB RAMP TYPE A PER WSDOT STANDARD PLAN F-40.12-03 AS SHOWN ON SHEET 11. RAMP SHALL BE FIELD FIT BY THE CONTRACTOR TO MEET ADA COMPLIANCE TO THE MAXIMUM EXTENT FEASIBLE AS APPROVED BY THE CITY OF KIRKLAND. CONTRACTOR TO COORDINATE WITH CITY OF KIRKLAND FOR INSPECTION.
- FURNISH AND INSTALL CEMENT CONCRETE PEDESTRIAN CURB PER CITY OF KIRKLAND PRE-APPROVED PLAN CK-R.17A AS SHOWN ON SHEET 13.



LEGEND:

- 2-INCH GRIND AND OVERLAY
- ROAD RECONSTRUCTION
- HMA TRENCH PATCH
- CK-R.09
- CK-R.12

NO	BY	APPD	REVISION	DATE

BID SET

CITY OF KIRKLAND
PLAN NO. CK-R.03
MONUMENT CASE AND COVER

CITY OF KIRKLAND
PLAN NO. CK-R.09
STANDARD ROAD CROSS SECTION

CITY OF KIRKLAND
PLAN NO. CK-R.12
RESTORATION DETAIL AND PAVEMENT PATCHING

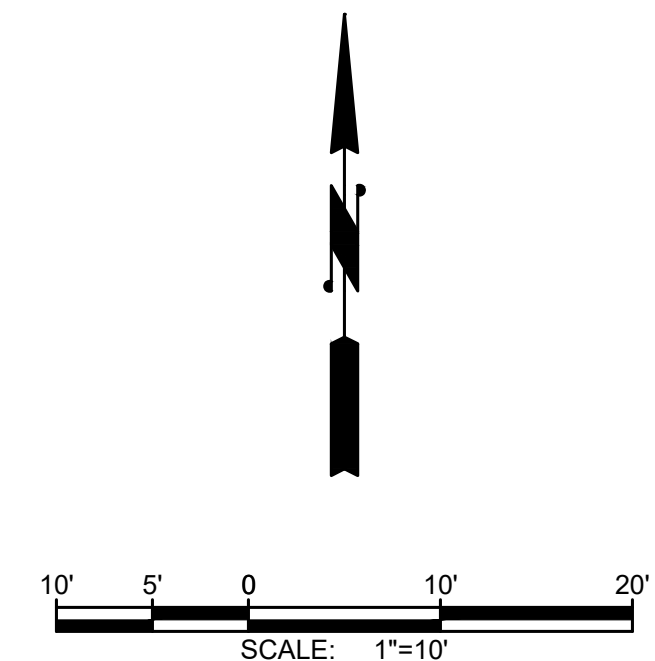
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6830 NE 185th St. P.O. Box 82489
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CONTRACT 2023-03
120-84 WATER MAIN REPLACEMENT

RESTORATION PLAN

DWG: C_PLAN-ROAD
C2213
SHEET
6 OF 15

SE 1/4, SEC 19, T26N, R5E, WM



CONSTRUCTION NOTES

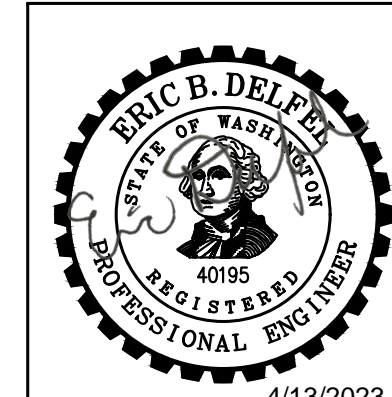
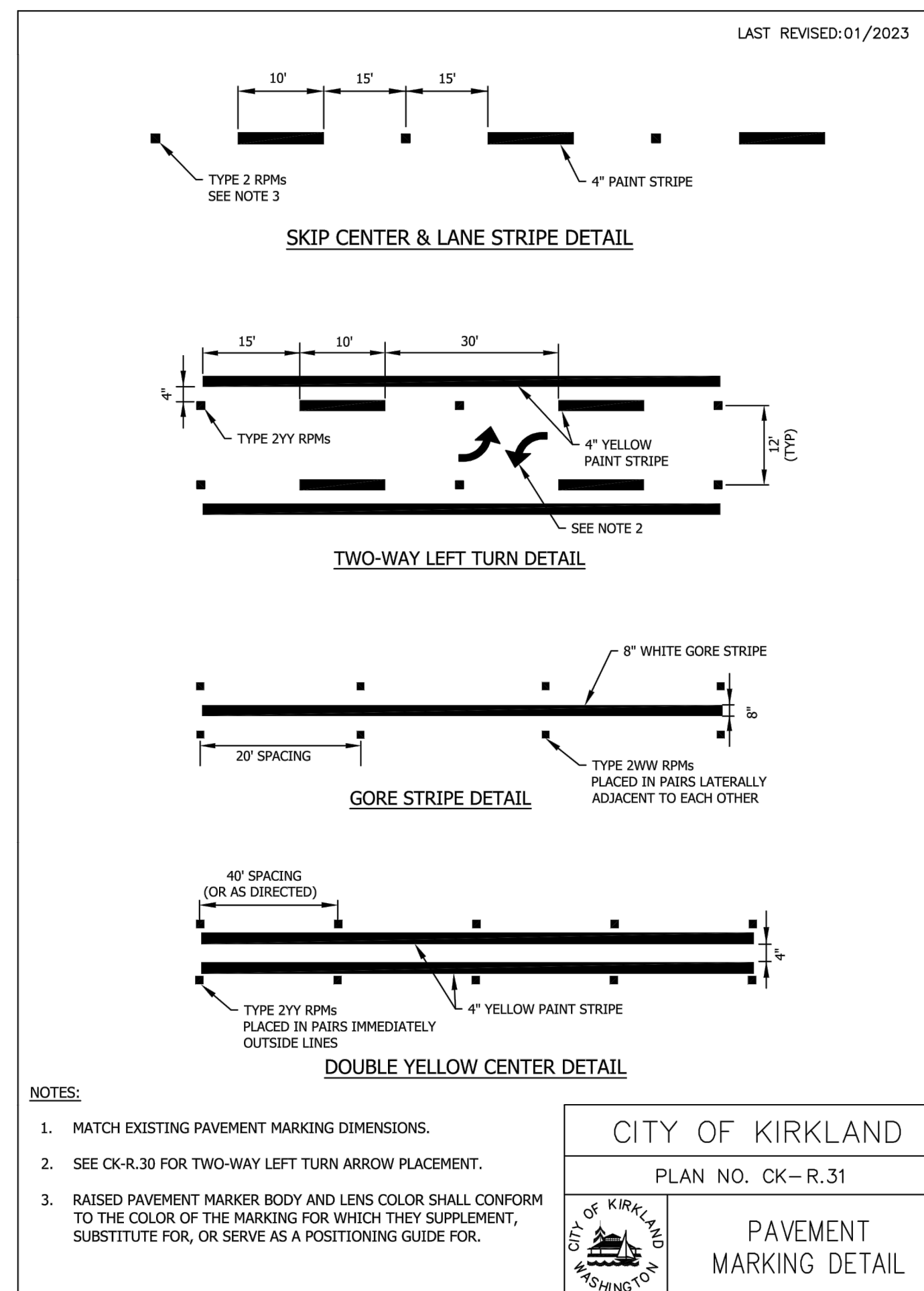
1. PROTECT EXISTING SURVEY MONUMENT/PROPERTY CORNER.
2. INSTALL STORM DRAIN INLET PROTECTION PER CITY OF KIRKLAND PRE-APPROVED PLAN CK-E.11 AS SHOWN ON SHEET 10.
3. PROTECT EXISTING CEMENT CONCRETE CURB AND GUTTER.
4. FURNISH AND INSTALL PAINTED DOUBLE YELLOW CENTER LINE PER CITY OF KIRKLAND PER-APPROVED PLAN CK-R.31 AS SHOWN ON THIS SHEET.
5. FURNISH AND INSTALL PAINTED WHITE FOG LINE. MATCH EXISTING PAVEMENT MARKING DIMENSIONS.

LEGEND:

2-INCH GRIND AND OVERLAY

AERIAL IMAGERY DISCLAIMER

LINE WORK IS BASED ON AVAILABLE AERIAL PHOTOGRAPHY AND GIS DATA, NOT A SURVEYED LOCATION, AND IS THEREFORE APPROXIMATE AND MAY NOT BE REPRESENTATIVE OF CURRENT FIELD CONDITIONS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS.



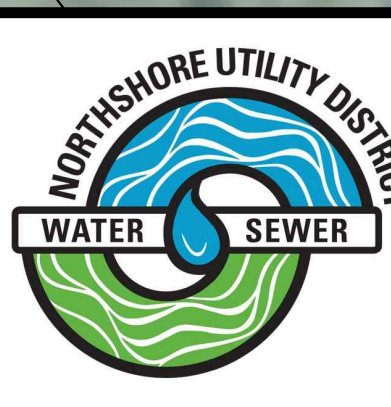
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WARNING

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(206) 284-0860

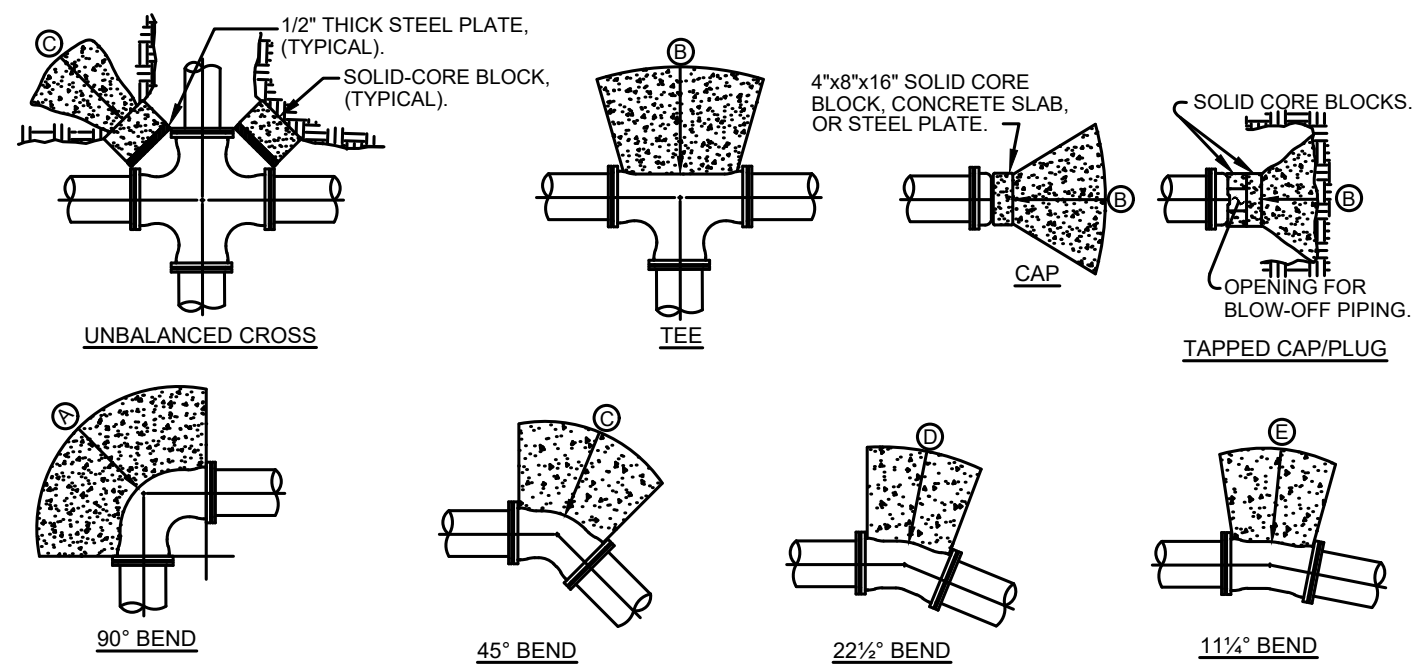
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CONTRACT 2023-03
120-84 WATER MAIN REPLACEMENT
137TH STREET PAVEMENT RESTORATION

DWG: C_PLAN-ROAD
C2213
SHEET
7 OF 15



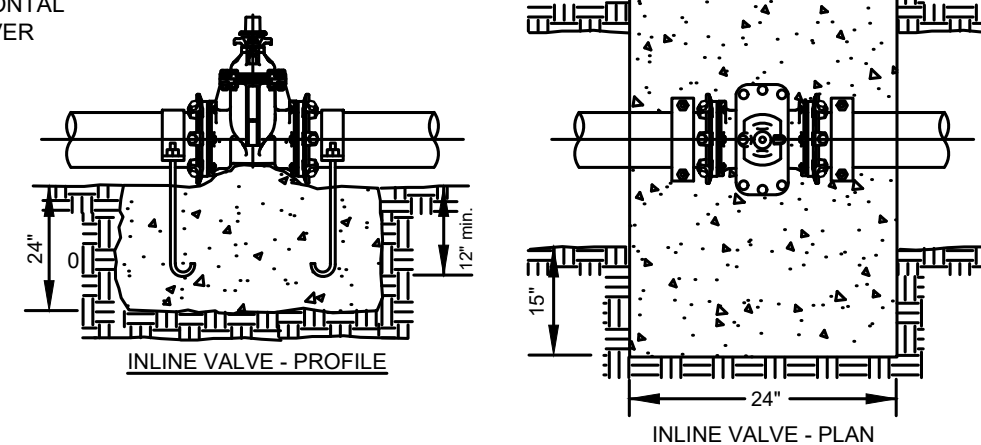
THRUST BLOCK SIZING FOR 250 PSI PRESSURE

MIN. BEARING AREA AGAINST UNDISTURBED SOIL IN SQUARE FEET.

PIPE SIZE	(A)	(B)	(C)	(D)	(E)
4"	3(2)	2(1)	2(1)	1(1)	1(1)
6"	6(4)	4(3)	3(2)	2(1)	1(1)
8"	10(7)	7(5)	5(4)	3(2)	2(1)
10"	15(10)	11(7)	8(5)	4(3)	2(2)
12"	22(14)	15(10)	12(8)	6(4)	3(2)
14"	29(20)	21(14)	16(11)	8(5)	4(3)
16"	38(26)	27(18)	21(14)	11(7)	5(4)
18"	48(32)	34(23)	26(18)	13(9)	7(5)
20"	60(40)	42(28)	32(22)	17(11)	8(6)
24"	86(58)	61(41)	47(31)	24(16)	12(8)

SAFE BEARING LOADS IN LBS./SQ. FT.
THE SAFE BEARING LOADS GIVEN IN THE FOLLOWING TABLE ARE FOR HORIZONTAL THRUSTS WHEN THE DEPTH OF COVER OVER THE PIPE EXCEEDS 2 FEET.

SOIL	SAFE SOIL BEARING LOAD
*MUCK, PEAT, ETC.	SEE GENERAL NOTE #7
SOFT CLAY	1,000
SAND	2,000
SAND AND GRAVEL	3,000
SAND AND GRAVEL CEMENTED W/CLAY	4,000
HARD SHALE	10,000



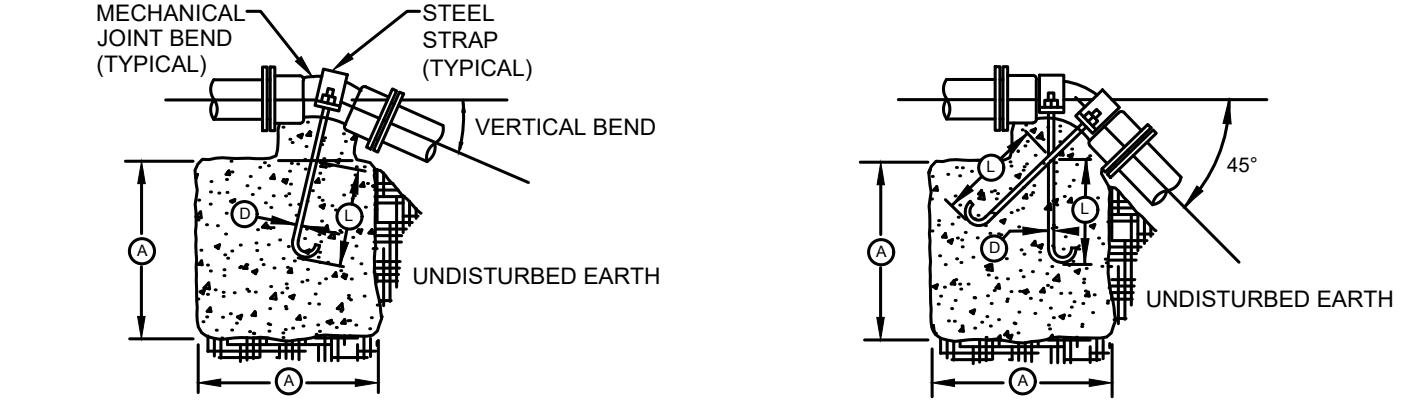
- NOTES:**
- CONCRETE BLOCKING AREA IS BASED ON 250 PSI WATER PRESSURE AND 2500 PSI CONCRETE STRENGTH.
 - HARDWARE NOT EMBEDDED IN CONCRETE SHALL BE CLEANED AND COATED WITH COAL TAR EPOXY.
 - IN-LINE VALVE SHALL BE M.J.xM.J. AND BE RESTRAINED WITH MEGA-LUGS, OR EQUAL.
 - RESTRAINING HARDWARE SHALL BE PER NUD STANDARD WATER DETAIL #2 FOR VERTICAL BLOCKING.

CONCRETE BLOCKING - HORIZONTAL

DETAIL APPROVALS
EDITOR TDC
MANAGER DPK

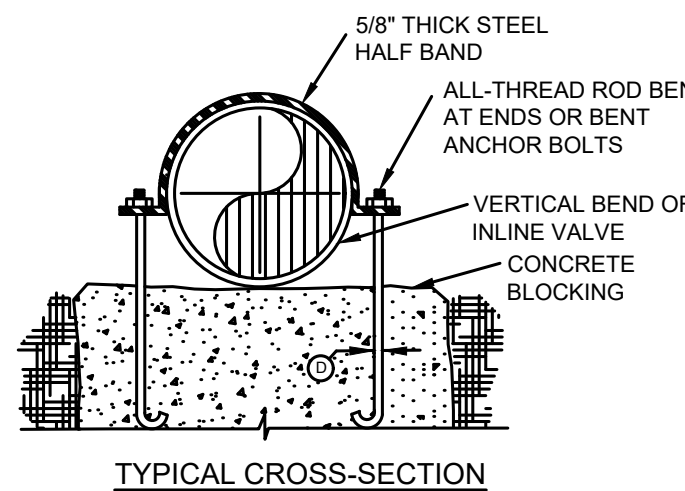
NORTHSHORE UTILITY DISTRICT
2023 STANDARD WATER DETAILS

1 LAST UPDATED FEBRUARY 2019



BLOCKING FOR 11-1/4", 22-1/2" & 30" VERTICAL BENDS

VERTICAL BLOCKING					
PIPE SIZE	VERT. BEND	CU. FT.	(A)	(D)	(L)
4"	11-1/4"	8	2.0'	3/4"	1.5'
	22-1/2"	11	2.2'	3/4"	2.0'
	30"	17	2.6'	3/4"	2.0'
6"	11-1/4"	11	2.2'	3/4"	2.0'
	22-1/2"	25	2.9'	3/4"	2.0'
	30"	41	3.5'	3/4"	2.0'
8"	11-1/4"	16	2.5'	3/4"	2.0'
	22-1/2"	47	3.6'	3/4"	2.5'
	30"	70	4.1'	3/4"	2.5'
12"	11-1/4"	32	3.2'	3/4"	2.0'
	22-1/2"	88	4.5'	7/8"	3.0'
	30"	132	5.1'	7/8"	2.5'
16"	11-1/4"	70	4.1'	7/8"	3.0'
	22-1/2"	184	5.7'	1-1/8"	4.0'
	30"	275	6.5'	1-1/4"	4.0'
20"	11-1/4"	91	4.5'	7/8"	3.0'
	22-1/2"	225	6.1'	1-1/4"	4.0'
	30"	330	6.9'	1-3/8"	4.5'
24"	11-1/4"	128	5.0'	1"	3.5'
	22-1/2"	320	6.8'	1-3/8"	4.5'
	30"	480	7.9'	1-5/8"	5.5'



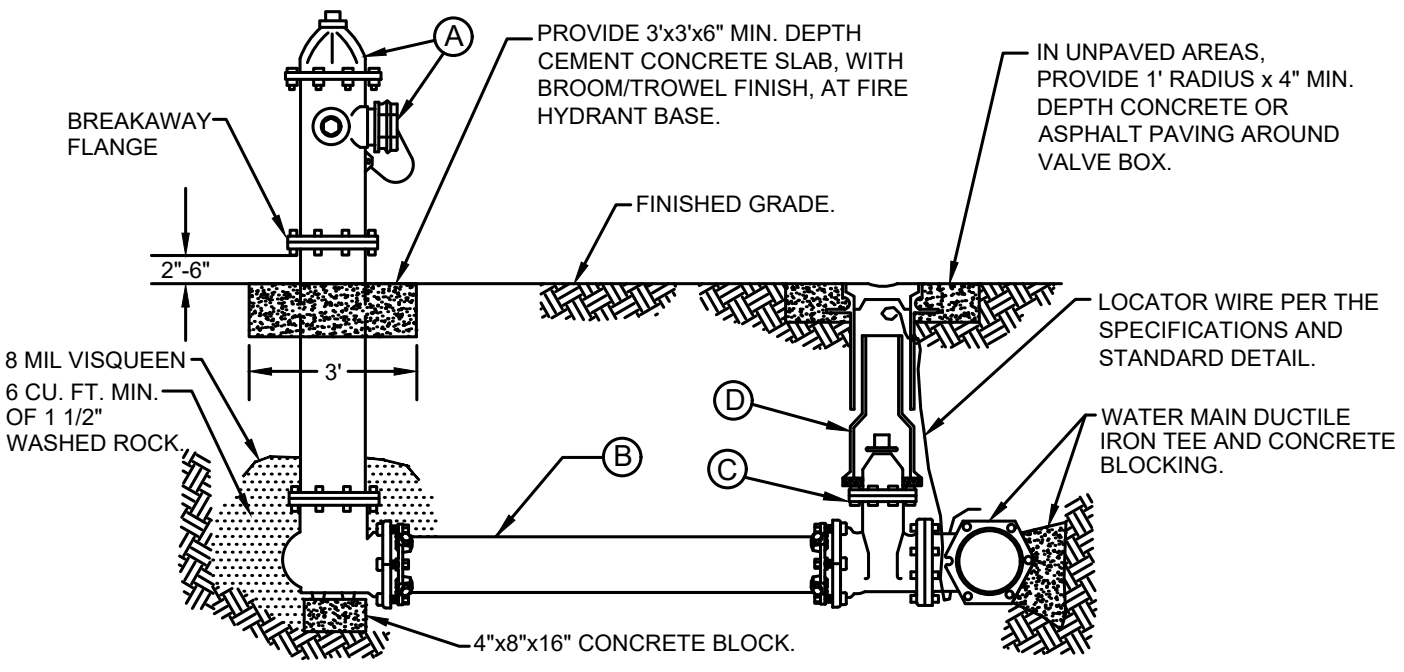
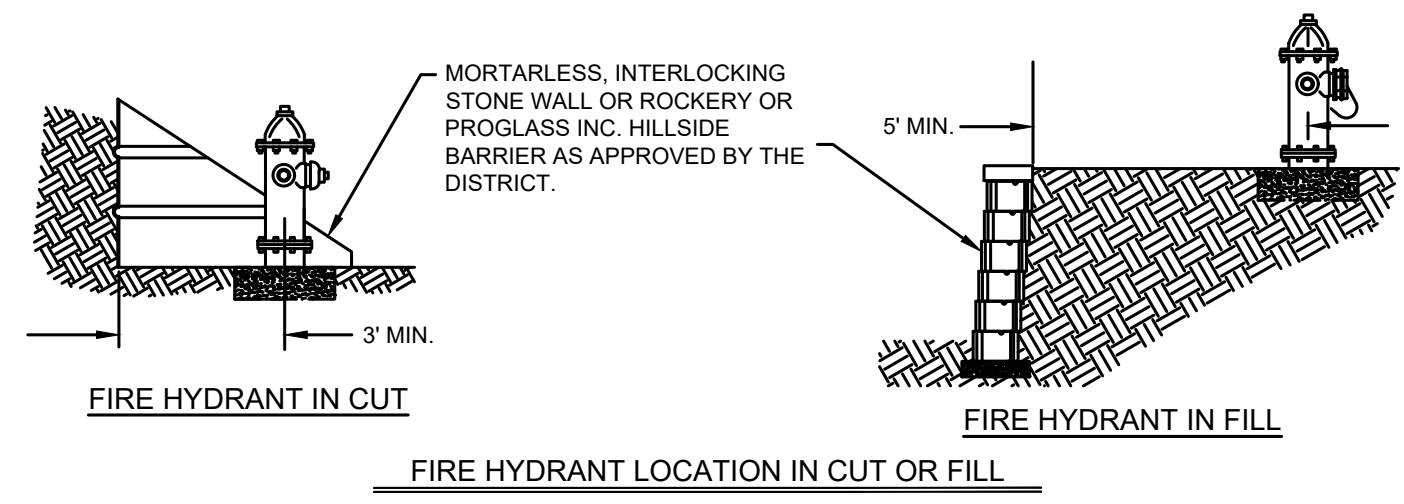
- NOTES:**
- CONCRETE BLOCKING AREA IS BASED ON 250 PSI WATER PRESSURE AND 2,500 PSI CONCRETE STRENGTH.
 - BOLTS AND NUTS NOT EMBEDDED IN CONCRETE SHALL BE CLEANED AND COATED WITH COAL TAR EPOXY.
 - POLYETHYLENE WRAP NOT SHOWN FOR CLARITY.
 - HARDWARE SHALL BE TWO CARBON STEEL HALF BANDS (5/8" THICK) EQUAL TO 595 SOCKET CLAMP FROM ANVIL INTERNATIONAL. RODS SHALL BE ALL-THREAD, BENT AT THE ENDS OR BENT ANCHOR BOLTS, WITH 12" MIN. EMBEDMENT FOR INLINE VALVES, OR AS SHOWN ON VERTICAL BLOCKING TABLE.

CONCRETE BLOCKING - VERTICAL

DETAIL APPROVALS
EDITOR TMC
MANAGER S/D

NORTHSHORE UTILITY DISTRICT
2023 STANDARD WATER DETAILS

2 LAST UPDATED FEBRUARY 2020



- MATERIALS LIST**
- | ITEM | DESCRIPTION |
|------|--|
| (A) | HYDRANT: SHALL BE MUELLER SUPER CENTURION, AMERICAN DARLING B-62-B, CLOW MEDALLION, M&H 129 OR 129S, OR EAST JORDAN IRON WORKS WATERMASTER 5CD250 IN CONFORMANCE WITH AWWA STANDARD SPECIFICATION C-502. PROVIDE STORZ ADAPTERS (INTEGRAL OR NON-INTEGRAL) AS FOLLOWS: 4" FOR ALL LOCATIONS, EXCEPT FOR WITHIN KIRKLAND WHERE 5" IS REQUIRED. HYDRANT SHALL BE FACTORY PRIME COATED. TOP COAT SHALL BE TWO BRUSH COATS OF SHERWIN WILLIAMS WHITE INDUSTRIAL ENAMEL #854W101. |
| (B) | 6" CL. 52 D.I. PIPE, 3' MIN. AND 50' MAX. WITH RESTRAINED JOINTS. |
| (C) | 6" R.W. GATE VALVE, F.L.xR.J.: SHALL BE PER THE SPECIFICATIONS. FOR VALVE OPERATING NUT DEPTHS, SEE STANDARD WATER DETAIL #11 |
| (D) | TWO-PIECE VALVE BOX AND ETHAFOAM RING PER THE SPECIFICATIONS AND STANDARD WATER DETAIL #11. |

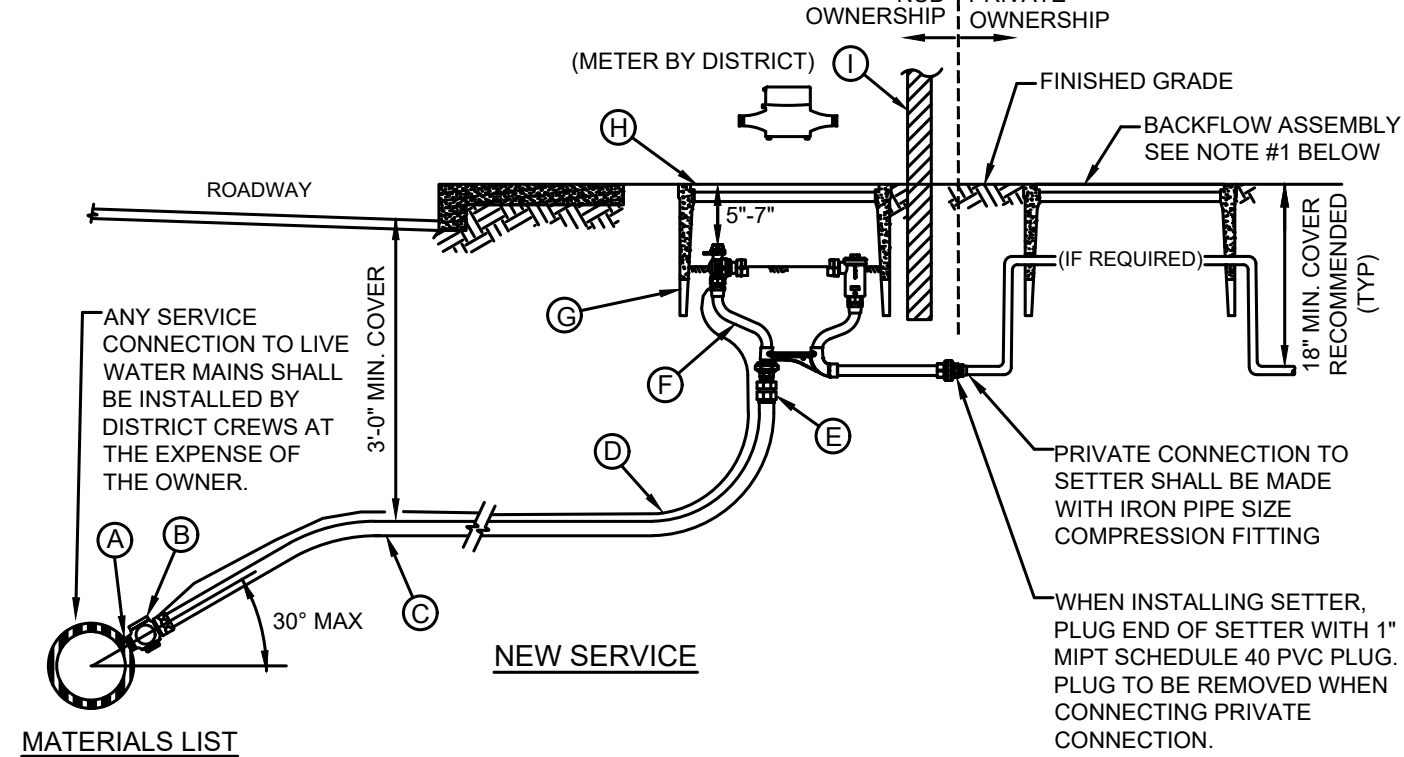
- NOTES:**
- HYDRANT SHALL BE ORIENTED PER FIRE MARSHALL AND HAVE 3' MIN. CLEARANCE AROUND CENTERLINE.
 - BOLLARDS REQUIRED ONLY ON PRIVATE PROPERTY.
 - IF HYDRANT RUN IS LONGER THAN 50', PIPE SIZE WILL BE DETERMINED BY DISTRICT
 - HYDRANT EXTENSIONS ARE NOT ALLOWED.

FIRE HYDRANT ASSEMBLY

DETAIL APPROVALS
EDITOR TMC
MANAGER S/D

NORTHSHORE UTILITY DISTRICT
2023 STANDARD WATER DETAILS

3 LAST UPDATED JANUARY 2023



- MATERIALS LIST**
- | ITEM | DESCRIPTION |
|------|--|
| (A) | DIRECT TAP: DIRECT TAP OF DUCTILE IRON OR CAST IRON LARGER THAN 4" DIAMETER IS REQUIRED FOR 1" SERVICES. SADDLES WILL NOT BE ALLOWED ON DUCTILE IRON OR CAST IRON PIPE LARGER THAN 4" DIAMETER. |
| (B) | 1" CORPORATION STOP, COXPACK JOINT, FORD F1001 OR APPROVED EQUAL, WITH STAINLESS STEEL STIFFENER, FORD INSERT-53-72 OR MUELLER 505142. CORPORATION STOP SHALL BE ORIENTED SO THAT THE SHUT OFF IS IN THE 12 O'CLOCK POSITION. |
| (C) | 1 1/4" REHAU MUNICIPEX PEXa 3306, COPPER TUBE SIZE (CTS), SDR 9, AWWA C904, PER THE SPECIFICATIONS. PIPE SHALL BE CONTINUOUS FROM CORPORATION STOP TO METER SETTER. ALL PEXa PIPE INSTALLED BY OPEN-CUT CONSTRUCTION SHALL BE BEDDED IN SAND 4" OVER AND UNDER. NATIVE MATERIAL WILL NOT BE ALLOWED FOR BEDDING. |
| (D) | TRACER WIRE: BLUE 14 GAUGE COPPER, CONTINUOUS, SOLID CORE, POLYETHYLENE INSULATED PER THE SPECIFICATIONS. CONNECTION AT THE METER SETTER SHALL BE MADE WITH AN ALL STAINLESS STEEL HOSE CLAMP CONNECTION AT THE MAIN LINE WIRE SHALL BE MADE WITH A SPLIT-BOLT CONNECTOR. STRIP COATING PRIOR TO CONNECTION. TRACER WIRE MAY BE REQUIRED FROM SETTER TO HOUSE, CHECK WITH LOCAL JURISDICTION FOR REQUIREMENTS. |
| (E) | 1" ADAPTER, MIPxPACK JOINT, FORD #C86-44-NL WITH STIFFENER, FORD INSERT-55 OR MUELLER 528707. |
| (F) | 1" METER SETTER WITH DUAL CHECK VALVE: FORD VBHC74-84W-11-44A-FP-NL, OR MUELLER 390B2588-6A03N |
| (G) | METER BOX: ARMORCAST, A6001946PCX12-NUD (NO "MOUSE HOLES") OR DFW, DFW1324CNP4-12-BODY |
| (H) | COVER: ARMORCAST, A6001969-H10-NUD OR DFW, DFW1324C-4MT-SMALL-NS-NHK-LID |
| (I) | 2"x4"x4", MARKER POST, PAINTED WHITE WITH "WATER" STENCILED ONTO IT IN BLACK. |

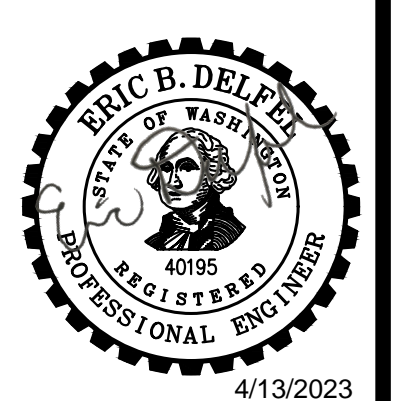
- NOTE:**
- IF REQUIRED FOR PREMISE ISOLATION, AN APPROVED BACKFLOW ASSEMBLY SHALL BE INSTALLED IMMEDIATELY BEHIND THE WATER METER PER DISTRICT STANDARD WATER DETAILS #13, #14a, AND #14b.
 - ALL PEXa PIPE TO PACK JOINT CONNECTIONS REQUIRE A STIFFENER INSERT.
 - MULTIPLE, ADJACENT DIRECT TAPS ON NEW DI MAINS SHALL BE INSTALLED WITH A MINIMUM 18" HORIZONTAL SEPARATION BETWEEN SERVICES AND FROM PIPE BELLS.

1" WATER SERVICE

DETAIL APPROVALS
EDITOR TMC
MANAGER S/D

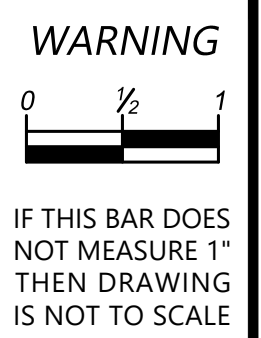
NORTHSHORE UTILITY DISTRICT
2023 STANDARD WATER DETAILS

4 LAST UPDATED JANUARY 2023



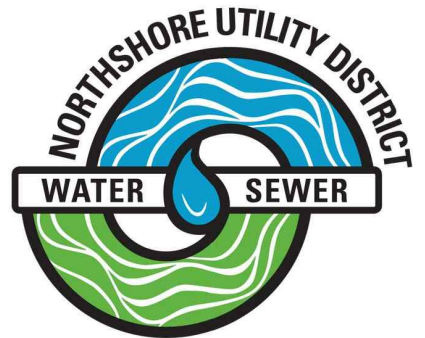
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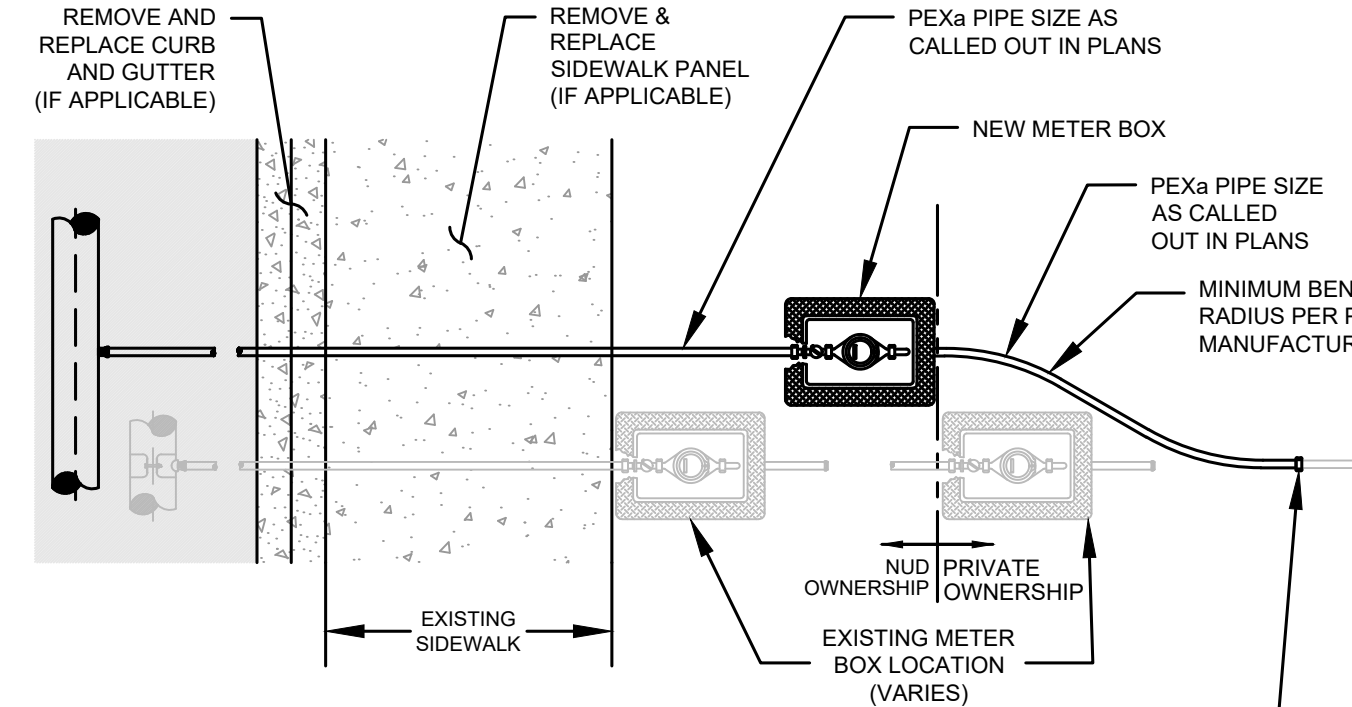
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CONTRACT 2023-03
120-84 WATER MAIN REPLACEMENT
WATER DETAILS

DWG: DETAILS
C2213
SHEET
8 OF 15



LOCATE AND CONNECT TO EXISTING WATER SERVICE LINE. PROVIDE ALL BRASS INSTA-TITE OR COMPRESSION PACK JOINT STYLE FITTINGS. CONFIRM FITTINGS REQUIRED PRIOR TO DISRUPTING EXISTING WATER SERVICE AND COMMENCING RECONNECTION CONSTRUCTION. SEE NOTE 4.

NOTES:

1. WATER SERVICE PER NUD STANDARD WATER DETAILS, #4 OR #5.
2. NEW METER TO BE RELOCATED TO LOCATION SHOWN ON PLANS.
3. MEASURE AND RECORD EXISTING WATER PRESSURE AT BUILDING PRIOR TO RECONNECTION AND AFTER REESTABLISHMENT OF SERVICE. IF PRESSURE READINGS DIFFER BY MORE THAN 5 PSI, THE CONTRACTOR SHALL LOCATE AND CORRECT THE ISSUE AT THE PRIVATE PRV. IF A PRIVATE PRV IS REMOVED DURING NEW SERVICE INSTALLATION, ADD A NEW PRV DIRECTLY BEHIND METER BOX.
4. ALL PIPE FITTINGS SHALL BE BRASS. PRIOR TO MAKING THE CONNECTION, THE CONTRACTOR SHALL POTHOLE THE EXISTING SERVICE LINE TO DETERMINE THE LOCATION, SIZE, AND TYPE OF EXISTING PIPE AND TO CONFIRM THE PIPE AND FITTINGS REQUIRED TO MAKE THE CONNECTION. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED PIPE AND FITTINGS ON-SITE PRIOR TO DISRUPTING WATER SERVICE AND COMMENCING CONSTRUCTION. NO EXISTING WATER SERVICE SHALL BE DISRUPTED FOR MORE THAN TWO HOURS IN ONE DAY.
5. ALL PEXa PIPE TO PACK JOINT CONNECTIONS REQUIRE A STIFFENER INSERT.
6. FLUSH ALL NEW WATER SERVICE PIPING IN THE PRESENCE OF THE DISTRICT.
7. COORDINATE WITH THE DISTRICT TO SALVAGE THE EXISTING METER AND FOR INSTALLATION OF THE METER INTO THE NEW SERVICE SETTER. LOCATE AND RECONNECT THE EXISTING SERVICE LINE ON THE BACK OF THE METER. ALL PIGTAIL AND PRIVATE WATER SERVICE CONNECTIONS SHALL BE TESTED AT LINE PRESSURE AND SHALL BE VISUALLY INSPECTED BY THE DISTRICT.
8. REMOVE AND REPLACE EXISTING METER BOX AND SETTER.
9. RESTORE THE SITE TO A CONDITION EQUAL TO OR BETTER THAN EXISTED PRIOR TO CONSTRUCTION.

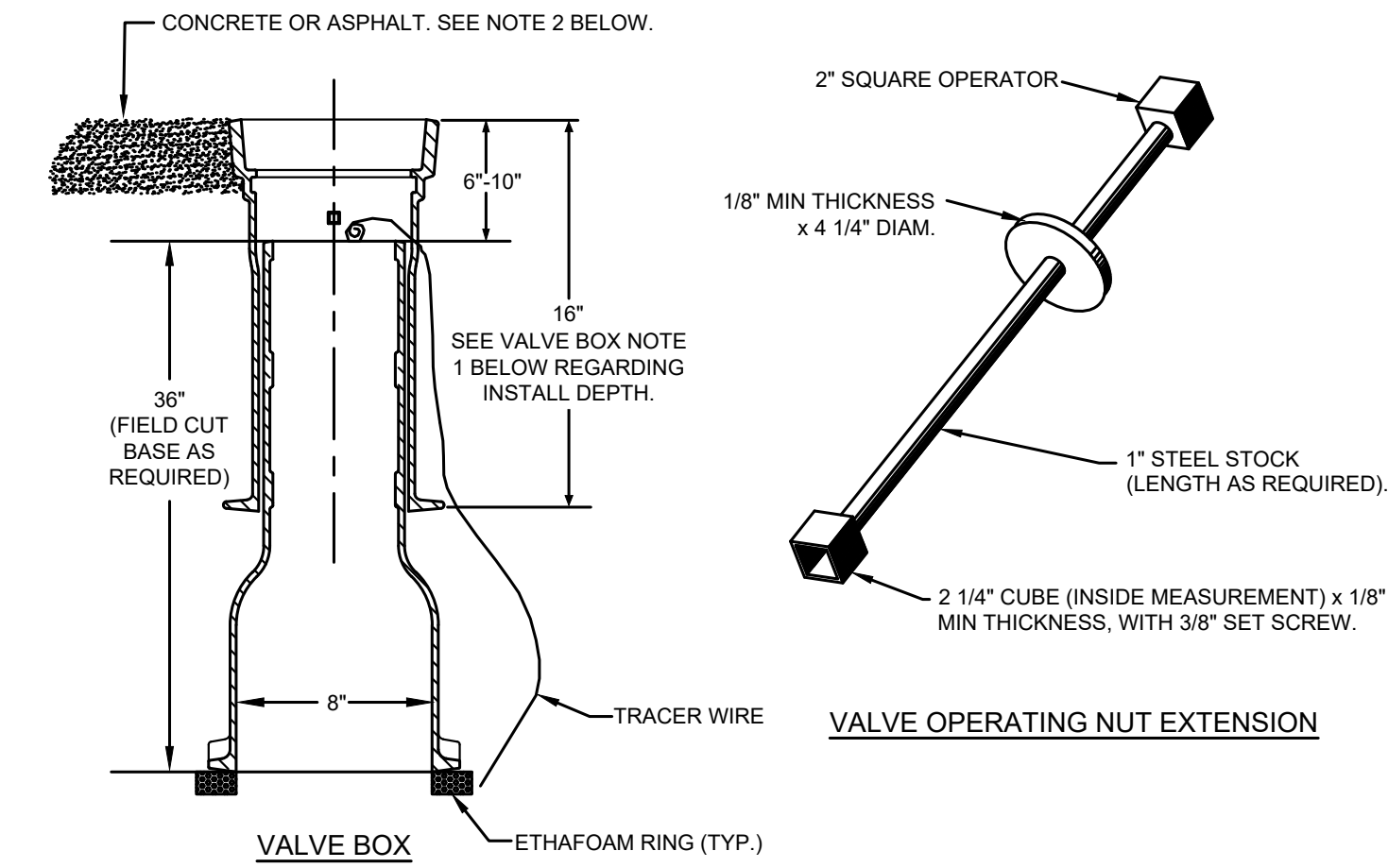
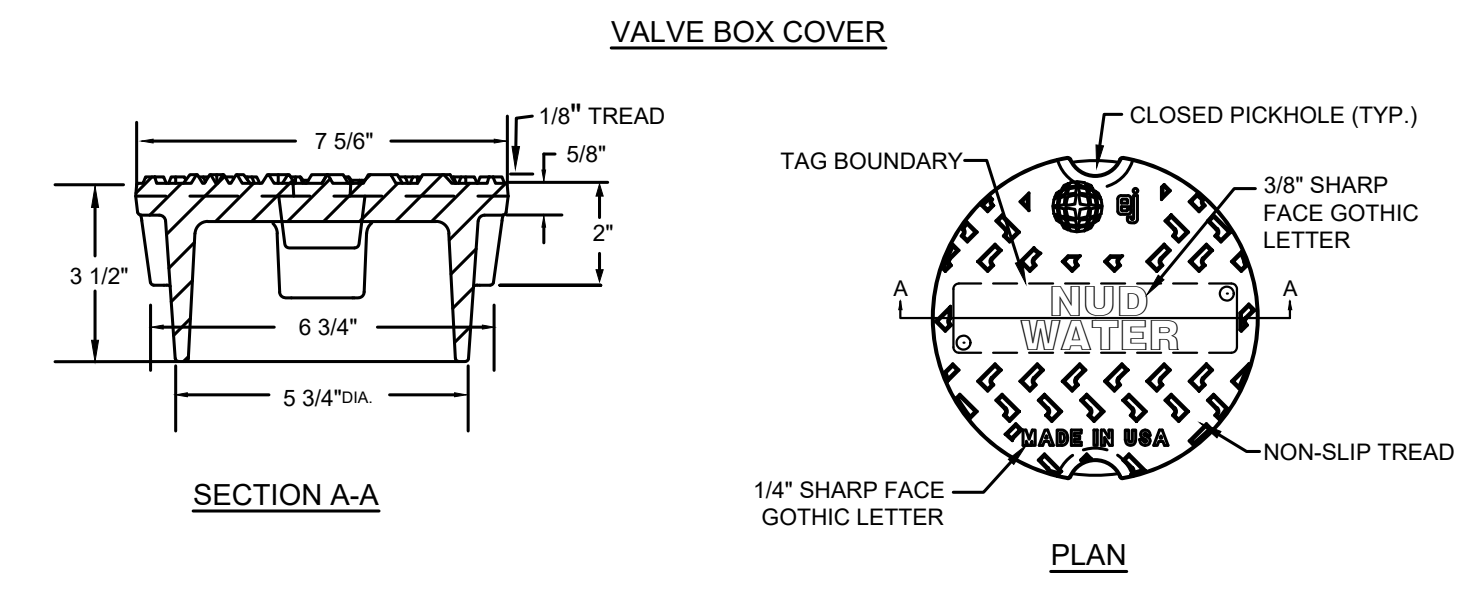
EXISTING WATER SERVICE RE-CONNECTION

NOT TO SCALE

DETAIL APPROVALS	9
EDITOR <i>TMC</i>	
MANAGER <i>S/D</i>	

NORTHSHORE UTILITY DISTRICT
2023 STANDARD WATER DETAILS

LAST UPDATED FEBRUARY 2022



- VALVE BOX NOTES:**
1. CAST-IRON VALVE BOX AND COVER SHALL BE EAST JORDAN IRON WORKS: VALVE BOX COVER 08800209, VALVE BOX TOP 85557018J, AND VALVE BOX BOTTOM 85556098U. FOR SHALLOW OR DEEP INSTALLS, VALVE BOX TOP SHALL BE DETERMINED BY THE DISTRICT.
 2. IF VALVE BOX IS IN AN UNPAVED AREA, PROVIDE 1" RADIUS x 4" MINIMUM DEPTH CONCRETE OR ASPHALT PAVING AROUND VALVE BOX. CONCRETE SHALL HAVE A BROOM/TROWEL FINISH.
 3. INSTALL ETHAFOAM RING BETWEEN BASE OF VALVE BOX AND GATE VALVES OR ON CONCRETE BRICKS FOR BALL VALVES. ETHAFOAM RING TO BE 2" IN THICKNESS.
- VALVE OPERATING NUT EXTENSION NOTES:**
1. VALVE OPERATING NUT EXTENSIONS ARE REQUIRED WHEN VALVE NUT IS MORE THAN 5' BELOW FINISHED GRADE.
 2. LENGTH AS REQUIRED TO PUT OPERATING NUT TWO (2) FEET FROM FINISHED GRADE.
 3. EXTENSIONS TO BE A MINIMUM OF TWO (2) FEET LONG.
 4. ONE (1) EXTENSION PER VALVE.
 5. NO ADJUSTABLE VALVE EXTENSIONS ALLOWED.
 6. WHEN AN EXTENSION IS REQUIRED, USE A SOILS PIPE BETWEEN VALVE BOX TOP AND VALVE BOX BOTTOM. LENGTH TO FIT.

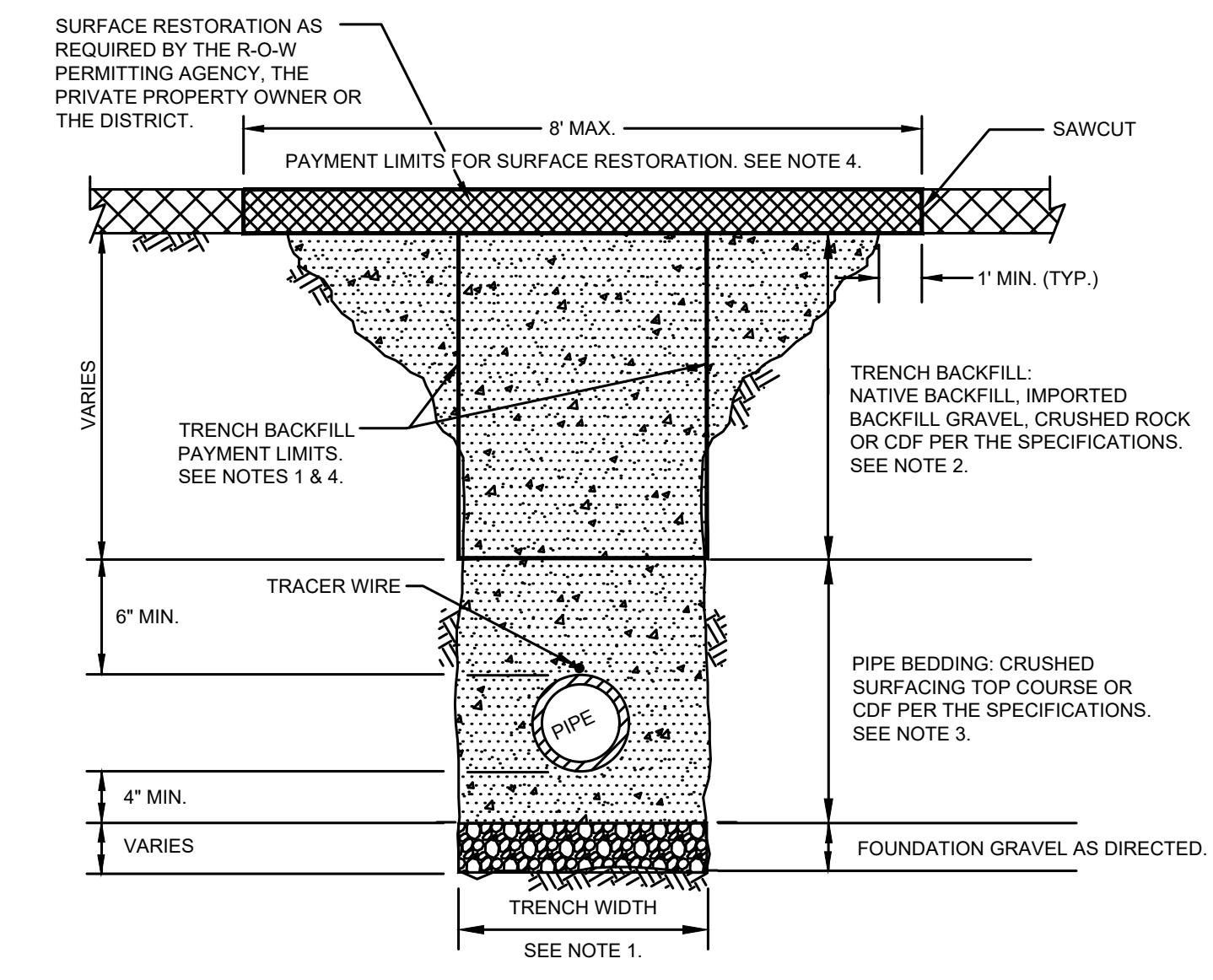
VALVE BOX & OPERATING NUT EXTENSION

NOT TO SCALE

DETAIL APPROVALS	11
EDITOR <i>TMC</i>	
MANAGER <i>S/D</i>	

NORTHSHORE UTILITY DISTRICT
2023 STANDARD WATER DETAILS

LAST UPDATED FEBRUARY 2022



- NOTES:**
1. TRENCH WIDTH:
 - MINIMUM: PIPE O.D. + 24" (12" EACH SIDE OF PIPE).
 - MAXIMUM: 40" FOR 15"Ø PIPE AND SMALLER.
 - (1 1/2" X I.D.) + 18" FOR 18"Ø PIPE AND LARGER.
 THE NEAT-LINE PAYMENT LIMITS FOR TRENCH BACKFILL MATERIALS SHALL BE BASED UPON THE MAXIMUM ALLOWABLE TRENCH WIDTH AS SHOWN ABOVE.
 2. NATIVE MATERIAL. IF ALLOWED FOR TRENCH BACKFILL, SHALL MEET THE REQUIREMENTS OF SELECT BORROW PER THE SPECIFICATIONS. TRENCH BACKFILL SHALL BE COMPACTED TO A MINIMUM OF NINETY-FIVE PERCENT (95%) OF MODIFIED PROCTOR IN THE RIGHT-OF-WAY AND IMPROVED EASEMENTS AND TO NINETY PERCENT (90%) IN UNIMPROVED EASEMENT AREAS. SEE THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 3. NATIVE MATERIAL WILL NOT BE ALLOWED AS PIPE BEDDING.
 4. THE NEAT-LINE LIMITS SHOWN WILL BE USED TO CALCULATE THE MAXIMUM QUANTITY OF TRENCH BACKFILL AND SURFACE RESTORATION MATERIALS ALLOWED. PAYMENT FOR BEDDING GRAVEL WILL BE CONSIDERED INCIDENTAL TO PAYMENT MADE FOR PIPE. PAYMENT FOR FOUNDATION ROCK WILL BE BASED UPON THE QUANTITIES USED AS DIRECTED BY THE DISTRICT. SEE THE CONTRACT DOCUMENTS FOR ADDITIONAL INFORMATION.
 5. RECYCLED CONCRETE WILL NOT BE ALLOWED AS PIPE BEDDING OR TRENCH BACKFILL.
 6. ALL DUCTILE IRON PIPE REQUIRES POLYETHYLENE ENCASEMENT. SEE THE DISTRICTS MATERIALS OF CONSTRUCTION SPECIFICATIONS FOR ADDITIONAL INFORMATION.

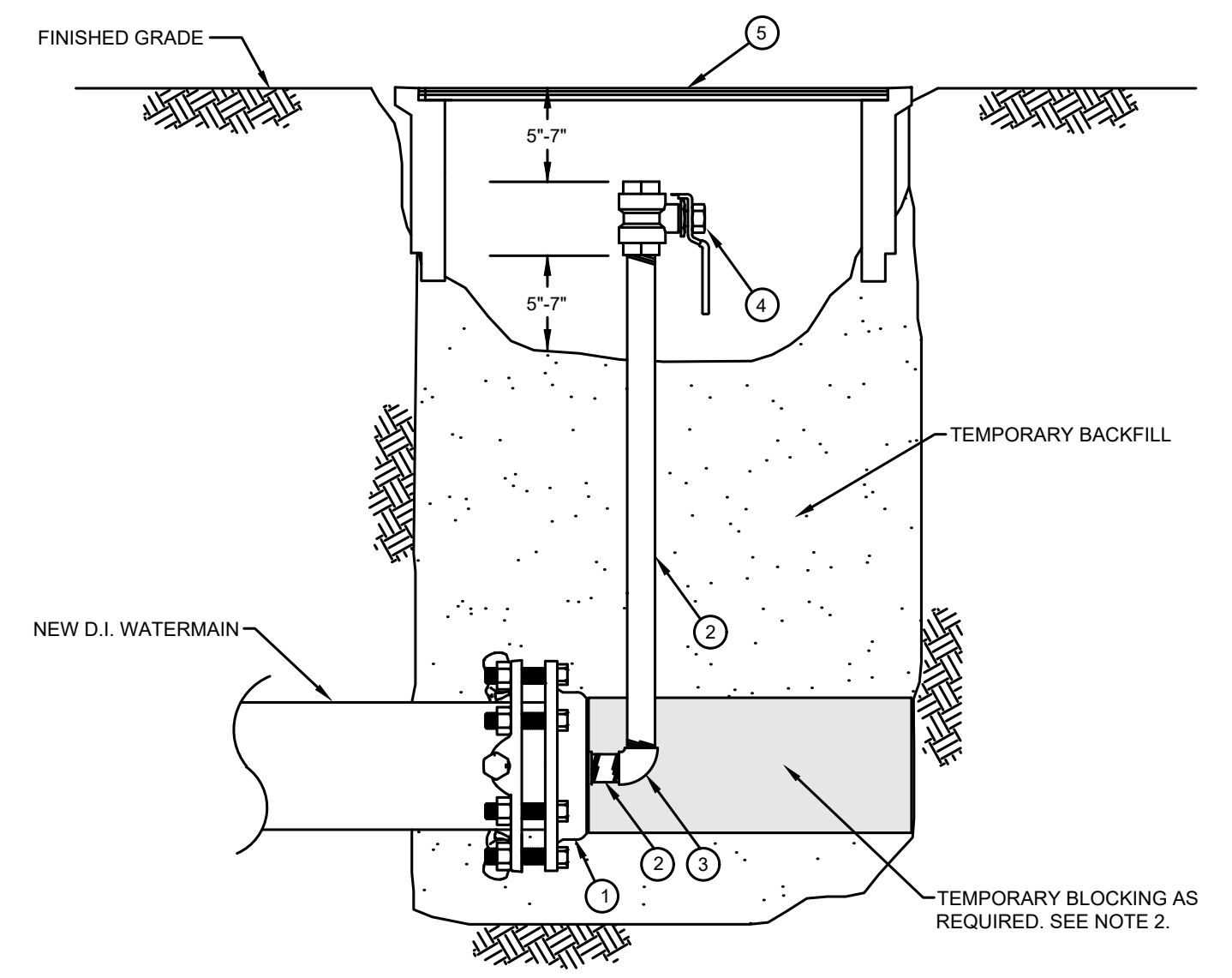
TYPICAL TRENCH SECTION & PAYMENT LIMITS

NOT TO SCALE

DETAIL APPROVALS	12
EDITOR <i>TMC</i>	
MANAGER <i>S/D</i>	

NORTHSHORE UTILITY DISTRICT
2023 STANDARD WATER DETAILS

LAST UPDATED JANUARY 2023



- MATERIALS LIST**
- | ITEM | QTY. | DESCRIPTION |
|------|------|---|
| 1 | 1 | TAPPED & THREADED D.I. CAP, RJ WITH 2" IP TAP. |
| 2 | 2 | 2" GALVANIZED PIPE, LENGTH TO FIT. |
| 3 | 1 | 2" 90° GALVANIZED ELBOW, FIPx FIP. |
| 4 | 1 | 2" BALL VALVE, FIPx FIP, MATCO 757T08LF OR EQUAL. |
| 5 | 1 | TRAFFIC RATED BOX AND COVER, OR EQUAL. |

- NOTES:**
1. NUMBER AND LOCATION OF THE TEMPORARY BLOW-OFFS WILL BE AS SHOWN ON THE DESIGN PLANS OR AS DIRECTED BY THE DISTRICT IN THE FIELD.
 2. PROVIDE TEMPORARY BLOCKING FOR BLOW-OFFS TO RESIST TEST PRESSURES.

TEMPORARY BLOW-OFF ASSEMBLY FOR NEW WATERMAIN

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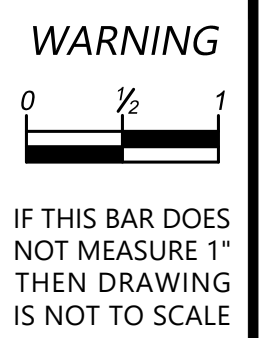
DETAIL APPROVALS	17
EDITOR <i>TMC</i>	
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NORTHSHORE UTILITY DISTRICT
2023 STANDARD WATER DETAILS

LAST UPDATED FEBRUARY 2022

NO	BY	APPD	REVISION	DATE

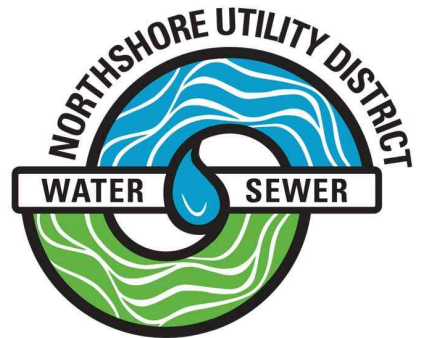
BID SET



Gray & Osborne, Inc.
CONSULTING ENGINEERS

1130 RAINIER AVENUE SOUTH,
SUITE 300
SEATTLE, WASHINGTON 98144
(206) 284-0860

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APPROVAL	EBD
DATE	APR 2023



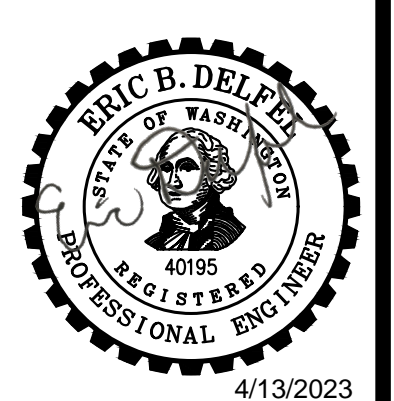
NORTHSHORE UTILITY DISTRICT

6830 NE 185th St. P.O. Box 82489
Kenmore, WA 98028-2684 Kenmore, WA 98028-2684

Ph: (425) 398-4400 | Fax: (425) 398-4430 | www.nud.net

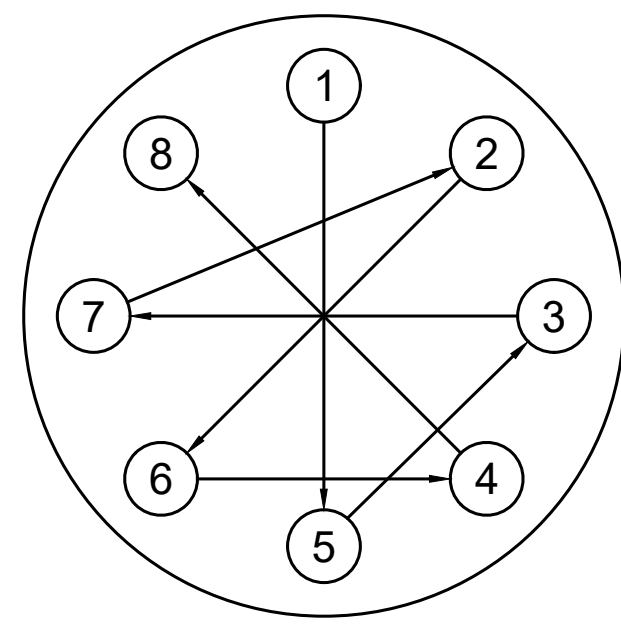
CONTRACT 2023-03
120-84 WATER MAIN REPLACEMENT

WATER DETAILS



DWG: DETAILS
C2213
SHEET
9 OF 15

LAST REVISED: 01/2020



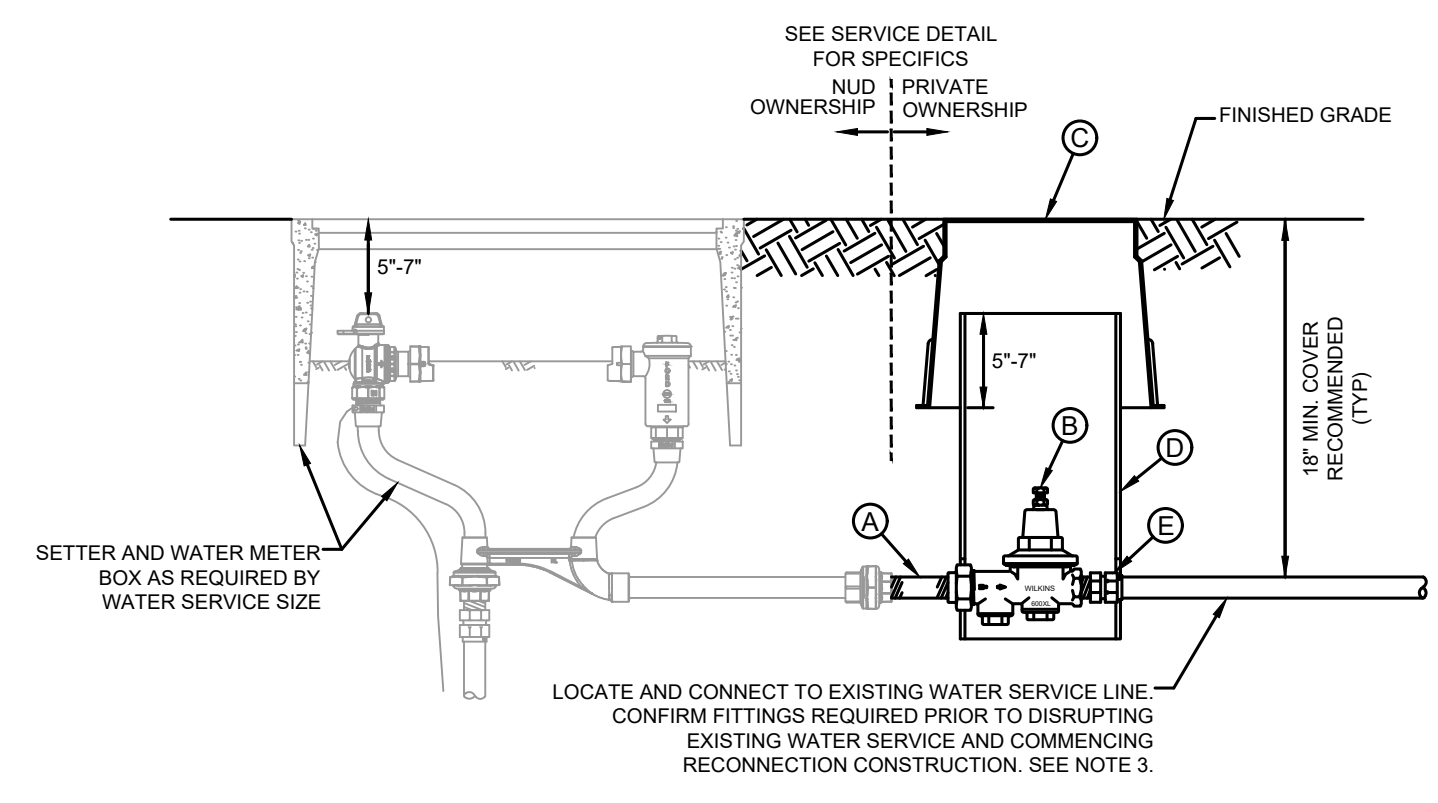
8 BOLT EXAMPLE

NO OF BOLTS	NOMINAL FLG SIZE	BOLT NUT TIGHTENING SEQUENCE
8	4", 6", 8"	1, 5, 3, 7, 2, 6, 4, 8
12	10", 12"	1, 7, 4, 10, 2, 8, 5, 11, 3, 9, 6, 12

- NOTES:**
- BOLTS AND NUTS SHALL BE CLEAN AND DRY (UNLUBRICATED).
 - HAND TIGHTEN ALL NUTS.
 - CONSECUTIVELY NUMBER THE BOLTS AROUND THE FLANGE.
 - TIGHTEN BOLTS AND NUTS IN THE SEQUENCE GIVEN IN THE TABLE ABOVE.
 - FIRST: TIGHTEN BOLTS AND NUTS TO ONE-THIRD OF MANUFACTURER'S RECOMMENDED TARGET TORQUE.
 - SECOND: TIGHTEN BOLTS AND NUTS TO TWO-THIRDS OF MANUFACTURER'S RECOMMENDED TARGET TORQUE.
 - LAST: TIGHTEN BOLTS AND NUTS TO FULL MANUFACTURER'S RECOMMENDED TARGET TORQUE.
 - SEQUENCE GIVEN IS FOR AWWA C110, AND ANSI CLASS 125 AND 150 FLANGES.

BOLT TIGHTENING SEQUENCE

NOT TO SCALE

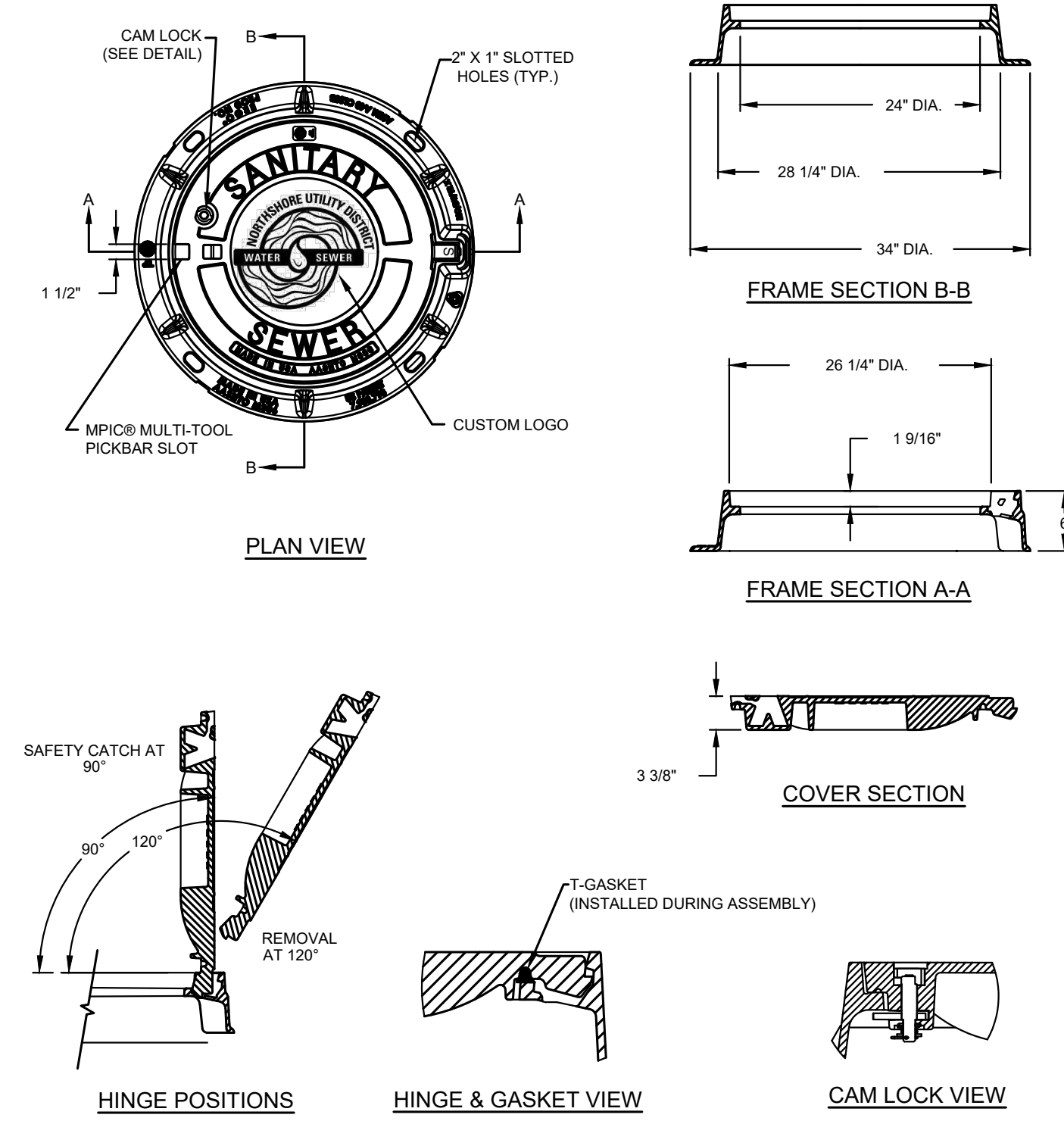


- MATERIALS LIST**
- | ITEM | DESCRIPTION |
|------|--|
| (A) | BRASS NIPPLE, LENGTH TO FIT. |
| (B) | PRV WITH STRAINER, 3/4" - 2", WITH UNION COUPLING ON INLET. PRV SHALL BE WILKINS 600XL, WATTS LF25AUB-Z3, OR APPROVED EQUAL. |
| (C) | PRV BOX: LANDSCAPE AREAS - 10" DIAMETER, 10" TALL CARSON BOX 910 OR EQUAL. TRAFFIC AREAS - TRAFFIC RATED METER BOX WITH SOLID LID. |
| (D) | 8" DIAMETER SDR 35 PVC RISER PIPE, LENGTH TO FIT. CUT OUT MOUSE HOLES TO FIT OVER SERVICE PIPE. |
| (E) | BRASS INSTA-TITE OR COMPRESSION PACK JOINT STYLE FITTING, COMPATIBLE WITH CUSTOMER'S PRIVATE WATER LINE. |

- NOTES:**
- A NEW PRV SHALL BE INSTALLED IF A PRIVATE PRV IS REMOVED DURING NEW SERVICE INSTALLATION. CONTRACTOR TO DETERMINE SIZE OF NEW PRV.
 - CONTRACTOR TO MEASURE AND RECORD EXISTING WATER PRESSURE AT BUILDING PRIOR TO RECONNECTION AND AFTER REESTABLISHMENT OF SERVICE. IF PRESSURE READINGS DIFFER BY MORE THAN 5 PSI, THE CONTRACTOR SHALL LOCATE AND CORRECT THE ISSUE AT THE PRV.
 - ALL PIPE FITTINGS SHALL BE BRASS. PRIOR TO MAKING THE CONNECTION, THE CONTRACTOR SHALL POTHOLE THE EXISTING SERVICE LINE TO DETERMINE THE LOCATION, SIZE, AND TYPE OF EXISTING PIPE AND TO CONFIRM THE PIPE AND FITTINGS REQUIRED TO MAKE THE CONNECTION. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED PIPE AND FITTINGS ON-SITE PRIOR TO DISRUPTING WATER SERVICE AND COMMENCING CONSTRUCTION. NO EXISTING WATER SERVICE SHALL BE DISRUPTED FOR MORE THAN TWO HOURS IN ONE DAY.
 - PRV SHALL BE LOCATED DIRECTLY DOWNSTREAM OF THE METER OR BACKFLOW ASSEMBLY. IF INSTALLED, RESPONSIBILITY FOR PROPER INSTALLATION SHALL BE THAT OF THE CONTRACTOR. MAINTENANCE AND OPERATION OF THE VALVE SHALL BE THAT OF THE PROPERTY OWNER.

PRESSURE REDUCING VALVE (PRV)

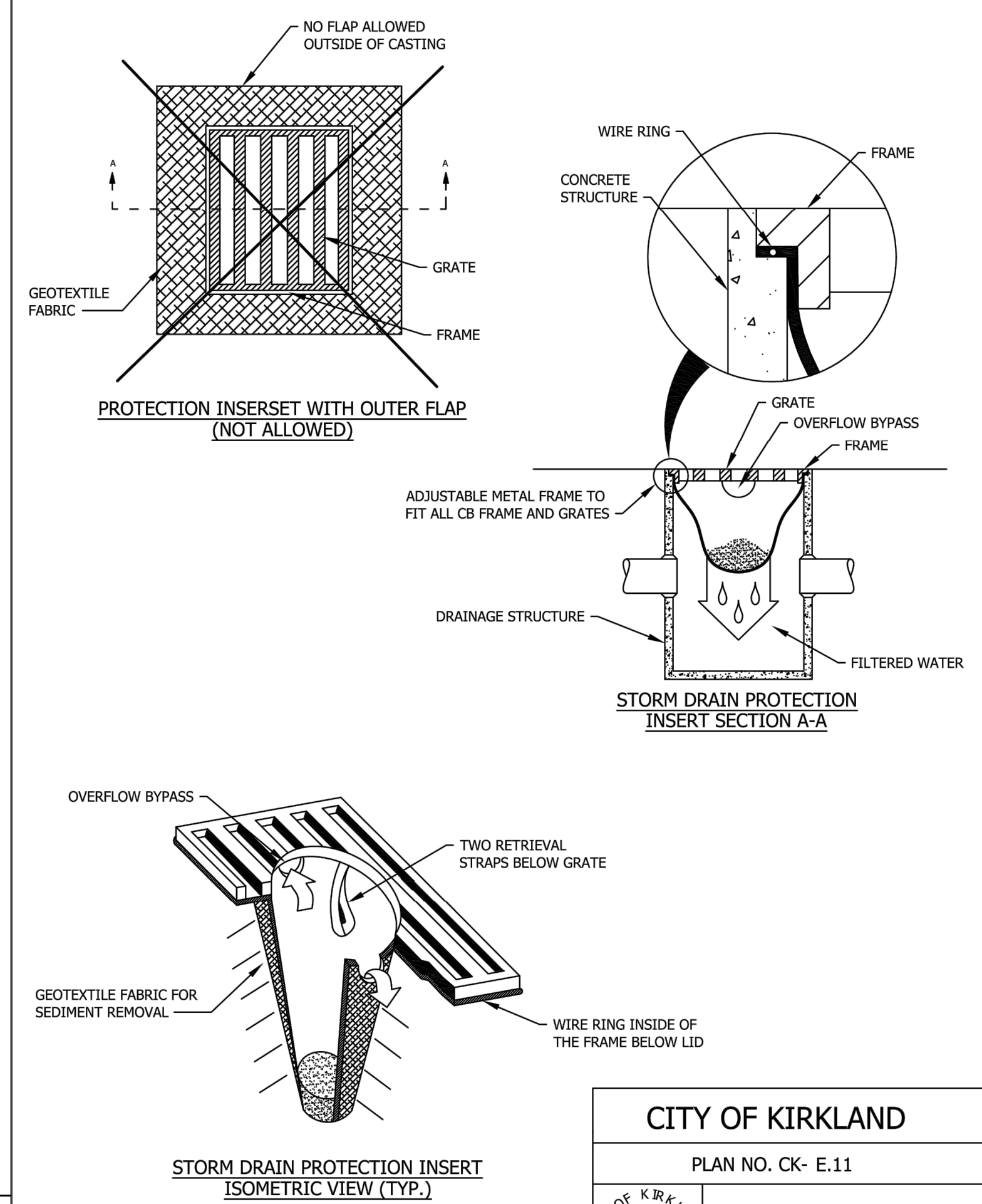
NOT TO SCALE



- NOTE:**
- MANHOLE FRAME AND COVER SHALL BE EAST JORDAN IRON WORKS ERGO ASSEMBLY, PART NUMBER 001040105L01.
 - FOR PRIVATE MANHOLES, FRAME AND COVER SHALL BE EAST JORDAN IRON WORKS ERGO ASSEMBLY, PART NUMBER 00104043L01. MANHOLE LID TO SAY "SEWER". MANHOLE LID NOT TO INCLUDE NUD LOGO OR NAME.

MANHOLE LOCKING FRAME AND COVER

NOT TO SCALE



STORM DRAIN PROTECTION INSERT ISOMETRIC VIEW (TYP.)

CITY OF KIRKLAND
 PLAN NO. CK- E.11
STORM DRAIN PROTECTION INSERT

DETAIL APPROVALS
 EDITOR TMC
 MANAGER SJD

NORTHSHORE UTILITY DISTRICT
 2023 STANDARD WATER DETAILS

19
 LAST UPDATED APRIL 2021

DETAIL APPROVALS
 EDITOR TMC
 MANAGER SJD

NORTHSHORE UTILITY DISTRICT
 2023 STANDARD WATER DETAILS

21
 LAST UPDATED FEBRUARY 2022

DETAIL APPROVALS
 EDITOR TMC
 MANAGER SJD

NORTHSHORE UTILITY DISTRICT
 2023 STANDARD SEWER DETAILS

5
 LAST UPDATED FEBRUARY 2020

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WARNING

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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 APPROVAL BY EBD
 DATE APR 2023

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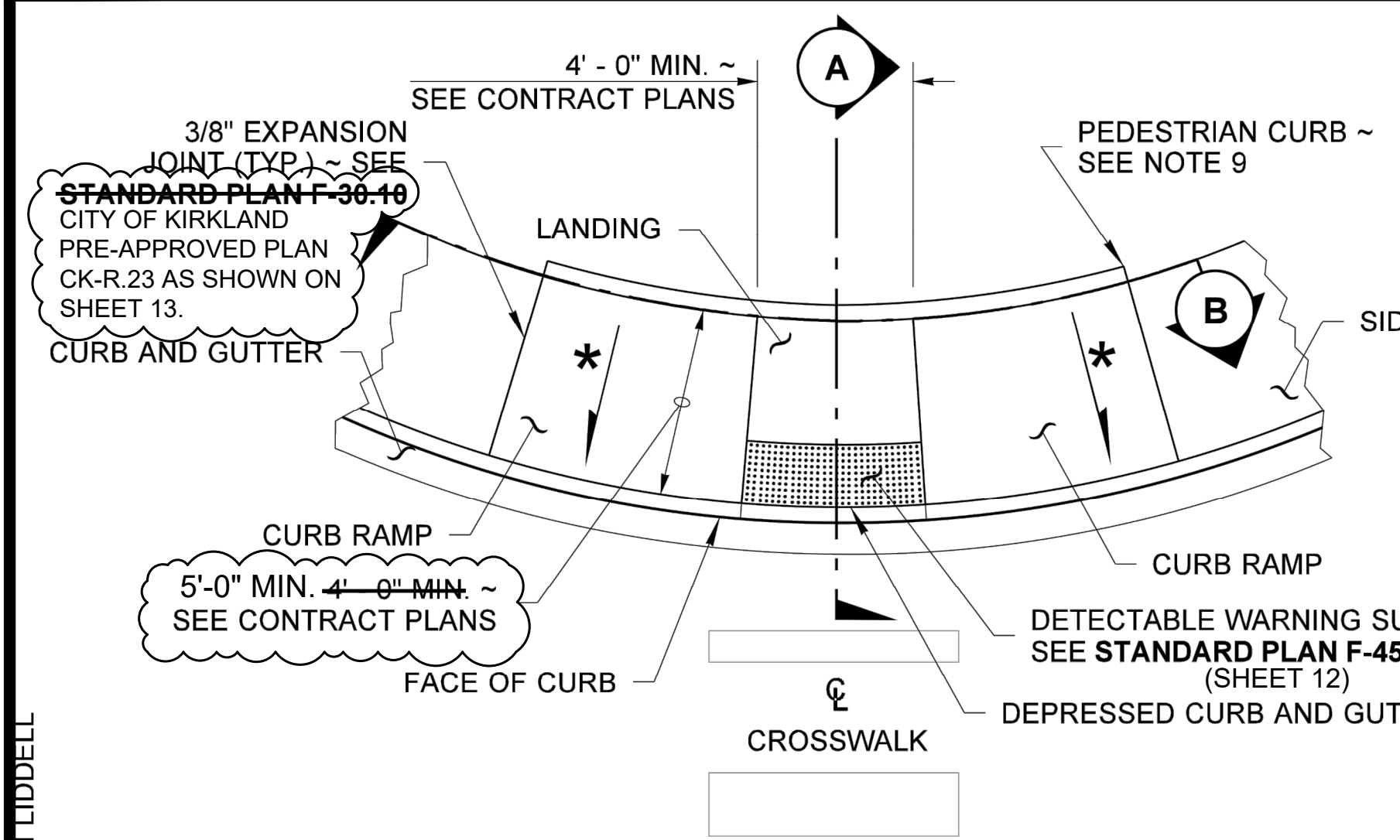
CONTRACT 2023-03
 120-84 WATER MAIN REPLACEMENT

MISCELANEOUS DETAILS

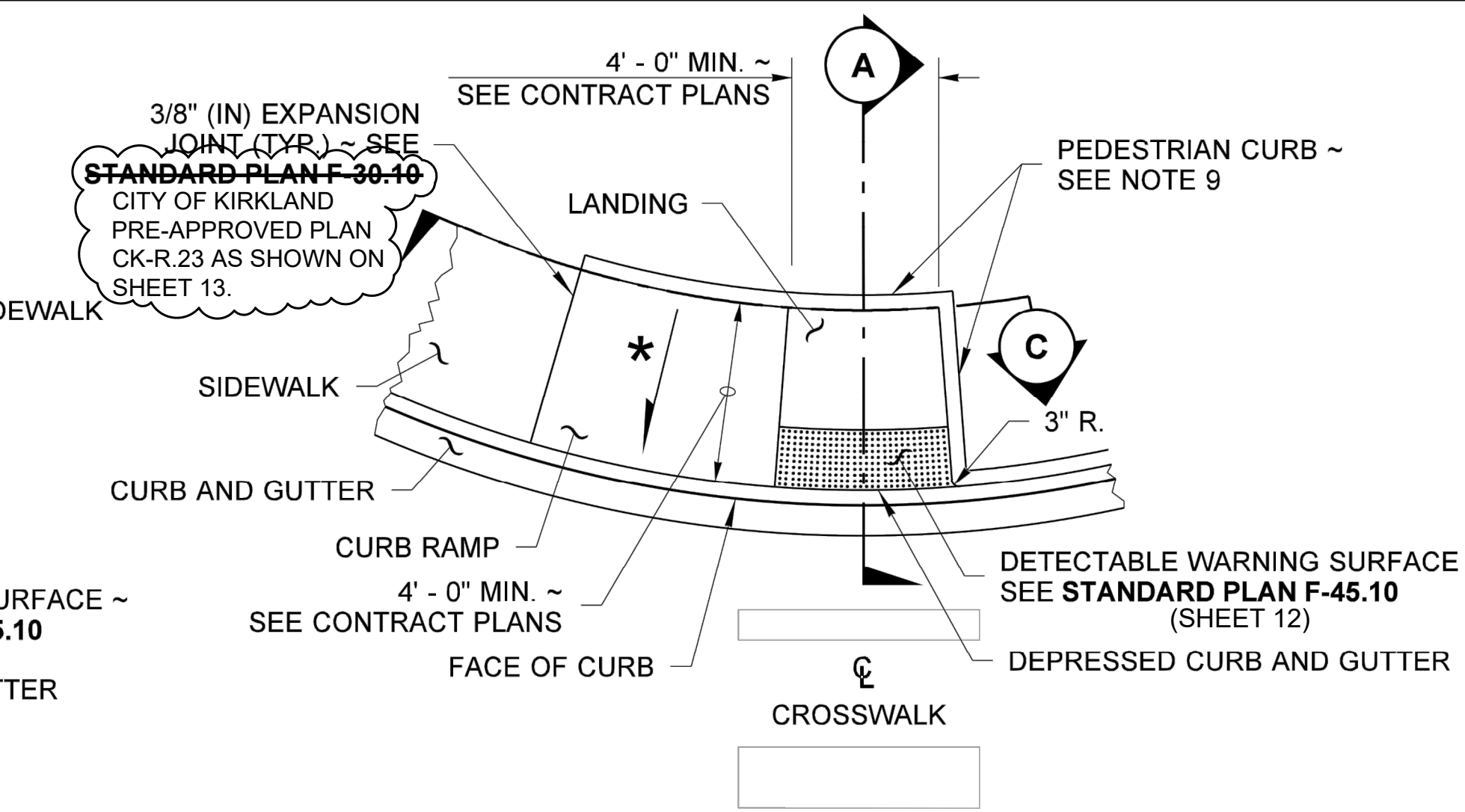
DWG: DETAILS
 C2213
 SHEET
 10 OF 15

4/13/2023

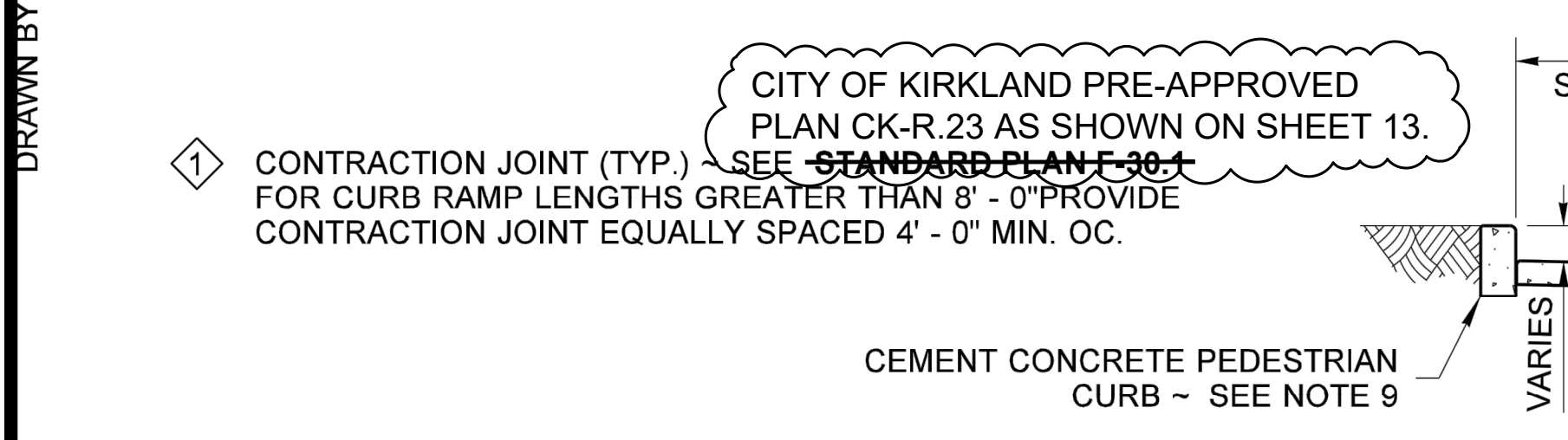
DRAWN BY: FERN LIDDELL



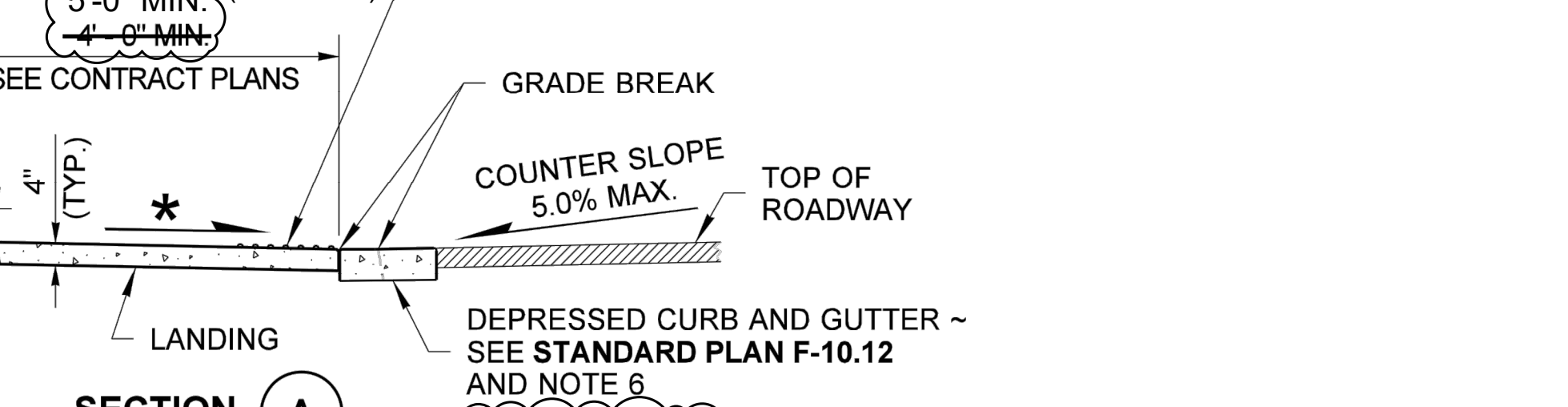
**PLAN VIEW
TYPE PARALLEL A**



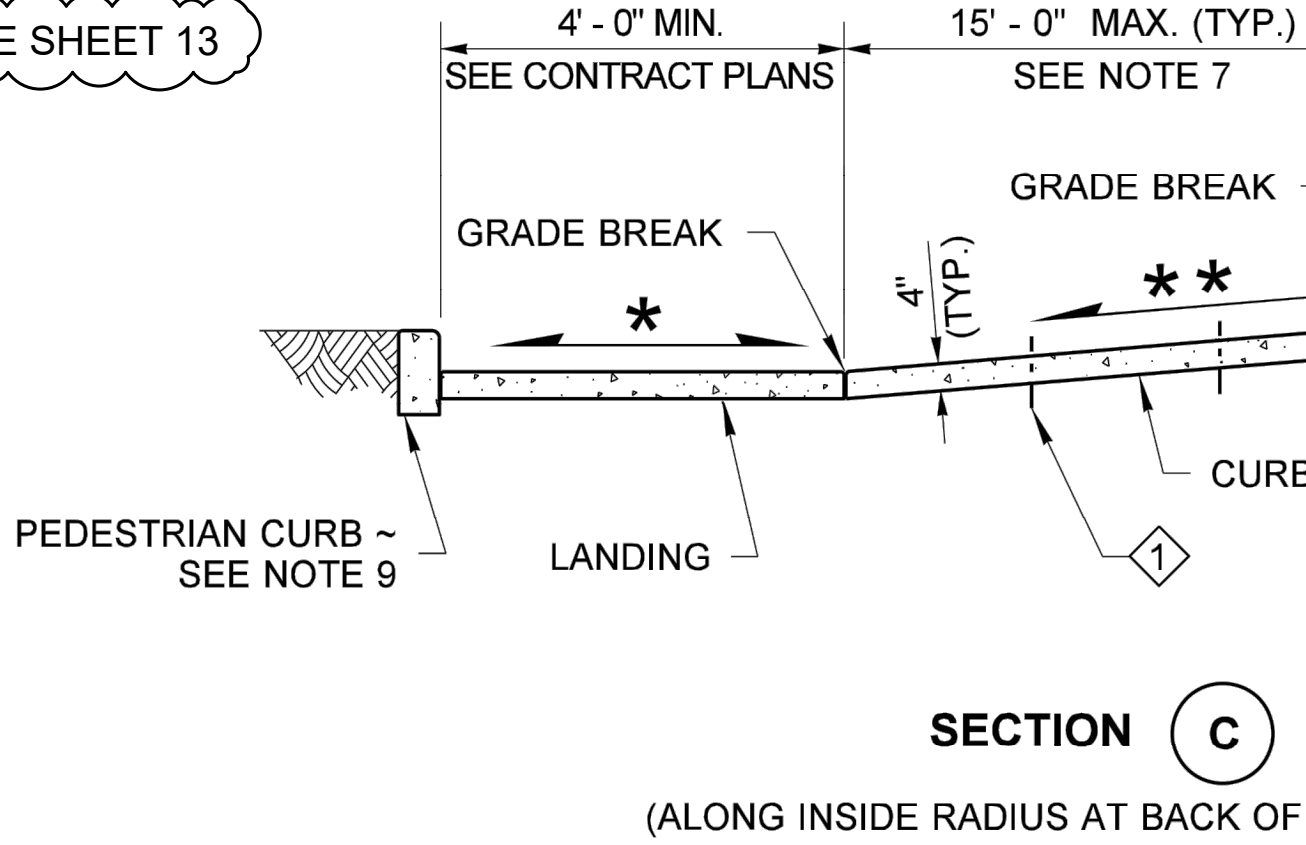
**PLAN VIEW
TYPE PARALLEL B**



SECTION A



SECTION B



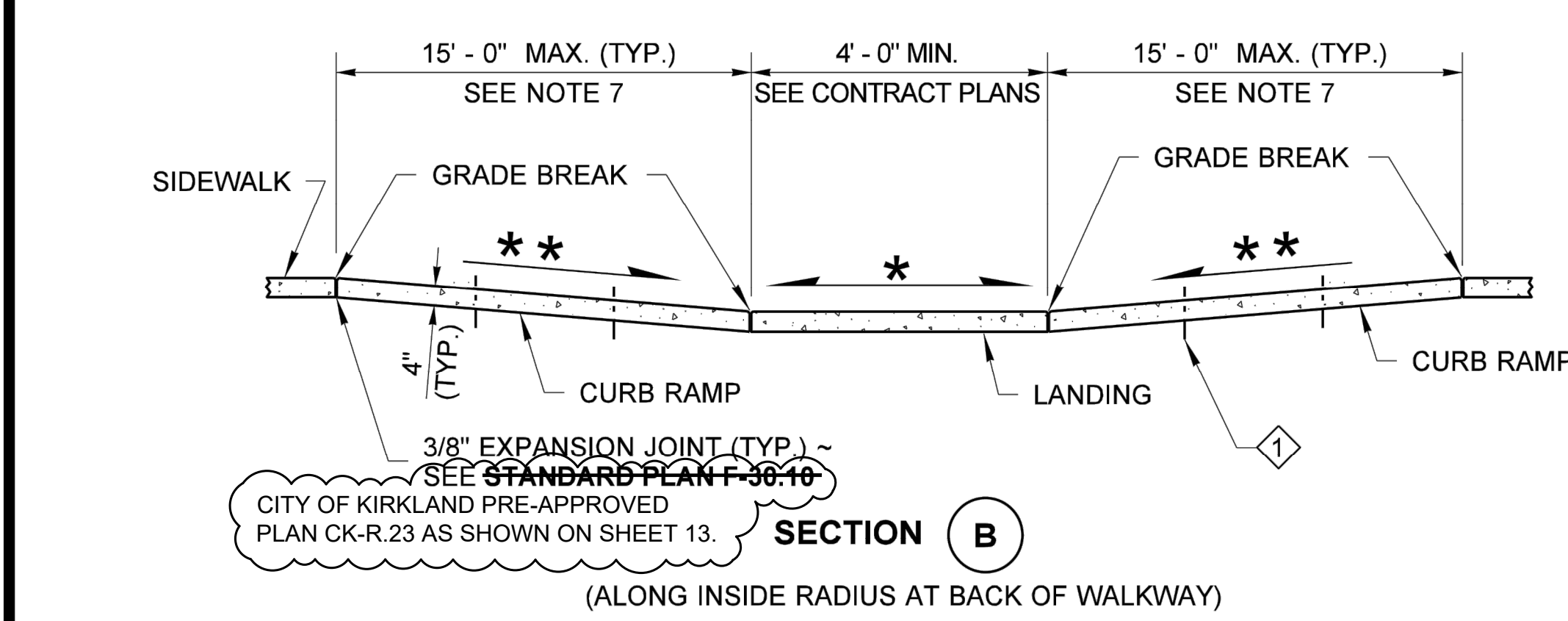
SECTION C

NOTES

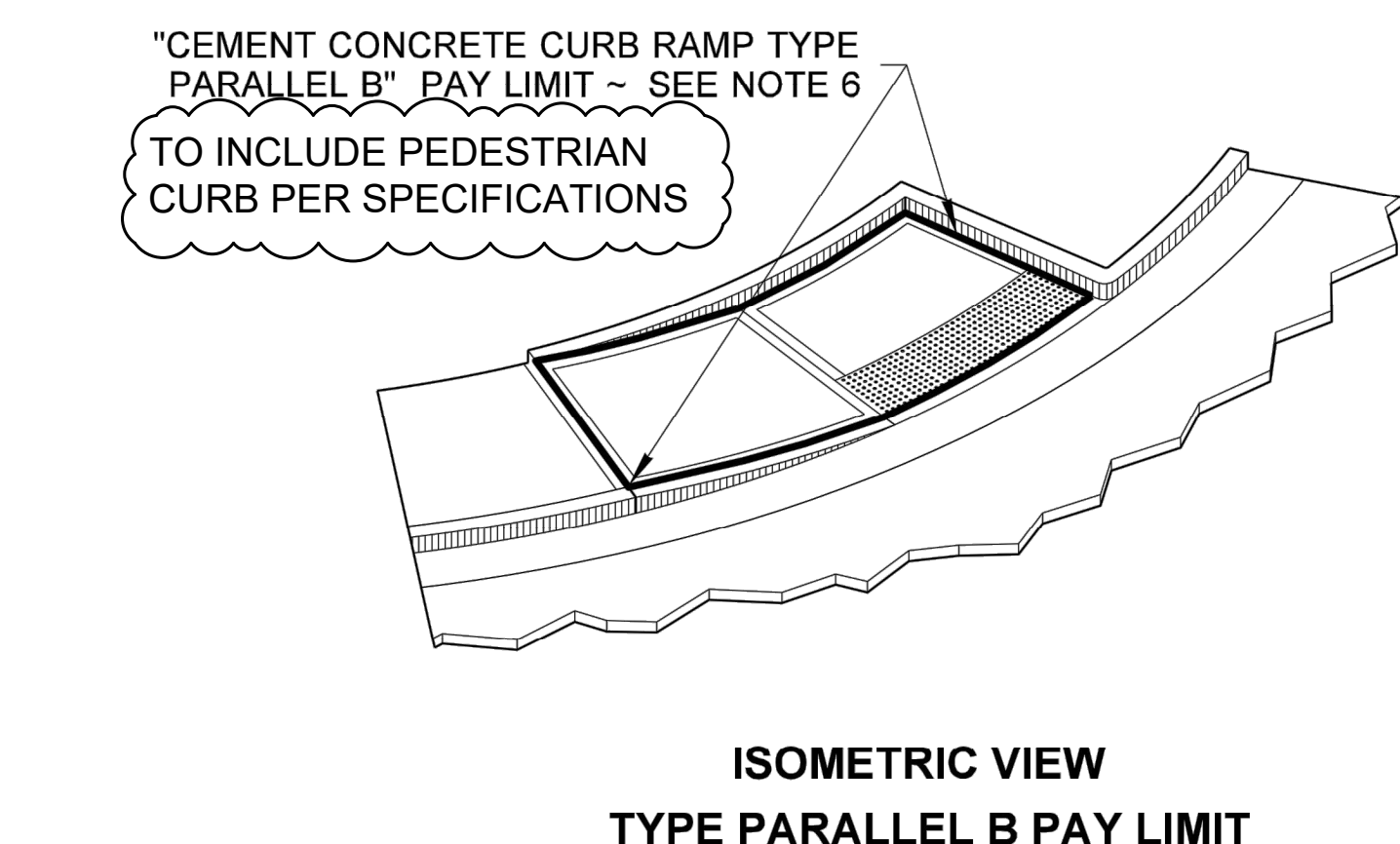
- At marked crosswalks, the connection between the landing and the roadway must be contained within the width of the crosswalk markings.
- Where "GRADE BREAK" is called out, the entire length of the grade break between the two adjacent surface planes shall be flush.
- Do not place Gratings, Junction Boxes, Access Covers, or other appurtenances on any part of the Curb Ramp or Landing, or in the Depressed Curb and Gutter where the Landing connects to the roadway.
- See Contract Plans for the curb design specified. See **Standard Plan F-10.12** for Curb, Curb and Gutter, Depressed Curb and Gutter, and Pedestrian Curb details.
- See **Standard Plan F-30.10** for Cement Concrete Sidewalk Details. See Contract Plans for width and placement of sidewalk.
- The Bid Item "Cement Concrete Curb Ramp Type ___" does not include the adjacent Curb, Curb and Gutter, Depressed Curb and Gutter, ~~Pedestrian Curb~~, or Sidewalks.
- The Curb Ramp length is not required to exceed 15 feet (unless otherwise shown in the Contract Plans). When applying the 15-foot max. length, the running slope of the curb ramp is allowed to exceed 8.3%. Use a single constant slope from bottom of ramp to top of ramp to match into the sidewalk over a horizontal distance of 15 feet. Do not include abutting landing(s) in the 15-foot max. measurement. When a ramp is constructed on a radius, the 15-foot max. length is measured on the inside radius along the back of the walkway.
- Curb Ramps and Landings shall receive a broom finish. See **Standard Specifications 8-14**.
- Pedestrian Curb may be omitted if the ground surface at the back of the Curb Ramp and/or Landing will be at the same elevation as the Curb Ramp or Landing and there will be no material to retain.

LEGEND

- SLOPE IN EITHER DIRECTION
- 1.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (2% MAX.)
- 7.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (8.3% MAX.) ~ SEE NOTE 7



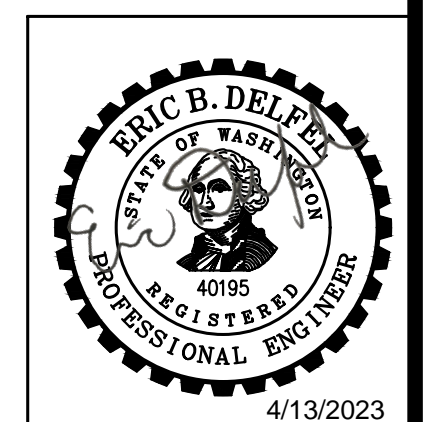
**ISOMETRIC VIEW
TYPE PARALLEL A PAY LIMIT**



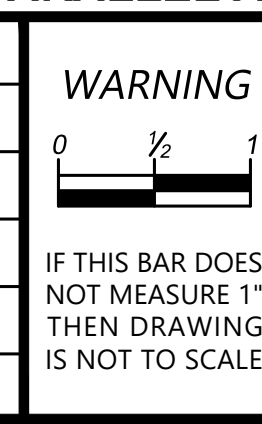
**ISOMETRIC VIEW
TYPE PARALLEL B PAY LIMIT**

**MODIFIED
PARALLEL CURB RAMP
STANDARD PLAN F-40.12-03**

SHEET 1 OF 1 SHEET
APPROVED FOR PUBLICATION
Carpenter, Jeff
Carpenter, Jeff
Jun 29 2016 2:27 PM
STATE DESIGN ENGINEER
 Washington State Department of Transportation



NO	BY	APPD	REVISION	DATE

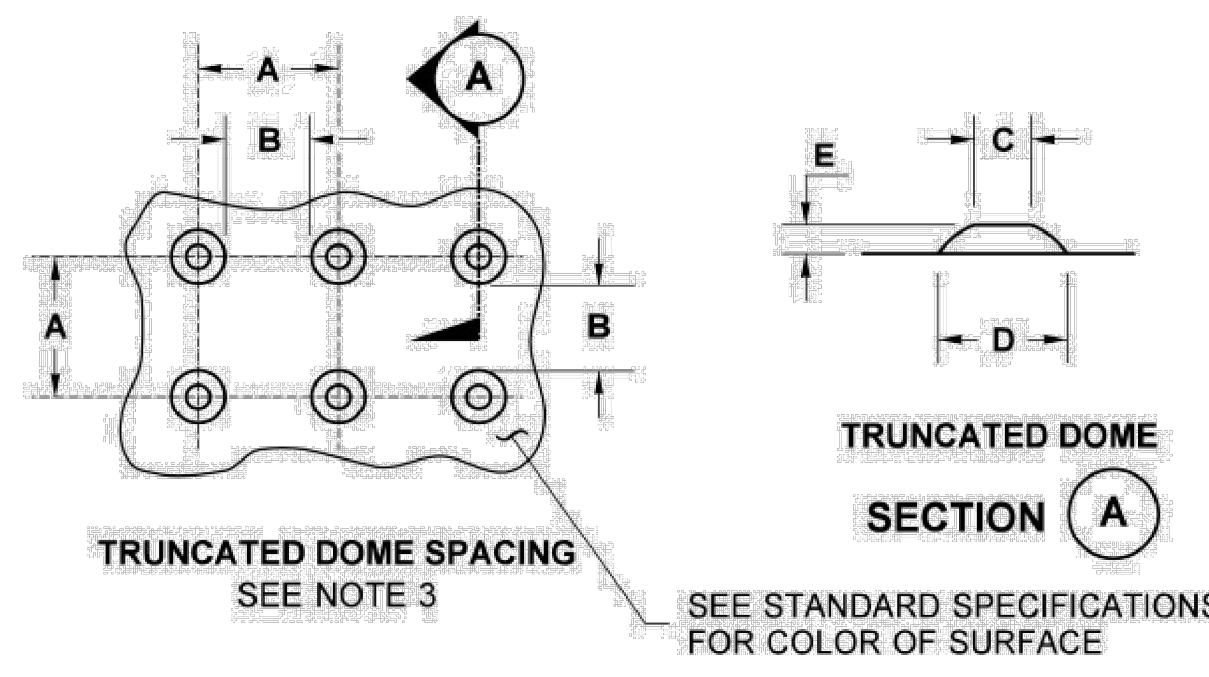


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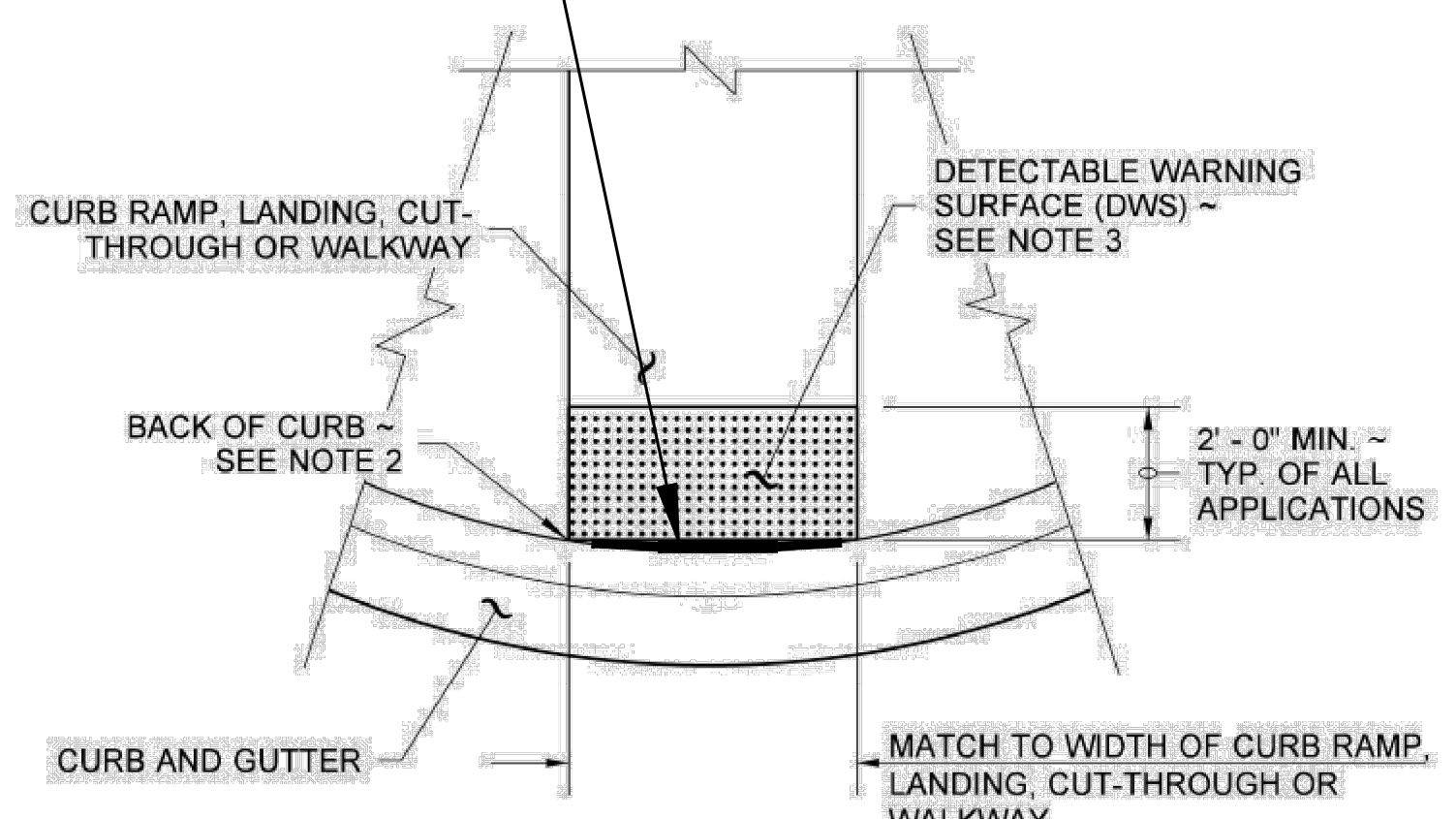
CONTRACT 2023-03
120-84 WATER MAIN REPLACEMENT
RESTORATION DETAILS



	MIN.	MAX.
A	1.60"	2.40"
B	0.65"	—
C	0.45"	0.90"
D	0.9"	1.40"
E	0.2"	0.2"

TRUNCATED DOME DETAILS

CONTRACTOR SHALL MODIFY DEPRESSED CURB WIDTH TO MATCH DETECTABLE WARNING SURFACE (TYP.)

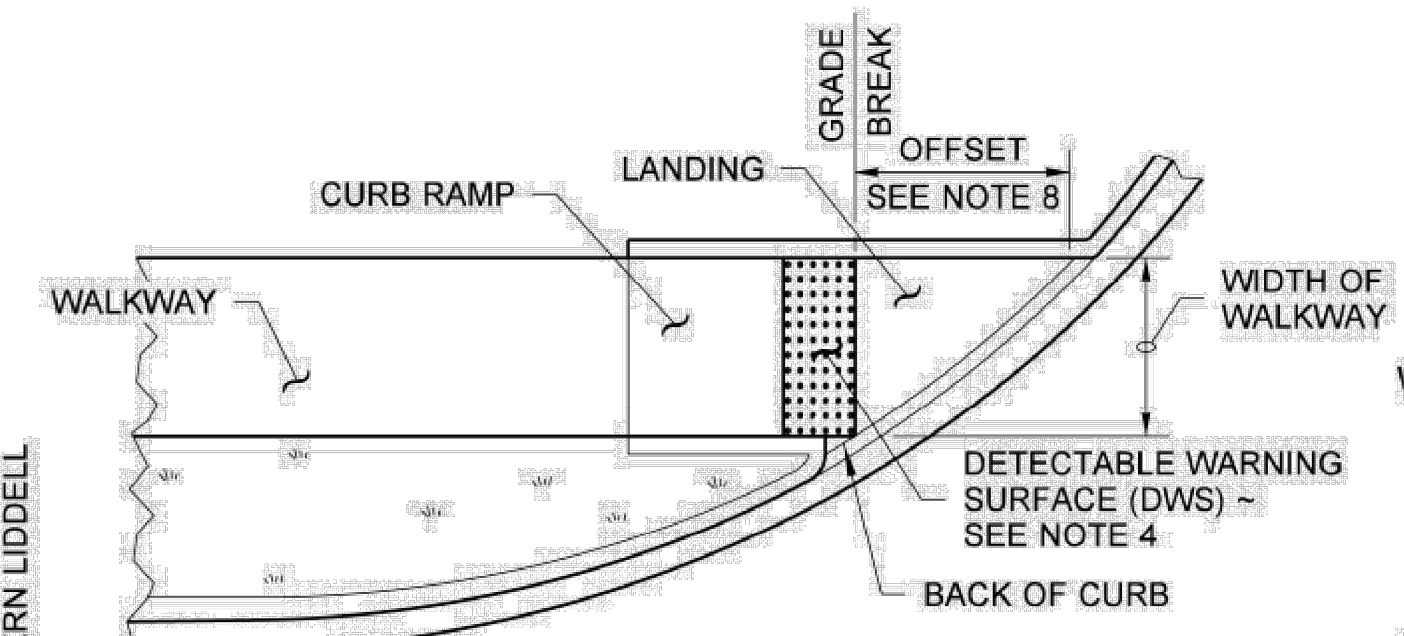


DETECTABLE WARNING SURFACE DETAIL

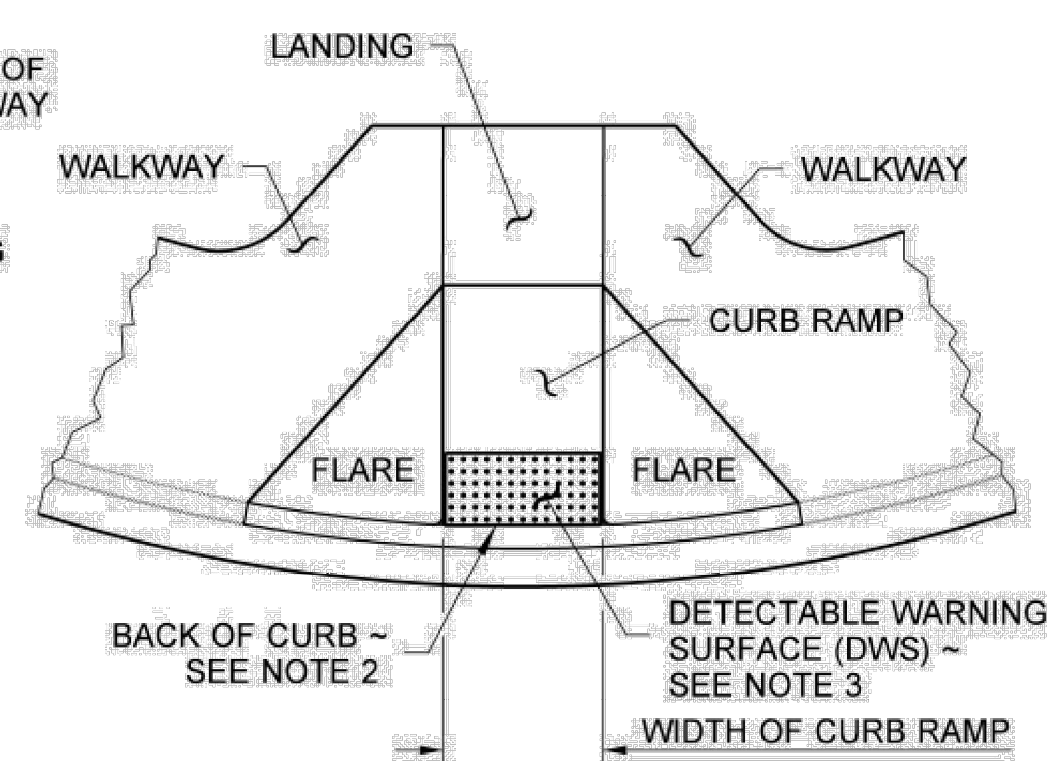
NOTES

- The Detectable Warning Surface (DWS) shall extend the full width of the curb ramp, landing, or other roadway entrance as applicable. Exception: If the Manufacturer of the DWS requires a concrete border around the DWS, a variance of up to 2 inches on each side of the DWS is permitted.
- The Detectable Warning Surface (DWS) shall be placed at the back of curb, with the two leading corners of the DWS panel placed adjacent to the back of the curb, and with no more than a 2-inch gap between the DWS and the back of the curb measured at the center of the DWS panel. Exception: If the Manufacturer of the selected DWS requires a concrete border around the DWS, a variance of up to 2 inches from the back of the curb is permitted (measured at the leading corners of the DWS panel).
- The rows of truncated domes shall be aligned to be perpendicular to the grade break at the back of curb.
- The rows of truncated domes shall be aligned to be parallel to the direction of travel.
- If curb and gutter are not present, such as a shared-use path connection, the Detectable Warning Surface shall be placed at the pavement edge.
- See **Standard Plans** for sidewalk and curb ramp details. SEE CITY OF KIRKLAND PRE-APPROVED PLAN CK-R-23, SHEET 13, FOR SIDEWALK DETAIL.
- If a curb ramp is required, the location of the Detectable Warning Surface must be at the bottom of the ramp and within the required distance from the rail.
- When the grade break between the curb ramp and the landing is less than or equal to 5 ft. from the back of curb at all points, place the Detectable Warning Surface on the bottom of the curb ramp directly above the grade break.

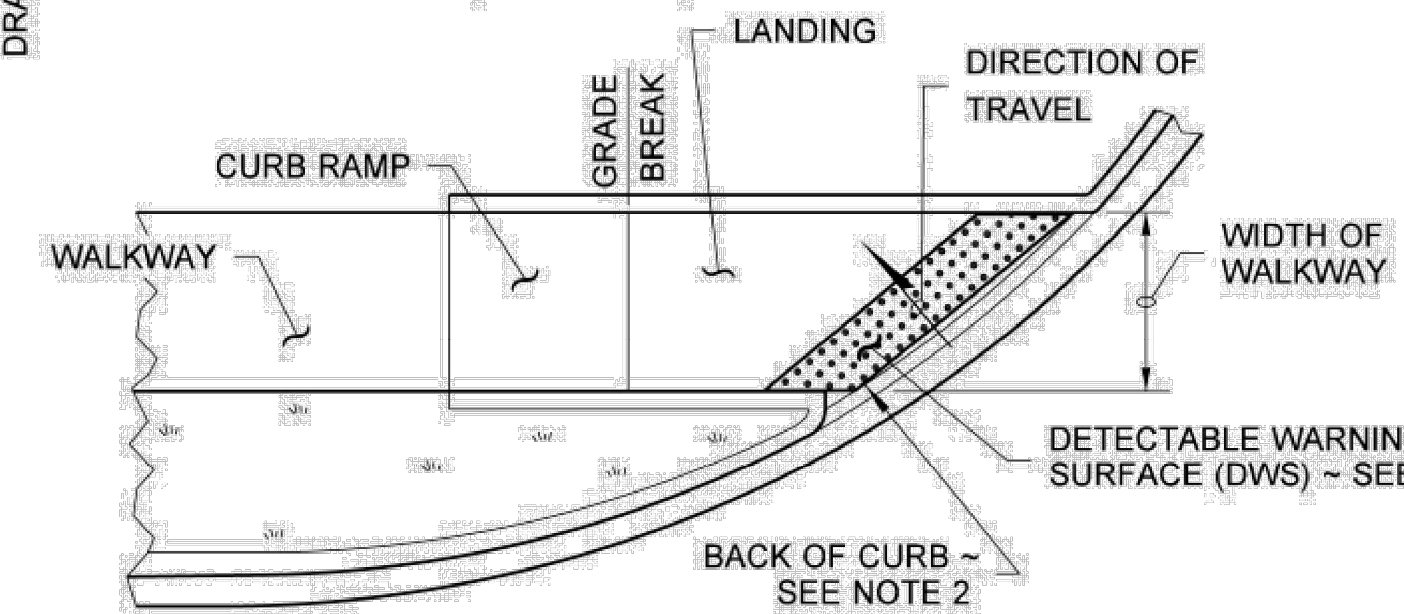
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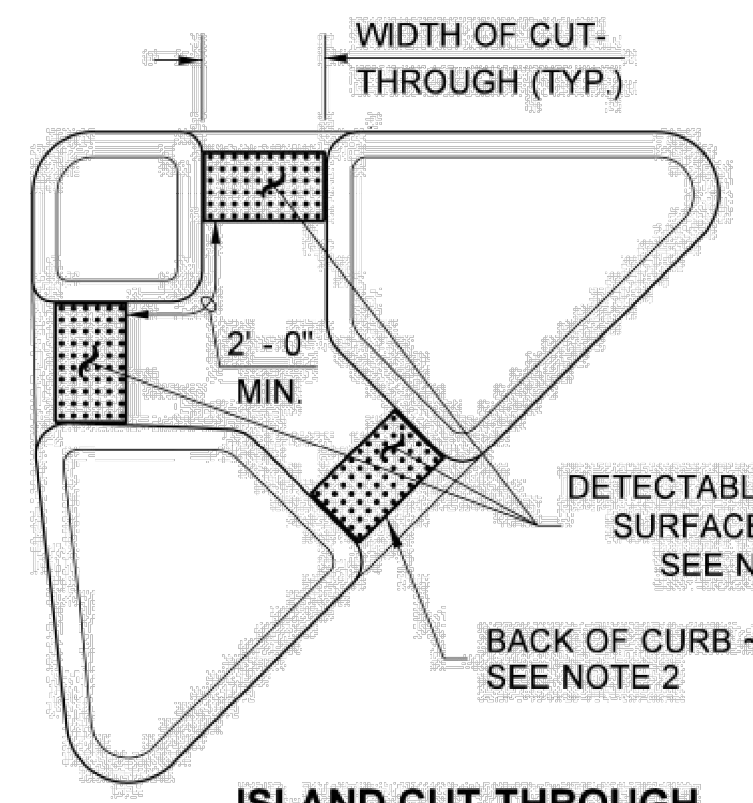
SINGLE DIRECTION CURB RAMP
(GRADE BREAK BETWEEN CURB AND LANDING ≤ 5 FT. FROM BACK OF CURB)
(SEE NOTE 6)



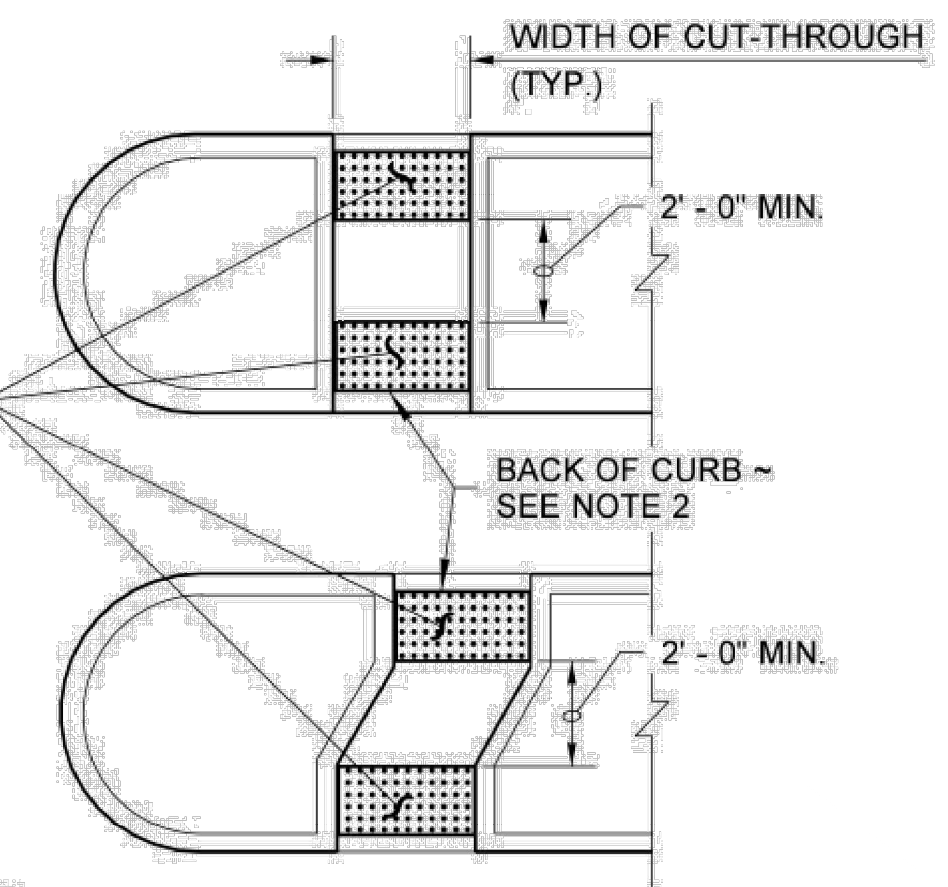
PERPENDICULAR CURB RAMP
(SEE NOTE 6)



SINGLE DIRECTION CURB RAMP
(GRADE BREAK BETWEEN CURB AND LANDING > 5 FT. FROM BACK OF CURB)
(SEE NOTE 6)



ISLAND CUT-THROUGH

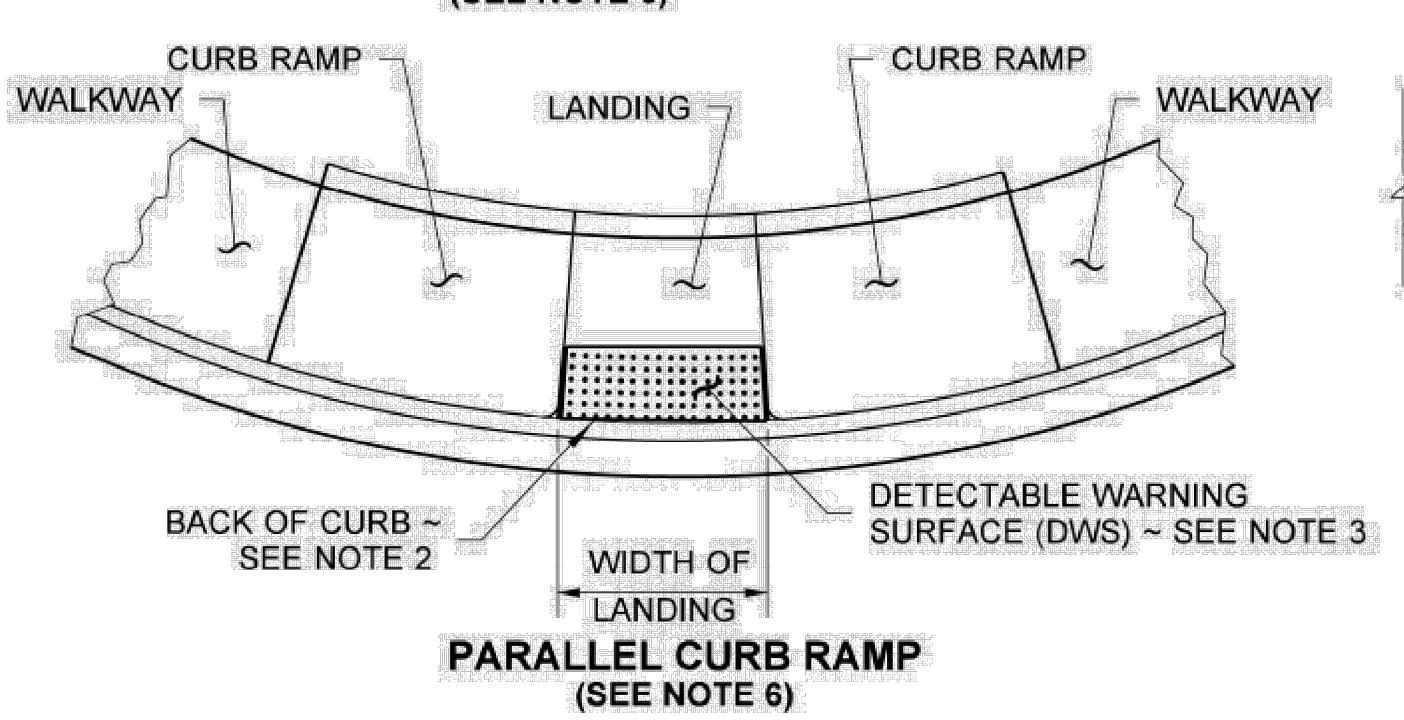


MEDIAN CUT-THROUGH

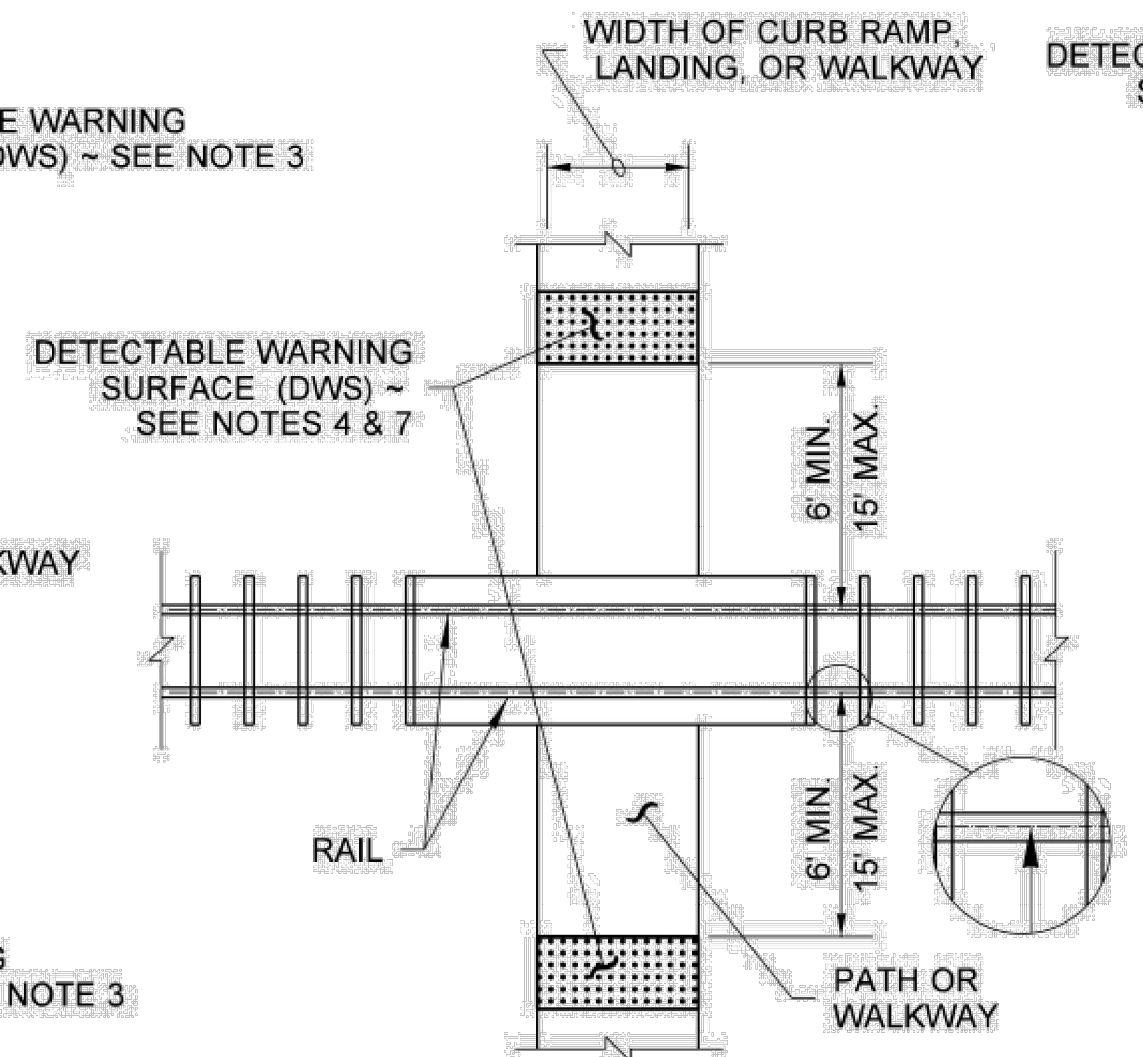
NOTE: TRUNCATED DOMES SHALL BE TRAFFIC YELLOW

MODIFIED

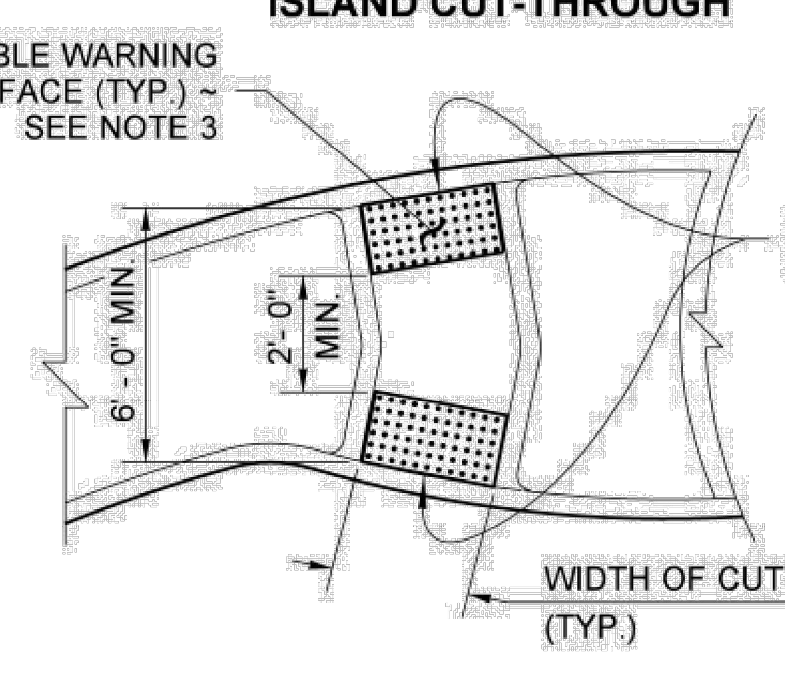
DETECTABLE WARNING SURFACE
STANDARD PLAN F-45.10-02



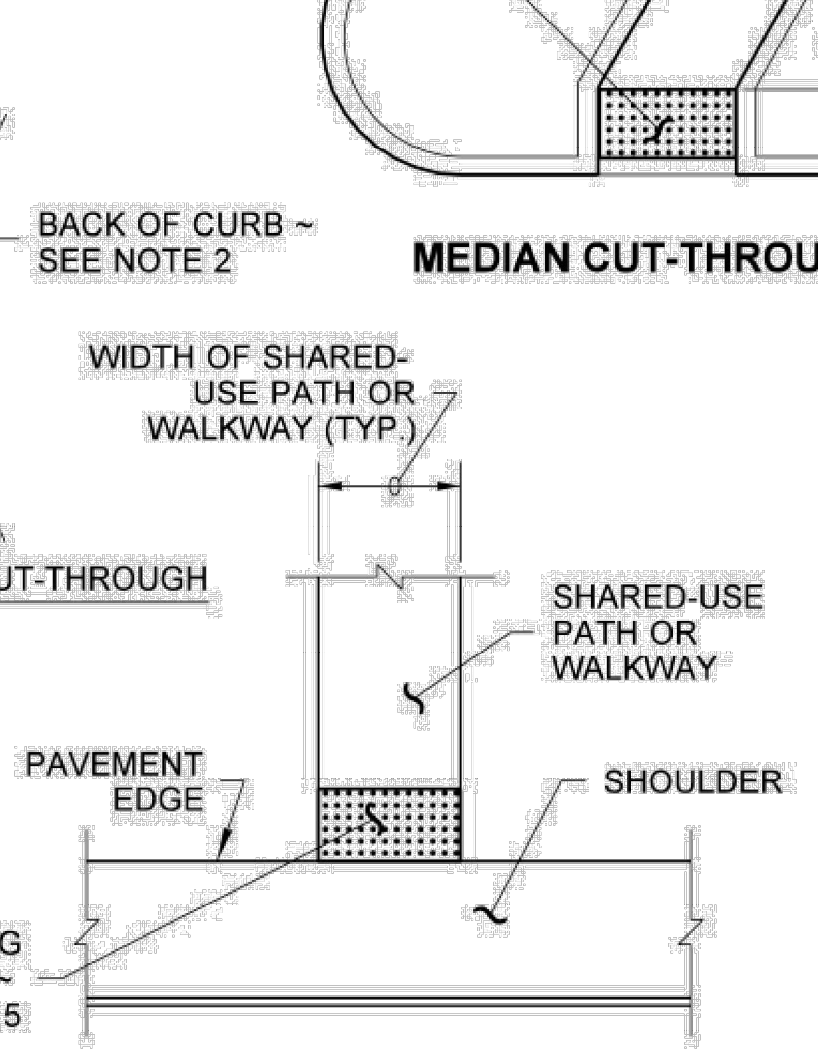
PARALLEL CURB RAMP
(SEE NOTE 6)



PEDESTRIAN RAILROAD CROSSING



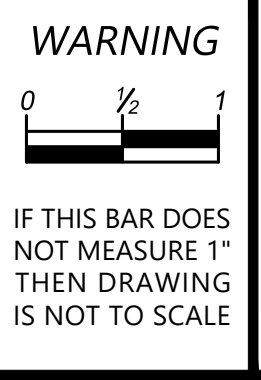
ROUNDABOUT SPLITTER ISLAND



SHARED-USE PATH CONNECTION

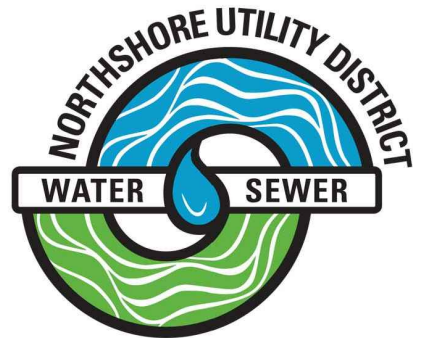
PLACEMENT GUIDELINES

NO	BY	APPD	REVISION	DATE



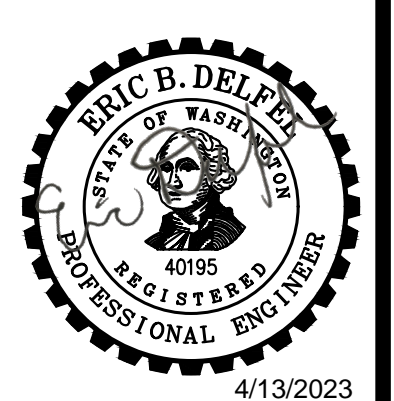
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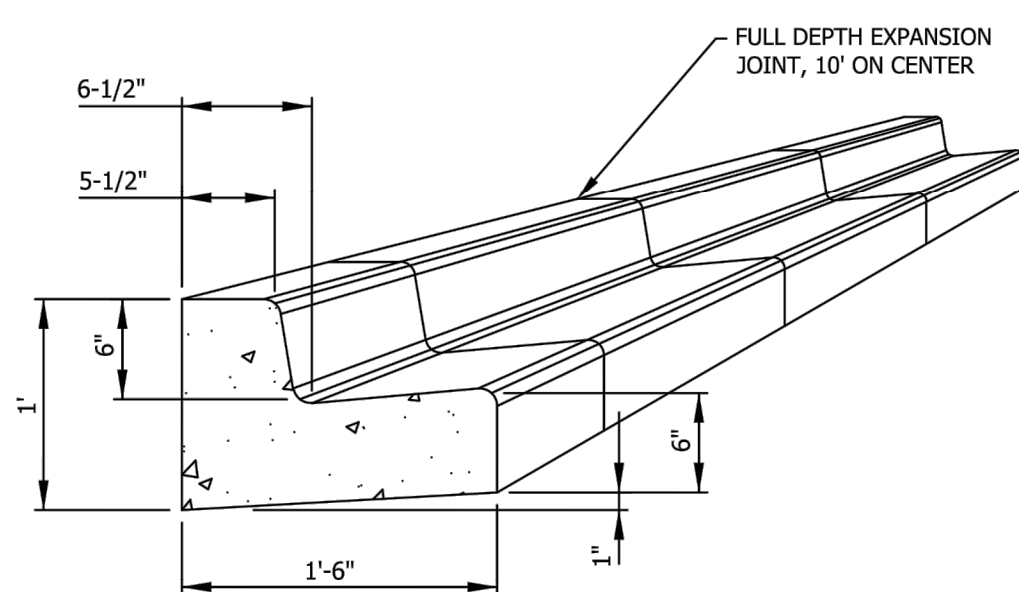
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CONTRACT 2023-03
120-84 WATER MAIN REPLACEMENT
RESTORATION DETAILS

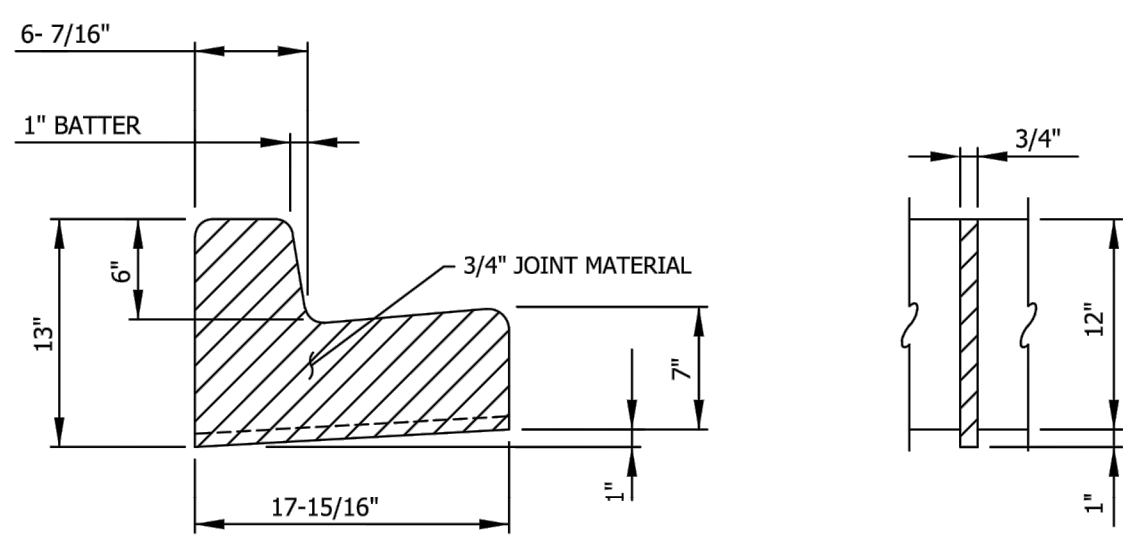


DWG: DETAILS
C2213
SHEET
12 OF 15

LAST REVISED: 01/2023



TYPICAL SECTION FOR CURB & GUTTER, TYPE A



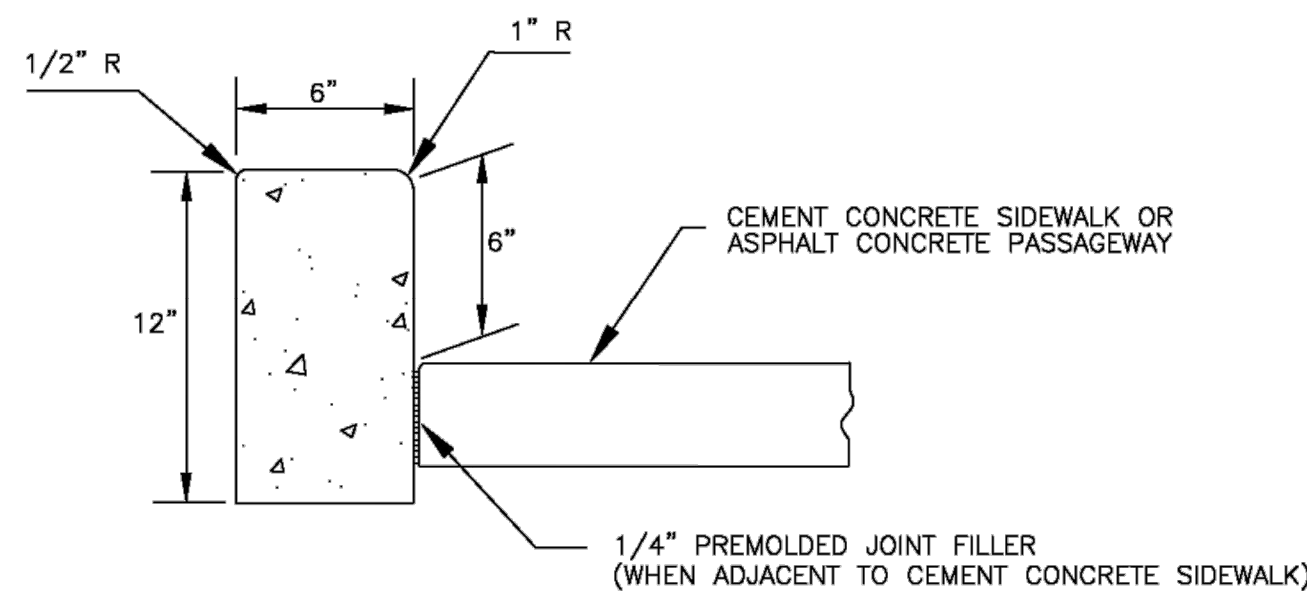
JOINT DETAIL

NOTES:

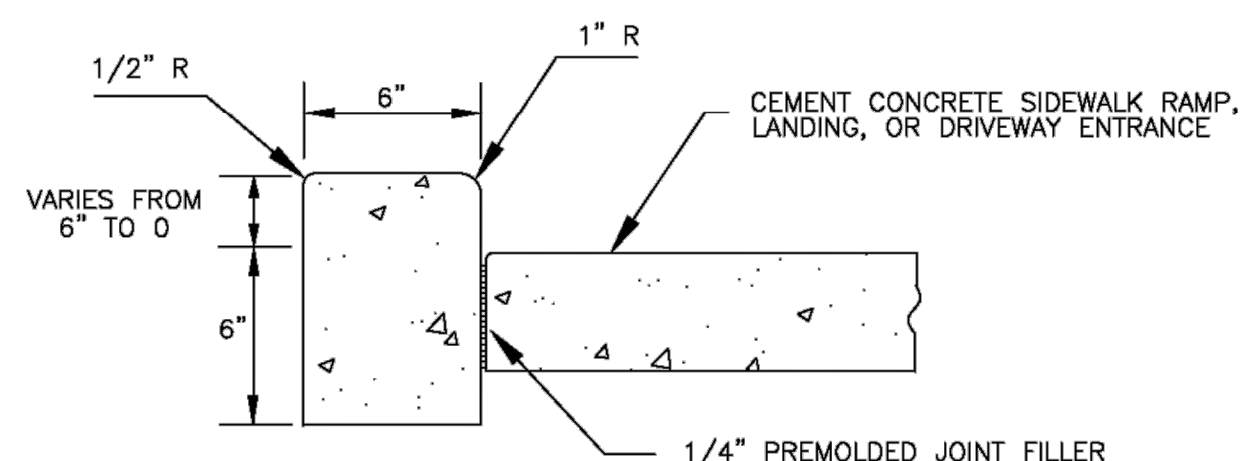
1. FORMS SHALL BE STEEL AND SET TRUE TO LINE AND GRADE (INSPECTION IS REQUIRED PRIOR TO PLACEMENT OF CONCRETE) UNLESS SPECIFIED DIFFERENTLY BY CITY PROJECT ENGINEER.
2. CONCRETE SHALL BE CEMENT CONCRETE CLASS 4000.
3. BASE COURSE SHALL BE 4" OF 5/8" MINUS CRUSHED ROCK.
4. SURVEY REQUIRED FOR CURB ALIGNMENT.

CITY OF KIRKLAND
PLAN NO. CK-R.17
CONCRETE CURB AND GUTTER, TYPE "A"

LAST REVISED: 02/12/10



CEMENT CONCRETE PEDESTRIAN CURB



CEMENT CONCRETE PEDESTRIAN CURB

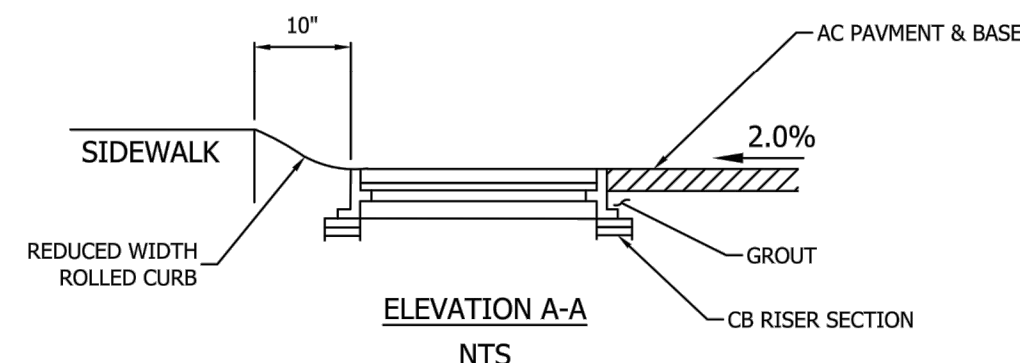
AT SIDEWALK RAMPS & LANDINGS, AND DRIVEWAY ENTRANCES

NOTES

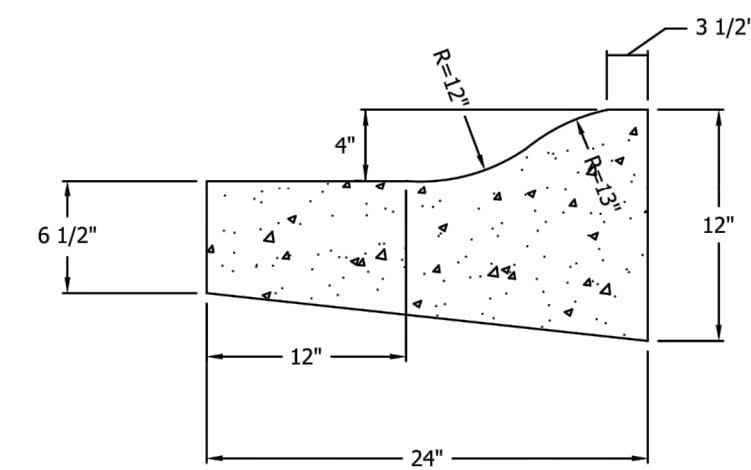
1. FORMS SHALL BE STEEL AND SET TRUE TO LINE AND GRADE (INSPECTION REQUIRED PRIOR TO PLACEMENT OF CONCRETE).
2. CONCRETE SHALL BE CEMENT CONCRETE CLASS 4000.
3. BASE COURSE SHALL BE 4" OF 5/8" MINUS CRUSHED ROCK.
4. SEE CK-R.17 FOR CURB EXPANSION AND CONTRACTION JOINT SPACING.

CITY OF KIRKLAND
PLAN NO. CK-R.17A
CEMENT CONCRETE PEDESTRIAN CURB

LAST REVISED: 01/2021



ELEVATION A-A NTS



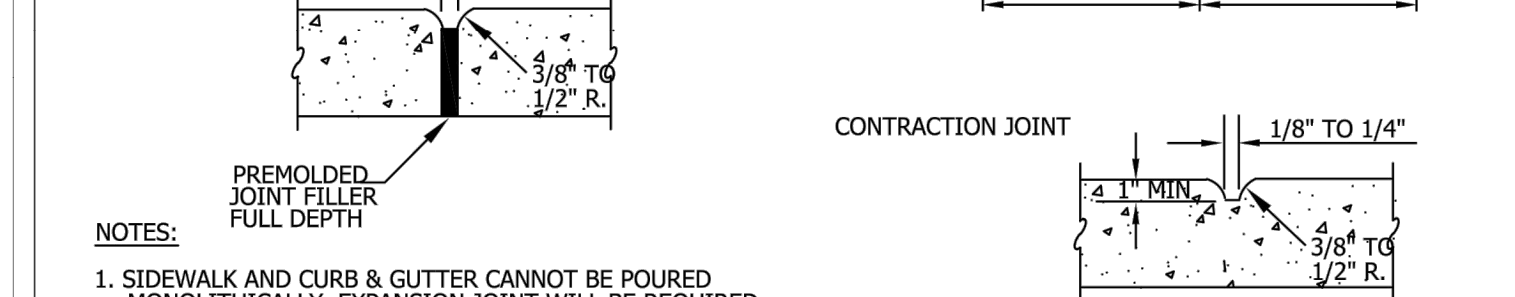
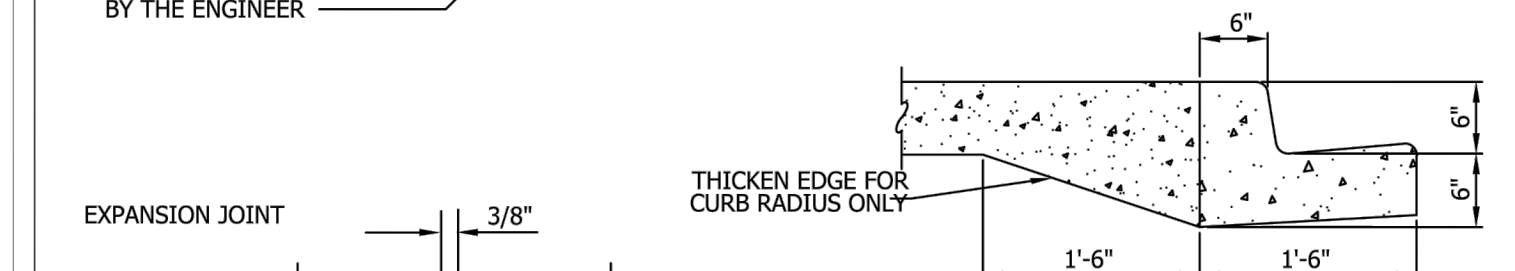
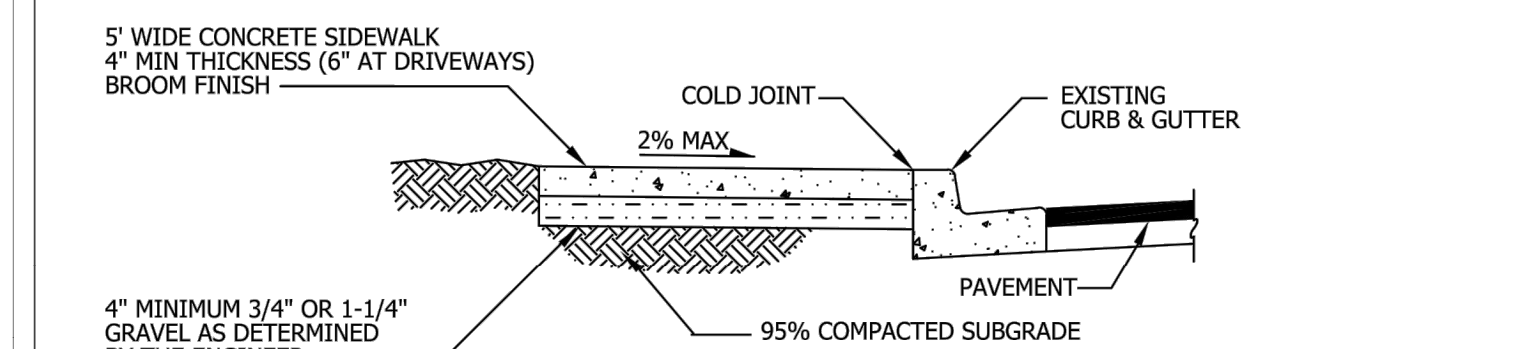
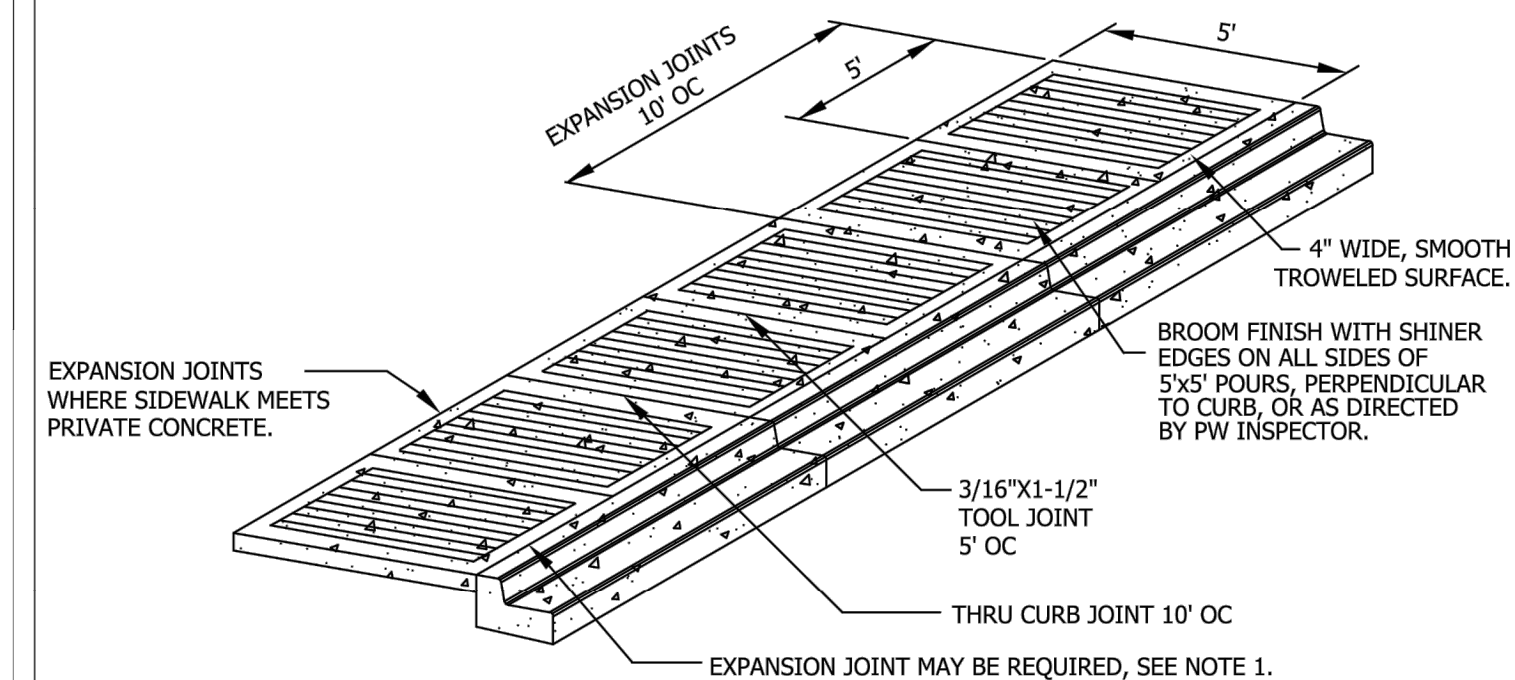
ROLLED CURB ELEVATION B-B NTS

NOTES:

1. WHEN A THRU-CURB INLET IS REQUIRED, USE A ROLLED CURB FRAME AND GRATE.
2. MAY BE INSTALLED ONLY WITH APPROVAL FROM PUBLIC WORKS DEPARTMENT.
3. BASE COURSE SHALL BE 4" OF 5/8" MINUS CRUSHED ROCK.

CITY OF KIRKLAND
PLAN NO. CK - R.17D
GRATE/ROLLED CURB INSTALLATION

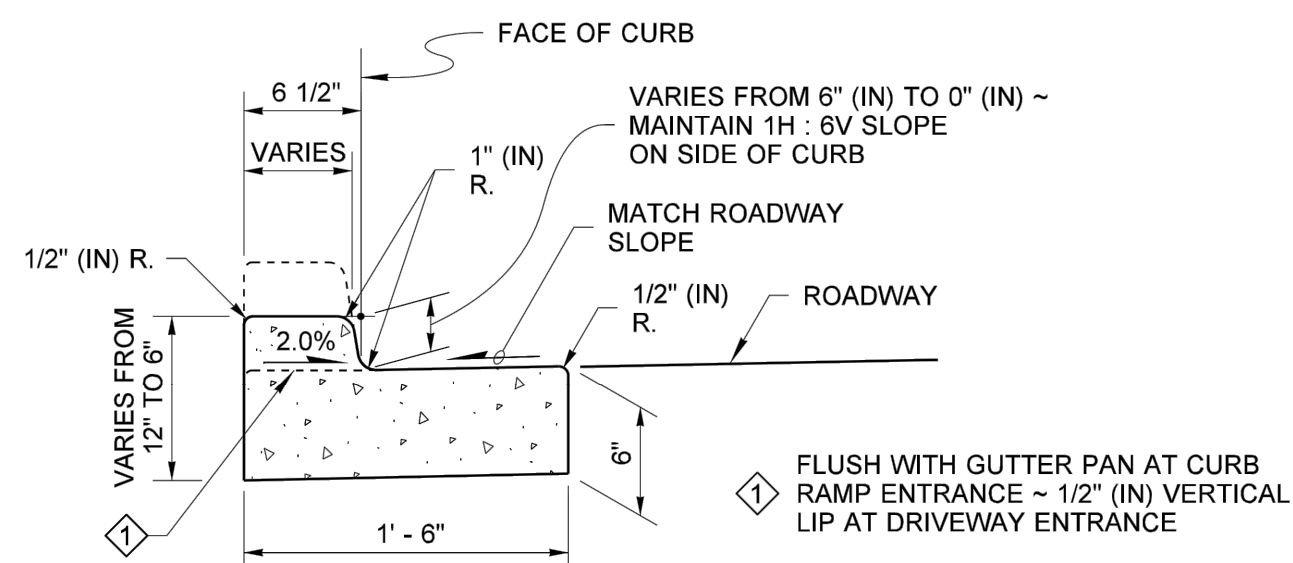
LAST REVISED: 1/1/18



NOTES:

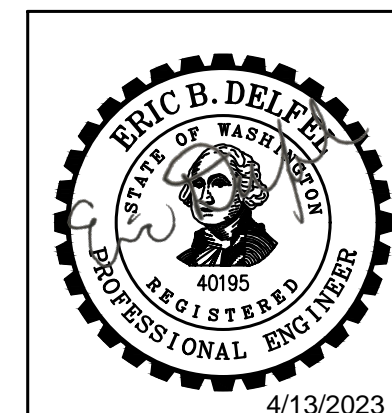
1. SIDEWALK AND CURB & GUTTER CANNOT BE POURED MONOLITHICALLY. EXPANSION JOINT WILL BE REQUIRED WHEN CONCRETE SIDEWALK IS SURROUNDED BY OTHER HARD SURFACES (E.G., DRIVEWAY); OR AS DIRECTED BY PW INSPECTOR.
2. CONCRETE SHALL BE CEMENT CONCRETE CLASS 4000 PSI MINIMUM, WITH AIR ENTRAINMENT. NO COLOR OR TINT SHALL BE ADDED.
3. FORMS SHALL BE SET TRUE TO LINE AND GRADE AND SHALL BE STEEL UNLESS OTHERWISE APPROVED BY INSPECTOR.
4. SIDEWALK SHALL NOT BE POURED IN THE RAIN. SEE POLICY R-8, PLACING CONCRETE OR ASPHALT IN ADVERSE WEATHER CONDITIONS.

CITY OF KIRKLAND
PLAN NO. CK - R.23
SIDEWALK SECTION



DEPRESSED CURB AND GUTTER SECTION AT CURB RAMPS AND DRIVEWAY ENTRANCES

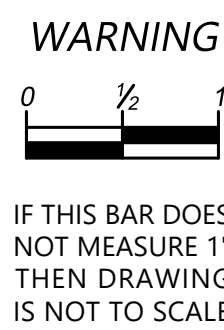
CEMENT CONCRETE CURBS
STANDARD PLAN F-10.12-04
SHEET 1 OF 1 SHEET
(MODIFIED)



4/13/2023

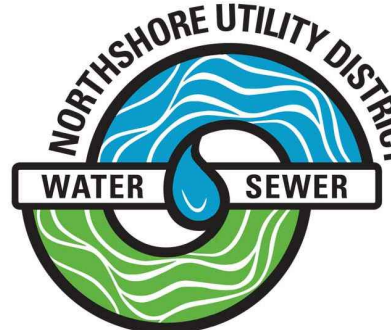
NO	BY	APPD	REVISION	DATE

BID SET



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DESIGNED BY	HLT
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APPROVAL	EBD
DATE	APR 2023

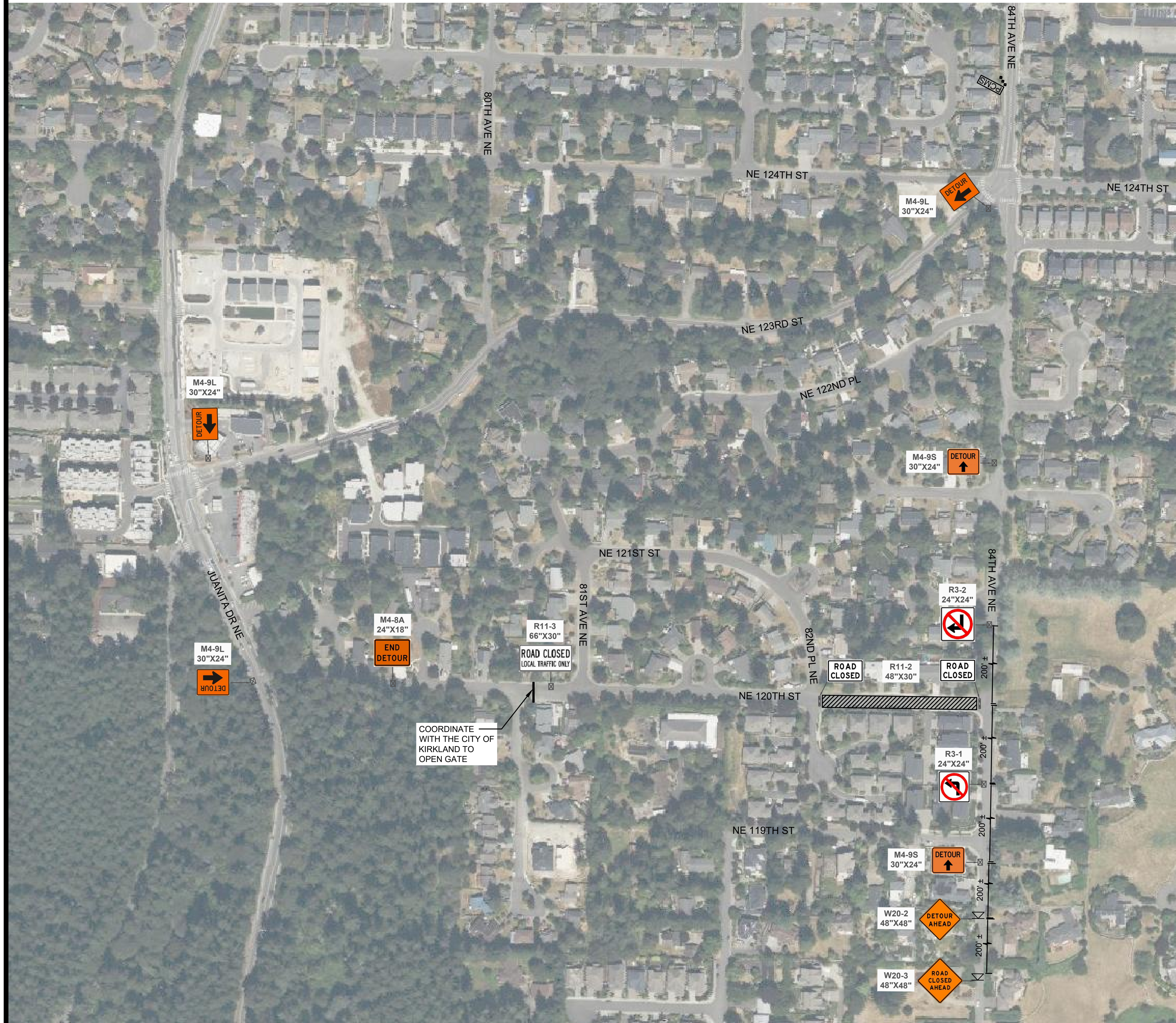
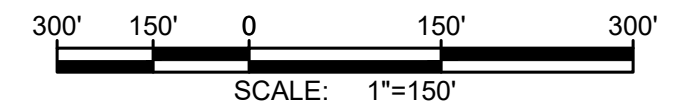


NORTHSHORE UTILITY DISTRICT
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CONTRACT 2023-03
120-84 WATER MAIN REPLACEMENT
RESTORATION DETAILS

DWG: DETAILS
C2213
SHEET
13 OF 15

SE 1/4, SEC 25, T26N, R4E, WM



NOTES

- SIGNS SHALL BE BLACK (NON-REFL.) ON ORANGE BACKGROUND (REFL.) UNLESS OTHERWISE NOTED.
- CONTRACTOR TO COMPLY WITH WORK HOURS SPECIFIED IN PERMIT.
- ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERSECTIONS AND DRIVEWAYS.
- EXTEND TAPER DEVICES ACROSS SHOULDER.
- MOTORCYCLES USE EXTREME CAUTION SIGNS SHALL BE INSTALLED WHEN THE FOLLOWING ROADWAY CONDITIONS EXIST:
 - GROOVED PAVEMENT
 - ABRUPT LANE EDGE
 - STEEL PLATES
 - LOOSE GRAVEL OR EARTH
- OPEN TRENCHES WITHIN THE TRAVELED WAY OR AUXILIARY LANE SHALL HAVE A STEEL-PLATE COVER PLACED AND ANCHORED OVER THEM. A WEDGE OF SUITABLE MATERIAL, IF REQUIRED, SHALL BE PLACED FOR A SMOOTH TRANSITION BETWEEN THE PAVEMENT AND THE STEEL PLATE. WARNING SIGNS SHALL BE USED TO ALERT MOTORISTS OF THE PRESENCE OF THE STEEL PLATES.
- THE ROAD CLOSURE AND DETOUR SHOWN HEREON SHALL BE UTILIZED FOR ROAD RECONSTRUCTION AND PAVEMENT RESTORATION ONLY, ALL OTHER CONSTRUCTION ACTIVITIES SHALL MAINTAIN TWO WAY TRAFFIC UNLESS OTHERWISE APPROVED BY THE CITY OF KIRKLAND.

LEGEND

- TEMPORARY SIGN LOCATION
- WORK ZONE
- CHANNELIZING DEVICES
- TEMPORARY SIGN LOCATION (5' MOUNTING HEIGHT)
- TYPE III BARRICADE
- PORTABLE CHANGABLE MESSAGE SIGN

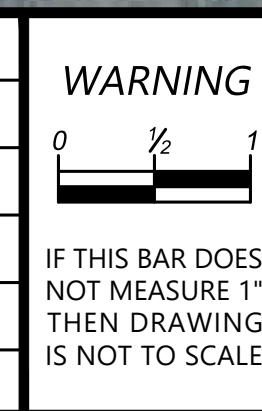
SIGN SPACING = X (1)		
RURAL HIGHWAYS	60 / 65 MPH	800'
RURAL ROADS	45 / 55 MPH	500'
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350'
RURAL ROADS, URBAN ARTERIALS, RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200' (2)
URBAN STREETS	25 MPH OR LESS	100' (2)

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

PCMS	
1	2
120 ST CLOSED AHEAD	NO RIGHT TURN
2.0 SEC	2.0 SEC

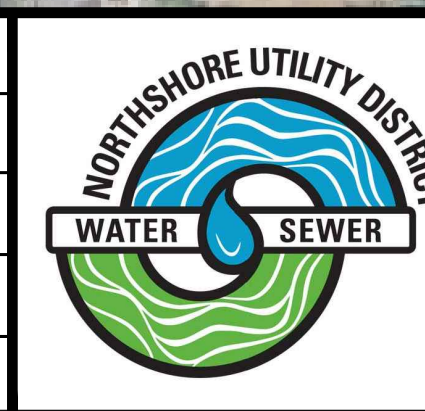
FIELD LOCATE IN ADVANCE OF TEMPORARY SIGNS

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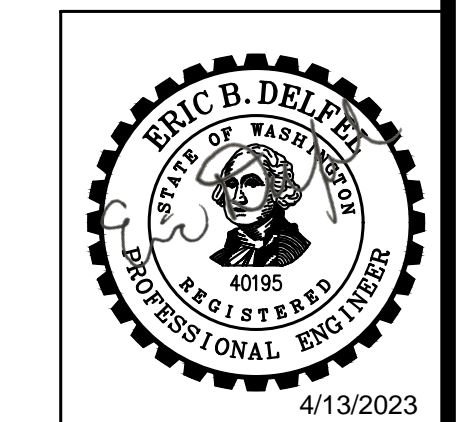
DESIGNED BY	CRC
DRAWN BY	CRC
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DATE	APR 2023



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CONTRACT 2023-03
 120-84 WATER MAIN REPLACEMENT

TRAFFIC CONTROL

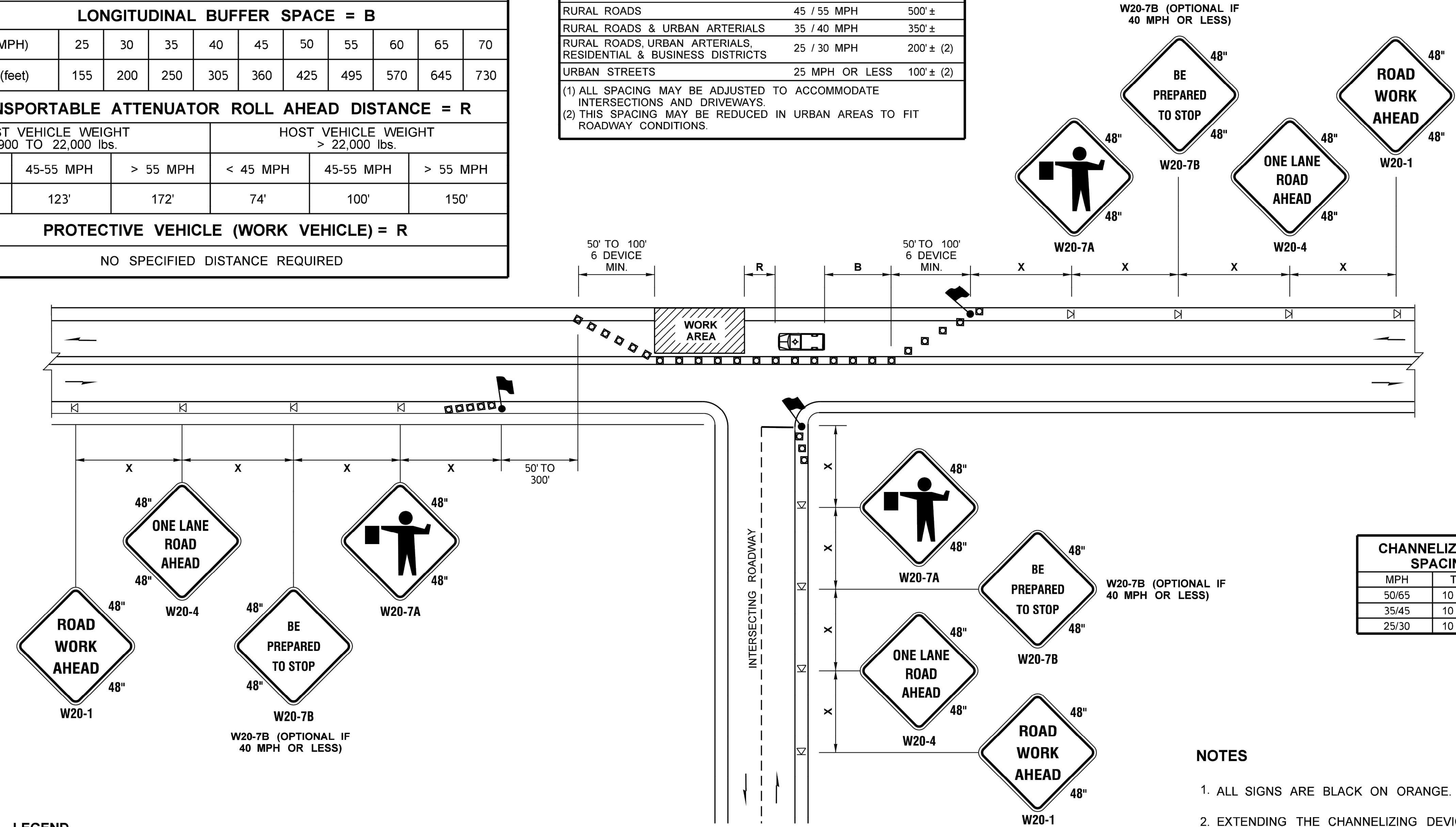


WG: TRAFFIC CONTROL
C2213
SHEET
14 OF 15

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	730
TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R										
HOST VEHICLE WEIGHT 9,900 TO 22,000 lbs.					HOST VEHICLE WEIGHT > 22,000 lbs.					
< 45 MPH	45-55 MPH	> 55 MPH			< 45 MPH	45-55 MPH	> 55 MPH			
100'	123'	172'			74'	100'	150'			
PROTECTIVE VEHICLE (WORK VEHICLE) = R										
NO SPECIFIED DISTANCE REQUIRED										

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.



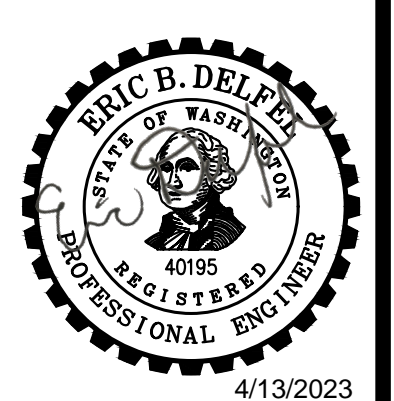
CHANNELIZATION DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
50/65	10 TO 20	80
35/45	10 TO 20	60
25/30	10 TO 20	40

- NOTES**
- ALL SIGNS ARE BLACK ON ORANGE.
 - EXTENDING THE CHANNELIZING DEVICE TAPER ACROSS SHOULDER IS RECOMMENDED.
 - NIGHT WORK REQUIRES ADDITIONAL ROADWAY LIGHTING AT FLAGGING STATIONS. SEE THE STANDARD SPECIFICATIONS FOR ADDITIONAL DETAILS.
 - SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.

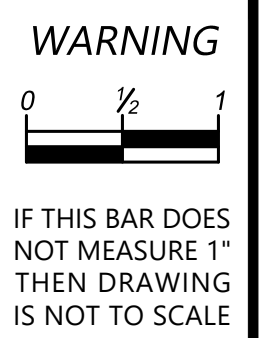
ONE-LANE, TWO-WAY TRAFFIC CONTROL WITH FLAGGERS

NOT TO SCALE

FILE NAME	S:\Design R P& S14-Standards\2-Plan Sheet Library\01-Published PSL(TC) Work Zone Traffic Control(TC-1) One Lane, Two Way Traffic Control with Flaggers\TC-1.dgn					Plot 1
TIME	3:05:14 PM					PLAN REF NO
DATE	1/2/2018					TC1
PLOTTED BY	liddelf					SHEET
DESIGNED BY						OF
ENTERED BY						SHEETS
CHECKED BY						
PROJ. ENGR.						
REGIONAL ADM.						
REVISION						
DATE						
BY						

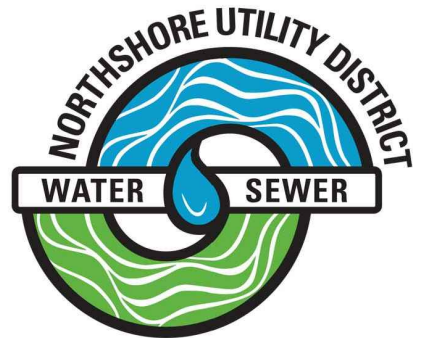


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TRAFFIC CONTROL

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