

MUKILTEO STORMWATER DECANT FACILITY

MUKILTEO, WASHINGTON

RECEIVED
By Sarah Kress at 2:33 pm, Apr 17, 2020

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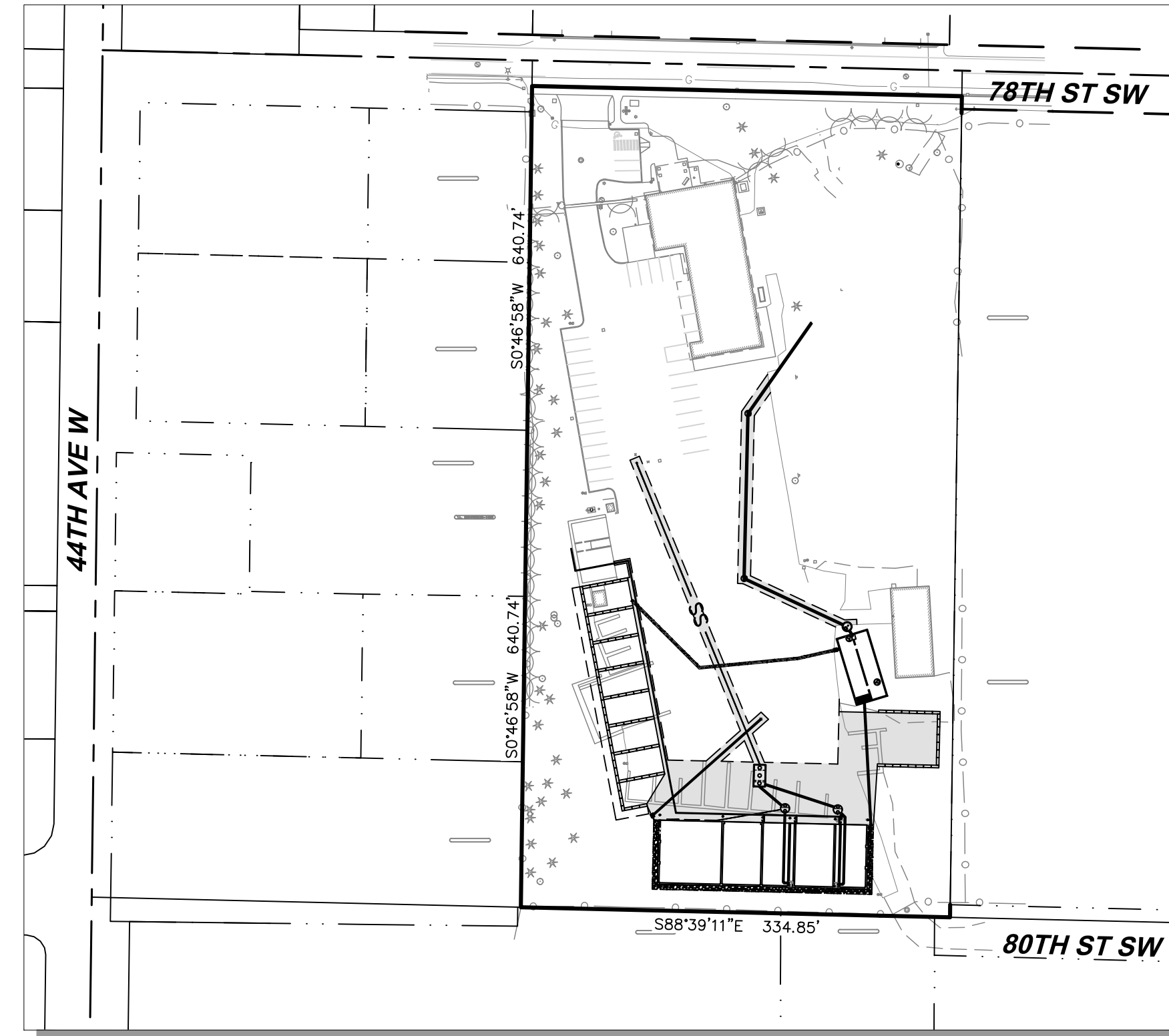
ANDREA SWISSTACK, PE. (INTERIM)

ASSISTANT CITY ENGINEER

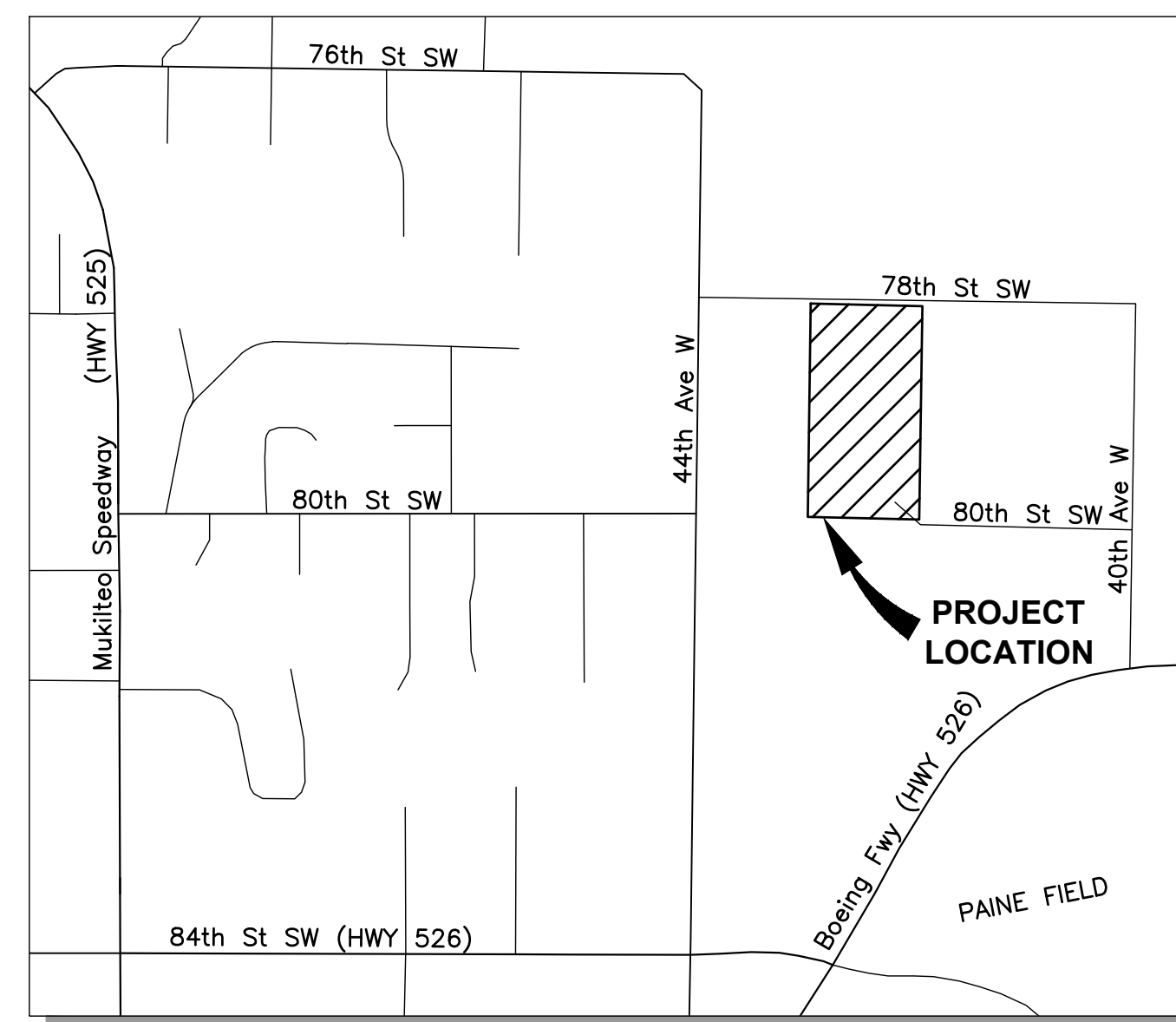
ANDREA SWISSTACK, PE.

CITY COUNCIL

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SITE MAP
SCALE = 1" = 100'



VICINITY MAP
SCALE = 1" = 500'

SHEET #	SHEET TITLE
CIVIL	
C-01	COVER SHEET
C-02	EXISTING CONDITIONS - NORTH
C-03	EXISTING CONDITIONS - SOUTH
C-04	TESC AND DEMOLITION PLAN
C-05	TESC DETAILS
C-06	GRADING AND SITE PLAN
C-07	UTILITY PLAN - SOUTH
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S-02	ENGINEER'S QUALITY ASSURANCE PLAN
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S-09	STRUCTURAL DETAILS
ELECTRICAL	
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E02	ONELINE DIAGRAM
E03	ELECTRICAL SERVICE SITE PLAN
E04	DECANT AREA PLAN

FUNDED IN PART BY THE WASHINGTON STATE
DEPARTMENT OF ECOLOGY

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NAME: QC By: _____ DATE: QC Date: _____

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CALL BEFORE
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UNDERGROUND SERVICE (USA)



FILE NAME: P:\P17\17473 CITY OF MUKILTEO STORMWATER DECANT\CAD\ENGINEERING\SHEETS\17473_CVR.DWG
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PLOT BY: JMM
PLOT DEVICE: HP DesignJet T1140
PLOT SCALE: 1" = 100'

DESIGNED	JMM								
DRAWN	MWP								
CHECKED	JMM								
SYM		REVISION		DATE	BY	APP'D			



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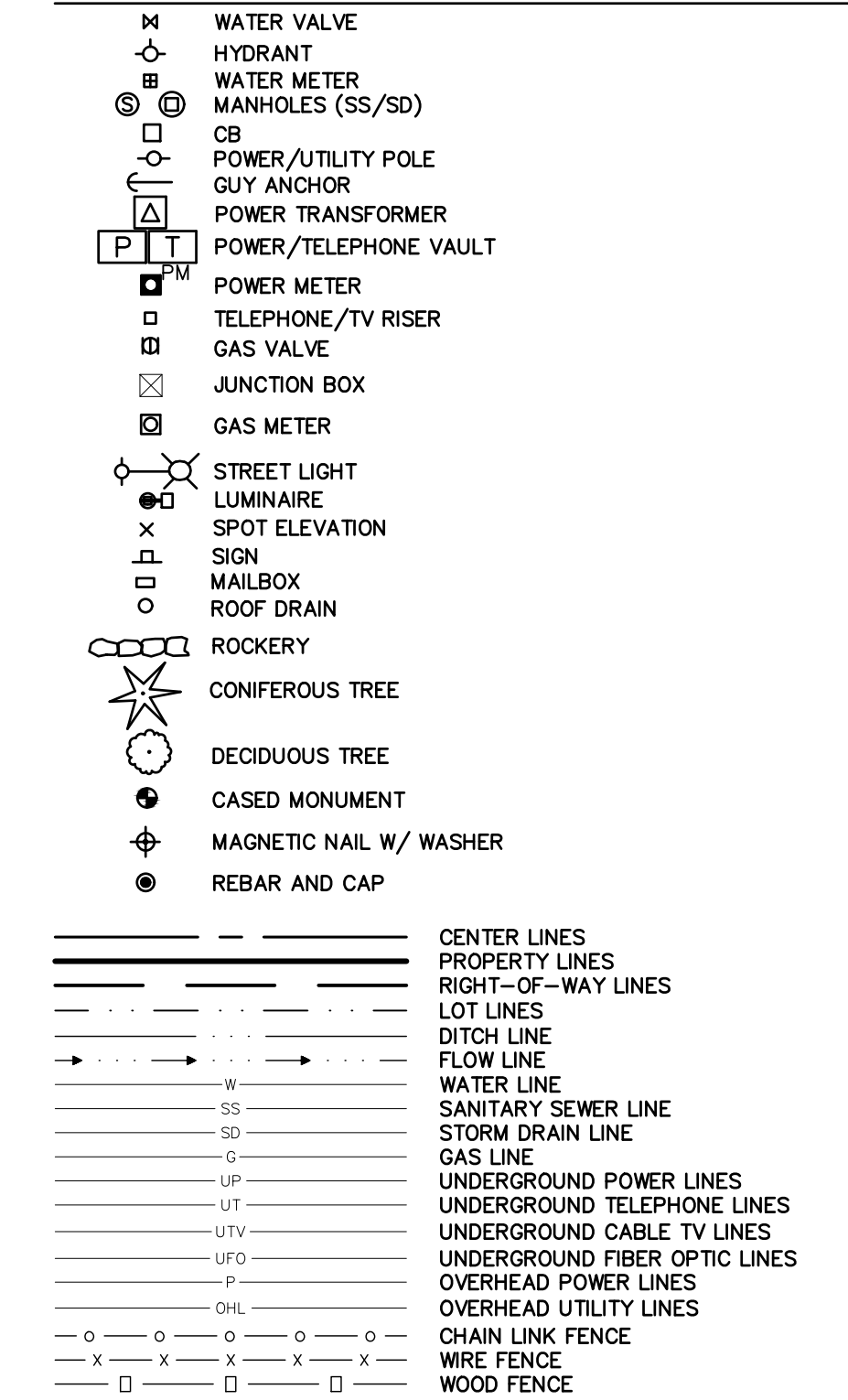
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AS SHOWN

MUKILTEO STORMWATER DECANT FACILITY

COVER SHEET

JOB NUMBER
17473
DWG NAME: P17473_OR
SHEET C-01 OF 28

LEGEND



HORIZONTAL DATUM:
WASHINGTON SPC NORTH ZONE (4601) NAD 83-2011 Epoch 2010.00.

VERTICAL DATUM:
NAVD 88 (GNSS DERIVED GEOID12A)

ALL DISTANCES SHOWN ARE GROUND DISTANCES UNLESS OTHERWISE NOTED.

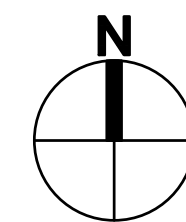
THE LOCATION AND DESCRIPTION OF ALL SURVEY MARKERS SHOWN HEREON ARE BASED ON FIELD OBSERVATIONS TAKEN IN OCTOBER, 2017, UNLESS OTHERWISE INDICATED.

WORK PERFORMED IN CONJUNCTION WITH THIS SURVEY UTILIZED THE FOLLOWING EQUIPMENT AND PROCEDURES: (A) 1" TRIMBLE S6 SERIES ELECTRONIC TOTAL STATION, MAINTAINED TO THE MANUFACTURER'S SPECIFICATIONS PER W.A.C. 332-130-100. (B) FIELD TRAVERSE, EXCEEDING REQUIREMENTS SET FORTH IN W.A.C. 332-130-090.

THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT AND DOES NOT PURPORT TO SHOW ALL EASEMENTS.

THIS TOPOGRAPHIC SURVEY DRAWING ACCURATELY PRESENTS SURFACE FEATURES LOCATED DURING THE COURSE OF THIS SURVEY. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED SOLELY UPON INFORMATION PROVIDED BY OTHERS AND PACE ENGINEERS, INC. DOES NOT ACCEPT RESPONSIBILITY OR ASSUME LIABILITY FOR THEIR ACCURACY OR COMPLETENESS. CONTRACTOR/ENGINEERS SHALL VERIFY EXACT SIZE AND LOCATION PRIOR TO CONSTRUCTION.

CALL FOR LOCATE: UTILITY LOCATION SERVICE: 811



HORIZ.  Scale In Feet

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UNDERGROUND SERVICE (USA)

90% SUBMITTAL

EXISTING CONDITIONS – NORTH

JOB NUMBER
17473

DWG NAME: P17473_EC

SHEET C-02 OF  2

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 PLOT TIME: 2/12/2020 2:32 PM
 USER NAME: MICHAEL PARKER
 REFERENCE FILES: X17473_BDR.dwg X17473-BNDRY.dwg X17473-SRV.dwg X17473_STMP.dwg

DESIGNED	JMM					
DRAWN	MWP					
CHECKED	JMM					
		SYM	REVISION	DATE	BY	APP'V



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SCALE	AS SHOWN

MUKILTEO STORMWATER DECANT FACILITY

MATCHLINE - SEE SHEET C-03

	WATER VALVE
	HYDRANT
	WATER METER
	MANHOLES (SS/SD)
	CB
	POWER/UTILITY POLE
	GUY ANCHOR
	POWER TRANSFORMER
	POWER/TELEPHONE VAULT
	POWER METER
	TELEPHONE/TV RISER
	GAS VALVE
	JUNCTION BOX
	GAS METER
	STREET LIGHT
	LUMINAIRE
	SPOT ELEVATION
	SIGN
	MAILBOX
	ROOF DRAIN
	ROCKERY
	CONIFEROUS TREE
	DECIDUOUS TREE
	CASED MONUMENT
	MAGNETIC NAIL W/ WASHER
	REBAR AND CAP
	CENTER LINES
	RIGHT-OF-WAY LINES
	LOT LINES
	DITCH LINE
	FLOW LINE
	WATER LINE
	SANITARY SEWER LINE
	STORM DRAIN LINE
	GAS LINE
	UNDERGROUND POWER LINES
	UNDERGROUND TELEPHONE LINES
	UNDERGROUND CABLE TV LINES
	UNDERGROUND FIBER OPTIC LINES
	OVERHEAD POWER LINES
	OVERHEAD UTILITY LINES
	CHAIN LINK FENCE
	WIRE FENCE
	WOOD FENCE

HORIZONTAL DATUM:
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VERTICAL DATUM:
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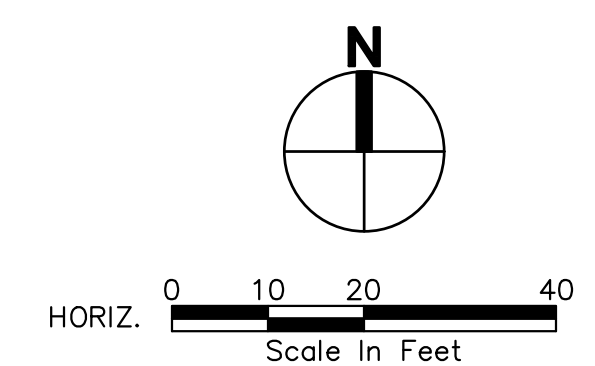
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EXISTING CONDITIONS – SOUTH

JOB NUMBER
17473
 DWG NAME: P17473_EC
 SHEET **C-03** OF 

FILE NAME: P:\P17\17473 CITY OF MUKILTEO STORMWATER DECANT\CAD\ENGINEERING\SHEETS\P17473_EC.DWG
 SAVE TIME: 12/11/2019 9:39:49 AM
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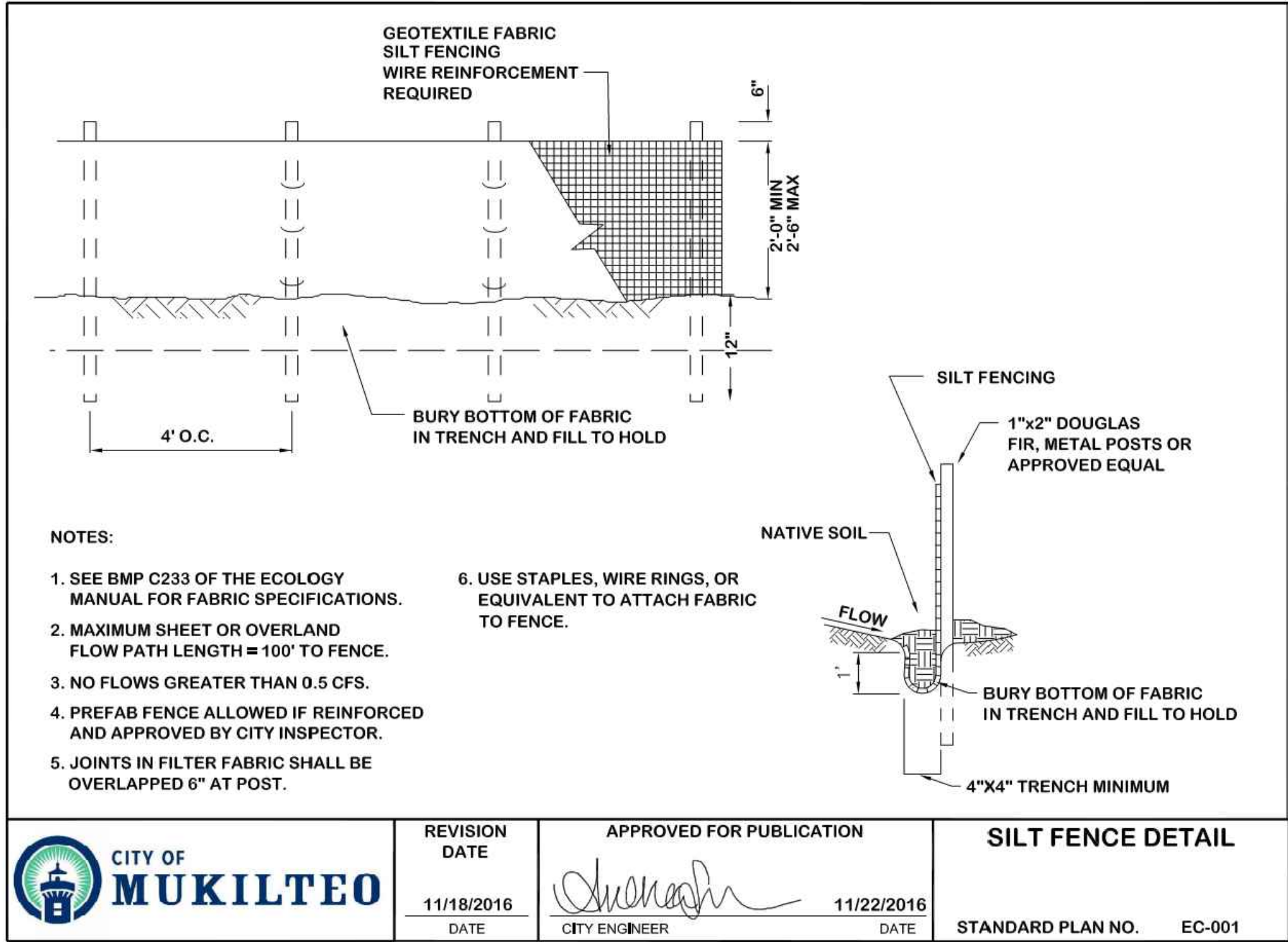


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DATE	02/12/2020
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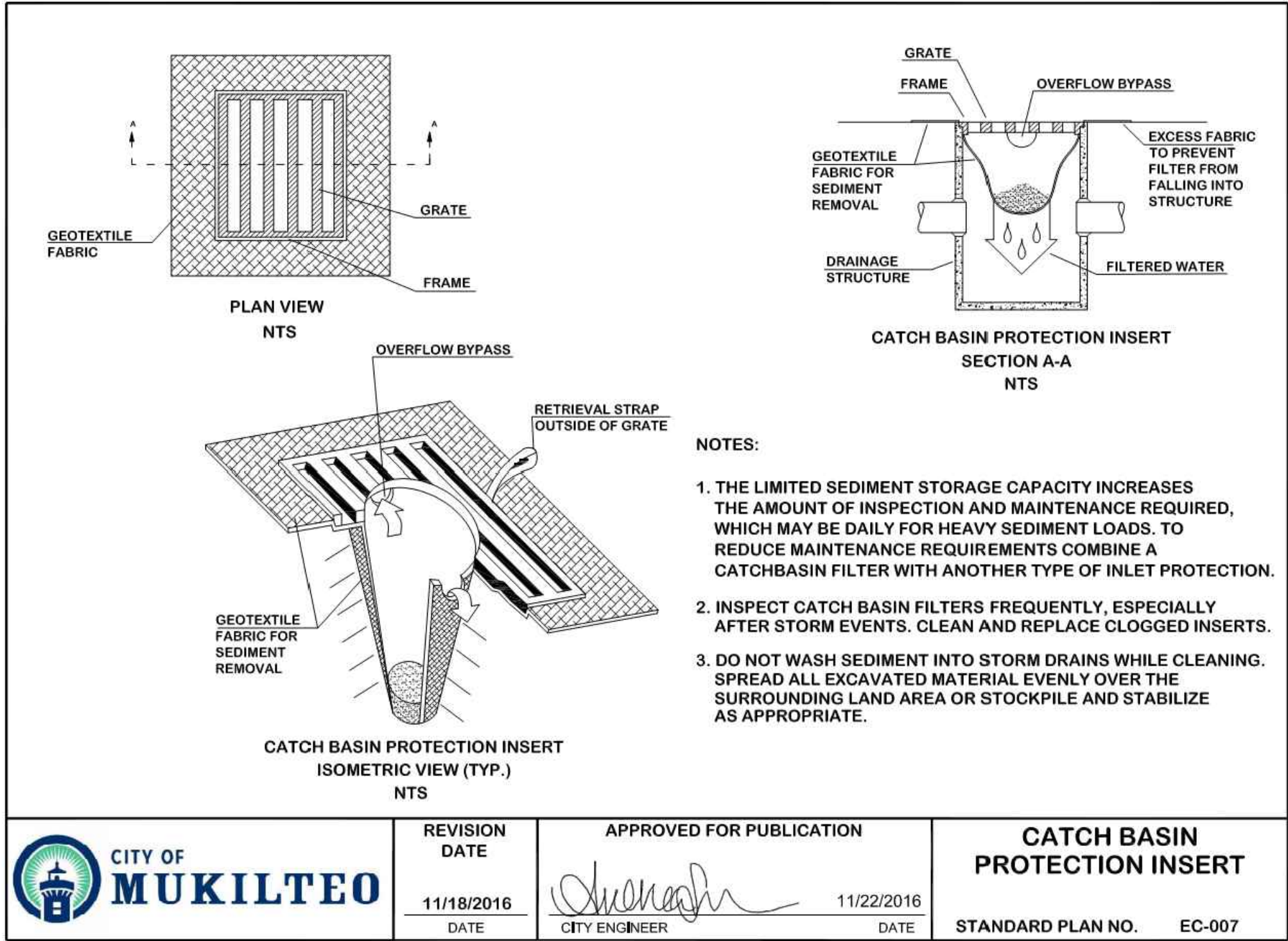
DATE
02/12/2020
SCALE
AS SHOWN



1 SILT FENCE DETAIL (EC-001)
NTS



2 CONSTRUCTION ENTRANCE (EC-006)
NTS



3 CATCH BASIN PROTECTION INSERT (EC-007)
NTS

MAINTENANCE OF SILTATION BARRIERS

- SILTATION BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED EROSION CONTROL ELEMENTS, ESPECIALLY END-RUNS AND SEDIMENT BUILD-UP. NECESSARY REPAIRS TO BARRIERS SHALL BE ACCOMPLISHED THE SAME DAY.
- SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAINFALL. SEDIMENT DEPOSITS MUST BE REMOVED WHEN THE SEDIMENT LEVEL REACHES APPROXIMATELY ONE-HALF THE SILTATION BARRIER HEIGHT.
- ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE CHECK DAM IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

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PLOTTER: HP DesignJet T1140
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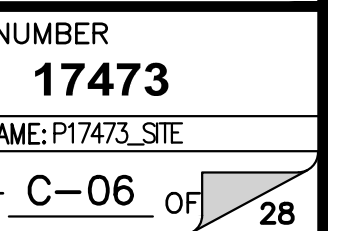
TESC DETAILS

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JOB NUMBER
17473
DWG NAME: P17473_TESC-DET
SHEET C-05 OF 28



1. ALL PIPE SHALL BE PLACED ACCORDING DIVISION 7 OF THE WSDOT STANDARD SPECIFICATIONS.
2. BACKFILL SHALL BE PLACED EQUALLY ON BOTH SIDES OF THE PIPE OR PIPE-ARCH IN 6" AVERAGE DEPTH LOOSE LIFTS. MAXIMUM LIFT DEPTH SHALL NOT EXCEED 9". EACH LIFT SHALL BE THOROUGHLY COMPACTED. COMPACTED LIFTS MUST EXTEND AT LEAST ONE PIPE DIAMETER ON EACH SIDE OF THE PIPE OR TO THE SIDE OF THE TRENCH. BACKFILL OVER THE PIPE SHALL BE PERFORMED IN ACCORDANCE WITH SECTIONS 7-08.3(3) OF THE WSDOT STANDARD SPECIFICATIONS.
3. ALL GRATES LOCATED IN THE GUTTER FLOW LINE (INLET AND CATCH BASIN) SHALL BE DEPRESSED 0.1 FEET BELOW PAVEMENT LEVEL.
4. ALL CATCH BASINS ARE TO BE TYPE I UNLESS OTHERWISE APPROVED BY THE CITY OR DESIGNATED REPRESENTATIVE. THE USE AND INSTALLATION OF INLETS IS NOT ALLOWED.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING ALL MANHOLE, INLET, AND CATCH BASIN FRAMES AND GRATES TO GRADE JUST PRIOR TO CURB INSTALLATION AND/OR PAVING.
6. ALL CATCH BASINS WITH A DEPTH OF 5 FEET OR GREATER TO THE FLOW LINE SHALL BE TYPE II CATCH BASINS.
7. VANED GRATES ARE REQUIRED ON ALL STORM STRUCTURES. ALL CATCH BASINS AND MANHOLES SHALL HAVE LOCKING LIDS. ROLLED GRATES ARE NOT APPROVED FOR USE.
8. POLYPROPYLENE SAFETY STEPS AND LADDER STEPS SHALL BE PROVIDED IN ALL MANHOLES AND SHALL BE POSITIONED CORRECTLY WITH THE BOLT AREAS ON THE RIM.
9. CATCH BASIN FRAMES AND GRATES SHALL BE OLYMPIC FOUNDRY MODEL SM60, SM52, OR SM44, LOCKING TYPE OR EQUIVALENT. MODEL SM52 SHALL BE REFERRED TO AS A "THROUGH CURB INLET" ON THE PLANS.
10. DETENTION PONDS WITH SIDE SLOPES STEEPER THAN 3:1 OR WITH A MAXIMUM WATER DEPTH GREATER THAN 3 FEET SHALL REQUIRE A VINYL-COATED CHAIN LINK PERIMETER FENCE. SIDE SLOPE AVERAGING SHALL NOT BE ALLOWED. ALL INLET AND OUTFALL PIPES SHALL HAVE A TRASH RACK INSTALLED AND A MORTARED RIPRAP HEADWALL.
11. STORMWATER RETENTION/DETENTION FACILITIES, STORM DRAINAGE PIPE, AND CATCH BASINS SHALL BE FLUSHED AND CLEANED BY THE CONTRACTOR PRIOR TO:
 - a. CITY OF MUKILTEO FINAL ACCEPTANCE OF THE PROJECT.
 - b. UPON COMMENCEMENT AND COMPLETION OF THE 2-YEAR WARRANTY PERIOD FOR THE STORM DRAINAGE SYSTEM. AN INVOICE DETAILING THE FLUSHING AND CLEANING SHALL BE PROVIDED TO THE CITY.
12. ALL PIPES SHALL BE INSTALLED WITH RUBBER GASKETS AS PER MANUFACTURER'S RECOMMENDATIONS.
13. COVERAGE REQUIREMENTS FOR 12" DIAMETER PIPE:
 - a. BACKFILL OVER PIPE LESS THAN 12" REQUIRES RCP CLASS IV.
- b. BACKFILL OVER PIPE GREATER THAN 24" REQUIRES RCP MINIMUM.
- c. BACKFILL OVER PIPE GREATER THAN 24" REQUIRES 16 GAGE CMP MINIMUM.

14. CORRUGATED POLYETHYLENE PIPE (CPP):

- a. ALL PIPE SHALL BE SMOOTH INTERIOR. CPP SHALL BE DOUBLE-WALLED. ALL PIPE SHALL MEET AASHTO AND ASTM SPECIFICATIONS.
- b. UPON REQUEST BY THE CITY INSPECTOR, ALL PIPE RUNS SHALL PASS THE LOW PRESSURE AIR TEST REQUIREMENTS OF SECTION 7-04.3(1) E & F OF THE WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION. PIPE RUNS SHALL BE TESTED WITH PIPE LOADED AND COMPACTED TO FINISH GRADE.
- c. UPON REQUEST BY THE CITY INSPECTOR, PIPE SHALL BE SUBJECT TO MANDREL TESTING (MANDREL SIZE = 90% OF NOMINAL PIPE DIAMETER).
- d. PIPE SHALL BE STORED ONSITE IN SHIPPING BUNKS ON A FLAT LEVEL SURFACE. THIS REQUIREMENT WILL BE STRICTLY ENFORCED; FAILURE TO COMPLY MAY RESULT IN REJECTION OF THE PIPE AND/OR FUTURE RESTRICTION ON USE OF MATERIAL.
- e. MINIMUM DEPTH OF COVER SHALL BE 2 FEET.
- f. COUPLINGS SHALL BE INTEGRAL BELL AND SPIGOT OR DOUBLE BELL SEPARATE COUPLINGS. SPLIT COUPLINGS WILL NOT BE ALLOWED.
- g. BACKFILL SHALL COMPLY WITH SECTION 7-08.3(3) OF THE WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION WITH THE EXCEPTION THAT THE SECOND PARAGRAPH OF SECTION 7-08.3(3) IS DELETED AND REPLACED WITH:

THE MATERIAL USED FOR BACKFILLING AROUND AND TO A POINT 1 FOOT ABOVE THE TOP OF THE PIPE SHALL BE CLEAN EARTH OR SAND, FREE FROM CLAY. ANY GRAVEL OR STONES INCLUDED IN THE BACKFILL SHALL PASS THROUGH A 1-INCH SIEVE.

15. ALL NON-PERFORATED METAL PIPE SHALL HAVE NEOPRENE GASKETS AT THE JOINTS. O-RING GASKETS MAY BE USED FOR TYPE F COUPLING BAND.

16. CULVERT ENDS SHALL BE BEVELED TO MATCH SIDE SLOPES FIELD CUTTING OF CULVERT ENDS IS PERMITTED WHEN APPROVED BY THE CITY.

17. ALL FIELD CUT CULVERT PIPE SHALL BE TREATED AS REQUIRED IN THE STANDARD SPECIFICATIONS OR GENERAL SPECIAL PROVISIONS.

*CONTRACTOR TO FIELD VERIFY DEPTH OF EXISTING PIPE.

1.	IE= 553.91	(EXISTING 8" DI STORM)
	CR= 550.22	(12" PVC STORM)
2.	IE= 553.85	(EXISTING 12" CPEP STORM)
	CR= 550.30	(12" PVC STORM)
3.	IE= 557.11	(6" PVC STORM)
	CR= 556.38	(8" DI SEWER)
4.	IE= 557.82	(8" PVC STORM)
	CR= 555.94	(EXISTING 12" CPEP STORM)

1. CONNECT FOOTING DRAINS TO NEW CB
2. REMOVE EXISTING STORM DRAIN AS NEEDED TO CONNECT NEW 6" PVC TO EXISTING CATCH BASIN. CAP EXISTING STORM DRAIN AND ABANDON IN PLACE.
3. DOWNSPOUT DRAIN
4. IF SEPARATION AT UTILITY CROSSING IS LESS THAN 1-FOOT PROVIDE ETHAFOAM BLOCK.
5. 20' DI SLEEVE FOR SEWER CROSSING ABOVE STORM



90% SUBMITTAL

UTILITY PLAN – SOUTH

JOB NUMBER
17473
DWG NAME: P17473_SD
SHEET C-07 OF 1



MATCHLINE - SEE SHEET C-07

SEE SHEET C-14 FOR
STORM PROFILE

REMOVE EXISTING VALVE, REPAIR
WITH NEW 6" PVC SLEEVE AND
FERNCO COUPLING

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DWG NAME: P17473_SD

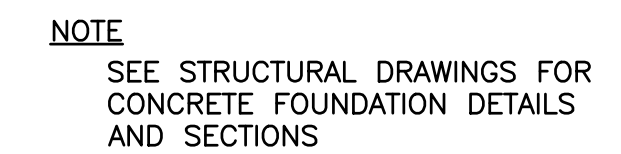
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UTILITY PLAN - NORTH



NOTE

- THE CONCRETE PARKING BAY SHALL HAVE THREE 14'W x 16'H CLEAR OPENING INSULATED DOORS EQUALLY SPACED IN THE 48'-0" BAY OPENING.
- THE TWO INTERIOR WALLS, THE BACK AND FRONT WALL, AND THE CEILING OF THE COVERED PARKING BAY SHALL BE INSULATED.

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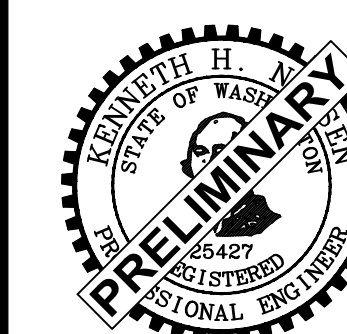


OB NUMBER
17473

WG NAME: P17473_DECANT

C-09

PAGE 09 OF 2



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DECANT FACILITY SECTION VIEWS

	JOB NUMBER
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17473

DWG NAME: P17473_DECANT

SHEET C-10 OF  28

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 LOT TIME: 2/12/2020 2:34 PM
 USER NAME: MICHAEL PARKER
 REF FILES: X17473_BOR.dwg X17473_STMP.dwg X17473_STRUC.dwg X17473_STRUC-SEC.dwg X17473_SITE.dwg X17473_STRUC.dwg

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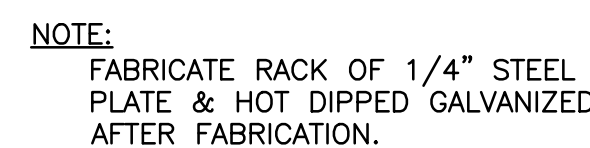
MUKILTEO STORMWATER DECANT FACILITY

	JOB NUMBER
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DWG NAME: P17473_DECANT

SHEET C-10 OF  28



1 NTS

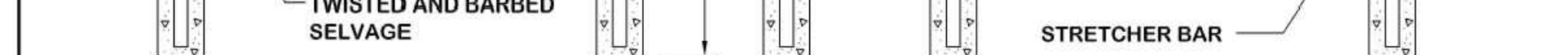


2-NTS



(3) **V-**
NTS

4 **ST**
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6. TENSION WIRE SHALL BE 7 GAUGE
7. ALL CHAIN LINK FENCE SHALL BE BLACK VINYL



11/18/201
DATE

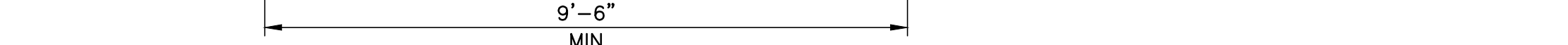
 11/2
CITY ENGINEER

STANDARD PLAN NO. SW-096

5



(6) $\frac{D}{N^*}$



(7) SA
NTS



8

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DETAILS 1

DWG NAME: P17473_DET
SHEET C-11 OF 

TITLE NAME: P:\P17\17473 CITY OF MIUKILTEO STORMWATER DECANT\CAD
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	CHECKED	JMM				
			SYM	REVISION	DATE	RY



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DETAILS 1

DWG NAME: P17473_DET
SHEET C-11 OF 

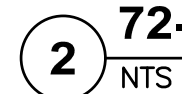


3 ON
NTS

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SCALE	AS SHOWN

DETAILS 2

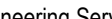
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17473
NAME: P17473_DET
C-12 OF 2



NOTES:

REF FILES: X1/4/3_BUR.dwg X1/4/3_SIMP.dwg X1/4/3_U1.dwg

DESIGNED	JMM				
DRAWN	MWP				
CHECKED	JMM				
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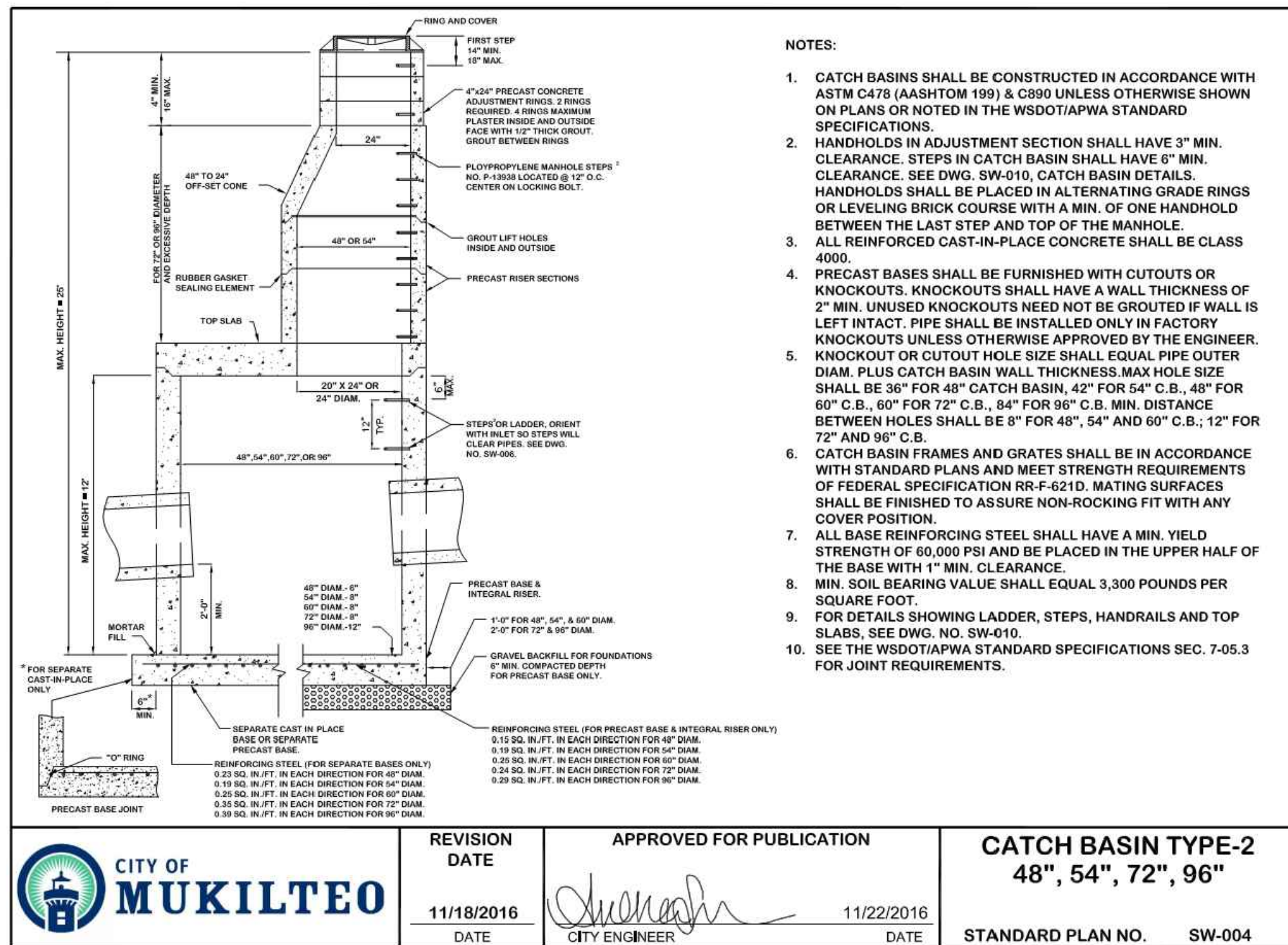
CITY OF
MUKILTEO

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11930 CYRUS WAY
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JOB NUMBER
17473

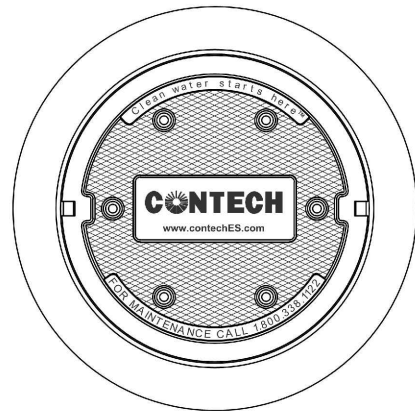
DWG NAME: P17473_DET

SHEET C-12 OF  2



CATCH BASIN TYPE-2 (SW-004)

NTS



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS			
STRUCTURE ID			MH/3
WATER QUALITY FLOW RATE (cfs)			0.07
PEAK FLOW RATE (cfs)			0.25
RETURN PERIOD OF PEAK FLOW (yrs)			100
CARTRIDGE HEIGHT (27", 18", LD)			LD
NUMBER OF CARTRIDGES REQUIRED			4
CARTRIDGE FLOW RATE			8.35 GPM
MEDIA TYPE (PERLITE, ZPG, PSORB)			PSORB
PIPE DATA:		I.E.	MATERIAL
INLET PIPE #1		551.2	PVC
INLET PIPE #2		"	"
OUTLET PIPE		549.4	PVC
			12"
RIM ELEVATION			559.04
ANTI-FLOTATION BALLAST		WIDTH	HEIGHT
		-	-
NOTES/SPECIAL REQUIREMENTS:			

INSTALLATION NOTES

A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.

B. CONTRACTOR TO PROVIDE LIFTING WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORM/FILTER STRUCTURE.

C. CONTRACTOR TO INSTALL JOINT SEAL BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.

D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET PIPE(S).

E. CONTRACTOR TO PROVIDE AND INSTALL CONNECTOR TO THE OUTLET RISER STUD. STORM/FILTER EQUIPPED WITH A DUAL DIAMETER HOPE OUTLET WITH SAND COLLAR. IF OUTLET PIPE IS LARGER THAN 6 INCHES (200 mm) CONTRACTOR TO REMOVE THE 8 INCH (200 mm) OUTLET SLUG IN MOLDED-IN CUT LINE. COUPLING BY FERNCO OR EQUAL AND PROVIDED BY CONTRACTOR.

F. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

SFMH72
STORMFILTER
STANDARD DETAIL



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DETAILS 3

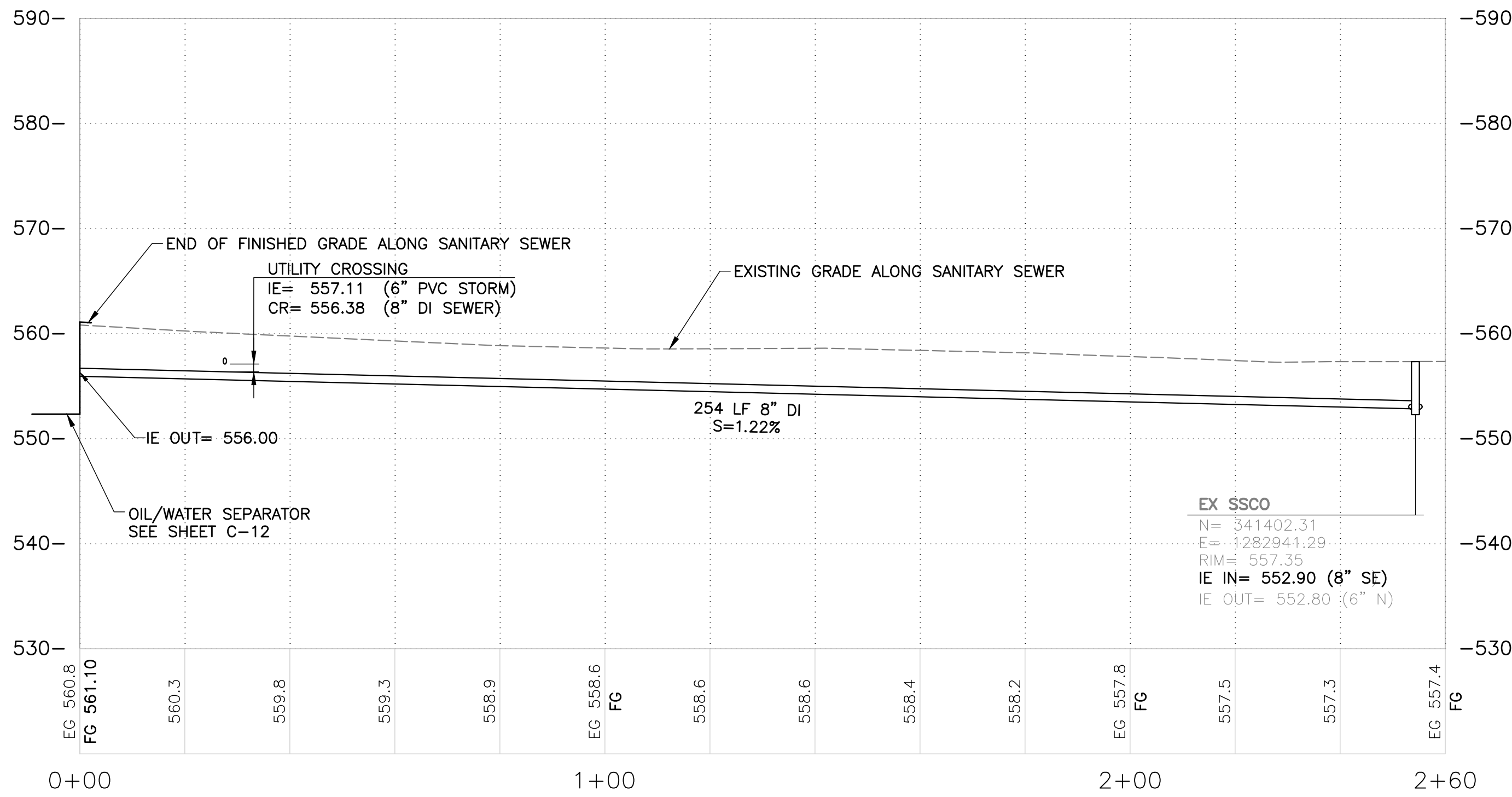
90% SUBMITTAL



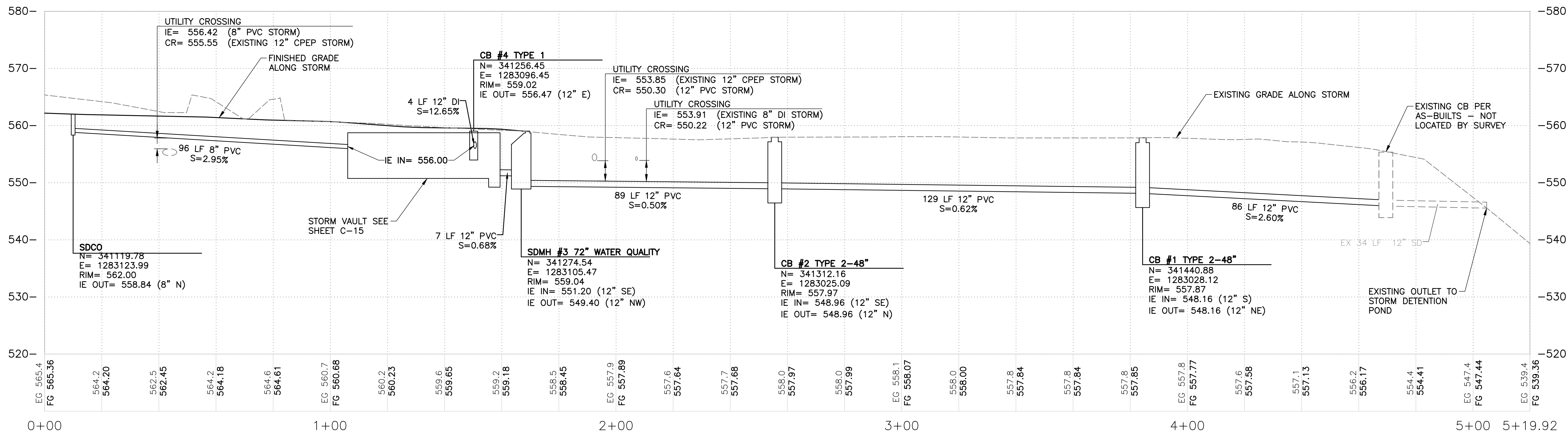
JOB NUMBER
17473
DWG NAME: P17473_DET
SHEET **C-13** OF 

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 PLOT TIME: 2/12/2020 2:35 PM
 USER NAME: MICHAEL PARKER
 REF FILES: X17473_BDR.dwg X17473_STMP.dwg X17473_UT.dwg

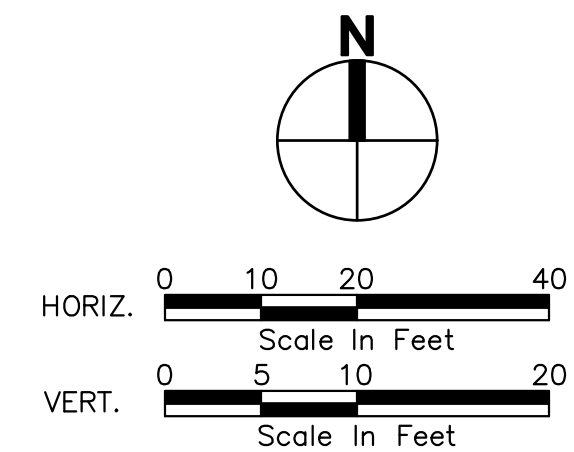
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SANITARY SEWER PROFILE



STORM DRAIN PROFILE



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CALL BEFORE
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UNDERGROUND SERVICE (USA)



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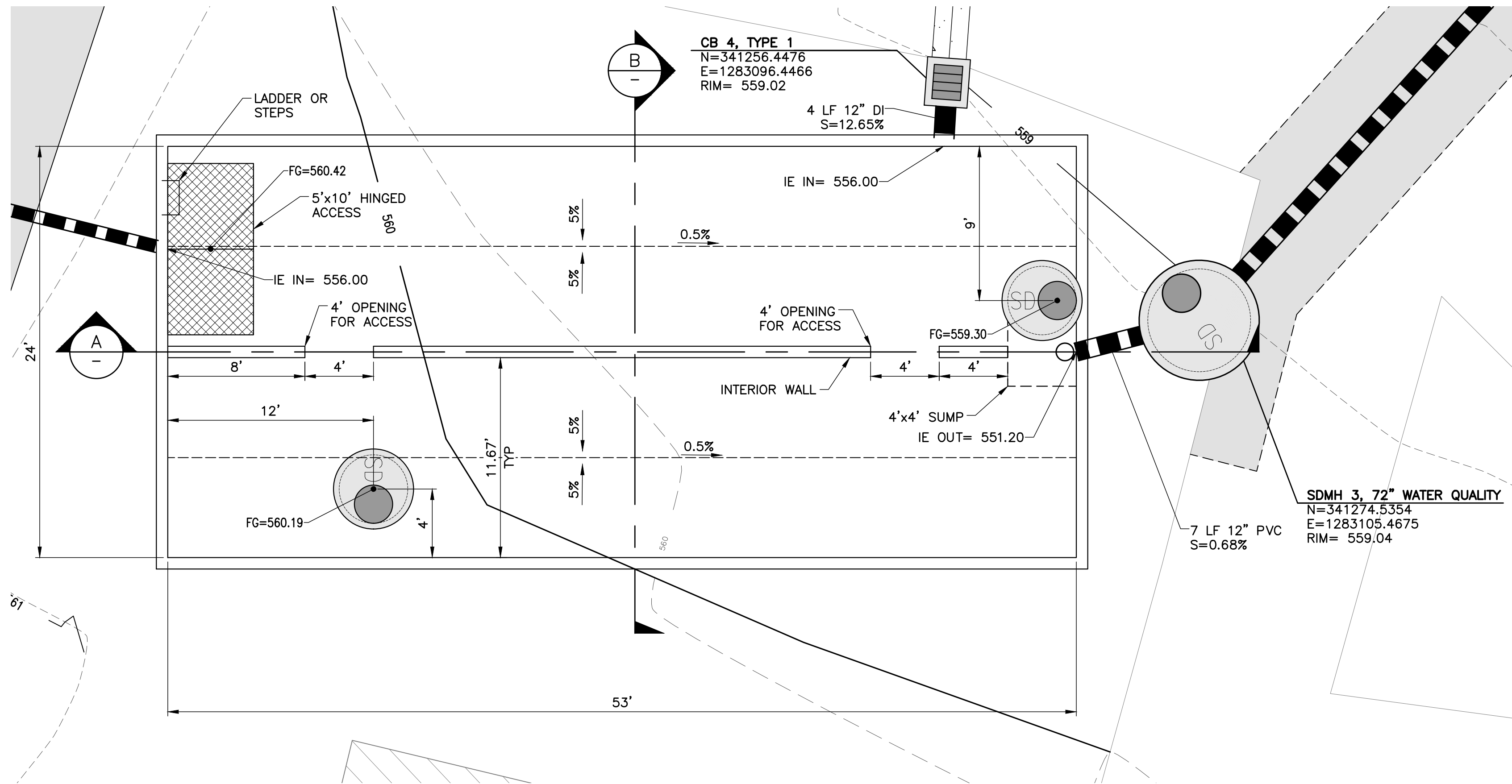
DATE
02/12/2020
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MUKILTEO STORMWATER DECANT FACILITY

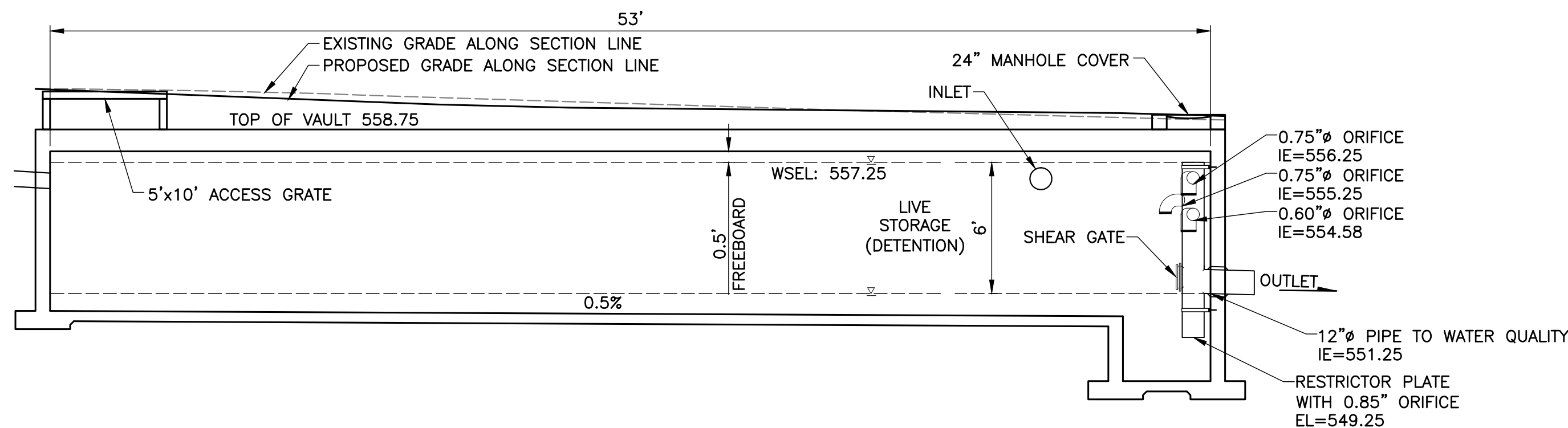
SANITARY SEWER AND STORM PROFILE

JOB NUMBER
17473
DWG NAME: P17473_SD
SHEET C-14 OF 28

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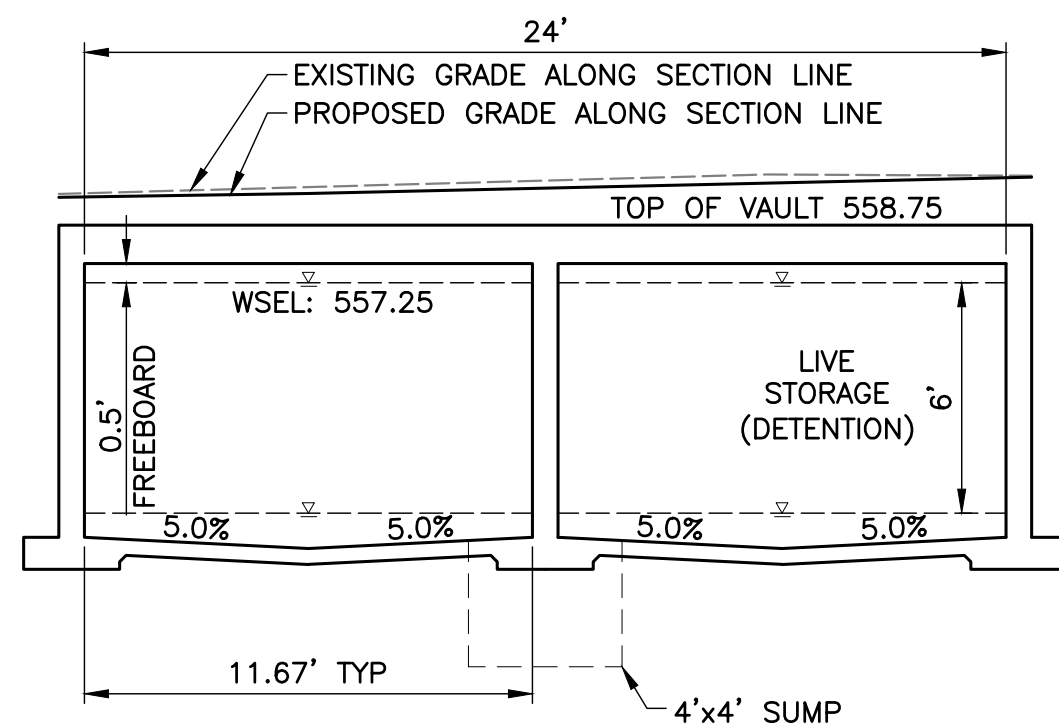


VAULT PLAN
1" = 5'

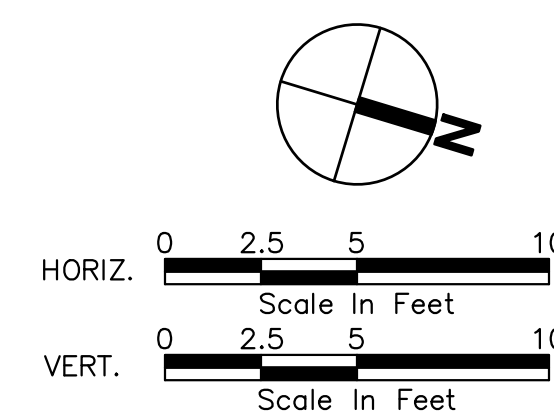


REQUIRED VOLUME: 7,350 CF
PROPOSED VOLUME: 7,422.1 CF

VAULT SECTION A-A
1" = 5'



VAULT SECTION B-B
1" = 5'



90% SUBMITTAL

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MUKILTEO STORMWATER DECANT FACILITY

STORM VAULT PLAN AND SECTIONS

JOB NUMBER
17473
DWG NAME: P17473_SD-Vault
SHEET **C-15** OF **28**