

WOODLAND CREEK OIL WATER SEPARATOR

LACEY CONTRACT # PW 2023-03
SECTION 16, T18N, R1W, W.M.

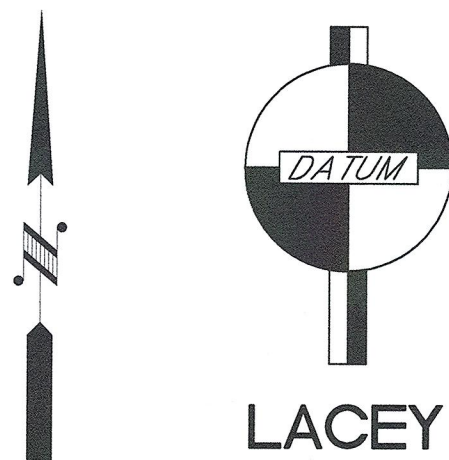
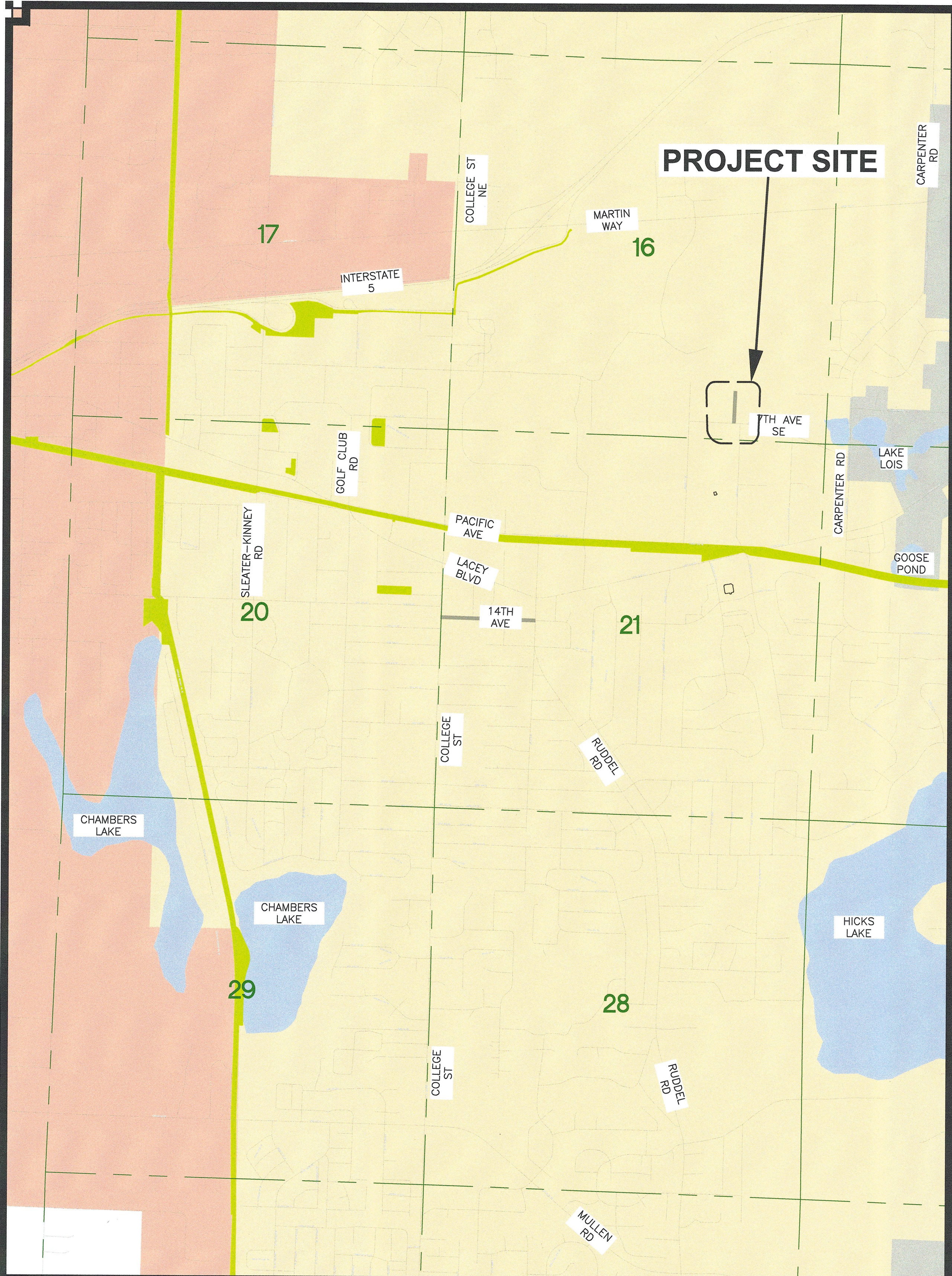
LACEY CITY OFFICIALS

MAYOR: Andy Ryder
DEPUTY MAYOR: Malcolm Miller
CITY COUNCIL: Lenny Greenstein
Michael Steadman
Carolyn Cox
Ed Kunkel
Robin Vazquez
CITY MANAGER: Rick Walk (Interim)
CITY ATTORNEY: David S. Schneider
CITY ENGINEER: Aubrey Collier, P.E., S.E.
DIRECTOR OF PUBLIC WORKS: Scott Egger, P.E.

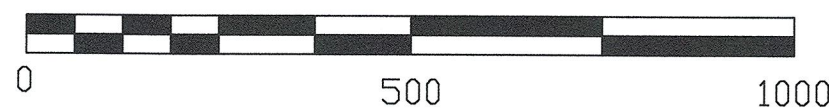
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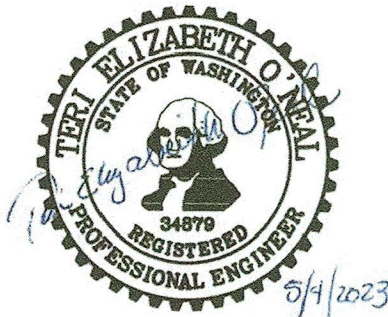
Aubrey Collier City Engineer
for DIRECTOR OF PUBLIC WORKS
5/10/23
DATE



VICINITY MAP
CITY OF LACEY, WASHINGTON
SCALE : 1000



- LACEY CITY LIMITS
- OLYMPIA CITY LIMITS
- URBAN GROWTH AREA



Lacey Dwg. Number :
D-23-07

BLOCK LEGEND:

NEW	EXISTING
SURVEY MONUMENT	
CATCH BASIN TYPE 1	
STORM MANHOLE & CB TYPE 2	
STORM VALVE	
FIRE HYDRANT	
WATER METER	
WATER VALVE	
SPRINKLER HEAD	
SEWER MANHOLE	
SANITARY SEWER CLEAN OUT	
GAS VALVE	
SIGN	
POLE ANCHOR	
POWER TRANSFORMER	
POWER POLE	
POWER VAULT	
JUNCTION BOX	
ELECTRICAL SERVICE	
CABLE TV PEDESTAL	
TELEPHONE MANHOLE	
TELEPHONE PEDESTAL	
CONIFER TREE	
DECIDUOUS TREE	
STORM WATER TREATMENT DEVICE	

LINETYPE LEGEND:

NEW	EXISTING
CONSTRUCTION BASELINE	
EASEMENT	
ROAD CENTERLINE	
CHAIN LINK FENCE	
ROCK FENCE	
WIRE FENCE	
WOOD FENCE	
GRAVEL	
STORM (PAINTED)	
SEWER (PAINTED)	
RIGHT OF WAY	
OVERHEAD CABLE	
UNDERGROUND CABLE (PAINTED)	
GAS (PAINTED)	
UNDERGROUND PHONE (PAINTED)	
UNDERGROUND FIBER OPTIC (PAINTED)	
UNDERGROUND ELECTRIC (PAINTED)	
WATER (PAINTED)	
CONTOUR	
LANDSCAPING VEGETATION	
WOODEN BARRIER	

HATCH LEGEND:

	AREA FOR PAVEMENT REMOVAL AND REPAVING
	CONCRETE
	BUILDING
	GRAVEL
	ASPHALT

ABBREVIATIONS:

	DEFLECTION ANGLE	S/W	SIDEWALK	V.P.C.	VERTICAL POINT OF CURVATURE
EP	EDGE OF PAVEMENT	C.S.B.C.	CRUSHED SURFACING BASE COURSE	V.P.T.	VERTICAL POINT OF TANGENCY
RT	RIGHT	C.S.T.C.	CRUSHED SURFACING TOP COURSE	EL.	ELEVATION
LT	LEFT	CL,	CENTERLINE	S.Y.	SQUARE YARD
I.E.	INVERT ELEVATION	CB	CATCH BASIN	C.Y.	CUBIC YARD
P.C.	POINT OF CURVATURE	N/A	NOT APPLICABLE	TYP.	TYPICAL
P.I.	POINT OF INTERSECTION	A/C	ASPHALT CONCRETE	LUM.	LUMINAIRE
P.T.	POINT OF TANGENCY	ACP	ASPHALT CONCRETE PAVEMENT	L.F.	LINEAR FEET
R.	RADIUS	D.I.	DUCTILE IRON	RD.	ROAD
R.P.	RADIUS POINT	SD	STORM DRAIN	DR.	DRIVE
R/W	RIGHT-OF-WAY	SS	SANITARY SEWER	PKWY.	PARKWAY
ROW	RIGHT-OF-WAY	OWS	OIL WATER SEPARATOR	CONST.	CONSTRUCTION
EX.	EXISTING	DIA,	DIAMETER	FT.	FOOT
EXIST.	EXISTING	A.P.	ANGLE POINT	D/W	DRIVEWAY
STA	STATION	V.P.I.	VERTICAL POINT OF INTERSECTION	APPROX.	APPROXIMATELY
				U.O.N.	UNLESS OTHERWISE NOTED

CONSTRUCTION NOTES:

- CALL 48 HOURS BEFORE YOU DIG 1-800-424-5555 OR 811.
- THE CONTRACTOR SHALL FIELD VERIFY UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL NOT REMOVE ANY TREES UNLESS INDICATED ON PLANS OR DIRECTED BY ENGINEER.
- THE CONTRACTOR SHALL RESTORE ALL LANDSCAPING TO EQUAL OR BETTER THAN ORIGINAL CONDITIONS AS DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL PROTECT ALL EXISTING SURVEY MONUMENTS AND PROPERTY CORNERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH RESTORING MONUMENTS OR PROPERTY CORNERS OUTSIDE OF THE CONSTRUCTION LIMITS.
- THE CONTRACTOR SHALL ENSURE CONSTRUCTION DOES NOT IMPEDE INGRESS & EGRESS TO PROPERTIES NEAR THE PROJECT SITE FOR THE PROJECTS DURATION.

BASIS OF BEARING
MERIDIAN IS WASHINGTON COORDINATE SYSTEM OF 1983/91 - SOUTH ZONE DERIVED FROM TIES TO HPGN STATIONS SANDERSON, MCKENNA AND CBL1110 AND TO WSDOT GPS STATIONS G259R, GP34005-2, GP34005-4, GP34101-32, GP34101-39, HC34-2, LUHR RM2, TS34-33, TS34-59 AND TO THURSTON COUNTY GPS STATIONS U-531, AT-194, AT-352, AT-355, AT-447, AT449 AND AT-478. DISTANCES SHOWN ARE GROUND SCALE U.S. SURVEY FEET. COMBINED SCALE FACTOR (GROUND TO GRID) IS 0.999935701. SURVEY AF# 3111152 DATED 09-24-1997.

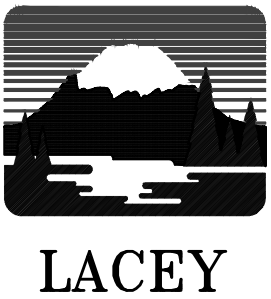
NOTES:

- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH CITY STANDARDS AND THE MOST CURRENT COPY OF THE STATE OF WASHINGTON STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION (WSDOT/APWA).
- CONTRACTOR SHALL COMPLY WITH ALL OTHER PERMITS AND OTHER REQUIREMENTS OF THE GOVERNING AUTHORITY OR AGENCY.
- ALL STORM DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH WSDOT STD. SPEC. 7-04 STORM SEWERS.

VERTICAL
THE CITY OF LACEY BENCHMARKS ARE BASED ON NGVD 29 DATUM FROM PRIMARY CONTROL ESTABLISHED BY FEDERAL AND STATE AGENCIES TO FIRST OR SECOND ORDER ACCURACY. THE CITY OF LACEY'S BENCHMARKS ARE GENERALLY TO THIRD ORDER ACCURACY.

BENCHMARK
CITY OF LACEY BM#1508
CITY OF LACEY 3" SURFACE MONUMENT AT THE INTERSECTION OF 7TH AVE SE & BOWKER ST SE.
ELEV.=169.013

CITY OF LACEY, WASHINGTON
DEPARTMENT OF PUBLIC WORKS
420 COLLEGE STREET SE
LACEY, WA 98503-1238 (360) 491-5600

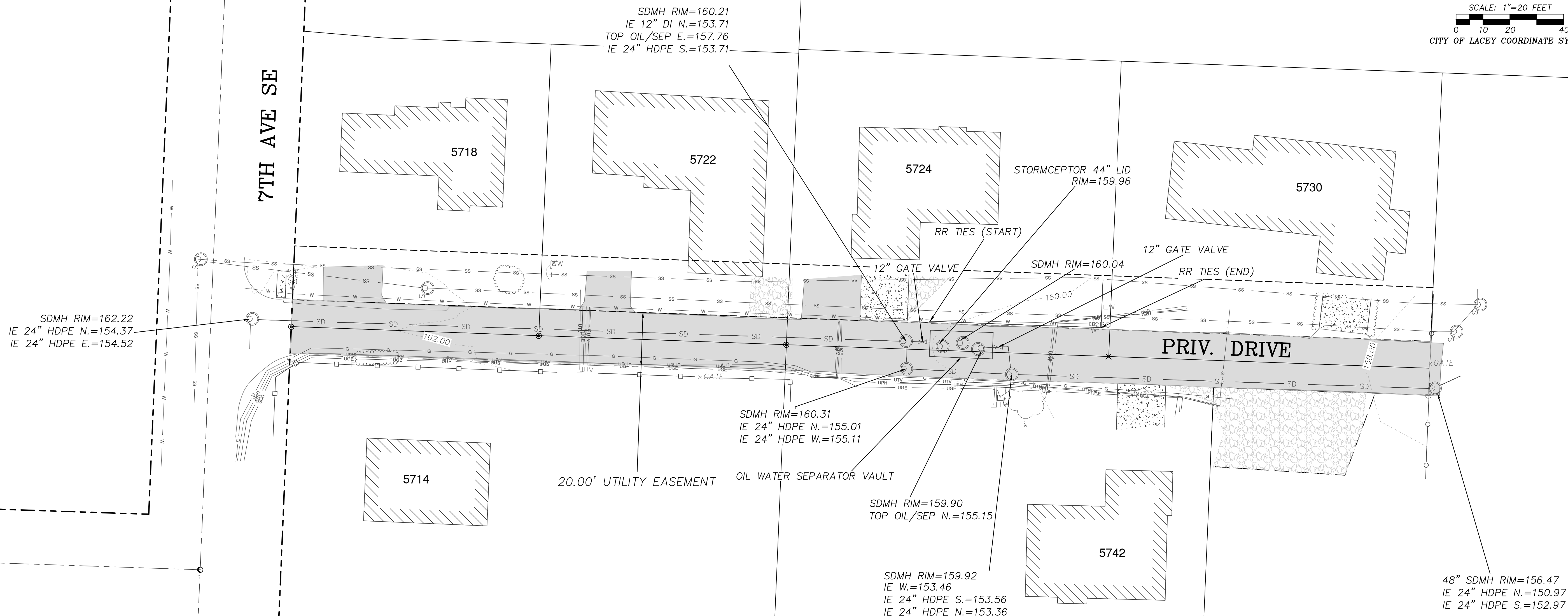
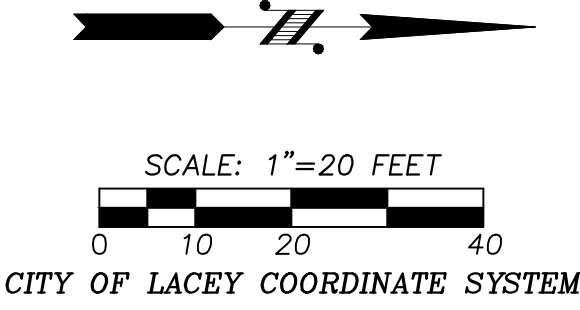


DESIGNED: RKJ
DRAFTED: RKJ
CHECKED: TEO
HORZ. SCALE: N/A
VERT. SCALE: N/A
FILE: COVER SHEET & NOTES

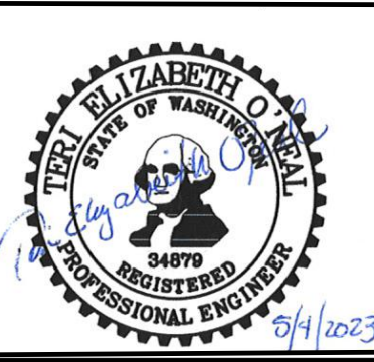
WOODLAND CREEK OIL WATER
SEPARATOR
GENERAL NOTES

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SEC. 16, T18N, R1W, W.M.



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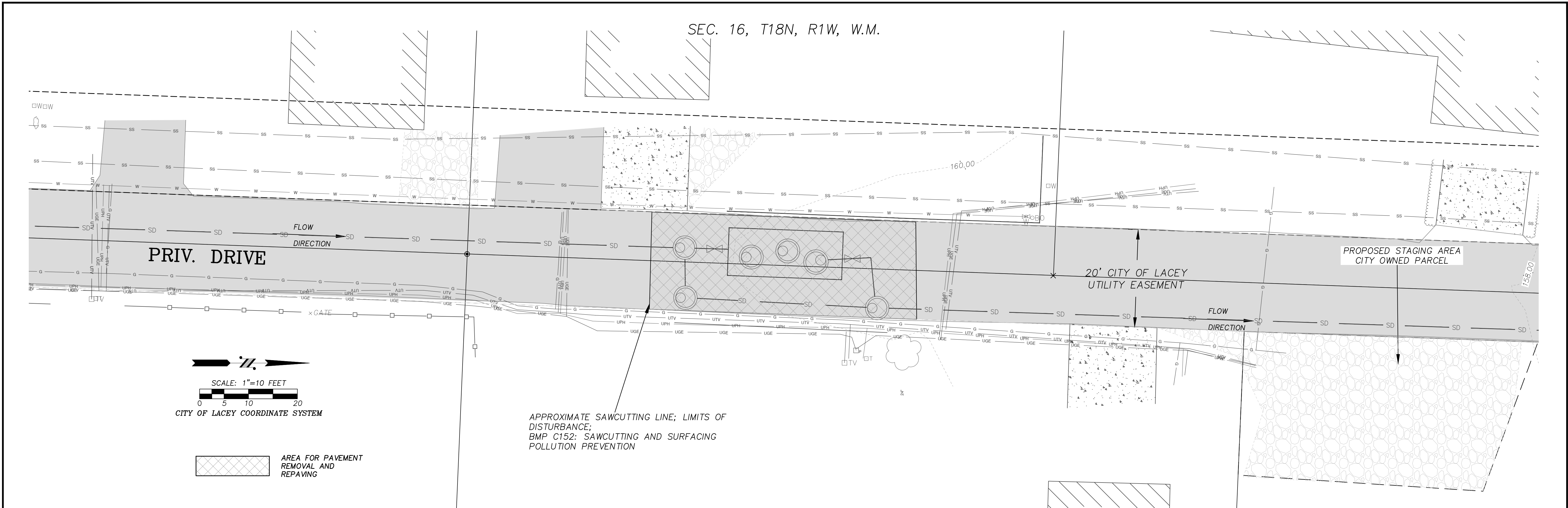


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FILE: WOODLAND CREEK OWS

WOODLAND CREEK OIL WATER
SEPARATOR
EXISTING CONDITIONS

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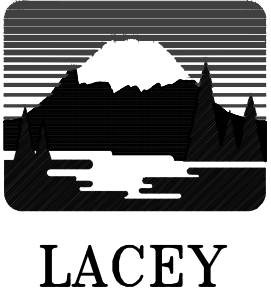
EROSION CONTROL NOTES:

1. TEMPORARY EROSION/WATER POLLUTION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH SECTION 8-01 OF THE STANDARD SPECIFICATIONS AND THE LACEY STORM WATER MANUAL AND AS SHOWN IN THE EROSION AND SEDIMENT CONTROL PLAN.
2. SITE INSPECTIONS SHALL BE CONDUCTED BY A PERSON WHO IS KNOWLEDGEABLE IN THE PRINCIPLES AND PRACTICES OF EROSION AND SEDIMENT CONTROL. FOR PROJECT SITES THAT REQUIRE A CONSTRUCTION SWPPP, A CERTIFIED EROSION AND SEDIMENT CONTROL LEAD (CESCL) SHALL BE IDENTIFIED IN THE CONSTRUCTION SWPPP AND SHALL BE ON SITE OR ON CALL AT ALL TIMES.
3. APPROVAL OF THE CONSTRUCTION SWPPP DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G. SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION/DETENTION/INFILTRATION FACILITIES, UTILITIES, ETC.).
4. THE IMPLEMENTATION OF THE CONSTRUCTION SWPPP AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE CONSTRUCTION SWPPP FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED AND VEGETATION/LANDSCAPING IS ESTABLISHED.
5. THE CLEARING LIMIT BOUNDARIES (LIMITS OF DISTURBANCE) SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
6. THE CONSTRUCTION SWPPP FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DO NOT ENTER THE DRAINAGE SYSTEM, ROADWAYS, OR VIOLATE APPLICABLE STANDARDS FOR SURFACE WATER QUALITY, GROUNDWATER QUALITY, OR SEDIMENT QUALITY.
7. THE CONSTRUCTION SWPPP FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE CONSTRUCTION SWPPP FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DO NOT LEAVE THE SITE DURING THE COURSE OF CONSTRUCTION, INCLUDING CONSTRUCTION ON INDIVIDUAL LOTS.
8. THE CONSTRUCTION SWPPP FACILITIES ON ACTIVE SITES SHALL BE INSPECTED DAILY BY THE CONTRACTOR. THE FACILITIES SHALL BE MAINTAINED, REPAIRED, OR AUGMENTED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTION.
9. THE CONSTRUCTION SWPPP FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AT LEAST MONTHLY AND WITHIN 48 HOURS FOLLOWING A MAJOR STORM EVENT (1" RAINFALL IN 24 HOURS) BY THE CONTRACTOR. THE FACILITIES SHALL BE MAINTAINED, REPAIRED, OR AUGMENTED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTION.
10. STORM DRAIN INLETS OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT STORMWATER RUNOFF DOES NOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR TREATED TO REMOVE SEDIMENT. AT NO TIME SHALL MORE THAN 1 FOOT OR 1/3 OF THE BMP VOLUME (WHICHEVER IS LESS) OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A STORM DRAIN INLET PROTECTION BMP. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED AS PART OF PROJECT COMPLETION AND ACCEPTANCE. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.
11. ROADS SHALL BE INSPECTED DAILY AND CLEANED THOROUGHLY AS NEEDED TO PROTECT DOWNSTREAM WATER RESOURCES OR STORMWATER INFRASTRUCTURE. SEDIMENT SHALL BE REMOVED FROM ROADS BY SHOVELING OR PICKUP SWEEPING AND SHALL BE TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA.
12. FROM OCTOBER 1 THROUGH APRIL 30, NO SOILS SHALL REMAIN EXPOSED AND UNWORKED FOR MORE THAN 2 DAYS. FROM MAY 1 TO SEPTEMBER 30, NO SOILS SHALL REMAIN EXPOSED AND UNWORKED FOR MORE THAN 7 DAYS. SOILS SHALL BE STABILIZED AT THE END OF THE SHIFT BEFORE A HOLIDAY OR WEEKEND IF NEEDED BASED ON THE WEATHER FORECAST. LINEAR CONSTRUCTION ACTIVITIES, SUCH AS RIGHT-OF-WAY AND EASEMENT CLEARING, ROADWAY DEVELOPMENT, PIPELINES, AND TRENCHING FOR UTILITIES, SHALL COMPLY WITH THESE REQUIREMENTS. THESE STABILIZATION REQUIREMENTS APPLY TO ALL SOILS ON SITE, WHETHER AT FINAL GRADE OR NOT. THE CITY OF LACEY MAY DECREASE THESE TIME LIMITS IF IT CAN BE SHOWN THAT A DEVELOPMENT SITE'S EROSION OR RUNOFF POTENTIAL JUSTIFIES A DIFFERENT STANDARD.
13. CONTACT THE CITY FOR APPROVAL PRIOR TO ALL CLEARING, GRADING, AND OTHER SOIL DISTURBING ACTIVITIES THAT OCCUR BETWEEN OCTOBER 1 AND APRIL 30. SUCH WORK SHALL ONLY BE PERMITTED IF SHOWN TO THE SATISFACTION OF THE CITY THAT THE TRANSPORT OF SEDIMENT FROM THE CONSTRUCTION SITE TO RECEIVING WATERS WILL BE PREVENTED. THE CITY MAY REQUIRE SUPPLEMENTAL SWPPP DOCUMENTATION FOR WET SEASON WORK.
14. SOIL STOCKPILES MUST BE STABILIZED AND PROTECTED FROM EROSION.
15. HANDLE AND DISPOSE OF ALL POLLUTANTS, INCLUDING WASTE MATERIALS AND DEMOLITION DEBRIS THAT OCCUR ON SITE IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORMWATER. WOODY DEBRIS MAY BE CHOPPED AND SPREAD ON SITE.
16. USE SPILL PREVENTION MEASURES, SUCH AS DRIP PANS, WHEN CONDUCTING MAINTENANCE AND REPAIR OF VEHICLES AND EQUIPMENT.
17. REPORT SPILLS MONDAY THROUGH FRIDAY, 7:00 A.M. TO 3:30 P.M. (360) 491-5644. AFTER HOURS, YOU CAN LEAVE A VOICEMAIL AT THE NUMBER ABOVE, OR SELECT THE OPTION TO BE CONNECTED TO THURSTON COUNTY CENTRAL DISPATCH, WHO WILL NOTIFY THE CITY'S STAND-BY SPILL RESPONSE STAFF.
18. WATER FROM DEWATERING OPERATIONS SHALL BE DISCHARGED INTO A SEDIMENT TRAP. CLEAN, NON-TURBID WATER MAY BE DISCHARGED TO SURFACE WATERS, PROVIDED THE DISCHARGE DOES NOT CAUSE EROSION OR FLOODING. HIGHLY TURBID OR CONTAMINATED DEWATERING WATER FROM CONSTRUCTION EQUIPMENT OPERATION, CLAMSHELL DIGGING, CONCRETE TREMIE POUR, OR WORK INSIDE A COFFERDAM SHALL BE HANDLED SEPARATELY FROM STORM WATER AND PROPERLY DISPOSED.
19. IF SEDIMENT IS TRACKED BEYOND THE LIMITS OF DISTURBANCE OR STAGING AREA IT SHALL PROMPTLY AND THOROUGHLY BE CLEANED AT THE END OF EACH DAY, OR MORE FREQUENTLY DURING WET WEATHER. SEDIMENT SHALL BE REMOVED FROM ROADS BY SHOVELING OR PICKUP SWEEPING AND SHALL BE TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA. STREET WASHING WILL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED.

EROSION CONTROL NOTES (CONT):

20. ALL SLURRY AND CUTTINGS CREATED DURING SAWCUTTING OPERATIONS SHALL BE HANDLED IN ACCORDANCE WITH BMP C152: SAWCUTTING AND SURFACING POLLUTION PREVENTION AS DESCRIBED IN THE CITY OF LACEY 2022 STORMWATER DESIGN MANUAL.

CITY OF LACEY, WASHINGTON
DEPARTMENT OF PUBLIC WORKS
420 COLLEGE STREET SE
LACEY, WA 98503-1238 (360) 491-5600

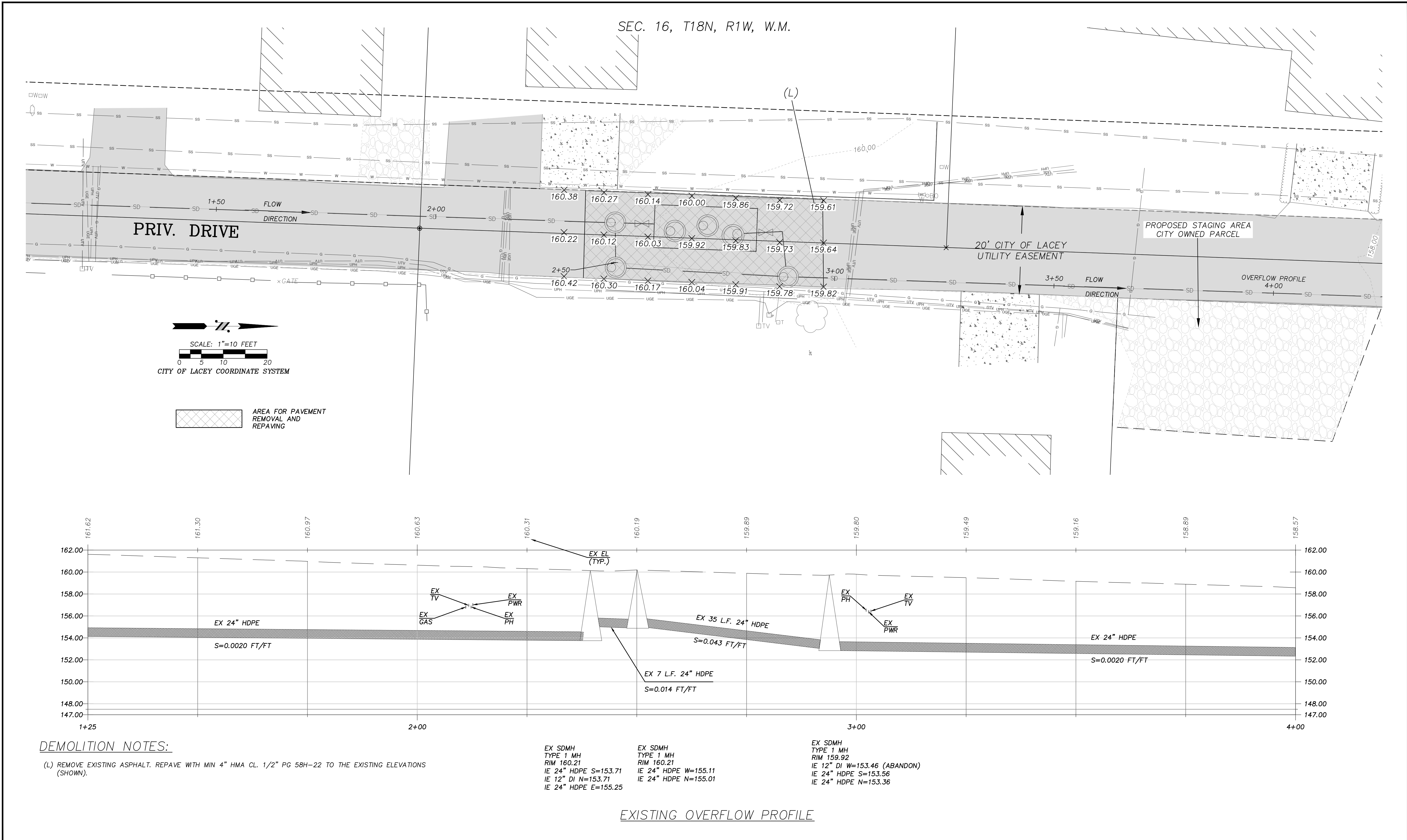


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HORZ. SCALE: 1"=10'
VERT. SCALE: N/A
FILE: WOODLAND CREEK OWS

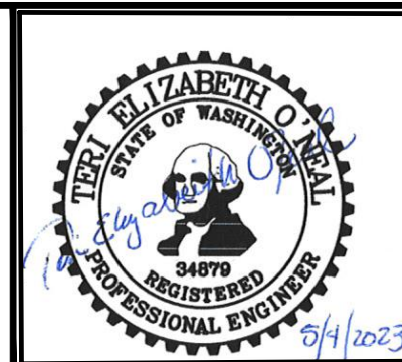
WOODLAND CREEK OIL WATER
SEPARATOR
TESC PLAN

REVISION BLOCK		
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D-23-07	10



CITY OF LACEY, WASHINGTON
DEPARTMENT OF PUBLIC WORKS
420 COLLEGE STREET SE
LACEY, WA 98503-1238 (360) 491-5600

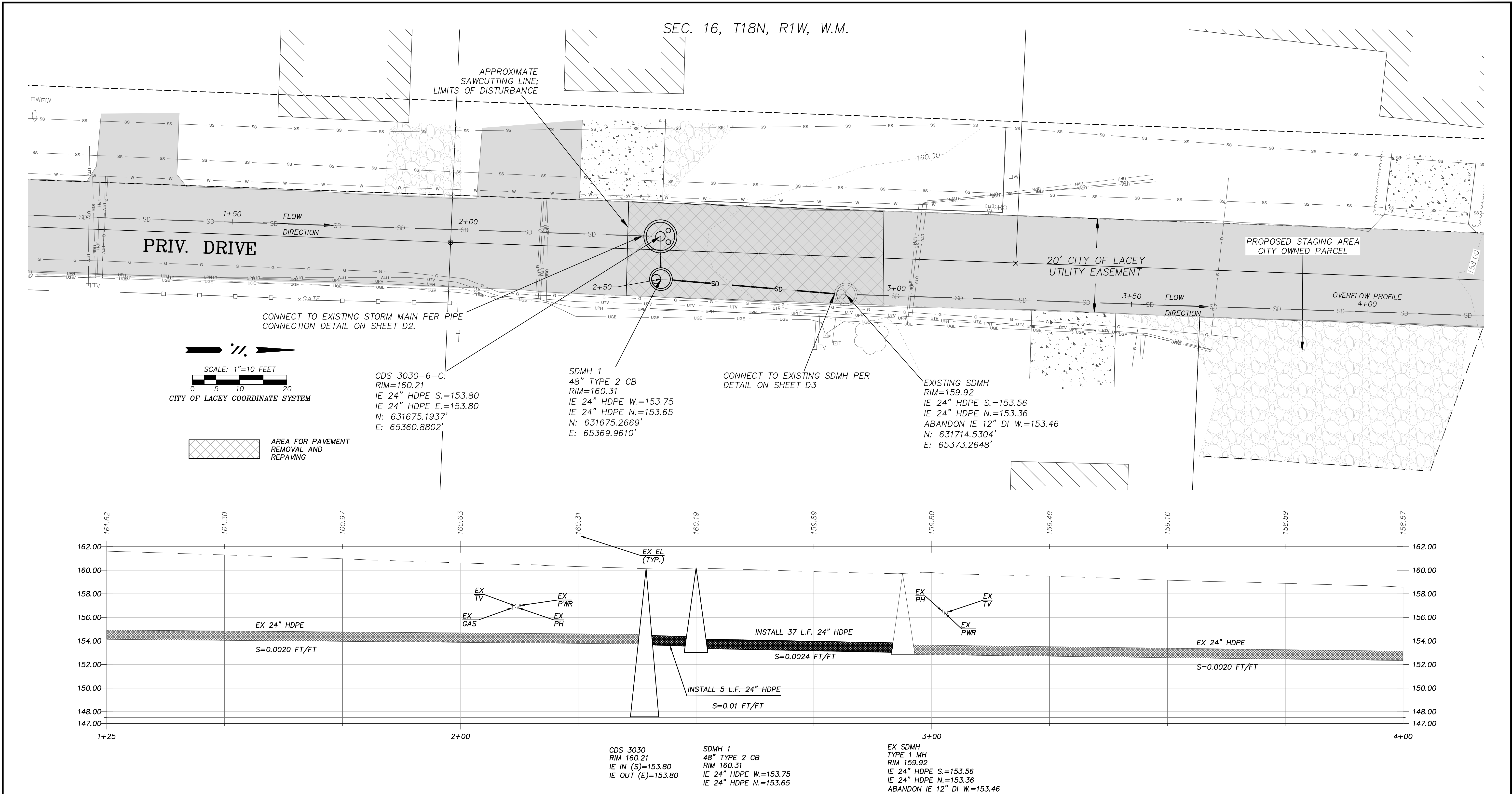


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WOODLAND CREEK OIL WATER SEPARATOR DEMOLITION PLAN 2

REVISION BLOCK		
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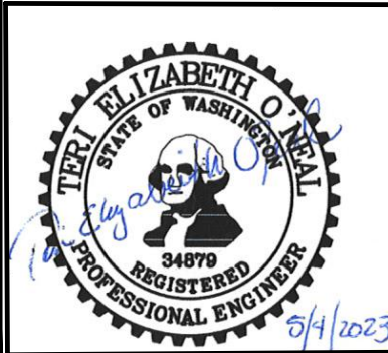
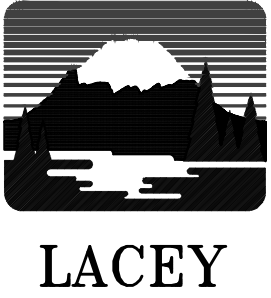


NOTES:

1. PROVIDE A SMOOTH TRANSITION BETWEEN THE EXISTING ROADWAY AND THE DRIVEWAY.
2. THE NEW ROADWAY SURFACE IS TO MATCH THE EXISTING GRADE AS SHOWN ON SHEET C4.
3. THE CONTRACTOR SHALL PREPARE THE DRIVEWAY TRANSITION FOR HMA PRIOR TO PLACEMENT.

PROPOSED OVERFLOW PROFILE

CITY OF LACEY, WASHINGTON
DEPARTMENT OF PUBLIC WORKS
420 COLLEGE STREET SE
LACEY, WA 98503-1238 (360) 491-5600



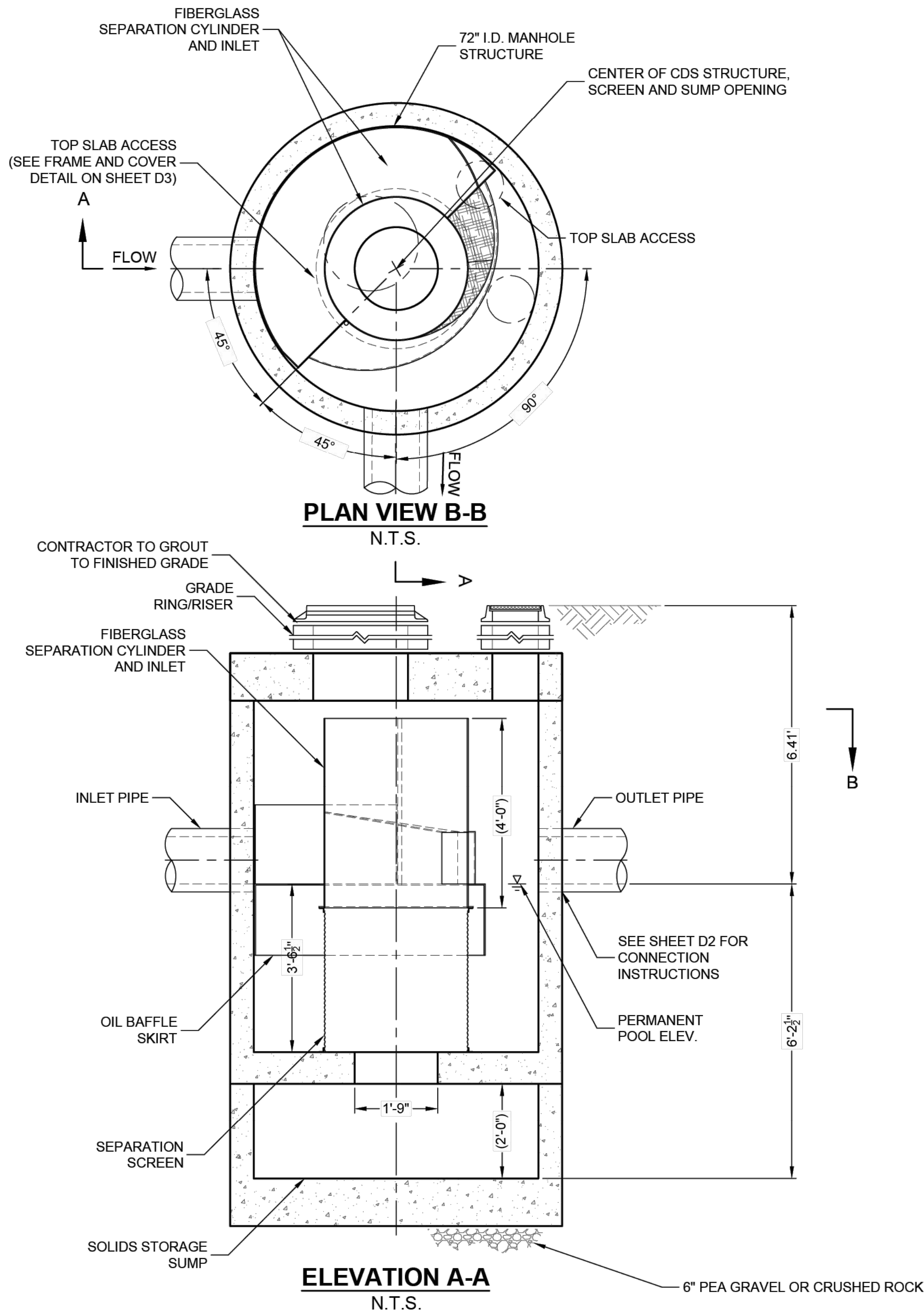
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WOODLAND CREEK OIL WATER
SEPARATOR
PLAN AND PROFILE

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K:\PROJECTS\2023\FW 2023-03 WOODLAND CREEK OIL WATER SEPARATOR\DESIGN\04 DESIGN INFORMATION\03 AUTOCAD FILES\CDS3030-6-C-DTL.DWG 3/21/2023 8:04 AM

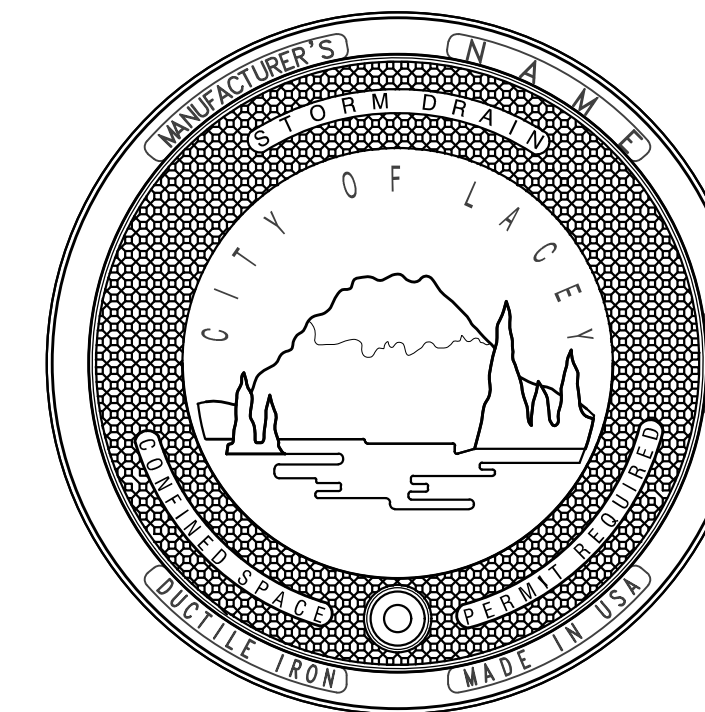


CDS3030-6-C DESIGN NOTES

THE STANDARD CDS3030-6-C CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION

GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES
SEPARATE OIL BAFFLE (SINGLE INLET PIPE REQUIRED FOR THIS CONFIGURATION)
SEDIMENT WEIR FOR NJDEP / NJCAT CONFORMING UNITS



COVER
(24" DIA)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			
WATER QUALITY FLOW RATE (CFS OR L/s)		3 CFS	
PEAK FLOW RATE (CFS OR L/s)		12 CFS	
RETURN PERIOD OF PEAK FLOW (YRS)			
SCREEN APERTURE (2400 OR 4700)		2400	
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	153.80	HDPE	24"
INLET PIPE 2	N/A	N/A	N/A
OUTLET PIPE	153.80	HDPE	24"
RIM ELEVATION			160.21
ANTI-FLOTATION BALLAST		WIDTH	HEIGHT
		*	*
NOTES/SPECIAL REQUIREMENTS:			
* PER ENGINEER OF RECORD			

GENERAL NOTES

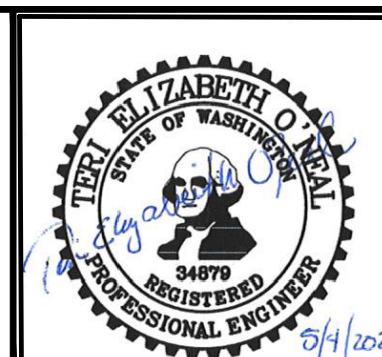
- THE PROVIDED DETAILS APPLY TO CONTECH'S CDS 3020-6-C INLINE STORMWATER TREATMENT DEVICE. THE CONTRACTOR MAY SUBMIT AN ALTERNATIVE DEVICE FOR APPROVAL PER SECTION E OF THE SPECIFICATIONS. IF AN EQUAL IS APPROVED, INSTALLATION SHALL BE PER THE MANUFACTURERS INSTRUCTIONS.
- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- DIMENSIONS MARKED WITH () ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
- FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTECT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE.
- STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET HS20 (AASHTO M 306) LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
- PVC HYDRAULIC SHEAR PLATE IS PLACED ON A SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

INSTALLATION NOTES

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
- CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
- CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CDS3030-6-C
INLINE CDS
STANDARD DETAIL

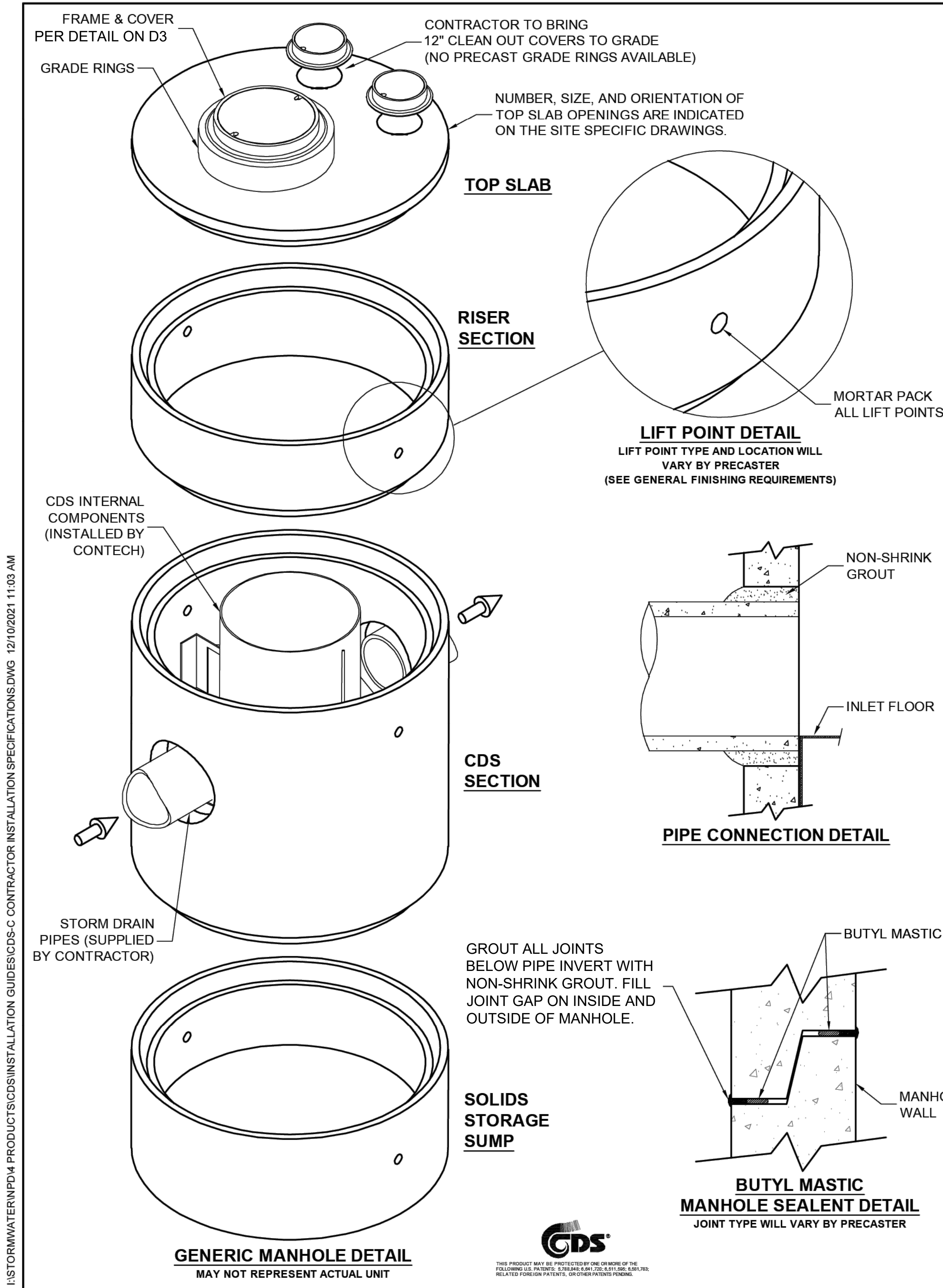
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FILE: WOODLAND CREEK OWS

WOODLAND CREEK OIL WATER SEPARATOR DETAIL SHEET

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OVERVIEW:
THESE INSTRUCTIONS PROVIDE GUIDELINES AND INSTRUCTIONS FOR SETTING THE PRECAST CONCRETE MANHOLE SECTIONS THAT MAKE UP THE CDS-C STYLE WATER QUALITY SYSTEM. BEFORE STARTING THE INSTALLATION, BE SURE YOU HAVE ALL THE COMPONENTS, TOOLS, AND SUPPLIES NECESSARY TO COMPLETE THE WORK.

CRANE SELECTION:
THE CONTRACTOR IS RESPONSIBLE FOR SELECTING THE APPROPRIATE EQUIPMENT TO UNLOAD AND SET THE CDS MANHOLE SECTIONS. CONTECH WILL PROVIDE THE CONTRACTOR WITH THE WEIGHTS OF THE PRECAST SECTIONS. A REPRESENTATIVE FROM THE CRANE COMPANY SHOULD VISIT THE JOBSITE AND REVIEW PERTINENT INFORMATION (SHOP DRAWINGS, WEIGHTS, ETC) PRIOR TO THE SELECTION OF THE CRANE. THE CRANE REPRESENTATIVE AND/OR CONTRACTOR SHOULD DETERMINE THE DISTANCE FROM CENTER OF THE CRANE'S POSITION TO THE CENTER OF THE FINAL POSITION OF THE PRECAST UNITS. THE WEIGHT AND THE DISTANCE FROM THE CENTER OF THE CRANE'S POSITION TO THE CENTER OF THE FINAL POSITION OF THE PRECAST UNITS DETERMINE THE CRANE SIZE. LOCATE THE CRANE AS CLOSE TO THE INSTALLATION AS POSSIBLE AND FOLLOW ALL RECOMMENDATIONS OF THE CRANE SUPPLIER. THE STAGING AREA FOR THE CRANE MUST BE STABILIZED AND CRANE SUPPLIER SHOULD BE PREPARED TO SUPPLY OUTRIGGER MATS.

UNLOADING AND HANDLING:
ANY UNLOADING/HANDLING SUGGESTIONS OR GUIDANCE IS BEYOND CONTECH'S SCOPE OF WORK BUT CAN BE OBTAINED FROM THE PRECASTER. CONTACT CONTECH IF CONTACT INFORMATION FOR THE PRECASTER IS NEEDED. THE PRECAST MANHOLE COMPONENTS WILL HAVE LIFTING POINTS OR DEVICES CAST-INTO THE VARIOUS PIECES AND WILL BE DELIVERED TO THE PROJECT SITE VIA FLATBED TRANSPORT. THE CONTRACTOR SHALL PROVIDE EQUIPMENT AT THE SITE THAT HAS ADEQUATE LIFTING CAPACITY TO UNLOAD THE PRECAST COMPONENTS.

GENERAL FINISHING REQUIREMENTS:
WHERE CAVITIES WERE CREATED FOR LIFTING, SAID CAVITIES SHALL BE PACKED WITH NON-SHRINK GROUT AND FINISHED TO CONFORM TO THE SURFACE THAT WOULD HAVE OTHERWISE EXISTED. WHERE PROTRUDING CABLE LOOPS HAVE BEEN PROVIDED FOR LIFTING, THOSE LOOPS SHALL BE CUT FLUSH WITH THE FINISHED SURFACE. ALL WORK THROUGHOUT THE INSTALLATION SHALL BE COMPLETED IN A PROFESSIONAL STANDARD NORMALLY EXPECTED FOR THE CLASS OF WORK BEING PERFORMED.

EXCAVATION, DEWATERING AND SHORING:
THE CONTRACTOR SHALL EXCAVATE, DEWATER AND SHORE IN ACCORDANCE WITH THE APPLICABLE PROJECT SPECIFICATIONS FOR "EXCAVATION AND BACK-FILL", "DEWATERING AND SHORING", AS PROVIDED BY THE ENGINEER TO ENSURE A SAFE WORKING ENVIRONMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEASURING THE ACTUAL HEIGHT OF THE PRECAST CONCRETE COMPONENTS DELIVERED TO THE SITE PRIOR TO INSTALLING ANY PORTION OF THE CDS UNIT TO VERIFY THE REQUIRED DEPTH OF EXCAVATION BELOW PIPE INVERT MATCHES THE DEPTH GIVEN ON THE CONTECH PROJECT SPECIFIC CONTRACT DRAWING.

SUB-GRADE PREPARATION:
ONCE SITE IS EXCAVATED TO THE CORRECT DEPTH, COMPACT THE UNDISTURBED SUB-GRADE MATERIALS TO 95% OF MAXIMUM DENSITY AT +/-2% OF OPTIMUM MOISTURE CONTENT PRIOR TO PLACEMENT OF CRUSHED ROCK. THE CRUSHED ROCK SUBGRADE MATERIAL SHALL BE COMPOSED TO WITHSTAND A DESIGN LOADING OF 2,000 POUNDS PER SQUARE FOOT (PSF). IT IS RECOMMENDED THAT THE HOLE BE OVER-EXCAVATED A MINIMUM OF 6" AND BACKFILLED WITH AGGREGATE BASE AND COMPACTED TO 95% TO MAKE SUBGRADE.

1. SUMP INSTALLATION
THE CDS MANHOLE SHALL BE SET IN THE LOCATION SHOWN ON THE PROJECT SPECIFIC SITE PLANS AND ALIGNED WITH THE CENTERLINE OF THE MAIN STORM DRAIN PIPE. START BY SETTING THE SUMP BASE SECTION ON THE PREPARED SUB-GRADE AND CHECK FOR PLUMB AND LEVEL. ENSURE JOINT SURFACE IS CLEAN AND DRY THEN PLACE A LAYER OF BUTYL MASTIC MANHOLE SEALANT (SUPPLIED BY CONTECH) ON BOTH UPPER AND LOWER SHELVES OF THE SUMP BASE TONGUE & GROOVE JOINT (SEE BUTYL MASTIC MANHOLE SEALANT DETAIL).

2. CDS SECTION INSTALLATION
THE CDS SECTION IS DELIVERED TO THE PROJECT SITE WITH ALL INTERNAL COMPONENTS PRE-INSTALLED BY CONTECH. IF THE SIZE OF THE CDS UNIT REQUIRES THAT INTERNAL COMPONENT INSTALLATION BE PERFORMED AT THE PROJECT SITE, CONTECH WILL MAKE APPROPRIATE ARRANGEMENTS WITH THE CONTRACTOR PRIOR TO THE INSTALLATION OF THE MANHOLE. PLACE BUTYL MASTIC MANHOLE SEALANT ON THE TOP JOINT IN THE SAME MANNER AS THE SUMP BASE. THE CDS SECTION RISER SHALL BE SET WITH THE PROPER ORIENTATION TO THE STORM DRAIN TO ENSURE CORRECT ALIGNMENT OF THE INLET AND OUTLET PIPE OPENINGS. IF THE INLET AND OUTLET OPENINGS ARE REVERSED, THE STORMWATER TREATMENT UNIT WILL NOT FUNCTION. IF IT IS UNCLEAR WHICH OPENING IS INLET AND WHICH OPENING IS OUTLET, PLEASE CONTACT YOUR CONTECH REPRESENTATIVE BEFORE PROCEEDING.

IMPORTANT: APPLY LOAD TO MANHOLE SECTIONS TO COMPRESS BUTYL MASTIC SEALANT IF NECESSARY. UNIT MUST BE WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. GROUT ALL JOINTS BELOW PIPE INVERT.

3. STORM DRAIN PIPE CONNECTION
CONTRACTOR TO PROVIDE, INSTALL, AND GROUT STORM DRAIN PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN ON THE CONTECH CONTRACT DRAWINGS. SUPPORT THE INLET AND OUTLET PIPES IN THE CORRECT LOCATION, THEN USING NON-SHRINK GROUT, SEAL THE VOIDS AROUND THE PIPES AND MANHOLE WALLS. **IMPORTANT: INLET PIPE INVERT MUST BE AT OR ABOVE THE FLOOR OF THE INLET TROUGH SO THAT NO FIBERGLASS BLOCKS THE FLOW OF WATER INTO THE UNIT.**

4. ADDITIONAL RISERS AND TOP SLAB INSTALLATION
PLACE ANY REMAINING MANHOLE SECTIONS TO BRING THE CDS UNIT TO THE CORRECT HEIGHT. ENSURE JOINT SURFACE IS CLEAN AND DRY THEN PLACE A LAYER OF BUTYL MASTIC MANHOLE SEALANT (SUPPLIED BY CONTECH) ON BOTH UPPER AND LOWER SHELVES OF ALL REMAINING TONGUE & GROOVE JOINTS. AFTER PLACING BUTYL MASTIC ON THE TOP JOINT OF THE LAST RISER SECTION, INSTALL THE MANHOLE TOP SLAB. ROTATE THE TOP SLAB TO THE CORRECT LOCATION AS SHOWN ON THE CONTECH CONTRACT DRAWINGS. GRADE RINGS, FRAMES & COVERS WILL BE PROVIDED FOR EACH TOP ACCESS OPENING TO BRING THE UNIT TO FINISHED GRADE. SOME GROUT MAY STILL BE REQUIRED TO BRING THE FRAME & COVER TO GRADE IF A GAP REMAINS AFTER THE GRADE RINGS ARE INSTALLED.

5. BACKFILL
UPON COMPLETION OF THE CDS UNIT INSTALLATION, THE EXCAVATION SHALL BE BACKFILLED WITH AN AGGREGATE BASE MATERIAL, PEA GRAVEL, OR CONTROLLED DENSITY CEMENT BACKFILL. THE AGGREGATE BASE MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 90% COMPACTION OR AS SPECIFIED BY THE ENGINEER WHEN TESTED BY ASTM DESIGNATION A1557, UNLESS THE CDS UNIT IS TO RECEIVE TRAFFIC LOADINGS WHEREBY THE FOLLOWING CONDITIONS SHALL APPLY: FOR CDS UNITS INSTALLED IN A TRAVEL WAY, THE UPPER TWO FEET OF BACKFILL SHALL BE AGGREGATE BASE COMPACTED TO 95% (MINIMUM).

6. SITE CLEANUP
REMOVE ALL MATERIAL AND DEBRIS FROM THE INLET, SEPARATION CYLINDER, AND SUMP UPON COMPLETION OF INSTALLATION.

IMPORTANT: PRIOR TO PROJECT COMPLETION, CONTRACTOR SHALL FILL CDS UNIT WITH WATER TO FLOWLINE INVERT.

CDS CONCENTRIC
PRECAST CONCRETE WATER QUALITY MANHOLE
CONTRACTOR INSTALLATION SPECIFICATIONS

CITY OF LACEY, WASHINGTON
DEPARTMENT OF PUBLIC WORKS
420 COLLEGE STREET SE
LACEY, WA 98503-1238 (360) 491-5600



DESIGNED: RKJ
DRAFTED: RKJ
CHECKED: TEO
HORZ. SCALE: N/A
VERT. SCALE: N/A
FILE: WOODLAND CREEK OWS

WOODLAND CREEK OIL WATER
SEPARATOR
DETAIL SHEET

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- | CATCH BASIN DIMENSIONS | | | | |
|------------------------|---------------------|---------------------|-----------------------|------------------------------------|
| CATCH BASIN DIAMETER | MIN. WALL THICKNESS | MIN. BASE THICKNESS | MAXIMUM KNOCKOUT SIZE | MINIMUM DISTANCE BETWEEN KNOCKOUTS |
| 48" | 4" | 6" | 36" | 8" |
| 54" | 4.5" | 8" | 42" | 8" |
| 60" | 5" | 8" | 48" | 8" |
| 72" | 6" | 8" | 60" | 12" |
| 84" | 8" | 12" | 72" | 12" |
| 96" | 8" | 12" | 84" | 12" |
| 120" | 10" | 12" | 96" | 12" |
| 144" | 12" | 12" | 108" | 12" |

PIPE ALLOWANCES					
CATCH BASIN DIAMETER	PIPE MATERIAL WITH MAXIMUM INSIDE DIAMETER				
	CONCRETE	ALL METAL	CPSP ^①	SOLID WALL PVC ^②	PROFILE WALL ^③
48"	24"	30"	24"	30"	30"
54"	30"	36"	30"	36"	36"
60"	36"	42"	36"	42"	42"
72"	42"	54"	42"	48"	48"
84"	54"	60"	54"	48"	48"
96"	60"	72"	60"	48"	48"
120"	66"	84"	60"	48"	48"
144"	78"	96"	60"	48"	48"

EXISTING A.C. PAVEMENT

EMULSIFIED ASPHALT GRADE CSS-1 TACK SHALL BE APPLIED TO EDGES OF EXISTING PAVEMENT. ALL JOINTS SHALL BE SEALED USING PAVING ASPHALT AR4000W.

1' MIN.

MINIMUM 0.25' HMA (COMPACTED DEPTH) OR EXISTING PLUS 0.08', WHICHEVER IS GREATER APPLIED IN MAXIMUM 0.25' LIFTS

VARIES

CRUSHED SURFACING TOP COURSE COMPACTED TO 95%

BANK RUN GRAVEL OR NATIVE MATERIAL FOR TRENCH BACKFILL

.5' MIN.

VARIES

0.33' MIN.

FOUNDATION TYPICAL. REQUIRED ONLY WHEN UNSUITABLE MATERIAL ARE ENCOUNTERED AND AS THE ENGINEER DIRECTS.

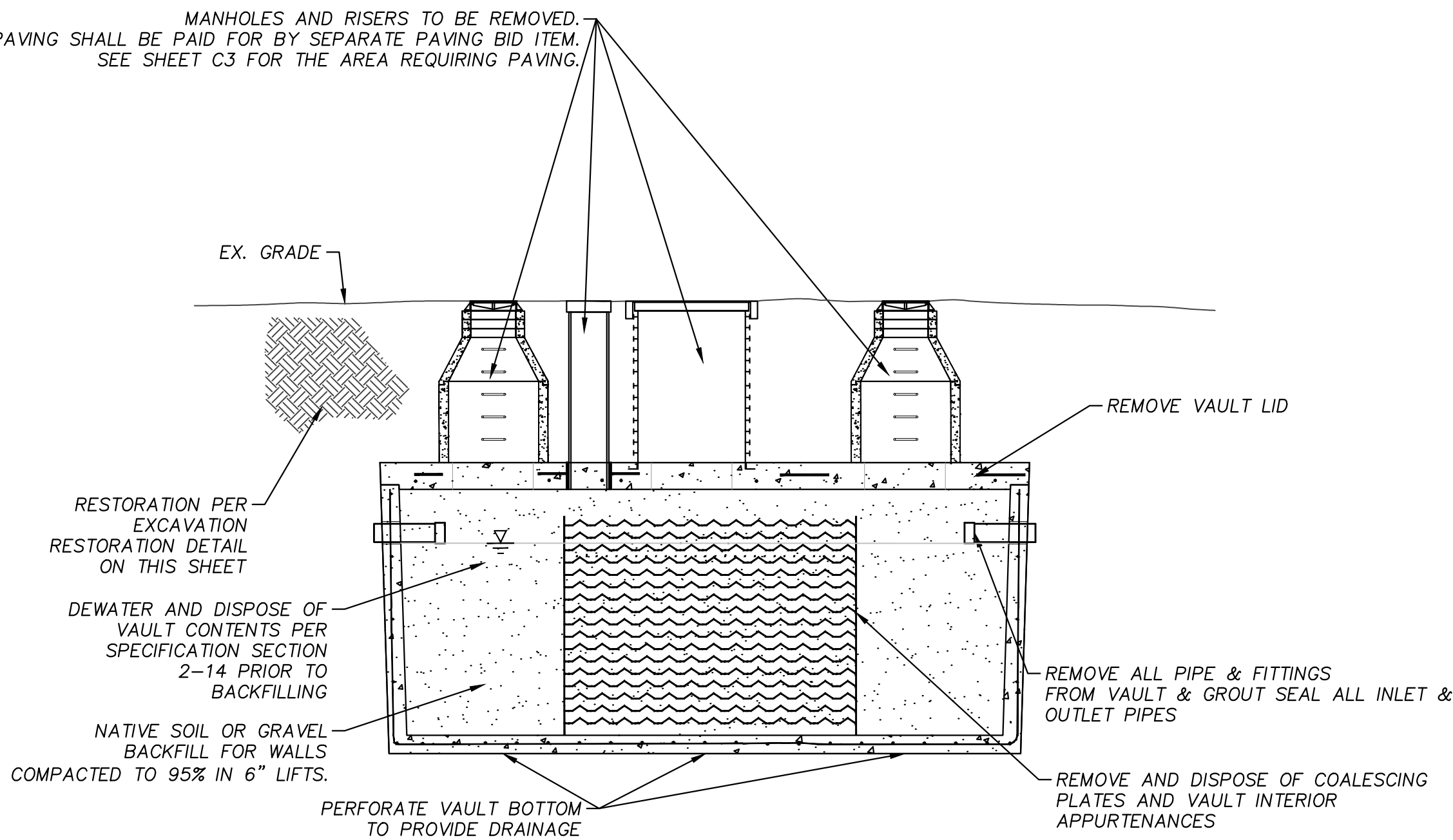
BEDDING MATERIAL

MAX. TRENCH WIDTH SHALL BE 1.5' PLUS $1\frac{1}{2}$ x O.D. OF PIPE OR 2.5', WHICHEVER IS GREATER (TYP.)

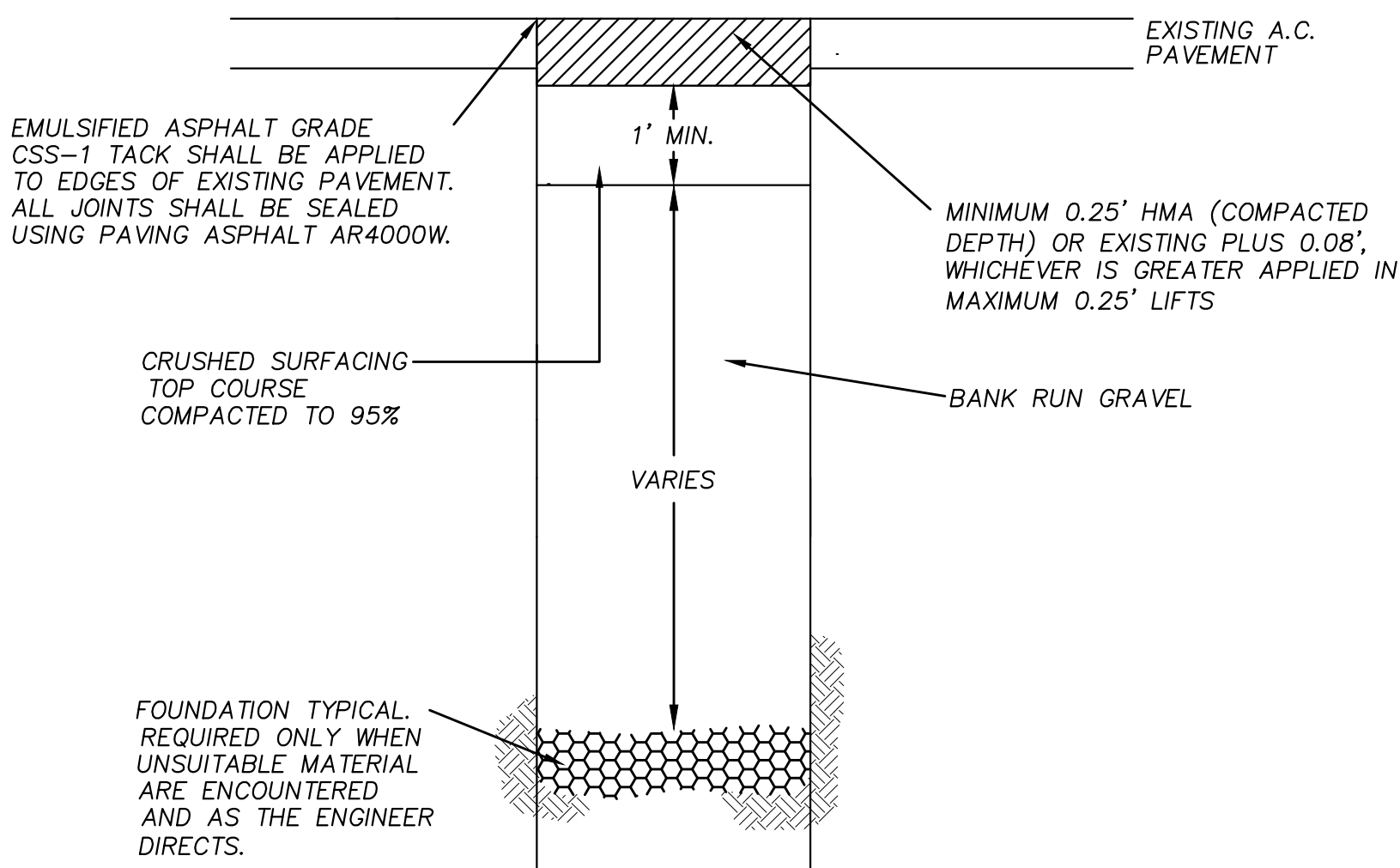
1. ALL MATERIALS EXCEPT HMA AND BEDDING MATERIAL SHALL BE COMPACTED IN 6-INCH MAXIMUM LIFTS TO 95% DENSITY AS DETERMINED BY ASTM D1557.
2. ALL MATERIALS, WORKMANSHIP, AND INSTALLATION SHALL BE IN CONFORMANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION AS AMENDED BY CITY OF LACEY STANDARDS.
3. KEEP TRENCH BOTTOM COMPACTED WITH UNIFORM GRADE. NO TEMPORARY SUPPORTS, I.E. BLOCKS, WILL BE ALLOWED TO SUPPORT PIPE. TRENCH BOTTOM SHALL BE TO GRADE PRIOR TO PIPE INSTALLATION.

TRENCH RESTORATION
N.T.S.

N.T.S.



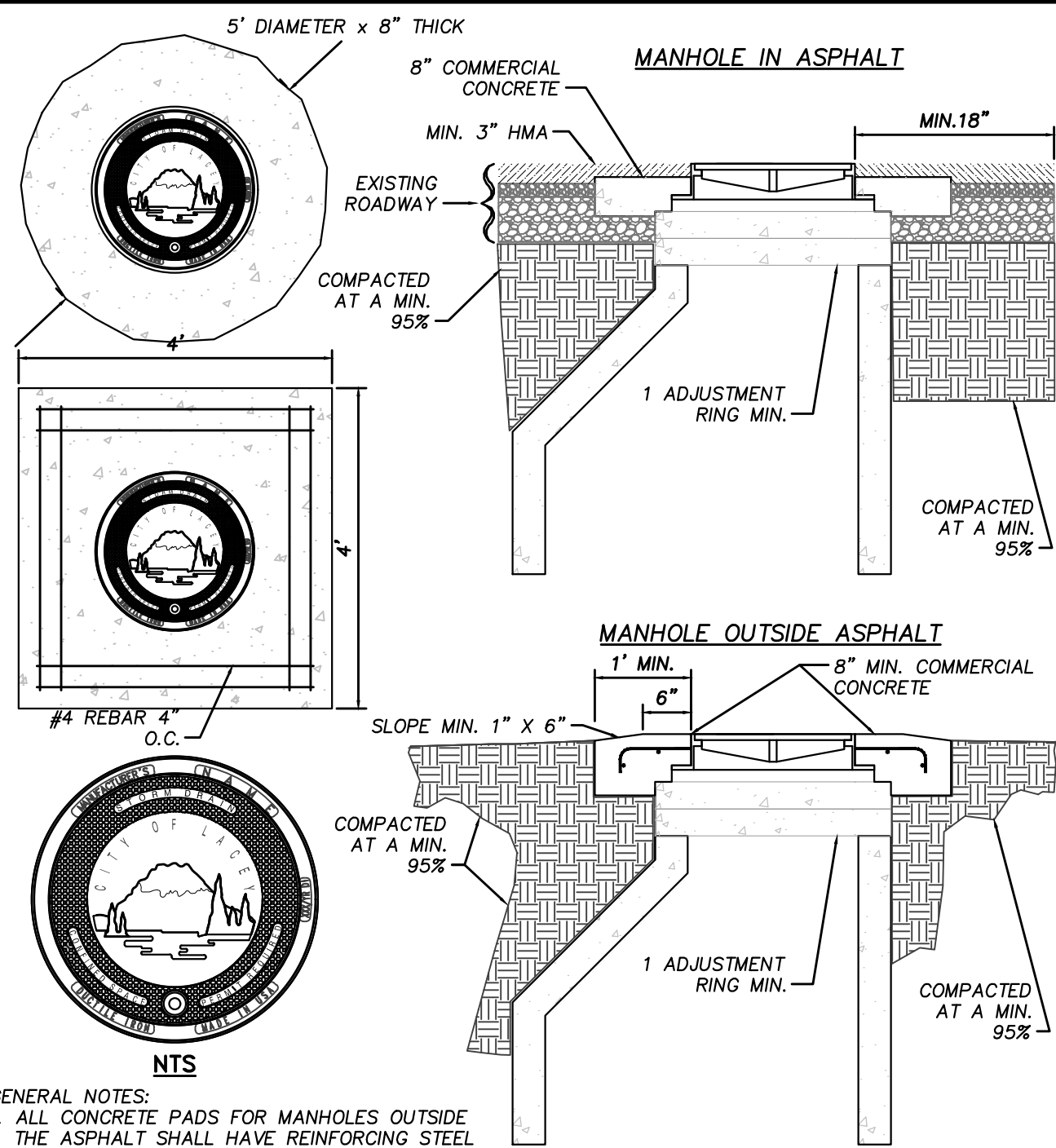
OIL WATER SEPARATOR VAULT ABANDONMENT
N.T.S.



1. ALL MATERIALS EXCEPT HMA AND BEDDING MATERIAL SHALL BE COMPACTED IN 6-INCH MAXIMUM LIFTS TO 95% DENSITY AS DETERMINED BY ASTM D1557.
2. ALL MATERIALS, WORKMANSHIP, AND INSTALLATION SHALL BE IN CONFORMANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION AS AMENDED BY CITY OF LACEY STANDARDS.

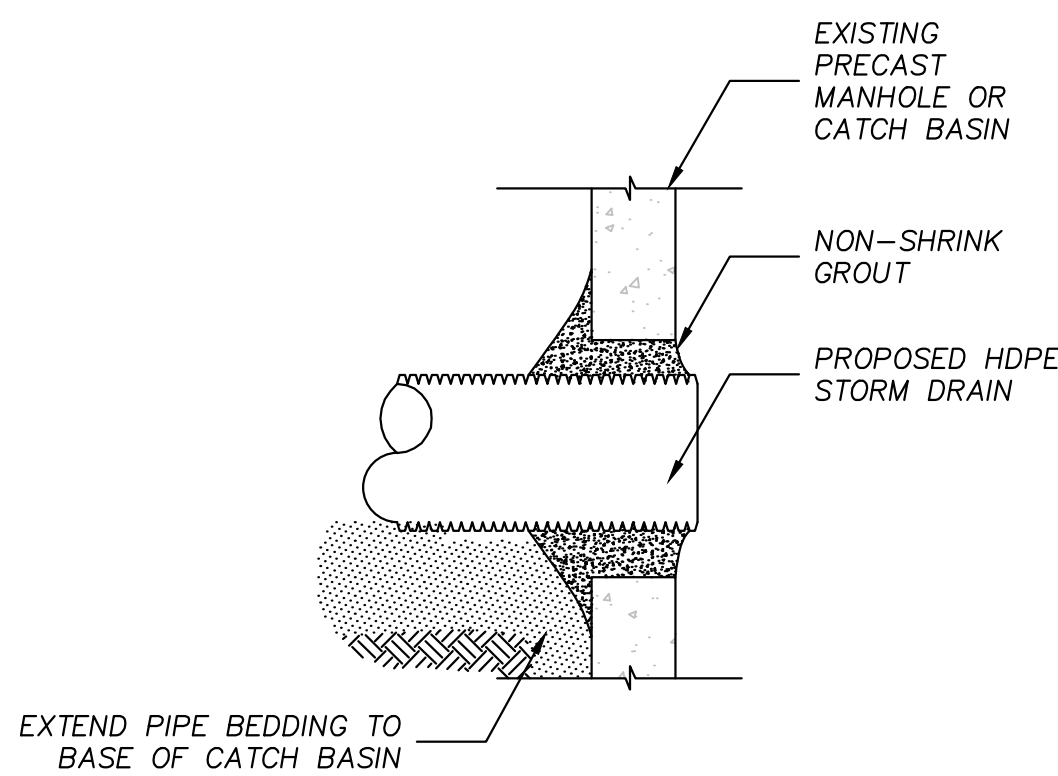
EXCAVATION RESTORATION
N.T.S.

N.T.S.



1. ALL CONCRETE PADS FOR MANHOLES OUTSIDE THE CURB SHALL HAVE REINFORCING STEEL AS SHOWN ABOVE. REBAR TO MEET ASTM A615 GRADE 60 F_y=60,000 P.S.I.
2. ALL MANHOLE FRAME AND COVER ASSEMBLIES SHALL BE CAST IN PLACE CONCRETE WITH WOOD STYL #4 14" WITH THE CITY LOGO STAMPED IN IT, DUCTILE IRON AND MANUFACTURED IN THE U.S.A.
3. ADJUST GRADE RINGS WITH BRICK WEDGES OR GRIND THE ROCKS SHALL BE USED AS ADJUSTMENT SPACERS.
4. DEVIATION FROM COMPACTION STANDARDS MAY BE APPROVED BY THE DIRECTOR, OR DESIGNED, WHEN NECESSARY, BY THE LICENSED PROFESSIONAL ENGINEER FOR RIGID OR EXISTING INFILTRATION FACILITIES.
5. EXISTING SURFACES PAVED WITH PERMEABLE MATERIALS SHALL BE REPAVED IN-GRIND WHERE FOUND IN CONFORMANCE WITH 45180 TRENCH BACKFILL AND RESTORATION.

STORM DRAIN MANHOLE LOGO COVER AND FRAME INSTALLATION
N.T.S.



CONNECTION TO EXISTING STRUCTURE
N.T.S.

N.T.S.

WOODLAND CREEK OIL WATER SEPARATOR DETAIL SHEET

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