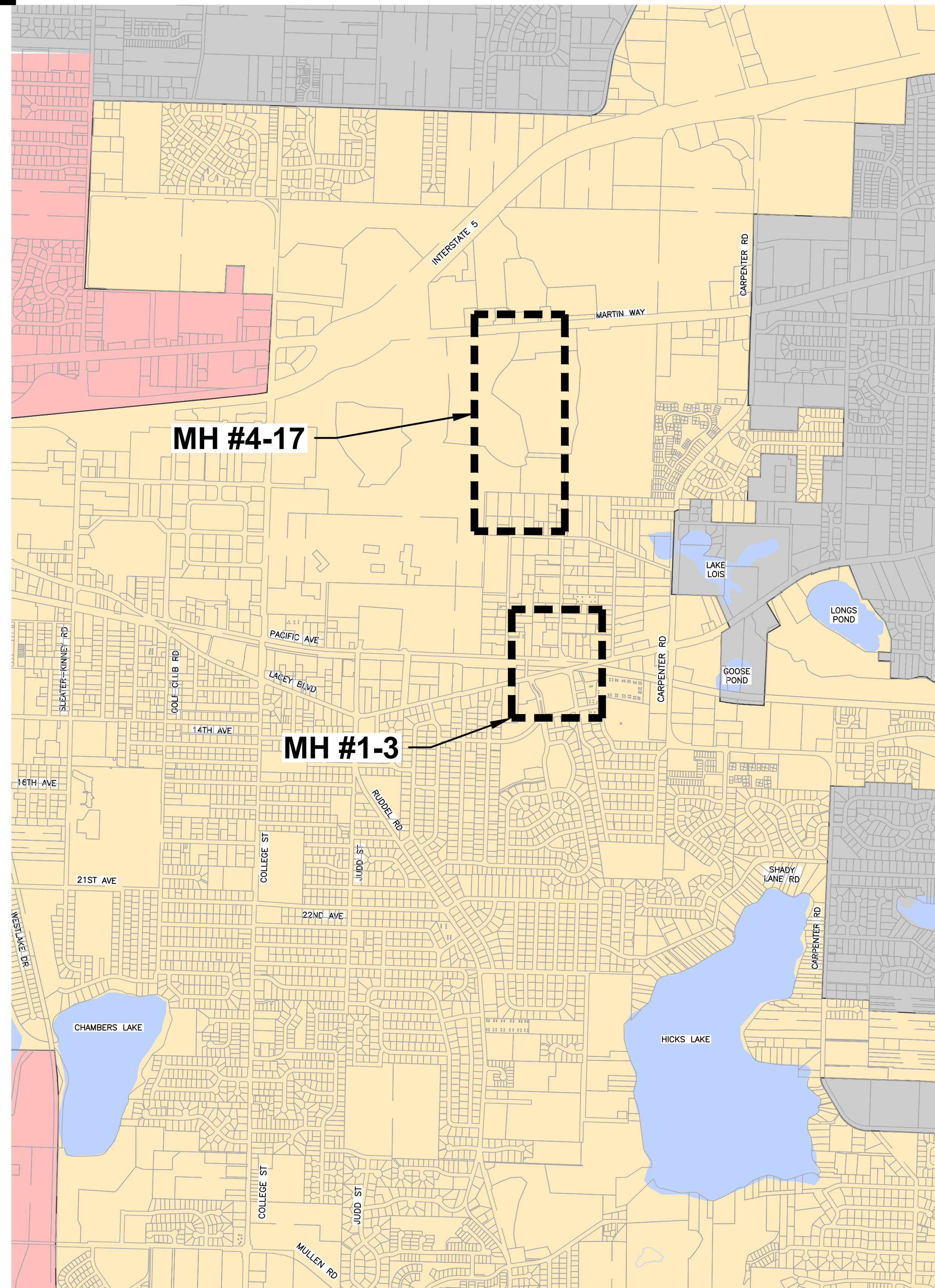


2023/2024 MANHOLE REHABILITATION

LACEY CONTRACT # PW 2023-23

SECTION 04, T17N, R1W, W.M.



LACEY CITY OFFICIALS

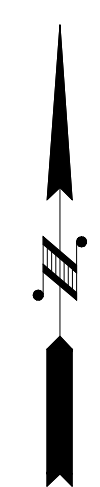
MAYOR: Andy Ryder
DEPUTY MAYOR: Malcolm Miller
CITY COUNCIL: Lenny Greenstein
 Michael Steadman
 Carolyn Cox
 Robin Vazquez
 Nicolas Dunning

CITY MANAGER: Rick Walk
CITY ATTORNEY: David S. Schneider
CITY ENGINEER: Aubrey Collier, P.E., S.E.
DIRECTOR OF PUBLIC WORKS: Scott Egger, P.E.

INDEX OF DRAWINGS

GENERAL		
1	G1	COVER SHEET, VICINITY MAP & INDEX OF DRAWINGS
2	G2	GENERAL NOTES & LEGEND
MANHOLE REHAB		
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4	MH1	MH#1 COORDINATION
5	MH3	MH#3 INSIDE DROP
6	MRD1	MANHOLE REHAB DETAILS

Scott Egger 10/24/2024
 DIRECTOR OF PUBLIC WORKS DATE



VICINITY MAP
 CITY OF LACEY, WASHINGTON
 SCALE : 1" = 1000'



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



Know what's below.
 Call before you dig.



Lacey Dwg. Number :
 D-24-16

BLOCK LEGEND

	EXISTING
SURVEY MONUMENT	
CATCH BASIN TYPE 1	
STORM MANHOLE & CB TYPE 2	
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	
TRAFFIC LOOP	
TRAFFIC SIGNAL	
STANDARD TRAFFIC SIGNAL CONTROLLER	
STREET LIGHT	
JUNCTION BOX	
ELECTRICAL SERVICE	
CABLE TV PEDESTAL	
TELEPHONE MANHOLE	
TELEPHONE PEDESTAL	
TREE GRATE	
COMMERCIAL SIGN	

LINETYPE LEGEND

	CONSTRUCTION BASELINE
	EASEMENT
	ROAD CENTERLINE
	BARB WIRE FENCE
	CHAIN LINK FENCE
	CONCRETE FENCE
	ROCK FENCE
	WIRE FENCE
	WOOD FENCE
	GRAVEL
	DITCH
	STORM (PAINTED)
	SEWER (PAINTED)
	RIGHT OF WAY
	OVERHEAD CABLE
	UNDERGROUND CABLE (PAINTED)
	GAS (PAINTED)
	OVERHEAD PHONE
	OVERHEAD FIBER OPTIC
	UNDERGROUND PHONE (PAINTED)
	UNDERGROUND FIBER OPTIC (PAINTED)
	OVERHEAD ELECTRIC
	UNDERGROUND ELECTRIC (PAINTED)
	WATER (PAINTED)
331	LOT NUMBER
6419	HOUSE ADDRESS

- CONSTRUCTION NOTES:
- CALL 48 HOURS BEFORE YOU DIG 1-800-424-5555 OR 811.
 - ALL WORK ASSOCIATED WITH SECTION 7-05.3(B) MANHOLE TREATMENT OF THE SPECIAL PROVISIONS WILL BE SUBJECT TO SPECIAL INSPECTIONS BY A THIRD PARTY INDEPENDENT NACE CERTIFIED COATINGS INSPECTOR PROVIDED BY THE CITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND SCHEDULING THE CITY PROVIDED NACE CERTIFIED COATINGS INSPECTOR.
 - THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE SAFETY AND HEALTH OF ALL ON-SITE WORKERS, INCLUDING THE NACE CERTIFIED COATINGS INSPECTOR, AND COMPLIANT WITH WASHINGTON ADMINISTRATIVE CODE (WAC 296-809).
 - THE CONTRACTOR SHALL COORDINATE THE ORDER OF WORK TO ENSURE ALL WORK ASSOCIATED TO THE REHABILITATION OF ALL MANHOLES, AS REQUIRED, IS COMPLETED PRIOR TO THE APPLICATION OF PROTECTIVE COATING.
 - THE WORK REQUIRED FOR EACH MANHOLE ASSOCIATED WITH THIS PROJECT HAS BEEN IDENTIFIED, TO MAXIMUM EXTENT FEASIBLE, ON MANHOLE REHABILITATION SCHEDULE ON THIS SHEET. THE CONTRACTOR SHALL VERIFY, IN CONJUNCTION WITH THE NACE CERTIFIED COATINGS INSPECTOR, THE EXTENT OF WORK REQUIRED PRIOR TO APPLICATION OF PROTECTIVE COATING.
 - NIGHT WORK IS REQUIRED TO COMPLETE A PORTION OF THIS PROJECT, REFER TO REHABILITATION SCHEDULE ON THIS SHEET.

ABBREVIATIONS

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

Manhole #	Manhole ID	Notes	Chemical Grouting	Repair Shelf Damage	Repair Exposed Aggregate	Repair Root Damage	Remove PVC liner	Night Work Required
1	MH WB103	May require pressure grouting. PVC liner to be removed. Replace inside drop as required.	X				X	X
2	MH WA401	May require pressure grouting. PVC liner to be removed	X				X	
3	MH WAN02	May require pressure grouting. PVC liner to be removed. Replace inside drop.	X				X	
4	MH T2801	H2S damage, shelf damage, exposed aggregate.		X	X			
5	MH T2702	H2S damage shelf damage and bottom of walls		X				
6	MH T2701	H2S damage shelf damage exposed aggregate		X	X			
7	MH T2Y01	Requires pressure grouting. manhole heavy H2s. Shelf Broken/Gone	X	X				
8	MH TYU01	H2S damage aggregate showing		X				
9	MH T2N01	H2S damage aggregate showing		X				
10	MH T2E01	H2S damage aggregate showing root intrusion riser rings & cone more roots on walls pipe collar exposed			X	X		
11	MH TY601	H2S damage aggregate showing		X				
12	MH TYX01	Requires pressure grouting.	X					
13	MH TYU01	H2S damage aggregate showing		X				
14	MH TYK01	*Manhole is buried under asphalt, Contractor to verify extent of rehabilitation after uncovering	*	*	*	*	*	
15	MH TYG01	H2S damage aggregate showing			X			X
16	MH TYH02	H2S damage shelf damage exposed aggregate		X	X	X		X
17	MH TYH04	manhole heavy H2s. Shelf Broken damaged		X	X			

MANHOLE REHABILITATION SCHEDULE

TOPOGRAPHIC NOTE:
 THE EXISTING TOPOGRAPHIC DATA SHOWN ON THESE DRAWINGS, IN PART, IS BASED UPON INFORMATION FROM VARIOUS SOURCES. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, THE CITY OF LACEY CANNOT ENSURE ITS ACCURACY AND THUS IS NOT RESPONSIBLE FOR THE ACCURACY OF THAT INFORMATION OR FOR ANY ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED INTO THESE DRAWINGS AS A RESULT.
 THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING THE UNDERGROUND UTILITY LOCATE LINE AT 811 A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.

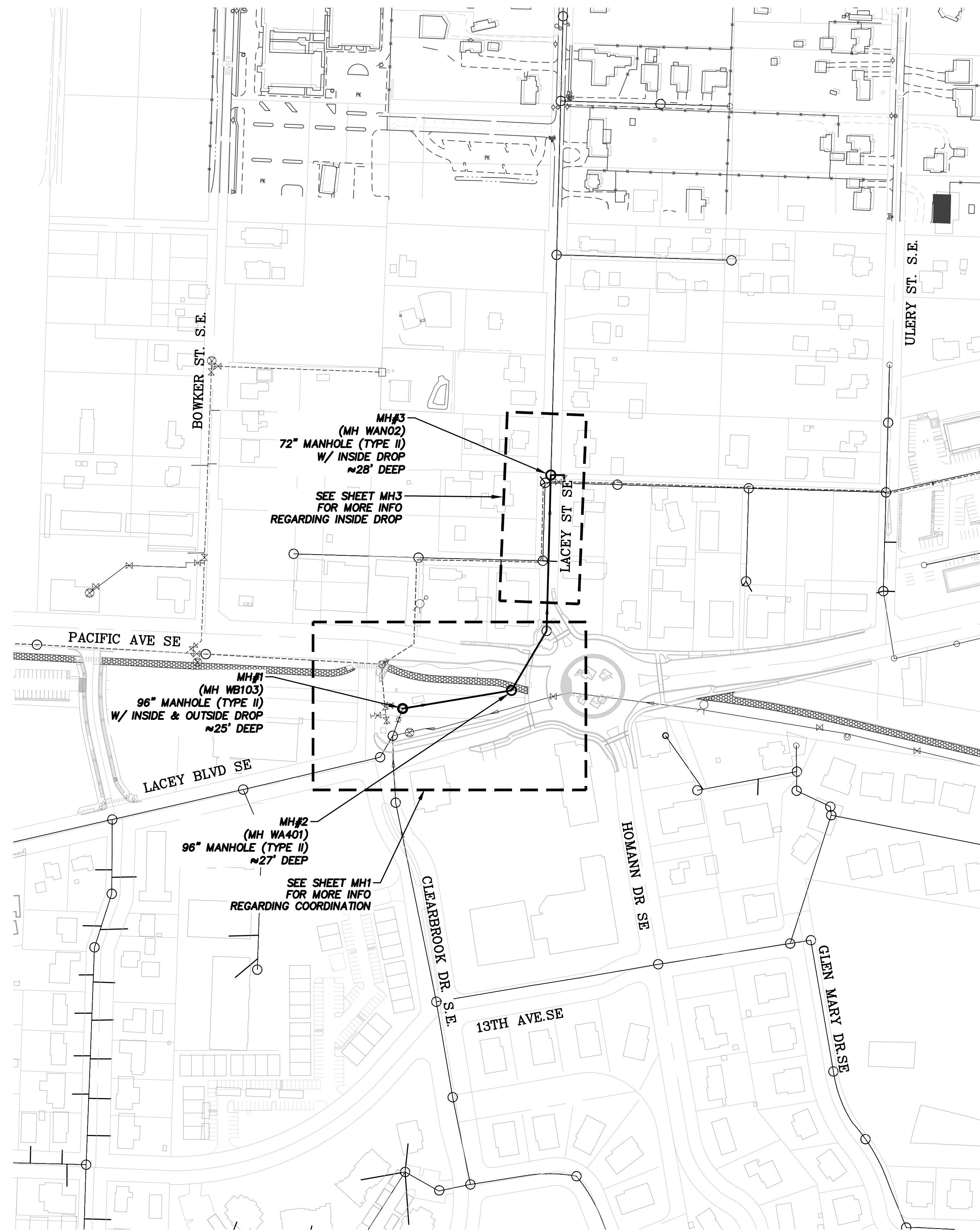
CITY OF LACEY, WASHINGTON
 DEPARTMENT OF PUBLIC WORKS
 420 COLLEGE STREET SE
 LACEY, WA 98503-1238 (360) 491-5600



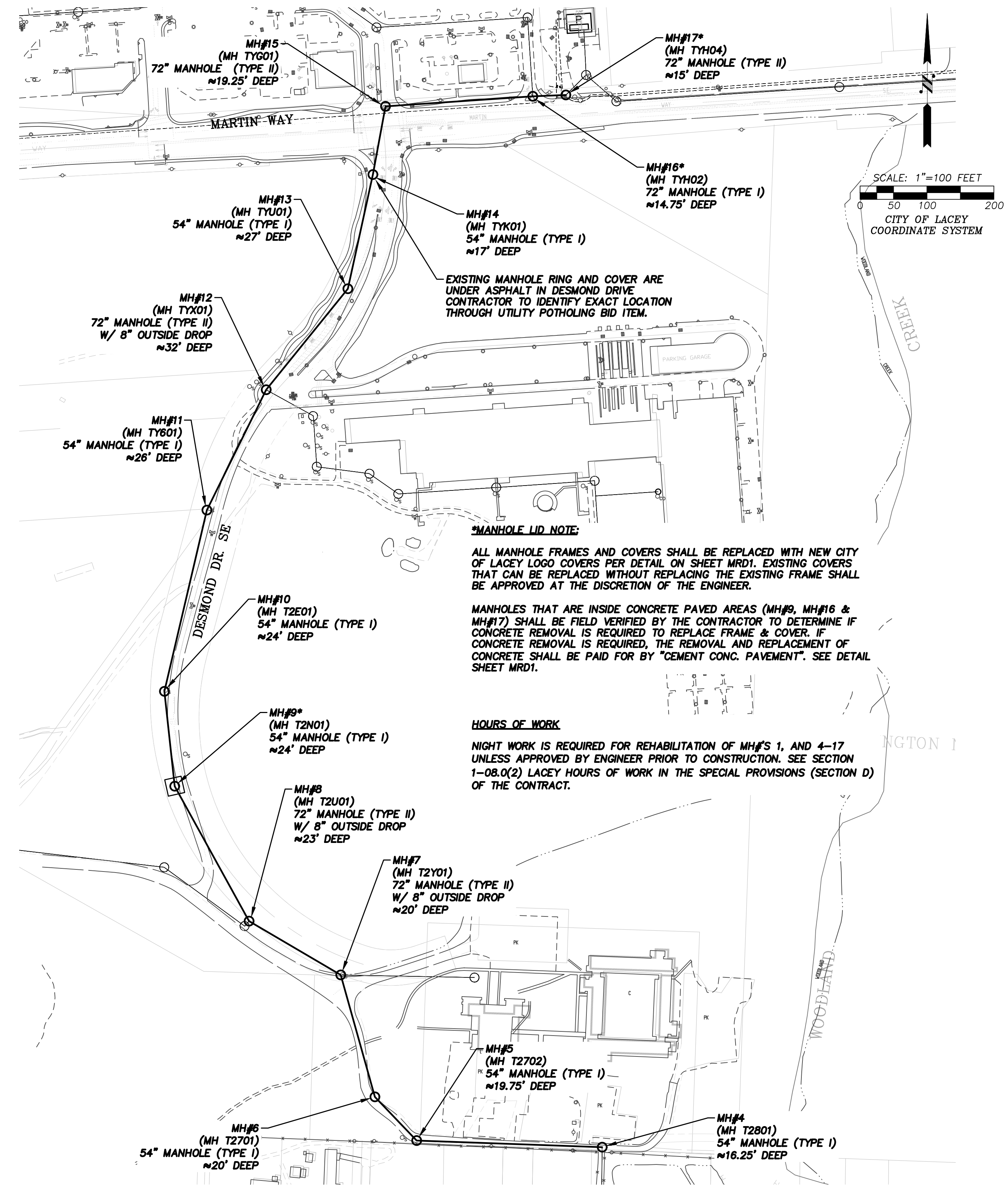
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 HORZ. SCALE: N/A
 VERT. SCALE: N/A
 FILE: 2324 MH REHAB-COVER

2023/2024 MANHOLE REHABILITATION NOTES & LEGEND

REVISION BLOCK			PAGE NO.	SHEET NO.
NO.	DATE	DESCRIPTION	G2	2
			DWG NO.	OF
			D-24-16	6



MH#1 to MH#3



MH#4 to MH#17

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 DEPARTMENT OF PUBLIC WORKS
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 LACEY, WA 98503-1238 (360) 491-5600

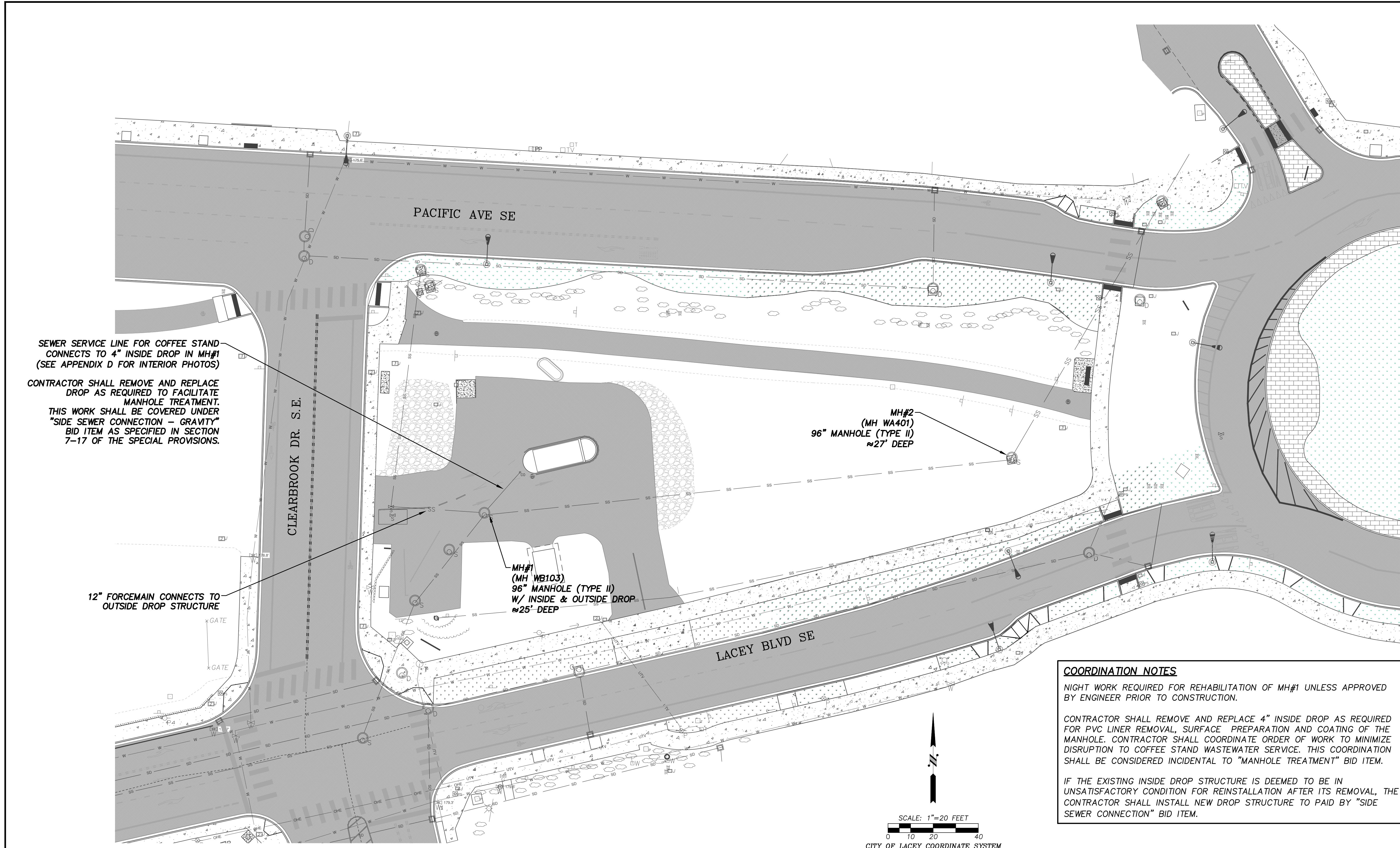


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 VERT. SCALE: N/A
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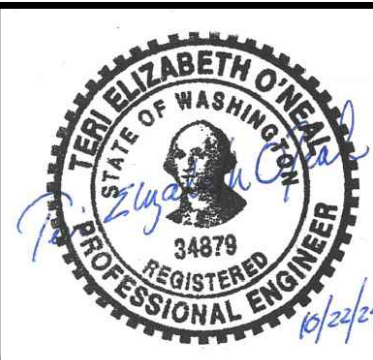
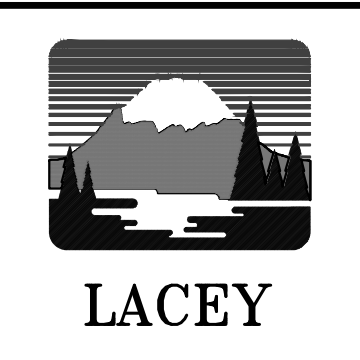
2023/2024 MANHOLE REHABILITATION OVERALL SITE PLAN

REVISION BLOCK		
NO.	DATE	DESCRIPTION

PAGE NO.	SHEET NO.
SP1	3
DWG NO.	OF
D-24-16	6



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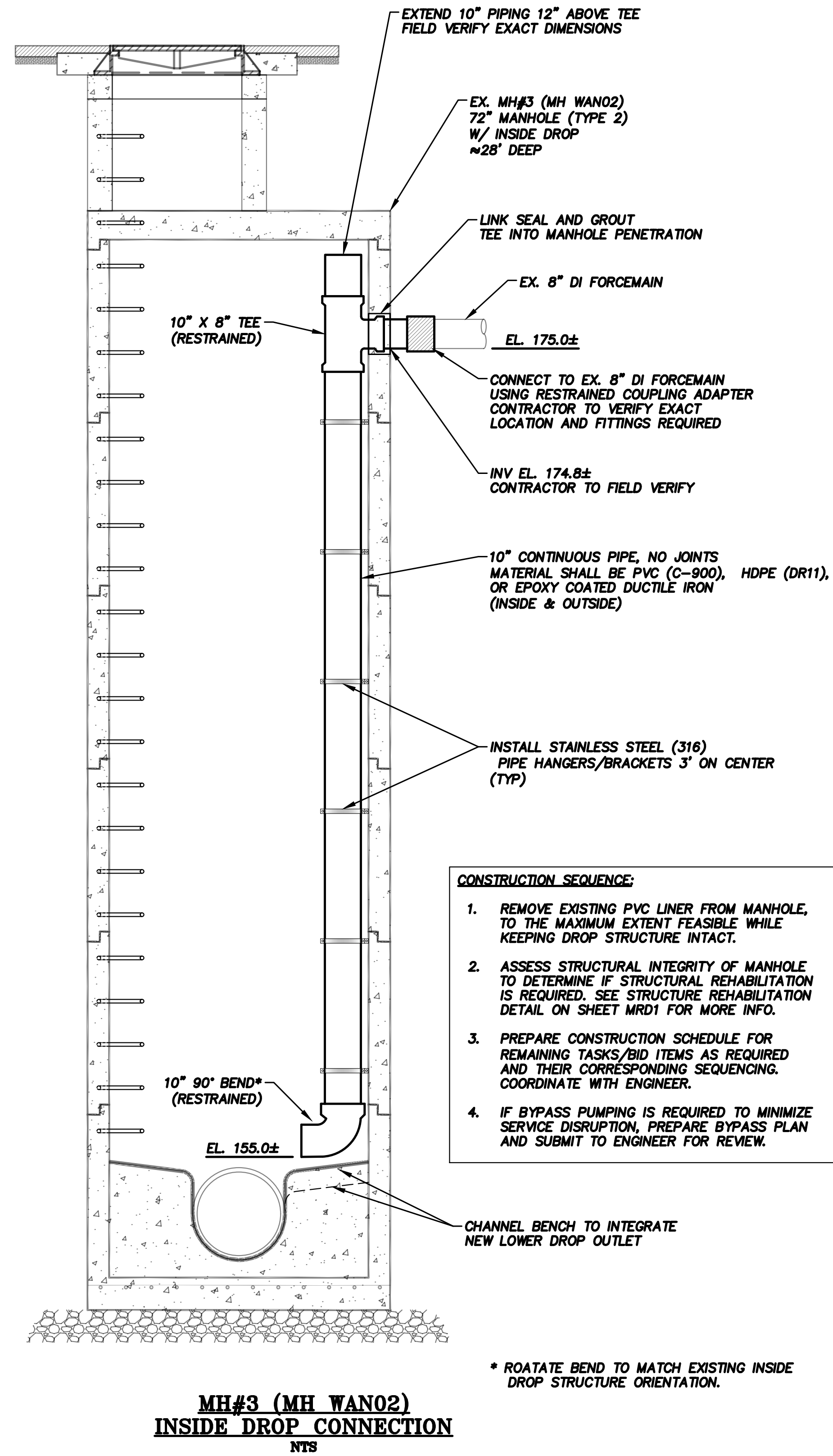


DESIGNED: JSK
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 CHECKED: TEO
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 VERT. SCALE: N/A
 FILE: 2324 MH REHAB-MH1

**2023/2024 MANHOLE REHABILITATION
 MH#1 COORDINATION**

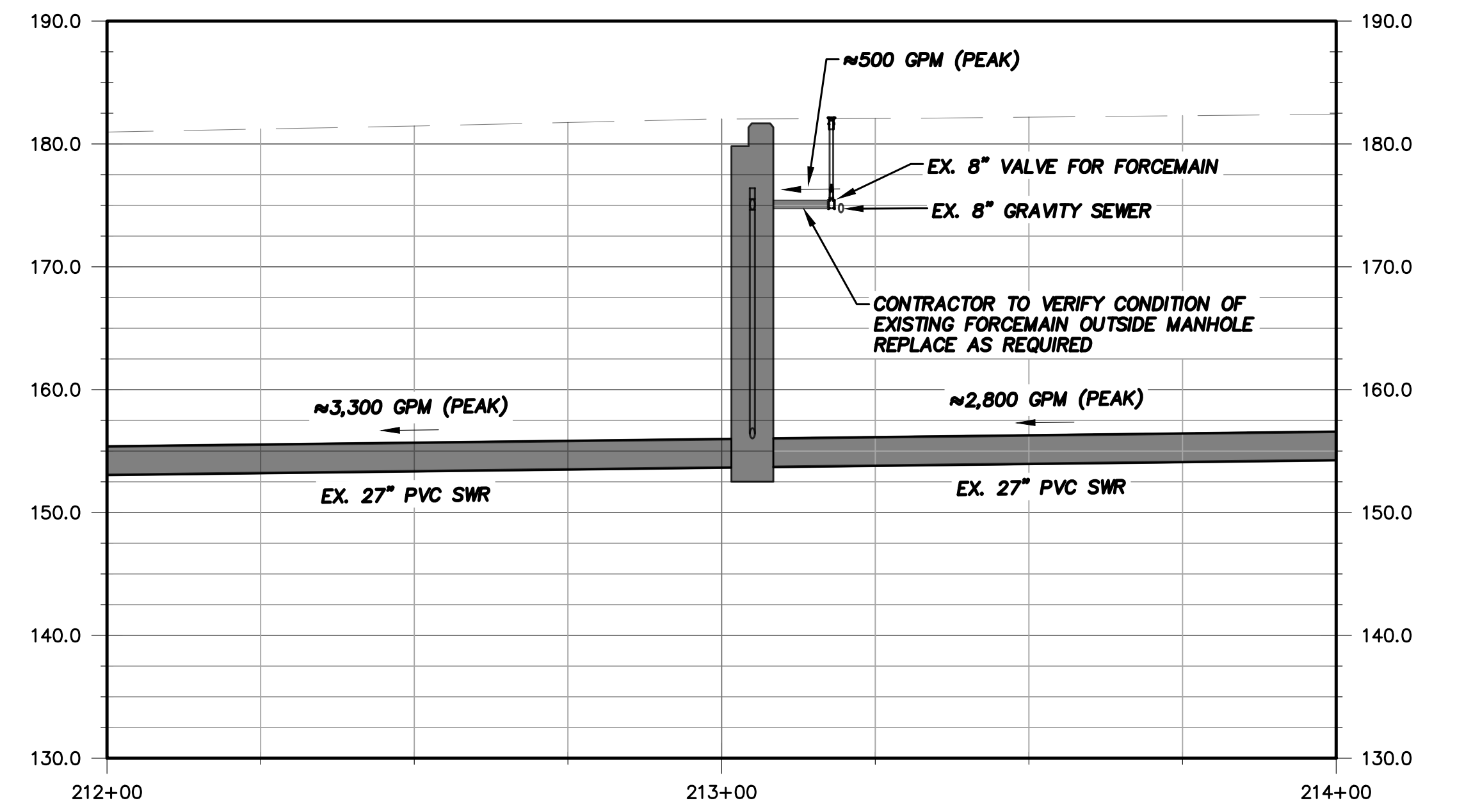
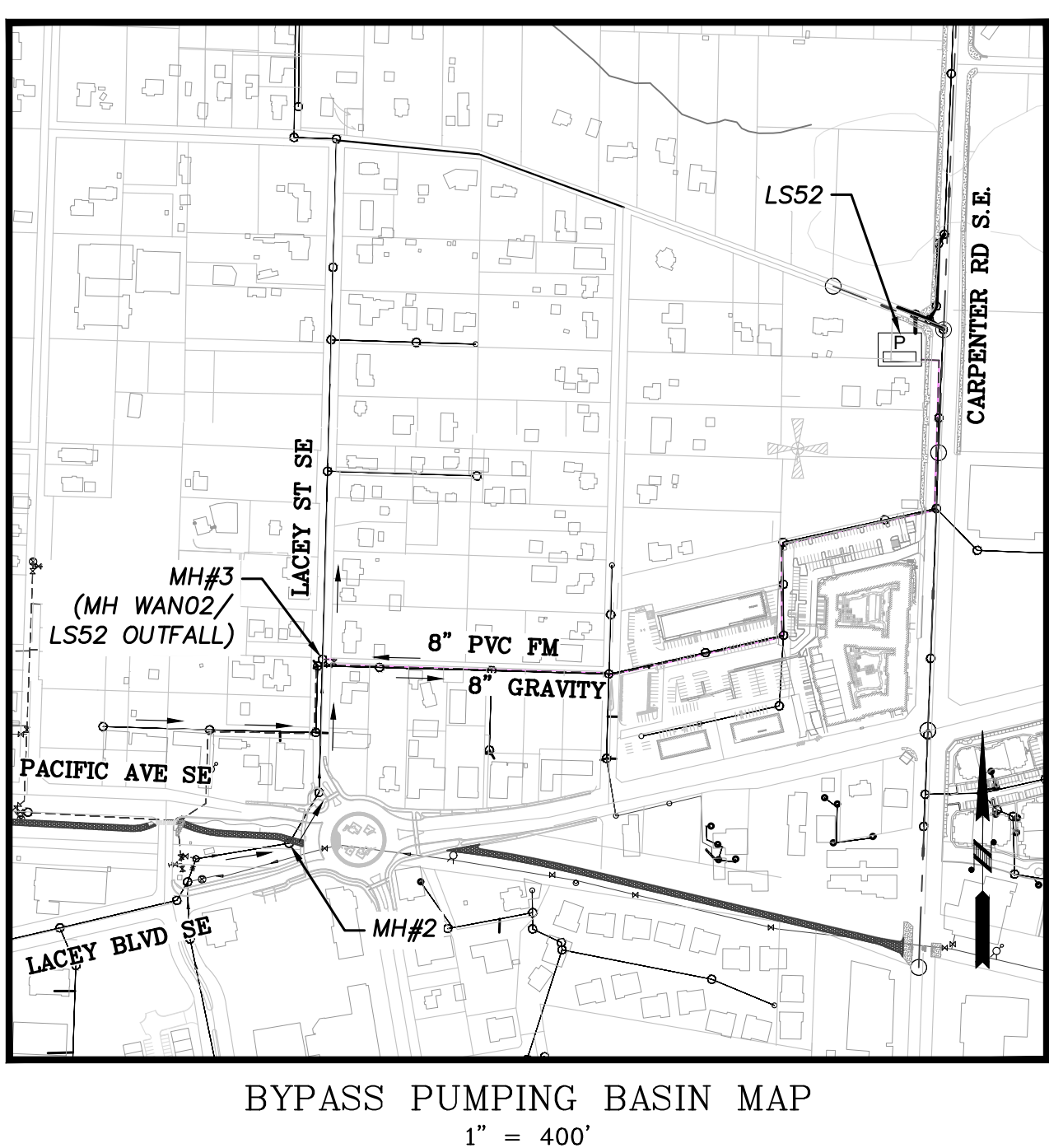
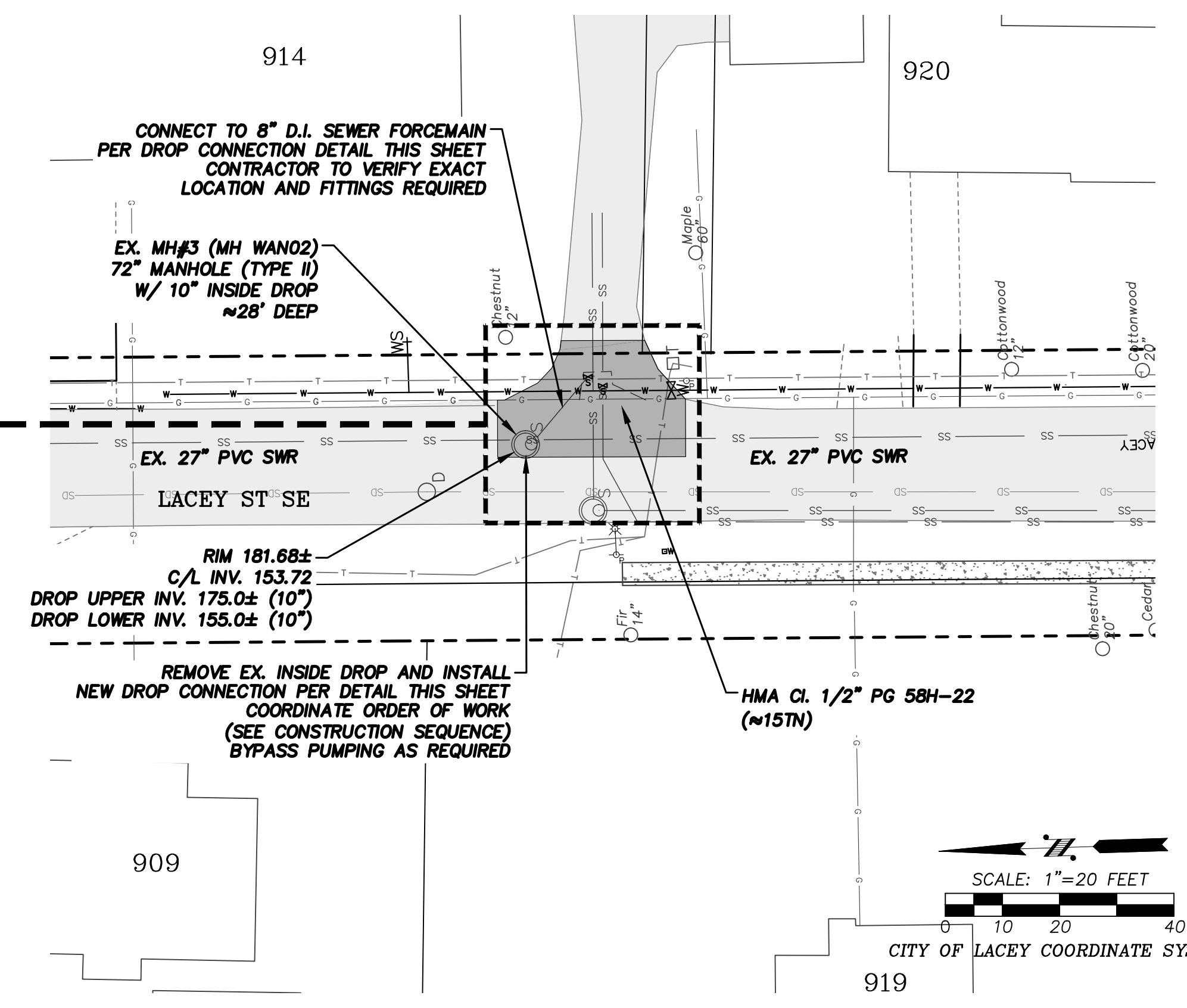
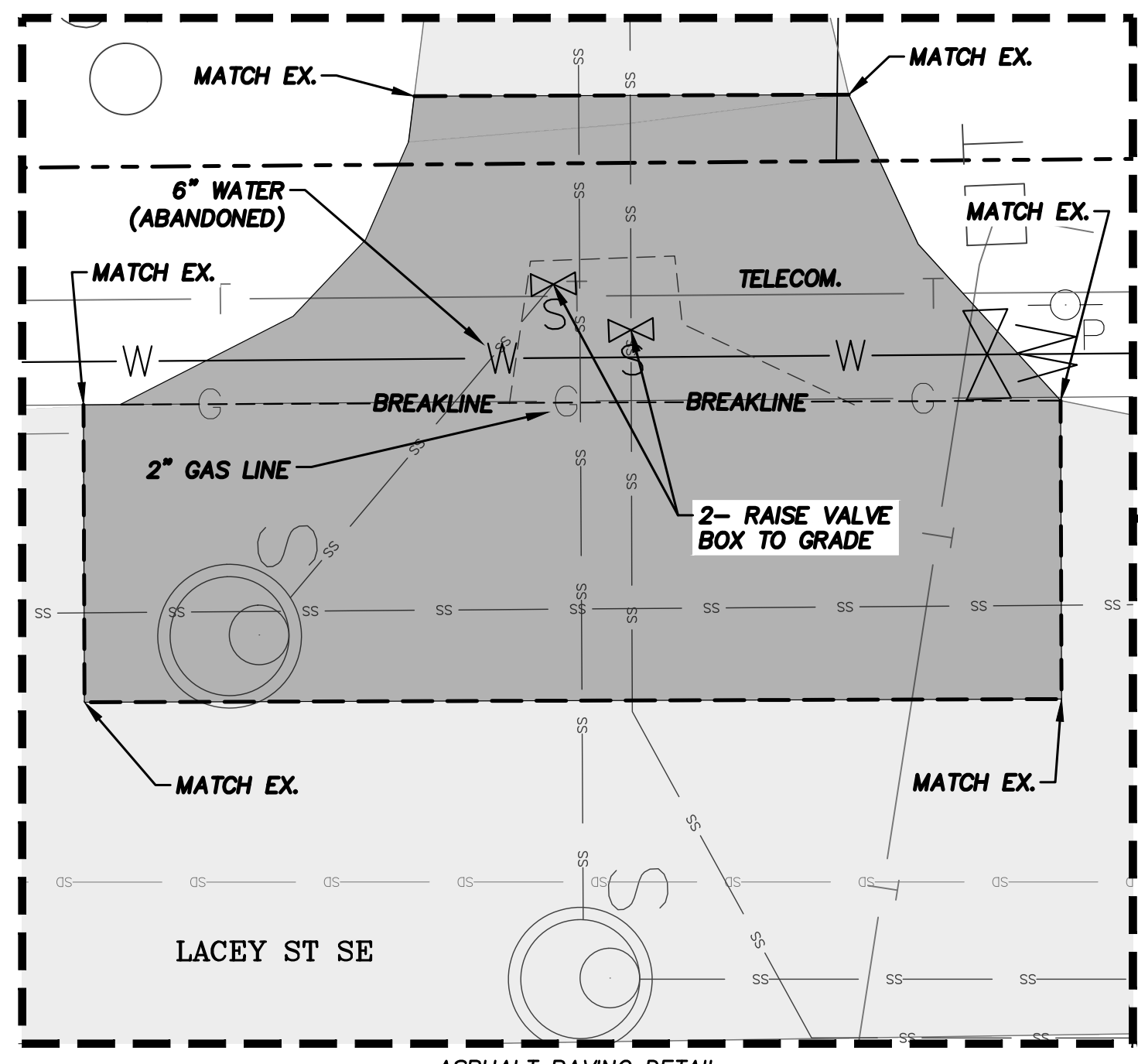
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NO.	DATE	DESCRIPTION

PAGE NO.	SHEET NO.
MH1	4
DWG NO.	OF
D-24-16	6



- CONSTRUCTION SEQUENCE:**
1. REMOVE EXISTING PVC LINER FROM MANHOLE, TO THE MAXIMUM EXTENT FEASIBLE WHILE KEEPING DROP STRUCTURE INTACT.
 2. ASSESS STRUCTURAL INTEGRITY OF MANHOLE TO DETERMINE IF STRUCTURAL REHABILITATION IS REQUIRED. SEE STRUCTURE REHABILITATION DETAIL ON SHEET MRD1 FOR MORE INFO.
 3. PREPARE CONSTRUCTION SCHEDULE FOR REMAINING TASKS/BID ITEMS AS REQUIRED AND THEIR CORRESPONDING SEQUENCING. COORDINATE WITH ENGINEER.
 4. IF BYPASS PUMPING IS REQUIRED TO MINIMIZE SERVICE DISRUPTION, PREPARE BYPASS PLAN AND SUBMIT TO ENGINEER FOR REVIEW.

HMA Cl. 1/2" PG 58H-22



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

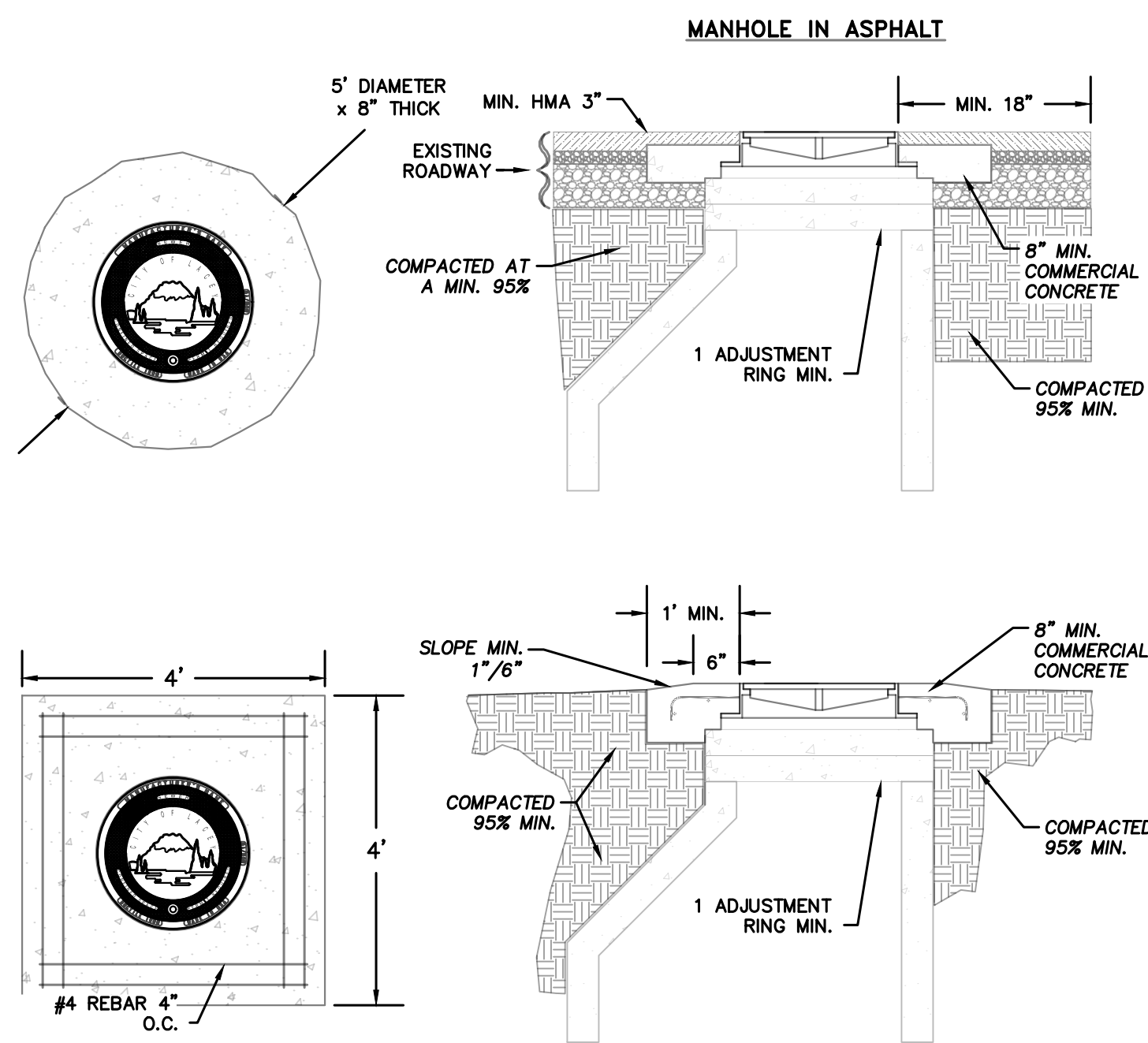


DESIGNED: JSK
DRAFTED: JSK
CHECKED: TEO
HORZ. SCALE: 1"=20'
VERT. SCALE: 1"=10'
FILE: 2224 MH REHAB-MES

2023/2024 MANHOLE REHABILITATION
MH#3 INSIDE DROP

REVISION BLOCK		
NO.	DATE	DESCRIPTION

PAGE NO.	SHEET NO.
MH3	5
DWG NO.	OF
D-24-16	6

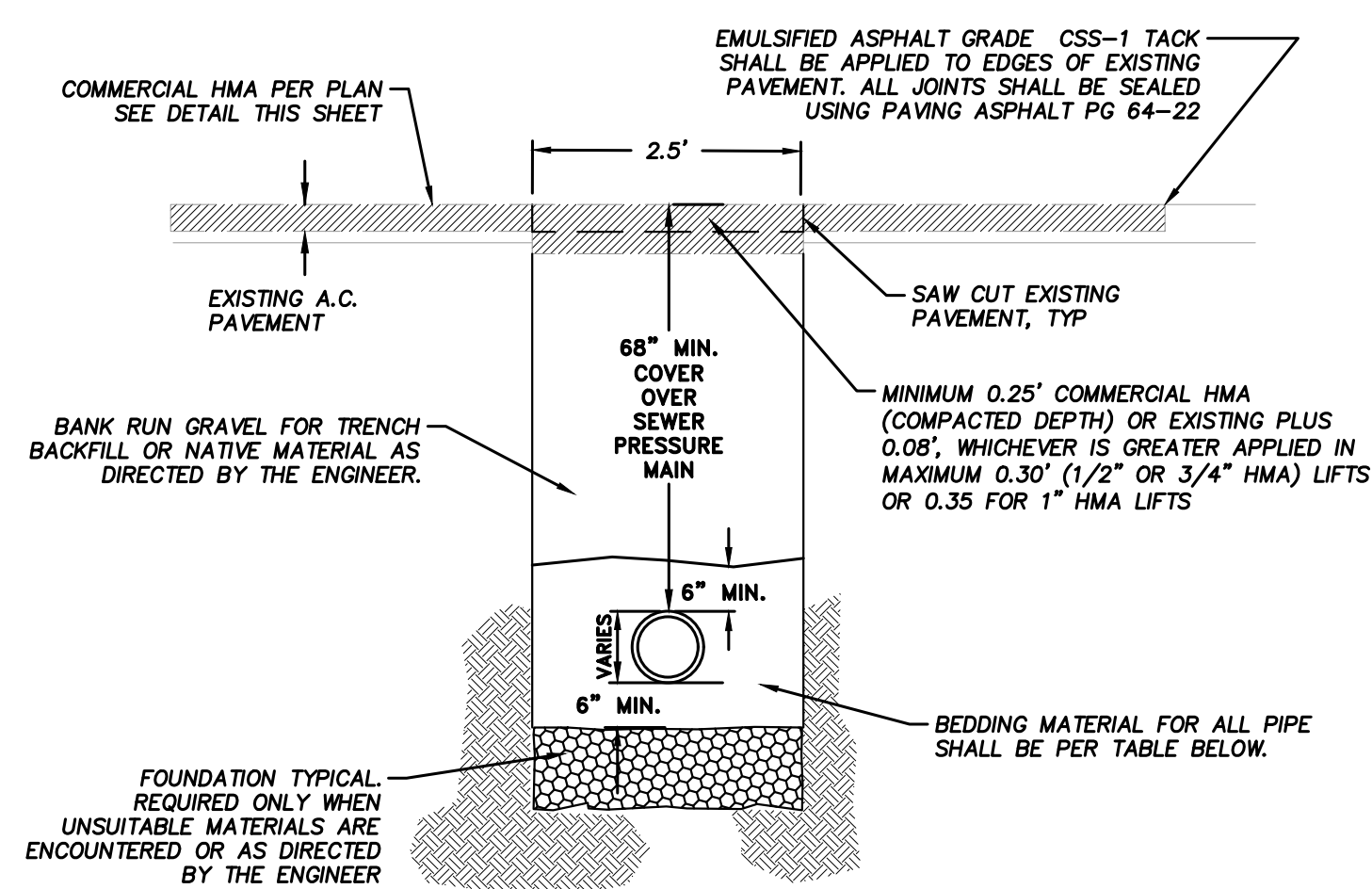


GENERAL NOTES:

- ALL CONCRETE PADS FOR MANHOLES OUTSIDE THE ASPHALT SHALL HAVE REINFORCING STEEL AS SHOWN ABOVE, REBAR TO MEET ASTM A615 GRADE 60 FY=60,000 P.S.I.
- ALL MANHOLE FRAME AND COVER ASSEMBLIES SHALL BE EJCO OR OLYMPIC FOUNDRY, WSDOT STYLE #41 WITH THE CITY LOGO CAST IN IT, DUCTILE IRON AND MANUFACTURED IN THE USA. NO BOLT DOWN LIDS SHALL BE ALLOWED UNLESS REQUIRED BY THE CITY.
- ADJUST GRADE RINGS WITH BRICK WEDGES OR GROUT. NO WOOD OR ROCKS SHALL BE USED AS ADJUSTMENT SPACERS.
- THE FRAME AND COVER ASSEMBLIES SHALL BE A MATCHED SET AND SHALL BE NON-ROCKING, NO CLANKING OR NOISE WHEN DRIVEN OVER.
- DEVIATION FROM COMPACTION STANDARDS MAY BE APPROVED BY THE DIRECTOR, OR DESIGNEE, WHERE RECOMMENDED BY THE LICENSED PROFESSIONAL ENGINEER FOR PLANNED OR EXISTING INFILTRATION FACILITIES.

NTS

SEWER MANHOLE LOGO COVER & FRAME INSTALLATION
 N.T.S.



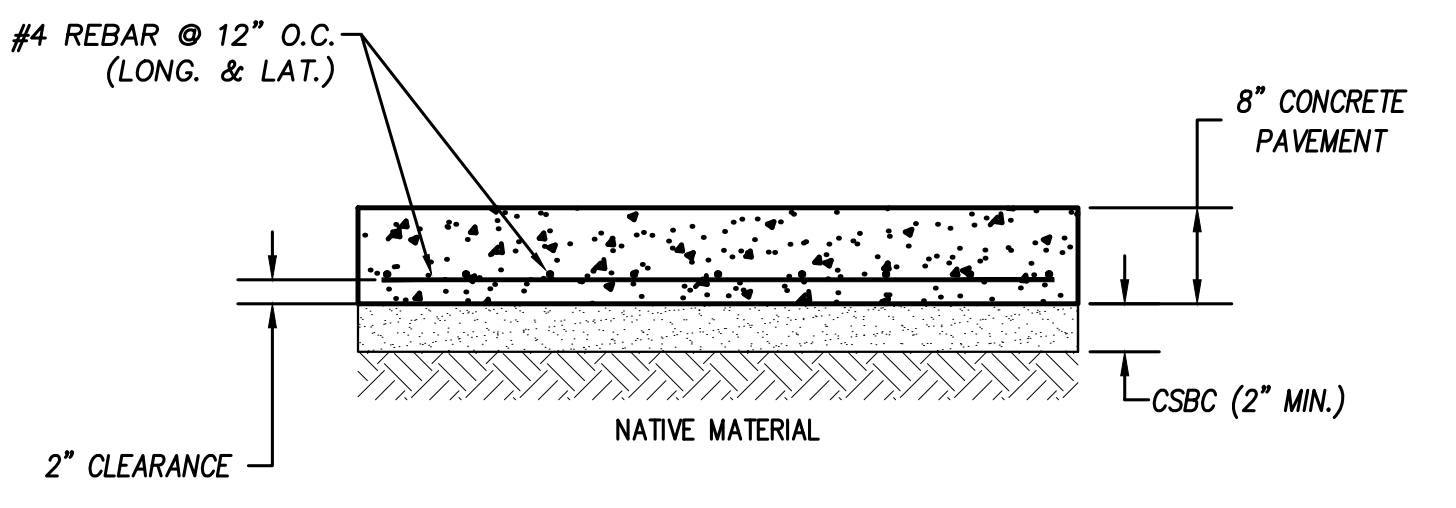
GENERAL NOTES:

- ALL MATERIALS EXCEPT H.M.A. SHALL BE COMPACTED IN 6-INCH MAXIMUM LIFTS TO 95% DENSITY AS DETERMINED BY ASTM D1557.
- ALL MATERIALS, WORKMANSHIP, AND INSTALLATION SHALL BE IN CONFORMANCE WITH THE WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION AS AMENDED BY CITY OF LACEY STANDARDS.
- 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.
- WHENEVER GROUND WATER IS PRESENT A BARRIER SHALL BE INSTALLED ABOVE THE BEDDING.
- DEVIATION FROM COMPACTION STANDARDS MAY BE APPROVED BY THE DIRECTOR, OR DESIGNEE, WHERE RECOMMENDED BY THE LICENSED PROFESSIONAL ENGINEER FOR PLANNED OR EXISTING INFILTRATION FACILITIES.

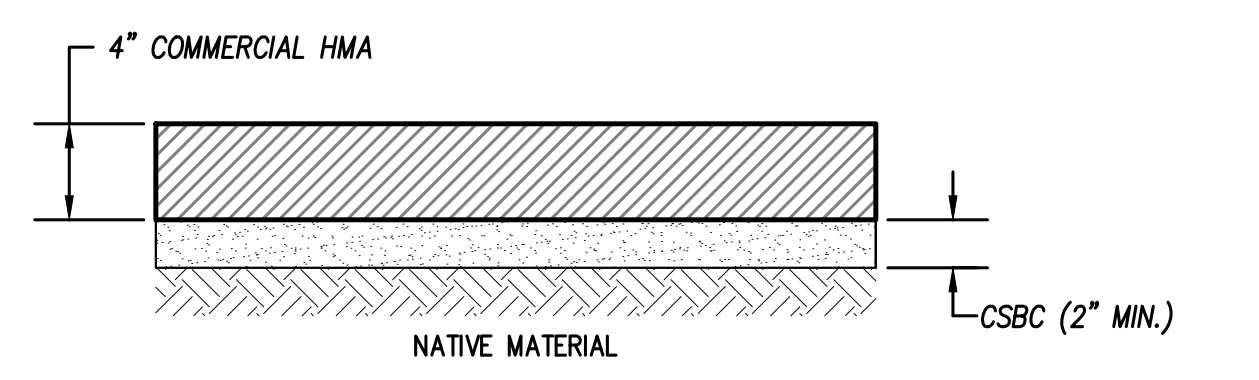
PIPE BEDDING SPECIFICATION	
SIEVE SIZE	PERCENT PASSING
3/4" SQUARE	100
3/8" SQUARE	70-100
U.S. NO. 4	55-100
U.S. NO. 10	35-95
U.S. NO. 20	20-80
U.S. NO. 40	10-55
U.S. NO. 100	0-10
U.S. NO. 200	0-03

MAXIMUM TRENCH WIDTH SHALL BE 1.5' PLUS 1-1/2 TIMES THE OUTSIDE DIAMETER OF THE PIPE OR 2.5', WHICHEVER IS GREATER (TYPICAL)

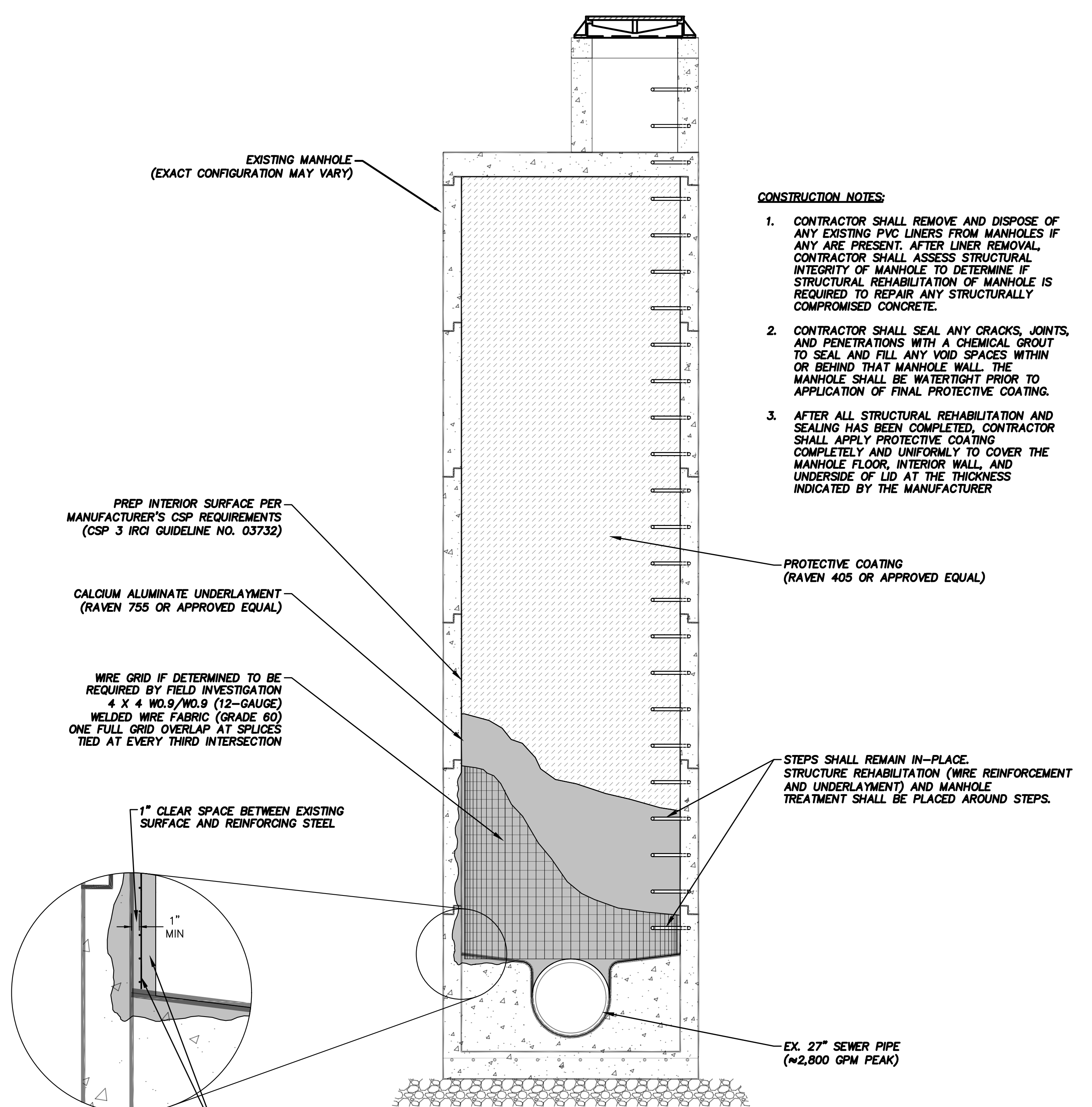
PIPE ZONE BEDDING FOR SEWER PRESSURE MAINS & SERVICES
 N.T.S.



CEMENT CONC. PAVEMENT SECTION
 (N.T.S.)



COMMERCIAL HMA PAVEMENT SECTION
 (N.T.S.)



CONSTRUCTION NOTES:

- CONTRACTOR SHALL REMOVE AND DISPOSE OF ANY EXISTING PVC LINERS FROM MANHOLES IF ANY ARE PRESENT. AFTER LINER REMOVAL, CONTRACTOR SHALL ASSESS STRUCTURAL INTEGRITY OF MANHOLE TO DETERMINE IF STRUCTURAL REHABILITATION OF MANHOLE IS REQUIRED TO REPAIR ANY STRUCTURALLY COMPROMISED CONCRETE.
- CONTRACTOR SHALL SEAL ANY CRACKS, JOINTS, AND PENETRATIONS WITH A CHEMICAL GROUT TO SEAL AND FILL ANY VOID SPACES WITHIN OR BEHIND THAT MANHOLE WALL. THE MANHOLE SHALL BE WATERTIGHT PRIOR TO APPLICATION OF FINAL PROTECTIVE COATING.
- AFTER ALL STRUCTURAL REHABILITATION AND SEALING HAS BEEN COMPLETED, CONTRACTOR SHALL APPLY PROTECTIVE COATING COMPLETELY AND UNIFORMLY TO COVER THE MANHOLE FLOOR, INTERIOR WALL, AND UNDERSIDE OF LID AT THE THICKNESS INDICATED BY THE MANUFACTURER

STRUCTURE REHABILITATION/MANHOLE TREATMENT
 NTS



DESIGNED: JSK
 DRAFTED: JSK
 CHECKED: TEO
 HORZ. SCALE: N/A
 VERT. SCALE: N/A
 FILE: 2324 MH REHAB-DETAILS

2023/2024 MANHOLE REHABILITATION
 MANHOLE REHAB DETAILS

REVISION BLOCK			PAGE NO.	SHEET NO.
NO.	DATE	DESCRIPTION		
			MRD1	6
			DWG NO.	OF
			D-24-16	6