

GULL LAKE SEWER & WATER AUTHORITY

2019 CAPITAL IMPROVEMENTS PROJECT

NOTES

EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS OR IN THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED THEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2012 MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION.

THE PLACING OF PAVEMENT MARKINGS AND TRAFFIC CONTROL SIGNS SHALL BE DONE IN ACCORDANCE WITH THE 2011 MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AS AMENDED.

IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, ALL CONTRACTORS SHALL CALL MISS DIG @ 811 OR 800-482-7171 FOR PROTECTION OF UNDERGROUND UTILITIES A MINIMUM OF THREE FULL WORKING DAYS (EXCLUDING SATURDAYS, SUNDAYS AND HOLIDAYS) PRIOR TO BEGINNING EACH EXCAVATION IN ANY AREA. MEMBERS WILL BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

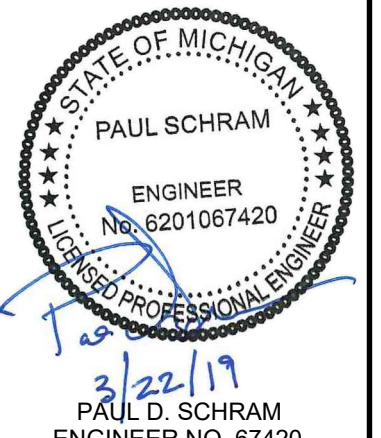
W+
WIGHTMAN

BENTON HARBOR
2303 Pipestone Road
Benton Harbor, MI 49022
Phone: 269.927.0100

KALAMAZOO
433 East Ransom Street
Kalamazoo, MI 49007
Phone: 269.327.3532

ALLEGAN
1670 Lincoln Road
Allegan, MI 49010
Phone: 269.673.8465

www.gowightman.com



PROJECT NAME:
2019 CAPITAL IMPROVEMENTS PROJECT

GULL LAKE SEWER & WATER AUTHORITY
7722 N. 37TH STREET
RICHLAND, MI 49083

**SANITARY SEWER FLOWS
CAN BE ACCEPTED AT THE
KALAMAZOO WATER RECLAMATION PLANT**

DATE 05/01/2019

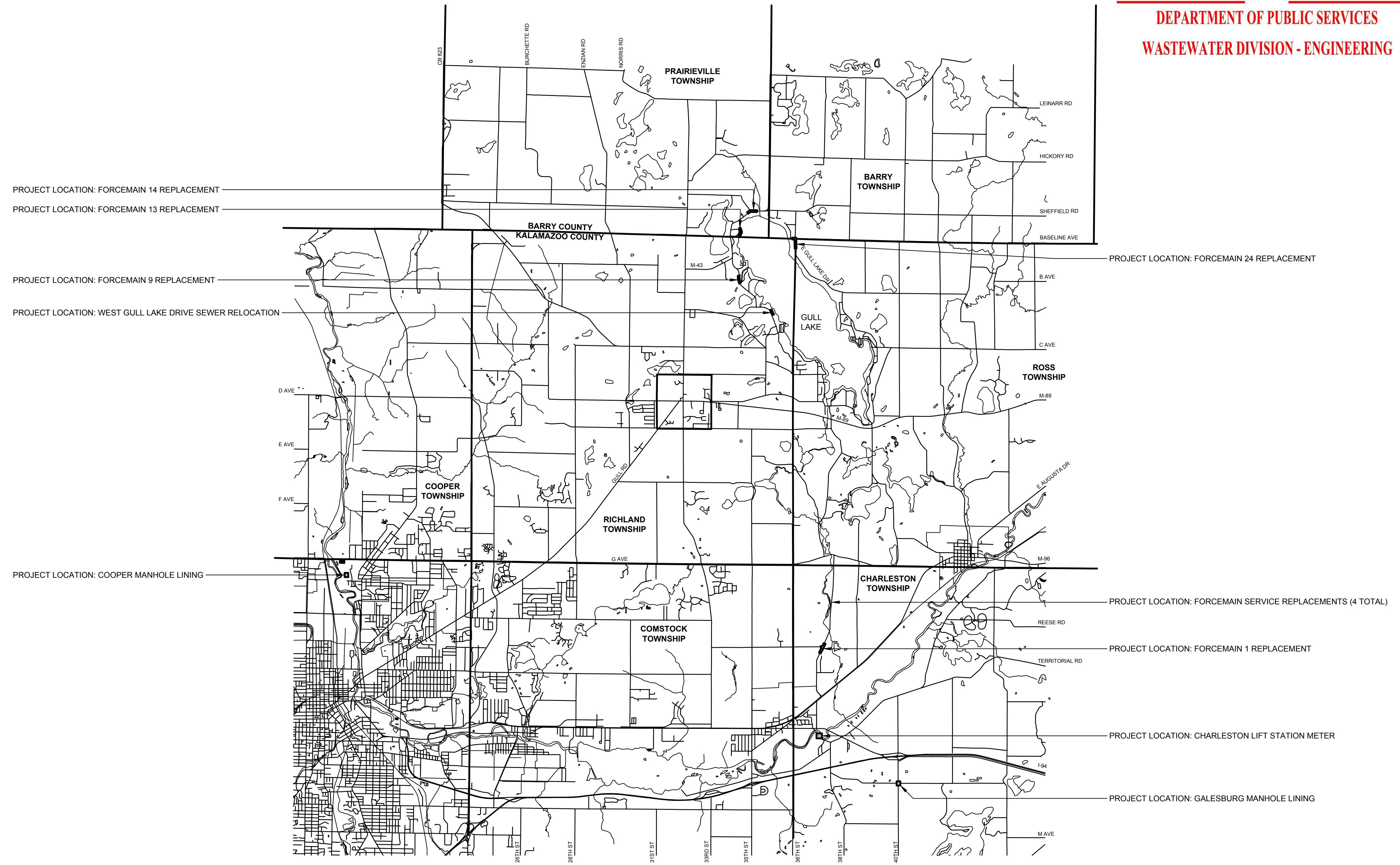
**DEPARTMENT OF PUBLIC SERVICES
WASTEWATER DIVISION - ENGINEERING**

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UTILITIES

CABLE	COMCAST 11921 E. M-89 RICHLAND, MI 49083 (616) 260-0627 BRUCE-NICOLA@CABLE.COMCAST.COM BRUCE NICOLA
ELECTRIC	CONSUMERS ENERGY 2500 E. CORK STREET KALAMAZOO, MI 49001 (844) 316-9537 EXT. 45593 KRISTEN.GREENWOOD@CMSENERGY.COM KRISTEN GREENWOOD
GAS	CONSUMERS ENERGY 2500 E. CORK STREET KALAMAZOO, MI 49001
SANITARY SEWER	GULL LAKE SEWER AUTHORITY 7722 N. 37TH STREET RICHLAND, MI 49083 (269) 731-4595 CRUMB.J@GLSWA.ORG JOHN CRUMB
WATER	CITY OF KALAMAZOO 415 E. STOCKBRIDGE AVENUE KALAMAZOO, MI 49001 (269) 337-6433 DECKERA@KALAMAZOOCITY.ORG ANTHONY DECKER
TELEPHONE	AT&T 1345 MILTON STREET KALAMAZOO, MI 49001 (269) 384-4436 JS3419@ATT.COM JOHN STERNAMAN
"MISS DIG"	811



02/21/2019	PDS
ADDENDUM 2	
01/12/2019	PDS
ISSUED FOR BID	

REVISIONS

DATE: JANUARY, 2019
SCALE:

GULL LAKE SEWER AND WATER AUTHORITY APPROVAL		
LYSANNE HARMA	CHAIRPERSON	DATE
WES KAHLER	COMMISSIONER	DATE
JIM STONEBURNER	COMMISSIONER	DATE
ROB BAKER	COMMISSIONER	DATE
JOHN CRUMB	EXECUTIVE DIRECTOR	DATE

TITLE SHEET

JOB No.
184071-01

SOIL EROSION & SEDIMENTATION CONTROL NOTES

- ALL CONSTRUCTION METHODS SHALL BE DONE IN COMPLIANCE WITH THE MICHIGAN SOIL EROSION AND SEDIMENTATION CONTROL ACT. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING A "SOIL EROSION PERMIT" FROM THE COUNTY AND A "PERMIT BY RULE/NOTICE OF COVERAGE" FROM THE MDEQ PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL REQUIREMENTS OF THE COUNTY "SOIL EROSION PERMIT" AND FOR ALL CERTIFIED STORM WATER INSPECTION SERVICE REQUIRED BY THE "PERMIT BY RULE." EROSION CONTROL MEASURES SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS AND SHALL NOT RELIEVE THE CONTRACTOR'S RESPONSIBILITY FOR PROVIDING ALL REQUIRED EROSION CONTROL MEASURES.
- AVOID UNNECESSARY DISTURBING OR REMOVING OF EXISTING VEGETATED TOPSOIL OR EARTH COVER. THESE COVER AREAS ACT AS SEDIMENT FILTERS.
- ALL TEMPORARY SOIL EROSION PROTECTION SHALL REMAIN IN PLACE UNTIL REMOVAL IS REQUIRED FOR FINAL CLEAN UP AND APPROVAL.
- GEOTEXTILE SILT FENCE SHALL BE INSTALLED AS REQUIRED WHEN CROSSING CREEKS OR WHEN ADJACENT TO WETLANDS OR SURFACE WATER BODIES TO PREVENT SILTATION AND ELSEWHERE AS DIRECTED BY THE ENGINEER. SEEDING AND/OR SODDING SHALL BE INSTALLED ON CREEK BANKS IMMEDIATELY AFTER CONSTRUCTION TO PREVENT EROSION.
- MAINTENANCE, CLEANING, AND REMOVAL OF THE VARIOUS SEDIMENT CONTROL MEASURES SHALL BE INCLUDED IN THE VARIOUS EROSION CONTROL ITEMS.

NUMBER IN CIRCLE REFERS TO NUMBERED DETAILS ON MDT STANDARD PLAN R-96 SERIES, SOIL EROSION & SEDIMENTATION CONTROL MEASURES. "P" DENOTES PERMANENT MEASURE AND "T" DENOTES TEMPORARY MEASURE. SOIL EROSION CONTROL PLANS DENOTE MINIMUM EROSION MEASURES REQUIRED AS DESCRIBED BELOW.

- (3P) DENOTES PERMANENT SEEDING. ALL DISTURBED AREAS NOT PAVED OR GRAVELED SHALL BE RESTORED. PLACE TOPSOIL SURFACE SALV. 3 INCH. MDT SEEDING MIXTURE TUF APPLIED AT A RATE OF 220 LB/ACRE. FERTILIZER, CHEMICAL NUTRIENT, CL A APPLIED AT A RATE OF 228 LB/ACRE. MULCH AT A RATE OF 2 TON/ACRE AND MULCH ANCHORING. (APPLIES TO ENTIRE PROJECT)
- (8P) DENOTES AGGREGATE COVER/PERMANENT PAVEMENT RESTORATION
- (26T) DENOTES TEMPORARY SILT FENCE. SILT FENCE SHALL BE INSTALLED AT CREEK CROSSINGS, ADJACENT TO ALL WETLANDS AND SURFACE WATERS, AND OTHER LOCATIONS AS DIRECTED BY THE ENGINEER. EACH SILT FENCE SHALL BE INSTALLED GENERALLY ALONG THE SAME CONTOUR ELEVATION.
- (31T) DENOTES INLET PROTECTION SEDIMENT TRAP. INLET SEDIMENT TRAP SHALL BE INSTALLED AROUND ALL STORM INLETS TO TRAP SMALL QUANTITIES OF SEDIMENT AT LOCATION OF INLET MANHOLES.
- (33 MB) DENOTES MULCH BLANKETS. MULCH BLANKET SHALL BE PROVIDED AT LOCATIONS SHOWN ON THE PLANS, AT SLOPES GREATER THAN 1:3. AREAS WITH CONCENTRATED FLOWS, AND AS DIRECTED BY THE ENGINEER IN THE FIELD, TO PREVENT RUNOFF AND EROSION.
- (33 HV) DENOTES HIGH VELOCITY MULCH BLANKETS FOR USE ON STEEP BANKS. PROVIDE MULCH BLANKET, HIGH VELOCITY CENTERED ON ALL DITCH BOTTOMS WITH A LONGITUDINAL GRADE OF 2.00% OR GREATER AND AT OTHER LOCATIONS AS DIRECTED BY THE ENGINEER IN THE FIELD.

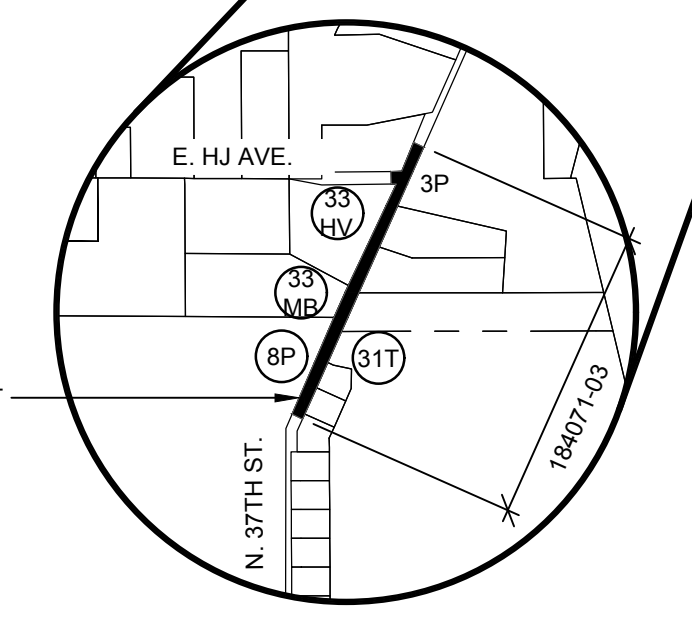
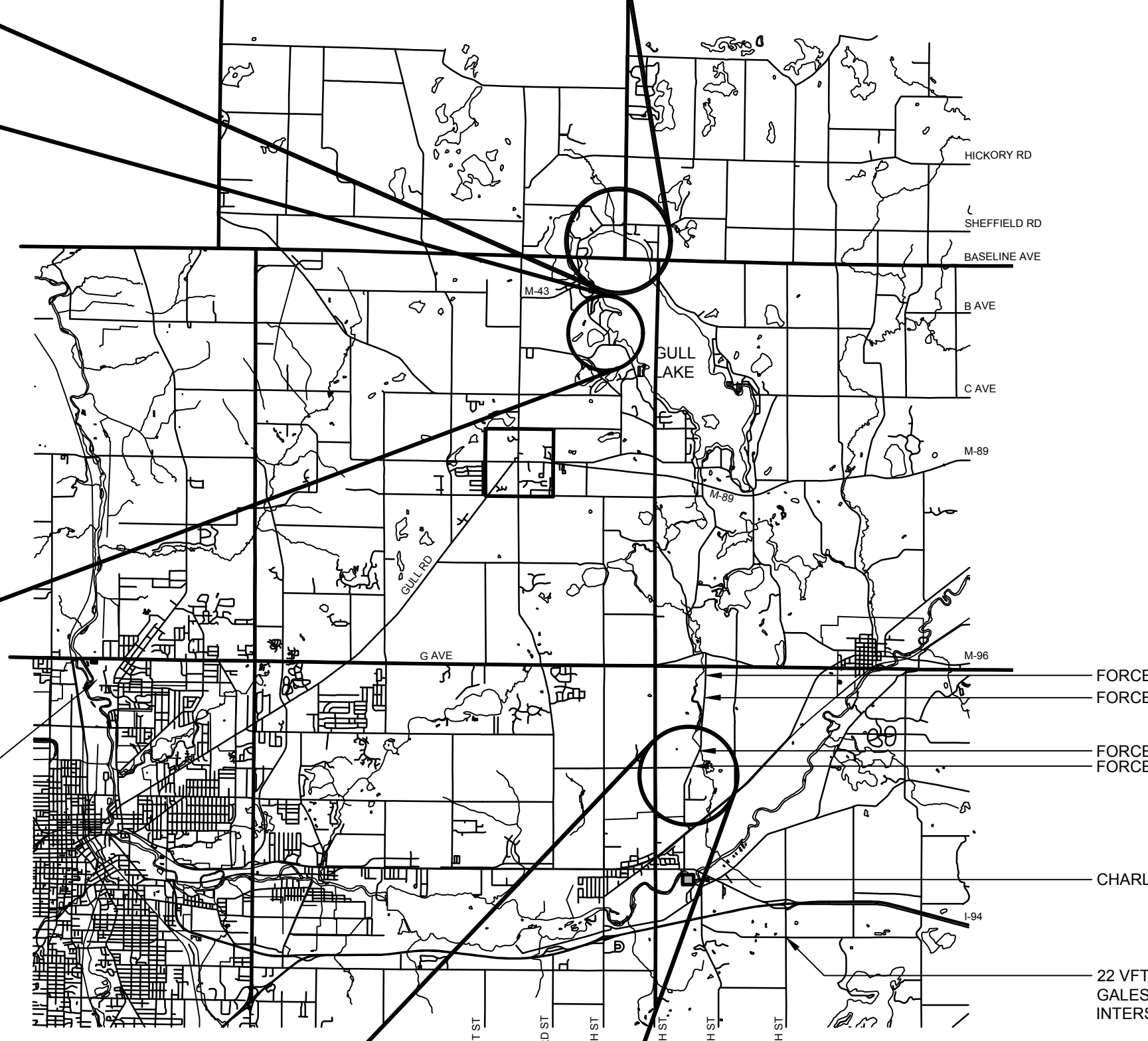
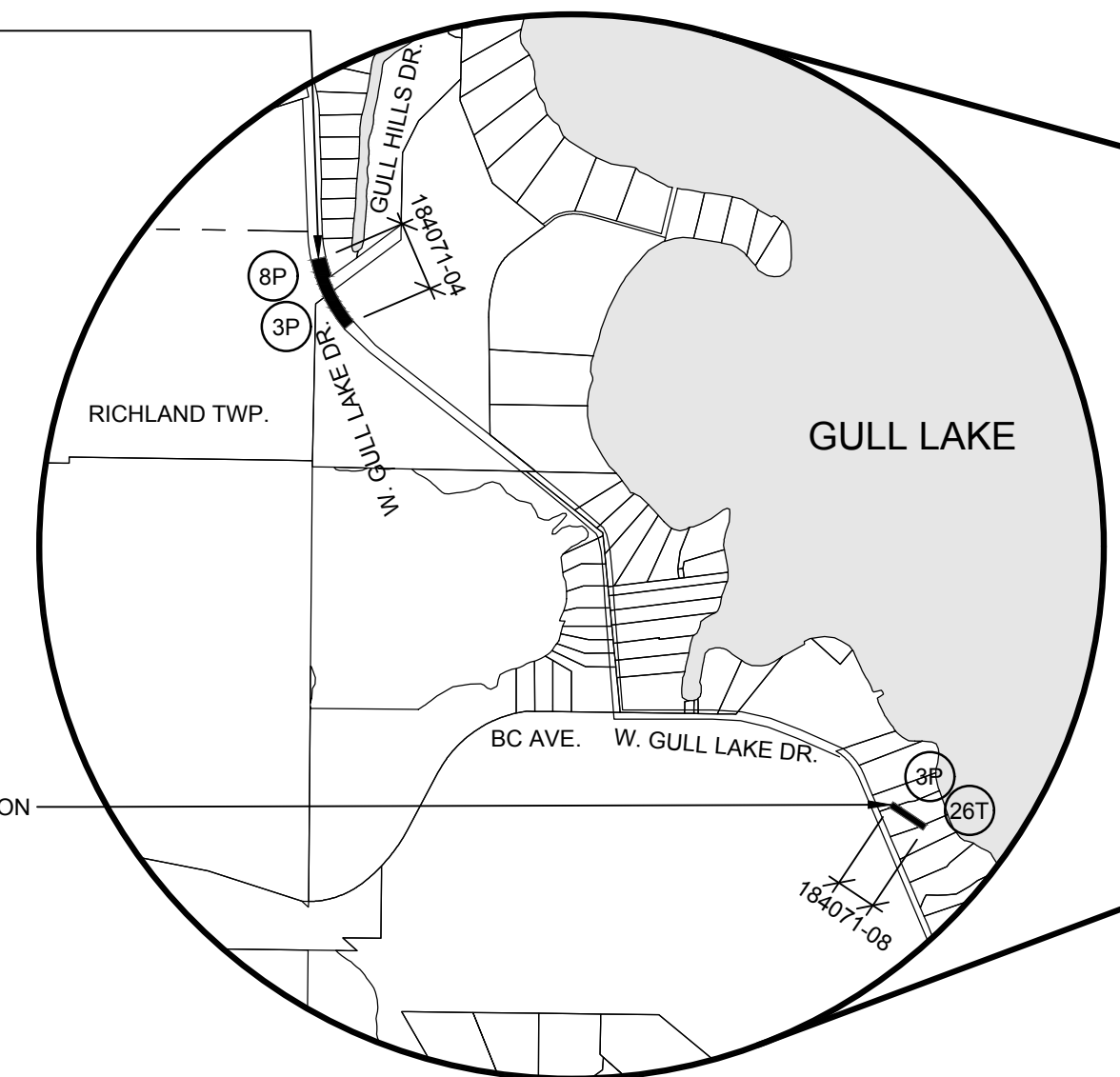
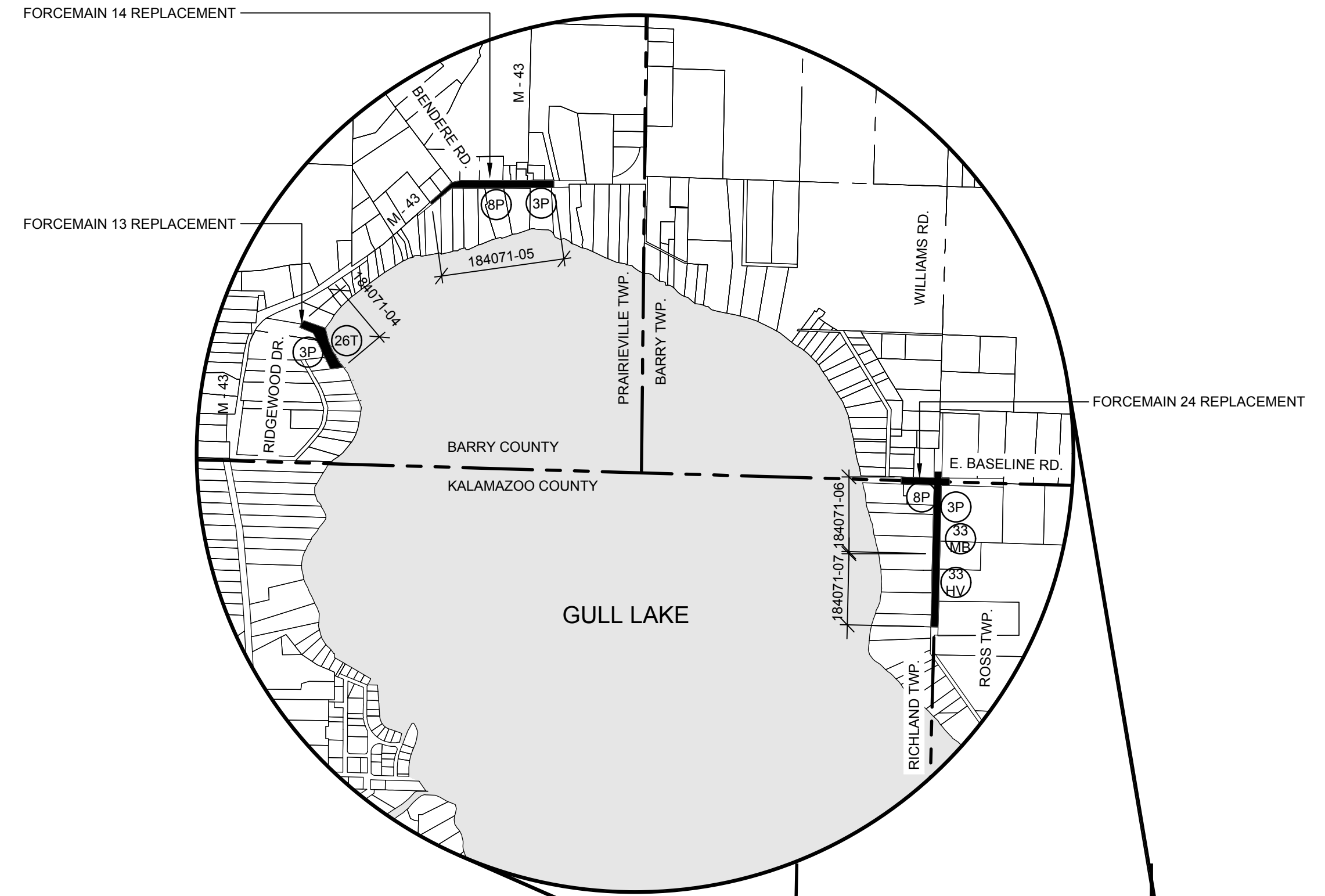
LEGEND

EXISTING	PROPOSED	
C	C	CABLE
E	E	ELECTRIC LINE
OHE	OHE	ELECTRIC LINE (OVERHEAD)
FO	FO	FIBER OPTIC LINE
G	G	GAS LINE
T	T	TELEPHONE LINE
X X X X	X X X X	FENCE
---	---	FORCEMAIN
---	---	GUARDRAIL
---	---	SANITARY SEWER
---	---	STORM SEWER
---	---	WATER MAIN
---	---	CENTER LINE
---	---	EXISTING TREE LINE
---	---	EXISTING DITCH LINE
---	---	EASEMENT LINE/GRADING PERMIT
---	---	GRADING LIMITS/LIMITS OF DISTURBANCE
---	---	PROPERTY LINE
---	---	RIGHT-OF-WAY LINE
---	---	SECTION LINE
---	---	TO BE ABANDONED

⚡	= ANTENNA	⊙	= PAVEMENT/SOIL BORING
⊠	= CATCH BASIN	⊙	= PROPOSED HYDRANT
⊠	= CABLE RISER BOX	⊙	= PROPOSED GATE VALVE & BOX
⊙	= CLEAN OUT	⊙	= PROPOSED GATE VALVE & VAULT
⊠	= CURB INLET	⊙	= PROPOSED REDUCER
⊙	= ELECTRIC MANHOLE	⊙	= PROPOSED SANITARY MANHOLE
⊙	= FIRE HYDRANT	⊙	= PROPOSED STORM MANHOLE
⊙	= FOUND IRON PIPE	⊙	= STORM MANHOLE
⊙	= GAS VALVE	⊙	= TELEPHONE MANHOLE
⊙	= GUY ANCHOR	⊙	= TURNING POINT/TRVERSE
⊙	= LIGHT POLE	⊙	= UTILITY POLE
⊙	= MAILBOX	⊙	= VAULT
⊙	= MONITORING WELL	⊙	= WATER ELEVATION
⊙	= POST	⊙	= WATER MANHOLE
⊙	= SATELLITE DISH	⊙	= WATER METER
⊙	= SANITARY MANHOLE	⊙	= WATER VALVE
⊙	= SECTION CORNER	⊙	= WATER SPIGOT
⊙	= SIGN	⊙	= WELL

TREE DESIGNATORS

⊙	BUSH	⊙	STUMP
⊙	CONIFEROUS TREE	⊙	DECIDUOUS TREE
⊙	CONIFEROUS TREE TO BE REMOVED	⊙	DECIDUOUS TREE TO BE REMOVED



FORCEMAIN 9 REPLACEMENT

WEST GULL LAKE DRIVE SEWER RELOCATION

9 VFT - LINE EXISTING MANHOLE LOCATED IN CITY OF PARCHEMNT RECEIVING MANHOLE FROM FM 41

FORCEMAIN SERVICE CONNECTION 4346 N. 37TH STREET

FORCEMAIN SERVICE CONNECTION 4216 N. 37TH STREET

FORCEMAIN SERVICE CONNECTION 2668 N. 37TH STREET

FORCEMAIN SERVICE CONNECTION 2606 N. 37TH STREET

CHARLESTON LIFT STATION METER

22 VFT - LINE EXISTING SANITARY MANHOLE GALESBURG MANHOLE LINING INTERSECTION OF 40TH ST. AND L AVE.

PROJECT NAME:
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 7722 N. 37TH STREET
 RICHLAND, MI 49083

04 2/19/2019 PDS
 ADDENDUM 2
 01 1/25/2019 PDS
 ISSUED FOR BID

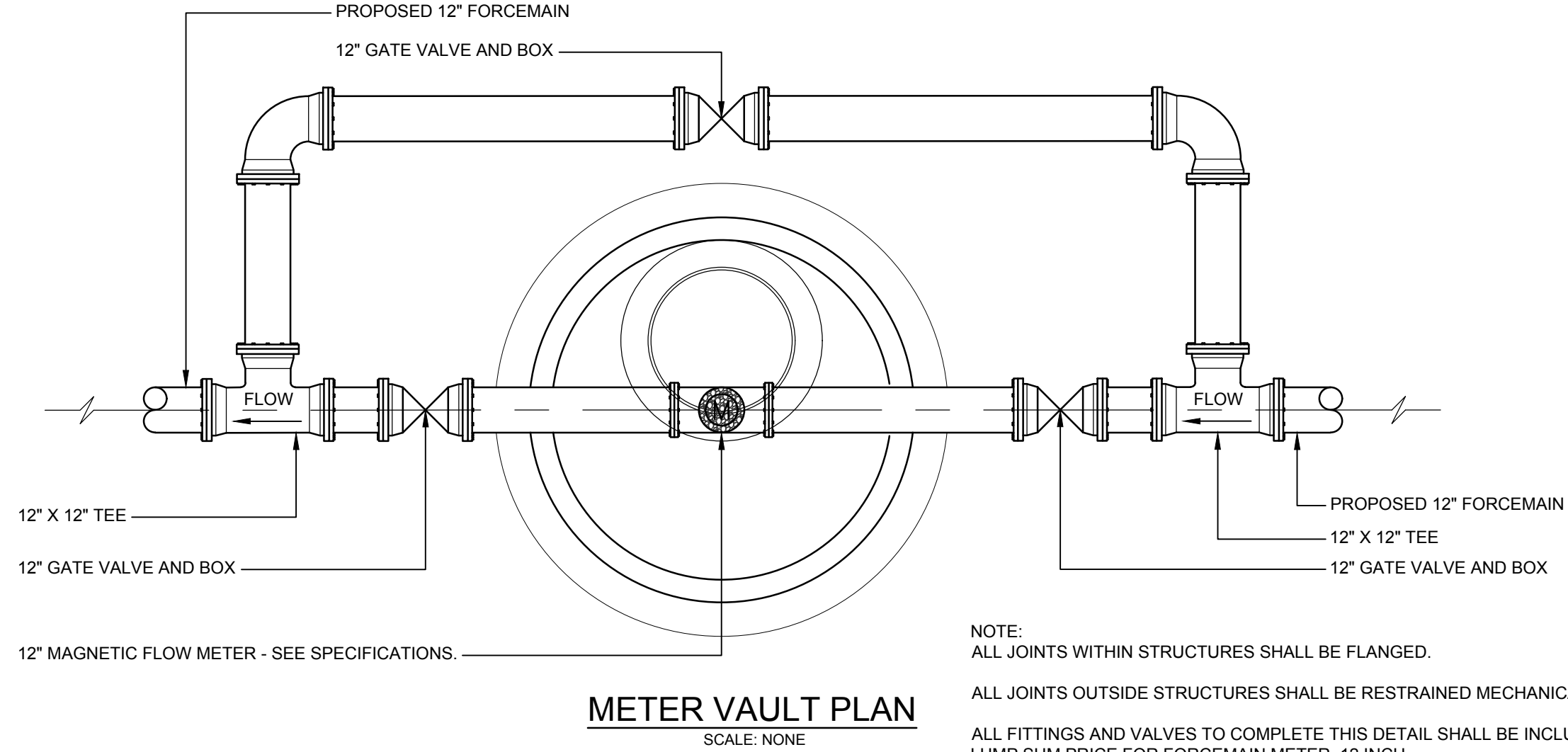
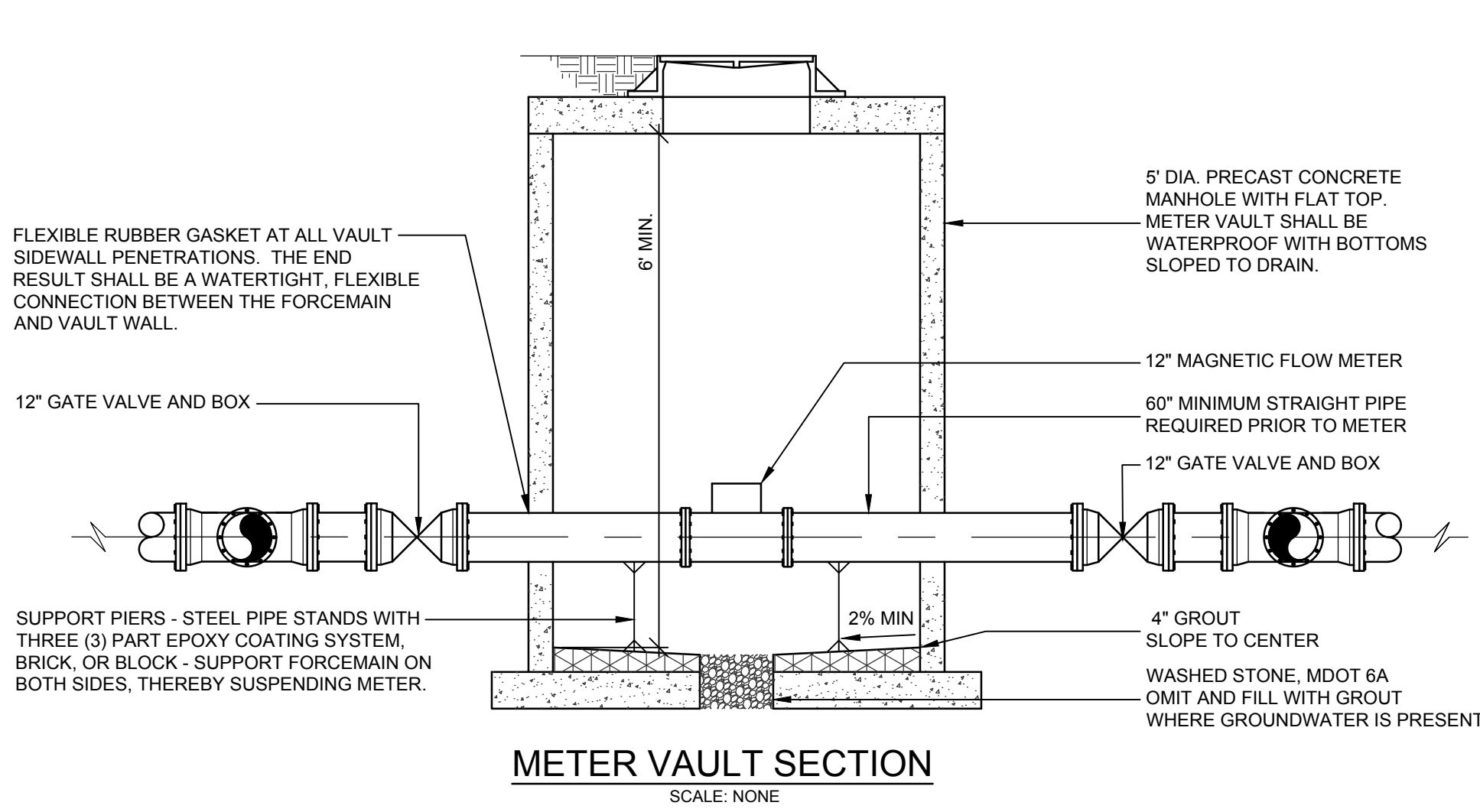
REVISIONS

DATE: JANUARY, 2019
 SCALE: 1" = 1000'

PROJECT MAP AND SOIL EROSION AND SEDIMENTATION CONTROL PLAN

JOB No. **184071-02**

Approved
 Issued On: 06/05/2019
 Expires On: 06/05/2019



INSTALL ANODE, COMPLETE

THE CONTRACT WILL BE PAID HIS LUMP SUM PRICE FOR THE ITEM INSTALL ANODE, COMPLETE AT EACH LOCATION IDENTIFIED, WHICH WILL BE PAYMENT IN FULL FOR ALL MATERIAL AND LABOR NECESSARY TO INSTALL A SACRIFICIAL ANODE BY CORRPRO COMPANIES INC., SUPPLIED BY THE OWNER, ON EXISTING DUCTILE IRON FORCEMAIN EXPOSED DURING EXCAVATION WHICH IS TO REMAIN IN SERVICE.

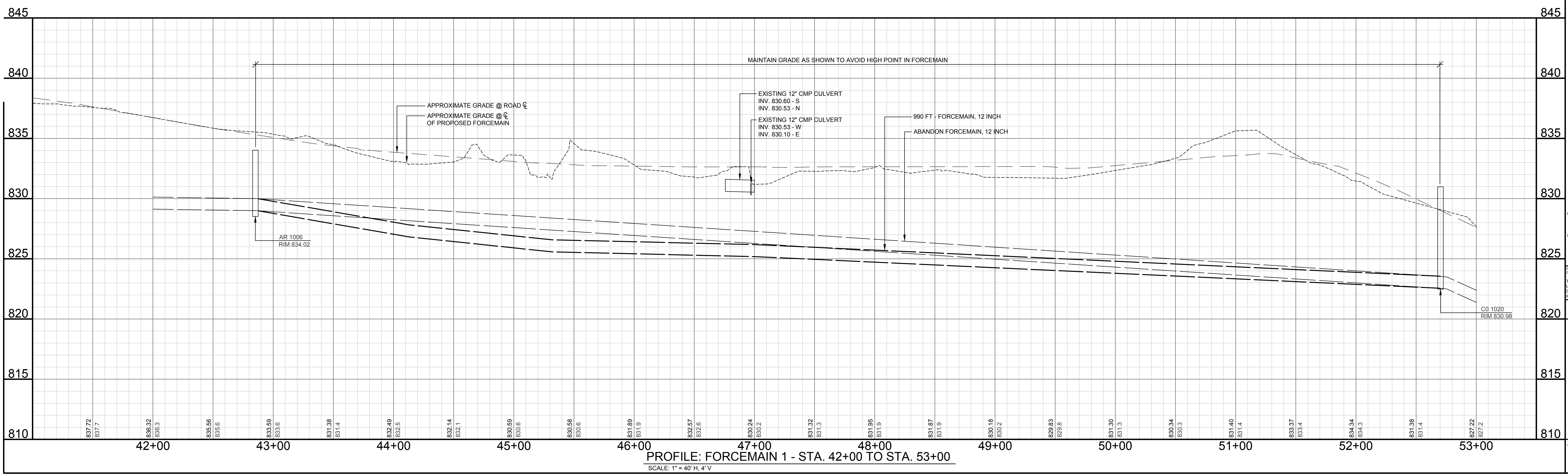
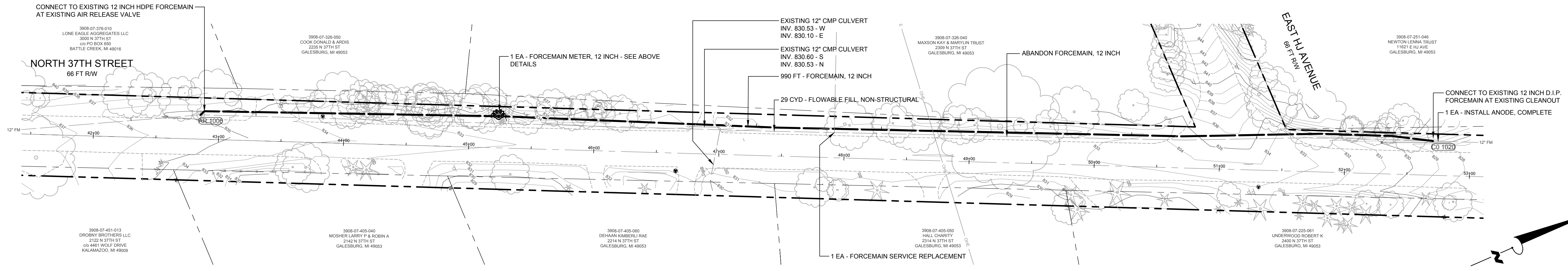
FORCEMAIN SERVICE CONNECTION

THE CONTRACT SHALL DISCONNECT EXISTING FORCEMAIN SERVICE AT 2309 N 37TH STREET FROM EXISTING FORCEMAIN, TO BE ABANDONED, AND RECONNECT TO PROPOSED FORCEMAIN. WORK SHALL BE COMPLETED IN ACCORDANCE WITH NOTE AND DETAIL SHOWN SHEET 184071-10.

ROADWAY REPLACEMENT

SHOULD ANY PORTION OF NORTH 37TH STREET REQUIRE REMOVAL OF THE EXISTING ROADWAY THE FOLLOWING TYPICAL CROSS SECTION SHALL BE CONSTRUCTED IN REPLACEMENT: 220 #/SYD RCKC HMA 13A MOD. WEARING COURSE, 220 #/SYD RCKC HMA 13A MOD. LEVELING COARSE, 220 #/SYD RCKC HMA 13A MOD. BASE COURSE, 8 INCHES CIP MDT 22A AGGREGATE BASE, AND 24 INCHES CIP MDT GRANULAR MATERIAL CLASS III SUBBASE.

NOTE:
 ALL JOINTS WITHIN STRUCTURES SHALL BE FLANGED.
 ALL JOINTS OUTSIDE STRUCTURES SHALL BE RESTRAINED MECHANICAL JOINT.
 ALL FITTINGS AND VALVES TO COMPLETE THIS DETAIL SHALL BE INCLUDED IN THE CONTRACTOR'S LUMP SUM PRICE FOR FORCEMAIN METER, 12 INCH.



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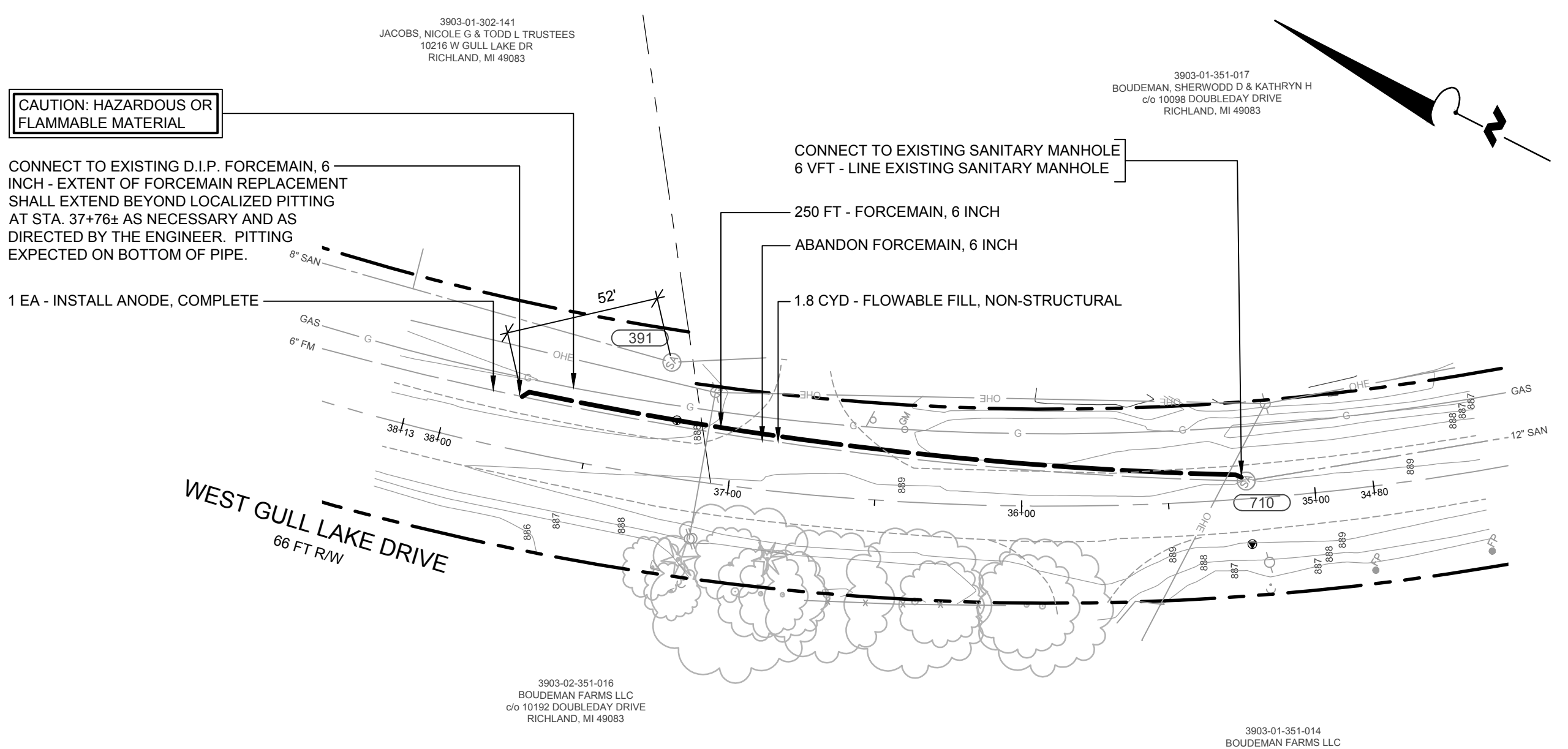
02/2/19/2019 ADDENDUM 2 PDS
 01/12/2019 ISSUED FOR BID PDS

REVISIONS

DATE: JANUARY, 2019
 SCALE:

PLAN AND PROFILE - FORCEMAIN 1

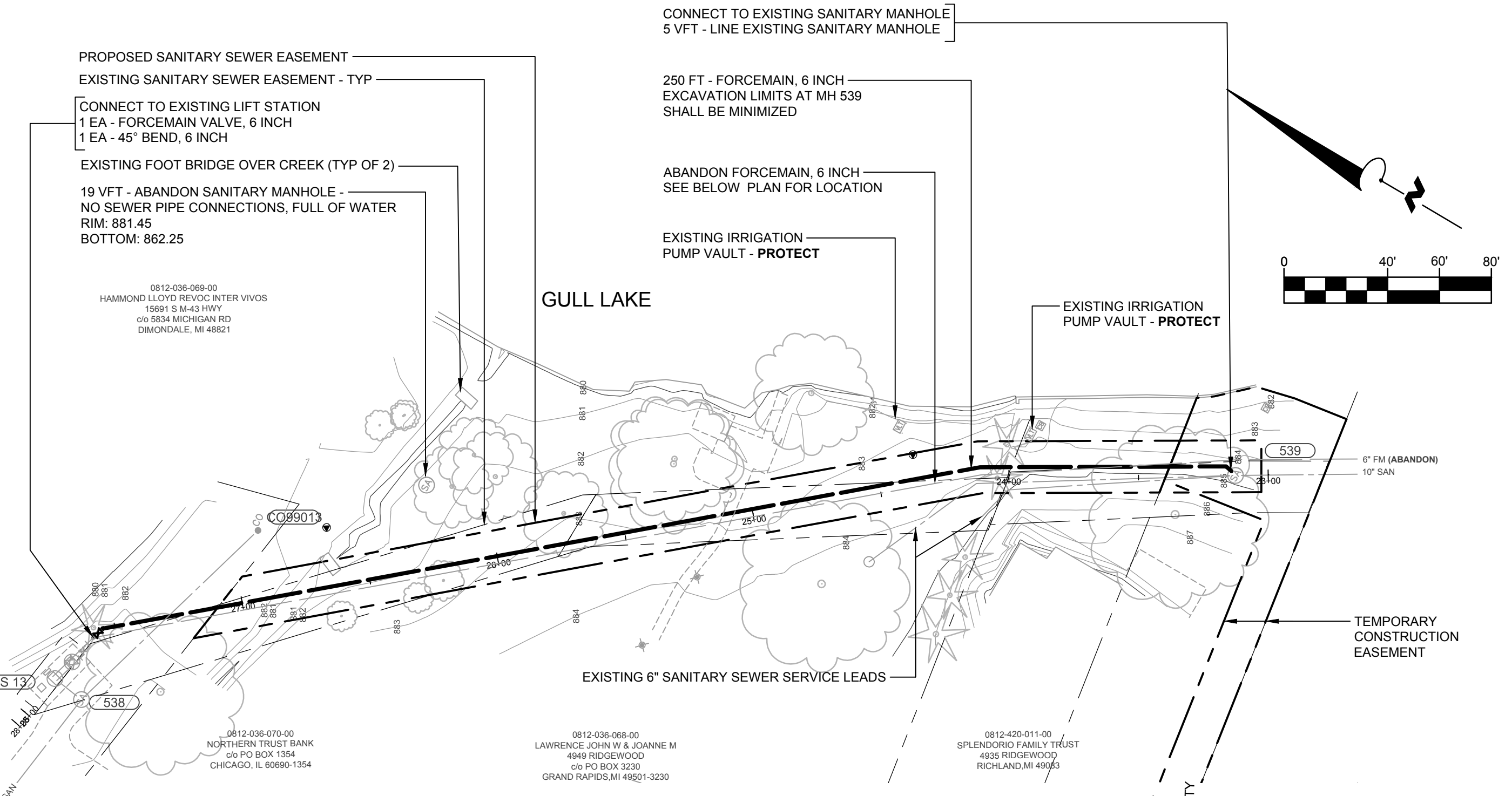
JOB No. **184071-03**



SAN. STRUCTURES

391	RIM 887.63 INV. 884.32 - 8" SE INV. 884.32 - 8" N
710	RIM 889.03 INV. 882.84 - 12" SE INV. 883.39 - 6" NW

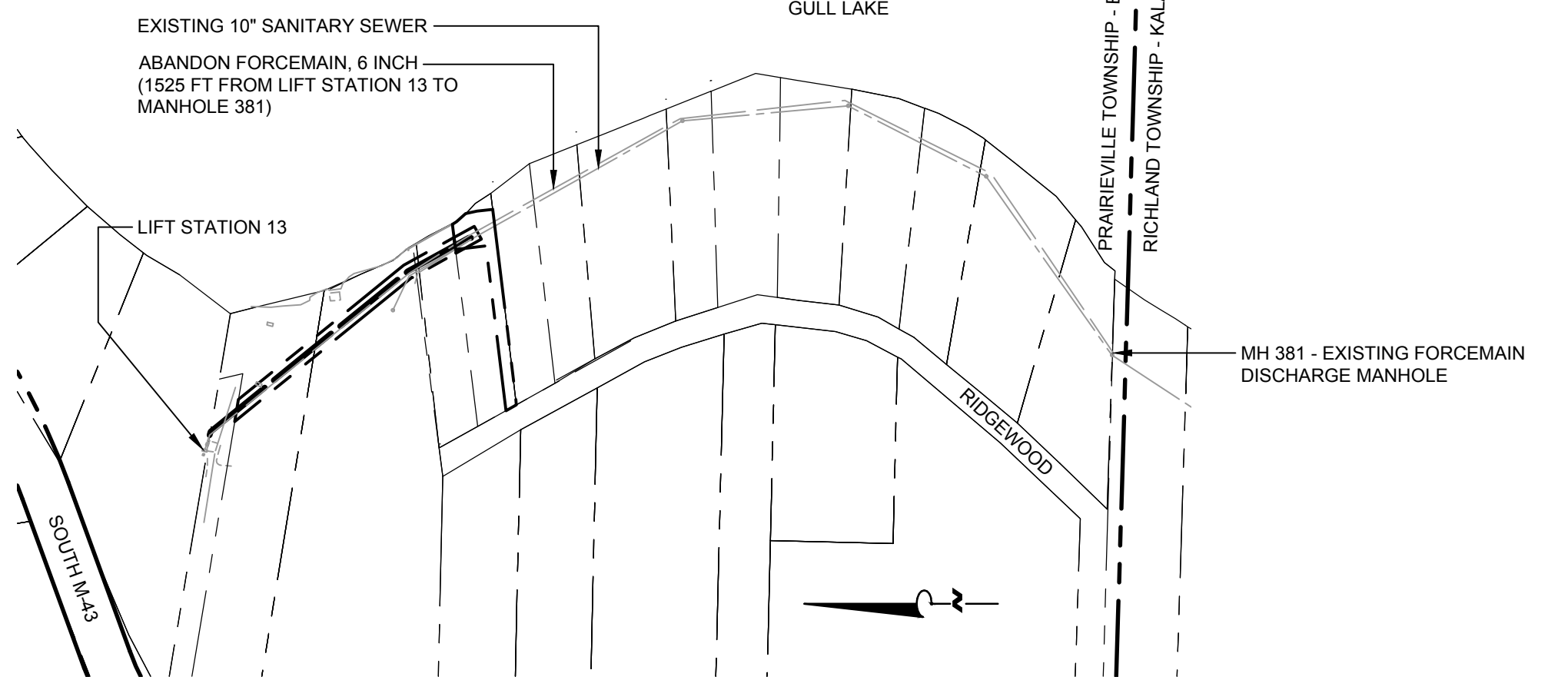
PLAN: FORCEMAIN 9 - STA. 35+00 TO STA. 38+00
 SCALE: 1" = 40'



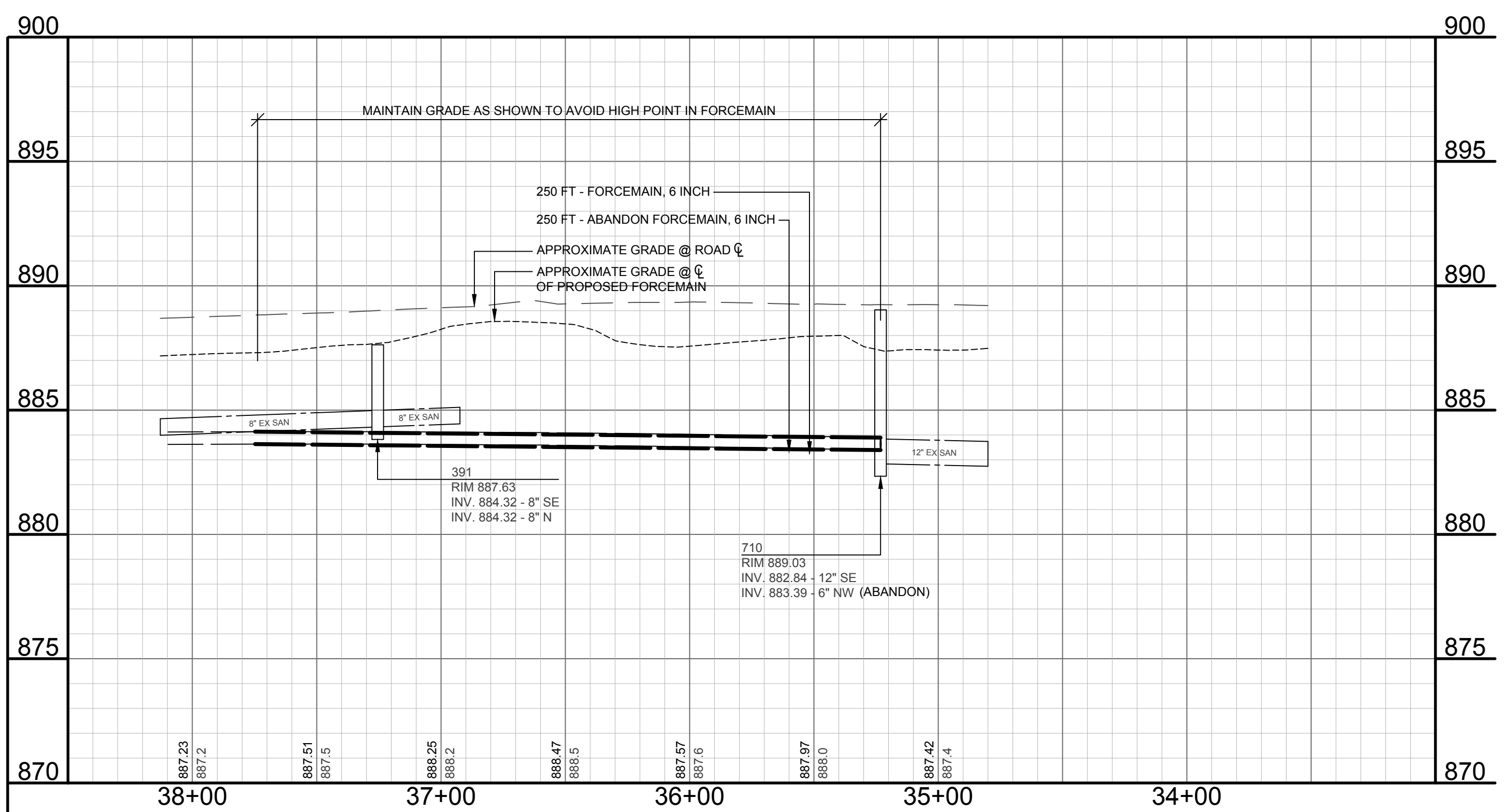
PLAN: FORCEMAIN 13 - STA. 23+00 TO STA. 28+00
 SCALE: 1" = 40'

SAN. STRUCTURES

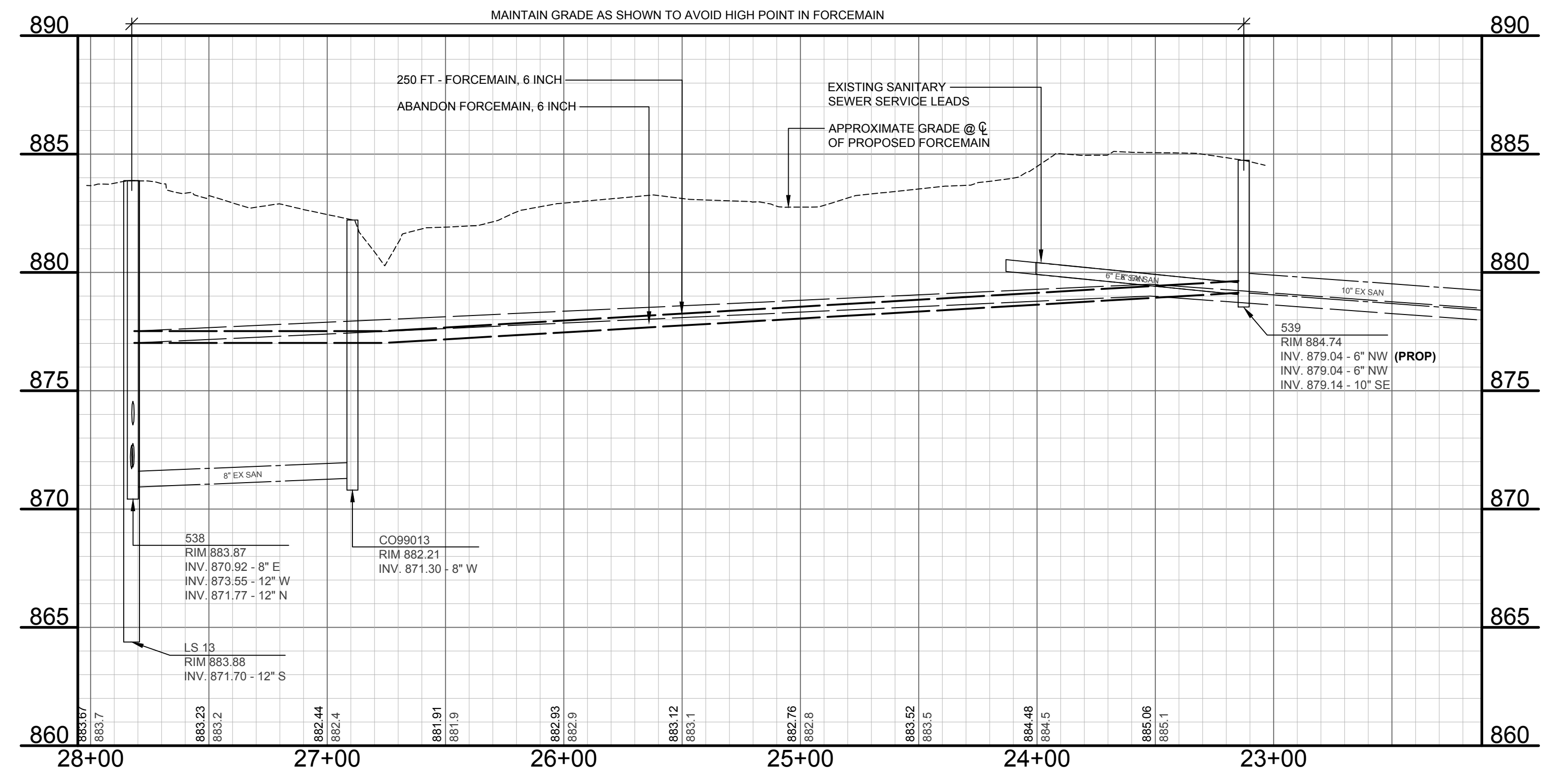
LS 13	RIM 883.88 INV. 871.70 - 12" S
CO99013	RIM 882.21 INV. 871.30 - 8" W
538	RIM 883.87 INV. 870.92 - 8" E INV. 873.55 - 12" W INV. 871.77 - 12" N
539	RIM 884.74 INV. 879.04 - 6" NW INV. 879.04 - 6" NW INV. 879.14 - 10" SE



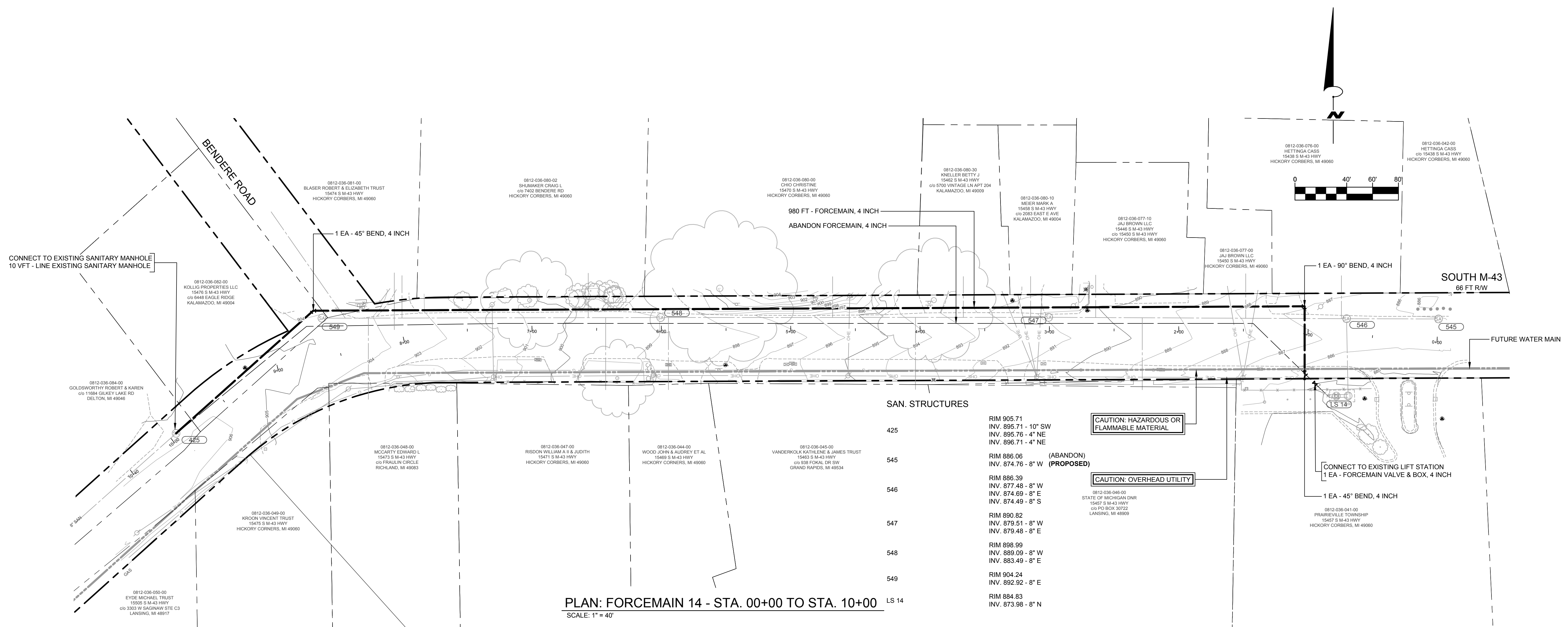
PLAN: FORCEMAIN 13 - ABANDON FORCEMAIN
 SCALE: 1" = 200'



PROFILE: FORCEMAIN 9 - STA. 35+00 TO STA. 38+00
 SCALE: 1" = 40' H, 4' V



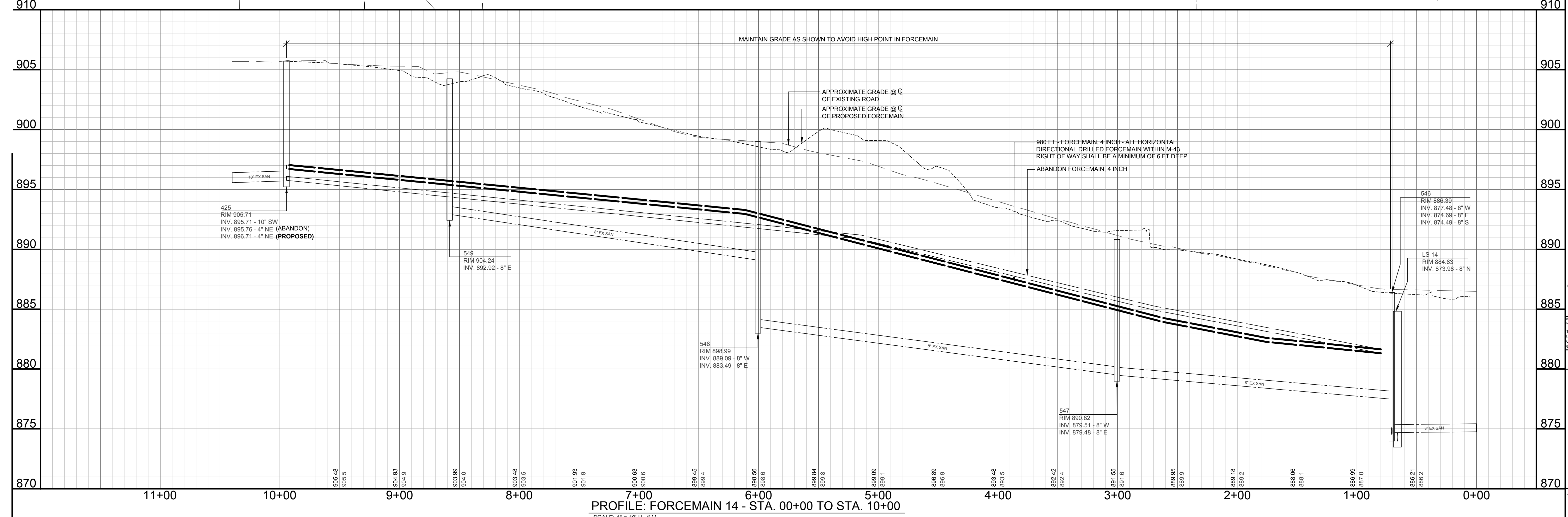
PROFILE: FORCEMAIN 13 - STA. 23+00 TO STA. 28+00
 SCALE: 1" = 40' H, 4' V



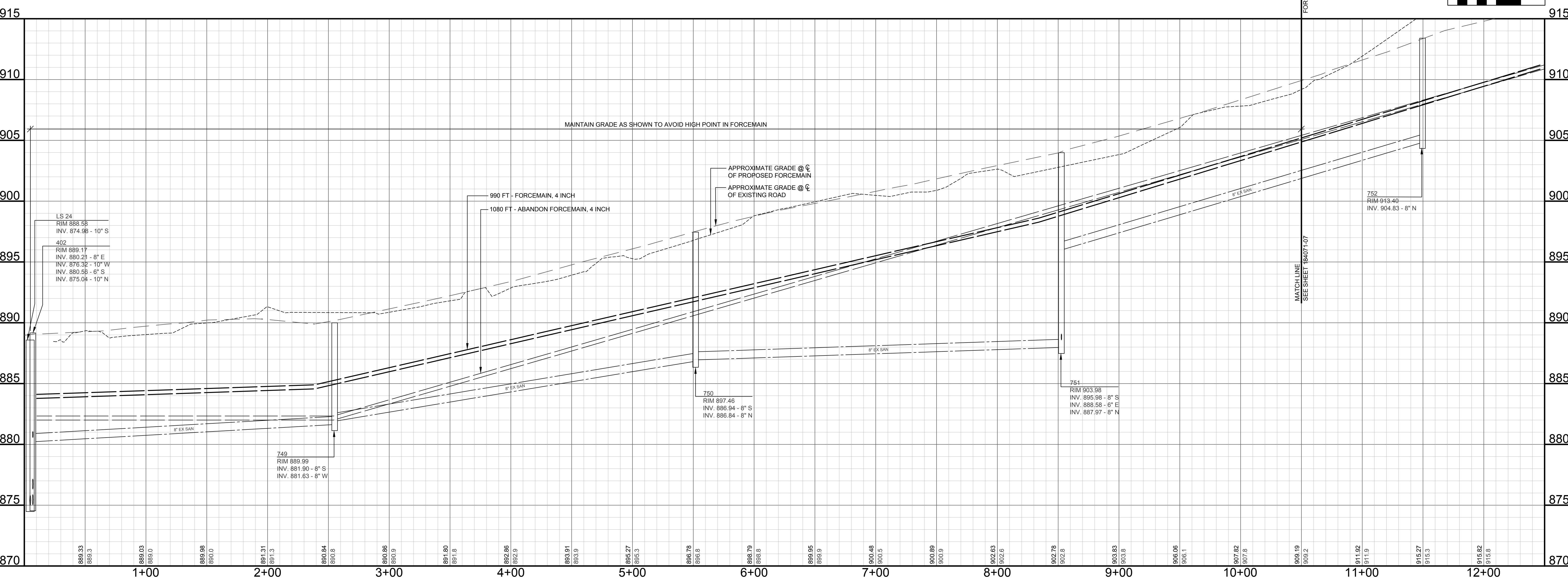
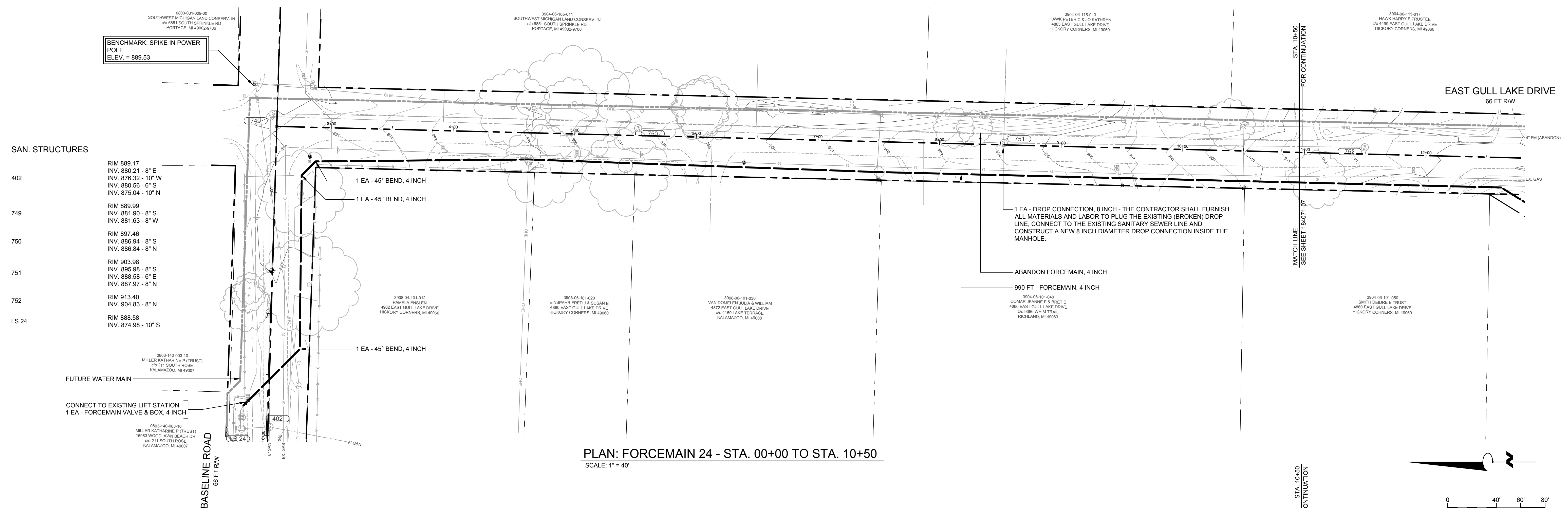
SAN. STRUCTURES

425	RIM 905.71 INV. 895.71 - 10" SW INV. 895.76 - 4" NE INV. 896.71 - 4" NE
545	RIM 886.06 (ABANDON) INV. 874.76 - 8" W (PROPOSED)
546	RIM 886.39 INV. 877.48 - 8" W INV. 874.69 - 8" E INV. 874.49 - 8" S
547	RIM 890.82 INV. 879.51 - 8" W INV. 879.48 - 8" E
548	RIM 898.99 INV. 889.09 - 8" W INV. 883.49 - 8" E
549	RIM 904.24 INV. 892.92 - 8" E
LS 14	RIM 884.83 INV. 873.98 - 8" N

PLAN: FORCEMAIN 14 - STA. 00+00 TO STA. 10+00
 SCALE: 1" = 40'



PROFILE: FORCEMAIN 14 - STA. 00+00 TO STA. 10+00
 SCALE: 1" = 40' H, 4' V



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GULL LAKE SEWER & WATER AUTHORITY
7722 N. 37TH STREET
RICHLAND, MI 49083

01/12/2019
ISSUED FOR BID PDS

REVISIONS

DATE: JANUARY, 2019
SCALE:

PLAN AND PROFILE - FORCEMAIN 24 - STA. 0+00 to STA. 12+50

JOB No.
184071-06

Approved
Expires On: 06/05/2019



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2303 Pipestone Road
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1670 Lincoln Road
Allegan, MI 49010
Phone: 269.673.8465

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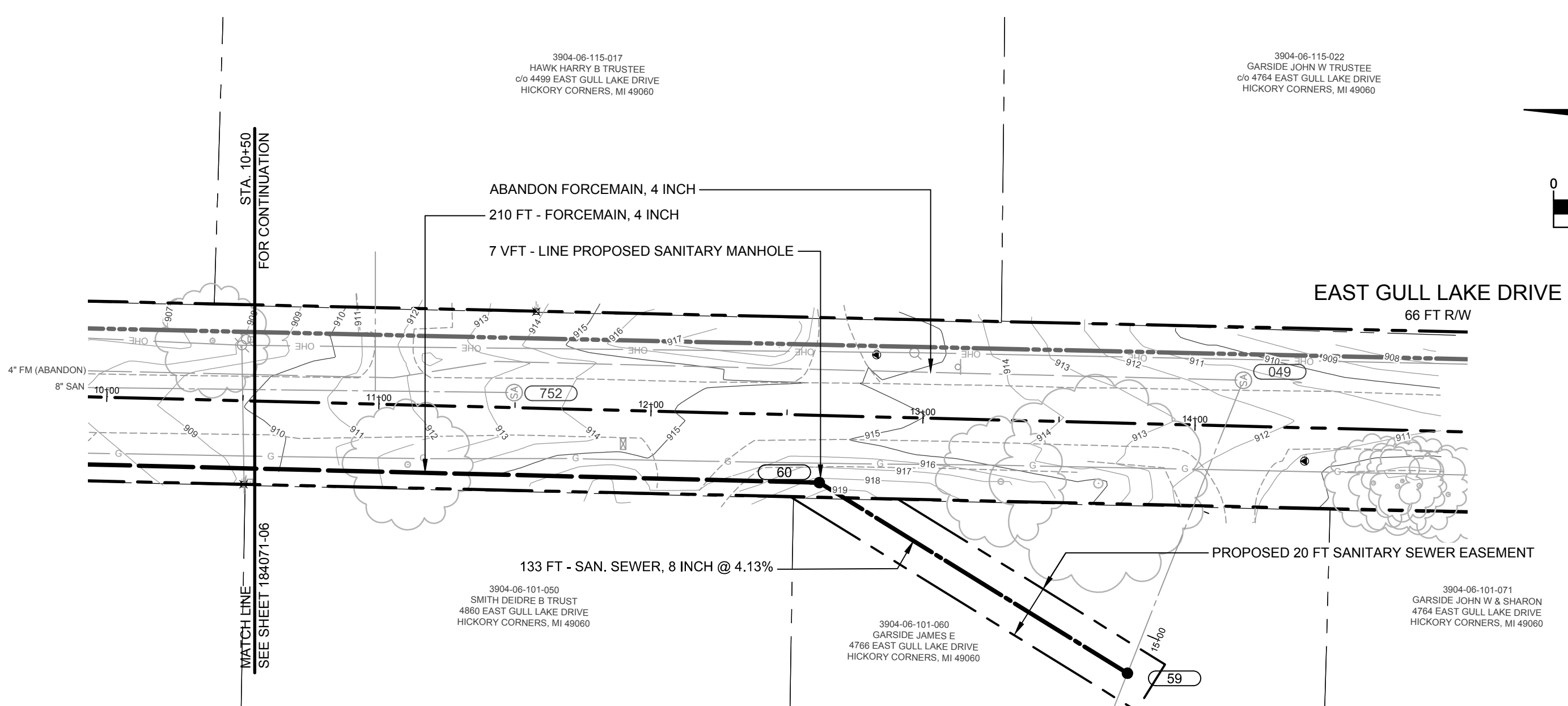
GULL LAKE SEWER & WATER AUTHORITY
7722 N. 37TH STREET
RICHLAND, MI 49083

01/12/2019
ISSUED FOR BID PDS

REVISIONS
DATE: JANUARY, 2019
SCALE:

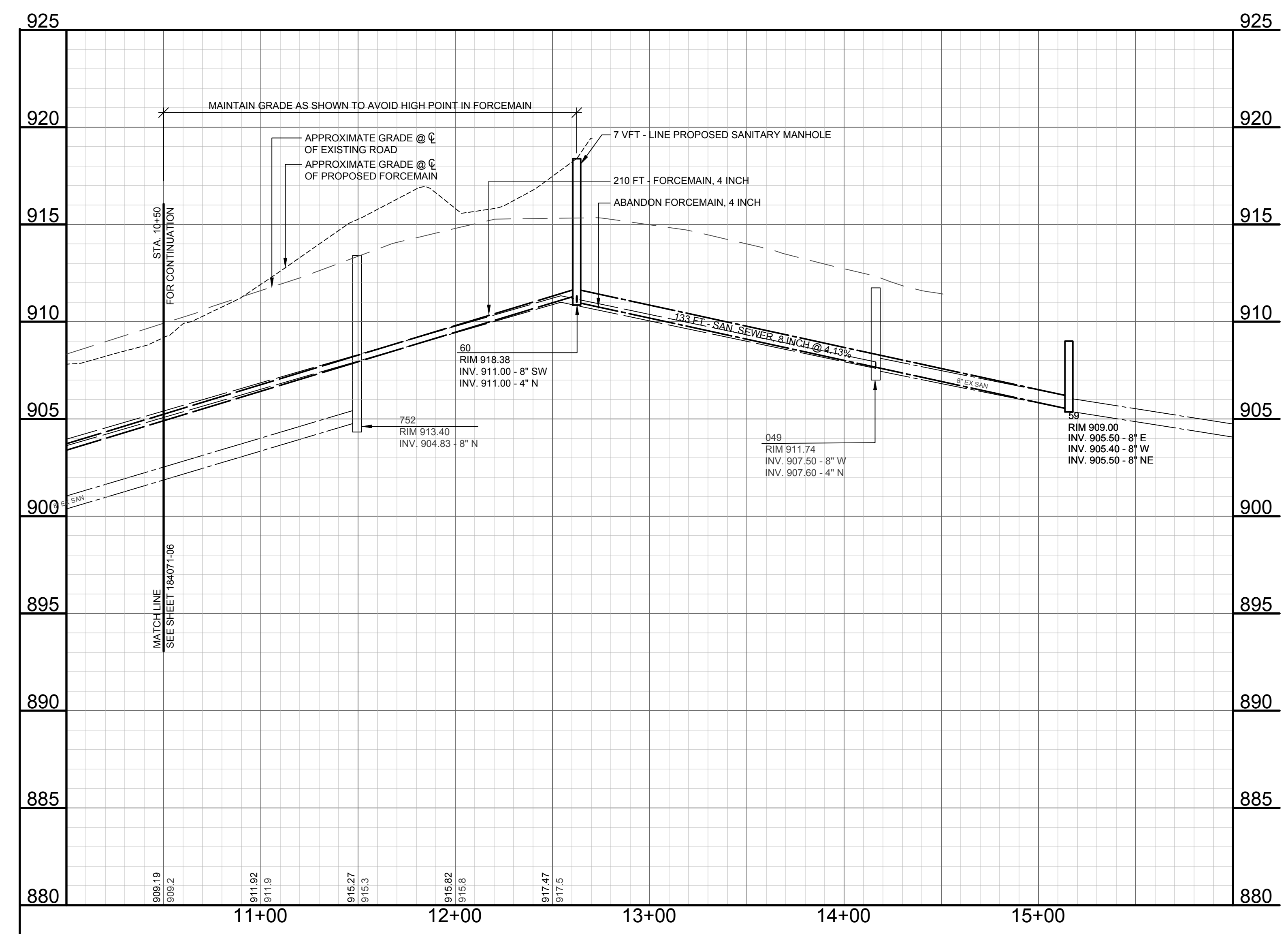
PLAN AND PROFILE -
FORCEMAIN 24 - STA.
12+50 TO STA. 24+50

JOB No.
184071-07

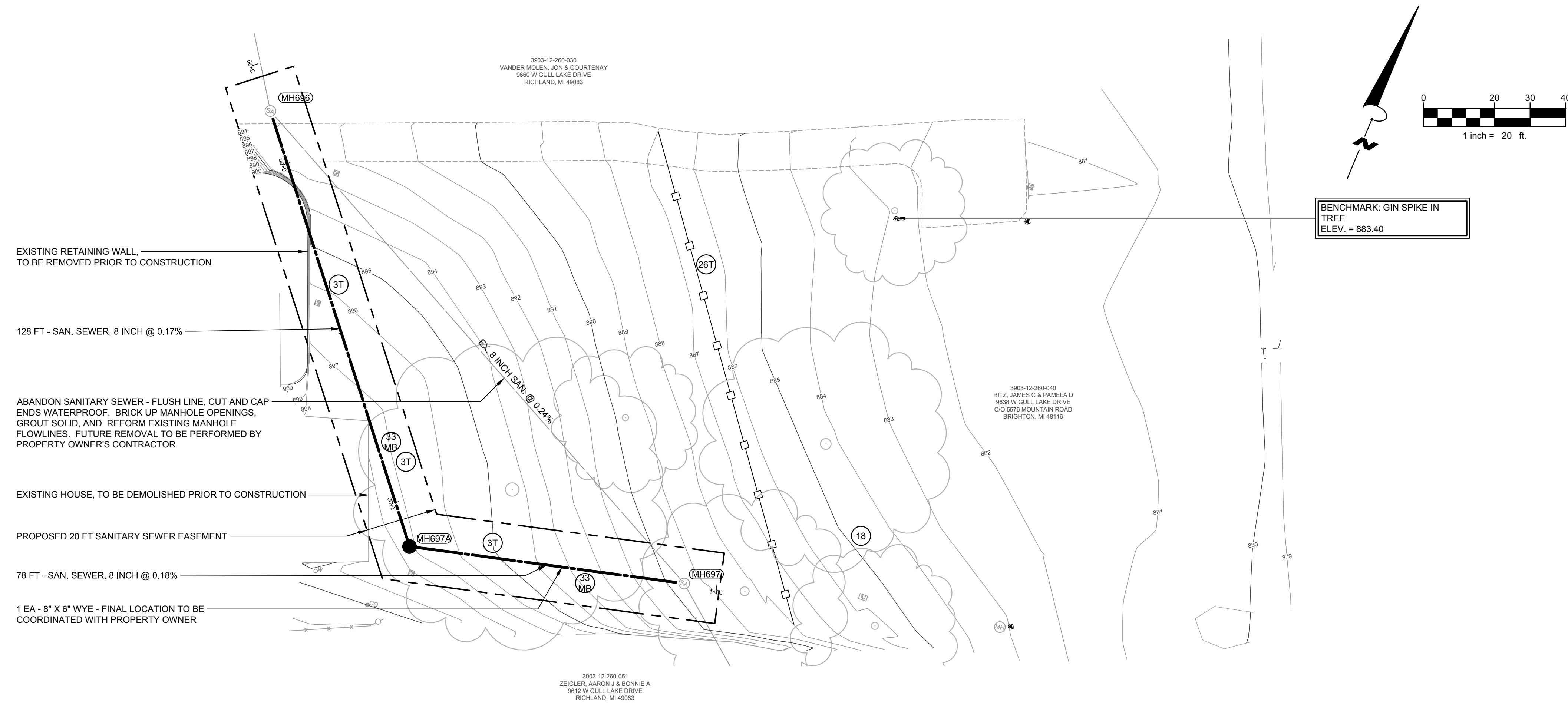


PLAN: FORCEMAIN 24 - STA. 10+50 TO STA. 14+00
SCALE: 1" = 40'

SAN. STRUCTURES		SAN. STRUCTURES	
049	RIM 911.74 INV. 907.50 - 8" W INV. 907.60 - 4" N	59 (DOGHOUSE)	RIM 909.00 INV. 905.50 - 8" E INV. 905.40 - 8" W INV. 905.50 - 8" NE
752	RIM 913.40 INV. 904.83 - 8" N	60	RIM 918.38 INV. 911.00 - 8" SW INV. 911.00 - 4" N



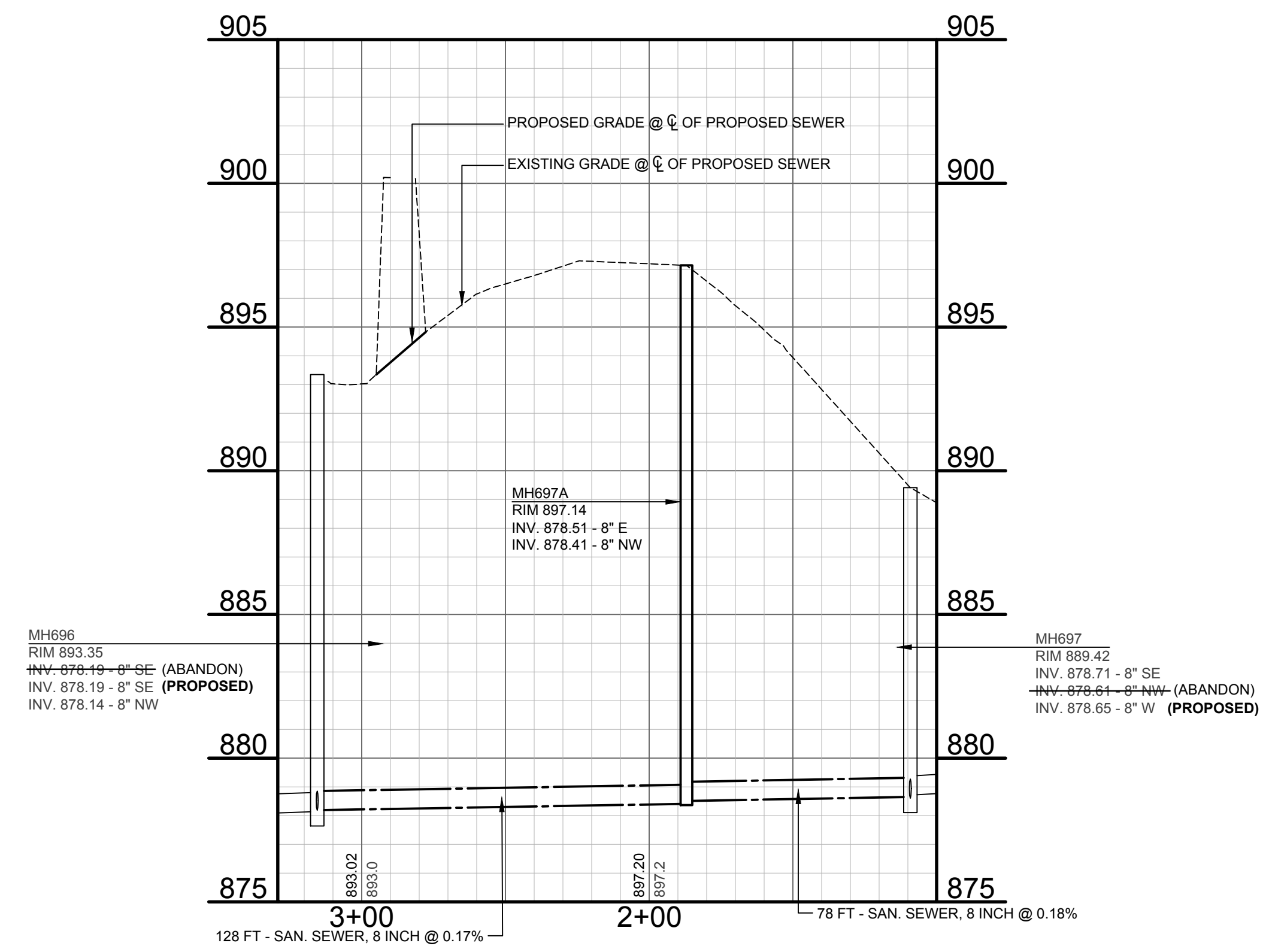
PROFILE: FORCEMAIN 24 - STA. 10+50 TO STA. 14+00
SCALE: 1" = 40' H, 4' V



PLAN: WEST GULL LAKE DRIVE SEWER RELOCATION
SCALE: 1" = 40'

SAN. STRUCTURES

MH696 (EXISTING)	RIM 893.35 INV. 878.19 - 8° SE (ABANDON) INV. 878.19 - 8° SE (PROPOSED) INV. 878.14 - 8° NW
MH697 (EXISTING)	RIM 889.42 INV. 878.71 - 8° SE INV. 878.65 - 8° NW (ABANDON) INV. 878.65 - 8° W (PROPOSED)
MH697A (PROPOSED)	RIM 897.14 INV. 878.51 - 8° E INV. 878.41 - 8° NW



PROFILE: WEST GULL LAKE DRIVE SEWER RELOCATION
SCALE: 1" = 40' H, 4" V

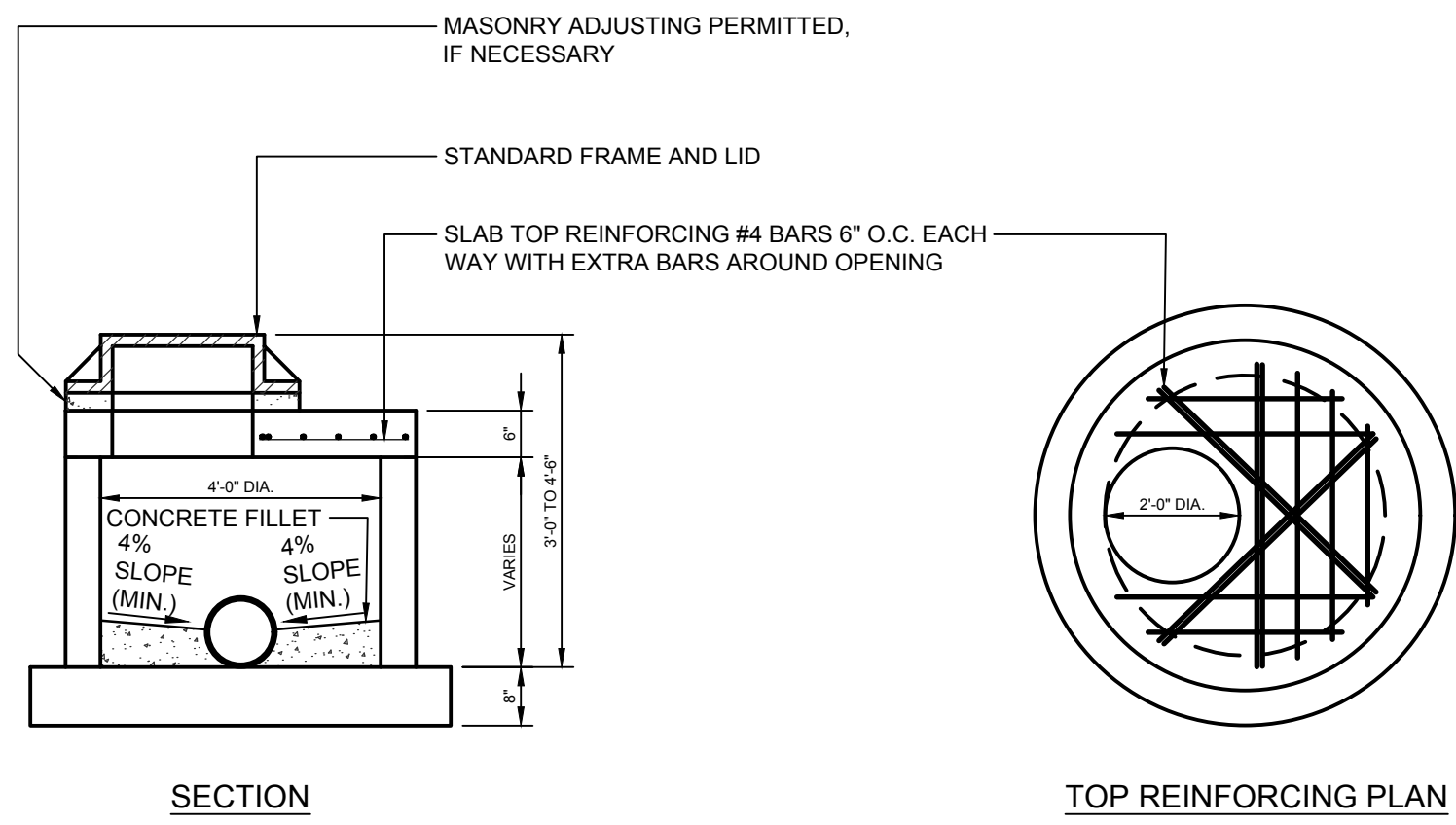
01 1/25/2019 PD
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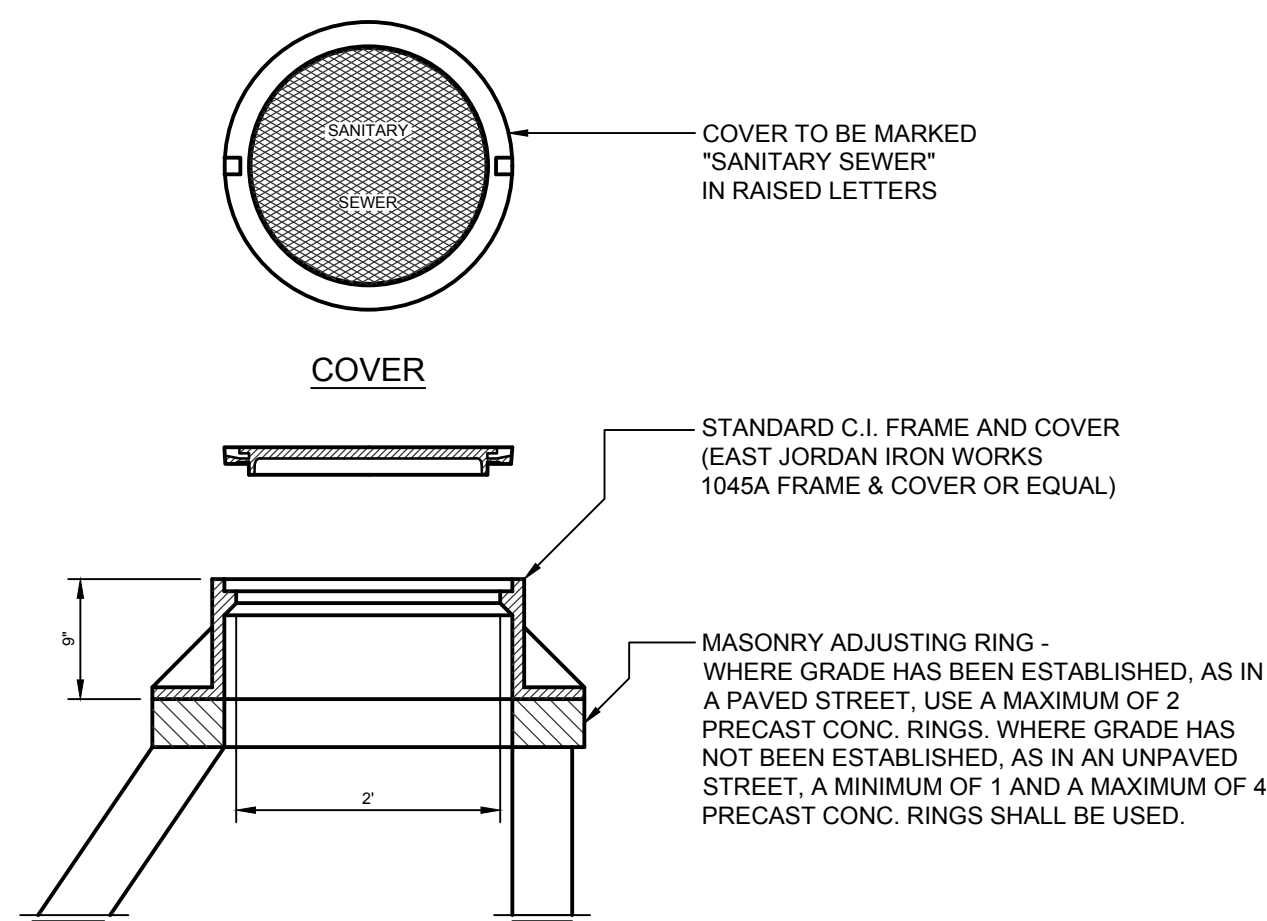
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DATE: JANUARY, 2019
SCALE:

PLAN AND PROFILE - WEST GULL LAKE DRIVE SEWER RELOCATION

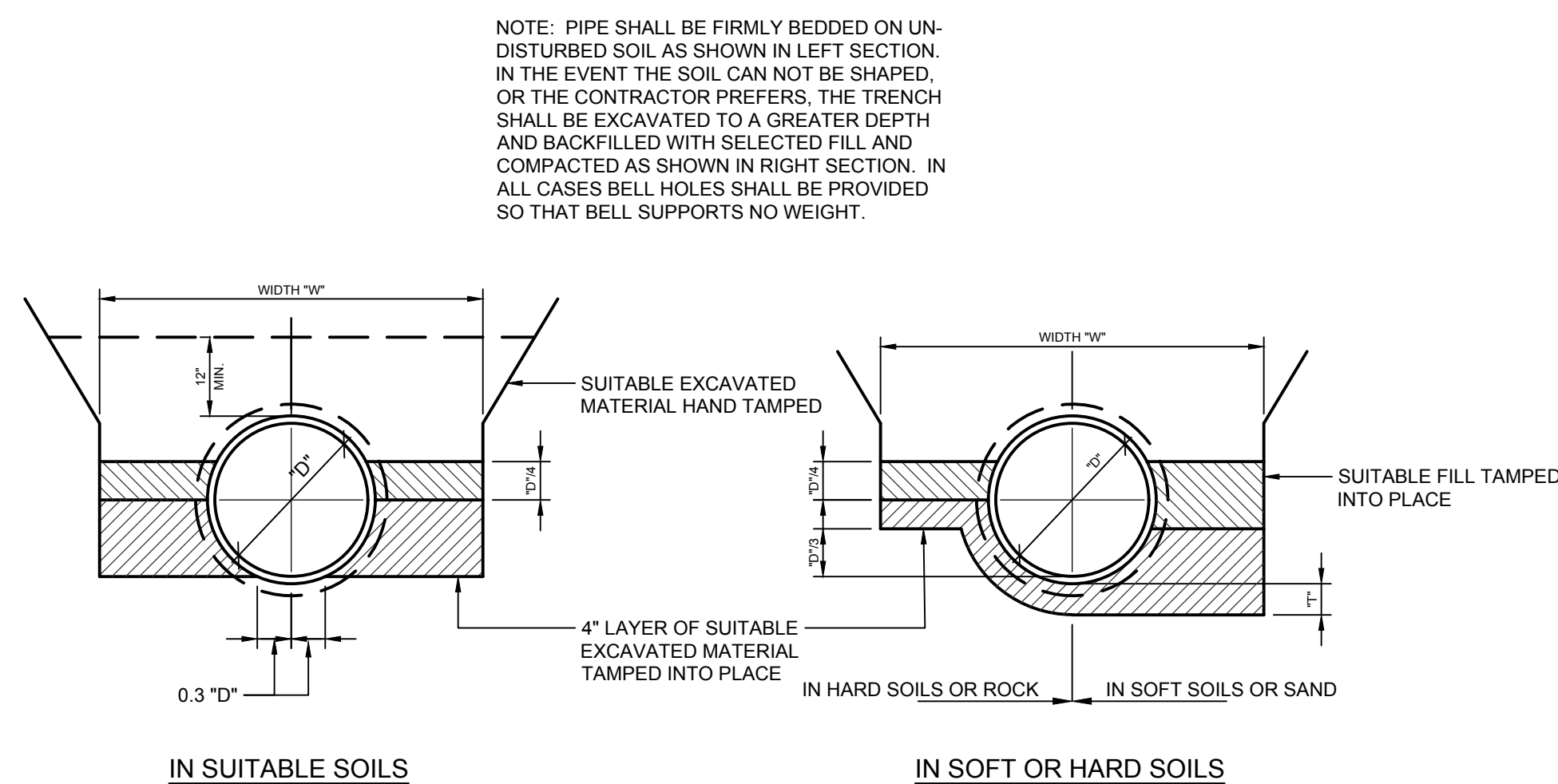
JOB No.
184071-08



STANDARD MANHOLE 3'-0" TO 4'-6" DEPTH



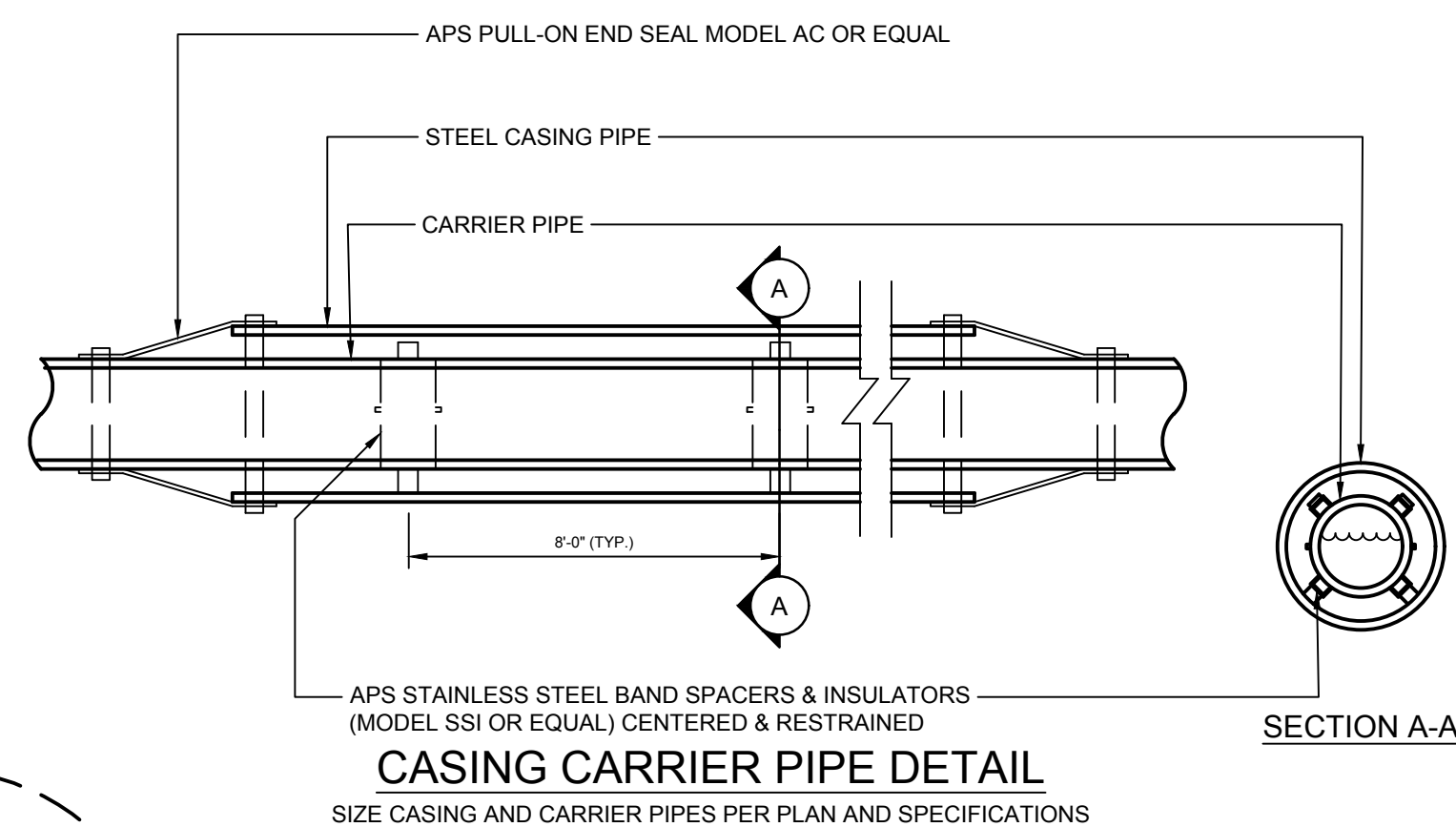
TYPICAL DETAIL FOR MANHOLE TOP FINISHING



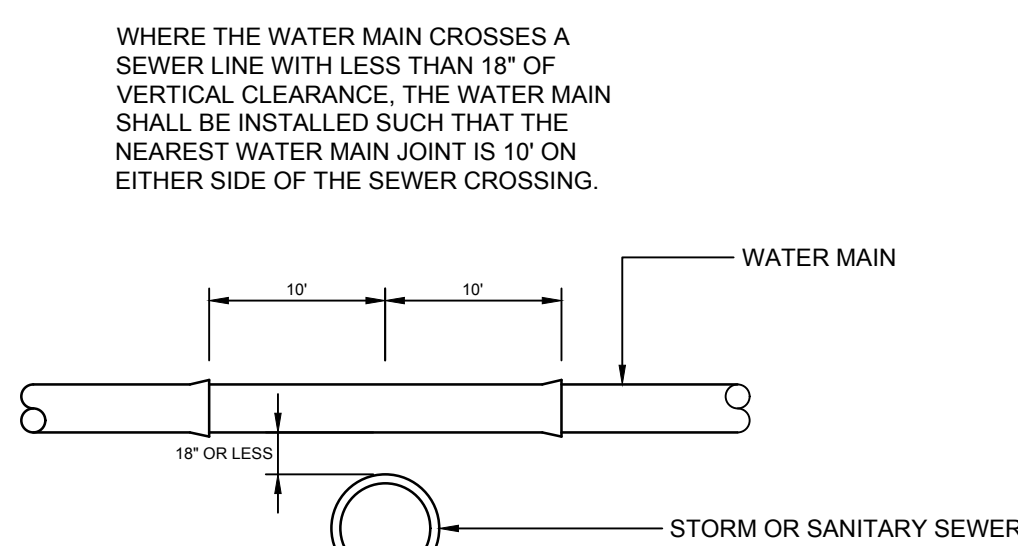
TYPICAL TRENCH, PIPE LAYING AND BEDDING DETAILS

TRENCH DIMENSIONS		
DIA "D"	MAX. WIDTH "W"	MIN. THICKNESS "T"
6"	18"	6"
8"	24"	6"
10"	24"	6"
12"	30"	6"
15"	36"	6"
18"	39"	9"
21"	42"	9"
24"	45"	9"
27"	48"	9"
30"	53"	9"
36"	66"	9"
42"	75"	12"
48"	82"	12"

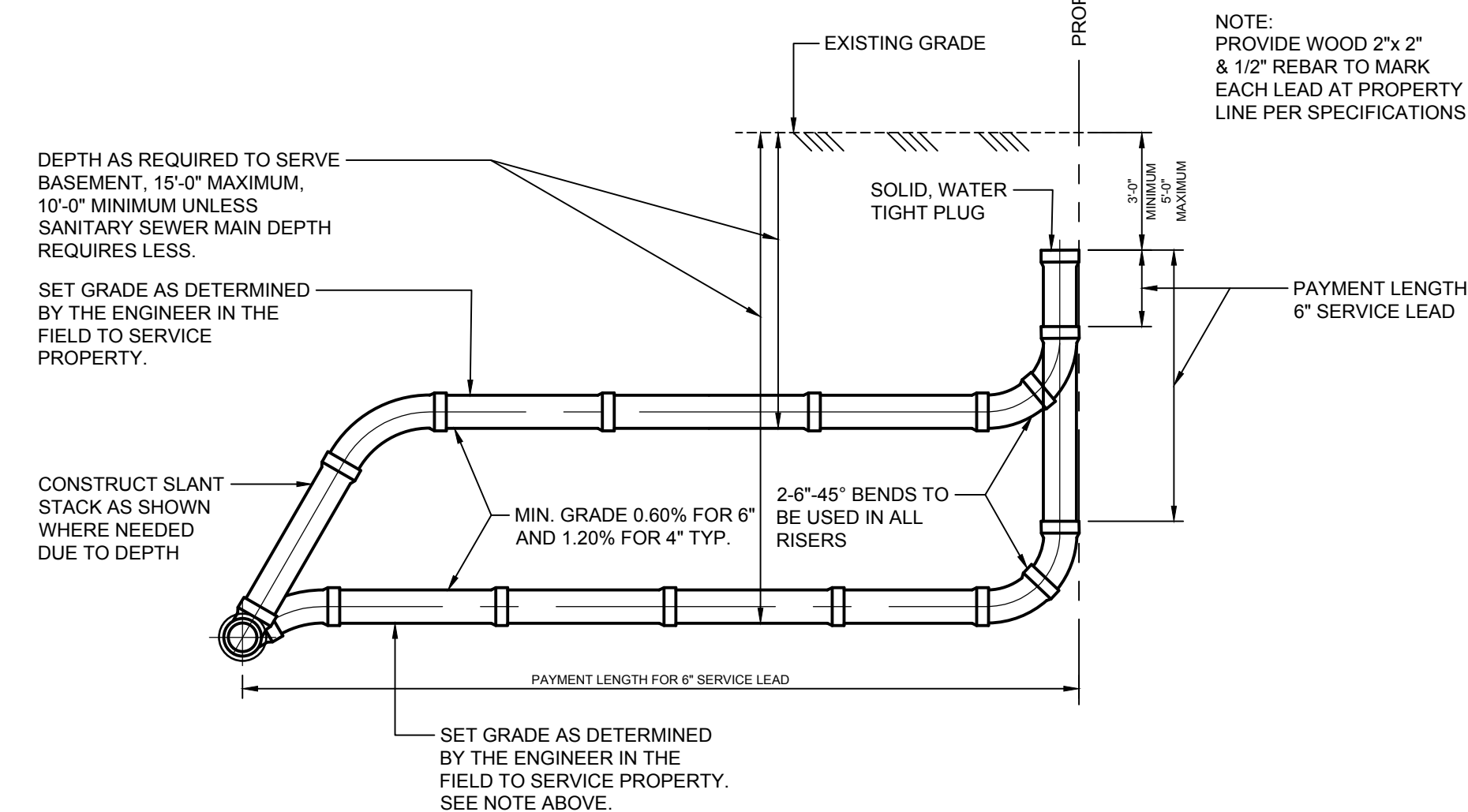
NOTE: PIPE SHALL BE FIRMLY BEDDED ON UN-DISTURBED SOIL AS SHOWN IN LEFT SECTION. IN THE EVENT THE SOIL CAN NOT BE SHAPED, OR THE CONTRACTOR PREFERENCES, THE TRENCH SHALL BE EXCAVATED TO A GREATER DEPTH AND BACKFILLED WITH SELECTED FILL AND COMPACTED AS SHOWN IN RIGHT SECTION. IN ALL CASES BELL HOLES SHALL BE PROVIDED SO THAT BELL SUPPORTS NO WEIGHT.



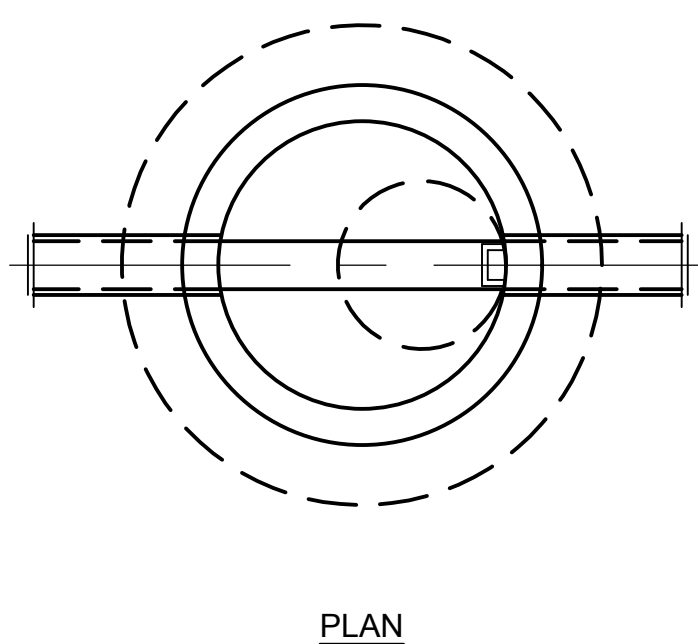
CASING CARRIER PIPE DETAIL



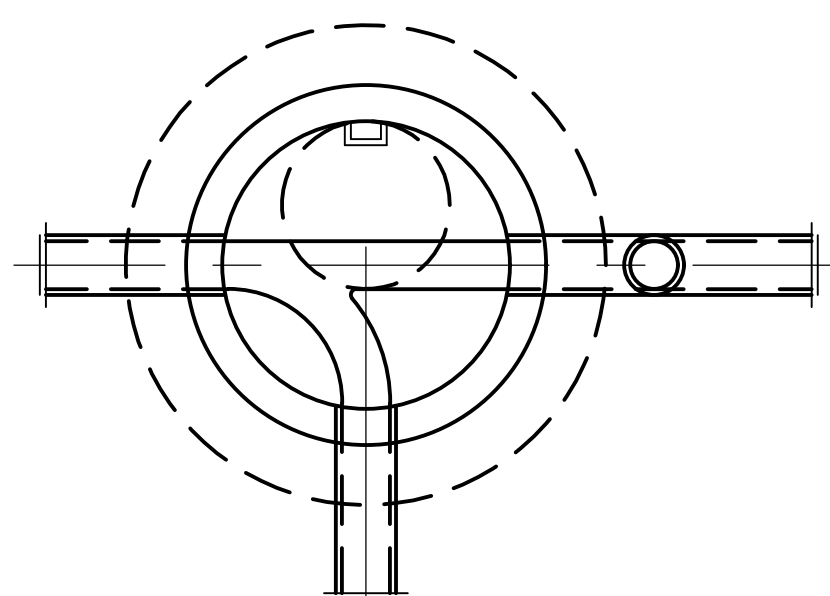
INSUFFICIENT CLEARANCE WATER MAIN CROSSING SEWER



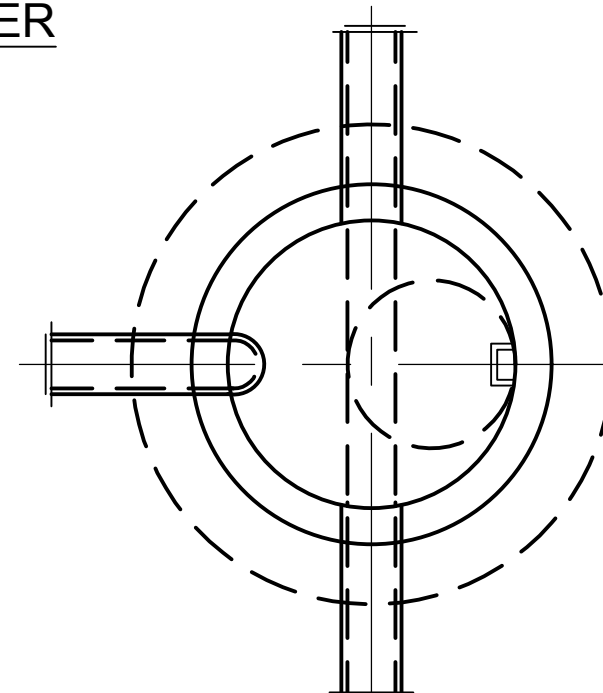
SERVICE CONNECTIONS - TYPICAL CONSTRUCTION



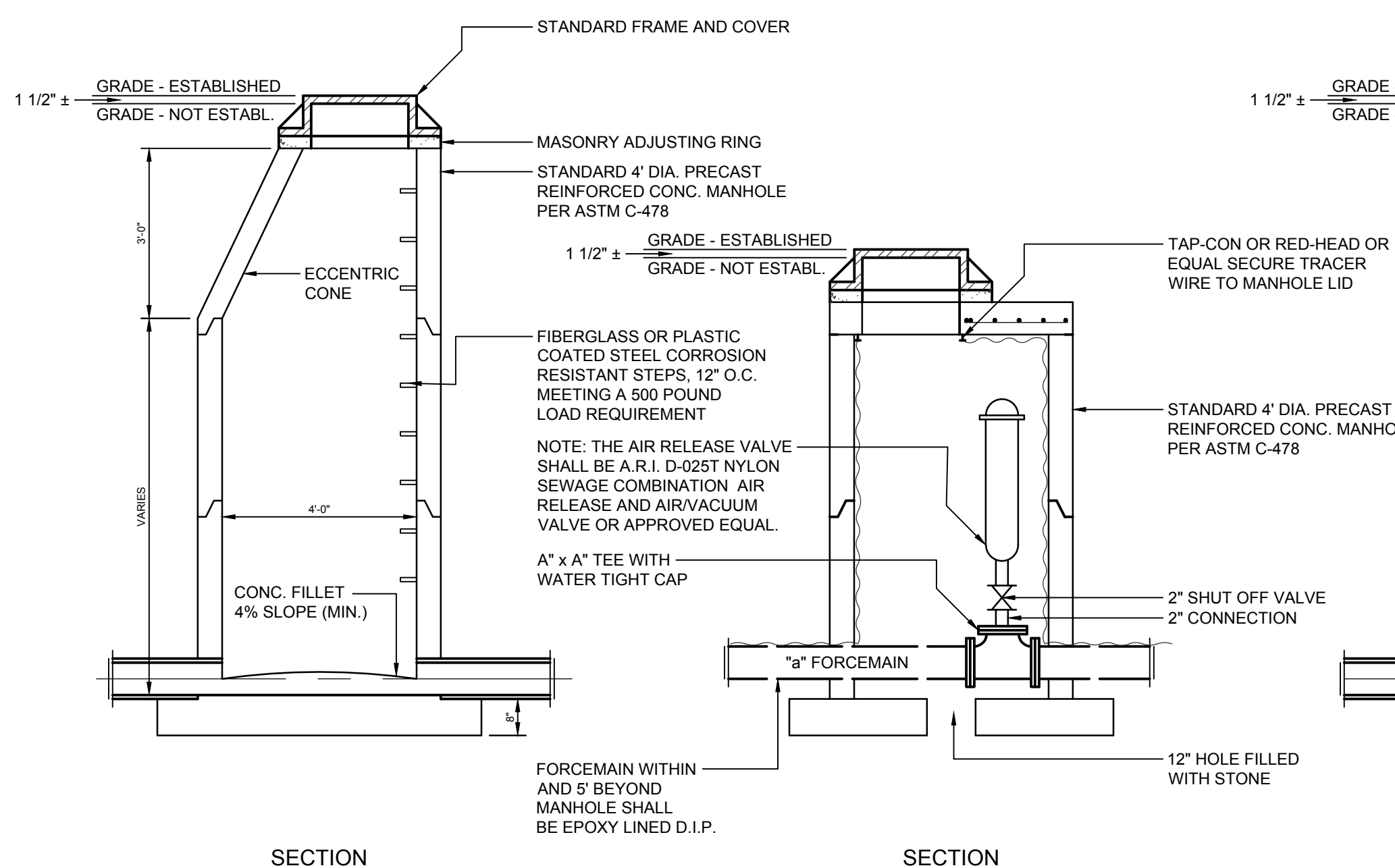
PLAN



PLAN

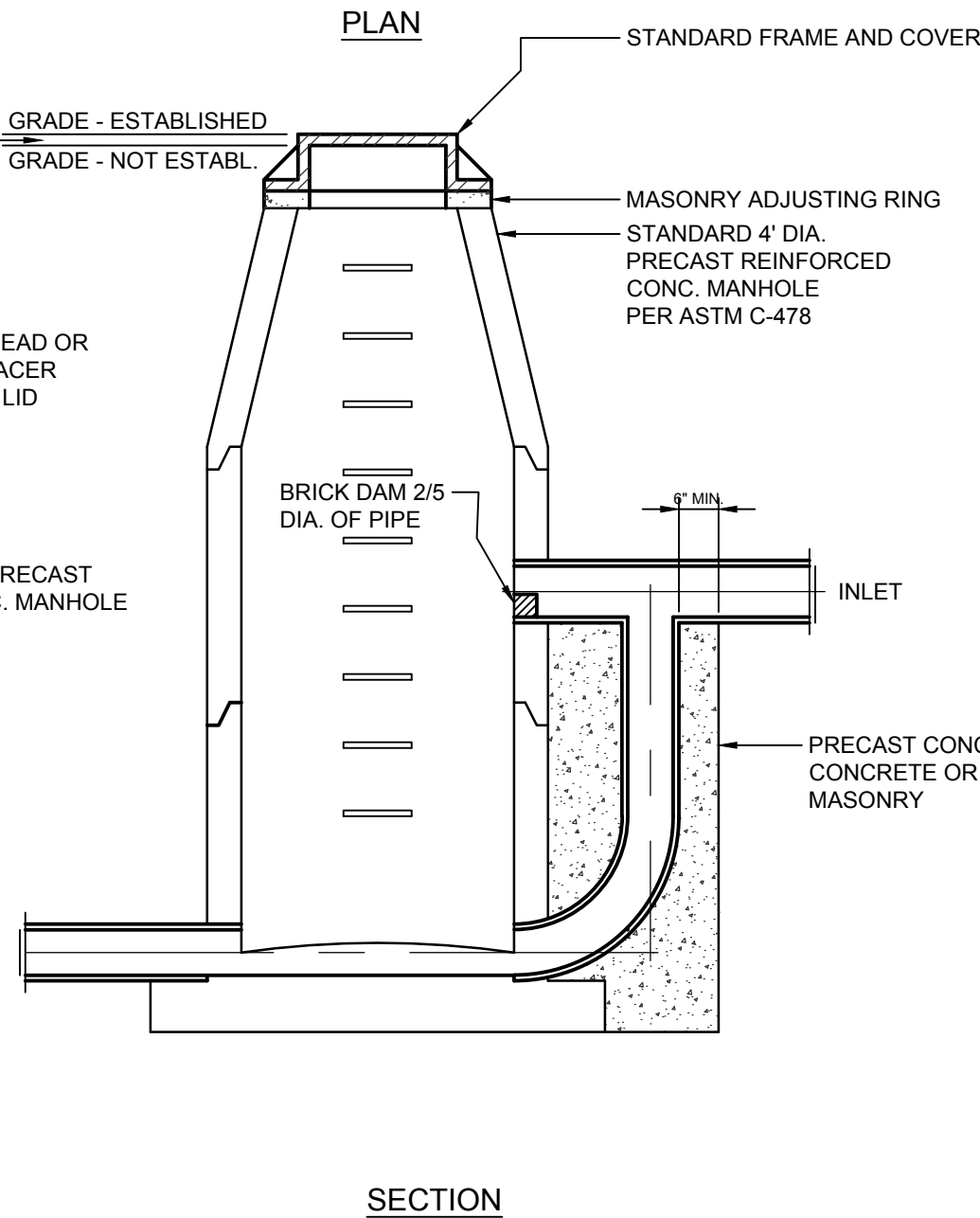


PLAN

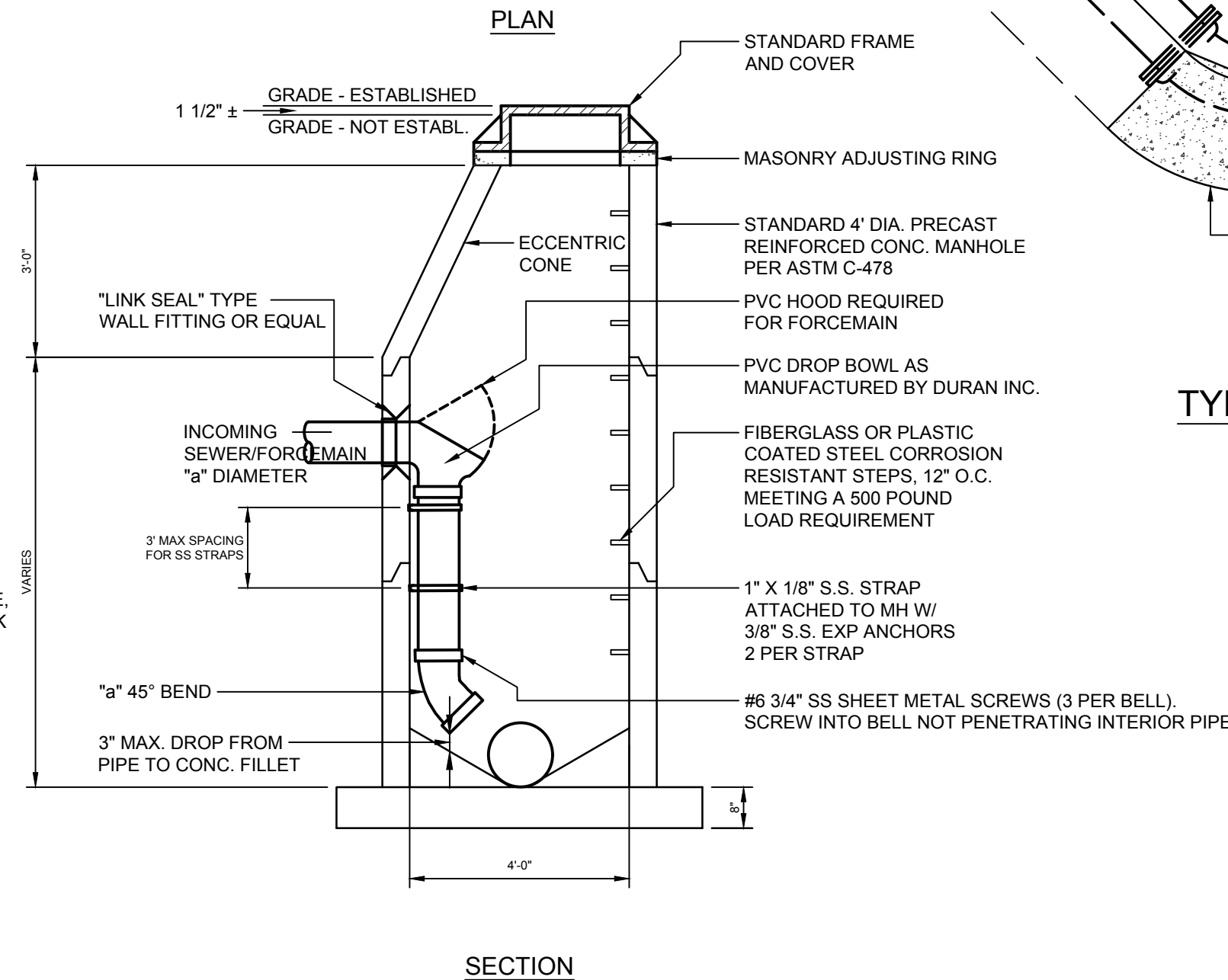


SECTION

SECTION



SECTION



SECTION

STANDARD PRECAST MANHOLE

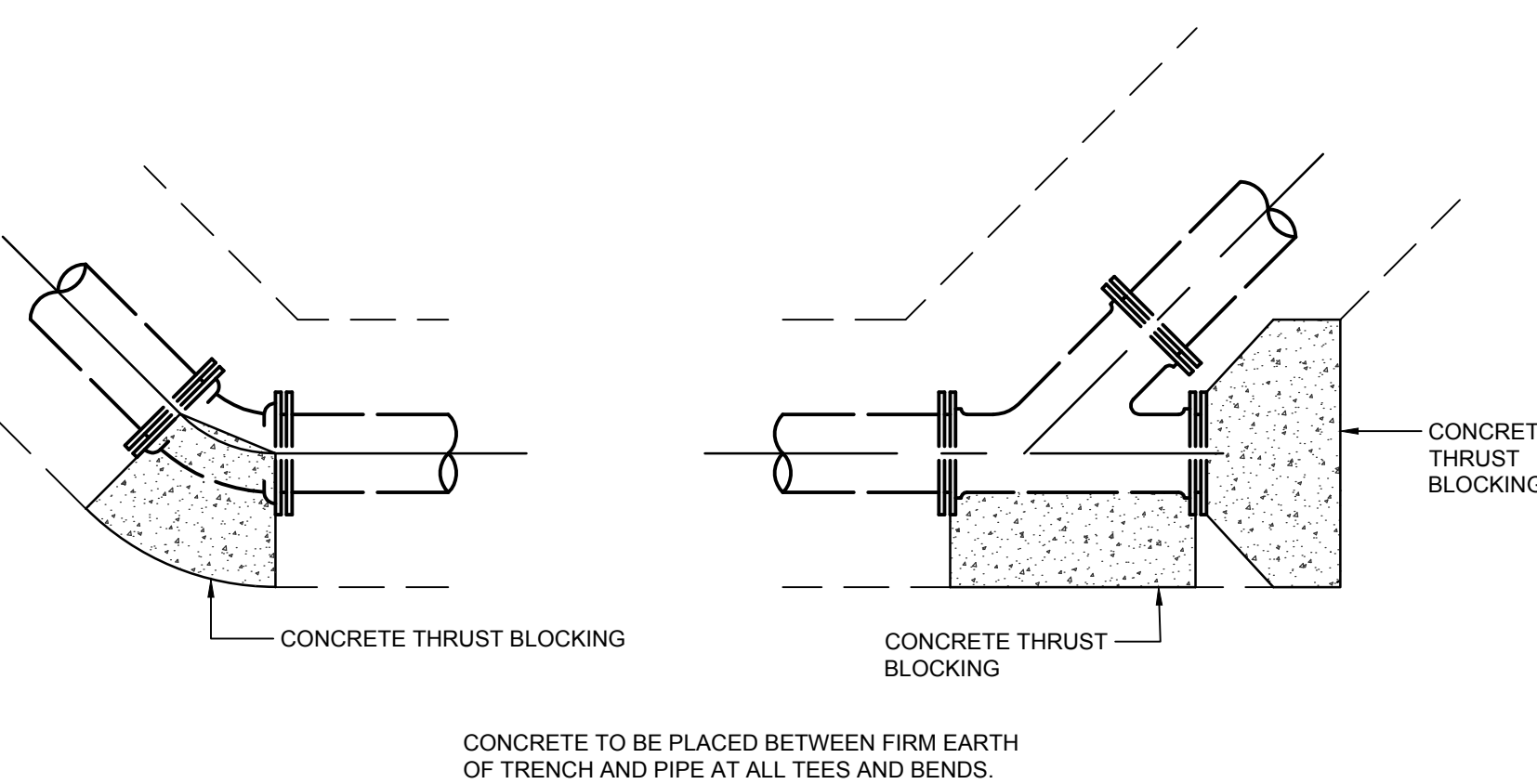
FORCE MAIN CLEANOUT MANHOLE

STANDARD DROP MANHOLE

INTERNAL DROP CONNECTION

NOTE: WHERE NOTED ON THE PLANS, THE 2" AIR RELEASE VALVE SHALL BE OMITTED. THE 2" TAP & 2" SHUTOFF VALVE, HOWEVER, SHALL BE INSTALLED IN ALL CLEANOUT MANHOLES.

NOTE: TO BE USED ONLY WERE CALLED FOR ON PLANS. ALL PIPE SHALL BE OF THE SAME TYPE USED FOR THE INCOMING FORCEMAIN/SEWER.



TYPICAL FORCEMAIN THRUST BLOCKING INSTALLATIONS

PIPE SIZE	BLOCKING FOR PLUGS & BENDS			
	PLUG	45°	22 1/2°	11 1/4°
4"	2	2	1	1
6"	2	2	1	1
8"	3	3	2	2
10"	6	5	3	2
12"	9	7	4	3
16"	15	11	6	3

NOTE: 90° BENDS ARE NOT ALLOWED ON FORCEMAIN.

SIZE OF RUN	BLOCKING FOR WYES	
	OUTSIDE FACE AREA (SFT)	
6" OR LESS	2	
8"	3	
10"	6	
12"	9	
16"	15	

W+
WIGHTMAN
BENTON HARBOR
2303 Pipestone Road
Benton Harbor, MI 49022
Phone: 269.927.0100
KALAMAZOO
433 East Ransom Street
Kalamazoo, MI 49007
Phone: 269.327.3532
ALLEGAN
1670 Lincoln Road
Allegan, MI 49010
Phone: 269.673.8465
www.gowightman.com

PROJECT NAME:
2019 CAPITAL IMPROVEMENTS PROJECT
GULL LAKE SEWER & WATER AUTHORITY
7722 N. 37TH STREET
RICHLAND, MI 49083

01/12/2019
ISSUED FOR BID
REVISIONS
DATE: JANUARY, 2019
SCALE:

STANDARD SEWER DETAILS
JOB No.
184071-09

GULL LAKE SEWER AUTHORITY
INSPECTION DETAIL DRAWING

TOWNSHIP OF Charleston RESIDENTIAL

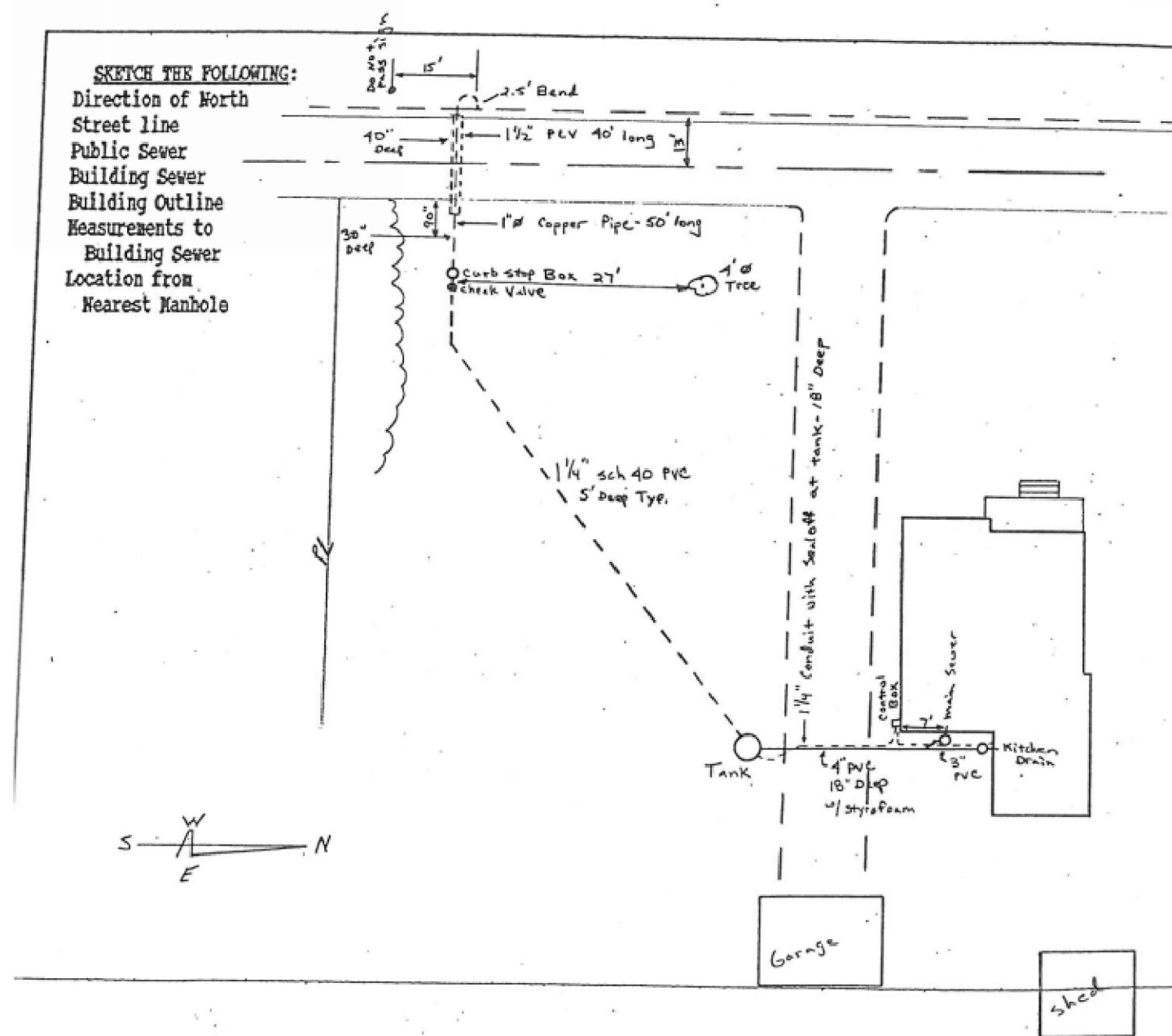
OWNER'S NAME Martha Crossdale COMMERCIAL

LOCAL STREET ADDRESS 4346 N. 37th St. - S. of 'G' Ave.

CONTRACTOR'S NAME Lead - John High Phone 623-671-4763

BUILDING SEWER WILL INCLUDE: GARBAGE GRINDER YES - as below

GREASE OR SAND TRAP NO



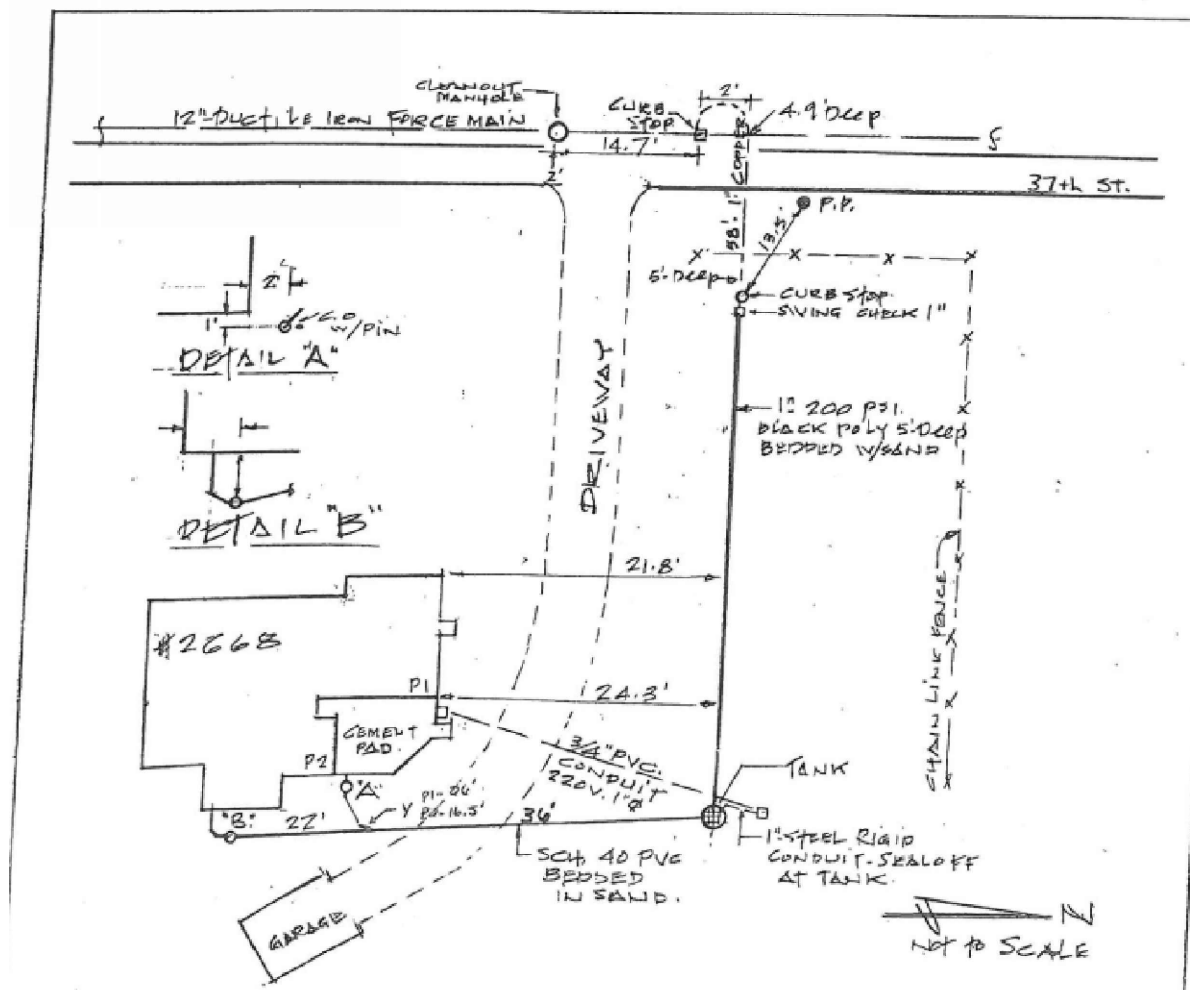
4346 NORTH 37TH STREET
SCALE: NONE

Township of CHARLESTON Residential

Owner's Name Donald Phillips Commercial

Local Street Address 2668 N 37th Street

Contractor's Name JOHN HIGH Phone _____

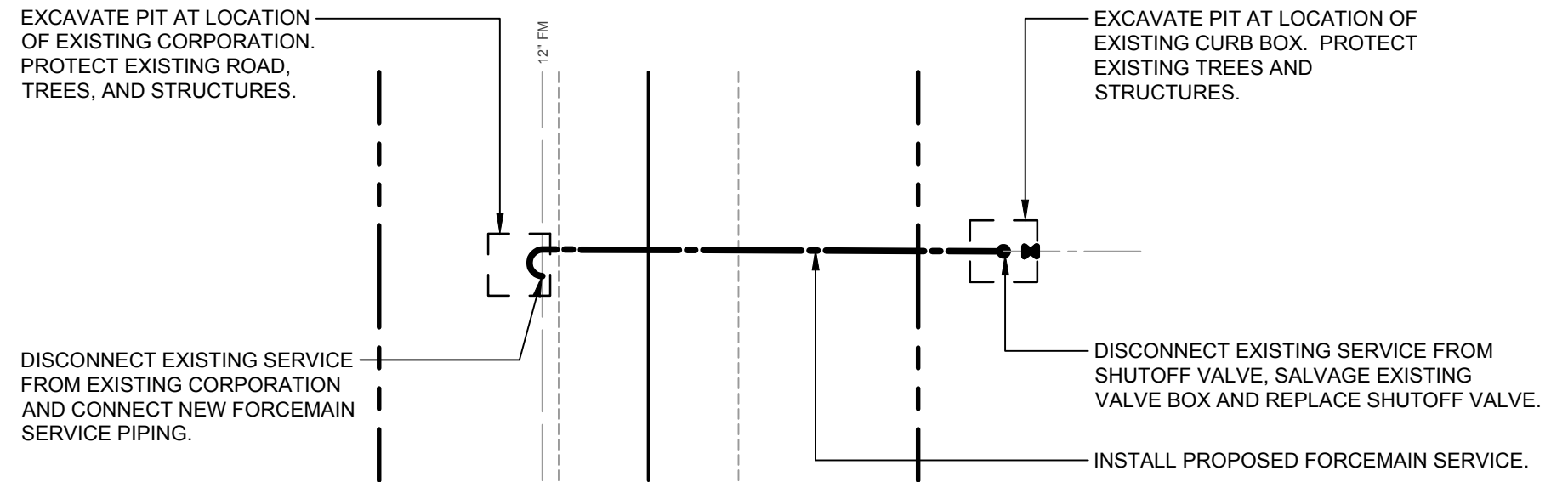


2668 NORTH 37TH STREET
SCALE: NONE

FORCEMAIN SERVICE CONNECTION

THE CONTRACTOR WILL BE PAID HIS LUMP SUM PRICE FOR THE ITEM FORCEMAIN SERVICE CONNECTION AT EACH LOCATION, WHICH WILL BE PAYMENT IN FULL FOR ALL MATERIAL AND LABOR NECESSARY TO EXCAVATE INSTALLATION PITS, REMOVE OR ABANDON EXISTING FORCEMAIN SERVICE, INSTALL FORCEMAIN SERVICE, FILL WITH FLOWABLE MATERIAL ALL VOIDS TO REMAIN UNDER ROADWAY, BACKFILL EXCAVATION, AND RESTORE CONSTRUCTION AREA.

THE CONTRACTOR SHALL UTILIZE PIPE AND VALVES FURNISHED BY THE OWNER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SEVEN (7) DAYS ADVANCE NOTICE TO GULL LAKE SEWER AND WATER AUTHORITY PRIOR TO BEGINNING WORK TO SECURE ALL MATERIALS FROM THE OWNER. WHEN WORK OCCURS WITHIN A RIGHT-OF-WAY THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH AND OBTAINING PERMITS FROM THE CONTROLLING AGENCY.



NOTE:
PLASTIC FORCEMAIN SERVICE PIPING, REPLACEMENT SHUTOFF VALVES, AND FITTINGS NECESSARY TO CONNECT TO EXISTING CORPORATION TO BE PROVIDED BY GULL LAKE SEWER AND WATER AUTHORITY.

FORCEMAIN SERVICE CONNECTION DETAIL
SCALE: NONE

GULL LAKE SEWER AUTHORITY
INSPECTION DETAIL DRAWING

TOWNSHIP OF CHARLESTON RESIDENTIAL

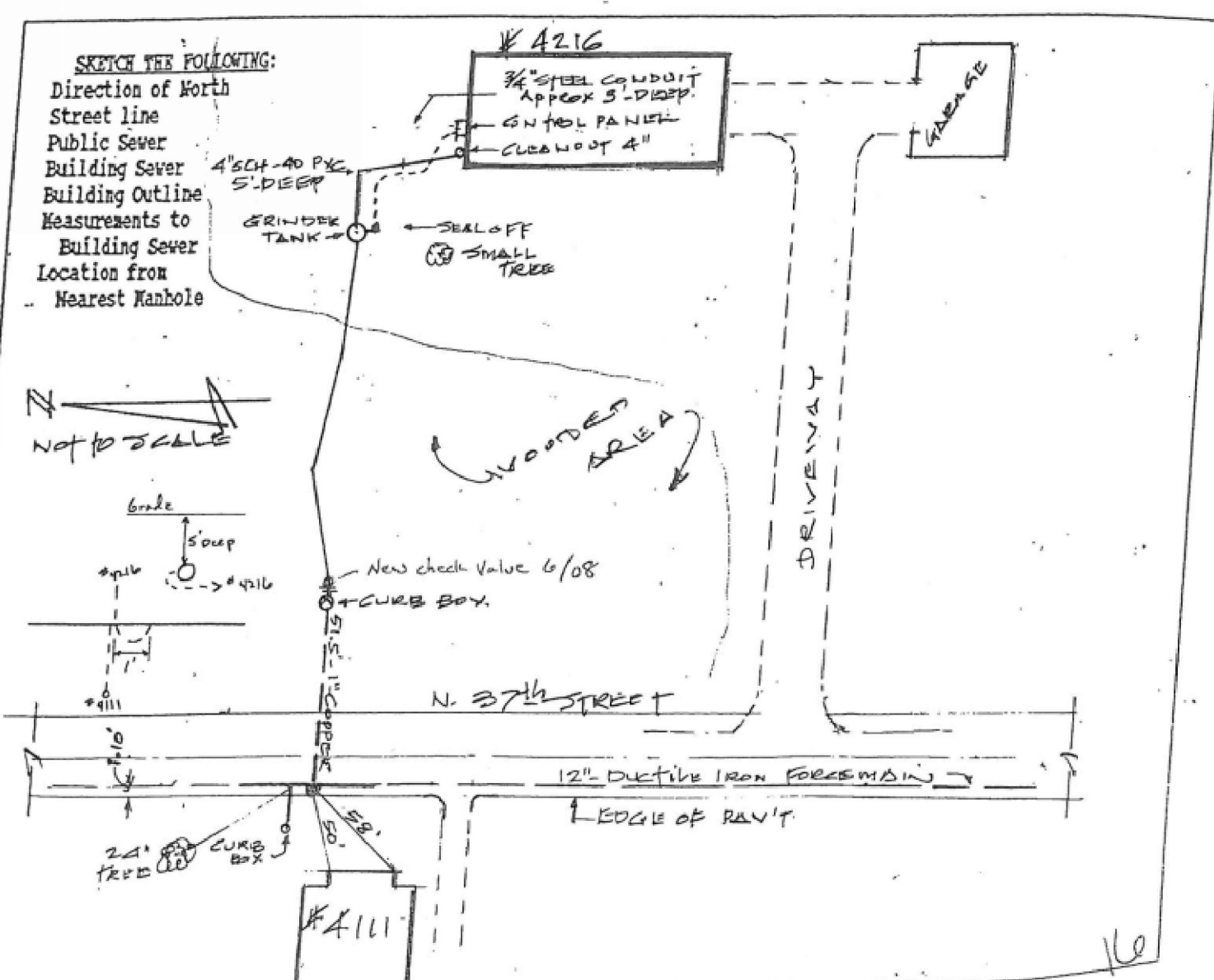
OWNER'S NAME GART DUNN COMMERCIAL

LOCAL STREET ADDRESS 4216 - N. 37th STREET

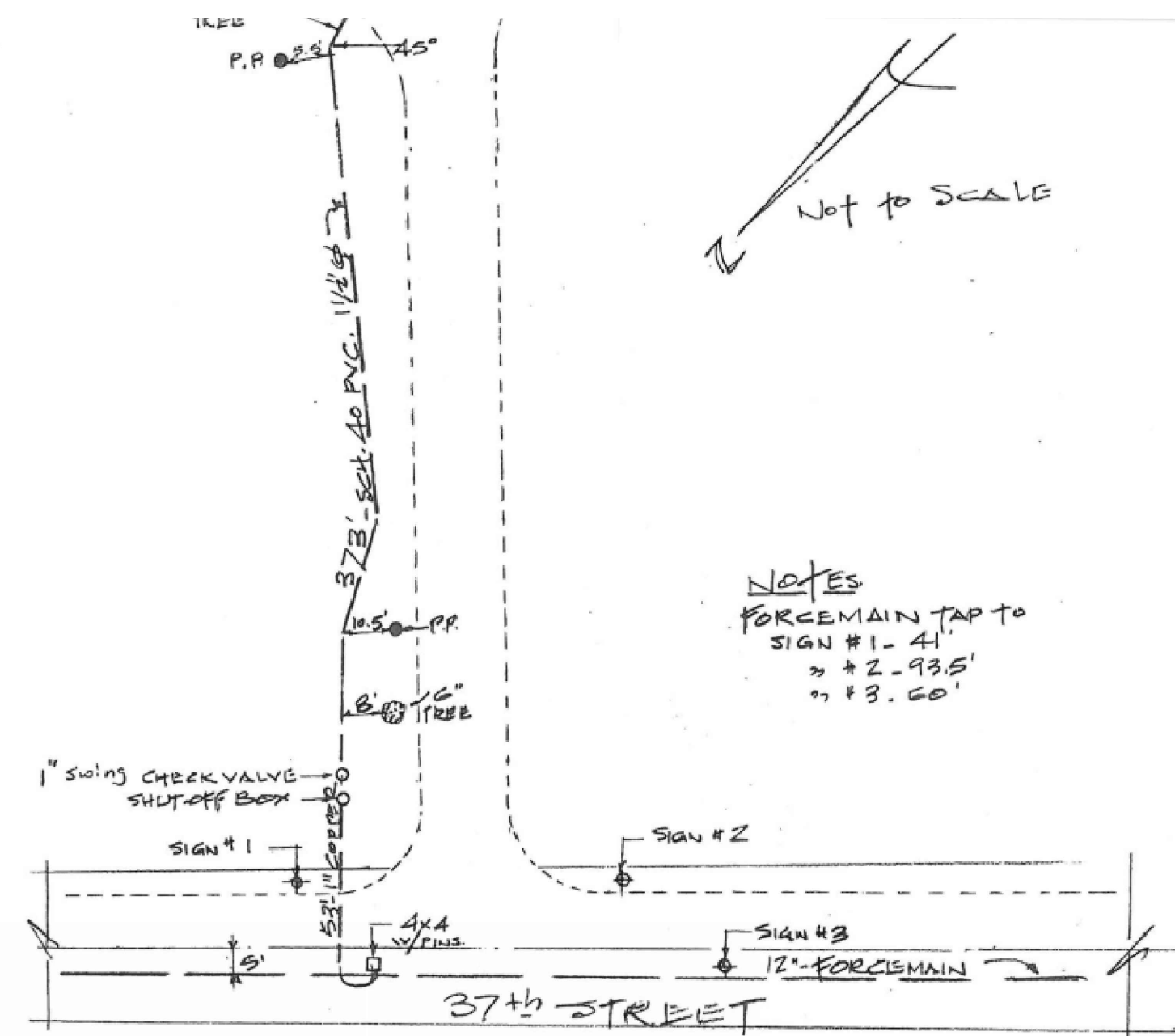
CONTRACTOR'S NAME John High/Orka Electric Phone _____

BUILDING SEWER WILL INCLUDE: Ejector Pump EXTERIOR Grinder tank

GREASE OR SAND TRAP N/A



4216 NORTH 37TH STREET
SCALE: NONE



2606 NORTH 37TH STREET
SCALE: NONE

W+

WIGHTMAN

BENTON HARBOR
2303 Pipestone Road
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Kalamazoo, MI 49007
Phone: 269.327.3532

ALLEGAN
1670 Lincoln Road
Allegan, MI 49010
Phone: 269.673.8465

www.gowightman.com

PROJECT NAME:
2019 CAPITAL IMPROVEMENTS PROJECT

GULL LAKE SEWER & WATER AUTHORITY
7722 N. 37TH STREET
RICHLAND, MI 49083

01/12/2019 ISSUED FOR BID PDS

REVISIONS

DATE: JANUARY, 2019
SCALE:

37TH STREET SERVICE REPLACEMENT

JOB No.
184071-10

Approved
Expires On: 06/05/2019



WIGHTMAN

BENTON HARBOR
2303 Pipestone Road
Benton Harbor, MI 49022
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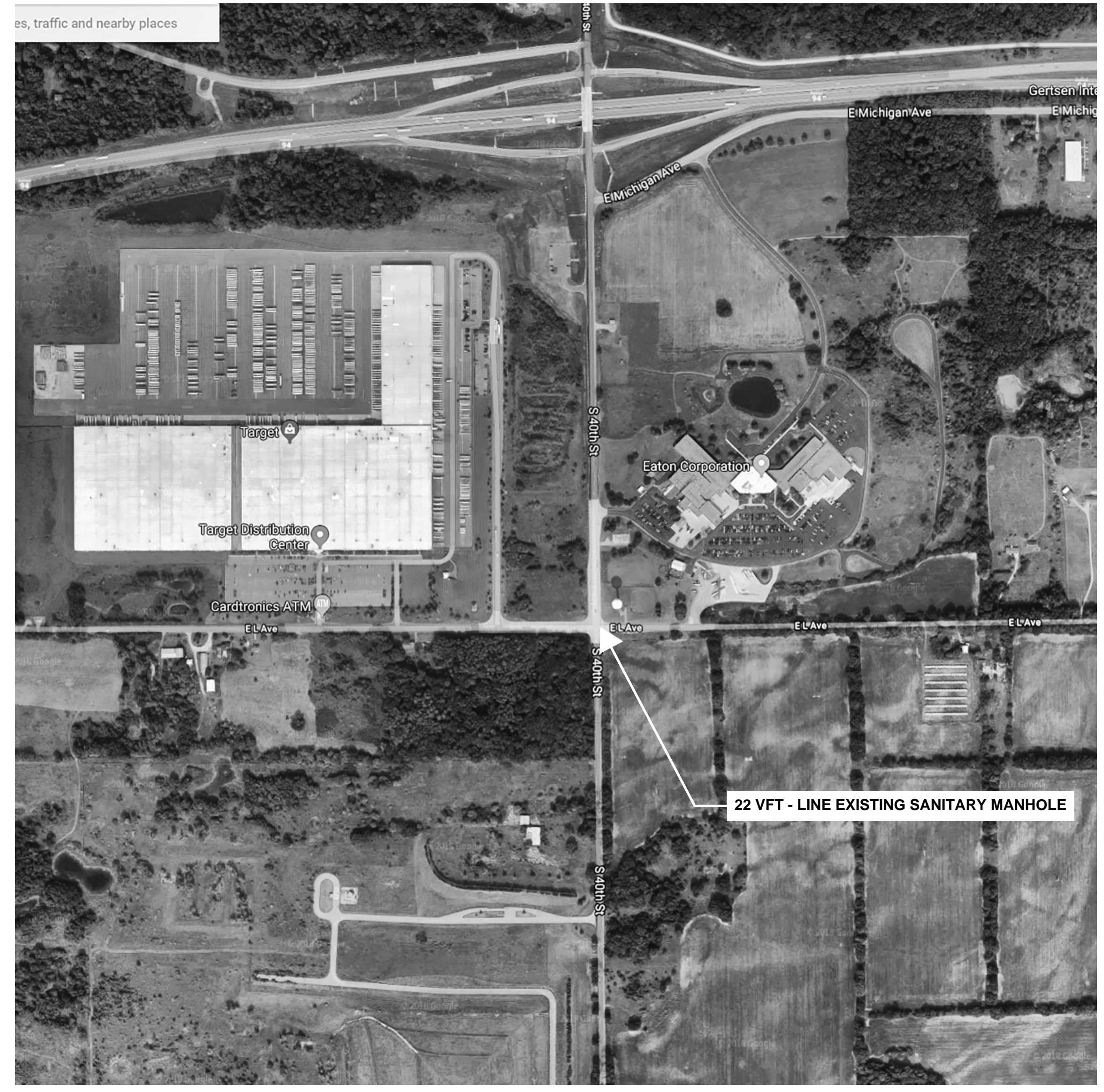
GULL LAKE SEWER & WATER AUTHORITY
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RICHLAND, MI 49083

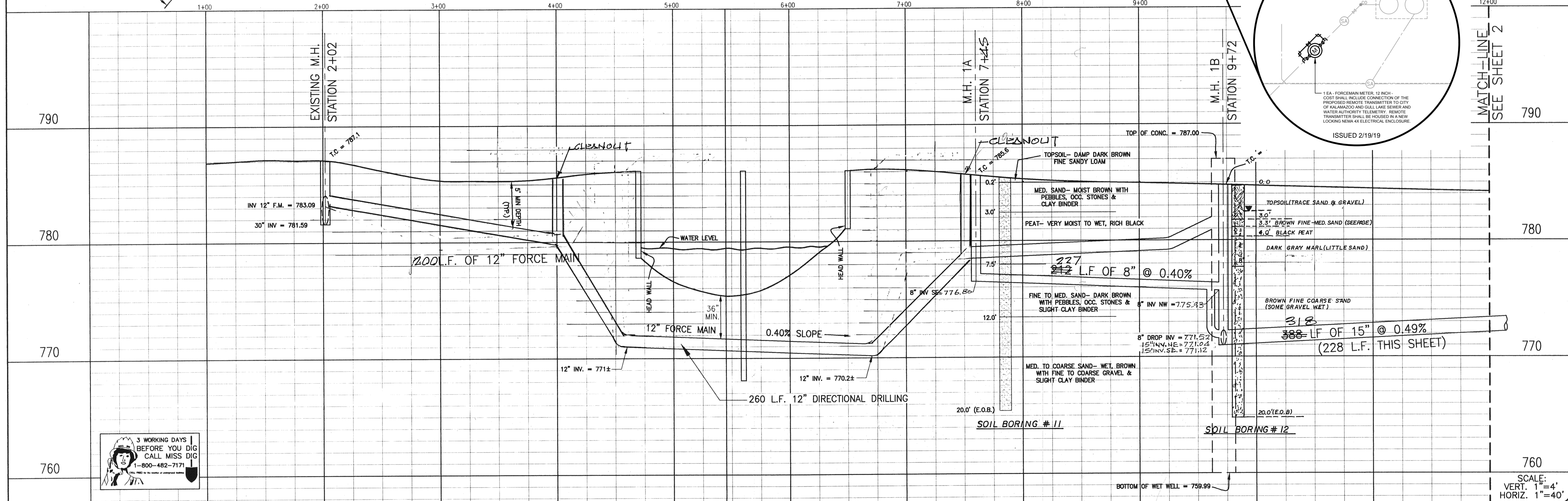
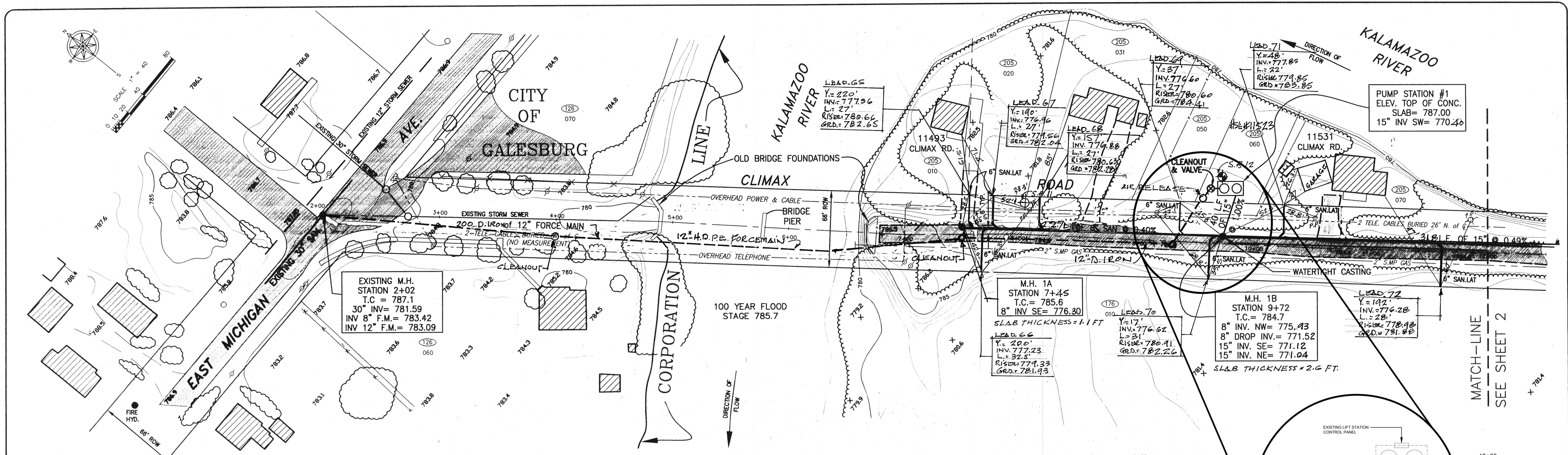
01/12/2019 PDS
ISSUED FOR BID

REVISIONS
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DATE: JANUARY, 2019
SCALE:

GALESBURG AND COOPER MANHOLE LINING LOCATIONS

JOB No.
184071-11





NOTES:

- EXISTING UTILITY LOCATIONS WERE OBTAINED FROM AVAILABLE RECORDS AND NOTES. NOT VERIFIED BY FIELD SURVEY. ACTUAL LOCATIONS SHALL BE FIELD VERIFIED BY THE RESPECTIVE UTILITIES THROUGH THE "MISS DIG" SERVICE. CALL "MISS DIG" (800-482-7171) 72 HOURS BEFORE DIGGING.
- LOCATIONS OF PROPERTY LINES SHOWN ON THIS DRAWING ARE APPROXIMATE.
- HOUSE LEAD LOCATIONS ARE APPROXIMATE, ACTUAL LOCATIONS TO BE DETERMINED BY FIELD ENGINEER.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH MDOT AND WILKINS & WHEATON STANDARD SPECIFICATIONS.

NO.	REVISIONS	BY	DATE
1	RECORD DRAWING	H.M.K.	1/20/19

NO.	REVISIONS	BY	DATE
1	RECORD DRAWING	H.M.K.	1/20/19

DRAWN DLF/GPM
 DATE 3/12/98
 CHECKED
 DATE

WILKINS & WHEATON
 ENGINEERING COMPANY
 169 PORTAGE STREET
 KALAMAZOO, MICHIGAN 49007
 PHONE: (616) 345-1158

SANITARY SEWER PLAN & PROFILE
 FOR
EATON INDUSTRIAL PARK EXT.
 SECTION 19, T. 2 S., R. 9 W.
 CHARLESTON TWP., KALAMAZOO COUNTY, MICHIGAN

PROJECT NO. 97498K
 SHEET NO. 1A of 15