

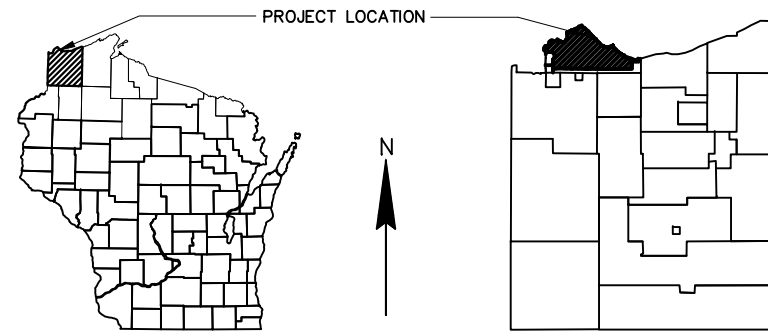
# CITY OF SUPERIOR, WISCONSIN

## ENVIRONMENTAL SERVICES DIVISION

### PUBLIC WORKS

# 39TH AVENUE EAST SANITARY SEWER REPLACEMENT

CONSTRUCTION PLAN FOR: REMOVAL OF EXISTING SANITARY SEWER, INSTALLATION OF NEW SEWER.



### SHEET INDEX

- 1 TITLE
- 2 ESTIMATED QUANTITIES
- 3 PROJECT OVERVIEW
- 4 TYPICAL SECTIONS
- 5 REMOVALS
- 6-7 PLAN & PROFILE
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### LEGEND

- g— EXISTING GAS MAIN
- w— EXISTING WATER MAIN
- EXISTING RIGHT-OF-WAY
- OH— OVERHEAD ELECTRIC
- x-x-x-x-x- PROPOSED SAWCUT
- POWER POLE
- ☀ DECIDUOUS TREE
- ☀ CONIFER TREE

### UTILITIES

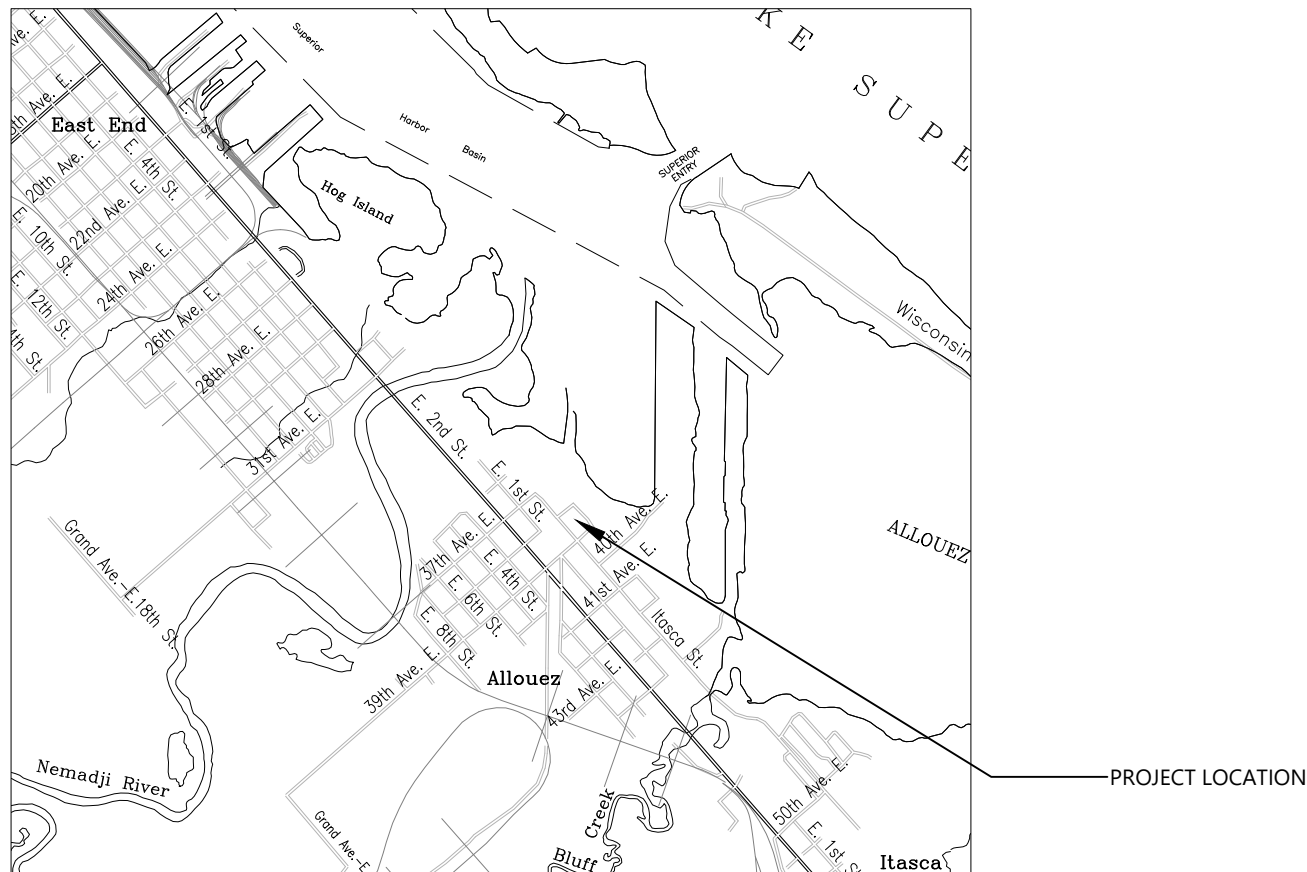
**SUPERIOR WATER, LIGHT & POWER CO.**  
 GAS & WATER  
 TROY AUNE  
 2915 HILL AVENUE  
 P.O. BOX 519  
 SUPERIOR, WI 54880  
 218-395-6346  
 TAUNE@SWLPC.COM

**SUPERIOR WATER, LIGHT & POWER CO.**  
 ELECTRIC  
 AARON ANDERSON  
 2915 HILL AVENUE  
 P.O. BOX 519  
 SUPERIOR, WI 54880  
 715-395-6227  
 ASANDERSON@SWLPC.COM

**CENTURYLINK**  
 RUSSELL VANCE  
 135 N. 21ST STREET  
 SUPERIOR, WI 54880  
 715-392-0045  
 RUSSELL.VANCE@CENTURYLINK.COM

**CITY OF SUPERIOR PUBLIC WORKS**  
 TODD JANIGO  
 1316 NORTH 14TH STREET  
 SUPERIOR, WI 54880  
 715-395-7373  
 JANIGOT@CI.SUPERIOR.WI.US

**CITY OF SUPERIOR**  
 ENVIRONMENTAL SERVICES DIVISION  
 (SANITARY & STORM)  
 ERIN ABRAMSON  
 51 EAST 1ST STREET  
 SUPERIOR, WI 54880  
 715-394-0392  
 ABRAMSON@CI.SUPERIOR.WI.US



### LOCATION MAP

CITY OF SUPERIOR  
 NO SCALE

GOVERNING SPECIFICATIONS:  
 THE STANDARD SPECIFICATIONS FOR SEWER & WATER CONSTRUCTION IN WISCONSIN, SIXTH EDITION WITH ADDENDUM NO. 1 AND NO. 2 AND THE STATE OF WISCONSIN, DEPARTMENT OF TRANSPORTATION (WI DOT) STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, CURRENT EDITION SHALL GOVERN THIS PROJECT

DESIGN TEAM: BRETT GUNDERSON



NOTE:  
 THE LOCATION OF EXISTING UNDERGROUND UTILITIES SHOWN ON PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

Notes	ITEM	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY
	204.0110	REMOVING ASPHALTIC SURFACE	SY	122
5	204.0155	REMOVING CONCRETE SIDEWALK	SY	2
	204.0210	REMOVING MANHOLES	EA	2
1	205.0100	EXCAVATION COMMON (P)	CY	363
1	305.0125	BASE AGGREGATE DENSE 1 1/4 INCH (P)	CY	145
1	312.0115	SELECT CRUSHED MATERIAL (P)	CY	217
2,3,4,7	465.0105	ASPHALTIC SURFACE	TON	66
6	602.0405	CONCRETE SIDEWALK 4-INCH	SF	36
	619.1000	MOBILIZATION	EA	1
	643.5000	TRAFFIC CONTROL	EA	1
	690.0150	SAWING ASPHALT	LF	36
	SPV.0060.01	SANITARY SEWER CASTING	EA	2
	SPV.0060.02	SANITARY MANHOLE 48-INCH	EA	2
	SPV.0060.03	CONNECT TO EXISTING SANITARY SEWER (COLLAR)	EA	1
	SPV.0060.04	CONNECT TO EXISTING SANITARY SERVICE, 6-Inch	EA	8
	SPV.0090.01	REMOVING SEWER PIPE 10-INCH	LF	458
	SPV.0090.02	SANITARY SEWER MAIN 10-INCH	LF	458
	SPV.0090.03	SEWER FIELD QUALITY CONTROL - TELEVISIONING	LF	458
	SPV.0090.04	SEWER FIELD QUALITY CONTROL - DEFLECTION TEST	LF	452
	SPV.0105.01	CONSTRUCTION STAKING	LS	1
	SPV.0180.01	TOPSOIL	SY	164
	SPV. 0180.02	HYDROSEEDING	SY	164

NOTES:	
1	TO BE PAID AS COMPACTED IN PLACE VOLUME
2	CALCULATED AT A RATE OF 120 LB PER SQUARE YARD-INCH
3	SHALL CONFORM TO REQUIREMENTS OF HMA PAVEMENT TYPE 3 LT 58-34 S & 4 LT 58-34 S
4	TACK COAT INCIDENTAL
5	CONCRETE SIDEWALK SAWCUTS INCIDENTAL
6	AGGREGATE BASE INCIDENTAL
7	ASPHALT TO BE LAID AT A DEPTH OF 4 INCHES

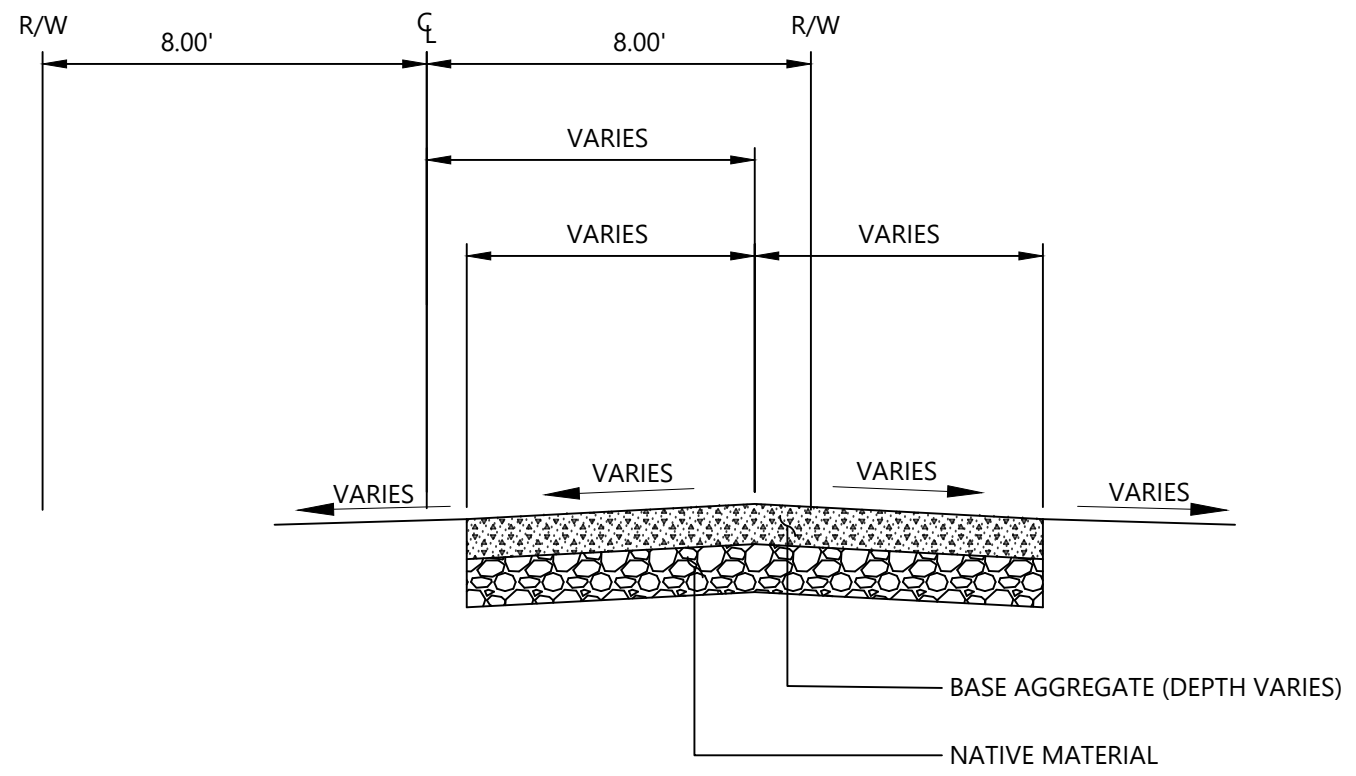




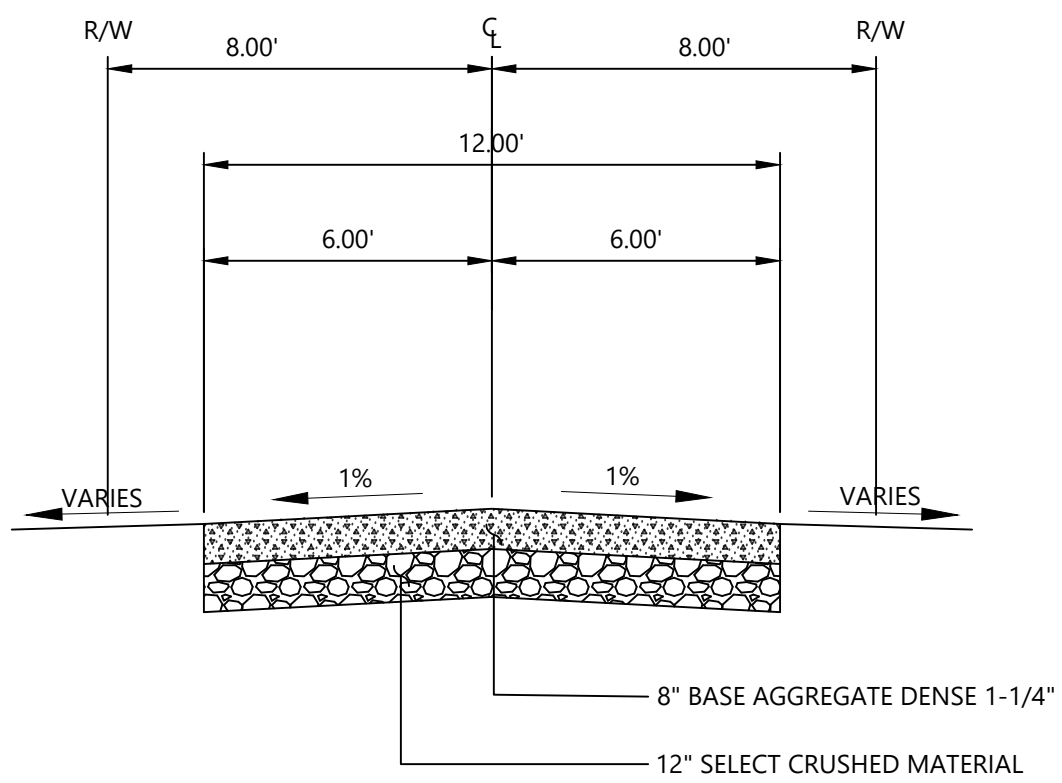
**GENERAL NOTES:**

1. INSTALLATION AND MATERIALS FOR ALL SANITARY AND STORM SEWER PIPES AND STRUCTURES SHALL CONFORM TO THE REQUIREMENTS OF THE CITY OF SUPERIOR MINIMUM STANDARDS FOR GRAVITY SEWER CONSTRUCTION.
2. THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
3. CONTRACTOR TO VERIFY ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. ANY REQUIRED UTILITY RELOCATION WORK SHALL BE COORDINATED BY THE CONTRACTOR.
4. ALL AREAS OUTSIDE OF THE PROJECT LIMITS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION AT NO ADDITIONAL COST TO THE CITY. THIS SHALL INCLUDE CONTRACTOR STAGING AREAS FOR EQUIPMENT AND MATERIALS.
5. ALL ASPHALT SURFACES SHALL BE SAWCUT FULL DEPTH BEFORE REMOVAL WHERE ABUTTING LIKE SURFACE MATERIAL.

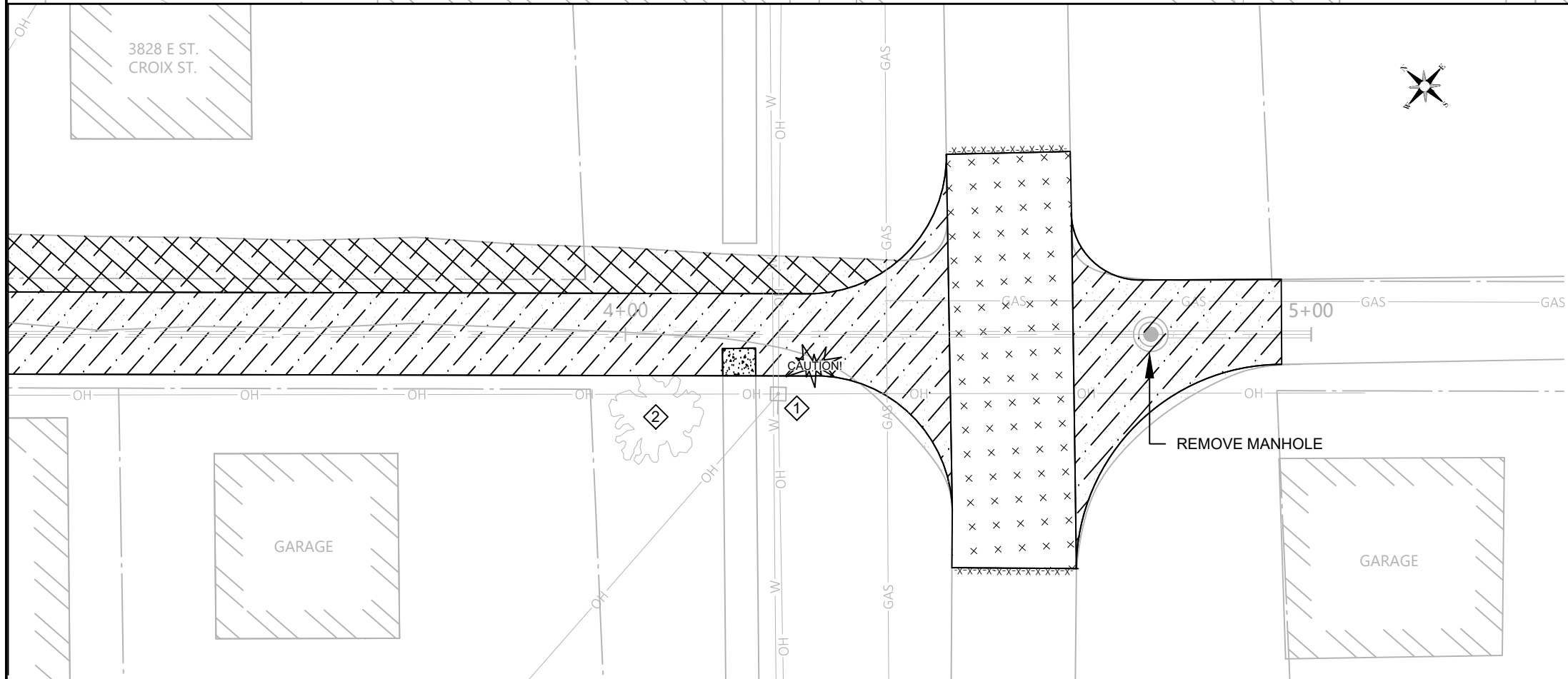
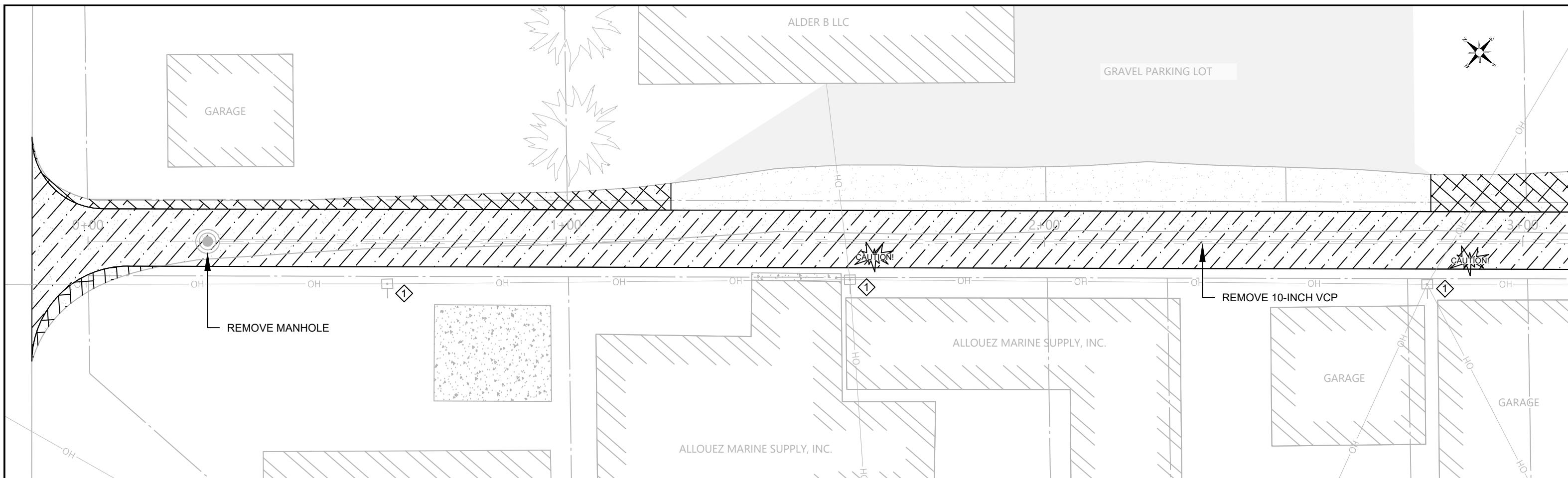
CONTROL POINTS				
POINT NAME	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP1	294601.784	167291.051	634.95	MAG NAIL IN WOODEN STAKE
CP2	294733.499	167155.133	634.741	MAG NAIL IN WOODEN STAKE
CP3	294451.504	167459.935	632.777	MAG NAIL IN WOODEN STAKE



**TYPICAL EXISTING SECTION**  
ALLEY







**TYPICAL FINISHED SECTION**  
ALLEY



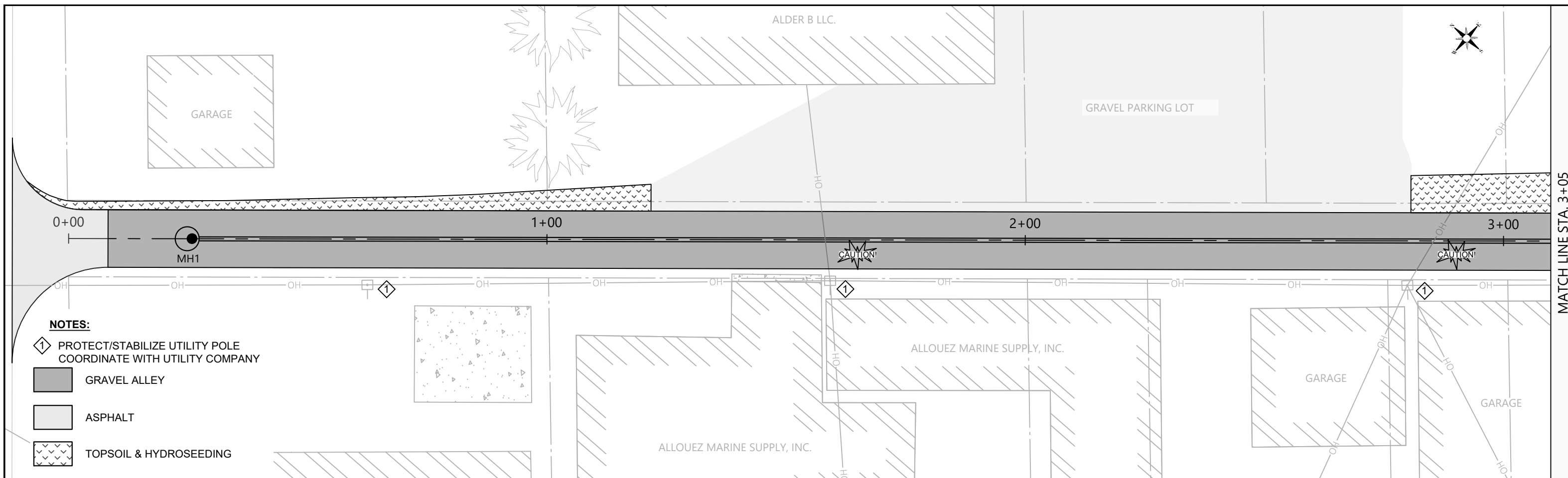
**NOTES:**

- ① PROTECT/STABILIZE UTILITY POLE  
COORDINATE WITH UTILITY COMPANY
- ② PROTECT TREE

-  REMOVE GRAVEL/TURF (INCIDENTAL TO BID ITEM  
SPV.0090.02, SANITARY SEWER MAIN 10-INCH)
-  REMOVE GRAVEL (INCIDENTAL TO BID ITEM  
SPV.0180.01, TOPSOIL)
-  REMOVE ASPHALT
-  REMOVE CONCRETE SIDEWALK

NOTE: ALL ASPHALT AND CONCRETE SHALL BE  
SAWCUT PRIOR TO REMOVAL WHERE ABUTTING  
SIMILAR SURFACE MATERIAL.

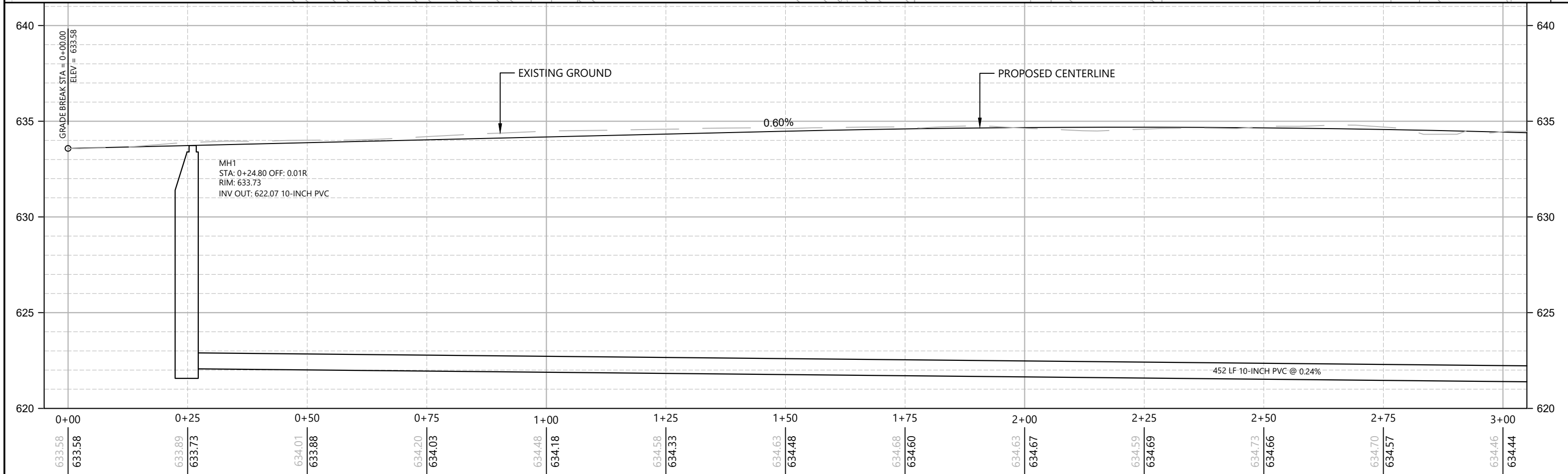
SANITARY STRUCTURE REMOVALS		
NUMBER	ELEVATIONS	LOCATION
MH070118	RIM: 633.96	STA: 0+25.04 OFF: 0.16 R
	INV OUT (W): 623.41	
MH070117	RIM: 632.64	STA: 4+76.65 OFF: 0.00
	INV OUT (SE): 620.87	

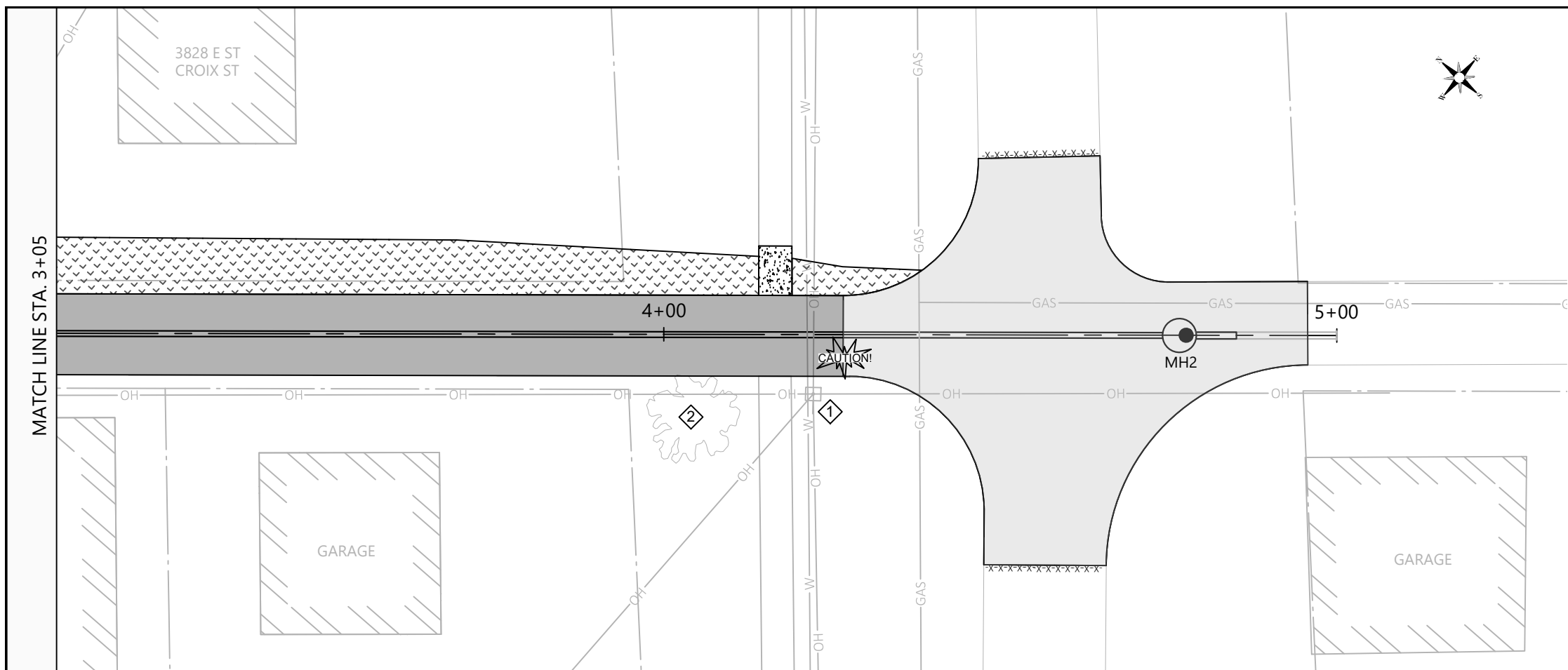


MATCH LINE STA. 3+05

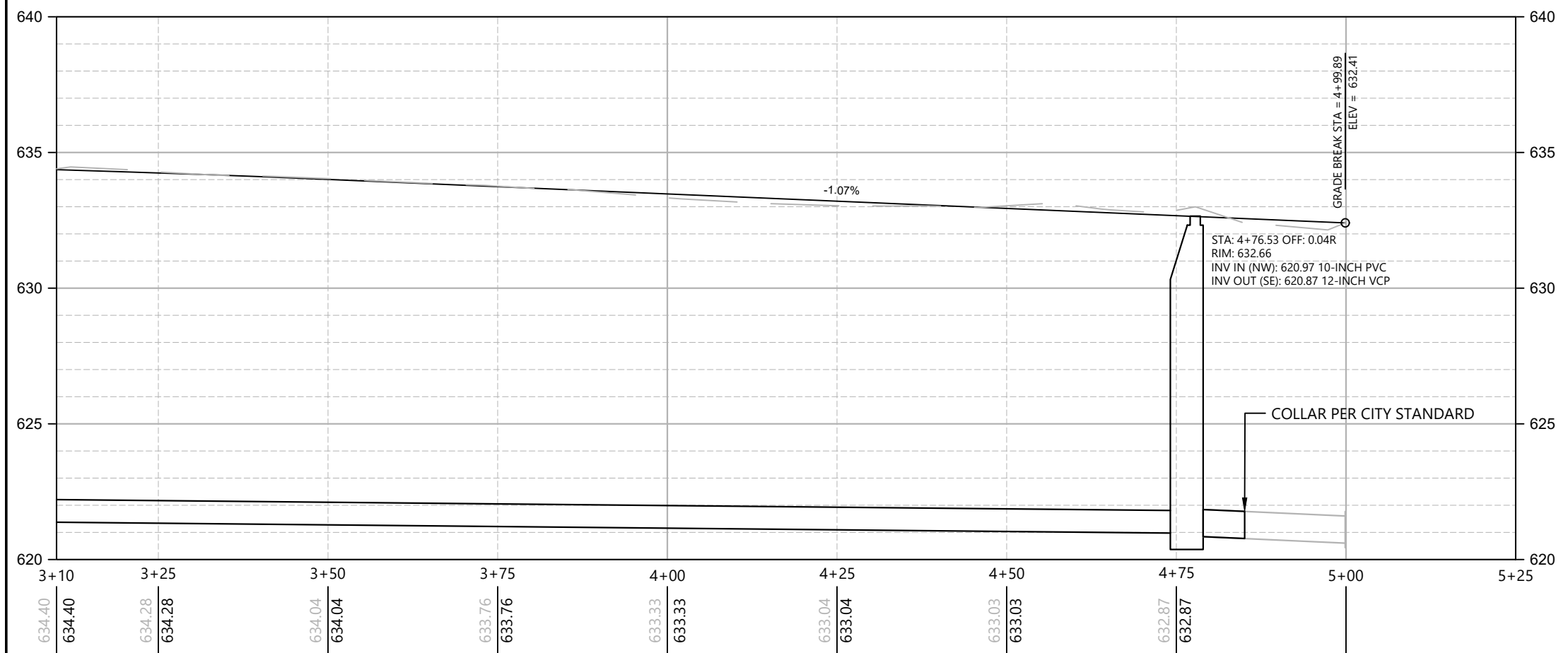
**NOTES:**

- ① PROTECT/STABILIZE UTILITY POLE  
COORDINATE WITH UTILITY COMPANY
- GRAVEL ALLEY
- ASPHALT
- TOPSOIL & HYDROSEEDING



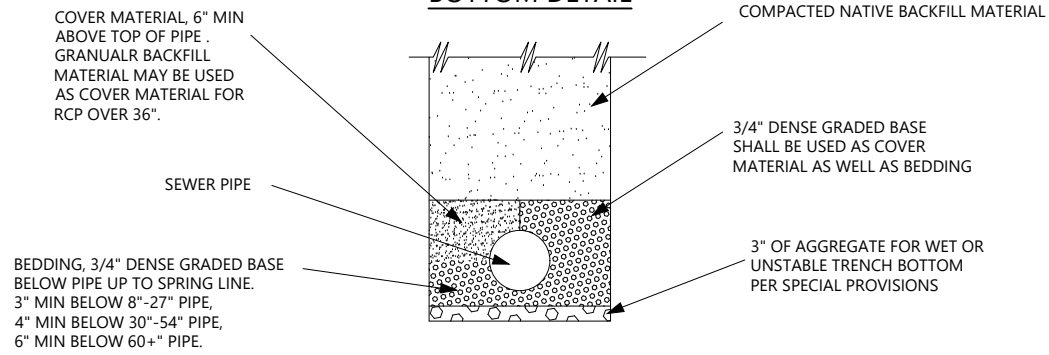


- NOTES:**
- ① PROTECT/STABILIZE UTILITY POLE  
COORDINATE WITH UTILITY COMPANY
  - ② PROTECT TREE
  - GRAVEL ALLEY
  - ASPHALT
  - CONCRETE SIDEWALK 4-INCH
  - TOPSOIL & HYDROSEEDING

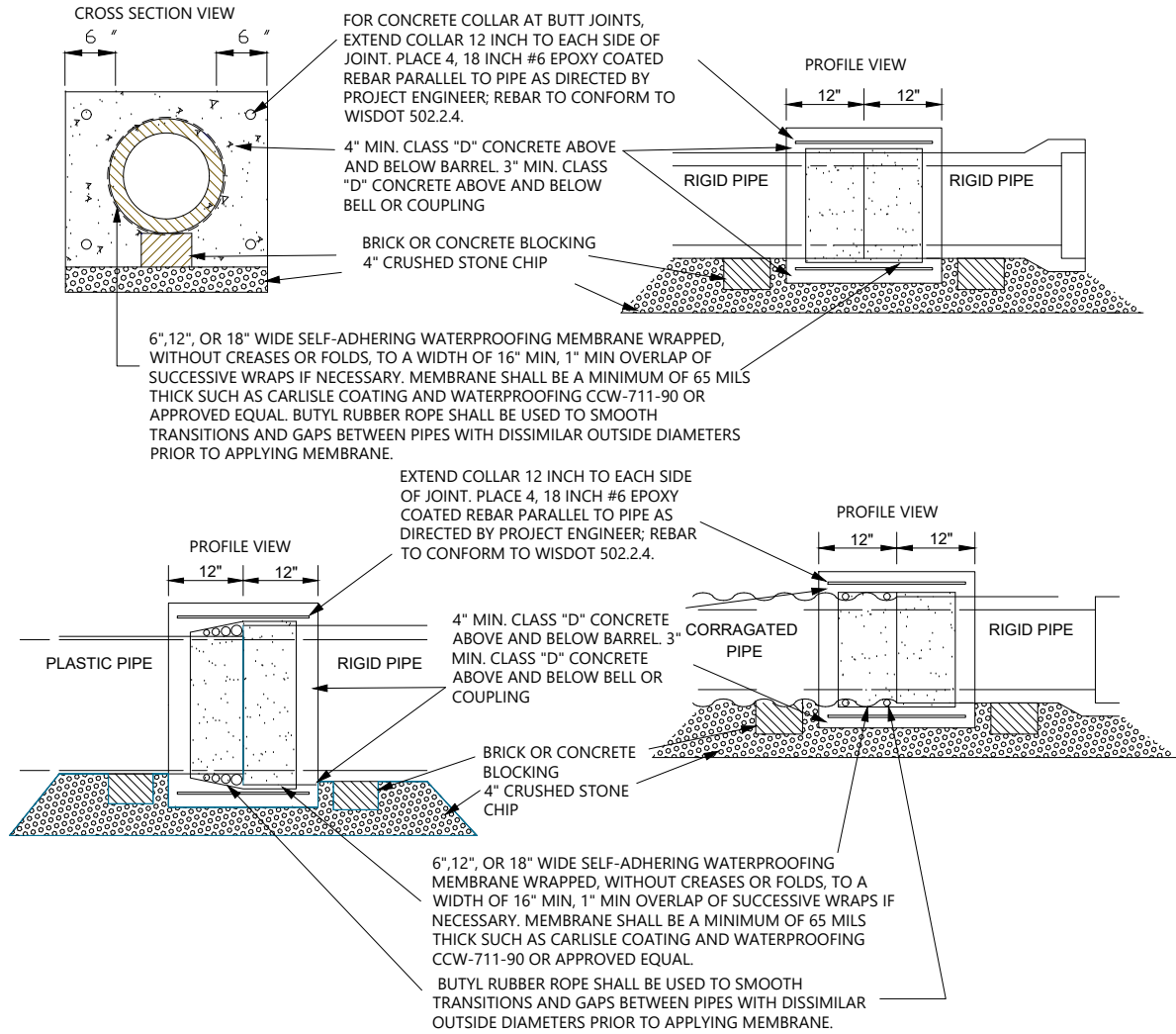


SANITARY STRUCTURES			
ID	ELEVATIONS	TYPE	LOCATION
MH1	RIM: 633.73	4-FT DIA. MH	STA: 0+24.80 OFF: 0.01 R
	INV OUT (W): 622.07 (FIELD VERIFY)		
MH2	RIM: 632.66	4-FT DIA. MH	STA: 4+76.53 OFF: 0.04 R
	INV IN (NW): 620.97 (FIELD VERIFY)		
	INV OUT (SE): 620.87 (FIELD VERIFY)		

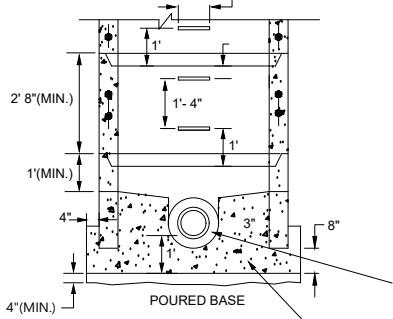
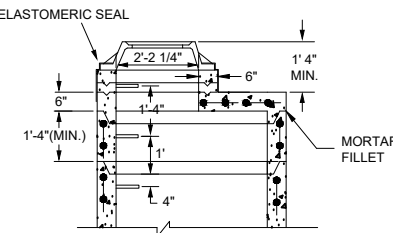
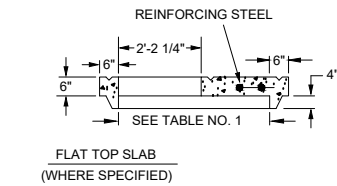
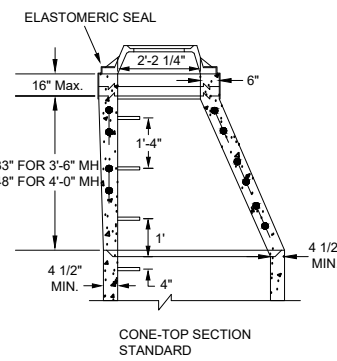
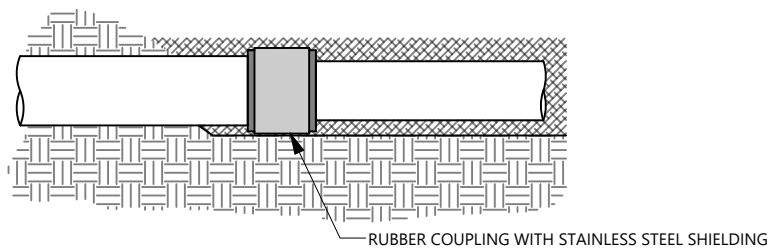
### TYPICAL TRENCH BOTTOM DETAIL



### CONCRETE COLLAR DETAIL 8" - 42" PIPE



### RUBBER COUPLING DETAIL 8" - 27" PIPE



TYPE I FRAME/CHIMNEY JOINT REQUIRED ON ALL SANITARY MANHOLES UNLESS OTHERWISE SPECIFIED. ELASTOMERIC WATERPROOFING SEALER APPLIED TO EXTERIOR AND INTERIOR CHIMNEY SEAL.

FLAT TOP SLAB MAY ONLY BE USED FOR 5'-0" AND 6'-0" DIA. MANHOLES AND WITH PERMISSION OF THE ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS OR WHERE SHOWN ON THE PLANS. FLAT TOP SLAB MUST HAVE A MINIMUM 6" ADJUSTING RING (1 FULL RING) INSTALLED.

ADJUST FRAME TO GRADE WITH BRICK OR CONCRETE RINGS OF VARIABLE THICKNESS, MAXIMUM RING HEIGHT = 6", MINIMUM RING HEIGHT = 2". CONCRETE RINGS SHALL BE REINFORCED WITH ONE LINE OF STEEL CENTERED WITHIN THE RING. WHERE NECESSARY, RINGS SHALL BE GROOVED TO RECEIVE STEP. THE CHIMNEY SHALL BE CONSTRUCTED SO THAT AS FEW ADJUSTING RINGS AS POSSIBLE SHALL BE USED TO BRING MANHOLE TO GRADE.

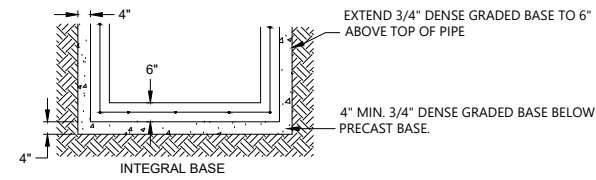
CONCRETE AND STEEL REINFORCEMENT SHALL CONFORM TO DESIGNATION C-478 REQUIREMENTS OF ASTM SPECIFICATIONS.

JOINTS SHALL BE WATERTIGHT AND SHALL BE MADE USING BUTYL RUBBER GASKETS. ALL JOINTS SHALL CONFORM TO ASTM-C443 VARIATIONS IN DIAMETER, DEFECTIVE OR DAMAGED ENDS, OR OTHER CONDITIONS WHICH, IN THE OPINION OF THE PROJECT ENGINEER, PREVENT MAKING A SATISFACTORY JOINT SHALL BE CONSIDERED CAUSE FOR REJECTION.

AREA OF CIRCUMFERENTIAL STEEL = 0.12 SQ INCH PER LINEAL FOOT.

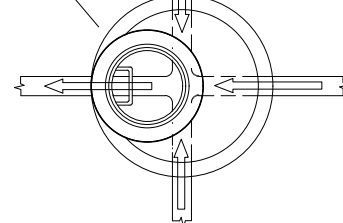
4" MIN. 3/4" DENSE GRADED BASE UNDER CONCRETE BASE.

PRECAST BASE RISER SECTION WITH A SEPARATE PRECAST BASE SLAB SHALL NOT BE CONSIDERED GENERALLY ACCEPTABLE UNDER THIS SPECIFICATION.



THE STEPS, FRAME, AND COVER SHALL BE CENTERED OVER THE DISCHARGE PIPE.

STANDARD TOP VIEW



THE FLOW CHANNEL THROUGH MANHOLES SHALL BE MADE TO CONFORM TO THE SHAPE AND SLOPE OF THE SEWERS AND SHALL EXTEND VERTICALLY FROM THE SPRINGLINE TO THE CROWN OF THE DISCHARGE PIPE. THE THROUGH MANHOLE FLOW CHANNEL SHALL BE THE SAME DIAMETER AS THE LARGER OF THE ADJOINING SEWERS.

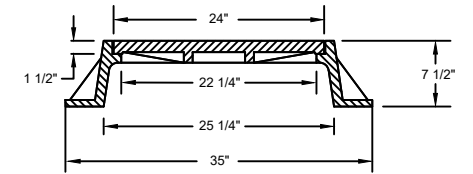
BENCH SLOPE {  
STORM MANHOLE 1 INCH PER FOOT  
SANITARY MANHOLE 2 INCH PER FOOT

SPACE BETWEEN PIPE AND PRECAST MANHOLE WALL TO BE FILLED WITH BRICK MORTARED IN PLACE EXCEPT THAT AN APPROVED FLEXIBLE WATERTIGHT PIPE TO MANHOLE SEAL IS REQUIRED FOR ALL SANITARY SEWER CONNECTIONS. THE ANNULAR SPACE BETWEEN THE PIPE AND MANHOLE WALL SHALL BE FILLED WITH FLEXIBLE BUTYL RUBBER GASKET MATERIAL. CLASS "D" CONCRETE, 12" MIN. BELOW BOTTOM OF PIPE

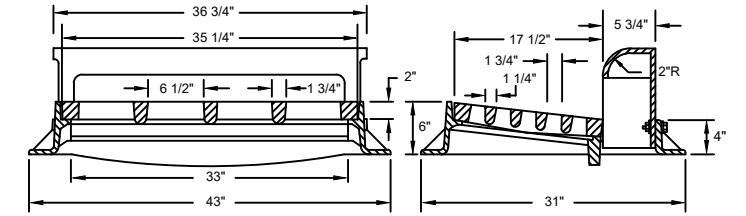
### PRECAST MANHOLE

PIPE DIA	MANHOLE DIA	WALL THICKNESS
8" THRU 30"	4'-0"	5"
36"	5'-0"	6"
42"	6'-0"	7"

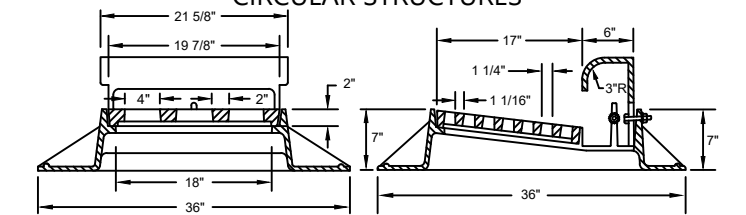
### MANHOLE CASTING DIMENSIONS



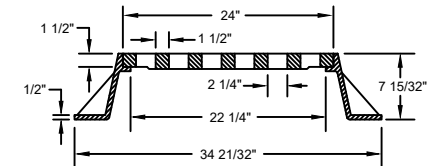
### TYPICAL CURB INLET CASTING DIMENSIONS FOR RECTANGULAR STRUCTURES



### TYPICAL CURB INLET CASTING DIMENSIONS FOR CIRCULAR STRUCTURES



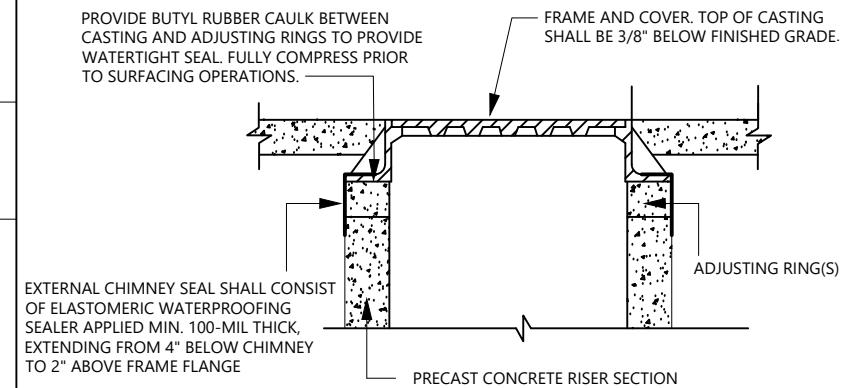
### CASTING DIMENSIONS FOR GRATED MANHOLE COVERS AND CIRCULAR INLETS IN NON-CURB INSTALLATIONS



ALL MANHOLE CASTINGS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-48, CLASS NO. 30-B AND SHALL BE FREE FROM CRACKS, HOLES, SWELLS, AND COLD SHUTS.

COVERS SHALL BE "SELF-SEALING", "T-SEAL" OR "GASKET SEALED" COVERS WITH "SANITARY" OR "STORM" LABELS AS APPLICABLE, OR OTHER LABELS APPROVED AS EQUAL.

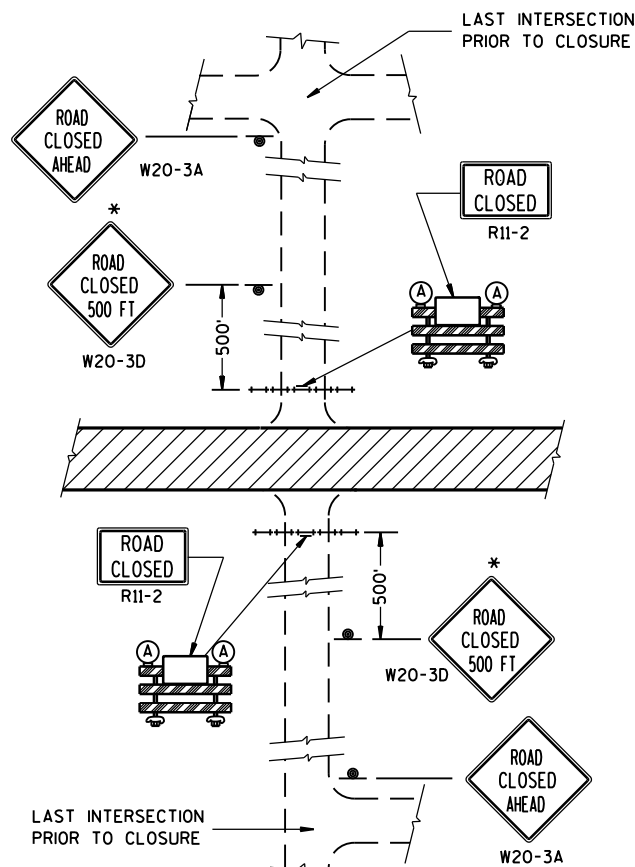
### EXTERNAL CHIMNEY SEAL



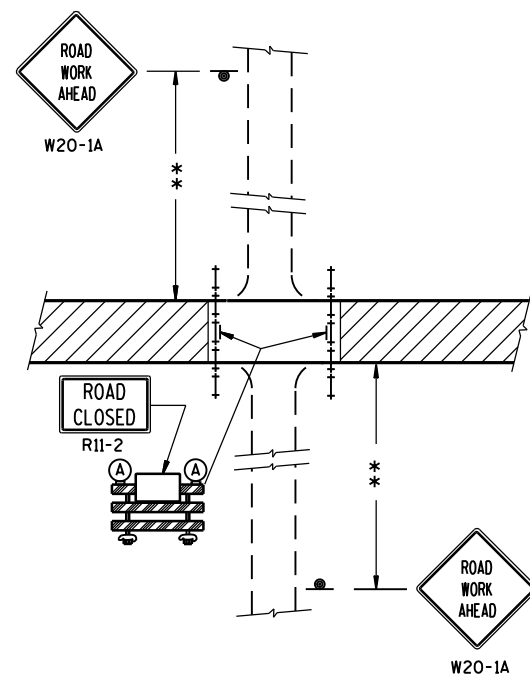




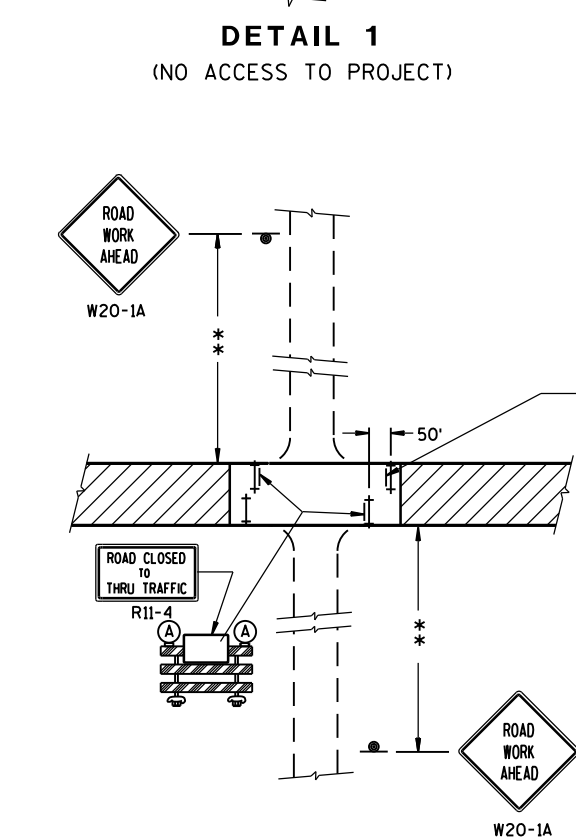
# 15C3: Barricades and Signs for Sideroad Closures



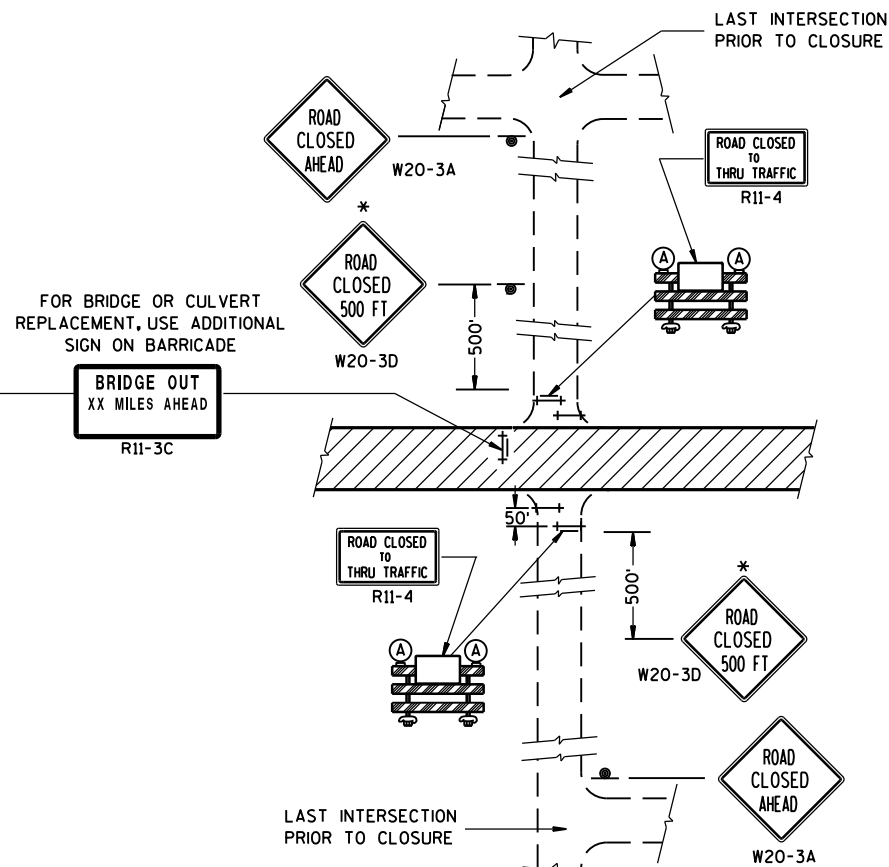
**DETAIL 1**  
(NO ACCESS TO PROJECT)



**DETAIL 2**  
(PUBLIC CROSS-TRAFFIC MAINTAINED.  
NO ACCESS TO PROJECT).



**DETAIL 3**  
(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR,  
LOCAL BUSINESS AND RESIDENT ACCESS).



**DETAIL 4**  
(CONTRACTOR, LOCAL BUSINESS AND  
RESIDENT ACCESS TO PROJECT)

## GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3 AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

R11-2 SHALL BE 48" X 30".

R11-4 AND R11-3 SHALL BE 60" X 30".

\*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

\*\*500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

## LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

### BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE: Sept. 2015 /S/ Peter Amakobe Atepe  
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER  
FHWA