

**TWIN CITY WATER AND SEWER DISTRICT EAST 1ST ST., UHRICHSVILLE, OHIO
TUSCARAWAS COUNTY, OHIO
PROPOSED
WATER MAIN AND PAVEMENT RESURFACING**

ADDENDUM # 1

**JANUARY 20, 2021
Thrasher Project #101-010-10014**

TO WHOM IT MAY CONCERN:

The following are revisions, clarifications and alternates.

CLARIFICATIONS:

1. **THE BID FORM HAS BEEN REVISED. YOU MUST USE THE REVISED BID FORM WHEN PREPARING YOUR BID PACKAGE FOR THIS PROJECT.**
2. BID Form
 - Added Polypropylene storm pipe as an alternative to RCP for all 42", all 30" and 18" from CB-3 to MH-3
 - Changed quantity of Tack Coat from 560 Gal to 983 Gal
 - Removed the line item for Storm Sewer Manhole, Type 3, 72"
 - Changed quantity of Storm Sewer Manhole, Type 3, 96" from 2 to 3 EA
 - Changed Item "Catch Basin with Manhole, 60" Base Columbus AA-121 w/AA-S42 Grate" to "48" Storm Sewer Inlet/Manhole Type AA-121"
3. 012000- Price and Procedure Technical Specification
 - Added Section G: Unit Price Alternates
4. 334113- Public Storm Utility Drainage Piping
 - Added Section 2.1.B: Allowing Polypropylene pipe
5. Plan Sheet 1: Cover
 - Added Twin City Water and Sewer District address
6. Plan Sheet 5: Quantities
 - Revised Structure Table
 - Changed Tack Coat quantity from 560 Gal to 983 Gal
 - Changed Sanitary Manhole, Type 3 from 4 Each to 1 Each
 - Changed Sanitary Manhole, Type 3 with drop from 1 Each to 4 Each
 - Changed Sanitary Manhole Removed from 2 to 3 Each

- Changed 8” PVC SDR-35 from 550 LF to 238 LF
7. Plan Sheet 15: Storm Sewer Profiles
 - Added storm sewer text
 8. Plan Sheet 16: Sanitary Sewer Profiles
 - Removed the text “Remove and Replace” from sanitary manholes A,B,C and E
 - Revised existing sanitary text
 9. Plan Sheet 19: Standard Details
 - Changed waterline trench detail with crushed stone cover to sand
 10. Plan Sheet 20: Standard Details
 - Changed Utility Trench Detail label to read Storm/Sanitary Utility Detail
 11. Plan Sheet 22: Standard Details
 - Added Sanitary Manhole Drop Structure detail
 12. Plan Sheet 24: Standard Details
 - Added Catch Basin/Manhole #4 Detail
 - Changed the max outlet diameter for MH#4 Detail from 24” to 30”

QUESTIONS AND RESPONSES:

QUESTION

1. Do we need engineered pumping plans?

RESPONSE

No.

2. What are the flow rates of the different sanitary pipes?

RESPONSE

Unknown

3. The san schedule has 4 ea manholes and 1 ea drop manhole (sht 5), then on the san profiles (sht 16) basically all the manholes are detailed as drop manholes. Are they all to be drop manholes?

RESPONSE

There will be 4 drop MHs and 1 conventional MH. San schedule has been adjusted.

4. What is detail of the drop manholes, will they be interior or exterior style drops?

RESPONSE

See revised sheet 22.

5. On stm manhole 1 with the dual 36" lines, will this fit into a 96" manhole with the separation? Possible for a square structure be used in this location to get the pipes to fit into the structure as not to remove so much of the structure?

RESPONSE

The dual 36" lines are VCP and are butt against each other. In a future project, Twin City wishes to replace these lines with one pipe. The contractor shall connect these lines to the proposed 96" manhole as directed in the field.

6. Is catch basin #3 to be the ODOT #3?

RESPONSE

Yes

7. Catch #4, can this be modified to be a 48" dia with a 30" pipe leaving the structure at an angle?

RESPONSE

See Revised Sheet 24. A 48" I.D. (60" O.D.) manhole shall be used according to City of Columbus Standard Drawing AA-S121 Curb Inlet Manhole. The detail has been modified for this project to allow a 30" pipe outlet.

8. Manhole number three will need to be larger than 72" dia as the pipe holes for the 42" rcp pipe will overlap by 5-6" as the pipe is at 90 degrees.

RESPONSE

MH#3 has been upsized to 96" I.D. for more conservative construction tolerances.

9. Can sand be used in place of gravel for bedding material for waterline, sanitary and storm water piping? Per drawing waterline trench detail on page 19 and utility trench detail page 20.

RESPONSE

See revised sheet 19.

10. Is the Type 6 curb line item to be used for service line replacement and hydrant replacement? Can it be used for curb replacement for main line installation?

RESPONSE

This line item is separate from curb work related to service line.

11. Will Type 4-C curb line be used to replace curb at location storm manhole #2 to CB4? It will be removed when this 30 in storm is installed?

RESPONSE

Curb removed for 30" storm line construction from MH#2 to CB#4 shall be replaced using the appropriate ODOT curb type, as shown on Sheet 25.

12. Is the line item for sidewalk repair include the private service line item if concrete needs to be replaced on private side or do you have to include sidewalk repair in the private service line item?

RESPONSE

The line item for sidewalk does not pertain to LSL replacement.

13. On the plans do the NON-LSL mean on the city side between main and shutoff? Could you clarify more?

RESPONSE

Yes, all services are to be replaced to the shutoff.

If you have any questions or comments, please feel free to contact me at your earliest convenience. As a reminder, bids will be received until 1:30 p.m. on Wednesday, January 27, 2021 at 125 E High Ave, New Philadelphia, OH, 44663. Good luck to everyone and thank you for your interest in the project.

Sincerely,
THE THRASHER GROUP, INC.


Project Manager



ARTICLE 5 – BASIS OF BID

GENERAL

The Bidder shall take notice of and shall be responsible for any local or state taxes levied and applicable, and the cost for the same shall be included as part of the submitted Bid.

The total Bid cost stated includes a complete operating installation including furnishing and installation of any and all changes or additions in plans, piping, mechanical work, additional electrical work, accessories, controls, etc. necessary to accommodate alternative equipment systems or materials used in construction.

BID PROPOSAL

The Bidder agrees to perform all required Work described in the detailed Specifications and as shown on the Plans for the complete construction and placing in satisfactory operation the CONTRACT #PY – 2019 CDBG #B-X-19-1CT-1. The Project "Sequence of Construction" has been detailed in the Drawings and Specification Division 1, Project Summary, Section 1010, Part-2 Execution. The Bidder agrees to perform all the Work proposed for the total of the following Bid prices.

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

**PROPOSED
CONTRACT #PY – 2019 CDBG #B-X-19-1CT-1
FOR THE**

**TUSCARAWAS COUNTY COMMISSIONERS
TUSCARAWAS COUNTY, OHIO**

BID SCHEDULE

East 1st Street Roadway Improvements

Item #	ODOT	Qty.	UNIT	DESCRIPTION	UNIT PRICE	TOTAL PRICE
1	254	3247	SY	1½” Pavement Planing, 6’ off curb		
2	407	983	GAL	Tack Coat		
3	441	517	CY	1½” Asphalt Surface Course, Type 1		
4	452	1128	SY	9” Non-Reinforced Concrete Base		
5	608	1800	SF	Sidewalk Repair		
6	614	1	LS	Maintenance of Traffic		
7	623	1	LS	Construction Layout		
8	624	1	LS	Mobilization		

Item #	ODOT	Qty.	UNIT	DESCRIPTION	PRICE	TOTAL PRICE
9	659	1	LS	Seeding and Mulching		
10	832	1	LS	Temp Sediment and Erosion Control		
11	SPEC	1	LS	Videotaping of Project Area		

ROADWAY TOTAL _____

East 1st Street Waterline Improvements

Item #	ODOT	Qty.	UNIT	DESCRIPTION	UNIT PRICE	TOTAL PRICE
12	638	2543	LF	12" DR11, HDPE D.I.P.S. Water Main		
13	638	343	LF	6" DR11, HDPE D.I.P.S. Water Main		
14	638	1	EA	12" x 12" Tee, Valve & Valve Box		
15	638	8	EA	12" Gate Valve		
16	638	6	EA	6" Gate Valve		
17	638	4	EA	6" Fire Hydrant Assembly		
18	638	4	EA	Fire Hydrant Removed		
19	638	65	EA	¾" Copper Service Lateral (Public Lead Service Replacement)		
20	638	65	EA	¾" Copper Service Lateral (Private Lead Service Replacement)		
21	638	2	EA	1" Copper Service Lateral (Lead Service Replacement)		

WATERLINE TOTAL _____

East 1st Street Sanitary Improvements

Item #	ODOT	Qty.	UNIT	DESCRIPTION	UNIT PRICE	TOTAL PRICE
22	202	3	EA	Sanitary Manhole Removed		
23	611	1	EA	Sanitary Manhole, Type 3		
24	611	4	EA	Sanitary Manhole, Type 3 w/ Drop		
25	611	238	LF	8" PVC SDR-35 Sanitary Main		
26	SPEC	5	EA	Sanitary Tie-in		

SANITARY TOTAL _____

East 1st Street Storm Improvements

Item #	ODOT	Qty.	UNIT	DESCRIPTION	UNIT PRICE	TOTAL PRICE
27	202	4	EA	Catch Basin Removed		
28	202	1	EA	Storm Manhole Removed		
29	609	115	LF	Curb Repair, Type 4C		
30	609	60	LF	Curb Repair, Type 6		
31	611	3	EA	Storm Sewer Manhole, Type 3, 96"		
32	611	1	EA	48" Storm Sewer Inlet/Manhole Type AA-121		
33	611	1	EA	Catch Basin, Type 3		
34	611	2	EA	Catch Basin, Type 3A		
35	611	115	LF	4" Curb Underdrain		
36	611	122	LF	42" RCP Storm Pipe		

Item #	ODOT	Qty.	UNIT	DESCRIPTION	UNIT PRICE	TOTAL PRICE
37	611	30	LF	30" RCP Storm Pipe		
38	611	114	LF	18" RCP Storm Pipe		
39	SPEC	4	EA	Storm Tie-in		

STORM TOTAL _____

TOTAL BID ACTIVITY _____

STORM ALTERNATES

Item #	ODOT	Qty.	UNIT	DESCRIPTION	UNIT PRICE	TOTAL PRICE
1	611	122	LF	42" Polypropylene Storm Pipe		
2	611	30	LF	30" Polypropylene Storm Pipe		
3	611	20	LF	18" Polypropylene Storm Pipe (CB-3 to MH-3)		

ALTERNATE STORM TOTAL _____

TOTAL ALTERNATE BID ACTIVITY _____

East 1st St. Water Line Improvements 101-010-10014 & 101-025-10009

and shall be measured in the horizontal plane along the centerline of each pipe installed, measured from the face of manhole to face of manhole.

38. Bid Item 38 – 30” RCP Gravity Storm Pipe
- a. The Bid Item shall include all required labor, materials, equipment and all other costs associated with the complete installation of 30-inch RCP Gravity Storm Pipe including, but not limited to, excavation, bedding, backfill, materials, fittings, pipe joints, pipe, tools, supplies, testing, and incidentals.
 - b. The storm pipe installed under this item shall be measured and paid for at the unit price Bid per linear foot of pipe of each type and size as specified on Drawings or as directed by Engineer, and installed complete in place. The measurement under this item shall be the length of pipe and fittings as installed in place and accepted and shall be measured in the horizontal plane along the centerline of each pipe installed, measured from the face of manhole to face of manhole.
39. Bid Item 39 – 18” RCP Gravity Storm Pipe
- a. The Bid Item shall include all required labor, materials, equipment and all other costs associated with the complete installation of 18-inch RCP Gravity Storm Pipe including, but not limited to, excavation, bedding, backfill, materials, fittings, pipe joints, pipe, tools, supplies, testing, and incidentals.
 - b. The storm pipe installed under this item shall be measured and paid for at the unit price Bid per linear foot of pipe of each type and size as specified on Drawings or as directed by Engineer, and installed complete in place. The measurement under this item shall be the length of pipe and fittings as installed in place and accepted and shall be measured in the horizontal plane along the centerline of each pipe installed, measured from the face of manhole to face of manhole.
40. Bid Item 40– Tie-Into Existing Storm
- a. This Bid Item shall include all costs associated with connecting to existing structures.
 - b. The Bid Item shall include, but not be limited to, costs such as labor and materials required, fittings and incidental pipe, to make the proper connection.

G. Unit Price Alternates

1. Storm Alternate 1 – 42” Polypropylene Storm Pipe

- a. **The Bid Item shall include all required labor, materials, equipment and all other cost associated with the complete installation of 42” Polypropylene Gravity Storm Pipe including, but not limited to, excavation, bedding backfill, materials, fittings, pipe, joints, tools, supplies, testing, and incidentals.**
- b. **The storm pipe installed under this item shall be measured and paid for at the unit price Bid per linear foot of pipe of each type and size as specified on Drawings or as directed by Engineer, and installed complete in place. The measurement under this item shall be the length of pipe and fittings as**

East 1st St. Water Line Improvements 101-010-10014 & 101-025-10009

installed in place and accepted and shall be measured in the horizontal plane along the centerline of each pipe installed, measured from the face of manhole to face of manhole.

- 2. Storm Alternate 2 – 30” Polypropylene Storm Pipe**
 - a. The Bid Item shall include all required labor, materials, equipment and all other cost associated with the complete installation of 30” Polypropylene Gravity Storm Pipe including, but not limited to, excavation, bedding backfill, materials, fittings, pipe, joints, tools, supplies, testing, and incidentals.**
 - b. The storm pipe installed under this item shall be measured and paid for at the unit price Bid per linear foot of pipe of each type and size as specified on Drawings or as directed by Engineer, and installed complete in place. The measurement under this item shall be the length of pipe and fittings as installed in place and accepted and shall be measured in the horizontal plane along the centerline of each pipe installed, measured from the face of manhole to face of manhole.**

- 3. Storm Alternate 3 – 18” Polypropylene Storm Pipe (CB-3 to MH-3)**
 - a. The Bid Item shall include all required labor, materials, equipment and all other cost associated with the complete installation of 18” Polypropylene Gravity Storm Pipe including, but not limited to, excavation, bedding backfill, materials, fittings, pipe, joints, tools, supplies, testing, and incidentals.**
 - b. The storm pipe installed under this item shall be measured and paid for at the unit price Bid per linear foot of pipe of each type and size as specified on Drawings or as directed by Engineer, and installed complete in place. The measurement under this item shall be the length of pipe and fittings as installed in place and accepted and shall be measured in the horizontal plane along the centerline of each pipe installed, measured from the face of manhole to face of manhole.**

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION 012000

B. Plastic Piping:

1. Pipe:

- a. Comply with ODOT 707.65.**
- b. Material: Corrugated Polypropylene.**
- c. Type: Smooth interior.**

2. Joints: Bell and Spigot.

2.2 CONCRETE ENCASUREMENT AND CRADLES

A. Concrete:

- 1. Description: Reinforced concrete, as specified in Section 033000 - Cast-in-Place Concrete.
- 2. Compressive Strength: 3,000 psi at 28 days, reinforced concrete, air-entrained rough-troweled finish.

B. Reinforcement: As specified in Section 032000 - Concrete Reinforcing.

2.3 MATERIALS

A. Bedding and Cover:

- 1. Bedding: Pipe Bedding (Gravel) - Conforming to the ODOT #57 aggregate., as specified in Section 310516 - Aggregates for Earthwork.
- 2. Cover: ODOT #57s, as specified in Section 310516 - Aggregates for Earthwork.
- 3. Soil Backfill from above Pipe to Finish Grade: ODOT 304, as specified in Section 310513 - Soils for Earthwork.

B. Subsoil: No rocks more than 6 inches in diameter, frozen earth, or foreign matter.

2.4 MIXES

A. Grout: As specified in Section 036000 - Grouting.

B. Concrete Encasements and Cradles:

- 1. Type I or II concrete, as specified in Section 033000 - Cast-in-Place Concrete.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 017000 - Execution and Closeout Requirements: Requirements for installation examination.

TWIN CITY WATER AND SEWER DISTRICT EAST 1st STREET, UHRICHSVILLE, OHIO WATER MAIN AND PAVEMENT RESURFACING TUSCARAWAS COUNTY, OHIO DECEMBER 2020

PROJECT DESCRIPTION:
REPLACEMENT OF 2543 L.F. OF 12" WATER MAIN IN CONJUNCTION WITH STORM AND SANITARY IMPROVEMENTS. AN OHIO EPA GRANT FOR THE TWIN CITY DISTRICT IS AVAILABLE TO REPLACE PRIVATE-SIDE LEAD SERVICE LINES, AT NO COST TO THE PROPERTY OWNERS. THE ROADWAY WITHIN THE CONSTRUCTION WORK LIMITS SHALL HAVE 1.5" ASPHALT PAVEMENT RESURFACING.

2019 SPECIFICATIONS:
THE STANDARD SPECIFICATIONS FOR THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

TWIN CITY WATER AND SEWER DISTRICT OFFICIALS

- ELAINE AFFOLTER - CHAIRMAN
- WALTER S. HINES, IV - VICE CHAIRMAN
- NATHAN B. DAVIS - TREASURER
- ROBERT RECTANUS - SECRETARY
- DONNIE FAWCETT - SUPERINTENDENT
- ROB HENRY - ASSISTANT SUPERINTENDENT
- J.J. ONG - LEGAL COUNSEL

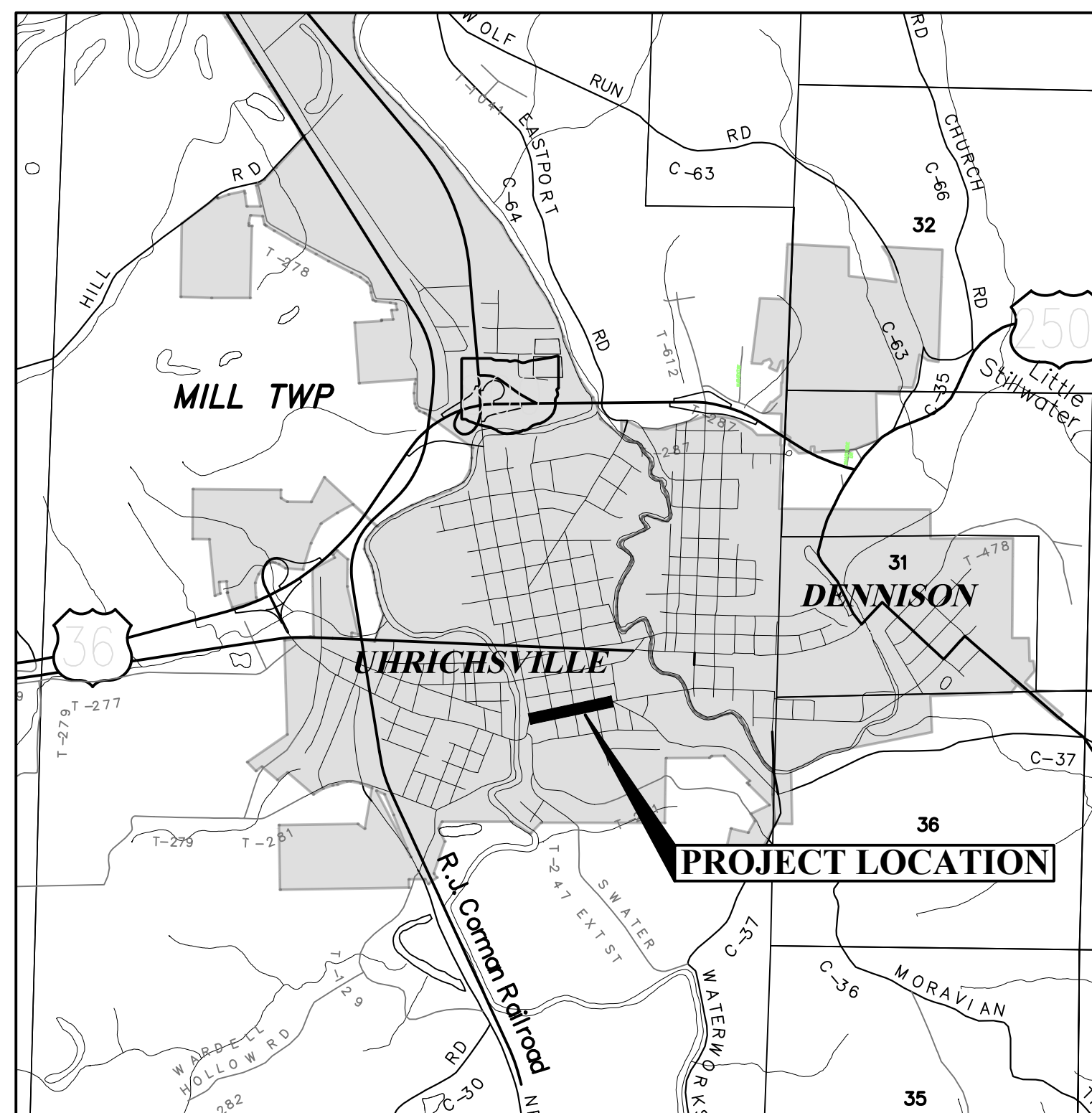
ADDRESS:
308 GRANT STREET
DENNISON, OH 44621
(740)922-1460

APPROVALS

ELAINE AFFOLTER, CHAIRMAN DATE

SHEET INDEX

TITLE SHEET	1
GENERAL NOTES	2-4
SUMMARY OF QUANTITIES	5
TYPICAL PAVEMENT SECTION	6
PAVING PLAN	7
WATERLINE PLAN AND PROFILE	8-14
STORM SEWERS PROFILES	15
SANITARY SEWERS PROFILES	16
WATERLINE TIE-IN DETAILS	17-18
STANDARD DETAILS	19-25



VICINITY MAP

UNDERGROUND UTILITIES	
CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.	
 OHIO Utilities Protection SERVICE <small>(Non-members must be called directly)</small>	<small>CALL BEFORE YOU DIG</small> 1-800-362-2764
OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE	
1-800-925-0988	

SCOTT A. WANGLER, P.E. #65003

DATE

CAD FILE: R:\010\010-10014 - EAST 1ST STREET - TWIN CITY WATER AND SEWER DISTRICT\Drawing\010-10014_Cover.dwg PLOT DATE/TIME: 1/19/2021 2:21 PM USER: joseph_a_bishop

STRUCTURE TABLE

STRUCTURE	ODOT TYPE	RIM	INVERT	NOTES
STORM SEWER				
CB#1	3A	851.55	846.32	REMOVE EXISTING
CB#2	3A	851.15	848.19	REMOVE EXISTING
CB#3	3	851.70	847.70	REMOVE EXISTING
CB#4	NA (48")	851.39	845.64	COLUMBUS MH/INLET DTL. AA-S121, REMOVE EXISTING
MH#01	3, (96")	851.05	844.11	REMOVE EXISTING
MH#02	3, (96")	851.69	845.45	
MH#03	3, (96")	852.01	844.95	
SANITARY SEWER				
MH'A'	3	851.53	845.35	WITH DROP STRUCTURE
MH'B'	3	851.65	844.27	REMOVE EXISTING WITH DROP STRUCTURE
MH'C'	3	851.44	846.80	WITH DROP STRUCTURE
MH'D'	3	851.92	843.79	REMOVE EXISTING
MH'E'	3	851.77	848.03	REMOVE EXISTING WITH DROP STRUCTURE

SUMMARY OF QUANTITIES

ITEM	GRAND TOTAL	UNIT	DESCRIPTION
MISCELLANEOUS			
207	1	LUMP	TEMPORARY SEDIMENT AND EROSION CONTROL
624	1	LUMP	MOBILIZATION
614	1	LUMP	MAINTAINING TRAFFIC
623	1	LUMP	CONSTRUCTION LAYOUT
659	1	LUMP	SEEDING AND MULCHING
WATER LINE			
638	2543	LF	12" DR11, HDPE WATER MAIN
638	343	LF	6" DR11, HDPE WATER MAIN
638	3	EA	12"x 12" TEE
638	1	EA	6"x6" TEE
638	8	EA	12"x6" TEE
638	8	EA	12" GATE VALVE
638	18	EA	12"-45° BEND
638	2	EA	12" SOLID SLEEVE COUPLING
638	1	EA	10" SOLID SLEEVE COUPLING
638	1	EA	12"x 10" REDUCER
638	6	EA	6" GATE VALVE
638	6	EA	6" SOLID SLEEVE COUPLING
638	1	EA	6" ELECTROFUSED COUPLING
638	10	EA	6"-45° BEND
638	4	EA	HYDRANT ASSEMBLY
638	4	EA	HYDRANT REMOVED
638	65	EA	3/4" COPPER SERVICE BRANCH
638	2	EA	1" COPPER SERVICE BRANCH
ASPHALT PAVEMENT			
441	517	CY	1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448)
254	3247	SY	1.5" PAVEMENT PLANING, ASPHALT CONCRETE
407	983	GAL	TACK COAT (0.08 Gal./SY)
SANITARY SEWER			
611	1	EA	SANITARY MANHOLE, TYPE 3
611	4	EA	SANITARY MANHOLE, TYPE 3 WITH DROP
611	238	LF	8" PVC SDR 35
SPEC	5	EA	SANITARY TIE-IN
202	3	EA	SANITARY MANHOLE REMOVED
STORM SEWER			
202	4	EA	CATCH BASIN REMOVED
202	1	EA	STORM MANHOLE REMOVED
609	60	LF	TYPE 6 CURB REPAIR
609	115	LF	TYPE 4C CURB
611	114	LF	18" RCP STORM PIPE
611	30	LF	30" RCP STORM PIPE
611	122	LF	42" RCP STORM PIPE
611	2	EA	CATCH BASIN TYPE 3A
611	1	EA	CATCH BASIN TYPE 3
611	1	EA	48" STORM SEWER INLET/MANHOLE TYPE AA-S121
611	3	EA	96" STORM SEWER MANHOLE
SPEC	4	EA	STORM TIE-IN

USER: joseph_gotschall

LAYOUT: _1

PLOT DATE/TIME: 1/22/2021 10:02 AM

CAD FILE: R:\010\010-10014 - EAST 1ST STREET - TWIN CITY WATER AND SEWER DISTRICT\Drawing\010-10014 SUMMARY OF QUANT.dwg

1	JAB	1/19/21	ADDENDUM#1 QUANTITY CORRECTIONS TO MANHOLES/TACK COAT
NO.	BY	DATE	DESCRIPTION

SCALE: H: 1" = 20' V: 1" = 5'
DRAWN: DAC DATE: OCTOBER 2020
CHECKED: RSS DATE: OCTOBER 2020
APPROVED: SAW DATE: OCTOBER 2020
SURVEY DATE:
SURVEY BY:
FIELD BOOK No.:

THRASHER

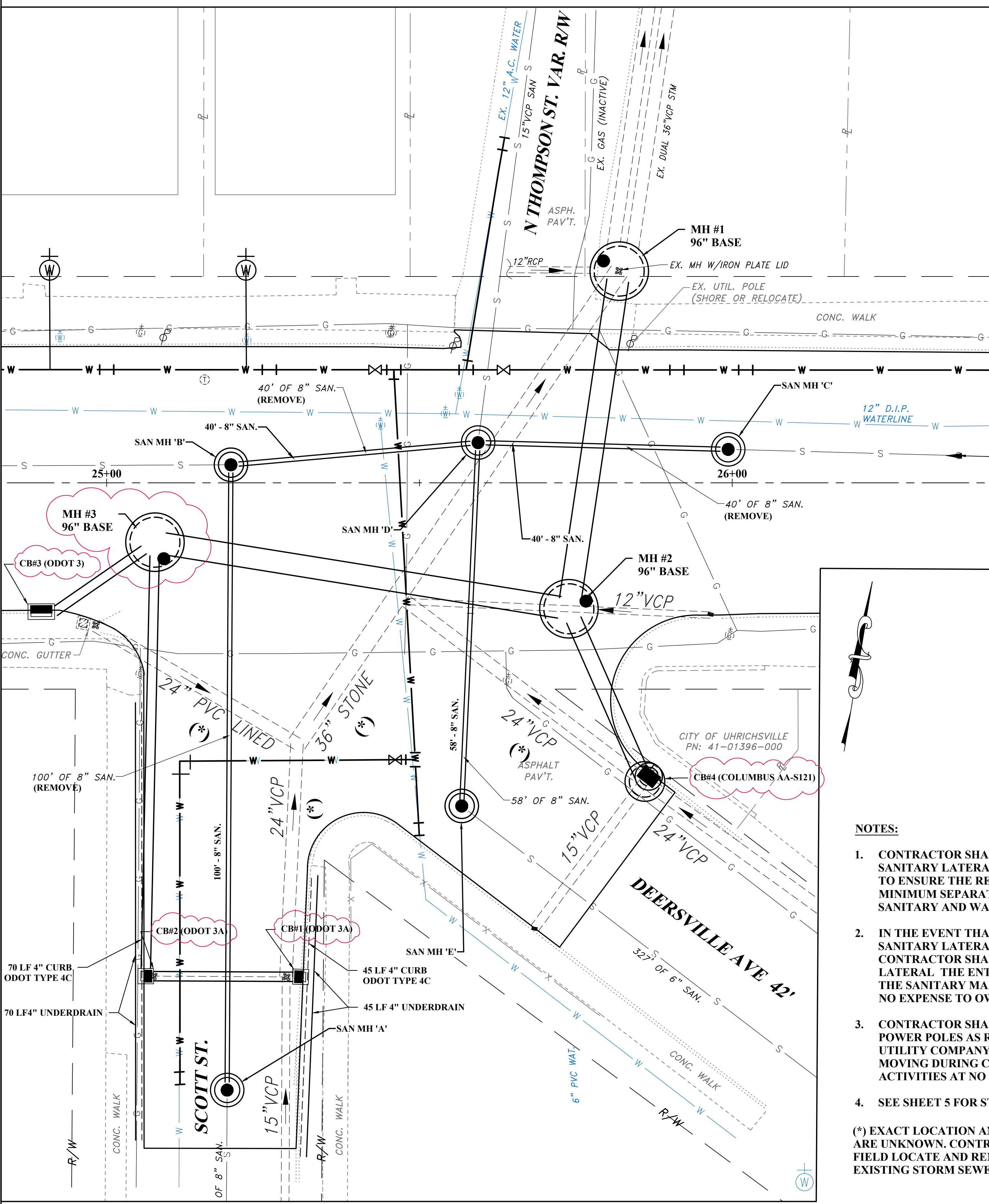
400 3rd STREET SE
CANTON, OHIO 44702
www.thrashereng.com

PHONE (330)-451-2042 FAX (330)-451-2043

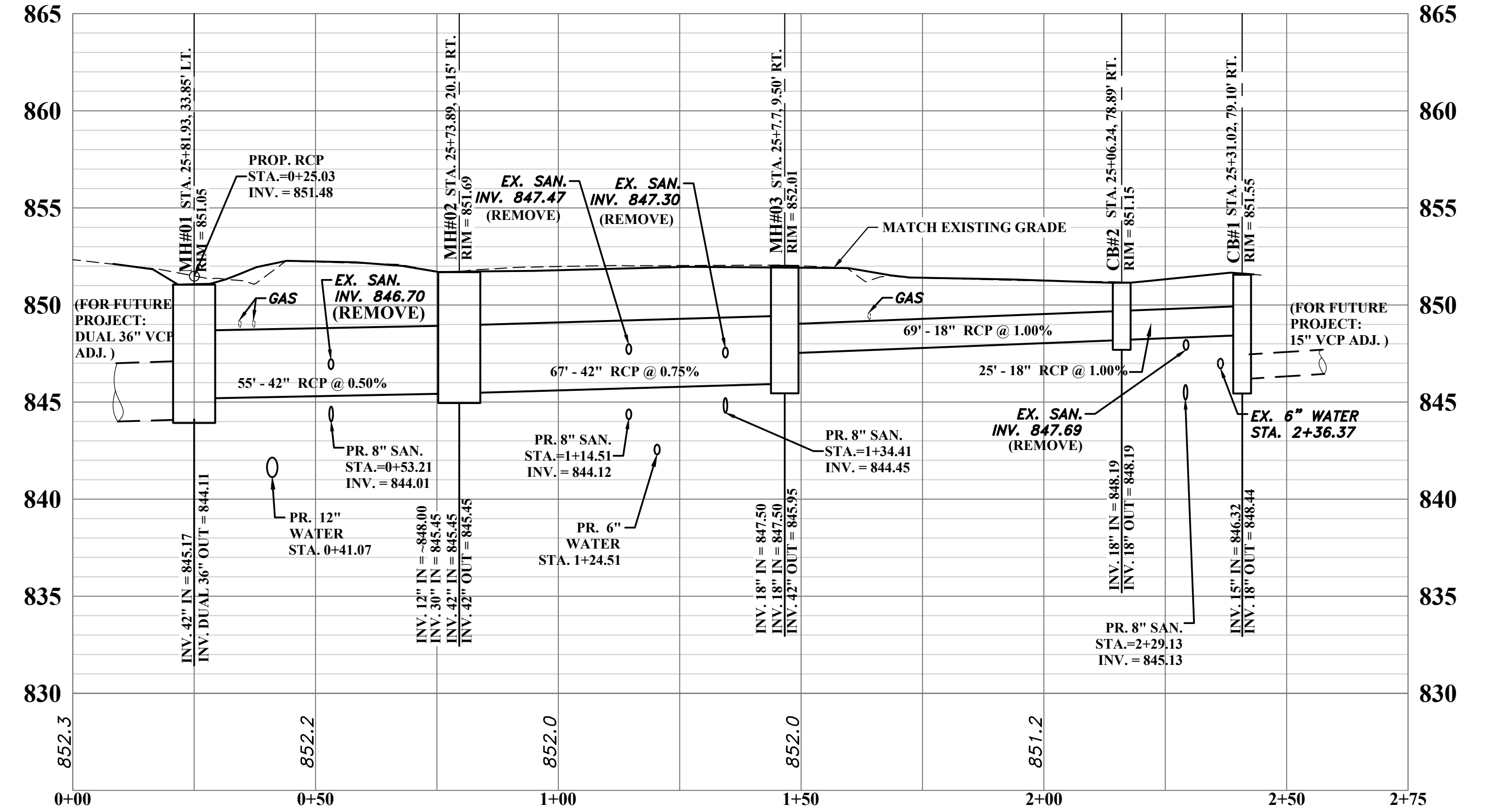
PHASE No.
CONTRACT No.
PROJECT No.
010-10014

TWIN CITY WATER AND SEWER DISTRICT
EAST 1st. STREET, UHRICHVILLE, OHIO
WATER MAIN AND PAVEMENT RESURFACING
TUSCARAWAS COUNTY, OHIO
SUMMARY OF QUANTITIES

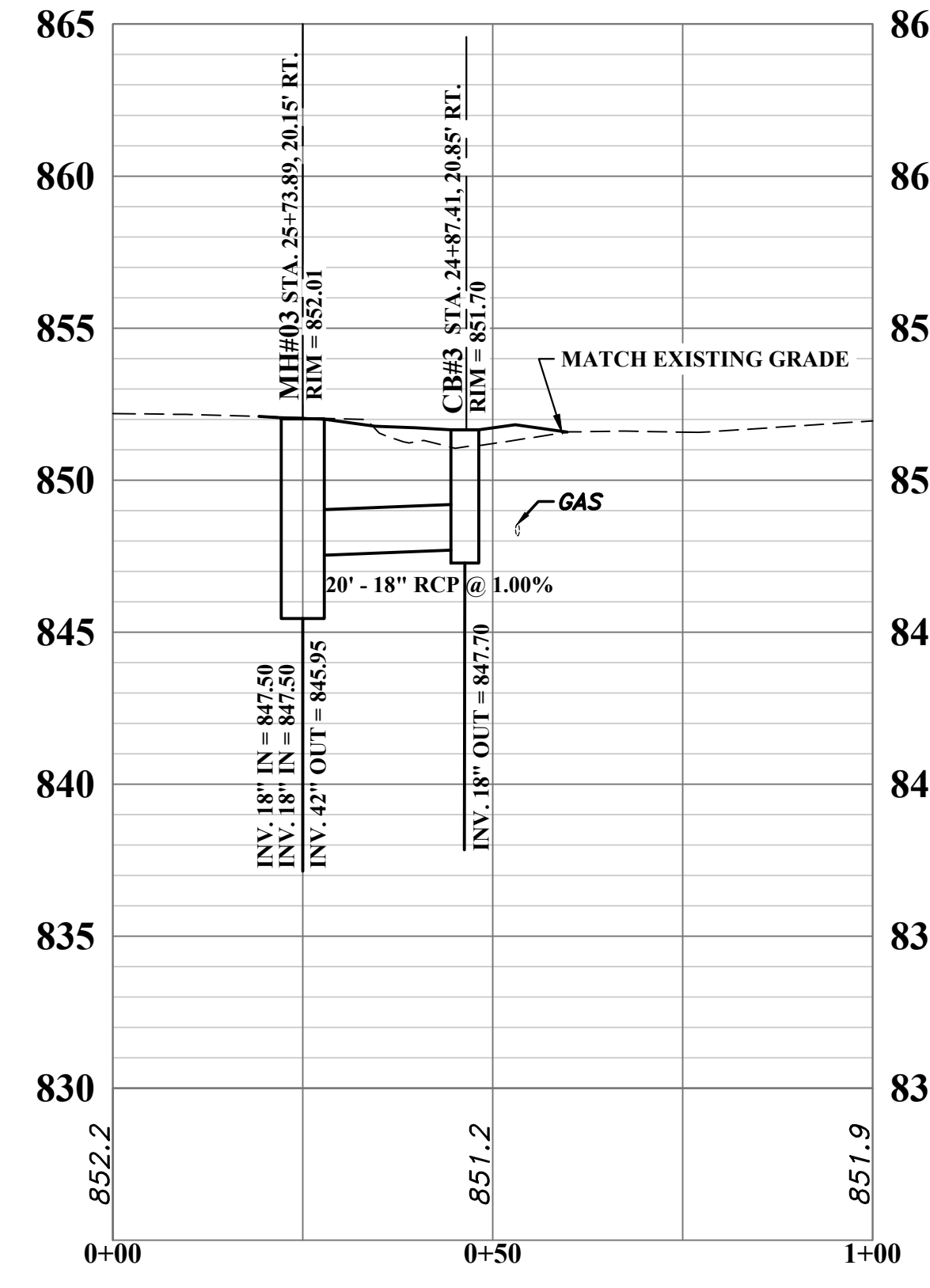
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 PLOT DATE/TIME: 1/21/2021 6:23 PM



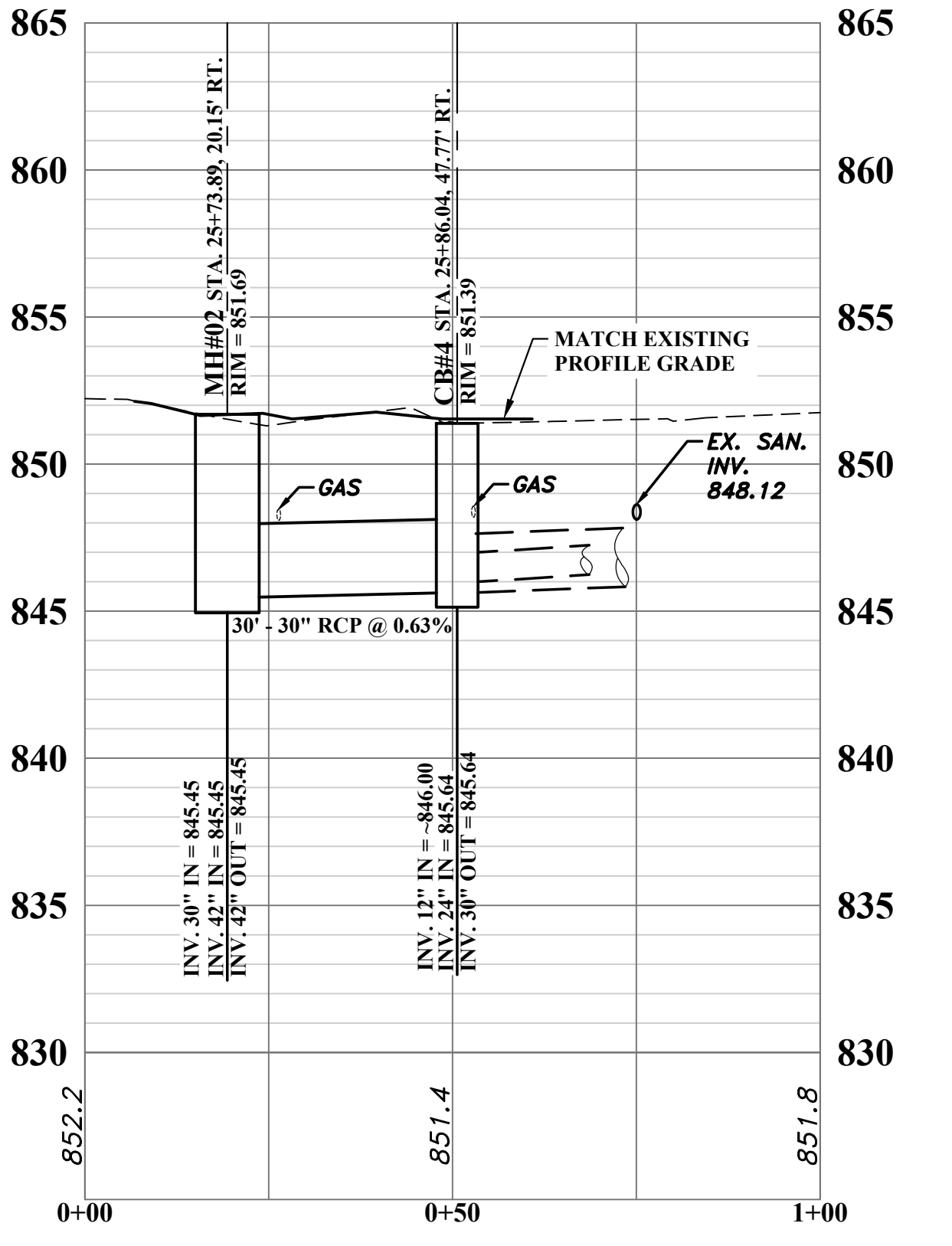
- NOTES:**
- CONTRACTOR SHALL FIELD VERIFY SANITARY LATERAL LINE AND GRADE TO ENSURE THE REQUIRED 1'-6" MINIMUM SEPARATION BETWEEN SANITARY AND WATERLINE IS MET.
 - IN THE EVENT THAT EXISTING SANITARY LATERALS ARE DAMAGED, CONTRACTOR SHALL REPLACE LATERAL THE ENTIRE LENGTH FROM THE SANITARY MAIN TO THE CURB AT NO EXPENSE TO OWNER.
 - CONTRACTOR SHALL SUPPORT ALL POWER POLES AS REQUIRED BY UTILITY COMPANY AND TO PREVENT MOVING DURING CONSTRUCTION ACTIVITIES AT NO EXPENSE TO OWNER.
 - SEE SHEET 5 FOR STRUCTURE TABLE
- (*) EXACT LOCATION AND ELEVATION ARE UNKNOWN. CONTRACTOR SHALL FIELD LOCATE AND REMOVE EXISTING STORM SEWER



STORM PROFILE MH #1 TO CB #1



STORM PROFILE MH#03 TO CB #3



STORM PROFILE MH#02 TO CB #4

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NO.	BY	DATE	DESCRIPTION
1	JAB	1/19/21	ADDENDUM#1 - UPSIZED MH#3 FROM 72" TO 96" I.D.

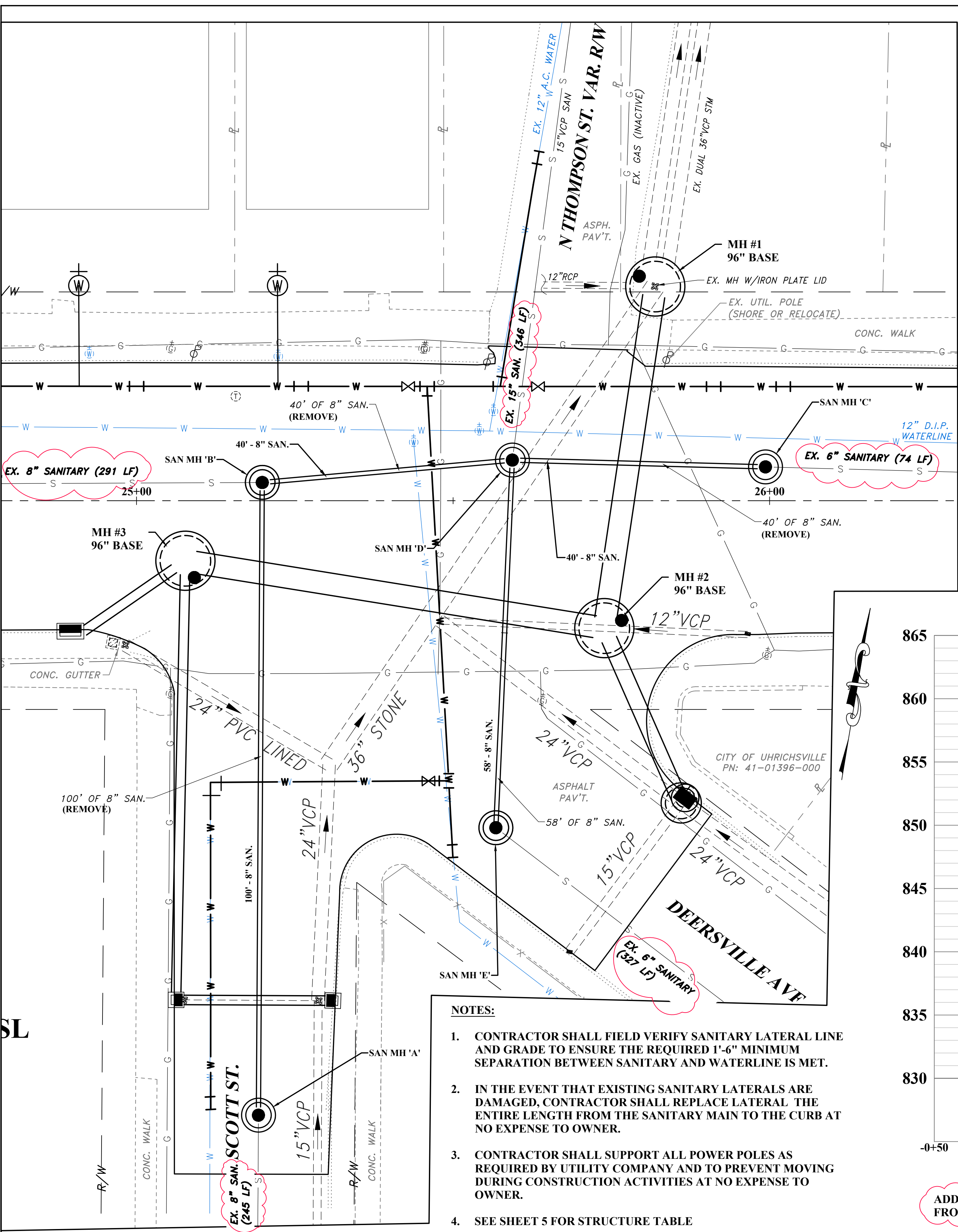
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 DRAWN: DAC DATE: DECEMBER 2020
 CHECKED: JAB DATE: DECEMBER 2020
 APPROVED: SAW DATE: DECEMBER 2020
 SURVEY DATE:
 SURVEY BY:
 FIELD BOOK No.:

THRASHER
 400 3rd STREET SE
 CANTON, OHIO 44702
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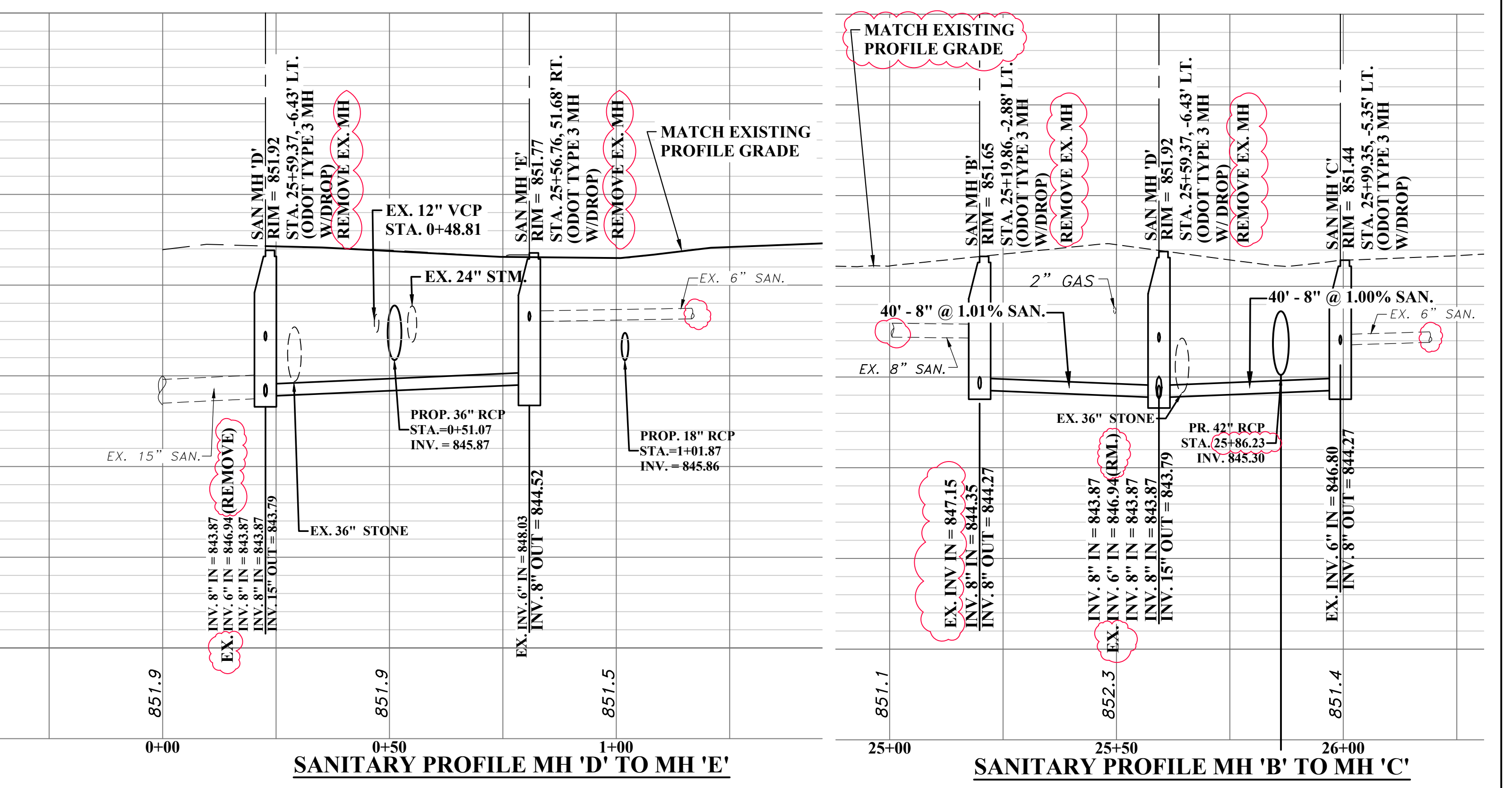
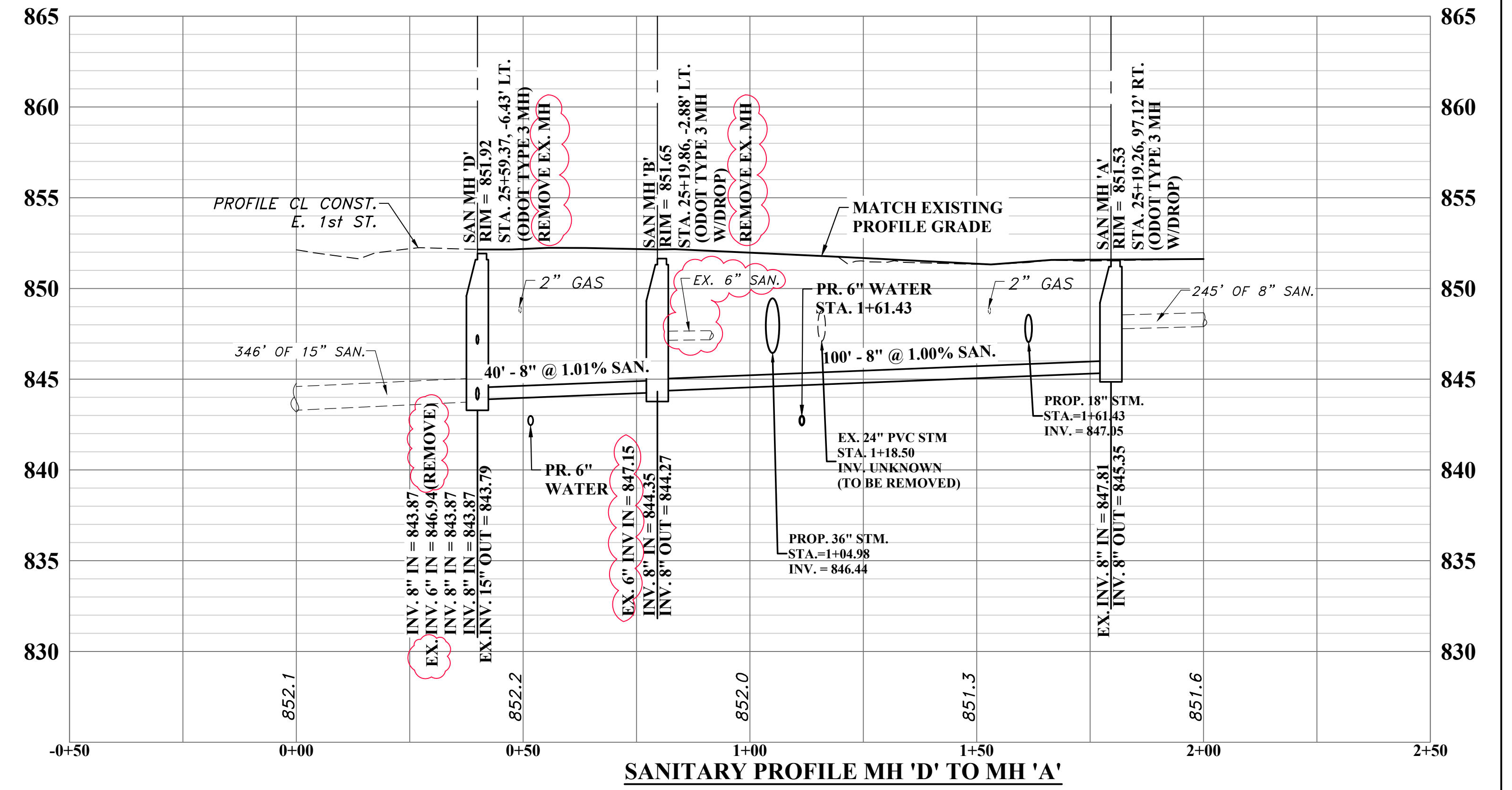
PHASE No.	
CONTRACT No.	
PROJECT No.	010-10014

TWIN CITY WATER AND SEWER DISTRICT
 EAST 1st. STREET, UHRICHVILLE, OHIO
 WATER MAIN AND PAVEMENT RESURFACING
 TUSCARAWAS COUNTY, OHIO
 STORM SEWER PROFILES

USER: joseph a. bishop
 LAYOUT: 16
 PLOT DATE/TIME: 1/21/2021 4:34 PM
 CAD FILE: R:\010\010-10014 - EAST 1ST STREET - TWIN CITY WATER AND SEWER DISTRICT\Drawing\010-10014_Basemap_Construction_WITH_STM_SAN.dwg



- NOTES:**
- CONTRACTOR SHALL FIELD VERIFY SANITARY LATERAL LINE AND GRADE TO ENSURE THE REQUIRED 1'-6\"/>
 - IN THE EVENT THAT EXISTING SANITARY LATERALS ARE DAMAGED, CONTRACTOR SHALL REPLACE LATERAL THE ENTIRE LENGTH FROM THE SANITARY MAIN TO THE CURB AT NO EXPENSE TO OWNER.
 - CONTRACTOR SHALL SUPPORT ALL POWER POLES AS REQUIRED BY UTILITY COMPANY AND TO PREVENT MOVING DURING CONSTRUCTION ACTIVITIES AT NO EXPENSE TO OWNER.
 - SEE SHEET 5 FOR STRUCTURE TABLE



ADDENDUM#1 NOTE: REMOVED THE TEXT "REMOVE AND REPLACE" FROM SANITARY MANHOLES A AND C.

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NO.	BY	DATE	DESCRIPTION
1	JAB	1/19/21	ADDENDUM#1 - EX. SANITARY LINE/STRUCTURE TEXT CLARIFICATION

SCALE: H: 1" = 10' PF H: 1" = 20', V: 1" = 5'
 DRAWN: DAC DATE: DECEMBER 2020
 CHECKED: JAB DATE: DECEMBER 2020
 APPROVED: SAW DATE: DECEMBER 2020
 SURVEY DATE:
 SURVEY BY:
 FIELD BOOK No.:

THRASHER
 400 3rd STREET SE
 CANTON, OHIO 44702
 www.thrashereng.com
 PHONE (330)-451-2042
 FAX (330)-451-2043

PHASE No.
 CONTRACT No.
 PROJECT No.
010-10014

TWIN CITY WATER AND SEWER DISTRICT
 EAST 1st. STREET, UHRICHVILLE, OHIO
 WATER MAIN AND PAVEMENT RESURFACING
 TUSCARAWAS COUNTY, OHIO
 SANITARY SEWER PROFILES

SHEET No.
16

USER: joseph a. bishop
 LAYOUT: 19
 PLOT DATE/TIME: 1/21/2021 9:52 AM
 CAD FILE: R:\010\010-10014 - EAST 1ST STREET - TWIN CITY WATER AND SEWER DISTRICT\Drawing\010-10014_General_Details.dwg

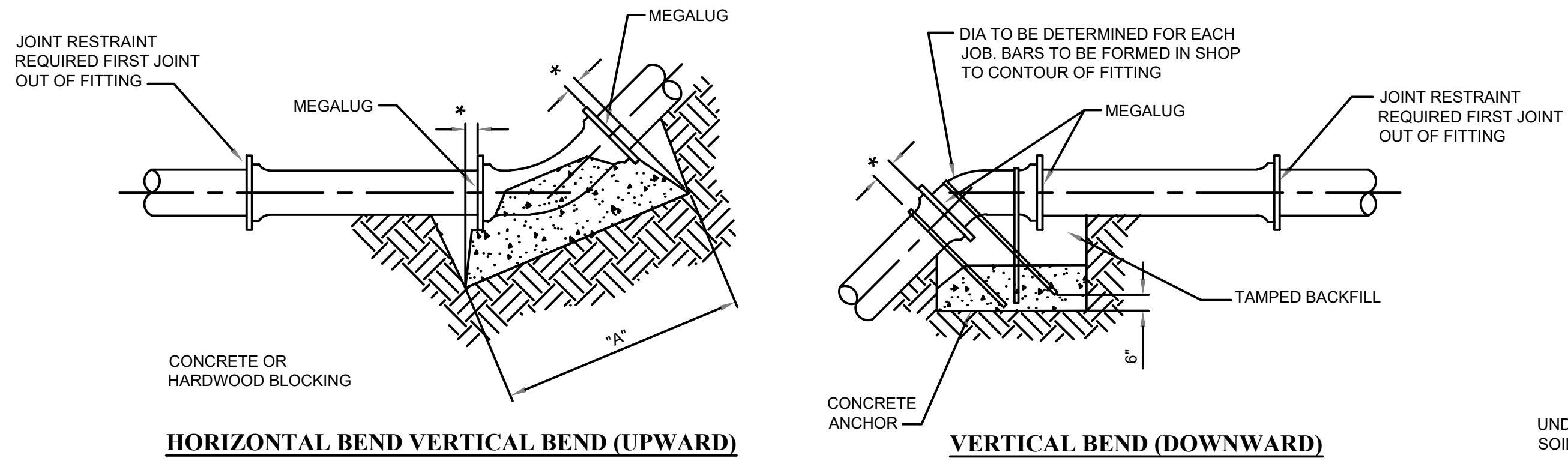
A
HORIZONTAL BENDS

	90°	45°	22.5°	TEE	PLUG
6"	6"	6"	6"	6"	6"
8"	8"	8"	8"	8"	8"
10"	10"	10"	10"	10"	10"
12"	12"	12"	12"	12"	12"
16"	16"	16"	16"	16"	16"

* 6" MIN

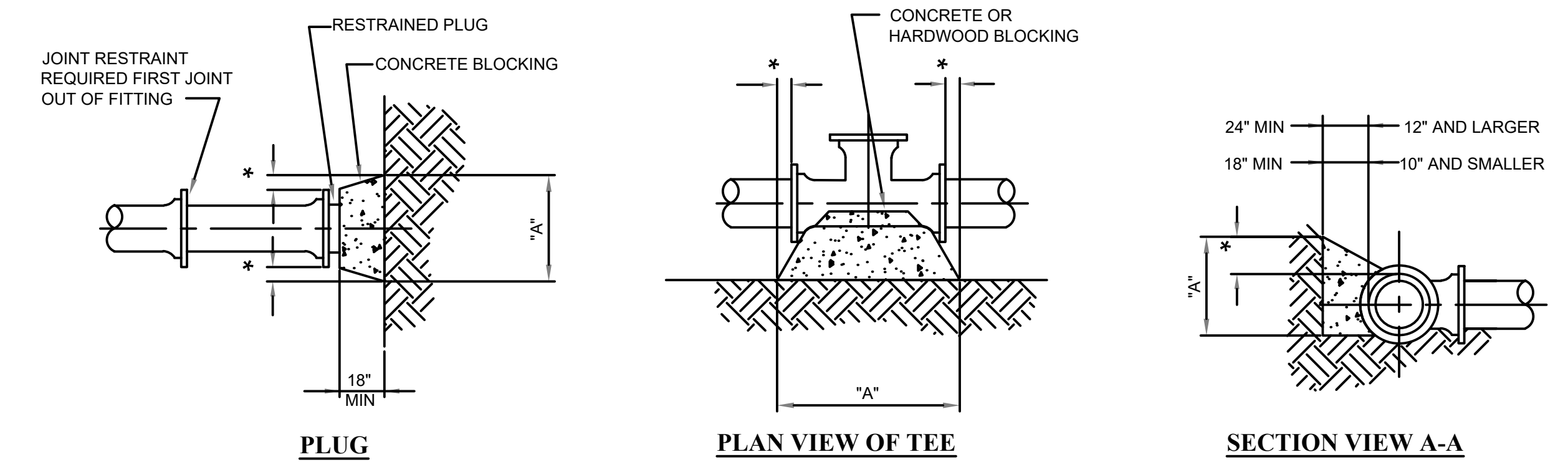
MINIMUM VOLUME OF
CONCRETE FOR TOP
OF VERTICAL BENDS

6"	4 C.F.
8"	11 C.F.
10"	22 C.F.
12"	37 C.F.
16"	71 C.F.



HORIZONTAL BEND VERTICAL BEND (UPWARD)

VERTICAL BEND (DOWNWARD)

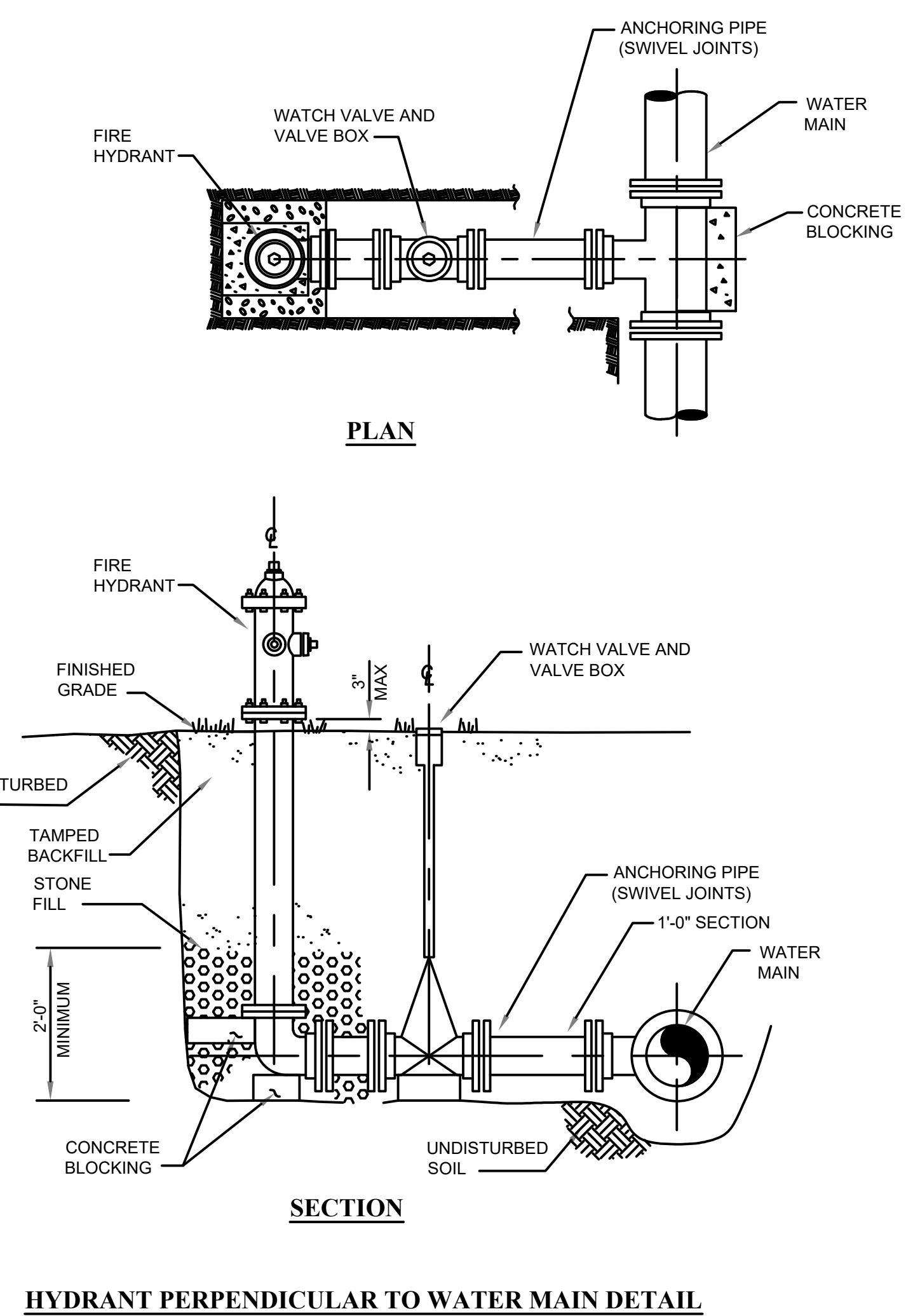


PLUG

PLAN VIEW OF TEE

SECTION VIEW A-A

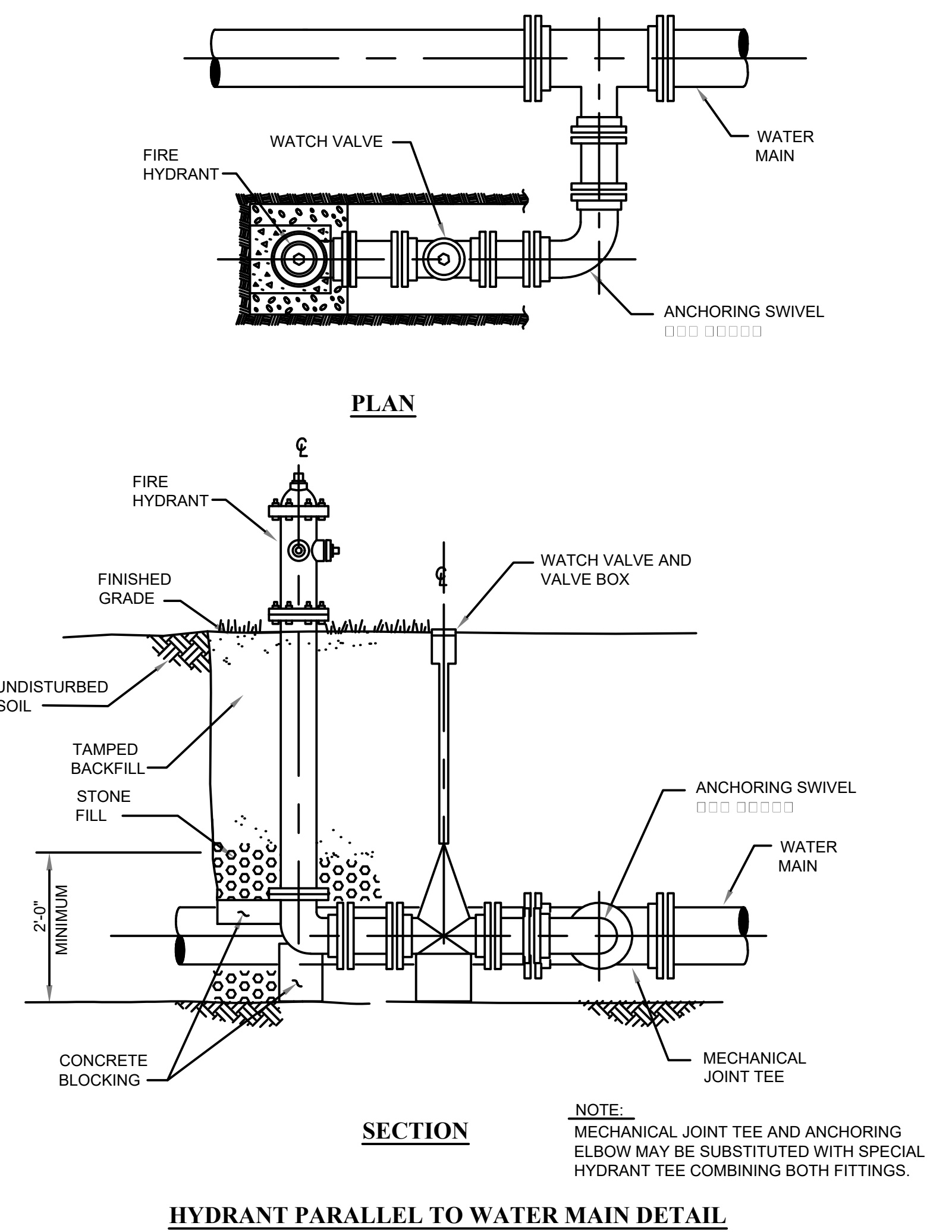
TYPICAL WATERMAIN THRUST BLOCKING DETAILS



PLAN

SECTION

HYDRANT PERPENDICULAR TO WATER MAIN DETAIL



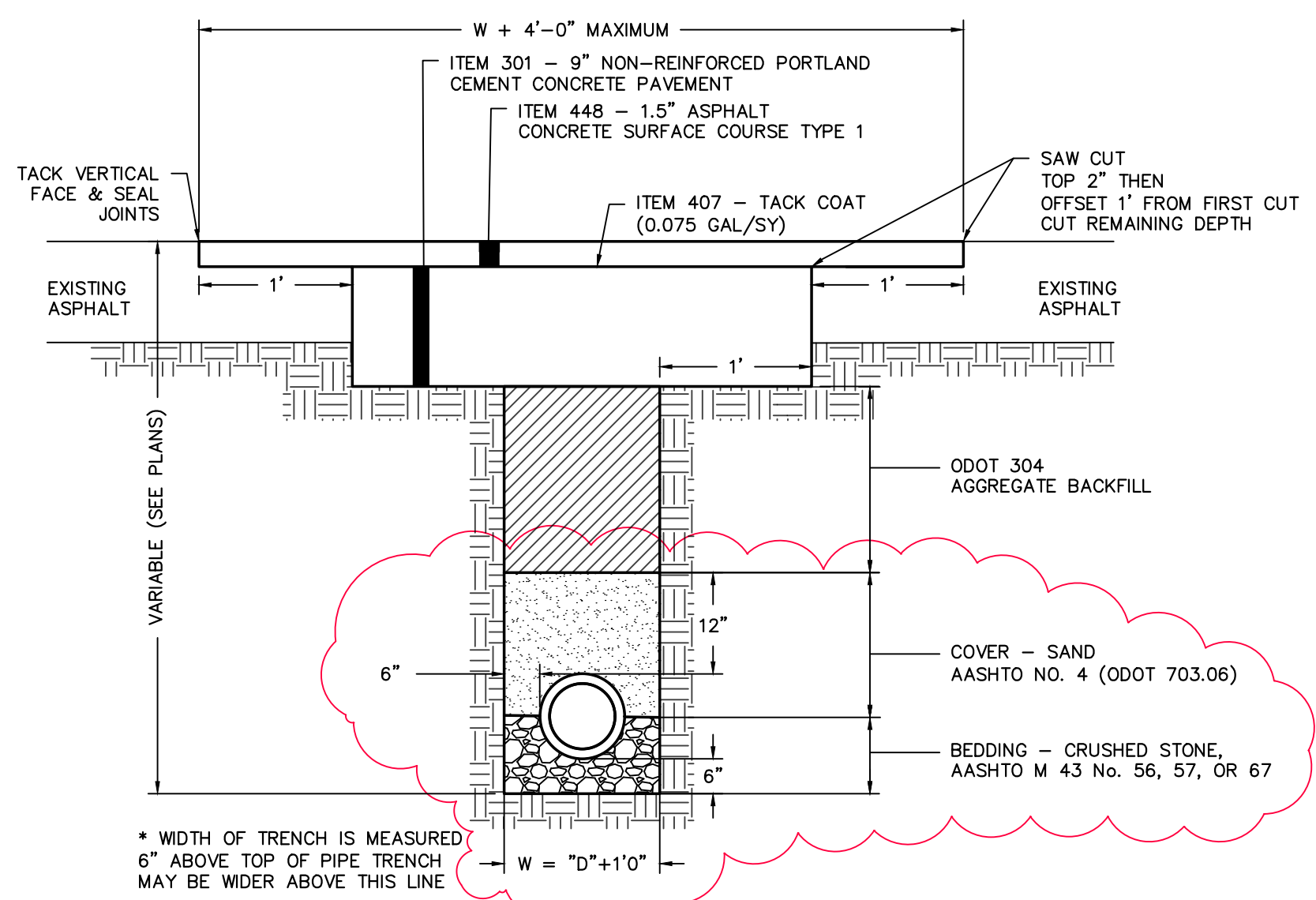
PLAN

SECTION

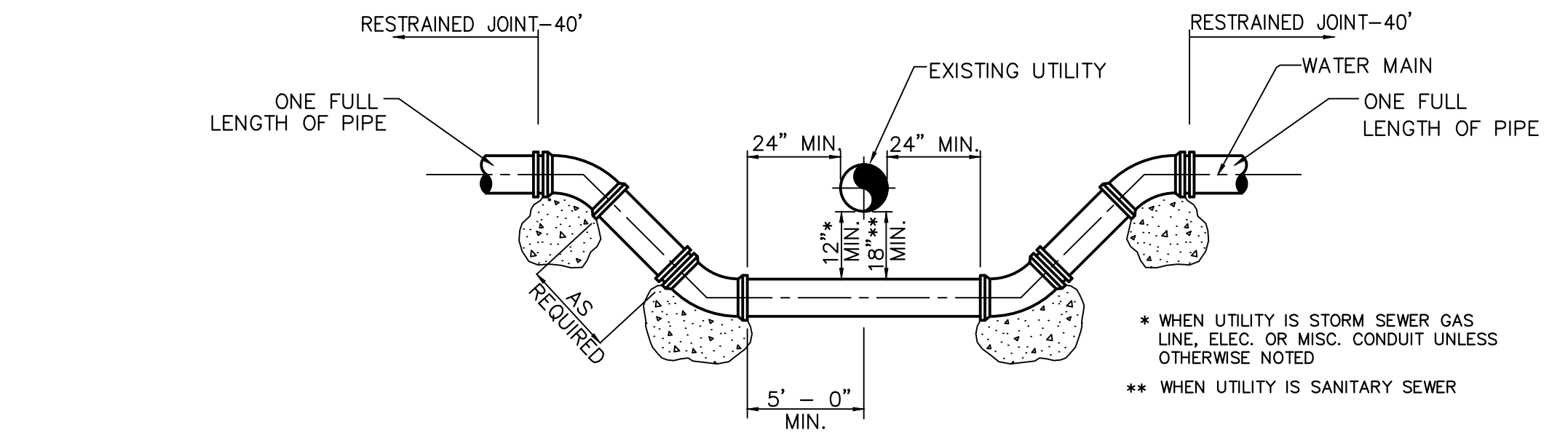
HYDRANT PARALLEL TO WATER MAIN DETAIL

NOTE:
MECHANICAL JOINT TEE AND ANCHORING
ELBOW MAY BE SUBSTITUTED WITH SPECIAL
HYDRANT TEE COMBINING BOTH FITTINGS.

HYDRANT DETAILS



WATERLINE TRENCH DETAIL

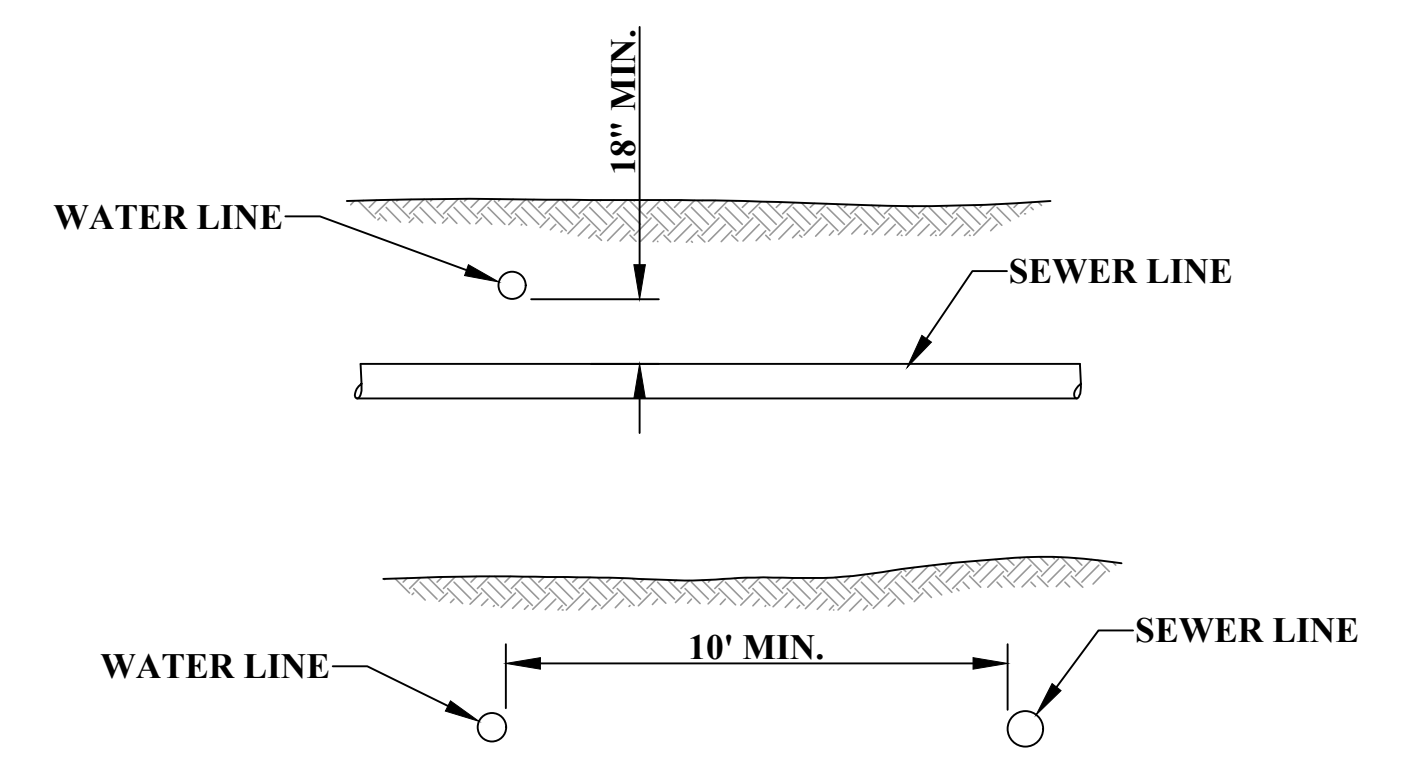


WATER LOWERING DETAIL

UNLESS OTHERWISE REQUIRED BY WATER UTILITY, RESTRAINED MECHANICAL JOINTS SHALL BE USED. ADAPTERS SHALL BE PROVIDED FOR CONNECTION TO EXISTING MAIN IF REQUIRED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL WORK ASSOCIATED WITH THE WATERLINE LOWERING WITH TWIN CITY WATER AND SEWER DISTRICT. THE CONTRACTOR SHALL NOTIFY THE CITY AT LEAST THREE WORKING DAYS IN ADVANCE OF THIS PROPOSED WORK ON THE WATERLINE.

- NOTES:
1. COMBINED SEWERS SHALL BE ENCASED IN 2000 PSI CONCRETE TO 10' EACH SIDE OF CROSSING WHEN CLEARANCE IS LESS THAN 18'
 2. USE BENDS CLASS 53 DUCTILE IRON PIPE CEMENT LINED



SEPARATION OF SEWER AND WATER LINES

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NO.	BY	DATE	DESCRIPTION
1	JAB	1/19/21	WATERLINE TRENCH COVER CHANGED FROM GRAVEL TO SAND

SCALE: NO SCALE

DRAWN: DAC	DATE: OCTOBER 2020
CHECKED: RSS	DATE: OCTOBER 2020
APPROVED: SAW	DATE: OCTOBER 2020
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

THRASHER

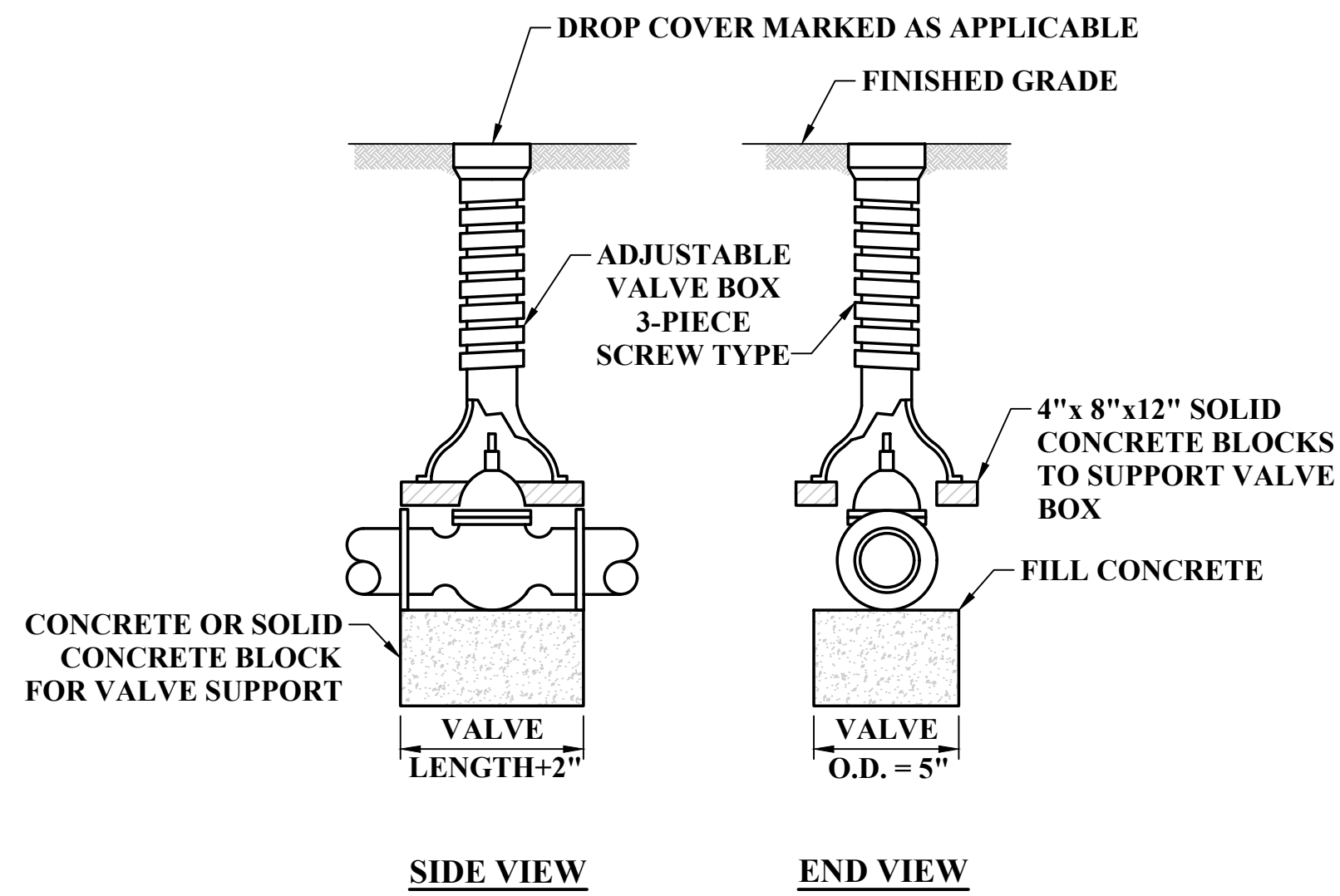
400 3rd STREET SE
CANTON, OHIO 44702
www.thrashereng.com

PHONE (330)-451-2042 FAX (330)-451-2043

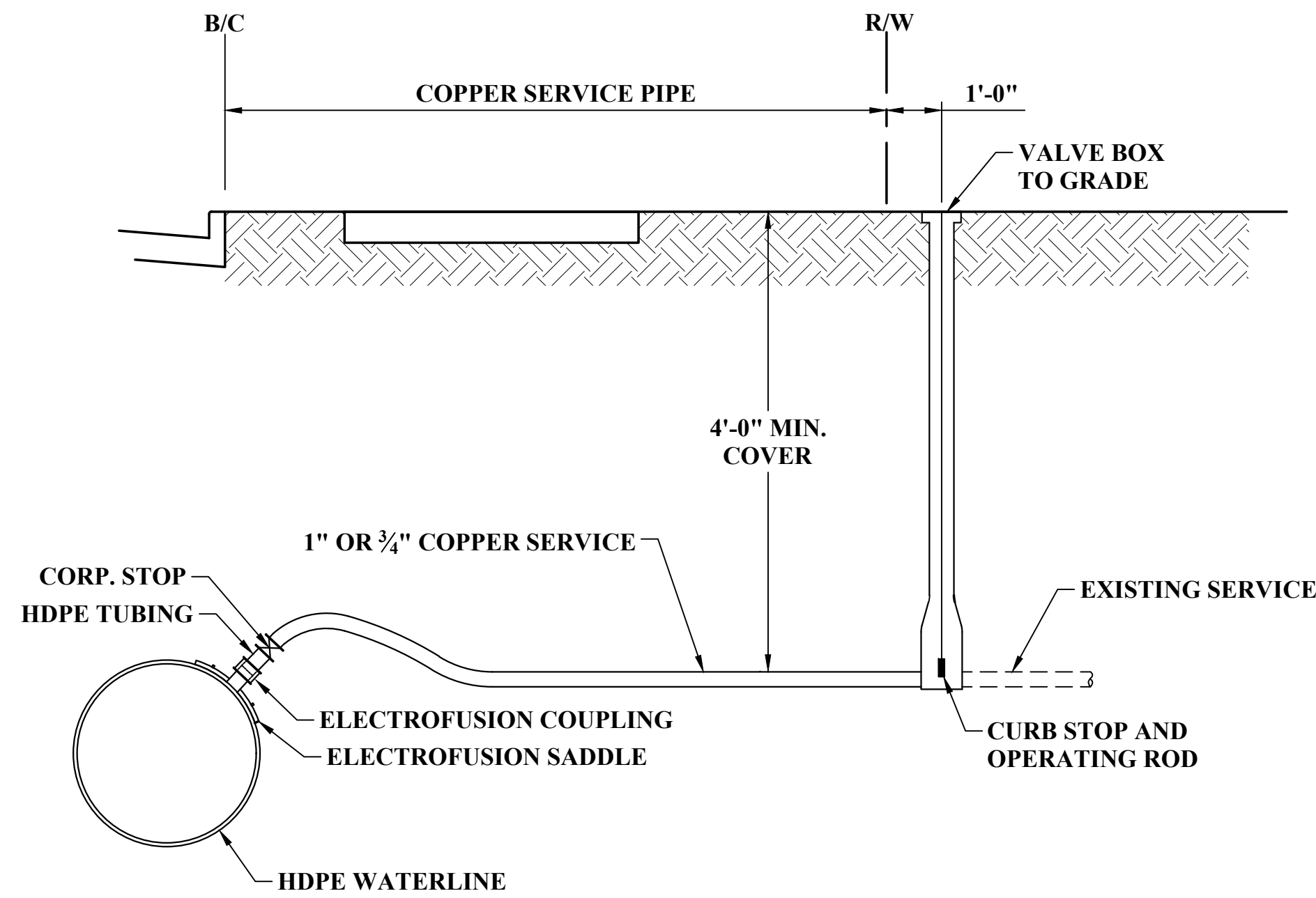
PHASE No.	
CONTRACT No.	
PROJECT No.	010-10014

TWIN CITY WATER AND SEWER DISTRICT
EAST 1st. STREET, UHRICHVILLE, OHIO
WATER MAIN AND PAVEMENT RESURFACING
TUSCARAWAS COUNTY, OHIO
STANDARD DETAILS

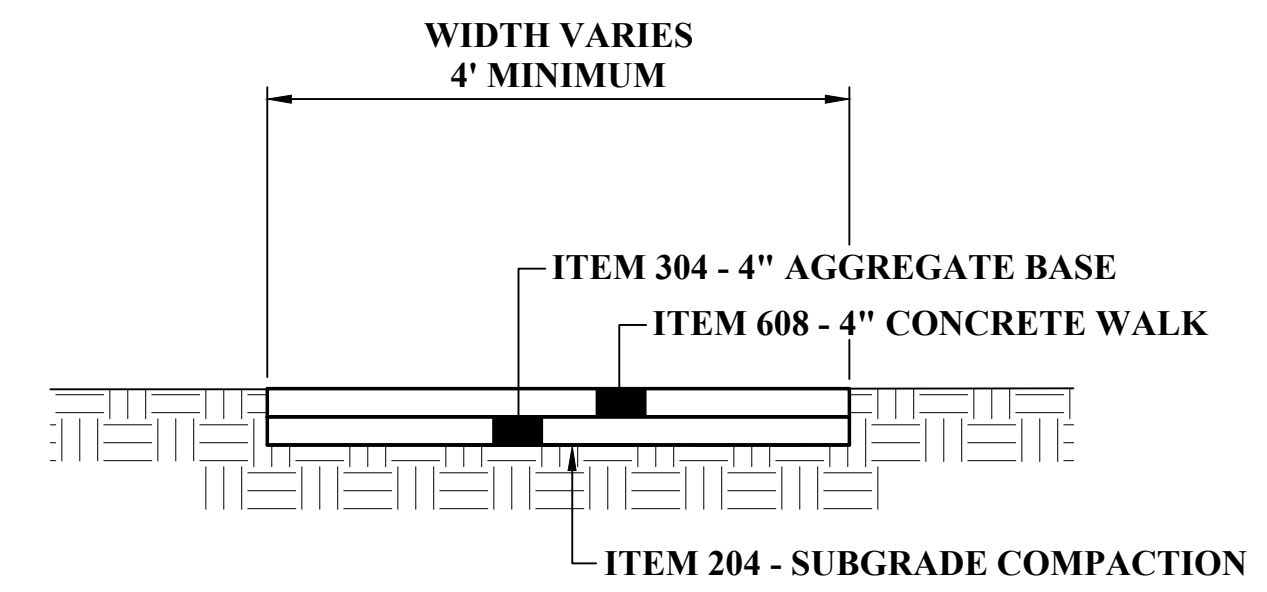
USER: joseph a. bishop
 LAYOUT: 20
 PLOT DATE/TIME: 1/21/2021 9:53 AM
 CAD FILE: R:\010\010-10014 - EAST 1ST STREET - TWIN CITY WATER AND SEWER DISTRICT\Drawing\010-10014_General_Details.dwg



TYPICAL VALVE BOX AND VALVE BOX SETTING

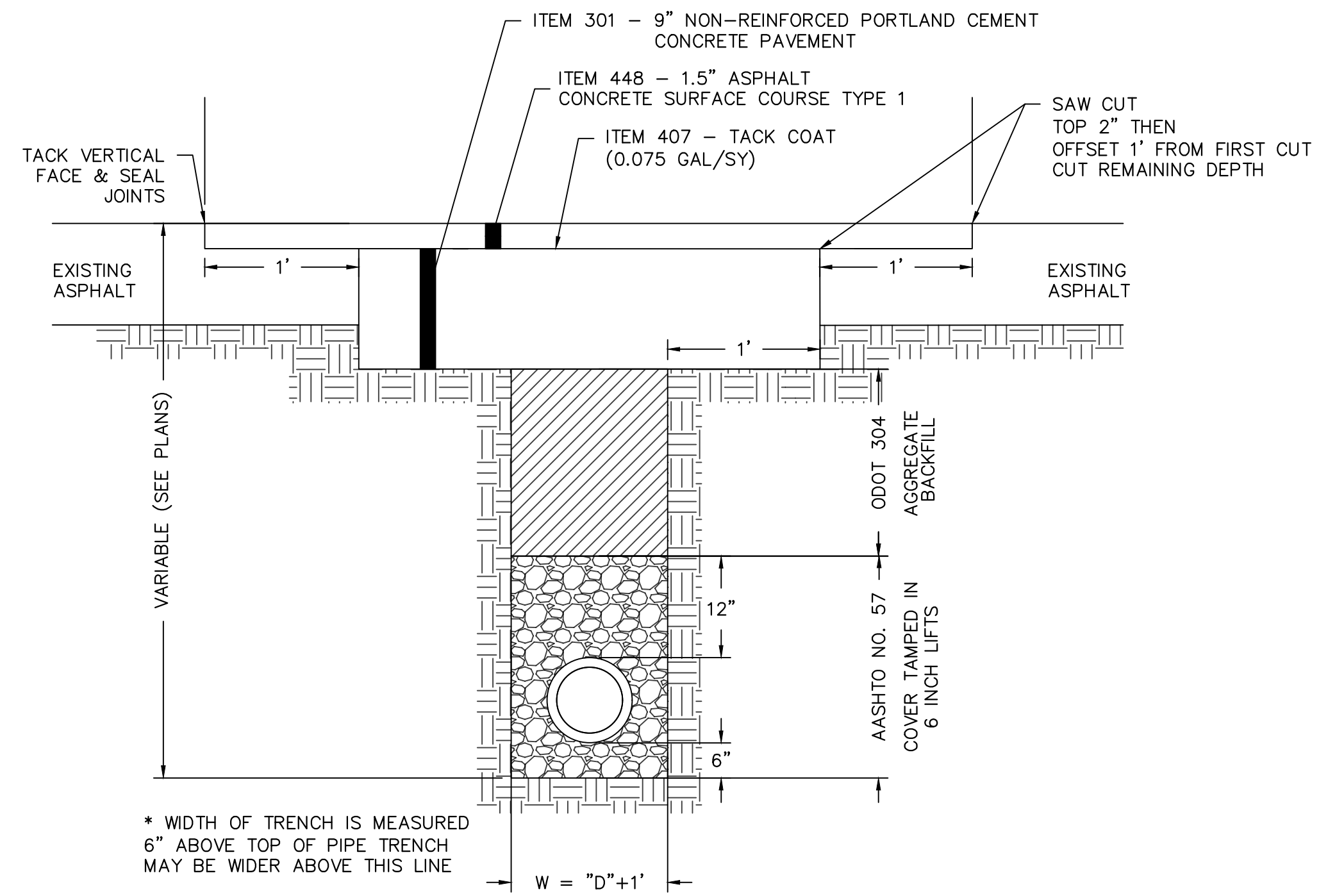


WATER SERVICE CONNECTION DETAIL



SIDEWALK DETAIL

- NOTES:**
- CONTRACTOR SHALL REMOVE EXISTING SIDEWALK AS REQUIRED TO PERFORM WORK. EXISTING SIDEWALK SHALL BE REMOVED JOINT TO JOINT.
 - CONTRACTOR SHALL PROVIDE ODOT ITEM 608 - 6" CONCRETE WALK AT DRIVEWAYS.



STORM/SANITARY UTILITY TRENCH DETAIL

NO.	BY	DATE	DESCRIPTION
1	JAB	1/19/21	UTILITY TRENCH DETAIL LABEL CLARIFICATION

SCALE: NO SCALE	
DRAWN: DAC	DATE: OCTOBER 2020
CHECKED: RSS	DATE: OCTOBER 2020
APPROVED: SAW	DATE: OCTOBER 2020
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

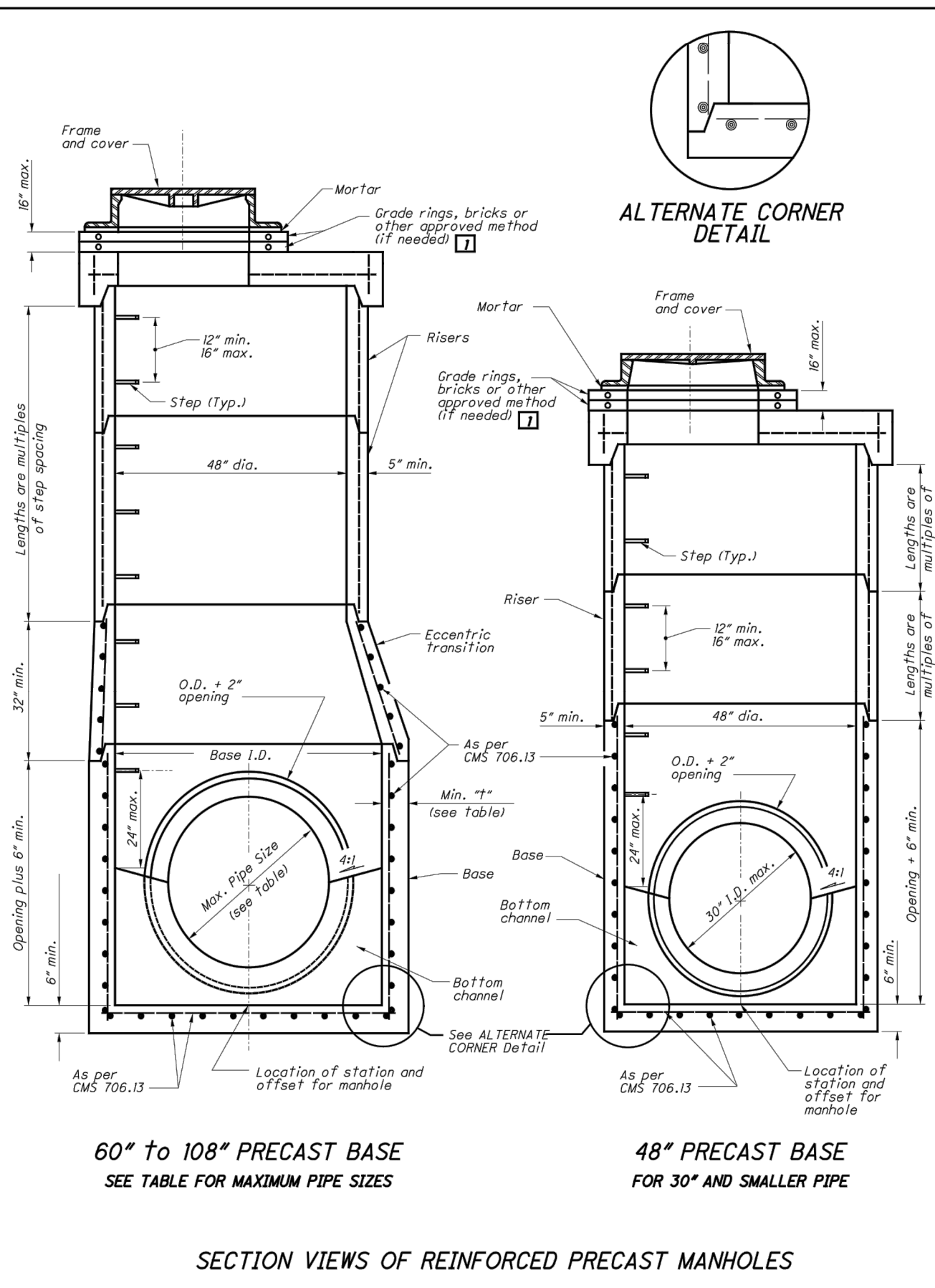
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PHASE No.
CONTRACT No.
PROJECT No.
010-10014

TWIN CITY WATER AND SEWER DISTRICT
 EAST 1st. STREET, UHRICHVILLE, OHIO
 WATER MAIN AND PAVEMENT RESURFACING
 TUSCARAWAS COUNTY, OHIO
 STANDARD DETAILS

SHEET No.
20

USER: joseph a. bishop LAYOUT: 22 PLOT DATE/TIME: 1/21/2021 9:58 AM
 CAD FILE: R:\010\010-10014 - EAST 1ST STREET - TWIN CITY WATER AND SEWER DISTRICT\Drawing\010-10014_General_Details.dwg
 V:\001\East\Standard\0001\Sheet\SCD\Hydraulics\MH-1.2.dwg, 1/21/2021 9:53:50 AM
 V:\001\East\Standard\0001\Sheet\SCD\Hydraulics\MH-1.2.dwg, 1/21/2021 9:53:50 AM



ALTERNATE CORNER DETAIL

NOTES

GENERAL: With normal soil and site conditions, this standard precast manhole may be used for any required manhole depth. Cast and assemble sections of the precast manhole with either all tongue or all groove ends up. Lift holes may be provided in each section for handling. Leave handling device for the flat slab in place.

TOP: Provide a flat slab for this section unless an eccentric cone is specified.

TRANSITION OR REDUCER: This section can be either eccentric cone or flat slab.

BASE: Manhole No. 3 is shown with a monolithic floor and riser which may be cast in one or two operations. A permissible alternate is to cast and ship the floor and barrel separately. Provide openings for inlet and outlet pipes, either when the unit is cast or later, to meet project requirements. Bottom channels may be formed of concrete, precast in the base or field constructed as shown on SCD MH-1.1 and MH-3.1.

RISER SECTIONS: Openings for 18" and smaller inlet pipes may be either pre-fabricated or cut in the field provided the sides of the pipe at the springline do not project into the manhole.

CONNECTIONS: Connections between precast manhole sections and pipes on sanitary sewers may be sealed with resilient connectors conforming to ASTM C 923.

JOINT SEALS: Furnish resilient seal between precast manhole sections on sanitary sewers and flexible gasket joints per CMS 706.11.

OPENINGS: Ensure pipe openings are the O.D. of the pipe being supplied plus 4" when fabricated or field cut. Fill any voids per CMS 611.

MATERIALS: Provide materials for bases and other precast sections, including reinforcement not specified here, that meet the requirements of CMS 706.13.

DROP PIPE: See MH-3.1 SEE DROP STRUCTURE DETAIL

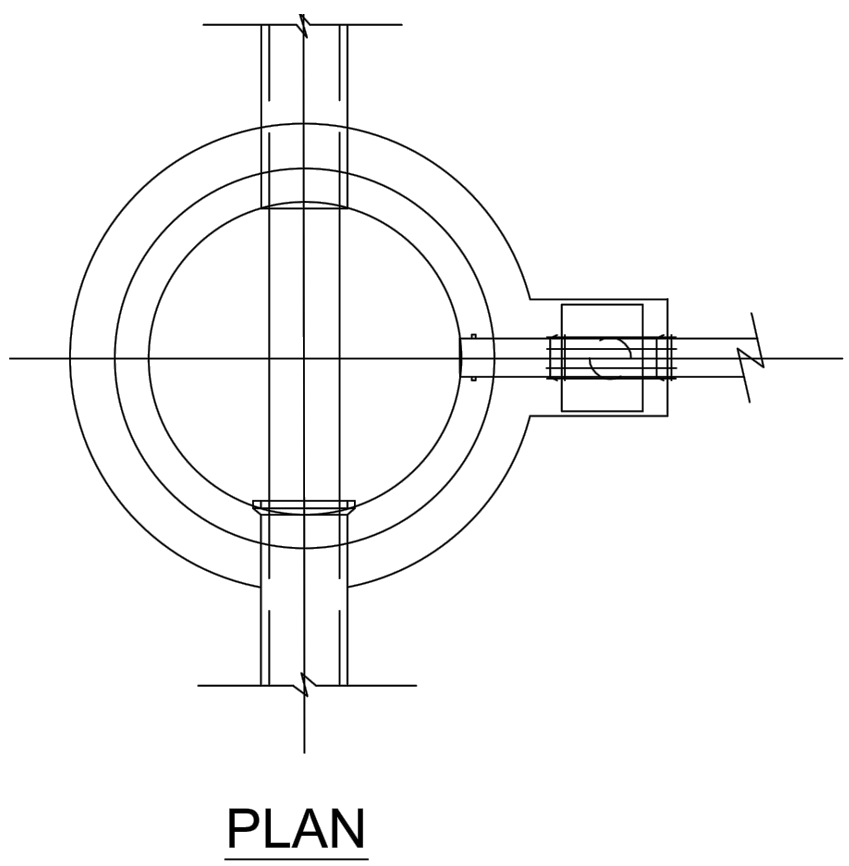
STEPS, FRAMES AND COVERS: Meet the requirements shown on SCD MH-1.1.

TOP SLAB REBAR: Use epoxy coated reinforcing steel within the top slab.

LEGEND

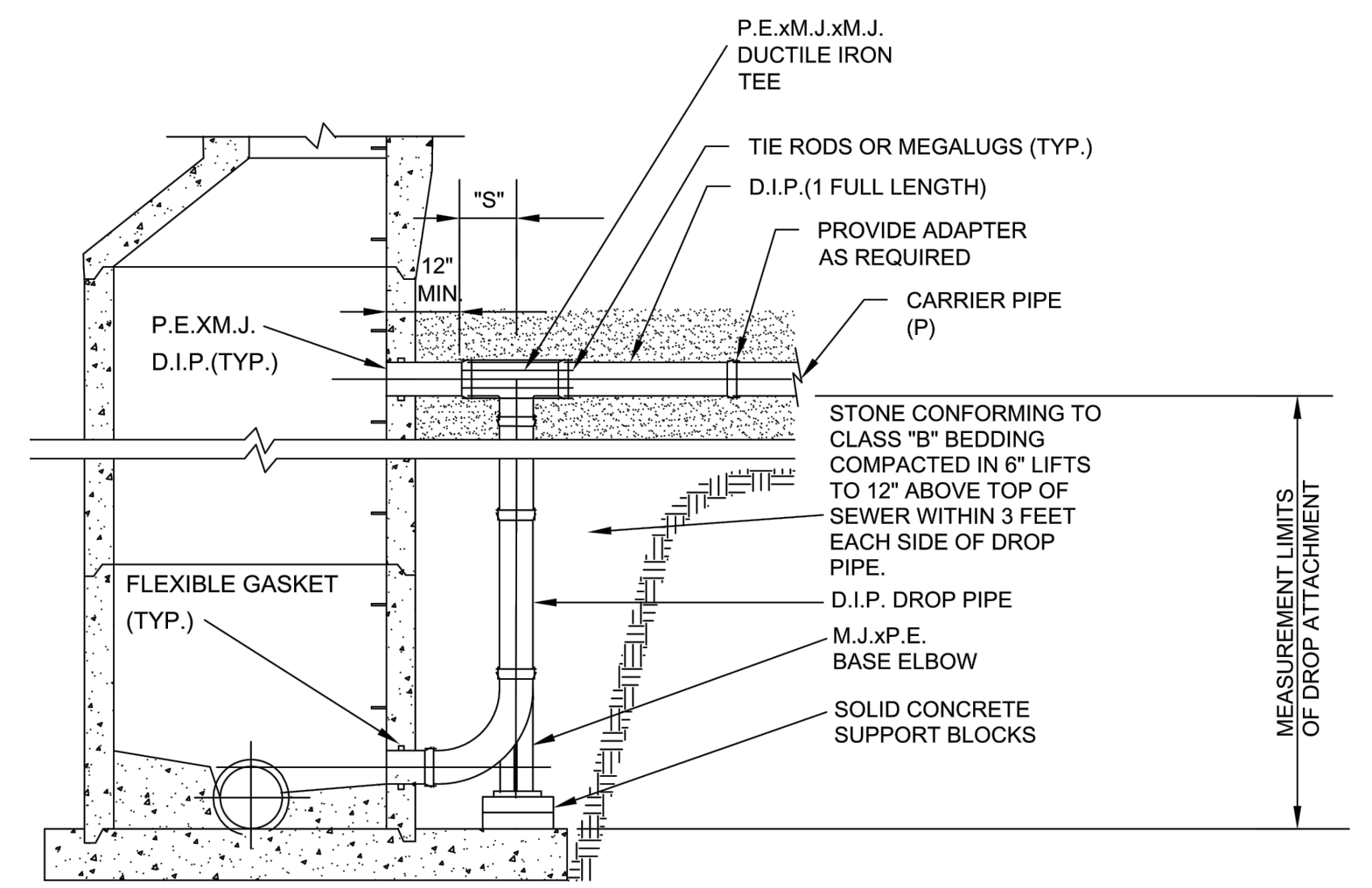
Reconstruction to grade only. Approved materials are kept on file by the Office of Materials Management.

MAXIMUM PIPE SIZES		
BASE I.D.	MIN. #"	MAX. PIPE SIZE
60"	5"	36"
72"	6"	48"
84"	7"	54"
90"	7½"	60"
96"	8"	66"
108"	9"	72"



SEWER SIZE	DROP SIZE
8"	8"
10"	10"
12" - 15" - 18"	12"
21" - 24"	15"
27" - 30" - 36"	18"

TABLE OF DIMENSIONS	
"P"	"S"
6"	16"
8"	17"
10"	19"
12"	20"



SECTION THIS METHOD MUST BE USED FOR PVC & ABS CARRIER PIPE. NOTE: ALL D.I.P. TO BE CL 52 & POLYWRAPPED

ADDENDUM#1 NOTE: ADDED SANITARY MANHOLE DROP STRUCTURE DETAIL

SANITARY MANHOLE DROP STRUCTURE DETAIL (REFERENCE-STARK COUNTY DETAIL DWG. NO. 15)

SCALE: H: 1" = 20' V: 1" = 5'
 DRAWN: DAC DATE: OCTOBER 2020
 CHECKED: RSS DATE: OCTOBER 2020
 APPROVED: SAW DATE: OCTOBER 2020
 SURVEY DATE:
 SURVEY BY:
 FIELD BOOK No.:



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 400 3rd STREET SE CANTON, OHIO 44702 www.thrashereng.com

PHASE No.	
CONTRACT No.	
PROJECT No.	010-10014

TWIN CITY WATER AND SEWER DISTRICT
 EAST 1st. STREET, UHRICHVILLE, OHIO
 WATER MAIN AND PAVEMENT RESURFACING
 TUSCARAWAS COUNTY, OHIO
 STANDARD DETAILS

OFFICE OF HYDRAULICS ENGINEERING
 MANHOLE No. 3
 M. COZZOLI
 JEFFREY E. SYAR

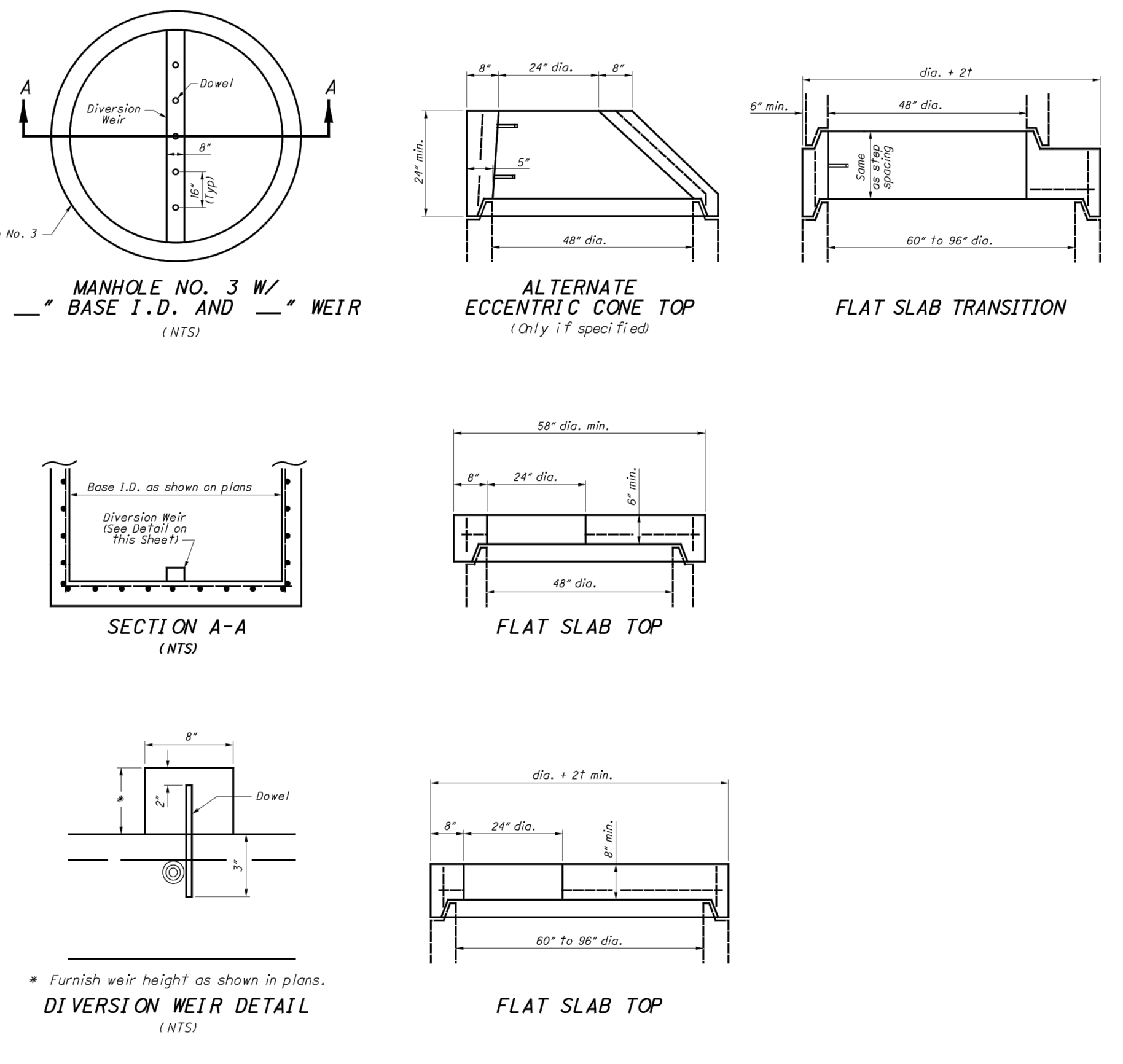
REVISIONS:
 7-20-01
 7-19-02
 7-18-04
 1-20-06
 7-20-02
 1-18-13
 1-15-16

NOTES

MANHOLE NO. 3 W/ 2" BASE I.D. AND 4" DIVERSION WEIR: Furnish manhole base with precast diversion weir or construct diversion weir from structural concrete, 4000 psi, compressive strength concrete or brick and masonry units conforming to CMS 611. A bottom channel section for the manhole is not required when a diversion weir is specified on the plans.

Place diversion weir perpendicular to flow of inflowing trunk sewer. Dowel concrete or masonry units into the base of the manhole to a depth of 3" using epoxy coated #4 reinforcing bars. Start dowels at the center of the diversion weir and space 8" on center across the entire weir.

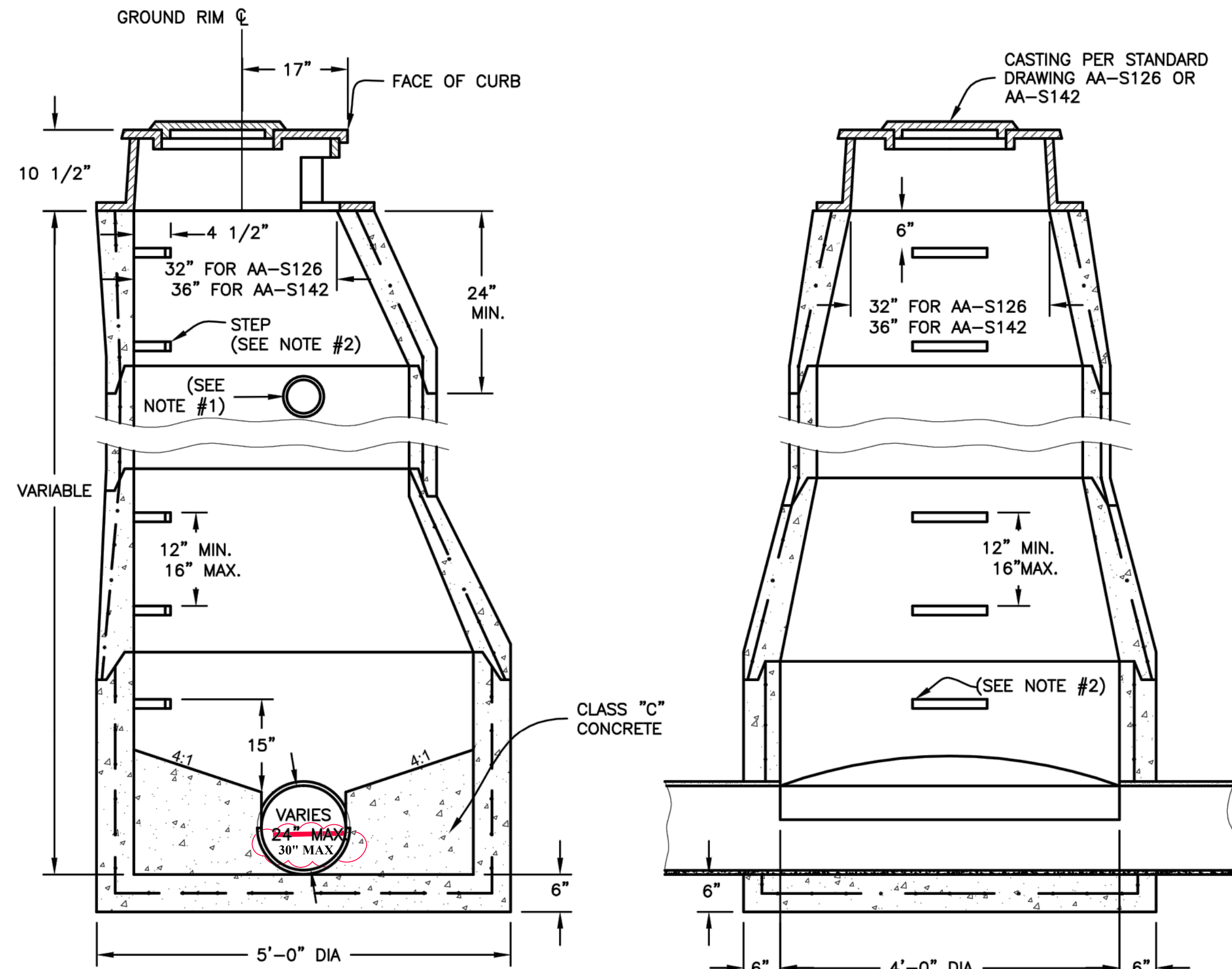
All materials and labor, including excavation and backfill, are paid for at the contract price for **ITEM 010 MANHOLE NO. 3 WITH 2" BASE I.D. AND 4" DIVERSION WEIR.**



OFFICE OF HYDRAULICS ENGINEERING
 MANHOLE No. 3
 M. COZZOLI
 JEFFREY E. SYAR

REVISIONS:
 7-20-01
 7-18-02
 7-15-05
 1-20-06
 7-20-12
 1-18-13
 1-15-16

USER: joseph o. bishop
 LAYOUT: 24
 PLOT DATE/TIME: 1/21/2021 10:00 AM
 CAD FILE: R:\010\010-10014 - EAST 1ST STREET - TWIN CITY WATER AND SEWER DISTRICT\Drawing\010-10014 General Details.dwg



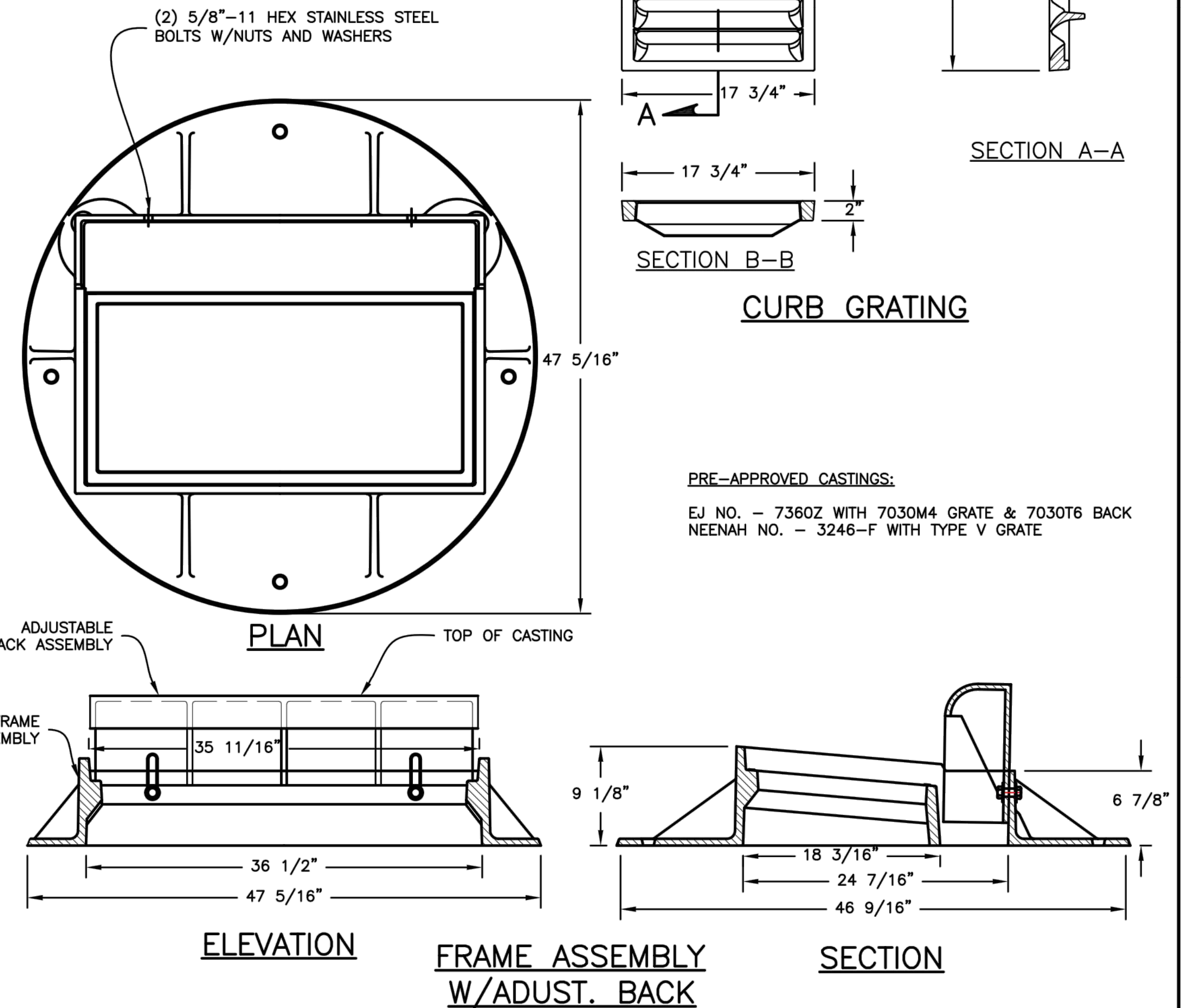
ADDENDUM#1 NOTE: RCP 30" OUTLET PIPE IS ACCEPTABLE FOR THE MANHOLE #4 STRUCTURE

NOTES:

1. PLACE STANDARD 4" CURB DRAIN STUBS 30" BELOW THE TOP OF THE CURB OR AS DIRECTED.
2. INSTALL STANDARD STEPS PER AA-S119.
3. PRE-CAST WALLS SHALL HAVE A 5" MIN. THICKNESS & BE SUFFICIENTLY REINFORCED TO PERMIT SHIPPING & HANDLING WITHOUT DAMAGE.
4. MANHOLE SHALL BE IN ACCORDANCE WITH ASTM C478.

NOTE:

1. FRAMES, GRATES AND COVERS, SHALL MEET REQUIREMENTS OF 604.02 & AASHTO M306
2. CURB ADJUSTABLE FROM 3 1/4" TO 9".



PRE-APPROVED CASTINGS:

EJ NO. - 7360Z WITH 7030M4 GRATE & 7030T6 BACK
 NEENAH NO. - 3246-F WITH TYPE V GRATE

**CATCH BASIN/MANHOLE #4 DETAIL
 (REFERENCE CITY OF COLUMBUS AA-S21 AND AA-S142)**

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NO.	BY	DATE	DESCRIPTION
1	JAB	1/19/01	ADDENDUM#1 - ADDED MH#4-AMENDED COLUMBUS DETAIL

SCALE: H: 1" = 20" V: 1" = 5"	
DRAWN: DAC	DATE: OCTOBER 2020
CHECKED: RSS	DATE: OCTOBER 2020
APPROVED: SAW	DATE: OCTOBER 2020
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

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TWIN CITY WATER AND SEWER DISTRICT
 EAST 1st. STREET, UHRICHVILLE, OHIO
 WATER MAIN AND PAVEMENT RESURFACING
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