PUBLIC IMPROVEMENT REQUEST FOR PROPOSAL

RFP# 26-11

N. University & Thayer Improvements

City of Ann Arbor
Public Services / Engineering

Due Date: February 17, 2026 at 11:00 a.m. (local time)

Issued By:

City of Ann Arbor
Procurement Unit
301 E. Huron Street
Ann Arbor, MI 48104

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ADDENDUM No. 1

RFP No. 26-11

N. University & Thayer Improvements Project

Due: February 17, 2026, at 11:00 A.M (local time)

The information contained herein shall take precedence over the original documents and all previous addenda (if any) and is appended thereto. **This Addendum is 1 page.**

The Proposer is to acknowledge receipt of this Addendum No. 1, including all attachments in its Proposal by so indicating in the proposal that the addendum has been received. Proposals submitted without acknowledgement of receipt of this addendum may be considered non-conforming.

The following forms provided within the RFP Document should be included in submitted proposal:

- **Attachment B - General Declarations**
- **Attachment D - Prevailing Wage Declaration of Compliance**
- **Attachment E - Living Wage Declaration of Compliance**
- **Attachment G - Vendor Conflict of Interest Disclosure Form**
- **Attachment H - Non-Discrimination Declaration of Compliance**

Proposals that fail to provide these completed forms listed above upon proposal opening may be rejected as non-responsive and may not be considered for award.

I. CORRECTIONS/ADDITIONS/DELETIONS

A voluntary pre-proposal field meeting has been scheduled with the City of Ann Arbor and University of Michigan for Wednesday, February 4, 2026, at 10:00 a.m. EST. The meeting location is the south entrance to the Michigan League building, located at 911 North University Avenue, Ann Arbor, MI 48109. Guests are to meet at the front door to review the basement of the building where a water service lead will be drilled into the wall.

Offerors are responsible for any conclusions that they may draw from the information contained in the Addendum.

ADDENDUM No. 2

RFP No. 26-11

N. University and Thayer Improvements

Updated Due Date: February 20, 2026, at 11:00 A.M. (local time)

The information contained herein shall take precedence over the original documents and all previous addenda (if any) and is appended thereto. **This Addendum includes two hundred nine (209) pages (202 sheets as attachments).**

The Proposer is to acknowledge receipt of this Addendum No. 2 by signing and submitting Attachment B, including all attachments in its Proposal by so indicating in the proposal that the addendum has been received. Proposals submitted without acknowledgement of receipt of this addendum may be considered non-conforming.

The following forms provided within the RFP Document should be included in submitted proposal:

- **Attachment B - General Declarations**
- **Attachment D - Prevailing Wage Declaration of Compliance**
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Proposals that fail to provide these completed forms listed above upon proposal opening may be rejected as non-responsive and may not be considered for award.

I. CORRECTIONS/ADDITIONS/DELETIONS

Changes to the RFP documents which are outlined below are referenced to a page or Section in which they appear conspicuously. Offerors are to take note in its review of the documents and include these changes as they may affect work or details in other areas not specifically referenced here.

Section/Page(s)	Change
All mentions as provided in RFP No. 26-11 Document: "Proposal Due Date February 17, 2026, by 11:00 a.m. (local time)."	
As updated herein:	Proposal Due Date: February 20, 2026, by 11 a.m. (local time).
Comment:	The Due Date and Time for responses to this RFP has been extended to February 20, 2026, by 11 a.m. (local time). Note that all other dates are unchanged.
Schedule of Pricing/Cost Section III, Part E	Replaced in its entirety. Updated and added new pay items and quantities.
Detail Specifications, Conduit, Schedule __ PVC, __ In. Pages 1-2	Removed. Refer to City of Ann Arbor 2025 Standard Specifications for details of the pay item.

Plan Sheet 22	Note for aggregate base for utility trench has been revised from Aggregate Base, 15 in, to 21AA to Aggregate Base, 17 in, 21AA.
Plan Sheet 40	Storm sewer alignment revised between Structure R-19 to R-20, and R-19 to R-22.
Plan Sheets 42-43	Plan and profile updated to reflect changes between Structure R-19 to R-20, and R-19 to R-22. The rim elevation for structure R-6 was also updated.
Plan Sheets 44-48	"CONC, SIDEWALK, DRIVVE APPROACH, OR RAMP, 6 IN., HIGH EARLY" & "CONC, SIDEWALK, DRIVVE APPROACH, OR RAMP, 8 IN., HIGH EARLY" added to construction key. Drive entrances modified to reflect utilization of high early concrete and quantities revised to reflect these changes.
Plan Sheet 49	Updated to reflect revised light pole locations.
Plan Sheet 52-54	Updated to reflect revised light pole locations. The valve box rim elevation was also revised.
Plan Sheet 64-66	Light pole location and conduit alignment revised.
Plan Sheet 67	Luminaire schedule and fixture wattage and distribution revised.
Plan Sheet 69-70	Lighting calculation summary and luminaire schedule updated to reflect revised light pole locations and fixtures. The photometric plan was updated to reflect revised light pole locations and fixtures.
Sewer Inspection Report	Reports for sewer inspection for storm and sanitary in the project limits has been added as part of this addendum. See Question 12 in Section II.

II. QUESTIONS AND ANSWERS

The following Questions have been received by the City. Responses are being provided in accordance with the terms of the RFP. Respondents are directed to take note in their review of the documents of the following questions and City responses as they affect work or details in other areas not specifically referenced here.

Question 1: What is the estimated cost of construction (for bonding purposes)?

Answer 1: The estimated construction cost is $6.5 million.

Question 2: Can you provide an excel file version of the bid form for submission?

Answer 2: Yes. Please email Mark McCulloch (mmcculloch@a2gov.org) to request the bid form in excel format. Note that the responder is responsible for any calculations using the provided excel form and that the quantities must match those provided in the PDF version of the RFP.

Question 3: Will the project construction staking be performed by the City PSAA or by Wade Trim?

Answer 3: Construction staking will be provided by Wade Trim.

Question 4: Do you know which material testing company will be utilized for this project?

Answer 4: The City has selected NTH for material testing.

Question 5: Will this project be administered by a third-party engineering firm, or by the City PSAA?

Answer 5: The project will be administered by Wade Trim.

Question 6: I did not see a pay item for HMA hand patching. Was this an omission?

Answer 6: The pay item “Hand Patching” was added to this addendum for work related to the restoration of a water line stop.

Question 7: Can MDOT Class II limestone sand be used for this project?

Answer 7: No. Class II limestone sand may not be substituted for this project.

Question 8: Does 6A stone used for the project (utility construction – not including aggregate used for CIP Portland cement concrete or HMA mixes) need to meet the specifications of MDOT Table 902-1 AND 902-2? (There is an available 6A limestone material available that meets the MDOT gradation but is not MDOT certified. Please confirm if the 6A material for this project is required to be MDOT certified or if a crushed limestone meeting the MDOT 6A gradation will be acceptable for this project.)

Answer 8: Yes. 6A stone must meet the specifications referenced in MDOT Tables 902-1 and 902-2. MDOT-certified 6AA materials are also acceptable

Question 9: Are the aggregate(s), pavement replacement(s) and / or turf restoration(s) as required for temporary line stop installation incidental to the line stop pay item or will they be paid for separately? See question 6 above regarding HMA hand patching as it may apply.

Answer 9: Refer to City of Ann Arbor 2025 Standard Specifications, Article 10, Section II, Sub-section O and Article 11, Section II, Sub-section PP. Pavement restoration will be paid separately. All other work will be paid for as part of the temporary line stop pay item.

Question 10: Please clarify if ALL (proposed and existing structures) require external / interior chimney seals for ALL (sanitary, storm, water, etc.) structures. If not, please clarify which structures (both new and existing) will require chimney seals and of which type (interior / exterior). The standard details and specifications for Sanitary Manholes, Gate Wells, and Storm Manholes note external chimney seals. The structure cover adjust standard detail, SD-GU-5, does not note external chimney seals.

Answer 10: All sanitary and storm manholes and water gate wells require external seals. The internal seals are only required for sanitary manholes.

Question 11: Please confirm that “Storm Structure Cover, Adjust” does NOT include new lids / covers.

Answer 11: “Storm Structure Cover, Adjust” shall reuse the existing cover.

Question 12: Please provide the last sewer inspection report / video for review prior to the bid date.

Answer 12: The sewer inspection report for the project limits (63 pages) has been added to Addendum No. 2. Please email Mark McCulloch (mmcculloch@a2gov.org) to request a copy of the video from the inspection.

Question 13: Please provide the Detailed Specifications for "DS _ Brick Pavers, Sidewalk, Rem and Reinstall".

Answer 13: This item is to follow the City of Ann Arbor 2025 Standard Specifications for “Brick Pavers, Sidewalk, Rem and Reinstall”. Special provision indication “DS_” has removed from bid tab as a part of the addendum.

Question 14: Should the pay item for "DS _ Irrigation, Remove And Replace" be an allowance? There is no way to quantify this work prior to the bid.

Answer 14: “DS_Irrigation, Remove and Replace” includes the removal and installation of irrigation service, meter pit and quick coupler at Sta 202+25 as indicated in the plans.

Question 15: Should there be pay items(s) for high early concrete?

Answer 15: The pay item ‘Conc, Sidewalk, Drive Approach, or Ramp, _ In., High Early’ has been added to the contract for driveway approaches.

Question 16: Please specify which water service connection(s) / water main connection(s) will require non-standard working hours for completion.

Answer 16: The contractor may be required to perform water main shutdowns outside of standard working hours. Specific locations are unknown at this time. Decisions will be made as part of coordination with the University or building owner. The contractor will be responsible for coordinating with the Engineer, the City of Ann Arbor, and the adjacent property owners in scheduling water main/water service shutdowns. Operations during non-standard working hours shall not be paid for extra additional cost.

Question 17: Please indicate any part width construction / scheduling restrictions for concrete work to be installed for pedestrian building access.

Answer 17: This information is not known at this time. Decisions will be made as part of coordination with the University or building owner. The contractor will be responsible for coordinating with the Engineer, the City of Ann Arbor, adjacent building owners and the Fire Marshal in maintaining building ingress and egress.

Question 18: I assume the Owner will pay for any on-street parking meter related fees, head removals, and replacements, correct?

Answer 18: The contractor will not be required to pay for lost revenue related to parking spaces when construction is ongoing. The DDA contractor will remove the meter heads at the beginning of construction and place the meter heads back on the post once the contractor has installed them per the plans.

Question 19: Please clarify that pedestrian barricades and channelizers will be paid for one time at the maximum quantity utilized for the project, regardless of required mobilization / demobilization between phases.

Answer 19: Payment for pedestrian barricades and channelizers is paid once it is delivered to the project site. No additional payment is provided to the contractor, regardless of the number of relocations occurred as directed by the Engineer.

Question 20: For the existing water main pipe being abandoned, will filling the pipes with flowable fill be required? Or will the existing water main be abandoned in place?

Answer 20: Existing water main pipe is to be abandoned per the City of Ann Arbor 2025 Standard Specifications, Article 10, Section II, Sub-section BB unless otherwise noted on the plans or as directed by Engineer.

Question 21: What is the scope and limits of the pay item “HMA, Any Thickness, HMA”? Does this just cover the limits of the temp HMA within the water main trench?

Answer 21: The pay item “HMA, Any Thickness, Rem” includes the removal of temporary HMA within the limits of the water main, storm sewer and sanitary sewer trench.

Question 22: Are chimney seals incidental to the pay items for storm manholes, sanitary manholes & gate well structures?

Answer 22: Chimney seals for existing and proposed structures will be paid via the pay items ‘Internal Chimney Seal’ and ‘External Chimney Seal.’

Question 23: Do pay items “Internal Chimney Seal” & “External Chimney Seal” pertain to existing storm, sanitary and gate well structures within the roadway?

Answer 23: Refer to answer 10.

Question 24: Does pay item “Sanitary Structure Cover, Adjust” for new and existing sanitary manholes? How is the cover for existing sanitary manholes paid?

Answer 24: ‘Sanitary Structure Cover, Adjust’ includes the adjustment of existing sanitary manholes. Adjustment of new sanitary sewer manholes to be included in sanitary manhole pay item. “Sanitary Structure Cover, Adjust” shall reuse the existing cover.

Question 25: Does pay item “Storm Structure Cover, Adjust” for new and existing storm manholes & inlets? How is the cover for existing storm manholes paid?

Answer 25: “Storm Structure Cover, Adjust” includes the adjustment of existing storm manholes & inlets. Adjustment of new storm sewer manholes & inlets to be included in storm structure pay item. “Storm Structure Cover, Adjust” shall reuse the existing cover.

Question 26: How is the adjustment of new gate well structures and new gate valve boxes paid?

Question 26: Adjustment of new gate well structures and gate valve boxes to be paid as 'Gate Valve in Box, __In.' and 'Gate Valve in Well, __In.'

Question 27: Pertaining to pay item "DS_Water Service, 6 In., Drilled". It appears based on the space & existing utilities within the basement of the Michigan League, there are issues with coring the proposed hole for the piping/link seal from within the basement. There also may be potential issues with existing utilities within the proposed bore path of the 6" HDPE pipe. Can consideration be paid to allow open cutting of the 6" water service to outside the basement wall, and the wall to be cored from the outside instead of from the basement?

Answer 27: The answer to this question will be provided in Addendum No. 3.

Question 28: On sheet 22, for the cross section of the pre-art fair phase on Thayer St, it shows 15" 21AA aggregate base to be placed within the trench areas. How is this aggregate base paid for? There is no current item in the bid item list.

Answer 28: The pay item was changed to 17" 21AA aggregate base.

Question 29: Can clarification be provided for the pay item "DS_Irrigation, Remove and Replace"? It appears that an existing irrigation service, meter pit & qwick coupler are being removed and replaced at Sta ~202+25 on North University. Is this the extent of the irrigation work on this project?

Answer 29: "DS_Irrigation, Remove and Replace" includes the removal and installation of irrigation service, meter pit and quick coupler at Sta 202+25 as indicated on the plans.

Question 30: Can a pay item be added for excavating and backfilling the copper water services to be installed/transferred by the City? I did not see this item on the bid item list.

Answer 30: The pay item 'Excavate & Backfill for Water Service Tap and Lead' has been added to bid tab.

Question 31: A pay item is missing for "DS _ Planter Wall, 24 Inch" or "24" PiP Planter Wall".

Answer 31: The pay item 'DS_Planter Wall, 24 Inch' has been added to the bid tab.

Question 32: Can you please clarify if the "Pedestrian Channelizer Device, Furn & Oper" will be paid by LF or by EACH? The detailed specification and Bid form do not agree on method of measurement.

Answer 32: The pay item 'Pedestrian Channelizer Device, Furn & Oper' will be paid for by the unit Each. The bid tab has been updated to reflect this change.

Question 33: Can "DS _ Water Service , 6 in, Drilled" be installed via open cut construction? It sounded like this would be an option the University would consider at the on-site meeting. If so:

a. Could DIP be utilized in lieu of HDPE pipe?
b. Would the required removal and restoration be incidental to this pay item or would they be paid for separately?

Answer 33: The answer to this question will be provided in Addendum No. 3.

Question 34: Please provide as-built drawing of the existing foundation system of the Michigan League building.

Answer 34: The answer to this question will be provided in Addendum No. 3.

Question 35: If this water service must be drilled, will exploratory excavations be paid for to locate any potential utility conflicts prior to installation?

a. How will removals / restoration for these utility locates be paid?

Answer 35: The answer to this question will be provided in Addendum No. 3.

Question 36: Please verify that the mechanical room construction (by Others) will be complete prior to the installation of the proposed water service.

Answer 36: The answer to this question will be provided in Addendum No. 3.

Question 37: Please provide the available working hours for the Michigan League building.

Answer 37: The bidder is to refer to answer 16.

Question 38: Could the service (from GVB7 to the building) be removed from this contract and added to the U of M project?

Answer 38: The answer to this question will be provided in Addendum No. 3.

Question 39: There is no pay item for "Excavate and Backfill for Water Service Tap and Lead" (smaller than 4"). The plans show multiple services.

Answer 39: The bidder is to refer to answer 30.

Question 40: Please provide a MINIMUM length that will be paid for a short side water service transfer. The method of payment for “Excavate and Backfill for Water Service Tap and Lead” is written such that short side transfers are impossible to price in a manner that is fair to the City and the Contractor. (See Article 11, Section OO, Item 12 – Last Sentence (Page 11-40)).

Answer 40: Minimum length that will be paid for short side water service transfer shall be 5 feet.

Offerors are responsible for any conclusions that they may draw from the information contained in the Addendum.

E. Schedule of Pricing/Cost – 20 Points

Company: _____

Project: N. University & Thayer Improvements
File #: 2023-023 **RFP#: 26-11**

ITEM NUMBER	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
	General				
01000.00	General Conditions, Max. $ 300,000.00	Lump Sum	1	$ _____	$ _____
01001.00	Project Supervision, Max. $ 120,000.00	Lump Sum	1	$ _____	$ _____
01002.70	DS_Project Clean-up	Lump Sum	1	$ _____	$ _____
01002.71	DS_Pavt Cleaning	Lump Sum	1	$ _____	$ _____
01003.00	Digital Audio Visual Coverage	Lump Sum	1	$ _____	$ _____
01020.00	Erosion Control, Inlet Protection, Fabric Drop	Each	25	$ _____	$ _____
01022.00	Erosion Control, Silt Fence	Foot	800	$ _____	$ _____
01030.00	Tree Protection Fence	Foot	268	$ _____	$ _____
01040.00	Minor Traffic Control, Max. $80,000.00	Lump Sum	1	$ _____	$ _____
01041.00	Traffic Regulator Control	Lump Sum	1	$ _____	$ _____
01050.00	Sign, Type B, Temp, Prismatic, Furn & Oper	Square Foot	648	$ _____	$ _____
01051.00	Sign, Type B, Temp, Prismatic, Special, Furn & Oper	Square Foot	398	$ _____	$ _____
01051.70	DS_Sign, Type A, Temp, Prismatic, Furn & Oper	Square Foot	7	$ _____	$ _____
01062.00	Lighted Arrow, Type C, Furn and Oper	Each	2	$ _____	$ _____
01070.00	Sign, Portable, Changeable Message, Furn & Oper	Each	2	$ _____	$ _____
01080.00	Plastic Drum, High Intensity, Lighted, Furn & Oper	Each	120	$ _____	$ _____
01092.00	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn & Oper	Each	50	$ _____	$ _____
01100.00	Pedestrian Type II Barricade, Temp, Furn & Oper	Each	30	$ _____	$ _____
01101.00	Pedestrian Channelizer Device, Furn & Oper	Each	750	$ _____	$ _____
01102.00	Temporary Pedestrian Ramp, Furn & Oper	Each	12	$ _____	$ _____
01103.00	Temporary Pedestrian Mat, Furn & Oper	Foot	100	$ _____	$ _____
01103.72	DS_Pedestrian Path, Temp	Foot	500	$ _____	$ _____
01124.00	Pavt Mrkg, Wet Reflective, Type R, Tape, Rt Turn Arrow	Each	2	$ _____	$ _____
01169.70	DS_Trapezoid Delineator, Any Size	Foot	346	$ _____	$ _____
	Removals				
02000.01	Tree, Rem, 6 In. - 12 In.	Each	15	$ _____	$ _____
02021.00	HMA, Any Thickness, Rem	Square Yard	164	$ _____	$ _____
02022.70	DS_Cold Milling for Concrete Curb and Gutter Reveal	Square Yard	640	$ _____	$ _____
02023.00	Cold-Milling HMA Surface	Square Yard	1,465	$ _____	$ _____
	TOTAL THIS PAGE (BF-1)				$ _____

E. Schedule of Pricing/Cost – 20 Points

Company: _____

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ITEM NUMBER	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
02025.71	DS_Pavement, Remove, Modifed	Square Yard	6,391	$	$
02030.00	Curb, Gutter, and Curb and Gutter, Any Type, Rem	Foot	3,838	$	$
02040.00	Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem	Square Foot	31,586	$	$
02050.00	Sign, Rem, Salv	Each	25	$	$
02060.70	DS_Trolley Track, Remove	Square Yard	1,000	$	$
02070.70	DS_Parking Markers, Rem	Each	7	$	$
02080.70	DS_Planter Box, Rem	Foot	644	$	$
02080.71	DS_Bollard, Rem	Each	26	$	$
02080.72	DS_Qwick Curb, Rem	Foot	130	$	$
02080.73	DS_Bench, Rem, Salv	Each	1	$	$
02080.74	DS_Bike Rack, Rem, Salv	Each	4	$	$
02080.75	DS_Tunnel, Rem	Cubic Yard	38	$	$
	Earthwork				
03000.70	DS_Machine Grading, Modified	Station	17	$	$
03021.00	Subgrade Undercutting, Type II	Cubic Yard	175	$	$
03022.00	Subgrade Undercutting, Type III	Cubic Yard	50	$	$
03030.01	Exploratory Excavation, SD-TD-1 , (0-10' deep)	Each	16	$	$
	Sanitary Sewer				
04000.01	8 In., SDR 26 PVC Sanitary Sewer, SD-TD-2	Foot	104	$	$
04014.70	DS_4 In., SDR 26 PVC Sanitary Service Lead, SD-TD-2	Foot	20	$	$
04014.71	DS_6 In., SDR 26 PVC Sanitary Service Lead, SD-TD-2	Foot	111	$	$
04014.72	DS_4 In., Sanitary Service Lead, Rem, 4 to 8 inch	Foot	50	$	$
04030.01	Sanitary Manhole, 48 In. Dia. (0-8' Deep)	Each	1	$	$
04050.01	Sanitary Manhole Over Existing ("Doghouse"), 48 In. Dia.	Each	1	$	$
04060.00	Sanitary Structure Cover	Each	14	$	$
04061.00	Sanitary Structure Cover, Adjust	Each	14	$	$
04070.01	Sanitary Sewer Pipe, 8 In. Dia., Abandon	Foot	31	$	$
04080.70	DS_Trench Drain, Rem	Foot	215	$	$
04110.01	Sanitary Sewer Tap, 8 In. Dia.	Each	1	$	$
	TOTAL THIS PAGE (BF-2)				$

E. Schedule of Pricing/Cost – 20 Points

Company: _____

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ITEM NUMBER	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
	Sewer and Manhole Rehab				
05050.00	Internal Chimney Seal	Each	1	$ _____	$ _____
05051.00	External Chimney Seal	Each	25	$ _____	$ _____
	Storm and Drainage				
06000.01	12 In., CL IV RCP Storm Sewer, SD-TD-1	Foot	701	$ _____	$ _____
06000.03	18 In., CL IV RCP Storm Sewer, SD-TD-1	Foot	9	$ _____	$ _____
06003.01	6 In., PE Storm Sewer, SD-TD-2	Foot	22	$ _____	$ _____
06030.04	Storm Sewer Tap, 12 In. Dia.	Each	6	$ _____	$ _____
06050.01	Storm Manhole, 48 In. Dia., (0-8' deep)	Each	5	$ _____	$ _____
06050.70	Storm Manhole, 48 In. Dia., with Leaching Base (0-8' deep)	Each	2	$ _____	$ _____
06070.01	Storm Single Inlet, 24 In. Dia., (0-8' deep)	Each	9	$ _____	$ _____
06080.71	DS_Storm Outlet Control Structure, 60 In. Dia., (0-8' deep)	Each	1	$ _____	$ _____
06081.01	Storm High Capacity Inlet, 48 In. Dia., (0-8' deep)	Each	6	$ _____	$ _____
06110.01	Storm Sewer Pipe, 8 In. Dia, Rem	Foot	12	$ _____	$ _____
06120.03	Storm Sewer Pipe, 12 In. Dia, Rem	Foot	550	$ _____	$ _____
06120.04	Storm Sewer Pipe, 15 In. Dia, Rem	Foot	587	$ _____	$ _____
06140.00	Storm Sewer Structure, Rem	Each	25	$ _____	$ _____
06160.01	Storm Structure Cover	Each	17	$ _____	$ _____
06160.02	Storm Structure Cover, Adjust	Each	17	$ _____	$ _____
06160.72	DS_Misc. Structure Cover, Adjust	Each	5	$ _____	$ _____
06300.70	DS_Infiltration Trench	Foot	443	$ _____	$ _____
06300.71	DS_Perforated HDPE Pipe, 12 inch	Foot	10	$ _____	$ _____
06303.70	DS_Storm Pretreatment Structure, First Defense, 48 In. Dia., Inlet	Each	2	$ _____	$ _____
06303.71	DS_Storm Pretreatment Structure, First Defense, 48 In. Dia., Solid	Each	2	$ _____	$ _____
06303.72	DS_Storm Pretreatment Structure, First Defense, 60 In. Dia., Solid	Each	1	$ _____	$ _____
06400.70	DS_Trench Drain	Foot	216	$ _____	$ _____
	Water Mains				
07000.01	4 In., PC 350, DIP w/ polywrap, SD-TD-1	Foot	262	$ _____	$ _____
07000.02	6 In., PC 350, DIP w/ polywrap, SD-TD-1	Foot	123	$ _____	$ _____
07000.03	8 In., PC 350, DIP w/ polywrap, SD-TD-1	Foot	201	$ _____	$ _____
	TOTAL THIS PAGE (BF-3)				$ _____

E. Schedule of Pricing/Cost – 20 Points

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ITEM NUMBER	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
07000.05	12 In., PC 350, DIP w/ polywrap, SD-TD-1	Foot	1,214	$ _____	$ _____
07001.01	16 In., PC 250 DIP w/polywrap, SD-TD-1	Foot	22	$ _____	$ _____
07004.70	DS_Water Service, 6 In., Drilled	Foot	47	$ _____	$ _____
07004.71	DS_Water Main Insulation	Foot	96	$ _____	$ _____
07009.70	DS_4 In. 45° DIP Bend	Foot	13	$ _____	$ _____
07010.02	6 In. 45° DIP Bend	Each	5	$ _____	$ _____
07011.02	8 In. 45° DIP Bend	Each	12	$ _____	$ _____
07011.03	8 In. 22.5° DIP Bend	Each	1	$ _____	$ _____
07013.02	12 In. 45° DIP Bend	Each	9	$ _____	$ _____
07013.03	12 In. 22.5° DIP Bend	Each	8	$ _____	$ _____
07014.02	16 In. 45° DIP Bend	Each	2	$ _____	$ _____
07020.03	8 In. x 6 In. DIP Reducer	Each	6	$ _____	$ _____
07020.14	16 In. x 12 In. DIP Reducer	Each	1	$ _____	$ _____
07030.11	12 In. x 12 In. x 4 In. DIP Tee	Each	5	$ _____	$ _____
07030.12	12 In. x 12 In. x 6 In. DIP Tee	Each	2	$ _____	$ _____
07030.13	12 In. x 12 In. x 8 In. DIP Tee	Each	8	$ _____	$ _____
07030.15	12 In. x 12 In. x 12 In. DIP Tee	Each	4	$ _____	$ _____
07050.01	Gate Valve in Box, 6 In.	Each	8	$ _____	$ _____
07050.02	Gate Valve in Box, 8 In.	Each	1	$ _____	$ _____
07050.70	DS_Gate Valve in Box, 4 In.	Each	5	$ _____	$ _____
07060.04	Gate Valve in Well, 12 In.	Each	14	$ _____	$ _____
07060.05	Gate Valve in Well, 16 In.	Each	1	$ _____	$ _____
07080.00	Excavate & Backfill For Water Service Tap and Lead	Foot	50	$ _____	$ _____
07100.00	Fire Hydrant Assembly, Complete	Each	6	$ _____	$ _____
07102.00	Fire Hydrant Assembly, Rem	Each	4	$ _____	$ _____
07120.00	Gate Box, Adjust	Each	9	$ _____	$ _____
07122.00	Gate Box Cover	Each	9	$ _____	$ _____
07130.01	Temporary Water Main Line Stop, 8 In. or Less	Each	2	$ _____	$ _____
07130.03	Temporary Water Main Line Stop, 12 In.	Each	4	$ _____	$ _____
07130.04	Temporary Water Main Line Stop, 16 In.	Each	2	$ _____	$ _____
	TOTAL THIS PAGE (BF-4)				$ _____

E. Schedule of Pricing/Cost – 20 Points

Company:

Project: N. University & Thayer Improvements
File #: 2023-023 **RFP#: 26-11**

ITEM NUMBER	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
07131.00	Temporary Water Main Line Stop, Additional Rental Day	Each	3	$	$
07140.01	Water Main Pipe, 4 In. Dia, Abandon	Foot	296	$	$
07140.02	Water Main Pipe, 6 In. Dia, Abandon	Foot	646	$	$
07140.03	Water Main Pipe, 8 In. Dia, Abandon	Foot	643	$	$
07140.05	Water Main Pipe, 12 In. Dia, Abandon	Foot	1,432	$	$
07140.07	Water Main Pipe, 16 In. Dia, Abandon	Foot	40	$	$
07150.01	Water Main Pipe, 4 In. Dia, Rem	Foot	20	$	$
07150.02	Water Main Pipe, 6 In. Dia, Rem	Foot	60	$	$
07150.03	Water Main Pipe, 8 In. Dia, Rem	Foot	70	$	$
07150.05	Water Main Pipe, 12 In. Dia, Rem	Foot	150	$	$
07170.01	Gate Valve in Box, 4 In. Dia, Rem	Each	6	$	$
07170.02	Gate Valve in Box, 6 In. Dia, Rem	Each	6	$	$
07170.03	Gate Valve in Box, 8 In. Dia, Rem	Each	2	$	$
07170.05	Gate Valve in Box, 12 In. Dia, Rem	Each	1	$	$
07190.02	Gate Valve in Well, 6 In. Dia, Rem	Each	2	$	$
07190.05	Gate Valve in Well, 12 In. Dia, Rem	Each	4	$	$
	Streets, Driveways, & Sidewalks				
08000.00	Subbase, CIP	Cyd	974	$	$
08000.70	DS_Maintenance Gravel	Ton	430	$	$
08010.74	DS_Aggregate Base, 10 In., 21AA, Modified	Square Yard	6,450	$	$
08010.75	DS_Aggregate Base, 17 In., 21AA, Modified (Temporary)	Square Yard	2,100	$	$
08060.00	Hand Patching	Ton	20	$	$
08070.11	HMA, 3EML	Ton	1,134	$	$
08070.15	HMA, 4EML	Ton	753	$	$
08070.19	HMA, 5EML	Ton	773	$	$
08072.70	DS_HMA, Temp Pavt	Ton	556	$	$
08080.03	Conc Pavt, Non-Reinf, 8 In.	Square Yard	16	$	$
08090.71	DS_Joint, Contraction, Cp	Foot	76	$	$
08090.72	DS_Joint, Contraction, Crg	Foot	25	$	$
08093.70	DS_Lane Tie, Epoxy Anchored	Each	70	$	$
	TOTAL THIS PAGE (BF-5)				$

E. Schedule of Pricing/Cost – 20 Points

Company: _____

Project: N. University & Thayer Improvements
File #: 2023-023 **RFP#: 26-11**

ITEM NUMBER	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
08110.00	Conc, Curb or Curb & Gutter, All Types	Foot	3,747	$	$
08110.71	DS_Mountable Curb and Gutter	Foot	115	$	$
08131.01	Conc, Sidewalk, Drive Approach, or Ramp, 6 In.	Square Foot	5,200	$	$
08132.01	Conc, Sidewalk, Drive Approach, or Ramp, 6 In., High Early	Square Foot	2,248	$	$
08132.02	Conc, Sidewalk, Drive Approach, or Ramp, 8 In., High Early	Square Foot	170	$	$
08133.70	DS_Conc, Sidewalk, Fibermesh, 8 In.	Square Foot	29,650	$	$
08133.71	DS_Conc, Sidewalk Ramp, Fibermesh, 8 In.	Square Foot	3,181	$	$
08133.71	DS_Handrail	Foot	70	$	$
08133.72	DS_Conc, Sidewalk, Fibermesh, 9 In., Raised	Square Foot	2,080	$	$
08140.70	DS_Brick Pavers, Sidewalk, Rem	Square Foot	6,643	$	$
08140.71	DS_Brick Pavers, Sidewalk, Rem and Salv	Square Foot	978	$	$
08140.72	Brick Pavers, Sidewalk, Rem and Reinstall	Square Foot	223	$	$
08140.73	DS_Perforated Concrete Base, 6 In.	Square Foot	223	$	$
08150.00	Detectable Warning Surface	Foot	326	$	$
08150.70	DS_Detectable Warning Surface, Temp	Foot	100	$	$
08150.71	DS_Tactile Directional Indicator	Foot	60	$	$
08190.07	Pavt Mrkg, Polymer Cement Surface, Tan	Sft	45	$	$
08190.72	DS_Pavt Mrkg, Polymer Cement Surface, Bike Thru Arrow Sym	Each	7	$	$
08190.73	DS_Pavt Mrkg, Polymer Cement Surface, Bike, Small Sym	Each	8	$	$
08190.76	DS_Pavt Mrkg, Polymer Cement Surface, Bike Lane, Green	Square Foot	2,146	$	$
08190.78	DS_Pavt Mrkg, Polymer Cement Surface, Bus Lane, Red	Square Foot	4,321	$	$
08190.79	DS_Pavt Mrkg, Polymer Cement Surface, Bus	Each	7	$	$
08191.70	DS_Pavt Mrkg, Polymer Cement Surface, Only	Each	9	$	$
08191.71	DS_Pavt Mrkg, Polymer Cement Surface, Sharrow Sym	Each	4	$	$
08191.72	DS_Pavt Mrkg, Polymer Cement Surface, Merge Left Arrow	Each	1	$	$
08191.73	DS_Scarification, for Polyurea Spec Mrkg	Square Foot	20	$	$
08191.74	DS_Pavt Mrkg, Polymer Cement Surface, Rt Arrow	Each	1	$	$
08200.05	Pavt Mrkg, Polyurea, 12 In., Cross Hatching, White	Foot	264	$	$
08200.09	Pavt Mrkg, Polyurea, 24 In., Stop Bar	Foot	190	$	$
08200.10	Pavt Mrkg, Polyurea, 12 In., Crosswalk	Foot	1,314	$	$
	TOTAL THIS PAGE (BF-6)				$

E. Schedule of Pricing/Cost – 20 Points

Company:

Project: N. University & Thayer Improvements
File #: 2023-023 **RFP#: 26-11**

ITEM NUMBER	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
08200.11	Pavt Mrkg, Polyurea, 4 In., White	Foot	86	$	$
08200.13	Pavt Mrkg, Polyurea, 6 In., White	Foot	3,917	$	$
08200.14	Pavt Mrkg, Polyurea, 6 In., Yellow	Foot	2,050	$	$
08200.30	Pavt Mrkg, Polyurea, Yield Triangle Sym	Each	12	$	$
08200.31	Pavt Mrkg, Polyurea, Speed Hump Chevron, White	Each	6	$	$
08251.00	Recessing Pavt Mrkg, Longit	Foot	4,236	$	$
08252.00	Recessing Pavt Mrkg, Transv	Square Foot	1,870	$	$
08300.00	Monument Box, Adjust	Each	2	$	$
08300.70	DS_Bikeway Delineator Post	Each	109	$	$
08300.70	DS_Parking Meter Post, Install	Each	20	$	$
08300.71	Flexible Delineator Post, Surface Mounted	Each	8	$	$
08300.72	DS_Sign, Type IIIA	Square Foot	70	$	$
08300.73	DS_Sign, Type IIIB	Square Foot	168	$	$
08300.74	DS_Perforated Steel Square Tube Breakaway System, Modified	Each	43	$	$
08300.75	DS_Reflective Panel for Permanent Sign Support, 3 foot, Modified	Each	2	$	$
08300.76	DS_Qwick Kurb Sign	Each	9	$	$
08300.77	DS_Fdn, Perforated Steel Square Tube Breakaway System, Rem	Each	4	$	$
08300.78	DS_Ground Mtg Sign Support, Rem	Each	4	$	$
	Lighting and Electrical				
09000.01	Conductors, No. 4AWG	Foot	4,440	$	$
09000.03	Conductors, No. 8AWG	Foot	2,220	$	$
09000.04	Conductors, No. 10AWG	Foot	204	$	$
9010.01	Conduit, Schedule 80 PVC, 2 In.	Foot	68	$	$
9011.02	Conduit, Schedule 80 PVC, 3 In., Qty 2	Foot	2,220	$	$
09020.00	Handhole, Rem	Each	9	$	$
09020.70	DS_Handhole, Adjust	Each	18	$	$
09030.01	Handhole Assembly, 17 In. X 30 In. x 18 In.	Each	18	$	$
09030.03	Handhole Assembly, 24 In. X 36 In. x 18 In.	Each	1	$	$
09050.00	Foundation, Light Pole	Each	17	$	$
09060.00	Foundation, Light Pole, Rem	Each	34	$	$
	TOTAL THIS PAGE (BF-7)				$

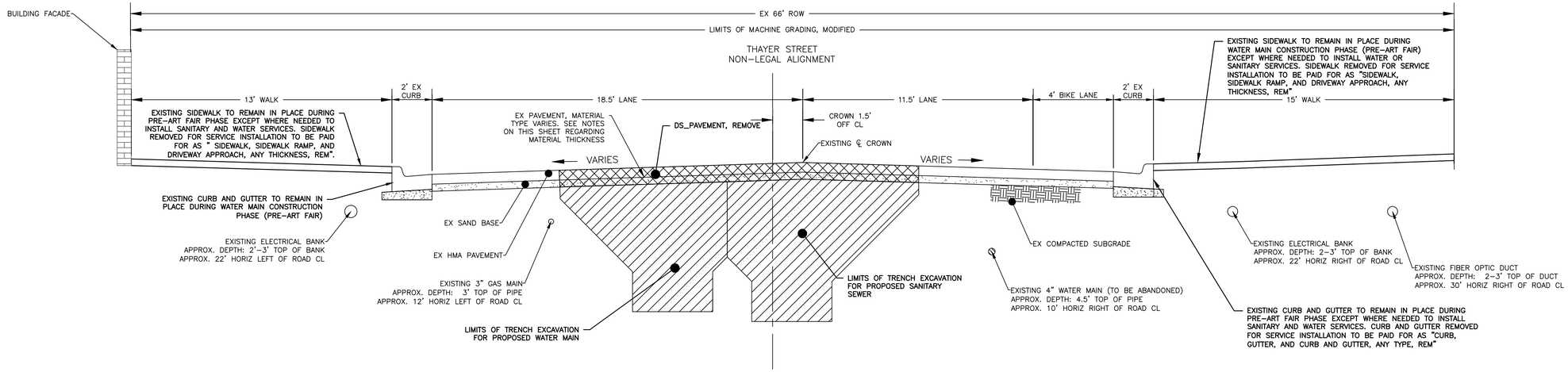
E. Schedule of Pricing/Cost – 20 Points

Company:

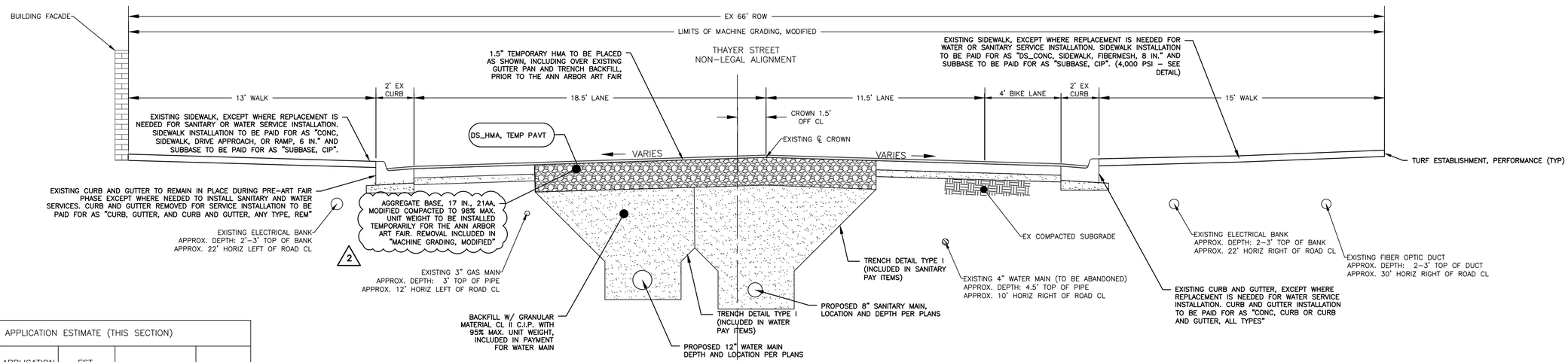
Project: N. University & Thayer Improvements
File #: 2023-023 **RFP#: 26-11**

ITEM NUMBER	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
09093.01	Light Pole, 30' Standard	Each	13	$	$
09093.71	DS_Light Pole, 30' Standard, 2 Luminaires	Each	4	$	$
09110.01	Light Fixture, Standard	Each	18	$	$
09121.00	Light Fixture, Rem	Each	18	$	$
09130.00	Streetlight Disconnect Box,Complete	Each	1	$	$
	Landscaping				
10000.01	DS_Tree, B&B	Each	12	$	$
10000.70	DS_Irrigation, Remove and Replace	Lump Sum	1	$	$
10001.70	DS_Shrub, #5 Cont.	Each	34	$	$
10001.71	DS_Perennial, #2 Cont.	Each	466	$	$
10001.72	DS_Perennial, Quart Cont.	Each	556	$	$
10001.73	DS_Bulb	Each	528	$	$
10001.74	DS_Annuals, Owner Selected	Each	315	$	$
10001.75	DS_Mulch	Square Yard	275	$	$
10001.76	DS_Planting Mixture	Cubic Yard	225	$	$
10001.77	Washed Stone for Drainage	Cubic Yard	38	$	$
10001.78	Geotextile Wrap	Square Yard	143	$	$
10001.79	DS_Planter Wall, 12 In	Cubic Yard	69	$	$
10001.80	DS_Planter Wall, 24 In	Cubic Yard	193		
10002.70	4" Perforated tile drainage pipe	Foot	413	$	$
10006.71	DS_Turf Establishment, Performance	Square Yard	350	$	$
10100.70	DS_DDA Bike Hoop, Surface Mounted	Each	3	$	$
	TOTAL THIS PAGE (BF-8)				$
	TOTAL FROM PAGE (BF-1):				$
	TOTAL FROM PAGE (BF-2):				$
	TOTAL FROM PAGE (BF-3):				$
	TOTAL FROM PAGE (BF-4):				$
	TOTAL FROM PAGE (BF-5):				$
	TOTAL FROM PAGE (BF-6):				$
	TOTAL FROM PAGE (BF-7):				$
	TOTAL BASE BID:				**$**

EXISTING GEOTECHNICAL INFORMATION
B-1: 5' SOIL BORING INDICATES 5 ¾" OF ASPHALT, 4 ½" OF CONCRETE, 14" OF LOOSE MOIST BROWN CLAYEY WELL GRADED SAND WITH TRACE OF GRAVEL, 36" OF MEDIUM COMPACT MOIST BROWN SAND WITH TRACE OF GRAVEL.
B-2: 5' SOIL BORING INDICATES 5 ½" OF ASPHALT, 54" OF LOOSE MOIST BROWN CLAYEY WELL GRADED SAND WITH TRACE OF GRAVEL.



THAYER STREET EXISTING CROSS SECTION SOUTH
PRE-ART FAIR PHASE
FOR WATER MAIN AND SANITARY MAIN INSTALLATION ONLY
STA 300+00 - STA 302+25



THAYER STREET PROPOSED CROSS SECTION SOUTH
PRE-ART FAIR PHASE
FOR WATER MAIN AND SANITARY MAIN INSTALLATION ONLY
STA 300+00 - STA 302+25

HMA APPLICATION ESTIMATE (THIS SECTION)					
PAY ITEM	HMA MIX	APPLICATION RATE	EST. THICKNESS	PERF GRADE	AWI (MIN)
DS_HMA PAVT, TEMP	13A / LVSP	165 LB/SYD	1.5 INCH	PG 58-28	260

FOR INFORMATION ONLY: APPLY BOND COAT AT 0.05 TO 0.15 GAL/SYD BETWEEN PROPOSED HMA LIFTS (PAYMENT INCLUDED IN PAYMENT FOR HMA MIXTURES).

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
05	ADDENDUM #2	02/11/2026	VARIOUS	MHM
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

Know what's below. Call before you dig.

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

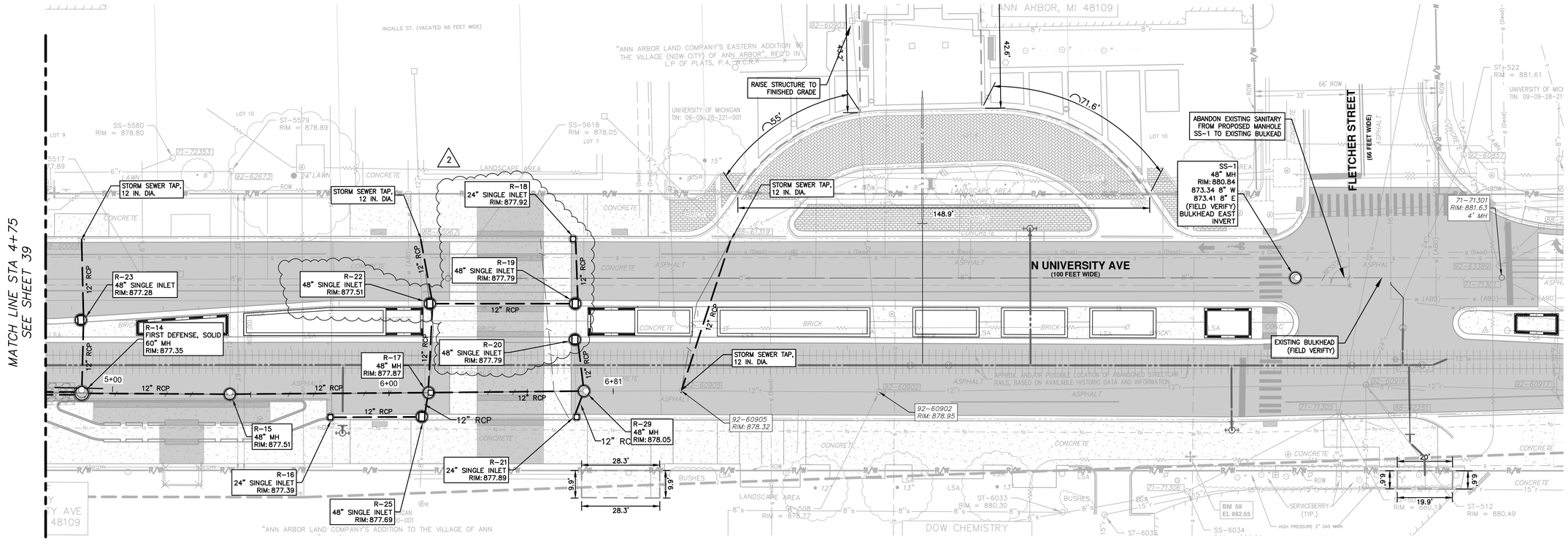
N. UNIVERSITY & THAYER IMPROVEMENTS

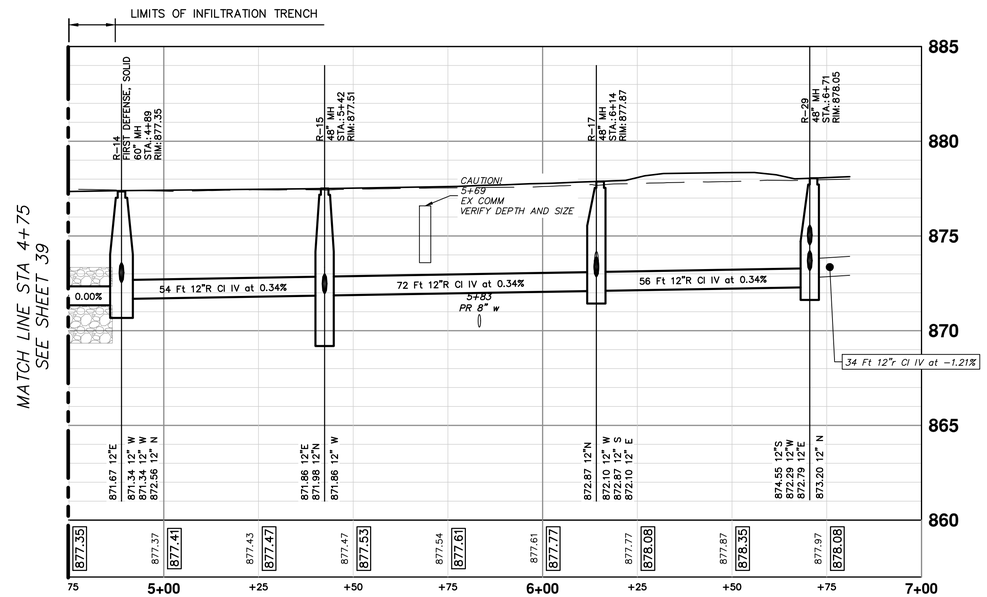
TYPICAL SECTIONS - THAYER

SCALE : NTS

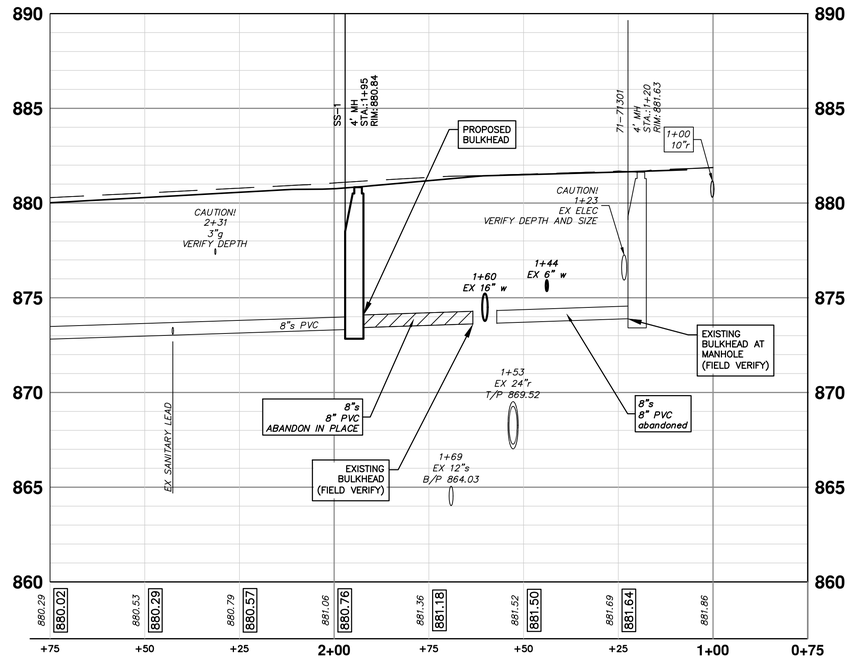
DRAWING No. 2023-023-22

SHEET No. 22 OF 80





STORM SEWER PROFILE: R-14, R-15, R-17, R-24



SANITARY SEWER PROFILE: SS-1

811 Know what's below. Call before you dig.

05		02/11/2026	VARIOUS	MHM
04	ADDENDUM #2	01/26/2026	VARIOUS	MHM
03	BID	01/05/2026	VARIOUS	MHM
02	100% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	90% SUBMITTAL	10/10/2025	VARIOUS	MHM
REV.	60% SUBMITTAL	DATE	DRAWN	CHECKED

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

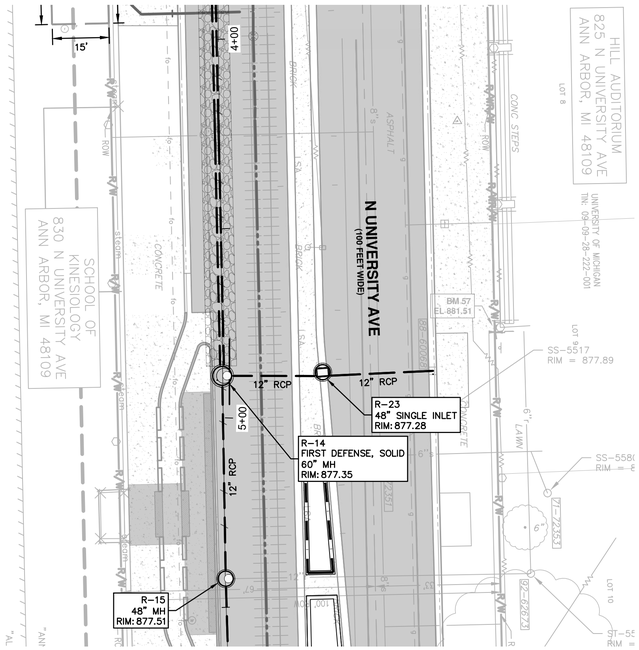
N. UNIVERSITY & THAYER IMPROVEMENTS

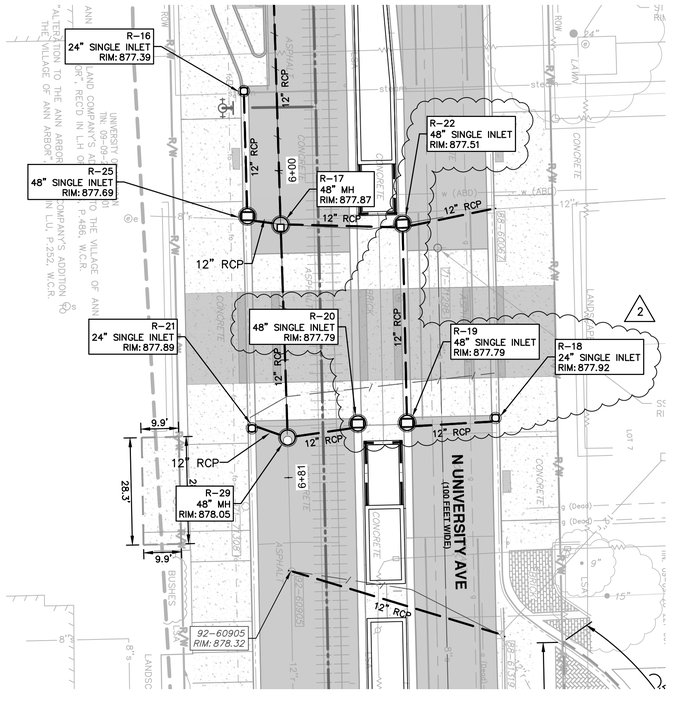
PROPOSED STORM - NORTH UNIVERSITY STA 4+75 TO STA 6+14

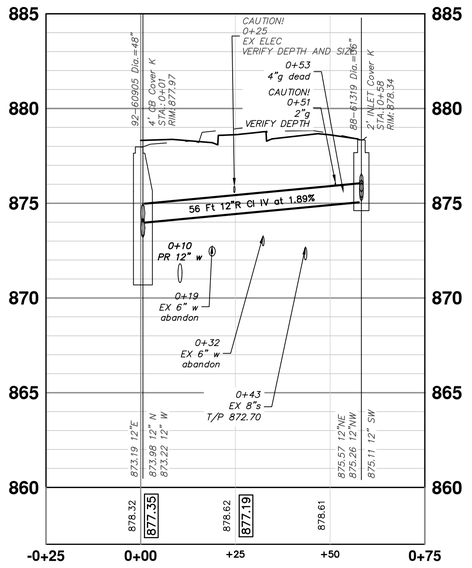
SCALE : 1"=20'

DRAWING No. 2023-023-40

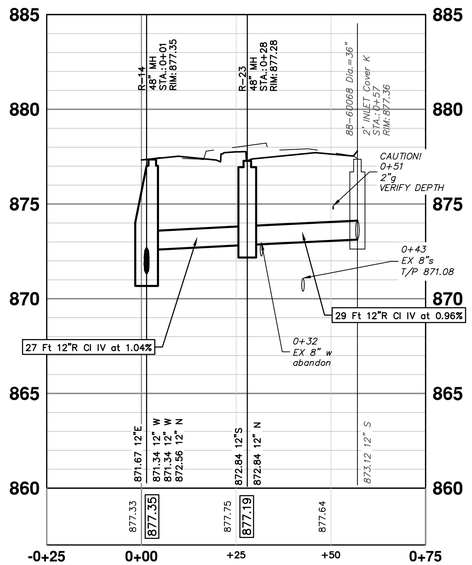
SHEET No. 40 OF 80



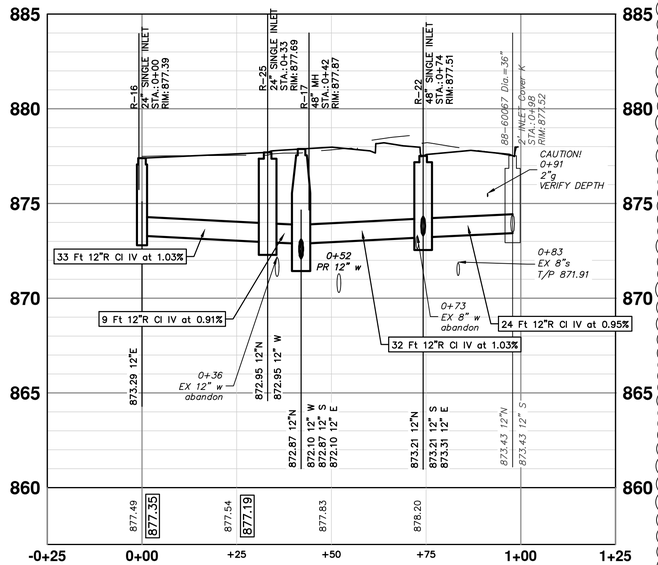




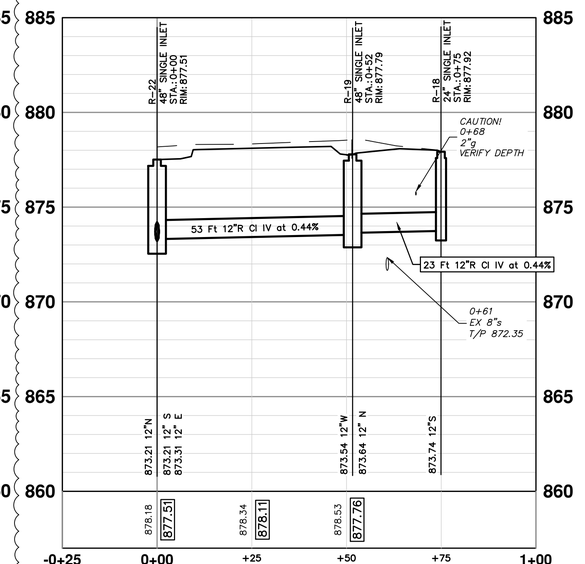
STORM SEWER PROFILE: 92-60905, 88-61319



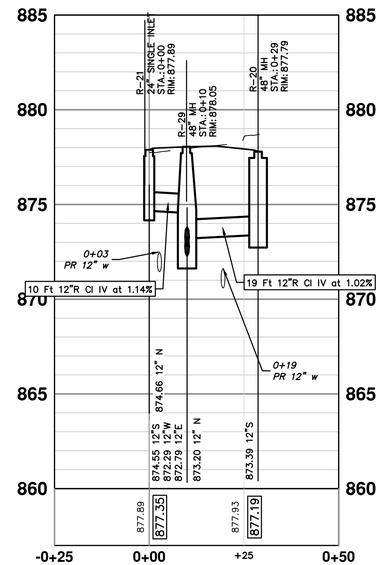
STORM SEWER PROFILE: R-14, R-23



STORM SEWER PROFILE: R-16, R-17, R-22, R-25



STORM SEWER PROFILE: R-19, R-18, R-22



STORM SEWER PROFILE: R-20, R-21, R-29

Know what's **below.** **Call before you dig.** 811

05	ADDENDUM #2	02/11/2026	VARIOUS	MHM
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM
REV.	DESCRIPTION	DATE	DRAWN	CHECKED

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

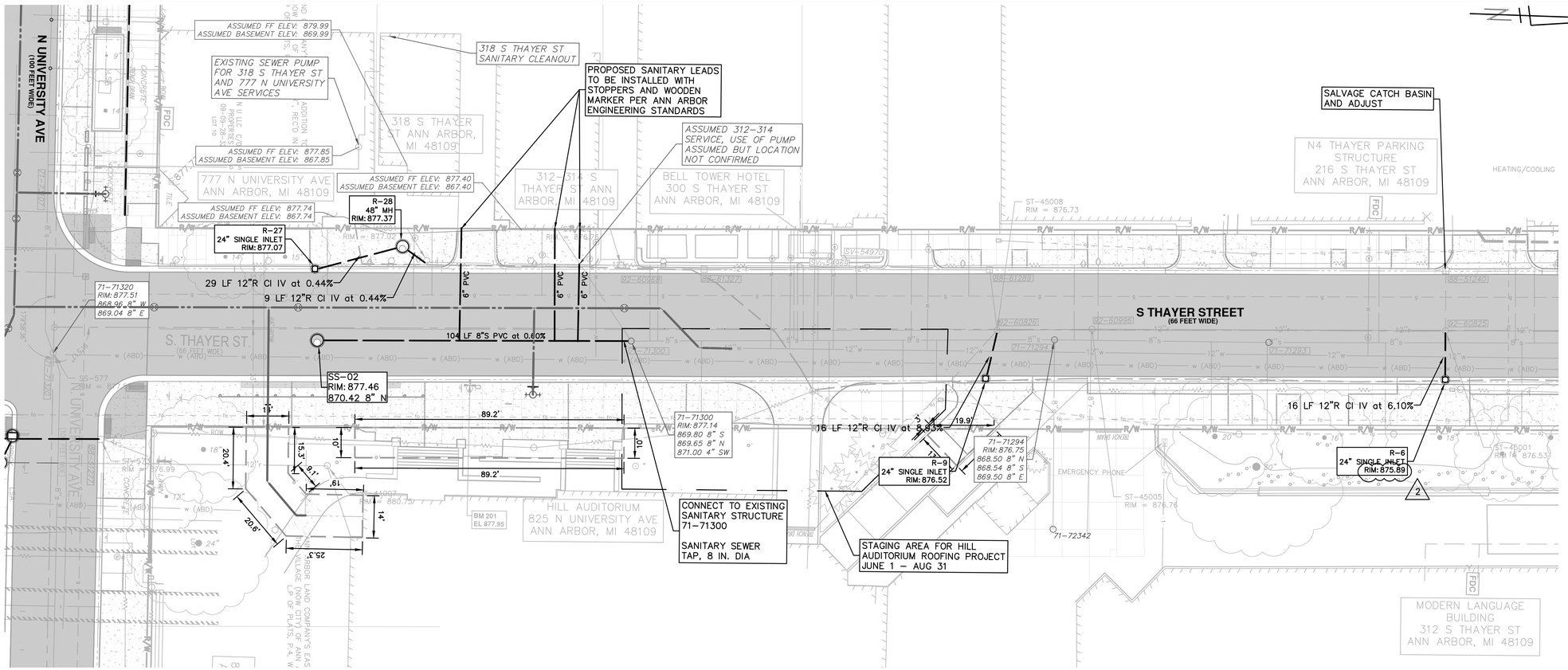
N. UNIVERSITY & THAYER IMPROVEMENTS

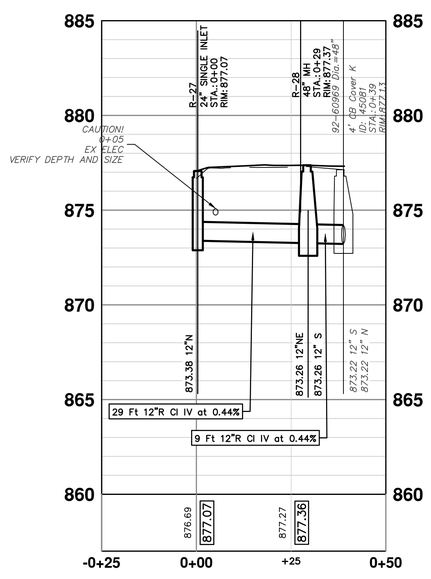
PROPOSED STORM - NORTH UNIVERSITY

SCALE : 1"=20'

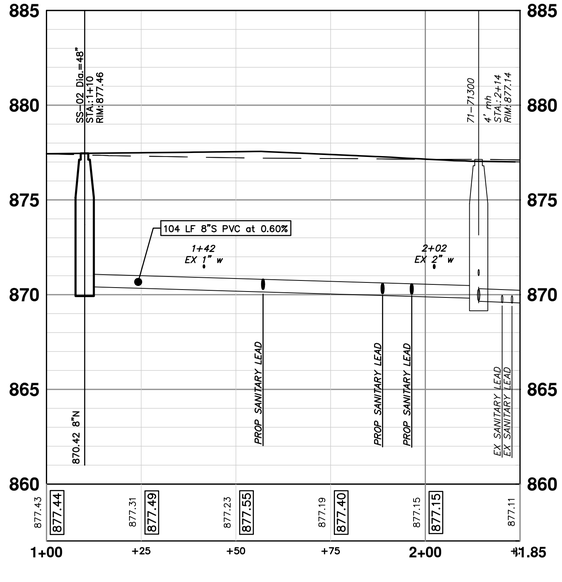
DRAWING No. 2023-023-42

SHEET No. 42 OF 80





STORM SEWER PROFILE: R-27 TO 92-60969



SANITARY SEWER PROFILE: SS-02 TO 71-71300

811 Know what's below. Call before you dig.

	DATE	DRAWN	CHECKED
05	ADDENDUM #2	02/11/2026	VARIOUS	MHM
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM
REV.	DESCRIPTION	DATE	DRAWN	CHECKED

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

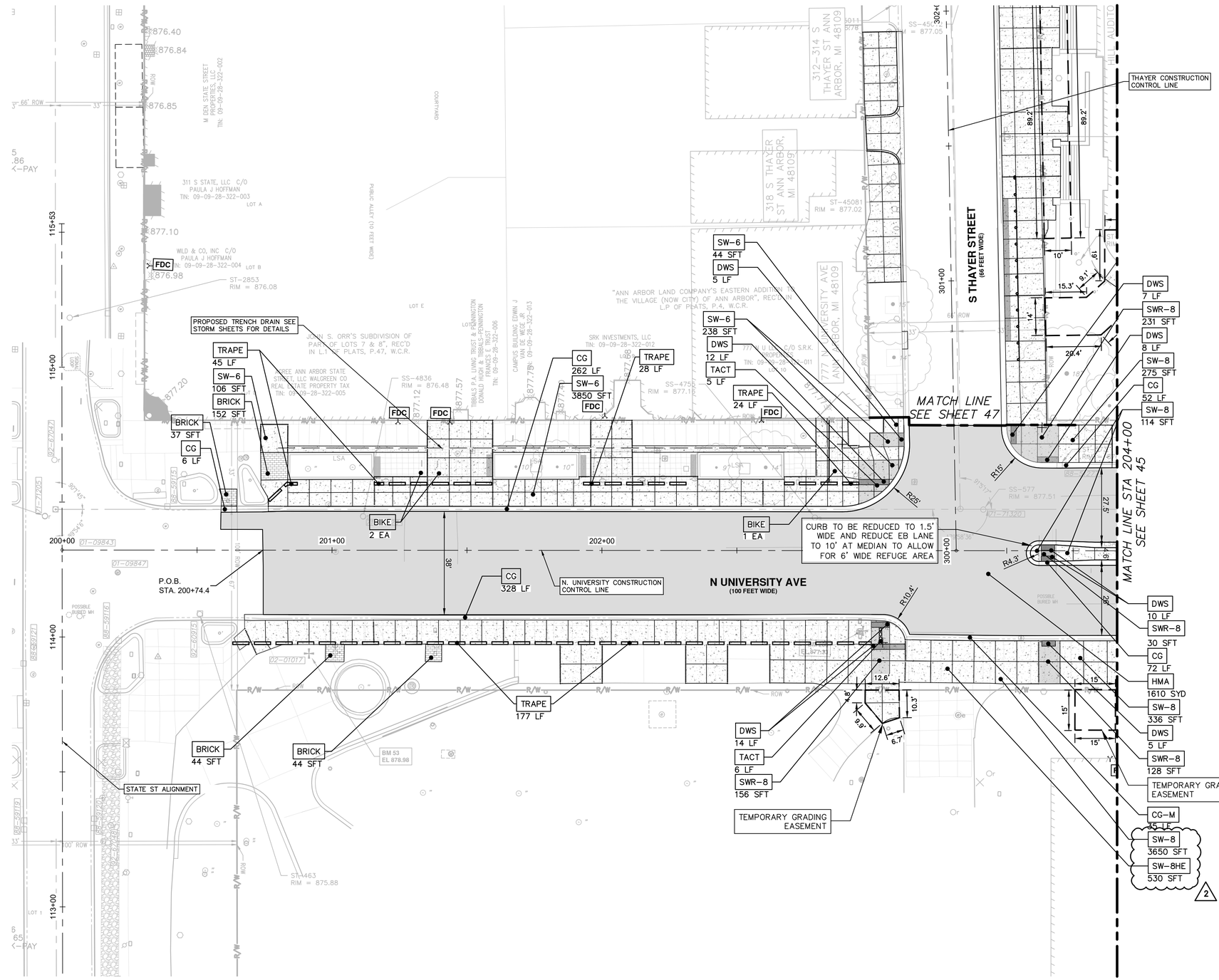
N. UNIVERSITY & THAYER IMPROVEMENTS

PROPOSED SANITARY - THAYER

SCALE : 1"=20'

DRAWING No.
2023-023-43

SHEET No.
43 OF 80



LEGEND

- PROPOSED CONCRETE RAMP/LEVEL LANDING
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PAVEMENT LIMITS
- MULCH
- PROPOSED GRADING EASEMENT
- CONTROL JOINT
- EXPANSION JOINT

CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONC, CURB OR CURB & GUTTER, ALL TYPES
DWS	DETECTABLE WARNING SURFACE
C-P	DS_PLANTER CURB
CG-M	CONC, DRIVEWAY OPENING, TYPE M. PAID FOR AS CONC, CURB, CURB & GUTTER, ALL TYPES
SW-6	CONC, SIDEWALK, DRIVE APPROACH, OR RAMP, 6 IN.
SW-8	DS_CONC, SIDEWALK, FIBERMESH, 8 IN.
SWR-8	DS_CONC, SIDEWALK RAMP, FIBERMESH, 8 IN.
SW-9R	DS_CONC, SIDEWALK, FIBERMESH, 9 IN., RAISED
TRAPE	DS_TRAPEZOID DELINEATOR, ANY SIZE
MULCH	DS_PLANTING SOIL AND MULCH
TREE	TREE, MEDIUM, B&B INSTALL CERCIS CANADENSIS (EASTERN REDBUD) 2" CALIPER, MULTI-STEM
BIKE	BIKE HOOP, CORED
TACT	DS_TACTILE DIRECTIONAL INDICATOR
BRICK	BRICK PAVERS, SIDEWALK, REM AND REINSTALL
SW-8HE	CONC, SIDEWALK, DRIVE APPROACH, OR RAMP, 8 IN., HIGH EARLY

NOTE:
- TURF ESTABLISHMENT, PERFORMANCE SHALL BE INSTALLED IN DISTURBED LAWN AREAS AS NECESSARY.

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
05	ADDENDUM #2	02/11/2026	VARIOUS	MHM
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

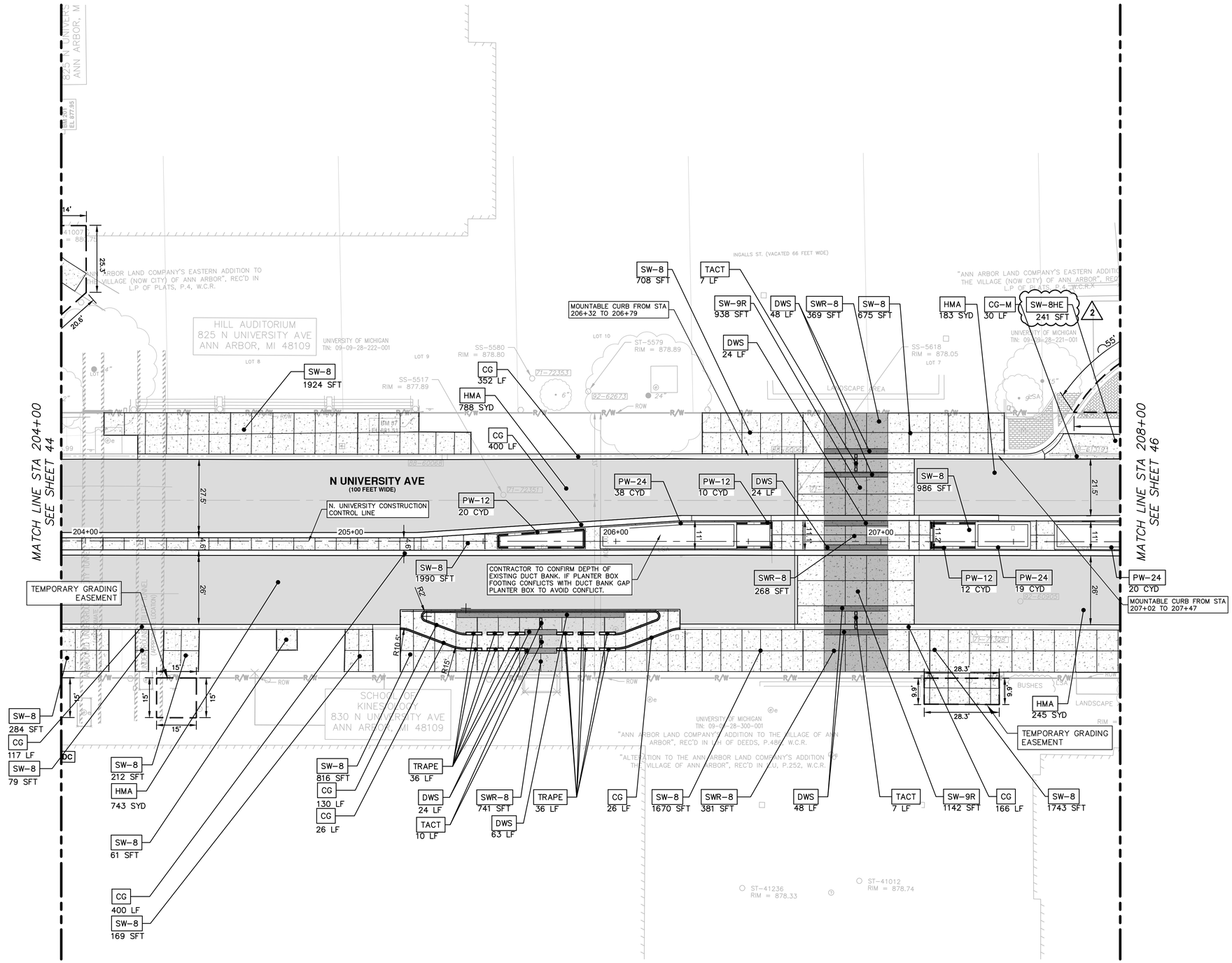
N. UNIVERSITY & THAYER IMPROVEMENTS

CONSTRUCTION PLAN - NORTH UNIVERSITY

SCALE : 1"=20'

DRAWING No. 2023-023-44

SHEET No. 44 OF 80



LEGEND

- PROPOSED CONCRETE RAMP/LEVEL LANDING
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PAVEMENT LIMITS
- MULCH
- PROPOSED GRADING EASEMENT
- CONTROL JOINT
- EXPANSION JOINT

CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONC, CURB OR CURB & GUTTER, ALL TYPES
DWS	DETECTABLE WARNING SURFACE
C-P	DS_PLANTER CURB
CG-M	CONC, DRIVEWAY OPENING, TYPE M. PAID FOR AS CONC, CURB, CURB & GUTTER, ALL TYPES
SW-8	DS_CONC, SIDEWALK, FIBERMESH, 8 IN.
SWR-8	DS_CONC, SIDEWALK RAMP, FIBERMESH, 8 IN.
SW-9R	DS_CONC, SIDEWALK, FIBERMESH, 9 IN., RAISED
TRAPE	DS_TRAPEZOID DELINEATOR, ANY SIZE
MULCH	DS_PLANTING SOIL AND MULCH
TREE	TREE, MEDIUM, B&B INSTALL CERCIS CANADENSIS (EASTERN REDBUD) 2" CALIPER, MULTI-STEM
BIKE	BIKE HOOP, CORED
TACT	DS_TACTILE DIRECTIONAL INDICATOR
PW-12	DS_PLANTER WALL, 12 IN
PW-24	DS_PLANTER WALL, 24 IN
SW-8HE	CONC, SIDEWALK, DRIVE APPROACH, OR RAMP, 8 IN., HIGH EARLY

NOTE:
- TURF ESTABLISHMENT, PERFORMANCE SHALL BE INSTALLED IN DISTURBED LAWN AREAS AS NECESSARY.

Know what's below. Call before you dig. 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
05	ADDENDUM #2	02/11/2026	VARIOUS	MHM
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

CITY OF ANN ARBOR
PUBLIC SERVICES
301 E. HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734.794.6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

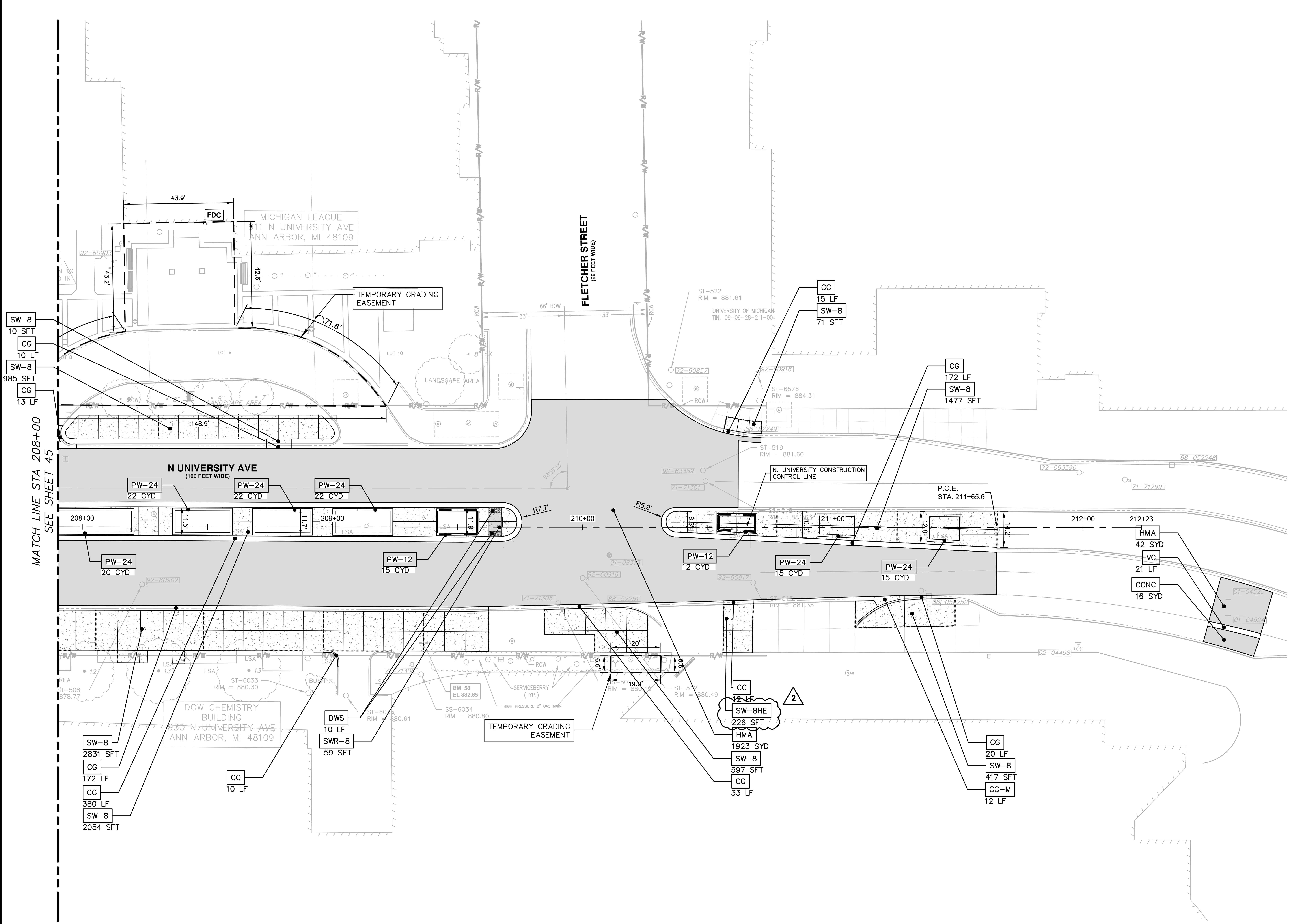
N. UNIVERSITY & THAYER IMPROVEMENTS

CONSTRUCTION PLAN - NORTH UNIVERSITY

SCALE : 1"=20'

DRAWING No. 2023-023-45

SHEET No. 45 OF 80



LEGEND

- PROPOSED CONCRETE RAMP/LEVEL LANDING
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PAVEMENT LIMITS
- MULCH
- PROPOSED GRADING EASEMENT
- CONTROL JOINT
- EXPANSION JOINT

CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONC, CURB OR CURB & GUTTER, ALL TYPES
DWS	DETECTABLE WARNING SURFACE
C-P	DS_PLANTER CURB
CG-M	CONC, DRIVEWAY OPENING, TYPE M. PAID FOR AS CONC, CURB, CURB & GUTTER, ALL TYPES
SW-8	DS_CONC, SIDEWALK, FIBERMESH, 8 IN.
SWR-8	DS_CONC, SIDEWALK RAMP, FIBERMESH, 8 IN.
SW-9R	DS_CONC, SIDEWALK, FIBERMESH, 9 IN., RAISED
TRAPE	DS_TRAPEZOID DELINEATOR, ANY SIZE
MULCH	DS_PLANTING SOIL AND MULCH
TREE	TREE, MEDIUM, B&B INSTALL CERCIS CANADENSIS (EASTERN REDBUD) 2" CALIPER, MULTI-STEM
BIKE	BIKE HOOP, CORED
TACT	DS_TACTILE DIRECTIONAL INDICATOR
PAVER	BRICK PAVERS, SIDEWALK, REM AND REINSTALL
CONC	CONC PAVT, NON-REINF, 8 IN.
PW-12	DS_PLANTER WALL, 12 IN
PW-24	DS_PLANTER WALL, 24 IN
VC	VALLEY CURB (TO BE PAID FOR AS CONC, CURB OR CURB & GUTTER, ALL TYPES)
SW-8HE	CONC, SIDEWALK, DRIVE APPROACH, OR RAMP, 8 IN., HIGH EARLY

NOTE:
- TURF ESTABLISHMENT, PERFORMANCE SHALL BE INSTALLED IN DISTURBED LAWN AREAS AS NECESSARY.

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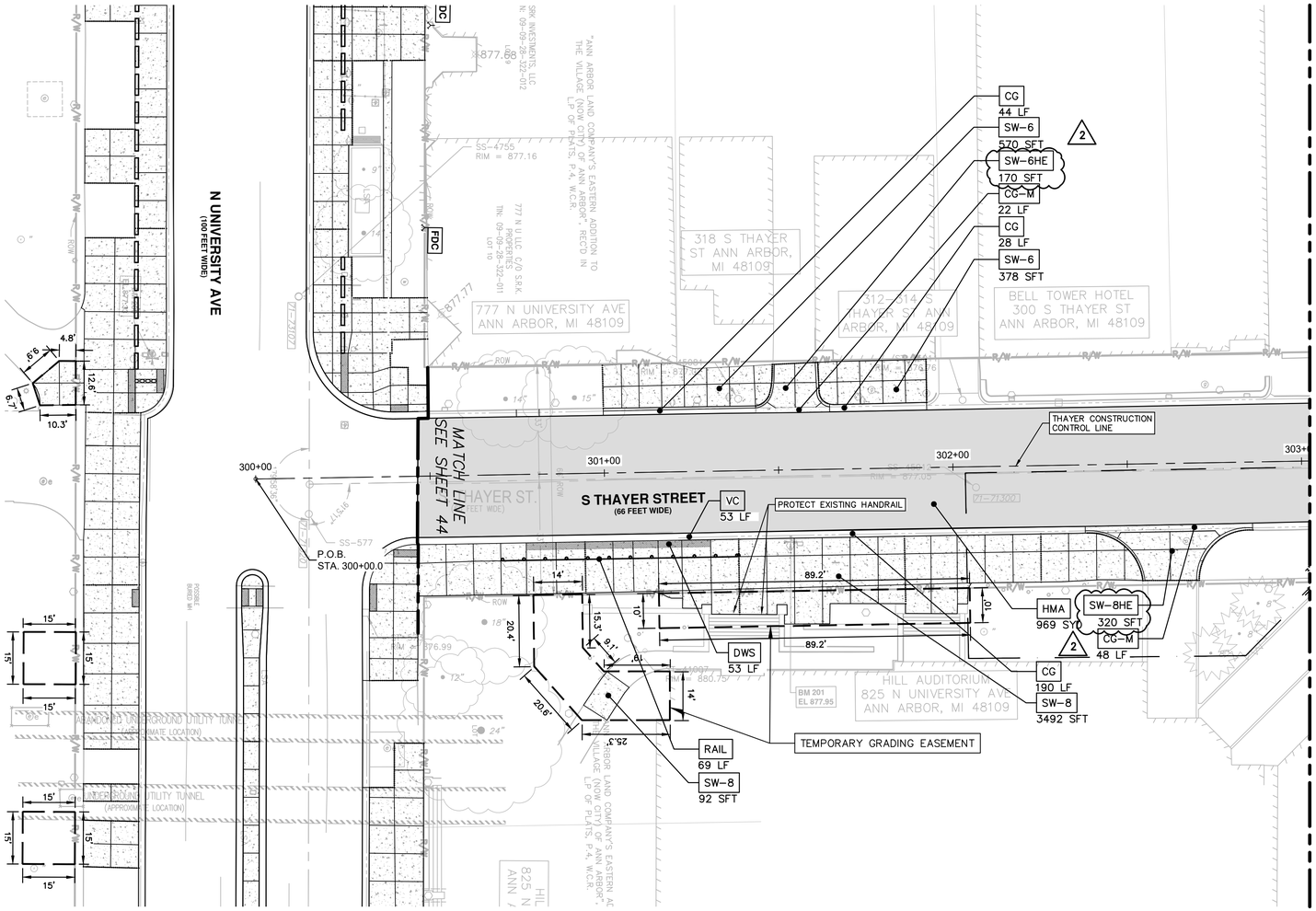
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

CONSTRUCTION PLAN - NORTH UNIVERSITY

SCALE : 1"=20'

DRAWING No. 2023-023-46



NOTE:
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LEGEND

- PROPOSED CONCRETE RAMP/LEVEL LANDING
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PAVEMENT LIMITS
- MULCH
- PROPOSED GRADING EASEMENT
- CONTROL JOINT
- EXPANSION JOINT

CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONC, CURB OR CURB & GUTTER, ALL TYPES
MOUNT	DS_MOUNTABLE CURB AND GUTTER
SW-8	DS_CONC, SIDEWALK, FIBERMESH, 8 IN.
DWS	DETECTABLE WARNING SURFACE
C-P	DS_PLANTER CURB
CG-M	CONC, DRIVEWAY OPENING, TYPE M. PAID FOR AS CONC, CURB, CURB & GUTTER, ALL TYPES
TRAPE	DS_TRAPEZOID DELINEATOR, ANY SIZE
SW-6	CONC, SIDEWALK, DRIVE APPROACH, OR RAMP, 6 IN.
SWR-8	DS_CONC, SIDEWALK RAMP, FIBERMESH, 8 IN.
MULCH	DS_PLANTING SOIL AND MULCH
TREE	TREE, MEDIUM, B&B INSTALL CERCIS CANADENSIS (EASTERN REDBUD) 2" CALIPER, MULTI-STEM
BIKE	BIKE HOOP, CORED
TACT	DS_TACTILE DIRECTIONAL INDICATOR
RAIL	DS_HANDRAIL
VC	VALLEY CURB (TO BE PAID FOR AS CONC, CURB OR CURB & GUTTER, ALL TYPES)
SW-6HE	CONC, SIDEWALK, DRIVE APPROACH, OR RAMP, 6 IN., HIGH EARLY
SW-8HE	CONC, SIDEWALK, DRIVE APPROACH, OR RAMP, 8 IN., HIGH EARLY

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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

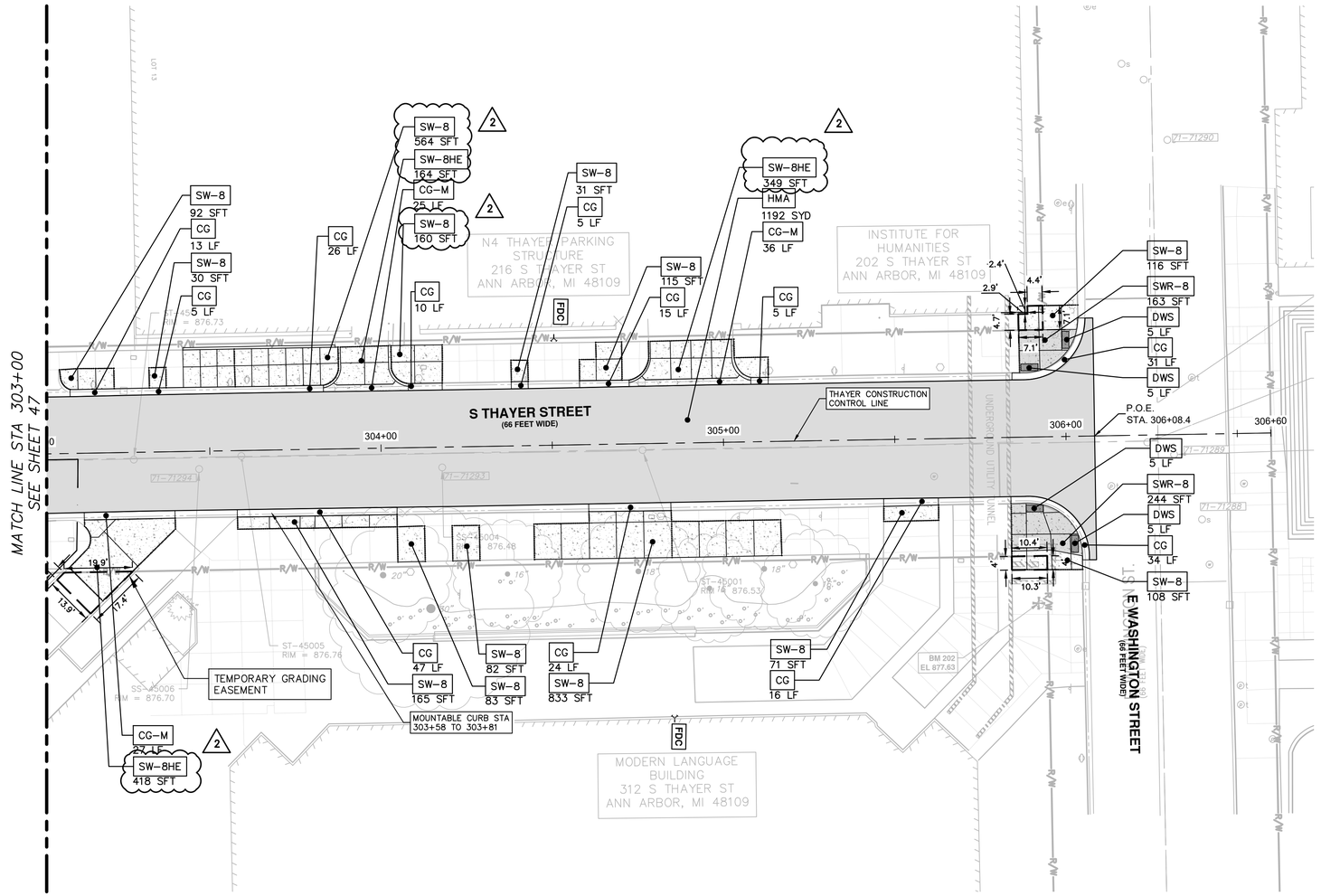
N. UNIVERSITY & THAYER IMPROVEMENTS

CONSTRUCTION PLAN - THAYER

SCALE : 1"=20'

DRAWING No. 2023-023-47

SHEET No. 47 OF 80



LEGEND

- PROPOSED CONCRETE RAMP/LEVEL LANDING
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PAVEMENT LIMITS
- MULCH
- PROPOSED GRADING EASEMENT
- CONTROL JOINT
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CONSTRUCTION KEY

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TREE	TREE, MEDIUM, B&B INSTALL CERCIS CANADENSIS (EASTERN REDBUD) 2" CALIPER, MULTI-STEM
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

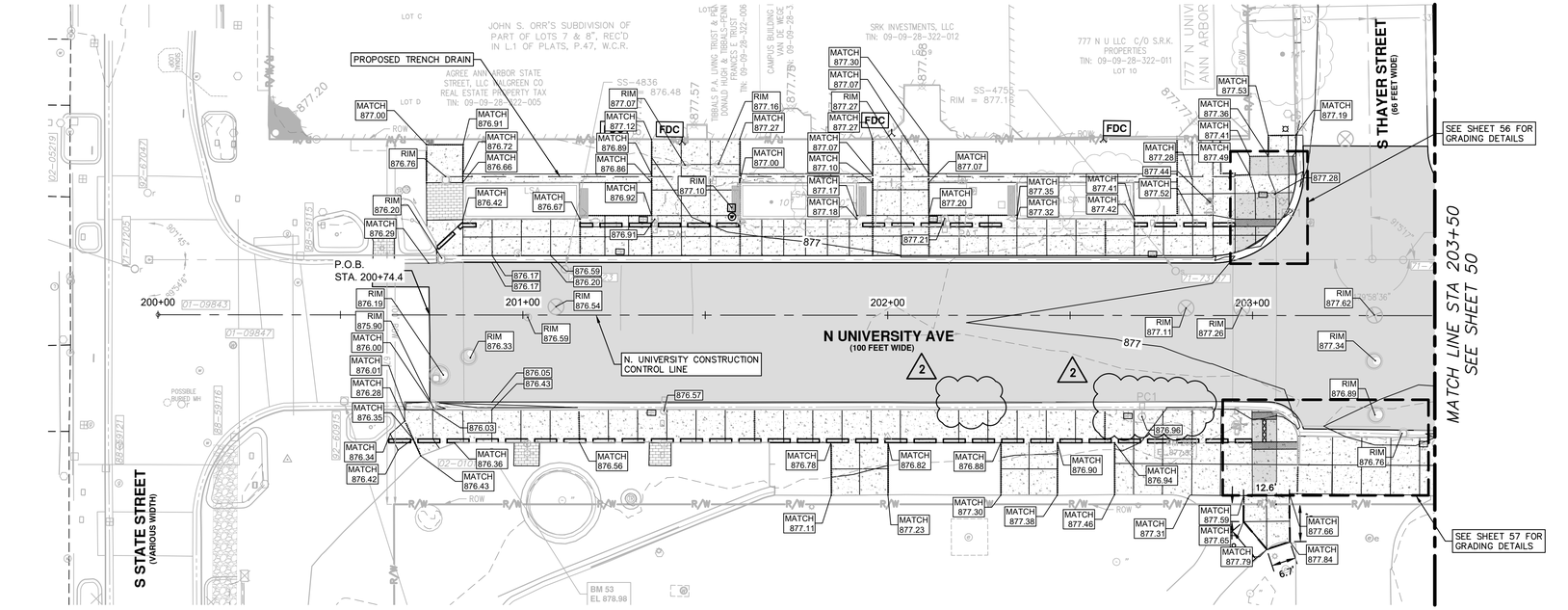
N. UNIVERSITY & THAYER IMPROVEMENTS

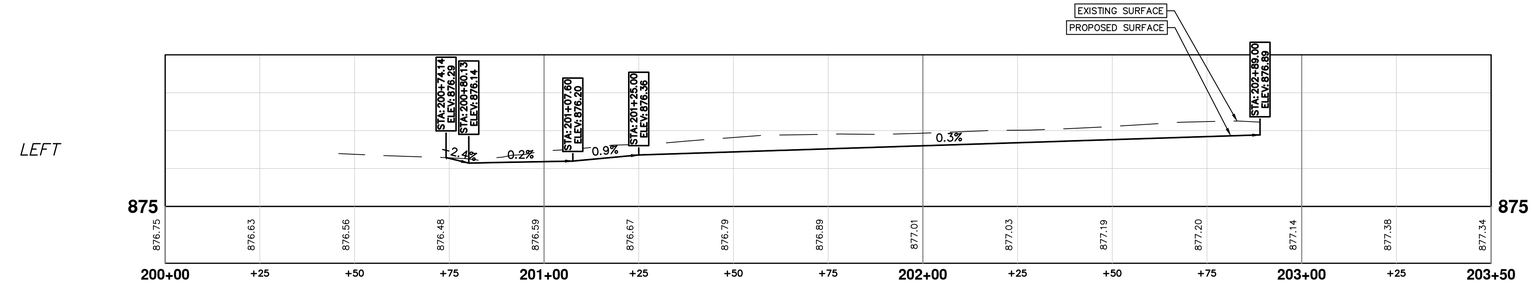
CONSTRUCTION PLAN - THAYER

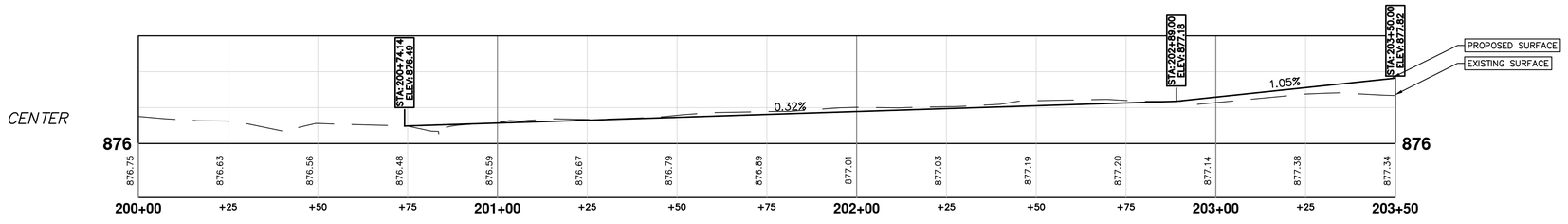
SCALE : 1"=20'

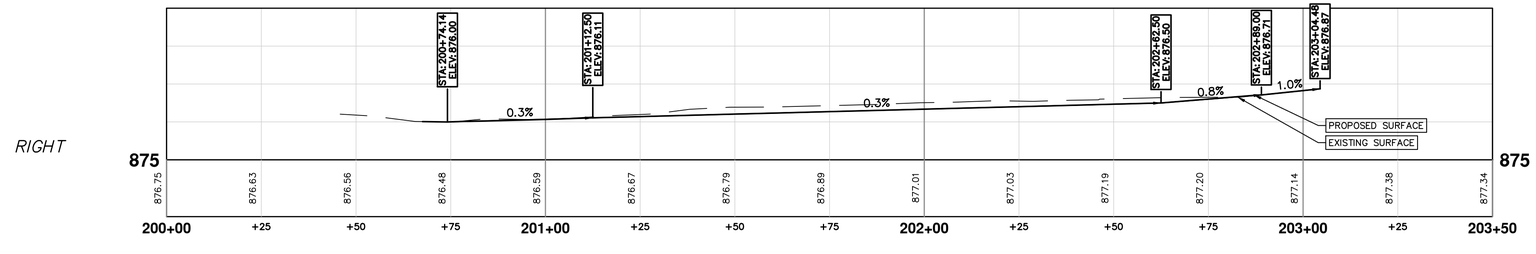
DRAWING No. 2023-023-48

SHEET No. 48 OF 80









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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

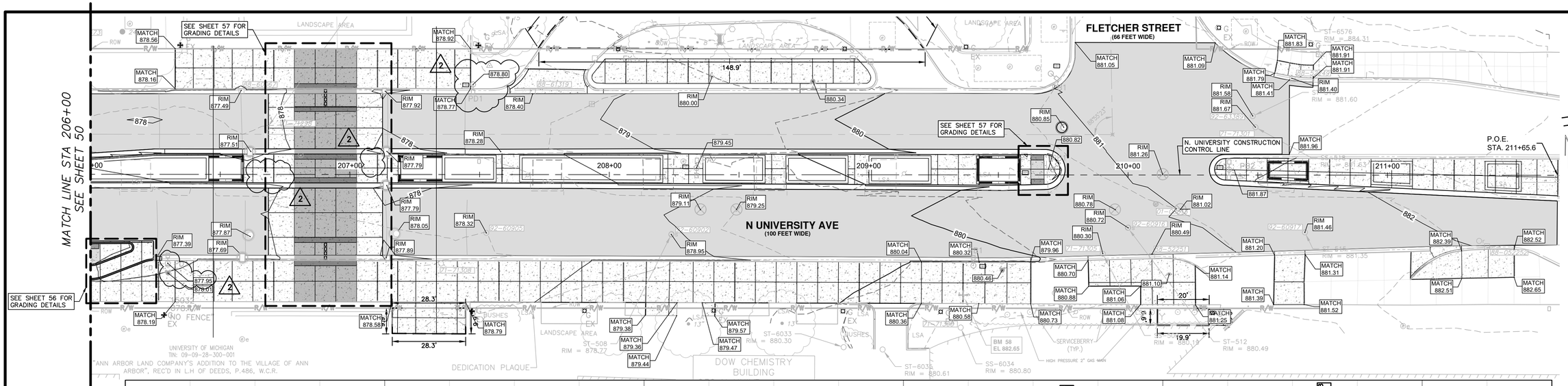
N. UNIVERSITY & THAYER IMPROVEMENTS

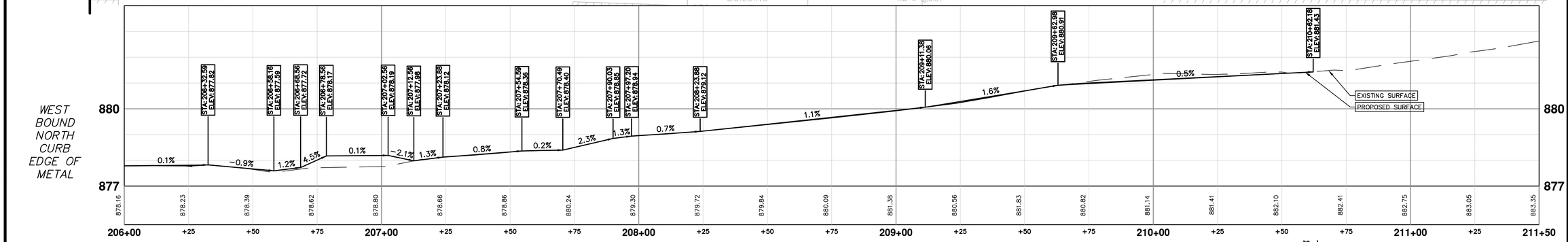
PAVING PLAN - NORTH UNIVERSITY STA 200+74.3 TO STA 203+50

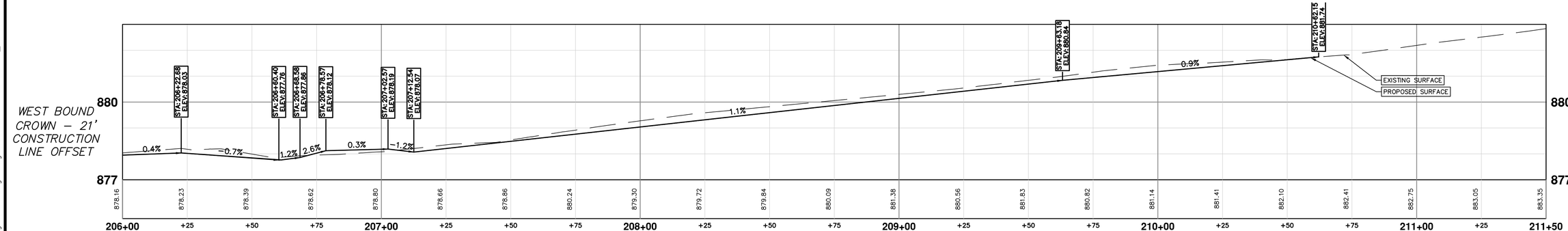
SCALE : 1"=20'

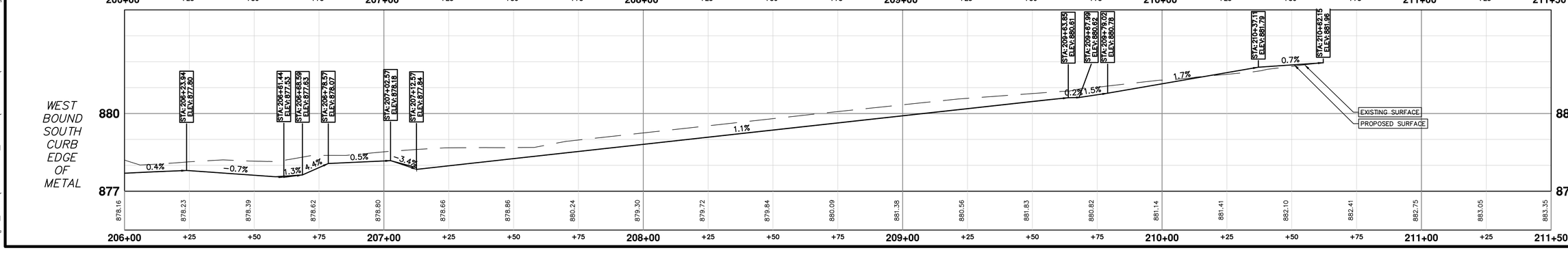
DRAWING No. 2023-023-49

SHEET No. 49 OF 80









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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

PAVING PLAN - NORTH UNIVERSITY STA 206+00 TO STA 211+65.6

SCALE : 1"=20'

DRAWING No. 2023-023-52

SHEET No. 52 OF 80

MATCH LINE STA 206+00
SEE SHEET 50

SEE SHEET 57 FOR GRADING DETAILS

SEE SHEET 56 FOR GRADING DETAILS

FLETCHER STREET
(66 FEET WIDE)

N UNIVERSITY AVE
(100 FEET WIDE)

N. UNIVERSITY CONSTRUCTION CONTROL LINE

P.O.E.
STA. 211+65.6

UNIVERSITY OF MICHIGAN
TIN: 09-09-26-300-001

ANN ARBOR LAND COMPANY'S ADDITION TO THE VILLAGE OF ANN

DOW CHEMISTRY

DEDICATION PLAQUE

LANDSCAPE AREA

NO FENCE

BUSHES

SERVICEBERRY (TYP.)

HIGH PRESSURE 2" GAS MAIN

28.3'

20'

19.9'

EAST BOUND NORTH CURB EDGE OF METAL

STA:208+51.18 ELEV:877.70
STA:206+68.59 ELEV:877.82
STA:206+78.54 ELEV:878.22
STA:207+02.54 ELEV:878.4
STA:207+12.64 ELEV:877.86
STA:207+76.33 ELEV:878.33
STA:209+52.00 ELEV:880.17
STA:210+34.03 ELEV:881.48
STA:211+30.37 ELEV:882.41

0.4% 0.7% 4.0% 0.1% -3.8% 0.7% 1.0% 1.5% 0.9%

EXISTING SURFACE
PROPOSED SURFACE

EAST BOUND CROWN – 16' CONSTRUCTION LINE OFFSET

STA:208+51.25 ELEV:877.90
STA:206+68.60 ELEV:878.02
STA:206+78.59 ELEV:878.26
STA:207+02.59 ELEV:878.38
STA:207+12.69 ELEV:878.06
STA:207+76.29 ELEV:878.53
STA:210+36.48 ELEV:881.20
STA:211+25.89 ELEV:882.17
STA:211+38.2 ELEV:882.25

0.4% 0.7% 2.4% 0.2% -2.4% 0.7% 1.0% 1.1% 0.6%

EXISTING SURFACE
PROPOSED SURFACE

EAST BOUND SOUTH CURB EDGE OF METAL

STA:208+17.17 ELEV:877.61
STA:206+17.52 ELEV:877.45
STA:206+68.59 ELEV:877.85
STA:206+78.59 ELEV:878.33
STA:207+02.59 ELEV:878.40
STA:207+12.59 ELEV:877.96
STA:209+68.62 ELEV:880.02
STA:210+09.12 ELEV:880.49
STA:210+51.13 ELEV:881.14
STA:210+85.05 ELEV:881.29
STA:210+91.57 ELEV:881.54
STA:211+25.18 ELEV:881.95
STA:211+38.48 ELEV:882.04

PROPOSED BUS PLATFORM

-3.1% 0.8% 4.6% 0.3% -4.4% 0.8% 0.8% 1.1% 1.5% 1.1% 1.0% 1.2% 0.7%

EXISTING SURFACE
PROPOSED SURFACE

206+00 +25 +50 +75 207+00 +25 +50 +75 208+00 +25 +50 +75 209+00 +25 +50 +75 210+00 +25 +50 +75 211+00 +25 +50 +75 211+50

878.16 878.23 878.39 878.62 878.80 878.66 878.86 880.24 879.30 879.72 879.84 880.09 881.38 880.56 881.83 880.82 881.14 881.41 882.10 882.41 882.75 883.05 883.35

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
05	ADDENDUM #2	02/11/2026	VARIOUS	MHM
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01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

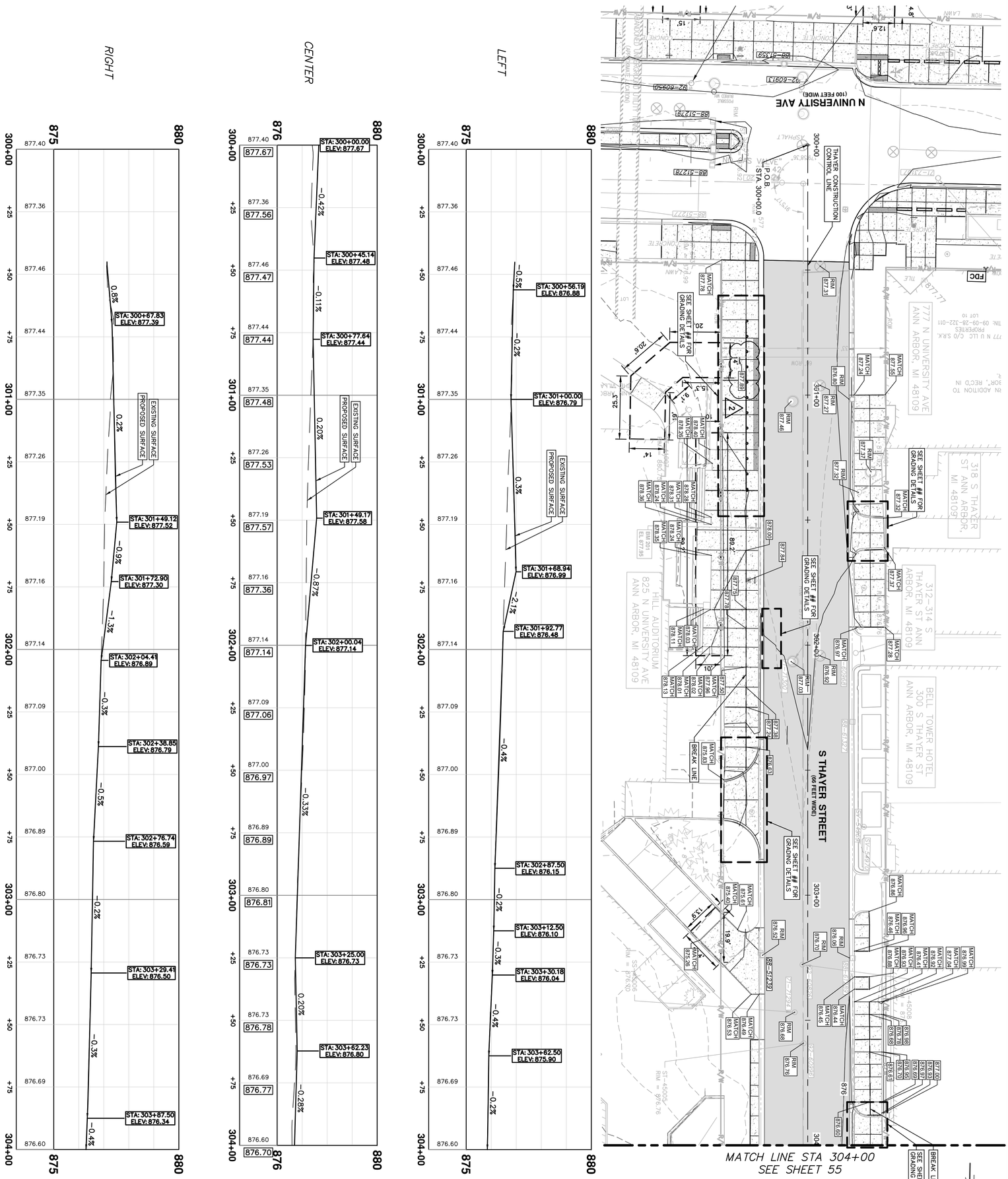
N. UNIVERSITY & THAYER IMPROVEMENTS

PAVING PLAN - NORTH UNIVERSITY STA 206+00 TO STA 211+65.6

SCALE : 1"=20'

DRAWING No. 2023-023-53

SHEET No. 53 OF 80



SHEET No. 54 OF 80

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE : 1"=20'

DRAWING No. 2023-023-54

N. UNIVERSITY & THAYER IMPROVEMENTS

PAVING PLAN - THAYER STA 300+46.4 TO STA 304+00

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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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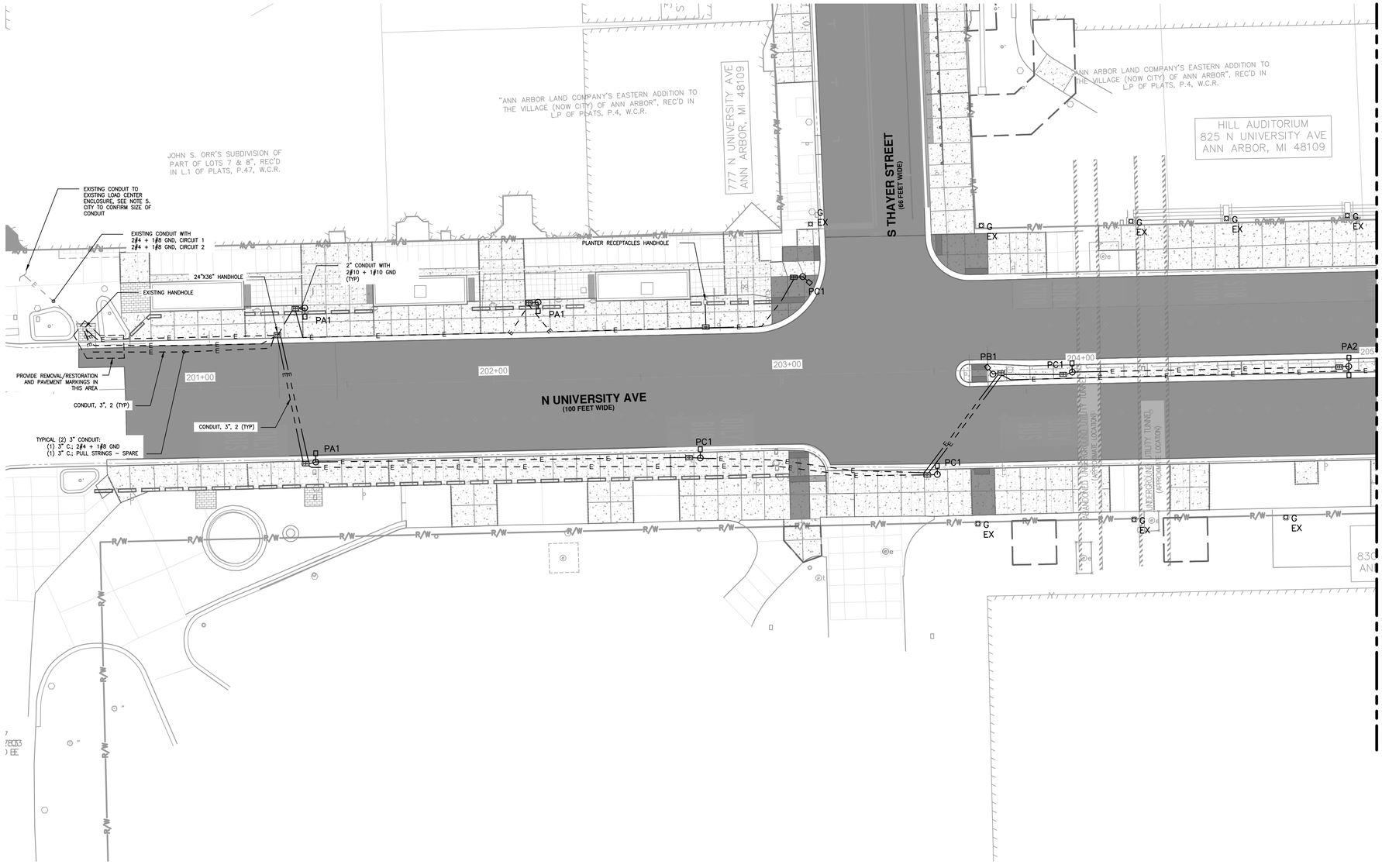
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM



LEGEND

G EX	EXISTING PEDESTRIAN LIGHT
PA, PB, PC, PD	ROADWAY LIGHT – POLE–MOUNTED, CITY OWN
HH	HANDHOLE
E	UNDERGROUND CONDUIT

GENERAL NOTES:

1. REFER TO CITY'S CONSTRUCTION SPECIFICATIONS "IV STREETLIGHTS AND SIGNALS" FOR STANDARDS.
2. REFER TO SHEETS 67 AND 68 FOR LIGHTING SCHEDULE AND DETAILS.
3. ALL ELECTRICAL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ANY LOCAL AMENDMENTS.
4. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACQUISITION OF AN ELECTRICAL PERMIT AND SCHEDULING OF THE NECESSARY INSPECTIONS.
5. AT EXISTING LOAD CENTER ENCLOSURE: CONTRACTOR SHALL PROVIDE TWO (2) 20A, 240V, 2–POLE CIRCUIT BREAKERS TO SUPPLY POWER FOR THE NEW LIGHTING. ADDITIONALLY, MODIFY THE EXISTING LIGHTING CONTACTOR TO INCLUDE TWO (2) ADDITIONAL CONTACTS FOR CONTROLLING THE NEW FIXTURES. RECONNECT ALL CIRCUITS.
6. FURNISH ALL NECESSARY ELECTRICAL COMPONENTS TO ENSURE A FULLY FUNCTIONAL SYSTEM.
7. EXISTING OUTLET RECEPTACLES IN THREE PLANTER BOXES ON THE NORTH SIDE OF NORTH UNIVERSITY BETWEEN STATE STREET AND THAYER STREET ARE TO BE REWIRED TO CONNECT TO POWER SOURCE ON STATE STREET. CONTRACTOR TO UTILIZE THE EXISTING CONDUIT FROM THE PLANTER BOX TO THE NEAREST EXISTING NEW/HANDHOLE. EXISTING GAUGE WIRE POWERING THE OUTLETS TO BE REPLACED IN KIND.
8. CONDUIT IN MEDIAN TO BE PLACED 4 FEET DEEP FROM TOP OF PROPOSED ROAD SURFACE OR AS DIRECTED BY THE ENGINEER.

QUANTITIES

9	EA	FOUNDATION, LIGHT POLE
8	EA	LIGHT POLE, 30' STANDARD
	EA	LIGHT POLE, 30' STANDARD, 2 LUMINAIRES
10	EA	HANDHOLE ASSEMBLY, 17 IN. X 30 IN. X 18 IN.
1	EA	HANDHOLE ASSEMBLY, 24 IN. X 36 IN. X 18 IN.
36	FT	~~CONDUIT, SCHEDULE 80 PVC, 2 IN.~~
1426	FT	CONDUIT, SCHEDULE 80 PVC, 3 IN., QTY 2
2852	FT	CONDUCTORS, NO. 4AWG
1426	FT	CONDUCTORS, NO. 8AWG
108	FT	CONDUCTORS, NO. 10AWG
2 1	EA	STREETLIGHT DISCONNECT BOX, COMPLETE

05	ADDENDUM #2	02/11/2026	VARIOUS	MHM
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM
REV.	DESCRIPTION	DATE	DRAWN	CHECKED

Know what's below. Call before you dig.

CITY OF ANN ARBOR
PUBLIC SERVICES
301 E HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734.794.6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

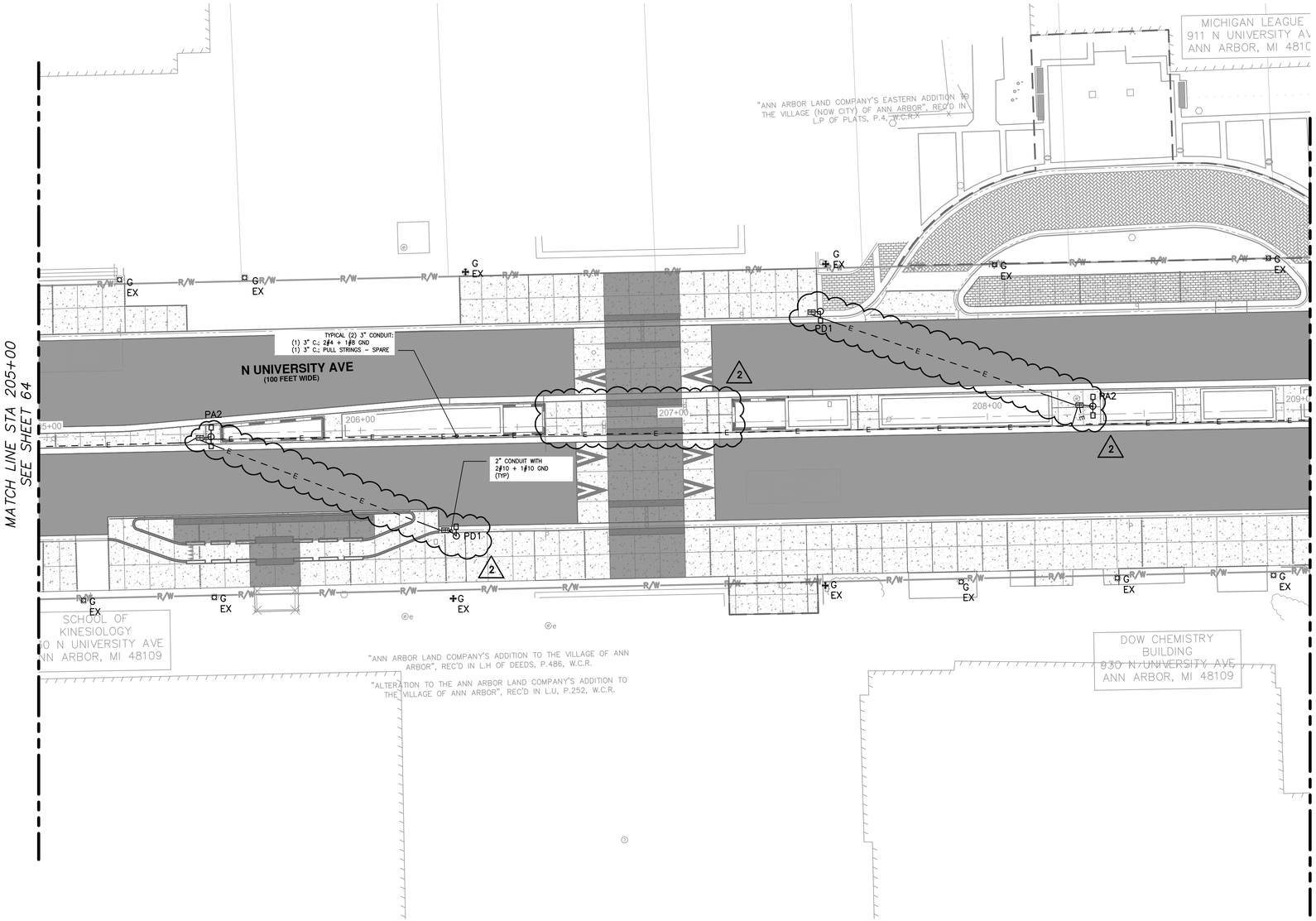
NORTH UNIVERSITY AVE & THAYER ST

LIGHTING PLAN - NORTH UNIVERSITY

SCALE : 1"=20'

DRAWING No. 2023-023-64

SHEET No. 64 OF 80



LEGEND

G EX	EXISTING PEDESTRIAN LIGHT
PA, PB, PC, PD	ROADWAY LIGHT – POLE–MOUNTED, CITY OWN
HH	HANDHOLE
E	UNDERGROUND CONDUIT

GENERAL NOTES:

1. REFER TO CITY'S CONSTRUCTION SPECIFICATIONS "IV STREETLIGHTS AND SIGNALS" FOR STANDARDS.
2. REFER TO SHEETS 67 AND 68 FOR LIGHTING SCHEDULE AND DETAILS.
3. ALL ELECTRICAL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ANY LOCAL AMENDMENTS.
4. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACQUISITION OF AN ELECTRICAL PERMIT AND SCHEDULING OF THE NECESSARY INSPECTIONS.
6. FURNISH ALL NECESSARY ELECTRICAL COMPONENTS TO ENSURE A FULLY FUNCTIONAL SYSTEM.
7. CONDUIT IN MEDIAN TO BE PLACED 4 FEET DEEP FROM TOP OF PROPOSED ROAD SURFACE OR AS DIRECTED BY THE ENGINEER.

QUANTITIES

4	EA	FOUNDATION, LIGHT POLE
2	EA	LIGHT POLE, 30' STANDARD
2	EA	LIGHT POLE, 30' STANDARD, 2 LUMINAIRES
4	EA	HANDHOLE ASSEMBLY, 17 IN. X 30 IN. X 18 IN
16	FT	CONDUIT, SCHEDULE 80 PVC, 2 IN
581	FT	CONDUIT, SCHEDULE 80 PVC, 3 IN., QTY 2
1162	FT	CONDUCTORS, NO. 4AWG
581	FT	CONDUCTORS, NO. 8AWG
48	FT	CONDUCTORS, NO. 10AWG

2

Know what's below. Call before you dig. 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
05	ADDENDUM #2	02/11/2026	VARIOUS	MHM
04	BID	01/26/2026	VARIOUS	MHM
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

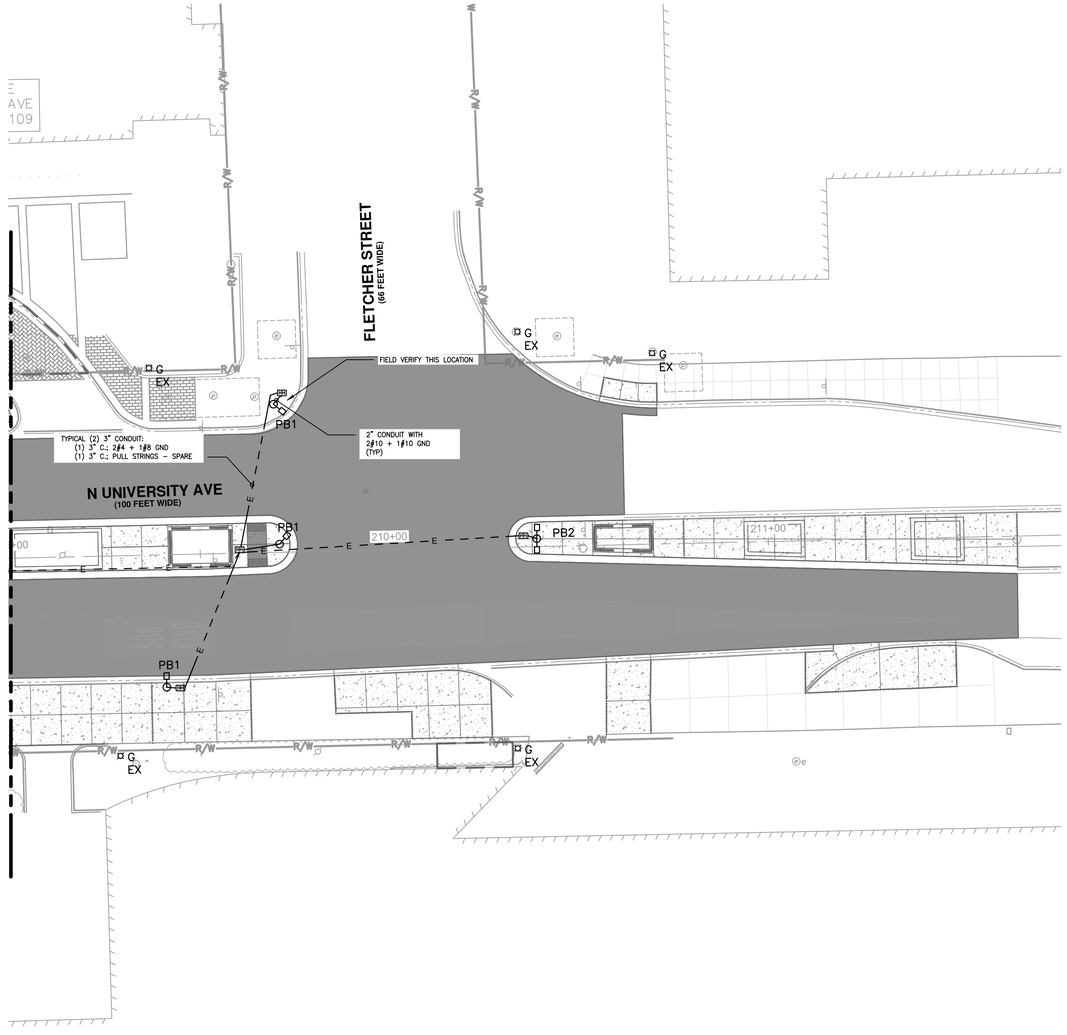
N. UNIVERSITY & THAYER IMPROVEMENTS

LIGHTING PLAN - NORTH UNIVERSITY

SCALE : 1"=20'

DRAWING No. 2023-023-65

SHEET No. 65 OF 80



LEGEND

G EX	EXISTING PEDESTRIAN LIGHT
PA, PB, PC, PD	ROADWAY LIGHT – POLE–MOUNTED, CITY OWN
HH	HANDHOLE
E	UNDERGROUND CONDUIT

GENERAL NOTES:

1. REFER TO CITY'S CONSTRUCTION SPECIFICATIONS "IV STREETLIGHTS AND SIGNALS" FOR STANDARDS.
2. REFER TO SHEETS 67 AND 68 FOR LIGHTING SCHEDULE AND DETAILS.
3. ALL ELECTRICAL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ANY LOCAL AMENDMENTS.
4. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACQUISITION OF AN ELECTRICAL PERMIT AND SCHEDULING OF THE NECESSARY INSPECTIONS.
6. FURNISH ALL NECESSARY ELECTRICAL COMPONENTS TO ENSURE A FULLY FUNCTIONAL SYSTEM.
7. CONDUIT IN MEDIAN TO BE PLACED 4 FEET DEEP FROM TOP OF PROPOSED ROAD SURFACE OR AS DIRECTED BY THE ENGINEER.

QUANTITIES

4	EA	FOUNDATION, LIGHT POLE
3	EA	LIGHT POLE, 30' STANDARD
1	EA	LIGHT POLE, 30' STANDARD, 2 LUMINAIRES
4	EA	HANDHOLE ASSEMBLY, 17 IN. X 30 IN. X 18 IN
16	FT	CONDUIT, SCHEDULE 80 PVC, 2 IN
213	FT	CONDUIT, SCHEDULE 80 PVC, 3 IN., QTY 2
426	FT	CONDUCTORS, NO. 4AWG
213	FT	CONDUCTORS, NO. 8AWG
48	FT	CONDUCTORS, NO. 10AWG

2

Know what's below. Call before you dig. 811

05	ADDENDUM #2	02/11/2026	VARIOUS	MHM
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

LIGHTING PLAN - NORTH UNIVERSITY

SCALE : 1"=20'

DRAWING No. 2023-023-66

SHEET No. 66 OF 80

LUMINAIRE SCHEDULE

SYMBOL	QTY	TAG	LABEL	ARRANGEMENT	DESCRIPTION	LLF	LUMINAIRE LUMENS	LUMINAIRE WATTS	MOUNTING HEIGHT (FT)
	3	PA1	LDS-SAL-60-DB-T3-1-40-TM	SINGLE	LED SMALL AREA LIGHT, 60W, 8399 LUMENS, 4000K COLOR TEMPERATURE, TYPE 3 DISTRIBUTION, 40KV SURGE SUPPRESSOR, POLE 30' HIGH,SINGLE LIGHT, NO ARM	0.880	8399	60	30
	3	PA2	LDS-SAL-60-DB-T3-1-40-TM1	BACK-BACK	LED SMALL AREA LIGHT, 60W, 8399 LUMENS, 4000K COLOR TEMPERATURE, TYPE 3 DISTRIBUTION, 40KV SURGE SUPPRESSOR, POLE 30' HIGH, DOUBLE LIGHTS AT 90 DEGREES, NO ARM	0.880	8399	60	30
	4	PB1	LDS-SAL-80-DB-T3-1-40-TM	SINGLE	LED SMALL AREA LIGHT, 80W, 10610 LUMENS, 4000K COLOR TEMPERATURE, TYPE 3 DISTRIBUTION, 40KV SURGE SUPPRESSOR, POLE 30' HIGH, SINGLE LIGHT, NO ARM	0.880	10610	80	30
	1	PB2	LDS-SAL-80-DB-T3-1-40-TM	BACK-BACK	LED SMALL AREA LIGHT, 80W, 10610 LUMENS, 4000K COLOR TEMPERATURE, TYPE 3 DISTRIBUTION, 40KV SURGE SUPPRESSOR, POLE 30' HIGH, DOUBLE LIGHTS AT 90 DEGREES, NO ARM	0.880	10610	80	30
	4	PC1	LDS-SAL-80-DB-T2-1-40-TM	SINGLE	LED SMALL AREA LIGHT, 80W, 10610 LUMENS, 4000K COLOR TEMPERATURE, TYPE 2 DISTRIBUTION, 40KV SURGE SUPPRESSOR, POLE 30' HIGH, SINGLE LIGHT, NO ARM	0.880	10467	80	30
	2	PD1	LDS-SAL-110-DB-T2-1-40-TM	SINGLE	LED SMALL AREA LIGHT, 110W, 16133 LUMENS, 4000K COLOR TEMPERATURE, TYPE 2 DISTRIBUTION, 40KV SURGE SUPPRESSOR, POLE 30' HIGH, SINGLE LIGHT, NO ARM	0.880	15833	110	30

2

LIGHTING FIXTURE SCHEDULE

NO SCALE

Lumecon DETROIT SERIES

LDS - SAL
LED Small Area Light

Catalog Number:

Project:

Comments:

Prepared By: | Date:

Description

The sleek fixture design of the LDS-SAL is a blend of modern sophistication and unmatched energy efficiency. The LDS-SAL small area light includes the benefits of superior thermal efficiency, an industry-leading ten-year all-parts warranty, and custom optics ensuring best-in-class photometric results. Optimize photometric designs with greater pole spacing, uniformity, and lower energy usage. The LDS-SAL includes lumen packages up to 30,000 lumens allowing one-for-one replacements of existing HID fixtures up to 1000 Watt and is a perfect spec-grade solution for parking lots, pathways, tennis courts, and many other outdoor applications. Proudly Made in the USA.

Technical Specifications

Input Voltage: 120-277V or 347-480V.

Housing: Die-cast aluminum housing with 60% gloss polyester powder coat finishes for maximum durability. The base aluminum material is prepared using an environmentally-friendly non-chrome 2-step surface cleaning and passivation process. The process results in a more durable conversion layer than traditional chromate conversion coatings and allows maximum adhesion of the powder coating to the aluminum substrate. Housing features an integrated heat sink and driver compartment built into the fixture design.

Mounting: Mounting arm designed for a square / round pole (standard). Additional mounting options include a pole mounting arm adaptor.

Split Circuit: Optional

Effective Projected Area (EPA): 0.83 ft²

Color Temperature: 2200K, 2700K, 3000K, 4000K (standard), 5000K.

LED Lifetime: AllLEDs are rated for a minimum of 100,000 hours of continuous operation at ambient outdoor temperatures from -40°F/-40°C to 115°F/46°C.

Color Rendering Index (CRI): Minimum of 80 or higher. CRI 90+ available upon request. CRI 90+ not available in 2200K.

Dimming: 0-10V standard dimming capability.

Custom Optics: Lumecon meticulously engineered premium acrylic optical lenses to maximize the distribution and uniformity of light while minimizing cost. Our arrays distribute light at least 21% further and with 29% more uniformity than leading competitors. Lumecon custom lenses create a uniform, well-lit environment that mitigates illuminance "hot spots" and use less wattage than typical LED area lights.

Vandal Resistant: Our lens is also resistant to vandalism with a low compact design making the lens material dense and impact resistant. We build to withstand high abuse lighting environments.

Surge Protection: Thermally protected 20kA/ 40kV varistor type surge suppressor is included and meets ANSI C136.2-2015: Extreme Level. Also meets IEC61643-11 Class II / EN61643-11 Type 2, and US Dept of Energy MSSLC Model Spec for surge protection. The device is wired in series with the luminaire input power in order to interrupt power to the luminaire when consumed, protecting the LED power supply and circuit boards from additional electrical surges.

Lumecon ETD™ System: The enhanced thermal dissipation system engines are thermally bonded to provide maximum thermal dissipation to the exterior of the fixture to ensure long life. To protect the light engine panel from moisture and corrosion, the LED light engine panel is uniformly coated with a UV stabilized acrylic polymer resin that meets MIL and ASTM dielectric standards, UL, and IPC standards for flammability, moisture resistance and thermal shock.

Certification Data: ETL Listed to UL 1598, UL 8750 Wet Locations. *Full compliance and test documentation is available for TM-21, LM-79, (LM-80, ETL Listing to UL1598 and UL 8750.Salt Fog tested for 3,000 hours per ASTM B117-16 / ASTM D610-08. Ingress Protection: IP66 per ANSI/IEC 60529-2004. Passed 3G vibration @ 100K cycles, per ANSI C136.31-2018.

DesignLights Consortium® (DLC) Qualified Product: Unless noted, not all versions of this product may be DLC® qualified. For a complete list of Lumecon DLC® Qualified Products visit: www.designlights.org

Dimulator Photo-Control: Maximize the cost-saving benefits of your outdoor LED light fixtures with the stand-alone Dimming solution. All Dimulators (except for CD and DIM 3 versions) have three selectable dimming levels (30%,50%, 70%) with three different start times (10:00 pm, Midnight, or 2:00 am), which are selectable through the ten position selector switch located on the bottom of the base. All dimming schedules will return to full brightness at 5:00 am. The stand-alone unit is made to work with the ANSI C136.41 receptacle and will provide dimming of LED fixtures.

Manufacturing Origin: US Manufactured and Assembled.

Buy American Act: The product is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS, and DOT regulations.

BABA Compliant: Meets Build America, Buy America Act Included in the Infrastructure Investment and Jobs Act, Public Law Number 117-58, Title IX, Subtitle A, Part I – Buy America Sourcing Requirements, Sections 70911-70917 stating Manufactured in the U.S. The cost of components mined, produced, or manufactured in the U.S. is greater than 55 percent of the total cost of all manufactured product components.

Warranty: 10 Year L70 performance based warranty. For full warranty terms, please visit our website: www.lumecon.com

Email: sales@lumecon.com Website: www.lumecon.com Phone: 248-477-5009

Lumecon DETROIT SERIES

LDS - SAL
LED Small Area Light

Ordering Information

LDS-SAL – Options / Ordering Example: LDS-SAL-110-DB-T5-1-50-MAS

Wattage	Color	Distribution	Voltage	Color Temperature	Mounting Methods
30 - 30 Watts	DB - Dark Bronze	T2 - Type II	1 - 120v-277v	22 - 2200K [8]	MAS – Mounting Arm (Square Pole) [8]
45 - 45 Watts	GR - Gray	T3 - Type III	2 - 347v-480v	27 - 2700K [8]	*For a Round pole, add UARP option*
60 - 60 Watts	BK - Black	T4 - Type IV		30 - 3000K [8]	SF - Slip Fitter
75 - 75 Watts	WH - White	T5 - Type V		40 - 4000K	TM - Tenon Mount [8]
80 - 80 Watts	CC - Custom Color			50 - 5000K	
85 - 85 Watts	AF - Automotive Finish				
95 - 95 Watts					
110 - 110 Watts					
125 - 125 Watts					
160 - 160 Watts					
200 - 200 Watts					
220 - 220 Watts					

Options & Accessories

UARP - Universal Adaptor Round Pole
R - Receptacle Only
RS - Receptacle Only with Shorting Cap
7P - Seven-pin Twist Lock Photocell Receptacle Only [1]
PC1 - 120v-277v Button Eye Photocell [2]
PC2 - 347v-480v Button Eye Photocell [2]
PC3 - 120v-277v Twist Lock Photocell (10 year warranty)
PC4 - 347v-480v Twist Lock Photocell (10 year warranty)
OC1 - On/Off [3]
OC2 - Dim/High [3,4]
OC3 - On/Off w/Photocell [3]
OC4 - Dim/High w/Photocell [3,4]
SC - Split Circuit [4,6,7]
BB - Battery Back-Up (only available on the 30W - 80W models and on 120/277V models)
BBCR - Battery Back-Up Cold Rated (only available on the 30W - 80W models and on 120/277v models)
DIM4 - 105-305 VAC, 50/60 Hz with 10 position field adjustable selector switch with integrated photocell
DIM4-HV - High Voltage 312-530 VAC, 50/60 Hz with 10 position field adjustable selector switch with integrated photocell
DIM4-CD - Constant all-night Dimming with integrated photocell
DIM4-CD-HV - Constant all-night Dimming, 315-530 VAC 50/60Hz with integrated photocell
DIM4-CUL - 120 VAC. 50/60 Hz, cUL certified version with gray cover with integrated photocell
DIM4-ALC - Adaptive Lighting Control with 2% per year incremental increase to compensate for aging fixture with integrated photocell
DIM3-XX - Factory set dimming schedule (10 position selector switch not available) with integrated photocell
BS5 - Bird Spikes (Field Installed)
BL - Backlight Louver(s) snap over LED Array(s) for Backlight Control at the source.[9]

Accessories ordered as a separate line item:
33-00112 - External Glare Shield
33-00120 - Full Glare Snoot

Notes:
1. For units with 7P the mounting must be restricted to +/-45° from horizontal aim per ANSI C136.10-2010. If more than a 45° Tilt, use PC1 or PC2
2. Cannot be combined with Occupancy Sensor. Use OC3 or OC4 when Occupancy Sensor and Photocell are needed and aiming greater than 45° from horizontal.
3. Must note on PO Mounting Height for proper lens application
4. See Occupancy Sensor Default Settings Table
5. Split circuit is only available for 30W, 45W, 60W, and 80W models.
6. Split circuit is not compatible with Occupancy sensing our photo-eye control.
7. Split Circuit and Battery Back-up cannot both fit in the same housing. Battery Back-Up will require external. Battery Backup will only control one of the circuits.
8. 3000K or warmer, and fixed mounts must be ordered for IDA certification compliance.
9. Works with Type 2, Type 3 and Type 4 arrays.

2

LIGHTING FIXTURE

NO SCALE

811 Know what's below. Call before you dig.

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

LIGHTING PLAN - LIGHTING FIXTURE DETAIL AND SCHEDULE

SCALE : 1"=20'

DRAWING No. 2023-023-67

SHEET No. 67 OF 80

STREET LIGHTING DESIGN CRITERIA

(CITY OF ANN ARBOR PUBLIC SERVICES. 2024 STANDARD SPECIFICATIONS, ARTICLE 7 STREETLIGHTS, SECTION H. REQUIRED LIGHTING LEVELS, TABLE A REQUIRED LIGHTING LEVELS, COMMERCIAL USE)

AVERAGE MAINTAINED ILLUMINANCE	2.0 FOOTCANDLES
UNIFORMITY RATIO AVG./MIN.	3:1

CROSSWALK DESIGN CRITERIA

(ANSI/IES RP-8-22, RECOMMENDED PRACTICE: LIGHTING ROADWAY AND PARKING FACILITIES, SECTION 12.6 MIDBLOCK CROSSWALKS, 12.6.4.2 VERTICAL ILLUMINANCE)

VERTICAL AVERAGE ILLUMINANCE	2.0 TO 4.0 FOOTCANDLES (MEASURED AT 5 FT FROM THE MIDBLOCK SURFACE)

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
N UNIV & Fletcher HZ	Illuminance	Fc	3.46	5.2	1.8	1.92	2.89
N UNIV AND S THAYER ST HZ	Illuminance	Fc	3.81	4.9	2.8	1.36	1.75
N UNIV EAST VERT 1	Illuminance	Fc	2.22	2.6	1.8	1.23	1.44
N UNIV EAST VERT 2	Illuminance	Fc	2.06	2.5	1.4	1.47	1.79
N UNIV EAST VERT 3	Illuminance	Fc	2.48	2.9	1.9	1.31	1.53
N UNIV EAST VERT 4	Illuminance	Fc	1.80	2.1	1.3	1.38	1.62
N UNIV NORTH 1	Illuminance	Fc	2.03	3.7	0.8	2.54	4.63
N UNIV NORTH 2	Illuminance	Fc	3.19	10.7	1.2	2.66	8.92
N UNIV SOUTH 1	Illuminance	Fc	2.41	4.5	0.9	2.68	5.00
N UNIV SOUTH 2	Illuminance	Fc	2.77	8.9	1.2	2.31	7.42
N UNIV WEST VERT 1	Illuminance	Fc	1.88	2.2	1.7	1.11	1.29
N UNIV WEST VERT 2	Illuminance	Fc	2.12	2.8	1.1	1.93	2.55
N UNIV WEST VERT 3	Illuminance	Fc	2.83	3.2	2.2	1.29	1.45
N UNIV WEST VERT 4	Illuminance	Fc	2.12	2.3	1.8	1.18	1.28

Luminaire Schedule

Symbol	Qty	Tag	Label	Arrangement	Description	LLF	Luminaire Lumens	Luminaire Watts	Mounting Height
	3	PA1	LDS-SAL-60-DB-T3-1-40-TM	Single	LED SMALL AREA LIGHT, 60W, 8399 LUMENS, 4000K COLOR TEMPERATURE, TYPE 3 DISTRIBUTION, 40KV SURGE SUPPRESSOR, POLE 30' HIGH,SINGLE LIGHT, NO ARM	0.880	8399	60.21	30
	3	PA2	LDS-SAL-60-DB-T3-1-40-TM1	Back-Back	LED SMALL AREA LIGHT, 60W, 8399 LUMENS, 4000K COLOR TEMPERATURE, TYPE 3 DISTRIBUTION, 40KV SURGE SUPPRESSOR, POLE 30' HIGH, DOUBLE LIGHTS AT 90 DEGREES, NO ARM	0.880	8399	60.21	30
	4	PB1	LDS-SAL-80-DB-T3-1-40-TM-1	Single	LED SMALL AREA LIGHT, 80W, 10610 LUMENS, 4000K COLOR TEMPERATURE, TYPE 3 DISTRIBUTION, 40KV SURGE SUPPRESSOR, POLE 30' HIGH, SINGLE LIGHT, NO ARM	0.880	10610	80.8	30
	1	PB2	LDS-SAL-80-DB-T3-1-40-TM	Back-Back	LED SMALL AREA LIGHT, 80W, 10610 LUMENS, 4000K COLOR TEMPERATURE, TYPE 3 DISTRIBUTION, 40KV SURGE SUPPRESSOR, POLE 30' HIGH, DOUBLE LIGHTS AT 90 DEGREES, NO ARM	0.880	10610	80.8	30
	4	PC1	LDS-SAL-80-DB-T2-1-40-MAS-X-X	Single	LED SMALL AREA LIGHT, 80W, 10610 LUMENS, 4000K COLOR TEMPERATURE, TYPE 2 DISTRIBUTION, 40KV SURGE SUPPRESSOR, POLE 30' HIGH, SINGLE LIGHT, NO ARM	0.880	10467	80.8	30
	2	PD1	LDS-SAL-110-DB-T2-1-40-TM	Single	LED SMALL AREA LIGHT, 110W, 16133 LUMENS, 4000K COLOR TEMPERATURE, TYPE 2 DISTRIBUTION, 40KV SURGE SUPPRESSOR, POLE 30' HIGH, SINGLE LIGHT, NO ARM	0.880	15833	107.54	30

2

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

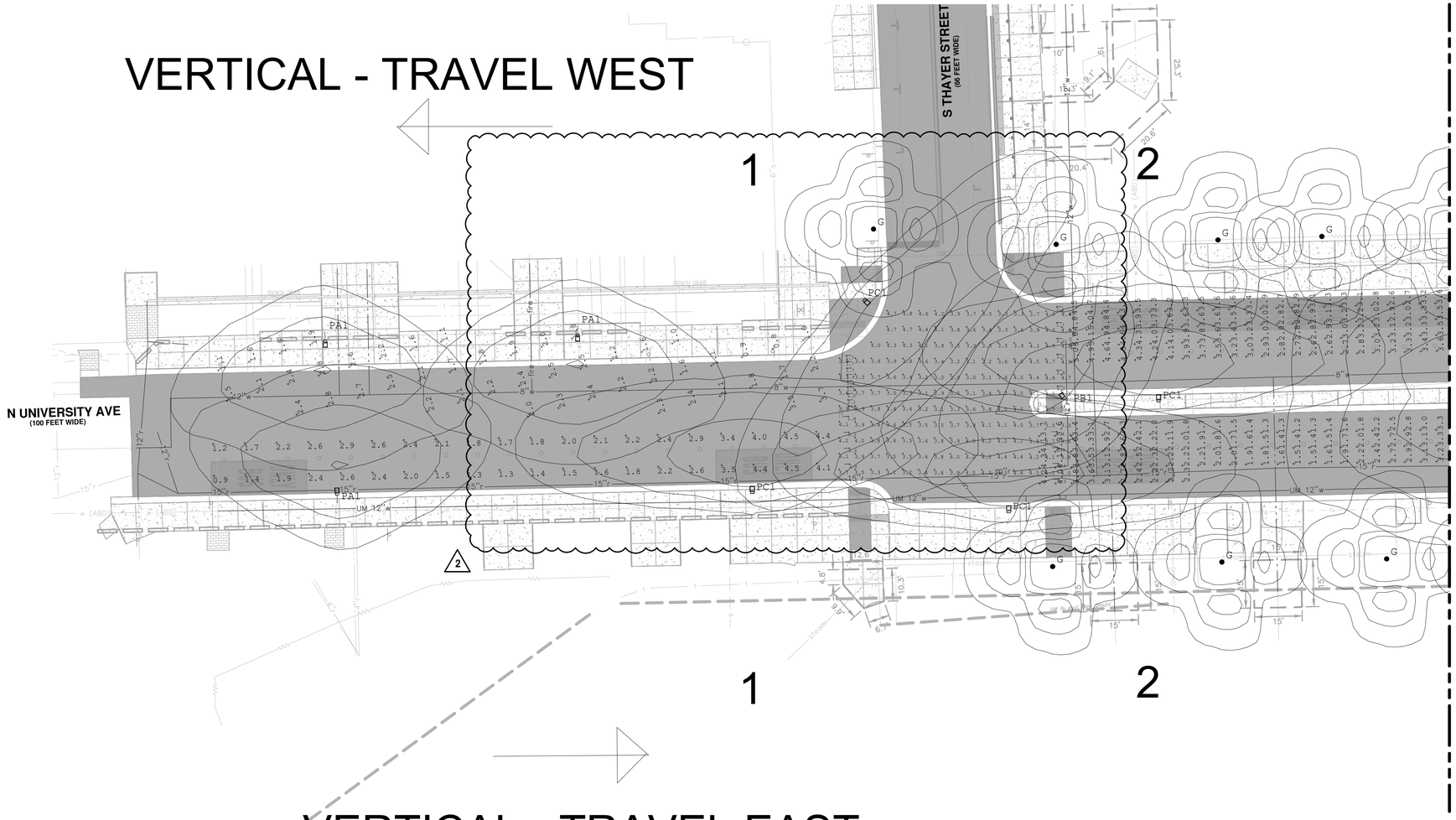
LIGHTING DETAILS

SCALE : 1"=20'

DRAWING No.
2023-023-69

SHEET No.
69 OF 80

VERTICAL - TRAVEL WEST



MATCH LINE SEE SHEET 71

1

2

VERTICAL - TRAVEL EAST

N

811 Know what's **below.** **Call** before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
05	ADDENDUM #2	02/11/2026	VARIOUS	MHM
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

LIGHTING PLAN PHOTOMETRICS - NORTH UNIVERSITY

SCALE : 1"=20'

DRAWING No.
2023-023-70

SHEET No.
70 OF 80

Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60954	Ann Arbor	N University	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60916	91		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60857	85.7		24			

SPR 0	**MPR** 0	**PO Number**		**Customer**	
SPRI 0	**MPRI** 0				
QSR 0000	**QMR** 0000	**Work Order Number**		**Purpose**	
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
0	JBell	Downstream	8/7/2023 7:59:46 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
0	U-1117-07009559	No Pre-Cleaning	8/7/2023 8:00:00 AM		
Date Cleaned			**End Time**	**Additional Info**	
			8/7/2023 8:02:57 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 92-60916									
0	Miscellaneous Water Level				5	☐			
85.7	Access Point Manhole					☐			
Remarks: 92-60857									

*Indicates required field

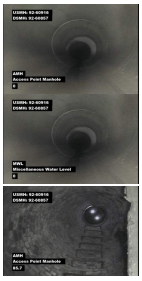
Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60954	Ann Arbor	N University	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60916	91		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60857	85.7		24			

SPR	0	**MPR**	0	**PO Number**	**Customer**
SPRI	0	**MPRI**	0		
QSR	0000	**QMR**	0000	**Work Order Number**	**Purpose**

OPR	Surveyed By*	Direction*	Date*	Media label
0	JBell	Downstream	8/7/2023 7:59:46 AM	
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**
0	U-1117-07009559	No Pre-Cleaning	8/7/2023 8:00:00 AM	
Date Cleaned			**End Time**	**Additional Info**
			8/7/2023 8:02:57 AM	

0 ft	Access Point Manhole		92-60916
0 ft	Miscellaneous Water Level		92-60916
85.7 ft	Access Point Manhole		92-60857
			92-60857

*Indicates required field

Infrastructure Technologies
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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60954	Ann Arbor	N University	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60916	91		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60857	85.7		24			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 92-60916

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 85.7 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 92-60857

*Indicates required field

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Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-62278	Ann Arbor	N University	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60913	245.4		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-61000	243.1		15			

SPR 4	**MPR** 0	**PO Number**		**Customer**	
SPRI 4	**MPRI** 0	**Work Order Number**		**Purpose**	
QSR 4100	**QMR** 0000				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
4	JBell	Upstream	8/8/2023 8:33:00 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
4	U-1117-07009559	No Pre-Cleaning	8/8/2023 8:33:59 AM		
Date Cleaned			**End Time**	**Additional Info**	
			8/8/2023 8:40:09 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 92-61000									
0	Miscellaneous Water Level				5	☐			
18.4	Tap Break-in/Hammer		12			☐	10		
55.5	Tap Break-in/Hammer		4			☐	2		
219.8	Broken Pipe					☐	12		4
243.1	Access Point Manhole					☐			
Remarks: 92-60913									

*Indicates required field

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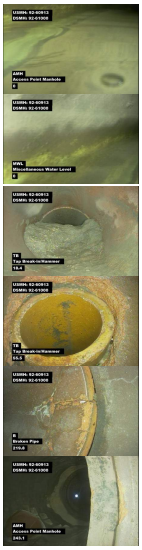
Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-62278	Ann Arbor	N University	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60913	245.4		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-61000	243.1		15			

SPR 4	**MPR** 0	**PO Number**	**Customer**		
SPRI 4	**MPRI** 0				
QSR 4100	**QMR** 0000	**Work Order Number**	**Purpose**		
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
4	JBell	Upstream	8/8/2023 8:33:00 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
4	U-1117-07009559	No Pre-Cleaning	8/8/2023 8:33:59 AM		
Date Cleaned			**End Time**	**Additional Info**	
			8/8/2023 8:40:09 AM		

0 ft	Access Point Manhole		92-61000
0 ft	Miscellaneous Water Level		92-61000
18.4 ft	Tap Break-in/Hammer		
55.5 ft	Tap Break-in/Hammer		
219.8 ft	Broken Pipe	4	
243.1 ft	Access Point Manhole		92-60913
			92-60913

*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-62278	Ann Arbor	N University	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60913	245.4		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-61000	243.1		15			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 92-61000

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 18.4 ft **Grade:**
Conditions: Tap Break-in/Hammer
Remarks:

55.5 ft **55.5 ft** **Grade:**
Conditions: Tap Break-in/Hammer
Remarks:

*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-62278	Ann Arbor	N University	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60913	245.4		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-61000	243.1		15			

Distance:	**219.8 ft**	**Grade:**	**4**
Conditions:	**Broken Pipe**		
Remarks:			

243.1 ft	**243.1 ft**	**Grade:**	
Conditions:	**Access Point Manhole**		
Remarks:	**92-60913**		

*Indicates required field

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Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-75069	Ann Arbor	n university ave	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-60067	32		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60908	28.1		12			

SPR 0	**MPR** 0	**PO Number**		**Customer**	
SPRI 0	**MPRI** 0	**Work Order Number**		**Purpose**	
QSR 0000	**QMR** 0000				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
0	Steve Pierce	Upstream	8/30/2024 12:26:09 PM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
0	training	No Pre-Cleaning	8/30/2024 12:26:32 PM		
Date Cleaned			**End Time**	**Additional Info**	
			8/30/2024 12:27:28 PM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 92-60908									
0	Miscellaneous Water Level				5	☐			
28.1	Access Points Catch Basin					☐			
Remarks: 88-60067									

*Indicates required field

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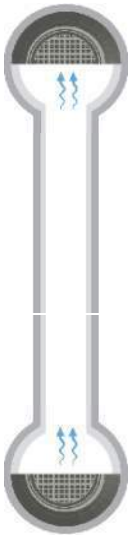
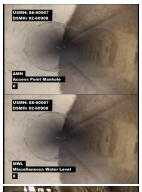
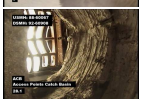
Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-75069	Ann Arbor	n university ave	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-60067	32		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60908	28.1		12			

SPR	0	**MPR**	0	**PO Number**	**Customer**
SPRI	0	**MPRI**	0		
QSR	0000	**QMR**	0000	**Work Order Number**	**Purpose**

OPR	**Surveyed By***	**Direction***	**Date***	**Media label**
0	Steve Pierce	Upstream	8/30/2024 12:26:09 PM	
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**
0	training	No Pre-Cleaning	8/30/2024 12:26:32 PM	
Date Cleaned			**End Time**	**Additional Info**
			8/30/2024 12:27:28 PM	



0 ft	Access Point Manhole	
0 ft	Miscellaneous Water Level	
28.1 ft	Access Points Catch Basin	

*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-75069	Ann Arbor	n university ave	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-60067	32		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60908	28.1		12			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 92-60908

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 28.1 ft **Grade:**
Conditions: Access Points Catch Basin
Remarks: 88-60067

*Indicates required field

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Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60731	Ann Arbor	N University	Concrete Pipe (non-reinforced)			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-61320	20		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
88-61295	14.4		12			

SPR 0	**MPR** 0	**PO Number**		**Customer**	
SPRI 0	**MPRI** 0				
QSR 0000	**QMR** 0000	**Work Order Number**		**Purpose**	
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
0	JBell	Downstream	8/7/2023 9:44:32 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
0	U-1117-07009559	No Pre-Cleaning	8/7/2023 9:45:01 AM		
Date Cleaned			**End Time**	**Additional Info**	
			8/7/2023 9:46:04 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Points Catch Basin					☐			
Remarks: 88-61320									
0	Miscellaneous Water Level				5	☐			
14.4	Access Points Catch Basin					☐			
Remarks: 88-61295									

*Indicates required field

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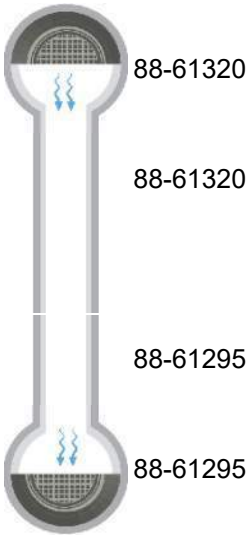
Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60731	Ann Arbor	N University	Concrete Pipe (non-reinforced)			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-61320	20		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
88-61295	14.4		12			

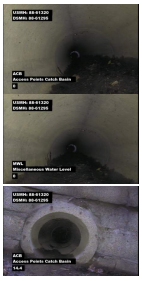
SPR 0	**MPR** 0	**PO Number**		**Customer**	
SPRI 0	**MPRI** 0				
QSR 0000	**QMR** 0000	**Work Order Number**		**Purpose**	
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
0	JBell	Downstream	8/7/2023 9:44:32 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
0	U-1117-07009559	No Pre-Cleaning	8/7/2023 9:45:01 AM		
Date Cleaned			**End Time**	**Additional Info**	
			8/7/2023 9:46:04 AM		



0 ft Access Points Catch Basin

0 ft Miscellaneous Water Level

14.4 ft Access Points Catch Basin



*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60731	Ann Arbor	N University	Concrete Pipe (non-reinforced)			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-61320	20		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
88-61295	14.4		12			

Distance: 0 ft **Grade:**
Conditions: Access Points Catch Basin
Remarks: 88-61320

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 14.4 ft **Grade:**
Conditions: Access Points Catch Basin
Remarks: 88-61295

*Indicates required field

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Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60742	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-51278	20		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
88-51279	14.9		12			

SPR 4	**MPR** 0	**PO Number**		**Customer**	
SPRI 4	**MPRI** 0	**Work Order Number**		**Purpose**	
QSR 4100	**QMR** 0000				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
4	JBell	Upstream	8/7/2023 12:26:08 PM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
4	U-1117-07009559	No Pre-Cleaning	8/7/2023 12:26:20 PM		
Date Cleaned			**End Time**	**Additional Info**	
			8/7/2023 12:27:47 PM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Points Catch Basin					☐			
Remarks: 88-51279									
0	Miscellaneous Water Level				5	☐			
8	Broken Pipe					☐	12		4
14.9	Access Point Manhole					☐			
Remarks: 88-51278									

*Indicates required field

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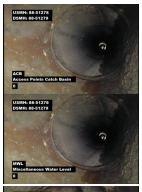
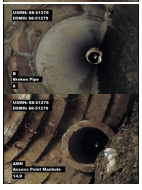
Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60742	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-51278	20		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
88-51279	14.9		12			

				PO Number	Customer
SPR	4	**MPR**	0		
SPRI	4	**MPRI**	0	**Work Order Number**	**Purpose**
QSR	4100	**QMR**	0000		

OPR	Surveyed By*	Direction*	Date*	Media label
4	JBell	Upstream	8/7/2023 12:26:08 PM	
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**
4	U-1117-07009559	No Pre-Cleaning	8/7/2023 12:26:20 PM	
Date Cleaned			**End Time**	**Additional Info**
			8/7/2023 12:27:47 PM	

			88-51279
0 ft	Access Points Catch Basin		88-51279
0 ft	Miscellaneous Water Level		
8 ft	Broken Pipe		4
14.9 ft	Access Point Manhole		88-51278
			88-51278

*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60742	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-51278	20		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
88-51279	14.9		12			

Distance: 0 ft **Grade:**
Conditions: Access Points Catch Basin
Remarks: 88-51279

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 8 ft **Grade:** 4
Conditions: Broken Pipe
Remarks:

14.9 ft **14.9 ft** **Grade:**
Conditions: Access Point Manhole
Remarks: 88-51278

*Indicates required field

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Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60743	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-51277	21		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
88-51278	19.6		12			

SPR 0	**MPR** 0	**PO Number**		**Customer**	
SPRI 0	**MPRI** 0	**Work Order Number**		**Purpose**	
QSR 0000	**QMR** 0000				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
0	JBell	Downstream	8/7/2023 1:17:09 PM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
0	U-1117-07009559	No Pre-Cleaning	8/7/2023 1:17:22 PM		
Date Cleaned			**End Time**	**Additional Info**	
			8/7/2023 1:18:52 PM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Points Catch Basin					☐			
Remarks: 88-51278									
0	Miscellaneous Water Level				5	☐			
19.6	Access Point Manhole					☐			
Remarks: 88-51278									

*Indicates required field

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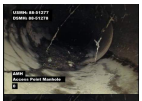
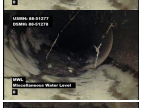
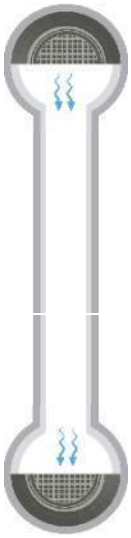
Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60743	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-51277	21		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
88-51278	19.6		12			

SPR	0	**MPR**	0	**PO Number**	**Customer**
SPRI	0	**MPRI**	0		
QSR	0000	**QMR**	0000	**Work Order Number**	**Purpose**

OPR	Surveyed By*	Direction*	Date*	Media label
0	JBell	Downstream	8/7/2023 1:17:09 PM	
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**
0	U-1117-07009559	No Pre-Cleaning	8/7/2023 1:17:22 PM	
Date Cleaned			**End Time**	**Additional Info**
			8/7/2023 1:18:52 PM	

0 ft	Access Points Catch Basin	
0 ft	Miscellaneous Water Level	
19.6 ft	Access Point Manhole	



*Indicates required field

Infrastructure Technologies
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Albuquerque, NM
877-ITpipes

Image 4 Per Page

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60743	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-51277	21		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
88-51278	19.6		12			

Distance: 0 ft **Grade:**
Conditions: Access Points Catch Basin
Remarks: 88-51278

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 19.6 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 88-51278

*Indicates required field

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Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-75070	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-60068	21		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
88-60069	20		12			

SPR 0	**MPR** 5	**PO Number**		**Customer**	
SPRI 0	**MPRI** 5				
QSR 0000	**QMR** 5100	**Work Order Number**		**Purpose**	
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
5	JBell	Upstream	8/7/2023 11:58:46 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
5	U-1117-07009559	No Pre-Cleaning	8/7/2023 12:03:25 PM		
Date Cleaned			**End Time**	**Additional Info**	
			8/7/2023 12:05:19 PM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 88-60069									
0	Miscellaneous Water Level				5	☐			
5.9	Deposits Settled Fine				35	☐	6		5
20	Access Points Catch Basin					☐			
Remarks: 88-60068									

*Indicates required field

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Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-75070	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-60068	21		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
88-60069	20		12			

				PO Number	Customer
SPR	0	**MPR**	5		
SPRI	0	**MPRI**	5	**Work Order Number**	**Purpose**
QSR	0000	**QMR**	5100		

OPR	Surveyed By*	Direction*	Date*	Media label	
5	JBell	Upstream	8/7/2023 11:58:46 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
5	U-1117-07009559	No Pre-Cleaning	8/7/2023 12:03:25 PM		
Date Cleaned			**End Time**	**Additional Info**	
			8/7/2023 12:05:19 PM		

			88-60069
0 ft	Access Point Manhole		88-60069
0 ft	Miscellaneous Water Level		
5.9 ft	Deposits Settled Fine	5	
20 ft	Access Points Catch Basin		88-60068
			88-60068

*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-75070	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-60068	21		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
88-60069	20		12			

Distance:	**0 ft**	**Grade:**
Conditions:	**Access Point Manhole**	
Remarks:	**88-60069**	

0 ft	**0 ft**	**Grade:**
Conditions:	**Miscellaneous Water Level**	
Remarks:		

Distance:	**5.9 ft**	**Grade:**	**5**
Conditions:	**Deposits Settled Fine**		
Remarks:			

20 ft	**20 ft**	**Grade:**
Conditions:	**Access Points Catch Basin**	
Remarks:	**88-60068**	

*Indicates required field

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Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60732	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-61319	26		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
88-61320	26		12			

SPR 0	**MPR** 3	**PO Number**		**Customer**	
SPRI 0	**MPRI** 3	**Work Order Number**		**Purpose**	
QSR 0000	**QMR** 3100				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
3	JBell	Upstream	8/7/2023 9:30:35 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
3	U-1117-07009559	No Pre-Cleaning	8/7/2023 9:30:45 AM		
Date Cleaned			**End Time**	**Additional Info**	
			8/7/2023 9:42:53 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 88-61320									
0	Miscellaneous Water Level				5	☐			
4.9	Deposits Settled Fine				20	☐	6		3
26	Access Points Catch Basin					☐			
Remarks: 88-61319									

*Indicates required field

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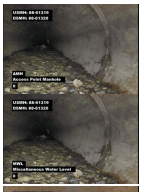
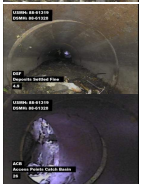
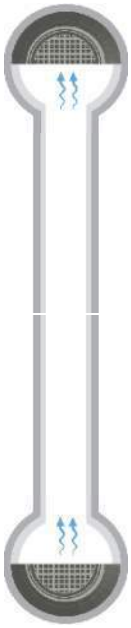
Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60732	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-61319	26		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
88-61320	26		12			

				PO Number	Customer
SPR	0	MPR	3		
SPRI	0	MPRI	3	Work Order Number	Purpose
QSR	0000	QMR	3100		

OPR	Surveyed By*	Direction*	Date*	Media label
3	JBell	Upstream	8/7/2023 9:30:35 AM	
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**
3	U-1117-07009559	No Pre-Cleaning	8/7/2023 9:30:45 AM	
Date Cleaned			**End Time**	**Additional Info**
			8/7/2023 9:42:53 AM	

0 ft	Access Point Manhole		
0 ft	Miscellaneous Water Level		
4.9 ft	Deposits Settled Fine		3
26 ft	Access Points Catch Basin		



*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60732	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-61319	26		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
88-61320	26		12			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 88-61320

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 4.9 ft **Grade:** 3
Conditions: Deposits Settled Fine
Remarks:

26 ft **26 ft** **Grade:**
Conditions: Access Points Catch Basin
Remarks: 88-61319

*Indicates required field

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Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-75235	Ann Arbor	N University	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-60070	7.44		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60914	4.1		12			

SPR 0	**MPR** 0	**PO Number**		**Customer**	
SPRI 0	**MPRI** 0	**Work Order Number**		**Purpose**	
QSR 0000	**QMR** 0000				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
0	JBell	Downstream	8/8/2023 8:51:03 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
0	U-1117-07009559	No Pre-Cleaning	8/8/2023 8:51:14 AM		
Date Cleaned			**End Time**	**Additional Info**	
			8/8/2023 8:53:01 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 88-60070									
0	Miscellaneous Water Level				5	☐			
4.1	Access Point Manhole					☐			
Remarks: 92-60914									

*Indicates required field

Infrastructure Technologies
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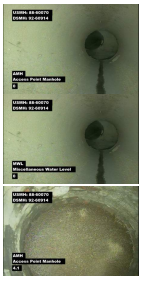
Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-75235	Ann Arbor	N University	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-60070	7.44		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60914	4.1		12			

SPR	0	**MPR**	0	**PO Number**	**Customer**
SPRI	0	**MPRI**	0		
QSR	0000	**QMR**	0000	**Work Order Number**	**Purpose**

OPR	Surveyed By*	Direction*	Date*	Media label	
0	JBell	Downstream	8/8/2023 8:51:03 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
0	U-1117-07009559	No Pre-Cleaning	8/8/2023 8:51:14 AM		
Date Cleaned			**End Time**	**Additional Info**	
			8/8/2023 8:53:01 AM		

0 ft	Access Point Manhole		88-60070
0 ft	Miscellaneous Water Level		88-60070
4.1 ft	Access Point Manhole		92-60914
			92-60914

*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-75235	Ann Arbor	N University	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-60070	7.44		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60914	4.1		12			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 88-60070

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 4.1 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 92-60914

*Indicates required field

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Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60953	AA	N university ave	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60915	48.1		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60488	22.5		15			

SPR 5	**MPR** 0	**PO Number**		**Customer**	
SPRI 2.5	**MPRI** 0	**Work Order Number**		**Purpose**	
QSR 3121	**QMR** 0000				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
5	Steve Pierce	Downstream	10/4/2024 5:52:29 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
2.5	training	No Pre-Cleaning	10/4/2024 5:52:51 AM		
Date Cleaned			**End Time**	**Additional Info**	
			10/4/2024 5:54:12 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 92-60915									
0	Miscellaneous Water Level				5	☐			
0.1	Crack Multiple					☐	7	9	3
16.6	Crack Longitudinal					☐	12		2
22.5	Access Point Manhole					☐			
Remarks: 92-60488									

*Indicates required field

Infrastructure Technologies
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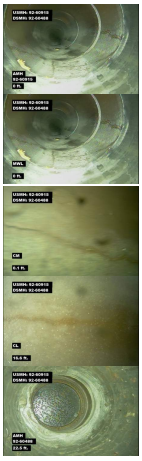
Defect Listing Plot With Images

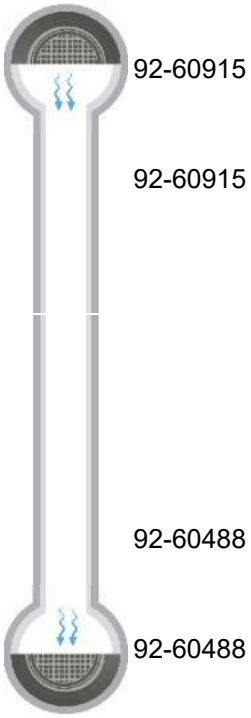
Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60953	AA	N university ave	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60915	48.1		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60488	22.5		15			

				PO Number	Customer
SPR	5	**MPR**	0		
SPRI	2.5	**MPRI**	0	**Work Order Number**	**Purpose**
QSR	3121	**QMR**	0000		

OPR	Surveyed By*	Direction*	Date*	Media label	
5	Steve Pierce	Downstream	10/4/2024 5:52:29 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
2.5	training	No Pre-Cleaning	10/4/2024 5:52:51 AM		
Date Cleaned			**End Time**	**Additional Info**	
			10/4/2024 5:54:12 AM		

0 ft	Access Point Manhole		
0 ft	Miscellaneous Water Level		
0.1 ft	Crack Multiple	3	
16.6 ft	Crack Longitudinal	2	
22.5 ft	Access Point Manhole		





*Indicates required field

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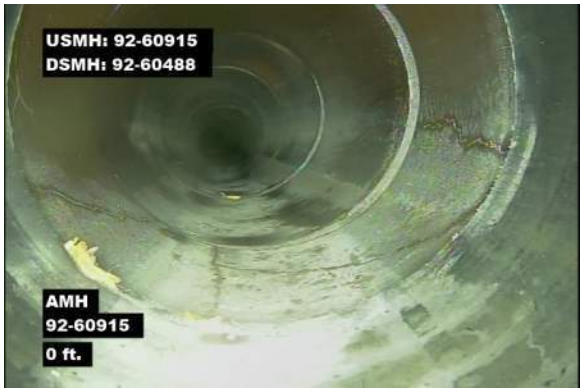
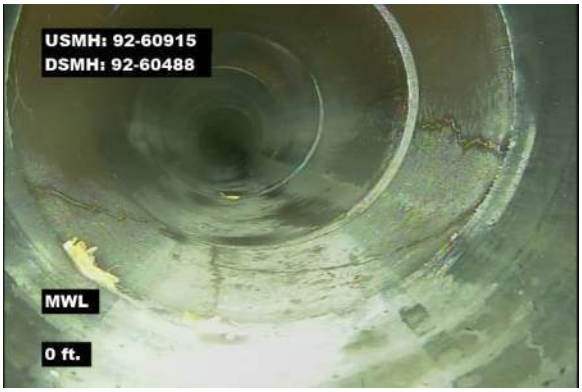
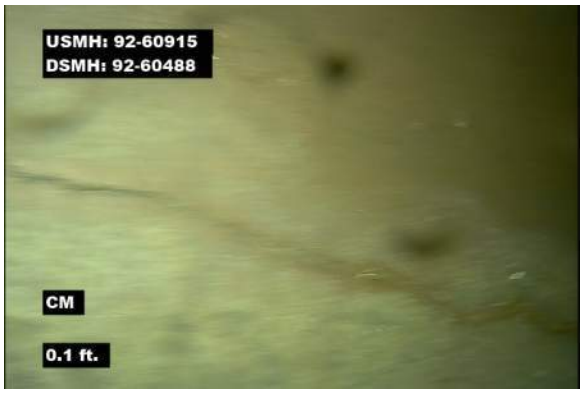
Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60953	AA	N university ave	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60915	48.1		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60488	22.5		15			



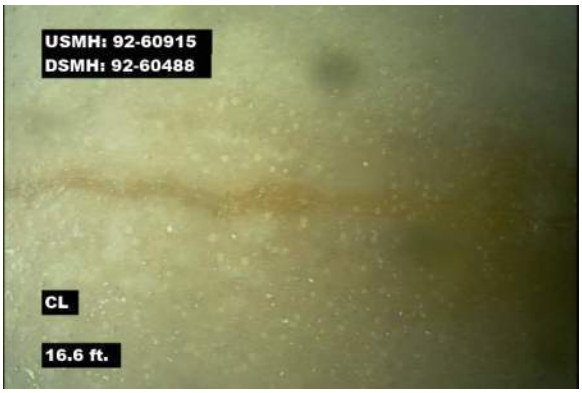
Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 92-60915



0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:



Distance: 0.1 ft **Grade:** 3
Conditions: Crack Multiple
Remarks:



16.6 ft **16.6 ft** **Grade:** 2
Conditions: Crack Longitudinal
Remarks:

*Indicates required field

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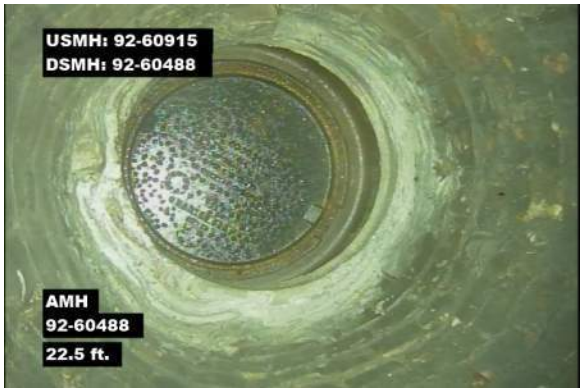
Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60953	AA	N university ave	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60915	48.1		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60488	22.5		15			



Distance: 22.5 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 92-60488

*Indicates required field

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Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60952	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60914	26.22		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60915	21.3		15			

SPR 0	**MPR** 0	**PO Number**		**Customer**	
SPRI 0	**MPRI** 0	**Work Order Number**		**Purpose**	
QSR 0000	**QMR** 0000				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
0	JBell	Upstream	8/8/2023 9:01:36 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
0	U-1117-07009559	No Pre-Cleaning	8/8/2023 9:02:46 AM		
Date Cleaned			**End Time**	**Additional Info**	
			8/8/2023 9:06:01 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 92-60915									
0	Miscellaneous Water Level				5	☐			
18.7	Miscellaneous Material Change					☐			
Remarks: N12									
21.3	Access Point Manhole					☐			
Remarks: 92-60914									

*Indicates required field

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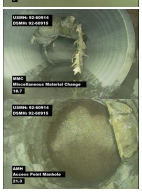
Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60952	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60914	26.22		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60915	21.3		15			

SPR	0	MPR	0	PO Number	Customer
SPRI	0	MPRI	0		
QSR	0000	QMR	0000	Work Order Number	Purpose

OPR	Surveyed By*	Direction*	Date*	Media label
0	JBell	Upstream	8/8/2023 9:01:36 AM	
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**
0	U-1117-07009559	No Pre-Cleaning	8/8/2023 9:02:46 AM	
Date Cleaned			**End Time**	**Additional Info**
			8/8/2023 9:06:01 AM	

			92-60915
0 ft	Access Point Manhole		92-60915
0 ft	Miscellaneous Water Level		
18.7 ft	Miscellaneous Material Change		N12
21.3 ft	Access Point Manhole		92-60914
			92-60914

*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Image 4 Per Page

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60952	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60914	26.22		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60915	21.3		15			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 92-60915

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 18.7 ft **Grade:**
Conditions: Miscellaneous Material Change
Remarks: N12

21.3 ft **21.3 ft** **Grade:**
Conditions: Access Point Manhole
Remarks: 92-60914

*Indicates required field

Infrastructure Technologies
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877-ITpipes

Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-75071	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-60069	33.37		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
97-50869	30		12			

SPR 0	**MPR** 0	**PO Number**		**Customer**	
SPRI 0	**MPRI** 0	**Work Order Number**		**Purpose**	
QSR 0000	**QMR** 0000				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
0	JBell	Downstream	8/7/2023 12:07:01 PM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
0	U-1117-07009559	No Pre-Cleaning	8/7/2023 12:07:31 PM		
Date Cleaned			**End Time**	**Additional Info**	
			8/7/2023 12:09:01 PM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 88-60069									
0	Miscellaneous Water Level				5	☐			
30	Access Point Tee Connection					☐			
Remarks: 97-50869									

*Indicates required field

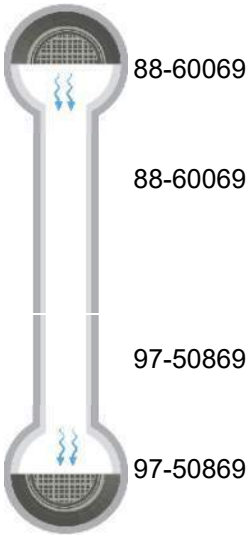
Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

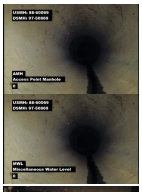
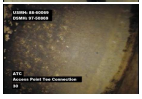
Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-75071	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-60069	33.37		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
97-50869	30		12			

				PO Number	Customer
SPR	0	**MPR**	0		
SPRI	0	**MPRI**	0	**Work Order Number**	**Purpose**
QSR	0000	**QMR**	0000		

OPR	Surveyed By*	Direction*	Date*	Media label	
0	JBell	Downstream	8/7/2023 12:07:01 PM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
0	U-1117-07009559	No Pre-Cleaning	8/7/2023 12:07:31 PM		
Date Cleaned			**End Time**	**Additional Info**	
			8/7/2023 12:09:01 PM		



0 ft	Access Point Manhole	
0 ft	Miscellaneous Water Level	
30 ft	Access Point Tee Connection	

*Indicates required field

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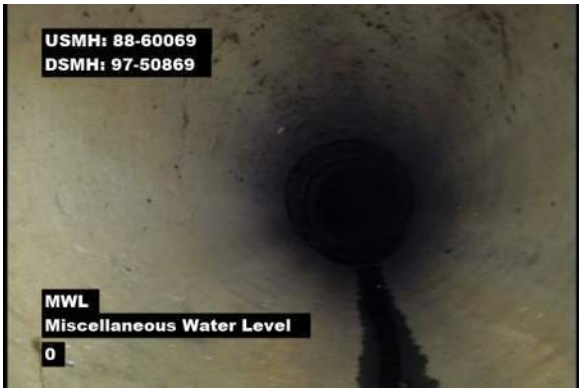
Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-75071	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-60069	33.37		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
97-50869	30		12			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 88-60069



0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 30 ft **Grade:**
Conditions: Access Point Tee Connection
Remarks: 97-50869

*Indicates required field

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Albuquerque, NM
877-ITpipes

Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-62280	Ann Arbor	N University	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-50019	41.35		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60914	40		12			

SPR 17	**MPR** 0	**PO Number**		**Customer**	
SPRI 4.2	**MPRI** 0				
QSR 5143	**QMR** 0000	**Work Order Number**		**Purpose**	
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
17	JBell	Downstream	8/8/2023 7:42:48 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
4.2	U-1117-07009559	No Pre-Cleaning	8/8/2023 7:43:09 AM		
Date Cleaned			**End Time**	**Additional Info**	
			8/8/2023 7:51:44 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 88-50019									
0	Miscellaneous Water Level				5	☐			
12.2	Crack Longitudinal Hinge 4					☐	12	9	4
19.3	Tap Factory Made Capped		8			☐	12		
24.3	Hole Soil Visible					☐	12		5
25.5	Point Repair Replacement					☐			
Remarks: SDR									
36	Joint Offset Large					☐			4
36.5	Point Repair Liner Defective					☐			4
Remarks: Either fernco has failed or was not installed									
40	Access Point Manhole					☐			
Remarks: 92-60914									

*Indicates required field

Infrastructure Technologies
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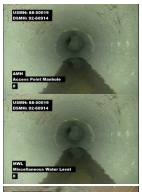
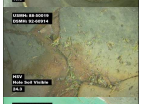
Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-62280	Ann Arbor	N University	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-50019	41.35		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60914	40		12			

				PO Number	Customer
SPR	17	**MPR**	0		
SPRI	4.2	**MPRI**	0	**Work Order Number**	**Purpose**
QSR	5143	**QMR**	0000		

OPR	Surveyed By*	Direction*	Date*	Media label	
17	JBell	Downstream	8/8/2023 7:42:48 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
4.2	U-1117-07009559	No Pre-Cleaning	8/8/2023 7:43:09 AM		
Date Cleaned			**End Time**	**Additional Info**	
			8/8/2023 7:51:44 AM		

				88-50019
0 ft	Access Point Manhole			88-50019
0 ft	Miscellaneous Water Level			
12.2 ft	Crack Longitudinal Hinge 4		4	
19.3 ft	Tap Factory Made Capped			
24.3 ft	Hole Soil Visible		5	
25.5 ft	Point Repair Replacement			SDR
36 ft	Joint Offset Large		4	
36.5 ft	Point Repair Liner Defective		4	Either fernco has failed or was not installed
40 ft	Access Point Manhole			92-60914
				92-60914

*Indicates required field

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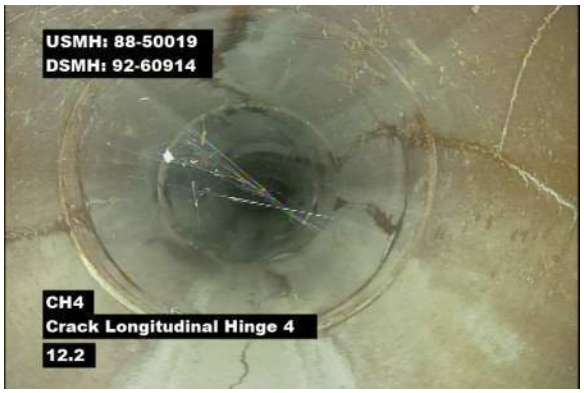
Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-62280	Ann Arbor	N University	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-50019	41.35		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60914	40		12			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 88-50019

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:



Distance: 12.2 ft **Grade:** 4
Conditions: Crack Longitudinal Hinge 4
Remarks:

19.3 ft **19.3 ft** **Grade:**
Conditions: Tap Factory Made Capped
Remarks:

*Indicates required field

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Albuquerque, NM
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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-62280	Ann Arbor	N University	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-50019	41.35		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60914	40		12			

Distance: 24.3 ft **Grade:** 5
Conditions: Hole Soil Visible
Remarks:

25.5 ft **25.5 ft** **Grade:**
Conditions: Point Repair Replacement
Remarks: SDR

Distance: 36 ft **Grade:** 4
Conditions: Joint Offset Large
Remarks:

36.5 ft **36.5 ft** **Grade:** 4
Conditions: Point Repair Liner Defective
Remarks: Either fernco has failed or was not installed

*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-62280	Ann Arbor	N University	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-50019	41.35		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60914	40		12			

Distance: **40 ft** **Grade:**
Conditions: **Access Point Manhole**
Remarks: **92-60914**

*Indicates required field

Infrastructure Technologies
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Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-61038	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-61000	14.23		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60914	9		15			

SPR 0	**MPR** 0	**PO Number**		**Customer**	
SPRI 0	**MPRI** 0	**Work Order Number**		**Purpose**	
QSR 0000	**QMR** 0000				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
0	JBell	Downstream	8/8/2023 8:28:15 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
0	U-1117-07009559	No Pre-Cleaning	8/8/2023 8:30:29 AM		
Date Cleaned			**End Time**	**Additional Info**	
			8/8/2023 8:32:10 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 92-61000									
0	Miscellaneous Water Level				5	☐			
9	Access Point Manhole					☐			
Remarks: 92-60914									
9	Miscellaneous General					☐			
Remarks: Buried with a plate									

*Indicates required field

Infrastructure Technologies
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Albuquerque, NM
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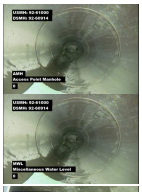
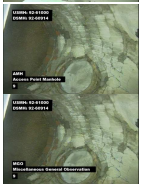
Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-61038	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-61000	14.23		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60914	9		15			

				PO Number	Customer
SPR	0	**MPR**	0		
SPRI	0	**MPRI**	0	**Work Order Number**	**Purpose**
QSR	0000	**QMR**	0000		

OPR	Surveyed By*	Direction*	Date*	Media label	
0	JBell	Downstream	8/8/2023 8:28:15 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
0	U-1117-07009559	No Pre-Cleaning	8/8/2023 8:30:29 AM		
Date Cleaned			**End Time**	**Additional Info**	
			8/8/2023 8:32:10 AM		

			92-61000
0 ft	Access Point Manhole		92-61000
0 ft	Miscellaneous Water Level		
9 ft	Access Point Manhole		92-60914
9 ft	Miscellaneous General Observation		Buried with a plate
			92-60914

*Indicates required field

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Albuquerque, NM
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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-61038	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-61000	14.23		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60914	9		15			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 92-61000

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 9 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 92-60914

9 ft **9 ft** **Grade:**
Conditions: Miscellaneous General Observation
Remarks: Buried with a plate

*Indicates required field

Infrastructure Technologies
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Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60730	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-61295			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60905	8.3		12			

SPR 0	**MPR** 0	**PO Number**		**Customer**	
SPRI 0	**MPRI** 0	**Work Order Number**		**Purpose**	
QSR 0000	**QMR** 0000				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
0	JBell	Downstream	8/7/2023 9:50:27 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
0	U-1117-07009559	No Pre-Cleaning	8/7/2023 9:50:38 AM		
Date Cleaned			**End Time**	**Additional Info**	
			8/7/2023 9:51:47 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Miscellaneous Water Level				5	☐			
0	Access Points Catch Basin					☐			
Remarks: 88-61295									
8.3	Access Point Manhole					☐			
Remarks: 92-60905									

*Indicates required field

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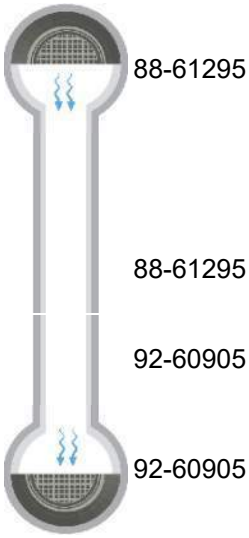
Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60730	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-61295			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60905	8.3		12			

				PO Number	Customer
SPR	0	**MPR**	0		
SPRI	0	**MPRI**	0	**Work Order Number**	**Purpose**
QSR	0000	**QMR**	0000		

OPR	Surveyed By*	Direction*	Date*	Media label	
0	JBell	Downstream	8/7/2023 9:50:27 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
0	U-1117-07009559	No Pre-Cleaning	8/7/2023 9:50:38 AM		
Date Cleaned			**End Time**	**Additional Info**	
			8/7/2023 9:51:47 AM		

0 ft	Miscellaneous Water Level	
0 ft	Access Points Catch Basin	
8.3 ft	Access Point Manhole	



*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60730	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-61295			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60905	8.3		12			

Distance: 0 ft **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

0 ft **0 ft** **Grade:**
Conditions: Access Points Catch Basin
Remarks: 88-61295

Distance: 8.3 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 92-60905

*Indicates required field

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Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60946	Ann Arbor	N University	Concrete Pipe (non-reinforced)			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60908			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60907	19.1		12			

SPR 0	**MPR** 0	**PO Number**		**Customer**	
SPRI 0	**MPRI** 0	**Work Order Number**		**Purpose**	
QSR 0000	**QMR** 0000				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
0	JBell	Downstream	8/7/2023 10:09:02 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
0	U-1117-07009559	No Pre-Cleaning	8/7/2023 10:09:13 AM		
Date Cleaned			**End Time**	**Additional Info**	
			8/7/2023 10:10:04 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 92-60908									
0	Miscellaneous Water Level				5	☐			
19.1	Access Point Manhole					☐			
Remarks: 92-60907									

*Indicates required field

Infrastructure Technologies
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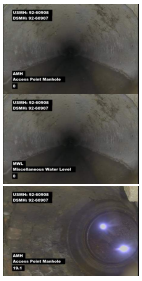
Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60946	Ann Arbor	N University	Concrete Pipe (non-reinforced)			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60908			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60907	19.1		12			

SPR	0	**MPR**	0	**PO Number**	**Customer**
SPRI	0	**MPRI**	0		
QSR	0000	**QMR**	0000	**Work Order Number**	**Purpose**

OPR	Surveyed By*	Direction*	Date*	Media label	
0	JBell	Downstream	8/7/2023 10:09:02 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
0	U-1117-07009559	No Pre-Cleaning	8/7/2023 10:09:13 AM		
Date Cleaned			**End Time**	**Additional Info**	
			8/7/2023 10:10:04 AM		

0 ft	Access Point Manhole		92-60908
0 ft	Miscellaneous Water Level		92-60908
19.1 ft	Access Point Manhole		92-60907
			92-60907

*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60946	Ann Arbor	N University	Concrete Pipe (non-reinforced)			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60908			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60907	19.1		12			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 92-60908

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 19.1 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 92-60907

*Indicates required field

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Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60741	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-51279			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60913	39		12			

SPR 0	**MPR** 4	**PO Number**		**Customer**	
SPRI 0	**MPRI** 4	**Work Order Number**		**Purpose**	
QSR 0000	**QMR** 4100				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
4	JBell	Downstream	8/7/2023 12:19:37 PM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
4	U-1117-07009559	No Pre-Cleaning	8/7/2023 12:19:50 PM		
Date Cleaned			**End Time**	**Additional Info**	
			8/7/2023 12:22:39 PM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Points Catch Basin					☐			
Remarks: 88-51279									
0	Miscellaneous Water Level				5	☐			
4.5	Miscellaneous Material Change					☐			
Remarks: N12									
8.2	Line Right				45	☐			4
9.6	Miscellaneous Material Change					☐			
Remarks: VCP									
31.7	Tap Break-in/Hammer		4			☐	11		
39	Access Point Manhole					☐			
Remarks: 92-60913									

*Indicates required field

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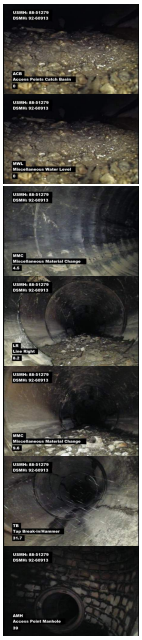
Defect Listing Plot With Images

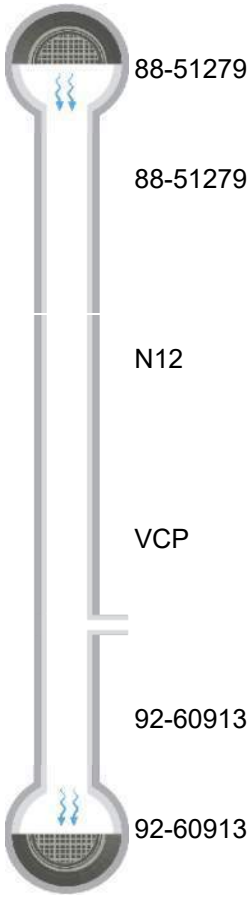
Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60741	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-51279			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60913	39		12			

				PO Number	Customer
SPR	0	**MPR**	4		
SPRI	0	**MPRI**	4	**Work Order Number**	**Purpose**
QSR	0000	**QMR**	4100		

OPR	Surveyed By*	Direction*	Date*	Media label	
4	JBell	Downstream	8/7/2023 12:19:37 PM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
4	U-1117-07009559	No Pre-Cleaning	8/7/2023 12:19:50 PM		
Date Cleaned			**End Time**	**Additional Info**	
			8/7/2023 12:22:39 PM		

0 ft	Access Points Catch Basin	
0 ft	Miscellaneous Water Level	
4.5 ft	Miscellaneous Material Change	
8.2 ft	Line Right	
9.6 ft	Miscellaneous Material Change	
31.7 ft	Tap Break-in/Hammer	
39 ft	Access Point Manhole	





*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60741	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-51279			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60913	39		12			

Distance: 0 ft **Grade:**
Conditions: Access Points Catch Basin
Remarks: 88-51279

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 4.5 ft **Grade:**
Conditions: Miscellaneous Material Change
Remarks: N12

8.2 ft **8.2 ft** **Grade:** **4**
Conditions: Line Right
Remarks:

*Indicates required field

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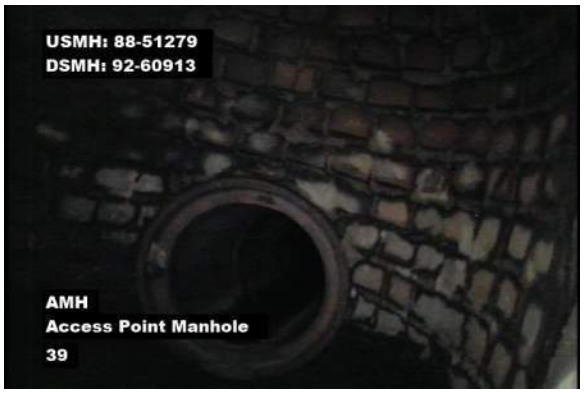
Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60741	Ann Arbor	N University	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-51279			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60913	39		12			

Distance:	**9.6 ft**	**Grade:**
Conditions:	**Miscellaneous Material Change**	
Remarks:	**VCP**	

31.7 ft	**31.7 ft**	**Grade:**
Conditions:	**Tap Break-in/Hammer**	
Remarks:		



Distance:	**39 ft**	**Grade:**
Conditions:	**Access Point Manhole**	
Remarks:	**92-60913**	

*Indicates required field

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Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60735	Ann Arbor	N university ave	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-61317			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60906	17		12			

SPR 5	**MPR** 0	**PO Number**		**Customer**	
SPRI 2.5	**MPRI** 0	**Work Order Number**		**Purpose**	
QSR 3121	**QMR** 0000				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
5	Steve Pierce	Upstream	8/30/2024 12:42:09 PM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
2.5	training	No Pre-Cleaning	8/30/2024 12:42:32 PM		
Date Cleaned			**End Time**	**Additional Info**	
			8/30/2024 12:44:06 PM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 92-60906									
0	Miscellaneous Water Level				5	☐			
12.9	Crack Longitudinal					☐	12		2
17	Joint Offset Medium					☐			3
17	Miscellaneous Survey Abandoned					☐			
Remarks: bulkheaded off									

*Indicates required field

Infrastructure Technologies
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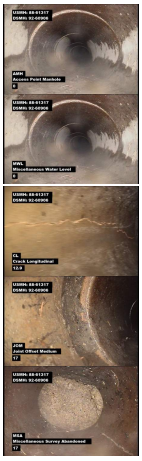
Defect Listing Plot With Images

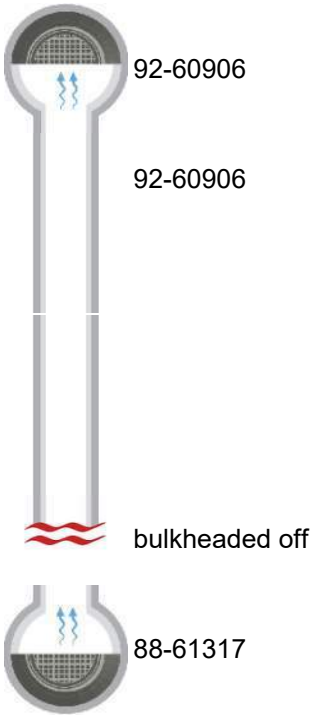
Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60735	Ann Arbor	N university ave	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-61317			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60906	17		12			

SPR	5	**MPR**	0	**PO Number**	**Customer**
SPRI	2.5	**MPRI**	0		
QSR	3121	**QMR**	0000	**Work Order Number**	**Purpose**

OPR	Surveyed By*	Direction*	Date*	Media label	
5	Steve Pierce	Upstream	8/30/2024 12:42:09 PM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
2.5	training	No Pre-Cleaning	8/30/2024 12:42:32 PM		
Date Cleaned			**End Time**	**Additional Info**	
			8/30/2024 12:44:06 PM		

0 ft	Access Point Manhole		
0 ft	Miscellaneous Water Level		
12.9 ft	Crack Longitudinal	2	
17 ft	Joint Offset Medium	3	
17 ft	Miscellaneous Survey Abandoned		





*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60735	Ann Arbor	N university ave	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-61317			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60906	17		12			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 92-60906

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 12.9 ft **Grade:** 2
Conditions: Crack Longitudinal
Remarks:

17 ft **17 ft** **Grade:** 3
Conditions: Joint Offset Medium
Remarks:

*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60735	Ann Arbor	N university ave	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-61317			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60906	17		12			

Distance: **17 ft** **Grade:**
Conditions: **Miscellaneous Survey Abandoned**
Remarks: **bulkheaded off**

*Indicates required field

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Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60896	Ann Arbor	Fletcher Rd	Concrete Pipe (non-reinforced)			Combined Pipe
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-063389	42		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60857	37.9		12			

				PO Number	Customer
SPR	2	**MPR**	0		
SPRI	2	**MPRI**	0	**Work Order Number**	**Purpose**
QSR	2100	**QMR**	0000		

OPR	Surveyed By*	Direction*	Date*	Media label	
2	JBell	Upstream	8/7/2023 9:10:42 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
2	U-1117-07009559	No Pre-Cleaning	8/7/2023 9:14:35 AM		
Date Cleaned			**End Time**	**Additional Info**	
			8/7/2023 9:29:11 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 92-60857									
0	Miscellaneous Water Level				5	☐			
0.5	Crack Longitudinal					☐	12		2
37.9	Access Point Manhole					☐			
Remarks: 92-063389									

*Indicates required field

Infrastructure Technologies
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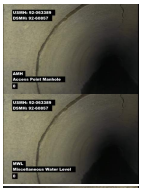
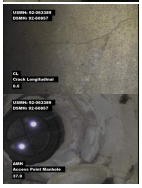
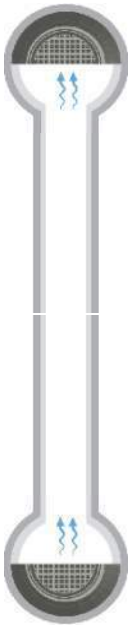
Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60896	Ann Arbor	Fletcher Rd	Concrete Pipe (non-reinforced)			Combined Pipe
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-063389	42		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60857	37.9		12			

				PO Number	Customer
SPR	2	MPR	0		
SPRI	2	MPRI	0	Work Order Number	Purpose
QSR	2100	QMR	0000		

OPR	Surveyed By*	Direction*	Date*	Media label
2	JBell	Upstream	8/7/2023 9:10:42 AM	
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**
2	U-1117-07009559	No Pre-Cleaning	8/7/2023 9:14:35 AM	
Date Cleaned			**End Time**	**Additional Info**
			8/7/2023 9:29:11 AM	

0 ft	Access Point Manhole		92-60857
0 ft	Miscellaneous Water Level		
0.5 ft	Crack Longitudinal		2
37.9 ft	Access Point Manhole		92-063389



*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60896	Ann Arbor	Fletcher Rd	Concrete Pipe (non-reinforced)			Combined Pipe
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-063389	42		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60857	37.9		12			

Distance:	**0 ft**	**Grade:**
Conditions:	**Access Point Manhole**	
Remarks:	**92-60857**	

0 ft	**0 ft**	**Grade:**
Conditions:	**Miscellaneous Water Level**	
Remarks:		

Distance:	**0.5 ft**	**Grade:**	**2**
Conditions:	**Crack Longitudinal**		
Remarks:			

37.9 ft	**37.9 ft**	**Grade:**
Conditions:	**Access Point Manhole**	
Remarks:	**92-063389**	

*Indicates required field

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Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60671	AA	S Thayer st	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-61289	19		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60826	15.9		12			

SPR 0	**MPR** 0	**PO Number**		**Customer**	
SPRI 0	**MPRI** 0	**Work Order Number**		**Purpose**	
QSR 0000	**QMR** 0000				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
0	Steve Pierce	Upstream	12/17/2025 9:30:56 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
0	p0051117-112024	No Pre-Cleaning	12/17/2025 9:32:44 AM		
Date Cleaned			**End Time**	**Additional Info**	
			12/17/2025 9:43:53 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 92-60826									
0	Miscellaneous Water Level				5	☐			
7.9	Miscellaneous General					☐			
Remarks: old pipe repair									
13.3	Miscellaneous General					☐			
Remarks: old peep sight									
15.9	Access Points Catch Basin					☐			
Remarks: 88-61289									

*Indicates required field

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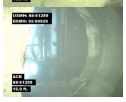
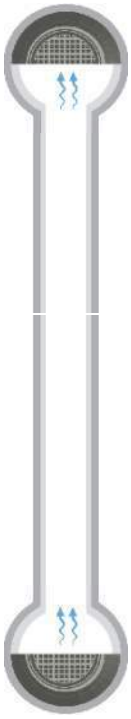
Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60671	AA	S Thayer st	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-61289	19		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60826	15.9		12			

SPR	0	**MPR**	0	**PO Number**	**Customer**
SPRI	0	**MPRI**	0		
QSR	0000	**QMR**	0000	**Work Order Number**	**Purpose**

OPR	Surveyed By*	Direction*	Date*	Media label
0	Steve Pierce	Upstream	12/17/2025 9:30:56 AM	
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**
0	p0051117-112024	No Pre-Cleaning	12/17/2025 9:32:44 AM	
Date Cleaned			**End Time**	**Additional Info**
			12/17/2025 9:43:53 AM	

0 ft	Access Point Manhole		92-60826
0 ft	Miscellaneous Water Level		
7.9 ft	Miscellaneous General Observation		old pipe repair
13.3 ft	Miscellaneous General Observation		old peep sight
15.9 ft	Access Points Catch Basin		88-61289



92-60826

88-61289

*Indicates required field

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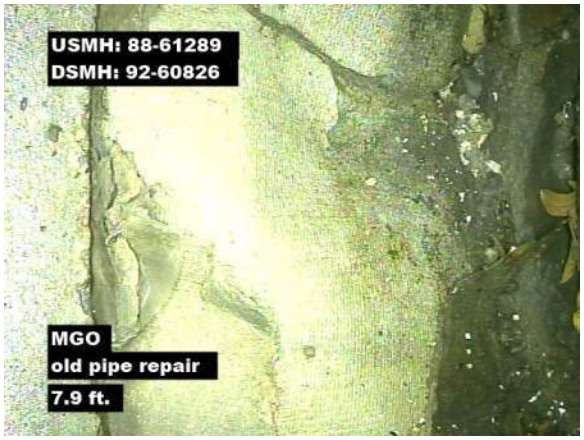
Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60671	AA	S Thayer st	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-61289	19		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60826	15.9		12			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 92-60826

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:



Distance: 7.9 ft **Grade:**
Conditions: Miscellaneous General Observation
Remarks: old pipe repair

13.3 ft **13.3 ft** **Grade:**
Conditions: Miscellaneous General Observation
Remarks: old peep sight

*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60671	AA	S Thayer st	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-61289	19		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60826	15.9		12			

Distance: 15.9 ft **Grade:**
Conditions: Access Points Catch Basin
Remarks: 88-61289

*Indicates required field

Infrastructure Technologies
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Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-64150	AA	S Thayer st ally	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-62640	140.4		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60968	135.6		12			

SPR	0	MPR	0	PO Number	Customer
SPRI	0	MPRI	0		
QSR	0000	QMR	0000	Work Order Number	Purpose

OPR	Surveyed By*	Direction*	Date*	Media label
0	Steve Pierce	Upstream	12/18/2025 8:46:35 AM	
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**
0	p0051117-112024	Heavy Cleaning	12/18/2025 8:48:26 AM	
Date Cleaned			**End Time**	**Additional Info**
			12/18/2025 8:55:40 AM	

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 92-60968									
0	Miscellaneous Water Level				5	☐			
40.3	Tap Factory Activity		4			☐	2		
52.1	Tap Break-in/Hammer		4			☐	12		
71.1	Tap Factory Activity		4			☐	2		
97.6	Tap Factory Made		4			☐	10		
122.6	Tap Factory Made		4			☐	2		
131.8	Tap Break-in Activity		4			☐	1		
135.6	Miscellaneous General					☐			
Remarks: maybe a tap									
135.6	Access Point End of Pipe					☐			
Remarks: 92-62640									

*Indicates required field

Infrastructure Technologies
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Albuquerque, NM
877-ITpipes

Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-64150	AA	S Thayer st ally	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-62640	140.4		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60968	135.6		12			

SPR	0	MPR	0	PO Number	Customer
SPRI	0	MPRI	0		
QSR	0000	QMR	0000	Work Order Number	Purpose

OPR	Surveyed By*	Direction*	Date*	Media label
0	Steve Pierce	Upstream	12/18/2025 8:46:35 AM	
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**
0	p0051117-112024	Heavy Cleaning	12/18/2025 8:48:26 AM	
Date Cleaned			**End Time**	**Additional Info**
			12/18/2025 8:55:40 AM	

0 ft	Access Point Manhole
0 ft	Miscellaneous Water Level
40.3 ft	Tap Factory Activity
52.1 ft	Tap Break-in/Hammer
71.1 ft	Tap Factory Activity
97.6 ft	Tap Factory Made
122.6 ft	Tap Factory Made
131.8 ft	Tap Break-in Activity
135.6 ft	Miscellaneous General Observation
135.6 ft	Access Point End of Pipe

*Indicates required field

Infrastructure Technologies
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Albuquerque, NM
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Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-64150	AA	S Thayer st ally	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-62640	140.4		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60968	135.6		12			

92-62640

*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Image 4 Per Page

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-64150	AA	S Thayer st ally	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-62640	140.4		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60968	135.6		12			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 92-60968

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 40.3 ft **Grade:**
Conditions: Tap Factory Activity
Remarks:

52.1 ft **52.1 ft** **Grade:**
Conditions: Tap Break-in/Hammer
Remarks:

*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-64150	AA	S Thayer st ally	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-62640	140.4		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60968	135.6		12			

Distance: 71.1 ft **Grade:**
Conditions: Tap Factory Activity
Remarks:

97.6 ft **97.6 ft** **Grade:**
Conditions: Tap Factory Made
Remarks:

Distance: 122.6 ft **Grade:**
Conditions: Tap Factory Made
Remarks:

131.8 ft **131.8 ft** **Grade:**
Conditions: Tap Break-in Activity
Remarks:

*Indicates required field

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Image 4 Per Page

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-64150	AA	S Thayer st ally	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-62640	140.4		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60968	135.6		12			

Distance: 135.6 ft **Grade:**
Conditions: Miscellaneous General Observation
Remarks: maybe a tap

135.6 ft **135.6 ft** **Grade:**
Conditions: Access Point End of Pipe
Remarks: 92-62640

*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
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877-ITpipes

Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60862	AA	S Thayer st and E Washington	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
97-50876	109.6		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60823	56.7		12			

SPR 10	**MPR** 0	**PO Number**		**Customer**	
SPRI 5	**MPRI** 0	**Work Order Number**		**Purpose**	
QSR 5200	**QMR** 0000				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
10	Steve Pierce	Upstream	12/16/2025 1:42:31 PM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
5	p0051117-112024	Heavy Cleaning	12/16/2025 1:42:53 PM		
Date Cleaned			**End Time**	**Additional Info**	
			12/16/2025 1:48:24 PM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 92-60823									
0	Miscellaneous Water Level				5	☐			
32.2	Broken Pipe Void Visible					☐	8	4	5
56.3	Miscellaneous Survey Abandoned					☐			
Remarks: unable tto get past debris									
56.7	Broken Pipe Void Visible					☐	8	4	5

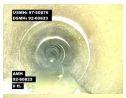
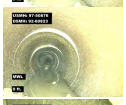
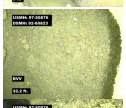
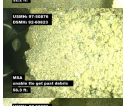
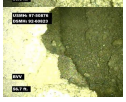
*Indicates required field

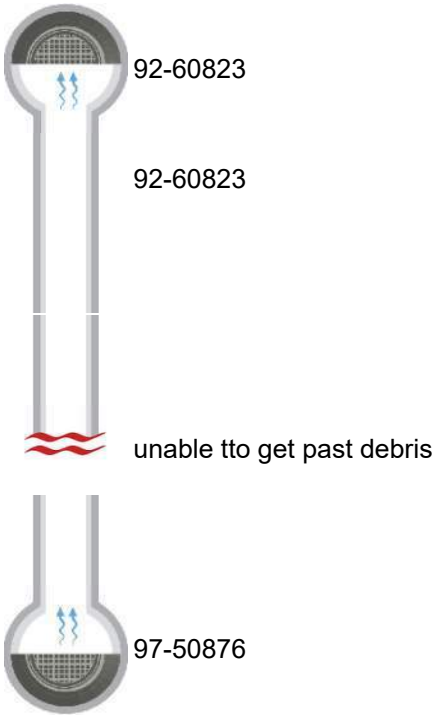
Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60862	AA	S Thayer st and E Washington	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
97-50876	109.6		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60823	56.7		12			

SPR 10	**MPR** 0	**PO Number**		**Customer**	
SPRI 5	**MPRI** 0				
QSR 5200	**QMR** 0000	**Work Order Number**		**Purpose**	
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
10	Steve Pierce	Upstream	12/16/2025 1:42:31 PM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
5	p0051117-112024	Heavy Cleaning	12/16/2025 1:42:53 PM		
Date Cleaned			**End Time**	**Additional Info**	
			12/16/2025 1:48:24 PM		

0 ft	Access Point Manhole		
0 ft	Miscellaneous Water Level		
32.2 ft	Broken Pipe Void Visible		5
56.3 ft	Miscellaneous Survey Abandoned		
56.7 ft	Broken Pipe Void Visible		5



*Indicates required field

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Albuquerque, NM
877-ITpipes

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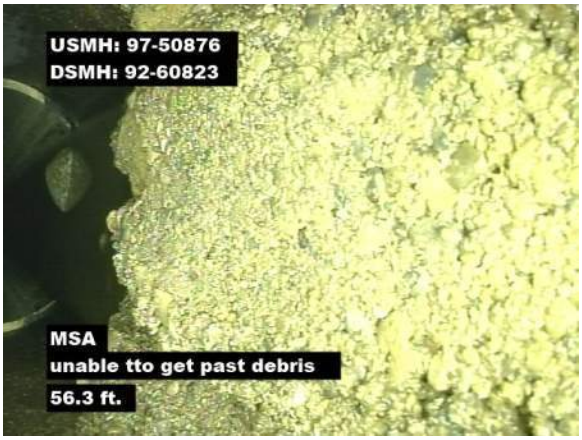
Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60862	AA	S Thayer st and E Washington	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
97-50876	109.6		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60823	56.7		12			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 92-60823

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 32.2 ft **Grade:** 5
Conditions: Broken Pipe Void Visible
Remarks:



56.3 ft **56.3 ft** **Grade:**
Conditions: Miscellaneous Survey Abandoned
Remarks: unable tto get past debris

*Indicates required field

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10412 Menaul Blvd
Albuquerque, NM
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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60862	AA	S Thayer st and E Washington	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
97-50876	109.6		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60823	56.7		12			

Distance: **56.7 ft** **Grade:** **5**
Conditions: **Broken Pipe Void Visible**
Remarks:

*Indicates required field

Infrastructure Technologies
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877-ITpipes

Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60668	AA	S Thayer st	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-51240	19.3		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60825	15		12			

SPR 6	**MPR** 0	**PO Number**		**Customer**	
SPRI 3	**MPRI** 0	**Work Order Number**		**Purpose**	
QSR 4121	**QMR** 0000				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
6	Steve Pierce	Upstream	12/15/2025 5:56:42 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
3	p0051117-112024	No Pre-Cleaning	12/15/2025 5:56:53 AM		
Date Cleaned			**End Time**	**Additional Info**	
			12/15/2025 5:58:53 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 92-60825									
0	Miscellaneous Water Level				5	☐			
4.8	Miscellaneous Material Change					☐			
Remarks: concrete to clay									
4.8	Joint Offset Large					☐			4
7.4	Crack Longitudinal					☐	12		2
15	Access Points Catch Basin					☐			
Remarks: 88-51240									

*Indicates required field

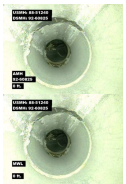
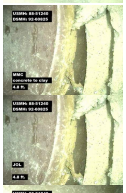
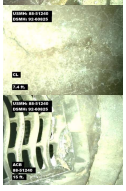
Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60668	AA	S Thayer st	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-51240	19.3		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60825	15		12			

				PO Number	Customer
SPR	6	MPR	0		
SPRI	3	MPRI	0	Work Order Number	Purpose
QSR	4121	QMR	0000		

OPR	Surveyed By*	Direction*	Date*	Media label	
6	Steve Pierce	Upstream	12/15/2025 5:56:42 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
3	p0051117-112024	No Pre-Cleaning	12/15/2025 5:56:53 AM		
Date Cleaned			**End Time**	**Additional Info**	
			12/15/2025 5:58:53 AM		

			92-60825
0 ft	Access Point Manhole		92-60825
0 ft	Miscellaneous Water Level		
4.8 ft	Miscellaneous Material Change		concrete to clay
4.8 ft	Joint Offset Large		4
7.4 ft	Crack Longitudinal		2
15 ft	Access Points Catch Basin		88-51240
			88-51240

*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60668	AA	S Thayer st	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-51240	19.3		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60825	15		12			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 92-60825

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 4.8 ft **Grade:**
Conditions: Miscellaneous Material Change
Remarks: concrete to clay

4.8 ft **4.8 ft** **Grade:** **4**
Conditions: Joint Offset Large
Remarks:

*Indicates required field

Infrastructure Technologies
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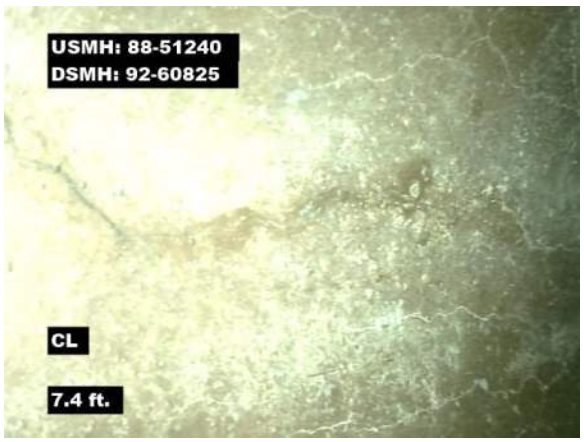
Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60668	AA	S Thayer st	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-51240	19.3		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60825	15		12			



Distance: 7.4 ft **Grade:** 2
Conditions: Crack Longitudinal
Remarks:

15 ft **15 ft** **Grade:**
Conditions: Access Points Catch Basin
Remarks: 88-51240

*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60669	AA	S Thayer st	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-51241	15.6		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60825	14.2		12			

SPR 4	**MPR** 2	**PO Number**		**Customer**	
SPRI 4	**MPRI** 1	**Work Order Number**		**Purpose**	
QSR 4100	**QMR** 1200				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
6	Steve Pierce	Upstream	12/15/2025 6:01:33 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
2	p0051117-112024	No Pre-Cleaning	12/15/2025 6:03:49 AM		
Date Cleaned			**End Time**	**Additional Info**	
			12/15/2025 6:05:14 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 92-60825									
0	Miscellaneous Water Level				5	☐			
4	Line Left				5	☐			1
5	Line Up				5	☐			1
12.5	Broken Pipe					☐	12	12	4
14.2	Access Points Catch Basin					☐			
Remarks: 88-51241									

*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60669	AA	S Thayer st	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-51241	15.6		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60825	14.2		12			

				PO Number	Customer
SPR	4	**MPR**	2		
SPRI	4	**MPRI**	1	**Work Order Number**	**Purpose**
QSR	4100	**QMR**	1200		

OPR	Surveyed By*	Direction*	Date*	Media label	
6	Steve Pierce	Upstream	12/15/2025 6:01:33 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
2	p0051117-112024	No Pre-Cleaning	12/15/2025 6:03:49 AM		
Date Cleaned			**End Time**	**Additional Info**	
			12/15/2025 6:05:14 AM		

			92-60825
0 ft	Access Point Manhole		92-60825
0 ft	Miscellaneous Water Level		
4 ft	Line Left	1	
5 ft	Line Up	1	
12.5 ft	Broken Pipe	4	
14.2 ft	Access Points Catch Basin		88-51241
			88-51241

*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60669	AA	S Thayer st	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-51241	15.6		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60825	14.2		12			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 92-60825

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 4 ft **Grade:** 1
Conditions: Line Left
Remarks:

5 ft **5 ft** **Grade:** 1
Conditions: Line Up
Remarks:

*Indicates required field

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Albuquerque, NM
877-ITpipes

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60669	AA	S Thayer st	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-51241	15.6		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60825	14.2		12			

Distance:	**12.5 ft**	**Grade:**	**4**
Conditions:	**Broken Pipe**		
Remarks:			

14.2 ft	**14.2 ft**	**Grade:**	
Conditions:	**Access Points Catch Basin**		
Remarks:	**88-51241**		

*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60864	AA	S Thayer st	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60826	31.3		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60996	25.8		12			

SPR 10	**MPR** 0	**PO Number**		**Customer**	
SPRI 2	**MPRI** 0				
QSR 2500	**QMR** 0000	**Work Order Number**		**Purpose**	
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
10	Steve Pierce	Upstream	12/15/2025 4:46:31 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
2	p0051117-112024	No Pre-Cleaning	12/15/2025 4:46:40 AM		
Date Cleaned			**End Time**	**Additional Info**	
			12/15/2025 4:48:20 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 92-60996									
0	Miscellaneous Water Level				5	☐			
0.3	Crack Longitudinal	S01				☐	12		2
23.6	Crack Longitudinal	F01				☐	12		2
25.8	Access Point Manhole					☐			
Remarks: 92-60826									

*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
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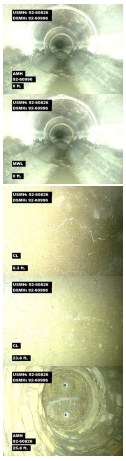
877-ITpipes

Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60864	AA	S Thayer st	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60826	31.3		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60996	25.8		12			

SPR	10	MPR	0	PO Number	Customer
SPRI	2	MPRI	0		
QSR	2500	QMR	0000	Work Order Number	Purpose

OPR	Surveyed By*	Direction*	Date*	Media label
10	Steve Pierce	Upstream	12/15/2025 4:46:31 AM	
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**
2	p0051117-112024	No Pre-Cleaning	12/15/2025 4:46:40 AM	
Date Cleaned			**End Time**	**Additional Info**
			12/15/2025 4:48:20 AM	

0 ft	Access Point Manhole			92-60996
0 ft	Miscellaneous Water Level			92-60996
0.3 ft	Crack Longitudinal		2	
23.6 ft	Crack Longitudinal		2	
25.8 ft	Access Point Manhole			92-60826
				92-60826

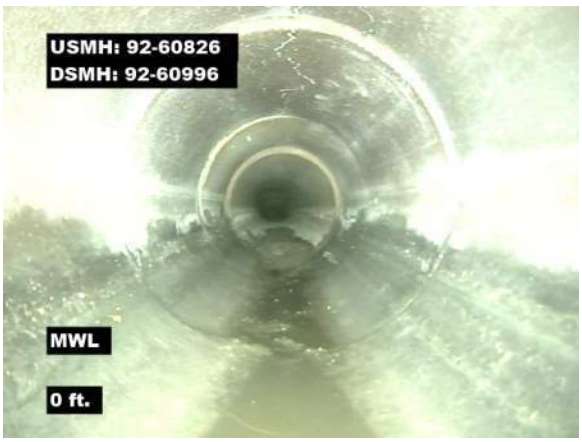
*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

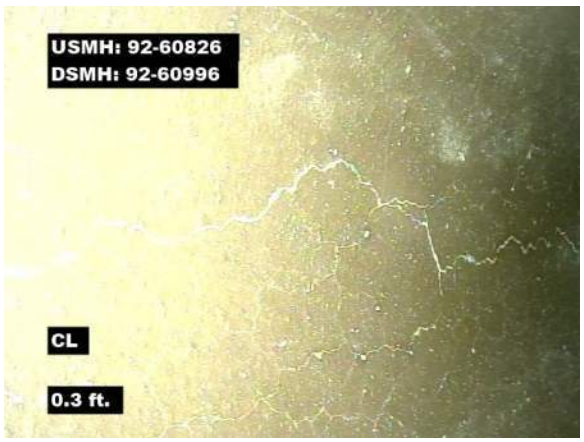
Image 4 Per Page

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60864	AA	S Thayer st	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60826	31.3		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60996	25.8		12			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 92-60996



0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:



Distance: 0.3 ft **Grade:** 2
Conditions: Crack Longitudinal
Remarks:

23.6 ft **23.6 ft** **Grade:** 2
Conditions: Crack Longitudinal
Remarks:

*Indicates required field

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877-ITpipes

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60864	AA	S Thayer st	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60826	31.3		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60996	25.8		12			

Distance: 25.8 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 92-60826

*Indicates required field

Infrastructure Technologies
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Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-61034	AA	S Thayer st	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60996	116.8		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60825	112.8		12			

SPR 28	**MPR** 0	**PO Number**		**Customer**	
SPRI 2	**MPRI** 0	**Work Order Number**		**Purpose**	
QSR 2A00	**QMR** 0000				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
28	Steve Pierce	Downstream	12/15/2025 4:50:22 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
2	p0051117-112024	No Pre-Cleaning	12/15/2025 4:53:32 AM		
Date Cleaned			**End Time**	**Additional Info**	
			12/15/2025 4:57:56 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 92-60996									
0	Miscellaneous Water Level				5	☐			
1.1	Crack Longitudinal	S01				☐	12		2
14.4	Surface Damage Surface Spalling					☐	2		2
64.1	Crack Longitudinal	F01				☐	12		2
112.8	Access Point Manhole					☐			
Remarks: 92-60825									

*Indicates required field

Infrastructure Technologies
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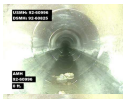
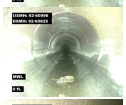
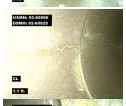
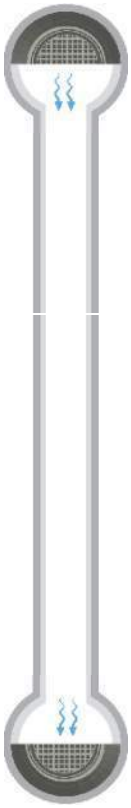
Albuquerque, NM
877-ITpipes

Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-61034	AA	S Thayer st	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60996	116.8		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60825	112.8		12			

SPR 28	**MPR** 0	**PO Number**		**Customer**	
SPRI 2	**MPRI** 0				
QSR 2A00	**QMR** 0000	**Work Order Number**		**Purpose**	
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
28	Steve Pierce	Downstream	12/15/2025 4:50:22 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
2	p0051117-112024	No Pre-Cleaning	12/15/2025 4:53:32 AM		
Date Cleaned			**End Time**	**Additional Info**	
			12/15/2025 4:57:56 AM		

0 ft	Access Point Manhole		
0 ft	Miscellaneous Water Level		
1.1 ft	Crack Longitudinal		2
14.4 ft	Surface Damage Surface Spalling		2
64.1 ft	Crack Longitudinal		2
112.8 ft	Access Point Manhole		



*Indicates required field

Infrastructure Technologies
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Albuquerque, NM
877-ITpipes

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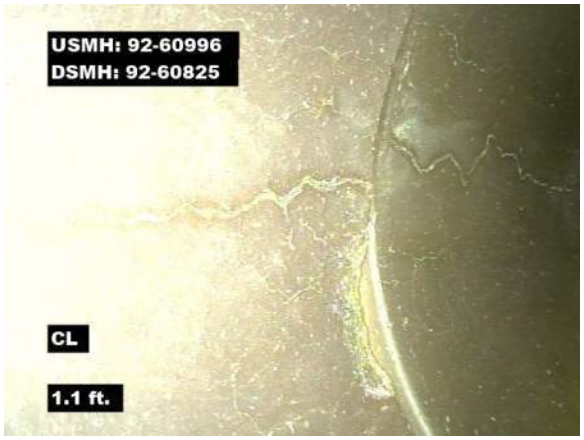
Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-61034	AA	S Thayer st	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60996	116.8		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60825	112.8		12			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 92-60996

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:



Distance: 1.1 ft **Grade:** 2
Conditions: Crack Longitudinal
Remarks:

14.4 ft **14.4 ft** **Grade:** 2
Conditions: Surface Damage Surface Spalling
Remarks:

*Indicates required field

Infrastructure Technologies
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Albuquerque, NM
877-ITpipes

Image 4 Per Page

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-61034	AA	S Thayer st	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60996	116.8		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60825	112.8		12			

Distance: 64.1 ft **Grade:** 2
Conditions: Crack Longitudinal
Remarks:

112.8 ft **112.8 ft** **Grade:**
Conditions: Access Point Manhole
Remarks: 92-60825

*Indicates required field

Infrastructure Technologies
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Albuquerque, NM
877-ITpipes

Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60863	AA	S Thayer st	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60825	0		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
97-50876	88.2		12			

SPR 6	**MPR** 4	**PO Number**		**Customer**	
SPRI 2	**MPRI** 4				
QSR 2300	**QMR** 4100	**Work Order Number**		**Purpose**	
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
10	Steve Pierce	Upstream	12/15/2025 6:11:00 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
2.5	p0051117-112024	Heavy Cleaning	12/15/2025 6:18:00 AM		
Date Cleaned			**End Time**	**Additional Info**	
			12/15/2025 6:22:00 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 97-50876									
0	Miscellaneous Water Level				5	☐			
53.4	Crack Longitudinal	S01				☐	12		2
60.6	Miscellaneous Material Change					☐			
Remarks: clay to plastic									
61.7	Crack Longitudinal	F01				☐	12		2
80.3	Miscellaneous Material Change					☐			
Remarks: back to clay									
83.4	Crack Longitudinal	S02				☐	12		2
85.9	Roots Medium Barrel	S03			15	☐	4		4
86.7	Crack Longitudinal	F02				☐	12		2
88.2	Miscellaneous Survey Abandoned					☐			
Remarks: unable to get past thick roots									

*Indicates required field

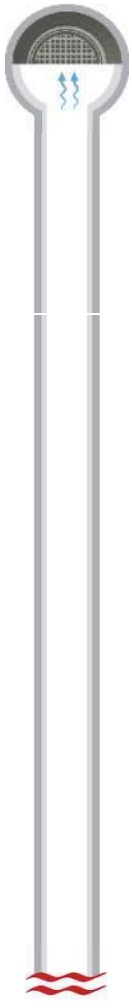
Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

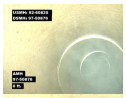
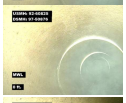
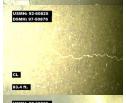
Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60863	AA	S Thayer st	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60825	0		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
97-50876	88.2		12			

SPR	6	MPR	4	PO Number	Customer
SPRI	2	MPRI	4		
QSR	2300	QMR	4100	Work Order Number	Purpose

OPR	Surveyed By*	Direction*	Date*	Media label
10	Steve Pierce	Upstream	12/15/2025 6:11:00 AM	
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**
2.5	p0051117-112024	Heavy Cleaning	12/15/2025 6:18:00 AM	
Date Cleaned			**End Time**	**Additional Info**
			12/15/2025 6:22:00 AM	



0 ft	Access Point Manhole			97-50876
0 ft	Miscellaneous Water Level			
53.4 ft	Crack Longitudinal		2	
60.6 ft	Miscellaneous Material Change			clay to plastic
61.7 ft	Crack Longitudinal		2	
80.3 ft	Miscellaneous Material Change			back to clay
83.4 ft	Crack Longitudinal		2	
85.9 ft	Roots Medium Barrel		4	
86.7 ft	Crack Longitudinal		2	
88.2 ft	Miscellaneous Survey Abandoned			unable to get past thick roots

*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60863	AA	S Thayer st	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60825	0		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
97-50876	88.2		12			

92-60825

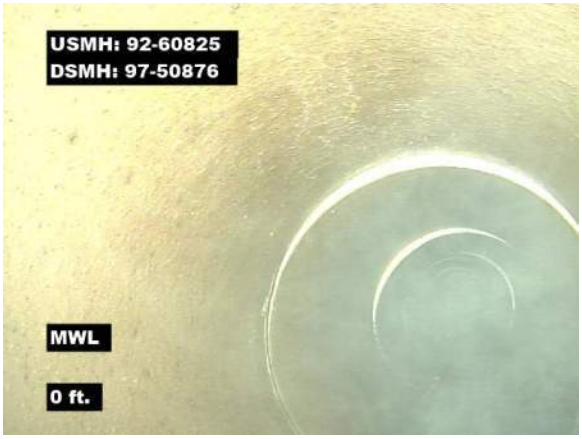
*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

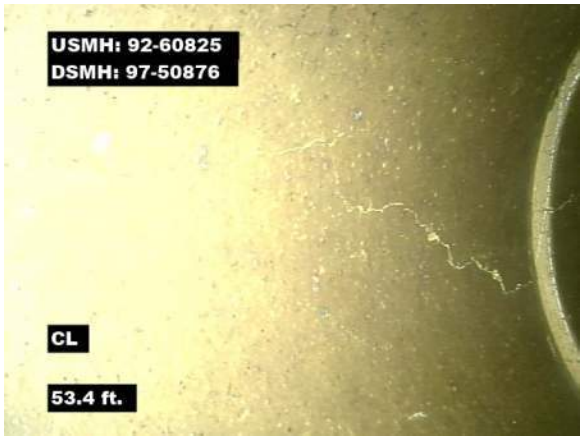
Image 4 Per Page

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60863	AA	S Thayer st	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60825	0		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
97-50876	88.2		12			

Distance:	**0 ft**	**Grade:**
Conditions:	**Access Point Manhole**	
Remarks:	**97-50876**	



0 ft	**0 ft**	**Grade:**
Conditions:	**Miscellaneous Water Level**	
Remarks:		



Distance:	**53.4 ft**	**Grade:** **2**
Conditions:	**Crack Longitudinal**	
Remarks:		

60.6 ft	**60.6 ft**	**Grade:**
Conditions:	**Miscellaneous Material Change**	
Remarks:	**clay to plastic**	

*Indicates required field

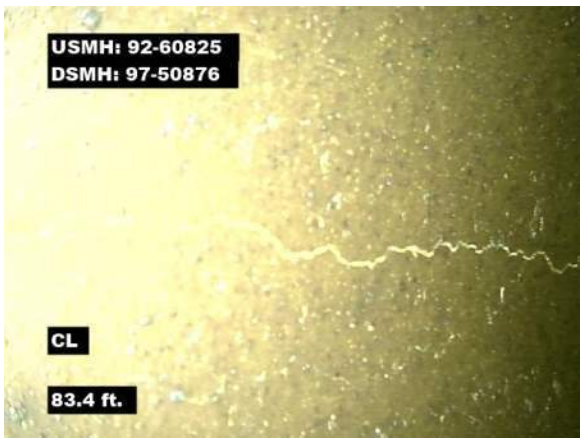
Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Image 4 Per Page

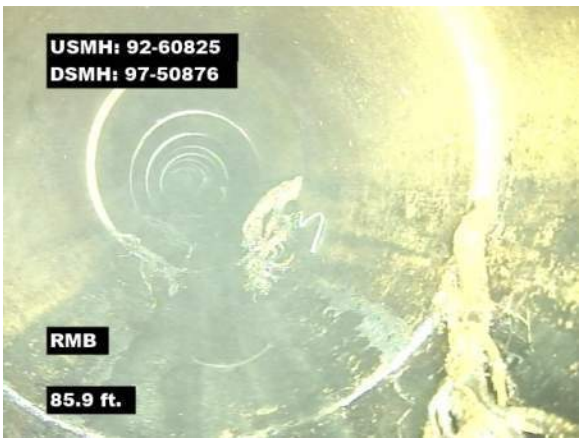
Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60863	AA	S Thayer st	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60825	0		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
97-50876	88.2		12			

Distance:	**61.7 ft**	**Grade:**	**2**
Conditions:	**Crack Longitudinal**		
Remarks:			

80.3 ft	**80.3 ft**	**Grade:**	
Conditions:	**Miscellaneous Material Change**		
Remarks:	**back to clay**		



Distance:	**83.4 ft**	**Grade:**	**2**
Conditions:	**Crack Longitudinal**		
Remarks:			



85.9 ft	**85.9 ft**	**Grade:**	**4**
Conditions:	**Roots Medium Barrel**		
Remarks:			

*Indicates required field

Infrastructure Technologies
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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60863	AA	S Thayer st	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60825	0		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
97-50876	88.2		12			

Distance: 86.7 ft **Grade:** 2
Conditions: Crack Longitudinal
Remarks:

88.2 ft **88.2 ft** **Grade:**
Conditions: Miscellaneous Survey Abandoned
Remarks: unable to get past thick roots

*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-64145	AA	S Thayer st	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-61327	95		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
88-61289	91.9		12			

SPR 39	**MPR** 0	**PO Number**		**Customer**	
SPRI 2.4	**MPRI** 0				
QSR 4233	**QMR** 0000	**Work Order Number**		**Purpose**	
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
39	Steve Pierce	Downstream	12/17/2025 8:36:35 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
2.4	p0051117-112024	Heavy Cleaning	12/17/2025 8:36:49 AM		
Date Cleaned			**End Time**	**Additional Info**	
			12/17/2025 8:41:25 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Points Catch Basin					☐			
Remarks: 88-61327									
0	Miscellaneous Water Level				5	☐			
3.4	Crack Longitudinal	S01				☐	12		2
33.7	Broken Pipe					☐	10	2	4
35.3	Tap Break-in/Hammer		4			☐	10		
40	Crack Multiple					☐	2	6	3
43	Broken Pipe					☐	7	11	4
49.2	Crack Multiple					☐	10	1	3
55.6	Crack Longitudinal	F01				☐	12		2
65.1	Tap Break-in/Hammer		4			☐	10		
67.5	Crack Multiple					☐	4	9	3
88.6	Crack Longitudinal					☐	12		2
91.9	Access Points Catch Basin					☐			
Remarks: 88-61289									

*Indicates required field

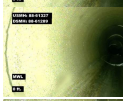
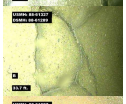
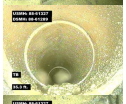
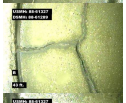
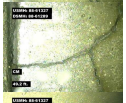
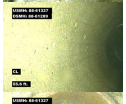
Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-64145	AA	S Thayer st	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-61327	95		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
88-61289	91.9		12			

				PO Number	Customer
SPR	39	**MPR**	0		
SPRI	2.4	**MPRI**	0	**Work Order Number**	**Purpose**
QSR	4233	**QMR**	0000		

OPR	Surveyed By*	Direction*	Date*	Media label
39	Steve Pierce	Downstream	12/17/2025 8:36:35 AM	
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**
2.4	p0051117-112024	Heavy Cleaning	12/17/2025 8:36:49 AM	
Date Cleaned			**End Time**	**Additional Info**
			12/17/2025 8:41:25 AM	

0 ft	Access Points Catch Basin		
0 ft	Miscellaneous Water Level		
3.4 ft	Crack Longitudinal		2
33.7 ft	Broken Pipe		4
35.3 ft	Tap Break-in/Hammer		
40 ft	Crack Multiple		3
43 ft	Broken Pipe		4
49.2 ft	Crack Multiple		3
55.6 ft	Crack Longitudinal		2
65.1 ft	Tap Break-in/Hammer		

*Indicates required field

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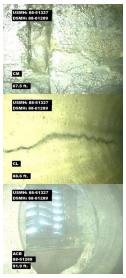
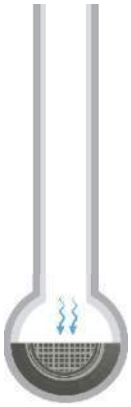
Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-64145	AA	S Thayer st	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-61327	95		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
88-61289	91.9		12			

67.5 ft	Crack Multiple		3
88.6 ft	Crack Longitudinal		2
91.9 ft	Access Points Catch Basin		



88-61289

88-61289

*Indicates required field

Infrastructure Technologies
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877-ITpipes

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-64145	AA	S Thayer st	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-61327	95		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
88-61289	91.9		12			

Distance:	**0 ft**	**Grade:**	
Conditions:	**Access Points Catch Basin**		
Remarks:	**88-61327**		

0 ft	**0 ft**	**Grade:**	
Conditions:	**Miscellaneous Water Level**		
Remarks:			

Distance:	**3.4 ft**	**Grade:**	**2**
Conditions:	**Crack Longitudinal**		
Remarks:			

33.7 ft	**33.7 ft**	**Grade:**	**4**
Conditions:	**Broken Pipe**		
Remarks:			

*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-64145	AA	S Thayer st	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-61327	95		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
88-61289	91.9		12			

Distance: 35.3 ft **Grade:**
Conditions: Tap Break-in/Hammer
Remarks:

40 ft **40 ft** **Grade:** **3**
Conditions: Crack Multiple
Remarks:

Distance: 43 ft **Grade:** 4
Conditions: Broken Pipe
Remarks:

49.2 ft **49.2 ft** **Grade:** **3**
Conditions: Crack Multiple
Remarks:

*Indicates required field

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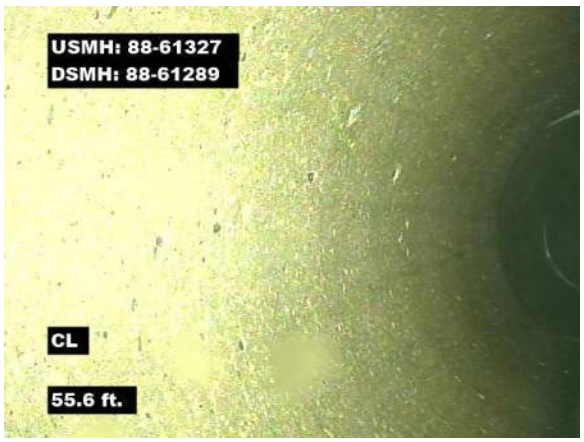
Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-64145	AA	S Thayer st	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-61327	95		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
88-61289	91.9		12			



Distance: 55.6 ft **Grade:** 2
Conditions: Crack Longitudinal
Remarks:

65.1 ft **65.1 ft** **Grade:**
Conditions: Tap Break-in/Hammer
Remarks:

Distance: 67.5 ft **Grade:** 3
Conditions: Crack Multiple
Remarks:

88.6 ft **88.6 ft** **Grade:** 2
Conditions: Crack Longitudinal
Remarks:

*Indicates required field

Infrastructure Technologies
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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-64145	AA	S Thayer st	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-61327	95		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
88-61289	91.9		12			

Distance: 91.9 ft **Grade:**
Conditions: Access Points Catch Basin
Remarks: 88-61289

*Indicates required field

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Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-61007	AA	S thayer st	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60969	63.7		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60968	60		12			

SPR 0	**MPR** 0	**PO Number**		**Customer**	
SPRI 0	**MPRI** 0				
QSR 0000	**QMR** 0000	**Work Order Number**		**Purpose**	
OPR	**Surveyed By***	**Direction***	**Date***		**Media label**
0	Steve Pierce	Upstream	12/17/2025 7:18:06 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**		**Weather**
0	p0051117-112024	No Pre-Cleaning	12/17/2025 7:18:35 AM		
Date Cleaned			**End Time**		**Additional Info**
			12/17/2025 7:21:36 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 92-60968									
0	Miscellaneous Water Level				5	☐			
60	Access Point Manhole					☐			
Remarks: 92-60969									

*Indicates required field

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Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-61007	AA	S thayer st	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60969	63.7		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60968	60		12			

SPR	0	MPR	0	PO Number	Customer
SPRI	0	MPRI	0		
QSR	0000	QMR	0000	Work Order Number	Purpose

OPR	Surveyed By*	Direction*	Date*	Media label	
0	Steve Pierce	Upstream	12/17/2025 7:18:06 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
0	p0051117-112024	No Pre-Cleaning	12/17/2025 7:18:35 AM		
Date Cleaned			**End Time**	**Additional Info**	
			12/17/2025 7:21:36 AM		

0 ft	Access Point Manhole	
0 ft	Miscellaneous Water Level	
60 ft	Access Point Manhole	

*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-61007	AA	S thayer st	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60969	63.7		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60968	60		12			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 92-60968

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 60 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 92-60969

*Indicates required field

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Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60670	AA	S Thayer st	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-51239	16		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60826	14.8		12			

SPR 6	**MPR** 0	**PO Number**		**Customer**	
SPRI 3	**MPRI** 0				
QSR 4121	**QMR** 0000	**Work Order Number**		**Purpose**	
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
6	Steve Pierce	Upstream	12/17/2025 9:27:27 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
3	p0051117-112024	No Pre-Cleaning	12/17/2025 9:27:50 AM		
Date Cleaned			**End Time**	**Additional Info**	
			12/17/2025 9:29:16 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 92-60826									
0	Miscellaneous Water Level				5	☐			
2.9	Crack Longitudinal Hinge 2					☐	9	12	2
2.9	Crack Longitudinal Hinge 4	S01				☐	12	12	4
14.8	Access Points Catch Basin					☐			
Remarks: 88-51239									

*Indicates required field

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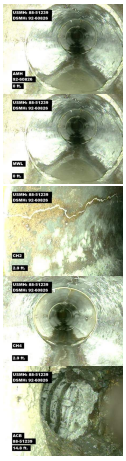
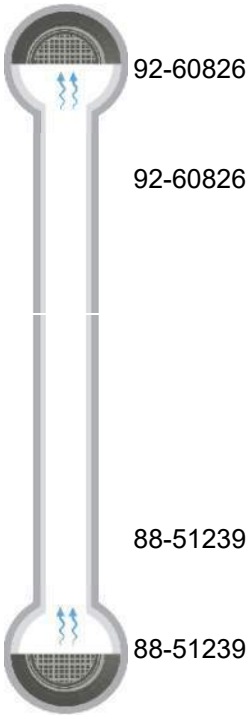
Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60670	AA	S Thayer st	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-51239	16		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60826	14.8		12			

SPR	6	**MPR**	0	**PO Number**	**Customer**
SPRI	3	**MPRI**	0		
QSR	4121	**QMR**	0000	**Work Order Number**	**Purpose**

OPR	Surveyed By*	Direction*	Date*	Media label	
6	Steve Pierce	Upstream	12/17/2025 9:27:27 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
3	p0051117-112024	No Pre-Cleaning	12/17/2025 9:27:50 AM		
Date Cleaned			**End Time**	**Additional Info**	
			12/17/2025 9:29:16 AM		

0 ft	Access Point Manhole		
0 ft	Miscellaneous Water Level		
2.9 ft	Crack Longitudinal Hinge 2		2
2.9 ft	Crack Longitudinal Hinge 4		4
14.8 ft	Access Points Catch Basin		



*Indicates required field

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Albuquerque, NM
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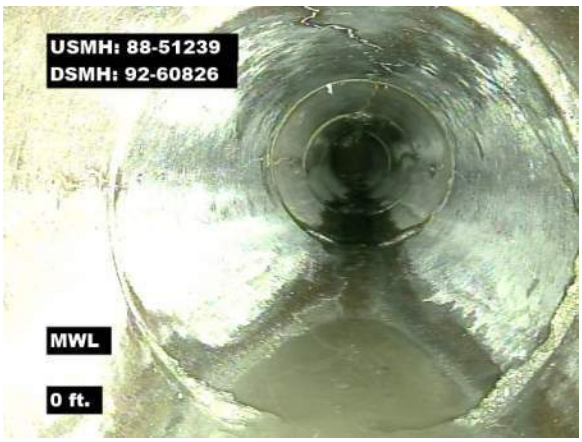
Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60670	AA	S Thayer st	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-51239	16		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60826	14.8		12			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 92-60826



0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 2.9 ft **Grade:** 2
Conditions: Crack Longitudinal Hinge 2
Remarks:

2.9 ft **2.9 ft** **Grade:** 4
Conditions: Crack Longitudinal Hinge 4
Remarks:

*Indicates required field

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Image 4 Per Page

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60670	AA	S Thayer st	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
88-51239	16		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60826	14.8		12			

Distance: 14.8 ft **Grade:**
Conditions: Access Points Catch Basin
Remarks: 88-51239

*Indicates required field

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Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-61006	AA	S Thayer st	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60968			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
88-60968	23.8		12			

SPR 0	**MPR** 0	**PO Number**		**Customer**	
SPRI 0	**MPRI** 0	**Work Order Number**		**Purpose**	
QSR 0000	**QMR** 0000				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
0	Steve Pierce	Downstream	12/17/2025 8:24:44 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
0	p0051117-112024	Heavy Cleaning	12/17/2025 8:24:57 AM		
Date Cleaned			**End Time**	**Additional Info**	
			12/17/2025 8:34:53 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 92-60968									
0	Miscellaneous Water Level				5	☐			
23.8	Access Points Catch Basin					☐			
Remarks: 88-60968									

*Indicates required field

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Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-61006	AA	S Thayer st	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60968			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
88-60968	23.8		12			

				PO Number	Customer
SPR	0	**MPR**	0		
SPRI	0	**MPRI**	0	**Work Order Number**	**Purpose**
QSR	0000	**QMR**	0000		

OPR	Surveyed By*	Direction*	Date*	Media label	
0	Steve Pierce	Downstream	12/17/2025 8:24:44 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
0	p0051117-112024	Heavy Cleaning	12/17/2025 8:24:57 AM		
Date Cleaned			**End Time**	**Additional Info**	
			12/17/2025 8:34:53 AM		

0 ft	Access Point Manhole		92-60968
0 ft	Miscellaneous Water Level		92-60968
23.8 ft	Access Points Catch Basin		88-60968
			88-60968

*Indicates required field

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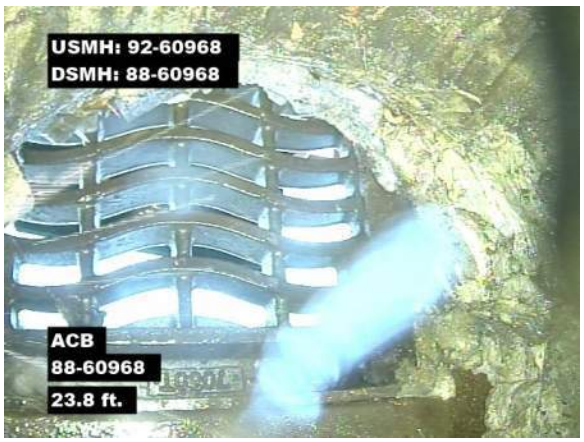
Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-61006	AA	S Thayer st	Reinforced Concrete Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60968			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
88-60968	23.8		12			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 92-60968

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:



Distance: 23.8 ft **Grade:**
Conditions: Access Points Catch Basin
Remarks: 88-60968

*Indicates required field

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Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60869	ANN ARBOR	E WASHINGTON ST	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60831	326		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60823			15			

SPR 4	**MPR** 6	**PO Number**		**Customer**	
SPRI 2	**MPRI** 6	**Work Order Number**		**Purpose**	
QSR 2200	**QMR** 4100				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
10	BILLY BRADY	Downstream	5/29/2024 11:56:00 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
3.3	P0045839-012024	No Pre-Cleaning	5/29/2024 11:56:00 AM	Dry - No	
Date Cleaned			**End Time**	**Additional Info**	

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Manhole					☐			
Remarks: 92-60831									
0	Miscellaneous Water Level				5	☐			
128	Crack Longitudinal					☐	12		2
232.2	Crack Longitudinal					☐	12		2
279.9	Roots Fine Joint					☑	2		1
291.3	Roots Fine Joint					☑	11	1	1
317.7	Obstruction External Pipe or Cable				30	☐	12		4
Remarks: CROSSBORE									
327.2	Access Manhole					☐			
Remarks: 92-60823									

*Indicates required field

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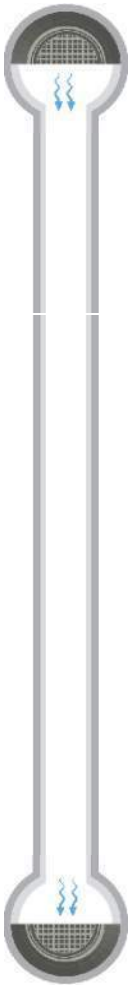
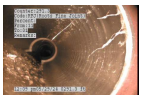
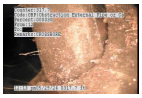
Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60869	ANN ARBOR	E WASHINGTON ST	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60831	326		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60823			15			

SPR 4	**MPR** 6	**PO Number**		**Customer**	
SPRI 2	**MPRI** 6	**Work Order Number**		**Purpose**	
QSR 2200	**QMR** 4100				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
10	BILLY BRADY	Downstream	5/29/2024 11:56:00 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
3.3	P0045839-012024	No Pre-Cleaning	5/29/2024 11:56:00 AM	Dry - No	
Date Cleaned			**End Time**	**Additional Info**	



0 ft	Access Manhole			92-60831
0 ft	Miscellaneous Water Level			
128 ft	Crack Longitudinal		2	
232.2 ft	Crack Longitudinal		2	
279.9 ft	Roots Fine Joint		1	
291.3 ft	Roots Fine Joint		1	
317.7 ft	Obstruction External Pipe or Cable		4	CROSSBORE
327.2 ft	Access Manhole			92-60823

*Indicates required field

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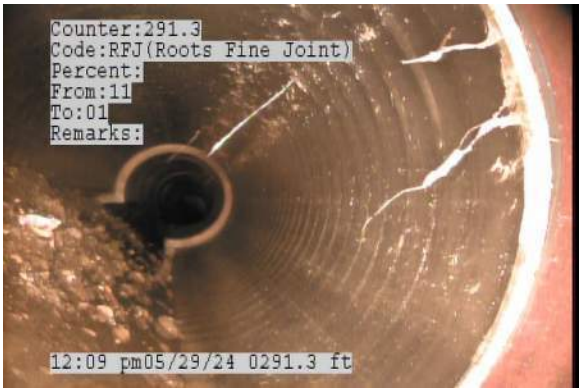
Albuquerque, NM
877-ITpipes

Image 4 Per Page

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
95-60869	ANN ARBOR	E WASHINGTON ST	Vitrified Clay Pipe			Stormwater
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
92-60831	326		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
92-60823			15			

Distance: 128 ft **Grade:** 2
Conditions: Crack Longitudinal
Remarks:



279.9 ft 279.9 ft **Grade:** 1
Conditions: Roots Fine Joint
Remarks:

Distance: 317.7 ft **Grade:** 4
Conditions: Obstruction External Pipe or Cable
Remarks: CROSSBORE

317.7 ft 317.7 ft **Grade:** 4
Conditions: Obstruction External Pipe or Cable
Remarks: CROSSBORE

*Indicates required field

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Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71458	Ann Arbor	S Thayer St	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71293	214		Circular		S Thayer St	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71289	209.8		8			

SPR 21	**MPR** 0	**PO Number**		**Customer**	
SPRI 4.2	**MPRI** 0				
QSR 5242	**QMR** 0000	**Work Order Number**		**Purpose**	
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
21	Steve Pierce	Downstream	9/4/2025 8:07:12 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
4.2	p0051117-112024	No Pre-Cleaning	9/4/2025 8:07:34 AM		
Date Cleaned			**End Time**	**Additional Info**	
			9/4/2025 8:23:00 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 71-71293									
0	Miscellaneous Water Level				10	☐			
16.8	Broken Pipe Soil Visible					☐	6	8	5
18.9	Crack Multiple					☐	6	8	3
43.6	Broken Pipe					☐	9		4
Remarks: starting to break apart									
124.2	Joint Offset Large					☐			4
124.2	Miscellaneous Material Change					☐			
Remarks: clay to plastic									
187.4	Broken Pipe Soil Visible					☐	4	8	5
209.8	Access Point Manhole					☐			
Remarks: 71-71289									

*Indicates required field

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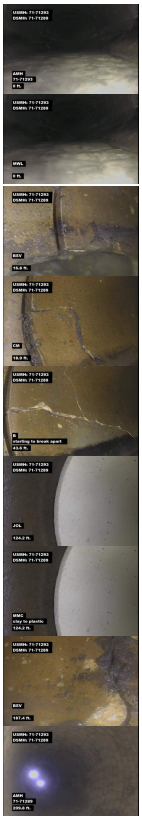
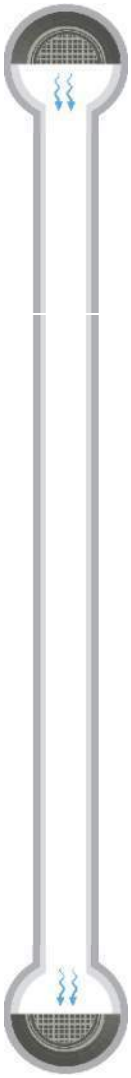
Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71458	Ann Arbor	S Thayer St	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71293	214		Circular		S Thayer St	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71289	209.8		8			

SPR	21	**MPR**	0	**PO Number**		**Customer**
SPRI	4.2	**MPRI**	0			
QSR	5242	**QMR**	0000	**Work Order Number**		**Purpose**
OPR		**Surveyed By***		**Direction***	**Date***	**Media label**
21		Steve Pierce		Downstream	9/4/2025 8:07:12 AM	
OPRI		**Certificate Number***		**Pre-Cleaning**	**Time**	**Weather**
4.2		p0051117-112024		No Pre-Cleaning	9/4/2025 8:07:34 AM	
Date Cleaned					**End Time**	**Additional Info**
					9/4/2025 8:23:00 AM	





71-71293			
0 ft	Access Point Manhole		71-71293
0 ft	Miscellaneous Water Level		
16.8 ft	Broken Pipe Soil Visible	5	
18.9 ft	Crack Multiple	3	
43.6 ft	Broken Pipe	4	starting to break apart
124.2 ft	Joint Offset Large	4	
124.2 ft	Miscellaneous Material Change		clay to plastic
187.4 ft	Broken Pipe Soil Visible	5	
209.8 ft	Access Point Manhole		71-71289
71-71289			

*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71458	Ann Arbor	S Thayer St	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71293	214		Circular		S Thayer St	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71289	209.8		8			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 71-71293

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 16.8 ft **Grade:** 5
Conditions: Broken Pipe Soil Visible
Remarks:

18.9 ft **18.9 ft** **Grade:** 3
Conditions: Crack Multiple
Remarks:

*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71458	Ann Arbor	S Thayer St	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71293	214		Circular		S Thayer St	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71289	209.8		8			

Distance: 43.6 ft **Grade:** 4
Conditions: Broken Pipe
Remarks: starting to break apart

124.2 ft **124.2 ft** **Grade:** 4
Conditions: Joint Offset Large
Remarks:

Distance: 124.2 ft **Grade:**
Conditions: Miscellaneous Material Change
Remarks: clay to plastic

187.4 ft **187.4 ft** **Grade:** 5
Conditions: Broken Pipe Soil Visible
Remarks:

*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71458	Ann Arbor	S Thayer St	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71293	214		Circular		S Thayer St	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71289	209.8		8			

Distance: **209.8 ft** **Grade:**
Conditions: **Access Point Manhole**
Remarks: **71-71289**

*Indicates required field

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Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71465	Ann Arbor	S Thayer St	Vitrified Clay Pipe		Local rural streets	Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71300	140		Circular		S Thayer St	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71294	136.5		8			

SPR 0	**MPR** 0	**PO Number**		**Customer**	
SPRI 0	**MPRI** 0				
QSR 0000	**QMR** 0000	**Work Order Number**		**Purpose**	
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
0	Steve Pierce	Downstream	8/6/2024 12:44:36 PM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
0	training	No Pre-Cleaning	8/6/2024 12:45:01 PM		
Date Cleaned			**End Time**	**Additional Info**	
			8/6/2024 12:52:16 PM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 71-71300									
0	Miscellaneous Water Level				5	☐			
2.3	Tap Factory Made Capped		4			☐	3		
2.7	Tap Factory Made		4			☐	9		
4.5	Tap Factory Made Capped		4			☐	9		
19	Tap Factory Made Abandoned		4			☐	3		
49.8	Tap Factory Made		4			☐	9		
52.2	Tap Break-in/Hammer		4			☐	9		
54	Tap Break-in/Hammer		4			☐	10		
58.2	Tap Factory Made		4			☐	9		
62.8	Tap Break-in/Hammer		4			☐	2		
87.2	Tap Break-in/Hammer		6			☐	2		
89.4	Tap Factory Made		4			☐	9		
97.7	Tap Factory Made Abandoned		4			☐	2		
136.5	Access Point Manhole					☐			
Remarks: 71-71294									

*Indicates required field

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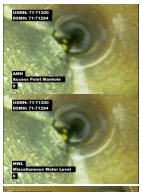
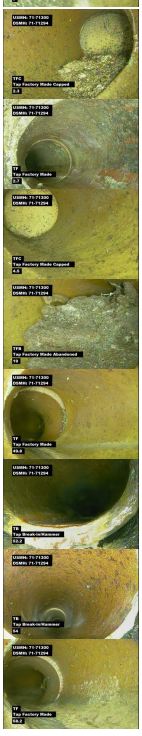
Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71465	Ann Arbor	S Thayer St	Vitrified Clay Pipe		Local rural streets	Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71300	140		Circular		S Thayer St	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71294	136.5		8			

SPR 0	**MPR** 0	**PO Number**		**Customer**	
SPRI 0	**MPRI** 0				
QSR 0000	**QMR** 0000	**Work Order Number**		**Purpose**	
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
0	Steve Pierce	Downstream	8/6/2024 12:44:36 PM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
0	training	No Pre-Cleaning	8/6/2024 12:45:01 PM		
Date Cleaned			**End Time**	**Additional Info**	
			8/6/2024 12:52:16 PM		

0 ft	Access Point Manhole	
0 ft	Miscellaneous Water Level	
2.3 ft	Tap Factory Made Capped	
2.7 ft	Tap Factory Made	
4.5 ft	Tap Factory Made Capped	
19 ft	Tap Factory Made Abandoned	
49.8 ft	Tap Factory Made	
52.2 ft	Tap Break-in/Hammer	
54 ft	Tap Break-in/Hammer	
58.2 ft	Tap Factory Made	

*Indicates required field

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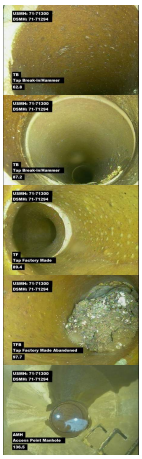
Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71465	Ann Arbor	S Thayer St	Vitrified Clay Pipe		Local rural streets	Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71300	140		Circular		S Thayer St	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71294	136.5		8			

62.8 ft	Tap Break-in/Hammer	
87.2 ft	Tap Break-in/Hammer	
89.4 ft	Tap Factory Made	
97.7 ft	Tap Factory Made Abandoned	
136.5 ft	Access Point Manhole	

71-71294

71-71294

*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71465	Ann Arbor	S Thayer St	Vitrified Clay Pipe		Local rural streets	Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71300	140		Circular		S Thayer St	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71294	136.5		8			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 71-71300

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 2.3 ft **Grade:**
Conditions: Tap Factory Made Capped
Remarks:

2.7 ft **2.7 ft** **Grade:**
Conditions: Tap Factory Made
Remarks:

*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71465	Ann Arbor	S Thayer St	Vitrified Clay Pipe		Local rural streets	Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71300	140		Circular		S Thayer St	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71294	136.5		8			

Distance: 4.5 ft **Grade:**
Conditions: Tap Factory Made Capped
Remarks:

19 ft **19 ft** **Grade:**
Conditions: Tap Factory Made Abandoned
Remarks:

Distance: 49.8 ft **Grade:**
Conditions: Tap Factory Made
Remarks:

52.2 ft **52.2 ft** **Grade:**
Conditions: Tap Break-in/Hammer
Remarks:

*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71465	Ann Arbor	S Thayer St	Vitrified Clay Pipe		Local rural streets	Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71300	140		Circular		S Thayer St	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71294	136.5		8			

Distance: 54 ft **Grade:**
Conditions: Tap Break-in/Hammer
Remarks:

58.2 ft 58.2 ft **Grade:**
Conditions: Tap Factory Made
Remarks:

Distance: 62.8 ft **Grade:**
Conditions: Tap Break-in/Hammer
Remarks:

87.2 ft 87.2 ft **Grade:**
Conditions: Tap Break-in/Hammer
Remarks:

*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71465	Ann Arbor	S Thayer St	Vitrified Clay Pipe		Local rural streets	Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71300	140		Circular		S Thayer St	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71294	136.5		8			

Distance: 89.4 ft **Grade:**
Conditions: Tap Factory Made
Remarks:

97.7 ft **97.7 ft** **Grade:**
Conditions: Tap Factory Made Abandoned
Remarks:

Distance: 136.5 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 71-71294

*Indicates required field

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Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71459	Ann Arbor	S Thayer St	Clay-lined Concrete Pipe		Local rural streets	Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71294	71		Circular		S Thayer St	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71293	71.4		8			

SPR 0	**MPR** 0	**PO Number**		**Customer**	
SPRI 0	**MPRI** 0	**Work Order Number**		**Purpose**	
QSR 0000	**QMR** 0000				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
0	Steve Pierce	Downstream	8/6/2024 12:53:21 PM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
0	training	No Pre-Cleaning	8/6/2024 12:53:38 PM		
Date Cleaned			**End Time**	**Additional Info**	
			8/6/2024 12:56:27 PM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 71-71294									
0	Miscellaneous Water Level				5	☐			
11.1	Tap Break-in/Hammer		4			☐	10		
48.3	Tap Factory Made		4			☐	3		
68.8	Tap Break-in/Hammer		6			☐	2		
71.4	Access Point Manhole					☐			
Remarks: 71-71293									

*Indicates required field

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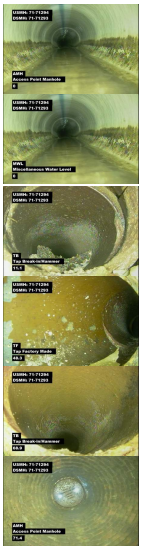
Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71459	Ann Arbor	S Thayer St	Clay-lined Concrete Pipe		Local rural streets	Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71294	71		Circular		S Thayer St	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71293	71.4		8			

SPR 0	**MPR** 0	**PO Number**		**Customer**	
SPRI 0	**MPRI** 0	**Work Order Number**		**Purpose**	
QSR 0000	**QMR** 0000				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
0	Steve Pierce	Downstream	8/6/2024 12:53:21 PM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
0	training	No Pre-Cleaning	8/6/2024 12:53:38 PM		
Date Cleaned			**End Time**	**Additional Info**	
			8/6/2024 12:56:27 PM		

0 ft	Access Point Manhole	
0 ft	Miscellaneous Water Level	
11.1 ft	Tap Break-in/Hammer	
48.3 ft	Tap Factory Made	
68.8 ft	Tap Break-in/Hammer	
71.4 ft	Access Point Manhole	

*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71459	Ann Arbor	S Thayer St	Clay-lined Concrete Pipe		Local rural streets	Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71294	71		Circular		S Thayer St	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71293	71.4		8			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 71-71294

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 11.1 ft **Grade:**
Conditions: Tap Break-in/Hammer
Remarks:

48.3 ft **48.3 ft** **Grade:**
Conditions: Tap Factory Made
Remarks:

*Indicates required field

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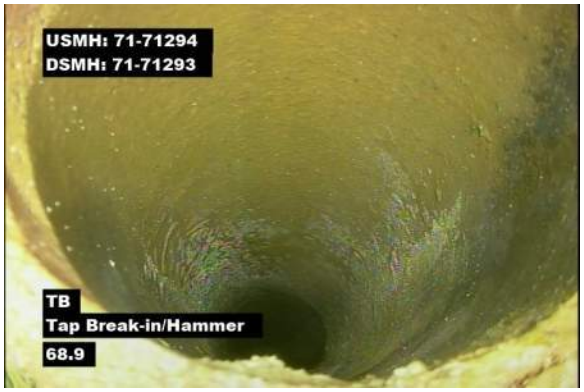
Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71459	Ann Arbor	S Thayer St	Clay-lined Concrete Pipe		Local rural streets	Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71294	71		Circular		S Thayer St	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71293	71.4		8			



Distance: 68.8 ft **Grade:**
Conditions: Tap Break-in/Hammer
Remarks:

71.4 ft 71.4 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 71-71293

*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71488	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71323	121		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71205	116		10			

SPR 10	**MPR** 0	**PO Number**		**Customer**	
SPRI 3.3	**MPRI** 0				
QSR 4221	**QMR** 0000	**Work Order Number**		**Purpose**	
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
10	SetupAdmin	Downstream	6/27/2023 11:06:16 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
3.3	kneppertrain	No Pre-Cleaning	6/27/2023 11:06:35 AM		
Date Cleaned			**End Time**	**Additional Info**	
			6/27/2023 11:11:08 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 71-71323									
0	Miscellaneous Water Level				5	☐			
11.1	Crack Spiral					☐	8	9	2
40.2	Tap Factory Made		4			☐	2		
49.7	Broken Pipe					☑	3	9	4
81.5	Broken Pipe					☐	3	8	4
116	Access Point Manhole					☐			
Remarks: 71-71205									

*Indicates required field

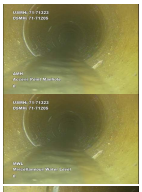
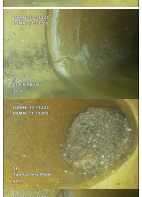
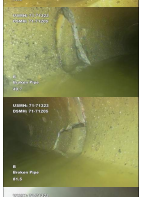
Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71488	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71323	121		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71205	116		10			

SPR	10	**MPR**	0	**PO Number**	**Customer**
SPRI	3.3	**MPRI**	0		
QSR	4221	**QMR**	0000	**Work Order Number**	**Purpose**

OPR	Surveyed By*	Direction*	Date*	Media label	
10	SetupAdmin	Downstream	6/27/2023 11:06:16 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
3.3	kneppertrain	No Pre-Cleaning	6/27/2023 11:06:35 AM		
Date Cleaned			**End Time**	**Additional Info**	
			6/27/2023 11:11:08 AM		

0 ft	Access Point Manhole		
0 ft	Miscellaneous Water Level		
11.1 ft	Crack Spiral		2
40.2 ft	Tap Factory Made		
49.7 ft	Broken Pipe		4
81.5 ft	Broken Pipe		4
116 ft	Access Point Manhole		

*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Image 4 Per Page

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71488	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71323	121		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71205	116		10			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 71-71323

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 11.1 ft **Grade:** 2
Conditions: Crack Spiral
Remarks:

40.2 ft **40.2 ft** **Grade:**
Conditions: Tap Factory Made
Remarks:

*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Image 4 Per Page

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71488	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71323	121		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71205	116		10			

Distance: 49.7 ft **Grade:** 4
Conditions: Broken Pipe
Remarks:

81.5 ft **81.5 ft** **Grade:** **4**
Conditions: Broken Pipe
Remarks:

Distance: 116 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 71-71205

*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-073623	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-073107	167		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71323	164.3		10			

SPR 26	**MPR** 0	**PO Number**		**Customer**	
SPRI 3.3	**MPRI** 0				
QSR 5143	**QMR** 0000	**Work Order Number**		**Purpose**	
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
26	SetupAdmin	Downstream	6/27/2023 9:49:59 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
3.3	kneppertrain	No Pre-Cleaning	6/27/2023 9:50:54 AM		
Date Cleaned			**End Time**	**Additional Info**	
			6/27/2023 11:04:47 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 71-073107									
0	Miscellaneous Water Level				5	☐			
7.5	Broken Pipe Soil Visible					☐	3	9	5
14.6	Crack Spiral					☐	3	4	2
24.5	Tap Factory Made		4			☐	2		
24.8	Broken Pipe					☑	3	6	4
40.7	Tap Break-in/Hammer		4			☐	2		
56	Tap Break-in/Hammer		4			☐	2		
71.1	Tap Factory Made		4			☐	2		
74	Crack Spiral					☐	7	11	2
87.5	Tap Factory Made		4			☐	2		
93.1	Crack Spiral					☐	2	3	2
93.6	Tap Break-in/Hammer		4			☐	2		
95.1	Broken Pipe					☑	2	7	4
111.5	Crack Multiple					☐	3	2	3
113	Tap Factory Made		4			☐	1		
124.9	Broken Pipe					☐	6		4
132.3	Tap Factory Made		4			☐	2		
132.8	Tap Break-in/Hammer		4			☐	2		
159.8	Tap Factory Made		4			☐	2		

*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-073623	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-073107	167		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71323	164.3		10			

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
164.3	Access Point Manhole					☐			
Remarks: 71-71323									

*Indicates required field

Infrastructure Technologies
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877-ITpipes

Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-073623	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-073107	167		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71323	164.3		10			

				PO Number	Customer
SPR	26	MPR	0		
SPRI	3.3	MPRI	0	Work Order Number	Purpose
QSR	5143	QMR	0000		

OPR	Surveyed By*	Direction*	Date*	Media label	
26	SetupAdmin	Downstream	6/27/2023 9:49:59 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
3.3	kneppertrain	No Pre-Cleaning	6/27/2023 9:50:54 AM		
Date Cleaned			**End Time**	**Additional Info**	
			6/27/2023 11:04:47 AM		

0 ft	Access Point Manhole		
0 ft	Miscellaneous Water Level		
7.5 ft	Broken Pipe Soil Visible	5	
14.6 ft	Crack Spiral	2	
24.5 ft	Tap Factory Made		
24.8 ft	Broken Pipe	4	
40.7 ft	Tap Break-in/Hammer		
56 ft	Tap Break-in/Hammer		
71.1 ft	Tap Factory Made		
74 ft	Crack Spiral	2	

*Indicates required field

Infrastructure Technologies
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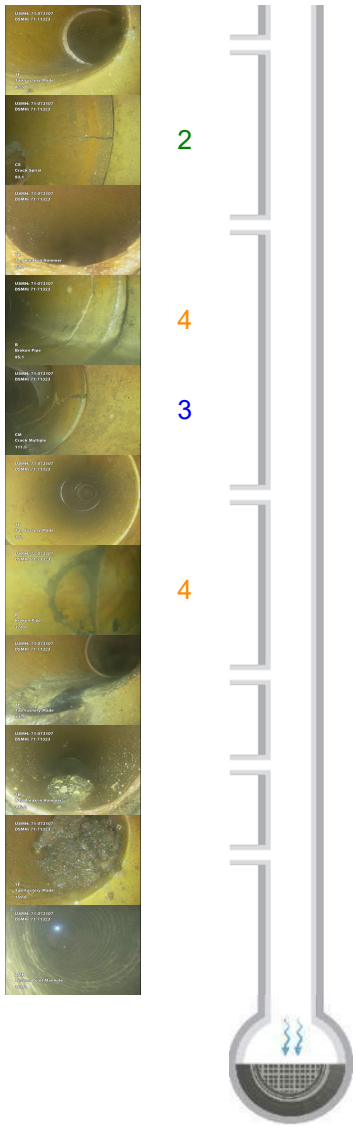
Albuquerque, NM
877-ITpipes

Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-073623	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-073107	167		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71323	164.3		10			

87.5 ft	Tap Factory Made	
93.1 ft	Crack Spiral	2
93.6 ft	Tap Break-in/Hammer	
95.1 ft	Broken Pipe	4
111.5 ft	Crack Multiple	3
113 ft	Tap Factory Made	
124.9 ft	Broken Pipe	4
132.3 ft	Tap Factory Made	
132.8 ft	Tap Break-in/Hammer	
159.8 ft	Tap Factory Made	
164.3 ft	Access Point Manhole	



*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Image 4 Per Page

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-073623	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-073107	167		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71323	164.3		10			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 71-073107

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 7.5 ft **Grade:** 5
Conditions: Broken Pipe Soil Visible
Remarks:

14.6 ft **14.6 ft** **Grade:** 2
Conditions: Crack Spiral
Remarks:

*Indicates required field

Infrastructure Technologies
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Albuquerque, NM
877-ITpipes

Image 4 Per Page

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-073623	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-073107	167		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71323	164.3		10			

Distance: 24.5 ft **Grade:**
Conditions: Tap Factory Made
Remarks:

24.8 ft **24.8 ft** **Grade:** **4**
Conditions: Broken Pipe
Remarks:

Distance: 40.7 ft **Grade:**
Conditions: Tap Break-in/Hammer
Remarks:

56 ft **56 ft** **Grade:**
Conditions: Tap Break-in/Hammer
Remarks:

*Indicates required field

Infrastructure Technologies
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Albuquerque, NM
877-ITpipes

Image 4 Per Page

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-073623	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-073107	167		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71323	164.3		10			

Distance: 71.1 ft **Grade:**
Conditions: Tap Factory Made
Remarks:

74 ft **74 ft** **Grade:** **2**
Conditions: Crack Spiral
Remarks:

Distance: 87.5 ft **Grade:**
Conditions: Tap Factory Made
Remarks:

93.1 ft **93.1 ft** **Grade:** **2**
Conditions: Crack Spiral
Remarks:

*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

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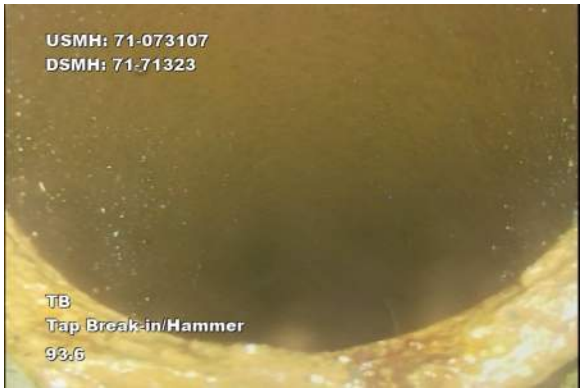
Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-073623	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-073107	167		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71323	164.3		10			



Distance: 93.6 ft **Grade:**
Conditions: Tap Break-in/Hammer
Remarks:

95.1 ft **95.1 ft** **Grade:** **4**
Conditions: Broken Pipe
Remarks:

Distance: 111.5 ft **Grade:** 3
Conditions: Crack Multiple
Remarks:

113 ft **113 ft** **Grade:**
Conditions: Tap Factory Made
Remarks:

*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Image 4 Per Page

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-073623	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-073107	167		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71323	164.3		10			

Distance: 124.9 ft **Grade:** 4
Conditions: Broken Pipe
Remarks:

132.3 ft 132.3 ft **Grade:**
Conditions: Tap Factory Made
Remarks:

Distance: 132.8 ft **Grade:**
Conditions: Tap Break-in/Hammer
Remarks:

159.8 ft 159.8 ft **Grade:**
Conditions: Tap Factory Made
Remarks:

*Indicates required field

Infrastructure Technologies
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Albuquerque, NM
877-ITpipes

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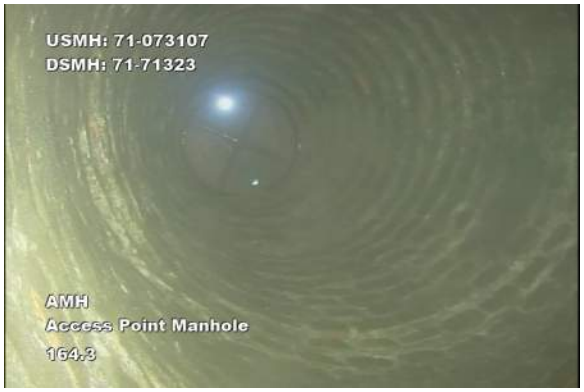
Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-073623	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-073107	167		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71323	164.3		10			



Distance: **164.3 ft** **Grade:**
Conditions: **Access Point Manhole**
Remarks: **71-71323**

*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-073905	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71298			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-72351	108.1		8			

SPR 0	**MPR** 0	**PO Number**		**Customer**	
SPRI 0	**MPRI** 0				
QSR 0000	**QMR** 0000	**Work Order Number**		**Purpose**	
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
0	JBell	Downstream	6/28/2023 8:37:00 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
0	U-1117-07009559	No Pre-Cleaning	6/28/2023 8:37:13 AM		
Date Cleaned			**End Time**	**Additional Info**	
			6/28/2023 8:40:35 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 71-71298									
0	Miscellaneous Water Level				5	☐			
64.4	Tap Factory Made		4			☐	2		
108.1	Access Point Manhole					☐			
Remarks: 71-72351									

*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
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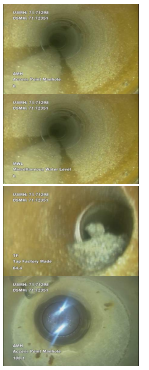
Defect Listing Plot With Images

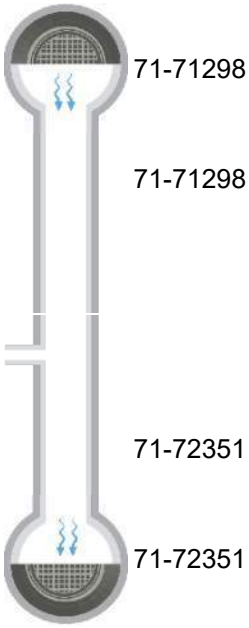
Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-073905	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71298			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-72351	108.1		8			

SPR	0	**MPR**	0	**PO Number**	**Customer**
SPRI	0	**MPRI**	0		
QSR	0000	**QMR**	0000	**Work Order Number**	**Purpose**

OPR	Surveyed By*	Direction*	Date*	Media label	
0	JBell	Downstream	6/28/2023 8:37:00 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
0	U-1117-07009559	No Pre-Cleaning	6/28/2023 8:37:13 AM		
Date Cleaned			**End Time**	**Additional Info**	
			6/28/2023 8:40:35 AM		

0 ft	Access Point Manhole	71-71298
0 ft	Miscellaneous Water Level	
64.4 ft	Tap Factory Made	
108.1 ft	Access Point Manhole	71-72351





*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

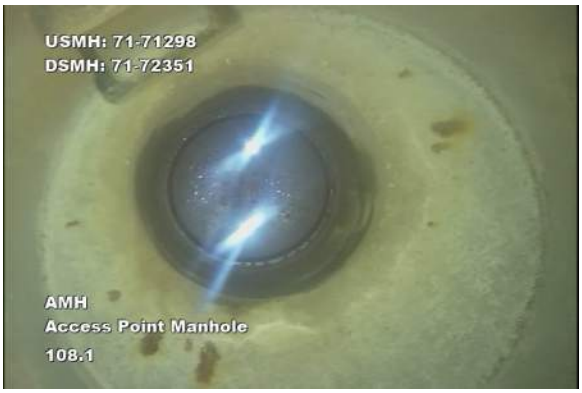
Image 4 Per Page

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-073905	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71298			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-72351	108.1		8			

Distance: **0 ft** **Grade:**
Conditions: **Access Point Manhole**
Remarks: **71-71298**

0 ft **0 ft** **Grade:**
Conditions: **Miscellaneous Water Level**
Remarks:

Distance: **64.4 ft** **Grade:**
Conditions: **Tap Factory Made**
Remarks:



108.1 ft **108.1 ft** **Grade:**
Conditions: **Access Point Manhole**
Remarks: **71-72351**

*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-074842	Ann Arbor	N University ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-72351			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71320	215.5		8			

SPR 15	**MPR** 0	**PO Number**		**Customer**	
SPRI 3	**MPRI** 0	**Work Order Number**		**Purpose**	
QSR 5141	**QMR** 0000				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
15	JBell	Downstream	6/28/2023 8:41:30 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
3	U-1117-07009559	No Pre-Cleaning	6/28/2023 8:41:41 AM		
Date Cleaned			**End Time**	**Additional Info**	
			6/28/2023 8:51:44 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 71-72351									
0	Miscellaneous Water Level				5	☐			
2.4	Crack Longitudinal					☐	4		2
5.4	Tap Factory Made		4			☐	2		
6.6	Crack Circumferential					☐	7	11	1
55	Tap Factory Made		4			☐	2		
67.3	Tap Factory Made Capped		8			☐	12		
Remarks: Peep hole									
77	Hole Void Visible					☐	8		5
95	Tap Break-in/Hammer		6			☐	10		
102.4	Fracture Spiral					☐	4	7	3
110.1	Tap Factory Made		4			☐	2		
125.8	Broken Pipe					☐	9		4
127.8	Miscellaneous Material Change					☐			
Remarks: PVC									
144.5	Miscellaneous Water Level				40	☐			
215.5	Access Point Manhole					☐			
Remarks: 71-71320									

*Indicates required field

Infrastructure Technologies
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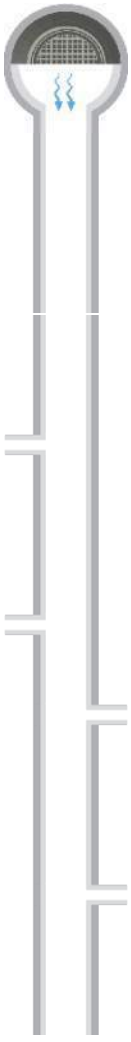
877-ITpipes

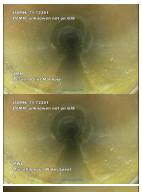
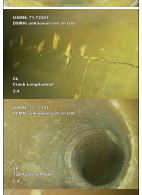
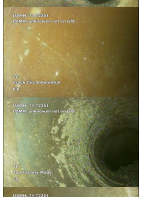
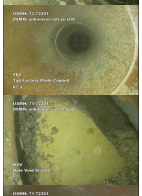
Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-074842	Ann Arbor	N University ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-72351			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71320	215.5		8			

				PO Number	Customer
SPR	15	MPR	0		
SPRI	3	MPRI	0	Work Order Number	Purpose
QSR	5141	QMR	0000		

OPR	Surveyed By*	Direction*	Date*	Media label	
15	JBell	Downstream	6/28/2023 8:41:30 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
3	U-1117-07009559	No Pre-Cleaning	6/28/2023 8:41:41 AM		
Date Cleaned			**End Time**	**Additional Info**	
			6/28/2023 8:51:44 AM		



0 ft	Access Point Manhole		
0 ft	Miscellaneous Water Level		
2.4 ft	Crack Longitudinal		2
5.4 ft	Tap Factory Made		
6.6 ft	Crack Circumferential		1
55 ft	Tap Factory Made		
67.3 ft	Tap Factory Made Capped		
77 ft	Hole Void Visible		5
95 ft	Tap Break-in/Hammer		
102.4 ft	Fracture Spiral		3

*Indicates required field

Infrastructure Technologies
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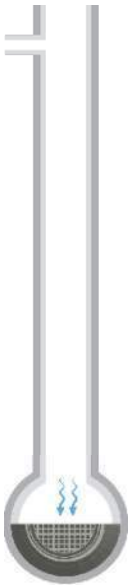
Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-074842	Ann Arbor	N University ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-72351			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71320	215.5		8			

110.1 ft	Tap Factory Made		4	
125.8 ft	Broken Pipe			
127.8 ft	Miscellaneous Material Change			PVC
144.5 ft	Miscellaneous Water Level			
215.5 ft	Access Point Manhole			71-71320
				71-71320

*Indicates required field

Infrastructure Technologies
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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-074842	Ann Arbor	N University ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-72351			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71320	215.5		8			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 71-72351

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 2.4 ft **Grade:** 2
Conditions: Crack Longitudinal
Remarks:

5.4 ft **5.4 ft** **Grade:**
Conditions: Tap Factory Made
Remarks:

*Indicates required field

Infrastructure Technologies
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Image 4 Per Page

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-074842	Ann Arbor	N University ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-72351			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71320	215.5		8			

Distance: 6.6 ft **Grade:** 1
Conditions: Crack Circumferential
Remarks:

55 ft 55 ft **Grade:**
Conditions: Tap Factory Made
Remarks:

Distance: 67.3 ft **Grade:**
Conditions: Tap Factory Made Capped
Remarks: Peep hole

77 ft 77 ft **Grade:** 5
Conditions: Hole Void Visible
Remarks:

*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-074842	Ann Arbor	N University ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-72351			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71320	215.5		8			

Distance: 95 ft **Grade:**
Conditions: Tap Break-in/Hammer
Remarks:

102.4 ft **102.4 ft** **Grade:** **3**
Conditions: Fracture Spiral
Remarks:

Distance: 110.1 ft **Grade:**
Conditions: Tap Factory Made
Remarks:

125.8 ft **125.8 ft** **Grade:** **4**
Conditions: Broken Pipe
Remarks:

*Indicates required field

Infrastructure Technologies
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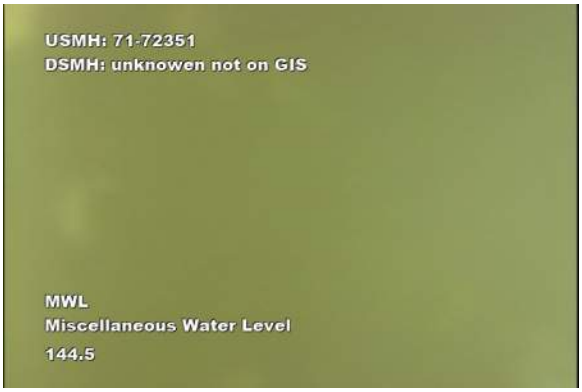
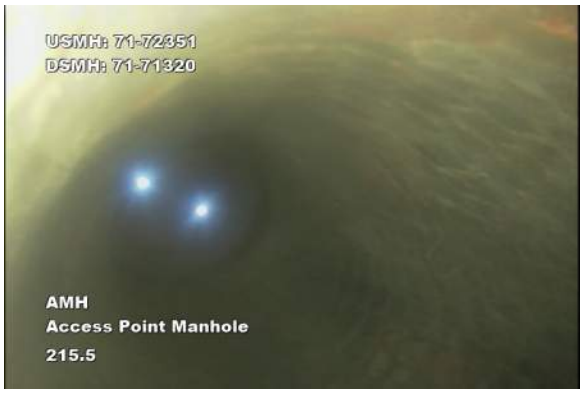
Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-074842	Ann Arbor	N University ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-72351			Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71320	215.5		8			

Distance: 127.8 ft **Grade:**
Conditions: Miscellaneous Material Change
Remarks: PVC



144.5 ft **144.5 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:



Distance: 215.5 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 71-71320

*Indicates required field

Infrastructure Technologies
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877-ITpipes

Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71485	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71320	63		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-073107	58.2		10			

SPR 4	**MPR** 0	**PO Number**		**Customer**	
SPRI 4	**MPRI** 0	**Work Order Number**		**Purpose**	
QSR 4100	**QMR** 0000				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
4	SetupAdmin	Upstream	6/27/2023 9:30:54 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
4	kneppertrain	No Pre-Cleaning	6/27/2023 9:31:40 AM		
Date Cleaned			**End Time**	**Additional Info**	
			6/27/2023 9:41:56 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 71-073107									
0	Miscellaneous Water Level				5	☐			
2.4	Tap Break-in/Hammer		4			☐	2		
55.7	Broken Pipe					☐	7	6	4
58.2	Access Point Manhole					☐			
Remarks: 71-71320									

*Indicates required field

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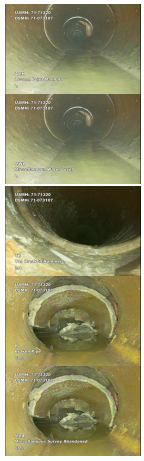
Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71485	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71320	63		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-073107	58.2		10			

SPR 4	**MPR** 0	**PO Number**	**Customer**		
SPRI 4	**MPRI** 0	**Work Order Number**	**Purpose**		
QSR 4100	**QMR** 0000				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
4	SetupAdmin	Upstream	6/27/2023 9:30:54 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
4	kneppertrain	No Pre-Cleaning	6/27/2023 9:31:40 AM		
Date Cleaned			**End Time**	**Additional Info**	
			6/27/2023 9:41:56 AM		

			71-073107
0 ft	Access Point Manhole		71-073107
0 ft	Miscellaneous Water Level		
2.4 ft	Tap Break-in/Hammer		
55.7 ft	Broken Pipe	4	
58.2 ft	Access Point Manhole		71-71320
			71-71320



*Indicates required field

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Albuquerque, NM
877-ITpipes

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71485	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71320	63		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-073107	58.2		10			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 71-073107

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 2.4 ft **Grade:**
Conditions: Tap Break-in/Hammer
Remarks:

55.7 ft **55.7 ft** **Grade:** **4**
Conditions: Broken Pipe
Remarks:

*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71485	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71320	63		Circular			
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-073107	58.2		10			

Distance: **58.2 ft** **Grade:**
Conditions: **Access Point Manhole**
Remarks: **71-71320**

*Indicates required field

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877-ITpipes

Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71466	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
69-075677	337		Circular		N University Ave	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71298	335.7		8			

SPR 3	**MPR** 0	**PO Number**		**Customer**	
SPRI 3	**MPRI** 0	**Work Order Number**		**Purpose**	
QSR 3100	**QMR** 0000				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
3	Steve Pierce	Upstream	9/9/2024 10:10:54 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
3	training	No Pre-Cleaning	9/9/2024 10:11:19 AM		
Date Cleaned			**End Time**	**Additional Info**	
			9/9/2024 10:20:57 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 71-71298									
0	Miscellaneous Water Level				5	☐			
49.4	Tap Factory Made		4			☐	10		
98.6	Tap Factory Made		4			☐	10		
134.4	Tap Factory Made		4			☐	10		
186.9	Tap Factory Made		4			☐	10		
191.3	Tap Factory Made		6			☐	12		
260.5	Tap Factory Made Capped		4			☐	9		
302.1	Tap Factory Made		4			☐	10		
304.5	Crack Multiple					☐	3	6	3
335.7	Miscellaneous Survey Abandoned					☐			
Remarks: pipe Abandoned									

*Indicates required field

Infrastructure Technologies
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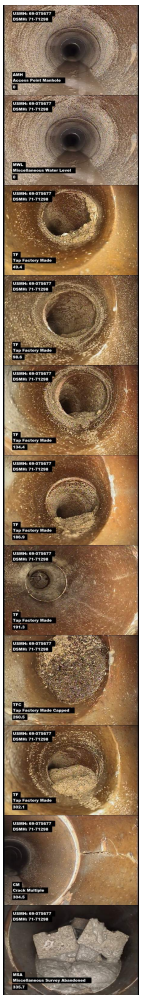
877-ITpipes

Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71466	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
69-075677	337		Circular		N University Ave	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71298	335.7		8			

SPR 3	**MPR** 0	**PO Number**		**Customer**	
SPRI 3	**MPRI** 0	**Work Order Number**		**Purpose**	
QSR 3100	**QMR** 0000				
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
3	Steve Pierce	Upstream	9/9/2024 10:10:54 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
3	training	No Pre-Cleaning	9/9/2024 10:11:19 AM		
Date Cleaned			**End Time**	**Additional Info**	
			9/9/2024 10:20:57 AM		

0 ft	Access Point Manhole		71-71298
0 ft	Miscellaneous Water Level		
49.4 ft	Tap Factory Made		
98.6 ft	Tap Factory Made		
134.4 ft	Tap Factory Made		
186.9 ft	Tap Factory Made		
191.3 ft	Tap Factory Made		
260.5 ft	Tap Factory Made Capped		
302.1 ft	Tap Factory Made		
304.5 ft	Crack Multiple	3	
335.7 ft	Miscellaneous Survey Abandoned		pipe Abandoned

*Indicates required field

Infrastructure Technologies
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Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71466	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
69-075677	337		Circular		N University Ave	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71298	335.7		8			

69-075677

*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71466	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
69-075677	337		Circular		N University Ave	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71298	335.7		8			

Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 71-71298

0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 49.4 ft **Grade:**
Conditions: Tap Factory Made
Remarks:

98.6 ft **98.6 ft** **Grade:**
Conditions: Tap Factory Made
Remarks:

*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71466	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
69-075677	337		Circular		N University Ave	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71298	335.7		8			

Distance: 134.4 ft **Grade:**
Conditions: Tap Factory Made
Remarks:

186.9 ft **186.9 ft** **Grade:**
Conditions: Tap Factory Made
Remarks:

Distance: 191.3 ft **Grade:**
Conditions: Tap Factory Made
Remarks:

260.5 ft **260.5 ft** **Grade:**
Conditions: Tap Factory Made Capped
Remarks:

*Indicates required field

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Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71466	Ann Arbor	N University Ave	Vitrified Clay Pipe			Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
69-075677	337		Circular		N University Ave	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71298	335.7		8			

Distance: 302.1 ft **Grade:**
Conditions: Tap Factory Made
Remarks:

304.5 ft **304.5 ft** **Grade:** **3**
Conditions: Crack Multiple
Remarks:

Distance: 335.7 ft **Grade:**
Conditions: Miscellaneous Survey Abandoned
Remarks: pipe Abandoned

*Indicates required field

Infrastructure Technologies
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877-ITpipes

Defect Listing

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71470	AA	Fletcher St	Vitrified Clay Pipe		Primary major	Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71305	158		Circular		Fletcher St	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71304	160.3		12			

SPR 3	**MPR** 10	**PO Number**		**Customer**	
SPRI 3	**MPRI** 1.7				
QSR 3100	**QMR** 4121	**Work Order Number**		**Purpose**	
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
13	steve pierce	Downstream	6/5/2025 9:46:55 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
1.9	n.a	Heavy Cleaning	6/5/2025 9:49:10 AM		
Date Cleaned			**End Time**	**Additional Info**	
			6/5/2025 9:56:58 AM		

Distance	Condition	Cont. Dfct.	Values			Joint	Clock Position		Grade
			1st	2nd	%		At/From	To	
0	Access Point Manhole					☐			
Remarks: 71-71305									
0	Miscellaneous Water Level				5	☐			
31.8	Joint Offset Medium					☐			3
35.1	Line Right				5	☐			1
50	Line Right				15	☐			2
53.9	Line Left				5	☐			1
67.7	Line Left				25	☐			4
118.5	Line Left				10	☐			1
128.6	Line Left				5	☐			1
160.3	Access Point Manhole					☐			
Remarks: 71-71304									

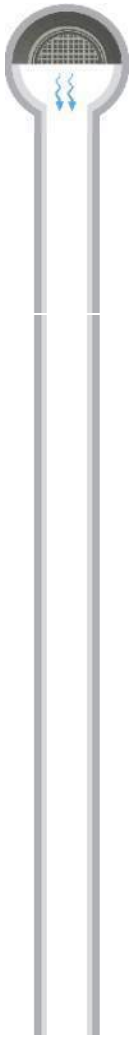
*Indicates required field

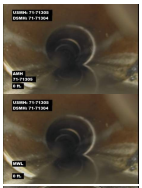
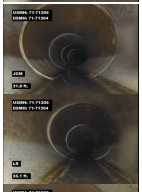
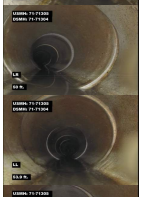
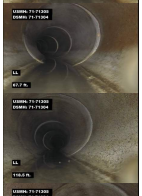
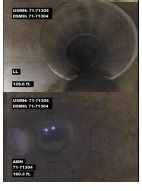
Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71470	AA	Fletcher St	Vitrified Clay Pipe		Primary major	Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71305	158		Circular		Fletcher St	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71304	160.3		12			

SPR 3	**MPR** 10	**PO Number**		**Customer**	
SPRI 3	**MPRI** 1.7				
QSR 3100	**QMR** 4121	**Work Order Number**		**Purpose**	
OPR	**Surveyed By***	**Direction***	**Date***	**Media label**	
13	steve pierce	Downstream	6/5/2025 9:46:55 AM		
OPRI	**Certificate Number***	**Pre-Cleaning**	**Time**	**Weather**	
1.9	n.a	Heavy Cleaning	6/5/2025 9:49:10 AM		
Date Cleaned			**End Time**	**Additional Info**	
			6/5/2025 9:56:58 AM		



0 ft	Access Point Manhole		
0 ft	Miscellaneous Water Level		
31.8 ft	Joint Offset Medium		3
35.1 ft	Line Right		1
50 ft	Line Right		2
53.9 ft	Line Left		1
67.7 ft	Line Left		4
118.5 ft	Line Left		1
128.6 ft	Line Left		1
160.3 ft	Access Point Manhole		

*Indicates required field

Infrastructure Technologies
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Albuquerque, NM
877-ITpipes

Defect Listing Plot With Images

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71470	AA	Fletcher St	Vitrified Clay Pipe		Primary major	Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71305	158		Circular		Fletcher St	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71304	160.3		12			

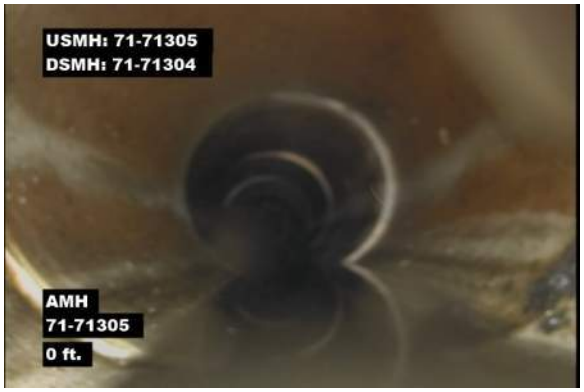
71-71304

*Indicates required field

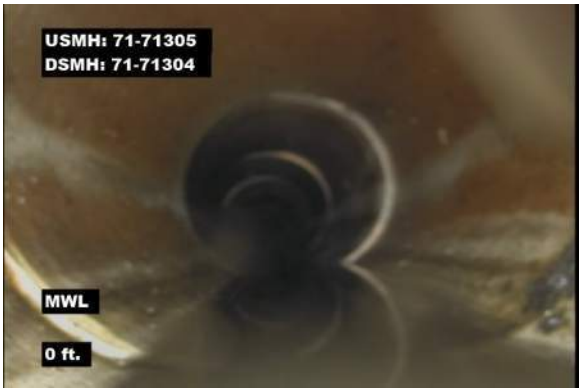
Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Image 4 Per Page

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71470	AA	Fletcher St	Vitrified Clay Pipe		Primary major	Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71305	158		Circular		Fletcher St	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71304	160.3		12			



Distance: 0 ft **Grade:**
Conditions: Access Point Manhole
Remarks: 71-71305



0 ft **0 ft** **Grade:**
Conditions: Miscellaneous Water Level
Remarks:

Distance: 31.8 ft **Grade:** 3
Conditions: Joint Offset Medium
Remarks:

35.1 ft **35.1 ft** **Grade:** 1
Conditions: Line Right
Remarks:

*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Image 4 Per Page

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71470	AA	Fletcher St	Vitrified Clay Pipe		Primary major	Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71305	158		Circular		Fletcher St	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71304	160.3		12			

Distance: 50 ft **Grade:** 2
Conditions: Line Right
Remarks:

53.9 ft **53.9 ft** **Grade:** 1
Conditions: Line Left
Remarks:

Distance: 67.7 ft **Grade:** 4
Conditions: Line Left
Remarks:

118.5 ft **118.5 ft** **Grade:** 1
Conditions: Line Left
Remarks:

*Indicates required field

Infrastructure Technologies
10412 Menaul Blvd
Albuquerque, NM
877-ITpipes

Image 4 Per Page

Pipe Segment Reference	City*	Street*	Material*		Location Code	Pipe Use
74-71470	AA	Fletcher St	Vitrified Clay Pipe		Primary major	Sanitary Sewage
Upstream MH*	**Total Length**	**Year Constructed**	**Shape***		**Location Details**	
71-71305	158		Circular		Fletcher St	
Downsstream MH*	**Length surveyed**	**Year Renewed**	**Height***	**Width***	**Pipe Joint**	
71-71304	160.3		12			

Distance:	**128.6 ft**	**Grade:**	**1**
Conditions:	**Line Left**		
Remarks:			

160.3 ft	**160.3 ft**	**Grade:**	
Conditions:	**Access Point Manhole**		
Remarks:	**71-71304**		

*Indicates required field

ADDENDUM No. 3

RFP No. 26-11

N. University and Thayer Improvements

Updated Due Date: February 20, 2026, at 11:00 A.M. (local time)

The information contained herein shall take precedence over the original documents and all previous addenda (if any) and is appended thereto. **This Addendum includes thirty (30) pages (27 sheets as attachments).**

The Proposer is to acknowledge receipt of this Addendum No. 3 by signing and submitting Attachment B, including all attachments in its Proposal by so indicating in the proposal that the addendum has been received. Proposals submitted without acknowledgement of receipt of this addendum may be considered non-conforming.

The following forms provided within the RFP Document should be included in submitted proposal:

- **Attachment B - General Declarations**
- **Attachment D - Prevailing Wage Declaration of Compliance**
- **Attachment E - Living Wage Declaration of Compliance**
- **Attachment G - Vendor Conflict of Interest Disclosure Form**
- **Attachment H - Non-Discrimination Declaration of Compliance**

Proposals that fail to provide these completed forms listed above upon proposal opening may be rejected as non-responsive and may not be considered for award.

I. CORRECTIONS/ADDITIONS/DELETIONS

Changes to the RFP documents which are outlined below are referenced to a page or Section in which they appear conspicuously. Offerors are to take note in its review of the documents and include these changes as they may affect work or details in other areas not specifically referenced here.

Section/Page(s)	Change
Schedule of Pricing/Cost Section III, Part E	Replaced in its entirety. Updated and added new pay items and quantities.
Detail Specifications, Water Service, 6 In., Drilled	Pay item and specification removed from this contract.
Project Coordination	The Project Coordination Clause has been updated for Addendum No. 3
Plan Sheet 14	Revision of layout of proposed planter boxes in the North University median.

Plan Sheet 29	Revisions made to water service lead to Michigan League building.
Plan Sheet 32	Revision of layout of proposed planter boxes in the North University median.
Plan Sheet 33	Revisions made to water service lead to Michigan League building.
Plan Sheets 35	Revision of layout of proposed planter boxes in the North University median.
Plan Sheet 36	Revisions made to water service lead to Michigan League building.
Plan Sheets 40	Revision of layout of proposed planter boxes.
Plan Sheet 42	Revision of layout of proposed planter boxes.
Plan Sheet 45	Revision of layout of proposed planter boxes. Quantities have been updated as a result.
Plan Sheet 46	Revisions made to water service lead to Michigan League building.
Plan Sheet 52-53	Revision of layout of proposed planter boxes.
Plan Sheet 57	Revision of layout of proposed planter boxes.
Plan Sheet 65	Revision of layout of proposed planter boxes.
Plan Sheet 71	Revision of layout of proposed planter boxes.
Plan Seets 81-83	Revision of layout and design of planter boxes.

II. QUESTIONS AND ANSWERS

The following Questions have been received by the City. Responses are being provided in accordance with the terms of the RFP. Respondents are directed to take note in their review of the documents of the following questions and City responses as they affect work or details in other areas not specifically referenced here.

Question 1: Pertaining to pay item “DS_Water Service, 6 In., Drilled”. It appears based on the space & existing utilities within the basement of the Michigan League, there are issues with coring the proposed hole for the piping/link seal from within the basement. There also may be potential issues with existing utilities within the proposed bore path of the 6” HDPE pipe. Can consideration be paid to allow open cutting of the 6” water service to outside the basement wall, and the wall to be cored from the outside instead of from the basement?

Answer 1: “DS_Water Service, 6 In., Drilled” has been removed from the scope of the project.

Question 2: Can "DS _ Water Service , 6 in, Drilled" be installed via open cut construction? It sounded like this would be an option the University would consider at the on-site meeting. If so:

a. Could DIP be utilized in lieu of HDPE pipe?
b. Would the required removal and restoration be incidental to this pay item or would they be paid for separately?

Answer 2: “DS_Water Service, 6 In., Drilled” has been removed from the scope of the project.

Question 3: Please provide as-built drawing of the existing foundation system of the Michigan League building.

Answer 3: Connection of the existing service lead will take place at the curb stop. As-builts for the League foundation should not be required for construction.

Question 4: If this water service must be drilled, will exploratory excavations be paid for to locate any potential utility conflicts prior to installation?

a. How will removals / restoration for these utility locates be paid?

Answer 4: “DS_Water Service, 6 In., Drilled” has been removed from the scope of the project. Connection to the existing service lead will occur at the curb stop. The work will be performed by an open cut.

Question 5: Please verify that the mechanical room construction (by Others) will be complete prior to the installation of the proposed water service.

Answer 5: Access to the mechanical room is no longer necessary due to removal of the pay item, “DS_Water Service, 6 In., Drilled”.

Question 6: Could the service (from GVB7 to the building) be removed from this contract and added to the U of M project?

Answer 6: Yes, the pay item, “DS_Water Service, 6 In., Drilled” has been removed from the scope of the project.

Offerors are responsible for any conclusions that they may draw from the information contained in the Addendum.

E. Schedule of Pricing/Cost – 20 Points

Company: _____

Project: N. University & Thayer Improvements
File #: 2023-023 **RFP#: 26-11**

ITEM NUMBER	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
	General				
01000.00	General Conditions, Max. $ 300,000.00	Lump Sum	1	$ _____	$ _____
01001.00	Project Supervision, Max. $ 120,000.00	Lump Sum	1	$ _____	$ _____
01002.70	DS_Project Clean-up	Lump Sum	1	$ _____	$ _____
01002.71	DS_Pavt Cleaning	Lump Sum	1	$ _____	$ _____
01003.00	Digital Audio Visual Coverage	Lump Sum	1	$ _____	$ _____
01020.00	Erosion Control, Inlet Protection, Fabric Drop	Each	25	$ _____	$ _____
01022.00	Erosion Control, Silt Fence	Foot	800	$ _____	$ _____
01030.00	Tree Protection Fence	Foot	268	$ _____	$ _____
01040.00	Minor Traffic Control, Max. $80,000.00	Lump Sum	1	$ _____	$ _____
01041.00	Traffic Regulator Control	Lump Sum	1	$ _____	$ _____
01050.00	Sign, Type B, Temp, Prismatic, Furn & Oper	Square Foot	648	$ _____	$ _____
01051.00	Sign, Type B, Temp, Prismatic, Special, Furn & Oper	Square Foot	398	$ _____	$ _____
01051.70	DS_Sign, Type A, Temp, Prismatic, Furn & Oper	Square Foot	7	$ _____	$ _____
01062.00	Lighted Arrow, Type C, Furn and Oper	Each	2	$ _____	$ _____
01070.00	Sign, Portable, Changeable Message, Furn & Oper	Each	2	$ _____	$ _____
01080.00	Plastic Drum, High Intensity, Lighted, Furn & Oper	Each	120	$ _____	$ _____
01092.00	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn & Oper	Each	50	$ _____	$ _____
01100.00	Pedestrian Type II Barricade, Temp, Furn & Oper	Each	30	$ _____	$ _____
01101.00	Pedestrian Channelizer Device, Furn & Oper	Each	750	$ _____	$ _____
01102.00	Temporary Pedestrian Ramp, Furn & Oper	Each	12	$ _____	$ _____
01103.00	Temporary Pedestrian Mat, Furn & Oper	Foot	100	$ _____	$ _____
01103.72	DS_Pedestrian Path, Temp	Foot	500	$ _____	$ _____
01124.00	Pavt Mrkg, Wet Reflective, Type R, Tape, Rt Turn Arrow	Each	2	$ _____	$ _____
01169.70	DS_Trapezoid Delineator, Any Size	Foot	346	$ _____	$ _____
	Removals				
02000.01	Tree, Rem, 6 In. - 12 In.	Each	15	$ _____	$ _____
02021.00	HMA, Any Thickness, Rem	Square Yard	164	$ _____	$ _____
02022.70	DS_Cold Milling for Concrete Curb and Gutter Reveal	Square Yard	640	$ _____	$ _____
02023.00	Cold-Milling HMA Surface	Square Yard	1,465	$ _____	$ _____
	TOTAL THIS PAGE (BF-1)				$ _____

E. Schedule of Pricing/Cost – 20 Points

Company:

Project: N. University & Thayer Improvements
File #: 2023-023 **RFP#: 26-11**

ITEM NUMBER	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
02025.71	DS_Pavement, Remove, Modifed	Square Yard	6,391	$	$
02030.00	Curb, Gutter, and Curb and Gutter, Any Type, Rem	Foot	3,850	$	$
02040.00	Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem	Square Foot	31,634	$	$
02050.00	Sign, Rem, Salv	Each	25	$	$
02060.70	DS_Trolley Track, Remove	Square Yard	1,000	$	$
02070.70	DS_Parking Markers, Rem	Each	7	$	$
02080.70	DS_Planter Box, Rem	Foot	644	$	$
02080.71	DS_Bollard, Rem	Each	26	$	$
02080.72	DS_Qwick Curb, Rem	Foot	130	$	$
02080.73	DS_Bench, Rem, Salv	Each	1	$	$
02080.74	DS_Bike Rack, Rem, Salv	Each	4	$	$
02080.75	DS_Tunnel, Rem	Cubic Yard	38	$	$
	Earthwork				
03000.70	DS_Machine Grading, Modified	Station	17	$	$
03021.00	Subgrade Undercutting, Type II	Cubic Yard	175	$	$
03022.00	Subgrade Undercutting, Type III	Cubic Yard	50	$	$
03030.01	Exploratory Excavation, SD-TD-1 , (0-10' deep)	Each	16	$	$
	Sanitary Sewer				
04000.01	8 In., SDR 26 PVC Sanitary Sewer, SD-TD-2	Foot	104	$	$
04014.70	DS_4 In., SDR 26 PVC Sanitary Service Lead, SD-TD-2	Foot	20	$	$
04014.71	DS_6 In., SDR 26 PVC Sanitary Service Lead, SD-TD-2	Foot	111	$	$
04014.72	DS_4 In., Sanitary Service Lead, Rem, 4 to 8 inch	Foot	50	$	$
04030.01	Sanitary Manhole, 48 In. Dia. (0-8' Deep)	Each	1	$	$
04050.01	Sanitary Manhole Over Existing ("Doghouse"), 48 In. Dia.	Each	1	$	$
04060.00	Sanitary Structure Cover	Each	14	$	$
04061.00	Sanitary Structure Cover, Adjust	Each	14	$	$
04070.01	Sanitary Sewer Pipe, 8 In. Dia., Abandon	Foot	31	$	$
04080.70	DS_Trench Drain, Rem	Foot	215	$	$
04110.01	Sanitary Sewer Tap, 8 In. Dia.	Each	1	$	$
	TOTAL THIS PAGE (BF-2)				$

E. Schedule of Pricing/Cost – 20 Points

Company: _____

Project: N. University & Thayer Improvements
File #: 2023-023 **RFP#: 26-11**

ITEM NUMBER	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
	Sewer and Manhole Rehab				
05050.00	Internal Chimney Seal	Each	1	$ _____	$ _____
05051.00	External Chimney Seal	Each	25	$ _____	$ _____
	Storm and Drainage				
06000.01	12 In., CL IV RCP Storm Sewer, SD-TD-1	Foot	701	$ _____	$ _____
06000.03	18 In., CL IV RCP Storm Sewer, SD-TD-1	Foot	9	$ _____	$ _____
06003.01	6 In., PE Storm Sewer, SD-TD-2	Foot	22	$ _____	$ _____
06030.04	Storm Sewer Tap, 12 In. Dia.	Each	6	$ _____	$ _____
06050.01	Storm Manhole, 48 In. Dia., (0-8' deep)	Each	5	$ _____	$ _____
06050.70	Storm Manhole, 48 In. Dia., with Leaching Base (0-8' deep)	Each	2	$ _____	$ _____
06070.01	Storm Single Inlet, 24 In. Dia., (0-8' deep)	Each	9	$ _____	$ _____
06080.71	DS_Storm Outlet Control Structure, 60 In. Dia., (0-8' deep)	Each	1	$ _____	$ _____
06081.01	Storm High Capacity Inlet, 48 In. Dia., (0-8' deep)	Each	6	$ _____	$ _____
06110.01	Storm Sewer Pipe, 8 In. Dia, Rem	Foot	12	$ _____	$ _____
06120.03	Storm Sewer Pipe, 12 In. Dia, Rem	Foot	550	$ _____	$ _____
06120.04	Storm Sewer Pipe, 15 In. Dia, Rem	Foot	587	$ _____	$ _____
06140.00	Storm Sewer Structure, Rem	Each	25	$ _____	$ _____
06160.01	Storm Structure Cover	Each	17	$ _____	$ _____
06160.02	Storm Structure Cover, Adjust	Each	17	$ _____	$ _____
06160.72	DS_Misc. Structure Cover, Adjust	Each	5	$ _____	$ _____
06300.70	DS_Infiltration Trench	Foot	443	$ _____	$ _____
06300.71	DS_Perforated HDPE Pipe, 12 inch	Foot	10	$ _____	$ _____
06303.70	DS_Storm Pretreatment Structure, First Defense, 48 In. Dia., Inlet	Each	2	$ _____	$ _____
06303.71	DS_Storm Pretreatment Structure, First Defense, 48 In. Dia., Solid	Each	2	$ _____	$ _____
06303.72	DS_Storm Pretreatment Structure, First Defense, 60 In. Dia., Solid	Each	1	$ _____	$ _____
06400.70	DS_Trench Drain	Foot	216	$ _____	$ _____
	Water Mains				
07000.01	4 In., PC 350, DIP w/ polywrap, SD-TD-1	Foot	320	$ _____	$ _____
07000.02	6 In., PC 350, DIP w/ polywrap, SD-TD-1	Foot	73	$ _____	$ _____
07000.03	8 In., PC 350, DIP w/ polywrap, SD-TD-1	Foot	201	$ _____	$ _____
	TOTAL THIS PAGE (BF-3)				$ _____

E. Schedule of Pricing/Cost – 20 Points

Company: _____

Project: N. University & Thayer Improvements
File #: 2023-023 **RFP#: 26-11**

ITEM NUMBER	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
07000.05	12 In., PC 350, DIP w/ polywrap, SD-TD-1	Foot	1,214	$ _____	$ _____
07001.01	16 In., PC 250 DIP w/polywrap, SD-TD-1	Foot	22	$ _____	$ _____
07004.71	DS_Water Main Insulation	Foot	96	$ _____	$ _____
07009.70	DS_4 In. 45° DIP Bend	Foot	16	$ _____	$ _____
07010.02	6 In. 45° DIP Bend	Each	5	$ _____	$ _____
07011.02	8 In. 45° DIP Bend	Each	12	$ _____	$ _____
07011.03	8 In. 22.5° DIP Bend	Each	1	$ _____	$ _____
07013.02	12 In. 45° DIP Bend	Each	9	$ _____	$ _____
07013.03	12 In. 22.5° DIP Bend	Each	8	$ _____	$ _____
07014.02	16 In. 45° DIP Bend	Each	2	$ _____	$ _____
07020.03	8 In. x 6 In. DIP Reducer	Each	6	$ _____	$ _____
07020.14	16 In. x 12 In. DIP Reducer	Each	1	$ _____	$ _____
07030.11	12 In. x 12 In. x 4 In. DIP Tee	Each	6	$ _____	$ _____
07030.12	12 In. x 12 In. x 6 In. DIP Tee	Each	1	$ _____	$ _____
07030.13	12 In. x 12 In. x 8 In. DIP Tee	Each	8	$ _____	$ _____
07030.15	12 In. x 12 In. x 12 In. DIP Tee	Each	4	$ _____	$ _____
07050.01	Gate Valve in Box, 6 In.	Each	7	$ _____	$ _____
07050.02	Gate Valve in Box, 8 In.	Each	1	$ _____	$ _____
07050.70	DS_Gate Valve in Box, 4 In.	Each	6	$ _____	$ _____
07060.04	Gate Valve in Well, 12 In.	Each	14	$ _____	$ _____
07060.05	Gate Valve in Well, 16 In.	Each	1	$ _____	$ _____
07080.00	Excavate & Backfill For Water Service Tap and Lead	Foot	50	$ _____	$ _____
07100.00	Fire Hydrant Assembly, Complete	Each	6	$ _____	$ _____
07102.00	Fire Hydrant Assembly, Rem	Each	4	$ _____	$ _____
07120.00	Gate Box, Adjust	Each	9	$ _____	$ _____
07122.00	Gate Box Cover	Each	9	$ _____	$ _____
07130.01	Temporary Water Main Line Stop, 8 In. or Less	Each	2	$ _____	$ _____
07130.03	Temporary Water Main Line Stop, 12 In.	Each	4	$ _____	$ _____
07130.04	Temporary Water Main Line Stop, 16 In.	Each	2	$ _____	$ _____
07131.00	Temporary Water Main Line Stop, Additional Rental Day	Each	3	$ _____	$ _____
	TOTAL THIS PAGE (BF-4)				$ _____

E. Schedule of Pricing/Cost – 20 Points

Company:

Project: N. University & Thayer Improvements
File #: 2023-023 **RFP#: 26-11**

ITEM NUMBER	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
07140.01	Water Main Pipe, 4 In. Dia, Abandon	Foot	258	$	$
07140.02	Water Main Pipe, 6 In. Dia, Abandon	Foot	646	$	$
07140.03	Water Main Pipe, 8 In. Dia, Abandon	Foot	643	$	$
07140.05	Water Main Pipe, 12 In. Dia, Abandon	Foot	1,432	$	$
07140.07	Water Main Pipe, 16 In. Dia, Abandon	Foot	40	$	$
07150.01	Water Main Pipe, 4 In. Dia, Rem	Foot	20	$	$
07150.02	Water Main Pipe, 6 In. Dia, Rem	Foot	60	$	$
07150.03	Water Main Pipe, 8 In. Dia, Rem	Foot	70	$	$
07150.05	Water Main Pipe, 12 In. Dia, Rem	Foot	150	$	$
07170.01	Gate Valve in Box, 4 In. Dia, Rem	Each	6	$	$
07170.02	Gate Valve in Box, 6 In. Dia, Rem	Each	6	$	$
07170.03	Gate Valve in Box, 8 In. Dia, Rem	Each	2	$	$
07170.05	Gate Valve in Box, 12 In. Dia, Rem	Each	1	$	$
07190.02	Gate Valve in Well, 6 In. Dia, Rem	Each	2	$	$
07190.05	Gate Valve in Well, 12 In. Dia, Rem	Each	4	$	$
	Streets, Driveways, & Sidewalks				
08000.00	Subbase, CIP	Cyd	974	$	$
08000.70	DS_Maintenance Gravel	Ton	430	$	$
08010.74	DS_Aggregate Base, 10 In., 21AA, Modified	Square Yard	6,450	$	$
08010.75	DS_Aggregate Base, 17 In., 21AA, Modified (Temporary)	Square Yard	2,100	$	$
08060.00	Hand Patching	Ton	20	$	$
08070.11	HMA, 3EML	Ton	1,134	$	$
08070.15	HMA, 4EML	Ton	753	$	$
08070.19	HMA, 5EML	Ton	773	$	$
08072.70	DS_HMA, Temp Pavt	Ton	556	$	$
08080.03	Conc Pavt, Non-Reinf, 8 In.	Square Yard	16	$	$
08090.71	DS_Joint, Contraction, Cp	Foot	76	$	$
08090.72	DS_Joint, Contraction, Crg	Foot	25	$	$
08093.70	DS_Lane Tie, Epoxy Anchored	Each	70	$	$
08110.00	Conc, Curb or Curb & Gutter, All Types	Foot	3,759	$	$
	TOTAL THIS PAGE (BF-5)				$

E. Schedule of Pricing/Cost – 20 Points

Company:

Project: N. University & Thayer Improvements
File #: 2023-023 **RFP#: 26-11**

ITEM NUMBER	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
08110.71	DS_Mountable Curb and Gutter	Foot	115	$	$
08131.01	Conc, Sidewalk, Drive Approach, or Ramp, 6 In.	Square Foot	5,200	$	$
08132.01	Conc, Sidewalk, Drive Approach, or Ramp, 6 In., High Early	Square Foot	2,248	$	$
08132.02	Conc, Sidewalk, Drive Approach, or Ramp, 8 In., High Early	Square Foot	170	$	$
08133.70	DS_Conc, Sidewalk, Fibermesh, 8 In.	Square Foot	29,698	$	$
08133.71	DS_Conc, Sidewalk Ramp, Fibermesh, 8 In.	Square Foot	3,181	$	$
08133.71	DS_Handrail	Foot	70	$	$
08133.72	DS_Conc, Sidewalk, Fibermesh, 9 In., Raised	Square Foot	2,080	$	$
08140.70	DS_Brick Pavers, Sidewalk, Rem	Square Foot	6,643	$	$
08140.71	DS_Brick Pavers, Sidewalk, Rem and Salv	Square Foot	978	$	$
08140.72	Brick Pavers, Sidewalk, Rem and Reinstall	Square Foot	223	$	$
08140.73	DS_Perforated Concrete Base, 6 In.	Square Foot	223	$	$
08150.00	Detectable Warning Surface	Foot	326	$	$
08150.70	DS_Detectable Warning Surface, Temp	Foot	100	$	$
08150.71	DS_Tactile Directional Indicator	Foot	60	$	$
08190.07	Pavt Mrkg, Polymer Cement Surface, Tan	Sft	45	$	$
08190.72	DS_Pavt Mrkg, Polymer Cement Surface, Bike Thru Arrow Sym	Each	7	$	$
08190.73	DS_Pavt Mrkg, Polymer Cement Surface, Bike, Small Sym	Each	8	$	$
08190.76	DS_Pavt Mrkg, Polymer Cement Surface, Bike Lane, Green	Square Foot	2,146	$	$
08190.78	DS_Pavt Mrkg, Polymer Cement Surface, Bus Lane, Red	Square Foot	4,321	$	$
08190.79	DS_Pavt Mrkg, Polymer Cement Surface, Bus	Each	7	$	$
08191.70	DS_Pavt Mrkg, Polymer Cement Surface, Only	Each	9	$	$
08191.71	DS_Pavt Mrkg, Polymer Cement Surface, Sharrow Sym	Each	4	$	$
08191.72	DS_Pavt Mrkg, Polymer Cement Surface, Merge Left Arrow	Each	1	$	$
08191.73	DS_Scarification, for Polyurea Spec Mrkg	Square Foot	20	$	$
08191.74	DS_Pavt Mrkg, Polymer Cement Surface, Rt Arrow	Each	1	$	$
08200.05	Pavt Mrkg, Polyurea, 12 In., Cross Hatching, White	Foot	264	$	$
08200.09	Pavt Mrkg, Polyurea, 24 In., Stop Bar	Foot	190	$	$
08200.10	Pavt Mrkg, Polyurea, 12 In., Crosswalk	Foot	1,314	$	$
08200.11	Pavt Mrkg, Polyurea, 4 In., White	Foot	86	$	$
	TOTAL THIS PAGE (BF-6)				$

E. Schedule of Pricing/Cost – 20 Points

Company:

Project: N. University & Thayer Improvements
File #: 2023-023 **RFP#: 26-11**

ITEM NUMBER	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
08200.13	Pavt Mrkg, Polyurea, 6 In., White	Foot	3,917	$	$
08200.14	Pavt Mrkg, Polyurea, 6 In., Yellow	Foot	2,050	$	$
08200.30	Pavt Mrkg, Polyurea, Yield Triangle Sym	Each	12	$	$
08200.31	Pavt Mrkg, Polyurea, Speed Hump Chevron, White	Each	6	$	$
08251.00	Recessing Pavt Mrkg, Longit	Foot	4,236	$	$
08252.00	Recessing Pavt Mrkg, Transv	Square Foot	1,870	$	$
08300.00	Monument Box, Adjust	Each	2	$	$
08300.70	DS_Bikeway Delineator Post	Each	109	$	$
08300.70	DS_Parking Meter Post, Install	Each	20	$	$
08300.71	Flexible Delineator Post, Surface Mounted	Each	8	$	$
08300.72	DS_Sign, Type IIIA	Square Foot	70	$	$
08300.73	DS_Sign, Type IIIB	Square Foot	168	$	$
08300.74	DS_Perforated Steel Square Tube Breakaway System, Modified	Each	43	$	$
08300.75	DS_Reflective Panel for Permanent Sign Support, 3 foot, Modified	Each	2	$	$
08300.76	DS_Qwick Kurb Sign	Each	9	$	$
08300.77	DS_Fdn, Perforated Steel Square Tube Breakaway System, Rem	Each	4	$	$
08300.78	DS_Ground Mtg Sign Support, Rem	Each	4	$	$
	Lighting and Electrical				
09000.01	Conductors, No. 4AWG	Foot	4,440	$	$
09000.03	Conductors, No. 8AWG	Foot	2,220	$	$
09000.04	Conductors, No. 10AWG	Foot	204	$	$
9010.01	Conduit, Schedule 80 PVC, 2 In.	Foot	68	$	$
9011.02	Conduit, Schedule 80 PVC, 3 In., Qty 2	Foot	2,220	$	$
09020.00	Handhole, Rem	Each	9	$	$
09020.70	DS_Handhole, Adjust	Each	18	$	$
09030.01	Handhole Assembly, 17 In. X 30 In. x 18 In.	Each	18	$	$
09030.03	Handhole Assembly, 24 In. X 36 In. x 18 In.	Each	1	$	$
09050.00	Foundation, Light Pole	Each	17	$	$
09060.00	Foundation, Light Pole, Rem	Each	34	$	$
09093.01	Light Pole, 30' Standard	Each	13	$	$
	TOTAL THIS PAGE (BF-7)				$

E. Schedule of Pricing/Cost – 20 Points

Company: _____

Project: N. University & Thayer Improvements
File #: 2023-023 **RFP#: 26-11**

ITEM NUMBER	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
09093.71	DS_Light Pole, 30' Standard, 2 Luminaires	Each	4	$ _____	$ _____
09110.01	Light Fixture, Standard	Each	18	$ _____	$ _____
09121.00	Light Fixture, Rem	Each	18	$ _____	$ _____
09130.00	Streetlight Disconnect Box,Complete	Each	1	$ _____	$ _____
	Landscaping				
10000.01	DS_Tree, B&B	Each	12	$ _____	$ _____
10000.70	DS_Irrigation, Remove and Replace	Lump Sum	1	$ _____	$ _____
10001.70	DS_Shrub, #5 Cont.	Each	34	$ _____	$ _____
10001.71	DS_Perennial, #2 Cont.	Each	466	$ _____	$ _____
10001.72	DS_Perennial, Quart Cont.	Each	556	$ _____	$ _____
10001.73	DS_Bulb	Each	528	$ _____	$ _____
10001.74	DS_Annuals, Owner Selected	Each	315	$ _____	$ _____
10001.75	DS_Mulch	Square Yard	275	$ _____	$ _____
10001.76	DS_Planting Mixture	Cubic Yard	225	$ _____	$ _____
10001.77	Washed Stone for Drainage	Cubic Yard	38	$ _____	$ _____
10001.78	Geotextile Wrap	Square Yard	143	$ _____	$ _____
10001.79	DS_Planter Wall, 12 In	Cubic Yard	87	$ _____	$ _____
10001.80	DS_Planter Wall, 24 In	Cubic Yard	193	_____	_____
10002.70	4" Perforated tile drainage pipe	Foot	413	$ _____	$ _____
10006.71	DS_Turf Establishment, Performance	Square Yard	350	$ _____	$ _____
10100.70	DS_DDA Bike Hoop, Surface Mounted	Each	3	$ _____	$ _____
	TOTAL THIS PAGE (BF-8)				$ _____
	TOTAL FROM PAGE (BF-1):				$ _____
	TOTAL FROM PAGE (BF-2):				$ _____
	TOTAL FROM PAGE (BF-3):				$ _____
	TOTAL FROM PAGE (BF-4):				$ _____
	TOTAL FROM PAGE (BF-5):				$ _____
	TOTAL FROM PAGE (BF-6):				$ _____
	TOTAL FROM PAGE (BF-7):				$ _____
	TOTAL BASE BID:				**$** _____

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
PROJECT COORDINATION

WT: MHM | 1 of 1 | 02/13/2026

The Contractor is hereby notified that there will be coordination efforts that will need to occur as part of the North University and Thayer Street project, and efforts that may need to be made with work not associated with this project. Please note that this listing may not be complete, and the Contractor will verify any other projects within the local vicinity that may impact this project.

1. **University of Michigan Hill Auditorium Roofing Project (June – August 2026)**
   A portion of the Thayer Road adjacent to the Auditorium will need to be used by a crane to load materials to the roof. This crane will be parked in this space for the duration of the roofing project. The road contractor will be required to provide and maintain ingress/egress for material deliveries and waste haul off from the intersection of Washington and Thayer. Refer to the Progress Clause for dates related to the roofing project.

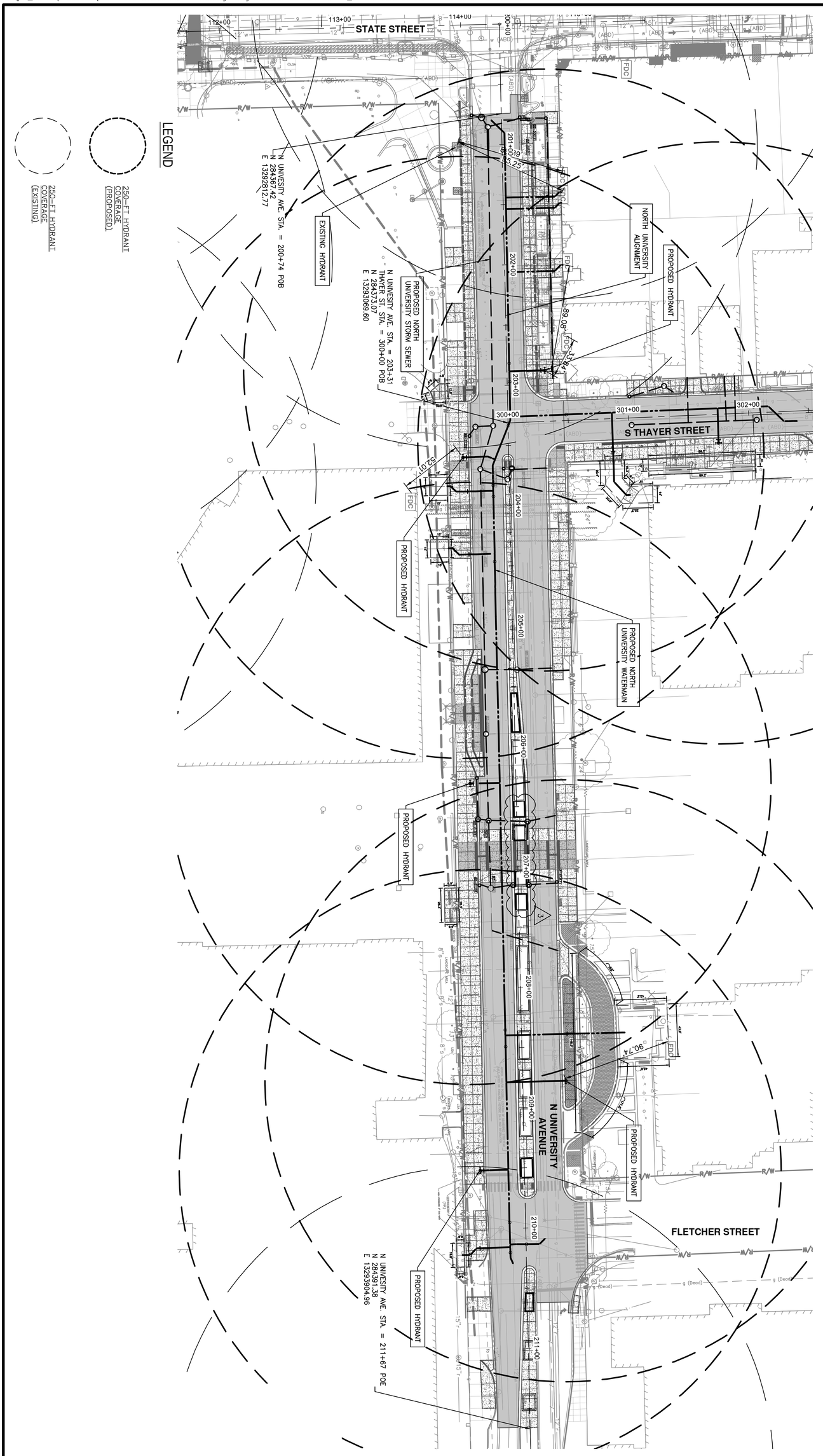
2. **Ann Arbor Summer Fest (June 12-28, 2026)**
   East Washington Street from Thayer Street to Fletcher Street, and Ingalls Mall between Washington Street and North University. Refer to the webpage www.a2sf.org. The contractor will be required to stop work by 5p every day with the exception of Monday while the Festival is occurring.

3. **DTE Gas – Relocation of Gas Meter Servicing Michigan League Building**
   The Contractor will be required to coordinate a natural gas meter servicing the Michigan League building.

4. **Water Service Lead to Michigan League Building**
   The Contractor will be required to coordinate a water service connection to the Michigan League building. UM's contractor may elect to directional drill a new lead toward the building by using a drill put in the road right of way.

The Contractor will coordinate its work with Contractors of other projects, internal and external to the construction influence area, as directed by the Engineer. No additional compensation will be allowed for costs incurred by the Contractor due to coordinating with or delays caused by other projects.

C:\pw_work2\d1339881\CSP-PLTS-Overall Plan - NU.dwg Dwg Created: 22-Jan-26 - _a2 standard bw.stb - Plot Date: 12-Feb-26



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE : 1" = 40'

DRAWING No.
2023-023-14

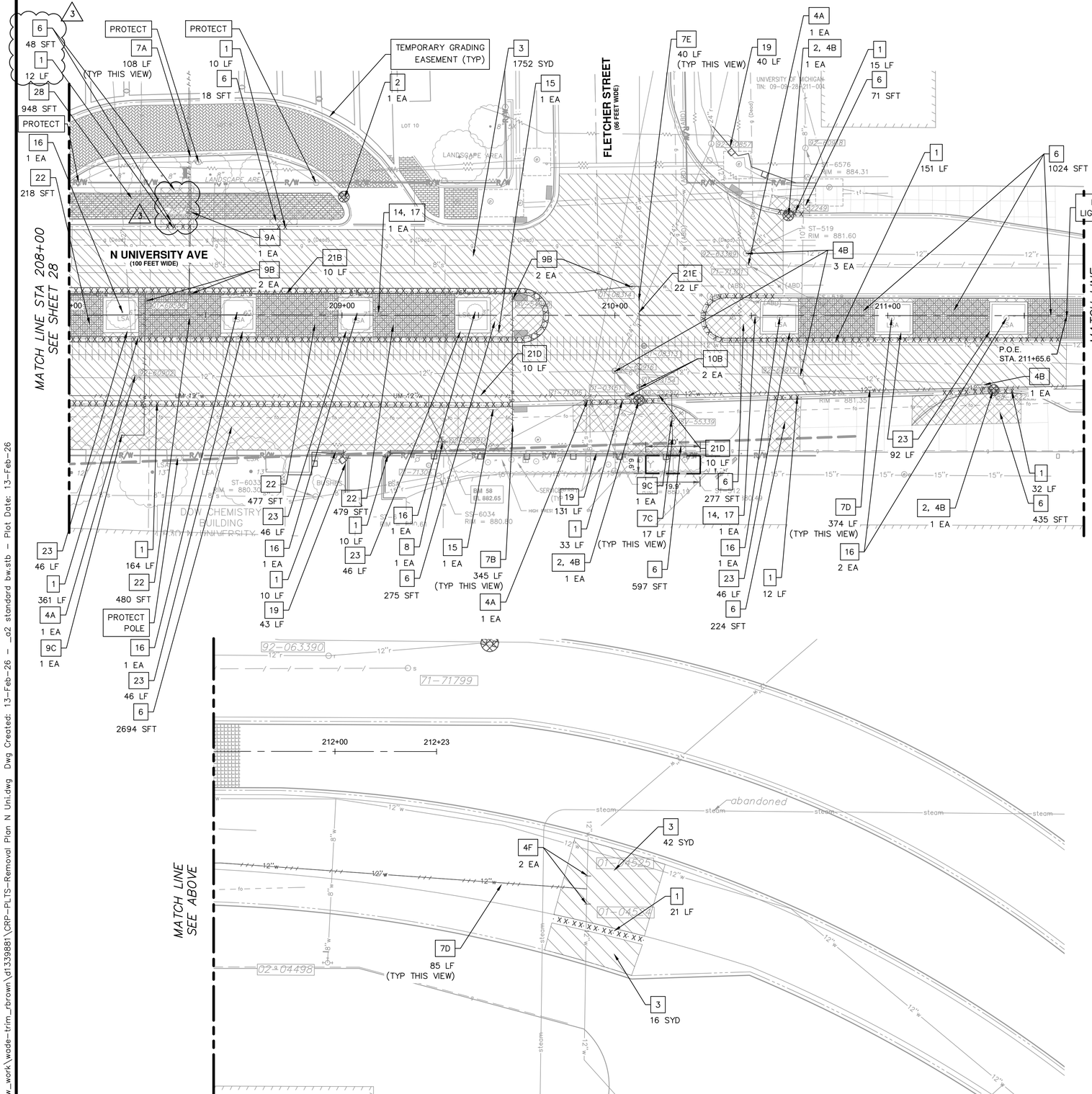
SHEET No.
14 OF 80

N. UNIVERSITY & THAYER IMPROVEMENTS

OVERALL PLAN WITH EXISTING UTILITES

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
06	ADDENDUM #3	02/13/2026	VARIOUS	MHM
05	ADDENDUM #2	02/11/2026	VARIOUS	MHM
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM



LEGEND

- CURB AND GUTTER, ANY TYPE OR SIZE, REM
- TREE PROTECTION FENCE OR SILT FENCE
- UTILITY REMOVAL OR ABANDON
- PAVEMENT, REMOVE
- COLD-MILLING HMA SURFACE
- SIDEWALK, SIDEWALK RAMP, AND DRIVEWAY APPROACH, ANY THICKNESS, REM OR DS_BRICK PAVERS, SIDEWALK, REM AND SALV OR DS_BRICK PAVERS, SIDEWALK, REM

SOIL EROSION NOTES

1: *STREETS EXTERNAL TO THE PROJECT AREA SHALL BE MONITORED FOR TRACKED MUD AND/OR CONSTRUCTION DEBRIS AND SHALL BE IMMEDIATELY CLEANED FOLLOWING ANY SUCH OCCURRENCE.*

NOTE:
1. WHERE EXISTING TROLLEY TRACK IS ENCOUNTERED TO BE IN CONFLICT WITH UTILITIES AND AS DIRECTED BY ENGINEER THAT IT WILL BE REMOVED, THE REMOVAL SHALL BE PAID FOR AS "DS_TROLLEY TRACK, REMOVE"
2. ALL WORK THAT TAKES PLACE OUTSIDE OF THE ROW IS TO FOLLOW THE UNIVERSITY OF MICHIGAN'S REQUIREMENTS AND SPECIFICATION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

REMOVAL KEY

KEY	DESCRIPTION
1	CURB, GUTTER, AND CURB AND GUTTER, ANY TYPE, REM
2	EROSION CONTROL, INLET PROTECTION, FABRIC DROP
3	DS_PAVEMENT, REMOVE
4	A. SANITARY STRUCTURE COVER, ADJUST B. STORM STRUCTURE COVER, ADJUST C. MONUMENT BOX, ADJUST D. DS_HANDHOLE, ADJUST E. DS_MISC. STRUCTURE COVER, ADJUST F. GATE BOX, ADJUST
5	STORM SEWER STRUCTURE, REM
6	SIDEWALK, SIDEWALK RAMP, AND DRIVEWAY APPROACH, ANY THICKNESS, REM
7	A. WATER MAIN PIPE, 4 IN. DIA., ABANDON B. WATER MAIN PIPE, 6 IN. DIA., ABANDON C. WATER MAIN PIPE, 8 IN. DIA., ABANDON D. WATER MAIN PIPE, 12 IN. DIA., ABANDON E. WATER MAIN PIPE, 16 IN. DIA., ABANDON
8	FIRE HYDRANT ASSEMBLY, REM
9	A. GATE VALVE IN BOX, 4 IN. DIA., REM B. GATE VALVE IN BOX, 6 IN. DIA., REM C. GATE VALVE IN BOX, 8 IN. DIA., REM D. GATE VALVE IN BOX, 12 IN. DIA., REM
10	A. GATE VALVE IN WELL, 6 IN. DIA., REM B. GATE VALVE IN WELL, 12 IN. DIA., REM
11	A. STORM SEWER PIPE, 8 IN. DIA., REM B. STORM SEWER PIPE, 12 IN. DIA., REM C. STORM SEWER PIPE, 15 IN. DIA., REM
12	DS_PARKING MARKERS, REM
13	PARKING KIOSK, REMOVED BY OTHERS
14	FOUNDATION, LIGHT POLE, REM
15	SIGN, REM, SALV
16	TREE, REM, 6 IN. – 12 IN.
17	LIGHT POLE, REM
18	COLD-MILLING HMA SURFACE
19	EROSION CONTROL, SILT FENCE
20	TREE PROTECTION FENCE
21	A. WATER MAIN PIPE, 4 IN. DIA., REM B. WATER MAIN PIPE, 6 IN. DIA., REM C. WATER MAIN PIPE, 8 IN. DIA., REM D. WATER MAIN PIPE, 12 IN. DIA., REM E. WATER MAIN PIPE, 16 IN. DIA., REM
22	DS_BRICK PAVERS, SIDEWALK, REM
23	DS_PLANTER BOX, REMOVE
24	A. DS_BIKEWAY DELINEATOR POST, REM B. DS_QWICK CURB, REM, SALV
25	A. DS_BENCH, REM, SALV B. DS_BIKE RACK, REM, SALV C. DS_IRRIGATION SYSTEM, REMOVE AND REPLACE
26	DS_TRENCH DRAIN, REM
27	DS_TUNNEL, REM
28	DS_BRICK PAVERS, SIDEWALK, REM AND SALV

SOIL EROSION SEQUENCE OF CONSTRUCTION*

1: *PLACE INLET FILTERS ON EXISTING DRAINAGE FEATURES THAT WILL REMAIN IN PLACE AFTER CONSTRUCTION BEGINS.*
2: *INSTALL WATER MAIN, STORM SEWER, AND PAVEMENT IMPROVEMENTS.*
3: *RESTORE ALL DISTURBED AREAS TO A CONDITION THAT IS BETTER THAN, OR EQUAL TO, THAT WHICH EXISTED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES.*
4: *INSPECT & REPAIR OR REPLACE ALL TEMPORARY SESC MEASURES WEEKLY AND WITHIN 24 HOURS OF A STORM EVENT.*
5: *CLEAN OUT STORM SEWER SYSTEMS.*
6: *REMOVE TEMPORARY SESC FEATURES (CALL FOR FINAL INSPECTION).*
7: *REMEDY ANY NOTED DEFECTS TO THE SATISFACTION OF THE CITY'S SESC OFFICIAL.*

**NOTE:* *THIS SEQUENCE IS FOR INFORMATION ONLY. IT IS INTENDED TO SHOW THE SEQUENCE OF CONSTRUCTION WITH RESPECT TO THE SOIL EROSION CONTROL MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING THEIR OWN DETAILED CONSTRUCTION SEQUENCE AND SCHEDULE TO THE ENGINEER FOR REVIEW, COMMENT AND ACCEPTANCE.*

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
06	ADDENDUM #3	02/13/2026	VARIOUS	MHM
05	ADDENDUM #2	02/11/2026	VARIOUS	MHM
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM

Know what's below. Call before you dig. 811

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
(734) 794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

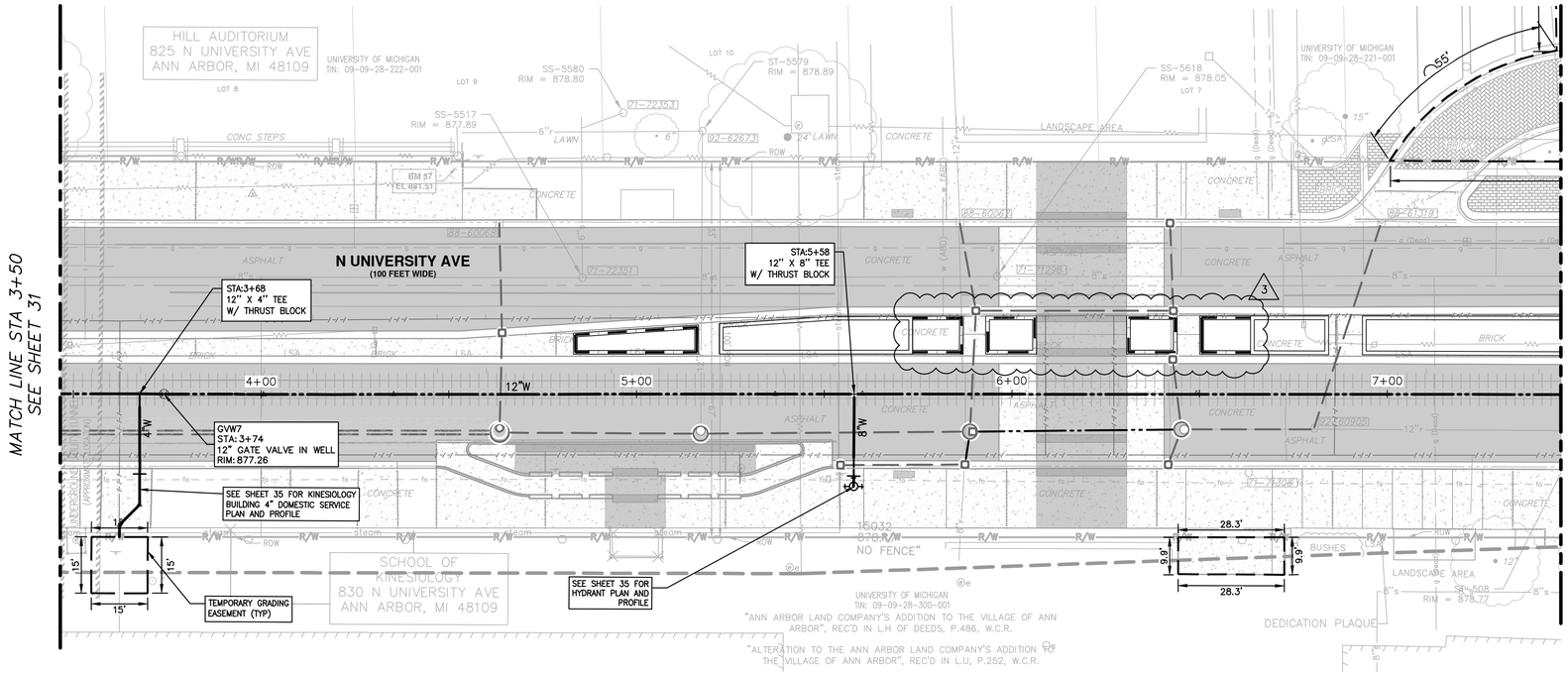
N. UNIVERSITY & THAYER IMPROVEMENTS

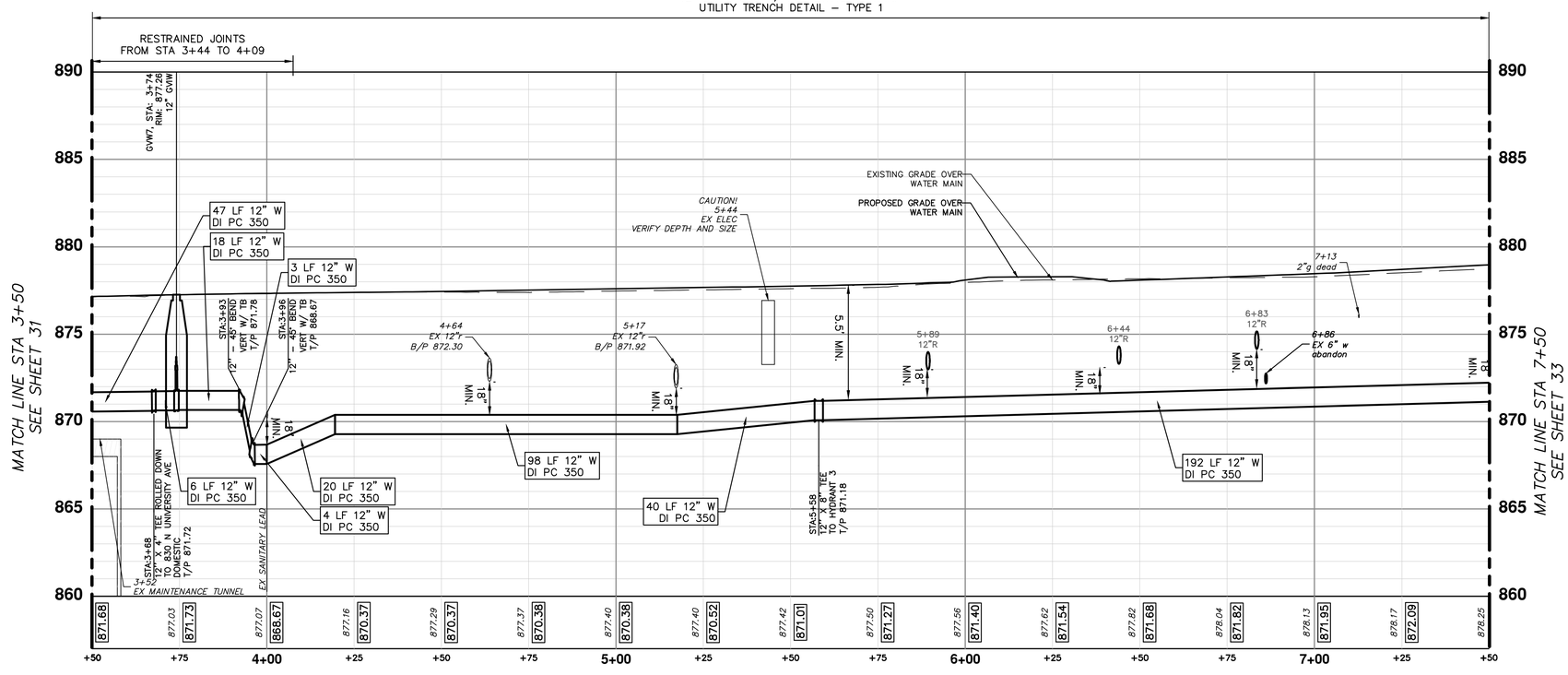
REMOVAL PLAN - NORTH UNIVERSITY STA 208+00 TO STA 211+65.6

SCALE : 1"=20'

DRAWING No. 2023-023-29

SHEET No. 29 OF 80





Existing Water Services

Address	Station	Size (in)
830	3+71	4

WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	RIM	WELL DEPTH	T/P
GVW7	12" GVIW	3+74	877.26	7.11	5.57

*EXACT DEPTH OF CROSSING SANITARY LEADS IS UNKNOWN. CONTRACTOR TO FIELD VERIFY LEADS AND MAINTAIN CLEARANCE AS APPROVED BY CITY ENGINEER. (TYP)

THE DEPTH AND SIZE OF ELECTRICAL, TELEPHONE AND FIBER OPTIC CONDUITS/DUCTS AND THE DEPTH OF GAS MAINS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY, SUPPORT AND PROTECT DURING CONSTRUCTION AND ADJUST WATER MAIN WHERE NECESSARY TO MAINTAIN 12–INCHES VERTICAL CLEARANCE FROM ALL UTILITIES (EXCEPT SANITARY AND STORM SEWER WHERE 18–INCHES IS REQUIRED). THIS WORK IS PAID FOR UNDER ASSOCIATED WATERMAIN PAY ITEMS

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
06	ADDENDUM #3	02/13/2026	VARIOUS	MHM
05	ADDENDUM #2	02/11/2026	VARIOUS	MHM
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM

CITY OF ANN ARBOR
PUBLIC SERVICES
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

PROPOSED WATER MAIN - NORTH UNIVERSITY STA 3+50 TO STA 7+50

SCALE: 1"=20' VERTICAL 1"=4'

DRAWING No. 2023-023-32

SHEET No. 32 OF 80

MATCH LINE STA 7+50
SEE SHEET 32

N UNIVERSITY AVE
(100 FEET WIDE)

FLETCHER ST
(66 FEET WIDE)

DOW CHEMISTRY BUILDING
930 N UNIVERSITY AVE
ANN ARBOR, MI 48109

SEE SHEET 36 FOR SERVICE PLAN AND PROFILE

SEE SHEET 36 FOR HYDRANT PLAN AND PROFILE

STA:8+07
12" X 8" TEE
W/ THRUST BLOCK

STA:8+79
12" X 8" TEE
W/ THRUST BLOCK

GVW9
STA: 7+77
12" GATE VALVE IN WELL
RIM: 879.25

STA:7+68
12" X 4" TEE
W/ THRUST BLOCK

GVW8
STA: 7+63
12" GATE VALVE IN WELL
RIM: 879.11

ABANDON SERVICE IN PLACE WITH DUCTILE IRON CAP AND MEGA LUG

ABANDON WATER MAIN TO THE SOUTH

STA:0+31
CONNECT TO EX 12" WM
W/ 16" – 45° BEND
W/ THRUST BLOCK AND
12" MJ SOLID SLEEVE

GVW12
STA: 0+14
16" GATE VALVE IN WELL
RIM: 881.26

STA:0+05
16" X 12" REDUCER
W/ THRUST BLOCK

GVW10
STA: 9+23
12" GATE VALVE IN WELL
RIM: 880.78

STA:9+41
12" TEE
W/ THRUST BLOCK

CONNECT TO EXISTING WATER MAIN AFTER SUCCESSFUL BACTERIOLOGICAL AND HYDROSTATIC TESTING

STA:0+24
16" – 45° BEND
W/ THRUST BLOCK

STA:9+44
12" X 8" TEE
W/ THRUST BLOCK

STA:9+58
CONNECT TO EX 12" WM
W/ 12" – 22.5° BEND
W/ THRUST BLOCK AND
12" MJ SOLID SLEEVE

CONNECT TO EXISTING WATER MAIN AFTER SUCCESSFUL BACTERIOLOGICAL AND HYDROSTATIC TESTING

STA:9+52
12" – 22.5° BEND
W/ THRUST BLOCK

GVW11
12" GATE VALVE IN WELL
RIM: 881.02

SEE SHEET 36 FOR SERVICE PLAN AND PROFILE

TEMPORARY GRADING EASEMENT (TYP)

STA:0+19
CONNECT TO EX 12" WM
W/ 12" TEE
W/ THRUST BLOCK AND
12" MJ SOLID SLEEVE

REMOVE EXISTING 12" TEE AND REPAIR 12" WATER MAIN. ABANDON WATER MAIN TO THE WEST

ABANDON WATER MAIN

STA:0+08
12" – 45° BEND
W/ THRUST BLOCK

STA:0+00
CONNECT TO EX 12" WM
W/ 12" TEE
W/ THRUST BLOCK AND
12" MJ SOLID SLEEVE

WATER MAIN STRUCTURE TABLE					
STRUCTURE	TYPE	STATION	RIM	WELL DEPTH	T/P
GVW12	16" GVIW	9+40	881.26	8.04	6.17

WATER MAIN STRUCTURE TABLE					
STRUCTURE	TYPE	STATION	RIM	WELL DEPTH	T/P
GVW8	12" GVIW	7+63	879.11	8.11	6.57
GVW9	12" GVIW	7+77	879.25	7.90	6.36
GVW10	12" GVIW	9+23	880.78	7.15	5.61
GVW11	12" GVIW	9+40	881.02	7.21	5.67

Existing Water Services

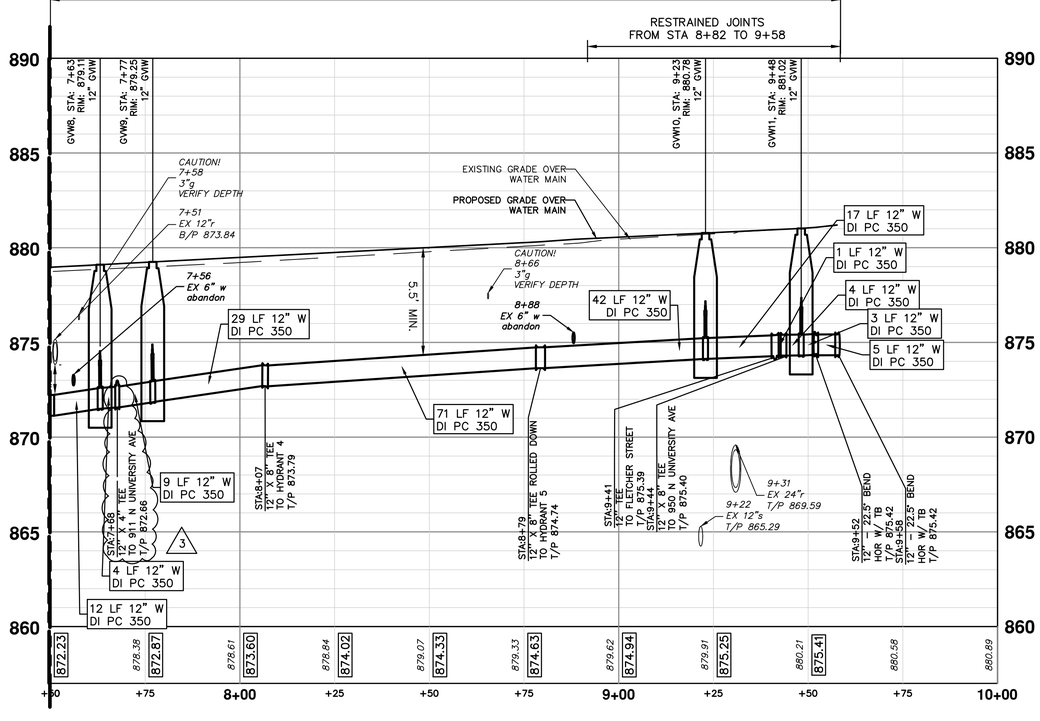
Address	Station	Size (in)
911	7+71	4
950	9+40	8

*EXACT DEPTH OF CROSSING SANITARY LEADS IS UNKNOWN. CONTRACTOR TO FIELD VERIFY LEADS AND MAINTAIN CLEARANCE AS APPROVED BY CITY ENGINEER. (TYP)

THE DEPTH AND SIZE OF ELECTRICAL, TELEPHONE AND FIBER OPTIC CONDUITS/DUCTS AND THE DEPTH OF GAS MAINS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY, SUPPORT AND PROTECT DURING CONSTRUCTION AND ADJUST WATER MAIN WHERE NECESSARY TO MAINTAIN 12–INCHES VERTICAL CLEARANCE FROM ALL UTILITIES (EXCEPT SANITARY AND STORM SEWER WHERE 18–INCHES IS REQUIRED). THIS WORK IS PAID FOR UNDER ASSOCIATED WATERMAIN PAY ITEMS

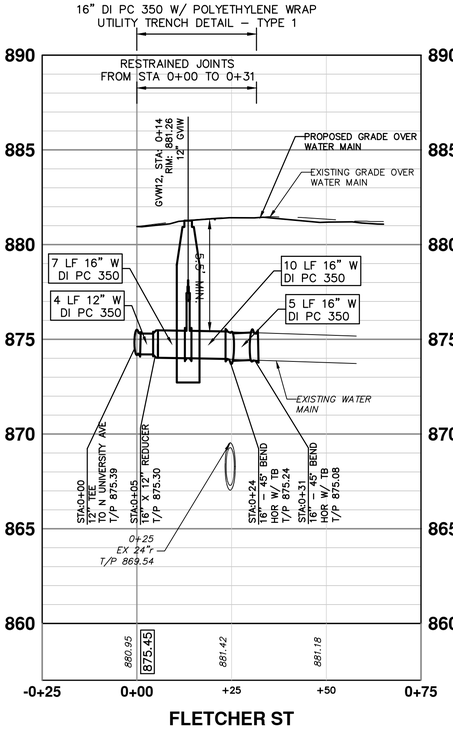
UTILITY TRENCH DETAIL – TYPE 1

RESTRAINED JOINTS FROM STA 8+82 TO 9+58



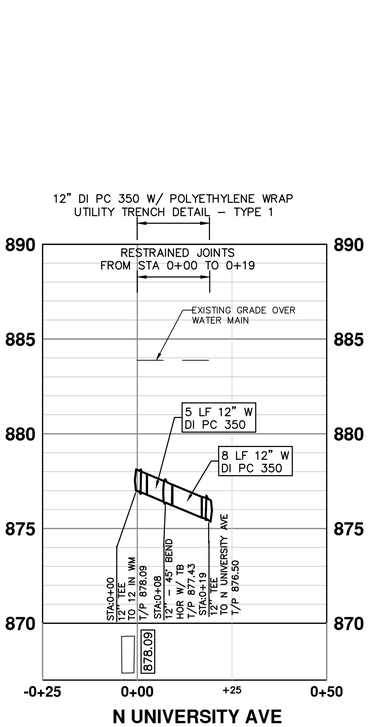
16" DI PC 350 W/ POLYETHYLENE WRAP
UTILITY TRENCH DETAIL – TYPE 1

RESTRAINED JOINTS FROM STA 0+00 TO 0+31



12" DI PC 350 W/ POLYETHYLENE WRAP
UTILITY TRENCH DETAIL – TYPE 1

RESTRAINED JOINTS FROM STA 0+00 TO 0+19



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
06	ADDENDUM #3	02/13/2026	VARIOUS	MHM
05	ADDENDUM #2	02/11/2026	VARIOUS	MHM
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM

Know what's below. Call before you dig.

CITY OF ANN ARBOR
PUBLIC SERVICES
301 E. HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734.794.6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

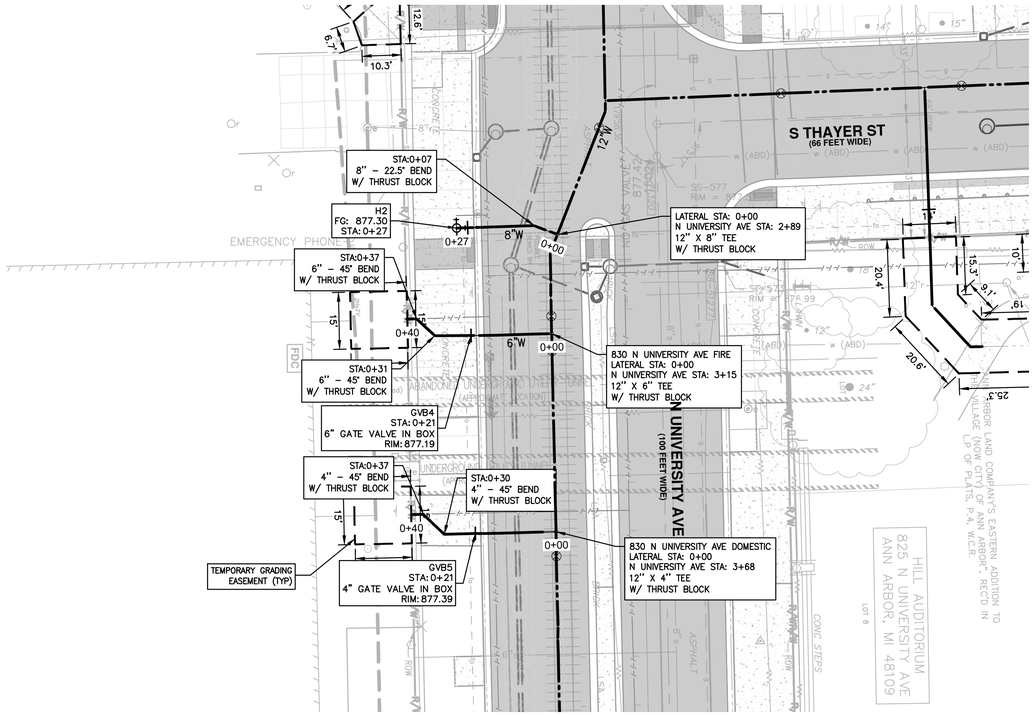
N. UNIVERSITY & THAYER IMPROVEMENTS

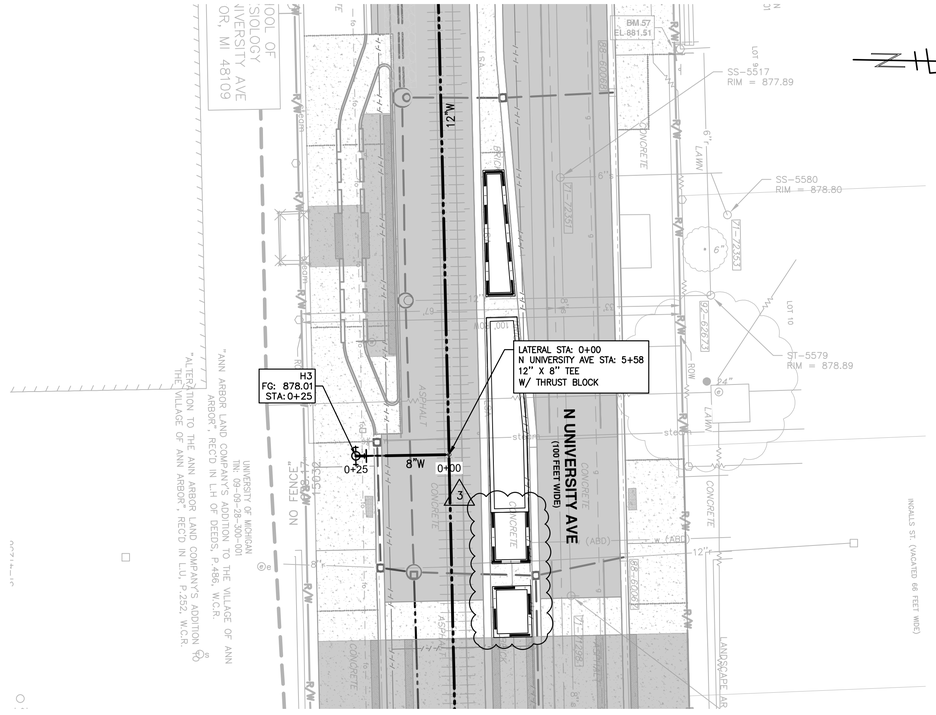
PROPOSED WATER MAIN - NORTH UNIVERSITY STA 7+50 TO STA 9+67

SCALE : 1"=20' VERTICAL 1"=4'

DRAWING No. 2023-023-33

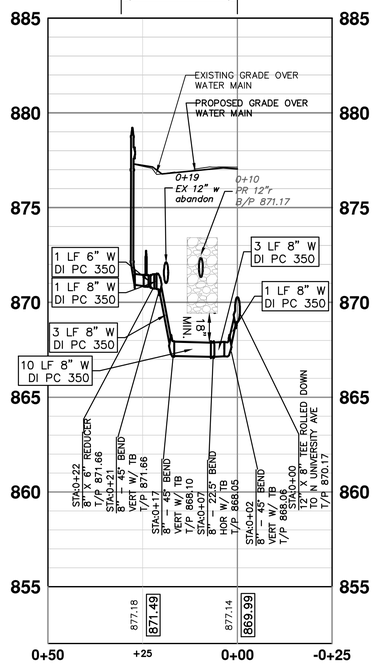
SHEET No. 33 OF 80





8" DI PC 350 W/ POLYETHYLENE WRAP
UTILITY TRENCH DETAIL – TYPE 1

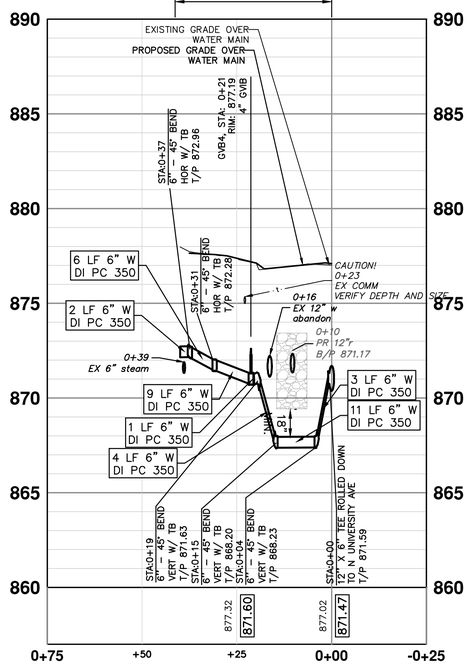
RESTRAINED JOINTS
FROM STA 0+00 TO 0+28



HYDRANT 2

6" DI PC 350 W/ POLYETHYLENE WRAP
UTILITY TRENCH DETAIL – TYPE 1

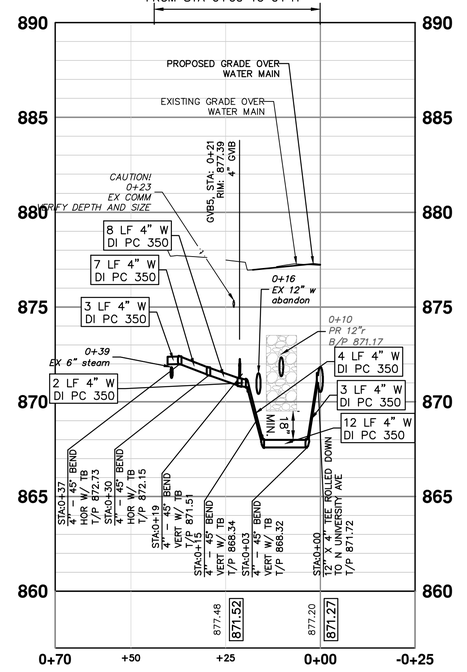
RESTRAINED JOINTS
FROM STA 0+00 TO 0+40



830 N UNIVERSITY AVENUE FIRE
WATER SERVICE

4" DI PC 350 W/ POLYETHYLENE WRAP
UTILITY TRENCH DETAIL – TYPE 1

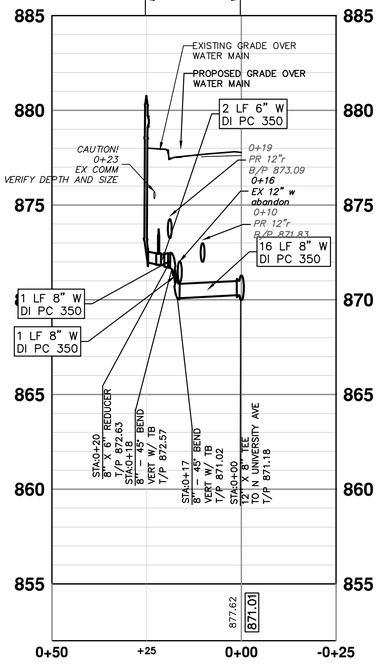
RESTRAINED JOINTS
FROM STA 0+00 TO 0+41



830 N UNIVERSITY AVENUE DOMESTIC
WATER SERVICE

8" DI PC 350 W/ POLYETHYLENE WRAP
UTILITY TRENCH DETAIL – TYPE 1

RESTRAINED JOINTS
FROM STA 0+00 TO 0+28



HYDRANT 3

WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	RIM	T/P
GVB4	4" GVIB	0+21	877.19	6.13
GVB5	4" GVIB	0+21	877.39	6.42

WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	FG	DEPTH
H2	HYD	0+27	877.30	5.00
H3	HYD	0+25	878.01	5.00

*EXACT DEPTH OF CROSSING SANITARY LEADS IS UNKNOWN. CONTRACTOR TO FIELD VERIFY LEADS AND MAINTAIN CLEARANCE AS APPROVED BY CITY ENGINEER. (TYP)

THE DEPTH AND SIZE OF ELECTRICAL, TELEPHONE AND FIBER OPTIC CONDUITS/DUCTS AND THE DEPTH OF GAS MAINS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY, SUPPORT AND PROTECT DURING CONSTRUCTION AND ADJUST WATER MAIN WHERE NECESSARY TO MAINTAIN 12–INCHES VERTICAL CLEARANCE FROM ALL UTILITIES (EXCEPT SANITARY AND STORM SEWER WHERE 18–INCHES IS REQUIRED). THIS WORK IS PAID FOR UNDER ASSOCIATED WATERMAIN PAY ITEMS

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
06				
05	ADDENDUM #3	02/13/2026	VARIOUS	MHM
04	ADDENDUM #2	02/11/2026	VARIOUS	MHM
03	BID	01/26/2026	VARIOUS	MHM
02	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
01	90% SUBMITTAL	11/14/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

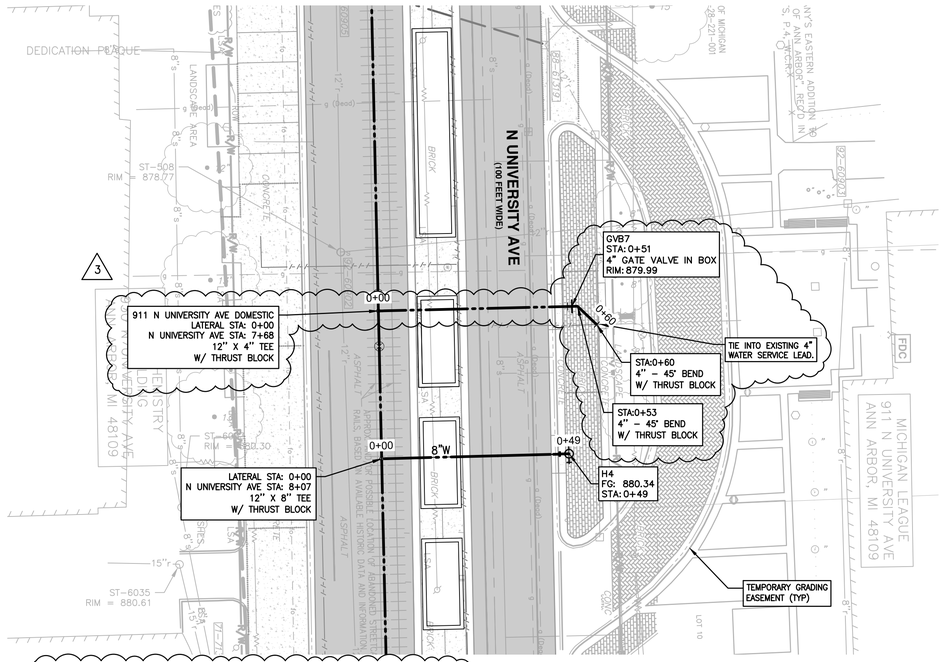
N. UNIVERSITY & THAYER IMPROVEMENTS

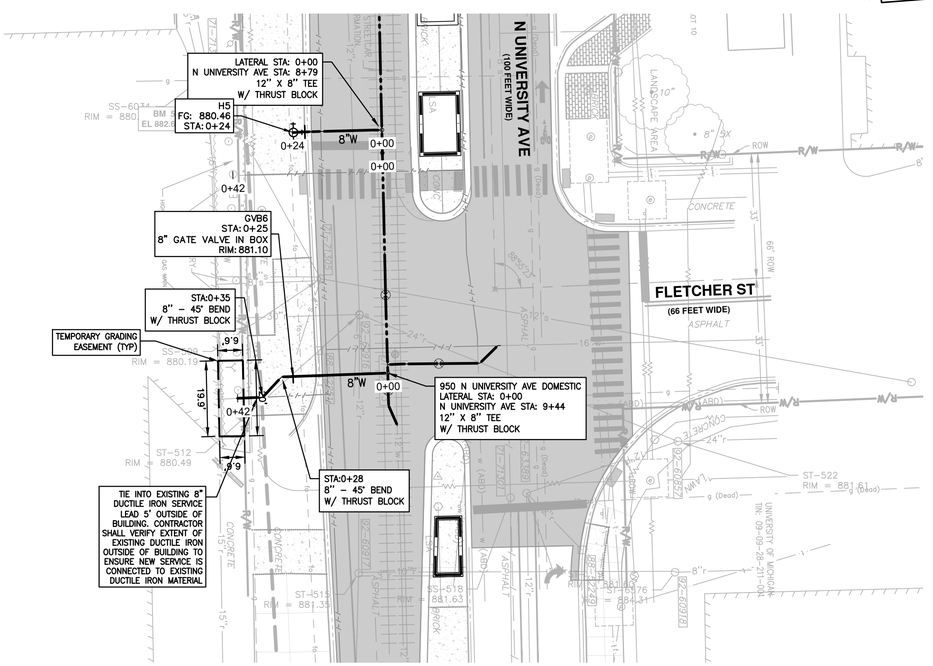
PROPOSED WATER MAIN LATERALS - NORTH UNIVERSITY

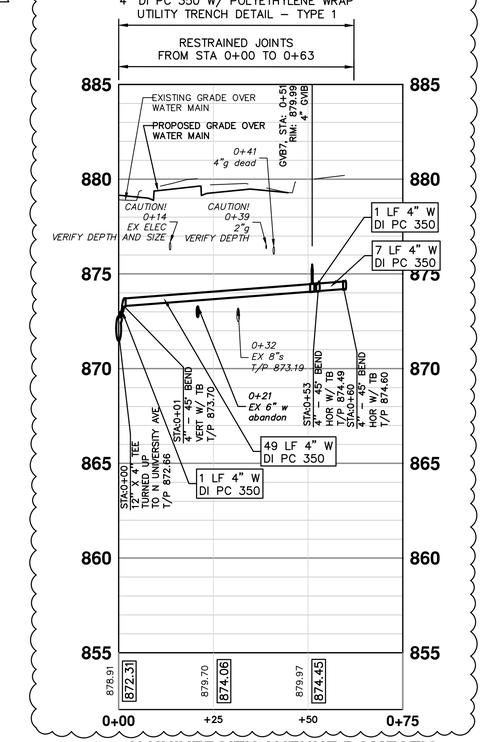
SCALE : 1"=20' VERTICAL 1"=4'

DRAWING No. 2023-023-35

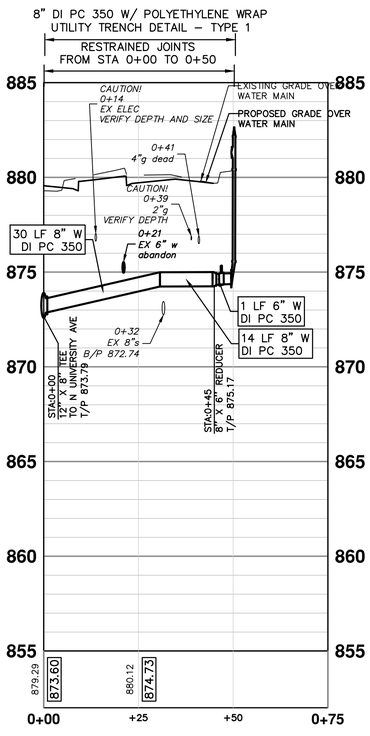
SHEET No. 35 OF 80



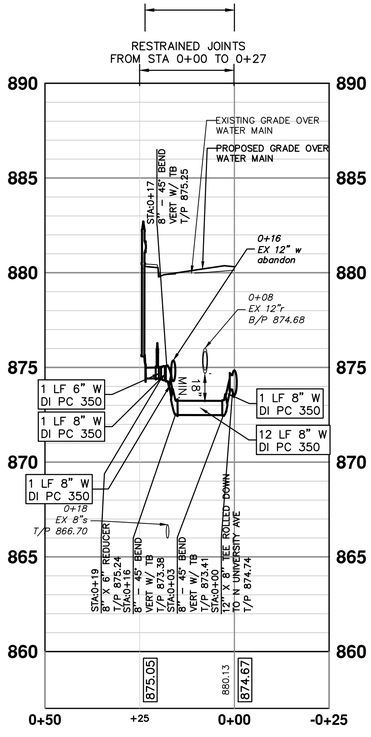




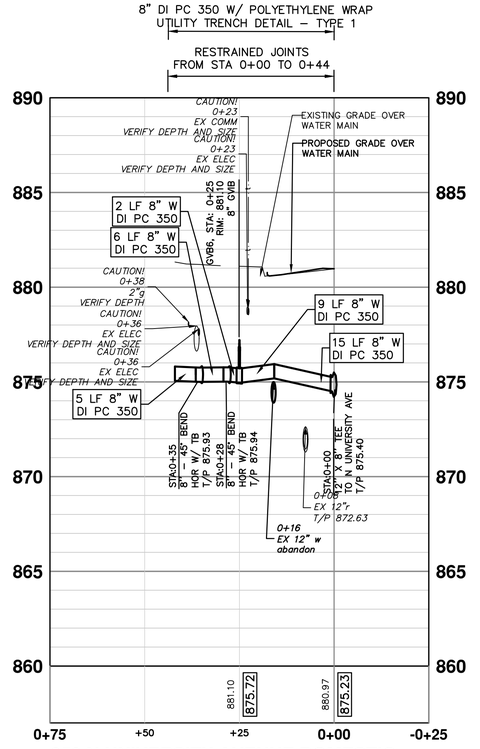
911 N UNIVERSITY AVENUE DOMESTIC WATER SERVICE



HYDRANT 4



HYDRANT 5



950 N UNIVERSITY AVENUE DOMESTIC WATER SERVICE

WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	RIM	T/P
GVB6	4" GVB	0+25	881.10	5.79
GVB7	4" GVB	0+51	879.99	5.44

WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	FG	DEPTH
H4	HYD	0+49	880.34	5.00
H5	HYD	0+24	880.46	5.00

*EXACT DEPTH OF CROSSING SANITARY LEADS IS UNKNOWN. CONTRACTOR TO FIELD VERIFY LEADS AND MAINTAIN CLEARANCE AS APPROVED BY CITY ENGINEER. (TYP)

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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
06	ADDENDUM #3	02/13/2026	VARIOUS	MHM
05	ADDENDUM #2	02/11/2026	VARIOUS	MHM
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

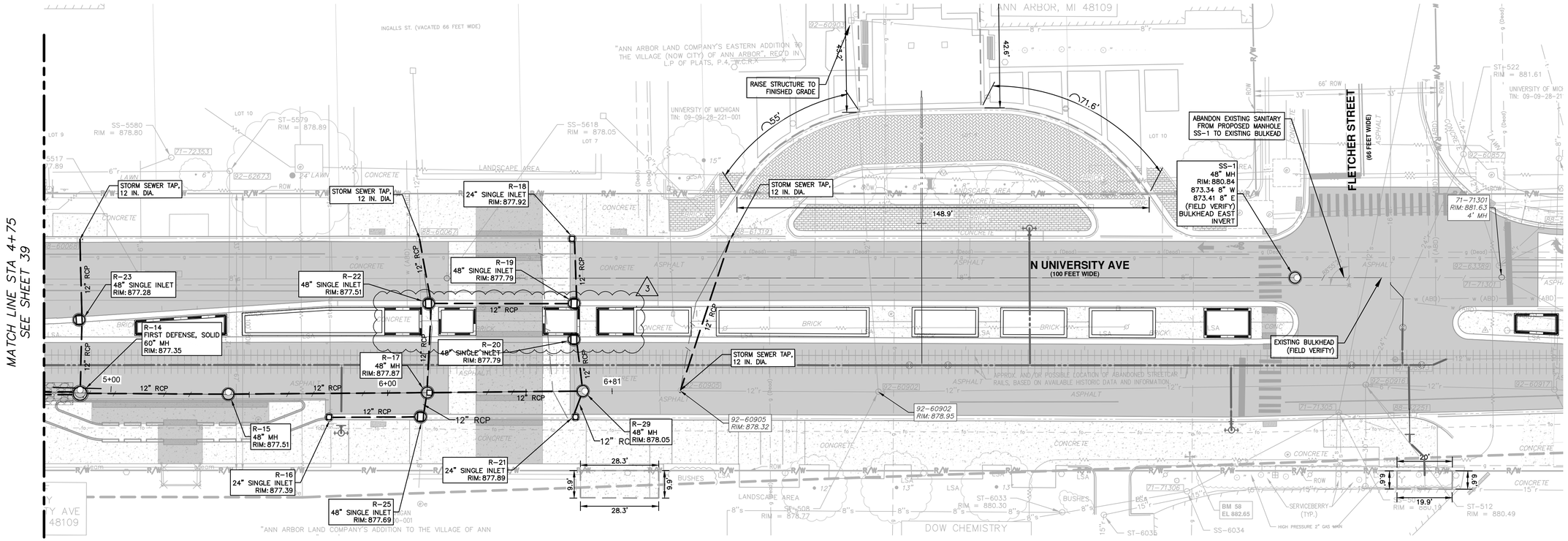
N. UNIVERSITY & THAYER IMPROVEMENTS

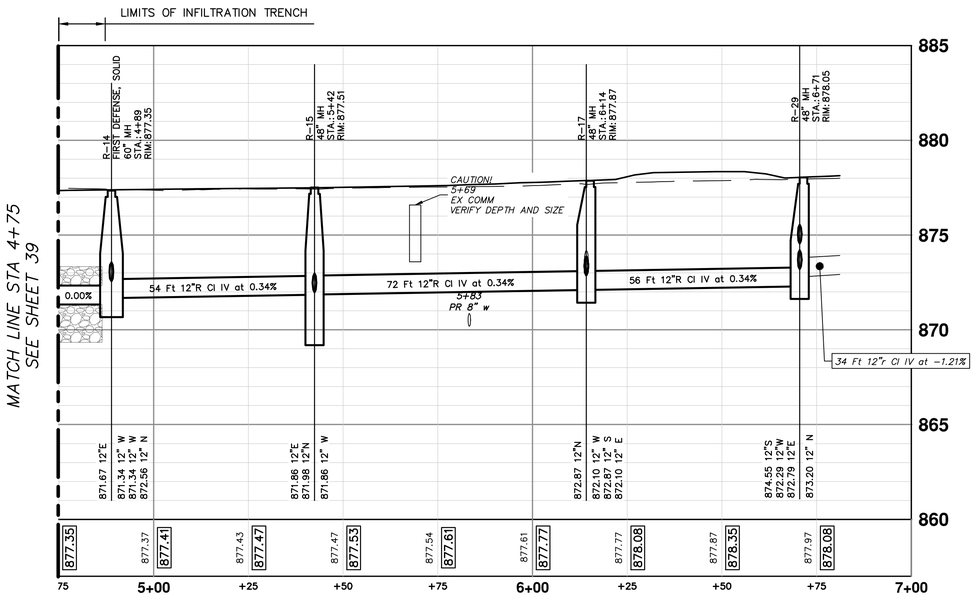
PROPOSED WATER MAIN LATERALS - NORTH UNIVERSITY

SCALE : 1"=20' VERTICAL 1"=4'

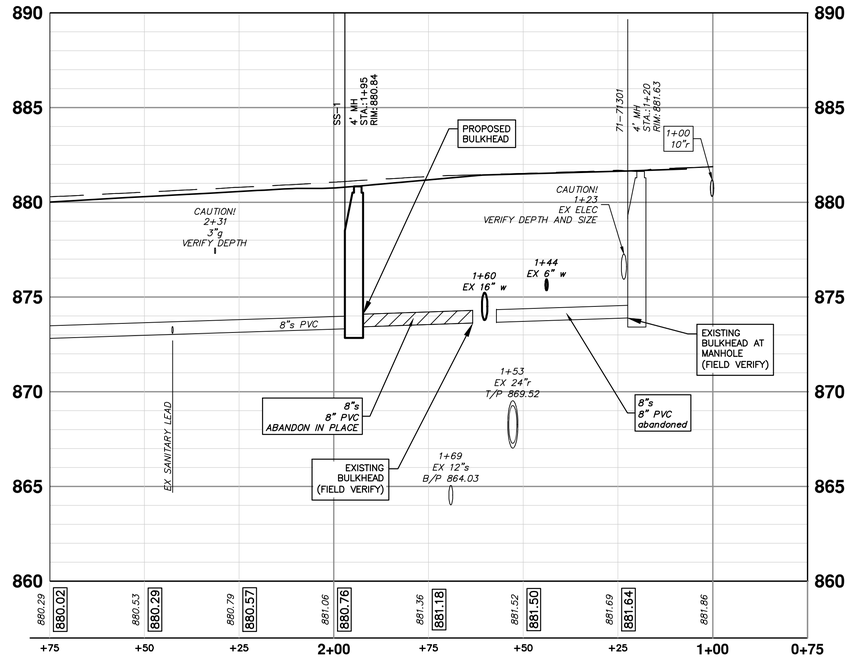
DRAWING No. 2023-023-36

SHEET No. 36 OF 80





STORM SEWER PROFILE: R-14, R-15, R-17, R-24



SANITARY SEWER PROFILE: SS-1

811 Know what's below. Call before you dig.

NO.	DESCRIPTION	DATE	DRAWN	CHECKED
06	ADDENDUM #3	02/13/2026	VARIOUS	MHM
05	ADDENDUM #2	02/11/2026	VARIOUS	MHM
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

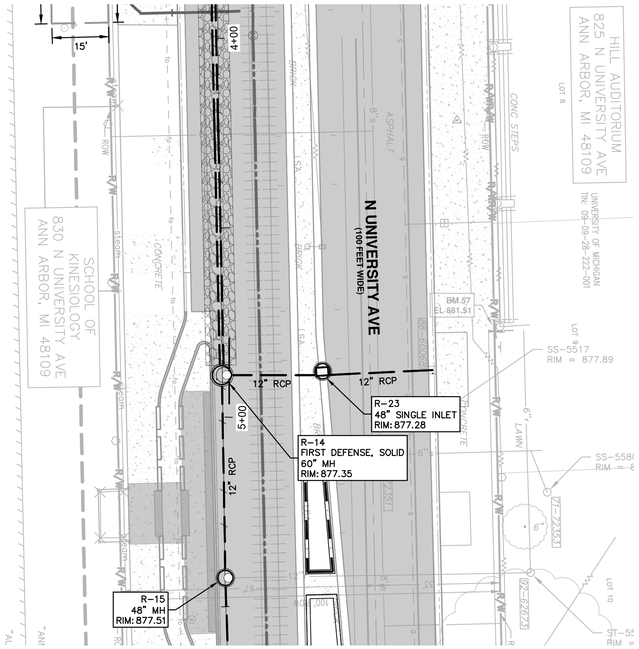
N. UNIVERSITY & THAYER IMPROVEMENTS

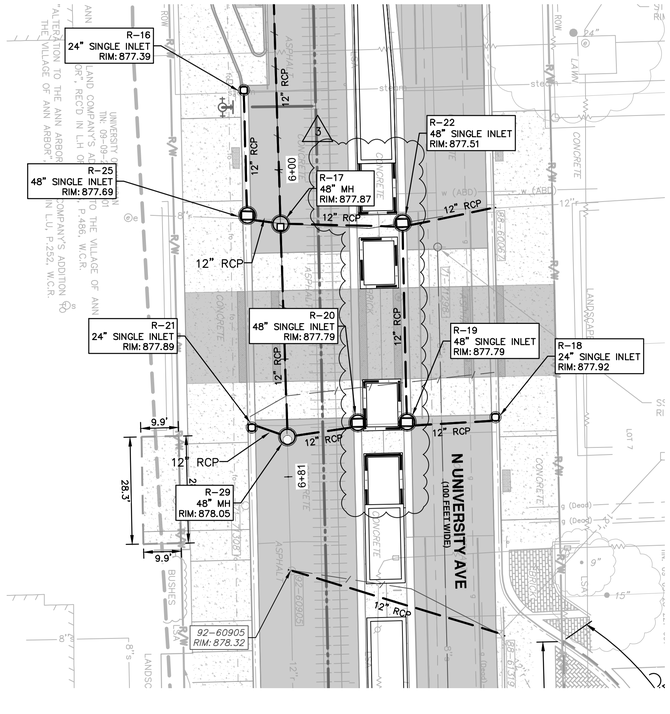
PROPOSED STORM - NORTH UNIVERSITY STA 4+75 TO STA 6+14

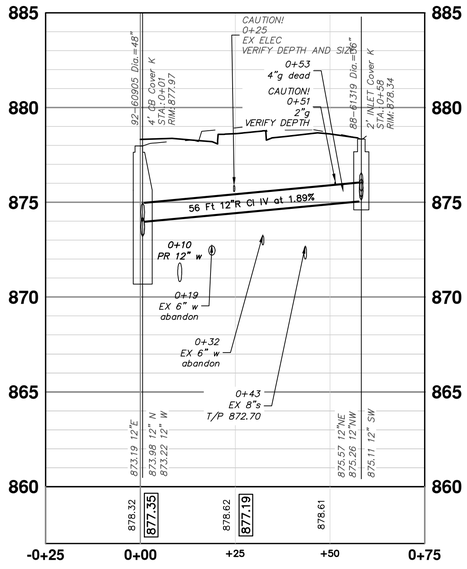
SCALE : 1"=20'

DRAWING No. 2023-023-40

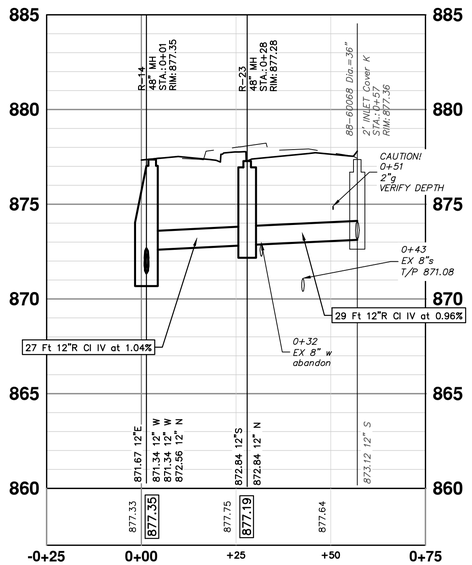
SHEET No. 40 OF 80



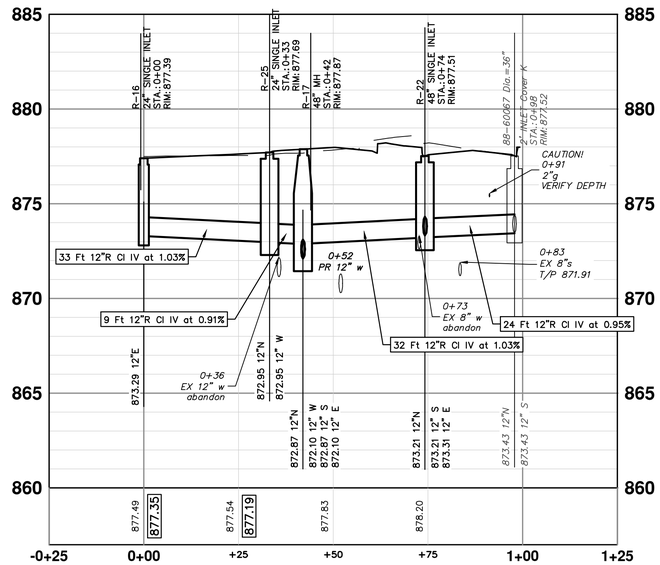




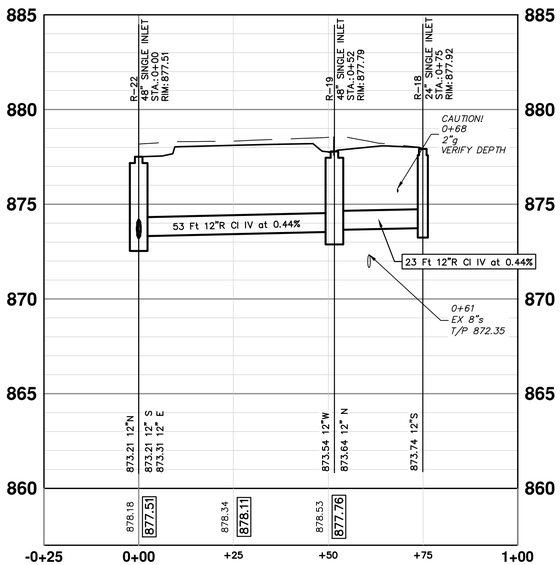
STORM SEWER PROFILE: 92-60905, 88-61319



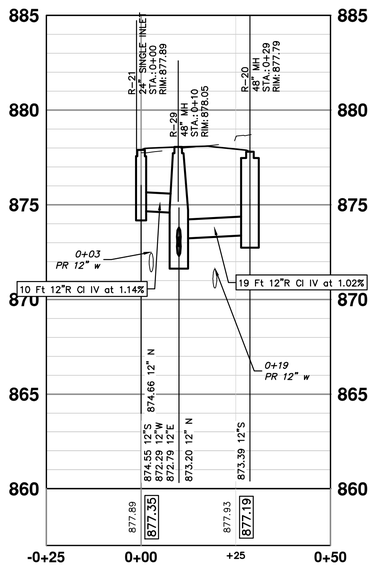
STORM SEWER PROFILE: R-14, R-23



STORM SEWER PROFILE: R-16, R-17, R-22, R-25



STORM SEWER PROFILE: R-19, R-18, R-22



STORM SEWER PROFILE: R-20, R-21, R-29

NO.	DESCRIPTION	DATE	DRAWN	CHECKED
06	ADDENDUM #3	02/13/2026	VARIOUS	MHM
05	ADDENDUM #2	02/11/2026	VARIOUS	MHM
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

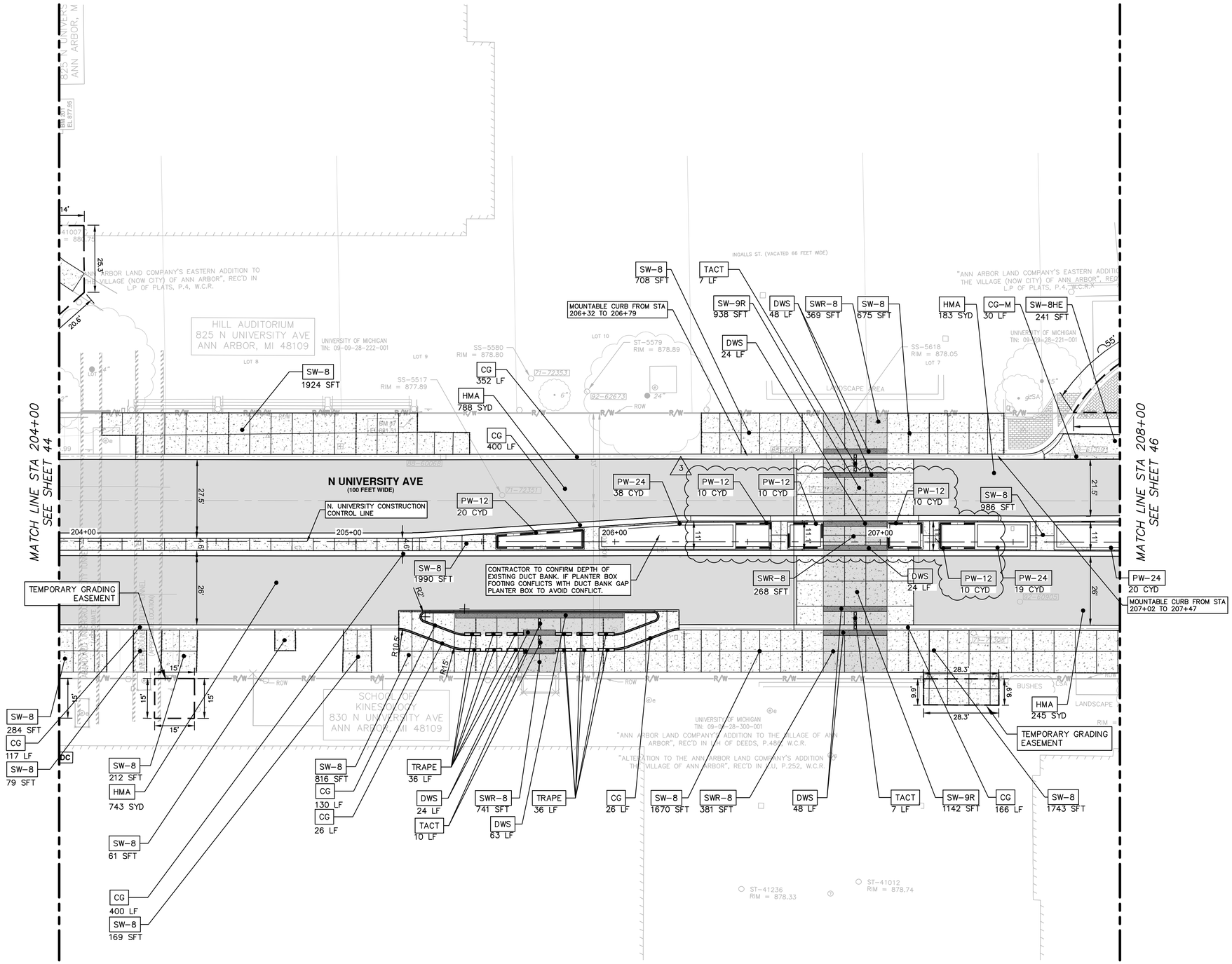
N. UNIVERSITY & THAYER IMPROVEMENTS

PROPOSED STORM - NORTH UNIVERSITY

SCALE : 1"=20'

DRAWING No. 2023-023-42

SHEET No. 42 OF 80



LEGEND

- PROPOSED CONCRETE RAMP/LEVEL LANDING
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PAVEMENT LIMITS
- MULCH
- PROPOSED GRADING EASEMENT
- CONTROL JOINT
- EXPANSION JOINT

CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONC, CURB OR CURB & GUTTER, ALL TYPES
DWS	DETECTABLE WARNING SURFACE
C-P	DS_PLANTER CURB
CG-M	CONC, DRIVEWAY OPENING, TYPE M. PAID FOR AS CONC, CURB, CURB & GUTTER, ALL TYPES
SW-8	DS_CONC, SIDEWALK, FIBERMESH, 8 IN.
SWR-8	DS_CONC, SIDEWALK RAMP, FIBERMESH, 8 IN.
SW-9R	DS_CONC, SIDEWALK, FIBERMESH, 9 IN., RAISED
TRAPE	DS_TRAPEZOID DELINEATOR, ANY SIZE
MULCH	DS_PLANTING SOIL AND MULCH
TREE	TREE, MEDIUM, B&B INSTALL CERCIS CANADENSIS (EASTERN REDBUD) 2" CALIPER, MULTI-STEM
BIKE	BIKE HOOP, CORED
TACT	DS_TACTILE DIRECTIONAL INDICATOR
PW-12	DS_PLANTER WALL, 12 IN
PW-24	DS_PLANTER WALL, 24 IN
SW-8HE	CONC, SIDEWALK, DRIVE APPROACH, OR RAMP, 8 IN., HIGH EARLY

NOTE:
- TURF ESTABLISHMENT, PERFORMANCE SHALL BE INSTALLED IN DISTURBED LAWN AREAS AS NECESSARY.

811 Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
06	ADDENDUM #3	02/13/2026	VARIOUS	MHM
05	ADDENDUM #2	02/11/2026	VARIOUS	MHM
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

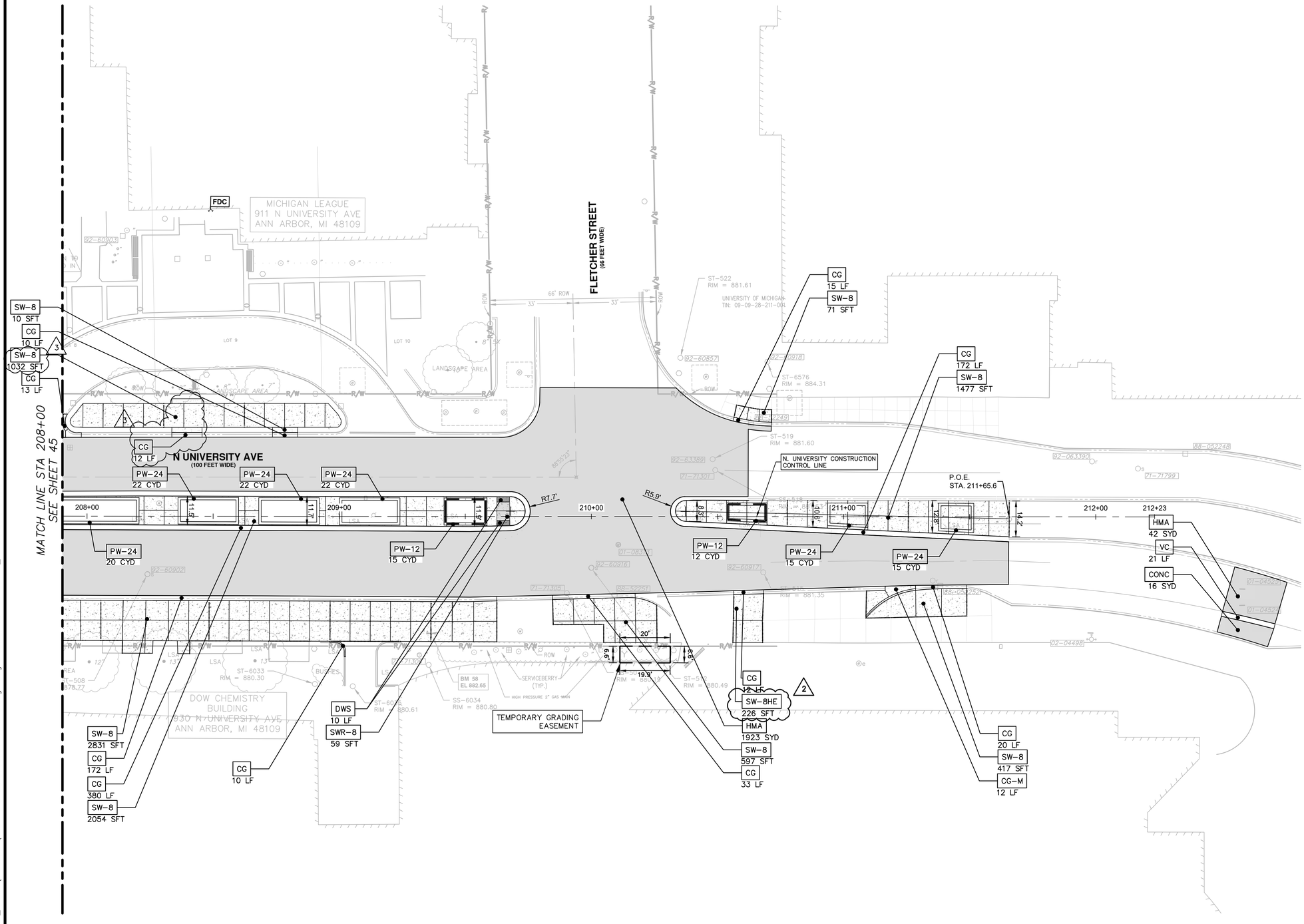
N. UNIVERSITY & THAYER IMPROVEMENTS

CONSTRUCTION PLAN - NORTH UNIVERSITY

SCALE : 1"=20'

DRAWING No. 2023-023-45

SHEET No. 45 OF 80



NOTE:
- TURF ESTABLISHMENT, PERFORMANCE SHALL BE INSTALLED IN DISTURBED LAWN AREAS AS NECESSARY.

LEGEND

- PROPOSED CONCRETE RAMP/LEVEL LANDING
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PAVEMENT LIMITS
- MULCH
- PROPOSED GRADING EASEMENT
- CONTROL JOINT
- EXPANSION JOINT

CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONC, CURB OR CURB & GUTTER, ALL TYPES
DWS	DETECTABLE WARNING SURFACE
C–P	DS_PLANTER CURB
CG–M	CONC, DRIVEWAY OPENING, TYPE M. PAID FOR AS CONC, CURB, CURB & GUTTER, ALL TYPES
SW–8	DS_CONC, SIDEWALK, FIBERMESH, 8 IN.
SWR–8	DS_CONC, SIDEWALK RAMP, FIBERMESH, 8 IN.
SW–9R	DS_CONC, SIDEWALK, FIBERMESH, 9 IN., RAISED
TRAPE	DS_TRAPEZOID DELINEATOR, ANY SIZE
MULCH	DS_PLANTING SOIL AND MULCH
TREE	TREE, MEDIUM, B&B INSTALL CERCIS CANADENSIS (EASTERN REDBUD) 2" CALIPER, MULTI–STEM
BIKE	BIKE HOOP, CORED
TACT	DS_TACTILE DIRECTIONAL INDICATOR
PAVER	BRICK PAVERS, SIDEWALK, REM AND REINSTALL
CONC	CONC PAVT, NON–REINF, 8 IN.
PW–12	DS_PLANTER WALL, 12 IN
PW–24	DS_PLANTER WALL, 24 IN
VC	VALLEY CURB (TO BE PAID FOR AS CONC, CURB OR CURB & GUTTER, ALL TYPES)
SW–8HE	CONC, SIDEWALK, DRIVE APPROACH, OR RAMP, 8 IN., HIGH EARLY

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
06	ADDENDUM #3	02/13/2026	VARIOUS	MHM
05	ADDENDUM #2	02/11/2026	VARIOUS	MHM
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

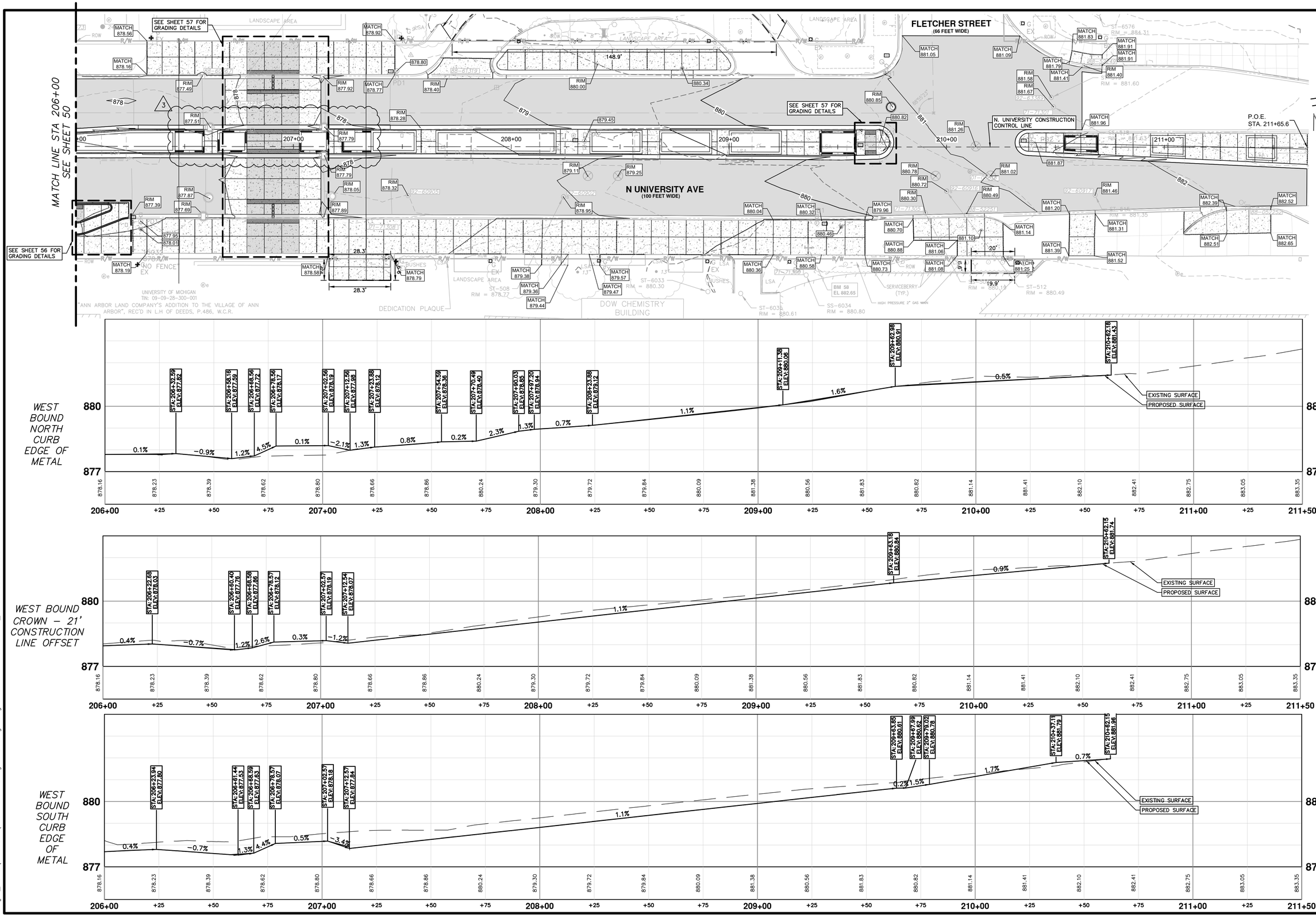
N. UNIVERSITY & THAYER IMPROVEMENTS

CONSTRUCTION PLAN - NORTH UNIVERSITY

SCALE : 1"=20'

DRAWING No. 2023-023-46

SHEET No. 46 OF 80



Know what's below. Call before you dig. 811

CHECKED	DRAWN	DATE	DESCRIPTION	REV.
MHM	VARIOUS	02/13/2026	ADDENDUM #3	06
MHM	VARIOUS	02/11/2026	ADDENDUM #2	05
MHM	VARIOUS	01/26/2026	BID	04
MHM	VARIOUS	01/05/2026	100% SUBMITTAL	03
MHM	VARIOUS	11/14/2025	90% SUBMITTAL	02

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

PAVING PLAN - NORTH UNIVERSITY STA 206+00 TO STA 211+65.6

SCALE : 1"=20'

DRAWING No. 2023-023-52

SHEET No. 52 OF 80

MATCH LINE STA 206+00
SEE SHEET 50

SEE SHEET 57 FOR GRADING DETAILS

SEE SHEET 56 FOR GRADING DETAILS

FLETCHER STREET
(66 FEET WIDE)

N UNIVERSITY AVE
(100 FEET WIDE)

N. UNIVERSITY CONSTRUCTION CONTROL LINE

P.O.E.
STA. 211+65.6

206+00 207+00 208+00 209+00 210+00 211+00

28.3'

19.9'

20'

UNIVERSITY OF MICHIGAN
TIN: 09-09-28-300-001

ANN ARBOR LAND COMPANY'S ADDITION TO THE VILLAGE OF ANN

DEDICATION PLAQUE

DOW CHEMISTRY

SERVICEBERRY (TYP.)

HIGH PRESSURE 2" GAS MAIN

BM 58
EL 882.65

EAST BOUND NORTH CURB EDGE OF METAL

STA:208+51.18 ELEV:877.70
STA:206+88.59 ELEV:877.82
STA:206+78.54 ELEV:878.22
STA:207+02.54 ELEV:878.4
STA:207+12.64 ELEV:877.86
STA:207+76.33
STA:209+52.03 ELEV:880.17
STA:210+36.03 ELEV:881.48
STA:211+38.37 ELEV:882.41

0.4% 0.7% 4.0% 0.1% -3.8% 0.7% 1.0% 1.5% 0.9%

EXISTING SURFACE
PROPOSED SURFACE

EAST BOUND CROWN – 16' CONSTRUCTION LINE OFFSET

STA:208+51.25 ELEV:877.90
STA:206+88.59 ELEV:878.02
STA:206+78.59 ELEV:878.26
STA:207+02.59 ELEV:878.38
STA:207+12.62 ELEV:878.06
STA:207+76.29 ELEV:878.53
STA:210+36.46 ELEV:881.20
STA:211+25.89 ELEV:882.17
STA:211+38.2 ELEV:882.25

0.4% 0.7% 2.4% 0.2% -2.4% 0.7% 1.0% 1.1% 0.6%

EXISTING SURFACE
PROPOSED SURFACE

EAST BOUND SOUTH CURB EDGE OF METAL

STA:208+17.17 ELEV:877.61
STA:208+17.52 ELEV:877.45
STA:206+88.59 ELEV:877.85
STA:206+78.59 ELEV:878.53
STA:207+02.59 ELEV:878.40
STA:207+12.59 ELEV:877.96
STA:209+68.62 ELEV:880.02
STA:210+08.12 ELEV:880.49
STA:210+51.13 ELEV:881.14
STA:210+85.05 ELEV:881.29
STA:210+91.57 ELEV:881.54
STA:211+28.18 ELEV:881.95
STA:211+38.48 ELEV:882.04

PROPOSED BUS PLATFORM

-3.1% 0.8% 4.8% 0.3% -4.4% 0.8% 0.8% 1.1% 1.5% 1.1% 1.0% 1.2% 0.7%

EXISTING SURFACE
PROPOSED SURFACE

880
877

878.16 878.23 878.39 878.62 878.80 878.66 878.86 880.24 879.30 879.72 879.84 880.09 881.38 880.56 881.83 880.82 881.14 881.41 882.10 882.41 882.75 883.05 883.35

206+00 +25 +50 +75 207+00 +25 +50 +75 208+00 +25 +50 +75 209+00 +25 +50 +75 210+00 +25 +50 +75 211+00 +25 211+50

NO.	DESCRIPTION	DATE	DRAWN	CHECKED
06	ADDENDUM #3	02/13/2026	VARIOUS	MHM
05	ADDENDUM #2	02/11/2026	VARIOUS	MHM
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

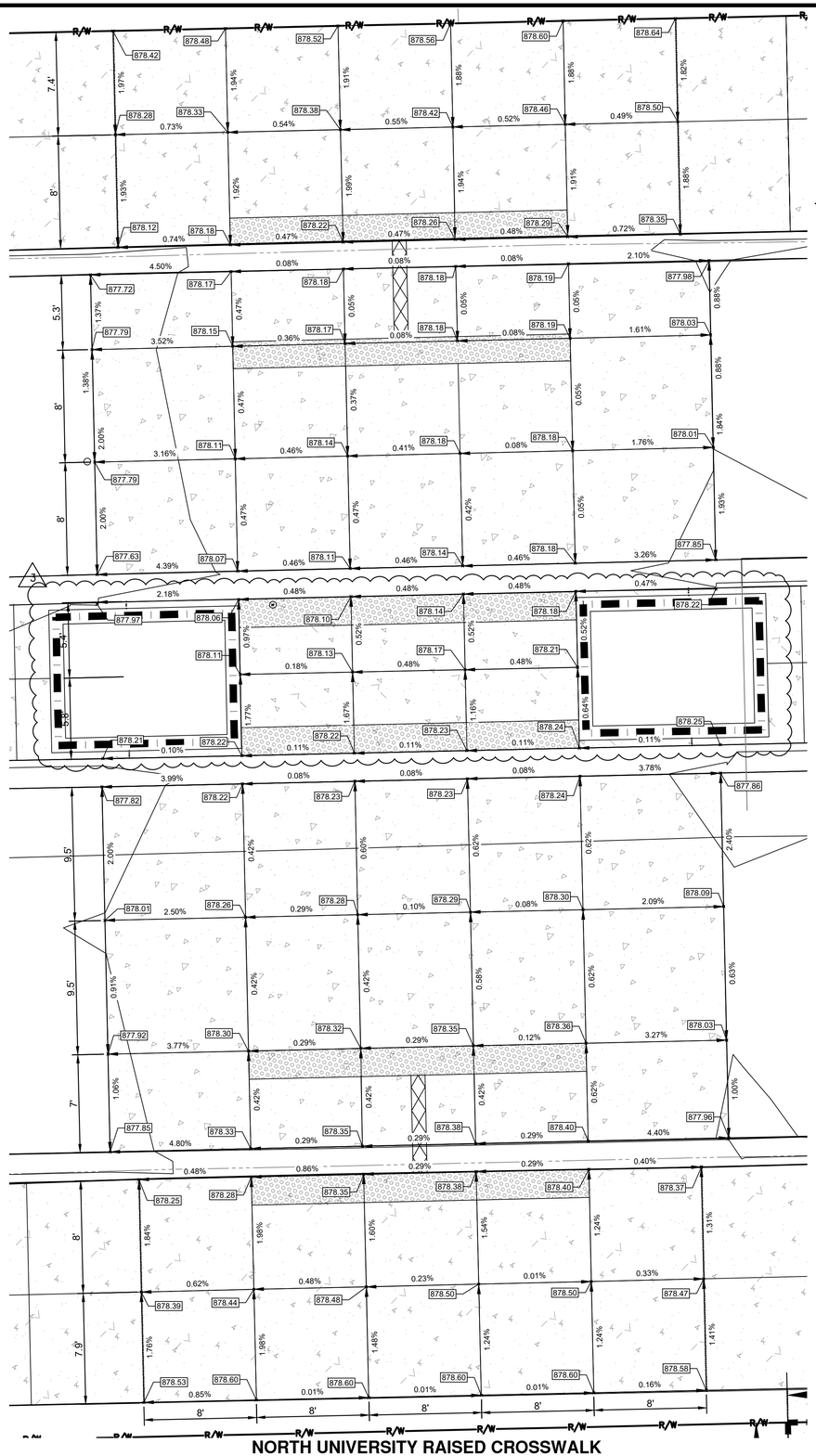
N. UNIVERSITY & THAYER IMPROVEMENTS

PAVING PLAN - NORTH UNIVERSITY STA 206+00 TO STA 211+65.6

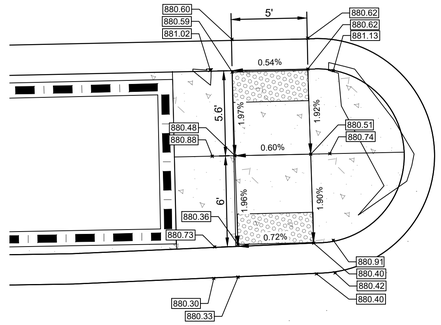
SCALE : 1"=20'

DRAWING No.
2023-023-53

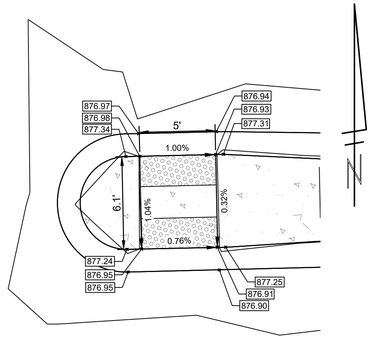
SHEET No.
53 OF 80

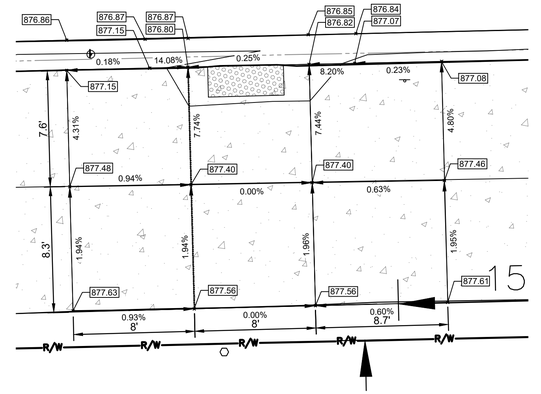


NORTH UNIVERSITY RAISED CROSSWALK



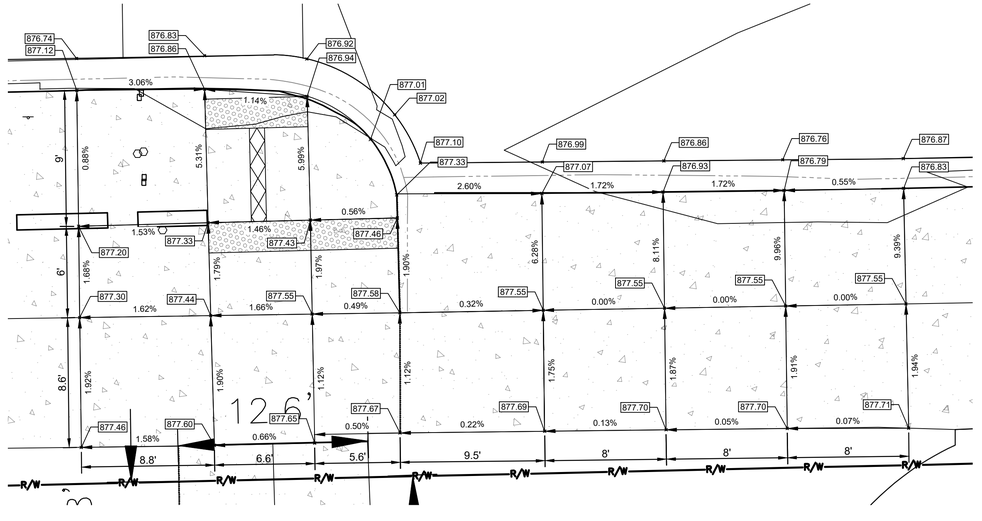
NORTH UNIVERSITY AND FLETCHER INTERSECTION - MEDIAN RAMP





THAYER AND NORTH UNIVERSITY INTERSECTION - SOUTHEAST RAMP

THAYER AND NORTH UNIVERSITY INTERSECTION - MEDIAN RAMP



THAYER AND NORTH UNIVERSITY INTERSECTION - SOUTHWEST RAMP

NO.	DESCRIPTION	DATE	DRAWN	CHECKED
06	ADDENDUM #3	02/13/2026	VARIOUS	MHM
05	ADDENDUM #2	02/11/2026	VARIOUS	MHM
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

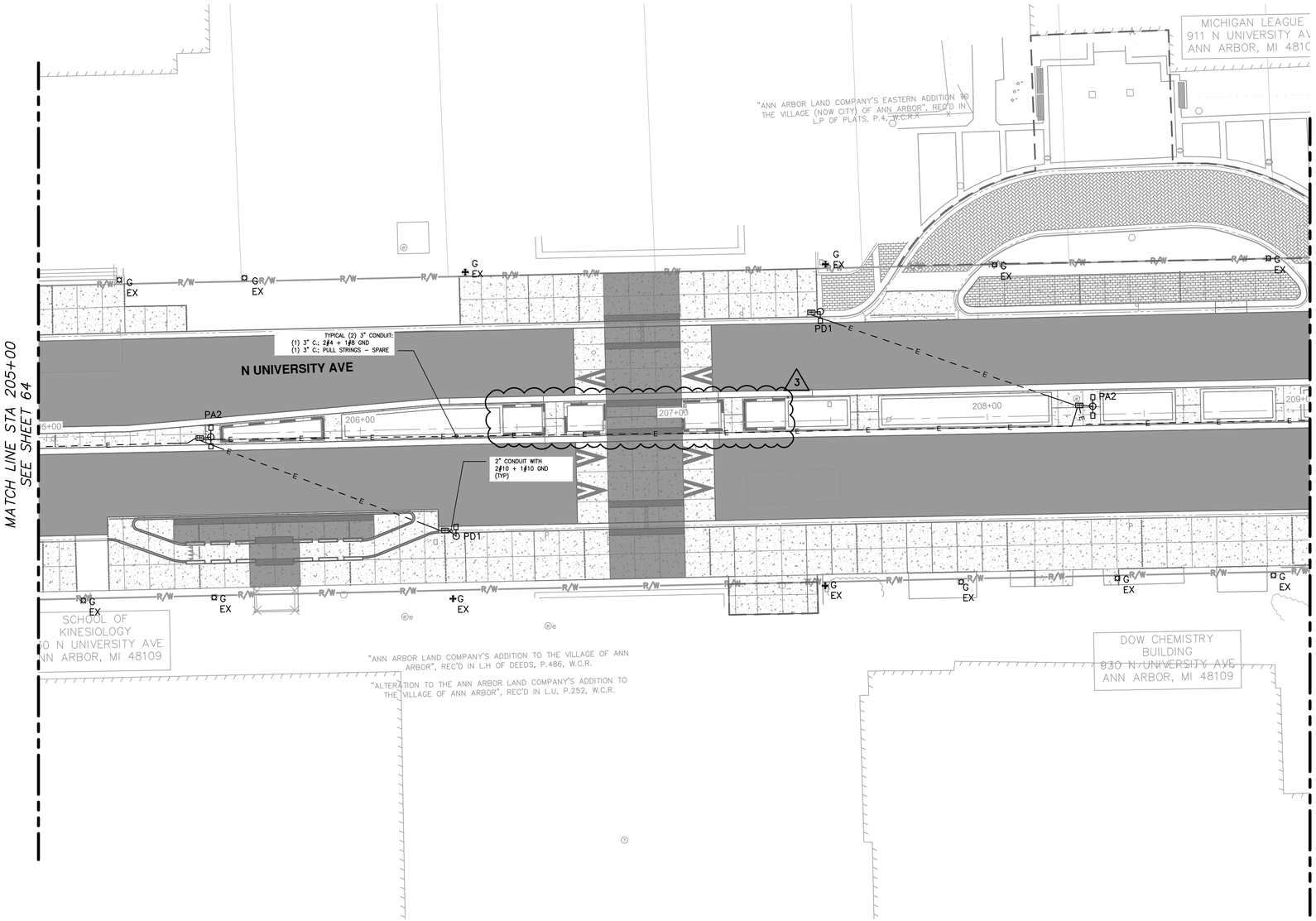
SCALE PLAN: #####

N. UNIVERSITY & THAYER IMPROVEMENTS

DETAILED GRADING

DRAWING No. 2023-023-57

SHEET No. 57 OF 80



LEGEND

G EX	EXISTING PEDESTRIAN LIGHT
PA, PB, PC, PD	ROADWAY LIGHT – POLE–MOUNTED, CITY OWN
HH	HANDHOLE
E	UNDERGROUND CONDUIT

GENERAL NOTES:

1. REFER TO CITY'S CONSTRUCTION SPECIFICATIONS "IV STREETLIGHTS AND SIGNALS" FOR STANDARDS.
2. REFER TO SHEETS 67 AND 68 FOR LIGHTING SCHEDULE AND DETAILS.
3. ALL ELECTRICAL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ANY LOCAL AMENDMENTS.
4. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACQUISITION OF AN ELECTRICAL PERMIT AND SCHEDULING OF THE NECESSARY INSPECTIONS.
6. FURNISH ALL NECESSARY ELECTRICAL COMPONENTS TO ENSURE A FULLY FUNCTIONAL SYSTEM.
7. CONDUIT IN MEDIAN TO BE PLACED 4 FEET DEEP FROM TOP OF PROPOSED ROAD SURFACE OR AS DIRECTED BY THE ENGINEER.

QUANTITIES

4	EA	FOUNDATION, LIGHT POLE
2	EA	LIGHT POLE, 30' STANDARD
2	EA	LIGHT POLE, 30' STANDARD, 2 LUMINAIRES
4	EA	HANDHOLE ASSEMBLY, 17 IN. X 30 IN. X 18 IN
16	FT	CONDUIT, SCHEDULE 80 PVC, 2 IN
581	FT	CONDUIT, SCHEDULE 80 PVC, 3 IN., QTY 2
1162	FT	CONDUCTORS, NO. 4AWG
581	FT	CONDUCTORS, NO. 8AWG
48	FT	CONDUCTORS, NO. 10AWG

Know what's below. Call before you dig. 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
06	ADDENDUM #3	02/13/2026	VARIOUS	MHM
05	ADDENDUM #2	02/11/2026	VARIOUS	MHM
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

LIGHTING PLAN - NORTH UNIVERSITY

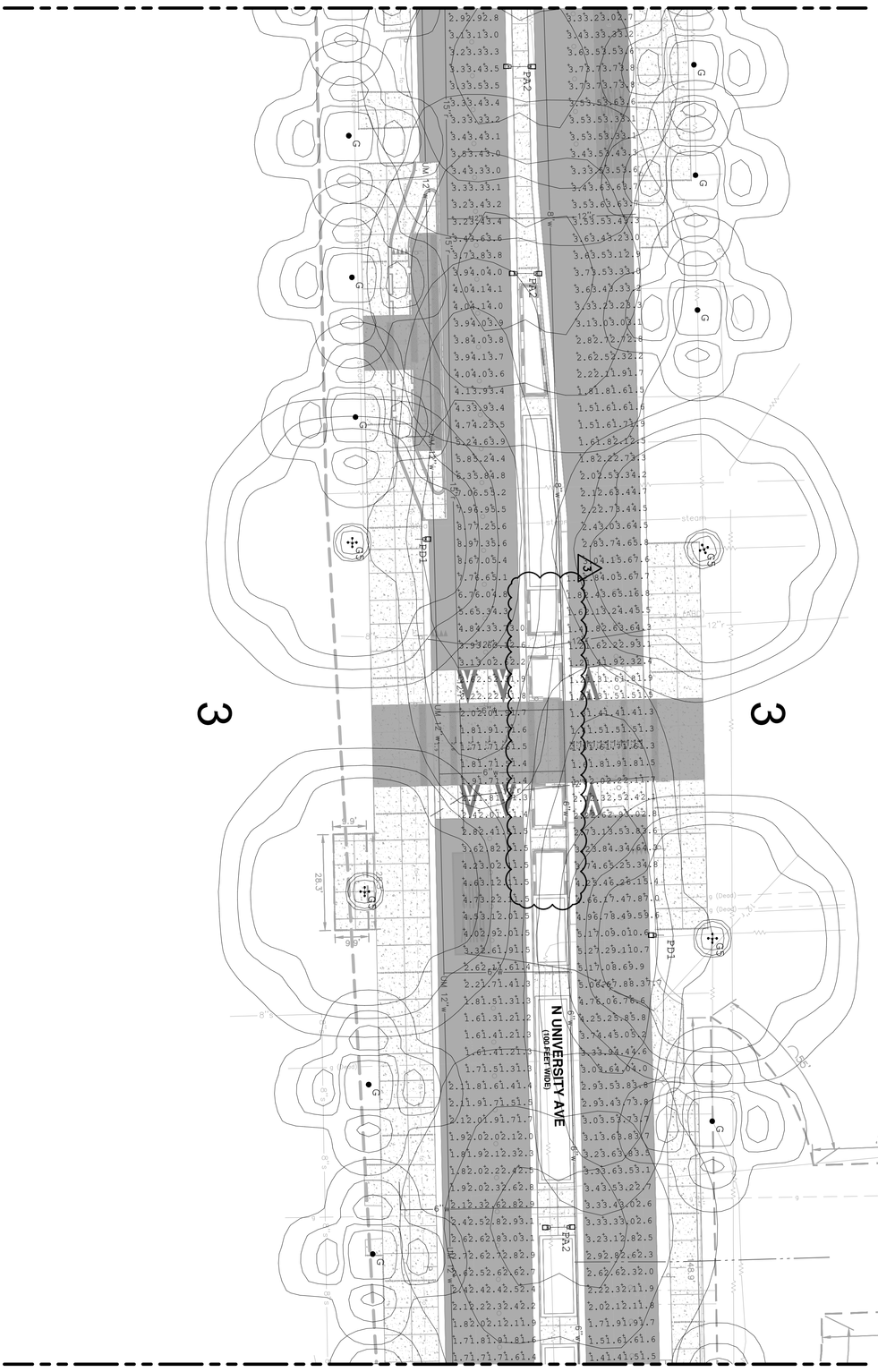
SCALE : 1"=20'

DRAWING No.
2023-023-65

SHEET No.
65 OF 80

C:\pw_work2\d1133981\ELP-PLTS-Lighting Plan N UNIVERSITY Lighting Plans.dwg Dwg Created: 11-Feb-26 - _a2 standard bw.stb - Plot Date: 12-Feb-26

MATCH LINE SEE SHEET 70



MATCH LINE SEE SHEET 72

SHEET No. 71 OF 80

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE : 1"=20'

DRAWING No. 2023-023-71

N. UNIVERSITY & THAYER IMPROVEMENTS

LIGHTING PLAN PHOTOMETRICS - NORTH UNIVERSITY

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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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05	ADDENDUM #2	02/11/2026	VARIOUS	MHM
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM

SHEET NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR INDEPENDENTLY VERIFYING PLANT MATERIAL QUANTITIES. ANY DISCREPANCIES BETWEEN THE PLAN AND PLANT LIST SHALL BE REPORTED TO THE LANDSCAPE ARCHITECT PRIOR TO THE PRE-BID MEETING.
2. CONTRACTOR MUST SUBMIT A PROJECT LOGISTICS PLAN WHICH INDICATES ACCESS AND ALL AREAS OF EXISTING WORK TO BE DISTURBED, FOR APPROVAL BY LANDSCAPE ARCHITECT / ENGINEER.
3. THE LAYOUT OF ALL PLANTING BEDS AND INDIVIDUAL TREES SHALL BE MARKED BY THE CONTRACTOR AND APPROVED BY THE LANDSCAPE ARCHITECT / ENGINEER IN ADVANCE OF INSTALLATION. FLAGGING OR PAINT MAY BE USED TO DELINEATE LOCATIONS AS SCALED FROM THE PLANS. THE OWNER'S REPRESENTATIVE WILL REVIEW THESE LOCATIONS WITH THE CONTRACTOR AND MAKE MINOR ADJUSTMENTS AS NECESSARY. MARK THE EDGE ALIGNMENT OF ALL PLANTING BEDS AND HAVE THAT ALIGNMENT APPROVED BY LANDSCAPE ARCHITECT PRIOR TO MATERIAL INSTALLATION. MARK WITH COLOR CODED 12" LONG VINYL RIBBON OR SURVEYORS PAINT.
4. THE TREES ON PLAN ARE SHOWN IN APPROXIMATE LOCATIONS; LANDSCAPE ARCHITECT SHALL BE NOTIFIED 7 DAYS IN ADVANCE OF TREES BEING INSTALLED ONSITE TO FIELD LOCATE. CONTRACTOR SHALL BE PRESENT AND PROVIDE FLAGS/PAINT FOR PLAN FIELD ADJUSTMENTS.
5. CONTRACTOR MUST REPAIR ANY DISTURBED AREAS TO AS LIKE CONDITION AND TO OWNER'S SATISFACTION. IN AREAS OF WHICH PLANTING IS DISTURBED, CONTRACTOR MUST REPLACE PLANT AREA WITH PLANTING MATERIAL.
6. IF LANDSCAPE ARCHITECT DETERMINES PLANTING MIXTURE IS INSUFFICIENT TO MEET QUANTITY AND DEPTH REQUIREMENTS FOR PLANTING IN PLANTERS, IMPORT SUFFICIENT QUANTITY.
7. ALL PLANTING BEDS TO BE MULCHED PER SPECIFICATIONS.
8. LANDSCAPE ARCHITECT MUST BE PRESENT DURING TREE INSTALL TO ENSURE PROPER SOIL MIX, DEPTH, LOCATIONS. AS REQUIRED PER PROFFERS.
9. ESTIMATED TREE HEIGHTS AT MATURITY (OVER TIME 10+ YEARS; BASED ON SPECIES PERFORMANCE IN COMPARABLE INSTALLATIONS). ACTUAL MATURE HEIGHTS MAY VARY.
10. SEE CIVIL LAYOUT SHEETS FOR PLANTER WALL DIMENSIONING AND LAYOUT.

LEGEND

PLANTER WALL - 24" Ht.

PLANTER WALL - 12" Ht.

TRAFFIC SIGHT TRIANGLE

3

1. UPDATED PLANTER WALL EXTENTS AND ASSOCIATED PLANTINGS

811 Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
	BID SET	2026/01/23	DMS	OK
	ADDENDUM 3	2026/02/13	DMS	OK

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

NORTH UNIVERSITY AVE & THAYER ST IMPROVEMENTS

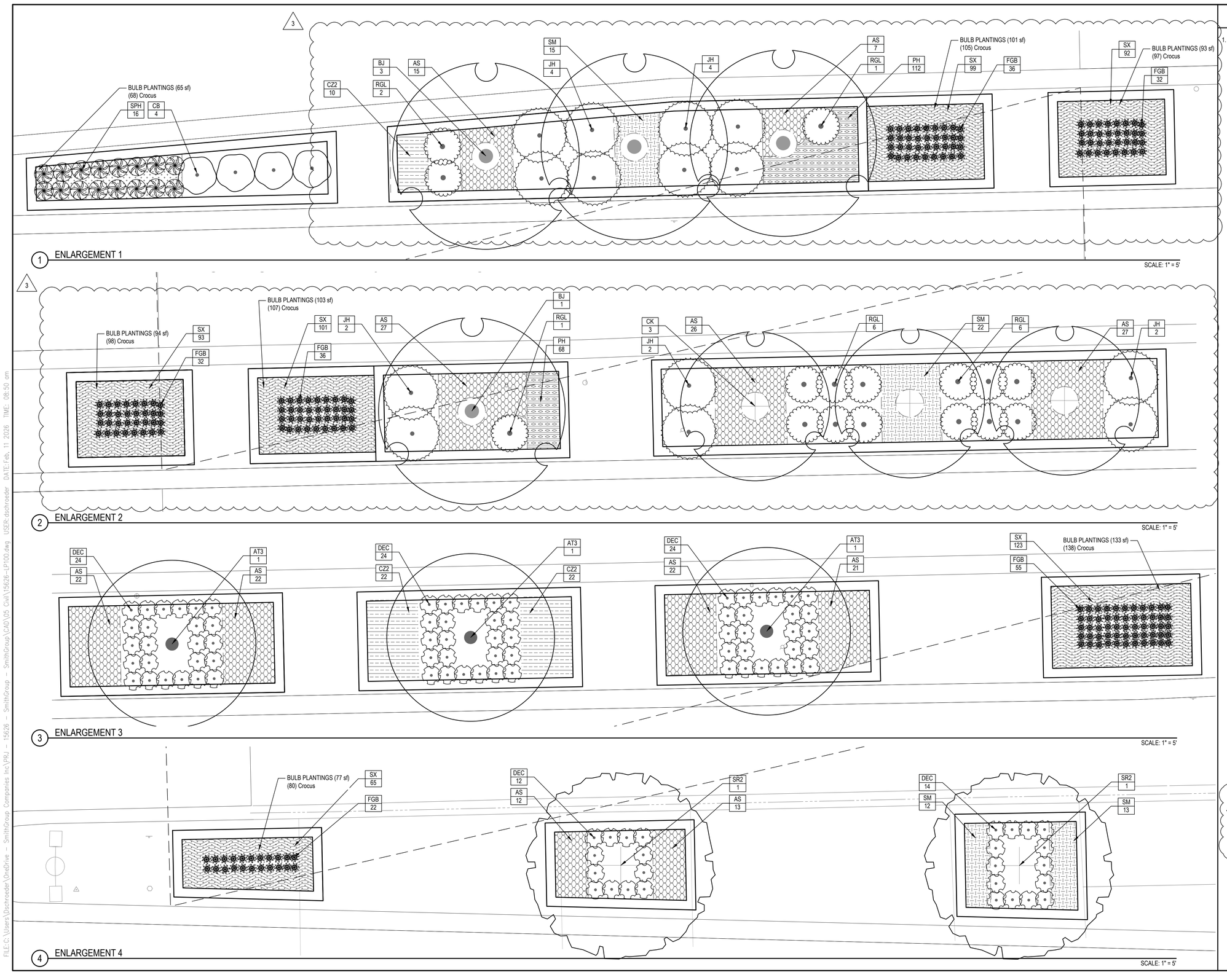
OVERALL LANDSCAPE PLAN

SCALE 1" = 20'

0' 10' 20' 40'

DRAWING No.

SHEET No. 81 of 83



SHEET NOTES

1. SEE SHEET LP500 - LANDSCAPE DETAILS FOR SCHEDULE OF PLANTINGS AND LANDSCAPE DETAILS

3

1. UPDATED PLANTER WALL EXTENTS AND ASSOCIATED PLANTINGS
2. REMOVED ANNUAL PLANTINGS AND UPDATED PLANTING SCHEDULE

Know what's **below.** **Call before you dig.** 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
	BID SET	2026/01/23	DMS	OK
	ADDENDUM 3	2026/02/13	DMS	OK

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

NORTH UNIVERSITY AVE & THAYER ST IMPROVEMENTS

LANDSCAPE PLAN ENLARGEMENT

SCALE 1" = 5'
0 2.5' 5' 10'

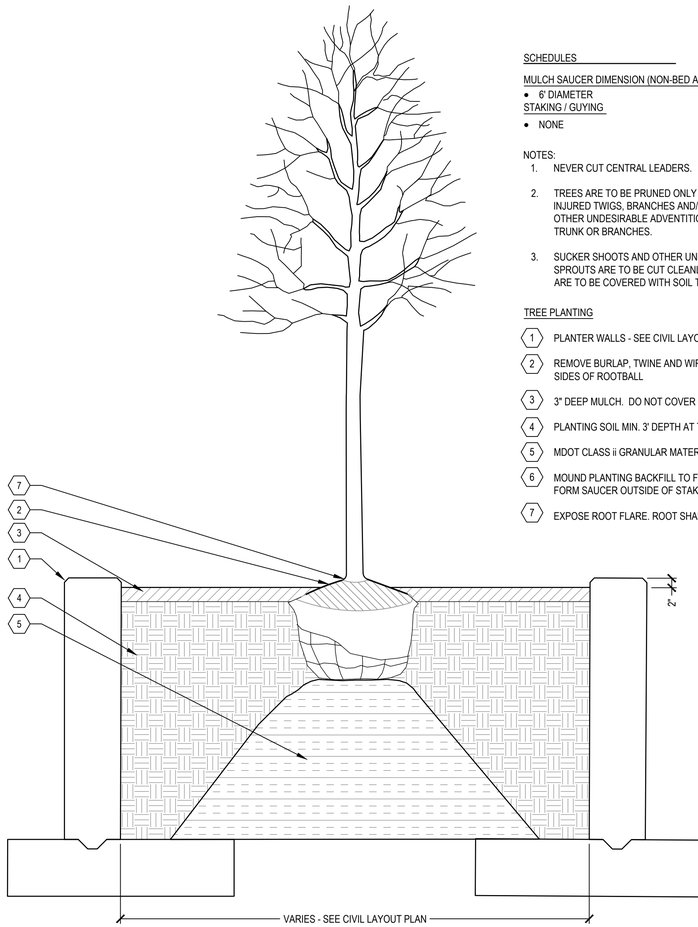
DRAWING No.

PLANT SCHEDULE

	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER		REMARKS
TREES							
	AT3	3	AMELANCHIER CANADENSIS 'TRAZAM' / TRADITION® CANADIAN SERVICEBERRY	2" CAL.	B&B		
	BJ	4	BETULA PLATYPHYLLA 'JEFPARK' / PARKLAND PILLAR® ASIAN WHITE BIRCH	2" CAL.	B&B		
	CK	3	CORNUS KOUSA / KOUSA DOGWOOD	2" CAL.	B&B		
	SR2	2	SYRINGA RETICULATA / JAPANESE TREE LILAC	2" CAL.	B&B		
	CODE	QTY	BOTANICAL / COMMON NAME	CONTAINER (SIZE)	HEIGHT	SPACING	REMARKS
SHRUBS							
	CB	4	CORNUS SERICEA 'BAILADELINE' / FIREDANCE™ RED TWIG DOGWOOD	#5	CONT.	48" o.c.	
	JH	14	JUNIPERUS HORIZONTALIS / CREEPING JUNIPER	#5	CONT.	72" o.c.	
	RGL	16	RHUS AROMATICA 'GRO-LOW' / GRO-LOW FRAGRANT SUMAC	#5	CONT.	48" o.c.	
ORNAMENTAL GRASSES							
	DEC	98	DESCHAMPSIA CESPITOSA 'GOLDTAU' / GOLD DEW TUFTED HAIR GRASS	#2	CONT.	24" o.c.	
	FGB	213	FESTUCA GLAUCA 'BOULDER BLUE' / BOULDER BLUE FESCUE	#2	CONT.	12" o.c.	
	SPH	16	SPOROBOLUS HETEROLEPIS / PRAIRIE DROPSEED	#2	CONT.	24" o.c.	
SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	FORM	SPACING	REMARKS
GROUND COVERS							
		666 SF	BULB PLANTINGS				
	CS	693	CROCUS / SPECIES	BULB	CLUMP	12" o.c.	MINIMUM 3 VARIETIES WITH EXTENDED BLOOM TIME.
PERENNIALS							
	AS	214	ALLIUM X 'SUMMER BEAUTY' / SUMMER BEAUTY ORNAMENTAL ONION	#2	CONT.	18" o.c.	
	CZ2	54	COREOPSIS VERTICILLATA 'ZAGREB' / ZAGREB TICKSEED	#2	CONT.	18" o.c.	
	PH	180	PHLOX STOLONIFERA 'FORT HILL' / DEEP PINK CREEPING PHLOX	QUART	CONT.	8" o.c.	
	SM	62	SALVIA NEMOROSA 'MAY NIGHT' / MAY NIGHT MEADOW SAGE	#2	CONT.	18" o.c.	
	SX	573	SEDUM X 'YELLOW BRICK ROAD' / YELLOW BRICK ROAD SEDUM	QUART	CONT.	12" o.c.	

NOTE: FOR BULB SPACING SEE DETAIL 5 - TYPICAL INTERPLANTING

3



1 DECIDUOUS TREE PLANTING

SCALE: 3/4" = 1'-0"

SCHEDULES

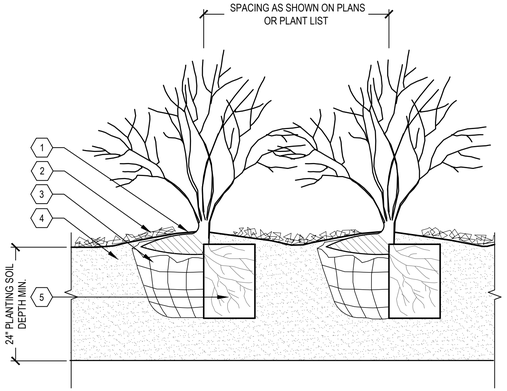
MULCH SAUCER DIMENSION (NON-BED AREAS)
- 6' DIAMETER

STAKING / GUYING
- NONE

NOTES:
1. NEVER CUT CENTRAL LEADERS.
2. TREES ARE TO BE PRUNED ONLY AS NECESSARY TO REMOVE: DEAD OR INJURED TWIGS, BRANCHES AND/OR LIMBS WATER SPROUTS AND OTHER UNDESIRABLE ADVENTITIOUS GROWTH ARISING FROM THE TRUNK OR BRANCHES.
3. SUCKER SHOOTS AND OTHER UNDESIRABLE BASAL SPROUTS. BASAL SPROUTS ARE TO BE CUT CLEANLY BELOW THE SOIL LINE; CUT STUBS ARE TO BE COVERED WITH SOIL TO PREVENT RESPROUTING.

TREE PLANTING

1. PLANTER WALLS - SEE CIVIL LAYOUT PLANS
2. REMOVE BURLAP, TWINE AND WIRE BASKET FROM TOP AND SIDES AND SIDES OF ROOTBALL
3. 3" DEEP MULCH. DO NOT COVER ROOT FLARE
4. PLANTING SOIL MIN. 3' DEPTH AT TREE LOCATIONS
5. MDOT CLASS ii GRANULAR MATERIAL
6. MOUND PLANTING BACKFILL TO FORM SAUCER AROUND PLANT PIT. FORM SAUCER OUTSIDE OF STAKES
7. EXPOSE ROOT FLARE. ROOT SHALL BE VISIBLE AFTER PLANTING.

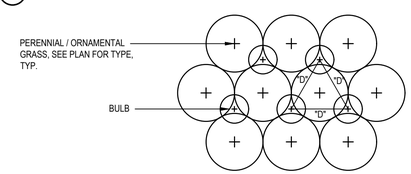


NOTES:
- REMOVE BURLAP FROM TOP 1/3 OF ROOT BALL, OR, WITH CONTAINER PLANTS, REMOVE POTS AND SEPARATE POT BOUND ROOTS AS SPECIFIED.
- DO NOT PRUNE SHRUBS EXCEPT TO REMOVE DEAD OR BROKEN BRANCHES

1. SET ROOT FLARE CROWN OF BALL AT FINISHED GRADE
2. 2" DEEP MULCH. DO NOT COVER ROOT FLARE
3. BALLED AND BURLAPPED SHRUB
4. PLANTING SOIL
5. BARE ROOT OR CONTAINER SHRUB

2 SHRUB PLANTING - BED

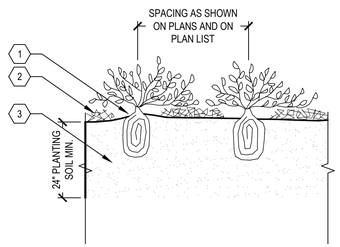
SCALE: 1" = 1'



D=DIMENSION OF INTERPLANTED BULB (EQUAL TO SPACING OF BULB)

5 TYPICAL INTERPLANTING

SCALE: 1/4" = 1'-0"

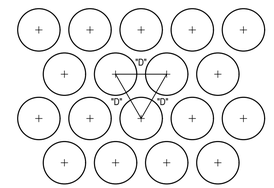


NOTE:
CONTAINER PLANTS: REMOVE POTS AND SEPERATE POT BOUND ROOTS AS SPECIFIED.

1. SET ROOT FLARE (COLLAR) AT FINISHED GRADE
2. 1" DEEP MULCH. DO NOT COVER ROOT FLARE
3. PLANTING SOIL

3 PERENNIAL PLANTING BED

SCALE: 1" = 1'



D=DIMENSION OF PLANT SPACING (SHRUB, GROUNDCOVER OR PERENNIAL) AS INDICATED ON PLANS.

4 TYPICAL PLANT SPACING

SCALE: 1/4" = 1'-0"

3

1. UPDATED PLANTER WALL EXTENTS AND ASSOCIATED PLANTINGS
2. REMOVED ANNUAL PLANTINGS AND UPDATED PLANTING SCHEDULE

Know what's below. Call before you dig. 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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3	ADDENDUM	2026/02/13	DMS	OK

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

NORTH UNIVERSITY AVE & THAYER ST IMPROVEMENTS

LANDSCAPE DETAILS

SCALE GRAPHIC SCALE 0 4.5 9 18'

DRAWING No.

SHEET No. 83 of 83

E. Schedule of Pricing/Cost – 20 Points

Company: E.T. MACKENZIE COMPANY
Project: N. University & Thayer Improvements
File #: 2023-023 **RFP#: 26-11**

ITEM NUMBER	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
	General				
01000.00	General Conditions, Max. $ 300,000.00	Lump Sum	1	$ 241,280.60	$ 241,280.60
01001.00	Project Supervision, Max. $ 120,000.00	Lump Sum	1	$ 120,000.00	$ 120,000.00
01002.70	DS_Project Clean-up	Lump Sum	1	$ 25,000.00	$ 25,000.00
01002.71	DS_Pavt Cleaning	Lump Sum	1	$ 35,000.00	$ 35,000.00
01003.00	Digital Audio Visual Coverage	Lump Sum	1	$ 2,150.00	$ 2,150.00
01020.00	Erosion Control, Inlet Protection, Fabric Drop	Each	25	$ 190.00	$ 4,750.00
01022.00	Erosion Control, Silt Fence	Foot	800	$ 3.85	$ 3,080.00
01030.00	Tree Protection Fence	Foot	268	$ 6.80	$ 1,822.40
01040.00	Minor Traffic Control, Max. $80,000.00	Lump Sum	1	$ 42,000.00	$ 42,000.00
01041.00	Traffic Regulator Control	Lump Sum	1	$ 5,000.00	$ 5,000.00
01050.00	Sign, Type B, Temp, Prismatic, Furn & Oper	Square Foot	648	$ 4.95	$ 3,207.60
01051.00	Sign, Type B, Temp, Prismatic, Special, Furn & Oper	Square Foot	398	$ 5.25	$ 2,089.50
01051.70	DS_Sign, Type A, Temp, Prismatic, Furn & Oper	Square Foot	7	$ 5.00	$ 35.00
01062.00	Lighted Arrow, Type C, Furn and Oper	Each	2	$ 870.00	$ 1,740.00
01070.00	Sign, Portable, Changeable Message, Furn & Oper	Each	2	$ 2,500.00	$ 5,000.00
01080.00	Plastic Drum, High Intensity, Lighted, Furn & Oper	Each	120	$ 44.50	$ 5,340.00
01092.00	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn & Oper	Each	50	$ 130.00	$ 6,500.00
01100.00	Pedestrian Type II Barricade, Temp, Furn & Oper	Each	30	$ 100.00	$ 3,000.00
01101.00	Pedestrian Channelizer Device, Furn & Oper	Each	750	$ 100.00	$ 75,000.00
01102.00	Temporary Pedestrian Ramp, Furn & Oper	Each	12	$ 1,850.00	$ 22,200.00
01103.00	Temporary Pedestrian Mat, Furn & Oper	Foot	100	$ 40.00	$ 4,000.00
01103.72	DS_Pedestrian Path, Temp	Foot	500	$ 33.00	$ 16,500.00
01124.00	Pavt Mrkg, Wet Reflective, Type R, Tape, Rt Turn Arrow	Each	2	$ 425.00	$ 850.00
01169.70	DS_Trapezoid Delineator, Any Size	Foot	346	$ 72.50	$ 25,085.00
	Removals				
02000.01	Tree, Rem, 6 In. - 12 In.	Each	15	$ 950.00	$ 14,250.00
02021.00	HMA, Any Thickness, Rem	Square Yard	164	$ 23.25	$ 3,813.00
02022.70	DS_Cold Milling for Concrete Curb and Gutter Reveal	Square Yard	640	$ 1.00	$ 640.00
02023.00	Cold-Milling HMA Surface	Square Yard	1,465	$ 23.25	$ 34,061.25
	TOTAL THIS PAGE (BF-1)				$ 703,394.35

E. Schedule of Pricing/Cost – 20 Points

Company: E.T. MACKENZIE COMPANY
Project: N. University & Thayer Improvements
File #: 2023-023 **RFP#: 26-11**

ITEM NUMBER	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
02025.71	DS_Pavement, Remove, Modifed	Square Yard	6,391	$ 23.25	$ 148,590.75
02030.00	Curb, Gutter, and Curb and Gutter, Any Type, Rem	Foot	3,850	$ 7.50	$ 28,875.00
02040.00	Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem	Square Foot	31,634	$ 3.00	$ 94,902.00
02050.00	Sign, Rem, Salv	Each	25	$ 50.00	$ 1,250.00
02060.70	DS_Trolley Track, Remove	Square Yard	1,000	$ 1.00	$ 1,000.00
02070.70	DS_Parking Markers, Rem	Each	7	$ 115.00	$ 805.00
02080.70	DS_Planter Box, Rem	Foot	644	$ 54.00	$ 34,776.00
02080.71	DS_Bollard, Rem	Each	26	$ 1.00	$ 26.00
02080.72	DS_Qwick Curb, Rem	Foot	130	$ 1.00	$ 130.00
02080.73	DS_Bench, Rem, Salv	Each	1	$ 475.00	$ 475.00
02080.74	DS_Bike Rack, Rem, Salv	Each	4	$ 250.00	$ 1,000.00
02080.75	DS_Tunnel, Rem	Cubic Yard	38	$ 350.00	$ 13,300.00
	Earthwork				
03000.70	DS_Machine Grading, Modified	Station	17	$ 2,230.00	$ 37,910.00
03021.00	Subgrade Undercutting, Type II	Cubic Yard	175	$ 100.00	$ 17,500.00
03022.00	Subgrade Undercutting, Type III	Cubic Yard	50	$ 125.00	$ 6,250.00
03030.01	Exploratory Excavation, SD-TD-1 , (0-10' deep)	Each	16	$ 2,000.00	$ 32,000.00
	Sanitary Sewer				
04000.01	8 In., SDR 26 PVC Sanitary Sewer, SD-TD-2	Foot	104	$ 210.00	$ 21,840.00
04014.70	DS_4 In., SDR 26 PVC Sanitary Service Lead, SD-TD-2	Foot	20	$ 70.00	$ 1,400.00
04014.71	DS_6 In., SDR 26 PVC Sanitary Service Lead, SD-TD-2	Foot	111	$ 425.00	$ 47,175.00
04014.72	DS_4 In., Sanitary Service Lead, Rem, 4 to 8 inch	Foot	50	$ 1.00	$ 50.00
04030.01	Sanitary Manhole, 48 In. Dia. (0-8' Deep)	Each	1	$ 8,650.00	$ 8,650.00
04050.01	Sanitary Manhole Over Existing ("Doghouse"), 48 In. Dia.	Each	1	$ 11,400.00	$ 11,400.00
04060.00	Sanitary Structure Cover	Each	14	$ 316.00	$ 4,424.00
04061.00	Sanitary Structure Cover, Adjust	Each	14	$ 1,545.00	$ 21,630.00
04070.01	Sanitary Sewer Pipe, 8 In. Dia., Abandon	Foot	31	$ 56.00	$ 1,736.00
04080.70	DS_Trench Drain, Rem	Foot	215	$ 46.00	$ 9,890.00
04110.01	Sanitary Sewer Tap, 8 In. Dia.	Each	1	$ 5,375.00	$ 5,375.00
	TOTAL THIS PAGE (BF-2)				$ 552,359.75

E. Schedule of Pricing/Cost – 20 Points

Company: E.T. MACKENZIE COMPANY
Project: N. University & Thayer Improvements
File #: 2023-023 **RFP#: 26-11**

ITEM NUMBER	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
	Sewer and Manhole Rehab				
05050.00	Internal Chimney Seal	Each	1	$ 1,300.00	$ 1,300.00
05051.00	External Chimney Seal	Each	25	$ 1,300.00	$ 32,500.00
	Storm and Drainage				
06000.01	12 In., CL IV RCP Storm Sewer, SD-TD-1	Foot	701	$ 191.50	$ 134,241.50
06000.03	18 In., CL IV RCP Storm Sewer, SD-TD-1	Foot	9	$ 217.50	$ 1,957.50
06003.01	6 In., PE Storm Sewer, SD-TD-2	Foot	22	$ 136.50	$ 3,003.00
06030.04	Storm Sewer Tap, 12 In. Dia.	Each	6	$ 1.00	$ 6.00
06050.01	Storm Manhole, 48 In. Dia., (0-8' deep)	Each	5	$ 7,450.00	$ 37,250.00
06050.70	Storm Manhole, 48 In. Dia., with Leaching Base (0-8' deep)	Each	2	$ 8,625.00	$ 17,250.00
06070.01	Storm Single Inlet, 24 In. Dia., (0-8' deep)	Each	9	$ 5,650.00	$ 50,850.00
06080.71	DS_Storm Outlet Control Structure, 60 In. Dia., (0-8' deep)	Each	1	$ 20,500.00	$ 20,500.00
06081.01	Storm High Capacity Inlet, 48 In. Dia., (0-8' deep)	Each	6	$ 7,075.00	$ 42,450.00
06110.01	Storm Sewer Pipe, 8 In. Dia, Rem	Foot	12	$ 97.00	$ 1,164.00
06120.03	Storm Sewer Pipe, 12 In. Dia, Rem	Foot	550	$ 108.00	$ 59,400.00
06120.04	Storm Sewer Pipe, 15 In. Dia, Rem	Foot	587	$ 108.00	$ 63,396.00
06140.00	Storm Sewer Structure, Rem	Each	25	$ 1,075.00	$ 26,875.00
06160.01	Storm Structure Cover	Each	17	$ 242.00	$ 4,114.00
06160.02	Storm Structure Cover, Adjust	Each	17	$ 1,665.00	$ 28,305.00
06160.72	DS_Misc. Structure Cover, Adjust	Each	5	$ 1,665.00	$ 8,325.00
06300.70	DS_Infiltration Trench	Foot	443	$ 392.25	$ 173,766.75
06300.71	DS_Perforated HDPE Pipe, 12 inch	Foot	10	$ 426.50	$ 4,265.00
06303.70	DS_Storm Pretreatment Structure, First Defense, 48 In. Dia., Inlet	Each	2	$ 20,800.00	$ 41,600.00
06303.71	DS_Storm Pretreatment Structure, First Defense, 48 In. Dia., Solid	Each	2	$ 21,500.00	$ 43,000.00
06303.72	DS_Storm Pretreatment Structure, First Defense, 60 In. Dia., Solid	Each	1	$ 24,250.00	$ 24,250.00
06400.70	DS_Trench Drain	Foot	216	$ 314.25	$ 67,878.00
	Water Mains				
07000.01	4 In., PC 350, DIP w/ polywrap, SD-TD-1	Foot	320	$ 662.00	$ 211,840.00
07000.02	6 In., PC 350, DIP w/ polywrap, SD-TD-1	Foot	73	$ 484.00	$ 35,332.00
07000.03	8 In., PC 350, DIP w/ polywrap, SD-TD-1	Foot	201	$ 389.00	$ 78,189.00
	TOTAL THIS PAGE (BF-3)				$ 1,213,007.75

E. Schedule of Pricing/Cost – 20 Points

Company: E.T. MACKENZIE COMPANY

Project: N. University & Thayer Improvements

File #: 2023-023 **RFP#: 26-11**

ITEM NUMBER	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
07000.05	12 In., PC 350, DIP w/ polywrap, SD-TD-1	Foot	1,214	$ 325.00	$ 394,550.00
07001.01	16 In., PC 250 DIP w/polywrap, SD-TD-1	Foot	22	$ 1,595.00	$ 35,090.00
07004.71	DS_Water Main Insulation	Foot	96	$ 32.25	$ 3,096.00
07009.70	DS_4 In. 45° DIP Bend	Foot	16	$ 1,260.00	$ 20,160.00
07010.02	6 In. 45° DIP Bend	Each	5	$ 1,400.00	$ 7,000.00
07011.02	8 In. 45° DIP Bend	Each	12	$ 1,600.00	$ 19,200.00
07011.03	8 In. 22.5° DIP Bend	Each	1	$ 1,600.00	$ 1,600.00
07013.02	12 In. 45° DIP Bend	Each	9	$ 2,075.00	$ 18,675.00
07013.03	12 In. 22.5° DIP Bend	Each	8	$ 2,075.00	$ 16,600.00
07014.02	16 In. 45° DIP Bend	Each	2	$ 3,600.00	$ 7,200.00
07020.03	8 In. x 6 In. DIP Reducer	Each	6	$ 1,450.00	$ 8,700.00
07020.14	16 In. x 12 In. DIP Reducer	Each	1	$ 2,775.00	$ 2,775.00
07030.11	12 In. x 12 In. x 4 In. DIP Tee	Each	6	$ 3,050.00	$ 18,300.00
07030.12	12 In. x 12 In. x 6 In. DIP Tee	Each	1	$ 3,050.00	$ 3,050.00
07030.13	12 In. x 12 In. x 8 In. DIP Tee	Each	8	$ 3,050.00	$ 24,400.00
07030.15	12 In. x 12 In. x 12 In. DIP Tee	Each	4	$ 8,600.00	$ 34,400.00
07050.01	Gate Valve in Box, 6 In.	Each	7	$ 3,865.00	$ 27,055.00
07050.02	Gate Valve in Box, 8 In.	Each	1	$ 4,450.00	$ 4,450.00
07050.70	DS_Gate Valve in Box, 4 In.	Each	6	$ 3,600.00	$ 21,600.00
07060.04	Gate Valve in Well, 12 In.	Each	14	$ 13,350.00	$ 186,900.00
07060.05	Gate Valve in Well, 16 In.	Each	1	$ 20,550.00	$ 20,550.00
07080.00	Excavate & Backfill For Water Service Tap and Lead	Foot	50	$ 395.00	$ 19,750.00
07100.00	Fire Hydrant Assembly, Complete	Each	6	$ 8,890.00	$ 53,340.00
07102.00	Fire Hydrant Assembly, Rem	Each	4	$ 1,650.00	$ 6,600.00
07120.00	Gate Box, Adjust	Each	9	$ 1,050.00	$ 9,450.00
07122.00	Gate Box Cover	Each	9	$ 32.00	$ 288.00
07130.01	Temporary Water Main Line Stop, 8 In. or Less	Each	2	$ 19,100.00	$ 38,200.00
07130.03	Temporary Water Main Line Stop, 12 In.	Each	4	$ 21,375.00	$ 85,500.00
07130.04	Temporary Water Main Line Stop, 16 In.	Each	2	$ 26,350.00	$ 52,700.00
07131.00	Temporary Water Main Line Stop, Additional Rental Day	Each	3	$ 905.00	$ 2,715.00
	TOTAL THIS PAGE (BF-4)				$ 1,143,894.00

E. Schedule of Pricing/Cost – 20 Points

Company: E.T. MACKENZIE COMPANY

Project: N. University & Thayer Improvements

File #: 2023-023 **RFP#: 26-11**

ITEM NUMBER	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
07140.01	Water Main Pipe, 4 In. Dia, Abandon	Foot	258	$ 7.40	$ 1,909.20
07140.02	Water Main Pipe, 6 In. Dia, Abandon	Foot	646	$ 6.50	$ 4,199.00
07140.03	Water Main Pipe, 8 In. Dia, Abandon	Foot	643	$ 6.50	$ 4,179.50
07140.05	Water Main Pipe, 12 In. Dia, Abandon	Foot	1,432	$ 6.75	$ 9,666.00
07140.07	Water Main Pipe, 16 In. Dia, Abandon	Foot	40	$ 26.20	$ 1,048.00
07150.01	Water Main Pipe, 4 In. Dia, Rem	Foot	20	$ 1.00	$ 20.00
07150.02	Water Main Pipe, 6 In. Dia, Rem	Foot	60	$ 1.00	$ 60.00
07150.03	Water Main Pipe, 8 In. Dia, Rem	Foot	70	$ 1.00	$ 70.00
07150.05	Water Main Pipe, 12 In. Dia, Rem	Foot	150	$ 1.00	$ 150.00
07170.01	Gate Valve in Box, 4 In. Dia, Rem	Each	6	$ 1,600.00	$ 9,600.00
07170.02	Gate Valve in Box, 6 In. Dia, Rem	Each	6	$ 1,700.00	$ 10,200.00
07170.03	Gate Valve in Box, 8 In. Dia, Rem	Each	2	$ 1,840.00	$ 3,680.00
07170.05	Gate Valve in Box, 12 In. Dia, Rem	Each	1	$ 2,240.00	$ 2,240.00
07190.02	Gate Valve in Well, 6 In. Dia, Rem	Each	2	$ 2,560.00	$ 5,120.00
07190.05	Gate Valve in Well, 12 In. Dia, Rem	Each	4	$ 3,095.00	$ 12,380.00
	Streets, Driveways, & Sidewalks				
08000.00	Subbase, CIP	Cyd	974	$ 1.00	$ 974.00
08000.70	DS_Maintenance Gravel	Ton	430	$ 30.00	$ 12,900.00
08010.74	DS_Aggregate Base, 10 In., 21AA, Modified	Square Yard	6,450	$ 24.10	$ 155,445.00
08010.75	DS_Aggregate Base, 17 In., 21AA, Modified (Temporary)	Square Yard	2,100	$ 43.75	$ 91,875.00
08060.00	Hand Patching	Ton	20	$ 302.00	$ 6,040.00
08070.11	HMA, 3EML	Ton	1,134	$ 155.00	$ 175,770.00
08070.15	HMA, 4EML	Ton	753	$ 156.00	$ 117,468.00
08070.19	HMA, 5EML	Ton	773	$ 157.00	$ 121,361.00
08072.70	DS_HMA, Temp Pavt	Ton	556	$ 157.00	$ 87,292.00
08080.03	Conc Pavt, Non-Reinf, 8 In.	Square Yard	16	$ 105.00	$ 1,680.00
08090.71	DS_Joint, Contraction, Cp	Foot	76	$ 24.15	$ 1,835.40
08090.72	DS_Joint, Contraction, Crg	Foot	25	$ 30.20	$ 755.00
08093.70	DS_Lane Tie, Epoxy Anchored	Each	70	$ 9.05	$ 633.50
08110.00	Conc, Curb or Curb & Gutter, All Types	Foot	3,759	$ 37.50	$ 140,962.50
	TOTAL THIS PAGE (BF-5)				$ 979,513.10

E. Schedule of Pricing/Cost – 20 Points

Company: E.T. MACKENZIE COMPANY
Project: N. University & Thayer Improvements
File #: 2023-023 **RFP#: 26-11**

ITEM NUMBER	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
08110.71	DS_Mountable Curb and Gutter	Foot	115	$ 34.90	$ 4,013.50
08131.01	Conc, Sidewalk, Drive Approach, or Ramp, 6 In.	Square Foot	5,200	$ 15.05	$ 78,260.00
08132.01	Conc, Sidewalk, Drive Approach, or Ramp, 6 In., High Early	Square Foot	2,248	$ 15.30	$ 34,394.40
08132.02	Conc, Sidewalk, Drive Approach, or Ramp, 8 In., High Early	Square Foot	170	$ 16.75	$ 2,847.50
08133.70	DS_Conc, Sidewalk, Fibermesh, 8 In.	Square Foot	29,698	$ 16.65	$ 494,471.70
08133.71	DS_Conc, Sidewalk Ramp, Fibermesh, 8 In.	Square Foot	3,181	$ 19.85	$ 63,142.85
08133.71	DS_Handrail	Foot	70	$ 430.00	$ 30,100.00
08133.72	DS_Conc, Sidewalk, Fibermesh, 9 In., Raised	Square Foot	2,080	$ 16.90	$ 35,152.00
08140.70	DS_Brick Pavers, Sidewalk, Rem	Square Foot	6,643	$ 4.30	$ 28,564.90
08140.71	DS_Brick Pavers, Sidewalk, Rem and Salv	Square Foot	978	$ 7.60	$ 7,432.80
08140.72	Brick Pavers, Sidewalk, Rem and Reinstall	Square Foot	223	$ 54.65	$ 12,186.95
08140.73	DS_Perforated Concrete Base, 6 In.	Square Foot	223	$ 15.05	$ 3,356.15
08150.00	Detectable Warning Surface	Foot	326	$ 72.45	$ 23,618.70
08150.70	DS_Detectable Warning Surface, Temp	Foot	100	$ 72.45	$ 7,245.00
08150.71	DS_Tactile Directional Indicator	Foot	60	$ 72.45	$ 4,347.00
08190.07	Pavt Mrkg, Polymer Cement Surface, Tan	Sft	45	$ 18.75	$ 843.75
08190.72	DS_Pavt Mrkg, Polymer Cement Surface, Bike Thru Arrow Sym	Each	7	$ 305.00	$ 2,135.00
08190.73	DS_Pavt Mrkg, Polymer Cement Surface, Bike, Small Sym	Each	8	$ 305.00	$ 2,440.00
08190.76	DS_Pavt Mrkg, Polymer Cement Surface, Bike Lane, Green	Square Foot	2,146	$ 18.75	$ 40,237.50
08190.78	DS_Pavt Mrkg, Polymer Cement Surface, Bus Lane, Red	Square Foot	4,321	$ 18.75	$ 81,018.75
08190.79	DS_Pavt Mrkg, Polymer Cement Surface, Bus	Each	7	$ 425.00	$ 2,975.00
08191.70	DS_Pavt Mrkg, Polymer Cement Surface, Only	Each	9	$ 450.00	$ 4,050.00
08191.71	DS_Pavt Mrkg, Polymer Cement Surface, Sharrow Sym	Each	4	$ 450.00	$ 1,800.00
08191.72	DS_Pavt Mrkg, Polymer Cement Surface, Merge Left Arrow	Each	1	$ 600.00	$ 600.00
08191.73	DS_Scarification, for Polyurea Spec Mrkg	Square Foot	20	$ 36.25	$ 725.00
08191.74	DS_Pavt Mrkg, Polymer Cement Surface, Rt Arrow	Each	1	$ 395.00	$ 395.00
08200.05	Pavt Mrkg, Polyurea, 12 In., Cross Hatching, White	Foot	264	$ 7.85	$ 2,072.40
08200.09	Pavt Mrkg, Polyurea, 24 In., Stop Bar	Foot	190	$ 18.10	$ 3,439.00
08200.10	Pavt Mrkg, Polyurea, 12 In., Crosswalk	Foot	1,314	$ 7.85	$ 10,314.90
08200.11	Pavt Mrkg, Polyurea, 4 In., White	Foot	86	$ 1.80	$ 154.80
	TOTAL THIS PAGE (BF-6)				$ 982,334.55

E. Schedule of Pricing/Cost – 20 Points

Company: E.T. MACKENZIE COMPANY
Project: N. University & Thayer Improvements
File #: 2023-023 **RFP#: 26-11**

ITEM NUMBER	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
08200.13	Pavt Mrkg, Polyurea, 6 In., White	Foot	3,917	$ 2.10	$ 8,225.70
08200.14	Pavt Mrkg, Polyurea, 6 In., Yellow	Foot	2,050	$ 2.10	$ 4,305.00
08200.30	Pavt Mrkg, Polyurea, Yield Triangle Sym	Each	12	$ 125.00	$ 1,500.00
08200.31	Pavt Mrkg, Polyurea, Speed Hump Chevron, White	Each	6	$ 395.00	$ 2,370.00
08251.00	Recessing Pavt Mrkg, Longit	Foot	4,236	$ 1.80	$ 7,624.80
08252.00	Recessing Pavt Mrkg, Transv	Square Foot	1,870	$ 4.80	$ 8,976.00
08300.00	Monument Box, Adjust	Each	2	$ 900.00	$ 1,800.00
08300.70	DS_Bikeway Delineator Post	Each	109	$ 205.00	$ 22,345.00
08300.70	DS_Parking Meter Post, Install	Each	20	$ 905.00	$ 18,100.00
08300.71	Flexible Delineator Post, Surface Mounted	Each	8	$ 205.00	$ 1,640.00
08300.72	DS_Sign, Type IIIA	Square Foot	70	$ 22.95	$ 1,606.50
08300.73	DS_Sign, Type IIIB	Square Foot	168	$ 22.95	$ 3,855.60
08300.74	DS_Perforated Steel Square Tube Breakaway System, Modified	Each	43	$ 475.00	$ 20,425.00
08300.75	DS_Reflective Panel for Permanent Sign Support, 3 foot, Modified	Each	2	$ 66.50	$ 133.00
08300.76	DS_Qwick Kurb Sign	Each	9	$ 720.00	$ 6,480.00
08300.77	DS_Fdn, Perforated Steel Square Tube Breakaway System, Rem	Each	4	$ 70.00	$ 280.00
08300.78	DS_Ground Mtg Sign Support, Rem	Each	4	$ 43.00	$ 172.00
	Lighting and Electrical				
09000.01	Conductors, No. 4AWG	Foot	4,440	$ 4.80	$ 21,312.00
09000.03	Conductors, No. 8AWG	Foot	2,220	$ 2.40	$ 5,328.00
09000.04	Conductors, No. 10AWG	Foot	204	$ 3.00	$ 612.00
9010.01	Conduit, Schedule 80 PVC, 2 In.	Foot	68	$ 1.80	$ 122.40
9011.02	Conduit, Schedule 80 PVC, 3 In., Qty 2	Foot	2,220	$ 42.25	$ 93,795.00
09020.00	Handhole, Rem	Each	9	$ 330.00	$ 2,970.00
09020.70	DS_Handhole, Adjust	Each	18	$ 180.00	$ 3,240.00
09030.01	Handhole Assembly, 17 In. X 30 In. x 18 In.	Each	18	$ 2,415.00	$ 43,470.00
09030.03	Handhole Assembly, 24 In. X 36 In. x 18 In.	Each	1	$ 2,900.00	$ 2,900.00
09050.00	Foundation, Light Pole	Each	17	$ 2,600.00	$ 44,200.00
09060.00	Foundation, Light Pole, Rem	Each	34	$ 360.00	$ 12,240.00
09093.01	Light Pole, 30' Standard	Each	13	$ 6,225.00	$ 80,925.00
	TOTAL THIS PAGE (BF-7)				$ 420,953.00

E. Schedule of Pricing/Cost – 20 Points

Company: E.T. MACKENZIE COMPANY

Project: N. University & Thayer Improvements

File #: 2023-023 **RFP#: 26-11**

ITEM NUMBER	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
09093.71	DS_Light Pole, 30' Standard, 2 Luminaires	Each	4	$ 7,525.00	$ 30,100.00
09110.01	Light Fixture, Standard	Each	18	$ 1,270.00	$ 22,860.00
09121.00	Light Fixture, Rem	Each	18	$ 84.50	$ 1,521.00
09130.00	Streetlight Disconnect Box,Complete	Each	1	$ 2,725.00	$ 2,725.00
	Landscaping				
10000.01	DS_Tree, B&B	Each	12	$ 1,750.00	$ 21,000.00
10000.70	DS_Irrigation, Remove and Replace	Lump Sum	1	$ 8,700.00	$ 8,700.00
10001.70	DS_Shrub, #5 Cont.	Each	34	$ 211.00	$ 7,174.00
10001.71	DS_Perennial, #2 Cont.	Each	466	$ 45.00	$ 20,970.00
10001.72	DS_Perennial, Quart Cont.	Each	556	$ 27.00	$ 15,012.00
10001.73	DS_Bulb	Each	528	$ 6.00	$ 3,168.00
10001.74	DS_Annuals, Owner Selected	Each	315	$ 18.00	$ 5,670.00
10001.75	DS_Mulch	Square Yard	275	$ 38.00	$ 10,450.00
10001.76	DS_Planting Mixture	Cubic Yard	225	$ 220.00	$ 49,500.00
10001.77	Washed Stone for Drainage	Cubic Yard	38	$ 330.00	$ 12,540.00
10001.78	Geotextile Wrap	Square Yard	143	$ 24.00	$ 3,432.00
10001.79	DS_Planter Wall, 12 In	Cubic Yard	87	$ 1,835.00	$ 159,645.00
10001.80	DS_Planter Wall, 24 In	Cubic Yard	193	1,795.00	$ 346,435.00
10002.70	4" Perforated tile drainage pipe	Foot	413	$ 48.00	$ 19,824.00
10006.71	DS_Turf Establishment, Performance	Square Yard	350	$ 63.25	$ 22,137.50
10100.70	DS_DDA Bike Hoop, Surface Mounted	Each	3	$ 560.00	$ 1,680.00
	TOTAL THIS PAGE (BF-8)				$ 764,543.50
	TOTAL FROM PAGE (BF-1):				$ 703,394.35
	TOTAL FROM PAGE (BF-2):				$ 552,359.75
	TOTAL FROM PAGE (BF-3):				$ 1,213,007.75
	TOTAL FROM PAGE (BF-4):				$ 1,143,894.00
	TOTAL FROM PAGE (BF-5):				$ 979,513.10
	TOTAL FROM PAGE (BF-6):				$ 982,334.55
	TOTAL FROM PAGE (BF-7):				$ 420,953.00
	TOTAL BASE BID:				**$** 6,760,000.00

Liberty Mutual Surety
Attention: LMS Claims
PO Box 34526
Seattle, WA 98124
Phone: (206) 473-6210
Fax: (866) 548-6873
Email: HOSCL@libertymutual.com
www.LibertyMutualSuretyClaims.com

Liberty Mutual Insurance Company

BID OR PROPOSAL BOND

KNOW ALL MEN BY THESE PRESENTS, That we, E T MacKenzie Company of 8197 Jackson Road Ann Arbor MI 48103 (hereinafter called the Principal) as Principal, and Liberty Mutual Insurance Company, with its principal office in the City of Boston, MA (hereinafter called the Surety), as Surety, are held and firmly bound unto City of Ann Arbor, 301 E Huron Street, Ann Arbor, MI 48104 (hereinafter called the Obligee) in the penal sum of Five Percent of Bid Dollars (5% of Bid) lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas, the Principal has submitted the accompanying bid dated 2/17/2026 for City of Ann Arbor RFP 26-11 North University & Thayer Improvements .

NOW, THEREFORE, if the Obligee shall make any award according to the terms of said bid and the Principal shall enter into a contract with said Obligee in accordance with the terms of said bid and give bond for the faithful performance thereof within the time specified; or if no time is specified within thirty days after the date of said award; or if the Principal shall, in the case of failure so to do, indemnify the Obligee against any loss the Obligee may suffer directly arising by reason of such failure, not exceeding the penalty of this bond, then this obligation shall be null and void; otherwise to remain in full force and virtue.

Signed, sealed and dated: 2/17/2026

E T MacKenzie Company
Principal

By: _____
Michael S. Marks, President

LIBERTY MUTUAL INSURANCE COMPANY INCORPORATED 1912 MASSACHUSETTS

Liberty Mutual Insurance Company

By: _____
Robert G Chapman (Attorney-in-fact)

S-137-Rev.

LMS-20865 11/17

POWER OF ATTORNEY

Certificate No: 8213470-013057

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Cloyd W. Barnes; Curtis M. Peterson; Marcia J. Miller; Nathan G. Chapman; Nicole Andries; Robert G. Chapman; Ryan A. Peterson

all of the city of Lansing state of MI each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 26th day of March, 2025.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

By: _____
Nathan J. Zangerle, Assistant Secretary

State of PENNSYLVANIA ss
County of MONTGOMERY

On this 26th day of March, 2025 before me personally appeared Nathan J. Zangerle, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.

Commonwealth of Pennsylvania - Notary Seal
Teresa Pastella, Notary Public
Montgomery County
My commission expires March 28, 2029
Commission number 1126044
Member, Pennsylvania Association of Notaries

By: _____
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS: Section 12. Power of Attorney.
Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts: Section 5. Surety Bonds and Undertakings.
Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes Nathan J. Zangerle, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 17th day of February, 2026.

By: _____
Renee C. Llewellyn, Assistant Secretary

Section F Authorized Negotiator / Negotiable Elements

F.1 Authorized Negotiator

The following individuals are authorized negotiators for E.T. MacKenzie Company:

Michael Marks, President, 517.627.8408, mmarks@mackenzieco.com
John Niemiec, Division Manager, 734.761.5050, jniemiec@mackenzieco.com

F.2 Alternate Items for Consideration Statement

1. This proposal does not include any material alternates.
2. The project schedule and price are subject to available materials and market conditions.
3. Mutually agreeable project schedule to be determined as necessary based on available staging / phasing conditions.

F.3 Alternate Time of Completion Statement

None provided.

CONTRACT

THIS CONTRACT is between the CITY OF ANN ARBOR, a Michigan Municipal Corporation, 301 East Huron Street, Ann Arbor, Michigan 48104 ("City") and E.T. MacKenzie Company ("Contractor") a corporation in the state of Michigan located at 8197 Jackson Road, Ann Arbor, MI 48103.

Based upon the mutual promises below, the Contractor and the City agree as follows:

ARTICLE I - Scope of Work

The Contractor agrees to furnish all of the materials, equipment and labor necessary; and to abide by all the duties and responsibilities applicable to it for the project titled **RFP #26-11 N University & Thayer Improvements Project** in accordance with the requirements and provisions of the following documents, including all written modifications incorporated into any of the documents, all of which are incorporated as part of this Contract:

Non-discrimination and Living Wage Declaration of Compliance Forms (if applicable)
Vendor Conflict of Interest Form
Prevailing Wage Declaration of Compliance Form (if applicable)
Bid Forms
Contract and Exhibits
Bonds
General Conditions
Standard Specifications
Detailed Specifications
Plans
Addenda

ARTICLE II - Definitions

Administering Service Area/Unit means **Services Area / Engineering Unit**

Project means **RFP #26-11 N University & Thayer Improvements Project**

Supervising Professional means the person acting under the authorization of the manager of the Administering Service Area/Unit. At the time this Contract is executed, the Supervising Professional is: Nicholas Hutchinson, PE whose job title is City Engineer. If there is any question concerning who the Supervising Professional is, Contractor shall confirm with the manager of the Administering Service Area/Unit.

Contractor's Representative means_____[**Insert name**] whose job title is [**Insert job title**].

ARTICLE III - Time of Completion

(A) The work to be completed under this Contract shall begin immediately on the date specified in the Notice to Proceed issued by the City.

(B) The entire work for this Contract shall be completed per the terms of the progress clause.

(C) Failure to complete all the work within the times specified herein and above, including any extension granted in writing by the Supervising Professional, shall obligate the Contractor to pay the City, as liquidated damages and not as a penalty, an amount equal to the fines noted in the enclosed Progress Clause. The total amount of liquidated damages paid to the City is based on each calendar day of delay in the completion of the work specified within. If any liquidated damages are unpaid by the Contractor, the City shall be entitled to deduct these unpaid liquidated damages from the monies due the Contractor.

The liquidated damages are for the non-quantifiable aspects of any of the previously identified events and do not cover actual damages that can be shown or quantified nor are they intended to preclude recovery of actual damages in addition to the recovery of liquidated damages.

ARTICLE IV - The Contract Sum

(A) The City shall pay to the Contractor for the performance of the Contract, the unit prices as given in the Bid Form for the estimated bid total of:

Six Million, seven hundred and sixty thousand, and 00/100 Dollars ($6,760,000.00)

(B) The amount paid shall be equitably adjusted to cover changes in the work ordered by the Supervising Professional but not required by the Contract Documents. Increases or decreases shall be determined only by written agreement between the City and Contractor.

ARTICLE V - Assignment

This Contract may not be assigned or subcontracted any portion of any right or obligation under this contract without the written consent of the City. Notwithstanding any consent by the City to any assignment, Contractor shall at all times remain bound to all warranties, certifications, indemnifications, promises and performances, however described, as are required of it under this contract unless specifically released from the requirement, in writing, by the City.

ARTICLE VI - Choice of Law

This Contract shall be construed, governed, and enforced in accordance with the laws of the State of Michigan. By executing this Contract, the Contractor and the City agree to venue in a court of appropriate jurisdiction sitting within Washtenaw County for purposes of any action arising under this Contract. The parties stipulate that the venue referenced in this Contract is for convenience and waive any claim of non-convenience.

Whenever possible, each provision of the Contract will be interpreted in a manner as to be effective and valid under applicable law. The prohibition or invalidity, under applicable law, of any provision will not invalidate the remainder of the Contract.

ARTICLE VII - Relationship of the Parties

The parties of the Contract agree that it is not a Contract of employment but is a Contract to accomplish a specific result. Contractor is an independent Contractor performing services for the City. Nothing contained in this Contract shall be deemed to constitute any other relationship between the City and the Contractor.

Contractor certifies that it has no personal or financial interest in the project other than the compensation it is to receive under the Contract. Contractor certifies that it is not, and shall not become, overdue or in default to the City for any Contract, debt, or any other obligation to the City including real or personal property taxes. City shall have the right to set off any such debt against compensation awarded for services under this Contract.

ARTICLE VIII - Notice

All notices given under this Contract shall be in writing and shall be by personal delivery or by certified mail with return receipt requested to the parties at their respective addresses as specified in the Contract Documents or other address the Contractor may specify in writing. Notice will be deemed given on the date when one of the following first occur: (1) the date of actual receipt; or (2) three days after mailing certified U.S. mail.

ARTICLE IX - Indemnification

To the fullest extent permitted by law, Contractor shall indemnify, defend and hold the City, its officers, employees and agents harmless from all suits, claims, judgments and expenses including attorney's fees resulting or alleged to result, in whole or in part, from any act or omission, which is in any way connected or associated with this Contract, by the Contractor or anyone acting on the Contractor's behalf under this Contract. Contractor shall not be responsible to indemnify the City for losses or damages caused by or resulting from the City's sole negligence. The provisions of this Article shall survive the expiration or earlier termination of this contract for any reason.

ARTICLE X - Entire Agreement

This Contract represents the entire understanding between the City and the Contractor and it supersedes all prior representations, negotiations, agreements, or understandings whether written or oral. Neither party has relied on any prior representations in entering into this Contract. No terms or conditions of either party's invoice, purchase order or other administrative document shall modify the terms and conditions of this Contract, regardless of the other party's failure to object to such form. This Contract shall be binding on and shall inure to the benefit of the parties to this Contract and their permitted successors and permitted assigns and nothing in this Contract, express or implied, is intended to or shall confer on any other person or entity any legal or equitable right, benefit, or remedy of any nature whatsoever under or by reason of this Contract. This Contract may be altered, amended or modified only by written amendment signed by the City and the Contractor.

ARTICLE XI – Electronic Transactions

The City and Contractor agree that signatures on this Contract may be delivered electronically in lieu of an original signature and agree to treat electronic signatures as original signatures that bind them to this Contract. This Contract may be executed and delivered by facsimile and upon such delivery, the facsimile signature will be deemed to have the same effect as if the original signature had been delivered to the other party.

[Signatures on next page]

[INSERT CONTRACTOR NAME HERE]

By: _____

Name: _____

Title: _____

Date: _____

CITY OF ANN ARBOR

By: _____

Name: Milton Dohoney Jr.

Title: City Administrator

Date: _____

Approved as to substance:

By: _____

Name: Jordan Roberts

Title: Public Services Area Administrator

Date: _____

Approved as to form:

By: _____

Name: Atleen Kaur

Title: City Attorney

Date: _____

(Signatures continue on following page)

CITY OF ANN ARBOR

By: _____

Name: _____

Title: Mayor

Date: _____

By: _____

Name: _____

Title: City Clerk

Date: _____

PERFORMANCE BOND

(1) _____ of _____ (referred to as "Principal"), and _____, a corporation duly authorized to do business in the State of Michigan (referred to as "Surety"), are bound to the City of Ann Arbor, Michigan (referred to as "City"), for $_____, the payment of which Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, by this bond.

(2) The Principal has entered a written Contract with the City entitled N. University & Thayer Improvements Project, for RFP No. 26-11 and this bond is given for that Contract in compliance with Act No. 213 of the Michigan Public Acts of 1963, as amended, being MCL 129.201 et seq.

(3) Whenever the Principal is declared by the City to be in default under the Contract, the Surety may promptly remedy the default or shall promptly:

(a) complete the Contract in accordance with its terms and conditions; or

(b) obtain a bid or bids for submission to the City for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, arrange for a Contract between such bidder and the City, and make available, as work progresses, sufficient funds to pay the cost of completion less the balance of the Contract price; but not exceeding, including other costs and damages for which Surety may be liable hereunder, the amount set forth in paragraph 1.

(4) Surety shall have no obligation to the City if the Principal fully and promptly performs under the Contract.

(5) Surety agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder, or the specifications accompanying it shall in any way affect its obligations on this bond, and waives notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work, or to the specifications.

(6) Principal, Surety, and the City agree that signatures on this bond may be delivered electronically in lieu of an original signature and agree to treat electronic signatures as original signatures that bind them to this bond. This bond may be executed and delivered by facsimile and upon such delivery, the facsimile signature will be deemed to have the same effect as if the original signature had been delivered to the other party.

SIGNED AND SEALED this _____ day of _____, 2026.

_____	_____
(Name of Surety Company)	(Name of Principal)
By_(Signature)	By__(Signature)
Its (Title of Office)	Its (Title of Office)
Approved as to form:	Name and address of agent:
_____	_____
Atleen Kaur, City Attorney	_____
	_____

LABOR AND MATERIAL BOND

(1) _____ of _____ _____ (referred to as "Principal"), and _____, a corporation duly authorized to do business in the State of Michigan, (referred to as "Surety"), are bound to the City of Ann Arbor, Michigan (referred to as "City"), for the use and benefit of claimants as defined in Act 213 of Michigan Public Acts of 1963, as amended, being MCL 129.201 et seq., in the amount of $_____, for the payment of which Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, by this bond.

(2) The Principal has entered a written Contract with the City entitled N. University & Thayer Improvements Project, for RFP No. 26-11; and this bond is given for that Contract in compliance with Act No. 213 of the Michigan Public Acts of 1963 as amended;

(3) If the Principal fails to promptly and fully repay claimants for labor and material reasonably required under the Contract, the Surety shall pay those claimants.

(4) Surety's obligations shall not exceed the amount stated in paragraph 1, and Surety shall have no obligation if the Principal promptly and fully pays the claimants.

(5) Principal, Surety, and the City agree that signatures on this bond may be delivered electronically in lieu of an original signature and agree to treat electronic signatures as original signatures that bind them to this bond. This bond may be executed and delivered by facsimile and upon such delivery, the facsimile signature will be deemed to have the same effect as if the original signature had been delivered to the other party.

SIGNED AND SEALED this _____ day of _____, 2026

_____
(Name of Surety Company)
By (Signature)

Its (Title of Office)

Approved as to form:

_____
Atleen Kaur, City Attorney

_____
(Name of Principal)
By _____

(Signature)
Its (Title of Office)

Name and address of agent:

_____
.....
_____

_____

ATTACHMENT B
GENERAL DECLARATIONS

City of Ann Arbor
Guy C. Larcom Municipal Building
Ann Arbor, Michigan 48107

Ladies and Gentlemen:

The undersigned, as Bidder, declares that this Bid is made in good faith, without fraud or collusion with any person or persons bidding on the same Contract; that this Bidder has carefully read and examined the bid documents, including City Nondiscrimination requirements and Declaration of Compliance Form, Living Wage requirements and Declaration of Compliance Form, Prevailing Wage requirements and Declaration of Compliance Form, Vendor Conflict of Interest Form, Notice of Pre-Bid Conference, General Information, Bid, Bid Forms, Contract, Bond Forms, General Conditions, Standard Specifications, Detailed Specifications, all Addenda, and the Plans (if applicable) and understands them. The Bidder declares that it conducted a full investigation at the site and of the work proposed and is fully informed as to the nature of the work and the conditions relating to the work's performance. The Bidder also declares that it has extensive experience in successfully completing projects similar to this one.

The Bidder acknowledges that it has not received or relied upon any representations or warrants of any nature whatsoever from the City of Ann Arbor, its agents or employees, and that this Bid is based solely upon the Bidder's own independent business judgment.

The undersigned proposes to perform all work shown on the plans or described in the bid documents, including any addenda issued, and to furnish all necessary machinery, tools, apparatus, and other means of construction to do all the work, furnish all the materials, and complete the work in strict accordance with all terms of the Contract of which this Bid is one part.

In accordance with these bid documents, and Addenda numbered 1-3, the undersigned, as Bidder, proposes to perform at the sites in and/or around Ann Arbor, Michigan, all the work included herein for the amounts set forth in the Bid Forms.

The Bidder declares that it has become fully familiar with the liquidated damage clauses for completion times and for compliance with City Code Chapter 112, understands and agrees that the liquidated damages are for the non-quantifiable aspects of non-compliance and do not cover actual damages that may be shown and agrees that if awarded the Contract, all liquidated damage clauses form part of the Contract.

The Bidder declares that it has become fully familiar with the provisions of Chapter 14, Section 1:320 (Prevailing wages) and Chapter 23 (Living Wage) of the Code of the City of Ann Arbor and that it understands and agrees to comply, to the extent applicable to employees providing services to the City under this Contract, with the wage and reporting requirements stated in the City Code provisions cited. Bidder certifies that the statements contained in the City Prevailing Wage and Living Wage Declaration of Compliance Forms are true and correct. Bidder further agrees that the cited provisions of Chapter 14 and Chapter 23 form a part of this Contract.

The Bidder declares that it has become familiar with the City Conflict of Interest Disclosure Form and certifies that the statement contained therein is true and correct.

The Bidder encloses a certified check or Bid Bond in the amount of 5% of the total of the Bid Price. The Bidder agrees both to contract for the work and to furnish the necessary Bonds and insurance documentation within 10 days after being notified of the acceptance of the Bid.

If this Bid is accepted by the City and the Bidder fails to contract and furnish the required Bonds and insurance documentation within 10 days after being notified of the acceptance of this Bid, then the Bidder shall be considered to have abandoned the Contract and the certified check or Bid Bond accompanying this Bid shall become due and payable to the City.

If the Bidder enters into the Contract in accordance with this Bid, or if this Bid is rejected, then the accompanying check or Bid Bond shall be returned to the Bidder.

In submitting this Bid, it is understood that the right is reserved by the City to accept any Bid, to reject any or all Bids, to waive irregularities and/or informalities in any Bid, and to make the award in any manner the City believes to be in its best interest.

SIGNED THIS 20TH DAY OF FEBRUARY, 2026.

E.T. MacKenzie Company
Bidder's Name

8197 JACKSON ROAD
ANN ARBOR, MI 48103
Official Address

(734) 761.5050
Telephone Number

Authorized Signature of Bidder

Michael S. Marks, President
(Print Name of Signer Above)

jniemiec@mackenzieco.com
Email Address for Award Notice

ATTACHMENT C
LEGAL STATUS OF BIDDER

(The bidder shall fill out the appropriate form and strike out the other three.)

Bidder declares that it is:

* A corporation organized and doing business under the laws of the State of Michigan, for whom Michael S. Marks, bearing the office title of President, whose signature is affixed to this Bid, is authorized to execute contracts.

NOTE: If not incorporated in Michigan, please attach the corporation's Certificate of Authority

• A limited liability company doing business under the laws of the State of _____, whom _____ bearing the title of _____ whose signature is affixed to this proposal, is authorized to execute contract on behalf of the LLC.

* A partnership, organized under the laws of the state of _____ and filed in the county of _____, whose members are (list all members and the street and mailing address of each) (attach separate sheet if necessary):

_____

_____

_____

_____

_____

* An individual, whose signature with address, is affixed to this Bid: __ _____ (initial here)

Authorized Official

_____ **Date** February 20th, 2026

(Print) Name Michael S. Marks Title President

Company: E.T Mackenzie Company

Address: 8197 Jackson Road, Ann Arbor, MI 48103

Contact Phone ( ) (734) 761.5050 Fax ( ) NA

Email jniemiec@mackenzieco.com

ATTACHMENT D
PREVAILING WAGE DECLARATION OF COMPLIANCE

The "wage and employment requirements" of Section 1:320 of Chapter 14 of Title I of the Ann Arbor City Code mandates that the city not enter any contract, understanding or other arrangement for a public improvement for or on behalf of the city unless the contract provides that all craftsmen, mechanics and laborers employed directly on the site in connection with said improvements, including said employees of subcontractors, shall receive the prevailing wage for the corresponding classes of craftsmen, mechanics and laborers, as determined by statistics for the Ann Arbor area compiled by the United States Department of Labor. Where the contract and the Ann Arbor City Code are silent as to definitions of terms required in determining contract compliance with regard to prevailing wages, the definitions provided in the Davis-Bacon Act as amended (40 U.S.C. 278-a to 276-a-7) for the terms shall be used. Further, to the extent that any employees of the contractor providing services under this contract are not part of the class of craftsmen, mechanics and laborers who receive a prevailing wage in conformance with section 1:320 of Chapter 14 of Title I of the Code of the City of Ann Arbor, employees shall be paid a prescribed minimum level of compensation (i.e. Living Wage) for the time those employees perform work on the contract in conformance with section 1:815 of Chapter 23 of Title I of the Code of the City of Ann Arbor.

At the request of the city, any contractor or subcontractor shall provide satisfactory proof of compliance with this provision.

The Contractor agrees:

(a) To pay each of its employees whose wage level is required to comply with federal, state or local prevailing wage law, for work covered or funded by this contract with the City,

(b) To require each subcontractor performing work covered or funded by this contract with the City to pay each of its employees the applicable prescribed wage level under the conditions stated in subsection (a) or (b) above.

(c) To provide to the City payroll records or other documentation within ten (10) business days from the receipt of a request by the City.

(d) To permit access to work sites to City representatives for the purposes of monitoring compliance, and investigating complaints or non-compliance.

The undersigned states that he/she has the requisite authority to act on behalf of his/her employer in these matters and has offered to provide the services in accordance with the terms of the wage and employment provisions of the Chapter 14 of the Ann Arbor City Code. The undersigned certifies that he/she has read and is familiar with the terms of Section 1:320 of Chapter 14 of the Ann Arbor City Code and by executing this Declaration of Compliance obligates his/her employer and any subcontractor employed by it to perform work on the contract to the wage and employment requirements stated herein. The undersigned further acknowledges and agrees that if it is found to be in violation of the wage and employment requirements of Section 1:320 of the Chapter 14 of the Ann Arbor City Code it shall has be deemed a material breach of the terms of the contract and grounds for termination of same by the City.

E.T. MacKenzie Company
Company Name

02.20.2026
Signature of Authorized Representative — Date

Michael S. Marks, President
Print Name and Title

8197 Jackson Road, Ann Arbor, MI 48103
Address, City, State, Zip

(734) 761.5050 / jmcinnis@mackenzieco.com
Phone/Email address

Questions about this form? Contact Procurement Office City of Ann Arbor Phone: 734/794-6500

ATTACHMENT E
LIVING WAGE ORDINANCE DECLARATION OF COMPLIANCE

The Ann Arbor Living Wage Ordinance (Section 1:811-1:821 of Chapter 23 of Title I of the Code) requires that an employer who is (a) a contractor providing services to or for the City for a value greater than $10,000 for any twelve-month contract term, or (b) a recipient of federal, state, or local grant funding administered by the City for a value greater than $10,000, or (c) a recipient of financial assistance awarded by the City for a value greater than $10,000, shall pay its employees a prescribed minimum level of compensation (i.e., Living Wage) for the time those employees perform work on the contract or in connection with the grant or financial assistance. The Living Wage must be paid to these employees for the length of the contract/program.

Companies employing fewer than 5 persons and non-profits employing fewer than 10 persons are exempt from compliance with the Living Wage Ordinance. If this exemption applies to your company/non-profit agency please check here [___] *No. of employees*__

The Contractor or Grantee agrees:

(a) To pay each of its employees whose wage level is not required to comply with federal, state or local prevailing wage law, for work covered or funded by a contract with or grant from the City, no less than the Living Wage. The current Living Wage is defined as $17.08/hour for those employers that provide employee health care (as defined in the Ordinance at Section 1:815 Sec. 1 (a)), or no less than $19.04/hour for those employers that do not provide health care. The Contractor or Grantor understands that the Living Wage is adjusted and established annually on April 30 in accordance with the Ordinance and covered employers shall be required to pay the adjusted amount thereafter to be in compliance with Section 1:815(3).

Check the applicable box below which applies to your workforce

[___] Employees who are assigned to any covered City contract/grant will be paid at or above the applicable living wage without health benefits

[X] Employees who are assigned to any covered City contract/grant will be paid at or above the applicable living wage with health benefits

(b) To post a notice approved by the City regarding the applicability of the Living Wage Ordinance in every work place or other location in which employees or other persons contracting for employment are working.

(c) To provide to the City payroll records or other documentation within ten (10) business days from the receipt of a request by the City.

(d) To permit access to work sites to City representatives for the purposes of monitoring compliance, and investigating complaints or non-compliance.

(e) To take no action that would reduce the compensation, wages, fringe benefits, or leave available to any employee covered by the Living Wage Ordinance or any person contracted for employment and covered by the Living Wage Ordinance in order to pay the living wage required by the Living Wage Ordinance.

The undersigned states that he/she has the requisite authority to act on behalf of his/her employer in these matters and has offered to provide the services or agrees to accept financial assistance in accordance with the terms of the Living Wage Ordinance. The undersigned certifies that he/she has read and is familiar with the terms of the Living Wage Ordinance, obligates the Employer/Grantee to those terms and acknowledges that if his/her employer is found to be in violation of Ordinance it may be subject to civil penalties and termination of the awarded contract or grant of financial assistance.

E.T. Mackenzie Company
Company Name

8197 Jackson Road
Street Address

Signature of Authorized Representative

02.20.2026
Date

Ann Arbor, MI 48103
City, State, Zip

Michael S. Marks, President
Print Name and Title

(734) 761.5050 / jmemiec@mackenzieco.com
Phone/Email address

Attachment F

CITY OF ANN ARBOR
LIVING WAGE ORDINANCE

RATE EFFECTIVE APRIL 30, 2025 - ENDING APRIL 29, 2026

$17.08 per hour
If the employer provides health care benefits*

$19.04 per hour
If the employer does **NOT** provide health care benefits*

Employers providing services to or for the City of Ann Arbor or recipients of grants or financial assistance from the City of Ann Arbor for a value of more than $10,000 in a twelve-month period of time must pay those employees performing work on a City of Ann Arbor contract or grant, the above living wage.

ENFORCEMENT

The City of Ann Arbor may recover back wages either administratively or through court action for the employees that have been underpaid in violation of the law. Persons denied payment of the living wage have the right to bring a civil action for damages in addition to any action taken by the City.

Violation of this Ordinance is punishable by fines of not more than $500/violation plus costs, with each day being considered a separate violation. Additionally, the City of Ann Arbor has the right to modify, terminate, cancel or suspend a contract in the event of a violation of the Ordinance.

* Health Care benefits include those paid for by the employer or making an employer contribution toward the purchase of health care. The employee contribution must not exceed $.50 an hour for an average work week; and the employer cost or contribution must equal no less than $1/hr for the average work week.

The Law Requires Employers to Display This Poster Where Employees Can Readily See It.

For Additional Information or to File a Complaint contact
Colin Spencer at 734/794-6500 or cspencer@a2gov.org

ATTACHMENT G

Vendor Conflict of Interest Disclosure Form

All vendors interested in conducting business with the City of Ann Arbor must complete and return the Vendor Conflict of Interest Disclosure Form in order to be eligible to be awarded a contract. Please note that all vendors are subject to comply with the City of Ann Arbor's conflict of interest policies as stated within the certification section below.

If a vendor has a relationship with a City of Ann Arbor official or employee, an immediate family member of a City of Ann Arbor official or employee, the vendor shall disclose the information required below.

1. No City official or employee or City employee's immediate family member has an ownership interest in vendor's company or is deriving personal financial gain from this contract.
2. No retired or separated City official or employee who has been retired or separated from the City for less than one (1) year has an ownership interest in vendor's Company.
3. No City employee is contemporaneously employed or prospectively to be employed with the vendor.
4. Vendor hereby declares it has not and will not provide gifts or hospitality of any dollar value or any other gratuities to any City employee or elected official to obtain or maintain a contract.
5. Please note any exceptions below:

Conflict of Interest Disclosure*	
Name of City of Ann Arbor employees, elected officials or immediate family members with whom there may be a potential conflict of interest.	( ) Relationship to employee ( ) Interest in vendor's company ( ) Other (please describe in box below)
NA	

*Disclosing a potential conflict of interest does not disqualify vendors. In the event vendors do not disclose potential conflicts of interest and they are detected by the City, vendor will be exempt from doing business with the City.

I certify that this Conflict of Interest Disclosure has been examined by me and that its contents are true and correct to my knowledge and belief and I have the authority to so certify on behalf of the Vendor by my signature below:

E.T. Mackenzie Company		(734) 761.5050
Vendor Name		**Vendor Phone Number**
	02.20.26	Michael S. Marks, President
Signature of Vendor Authorized Representative	**Date**	**Printed Name of Vendor Authorized Representative**

Questions about this form? Contact Procurement Office City of Ann Arbor Phone: 734/794-6500, procurement@a2gov.org

ATTACHMENT H

DECLARATION OF COMPLIANCE

Non-Discrimination Ordinance

The "non discrimination by city contractors" provision of the City of Ann Arbor Non-Discrimination Ordinance (Ann Arbor City Code Chapter 112, Section 9:158) requires all contractors proposing to do business with the City to treat employees in a manner which provides equal employment opportunity and does not discriminate against any of their employees, any City employee working with them, or any applicant for employment on the basis of actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight. It also requires that the contractors include a similar provision in all subcontracts that they execute for City work or programs.

In addition the City Non-Discrimination Ordinance requires that all contractors proposing to do business with the City of Ann Arbor must satisfy the contract compliance administrative policy adopted by the City Administrator. A copy of that policy may be obtained from the Purchasing Manager

The Contractor agrees:

(a) To comply with the terms of the City of Ann Arbor's Non-Discrimination Ordinance and contract compliance administrative policy, including but not limited to an acceptable affirmative action program if applicable.

(b) To post the City of Ann Arbor's Non-Discrimination Ordinance Notice in every work place or other location in which employees or other persons are contracted to provide services under a contract with the City.

(c) To provide documentation within the specified time frame in connection with any workforce verification, compliance review or complaint investigation.

(d) To permit access to employees and work sites to City representatives for the purposes of monitoring compliance, or investigating complaints of non-compliance.

The undersigned states that he/she has the requisite authority to act on behalf of his/her employer in these matters and has offered to provide the services in accordance with the terms of the Ann Arbor Non-Discrimination Ordinance. The undersigned certifies that he/she has read and is familiar with the terms of the Non-Discrimination Ordinance, obligates the Contractor to those terms and acknowledges that if his/her employer is found to be in violation of Ordinance it may be subject to civil penalties and termination of the awarded contract.

E.T. MacKenzie Company
Company Name

Signature of Authorized Representative — 02.20.2026 Date

Michael S. Marks, President
Print Name and Title

8197 Jackson Road, Ann Arbor, MI 48103
Address, City, State, Zip

(734) 761.5050 / jmemiec@mackenzieco.com
Phone/Email Address

Questions about the Notice or the City Administrative Policy, Please contact:
Procurement Office of the City of Ann Arbor
(734) 794-6500

ATTACHMENT I

CITY OF ANN ARBOR NON-DISCRIMINATION ORDINANCE

Relevant provisions of Chapter 112, Nondiscrimination, of the Ann Arbor City Code are included below.
You can review the entire ordinance at www.a2gov.org/humanrights.

Intent: It is the intent of the city that no individual be denied equal protection of the laws; nor shall any individual be denied the enjoyment of his or her civil or political rights or be discriminated against because of actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight.

Discriminatory Employment Practices: No person shall discriminate in the hire, employment, compensation, work classifications, conditions or terms, promotion or demotion, or termination of employment of any individual. No person shall discriminate in limiting membership, conditions of membership or termination of membership in any labor union or apprenticeship program.

Discriminatory Effects: No person shall adopt, enforce or employ any policy or requirement which has the effect of creating unequal opportunities according to actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight for an individual to obtain housing, employment or public accommodation, except for a bona fide business necessity. Such a necessity does not arise due to a mere inconvenience or because of suspected objection to such a person by neighbors, customers or other persons.

Nondiscrimination by City Contractors: All contractors proposing to do business with the City of Ann Arbor shall satisfy the contract compliance administrative policy adopted by the City Administrator in accordance with the guidelines of this section. All city contractors shall ensure that applicants are employed and that employees are treated during employment in a manner which provides equal employment opportunity and tends to eliminate inequality based upon any classification protected by this chapter. All contractors shall agree not to discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of any applicable protected classification. All contractors shall be required to post a copy of Ann Arbor's Non-Discrimination Ordinance at all work locations where its employees provide services under a contract with the city.

Complaint Procedure: If any individual believes there has been a violation of this chapter, he/she may file a complaint with the City's Human Rights Commission. The complaint must be filed within 180 calendar days from the date of the individual's knowledge of the allegedly discriminatory action or 180 calendar days from the date when the individual should have known of the allegedly discriminatory action. A complaint that is not filed within this timeframe cannot be considered by the Human Rights Commission. To file a complaint, first complete the complaint form, which is available at www.a2gov.org/humanrights. Then submit it to the Human Rights Commission by e-mail (hrc@a2gov.org), by mail (Ann Arbor Human Rights Commission, PO Box 8647, Ann Arbor, MI 48107), or in person (City Clerk's Office). For further information, please call the commission at 734-794-6141 or e-mail the commission at hrc@a2gov.org.

Private Actions For Damages or Injunctive Relief: To the extent allowed by law, an individual who is the victim of discriminatory action in violation of this chapter may bring a civil action for appropriate injunctive relief or damages or both against the person(s) who acted in violation of this chapter.

THIS IS AN OFFICIAL GOVERNMENT NOTICE AND
MUST BE DISPLAYED WHERE EMPLOYEES CAN READILY SEE IT.

GENERAL CONDITIONS

Section 1 - Execution, Correlation and Intent of Documents

The contract documents shall be signed in 2 copies by the City and the Contractor.

The contract documents are complementary and what is called for by any one shall be binding. The intention of the documents is to include all labor and materials, equipment and transportation necessary for the proper execution of the work. Materials or work described in words which so applied have a well-known technical or trade meaning have the meaning of those recognized standards.

In case of a conflict among the contract documents listed below in any requirement(s), the requirement(s) of the document listed first shall prevail over any conflicting requirement(s) of a document listed later.

(1) Addenda in reverse chronological order; (2) Detailed Specifications; (3) Standard Specifications; (4) Plans; (5) General Conditions; (6) Contract; (7) Bid Forms; (8) Bond Forms; (9) Bid.

Section 2 - Order of Completion

The Contractor shall submit with each invoice, and at other times reasonably requested by the Supervising Professional, schedules showing the order in which the Contractor proposes to carry on the work. They shall include the dates at which the Contractor will start the several parts of the work, the estimated dates of completion of the several parts, and important milestones within the several parts.

Section 3 - Familiarity with Work

The Bidder or its representative shall make personal investigations of the site of the work and of existing structures and shall determine to its own satisfaction the conditions to be encountered, the nature of the ground, the difficulties involved, and all other factors affecting the work proposed under this Contract. The Bidder to whom this Contract is awarded will not be entitled to any additional compensation unless conditions are clearly different from those which could reasonably have been anticipated by a person making diligent and thorough investigation of the site.

The Bidder shall immediately notify the City upon discovery, and in every case prior to submitting its Bid, of every error or omission in the bidding documents that would be identified by a reasonably competent, diligent Bidder. In no case will a Bidder be allowed the benefit of extra compensation or time to complete the work under this Contract for extra expenses or time spent as a result of the error or omission.

Section 4 - Wage Requirements

Under this Contract, the Contractor shall conform to Chapter 14 of Title I of the Code of the City of Ann Arbor as amended; which in part states "...that all craftsmen, mechanics and laborers employed directly on the site in connection with said improvements, including said employees of

subcontractors, shall receive the prevailing wage for the corresponding classes of craftsmen, mechanics and laborers, as determined by statistics for the Ann Arbor area compiled by the United States Department of Labor. At the request of the City, any contractor or subcontractor shall provide satisfactory proof of compliance with the contract provisions required by the Section.

Pursuant to Resolution R-16-469 all public improvement contractors are subject to prevailing wage and will be required to provide to the City payroll records sufficient to demonstrate compliance with the prevailing wage requirements. A sample Prevailing Wage Form is provided in the Appendix herein for reference as to what will be expected from contractors. Use of the Prevailing Wage Form provided in the Appendix section or a City-approved equivalent will be required along with wage rate interviews.

Where the Contract and the Ann Arbor City Ordinance are silent as to definitions of terms required in determining contract compliance with regard to prevailing wages, the definitions provided in the Davis-Bacon Act as amended (40 U.S.C. 278-a to 276-a-7) for the terms shall be used.

If the Contractor is a “covered employer” as defined in Chapter 23 of the Ann Arbor City Code, the Contractor agrees to comply with the living wage provisions of Chapter 23 of the Ann Arbor City Code. The Contractor agrees to pay those employees providing Services to the City under this Contract a “living wage,” as defined in Section 1:815 of the Ann Arbor City Code, as adjusted in accordance with Section 1:815(3); to post a notice approved by the City of the applicability of Chapter 23 in every location in which regular or contract employees providing services under this Contract are working; to maintain records of compliance; if requested by the City, to provide documentation to verify compliance; to take no action that would reduce the compensation, wages, fringe benefits, or leave available to any employee or person contracted for employment in order to pay the living wage required by Section 1:815; and otherwise to comply with the requirements of Chapter 23.

Contractor agrees that all subcontracts entered into by the Contractor shall contain similar wage provision covering subcontractor’s employees who perform work on this contract.

Section 5 - Non-Discrimination

The Contractor agrees to comply, and to require its subcontractor(s) to comply, with the nondiscrimination provisions of MCL 37.2209. The Contractor further agrees to comply with the provisions of Section 9:158 of Chapter 112 of Title IX of the Ann Arbor City Code, and to assure that applicants are employed and that employees are treated during employment in a manner which provides equal employment opportunity.

Section 6 - Materials, Appliances, Employees

Unless otherwise stipulated, the Contractor shall provide and pay for all materials, labor, water, tools, equipment, light, power, transportation, and other facilities necessary or used for the execution and completion of the work. Unless otherwise specified, all materials incorporated in the permanent work shall be new, and both workmanship and materials shall be of the highest quality. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

The Contractor shall at all times enforce strict discipline and good order among its employees, and shall seek to avoid employing on the work any unfit person or anyone not skilled in the work assigned.

Adequate sanitary facilities shall be provided by the Contractor.

Section 7 - Qualifications for Employment

The Contractor shall employ competent laborers and mechanics for the work under this Contract. For work performed under this Contract, employment preference shall be given to qualified local residents.

Section 8 - Royalties and Patents

The Contractor shall pay all royalties and license fees. It shall defend all suits or claims for infringements of any patent rights and shall hold the City harmless from loss on account of infringement except that the City shall be responsible for all infringement loss when a particular process or the product of a particular manufacturer or manufacturers is specified, unless the City has notified the Contractor prior to the signing of the Contract that the particular process or product is patented or is believed to be patented.

Section 9 - Permits and Regulations

The Contractor must secure and pay for all permits, permit or plan review fees and licenses necessary for the prosecution of the work. These include but are not limited to City building permits, right-of-way permits, lane closure permits, right-of-way occupancy permits, and the like. The City shall secure and pay for easements shown on the plans unless otherwise specified.

The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the work as drawn and specified. If the Contractor observes that the contract documents are at variance with those requirements, it shall promptly notify the Supervising Professional in writing, and any necessary changes shall be adjusted as provided in the Contract for changes in the work.

Section 10 - Protection of the Public and of Work and Property

The Contractor is responsible for the means, methods, sequences, techniques and procedures of construction and safety programs associated with the work contemplated by this contract. The Contractor, its agents or sub-contractors, shall comply with the "General Rules and Regulations for the Construction Industry" as published by the Construction Safety Commission of the State of Michigan and to all other local, State and National laws, ordinances, rules and regulations pertaining to safety of persons and property.

The Contractor shall take all necessary and reasonable precautions to protect the safety of the public. It shall continuously maintain adequate protection of all work from damage, and shall take all necessary and reasonable precautions to adequately protect all public and private property from injury or loss arising in connection with this Contract. It shall make good any damage, injury or loss to its work and to public and private property resulting from lack of reasonable protective precautions, except as may be due to errors in the contract documents, or caused by agents or

employees of the City. The Contractor shall obtain and maintain sufficient insurance to cover damage to any City property at the site by any cause.

In an emergency affecting the safety of life, or the work, or of adjoining property, the Contractor is, without special instructions or authorization from the Supervising Professional, permitted to act at its discretion to prevent the threatened loss or injury. It shall also so act, without appeal, if authorized or instructed by the Supervising Professional.

Any compensation claimed by the Contractor for emergency work shall be determined by agreement or in accordance with the terms of Claims for Extra Cost - Section 15.

Section 11 - Inspection of Work

The City shall provide sufficient competent personnel for the inspection of the work.

The Supervising Professional shall at all times have access to the work whenever it is in preparation or progress, and the Contractor shall provide proper facilities for access and for inspection.

If the specifications, the Supervising Professional's instructions, laws, ordinances, or any public authority require any work to be specially tested or approved, the Contractor shall give the Supervising Professional timely notice of its readiness for inspection, and if the inspection is by an authority other than the Supervising Professional, of the date fixed for the inspection. Inspections by the Supervising Professional shall be made promptly, and where practicable at the source of supply. If any work should be covered up without approval or consent of the Supervising Professional, it must, if required by the Supervising Professional, be uncovered for examination and properly restored at the Contractor's expense.

Re-examination of any work may be ordered by the Supervising Professional, and, if so ordered, the work must be uncovered by the Contractor. If the work is found to be in accordance with the contract documents, the City shall pay the cost of re-examination and replacement. If the work is not in accordance with the contract documents, the Contractor shall pay the cost.

Section 12 - Superintendence

The Contractor shall keep on the work site, during its progress, a competent superintendent and any necessary assistants, all satisfactory to the Supervising Professional. The superintendent will be responsible to perform all on-site project management for the Contractor. The superintendent shall be experienced in the work required for this Contract. The superintendent shall represent the Contractor and all direction given to the superintendent shall be binding as if given to the Contractor. Important directions shall immediately be confirmed in writing to the Contractor. Other directions will be confirmed on written request. The Contractor shall give efficient superintendence to the work, using its best skill and attention.

Section 13 - Changes in the Work

The City may make changes to the quantities of work within the general scope of the Contract at any time by a written order and without notice to the sureties. If the changes add to or deduct from the extent of the work, the Contract Sum shall be adjusted accordingly. All the changes shall be

executed under the conditions of the original Contract except that any claim for extension of time caused by the change shall be adjusted at the time of ordering the change.

In giving instructions, the Supervising Professional shall have authority to make minor changes in the work not involving extra cost and not inconsistent with the purposes of the work, but otherwise, except in an emergency endangering life or property, no extra work or change shall be made unless in pursuance of a written order by the Supervising Professional, and no claim for an addition to the Contract Sum shall be valid unless the additional work was ordered in writing.

The Contractor shall proceed with the work as changed and the value of the work shall be determined as provided in Claims for Extra Cost - Section 15.

Section 14 - Extension of Time

Extension of time stipulated in the Contract for completion of the work will be made if and as the Supervising Professional may deem proper under any of the following circumstances:

(1) When work under an extra work order is added to the work under this Contract;

(2) When the work is suspended as provided in Section 20;

(3) When the work of the Contractor is delayed on account of conditions which could not have been foreseen, or which were beyond the control of the Contractor, and which were not the result of its fault or negligence;

(4) Delays in the progress of the work caused by any act or neglect of the City or of its employees or by other Contractors employed by the City;

(5) Delay due to an act of Government;

(6) Delay by the Supervising Professional in the furnishing of plans and necessary information;

(7) Other cause which in the opinion of the Supervising Professional entitles the Contractor to an extension of time.

The Contractor shall notify the Supervising Professional within 7 days of an occurrence or conditions which, in the Contractor's opinion, entitle it to an extension of time. The notice shall be in writing and submitted in ample time to permit full investigation and evaluation of the Contractor's claim. The Supervising Professional shall acknowledge receipt of the Contractor's notice within 7 days of its receipt. Failure to timely provide the written notice shall constitute a waiver by the Contractor of any claim.

In situations where an extension of time in contract completion is appropriate under this or any other section of the contract, the Contractor understands and agrees that the only available adjustment for events that cause any delays in contract completion shall be extension of the required time for contract completion and that there shall be no adjustments in the money due the Contractor on account of the delay.

Section 15 - Claims for Extra Cost

If the Contractor claims that any instructions by drawings or other media issued after the date of the Contract involved extra cost under this Contract, it shall give the Supervising Professional written notice within 7 days after the receipt of the instructions, and in any event before proceeding to execute the work, except in emergency endangering life or property. The procedure shall then be as provided for Changes in the Work-Section l3. No claim shall be valid unless so made.

If the Supervising Professional orders, in writing, the performance of any work not covered by the contract documents, and for which no item of work is provided in the Contract, and for which no unit price or lump sum basis can be agreed upon, then the extra work shall be done on a Cost-Plus-Percentage basis of payment as follows:

(1) The Contractor shall be reimbursed for all reasonable costs incurred in doing the work, and shall receive an additional payment of 15% of all the reasonable costs to cover both its indirect overhead costs and profit;

(2) The term "Cost" shall cover all payroll charges for employees and supervision required under the specific order, together with all worker's compensation, Social Security, pension and retirement allowances and social insurance, or other regular payroll charges on same; the cost of all material and supplies required of either temporary or permanent character; rental of all power-driven equipment at agreed upon rates, together with cost of fuel and supply charges for the equipment; and any costs incurred by the Contractor as a direct result of executing the order, if approved by the Supervising Professional;

(3) If the extra is performed under subcontract, the subcontractor shall be allowed to compute its charges as described above. The Contractor shall be permitted to add an additional charge of 5% percent to that of the subcontractor for the Contractor's supervision and contractual responsibility;

(4) The quantities and items of work done each day shall be submitted to the Supervising Professional in a satisfactory form on the succeeding day, and shall be approved by the Supervising Professional and the Contractor or adjusted at once;

(5) Payments of all charges for work under this Section in any one month shall be made along with normal progress payments. Retainage shall be in accordance with Progress Payments-Section 16.

No additional compensation will be provided for additional equipment, materials, personnel, overtime or special charges required to perform the work within the time requirements of the Contract.

When extra work is required and no suitable price for machinery and equipment can be determined in accordance with this Section, the hourly rate paid shall be 1/40 of the basic weekly rate listed in the Rental Rate Blue Book published by Dataquest Incorporated and applicable to the time period the equipment was first used for the extra work. The hourly rate will be deemed to include all costs of operation such as bucket or blade, fuel, maintenance, "regional factors", insurance, taxes, and the like, but not the costs of the operator.

Section 16 - Progress Payments

The Contractor shall submit each month, or at longer intervals, if it so desires, an invoice covering work performed for which it believes payment, under the Contract terms, is due. The submission shall be to the City's Finance Department - Accounting Division. The Supervising Professional will, within 10 days following submission of the invoice, prepare a certificate for payment for the work in an amount to be determined by the Supervising Professional as fairly representing the acceptable work performed during the period covered by the Contractor's invoice. To insure the proper performance of this Contract, the City will retain a percentage of the estimate in accordance with Act 524, Public Acts of 1980. The City will then, following the receipt of the Supervising Professional's Certificate, make payment to the Contractor as soon as feasible, which is anticipated will be within 15 days.

An allowance may be made in progress payments if substantial quantities of permanent material have been delivered to the site but not incorporated in the completed work if the Contractor, in the opinion of the Supervising Professional, is diligently pursuing the work under this Contract. Such materials shall be properly stored and adequately protected. Allowance in the estimate shall be at the invoice price value of the items. Notwithstanding any payment of any allowance, all risk of loss due to vandalism or any damages to the stored materials remains with the Contractor.

In the case of Contracts which include only the Furnishing and Delivering of Equipment, the payments shall be; 60% of the Contract Sum upon the delivery of all equipment to be furnished, or in the case of delivery of a usable portion of the equipment in advance of the total equipment delivery, 60% of the estimated value of the portion of the equipment may be paid upon its delivery in advance of the time of the remainder of the equipment to be furnished; 30% of the Contract Sum upon completion of erection of all equipment furnished, but not later than 60 days after the date of delivery of all of the equipment to be furnished; and payment of the final 10% on final completion of erection, testing and acceptance of all the equipment to be furnished; but not later than l80 days after the date of delivery of all of the equipment to be furnished, unless testing has been completed and shows the equipment to be unacceptable.

With each invoice for periodic payment, the Contractor shall enclose a Contractor's Declaration - Section 43, and an updated project schedule per Order of Completion - Section 2.

Section 17 - Deductions for Uncorrected Work

If the Supervising Professional decides it is inexpedient to correct work that has been damaged or that was not done in accordance with the Contract, an equitable deduction from the Contract price shall be made.

Section 18 - Correction of Work Before Final Payment

The Contractor shall promptly remove from the premises all materials condemned by the Supervising Professional as failing to meet Contract requirements, whether incorporated in the work or not, and the Contractor shall promptly replace and re-execute the work in accordance with the Contract and without expense to the City and shall bear the expense of making good all work of other contractors destroyed or damaged by the removal or replacement.

If the Contractor does not remove the condemned work and materials within l0 days after written notice, the City may remove them and, if the removed material has value, may store the material

at the expense of the Contractor. If the Contractor does not pay the expense of the removal within 10 days thereafter, the City may, upon 10 days written notice, sell the removed materials at auction or private sale and shall pay to the Contractor the net proceeds, after deducting all costs and expenses that should have been borne by the Contractor. If the removed material has no value, the Contractor must pay the City the expenses for disposal within 10 days of invoice for the disposal costs.

The inspection or lack of inspection of any material or work pertaining to this Contract shall not relieve the Contractor of its obligation to fulfill this Contract and defective work shall be made good. Unsuitable materials may be rejected by the Supervising Professional notwithstanding that the work and materials have been previously overlooked by the Supervising Professional and accepted or estimated for payment or paid for. If the work or any part shall be found defective at any time before the final acceptance of the whole work, the Contractor shall forthwith make good the defect in a manner satisfactory to the Supervising Professional. The judgment and the decision of the Supervising Professional as to whether the materials supplied and the work done under this Contract comply with the requirements of the Contract shall be conclusive and final.

Section 19 - Acceptance and Final Payment

Upon receipt of written notice that the work is ready for final inspection and acceptance, the Supervising Professional will promptly make the inspection. When the Supervising Professional finds the work acceptable under the Contract and the Contract fully performed, the Supervising Professional will promptly sign and issue a final certificate stating that the work required by this Contract has been completed and is accepted by the City under the terms and conditions of the Contract. The entire balance found to be due the Contractor, including the retained percentage, shall be paid to the Contractor by the City within 30 days after the date of the final certificate.

Before issuance of final certificates, the Contractor shall file with the City:

(1) The consent of the surety to payment of the final estimate;
(2) The Contractor's Affidavit in the form required by Section 44.

In case the Affidavit or consent is not furnished, the City may retain out of any amount due the Contractor, sums sufficient to cover all lienable claims.

The making and acceptance of the final payment shall constitute a waiver of all claims by the City except those arising from:

(1) unsettled liens;
(2) faulty work appearing within 12 months after final payment;
(3) hidden defects in meeting the requirements of the plans and specifications;
(4) manufacturer's guarantees.

It shall also constitute a waiver of all claims by the Contractor, except those previously made and still unsettled.

Section 20 - Suspension of Work

The City may at any time suspend the work, or any part by giving 5 days notice to the Contractor in writing. The work shall be resumed by the Contractor within 10 days after the date fixed in the

written notice from the City to the Contractor to do so. The City shall reimburse the Contractor for expense incurred by the Contractor in connection with the work under this Contract as a result of the suspension.

If the work, or any part, shall be stopped by the notice in writing, and if the City does not give notice in writing to the Contractor to resume work at a date within 90 days of the date fixed in the written notice to suspend, then the Contractor may abandon that portion of the work suspended and will be entitled to the estimates and payments for all work done on the portions abandoned, if any, plus 10% of the value of the work abandoned, to compensate for loss of overhead, plant expense, and anticipated profit.

Section 21 - Delays and the City's Right to Terminate Contract

If the Contractor refuses or fails to prosecute the work, or any separate part of it, with the diligence required to insure completion, ready for operation, within the allowable number of consecutive calendar days specified plus extensions, or fails to complete the work within the required time, the City may, by written notice to the Contractor, terminate its right to proceed with the work or any part of the work as to which there has been delay. After providing the notice the City may take over the work and prosecute it to completion, by contract or otherwise, and the Contractor and its sureties shall be liable to the City for any excess cost to the City. If the Contractor's right to proceed is terminated, the City may take possession of and utilize in completing the work, any materials, appliances and plant as may be on the site of the work and useful for completing the work. The right of the Contractor to proceed shall not be terminated or the Contractor charged with liquidated damages where an extension of time is granted under Extension of Time - Section 14.

If the Contractor is adjudged a bankrupt, or if it makes a general assignment for the benefit of creditors, or if a receiver is appointed on account of its insolvency, or if it persistently or repeatedly refuses or fails except in cases for which extension of time is provided, to supply enough properly skilled workers or proper materials, or if it fails to make prompt payments to subcontractors or for material or labor, or persistently disregards laws, ordinances or the instructions of the Supervising Professional, or otherwise is guilty of a substantial violation of any provision of the Contract, then the City, upon the certificate of the Supervising Professional that sufficient cause exists to justify such action, may, without prejudice to any other right or remedy and after giving the Contractor 3 days written notice, terminate this Contract. The City may then take possession of the premises and of all materials, tools and appliances thereon and without prejudice to any other remedy it may have, make good the deficiencies or finish the work by whatever method it may deem expedient, and deduct the cost from the payment due the Contractor. The Contractor shall not be entitled to receive any further payment until the work is finished. If the expense of finishing the work, including compensation for additional managerial and administrative services exceeds the unpaid balance of the Contract Sum, the Contractor and its surety are liable to the City for any excess cost incurred. The expense incurred by the City, and the damage incurred through the Contractor's default, shall be certified by the Supervising Professional.

Section 22 - Contractor's Right to Terminate Contract

If the work should be stopped under an order of any court, or other public authority, for a period of 3 months, through no act or fault of the Contractor or of anyone employed by it, then the Contractor may, upon 7 days written notice to the City, terminate this Contract and recover from the City payment for all acceptable work executed plus reasonable profit.

Section 23 - City's Right To Do Work

If the Contractor should neglect to prosecute the work properly or fail to perform any provision of this Contract, the City, 3 days after giving written notice to the Contractor and its surety may, without prejudice to any other remedy the City may have, make good the deficiencies and may deduct the cost from the payment due to the Contractor.

Section 24 - Removal of Equipment and Supplies

In case of termination of this Contract before completion, from any or no cause, the Contractor, if notified to do so by the City, shall promptly remove any part or all of its equipment and supplies from the property of the City, failing which the City shall have the right to remove the equipment and supplies at the expense of the Contractor.

The removed equipment and supplies may be stored by the City and, if all costs of removal and storage are not paid by the Contractor within 10 days of invoicing, the City upon 10 days written notice may sell the equipment and supplies at auction or private sale, and shall pay the Contractor the net proceeds after deducting all costs and expenses that should have been borne by the Contractor and after deducting all amounts claimed due by any lien holder of the equipment or supplies.

Section 25 - Responsibility for Work and Warranties

The Contractor assumes full responsibility for any and all materials and equipment used in the construction of the work and may not make claims against the City for damages to materials and equipment from any cause except negligence or willful act of the City. Until its final acceptance, the Contractor shall be responsible for damage to or destruction of the project (except for any part covered by Partial Completion and Acceptance - Section 26). The Contractor shall make good all work damaged or destroyed before acceptance. All risk of loss remains with the Contractor until final acceptance of the work (Section 19) or partial acceptance (Section 26). The Contractor is advised to investigate obtaining its own builders risk insurance.

The Contractor shall guarantee the quality of the work for a period of one year. The Contractor shall also unconditionally guarantee the quality of all equipment and materials that are furnished and installed under the contract for a period of one year. At the end of one year after the Contractor's receipt of final payment, the complete work, including equipment and materials furnished and installed under the contract, shall be inspected by the Contractor and the Supervising Professional. Any defects shall be corrected by the Contractor at its expense as soon as practicable but in all cases within 60 days. Any defects that are identified prior to the end of one year shall also be inspected by the Contractor and the Supervising Professional and shall be corrected by the Contractor at its expense as soon as practicable but in all cases within 60 days. The Contractor shall assign all manufacturer or material supplier warranties to the City prior to final payment. The assignment shall not relieve the Contractor of its obligations under this paragraph to correct defects.

Section 26 - Partial Completion and Acceptance

If at any time prior to the issuance of the final certificate referred to in Acceptance and Final Payment - Section 19, any portion of the permanent construction has been satisfactorily completed, and if the Supervising Professional determines that portion of the permanent construction is not required for the operations of the Contractor but is needed by the City, the Supervising Professional shall issue to the Contractor a certificate of partial completion, and immediately the City may take over and use the portion of the permanent construction described in the certificate, and exclude the Contractor from that portion.

The issuance of a certificate of partial completion shall not constitute an extension of the Contractor's time to complete the portion of the permanent construction to which it relates if the Contractor has failed to complete it in accordance with the terms of this Contract. The issuance of the certificate shall not release the Contractor or its sureties from any obligations under this Contract including bonds.

If prior use increases the cost of, or delays the work, the Contractor shall be entitled to extra compensation, or extension of time, or both, as the Supervising Professional may determine.

Section 27 - Payments Withheld Prior to Final Acceptance of Work

The City may withhold or, on account of subsequently discovered evidence, nullify the whole or part of any certificate to the extent reasonably appropriate to protect the City from loss on account of:

(1) Defective work not remedied;

(2) Claims filed or reasonable evidence indicating probable filing of claims by other parties against the Contractor;

(3) Failure of the Contractor to make payments properly to subcontractors or for material or labor;

(4) Damage to another Contractor.

When the above grounds are removed or the Contractor provides a Surety Bond satisfactory to the City which will protect the City in the amount withheld, payment shall be made for amounts withheld under this section.

Section 28 - Contractor's Insurance

(1) The Contractor shall procure and maintain during the life of this Contract, including the guarantee period and during any warranty work, such insurance policies, including those set forth below, as will protect itself and the City from all claims for bodily injuries, death or property damage that may arise under this Contract; whether the act(s) or omission(s) giving rise to the claim were made by the Contractor, any subcontractor, or anyone employed by them directly or indirectly. Prior to commencement of any work under this contract, Contractor shall provide to the City documentation satisfactory to the City, through City-approved means (currently myCOI), demonstrating it has obtained the required policies and endorsements. The certificates of insurance endorsements and/or copies of

policy language shall document that the Contractor satisfies the following minimum requirements. Contractor shall add registration@mycoitracking.com to its safe sender's list so that it will receive necessary communication from myCOI. When requested, Contractor shall provide the same documentation for its subcontractor(s) (if any).

Required insurance policies include:

(a) Worker's Compensation Insurance in accordance with all applicable state and federal statutes. Further, Employers Liability Coverage shall be obtained in the following minimum amounts:

Bodily Injury by Accident - $500,000 each accident
Bodily Injury by Disease - $500,000 each employee
Bodily Injury by Disease - $500,000 each policy limit

(b) Commercial General Liability Insurance equivalent to, as a minimum, Insurance Services Office form CG 00 01 04 13 or current equivalent. The City of Ann Arbor shall be named as an additional insured. There shall be no added exclusions or limiting endorsements specifically for the following coverages: Products and Completed Operations, Explosion, Collapse and Underground coverage or Pollution. Further there shall be no added exclusions or limiting endorsements that diminish the City's protections as an additional insured under the policy. The following minimum limits of liability are required:

$1,000,000	Each occurrence as respect Bodily Injury Liability or Property Damage Liability, or both combined.
$2,000,000	Per Project General Aggregate
$1,000,000	Personal and Advertising Injury
$2,000,000	Products and Completed Operations Aggregate, which, notwithstanding anything to the contrary herein, shall be maintained for three years from the date the Project is completed.

(c) Motor Vehicle Liability Insurance, including Michigan No-Fault Coverages, equivalent to, as a minimum, Insurance Services Office form CA 00 01 10 13 or current equivalent. Coverage shall include all owned vehicles, all non-owned vehicles and all hired vehicles. The City of Ann Arbor shall be named as an additional insured. There shall be no added exclusions or limiting endorsements that diminish the City's protections as an additional insured under the policy. Further, the limits of liability shall be $1,000,000 for each occurrence as respects Bodily Injury Liability or Property Damage Liability, or both combined.

(d) Umbrella/Excess Liability Insurance shall be provided to apply excess of the Commercial General Liability, Employers Liability and the Motor Vehicle coverage enumerated above, for each occurrence and for aggregate in the amount of $1,000,000.

(2) Insurance required under subsection (1)(b) and (1)(c) above shall be considered primary as respects any other valid or collectible insurance that the City may possess, including any self-insured retentions the City may have; and any other insurance the City does possess shall be considered excess insurance only and shall not be required to contribute

with this insurance. Further, the Contractor agrees to waive any right of recovery by its insurer against the City for any insurance listed herein.

(3) Insurance companies and policy forms are subject to approval of the City Attorney, which approval shall not be unreasonably withheld. Documentation must provide and demonstrate an unconditional and un-qualified 30-day written notice of cancellation in favor of the City of Ann Arbor. Further, the documentation must explicitly state the following: (a) the policy number(s); name of insurance company(s); name and address of the agent(s) or authorized representative(s); name(s), email address(es), and address of insured; project name; policy expiration date; and specific coverage amounts; (b) any deductibles or self-insured retentions which may be approved by the City, in its sole discretion; (c) that the policy conforms to the requirements specified Contractor shall furnish the City with satisfactory certificates of insurance and endorsements prior to commencement of any work. Upon request, the Contractor shall provide within 30 days a copy of the policy(ies) and all required endorsements to the City. If any of the above coverages expire by their terms during the term of this Contract, the Contractor shall deliver proof of renewal and/or new policies and endorsements to the Administering Service Area/Unit at least ten days prior to the expiration date.

(4) Any Insurance provider of Contractor shall be authorized to do business in the State of Michigan and shall carry and maintain a minimum rating assigned by A.M. Best & Company's Key Rating Guide of "A-" Overall and a minimum Financial Size Category of "V". Insurance policies and certificates issued by non-authorized insurance companies are not acceptable unless approved in writing by the City.

(5) City reserves the right to require additional coverage and/or coverage amounts as may be included from time to time in the Detailed Specifications for the Project.

(6) The provisions of General Condition 28 shall survive the expiration or earlier termination of this contract for any reason.

Section 29 - Surety Bonds

Bonds will be required from the successful bidder as follows:

(1) A Performance Bond to the City of Ann Arbor for the amount of the bid(s) accepted;
(2) A Labor and Material Bond to the City of Ann Arbor for the amount of the bid(s) accepted.

Bonds shall be executed on forms supplied by the City in a manner and by a Surety Company authorized to transact business in Michigan and satisfactory to the City Attorney.

Section 30 - Damage Claims

The Contractor shall be held responsible for all damages to property of the City or others, caused by or resulting from the negligence of the Contractor, its employees, or agents during the progress of or connected with the prosecution of the work, whether within the limits of the work or elsewhere. The Contractor must restore all property injured including sidewalks, curbing, sodding, pipes, conduit, sewers or other public or private property to not less than its original condition with new work.

Section 31 - Refusal to Obey Instructions

If the Contractor refuses to obey the instructions of the Supervising Professional, the Supervising Professional shall withdraw inspection from the work, and no payments will be made for work performed thereafter nor may work be performed thereafter until the Supervising Professional shall have again authorized the work to proceed.

Section 32 - Assignment

Neither party to the Contract shall assign the Contract without the written consent of the other. The Contractor may assign any monies due to it to a third party acceptable to the City.

Section 33 - Rights of Various Interests

Whenever work being done by the City's forces or by other contractors is contiguous to work covered by this Contract, the respective rights of the various interests involved shall be established by the Supervising Professional, to secure the completion of the various portions of the work in general harmony.

The Contractor is responsible to coordinate all aspects of the work, including coordination of, and with, utility companies and other contractors whose work impacts this project.

Section 34 - Subcontracts

The Contractor shall not award any work to any subcontractor without prior written approval of the City. The approval will not be given until the Contractor submits to the City a written statement concerning the proposed award to the subcontractor. The statement shall contain all information the City may require.

The Contractor shall be as fully responsible to the City for the acts and omissions of its subcontractors, and of persons either directly or indirectly employed by them, as it is for the acts and omissions of persons directly employed by it.

The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the Contractor by the terms of the General Conditions and all other contract documents applicable to the work of the subcontractors and to give the Contractor the same power to terminate any subcontract that the City may exercise over the Contractor under any provision of the contract documents.

Nothing contained in the contract documents shall create any contractual relation between any subcontractor and the City.

Section 35 - Supervising Professional's Status

The Supervising Professional has the right to inspect any or all work. The Supervising Professional has authority to stop the work whenever stoppage may be appropriate to insure the proper execution of the Contract. The Supervising Professional has the authority to reject all work and materials which do not conform to the Contract and to decide questions which arise in the execution of the work.

The Supervising Professional shall make all measurements and determinations of quantities. Those measurements and determinations are final and conclusive between the parties.

Section 36 - Supervising Professional's Decisions

The Supervising Professional shall, within a reasonable time after their presentation to the Supervising Professional, make decisions in writing on all claims of the City or the Contractor and on all other matters relating to the execution and progress of the work or the interpretation of the contract documents.

Section 37 - Storing Materials and Supplies

Materials and supplies may be stored at the site of the work at locations agreeable to the City unless specific exception is listed elsewhere in these documents. Ample way for foot traffic and drainage must be provided, and gutters must, at all times, be kept free from obstruction. Traffic on streets shall be interfered with as little as possible. The Contractor may not enter or occupy with agents, employees, tools, or material any private property without first obtaining written permission from its owner. A copy of the permission shall be furnished to the Supervising Professional.

Section 38 - Lands for Work

The Contractor shall provide, at its own expense and without liability to the City, any additional land and access that may be required for temporary construction facilities or for storage of materials.

Section 39 - Cleaning Up

The Contractor shall, as directed by the Supervising Professional, remove at its own expense from the City's property and from all public and private property all temporary structures, rubbish and waste materials resulting from its operations unless otherwise specifically approved, in writing, by the Supervising Professional.

Section 40 - Salvage

The Supervising Professional may designate for salvage any materials from existing structures or underground services. Materials so designated remain City property and shall be transported or stored at a location as the Supervising Professional may direct.

Section 41 - Night, Saturday or Sunday Work

No night or Sunday work (without prior written City approval) will be permitted except in the case of an emergency and then only to the extent absolutely necessary. The City may allow night work which, in the opinion of the Supervising Professional, can be satisfactorily performed at night. Night work is any work between 8:00 p.m. and 7:00 a.m. No Saturday work will be permitted unless the Contractor gives the Supervising Professional at least 48 hours but not more than 5 days notice of the Contractor's intention to work the upcoming Saturday.

Section 42 - Sales Taxes

Under State law the City is exempt from the assessment of State Sales Tax on its direct purchases. Contractors who acquire materials, equipment, supplies, etc. for incorporation in City projects are not likewise exempt. State Law shall prevail. The Bidder shall familiarize itself with the State Law and prepare its Bid accordingly. No extra payment will be allowed under this Contract for failure of the Contractor to make proper allowance in this bid for taxes it must pay.

Section 43

CONTRACTOR'S DECLARATION

I hereby declare that I have not, during the period _____, 20___, to _____, 20 , performed any work, furnished any materials, sustained any loss, damage or delay, or otherwise done anything in addition to the regular items (or executed change orders) set forth in the Contract titled _____, for which I shall ask, demand, sue for, or claim compensation or extension of time from the City, except as I hereby make claim for additional compensation or extension of time as set forth on the attached itemized statement. I further declare that I have paid all payroll obligations related to this Contract that have become due during the above period and that all invoices related to this Contract received more than 30 days prior to this declaration have been paid in full except as listed below.

There is/is not (Contractor please circle one and strike one as appropriate) an itemized statement attached regarding a request for additional compensation or extension of time.

_____ _____
Contractor Date

By _____
(Signature)

Its _____
(Title of Office)

Past due invoices, if any, are listed below.

Section 44

CONTRACTOR'S AFFIDAVIT

The undersigned Contractor,_____, represents that on _____, 20___, it was awarded a contract by the City of Ann Arbor, Michigan to_____ under the terms and conditions of a Contract titled _____. The Contractor represents that all work has now been accomplished and the Contract is complete.

The Contractor warrants and certifies that all of its indebtedness arising by reason of the Contract has been fully paid or satisfactorily secured; and that all claims from subcontractors and others for labor and material used in accomplishing the project, as well as all other claims arising from the performance of the Contract, have been fully paid or satisfactorily settled. The Contractor agrees that, if any claim should hereafter arise, it shall assume responsibility for it immediately upon request to do so by the City of Ann Arbor.

The Contractor, for valuable consideration received, does further waive, release and relinquish any and all claims or right of lien which the Contractor now has or may acquire upon the subject premises for labor and material used in the project owned by the City of Ann Arbor.

This affidavit is freely and voluntarily given with full knowledge of the facts.

_____ _____
Contractor Date

By _____
(Signature)

Its _____
(Title of Office)

Subscribed and sworn to before me, on this _____ day of _____, 20__
_____ , _____ County, Michigan
Notary Public
_____ County, MI
My commission expires on:

STANDARD SPECIFICATIONS

All work under this contract shall be performed in accordance with the Public Services Department Standard Specifications in effect at the date of availability of the contract documents stipulated in the Bid. All work under this Contract which is not included in these Standard Specifications, or which is performed using modifications to these Standard Specifications, shall be performed in accordance with the Detailed Specifications included in these contract documents.

Standard Specifications are available online:

http://www.a2gov.org/departments/engineering/Pages/Engineering-and-Contractor-Resources.aspx

DETAILED SPECIFICATIONS

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
PROGRESS CLAUSE

a. Description.

Examination of Plans, Specifications, and Work Site: Bidders will carefully examine the Bid Form, plans, specifications, and the work site until the Bidder is satisfied as to all local conditions affecting the Contract and the detailed requirements of construction. The submission of the bid will be considered prima facie evidence that the Bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and all requirements of the Contract.

This Contract requires water main, storm sewer, sanitary sewer, concrete curb and gutters, concrete sidewalks, bituminous paving, streetlights and associated work on North University Avenue from east of State Street to east of Fletcher Street, and Thayer Street from North University Avenue to East Washington Street.

The entire work under this Contract will be completed in accordance with, and subject to, the scheduling requirements as outlined below, in the Maintenance of Traffic and Sequence of Construction Detailed Specification, and all other requirements of the Contract Documents.

1. The Contractor is expected to be furnished with an electronic copy of the Contract, for his/her execution, on or before **February 17, 2026.** The Contractor will electronically execute the Contract and return it, with the required Bonds and Insurance Certificate, to the City within **fourteen (14) days**. City Council review and approval of the Contract is expected on **April 20, 2026.** The Notice of Award would be provided after the Council approval. The Contractor will not begin the work on-site before the applicable date(s) as described herein without approval from the Project Engineer, and in no case before the receipt of the fully executed Contract.

2. The Contractor will only begin the work of this project upon receipt of the fully executed Contract and Notice to Proceed and no sooner than **May 4, 2026**. Appropriate time extensions will be granted if the Notice to Proceed is delayed beyond this date. Given the need to start the project on-time and meet deadlines, time extensions for Phase 1 will not be granted for delays associated with material procurement. The Contractor may elect to procure materials at their own risk prior to the Notice to Proceed being issued in order to meet the schedule if material delays are anticipated. Work on this project may not begin without an Engineer approved project schedule submitted by the Contractor that includes details of guaranteed material delivery dates. In the event that material delays result in a project start date or Phase completion dates that do not allow for the completion of work within the timeframe listed herein, the Engineer may elect to delay the

project or selected phases of the project to 2027. All bid prices will be held per the approved contract regardless of delays and/or schedule changes.

3. **Phase 1 Work** – All water and sanitary main installation will be completed in Phase 1 as depicted in the plans. Pavement, curb and gutter, and sidewalk removals and restoration with HMA hand-patching will be limited to areas needed only for installation of the water and sanitary main and associated leads to buildings. Note that the Engineer may require watermain shutdowns to occur during non-standard hours to ensure minimal interruption to businesses and the University of Michigan. All services will be installed and connected during Phase 1. Existing watermain will be abandoned once the new watermain is tested, accepted, and put in service. Install aggregate, concrete and HMA, as directed by the Engineer. Contractor is to open road and sidewalks to traffic as described in this provision.

   Installation of the water main and sanitary main for Thayer Street as reflected in the plans will be completed no later than **June 5, 2026.** Liquated damaged per Section 9 will apply for failure to meet this date. This deadline is to accommodate a roofing project for Hill Auditorium. Refer to the Coordination Clause in this contract for details specific to this project.

   No work shall occur on **May 8, May 11 and May 15, 2026,** due to University of Michigan commencement activities occurring at Hill Auditorium.

   The Contractor will be required to finish work by **5p EST** from **June 12 – June 28, 2026** (Mondays excluded) while the Ann Arbor Summerfest is occurring.

   Throughout the life of the project, various evening events and high school commencements will take place at Hill Auditorium. The Engineer will communicate specific event dates to the Contractor at the weekly coordination meeting. The Contractor will not impede traffic flow on westbound North University with equipment or stockpiled materials on evenings when an event is scheduled. The Contractor shall also not impede fire truck and emergency vehicle access within the project limits in the event of an emergency.

   No thru traffic will be allowed on North University from State Street to Fletcher Street, and Thayer Street from North University to Washington Street. Provide traffic control devices for detour routes as specified in the plans. Access for local traffic and emergency service vehicles, as specified in this special provision, will be maintained at all times. Pedestrian access will be maintained as specified in this special provision. The Ingalls Mall crosswalk at North University will remain open at all times.

   The pavement surface of North University and Thayer, as referenced in the plans, will have an HMA application of 165#/syd at the end of Phase 1 in preparation for the Art Fair.

Phase 1 will be completed in its entirety by **July 10, 2026.** Liquated damaged per Section 9 will apply for failure to meet this date. All temporary traffic control devices, construction equipment and materials shall be stored off-site so the project limits can be occupied for Art Fair activities. The project site will be left in a clean, safe and orderly condition and opened for use by the public. Prior to work stoppage, all businesses and University facilities will have unrestricted pedestrian access.

4. **Ann Arbor Art Fair Week (July 13, 2026 – July 18, 2026)** - This project falls within the limits of the Ann Arbor Art Fair. No work is allowed from July 11, 2026, to July 19, 2026.

5. **Phase 2 Work** – Phase 2 work will not begin until **Monday, July 20, 2026**. Work includes pavement removal, installation of storm sewer, storm inlets/structures, and storm infiltration from the P.O.E. to the Fletcher intersection. Pavement removal, concrete removal, new concrete curb and gutter, sidewalk, planter boxes and streetlights apply from the intersection of Fletcher to the P.O.E.

   The Contractor will have up to **21-calendar days** to close the intersection of Fletcher and North University. However, deliveries and access to the Chemistry Building must be maintained by the Contractor during that period. Liquated damages per Section 9 will apply for a closure exceeding a 21-calendar day period. The timing of the closure is to be coordinated in advance and approved by the Engineer. With approval from the Engineer, the Contractor can perform work in the Fletcher intersection during Phase 1. No extra compensation will be provided to the Contractor if work is performed prior to the Art Fair.

   During Phase 2, no thru traffic will be allowed on North University from State Street to Fletcher Street, and Thayer Street from North University to Washington Street. Access for local traffic and emergency service vehicles, as specified in this special provision, will be maintained at all times. The Ingalls Mall crosswalk at North University will remain open at all times.

   Phase 2 will be completed entirely by **August 15, 2026.** Liquated damages per Section 9 will apply for failure to meet this date. The Contractor will not be granted approval to close the traffic movement of southbound Fletcher Street to eastbound North University, and westbound North University to northbound Flatcher Street after Phase 2 is completed.

6. **Phase 3 Work** – Phase 3 work will begin on **Monday, August 17, 2026.** The Contractor will be required to implement part-width road construction sequencing as needed to maintain eastbound North University transit vehicles to travel through the job site for the duration of Phase 3. The access point for transit travel into the project will be at the intersection of State Street at North University. The exit point for transit travel through the job site will be intersection of Fletcher Street at North University. Transit operations will occur a minimum of 5 days a week, Monday – Friday, through the duration of Phase 3.

The Contractor will provide flagging operation as needed, or as directed by the Engineer, at the State & North University intersection to ensure safe passage of buses through the jobsite during working hours. Flagging operations will be paid for as part of the lump sum item '*Traffic Regulator Control'*.

Unless approved by the Engineer, transit travel will be maintained on a paved surface throughout Phase 3. At the direction of the Engineer, the Contractor will stop construction operations and perform corrective measures as necessary to maintain safe passage for transit vehicles through the work zone. Any work associated with maintaining access will be paid for as part of the Lump Sum '*General Conditions, Max. $300,000' and associated maintenance of traffic pay items.*

There are three suggested stages of work for Phase 3: (1) The south half of North University from P.O.B. to Fletcher Road; (2) The north half of North University from P.O.B. to Fletcher Road, and; (3) Thayer Street from North University to East Washington. Work includes pavement removal, concrete removal, the replacement of irrigation pit and sidewalk drainage trench box, new concrete curb and gutter, aggregate road base, sidewalk, HMA paving, planter boxes, a raised crosswalk at Ingalls Mall, streetlights, structure adjustments, temporary pavement markings, associated materials and work with stated items, and other miscellaneous items in the contract. With approval from the Engineer, the Contractor can work on Thayer street while working concurrently on one half of North University. The Contractor will not be approved to work on both sides of North University, unless approved by the Engineer and work occurs on a Saturday. This restriction is to prevent delays to transit bus schedules.

With the special exemption to University transit or other transit entities as allowed by the Engineer, no thru traffic will be allowed on North University from State Street to Fletcher Street, and Thayer Street from North University to Washington Street. Access for local traffic and emergency service vehicles, as specified in this special provision, will be maintained at all times. The Ingalls Mall crosswalk at North University will remain open at all times.

Phase 3 will be completed in its entirety by **November 25, 2026.** Liquated damages per Section 9 will apply for failure to meet this date. It is understood that turf establishment and other items as approved for Phase 4 will take place in April-June 2027. However, the Contractor will be responsible to use approved soil erosion and sedimentation control measures (SESC) to cover and maintain disturbed areas throughout the winter of 2026-2027. The project site will be left in a clean, safe and orderly condition and opened to public use.

7. **Phase 4 Work** – With approval from the Engineer, Phase 4 work can begin once seasonal weight restrictions following Ann Arbor City ordinance is suspended for the 2027 construction season. Work will involve applying permanent pavement markings, planting trees, landscaping planter boxes in the center median, and

establishing turf establish, and any punch list item identified by the Engineer. All work for Phase 4 will be done while maintaining through traffic via an approved traffic plan by the Engineer. The Engineer reserves the right to restrict work on dates that impact University commencement and special event activities. Phase 4 will be completed in its entirety and open to traffic by **June 11, 2027.** Liquated damages per Section 9 will apply for failure to meet this date.

8. Time is of the essence in the performance of the work of this Contract. The Contractor is expected to mobilize sufficient personnel and equipment and work throughout all authorized hours to complete the project by the final completion date per phase identified. Should the Contractor demonstrate that they must work on Sundays in order to maintain the project schedule, they may do so between the hours of 9:00 a.m. and 5:00 p.m. with prior approval from the City. There will be no additional compensation due to the Contractor for work performed on Sundays or non-standard hours. No work will occur on weekends when Michigan football has a home game.

   Prior to the start of construction, the Contractor will submit a detailed schedule of work for the Engineer's review and approval. Work will not start until a schedule is approved in writing by the Engineer. The proposed schedule must fully comply with the scheduling requirements contained in this Detailed Specification. The Contractor will update the approved work schedule upon request by the Engineer and present it to the Engineer within seven days of said request.

   The City selected contractor will provide written weekly construction updates to the Engineer. Equally, the contractor will consult with the City, the University of Michigan, and the Engineer on any unanticipated scope changes that impact properties or operations of those entities.

   The Engineer may delay or stop the work due to threatening and/or inclement weather conditions. The Contractor will not be compensated for unused materials or downtime due to weather conditions. The Contractor is solely responsible for protecting utilities, repairing all damages to the work and to the site, including road infrastructures, road subgrades, utilities, and any adjacent properties, which are caused as a result of working in the inclement weather conditions.

   The Contractor will not work in the dark except when directed to do so for watermain shutdowns, or other operations as approved by the Engineer. Lighting equipment for night work will be provided by the Contractor and approved by the Engineer. Payment for lighting will be included in the pay items for the work occurring during periods of darkness. The Engineer, at their sole discretion, may stop the work or may require the Contractor to defer certain work to another day. The Contractor will not be compensated for unused materials or downtime, when delays or work stoppages are directed by the Engineer.

9. Failure to complete all work as specified herein within the times specified herein, including time extensions granted thereto as determined by the Engineer, will entitle the City to deduct from the payments due the Contractor, **$3,000.00 per calendar day** in Liquidated Damages, and not as a penalty, for delays in the completion of the work for each and every calendar day beyond the completion dates for each phase and "Calendar Days to Complete" for each sub-phase, as required by this Detailed Specification and the Maintenance of Traffic Detailed Specification.

   Liquidated Damages will apply to the following milestones:

   1) June 3, 2026 — Thayer Street Water and Sanitary Main Work
   2) July 10, 2026 — Completion of Phase 1
   3) August 15, 2026 — Completion of Phase 2
   4) November 25, 2026 — Completion of Phase 3
   5) June 11, 2027 — Completion of Phase 4

   Liquidated Damages will be assessed until the required work is completed in the current construction season. If, with the Engineer's approval, work is extended beyond seasonal limitations, the assessment of Liquidated Damages will be discontinued until the work is resumed in the following construction season. Liquidated Damages will be assessed until all required work is completed for each phase as defined herein. There are no maximum limit on the Liquidated Damages amounts that may be charged to the Contractor. Contractor offered, and Engineer approved, maintenance of traffic, staging, and/or phasing changes will not negate the milestone dates and associated liquidated damages.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
INSURACE REQUIREMENTS

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In addition to the insurance requirements noted in Section 28 of this contract, the following agencies must also be listed as additionally insured:

- University of Michigan
- Ann Arbor Downtown Development Authority

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
MAINTAINING TRAFFIC AND SEQUENCE OF CONSTRUCTION

a. Description. Traffic will be maintained in accordance with the City of Ann Arbor Public Services Department Standard Specifications and as specified in Sections 104.11, 812, and 922 of the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction, the 2011 Michigan Manual of Uniform Traffic Control Devices (MMUTCD), and as described herein.

The following MDOT Maintaining Traffic Typicals and Work Zone Device Details apply to the project: 101-GEN-SPACING-CHARTS, 102-GEN-NOTES, WZD-100-A, and WZD-125-E. These maintaining traffic provisions are subject to change in the event of special community activities.

The Contractor will furnish, erect, maintain and, upon completion of the work, remove all temporary traffic control devices as required on the project for the safety and protection of local traffic. This includes, but is not limited to, temporary advance, regulatory, and warning signs; barricades and channelizing devices at intersections and on streets where traffic is to be maintained; barricades at the ends of the project and at right-of-way lines of intersecting streets, and traffic control devices for moving construction operations.

b. Materials. The materials and equipment will meet the requirements specified in the corresponding sections of the 2025 City of Ann Arbor Standard Specifications, the MDOT 2020 Standard Specifications for Construction (pay items starting DS_) and the 2011 MMUTCD.

All signs will be of sizes shown on the plans, unless otherwise directed by the Engineer. Install all temporary signs on portable supports. All signs will have a minimum bottom height of 7.0 feet.

Channelizing devices required for all lane closures will be plastic drums. 42-inch channelizing devices are permissible with approval from the Engineer.

Cold Patching Material will meet the requirements of the City of Ann Arbor Standard Specifications for Construction and as approved by the Engineer.

c. Maintaining Local Traffic

Local access will be maintained at all times for emergency vehicles (24-hours), refuse pick-up, mail delivery, business deliveries, and ingress/egress to public and private properties. The University of Michigan and City of Ann Arbor will try to provide special access passes to employees and vendors as needed to have access to the project site.

Notable vehicular access points for **U of M facilities** in the project limits include, but are not limited to:

Thayer Street (all access to be provided from Washington Street intersection)

- N4 parking structure on Thayer; one point of entrance, one point of exit. Vehicular access and egress must be maintained at all times and coordinated with parking structure management in advance.
- Driveway approach between Modern Language and Hill Auditorium; This access point services U of M maintenance and operation vehicles, permitted parking for faculty members, and service as an emergency access point to Ingalls Mall.
- Two service driveways to Hill Auditorium; These driveways serve as material and stage/performance deliveries. Closure of driveways will need to be coordinated with the University so that it does not interfere with scheduled events.
- Half the street adjacent to Hill Auditorium for the roofing project; June – August.

North University

- Service driveway on south approach of the Thayer intersection; This access point services U of M maintenance and operation vehicles, garbage pickup, patent appointments to the School of Kinesiology, and permitted parking for faculty members. Access to be provided from the North University / State Street intersection or Thayer / Washington intersection. The Contractor shall provide 2 days' notice, not including Saturday or Sunday, to the University when the access point is relocated between the two intersections.
- Ingalls Mall, north and south of North University; This crossing is used by maintenance and grounds vehicles to gain access to both sides of the Mall and is also used by emergency service vehicles.
- Michigan League; This building services a variety of University events and functions, as well as a hotel. Access will be provided via the Fletcher Street intersection.
- Dow Chemical Laboratory; Three angled bays service various deliveries and garbage pickup to the facility. Access will be provided from either the intersection of Church Street / North University or the intersection of Fletcher Street. The Contractor shall provide 2 days' notice, not including Saturday or Sunday, to the University when the access point is relocated between the two intersections.

Notable vehicular access points for **non-University facilities** in the project limits include, but are not limited to:

Thayer Street (all access to be provided from Washington Street intersection)

- Bell Tower Hotel; parking lot located on the north side of the building. Employee and ownership parking, as well as deliveries is via the driveway on the south side of the building.
- 312 & 318 Thayer Street; these buildings preliminary serve residential purposes.

- Alley between Bell Tower Hotel and 318 Thayer; this alley services multiple store fronts on Thayer, North University and State Street. The alley space serves as employee parking, trash pickup, and deliveries.

The contractor will accommodate safe pedestrian access to all University facilities, residences, and private businesses located within construction area of North University Avenue and Thayer Street. All sidewalks that can be open will be open to motorized and non-motorized traffic.

ADA compliant sidewalk widths (will not be less than four feet) will be provided and maintained throughout the project limits for the full duration of the project. Continuous pedestrian barricades will be provided between the pedestrian path and work zone, as directed by the Engineer, and surround the project limits. 24-hour pedestrian access will be provided for the Ingalls Mall location crossing North University. The Contractor will place signs at the crossing location warning all vehicles of a pedestrian crossing. When it is necessary and approved to close a section of sidewalk, temporary pedestrian ramps and pathways will be implemented to maintain continuous and safe pedestrian access along the corridor. Pedestrian ramp crossings at intersections will always be maintained at three of four corners. Only one corner of an intersection will be closed at a time. All pedestrian access will be ADA compliant. For work affecting pedestrian crossings, use the included staging sheets and typical details to maintain pedestrian traffic.

If it becomes necessary to temporarily block pedestrian access to building entrances, the Contractor will notify the Engineer seventy-two (72) hours (not including Saturdays or Sundays) in advance of any work planned on or near business entrances, and when possible, stage sidewalk work so that it is constructed part-width. Closure of ingress/egress points to a University facility (vehicular or non-vehicular) may require approval from the University Fire Marshall. The Engineer will not allow the Contractor to prohibit access to businesses during any phase of construction, unless authorized in writing by the Engineer.

If it becomes necessary to temporarily obstruct traffic on a roadway outside of the project limits, the Contractor will provide traffic regulator control in conformance with Chapter 6E of the MMUTCD, Sections 6E.01 thru 6E.08. A minimum of two traffic regulators is required. The cost of traffic regulator control will be included in the Contract pay item “Minor Traffic Control, Max _____”.

A lane-closure permit will be obtained by the Contractor from the City of Ann Arbor Engineering Unit, at least 48 hours in advance (not including Saturdays or Sundays) of any proposed lane or street closing, including the project limits. No lane closures outside of the project limits will be permitted during the following dates, unless approved by the Engineer:

- Memorial Day (3:00 PM Friday May 22, 2026 – 7:00 AM Tuesday, May 26, 2026)
- Independence Day (3:00 PM Friday July 3, 2026 – 7:00 AM Monday, July 6, 2026)
- Labor Day (3:00 PM Friday September 4, 2026 – 7:00 AM Tuesday, September 8, 2026)

- Saturday home University of Michigan football games.
- University of Michigan Fall Semester 2026 move-in week (to be posted on University website).
- 2026 University of Michigan Spring Commencement events as described in this provision, and 2027 commencement events to be posted on University website.

During non-working periods, any area with uncompleted work will have crush approved drums at specific locations and protective fencing, as directed by the Engineer, at no additional cost to the project.

The hours of work is 7:00 a.m. to 8:00 p.m., Monday through Saturday, or as specified on the lane-closure permit. No equipment will have their engine engaged during non-working hours.

All major changes in traffic control will be made either between 9:30 a.m. and 3:30 p.m. or between 7:00 p.m. and 6:30 a.m. in order to minimize interference with rush-hour traffic. All traffic controls must be in-place and ready for traffic each day by 6:30 a.m. and 3:30 p.m.

The Contractor will temporarily cover conflicting traffic and/or parking signs when directed by the Engineer included in the pay item "Minor Traffic Control, Max _____".

The Contractor will use quantities of water, Maintenance Gravel, and HMA Hand Patching mixtures for use as temporary base, surfacing, and dust control at utility crossings, road (laterally and longitudinally as instructed by Engineer), side roads and driveways (wherever required to maintain traffic), and where directed by the Engineer to maintain local access. The cost for the use of water will be included in Contract pay item *"General Conditions, Max _____",* and it will not be paid for separately. Maintenance Gravel and HMA Patching will be paid for by the unit price of the contracted pay item.

The work of maintaining and relocating existing warning, regulatory and/or guide signs; and of removing, salvaging and reinstalling existing signs and supports is included in the bid price for the Contract pay item "*Minor Traffic Devices, Max _____".*

Mail and paper delivery will not be interrupted during construction. Upon completion of construction, all mailboxes, including their support, will be repositioned in their permanent locations as approved by the Engineer. This work will be included the Contract unit price for the Contract pay item *"General Conditions, Max _____",* when applicable, and it will not be paid for separately.

The Contractor will perform the work of this Contract while maintaining traffic in accordance with the Contract Documents as specified herein. No traffic will be allowed on newly placed asphalt surfaces until rolling has been satisfactorily completed, and the surface has cooled sufficiently to prevent damage from traffic.

Each pressure distributor, paver and roller will be equipped with at least one approved flasher light which will be mounted on the equipment to give a warning signal ahead and behind.

The Contractor will furnish, erect, maintain, and upon completion of the work, remove any and all traffic control devices utilized on the project.

d. Construction Influence Area (CIA). The CIA will include the area from POB to POE within the Right-of-way of North University Avenue and Thayer Street, as shown in the plans. The CIA will include the affected portions of the driveways along and contiguous with these roadways.

In addition, the CIA will include the rights-of-way of all roadway segments used for detours and all locations that contain advance warning and/or regulatory signs, pavement markings, plastic drums, traffic delineators, and all other project related traffic maintenance items.

e. Police and Fire. The Contractor will notify local police, fire departments and emergency response units a minimum of three business days (48 hours) prior to the closure of any roads, or traffic shifts causing restricted movements of traffic or restricted access.

f. Permanent Traffic Signs. Work Performed by City of Ann Arbor Signs and Signals Unit. No additional or extra compensation will be paid for any delays caused by City of Ann Arbor Signs and Signals.

g. Sign Removal As necessary during construction, the Contractor will be responsible for logging the legend and location of any signs that:

1. Must be removed to facilitate the construction process;
2. Are to be permanently removed, or;
3. Are to be permanently relocated.

The Contractor will remove the signs as indicated on the plans. The Contractor will have all proposed signs, posts, and associated mounting materials delivered to the City of Ann Arbor Public Works, W.R. Wheeler Service Center, 4251 Stone School Road, Ann Arbor, MI. After construction is complete, but before opening any roadway to traffic, City of Ann Arbor Signs and Signals will install all signs in their proper, permanent location. To coordinate sign installation/reinstallation, the Contractor will notify the Signs and Signals Unit at least five (5) working days (Monday-Friday) in advance of when the sign work will need to be completed. It is the responsibility of the Contractor to ensure that City of Ann Arbor Signs and Signals Unit is scheduled, kept apprised of the progress of construction, and notified a second time immediately (4 working hours) prior to the need to complete the sign work. The installation/reinstallation of all signs will be completed by the City of Ann Arbor Signs and Signals Unit.

h. Project Milestones and Phasing. In general, the project will occur in four phases. The project takes place within a heavy University pedestrian environment. The Contractor is required to work with the City of Ann Arbor and University of Michigan to minimize disruptions as much as possible.

Phase 1 Work – All water and sanitary main installation will be completed in Phase 1 as depicted in the plans. Pavement, curb and gutter, and sidewalk removals and restoration with HMA hand-patching will be limited to areas needed only for installation of the water and sanitary main and associated leads to buildings. Note that the Engineer may require watermain shutdowns to occur during non-standard hours to ensure minimal interruption to businesses and the University of Michigan. All services will be installed and connected during Phase 1. Existing watermain will be abandoned once the new watermain is tested, accepted, and put in service. Install aggregate, concrete and HMA, as directed by the Engineer. Contractor is to open road and sidewalks to traffic as described in this provision.

Installation of the water main and sanitary main for Thayer Street as reflected in the plans will be completed no later than **June 5, 2026.** Liquated damaged per the Progress Clause will apply for failure to meet this date. This deadline is to accommodate a roofing project for Hill Auditorium. Refer to the Coordination Clause in this contract for details specific to this project.

No work shall occur on **May 8, May 11 and May 15, 2026,** due to University of Michigan commencement activities occurring at Hill Auditorium.

The Contractor will be required to finish work by **5p EST** from **June 12 – June 28, 2026** (Mondays excluded) while the Ann Arbor Summerfest is occurring.

Throughout the life of the project, various evening events and high school commencements will take place at Hill Auditorium. The Engineer will communicate specific event dates to the Contractor at the weekly coordination meeting. The Contractor will not impede traffic flow on westbound North University with equipment or stockpiled materials on evenings when an event is scheduled. The Contractor shall also not impede fire truck and emergency vehicle access within the project limits in the event of an emergency.

No thru traffic will be allowed on North University from State Street to Fletcher Street, and Thayer Street from North University to Washington Street. Provide traffic control devices for detour routes as specified in the plans. Access for local traffic and emergency service vehicles, as specified in this special provision, will be maintained at all times. Pedestrian access will be maintained as specified in this special provision. The Ingalls Mall crosswalk at North University will remain open at all times.

The pavement surface of North University and Thayer, as referenced in the plans, will have an HMA application of 165#/syd at the end of Phase 1 in preparation for the Art Fair.

Phase 1 will be completed in its entirety by **July 10, 2026.** Liquated damaged per the Progress Clause will apply for failure to meet this date. All temporary traffic control

devices, construction equipment and materials shall be stored off site so the project limits can be occupied for Art Fair activities. The project site will be left in a clean, safe and orderly condition and opened for use by the public. Prior to work stoppage, all businesses and University facilities will have unrestricted pedestrian access.

Ann Arbor Art Fair Week (July 13, 2026 – July 18, 2026) - This project falls within the limits of the Ann Arbor Art Fair. **No work is allowed from July 11, 2026, to July 19, 2026.**

Phase 2 Work – Phase 2 work will not begin until **Monday, July 20, 2026**. Work includes pavement removal, installation of storm sewer, storm inlets/structures, and storm infiltration from the P.O.E. to the Fletcher intersection. Pavement removal, concrete removal, new concrete curb and gutter, sidewalk, planter boxes and streetlights apply from the intersection of Fletcher to the P.O.E.

The Contractor will have up to **21-calendar days** to close the intersection of Fletcher and North University. However, deliveries and access to the Chemistry Building must be maintained by the Contractor during that period. Liquated damages per the Progress Clause will apply for a closure that exceeds 21-calendar days. The timing of the closure is to be coordinated in advanc and approved by the Engineer. With approval from the Engineer, the Contractor can perform work in the Fletcher intersection during Phase 1. No extra compensation will be provided to the Contractor if work is performed prior to the Art Fair.

During Phase 2, no thru traffic will be allowed on North University from State Street to Fletcher Street, and Thayer Street from North University to Washington Street. Access for local traffic and emergency service vehicles, as specified in this special provision, will be maintained at all times. The Ingalls Mall crosswalk at North University will remain open at all times.

Phase 2 will be completed entirely by **August 15, 2026.** Liquated damages per the Progress Clause will apply for failure to meet this date. The Contractor will not be granted approval to close the traffic movement of southbound Fletcher Street to eastbound North University, and westbound North University to northbound Flatcher Street after Phase 2 is completed.

Phase 3 Work – Phase 3 work will begin on **Monday, August 17, 2026.** The Contractor will be required to implement part-width road construction sequencing as needed to maintain eastbound North University transit vehicles to travel through the job site for the duration of Phase 3. The access point for transit travel into the project will be at the intersection of State Street at North University. The exit point for transit travel through the job site will be intersection of Fletcher Street at North University. Transit operations will occur a minimum of 5 days a week, Monday – Friday, through the duration of Phase 3.

The Contractor will provide flagging operation as needed, or as directed by the Engineer, at the State & North University intersection and other locations as determined by the Engineer, to ensure safe passage of buses through the jobsite during working hours.

Flagging operations will be paid for as part of the lump sum item '*Traffic Regulator Control'*.

Unless approved by the Engineer, transit travel will be maintained on a paved surface throughout Phase 3. The southern half of North University will be paved prior to switching transit traffic. At the direction of the Engineer, the Contractor will stop construction operations and perform corrective measures as necessary to maintain safe passage for transit vehicles through the work zone. Any work associated with maintaining access will be paid for as part of the Lump Sum '*General Conditions, Max. $300,000' and associated maintenance of traffic pay items*
There are three suggested stages of work for Phase 3: (1) The south half of North University from P.O.B. to Fletcher Road; (2) The north half of North University from P.O.B. to Fletcher Road, and; (3) Thayer Street from North University to East Washington. Work includes pavement removal, concrete removal, the replacement of irrigation pit and sidewalk drainage trench box, new concrete curb and gutter, aggregate road base, sidewalk, HMA paving, planter boxes, a raised crosswalk at Ingalls Mall, streetlights, structure adjustments, temporary pavement markings, associated materials and work with stated items, and other miscellaneous items in the contract. With approval from the Engineer, the Contractor can work on Thayer street while working concurrently on one half of North University. The Contractor will not be approved to work on both sides of North University, unless approved by the Engineer and work occurs on a Saturday. This restriction is to prevent delays to transit bus schedules.

With the special exemption to University transit or other transit entities as allowed by the Engineer, no thru traffic will be allowed on North University from State Street to Fletcher Street, and Thayer Street from North University to Washington Street. Access for local traffic and emergency service vehicles, as specified in this special provision, will be maintained at all times. The Ingalls Mall crosswalk at North University will remain open at all times.

Phase 3 will be completed in its entirety by **November 25, 2026.** Liquated damages per Progress Clause will apply for failure to meet this date. It is understood that turf establishment and other items as approved for Phase 4 will take place in April-June 2027. However, the Contractor will be responsible to use approved soil erosion and sedimentation control measures (SESC) to cover and maintain disturbed areas throughout the winter of 2026-2027. The project site will be left in a clean, safe and orderly condition and opened to public use.

Phase 4 Work – With approval from the Engineer, Phase 4 work can begin once seasonal weight restrictions following Ann Arbor City ordinance is suspended for the 2027 construction season. Work will involve applying permanent pavement markings, planting trees, landscaping planter boxes in the center median, and establishing turf establish, and any punch list item identified by the Engineer. All work for Phase 4 will be done while maintaining through traffic via an approved traffic plan by the Engineer. The Engineer reserves the right to restrict work on dates that impact University commencement and special event activities. Phase 4 will be completed in its entirety and open to traffic by

June 11, 2027. Liquated damages per the Progress Clause will apply for failure to meet this date.

The contractor should also be aware of the following events within the project area. If the project is delayed, the contractor will be required to make provisions following the "**Ann Arbor Art Fair**" paragraph herein:

- Ann Arbor Summer Festival & Top of the Park; June 12 – 28, 2026
- Ann Arbor Firecracker 5k & Ann Arbor Jaycees 4th of July Parade – July 4, 2026

Measurement and Payment. The estimated quantities for maintaining traffic is based on the maintenance of traffic plans. Any additional signing, traffic control devices, pavement markings, or the like required to expedite the construction, beyond that which is specified, shall be at the Contractor's sole expense.

The completed work as measured shall be paid at the Contract unit price for the following Contract pay items:

Contract Item (Pay Item)	**Pay Unit**
Traffic Regulator Control	Lump Sum
Minor Traffic Devices, Max $80,000.00	Lump Sum
Barricade, Type III, High Intensity, Double Sided, Lighted, Furn and Oper	Each
Plastic Drum, High Intensity, Lighted, Furn and Oper	Each
Sign, Type B, Temp, Prismatic, Furn and Oper	Square Foot
Sign, Type B, Temp, Prismatic, Spec, Furn and Oper	Square Foot
Sign, Portable, Changeable Message, Furn & Oper	Each
Lighted Arrow, Type C, Furn & Oper	Each
DS_Temporary Pedestrian Ramp, Furn and Oper	Each
Temporary Pedestrian Mat, Furn and Oper	Foot
DS_Detectable Warning Surface, Temp	Square Foot
DS_Pedestrian Path, Temp	Foot
DS_Temporary Audible Message Device	Each
Pedestrian Channelizer Device, Furn and Oper	Each
Pedestrian Type II Barricade, Temp, Furn and Oper	Each

The unit price for this item of work shall include all labor, material, and equipment costs required to perform the work specified herein and includes both furnishing and operating the devices.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
PROJECT COORDINATION

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The Contractor is hereby notified that there will be coordination efforts that will need to occur as part of the North University and Thayer Street project, and efforts that may need to be made with work not associated with this project. Please note that this listing may not be complete, and the Contractor will verify any other projects within the local vicinity that may impact this project.

1. **University of Michigan Hill Auditorium Roofing Project (June – August 2026)**
   A portion of the Thayer Road adjacent to the Auditorium will need to be used by a crane to load materials to the roof. This crane will be parked in this space for the duration of the roofing project. The road contractor will be required to provide and maintain ingress/egress for material deliveries and waste haul off from the intersection of Washington and Thayer. Refer to the Progress Clause for dates related to the roofing project.

2. **Ann Arbor Summer Fest (June 12-28, 2026)**
   East Washington Street from Thayer Street to Fletcher Street, and Ingalls Mall between Washington Street and North University. Refer to the webpage www.a2sf.org. The contractor will be required to stop work by 5p every day with the exception of Monday while the Festival is occurring.

3. **DTE Gas – Relocation of Gas Meter Servicing Michigan League Building**
   The Contractor will be required to coordinate a natural gas meter servicing the Michigan League building when directional drilling a 6 inch water services lead into the base of the building.

The Contractor will coordinate its work with Contractors of other projects, internal and external to the construction influence area, as directed by the Engineer. No additional compensation will be allowed for costs incurred by the Contractor due to coordinating with or delays caused by other projects.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
PROJECT CLEAN-UP

a. Description. This work consists of providing all labor, materials, and equipment required to perform project cleanup in accordance with City of Ann Arbor 2025 Public Services Standard Specifications, except as modified herein.

b. Materials. The materials will meet the requirements specified in the Michigan Department of Transportation 2020 Standard Specifications for Construction, except as specified herein.

c. Construction.

Clean-up

The Contractor will ensure the project site is left in a condition that is clean and free of all project generated debris and to the satisfaction of the Engineer. This work will consist of removing and disposing of miscellaneous packing materials and debris, soil erosion control fences, protective fences, fallen timber, logs, brush, rocks, boulders, and any rubbish generated from the Contractor's operations within the project limits, or areas impacted by their operations or areas impacted by their operations.

Immediately after completion of the construction phase or segment, the Contractor will clean the entire area within the influence of construction, including but not limited to all pavement, sidewalks, lawn areas, and underground utility structures of all materials which may have accumulated prior to or during the construction.

Inlet filters will be removed from inlets and catch basins only after all pavement surfaces have been cleaned of debris and at the direction of the Engineer.

Provide project cleanup as an ongoing operation. Perform project cleanup within the right-of-way of all roadways and any other areas impacted by the project work.

Clean existing culverts, ditches, depressions, or other areas that contain sediment or debris from the work operations.

Neatly fill any ruts, holes, or depressions resulting from removal of soil erosion control materials with Engineer approved materials after their removal. Maintenance of silt fencing and other soil erosion control materials until such time as they are no longer needed, then removal and proper disposal of them from the site, will be included in the bid price for the related soil erosion control device.

All backfill materials will be compacted, and ruts and holes restored to the surrounding

contour as directed by the Engineer.

The project site will be left in a condition that is clean and free of all project-generated debris to the satisfaction of the Engineer.

d. Measurement and Payment. The completed work, as described, will be paid at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	**Pay Unit**
DS_Project Clean-Up	Lump Sum

Payment for **DS_Project Clean-up** will include all costs for labor, materials, and equipment required to complete the work for all project clean-up work, as specified herein and will be paid on a lump sum basis per phase as described in the plans and specifications. The Contractor will not receive payment until the Contractor has cleaned and restored the project limits to the satisfaction of the Engineer.

Pavement cleaning utilizing a street sweeper for paving operations will be paid as DS_Pavt, Cleaning.

The Contractor will be exclusively responsible for maintaining a clean project site. The Engineer may direct additional clean-up operations throughout each project phase. Payment will be made after completing each project milestone listed according to the following schedule, regardless of the number of times the Contractor conducts clean up operations:

Milestone	**Payment Amount**
Phase 1	45%
Phase 2	45%
Phase 3	10%

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
PAVT, CLEANING

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a. Description. This work consists of providing all labor, materials, and equipment required to clean pavement as described herein and at the frequency directed by the Engineer in accordance with the City of Ann Arbor 2025 Public Services Standard Specifications and the Michigan Department of Transportation 2020 Standard Specifications for Construction, except as modified herein, or as directed by the Engineer.

b. Materials. None.

c. Construction. The Contractor will utilize equipment to minimize dust production, such as a street sweeper with vacuum and watering capabilities, and employ all dust control measures deemed necessary by the Engineer to clean pavement surfaces immediately prior to commencing paving operations, as directed by the Engineer, prior to installing pavement markings, and after all contract work is complete in accordance with section 501.03.C.2 of the Michigan Department of Transportation 2020 Standard Specifications Construction.

The Engineer may direct suspension of watering capabilities prior to paving operations.

d. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	**Pay Unit**
DS_Pavt, Cleaning	Lump Sum

Payment for **DS_Pavt, Cleaning** will be measured by the lump sum for all pavement cleaning operations and will include all costs for labor, material, and equipment required to complete the work, including employing a vacuum and watering capable street sweeper.

Payment will be made after completing each operation listed according to the following schedule, regardless of the number of times pavements are cleaned:

Operation	**Payment Amount**
Leveling Course	50%
Top Course	25%
Project Clean-up	25%

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
PEDESTRIAN PATH, TEMP

a. Description. This work consists of providing all labor, materials, and equipment required to furnish, install, maintain, and remove a temporary pedestrian path as identified in the proposal or on the plans. Temporary pedestrian paths, or segments thereof, will be repaired or replaced as directed by the Engineer.

b. Materials. Provide materials to construct a temporary pedestrian path in accordance with the contract, the *Public Right of Way Accessibility Guidelines (PROWAG)*, the *MMUTCD*, as directed by the Engineer, and the following requirements:

1. Ensure the materials used to construct the temporary pedestrian path yields a continuous hard surface that is firm, stable and skid resistant. Ensure the path does not warp, buckle or otherwise become uneven, and materials support the weight of pedestrians as well as motorized scooters and wheelchairs. Suitable materials to construct the path include asphalt materials, Oriented Strand Board (OSB), plywood, dimensional lumber, reclaimed, or other as approved by the Engineer. Compacted soils, aggregate and sand are prohibited.

2. If asphalt materials are not used to construct the path, provide an antiskid coating, or surface treatment as directed by the Engineer.

c. Construction. Construct the temporary pedestrian path in accordance with *PROWAG*, the *MMUTCD*, the contract, the direction of the Engineer, and the following:

1. The useable surface of the path must be a minimum of 48 inches wide, additional width may be provided to preclude the use of Temporary Pedestrian Passing Spaces (paid for separately). A minimum width of 60 inches is required if Temporary Pedestrian Passing Spaces are not provided as part of the temporary facility. The maximum cross slope for the path is 2 percent. The path, including transitions to the adjacent surface at both ends, must be free of vertical discontinuities greater than 1/4 inch. Eliminate any vertical discontinuities greater than 1/4 inch up to 1/2 inch or bevel with a slope not steeper than 1:2. If a vertical discontinuity greater than 1/2 inch or a running slope greater than 1:20 occurs on the project, a Temporary Pedestrian Ramp (paid for separately) is required.

A. Ensure an anti-skid surface treatment is applied to the surface of the path, if not constructed with asphalt materials, as directed by the Engineer.

B. If the surface of the path is constructed from OSB, plywood, or dimensional lumber securely connect all sections with appropriate fasteners to ensure a continuous, uniform and flat surface.

2. Ensure all debris and construction materials is cleared from the path throughout its use. Ensure snow and ice is removed; the use of an approved de-icing agent may be required.

3. Repair or replace the path, or segments thereof, if it becomes uneven, unstable, or displaces due to weather events, construction activities, or other causes as directed by the Engineer.

4. Following the use of the temporary path, the Contractor must remove and dispose all materials used to construct the path, and restore the area as directed by the Engineer.

d. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price using the following contract item (pay item):

Contract Item (Pay Item)	**Pay Unit**
DS_Pedestrian Path, Temp	Foot

Payment for **DS_Pedestrian Path, Temp** will be measured along the centerline of the path for units installed and will include costs for all labor, materials, and equipment required to install, maintain, restore, and remove the path and disposal of all associated materials throughout the life of the contract.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
TRAPEZOID DELINEATOR

a. Description. This work consists of providing all labor, materials, and equipment required to furnish and install trapezoid delineators where shown and detailed on the plans in accordance with City of Ann Arbor 2025 Public Services Standard Specifications, the manufacturer's instructions, except as modified herein, and as directed by the Engineer.

b. Materials. The Contractor will furnish TekWay Trapezoid Delineators manufacture by StrongGo or an Engineer approved equal.

The color of the trapezoid delineators will be 'charcoal'. The Contractor will verify this color choice with Owner prior to ordering materials.

c. Construction. The Contractor will engage an experienced installer qualified for installation of this type and who has successfully completed detectable warning installations similar in material, design and extent to that indicated for this project.

d. Preparation. During all concrete pouring and tile installation procedures, the Contractor will ensure adequate safety guidelines are in place and that they are in accordance with the applicable industry and government standards.

The physical characteristics of the concrete will be consistent with these Specifications while maintaining a slump range of 4 inches to 7 inches to permit solid placement of the cast-in-place tactile tile system.

The concrete will be poured and finished, true and smooth to the required dimensions and slope prior to tile placement.

e. Installation. The Contractor will not be allowed to install Trapezoid Delineator Tiles until all submittals have been reviewed and approved by the Engineer.

The Contractor will install Trapezoid Tactile Warning Delineator tiles in accordance with the manufacturer's instructions.

The largest size tile manufactured will be used to minimize the amount of installation-seams, unless directed by the Engineer otherwise. The tiles will be placed in accordance with the drawings. Cutting of the tiles may be required. Tile to tile joints between Trapezoid Tactile Warning Delineator tiles must be laid out by adjoining factory edges. A 12-inch sloped end section will be used whenever a gap is provided per the locations referenced on the plans. The Contractor will order a sufficient number of full length tiles and end sections to complete the work.

The Contractor will install tiles into the fresh concrete using a rubber mallet to ensure that

there are no voids or air pockets, and the edges of tile are to be flush with the adjacent surface or as the drawings indicate to permit proper water drainage and eliminate tripping hazards between adjacent finishes.

While the concrete is workable, the Contractor will use a 1/8 inch radius edging tool to create a finished edge of concrete, and then a steel trowel will be used to finish the concrete around the tile's perimeter.

f. Cleaning and Protection. The Contractor will protect trapezoid tactile warning delineators against damage during construction to comply with tile manufacturer's Specifications.

During and after the tile installation and the concrete curing stage, the Contractor will exhaust all efforts to prevent walking, leaning, or other external forces from loading the tile and/or to displace the tile, causing a void between the underside of tile and its concrete substrate.

The Contractor will protect trapezoid tactile warning delineators against damage from rolling loads following installation by covering with plywood or hardwood.

The Contractor will clean tiles prior to the date scheduled for inspection and remove protective covering.

g. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	**Unit**
DS_Trapezoid Delineator, Any Size	Foot

Payment for **DS_Trapezoid Delineator, Any Size** will be measured by the foot for units installed and will include all costs for labor, materials, and equipment required to furnish and install the materials as shown on the plans and as specified herein. This payment item covers full length tiles as well as sloped end sections.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
TRENCH DRAIN, REM

WT:AJK 1 of 1 1/22/2026

a. Description. This work consists of providing all labor, materials, and equipment required to remove, haul away, and dispose of trench drain systems and associated materials in accordance with the City of Ann Arbor 2025 Public Services Standard Specifications, the Michigan Department of Transportation 2020 Standard Specification for Construction, as shown on the plans, as specified herein, and as directed by the Engineer.

b. Construction. The Contractor will remove, haul away, and dispose of trench drain systems in accordance with Section 204. This will include removal of miscellaneous material, including, but not limited to sand, geotextile, concrete, other cementitious materials, PVC pipe, drain grate, other materials within the limits of removals.

The Contractor will sawcut concrete sidewalk prior to removals.

c. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	Unit
DS_Trench Drain, Rem	Foot

Payment for **DS_Trench Drain, Rem** will be measured by the linear foot, measured along the longitudinal length, for units completely removed in the field, and includes all costs for labor, material, and equipment required to sawcut, remove, haul away, and dispose of brick pavers, concrete base, sand, geotextiles, and other materials within the cross-section as shown on the plans and as specified herein.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
BRICK PAVERS, SIDEWALK, REM

WT:AJK 1 of 1 1/22/2026

a. Description. This work consists of providing all labor, materials, and equipment required to remove, haul away, and dispose of brick pavers and concrete base in accordance with the City of Ann Arbor 2025 Public Services Standard Specifications, the Michigan Department of Transportation 2020 Standard Specification for Construction, as shown on the plans, as specified herein, and as directed by the Engineer.

b. Construction. The Contractor will remove, haul away, and dispose of brick pavers and concrete base beneath brick pavers in accordance with Section 204. This will include removal of miscellaneous materials, including, but not limited to sand, geotextile, cementitious materials, and other materials that make up the material cross-section.

The Contractor will sawcut prior to removals.

c. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	Unit
DS_Brick Paver, Sidewalk, Rem	Square Foot

Payment for **DS_Brick Paver, Sidewalk, Rem** will be measured by the square foot for units completely removed in the field, and includes all costs for labor, material, and equipment required to sawcut, remove, haul away, and dispose of brick pavers, concrete base, sand, geotextiles, and other materials within the cross-section as shown on the plans and as specified herein.

CITY OF ANN ARBOR

DETAILED SPECIFICAITON
FOR
PLANTER BOX, REM

WT:AJK 1 of 1 1/22/2026

a. Description. This work consists of providing all labor, materials, and equipment required to remove, haul away, and dispose of concrete planter boxes in accordance with the City of Ann Arbor 2025 Public Services Standard Specifications, the Michigan Department of Transportation 2020 Standard Specification for Construction, as shown on the plans, as specified herein, and as directed by the Engineer.

b. Materials. The Contractor will furnish materials in accordance with the Michigan Department of Transportation 2020 Standard Specifications for Construction.

Class II granular material meeting the requirements of Section 902.

c. Construction. The Contractor will remove, haul away, and dispose of planter boxes in accordance with Section 204.

The Contractor will sawcut prior to removals at the direction of the Engineer only.

The Contractor will furnish and install class II granular material following removals to establish subgrade elevations as directed by the Engineer in accordance with Section 301.

d. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	Unit
DS_Planter Box, Rem	Foot

Payment for **DS_Planter Box, Rem** will be measured by the linear foot along the perimeter for units completely removed in the field, and includes all costs for labor, material, and equipment required to sawcut, remove, haul away, and dispose of planter boxes, including reinforcing members, regardless of the material type, as shown on the plans and as specified herein. Furnishing and installing compacted class II granular material will not be paid for separately but will be included in payment for DS_Planter Box, Rem.

CITY OF ANN ARBOR

DETAILED SPECIFICAITON
FOR
MISCELLANEOUS SITE FURNISHING REMOVALS

WT:AJK 1 of 1 1/22/2026

a. Description. This work consists of providing all labor, materials, and equipment required to remove and salvage or remove, haul away, and site furnishings, which include bollards, Qwick Kurb signs, benches, and bike racks in accordance with the City of Ann Arbor 2025 Public Services Standard Specifications, as specified herein, and as directed by the Engineer.

b. Construction. The Contractor will carefully remove, haul away, and dispose of bollards and Qwick Kurb signs from existing surfaces, including hardware, mounting hardware, and foundations and protect existing facilities to remain in place.

The Contractor will carefully remove, salvage, and store benches and bike racks, including hardware and mounting hardware, and protect existing facilities to remain in place. Existing foundations will be removed, hauled away, and disposed of. Salvaged materials will be stored in an Engineer approved location on site.

c. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	Unit
DS_Bollard, Rem	Each
DS_Qwick Kurb, Rem	Each
DS_Bench, Rem, Salv	Each
DS_Bike Rack, Rem, Salv	Each

Payment for **DS_Bollard, Rem** and **DS_Qwick Kurb, Rem** will be measured by each for units completely removed, hauled away, and disposed of, and includes all costs for labor, material, and equipment required to complete the work as shown on the plans and as specified herein.

Payment for **DS_Bench, Rem, Salv** and **DS_Bike Rack, Rem, Salv** will be measured by each for units completely removed, salvaged, and stored, and includes all costs for labor, material, and equipment required to complete the work as shown on the plans and as specified herein. Payment for foundations removed, hauled away, and disposed will not be paid for separately and will be included in the corresponding pay item.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
TROLLEY TRACK, REMOVE

a. Description. This work will consist of furnishing all labor, tools, equipment, and material to remove, and dispose of off-site, any concrete curb, gutter, curb and gutter, integral curb, sidewalk, sidewalk ramps, pavement, drive openings, and drive approach pavements as shown on the plans, in accordance with City of Ann Arbor 2025 Public Services Standard Specifications, except as specified herein, and as directed by the Engineer.

b. Materials. Granular Material, Class II will be furnished in accordance with Michigan Department of Transportation 2020 Standard Specifications for Construction section 902.

c. Construction. Remove and dispose of bituminous and/or composite pavement overlay and to break up and remove the trolley track concrete base, steel reinforcement, ties, rails, and hardware where necessary for utility installation, pavement cross section or any other item of work as approved by the Engineer. Concrete base foundation is anticipated to be 7-ft wide by 12-14 inches deep.

Prior to the start of work, the Engineer and Contractor will work together to identify and field measure all items to be removed. The Engineer will approve of all removal limits prior to any removals being performed by the Contractor.

The Contractor will perform full-depth saw cutting at removal limits as shown on the Plans, as marked for removal, or as directed by the Engineer.

The Contractor will cut steel reinforcement as directed by the Engineer at all areas of removal.

All saw-cutting will be performed under wet conditions to prevent excessive airborne dust. All resulting slurry and debris will be cleaned up the satisfaction of the Engineer.

The Contractor will coordinate with the City Forester prior to the removal of any tree roots.

Excavated / removal areas will be adequately protected with barricades and/or fencing at all times.

Removed or excavated materials which are not incorporated into the work will become the property of the Contractor and will be immediately removed and properly disposed of off-site. Removed or excavated materials may not be stockpiled overnight on, or adjacent to, the site.

Base, subbase, or subgrade materials removed without authorization by the Engineer will be replaced and compacted by the Contractor at the Contractor's expense, with materials specified by the Engineer.

d. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	**Pay Unit**
DS_Trolley Track, Remove	Square Yard

All saw-cutting required for removals will be included in the appropriate item of work and will not be paid for separately.

Payment for **DS_Trolley Track, Remove** will be measured by the square yard for foundations removed and will include all costs for labor, material, and equipment required to remove and dispose of existing pavement, steel reinforcement, rails, ties, and hardware, regardless of pavement thickness and type of material and will excavate and furnish and place compacted granular material to establish the subgrade elevations required to accommodate the proposed cross section, install utilities, or as approved by the engineer

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
TUNNEL, REM

a. Description. This work consists of providing all labor, materials, and equipment required to remove segments of an existing underground abandoned tunnel as shown on the plans or as directed by the Engineer in accordance with the Michigan Department of Transportation 2020 Standard Specifications for Construction and the City of Ann Arbor 2025 Public Services Standard Specifications, except as modified herein, or as directed by the Engineer.

b. Materials. The Contractor will furnish the following materials in accordance with the Michigan Department of Transportation 2020 Standard Specifications for Construction:

Class II granular material which meets the requirements of Section 902.

Brick and block masonry units which meet the requirements of Section 913.

Mortar, Type R-2 which meets the requirements of Section 1005.

c. Construction. The existing underground tunnel is abandoned. To the best knowledge of the Owner, the tunnel does not contain hazardous materials and/or live utilities and is entirely filled with flowable fill. The Contractor will anticipate removals to include concrete, mortar, flowable fill, reinforcing members, and miscellaneous materials such as insulation, fiberglass, pipe, brick, block, hardware, and other construction materials and/or trash.

The Contractor will excavate and completely expose the edges of the existing tunnel structure. The Contractor will work with the Engineer to identify and mark the limits of removal. Once approved by the Engineer, the Contractor will proceed with scoring the limits by sawcutting and proceed with removal operations. The Contractor will not begin removals until authorized by the Engineer.

The Contractor will remove the existing tunnel structure by sawcutting, breaking, and jackhammering and other means approved by the Engineer. Blasting will not be authorized.

The Contractor will ensure that the faces of the structures remaining in place outside of the removal limits are clean, plumb, smooth, and free of any rough edges and voids. The Contractor will utilize brick, block, and mortar to fill any voids in the face of the structures remaining in place.

The Contractor will furnish and install compacted class II granular material as directed by

the Engineer.

The Contractor will clean up, haul away, and dispose of all materials generated from removing the existing abandoned tunnel structure.

The Contractor will maintain wet surfaces for the tunnel surface and adjacent earth to mitigate dust production throughout removal operations.

d. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	**Pay Unit**
DS_Tunnel, Rem	Cubic Yard

Payment for **DS_Tunnel, Rem** will be measured in the field by the cubic yard for tunnel segments completely removed and will include all costs for labor, material, and equipment required to excavate, sawcut, remove, haul away, and dispose of excavation spoils and tunnel materials removed, regardless of material type, provide dust mitigation measures (water), and furnish and install mortar, masonry units, and compacted class II granular material.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
PAVEMENT, REMOVE

a. Description. This work consists of providing all labor, materials, and equipment required to remove, and dispose of off-site, roadway and drive approach pavements, regardless of thickness and material type, and excavate and furnish compacted granular material outside of Machine Grading, Modified areas as shown on the plans, in accordance with City of Ann Arbor 2025 Public Services Standard Specifications, except as specified herein, and as directed by the Engineer.

b. Materials. The Contractor will furnish MDOT Class II Granular Material in accordance with Section 902 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

c. Construction. Pavement materials are anticipated to include asphalt, concrete, brick, aggregate and composite pavement sections. Also included is bituminous overlay pavement on the concrete gutter without disturbing the curb and gutter remaining in place.

Prior to the start of work, the Engineer and Contractor together will identify and field measure all items to be removed. The Engineer will approve of all removal limits prior to any removals being performed by the Contractor.

In areas where pavement removal is to be performed adjacent to existing pavement that is to remain in place, the pavement will be sawcut prior to removal. Backhoe teeth, jackhammers equipped with spike points, milling machines, and backhoe mounted wheel cutters will not be used.

All saw cutting will be performed under wet conditions to prevent excessive airborne dust. All resulting slurry and debris will be cleaned up the satisfaction of the Engineer.

The Contractor will cut steel reinforcement bars as directed by the Engineer at all areas of removal.

The Contractor will perform full-depth saw cutting at removal limits, including those necessary to construct 2-foot wide MDOT Type M drive openings, as shown on the Plans, as directed by the Engineer, and as marked for removal. All pavement cuts will be made full depth and perpendicular to, or parallel with, the centerline of the pavement. Butt joints must be saw cut straight and a clean edge will be maintained.

The Contractor will excavate and furnish and place compacted granular material embankment where required to establish the subgrade elevations to accommodate the proposed subbase, aggregate base, and pavement sections.

The Contractor will coordinate with the City Forester prior to the removal of any tree roots.

Excavated / removal areas will be adequately protected with barricades and/or fencing at all times.

Removed or excavated materials which are not incorporated into the work will become the property of the Contractor and will be immediately removed and properly disposed of off-site.

The proper disposal of asphalt, concrete, and all other excess excavated material will be the responsibility of the Contractor. At no time will the Contractor stockpile removed or excavated materials overnight on or adjacent to the site.

Base, subbase, or subgrade materials removed without authorization by the Engineer will be replaced and compacted by the Contractor at the Contractor's expense, with materials specified by the Engineer.

Damage to adjacent pavement, pavement base, subbase, curb and gutter, sidewalk, utility structures, or other site features, due to removal operations will be repaired by the Contractor at the Contractor’s expense, as directed by the Engineer.

Paving bricks within the right-of-way will be salvaged and neatly stacked/stockpiled by the Contractor. Paving bricks not reinstalled will be delivered by the Contractor to a City-owned facility as directed by the Engineer.

At various times throughout the work, the Engineer may direct the Contractor to use smaller and/or lighter equipment, or to defer certain work tasks in order to protect the grade and/or adjacent areas. The Contractor will swap equipment to the satisfaction of the Engineer at no additional cost to the Owner.

For utility construction patches or repair, the existing pavement will be removed to provide for a replacement of not less than 1 foot wider and longer than the utility trench on each side. All patches will be rectangular (four-sided in shape) and performed in accordance with the details shown on the plans or as directed by the Engineer. If these removals will result in existing pavement less than 5 feet wide from the patch to a lane line, gutter line, edge-of-metal, or existing patch, this existing pavement will also be removed to the lane line, gutter line, edge-of-metal, or existing patch.

d. Measurement and Payment. The completed work, as described, will be for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	**Pay Unit**
DS_Pavement, Remove	Square Yard

All saw cutting required for removals will be included in DS_Pavement, Remove and will not be paid for separately.

Payment for **DS_Pavement, Remove** will be measured by the square yard for pavements removed and will include all costs for labor, material, and equipment required to remove and dispose of existing pavement and driveway approaches, regardless of pavement thickness and type of material, or whether it is composite, and will excavate and furnish and place compacted granular material to establish the subgrade elevations required to accommodate the proposed cross section, install utilities, or as approved by the engineer.

Excavation and granular material included in payment for **DS_Pavement, Remove** will be limited to sections outside of the influence of Machine Grading, Modified areas indicated on the plans and cross sections.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
COLD MILLING FOR CONCRETE CURB AND GUTTER REVEAL

AA:NJB 1 of 1 1/18/2024

a. Description. This work consists of providing all labor, materials, and equipment required to cold mill existing concrete curb and gutter areas overlaid with HMA material to reveal the edge-of-metal of the curb and gutter in advance of the rest of removal work, allowing for a condition inspection of revealed concrete curb and gutter in advance of curb repair work. Work to be done in accordance with section 501 of the Michigan Department of Transportation 2020 Standard Specifications for Construction, as directed by the Engineer and as described herein.

b. Materials. None specified.

c. Construction. Perform localized cold milling along the concrete gutter pan overlaid with HMA to reveal the edge-of-metal of the existing concrete curb and gutter. Perform this work in accordance with subsection 501.03 of the MDOT 2020 Standard Specifications for Construction, and as directed by the Engineer at the location designated by the plans. Perform subsequent handwork and/or necessary machine work to remove HMA overlay material from the gutter pan and dispose of this material properly.

d. Measurement and Payment. Measure and pay for the completed work, as described, at the contract unit price using the following pay item:

Contract Item (Pay Item)	**Pay Unit**
DS_Cold Milling for Concrete Curb and Gutter Reveal	Syd

Payment for **DS_Cold Milling for Concrete Curb and Gutter Reveal** will be measured by square yards of gutter pan revealed, unit price includes the cost for all labor, equipment and materials required to remove, load, haul, and dispose of the cold milled material, and sweeping of the cold milled surface. The pay item will not be paid if the work is performed at the same time as the overall road cold milling operation.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
PERMANENT TRAFFIC SIGNS AND SUPPORTS

a. Description. This work consists of providing all labor, materials, and equipment required to furnish permanent traffic signs and supports to the City of Ann Arbor and coordinating with the City for installation and removing signs and associated supports and foundations in accordance with the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction, as shown on the plans, and as specified herein.

b. Materials. All materials required for the proposed permanent regulatory signage as shown on the plans shall be delivered to the City of Ann Arbor Public Works, W.R. Wheeler Service Center, 4251 Stone School Road, Ann Arbor, MI 48108. The Contractor shall be responsible for all coordination with the City of Ann Arbor Signs and Signals Supervisor at 734.794.6361 for delivery. The contractor will not be entitled to extra compensation due to delays caused by City of Ann Arbor personnel.

The Contractor will furnish materials in accordance with the following sections of the Michigan Department of Transportation Standard Specifications for Construction, except where otherwise noted below:

Anchor bolts, nuts, and washers – materials as specified in section 908

Sign, Type IIIA – materials as specified in section 919

Sign, Type IIIB – materials as specified in section 919

c. Construction. The Contractor will furnish signs, sign supports, and hardware in accordance with Section 810 of the Michigan Department of Transportation 2020 Standard Specifications for Construction, except as modified herein.

Remove signs of the type indicated and sign supports in accordance with section 810.03.U Michigan Department of Transportation 2020 Standard Specifications for Construction.

Remove foundations for perforated steel square tube breakaway systems in accordance with section 810.03.V Michigan Department of Transportation 2020 Standard Specifications for Construction.

d. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	**Pay Unit**
DS_Fdn, Perforated Steel Square Tube Breakaway System, Rem	Each
DS_Ground Mtd Sign Support, Rem	Each
DS_Sign, Type IIIA, Modified	Square Foot
DS_Sign, Type IIIB, Modified	Square Foot

Payment for permanent **Sign, Type III_, Modified,** supports, and associated hardware will be measured by the square foot for signs furnished and will include all costs for labor, material, and equipment required to furnish permanent signs and supports materials to the City and coordinate installation with the City as shown on the plans and as specified herein.

Payment for permanent Reflective Panel for **Perforated Steel Square Tube Breakaway System, Rem,** and **Ground Mtd Sign Support, Rem** and removal of associated hardware will be measured by each for units completely removed and will include all costs for labor, material, and equipment required to remove, haul away, and dispose of signs, supports, and hardware.

Payment for bases, posts, and mounting hardware shall not be paid for separately but shall be included in the corresponding pay item(s).

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
PARKING KIOSK, REM AND PARKING MARKERS, REM

WT:MHM 1 of 1 11/3/2025

a. Description. This work will consist of removing parking kiosks and markers in accordance with City of Ann Arbor 2025 Public Services Standard Specifications, except as modified herein, or as directed by the Engineer.

b. Materials. All sand will meet the gradation of MDOT Class II granular material in accordance with Section 902 of the 2020 MDOT Standard Specifications for Construction.

Concrete will be Grade 3500 in accordance with Section 1004 of the MDOT 2020 Standard Specifications for Construction.

c. Construction. The City will locate and mark markers and kiosks requiring removal. Prior to removal, contact PCI Municipal Services at (734) 761-3582 for the removal of the parking meter heads.

The Contractor will removal, haul away, and dispose of the post and concrete foundation.

The void will be backfilled with Class II Granular Material or Engineer approved backfill.

The surface will be restored in-kind to adjacent material.

Concrete sidewalk will comply with plans and specifications.

d. Measurement and Payment. Measure and pay for the completed work, as described, at the contract unit price using the following pay items:

Pay Item	**Pay Unit**
DS_Parking Markers, Rem	Each

Payment for **DS_ DS_Parking Markers, Rem** will be measured by each unit completely removed and will include all costs for labor, material, and equipment required to remove, haul away, and dispose of existing parking kiosks, markers, posts, bases, and hardware and furnishment and placement of granular materials and concrete.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
MACHINE GRADING MODIFIED

a. Description. This work consists of providing all labor, material, and equipment required to excavate, fill, and grade to establish proposed subgrade elevations as described in Section 205 of the Michigan Department of Transportation Standard 2020 Specifications for Construction with the following exceptions: includes hauling, disposal, storing and stockpiling topsoil, salvaging and stockpiling of aggregate base, miscellaneous removals, furnishing and compacting granular material, subgrade manipulation, proof rolling, temporary lowering of structures, removing, salvaging, storing, and reinstalling site furnishings with new hardware, protecting existing utilities, site preparation for plantings, and all work described herein within the grading limits indicated on the plans.

Earth grades will be constructed by saw cutting and excavating and disposing of existing bituminous pavement, concrete pavement, sidewalks, curbs, gutters, culverts, soil, rock, vegetation (including trees, stumps, brush, shrubs, roots, and logs) or other deleterious materials; removing and salvaging or disposing of topsoil; and by placing and compacting existing approved fill material or imported MDOT Class II Granular Material.

All work will be completed in accordance with Sections 204, 205, 403, 501, 815 of the Michigan Department of Transportation 2020 Standard Specifications for Construction, except as modified herein.

b. Materials. All materials will meet the requirements as specified in Sections 205 and 902 of the Michigan Department of Transportation 2020 Standard Specifications for Construction, except as specified herein.

Fill material will be suitable material obtained from the site approved by the Engineer or imported MDOT Class II granular material.

Hardware furnished for site furnishings will match the existing in-kind and will have anchors appropriate for the fastening application.

c. Soils Information. Soil information provided as part of the contract documents is for informational purposes only and will not relieve the Contractor of the responsibility of investigating all local conditions before bidding.

d. Contractor's Calculations. Existing and proposed cross sections are provided in the plans. The Contractor will perform his/her own computations and is responsible to inspect the site to determine his/her own estimate of the quantities of work involved.

Deviations between the existing and proposed cross-sections shown on the plans will not be cause for additional compensation.

e. Permit to Place. The Engineer will issue to the Contractor a “Permit to Place” for the aggregate base. If the Contractor does not immediately place the aggregate base, the Contractor will be solely responsible for the protection of the subgrade and will conduct operations and provide the necessary equipment to ensure the satisfactory completion of the work without damaging the subgrade. This may require the transportation and movement of materials over additional distances in lieu of driving upon the unprotected or partially unprotected subgrade.

f. Suspension of Work. The Engineer will have the authority to suspend the work wholly or in part for any periods of time as may be deemed necessary due to unsuitable weather or such other conditions which are considered unfavorable for the prosecution of the work or for any other condition or reason deemed to be in the best interest of the project. The Contractor will not suspend work without giving prior written notification to the Engineer.

g. Coordination. The Contractor will coordinate all work with utility companies and others where work by others is within the areas indicated for Machine Grading on the plans or at the direction of the Engineer.

h. Access. The Contractor will maintain access to the project site per the Maintenance of Traffic special provision.

i. Removal and Salvaging of Topsoil and Aggregate Base. The Contractor will remove, salvage, and stockpile topsoil and/or aggregate base and perform all related work in accordance with Section 205.03.A.1 and/or 205.03.A.2 of the Michigan Department of Transportation Standard Specifications for Construction to prepare for the existing surface for placement of 4 inches of topsoil to accommodate turf establishment in the areas indicated on the plans.

j. Miscellaneous Removals. The Contractor will remove bituminous, aggregate, and concrete materials around manholes, structures, and utility covers, remove bituminous curbs, driveway wedges, overlays on existing curb and gutter, and other miscellaneous bituminous surfaces, and remove any surface feature located within the grading limits indicated on the plans or as directed by the Engineer for which there is no specific pay item in the proposal for its removal.

The Contractor will remove and dispose of all abandoned cables, conduit, and pipe encountered within the limits of any earthwork excavation including undercuts at the direction of the Engineer. Where the inverts of abandoned, or to be abandoned or removed, conduits or pipe are less than 16 inches below the bottom of any earth excavation or undercut, the conduits and/or pipe will be removed and the resulting void filled with an Engineer approved material. The fill material will be compacted to 95% of its maximum unit weight in lifts not exceeding 12 inches. The Contractor will remove

aggregate base furnished as temporary aggregate to cover utility trenches. The Contractor may elect to reuse aggregate base at the approval of the Engineer.

k. Protection of the Grade. The work will be kept well drained at all times. The Contractor will repair all areas of the work that become damaged due to rain at the Contractor's expense as directed by the Engineer.

The Contractor will be responsible for the maintenance of the foundation, roadway embankment, and subgrade. Any damage caused by traffic or the Contractor's operations, to the foundation, roadway embankment or subgrade will be remedied by the Contractor at his/her sole expense.

The Contractor will conduct his/her operations and provide the necessary equipment to ensure the satisfactory completion of the work without damaging the foundation, roadway embankment or subgrade. This may require the transporting and movement of materials over additional distances.

l. Protection of Utilities. Utility lines may become exposed at, above, or below, the foundation or subgrade elevation during machine grading or subgrade undercutting operations. If this occurs, the Contractor will excavate around, above and/or below the utility lines, as directed, to complete the machine grading or subgrade undercutting operations.

m. Foundation Preparation. The Contractor will prepare the earth grade in accordance with Section 205.03.A of the Michigan Department of Transportation 2020 Standard Specifications for Construction as shown on the plans, and as specified herein.

The earth grade will be compacted to 95% of its maximum unit weight, as measured by the AASHTO T-180 method, to a depth of at least 10 inches. If this cannot be achieved, in the opinion of the Engineer, he/she will direct the Contractor to perform Subgrade Undercutting of the type specified or as directed by the Engineer.

n. Subgrade Construction. The Contractor will construct the subgrade by performing earth excavation and placing roadway embankment work in accordance with Sections 205.03.G and 205.03.H of the Michigan Department of Transportation 2020 Standard Specifications for Construction, as shown on the plans, and as specified herein.

The Contractor will shape and prepare the subgrade outside of proposed utility trench areas to the grades and cross-sections, shown on the plans, including sidewalk, driveways, and landscape areas, or as directed by the Engineer, and as specified herein. The subgrade will be prepared to ensure uniform support for the pavement structure. To achieve this, the work will include, but not be limited to:

1. Excavate, remove, haul away, and dispose of any surplus or unsuitable materials.
2. Import and furnish any additional Engineer approved fill materials necessary.

3. Move existing and/or furnished materials longitudinally and transversely as necessary.
4. Cut, place, compact, and trim existing and/or furnished materials to construct the roadway embankment and subgrade to the specified elevations within tolerances.
5. Stockpiling, and moving again, any cut materials which cannot be immediately placed upon excavation due to construction staging.
6. Grade around mailboxes, trees, utilities poles, other utility features, and all other distinguished permanent features. The Contractor will be responsible for any damaged caused to such features.
7. Maintain the work in a finished smooth condition until it is accepted by the Engineer.

If the Contractor's equipment should cause any rutting or other damage in the base, subbase or subgrade, the equipment will be immediately restricted from the grade and the Contractor will restore the area to the satisfaction of the Engineer at the Contractor's expense.

The Contractor will excavate, fill, and grade the subgrade to accommodate all proposed subbases, aggregate bases, pavements, swales and adjacent planting beds, curb and gutter, driveways, sidewalks, bicycle paths, other similar structures, bioswale planting mix, topsoil, and any other features which the subgrade supports.

The Contractor will prepare the subgrade to ensure uniform support for the pavement structure. The finished subgrade will be placed to within 1 inch below and ¾ inch above the plan grade. Variations will be corrected with the placement of compacted granular material. The tolerances for the pavement structure strata are not additive.

In areas where the existing grade is to be cut to achieve proposed subgrade elevation (cut sections), rubber tire equipment including scrapers, wheel loaders, and graders may be used by the Contractor but only to within 2 feet above the proposed subgrade elevation.

After the grade has been cut to within 2 feet above the subgrade elevation, the Contractor will install all proposed underground utilities and underdrains within the 1:1 influence of the proposed pavement section.

Following the installation of utilities, the Contractor will perform the remaining cutting using tracked equipment only. The Contractor will only excavate an amount that the Contractor can maintain and protect and keep well drained at all times.

In areas where the existing grade is to be filled to achieve the proposed subgrade elevation (fill-sections), filling will not take place until all proposed underground utilities within the 1:1 influence of the proposed pavement have been installed. However, if the existing grade does not provide the required minimum cover for a portion of any utility, filling for the road subgrade will be performed to provide such minimum cover. This filling

will be for the entire width of the roadway (to 1 foot behind the curb) at a length as determined by the Engineer.

The Contractor will place fill materials only on stable earth grade approved by the Engineer.

The Contractor will place fill in 6-inch lifts and compacted to 95% of the maximum unit weight as determined by the AASHTO 180 test.

o. Proof Roll to Establish Subgrade. Immediately following the completion of the grading and compaction of the subgrade as required above, the Contractor will notify and allow the Engineer to inspect the finished subgrade for soft or uncompacted areas, and for areas of unsuitable and deleterious soils.

The Contractor will proof roll the grade or other surfaces as directed by the Engineer. Equipment for proof rolling will be a pneumatic-tired roller and will have suitable body for ballast loading with such capacity that the gross load may be varied between 25 and 40 tons. The Contractor may use an appropriately loaded single axle or tandem axle dump truck in lieu of the specified roller to achieve the loads specified above. The proof rolling vehicle will be operated at walking speed. The proof roller will make one or more passes to complete coverage of the completed subgrade. Where proof rolling shows the subgrade to be unstable, such areas will be undercut and repaired as determined by the Engineer. Following the completion and approval of all undercuts required based on the proof rolling, the subgrade will be considered established.

The Contractor will not operate rubber-tired equipment on the established subgrade unless specifically authorized in writing by the Engineer.

The Contractor will be responsible for the maintenance of the subgrade. Any damage to the subgrade due to the Contractor's activities or the activities of its subcontractors, will be repaired by the Contractor at the Contractor's expense including any additional undercuts required after the subgrade had been established.

p. Subgrade Manipulation. The Contractor will perform Subgrade Manipulation on the foundation or subgrade in accordance with Section 205.03.F of the Michigan Department of Transportation 2020 Standard Specifications for Construction where indicated on the plans, as specified herein, and as directed by the Engineer.

Where subgrade manipulation is required, the foundation or subgrade will be thoroughly scarified, blended, and mixed to a depth of 12 inches. The work will be accomplished by means of a large diameter disc, motor grader, or other equipment approved by the Engineer. After the foundation or subgrade has been manipulated to the satisfaction of the Engineer and allowed to dry, the soil will be compacted to 95% of its maximum dry density as measured by the AASHTO T-180 method. The time required for drying the soil will not be a basis for an extension of time.

q. Site Preparation. The Contractor will perform Site Preparation for tree plantings in accordance with Section 815.03B of the Michigan Department of Transportation 2020 Standard Specifications for Construction where indicated on the plans, as specified herein, and as directed by the Engineer.

r. Rock Excavation. The Contractor will perform Rock Excavation for boulders ½ cubic yard in volume or less in accordance with Section 205.03.B of the Michigan Department of Transportation 2020 Standard Specifications for Construction where shown on the plans, as specified herein, and as directed by the Engineer.

s. Lowering Structures. Prior to cutting the subgrade, the Contractor will remove structure covers, lower the structures to a point between 8 inches and 12 inches below the proposed subgrade, and cover the structures with a steel plate. Structures will not be raised prior to placing roadway embankment.

The steel plates for covering structure openings will conform to the plan detail, be anchored in place, and properly placed to prevent their movement under all traffic, be thick enough to carry all traffic, and prevent the infiltration of debris into the structures.

The Contractor will lower valve boxes to a point between 8 inches and 12 inches below the proposed subgrade. Valve boxes will not be raised prior to placing roadway embankment.

The void in the grade above the steel plates used for structure lowerings and valve box lowerings will be backfilled, and compacted to 95% of its maximum dry density, with an Engineer approved coarse aggregate.

The Contractor will coordinate the lowering of private utility structures with the corresponding utility company.

t. Structure and Sewer Cleanliness. All sewers and structures, including manholes, gate wells, valve boxes, inlet structures, and curbs will be protected from damage and contamination by debris and construction materials. Structures will be maintained clean of construction debris and properly covered at all times throughout construction. The Contractor will immediately clean any structures and/or sewers that become contaminated with construction debris. The Contractor will be responsible for all direct and indirect damages which are caused by sewers or structures which have been made unclean or have been damaged by the Contractor.

u. Site Furnishings. The Contractor will remove, salvage, and reinstall all site furnishings which conflict with proposed site work. Expected site furnishings include bicycle racks, wayfinding signage, trash cans, bollards, delineator posts, qwick kurb, and decorative signage. The contractor will furnish new hardware for the reinstallation.

v. Measurement and Payment. The completed work, as described, will be paid for by planned quantities at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	**Pay Unit**
DS_Machine Grading, Modified	Station
DS_Bench, Rem, Salv	Each
DS_Bike Rack, Rem, Salv	Each
DS_Bikeway Delineator Post, Rem	Each
DS_Qwick Curb, Rem	Foot

Payment for **DS_Machine Grading, Modified** will include all costs for labor, materials, and equipment necessary to complete the work described herein except when separate pay items are provided in the proposal to compensate for the work.

Quantities paid for **DS_Machine Grading, Modified** will be planned quantities by the station, measured along the proposed North University Ave. and Thayer Street construction centerline from right-of-way to right-of-way, including temporary grading permits, from POB to POE, which may be adjusted due to changes in the limits of work as issued in writing by the Engineer.
Earthwork associated with utility work is included in their pay items. Estimated quantities for excavation and embankment may be more or less based on field conditions encountered during construction. The Contractor is responsible for reviewing the information in the bid documents to compare to these estimated figures. Claims related to estimated quantities for excavation and embankment will be denied by the Owner.

Granular material backfill required for utility trenches will be paid for as part of the corresponding utility pay items.

The Contractor is advised that due to the phasing of the project and the probable unsuitability of some or all of the excavated material for use as approved fill material, there may be imbalances between the amount of earth cut which is suitable for reuse as fill, and the amount of earth needed to construct the lines and grades shown on the plans, or as directed by the Engineer. The Contractor will make provisions for such imbalances and will include in the bid price for this work the cost of importing/furnishing, placement, and compaction of MDOT Class II granular material, as well as the cost of stockpiling and re- handling of imported and/or on-site Engineer approved materials as necessary to complete the work of constructing the embankment and subgrade to the cross sections shown on the plans.
Payment for **DS_Qwick Curb, Rem**, will be measured by each complete foot removed and will include all costs for labor, materials, and equipment required to remove, haul away, and dispose of posts, curb units, and associated mounting hardware materials as shown on the plans and as specified herein.

Payment for **DS_Bench, Rem, Salv**, **DS_Bike Rack, Rem, Salv**, and **DS_Bikeway Delineator Post, Rem** will be measured by each complete unit removed and will include all costs for labor, materials, and equipment required to remove and return to owner benches, bike racks, and associated mounting hardware materials as shown on the plans and as specified herein.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
SANITARY SEWER SERVICE LEAD REMOVAL AND INSTALLATION

a. Description. This work consists of providing all labor, materials, and equipment required to remove and install sanitary sewer service leads where authorized by the Engineer to accommodate utility construction and maintain service in accordance with City of Ann Arbor 2025 Public Services Standard Specifications and the Michigan Department of Transportation 2020 Standard Specifications for Construction, except as modified herein, or as directed by the Engineer.

b. Materials.

Pipe and fittings materials shall be SDR 26 polyvinyl chloride (PVC) with integral wall bell and spigot which conforms to ASTM D3034 (Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings).

Lubricants used in making up joints will be supplied by the pipe manufacturer, and the joints will be coupled in accordance with the manufacturer's requirements.

Joints for PVC pipe will be elastomeric gasketed push-on joints conforming to the requirements of ASTM D3212 (Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals). Gaskets will conform to ASTM F477 (Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe).

Pipe bedding and backfill will be class II granular which meets the requirements of section 902 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

The following information shall be clearly marked on each length of pipe:

1. The pipe designation and class (e.g., C 76, Class IV). For PVC pipe, this shall include the PVC cell classification.
2. The name or trademark of the manufacturer.
3. Identification of the manufacturing plant.
4. The date of manufacture.
5. Testing lot number or testing lab stamp.
6. Beveled pipe shall be marked with the amount of bevel, and the point of maximum length shall be marked on the beveled end.

All pipe furnished will be accompanied by the manufacturer's certificate of test showing conformity with the relevant standard specifications. Each certificate shall identify a specific lot number, quantity of pipe, and show actual test results for the lot furnished. These certificates shall be submitted to the Engineer and must be pre-approved prior to the start of construction.

c. Construction.

The Contractor will perform work in accordance with City of Ann Arbor 2025 Public Services Standard Specifications and sections 203, 402, and 825 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

The Contractor will maintain sanitary sewer services at all times throughout construction utilizing bypass pumping or other Engineer approved means. It may be necessary for the Contractor to maintain pumping during outside of working hours.

The Contractor will take all measures necessary to ensure that no site debris enter the ends of the pipe remaining in place and the new pipe installed.

The Contractor will work with the Engineer to identify existing sanitary service leads that prohibit the installation of proposed work. The Contractor will only remove sanitary service leads approved by the Engineer for removal.

The Contractor will protect existing pipe, connections, and fittings to remain in place and will install or remove sanitary service leads in a manner so as to not disturb adjacent upstream and downstream pipes.

The Contractor will make clean cuts and trim and deburr the pipe ends to remain in place so that the edge is smooth and 90 degrees to the longitudinal axis of the pipe. New services shall be capped at the Right-of-Way for future connections as shown on the plans and/or as directed by the Engineer.

The Contractor will clean the pipe ends before installing new pipe.

The Contractor will maintain the trench in a clean and dry condition.

The Contractor will install sanitary service leads in accordance with the City of Ann Arbor 2025 Public Services Standard Specifications.

d. Measurement and Payment. The completed work, as described, will be paid for at contract unit prices for the following contract items (pay items):

Contract Item (Pay Item)	**Pay Unit**
DS_Sanitary Service Lead, Rem, 4 to 8 inch	Foot
DS_4 In., SDR 26 PVC Sanitary Service Lead, SD-TD-2	Foot

Payment for **DS_Sanitary Service Lead, Rem, 4 to 8 inch** will be measured by the foot for pipe removed and will include all costs for labor, materials, and equipment required to complete all the work described herein, including cutting, removing, hauling, and

disposing of existing materials, protecting existing pipe remaining in place, and maintaining existing sanitary service utilizing Engineer approved means.

Payment for **DS_4 In., SDR 26 PVC Sanitary Service Lead, SD-TD-2** will be measured by the foot for pipe installed and will include all costs for labor, materials, and equipment required to complete all the work described herein, including excavation, furnish and install pipe, fittings, caps and risers, any sheeting, shoring, and bracing required, dewatering, furnish and install water-tight plugs, protection of all existing utilities and service connections, furnish and install pipe bedding and backfill, cleaning, video inspection, and testing.

CITY OF ANN ARBOR

SPECIAL PROVISION
FOR
STORM CONTROL STRUCUTRE, 60 IN. DIA., (0-8' DEEP)

a. Description. This work consists of providing all labor, materials, and equipment required to construct drainage structures in accordance with the City of Ann Arbor 2025 Public Services Standard Specifications and Section 403 of the Michigan Department of Transportation 2020 Standard Specifications for Construction, as shown on the plans, and as specified herein.

b. Submittal Requirements. The Contractor will submit to the Engineer for review and approval shop drawings in accordance with Section 104.02 of the Michigan Department of Transportation 2020 Standard Specifications for Construction for all materials related to drainage structures.

For each submittal or resubmittal, the Contractor will allow at least 14 calendar days from the date of the submittal to receive the Engineer's acceptance or request for revisions. The Engineer's comments will be incorporated into the submitted plans, calculations and descriptions. The Engineer's acceptance is required before beginning the work. Resubmittals will be reviewed and returned to the General Contractor within 14 calendar days. Required submittal revisions will not be a basis of payment for additional compensation, extra work, or an extension of contract time.

c. Materials. The materials used for this work will conform to Section 403.02 of the Michigan the Michigan Department of Transportation 2020 Standard Specifications for Construction, except as specified herein.

Storm sewer drainage structures will be constructed of precast reinforced concrete sections topped with an eccentric cone or, in situations in which it is not possible to install precast sections, concrete masonry units where approved by Engineer.

All sanitary sewer manholes will be constructed of precast reinforced concrete sections topped with an eccentric cone.

Precast reinforced concrete bases, bottom sections, manhole risers, grade adjustment rings, concentric cones, eccentric cones, and flat slab tops will conform to the requirements of ASTM C478. Joints on precast manholes used on all sanitary sewers will meet ASTM C443, rubber O-ring gasket.

Precast manhole tees and radius pipe sections will conform to requirements for reinforced concrete pipe, ASTM C76, class IV (up to 23 feet of cover) or class V (up to 33 feet of cover). Joints will conform to adjacent pipe. Tees and radius pipe will conform to details indicated on drawings offered by the Concrete Pipe Association of Michigan, Inc., or Engineer approved equal.

All structures will be designed to accommodate HS-20 Live Load requirements as determined by a Professional Engineer licensed by the State of Michigan, regardless of where they are to be installed.

The Contractor will field verify inverts prior to fabricating precast units. No additional payment will be made to the Contractor for precast units that cannot be used due to existing inverts being different than shown on the plans, changes in vertical or horizontal alignment due to conditions found in the field, or similar unforeseen circumstances.

Concrete masonry units will conform to the requirements for concrete masonry units for catch basins and manholes, ASTM C139.

Concrete brick will conform to the requirements for concrete building brick, ASTM C55, Grade N-1.

Plastic coated manhole steps will be injection molded of copolymer, polypropylene, encapsulating a 1/2 inch grade 60 steel reinforcing bar. Plastic-coated manhole steps will meet the performance test described in ASTM C-478, Paragraph ll, and will have an impact resistance of 300 ft.-lbs. with only minor deflection and no cracking or breaking. The steps will resist pull out forces of 1,500 lbs.

Backfill will be MDOT class II granular material only and will be compacted to 95% of its maximum unit weight in maximum 10-inch lifts.

Control structures will be precast reinforced concrete sections of the type specified in the details shown on the plans.

Control structure regulator valves will be Contech models FA1012 and as specified in the details shown on the plans or engineer approved equals.

d. Construction. The Contractor will construct drainage structures in accordance with Section 403.03 of the Michigan Department of Transportation 2020 Standard Specifications for Construction, except as specified herein.

Excavation will be carried to the depth and width required to permit the construction of the required base. The excavation width will be greater than the base. The bottom of the excavation will be trimmed to a uniform horizontal bed and be completely dewatered before any concrete is placed therein. Precast manhole bases and precast bottom sections are allowed.

Circular precast manhole sections will be constructed in accordance with the details as shown on the plans. Manhole stack units will be constructed on level poured-in-place bases, precast concrete bases, or precast concrete bottom sections.

Precast cone sections will be constructed in accordance with the details as shown on the plans. These units will be eccentric for all manholes, precast or block. All structures will be topped with a minimum of one, and a maximum of three, 2” tall, brick or precast adjustment courses.

Manholes, inlets, and structures will be constructed within 2-1/2 inches of plumb.

Frames and covers will be set in full mortar beds and pointed on the structure interior to a smooth, brushed finish. The covers will be set flush with sidewalk, roadway pavement, or ground surfaces. The Engineer will be notified prior to the final paving to allow inspection of the final casting adjustments for all utility structures. In gravel streets, covers will be set 6 to 8 inches below finished gravel surface.

Sewer pipes will extend into structures a minimum of 1/2 inch and a maximum of 3 inches.

The excavation will be kept in a dry condition.

All necessary adjustments for new structures will be included in the cost of the structure.

Manhole steps, installed where required, will be spaced 16 inches.

The Contractor will backfill drainage structures only after the exterior mortar coating has cured and approved by the Engineer.

The Contractor will ensure that the completed drainage structure is clean and free of any debris from construction activities.

The Contractor will furnish and install structure covers in accordance with the details on the plans the City of Ann Arbor 2025 Public Services Standard Specifications.

The Contactor will construct control structures in accordance with the details shown on the plans and install control structure regulator (vortex) valves in accordance with the manufacturer's specifications and instructions. Valves will be installed into the weir utilizing appropriate sized sleeves and o-ring gaskets.

The Contractor will install external seals to all manhole chimneys.

e. Measurement and Payment. The completed work, as described, will be paid at the contract unit price for the following contract items (pay items):

Pay Item	**Pay Unit**
DS_Storm Control Structure, 60 In. Dia., (0-8’ deep).....	Each

Payment for **DS_Storm Control Structure, 60 In. Dia., (0-8’ deep)** will be paid by each complete unit installed and will include all costs for labor, materials, and equipment required for all necessary excavation, disposing of surplus excavated materials, frame and cover, backfilling, adjusting frame and cover to finished elevation, and constructing the complete structure, regardless of depth, including weir and orifices, regulator (vortex) valve, pipe connections, and structure cleaning.

Measurement and payment for internal and external chimney seals will be paid for separately.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
TRENCH DRAIN

WT:AJK 1 of 2 12/18/2025

a. Description. This work consists of providing all labor, materials, and equipment required to install a trench drain system as shown on the plans or as directed by the Engineer in accordance with the City of Ann Arbor 2025 Public Services Standard Specifications, except as modified herein.

b. Materials. The Contractor will furnish the following materials:

Trench drain system will be a channel style system with a trough and cover assembly.

The trough material will be polymer or fiberglass and suitable to be embedded directly into concrete. Troughs depths will match the thickness of adjacent concrete.

Covers will be 2-foot cast iron spans and match the existing style in kind. Covers will not bolt down and will be easy to remove for maintenance. Covers will be ADA compliant.

Outlet will be 6-inch diameter and suitable for connection to PVC pipe.

Pipe and fittings will be gasketed 6-inch diameter SDR 26 PVC.

Solvent cement will be heavy-duty and suitable for SDR 26 PVC.

Class II granular material will meet the requirements of Section 902 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

c. Submittals. The Contractor will submit shop drawings that detail the trench drain, liner, grates, outlets, and all other materials and appurtenances relevant to constructing the trench drain system for approval.

d. Construction. The Contractor will install trench drain systems according to the manufacturer's instructions.

The Contractor will excavate and install trench drain systems on a bed of 4 inches of class II granular material compacted to at least 95% maximum unit weight and will set systems prior to pouring concrete for inspection and approval by the Engineer.

The Contractor will ensure that trench drain systems provide positive drainage and are not deformed by concrete loads when concrete is poured. Drains segments deformed by concrete loads will be removed and replaced at the direction of the Engineer.

The Contractor will install drain systems so that the grate is flush with the finished grade and ensure the installation is free of any trip and fall hazards for pedestrians.

The Contractor will connect the trench drain system to outlets utilizing PVC pipe and fittings and join pipe and fittings with primer and cement where gaskets are not used.

The Contractor will protect trench drain and outlets from concrete and other construction debris and will clean trench drain, connections, leads, and sewer to be free of any foreign material prior to

e. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	**Pay Unit**
DS_Trench Drain	Foot

Payment for **DS_Trench Drain** will be measured in the field by the linear foot for trench drain completely installed and will include all costs for labor, material, and equipment required to excavate, haul away, and dispose of spoils and furnish and install compacted class II granular material, trench drain system including grates, troughs, and pipe.

Pipe lengths will not be measured. Payment for pipe, fittings, gaskets, cement, and other related materials will be considered incidental to payment for DS_Trench Drain.

The Contractor will be responsible for all costs related to trench systems that must be removed and replaced due to deformation resulting from concrete loads, including removal and replacement of adjacent facilities.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
LANE TIE, EPOXY ANCHORED

WT:MHM 1 of 1 11/3/2025

a. Description. This work consists of providing all labor, materials, and equipment required to furnish and install lane ties where shown and detailed on the plans in accordance with the Michigan Department of Transportation 2020 Standard Specifications for Construction, except as modified herein, or as directed by the Engineer.

b. Materials. Epoxy coatings will meet the requirements of section 905.03.C of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

Epoxy resin adhesive will meet the requirements of section 914.06 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

Lane ties will be epoxy coated #5 deformed bars which meet the requirements of section 914.09.A of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

c. Construction. The Contractor will construct Lane Tie, Epoxy anchored in accordance with section 603 of the Michigan Department of Transportation 2020 Standard Specifications Construction.

d. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	**Pay Unit**
DS_Lane Tie, Epoxy Anchored	Each

Payment for **DS_Lane Tie, Epoxy Anchored** will be measured by each unit completely installed and will include all costs for labor, material, and equipment required to complete the work, including drilling and cleaning holes, providing, mixing, and installing adhesive, and installing deformed bars.

CITY OF ANN ARBOR

SPECIAL PROVISION
FOR
STRUCTURE COVER ADJUSTMENTS

a. Description. This work consists of providing all labor, materials, and equipment required to adjust, replace, and point drainage structures, sanitary structures, valve wells or boxes, handholes, and monument boxes of concrete and concrete block masonry; sealing manhole chimneys; the replacing, salvaging and transporting of new and existing metal covers, and/or castings; including all excavation, backfilling, patching and the removal and proper disposal off-site of all excavated material and debris, all in accordance with Division 4 of the Michigan Department of Transportation 2020 Standard Specifications for Construction, except as specified herein.

b. Materials. Materials will meet the requirements of sections 403, 1004 and 1005 of the 2020 edition of the MDOT Standard Specifications.

Concrete will be grade P-NC.

Manhole external chimney seals will be Wrapidseal Manhole Encapsulation System CCI Piping Systems or an engineer approved equal.

Sanitary manholes will have an internal chimney seal. The Contractor will provide the Engineer with submittals for three different manufacturers of internal chimney manhole systems in advance of the preconstruction meeting. The Engineer will review and provide a selected product within two weeks after receipt of submittals.

Internal manhole frame-chimney sealant material and application methods will meet current ASTM standards and consist of an Engineer approved plural component, spray applied, quick setting urethane material conforming to the following requirements:

Viscosity:

(a) Part A, 12,000-17,000 cps @ 25C, 20 RPM per ASTM D2393 (Test Method for Viscosity of Epoxy Resins and Related Components)

(b) Part B, 300-510 cps @ 25C, 300 RPM per ASTM D4287 (Standard Test Method for High-Shear Viscosity Using a Cone/Plate Viscometer)

Weight:

(a) Weight/Gallon Part A, 8.90-9.20 lb/gal per ASTM D1875 (Standard Test Method for Density of Adhesives in Fluid Form)

(b) Weight/Gallon Part B, 9.60-9.75 lb/gal per ASTM D1875

(c) Weight/Gallon Mixed, 9.25-9.48 lb/gal per ASTM D1875

Processing:

(a) Mix Ratio by Weight, 100:107

(b) Mix Ratio by Volume, 100:100 10-89 Construction Specifications

(c) Cure Schedule, Hours, 4-5 hours @ 25C

Gel Time:

(a) Gel Time, Seconds, 0-15 seconds @ 25C, 100 grams per ASTM D3056 (Standard Test Method for Gel Time of Solventless Varnishes)

Cured Properties:

(a) Hardness, Shore A, 95-100 per ASTM D2240 (Standard Test Method for Rubber Property—Durometer Hardness

(b) Elongation, 379-473% per ASTM D638 (Standard Test Method for Tensile Properties of Plastics) or ASTM D412 (Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension)

(c) Tensile Strength, 2616-3216 psi per ASTM D638 or ASTM D412 (d) Peel Strength, 30.8-46.8 PLI (AL to AL) per ASTM D1876 (Standard Test Method for Peel Resistance of Adhesives (T-Peel Test))

Cementitious grout will be a premixed, non-metallic, high strength, non-shrink grout which meets the requirements of ASTM C191 (Standard Test Methods for Time of Setting of Hydraulic Cement by Vicat Needle) and ASTM C827 (Standard Test Method for Change in Height at Early Ages of Cylindrical Specimens of Cementitious Mixtures) as well as Corps of Engineers CRD-C-588 (Nonshrink Grout) and CRD-C-621 (Non-shrink Grout). When mixed to a mortar or "plastic" consistency, it will have minimum 1 day and 28-day compressive strength of 6,000 and 9,000 psi, respectively.

c. Construction.

General

Materials will be stored by the Contractor at locations arranged by the Contractor, subject to the approval of the Engineer. The Contractor will not store materials or equipment, including metal castings and steel plates, on any lawn area. City of Ann Arbor castings not being reused will be stored at a clear location for pick up by the City of Ann Arbor.

Hidden, or unknown utility structures may be encountered during the work. It is the

Contractor's responsibility to inform the respective utility owner(s) of such findings. In such instances, the City may direct the Contractor to adjust the structure(s) to grade.

The pointing of structures is included in all adjustments.

For bituminous pavement, all covers will be adjusted to grade after the initial leveling, base course(s), and/or patching course has been placed, but before the placement of the wearing course. Prior to the leveling or base course(s) being placed, the structures will have their covers and castings removed and the structures covered by a steel plate. This plate will be removed, and the structure adjusted after the completion of all base and leveling courses.

After the removal of the casting, the structure's opening will be covered by a steel plate. The plate will be properly placed in order to avoid any slippage due to traffic or construction machinery movements. The opening will be covered to prevent construction debris from entering the structure. The plate will be covered with MDOT 21AA gravel to existing surface elevation or as directed by the Engineer. Steel plates will be sufficiently strong and thick enough to carry the traffic and construction equipment without any deflection. Steel plates will also be pegged as shown on the Plans and Details in order to prevent their shifting and/or moving. Steel plates are the property of the Contractor and will be removed by the Contractor upon completion of the work.

All structures are to be adjusted to a level that results in their surface being flush with the finished grade. Failure to meet these conditions will result in the readjustment of the structure and finish patching of the area as directed by the Engineer at the Contractor's expense.

The Contractor will replace frames and covers as directed by the Engineer.

All salvaged frames and covers (of any type) will be picked up by the City of Ann Arbor Public Works. The Contractor will promptly notify the Engineer when frames and covers are ready to be picked up from the project site.

Frames and covers will be set in full mortar beds and pointed on the structure interior to a smooth, brushed finish. The covers will be set flush with sidewalk, roadway pavement, or ground surfaces. The Engineer will be notified prior to the final paving to allow inspection of the final casting adjustments for all utility structures. In gravel streets, covers will be set 6 to 8 inches below finished gravel surface.

Adjust Structure Cover or Handhole

The Contractor will adjust structure or handhole covers, water valve boxes, and all other public utility underground access or control point covers will be adjusted to conform to the finished surface section and elevation, including excavation, backfill, compaction and patching.

The Engineer will be given the opportunity by the Contractor to witness all survey monuments prior to their being disturbed and/or adjusted.

This item includes the final adjustment of castings of any type (including drop inlets) to their respective finished elevations, up or down. All materials required to make the adjustmentswill be included in this item of work.

All underground structure covers will be adjusted such that their finished surface elevation is flush with the finished surface sections, grades, slopes, and elevations, as shown on the Plans, and as directed by the Engineer. The work will be verified by the use of a10-foot straight-edge placed parallel with the pavement centerline. Structures not meeting these conditions will be readjusted and finish patched, as directed by the Engineer, at the Contractor's expense.

The Contractor will coordinate with the Engineer and applicable non-City utilities for manholes and valve adjustments during this project.

All structure covers, utility covers, valve boxes or monument boxes will be backfilled with MDOT P-NC concrete from the depth of excavation necessary for adjustment, up to an elevation 2-inches below the top flange of the adjusted casting.

d. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay Items):

Contract Item (Pay Item)	**Pay Unit**
DS_Misc. Structure Cover, Adjust	Each
DS_Handhole, Adjust	Each

Payment for **DS_Misc. Structure Cover, Adjust** and **DS_Handhole, Adjust** will be measured by each structure cover or handhole adjusted and will include all costs for labor, material and equipment necessary to raise a structure frame and cover not more than 6 inches or lower them not more than 12 inches. Adjusting covers includes sawcutting, removing and replacing pavement; furnishing and installing a structure frame; reuse of the existing cover; and furnishing, installing and compacting granular backfill material as necessary; and concrete. Payment for furnishing a structure cover will be paid for as Structure Cover.

Furnishing and placing concrete as backfill for these items will not be paid separately, but will be included in the bid prices for these items of work.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
INFILTRATION TRENCH

a. Description. This work consists of providing all labor, materials, and equipment required to construct an infiltration trench where shown and as detailed on the plans in accordance with City of Ann Arbor 2025 Public Services Standard Specifications and the Michigan Department of Transportation 2020 Standard Specifications for Construction, except as modified herein, or as directed by the Engineer.

b. Materials. Geotextile separator will be non-woven and meet the requirements of section 910.03.C of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

Aggregate bedding and backfill will be 6A limestone and meet the requirements of section 902 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

Granular material will be class II and meet the requirements of section 902 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

Pipe and fittings will be 12-inch perforated dual wall corrugated high-density polyethylene (HDPE) and meet the requirements of AASHTO M-294. Where pipe is installed outside of an infiltration trench, the pipe shall be wrapped with geotextile meeting City of Ann Arbor 2025 Public Services Standard Specifications.

Mortar will be type R-2 and meet the requirements of section 1005 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

c. Construction. The Contractor will perform the following sequence of construction to complete this work:

1. Excavate to the limits shown on the plans and haul away and dispose of spoils.

2. Notify the Engineer and allow the Engineer time to inspect the existing subgrade. The Engineer may direct subgrade undercutting.

3. Place geotextile separator to be smooth and taut, flush with the subgrade surfaces, and plan to completely enclose (wrap) the entirety of the trench with a lap joint accounting for pipe and backfill. Lap joints will be a minimum of 24 inches.

4. Notify the Engineer and allow the Engineer time to inspect the geotextile to ensure it is installed properly and free of perforations, frays, or other damage. Remove

and reset geotextile and/or remove and replace geotextile at the direction of the Engineer at no additional cost to the Owner.

5. Place 12 inch lifts of 6A aggregate compacted as specified below.

6. Install pipe and drainage structures. Install perforated pipe where indicated on the plans. Connect pipe to drainage structures with mortar joints. Join all pipe sections with couplers.

7. Notify the Engineer and allow the Engineer time to inspect the pipe to ensure it is properly installed, wrapped as required, free of humps or bellies, and free of damage. Remove and reset and/or remove and replace pipe and/or fittings at the direction of the Engineer at no additional cost to the Owner.

8. Backfill with 6A aggregate in 12-inch layers compacted to the satisfaction of the engineer. Finish the top layer to be consistently smooth.

9. Completely enclose the finished aggregate surface with geotextile separator and ensure a minimum 24-inch lap joint.

10. Backfill with class II granular material in 12-inch layers compacted to a minimum of 95% of the maximum density to establish the proposed subgrade elevation.

d. Compaction of 6A Aggregate. The Contractor will compact 6A aggregate layers to a minimum of 95% of the maximum density. If the aggregate cannot be accurately tested with a nuclear gauge, then the Engineer will develop a procedural specification at the time of construction utilizing a required number of passes based on the Contractor's compaction equipment and visual movement of the aggregate.

e. Measurement and Payment. The completed work, as described, will be paid for at contract unit prices for the following contract items (pay items):

Contract Item (Pay Item)	**Pay Unit**
DS_Infiltration Trench	Foot
DS_Perforated HDPE Pipe, 12 inch	Foot

Payment for **DS_Infiltration Trench** will be measured by the linear foot for the completed work and will include all costs for labor, materials, and equipment required to complete all work described herein, including excavation, hauling, disposal, furnishing and installing geotextile, furnishing and installing perforated HDPE pipe of the size specified on the plans, and furnishing, installing, and compacting granular material and aggregate.

Payment for **DS_Perforated HDPE Pipe, 12 inch** will be measured by the linear foot for the completed work and will include all costs for labor, materials, and equipment required to complete all work described herein, including excavation, hauling, disposal, and furnishing and installing perforated HDPE pipe, geotextile wrap, and granular backfill.

Drainage structures and subgrade undercutting will be paid for separately.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
STORM PRETREATMENT STRUCTURE, _

a. Description. This work consists of providing all labor, material, and equipment required to furnish and install Hydro International First Defense pretreatment structures as detailed and shown on the plans in accordance with City of Ann Arbor 2025 Public Services Standard Specifications, the manufacturer's specifications and written instructions, and as directed by the Engineer.

This item will govern the furnishing and installation of the First Defense® by Hydro International, complete and operable as shown and as specified herein, in accordance with the requirements of the plans and contract documents.

The treatment system shall be manufactured and/or supplied under the direction of a company(s) with at least 10 years' experience in the design, manufacture, and supply of stormwater treatment equipment. The manufacturer shall design and supply the equipment listed herein and the Contractor shall install the equipment in accordance with the manufacturer's Handling, Storage, and Installation Instructions.

The manufacturer of the pretreatment device will be one that is regularly engaged in the engineering design and production of systems deployed for the treatment of storm water runoff for at least ten years and which have a history of successful production, acceptable to the Engineer. In accordance with the Drawings, the device will be a First Defense device manufactured by:

Hydro International
94 Hutchins Drive
Portland, ME 04102
Tel: 1 207 756 6200

All components will be subject to inspection by the engineer at the place of manufacture and/or installation. All components are subject to being rejected or identified for repair if the quality of materials and manufacturing do not comply with the requirements of this specification. Components which have been identified as defective may be subject for repair where final acceptance of the component is contingent on the discretion of the Engineer.

The manufacturer shall guarantee the treatment system free from defects in materials and workmanship for a period of two years following installation. If during the warranty period defects in materials or workmanship are noted, then the manufacturer shall be promptly notified. The decision to repair or replace affected units shall be made at the discretion of the manufacturer.

Upon request, the manufacturer shall provide a “Letter of Certification” to certify that the treatment system adheres to the specifications required herein and complies with the project’s stormwater management permit.

No product substitutions will be accepted unless submitted 10 days prior to project bid date, or as directed by the Engineer of Record. Submissions for substitutions require review and approval by the Engineer of Record, for hydraulic performance, impact to project designs, equivalent treatment performance, and any required project plan and report (hydrology/hydraulic, water quality, stormwater pollution) modifications that would be required by the approving jurisdictions/agencies. Contractor to coordinate with the Engineer of Record any applicable modifications to the project estimates of cost, bonding amount determinations, plan check fees for changes to approved documents, and/or any other regulatory requirements resulting from the product substitution.

b. Materials. The Contractor will Furnish all materials required to complete the work in accordance with the plans and specifications as specified herein, and the manufacturer's specifications and instructions.

i. Treatment Device – The treatment device shall use an inlet chute and outlet chute to create a rotational flow within a cylindrical treatment chamber, with dual integrated bypass weirs. Access to the sump shall be via a central round access port, free of obstructions, located directly beneath the manhole access casting. No entry shall be required to maintain the Device and no internal parts moved or removed to access the sump (such as a tray or other device).

ii. Water Quality Flow (WQF) – The flow rate at which the Device must achieve the pollutant reduction standard required. Flows in excess of the WQF are considered bypass flow.

iii. Headloss – The treatment system shall not exceed the pressure drop (headloss) for the design flow rates specified herein as determined by ASTM C1745 / C1745M – 11.

iv. Site – The treatment system shall fit within the limits of excavation (area and depth) as shown in the project plans.

v. Storage Capacities – The storage capacities shall not be less than the volumes listed in Table 1. The treatment system shall operate as intended and perform as specified herein as pollutants accumulate. The accumulation of pollutants that settle shall not reduce the volume required in the treatment system for separation and for preventing re-suspension and washout of particulates or reduce the floatables (debris/sediment) storage volume capacity.

vi. Access – Minimum 24-inch frame and cover shall provide access to the sediment storage volumes from the surface for inspection and maintenance.

Removal of pollutants from the treatment system shall be possible without requiring confined space entry, and will not require the removal of any excess materials.

vii. Manhole and Access Covers – All manholes and castings shall conform to relevant AASHTO and ASTM standards including any local and job specific requirements that may exceed these standards. Covers will be coated per City standards.

viii. Grout – All manhole penetrations shall be sealed with non-shrink hydraulic cement.

The treatment system shall be manufactured with materials typically used in stormwater drainage systems that have a minimum life expectancy of 30 years.

i. Materials of construction shall be cross-linked polyethylene (XLPE) and/or Type 304 stainless steel. All components shall be designed to withstand normal loadings associated with fabrication, shipping, site installation, and normal operation and maintenance of the pretreatment device equipment.

ii. All piping connections and ancillary connections, grade ring, and items not listed herein shall be provided by the Contractor and included in this pay item.

iii. Any local applicable standards or project unique requirements must be read in conjunction with this specification.

Housing unit of stormwater treatment device will be constructed of pre-cast or cast-in-place concrete. Precast structures shall be manufactured with concrete that has attained a compressive strength of 4,000 psi after 28 days. The structure shall be reinforced to withstand an HS20-44 loading. Slab tops shall be suitably reinforced and provided with manhole openings and covers as required. The cast iron manhole frames and covers shall be sized as per the manufacturer’s drawings and shall be in accordance with ASTM A48, CL.35B and AASHTO M105. The masonry fixing bolts shall be Type 304 stainless steel. Precast concrete components will conform to applicable sections of ASTM C 478, ASTM C 857 and ASTM C 858 and the following:

i. Cement will be Type III Portland Cement conforming to ASTM C 150;

ii. Aggregates will conform to ASTM C 33;

iii. Reinforcing steel will be deformed billet-steel bars, welded steel wire or deformed welded steel wire conforming to ASTM A 615, A 185, or A 497.

iv. Joints will be sealed with preformed joint sealing compound conforming to

ASTM C 990.

v. Shipping of components will not be initiated until a minimum compressive strength of 4,000 psi is attained or five calendar days after fabrication has expired, whichever occurs first.

Bedding material will be 21AA limestone which meets the requirements of section 902 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

Backfill will be class II granular material which meets the requirements of section 902 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

c. Performance. The Device shall be sized based on treating the WQF calculated using the locally approved methods, or standard methods outlined in the applicable design guides and regulations. The Device shall meet the performance and capacities specified in Table 1.

The treatment system performance shall be tested using New Jersey Department of Environmental Protection Laboratory Protocol to Assess Total Suspended Solids Removal by a Hydrodynamic Sedimentation Manufactured Treatment Device, January 25, 2013, and be verified by New Jersey Corporation for Advanced Technology (NJCAT) and listed on the NJCAT website as Laboratory Verified.

Any device claiming NJCAT Verification and/or NJDEP Certification must be installed in the tested configuration.

Performance of the treatment system shall be based on treating the Water Quality Flow rate without re-suspension and washout of captured pollutants (scour).

Full-scale independent laboratory scour testing shall demonstrate effluent control of less than or equal to 20 mg/L for all flows up to 200% of Manufacturer’s Treatment Flow Rate (MTFR).

Substitutions require preapproval authorization by the Engineer of Record. Contractors proposing substitutions must submitted to the Engineer of Record prior to bid, documentation demonstrating the proposed Device meets all aspects of this specification. Post bid substitutions are not permitted.

The Contractor is responsible for all costs associated with gaining approval for alternate Devices, including permit fees, engineering review fees, bond fees, etc.

Table 1 – Minimum Performance Requirements (for First Defense Optimum units)

Model	Manhole Diameter	WQF NJDEP Certified[1]	Sediment Storage Capacity
	(ft / m)	(cfs / L/s)	(yd^3 / m^3)
FDO-3	3 / 0.9	1.02 / 28.9	0.4 / 0.3
FDO-4	4 / 1.2	1.81 / 51.2	0.7 / 0.5
FDO-5	5 / 1.6	2.83 / 80.1	1.1 / 0.84
FDO-6	6 / 1.8	4.07 / 115.2	1.6 / 1.2
FDO-8	8 / 2.4	7.23 / 204.7	2.8 / 2.1
FDO-10	10 / 3.0	11.33 / 320.8	4.4 / 3.4

1. Flow rates applicable to the “as tested” configuration only, one inlet pipe, one outlet pipe with 180^0 inlet to outlet.

d. Construction. The contractor will exercise care in the storage and handling of the pretreatment device and components prior to and during installation. Any repair or replacement costs associated with events occurring after delivery is accepted and unloading has commenced will be borne by the contractor.

The treatment components of the treatment system shall be delivered within six weeks of date of approved technical submittal unless agreed otherwise. The components of the treatment system shall be preassembled and delivered to the site fully fabricated and ready for the final assembly and installation. Off-loading, storage, and installation shall be by the Contractor. The Contractor shall inspect and provide signed acceptance of equipment prior to unloading or notify the manufacturer of any damage to equipment to effect proper remedial action. Failure to notify the manufacturer of damage to equipment prior to unloading will void all warranties pertaining to subject equipment.

The system shall be installed in strict accordance with the site plans, and the manufacturer’s general arrangement drawings and handling, storage and installation instructions. The Contractor shall be responsible for installing the equipment and all necessary site connections.

The Manufacturer shall be notified immediately of any equipment which is damaged during unloading, storage, or installation. The damaged equipment shall be repaired or replaced at the discretion of the manufacturer and entirely at the Contractor’s expense.

The precast concrete structure shall be set on a granular or compacted sand sub-base in accordance with local requirements for standard manhole installation. In no instances shall the compacted sub-base material have a thickness of less than 12 inches. The precast concrete structure shall be set level and plumb to within 0.5%.

Non-shrink grout or hydraulic cement conforming to ASTM C 595 shall be used to provide a watertight seal in the lift holes, any drain holes, and around the concrete knock-outs for the inlet and outlet pipes.The Contractor shall, at the discretion of the owner or owner's representative, test the concrete structure for water tightness before backfilling.

The contractor will fill all voids associated with lifting provisions provided by the manufacturer. These voids will be filled with non-shrinking grout providing a finished surface consistent with adjacent surfaces. The contractor will trim all protruding lifting provisions flush with the adjacent concrete surface in a manner, which leaves no sharp points or edges.

The contractor will removal all loose material and pooling water from the structure prior to the transfer of operational responsibility to the Owner.

~~f.~~e. **Measurement and Payment.** The completed work, as described, will be paid for at the contract unit price for the following pay item:

Pay Item	**Pay Unit**
DS_Storm Pretreatment Structure, First Defense, 48 In. Dia., Inlet	Each
DS_Storm Pretreatment Structure, First Defense, 48 In. Dia., Solid	Each
DS_Storm Pretreatment Structure, First Defense, 60 In. Dia., Solid	Each

Payment for **DS_Storm Pretreatment Structure, First Defense, __ In. Dia., ____** will be measured by each complete unit installed of the size and type specified and will include all costs for labor, material, and equipment required to complete the work as described herein, including excavation, hauling away and disposal of spoils, furnishing and installing structure, frame and cover as specified by the pay item, bedding and backfill, adjusting frame and cover to final elevation, and making all necessary connections.

CITY OF ANN ARBOR

SPECIAL PROVISION
FOR
STORM MANHOLE, 48 IN. DIA., WITH LEACHING BASE (0-8' DEEP)

WT:AJK 1 of 4 2/18/2025

a. Description. This work consists of providing all labor, materials, and equipment required to construct a storm manhole with a leaching base where shown and as detailed on the plans in accordance with the City of Ann Arbor 2025 Public Services Standard Specifications and Section 403 of the Michigan Department of Transportation 2020 Standard Specifications for Construction, as shown on the plans, and as specified herein.

b. Submittal Requirements. The Contractor will submit to the Engineer for review and approval shop drawings in accordance with Section 104.02 of the Michigan Department of Transportation 2020 Standard Specifications for Construction for all materials related to drainage structures.

For each submittal or resubmittal, the Contractor will allow at least 14 calendar days from the date of the submittal to receive the Engineer's acceptance or request for revisions. The Engineer's comments will be incorporated into the submitted plans, calculations and descriptions. The Engineer's acceptance is required before beginning the work. Resubmittals will be reviewed and returned to the General Contractor within 14 calendar days. Required submittal revisions will not be a basis of payment for additional compensation, extra work, or an extension of contract time.

c. Materials. The materials used for this work will conform to Section 403.02 of the Michigan the Michigan Department of Transportation 2020 Standard Specifications for Construction, except as specified herein.

Storm sewer drainage structures will be constructed of precast reinforced concrete sections topped with an eccentric cone or, in situations in which it is not possible to install precast sections, concrete masonry units where approved by Engineer.

Precast reinforced concrete bases, bottom sections, manhole risers, grade adjustment rings, concentric cones, eccentric cones, and flat slab tops will conform to the requirements of ASTM C478. Joints on precast manholes used on all sanitary sewers will meet ASTM C443, rubber O-ring gasket.

All structures will be designed to accommodate HS-20 Live Load requirements as determined by a Professional Engineer licensed by the State of Michigan, regardless of where they are to be installed.

The Contractor will field verify inverts prior to fabricating precast units. No additional payment will be made to the Contractor for precast units that cannot be used due to existing inverts being different than shown on the plans, changes in vertical or horizontal alignment due to conditions found in the field, or similar unforeseen circumstances.

Concrete masonry units will conform to the requirements for concrete masonry units for catch basins and manholes, ASTM C139.

Concrete brick will conform to the requirements for concrete building brick, ASTM C55, Grade N-1.

Plastic coated manhole steps will be injection molded of copolymer, polypropylene, encapsulating a 1/2 inch grade 60 steel reinforcing bar. Plastic-coated manhole steps will meet the performance test described in ASTM C-478, Paragraph ll, and will have an impact resistance of 300 ft.-lbs. with only minor deflection and no cracking or breaking. The steps will resist pull out forces of 1,500 lbs.

Backfill will be MDOT class II granular material only and will be compacted to 95% of its maximum unit weight in maximum 10-inch lifts.

Structures will be precast reinforced concrete sections of the type specified in the details shown on the plans.

Leaching base aggregate will be 6A and meet the requirements of section 902 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

Geotextile separator will meet the requirements of section 910 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

Geogrid will be triaxle type and suited for use with 6A aggregate.

d. Construction. The Contractor will construct drainage structures in accordance with Section 403.03 of the Michigan Department of Transportation 2020 Standard Specifications for Construction, except as specified herein.

Excavation will be carried to the depth and width required to permit the construction of the required base, including aggregate. The excavation width will be greater than the base. The bottom of the excavation will be trimmed to a uniform horizontal bed and be completely dewatered before any aggregate or concrete is placed therein.

The Contractor will install geogrid and geotextile separator in a layer that spans the extents of the base, install 24 inches of aggregate base in a uniform layer that spans the extents of the base, and top the aggregate base with a second layer of geogrid and geotextile separator. The geogrid and geotextile layers will be flush with the subgrade and aggregate base.

Circular precast manhole sections will be constructed in accordance with the details as shown on the plans. Manhole stack units will be constructed on precast concrete bases or precast concrete bottom sections. Bases or bottom sections will be perforated to permit exfiltration into aggregate base.

Precast cone sections will be constructed in accordance with the details as shown on the plans. These units will be eccentric for all manholes, precast or block. All structures will be topped with a minimum of one, and a maximum of three, 2" tall, brick or precast adjustment courses.

Manholes, inlets, and structures will be constructed within 2-1/2 inches of plumb. Frames and covers will be set in full mortar beds and pointed on the structure interior to a smooth, brushed finish. The covers will be set flush with sidewalk, roadway pavement, or ground surfaces. The Engineer will be notified prior to the final paving to allow inspection of the final casting adjustments for all utility structures.

Sewer pipes will extend into structures a minimum of 1/2 inch and a maximum of 3 inches.

The excavation will be kept in a dry condition.

All necessary adjustments for new structures will be included in the cost of the structure.

Manhole steps, installed where required, will be spaced 16 inches.

The Contractor will backfill drainage structures only after the exterior mortar coating has cured and approved by the Engineer.

The Contractor will ensure that the completed drainage structure is clean and free of any debris from construction activities.

The Contractor will furnish and install structure covers in accordance with the details on the plans the City of Ann Arbor 2025 Public Services Standard Specifications.

The Contractor will install external seals on all manhole chimneys.

Compaction of 6A Aggregate

The Contractor will compact 6A aggregate layers to a minimum of 95% of the maximum density. If the aggregate cannot be accurately tested with a nuclear gauge, then the Engineer will develop a procedural specification at the time of construction utilizing a required number of passes based on the Contractor's compaction equipment and visual movement of the aggregate.

e. Measurement and Payment. The completed work, as described, will be paid at the contract unit price for the following contract items (pay items):

Pay Item	**Pay Unit**
DS_Storm Manhole, 48 In. Dia., with Leaching Base (0-8’ deep).....	Each

Payment for **DS_Storm Manhole, 48 In. Dia., with Leaching Base (0-8’ deep)** will be paid by each complete unit installed and will include all costs for labor, materials, and equipment required for all necessary excavation, disposing of surplus excavated materials, frame and cover, backfilling, adjusting frame and cover to finished elevation, and constructing the complete structure with sump and leaching base, regardless of depth, pipe connections, and structure cleaning.

Measurement and payment for internal and external chimney seals will be paid for separately.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
4 IN. _ ° DIP BEND

WT:MHM 1 of 1 11/3/2025

a. Description. This work will consist of providing all labor, material, and equipment required to furnish and install 4-inch ductile iron pipe bends where shown and as detailed on the plans in accordance with the City of Ann Arbor 2025 Public Services Standard Specifications, except as modified herein, or as directed by the Engineer.

b. Materials. Pipe fittings will meet the requirements of the City of Ann Arbor 2025 Public Services Standard Specifications, including the following:

ASTM/AWWA C110/A21.10 or C153/A21.53 with:

1. Cement mortar lining with seal coat per ANSI/AWWA C104/A21.4
2. Outisde coating per ANSI/AWWA C151/A21.51
3. Polyethylene wrap meeting the requirements of ANSI/AWWA C105/A21.5
4. Restrained push-on rubber gasket joints per ANSI/AWWA C111/A21.11 (unless otherwise required)

c. Construction. The Contractor will install pipe fittings in accordance with the City of Ann Arbor 2025 Public Services Standard Specifications.

d. Measurement and Payment. Measure and pay for the completed work, as described, at the contract unit price using the following pay items:

Pay Item	**Pay Unit**
DS_4 In. 45° DIP Bend	Each

Payment for **DS_4 In. 45° DIP Bend** will be measured by each unit completely installed and will include all costs for labor, material, and equipment required to complete the work, including furnishing and installing fittings, thrust blocks, joints, and polywrap.

Payment for excavation and backfill will be included in payment for other water main pay items.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
GATE VALVE IN BOX, 4 IN.

WT:MHM 1 of 1 11/3/2025

a. Description. This work will consist of providing all labor, material, and equipment require to furnish and install 4-inch gate valve in box where shown and as detailed on the plans in accordance with the City of Ann Arbor 2025 Public Services Standard Specifications, except as modified herein, or as directed by the Engineer.

b. Materials. Gate valves will be resilient wedge type, operate right with a 2-inch square opening nut, push-on by push-on only with restrained gaskets and meet the requirements of the City of Ann Arbor 2025 Public Services Standard Specifications, including AWWA C509 or C515.

Approved gate valves are as follow:
1. American Flow Control Series 2500 Single Resilient Wedge with push-on ends
2. Clow Model 2638 Resilient Wedge Valve, F-6112
3. EJIW FlowMaster Resilient Wedge Valve, Tyton x Tyton
4. Mueller Series A-2361-61 Resilient Wedge Valve SL x SL for Field Lok gaskets
5. US Pipe USP1-61 Resilient Wedge Valve SLxSL for Field Lok gaskets

Valves boxes will be size D, screw type 3-piece, 5-1/4-shaft and a #6 base and meet the requirements of the City of Ann Arbor 2025 Public Services Standard Specifications.

Approved valves boxes are as follow:
1. EJ 8560 Series
2. Tyler Union 6860, 32U (Heavy Duty)

c. Construction. The Contractor will install pipe fittings in accordance with the City of Ann Arbor 2025 Public Services Standard Specifications.

d. Measurement and Payment. Measure and pay for the completed work, as described, at the contract unit price using the following pay items:

Pay Item	**Pay Unit**
DS_Gate Valve in Box, 4 In.	Each

Payment for **DS_Gate Valve in Box, 4 In.** will be measured by each unit completely installed and will include all costs for labor, material, and equipment required to complete the work, including furnishing and installing gate valve and box with cover and adjusting the box and cover to final grade.

Payment for excavation and backfill will be included in payment for other water main pay items.

CITY OF ANN ARBOR

DETAILED SPECIFICATON

FOR

WATER MAIN INSULATION

a. Description. This work shall consist of furnishing all labor, tools, equipment, and material to insulate shallow water main pipes in accordance with 2024 Public Services Standard Specifications Article 3 and Article 10 as shown on the plans, and as specified herein.

All pipes shall be laid to depths shown on contract drawing, which shall normally be 5.5 feet of cover from finished grade to top of pipe. Where conflict with other utilities prevent 5.5 feet of cover, insulation shall be placed in locations as shown on the plans or as directed by the Engineer.

b. Materials. Insulation shall be closed-cell extruded polystyrene boards (blue boards) with minimum dimensions of 2 inches thick and 2 feet wide (4 feet wide for pipe diameters greater than 12") where water main cover is between 3 ½ to 5 feet. A minimum of two layers shall be used, 4 inches total thickness.

Insulating concrete shall consist of 1 part Portland cement and eight (8) parts of perlite or vermiculite aggregate by volume. Clean water shall be added to the mixture in sufficient quantity to permit the mix to be workable with as little water as possible.

c. Construction. Insulate water main wherever cover over water main is less than 5 feet. Prior to placement of the polystyrene boards, bedding material shall be placed to a height of 6 inches over the top of the pipe, leveled, and compacted. The insulating boards shall be placed on the cover material with the long side parallel to the centerline of the water main for a minimum width of 0.0. + 24 inches. The boards shall be placed in a staggered arrangement to eliminate continuous transverse joints. Each layer should be placed to cover the joints, of the layer immediately below.

The first lift of backfill material shall consist of 6 inches of bedding material which shall be end or side dumped onto the insulation board and spread in such a manner that construction equipment does not operate directly on the insulation. Once this layer has been compacted to the specified density, the remaining layers of backfill may be constructed utilizing conventional procedures.

Insulating concrete shall be used to insulate the water main wherever water main cover is less than 3 ½ feet. Insulating concrete shall be placed around the entire main above the bedding material to a minimum thickness of 6 inches.

d. Measurement and Payment. Measure and pay for the completed work, as described, at the contract unit price using the following pay items:

Pay Item	**Pay Unit**
DS_Water Main Insulation	Foot

Payment for **DS_Water Main Insulation** will be measured by the linear foot for completely installed water main insulation board and/or concrete as specified and will include all costs for labor, material, and equipment required to complete the work, including furnishing and installing the insulation boards or concrete.

Payment for excavation and backfill, and all other water main components will be included in payment for other water main pay items.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
WATER SERVICE, 6 IN., DRILLED

a. Description. The work consists of providing all labor, materials, and equipment required to utilize trenchless technology to install a 6-inch HDPE SDR 11 water main service pipe in accordance with the City of Ann Arbor 2025 Public Services Standard Specifications, the University of Michigan Master Specifications, except as modified herein, or as directed by the Engineer.

b. Materials.

Pipe material will be 6-inch HDPE SDR 11.

Tracer wire will meet the requirements of the City of Ann Arbor 2025 Public Services Standard Specifications.

Fused on mechanical coupling will be in accordance with the University of Michigan Master Specifications.

Link-Seal will be Enpro Industries or approved equal in accordance with the University of Michigan Master Specifications.

End cap will be compatible with mechanical coupling.

Masonry units will be in accordance with the University of Michigan Master Specifications.

Mortar will be in accordance with the University of Michigan Master Specifications.

Paint will be in accordance with the University of Michigan Master Specifications and match the existing in kind.

Backfill will be MDOT Class II Granular Material in accordance with Section 902 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

c. Construction.

The Contractor will install water service pipe and tracer wire utilizing directional drill methods to include a wall penetration, including Link-Seal, and install a fused on mechanical coupling at the termination of the pipe inside the building. The wall where the penetration is made will be restored to match the interior existing surface and will be restored to be flush and smooth and will be painted.

The Contractor will not make final connections inside the building unless directed by the Engineer.

Removals for the wall penetration will be sawcut and removed in a manner which leaves a clean edge in the existing wall to remain in place.

Link-Seal and fused on mechanical coupling will be installed according to the manufacturer's instructions.

The Contractor will backfill trenches, pits, and other excavations with class II granular material installed in maximum 12-inch lifts compacted to 95% of its maximum dry density as measured by the AASHTO T-180 test.

The Contractor will exhaust all means necessary to protect the existing wall, mechanical equipment, pipes, and other existing facilities. Any damage identified by the Engineer as a result of this construction will be repaired by the Contractor at no cost to the Owner.

Following testing, the Contractor will protect the interior and end of the pipe utilizing an Engineer approved means, and cap it at the coupling at the direction of the Engineer.

Coordination with University of Michigan Personnel

The Contractor will coordinate with University of Michigan personnel to identify the location of the penetration, restoration requirements, the extents of the pipe into the building, when the work is completed, and assist with final connections. The Contractor will clearly mark the location for record by the Engineer prior to commencing construction.

Claims and extensions of time shall not be approved due to delays caused in whole or in part resulting from the coordination, mobilization, and completion of work by University of Michigan personnel.

d. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Items (Pay Items)	**Pay Unit**
DS_Water Service, 6 In., Drilled	Foot

The unit price for **DS_Water Service, 6 In., Drilled** will be paid for by linear foot of service pipe installed, and will include all costs for labor, material, and equipment required to complete the work as described herein and the following:

1. Excavation required for drilling.
2. Drilling.
3. Providing and drilling HDPE SDR 11 piping, fittings, Link-Seal, and connections.
4. Disinfecting.
5. Backfilling.
6. Miscellaneous material, equipment, or operations required to complete the work.

If the Engineer directs coring for the wall penetration, the Contractor will core the wall to

the diameter directed utilizing an Engineer approved coring machine and operation. Payment for this work will be included in the unit price for DS_Water Service, 6 In., Drilled.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
PAVT MRKG, POLYMER CEMENT SURFACE

a. Description. This work consists of providing all labor, materials, and equipment required to furnish and install wet night retroreflective (WR) beads and/or elements, liquid applied pavement marking materials, and Endurablend Polymer Cement Surfacing bike lane pavement markings.

All work will be in accordance with the Michigan Department of Transportation 2020 Standard Specifications for Construction, except as specified herein.

b. Materials. Wet Night Retroreflective Beads and/or Elements. Select WR beads and/or elements from one of the Approved Manufacturers or a Department approved alternative that meets the requirements in Table 1.

Table 1

Average Initial Retroreflectivity at 30-meter geometry in mcd/lux/m²		
Test Method	Color	
	White	Yellow
Dry (ASTM E 1710)	700	500
Wet Recovery (ASTM E 2177)	250	200

Approved Manufacturers:

3M Corporation
Potter's Industries
Swarco
Flex-o-Lite

Ship the material to the job site in sturdy containers marked in accordance with subsection 920.01.A of the Standard Specifications for Construction.

Submit to the Engineer prior to the start of work:

a. The Manufacturer's recommended application rate of the beads/elements and the liquid applied pavement marking binder to be used on the project. If the Manufacturer's recommended application rate differs from the specified rate in Table 811-1 of the Standard Specifications for Construction, the Manufacturer's recommended rate supersedes the table values.

b. Certification from the manufacturer that when applied according to their application recommendation the beads and/or elements meet the requirements shown in Table 1.

Binder. Provide a liquid pavement marking product of the binder type specified in the contract documents from section 811 of the Qualified Products List or as specified by special provision, or use an alternative binder as approved by the Engineer.

The Endurablend bike lane pavement marking material must be comprised with green pigment and anti-skid abilities. The polymer cement surfacing will be manufactured by Pavement Surface Coatings of Hanover New Jersey, and no material substitutions will be allowed.

1. Pigmented Resin. Transpo Color-Safe Bike Lane Green must be used as the pigment or approved equal. The approved color pigmented resin will comply with FHWA green color guidelines for bike lanes.
2. Anti-Skid Aggregate. Anti-skid aggregates will be provided by the pavement marking supplier. Aggregate will have a minimum Hardness of 7.0 per MohsScale.

c. Construction. Place the binder and beads and polymer surface coatings in accordance with the Manufacturers' recommendations and sections 811 and 920 of the Michigan Department of Transportation 2020 Standard Specifications for Construction except as noted above.

Construction of bike lane pavement markings will be in accordance with manufacturer application and installation procedures, Michigan Department of Transportation 2020 Standard Specifications for Construction, and Engineer.

All pavement marking areas will be laid out by the contractor and then reviewed by the Engineer. Marking layout will be approved by the Engineer prior to placement of material.

Surface preparation will include cleaning of the pavement surface using high pressure water, compressed air or sandblasting and will conform to ASTM D4263. All surface damage will be corrected by the Contractor at the Contractor's expense, as directed by the Engineer. Manufacturer recommended pavement and air temperatures must be followed.

All markings on concrete surfaces will receive a base coat application and will be included in the pay item. Marking layout, material mixing, base coat application, and pigmented coat application will comply with the manufacturer's installation procedures.

The Contractor will protect the pavement markings from damage and allow them to fully cure prior to allowing traffic to drive over markings. Any damage will be corrected by the Contractor at the Contractor's expense.

d. Measurement and Payment. The completed work, as described, will be

paid for at contract unit prices for the following contract items (pay items):

Contract Item (Pay Item)	**Pay Unit**
DS_Pavt Mrkg, Polymer Cement Surface, Bike Lane, Green	Square Foot
DS_Pavt Mrkg, Polymer Cement Surface, Bus Lane, Red	Square Foot
DS_Pavt Mrkg, Polymer Cement Surface, Bike Thru Arrow Sym	Each
DS_Pavt Mrkg, Polymer Cement Surface, Bike, Small Sym	Each
DS_Pavt Mrkg, Polymer Cement Surface, Bus	Each
DS_Pavt Mrkg, Polymer Cement Surface, Only	Each
DS_Pavt Mrkg, Polymer Cement Surface, Sharrow Sym	Each
DS_Pavt Mrkg, Polymer Cement Surface, Merge Left Arrow	Each

Payment for **DS_Pavt Mrkg, Polymer Cement Surface, _, _** will be measured by the square foot for areas installed and will include all costs for labor, materials, and equipment costs required to perform all the work described herein.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
BRICK PAVERS, SIDEWALK, REM AND SALV

a. Description This work will consist of removing and salvaging brick pavers in accordance with City of Ann Arbor 2025 Public Services Standard Specifications, except as modified herein, or as directed by the Engineer.

b. Construction. The Contractor will remove and return to owner existing brick pavers, including base materials, to the specified depth required for construction of new surfaces. Upon removal, the Contractor will return the brick pavers to the City's Public Works facility at the Wheeler Center (4251 Stone School Road, Ann Arbor MI, 48108).

c. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	**Pay Unit**
DS_Brick Pavers, Sidewalk, Rem and Salv	Square Foot

All saw-cutting required for removals will be included in the appropriate item of work and will not be paid for separately.

Payment for **DS_Brick Pavers, Sidewalk, Rem and Salv** will be measured by the square foot for brick pavers removed and will include all costs for labor, material, and equipment required to remove and return to owner existing brick pavers, regardless of thickness and type of material and will excavate and furnish and place compacted granular material to establish the subgrade elevations required to accommodate the proposed cross section, install utilities, or as approved by the engineer.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
PARKING METER POST, INSTALL

a. Description. This work consists of providing all labor, material, and equipment required to install parking meter posts in accordance with the City of Ann Arbor 2025 Public Services Standard Specifications, the Michigan Department of Transportation 2020 Standard Specifications for Construction, as shown on the plans, as specified herein, and as directed by the Engineer.

b. Materials. Parking standards (posts) will be supplied by the City. Standards are 2-inch square steel tubes 60 to 63-inch-long.

Concrete will be MDOT grade 3500, which meets the requirements of Section 1004.

c. Construction. The City will stake the locations for new meter standards. The locations will be approximately 18 to 24 inches from the back of curb.

The Contractor will be responsible for ensuring the protection of meter standards until the concrete foundation has cured. If the standard is not plumb following curing, then the Contractor will remove and reset the standard at no additional cost to the City. The Contractor will use plastic drums, caution tape, “Wet Paint” signs, or other methods to protect the standards.

a. The Contractor will core a full-depth 8-inch diameter hole in existing concrete for parking standard locations where concrete is not called out to be removed and replaced as part of the project. After coring through existing concrete, excavate 30-inches deep, with an 8-inch diameter opening and tapering outward to 10 inches at the bottom of the excavation.

   Set the standards into the concrete filled holes with the reamed end to the top and weep hole on the lower end facing the street. The meter standard will project 37 inches above the finished sidewalk surface. Standards will be set plumbed and elevations will be set uniform with existing parking meter standards in both directions. The Contractor will confirm elevations and make adjustments as required to ensure all posts are level and plumbed.

b. The Contractor will set standards in soils following removals but before new concrete is poured where concrete is called out to be removed and replaced as part of the project. Excavate 30-inches deep, with an 8-inch diameter opening and tapering outward to 10 inches at the bottom of the excavation.

   Set the standards into the concrete filled holes with the reamed end to the top and weep hole on the lower end facing the street. The meter standard will project 37

inches above the finished sidewalk surface. Standards will be set plumbed and elevations will be set uniform with existing parking meter standards in both directions. The Contractor will confirm elevations and make adjustments as required to ensure all posts are level and plumbed.

Meter heads will be installed by the City. The Contractor will coordinate with and provide access for City personnel.

d. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	Unit
DS_Parking Meter Post, Install	Each

Payment for **DS_Parking Meter Post, Install** will be measured by each for units completely installed in the field, and includes all costs for labor, material, and equipment required to install parking meter standards, including excavation, coring, haul away and disposal of concrete and excavation spoils, furnishing and placing concrete, and protection measures as shown on the plans and as specified herein.

CITY OF ANN ARBOR

DETAILED SPECIFICAITON
FOR
QWICK KURB SIGN

WT:AJK 1 of 1 1/22/2026

a. Description. This work consists of providing all labor, materials, and equipment required to furnish and install Qwick Kurb Sign in accordance with the City of Ann Arbor 2025 Public Services Standard Specifications, the Michigan Department of Transportation 2020 Standard Specifications for Construction, as shown on the plans, as specified herein, and as directed by the Engineer.

b. Materials. The Contractor will furnish materials in accordance with the following sections of the Michigan Department of Transportation Standard Specifications for Construction, except where otherwise noted below:

Anchor bolts, nuts, and washer materials will meet follow the manufacturer's recommendations or meet the requirements specified in Section 908, for materials for which there is no manufacturer's recommendation.

Qwick Kurb Sign will be manufactured by Qwick Kurb, Inc, model number L60 in yellow or white color to match pavement markings where installed in roadway. End sections shall be model number L61. The assembly shall include L65 reflective arcs, a reboundable flex boot with bolt in construction, with a 224 sq. in. reflective crosswalk marker panel MDOT sign R1-6. All pavement mounting hardware shall be stainless steel meeting the dimensional and strength capacity of the manufacturer's recommendation.

c. Construction. The Contractor will furnish and install Qwick Kurb Sign, supports, and hardware inaccordance with Section 810 of the Michigan Department of Transportation 2020 Standard Specifications for Construction, except as modified herein.

d. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	Unit
DS_Qwick Kurb Sign	Each

Payment for **DS_Qwick Kurb Sign** and associated hardware will be measured by each for units completely installed in the field, and will include all costs for labor, material, and equipment required to complete the work as shown on the plans and as specified herein.

CITY OF ANN ARBOR

DETAILED SPECIFICAITON
FOR
REFLECTIVE PANEL FOR PERMANENT SIGN SUPPORT, 3 FOOT, MODIFIED

WT:AJK 1 of 1 1/22/2026

a. Description. This work consists of providing all labor, materials, and equipment required to furnish and install reflective panels for permanent sign supports in accordance with the City of Ann Arbor 2025 Public Services Standard Specifications, the Michigan Department of Transportation 2020 Standard Specification for Construction, as shown on the plans, as specified herein, and as directed by the Engineer.

b. Materials. The Contractor will furnish materials in accordance with the Michigan Department of Transportation 2020 Standard Specifications for Construction.

Anchor bolts, nuts, and washers will meet the requirements of Section 908.

Reflective panels will meet the requirements of Section 919.

c. Construction. The Contractor will furnish and install reflective panels and hardware in accordance with Section 810 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

d. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	Unit
DS_Reflective Panel for Permanent Sign Support, 3 foot, Modified	Each

Payment for **DS_Reflective Panel for Permanent Sign Support, 3 foot, Modified** will be measured by each for units completely installed in the field, and includes all costs for labor, material, and equipment required to furnish and install reflective panels and hardware as shown on the plans and as specified herein.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
MAINTENANCE GRAVEL

WT:AJK 1 of 1 9/21/2025

a. Description. This work consists of providing all labor, materials, and equipment required to furnish, install, and remove maintenance gravel in accordance with the Michigan Department of Transportation 2020 Standard Specifications for Construction, except as modified herein, and as directed by the Engineer.

b. **Materials.** The Contractor will furnish 21AA aggregate materials that meet the requirements of section 902 MDOT 2020 Standard Specifications for Construction.

c. **Construction.** The Contractor will install and maintain maintenance gravel in accordance with Section 306 of the MDOT 2020 Standard Specifications for Construction.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the Contract unit price for the following pay item:

Contract Item (Pay Item)	**Pay Unit**
DS_Maintenance Gravel	Ton

Payment for **DS_Maintenance Gravel** will be measured by the ton for maintenance gravel installed, maintained, and removed and will include all costs for labor, materials, and equipment costs to perform the work as described herein.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
PERFORATED STEEL SQUARE TUBE BREAKAWAY SYSTEM, MODIFIED

a. Description. This work consists of providing all labor, materials, and equipment required to furnish and install perforated steel square tube breakaway system in accordance with the City of Ann Arbor 2025 Public Services Standard Specifications, the Michigan Department of Transportation 2020 Standard Specifications for Construction, as specified herein, and as directed by the Engineer.

b. Materials. The Contractor will furnish materials in accordance with the following sections of the Michigan Department of Transportation Standard Specifications for Construction, except where otherwise noted below:

Anchor bolts, nuts, and washer materials will meet the requirements specified in Section 908.

All materials for Perforated Steel Square Tube Breakaway System, Modified will follow MDOT Standard Detail SIGN-207-D, and as noted below for the post, concrete base mount, and anchor. The following materials shall be Unistrut or approved equal and shall include the following:

1. Post: exterior dimensions measure 2” x 2” square x 10’, 14 gauge with 7/16” pre-punched holes, corner welded. Square tubing to allow for mounting on all four sides. Steel to conform to ASTM A1011 Grade 50, galvanizing to meet ASTM A-653. Must be able to mount signs with drive rivets to provide tamper resistance. Provide a smooth unbroken appearance for posts and anchors. Inline zinc coating to comply with AASHTO M-120 standard. Breakaway installation to meet FHWA approval standard.

2. Concrete Mount Base: interior dimensions measure 2” x 2” square x 6”, 12 Gauge sleeve welded to 6”x6” square, ¼” thick plate with four ¾” holes. Centerpoint of each hole shall be 7/8” from each side of the plate. Edge of each hole shall be ½” from each side of plate.

3. Anchor: exterior dimensions measure 2” x 2” square x 3’, 7 Gauge sleeve.

c. Construction. The Contractor will install perforated steel square tube breakaway system, base mount, and hardware in accordance with Section 810 of the Michigan Department of Transportation 2020 Standard Specifications for Construction, except as modified herein.

d. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	Unit
DS_Perforated Steel Square Tube Breakaway System, Modified	Each

Payment for permanent **DS_Perforated Steel Square Tube Breakaway System, Modified** will be measured by each unit completely installed in the field, and will include all costs for labor, material, and equipment required to furnish and install post, concrete mount base, anchors, and hardware.

CITY OF ANN ARBOR

DETAILED SPECIFICAITON
FOR
BIKE HOOP, SURFACE MOUNTED

a. Description. This work consists of providing all labor, materials, and equipment required to furnish and install surface mounted bike hoops in accordance with the City of Ann Arbor 2025 Public Services Standard Specifications, Ann Arbor DDA detail SD-DDA-10, as shown on the plans, as specified herein, and as directed by the Engineer.

b. Materials. The Contractor will furnish materials in accordance with City of Ann Arbor 2025 Public Services Standard Specifications and as approved by the Engineer.

Bicycle hoops will have a 1-foot radius and will be 2-inch outer diameter powder-coated black galvanized steel tube. The finished elevation will measure 3 feet from the top of the finished mounting surface to the top of the outer diameter of the hoop.

Anchor bolts and washers will be 1/2-inch x 4-inch stainless steel and tamper proof.

Surface mount unit will measure 6 x 6 inches and will be 3-1/2-inch x 6-inch stainless steel or powder-coated galvanized.

c. Construction. The Contractor will install surface mounted bike hoops according to Ann Arbor DDA detail SD-DDA-10 following surface material cure and at the authorization of the Engineer only.

Bike hoops will be mounted on clean surfaces only. The Contractor will clean all surfaces to the satisfaction of the Engineer.

The Contractor will set bike hoops as a mockup layout for review and approval of the Engineer and adjust the layout at the direction of the Engineer.

Once approved by the Engineer, the Contractor will drill and install bike hoops to be plumbed, flush with mounting surface, and free of sideways movement. The Contractor will cleanup any debris generated from the installation.

The Contractor will exercise care when handling bike hoops and surface mount units to prevent deformation and surface blemishes. The Contractor will remove and replace dissatisfactory bike hoops and surface mount units as directed by the Engineer at no additional cost to the City.

d. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	Unit
DS_Bike Hoop, Surface Mounted	Each

Payment for DS_Bike Hoop, Surface Mounted and associated hardware will be measured by each for units completely installed in the field, and will include all costs for labor, material, and equipment required to complete the work as shown on the plans and as specified herein.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
CONCRETE FIBERMESH SIDEWALK AND RAMPS

a. Description. This work consists of providing all labor, materials, and equipment required to construct fibermesh concrete sidewalk, sidewalk ramps, and raised sidewalk where indicated and detailed on the plans in accordance with City of Ann Arbor 2025 Public Services Standard Specifications, except as modified herein, or as directed by the Engineer.

b. Materials. The materials will meet the requirements as specified in Section 802.02 of the Michigan Department of Transportation 2020 Standard Specifications and as specified herein.

All concrete furnished will be grade 4000 with 6AA coarse aggregate. The Contractor may elect to add GGBFS to 4000 mixtures in accordance with the requirements of the contract documents. No additional payment will be made for concrete mixtures containing GGBFS.

All concrete mixtures will contain 6AA coarse aggregates which are either natural or limestone and meet the requirements of Section 902**.**

It will be the Contractor's sole responsibility to propose specific concrete mix designs which meet the requirements of this Special Provision and the contract documents.

Fibermesh reinforced concrete will have monofilament non-metallic polypropylene fibrillated fibers added at a rate of 1.5 pounds per cubic yard. The fibers will meet the requirements of ASTM C1116/C1116M, Type III, 1/2 to 1-1/2 inches long. The concrete will be thoroughly mixed for a minimum of 5 minutes after the addition of the fibers to assure uniform distribution throughout the concrete.

Curing compound for all concrete, except Planter Curb, will be "clear" type waterborne, membrane-forming curing compound in accordance with ASTM C309, Type 1, Class B, dissipating or waterborne, membrane-forming curing and sealing compound in accordance with ASTM C1315, Type 1, Class A.

<u>Concrete Mixing:</u>

Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C94 and ASTM C 1116/C1116M (for fiber reinforced concrete) and furnish batch ticket information.

When material temperature exceeds 90 deg F, material is unsuitable for installation and will be rejected.

c. Construction. Expansion joints of the thickness shown on the details will be placed as directed by the Engineer.

The concrete items being placed will not be opened to construction or vehicular traffic until such time as the concrete has reached the required flexural strength. The Contractor will cast beams in accordance with Section 603.03.B.10, and as approved by the Engineer, and obtain concrete flexural strength in accordance with the requirements of Section 104.11, Table 104-2. Beams cast for open to traffic determinations will be cured in the same manner and environment as the concrete itemswhich they represent.

d. Inspection. Notify Owner's Representative 48 hours before placing concrete. Do not place concrete before Architect has approved completed reinforcement installation.

e. Formwork Installation. Design, construct, erect, brace, and maintain formwork according to ACI 301.

Provide chamfer strips in the corners of concrete forms to produce beveled corners on walls and columns which will be exposed to view in finished construction.

f. Formwork Removal. Forms may be removed after cumulatively curing at not less than 50 deg F for 24 hours after placing concrete, if concrete is hard enough to not be damaged by form-removal operations and curing and protection operations are maintained.

Do not remove formwork until cylinder break or beams break test indicates concrete has reached 2500 psi strength.

g. Joints. Construct joints true to line with faces perpendicular to surface plane of concrete.

Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.

Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness, as follows:

Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover marks on concrete surfaces. Exterior exposed concrete slab on grade pavement contraction joints will be hand tooled/grooved, unless otherwise indicated.

Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch-wide joints into concrete when cutting action does not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.

Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated.

h. Concrete Placement. Comply with ACI 301 for placing concrete.

Do not add water to concrete during delivery, at Project site, or during placement.

Consolidate concrete with mechanical vibrating equipment according to ACI 301.

Application of Bonding Agent: Clean existing surfaces free of dirt, oil, grease and cleaning agents. Apply bonding agent in accordance with manufacturer's directions. Do not allow bonding agent to puddle in low spots. Place new concrete within time limits recommended by bonding agent manufacturer.

i. Formed Surfaces. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

j. Concrete Protecting and Curing. Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 308, ACI 306.1 for cold-weather protection and with ACI 305 for hot-weather protection during curing.

Begin curing after finishing concrete but not before free water has disappeared from concrete surface.

Curing Methods: Cure formed and unformed concrete for at least seven days by one or a combination of the following methods:

Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period, using cover material and waterproof tape.

Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

Curing and Sealing Compound: Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

k. Concrete Surface Repairs. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.

Patching Mortar: Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.
Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension in solid concrete, but not less than 1 inch in depth. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.

Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.

Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Architect.

l. Field Quality Assurance. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

Tests: Perform according to ACI 301. Obtain at least one composite sample for each 100 cubic yard or fraction thereof of each concrete mixture placed each day.

m. Concrete Washout. Do Not Discharge concrete/grout washout into storm drains, catch basins, the sanitary sewer system, ditches, or surface waters. Perform washing of concrete trucks and materials clean-up in designated areas or an approved off site location. Use as little water as necessary.

n. Measurement and Payment. The completed work, as described, will be paid for at the contract unit prices for the following contract items (pay items):

Contract Item (Pay Item)	Pay Unit
DS_Conc, Sidewalk, Fibermesh, 8 In.	Square Foot
DS_Conc, Sidewalk Ramp, Fibermesh, 8 In.	Square Foot
DS_Conc, Sidewalk, Fibermesh, 9 In., Raised	Square Foot

Payment for **DS_Conc, Sidewalk, Fibermesh, 8 In, Conc, DS_Sidewalk Ramp, Fibermesh, 8 In.,** and **DS_Conc, Sidewalk, Fibermesh, 9 In., Raised** will be measured by the square foot for units in place and will include all costs for labor, materials, and equipment required to complete this work, including furnishing, installing, and finishing concrete, admixtures, and curing compound.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
MOUNTABLE CURB AND GUTTER

WT:MHM 1 of 1 11/3/2025

a. Description. This work consists of providing all labor, materials, and equipment required to construct mountable curb and gutter where indicated and as detailed on the plans in accordance with City of Ann Arbor 2025 Public Services Standard Specifications, except as modified herein, or as directed by the Engineer.

b. Materials. The Contractor will furnish materials in accordance with City of Ann Arbor 2025 Standard Specifications.

c. Construction Methods. The Contractor will construct mountable curb and gutter in accordance with City of Ann Arbor 2025 Public Services Standard Specifications for concrete curb and gutter construction.

d. Measurement and Payment. The completed work, as described, will be paid for at the contract unit prices for the following contract items (pay items):

Contract Item (Pay Item)	**Pay Unit**
DS_Mountable Curb and Gutter	Foot

Payment for **DS_Mountable Curb and Gutter** will be measured by the foot for complete work in place and will include all costs for labor, materials, and equipment required to complete this work described herein, including furnishing, placing, and finishing concrete and curing compound.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
PERFORATED CONCRETE BASE, 6 IN.

a. Description. This work consists of providing all labor, materials, and equipment required to construct perforated concrete base for brick paver areas where shown and as detailed on the plans in accordance with the City of Ann Arbor 2025 Public Services Standard Specifications, except as modified herein, or as directed by the Engineer.

b. Materials. Subbase Material – granular material Class II which meets the requirements of section 902 of the Michigan Department of Transportation 2020 Standard Specifications.

Weep Hole Fill – coarse aggregate 9A which meet the requirements of the City of Ann Arbor 2025 Public Services Standard Specifications.

Concrete Base – concrete Grade 3500 as specified in section 1004 of the Michigan Department of Transportation 2020 Standard Specifications.

Geotextile – provide geotextile fabric which meets the requirements of the City of Ann Arbor 2025 Public Services Standard Specifications for brick pavers, or as directed by the engineer.

Dowels – provide 18-inch-long ½-inch epoxy coated steel dowel which meet the requirements of the City of Ann Arbor 2025 Public Services Standard Specifications.

Curing compound - provide curing compound which meets the requirements of the City of Ann Arbor 2025 Public Services Standard Specifications.

c. Construction. The Contractor will construct concrete base in accordance with the City of Ann Arbor 2025 Public Services Standard Specifications, except as modified herein.

After existing base materials are removed through other operations, the Contractor will allow the Engineer time to inspect the existing subbase for reuse.

The Contractor will excavate and install subbase material as directed by the Engineer at a minimum of 6-inches-thick compacted to at least 95% of the maximum unit weight.

The Contractor will pour a 6-inch thick concrete base. The Contractor will perforate the concrete base with 2-inch diameter weep holes which extend to a depth to the surface of the subbase. Install perforations 4 foot on center. Fill Weep holes to the top with 9A.

Install geotextile on top of cured concrete base before restoring brick pavers.

d. Measurement and Payment. The completed work, as described, will be paid for at the contract unit prices for the following contract items (pay items):

Contract Item (Pay Item)	**Pay Unit**
DS_Perforated Concrete Base, 6 In.	Square Foot

Payment **DS_Perforated Concrete Base, 6 In.** will be measured by the square foot for units in place and will include all costs for labor, materials, and equipment required to complete this work, including furnishing, installing, and finishing concrete (including perforations), dowels, curing compound, coarse aggregate, granular material, and geotextiles.

Payment for existing base removals and excavation will be included in payment for other pay items.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
TACTILE DIRECTIONAL INDICATOR

WT:MHM 1 of 1 11/3/2025

a. Description. This work consists of providing all labor, materials, and equipment required to furnish and install Armor-Tile Detectable Directional Tiles according to the manufacturer's instructions.

b. Materials. Tactile Direction Indicators will be Armor-Tile ADD-504 colored Federal Yellow, #33538 as found at https://armor-tile.com/assets/add-504-6x48.pdf

Embedment anchors and hardware will be as noted on the plans.

c. Construction. The Contractor will install Tactile Direction Indicators in areas indicated on the plans or at the direction of the Engineer according to the manufacturer's specifications for installation.

The installer will be well-qualified and experienced who has successfully completed tile installations similar in material, design, and extent to what is required for this work.

d. Measurement and Payment. The completed work, as described, will be measured, and paid for at the Contract unit price for the following pay item:

Contract Item (Pay Item)	**Pay Unit**
DS_Tactile Directional Indicator	Foot

Payment for **DS_Tactile Directional Indicator** will include all costs for labor, materials, and equipment costs to perform the work as described herein. The completed work will be measured by the foot, taken at the mid-point of the tile, following the arc of the tiles if placed in a radius.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
SCARIFICATION, FOR POLYUREA SPEC MRKG

WT:MHM 1 of 1 11/3/2025

a. Description. This work consists of providing all labor, materials, and equipment required to scarifying to prepare pavement surfaces for new pavement markings where shown and detailed on the plans in accordance with the Michigan Department of Transportation 2020 Standard Specifications for Construction, except as modified herein, or as directed by the Engineer.

b. Materials. None.

c. Construction. The Contractor will scarify pavement surfaces in accordance with section 811 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

d. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	**Pay Unit**
DS_Scarification, for Polyurea Spec Mrkg	Square Foot

Payment for **DS_Scarification, for Polyurea Spec Mrkg** will be measured by the square foot for areas completely scarified for the installation of polyurea special markings based on MDOT's Pavement Marking Standard Plans and will include all costs for labor, material, and equipment required to complete the work, including preparing the pavement surface via shot blasting or grinding with non-milling teeth and cleaning of generated debris in advance of installing pavement markings.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
BIKEWAY DELINEATOR POST

WT:MHM 1 of 1 11/3/2025

a. Description. This work consists of providing all labor, materials, and equipment required to furnish and install bikeway delineator posts in accordance with the Section 810 of the Michigan Department of Transportation 2020 Standard Specifications for Construction, as shown on the plans, and as specified herein.

b. Materials. The Contractor will furnish materials in accordance with Section 807 of the Michigan Department of Transportation Standard Specifications for Construction, except where otherwise noted below.

All materials for Bikeway Delineator Post will be manufactured by Pexco. Model will be 28-inch City Post Surface Mount Model SM, 3" OF Flexible, Bolt-Down Anchor. Color will be black with white sheeting where white edgeline is indicated on the plans or yellow post with yellow sheeting where yellow edgeline is indicated on the plans.

c. Construction. Bikeway Delineator Post will be laid out for approval by the Engineer prior to installation. Install Bikeway Delineator Post per manufacturer's recommendations. Bikeway Delineator Posts are to be installed in a line parallel to the street markings and curb, with no elements being more than 2 inches from a straight-line end to end.

Evenly space delineator posts as the dimensions noted on the plans. Bikeway Delineator Posts must be installed plumb and in line with each other and will be firmly connected to the anchor system.

d. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	**Pay Unit**
DS_Bikeway Delineator Post	Each

Payment for **DS_Bikeway Delineator Post** will be measured by each complete unit installed and will include all costs for labor, materials, and equipment required for furnishing and installing the post, base, and associated mounting hardware materials as shown on the plans and as specified herein.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
DETECTABLE WARNING SURFACE, TEMP

a. Description. This work will consist of furnishing and installing temporary detectable warning units in accordance with the Americans with Disability Act (ADA). All work will be in accordance with Section 812 of the MDOT 2020 Standard Specifications for Construction, MDOT Standard Detail R-28 Series as indicated on the plans, and as modified herein.

b. Related Documents. Americans with Disabilities Act (ADA) Title 49 CFR Transportation, Part 37.9 Standards for Accessible Transportation Facilities, Appendix A, Section 4.29.2 Detectable Warnings on Walking Surfaces

c. Submittals. Submit manufacturer's literature describing products, installation procedures and maintenance instructions. Provide temporary detectable surface applications and accessories as produced by a single manufacturer.

Samples for Verification Purposes: Submit two (2) tile samples minimum 6" x 8" of the kind proposed for use. Samples will be properly labeled and will contain the following information: Name of Project; Submitted by; Date of Submittal; Manufacture's Name; Catalog No.; and Date of Fabrication.

Material Test Reports: Submit current test reports from a qualified, independent, testing laboratory indicating that materials proposed for use are in compliance with requirements and meet the properties indicated. The required tests listed elsewhere in this Special Provision will be performed by a certified and qualified independent testing laboratory on a cast-in-place tactile warning system. All test reports submitted will be certified by the testing laboratory and will clearly state that all tests were completed within 5 years of the date of the submittal. The manufacturer will certify in writing that the materials provided to the project are manufactured with the same materials and manufacturing procedures as those used in the materials on which the test were performed.

c. Criteria. The temporary detectable warning surfaces will meet the following material properties, dimensions, and tolerances using the most current test methods:

1. Water Absorption: Not to exceed 0.35% when tested in accordance with ASTM-D570

2. Slip Resistance: 0.80 minimum combined wet/ dry static coefficient of friction on top domes and field area, when tested in accordance with ASTM C1028.

3. Compressive Strength: 18,000 psi minimum, when tested in accordance with ASTM D695.

4. Chemical Stain Resistance: No reaction to 1% hydrochloric acid, urine, chewing gum, soap solution, motor oil, bleach, calcium chloride, when tested in accordance with ASTM D543 or D1308.

5. Wear Depth: 300 minimum, when tested in accordance with ASTM C501.

6. Flame Spread: 25 maximum, when tested in accordance with ASTM E84.

7. Gardner Impact: 50 in.-lbs. minimum, when tested in accordance with Geometry "GE" of ASTM D5420.

8. Salt and Spray Performance of Tile and Adhesive System when tested to ASTM-
B117 not to show any deterioration or other defects after 100 hours of exposure

d. Materials. The following are acceptable products for Temporary Detectable Warning Surfaces. If at any time, the surface shows damage, it must be replaced at the Contractor's expense.

- RediMat by Detectable Warning Systems
- Self-Adhesive Truncated Domes Mats for Asphalt or Concrete by ADA Sign Depot

e. Construction Methods. Installer's Qualifications: Engage an experienced Installer who has successfully completed tile installations similar in material, design, and extent to that indicated for this Project.

The contractor will follow manufacturer specifications for installation.

f. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price using the following contract item (pay item):

Contract Item (Pay Item)	**Pay Unit**
DS_Detectable Warning Surface, Temp	Square Foot

Payment for **DS_Detectable Warning Surface, Temp** will be measured by the square foot for units installed and will include costs for all labor, materials, and equipment required to install, maintain, restore, and remove the temporary detectable warning surface and disposal of all associated materials throughout the life of the contract.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
CONCRETE PAVEMENT JOINTS

WT:MHM 1 of 1 11/3/2025

a. Description. This work consists of providing all labor, materials, and equipment required to construct concrete pavement joints where shown and as detailed on the plans in accordance with the Michigan Department of Transportation 2020 Standard Specifications for Construction, except as modified herein, or as directed by the Engineer.

b. Materials. Hot-poured joint sealant will meet the requirements of section 914.04.A of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

Backer rod will meet the requirements of section 914.04.B of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

Dowel bars will meet the requirements of section 914.07 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

Tie bars will be epoxy coated and meet the requirements of section 914.08 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

c. Construction. The Contractor will construct concrete pavement joints in accordance with section 602 of the Michigan Department of Transportation 2020 Standard Specifications Construction and MDOT standard plans R-39-K, R-40-I, and R-44-G.

d. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	**Pay Unit**
DS_Joint, Contraction, Cp	Foot
DS_Joint, Contraction, Crg	Foot

Payment for **DS_Joint, Contraction, _** will be measured by the foot for units completely installed and will include all costs for labor, material, and equipment required to complete the work, including sawcutting, drilling, furnishing and installing load transfer assemblies, dowels, tie bars, backer rod, and hot poured sealant.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
HANDRAIL

a. Description. This work consists of providing all labor, materials, and equipment required to install a handrail as shown on the plans or as directed by the Engineer in accordance with the City of Ann Arbor 2025 Public Services Standard Specifications, except as modified herein.

b. Materials. The Contractor will furnish the following materials as specified:

Handrail will be 2-inch O.D. stainless steel pipe rail meeting the requirements of ASTM A554 with type 316 plate and oil ground, uniform 180 grit texture AISI No. 4 finish. Welds will be fusion welded and will not show on the finished handrail. Spans will be maximum 48-inches on center. End sections will extend a maximum of 12 inches from the nearest anchored column. Height will be 42 inches from the finished grade.

Escutcheons will be stainless steel and the finish will match the handrail.

If anchoring with embedded sleeves and grout, grout will be epoxy non-shrink type, such as SIKA-31 Mod Gel or approved equal.

If anchoring with surface mount flanges, flanges will be 3/16-inch stainless steel.

c. Submittals. The Contractor will submit shop drawings that detail the handrail and escutcheons, including height from finished grade, mount type, fasteners, length of spans, diameter of type, and all material types for approval.

d. Materials Inspection. The Contractor will not install materials that are tarnished, scratched, scuffed, deformed, or bear any other defects identified by the Engineer. The Contractor will ensure that the Engineer has inspected and approved the material to be installed on site prior to installation. If the material is not free from defects, the Contactor will replace the materials to the satisfaction of the Engineer.

e. **Construction.** The Contractor will erect handrails to be plumb, level, and parallel to the finished grade with a uniform height measured from the finished grade, and according to the manufacturer's instructions.

Handrails will be adequately anchored to be used as permanent facilities that are safe and sound for pedestrian use.

The Contractor will protect grout mounted handrails until the grout is completely cured according to the manufacturer's instructions.

f. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	**Pay Unit**
DS_Handrail	Foot

Payment for **DS_Handrail** will be measured in the field by the linear foot for handrail completely installed and will include all costs for labor, materials, and equipment required to install the handrail, including coring of pavements and protective measures.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
HMA, TEMP PAVT

WT:AJK:MHM 1 of 1 12/20/2024

a. Description. This work consists of providing all labor, materials, and equipment required to furnish and install temporary hot mix asphalt pavement where shown and detailed on the plans in accordance with the City of Ann Arbor 2025 Public Services Standard Specifications and the Michigan Department of Transportation 2020 Standard Specifications for Construction, except as modified herein, or as directed by the Engineer.

b. Materials. All materials will meet the requirements of section 501.02 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

HMA mixtures, aggregates, and mineral filler will meet the requires of section 902 of the Michigan Department of Transportation 2020 Standard Specifications for Construction, except that aggregate containing crushed concrete and/or furnace slag may not be used.

Bond coat, anti-foaming agent, and asphalt binders will meet the requires of section 904 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

c. Construction.

The Contractor will construct HMA, Temp Pavt in accordance with City of Ann Arbor 2025 Public Services Standard Specifications for HMA construction and section 501 of the Michigan Department of Transportation 2020 Standard Specifications Construction.

d. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	**Unit**
DS_HMA, Temp Pavt	Ton

Payment for **DS_HMA, Temp Pavt** will be measured by the ton for units completely installed and will include all costs for labor, material, and equipment required to complete the work, including providing contractor quality control services, furnishing and applying prime and bond coat, compacting the mixture, protection of existing improvements from damage during placement and compaction operations, and protecting installed pavement until it has cooled.

CITY OF ANN ARBOR

DETAILED SPECIFICAITON
FOR
HOT MIX ASPHALT (HMA) APPLICATION ESTIMATE

WT:MHM 1 of 1 11/3/2025

a. Description. This work will be done in accordance with the requirements of Division 5 of the Michigan Department of Transportation 2020 Standard Specifications for Construction, the Hot Mix Asphalt (HMA) Paving Special Provision, and as specified herein.

b. Materials. The materials will meet the requirements of the 2020 Michigan Department of Transportation Standard Specifications for Construction Sections 501, 902, and 904.

c. Construction. The Contractor will construct HMA mats at thicknesses specified in the table below in accordance with the Hot Mix Asphalt Paving (HMA) Special Provision.

Course	Pay Item	HMA Mixture	Application Rate	Estimated Thickness	Performance Grade Binder	AWI (Min)
Top	HMA, 5EML	5EML	220 lb/Syd	2.0”	PG 58-28	260
Leveling	HMA, 4EML	4EML	220 lb/Syd	2.0”	PG 58-28	N/A
Base	HMA, 3EML	3EML	330 lb/Syd	3.0”	PG 58-28	N/A
Temp. Pavt	HMA, Temp Pavt	13A/LVSP or as directed by engineer	165 lb/Syd	1.5”	PG 58-28	260
All	Hand Patching	5EML (top) 4EML (leveling) 3EML (base)	110 lb/in/Syd	As Directed	PG 58-28	260 N/A N/A

d. Measurement and Payment. The work will be measured and paid for in accordance with the City of Ann Arbor 2025 Standard Specifications.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
AGGREGATE BASE

a. Description. This work consists of providing all labor, materials, and equipment required to furnish and place compacted aggregate base (including temporarily) in accordance with City of Ann Arbor 2025 Public Services Standard Specifications and the Michigan Department of Transportation 2020 Standard Specifications for Construction, except as modified herein, or as directed by the Engineer.

b. Materials. Aggregate base will be limestone 21AA in accordance with Section 902 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

c. Construction. Prior to the placement of aggregate base course, the Contractor must obtain a "Permit to Place" from the Engineer. This "Permit to Place" will be issued once the grade of the underlying layer has been compacted and graded and approved by the Engineer.

The base course will be shaped to the specified crown and grade and maintained in a smooth condition. If the Contractor's equipment should cause any rutting or other damage in the base, subbase or subgrade, the equipment will be immediately restricted from the grade and the Contractor will restore the area to the satisfaction of the Engineer at the Contractor's expense.

The base course material will be placed in uniform layers to such a depth that when compacted, the material will have the grade and cross section as shown on the Plans or as determined by the Engineer. The loose measure of any layer will not be more than 9 inches nor less than 4 inches.

The aggregate base course will not be placed when there are indications that the mixture may become frozen before the specified density is obtained. At no time will the material be placed on frozen subbase or subgrade.

All materials will be handled and/or stockpiled on-site in a manner that minimizes segregation. Base course aggregate will be deposited from trucks or through a spreader in a manner approved by the Engineer that will minimize segregation of material. Should it be necessary, the Contractor may be required to wet the materials prior to and/or during placement to minimize segregation and to aid in compaction of the material.

The aggregate base will be placed and rough-graded with the use of tracked equipment. Fine grading may be performed with the use of either tracked equipment or a rubber-tired blade grader. The finished aggregate base will be constructed to the grade and cross section as shown on the Plans or determined by the Engineer. A tolerance that allows for

gradual, isolated variations of the top surface of no more than ¼ inch above or ½ inch below the specified grade will be allowed. The aggregate base will be compacted to 98% of its maximum unit weight as determined by the AASHTO T 180 test.

Manholes, valve boxes, monument boxes, inlet structures and curbs will be protected from damage. All utility structures of any type will be properly covered at all times during the construction. All inlet structures will have inlet filters installed and properly maintained. Upon completion of each days' work, any extraneous material in manholes, water valve boxes, inlets, catch basins or any other utility structure resulting from the Contractor's operations will be removed and properly disposed of. The Contractor may be charged for cleaning and damages resulting from accumulated construction debris in the utility structures.

d. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	**Pay Unit**
DS_Aggregate Base, _ In., 21AA, Modified	Square Yard
DS_Aggregate Base, 17 In., 21AA, Modified (Temporary)	Square Yard

Payment for **DS_Aggregate Base, _ In., 21AA, Modified** and **DS_Aggregate Base, 17 In., 21AA, Modified (Temporary)** will be measured by the square yard for areas installed and will include all costs labor, material and equipment required to furnish, place, and compact the aggregate base course or surface course material to the thickness designated on the plans.

Removal of DS_Aggregate Base, 17 In., 21AA, Modified (Temporary) will be included and paid for as part of DS_Machine Grading, Modified.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
CONDUIT, SCHEDULE _ PVC, _ IN.

a. Description. This work consists of providing all labor, materials, and equipment required to install polyvinyl chloride (pvc) piping for streetlights owned by the University of Michigan in accordance with City of Ann Arbor 2025 Public Services Standard Specifications and the University of Michigan Master Specifications, except as modified herein, and as directed by the engineer.

b. Materials. Conduit will be Schedule 40 or 80 PVC where specified on the plans with matching fittings. Fittings will be the same type and from the same manufacturer as the conduit. Conduit will be UL labeled for 90 degrees C cables. Cantex, Carlon, or National Pipe & Plastic.

c. Construction. Build straight conduit runs. If the contract requires sweeps, use the largest radius that will fit the work space available for each sweep. No sweep will be less than 20 feet. Provide conduit fittings and use methods of joining conduits, including conduit cement, in accordance with current NEC methods. If the NEC does not clearly describe the method, install the conduits in accordance with the manufacturer's recommendation. Obtain the Engineer’s approval of installation methods before beginning work. Attach end bells on the ends of conduits entering handholes to prevent damage to the cable. Install continuous coilable conduit between handholes.

Verify that new conduit inserted into existing manholes or handholes does not interfere with racking, training of cables, or both. Do not disturb existing cables.

Bend conduit to the radii specified in the current NEC. For conduit entering foundations or cable pole envelopes, provide conduit with factory bends.

Excavate the conduit trench to provide an earth cover of at least 30 inches over the finished conduit.

Grade the trench to provide drainage to handholes. Stake conduit grades at no greater than 50-foot intervals or as directed by the Engineer. Create a grade that slopes at least 4 inches over 100 feet to the lowest manhole or handhole or from the middle of the conduit run toward both holes.

Backfill. Tamp the bottom of the trench to produce a smooth, flat, or gently sloping surface before placing the conduit. Backfill trenches outside the roadbed with excavated material, suitable for backfill, as determined by the Engineer. If excavated material is unsuitable, backfill the trenches with Class II granular material in accordance with section 204. Backfill trenches within the limits of the roadbed with Class II granular material in accordance with section 204 of the 2020 MDOT Standard Specifications for Construction.

d. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price using the following contract item (pay item):

Contract Item (Pay Item)	Pay Unit
DS_Conduit, Schedule 80 PVC, 2 In..	Foot
DS_Conduit, Schedule 80 PVC, 3 In.	Foot

Payment for **DS_Conduit, Schedule 80 PVC, 2 In.** and **DS_Conduit, Schedule 80 PVC, 3 In.** will be measured by the foot for conduit installed and includes all costs for all labor, materials, and equipment required to install the conduit.

DETAILED SPECIFICATION
FOR
LIGHT POLE, 30' STANDARD, 2 LUMINAIRES

a. Description. This work consists of providing all labor, materials, and equipment required to furnish and install standard 30' light posts with two luminaires, where shown and detailed on the plans in accordance with City of Ann Arbor 2025 Public Services Standard Specifications, the manufacturer's instructions, except as modified herein, and as directed by the Engineer.

This work will consist of furnishing all labor, tools, equipment, and material to install a light post, two luminaires, and extension arms.

b. Materials. The Contractor will furnish materials which meet the requirements of the City of Ann Arbor, IEEE, NEMA, ANSI Standards and as specified in the sections of the Michigan Department of Transportation 2020 Standard Specifications for Construction listed below except where otherwise noted.

Contractor will submit product data sheets for all poles, extension arms, luminaires, wiring, covers, and all associated materials.

c. Construction. All electrical work will be completed in accordance with all national, state, and local electric codes by a licensed electrician.

The Contractor will obtain all permits required by the City of Ann Arbor to complete this work.

The Contractor will de-energize and/or energize, disconnect and/or connect to any circuits under the expressed consent of the City of Ann Arbor only. The Contractor will not work on live circuits and will de-energize the luminaire via the circuit protection device nearest the luminaire along the electrical path and will ensure that only the minimum number of luminaires and circuits are de-energized to complete this work.

The Contractor will coordinate with city personnel and inspectors to identify all work which requires electrical inspection and to schedule all required inspection in advance and in a timely manner to complete this work. The Contractor will not be entitled to any compensation due to delays caused by electrical inspection and/or associated personnel.

The Contractor will size conductors and grounds to the appropriate size for the load and size conduits to the appropriate size for the cables, grounds, and conductors used. All

splices of electrical wiring will be in City of Ann Arbor approved boxes with City approved wire splicing devices.

The Contractor will use all new anchoring hardware to attach the pole to new or existing foundations.

d. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	**Unit**
DS_Light Pole, 30' Standard, 2 Luminaires	Each

Payment for **DS_Light Pole, 30' Standard, 2 Luminaires** will be paid for at the contract unit price each and will include all labor, material and equipment costs including but not limited to: luminaire-supporting structure with dual extension arms, including tower used for large-area illumination; any other materials required for complete installation of light pole on the existing or proposed foundation; all required testing; and placing pole assemblies into service, as shown on the plans and as detailed in the Specifications, or as directed by the Engineer. This item will also include all labor, materials, and equipment necessary to reinstall all signs, electrical cabinets, or other objects attached to the pole.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
TURF ESTABLISHMENT, PERFORMANCE

a. Description. This work consists of providing all labor, materials, and equipment required to perform turf establishment in accordance with Section 816 of Michigan Department of Transportation 2020 Standard Specifications for Construction, except as modified herein, and as directed by the Engineer.

b. Contractor's Responsibility for the Work. This modifies subsection 107.11 of the Michigan Department of Transportation 2020 Standard Specifications for Construction to require that the Contractor repair turf establishment work damaged by storm events up to 3 inches of rain in a 24-hour period as documented by local meteorological data submitted to the Engineer for review and approval.

c. Materials. The materials will meet the requirements specified in the Michigan Department of Transportation 2020 Standard Specifications for Construction, except as specified herein.

Topsoil will be furnished from an approved source or salvaged from the site as approved by the Engineer and blended with compost that will support vigorous growth. Topsoil will be humus bearing and screened to be free of stones and undesirable materials.

Seed mixtures will be composed of four or more species of perennial grass that are legally saleable in Michigan, suited to the site use and conditions, salt tolerant, does not contain more than 10 percent inert minerals, comes from an MDOT certified source, and guaranteed to be hardy for southeast Michigan.

Recommended species of perennial grasses include Kentucky Bluegrass, Perennial Ryegrass, Hard Fescue, Creeping Red Fescue, Chewings Fescue, Turf-type Tall Fescue, Buffalo grass, and Alkaligrass-Fults Puccinellia distans. Select cultivars or varieties of grasses that are disease and insect resistant and of good color. Ensure no one species in the mixture is less than 5 percent or more than 25 percent of the mixture by weight. Do not select grass species considered noxious or objectionable, such as Quack Grass, Smooth Brome, Orchard Grass, Reed Canary Grass and others.

Herbicides will comply with all federal, state, and local laws. As part of the MDA weed control application, the Contractor is required to make proper notifications and/or postings as per label and MDA requirements for all locations that will be sprayed. Notify the Engineer at least 48 hours prior to any applications being made. Furnish and apply herbicide(s) needed. It is the Contractor's responsibility to select the herbicide(s) and the rate at which it is used. Obtain the Engineer's approval of work methods and herbicide(s) selected prior to the application of the herbicide(s). Complete a spray log and submit to the Engineer each day an application is made.

Fertilizers. Furnish and apply fertilizer(s) as needed. It is the Contractor's responsibility to select the fertilizer(s) and the rate at which it is used. The use of phosphorus is strongly discouraged and is only allowed only when required by soil conditions. Obtain the Engineer's approval of work methods and fertilizer(s) prior to the application of the fertilizer(s).

Water will come from a source approved by the Engineer. Do not draw water from any waterway (i.e. river, ditch, creek, lake etc.) located on state, county or municipal right-of-way, for mixing with herbicides.

The Contractor will ensure all plant materials comply with ANSI Z60.1 (American Standard for Nursery Stock) and will ensure that plant materials are grown in USDA hardiness zones 5 and/or 6 and are sound, healthy, and free from plant diseases, pests, and eggs.

All plant materials will be subject to final approval by the Engineer. The Contractor will furnish in writing a list of the proposed sources of nursery stock. The Engineer may reject a proposed source at no additional cost to the project.

The Contractor will provide the Engineer a Michigan Department of Agriculture and Rural Development certificate of inspection to assure that the materials supplied fully comply with these Specifications.

Artificial mulch will not be approved for use.

Any plant listed on the City of Ann Arbor invasive plants list found at https://www.a2gov.org/departments/Parks-Recreation/NAP/Pages/InvasivePlants.aspx will not be approved for use.

d. Construction. Turf Establishment construction activities will be performed by the Contractor in accordance with Subsections 816.03 of the Michigan Department of Transportation 2020 Standard Specifications for construction, except as modified herein.

The Contractor is responsible for all work and all construction methods used in completing this work. Implementation of any part of the standard specifications or standard plans by the Contractor does not relieve the Contractor of responsibility for acceptability of the construction methods or for the quality of the work.
The Contractor will restore all lawn areas disturbed by construction, where indicated on the plans, or at the direction of the engineer to a condition equal to their original condition or better. Restoration will also include the replacement of any brickwork, decorative stone, or other adjacent materials.

The Contractor will select, provide, and implement proven turf establishment industry practices utilizing turf establishment materials to establish a vigorous, permanent, weed-free, mature perennial turf and will be responsible for the performance and quality of turf

growth in the areas indicated on the plans and as directed by the Engineer. Comply with all local, state, and federal laws when completing this work.

The Contractor will provide the Engineer with credentials for the contractor performing the turf establishment work which document that they either have a degree or certificate in turf management, horticulture, or a related field or that they employ at least one person assigned to the jobsite who has at least five years of experience in turf establishment and native plantings or both.

The Contractor will prepare the existing earth bed will be graded such that the placement of topsoil will meet the final Plan grades. Grading, soil preparation, and removal and disposal of excess or unsuitable materials will be considered as part of the restoration work. All rocks larger than 1-inch will be removed from the seed bed. All lumps and clods greater than 1-inch will be pulverized and raked into the seed bed before planting.

The Contractor will ensure that earth beds are prepared in advance of all work including ensuring weed control is applied 7 to 10 days before sowing seed and is performed by a commercial herbicide applicator, licensed by the State of Michigan and certified by the Michigan Department of Agriculture in the appropriate category to apply herbicides.

The Contractor will place a minimum of 4 inches of topsoil in all areas that are to be restored with seeding or sodding.

The Contractor will moisten all prepared areas before planting if soil is dry. Surface will be watered thoroughly and allowed to dry before planting. Muddy soil will not be created. Before planting, the Engineer’s acceptance of finish grading will be obtained. Planting areas will be restored if eroded or otherwise disturbed after finish grading.

Restoration must be performed upon the completion of each stage of work, to prevent erosion, and not as one single operation at the completion of the entire project.

The Contractor will water turf establishment areas as necessary to establish lush growth. The Engineer recommends that the Contractor water at a rate of 3.5 gallon per square yard at least twice per day through the months of June, July, and August and at least once per day during all other months for at least two weeks after sowing seed or until lush growth is established in all turf establishment and swale areas.

Seed will be sown at the rate of 250 lbs/acre with spreader or seeding machine. Seeds will not be broadcast or dropped when wind velocity exceeds 5 mph. Seed will be evenly distributed by sowing equal quantities in two directions at right angles to each other.

The Contractor will ensure that seed is set into soil and will not broadcast seed without a means of covering it in the soil.

Seeded areas with slopes exceeding 1:4 will be protected with erosion-control blankets installed and stapled according to manufacturer's written instructions.

The Contractor will mow the turf to maintain visual appeal and will not allow the grass to grow more than 8 inches in height at any time prior to the acceptance by the Engineer.

The Contractor will ensure that the established turf is free of weeds. Weeds must be controlled to less than 10 percent of the turf establishment area at all times prior to acceptance.

e. Maintenance and Acceptance. The Contractor will ensure the establishment of a uniform, dense, vigorous, and weed-free stand of specified grasses and will maintain all lawn areas until they have been accepted by the Engineer. Lawn maintenance will begin immediately after the grass seed or sod is in place and will continue until final acceptance.

Maintenance includes but is not limited to: deposition of additional topsoil; reseeding; watering; fertilizing; mowing, and any other work as required to correct all settlement, erosion, germination, and establishment issues until final acceptance and payment is made.

If, in the judgment of the Engineer, adequate site restoration efforts are not being expended, then the City will take the necessary steps to perform such restoration and will charge the Contractor for all the costs until restoration is completed satisfactorily.

Damage to seeded areas resulting from erosion will be repaired by the Contractor at the Contractor's expense. Scattered bare spots in seeded areas will not be allowed over 3 percent of the area, nor greater than four square inches in size.

Any portion of a seeded area that fails to show a uniform germination will be reseeded. Such reseeding will be at the Contractor's expense and will continue until a dense weed-free lawn is established in a growing and vigorous condition.

When the above requirements have been fulfilled, the Engineer will accept the lawn.

f. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Pay Item	**Pay Unit**
DS_Turf Establishment, Performance	Square Yard

Payment for **DS_Turf Establishment, Performance** will be measured by the square yard for units in place and will include all costs for labor, materials, and equipment required to furnish and install Engineer approved topsoil, approved seed mixtures, hydroseeding, watering, warranty, weed control, fertilizer and mulch, including grading of the area to receive the topsoil, preparing the earth bed, spreading and raking the topsoil to provide a uniform surface free of large clods, lumps, rocks, brush, roots, or other deleterious materials, as determined by the Engineer.

After the Contractor restores restoration areas with topsoil and seed, fifty percent of all quantities measured in place will be paid. Payment for the remaining fifty percent of all quantities measured will be paid only after the Contractor establishes lush turf growth in those areas and the Engineer has accepted the established turf.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
PLANTER WALL

SG:DMS 1 of 1 1-23-26

a. Description. This work consists of furnishing all labor, equipment, materials, required to furnish and planter walls as shown on the plans. All work must be conducted in accordance with the plans and specifications, the 2020 Michigan Department of Transportation Standard Specifications for Construction, and the 2025 City of Ann Arbor Standard Specifications.

b. Materials. Planter wall materials shall meet the requirements of Article 5 (Streets) of the 2025 City of Ann Arbor Standard Specifications.

c. Construction. The Contractor shall install planter wall in accordance with Section III.I of Article 10 (Construction Specifications) of the 2025 City of Ann Arbor Standard Specifications.

All exposed portions of the planter walls (including exposed backs) shall have a medium broom finish without imperfections, marks, and holes. Broom finish to be provided parallel with length of curb.

d. Measurement and Payment. The completed work, as described, will be measured, and paid for at the Contract unit price for the following pay item:

Contract Item (Pay Item)	**Pay Unit**
DS_Planter Wall, 12 In	Cubic Yard
DS_Planter Wall, 24 In	Cubic Yard

Payment for **DS_Planter Wall, ____** will include all costs for labor, materials, and equipment costs to perform the work including, but not limited to: performing the specified concrete durability tasks, curing the concrete for the required time period, and protection of the newly placed concrete against rain, wind, and temperature conditions that are adverse to the proper curing of the newly placed concrete.

DETAILED SPECIFICATION
FOR
PLANTING

a. Description. This work consists of furnishing all labor, equipment, materials, required to furnish and install trees plant material as shown on the plans. All work must be conducted in accordance with the plans and specifications, the 2020 Michigan Department of Transportation Standard Specifications for Construction, and the 2025 City of Ann Arbor Standard Specifications.

b. Materials. Furnish and install plants as shown on the plans and approved by the City of Ann Arbor. The materials shall include plants, planting mixture, mulch, and other materials required for installation in accordance with the plans and specifications and per the manufacturer's recommendations.

1. Planting Mixture. Planting mixture for all plant beds shall be 2 parts pre-approved off-site topsoil, thoroughly blended with 1-part pre-approved compost.

Topsoil shall be a fertile, friable, sandy loam or loam surface soil without admixture of subsoil and screened to be free of stones, stumps, roots, trash, debris, and other materials deleterious to plant growth. The pH range shall be 6.5 to 8.0. Soil pH shall be tested in accordance with ASTM D4972. Organic content shall not be less than 4 percent and not greater than 20%. Test for organic material by using ASTM D2974. Clay content determined by Bouyoucous Hydrometer Test: between 5 percent and 15 percent. Base percentages on dry weight of the sample. Conduct and submit topsoil testing for imported topsoil from off-site sources. Conduct topsoil testing for a minimum of 3 samples for each off-site source. Conduct topsoil sampling and testing and submit for approval prior to proceeding with acquisition and/or delivery of topsoil. The testing laboratory shall be an independent laboratory or university, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in the types of tests to be performed. Submit all test reports for approval. Provide 1 quart sample in sealed plastic bag for approval by Engineer.

Compost shall be a mature/stabilized, humus-like material derived from the aerobic decomposition of yard clippings or other compostable materials. Compost shall have a dark brown or black color, be capable of supporting plant growth without ongoing addition of fertilizers or other soil amendments and shall not have an objectionable odor. The compost shall be free of plastic, glass, metal and other physical contaminants, as well as viable weed seeds and other plant parts capable of reproducing (except airborne weed species). Compost shall be visually inspected and approved by the Engineer for physical contaminants. The compost moisture content shall be such that no visible free water or dust is produced when handling it.

2. Plant Material. Provide plant material as specified by the 2025 City of Ann Arbor Standard Specifications and as noted on plans. Provide photographs of each tree for approval by the Engineer.

3. Mulch. Organic mulch shall be well-composted, finely shredded processed hardwood bark, free from foreign material and fragments in excess of 2 inches in any dimension. Dyed red or colored mulch will not be accepted. Provide 1 quart sample in sealed plastic bag for approval by Engineer.

4. Drainage Aggregate to be MDOT 6A drainage stone. Provide 1 quart sample in sealed plastic bag for approval by Engineer.

5. Geotextile separator will be non-woven and meet the requirements of section 910.03.C of the Michigan Department of Transportation 2020 Standard Specifications for Construction. Provide product submittal for approval by the Engineer.

6. 4” Drainage Tile shall be flexible, perforated pipe. Provide photograph and product submittal to the Engineer for approval by the Engineer.

c. Construction.

1. Preparation. Contractor shall verify the acceptability of the project site and notify the Engineer of unsatisfactory conditions. Do not proceed with the work until unsatisfactory conditions have been corrected or resolved. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by planting operations.

2. Utilities. Have all underground utilities located by servicing agencies. Hand-excavate in the vicinity of utilities to minimize possibility of damage.

3. Excavation. Excavate planting beds to the depth shown on the plans and replace with specified planting mixture. Remove excavated material from the site.

4. Fertilizing. Prior to or during planting, amend planting mix by incorporating fertilizer at rates specified by soil test reports.

5. Finish Grading. Grade planting areas to a smooth, uniform surface with loose, uniformly fine texture.

6. Mulching. Uniformly install mulch on all plant beds to a 2-inch depth within 48 hours of planting. Keep mulch off the crowns of shrubs and perennials, at least 3 inches from all tree trunks, and off sidewalks and roadways.

7. Restoration. When planting is completed, clear the site of all debris, stockpiles, and materials. Protect plantings and materials from damage due to construction. Treat, repair, or replace damaged landscape work as directed.

d. Landscape Maintenance and Warranty

1. Substantial Completion. Following the inspection for substantial completion, the Engineer will issue a punch list identifying all work requiring completion, replacement or correction. Following this inspection complete all punch list items within two (2) weeks of its issuance except for plant replacements. All repairs and plant replacements shall occur at no additional cost. After receiving a Notice of Substantial Completion, maintain all plantings in a vigorous, well-kept condition until Final Acceptance.

2. Final Acceptance. Approximately 2 weeks prior to the expiration of the maintenance period, the Engineer will conduct an inspection of all plantings, seeding and irrigation systems and review all previously submitted maintenance report forms to verify all completed maintenance activities. There shall be clear evidence through factual reporting by the contractor and field observations made by the Engineer that the specified maintenance has occurred. Following the inspection, the Engineer will issue a punch list identifying all work requiring completion, replacement or correction.

3. Replacements. Prior to and during the maintenance period, replace any plants that are damaged, dead, or, in the opinion of the Engineer, are unhealthy, or have lost more than 25% of their natural shape due to dead branches, excessive pruning or improper maintenance. Rejected plant materials shall be removed from the site immediately after being rejected and legally disposed off-site. Replacement plants shall be installed within 30 days following the inspection unless otherwise agreed to in writing by the Engineer. Make replacements in accordance with the original specifications, plant list, and notes. Fully restore areas damaged by replacement operations to their original and specified condition.

4. Provide all equipment, materials, labor and services to maintain the landscape beginning immediately after each plant is installed and continuing until Final Acceptance and the end of the maintenance period. Perform all work under the direct supervision of a technician trained to recognize and treat conditions affecting the established and growth of the plants.

e. Measurement and Payment. The completed work, as described, will be measured, and paid for at the Contract unit price for the following pay item:

Contract Item (Pay Item)	**Pay Unit**
DS_Tree, B&B	Each
DS_Shrub,#5 Cont.	Each
DS_Perennial, #2 Cont.	Each
DS_Perennial, Quart Cont.	Each
DS_Perennnial, Bulb	Each
DS_Annuals, Owner Selected.	Each
DS_Planting Mix.	CY
DS_Landscape Maintenance and Warranty.	LS

Payment for **DS_Tree, B&B, DS_Shrub, #5 Cont., DS_Perennial, #2 Cont.**, and **DS_Plant, Bulb** shall be paid for at the contract unit price of each plant installed following acceptance of the work by the Engineer. The unit price shall include plant material, submittals, material supply, installation, backfill, root barrier, staking, tree anchors, initial watering, mulch, trunk wrap, and any other necessary components specified herein or shown on the plan required to install the plants.

DS_Planting Mix shall include all labor, materials, and equipment necessary to supply, mix, and install planting mix as shown on the plans and details. The pay quantity will be determined by field measurement of the area installed in cubic yards.

DS_Landscape Maintenance and Warranty, 1 Year shall be paid for at the contracted lump sum price for all maintenance work specified herein and as requested by the Engineer. The contracted lump sum price shall include all specified maintenance functions including but not limited to maintenance schedule submittal, inspections, report forms, watering, cultivation, weed and litter control, fertilizing, pest controls, dead heading, dead plant removal and replacement, staking removal and re-mulching at the end of the maintenance period.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
IRRIGATION, REMOVE AND REPLACE

a. Description. This work consists of providing all labor, materials, and equipment required to remove existing irrigation systems and install proposed irrigation systems as shown on the plans or as directed by the Engineer in accordance with City of Ann Arbor 2025 Public Services Standard Specifications, except as modified herein.

b. Materials. The Contractor will furnish the following materials:

1. Pipe, Sleeving, and Fittings:
    a. Pipe sizes and type will conform to those shown on the drawings. No substitutions of smaller pipe sizes will be permitted, but substitutions of larger size may be approved. All pipe damaged or rejected because of defects will be removed from the site at the time of said rejection.
    b. Provide PVC pipe continuously and permanently marked with manufacturer's name or trademark, size schedule and type of pipe working pressure at 73 degrees F. and National Sanitation Foundation (NSF) approval.
    c. Saddle and cross fittings are not permitted. Use male adapters for plastic to metal connections. Hand-tighten male adapters plus one turn with a strap wrench.
    d. Refer to plans for PVC mainline and sleeving size and pipe type.
    e. PVC pipe fittings will be solvent weld, schedule 80 PVC.
    f. All above grade pipe will be hard copper. Fittings will be cast brass or wrought copper.

2. Quick Coupling Valves:

    a. Quick coupler valves will be as noted in the irrigation legend.
    b. Quick couplers will have one piece body and stabilizer and 36” re-rod to stabilize quick coupler and prevent movement during quick coupler activation.
    c. Furnish to the City, four (4) valve keys with hose swivels.
    d. Prior to initiating work, obtain Owner approval of all valve locations to prevent conflicts with plant material and planting bed cultivation methods.

3. Valve Boxes:

    a. Valve access boxes will be manufactured by Carson, Pentek, NDS, or Rainbird and be of locking type including locking bolt.
    b. Valve Access Boxes to be tapered enclosure of rigid plastic material comprised of fibrous components chemically inert and unaffected by moisture corrosion and temperature changes.

c. Valve box sizes will be as indicated in the irrigation details for the specific valve.
d. Provide locking lid of same material black in color.
e. Provide and install bolt on all boxes to facilitate locking the valve box lid.
f. Boxes to be of minimum size required to permit access to the valve. Side walls to extend at least 2" below the bottom of valve body; use extension as necessary.
g. Valve access boxes will have rot proof landscape filter fabric liner 3/4” washed crushed stone sump.

4. Accessories:

a. Drainage fill: 3/4" crushed stone to 6” below bottom of box.
b. Fill will be clean soil free of stones larger than 2" diameter, foreign matter, organic material and debris.
c. Provide imported fill material as required to complete the work. Obtain rights and pay all costs for imported materials.
d. Suitable excavated materials removed to accommodate the irrigation system work may be used as fill material subject to the Owner’s review and acceptance.

5. Backflow Prevention Device:

a. Backflow preventer will be FEBCO 825YA RPZ backflow preventer.
b. Provide and install the backflow prevention device as noted on plans, including the device enclosure and all accessories and piping.

6. Meter Pit:

a. Meter pit boxes will be 1730C-18 meter boxes manufactured by ej (product number 32417301).
b. Meter box covers will be 1730 meter box covers manufactured by ej (product number 32131750A01).
c. Provide and install the City supplied ¾” meter and meter pit as noted on plans, including the meter enclosure and all accessories and piping.

c. Submittals. The Contractor will provide shop drawings and submittals as follow:

Installer Qualifications: An employer of workers that includes a certified irrigation designer qualified by The Irrigation Association.

Shop Drawings and Equipment Product Information: Submit product information on all sprinklers, controllers, moisture sensors, hydrometers, enclosures, nozzles, swing joints, quick coupling valves, isolation valves, sleeving, control valves, wire conduit, PVC and polyethylene pipe, all pipe fittings, backflow preventer, copper pipe and fittings, wire, two-wire cable, decoders, surge arrestors, rain sensors, grounding rod, grounding plate, wire connectors, solvent and primer for PVC pipe, stainless steel clamps, and valve boxes to be used on the project.

Record Drawings and Instructions: Furnish record drawings showing actual location of all valves, drains, pipe, wiring and controls to scale with dimensions. In addition, submit two bound copies of an owner's manual, each containing operational sheets, maintenance manual, and parts lists covering all system components.

d. Construction. The Contractor will de-energize and remove existing sprinkler systems entirely. Removals will include all existing, pipe, wiring, heads, valves, boxes, fittings, and all appurtenances related to the sprinkler systems.

The Contractor will install sprinkler systems according to the manufacturer's instructions and as follows.

The Contractor will report to the Engineer any deviations between Drawings, Specifications and the site. Failure to do so prior to the installation of equipment and which results in the replacement or relocation of equipment will be at the Contractor's expense.

The Contractor will layout the location of each pipe and two-wire cable runs, sleeve locations, and all sprinkler heads and valves and will obtain approval from the Engineer prior to excavation.

1. Excavating and Backfilling:

    a. Excavating will be considered unclassified and will include all materials encountered, except materials that cannot be excavated by normal mechanical means. Excavate trenches of sufficient depth and width to permit proper handling and installation of pipe and fittings. Excavate to depths required to provide 2" depth of earth fill or sand bedding for piping when rock or other unsuitable bearing material is encountered.

    b. Install sleeves for irrigation piping installed beneath paving. Minimum depth of bury for sleeves beneath roadways and drives to be 24” and 24” beneath walks.

    c. Extend ends of all sleeves 12” beyond back of curbs or walk edges.

    d. Fill to match adjacent grade elevation with approved earth fill material. Place and compact fill in layers not greater than 8" depth.

    e. Provide approved fine-grained earth fill or sand to point 4" above the top of pipe, where soil conditions are rocky or otherwise objectionable.

    f. Fill to within 6” of final grade with approved excavated or borrow fill materials free of lumps or rocks larger than 2” in any dimension.

g. The top 6” of backfill will be topsoil, free of rocks, subsoil or trash. Any special soil mixture will be replaced to the original condition it was prior to irrigation installation.

h. Except as indicated, install irrigation mainline with a minimum cover of 24” based on finished grades. Install irrigation laterals with a minimum cover of 12" based on finished grades.

i. Excavate trenches and install piping and backfill during the same working day. Do not leave open trenches or partially filled trenches open overnight.

2. Copper Pipe, Meter and Backflow Preventer:

a. The Contractor is responsible for scheduling the City’s Public Works Unit to perform the required water main tap, service line and curb stop valve and box installation. The Contractor will perform all necessary excavations for these installations.

b. Following completion of the 1” tap, Type ‘K’ copper water service line and curb stop valve and box by the City Public Works Unit, the Contractor will install the 1” Type ‘K’ water lead, meter horn and backflow preventer as noted on plans, including the device enclosures and all accessories and piping. The City will install the ¾” meter.

c. All work is to be performed by a licensed plumber and will require a plumbing permit and all necessary inspections by the City of Ann Arbor Planning and Development Services Unit. All permits for this work and associated inspections and fees are the responsibility of the Contractor.

3. Plastic Underground Pipe:

a. Install all plastic pipe in accordance with manufacturer's installation instructions as ASTM D- 2274. Provide for thermal expansion and contraction.

b. Saw cut plastic pipe. Use a square-in-sawing vice, to ensure a square cut. Remove burrs and shavings at cut ends prior to installation.

c. Make PVC plastic-to-plastic joints with solvent weld joints. Use only primer and solvent recommended by the pipe manufacturer. Install plastic fittings in accordance with pipe manufacturer's instructions and ASTM D-2855. Contractor will make arrangements with pipe manufacturer for all necessary field assistance.

d. Allow joints to set at least 24 hours before pressure is applied to the system.

e. Maintain pipe interiors free of dirt and debris. Close open ends of pipe by capping, taping or other acceptable method when pipe installation is not in progress.

4. Valve Installation:

a. All quick coupler valves will be enclosed in a valve box.

b. Valve box size will be installed with 10” valve box for quick couplers. Add extensions as required to prevent soil settlement around the valve. Set box flush with finish grade and aligned with adjacent boxes and/or adjoining site-work and at right angles to walks and drives.

c. All valve boxes will have locking bolt-down cover. Include locking bolt with all valve box installations.

d. Install filter fabric inside valve box and install valve boxes on a suitable base of gravel to provide a level foundation at proper grade and to provide drainage of the access box. Support box with block or notch box to protect pipe under box.

e. Provide all quick coupler valves with pre-fabricated three elbow swing joint, schedule 80 PVC.

f. Fittings and pre-fabricated swing joint manufacturers will be Spears, Lasco, or Dura.

5. Flushing and Testing:

a. After all new quick couplers are in place and connected for a given section and all necessary division work has been completed, quick couplers will be opened and a full head of water used to flush out the system. Ensure that all dirt and debris are flushed from piping before attaching hoses, sprinklers and other devices to any quick coupler.

b. Sprinkler mains will be tested under normal water pressure for a period of 12 hours. If leaks occur, repair and repeat the test. Give Owner 24 hours’ notice prior to testing.

c. Testing of the system will be performed after completion of each section or completion of the entire installation; and any necessary repairs will be made, at the Contractor's expense, to put the system in good working order before final payment by the Owner.

d. Adjustment of the equipment will be done by the Contractor upon completion of installation to provide optimum performance. Repairs during the warranty

period are to be performed by the Contractor. All adjustments during the guarantee period will be made by the Owner.

6. Clean Up:

a. Contractor will keep the premises free from rubbish and debris at all times and will arrange his material storage so as not to interfere with the Owner's operation of the job. Contractor will remove and legally dispose of all unused material, rubbish and debris, including unsuitable excavated material from the site.

e. Measurement and Payment. The completed work, as described, will be paid for at the contract unit price for the following contract items (pay items):

Contract Item (Pay Item)	**Pay Unit**
DS_Irrigation, Remove and Replace	Lump Sum

Payment for **DS_Irrigation, Remove and Replace** will be paid by the lump sum for all systems completed removed and all systems completely installed and will include all costs for labor, material, and equipment required to remove, haul away, and dispose of excavation spoils and existing sprinkler systems and appurtenances removed and to furnish, install, and test proposed sprinkler systems, including backfill. Partial payments will not be made for partially completed work.

The water main taps, piping to the curb stop valve & box, curb stop valves & boxes, and meters associated with the Irrigation System will be provided and installed by the City of Ann Arbor.

MATERIALS TESTING CONSULTANTS

GEOTECHNICAL DATA REPORT

STATE STREET AND NORTH UNIVERSITY WATER MAIN AND STREETSCAPE PRJECT

ANN ARBOR, MICHIGAN

Prepared For:

CITY OF ANN ARBOR

Ann Arbor, Michigan

Prepared By:

MATERIALS TESTING CONSULTANTS, INC.

October 2021

MTC Project No. 211279

October 22, 2021
Project No. 211279

City of Ann Arbor – Engineering
c/o Wade Trim
21251 Northline Road
Taylor, MI 48180

Attention: Vaughn Martin, P.E.

Reference: Report of Geotechnical Investigation
State Street and North University Water Main and Streetscape Project
Ann Arbor, Michigan

Dear Mr. Martin:

We have completed a geotechnical investigation for the above-referenced project. The purpose of this investigation has been to identify the general subsurface soil conditions and complete infiltration testing in the vicinity of the proposed construction. This work has been performed as described in our proposal dated July 27, 2021, and in accordance with our active City of Ann Arbor contract for 2021 Geotechnical and Environmental Services.

Presented herein are descriptions of our understanding of the geotechnical investigation and encountered conditions. The Appendix contains the report limitations and data collected during this investigation.

AVAILABLE INFORMATION

We have been provided the following documents and information for use in this investigation:

- An initial boring location map received on July 19, 2021 from Mr. Vaughn Martin, P.E. of Wade Trim.
- Telephone and email conversations with Mr. Vaughn Martin, P.E. and Ms. Carmelle Tremblay, P.E. of Wade Trim regarding the project details and scope of work.
- Email correspondence with Mr. Alex Russeau of SmithGroup regarding infiltration test depths.

The areas of investigation are shown on Figure Nos. 1 to 4. The investigation was primarily located on State Street between South University and Washington Street and on North University between State Street and Fletcher Street. We understand the project will consist of a new water main, pavement rehabilitation and streetscape improvements and is a joint venture between the City of Ann Arbor, the Downtown Development Authority and the University of Michigan.

INVESTIGATION METHODOLOGY

Conventional soil test borings and sampling and hand auger borings, along with field engineering reconnaissance were used to investigate the subsurface conditions. Boring locations are shown on Figure Nos. 1 to 4. Investigation procedures, soil classification information and boring logs are provided in the Appendix.

Number of Rig Borings	9
Rig Boring Depth Range, ft.	10.0
Number of Hand Auger Borings	10
HA Boring Depth Range, ft.	3.2 to 5.5

Borings were drilled and other sampling was conducted solely to obtain indications of subsurface conditions as part of a geotechnical exploration program. No services were performed to evaluate subsurface environmental conditions.

Infiltration tests were performed at Borings B-1, B-3 and B-4 at depths ranging from 7.5 to 7.8 ft below existing grade (els 866.6 to 869.0 ft). Infiltration test locations and depths were chosen in consultation with Wade Trim and SmithGroup. Infiltration tests were performed using the double ring method outlined in the Washtenaw County Water Resource Commissioner's Procedures and Design Criteria for Storm Water Management.

Laboratory – Soil

Soil samples were reviewed by one of our engineers and technically classified according to the methods of ASTM D2488 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)". A summary table of the soil conditions and the estimated resilient modulus for each soil type is contained in the Appendix.

The estimated values for resilient modulus, Mr, have been provided based on the visual classification of the soil and Table 12-2 in the Michigan DOT User Guide for Mechanistic Empirical Pavement Design, Interim Edition dated March 2015. Other data including results from FWD testing, local knowledge, or from past ME pavement performance on similar subgrade materials may also be of use in estimating resilient modulus if they are available. Typically, recommendations based on visual classification are given as a range of values for various assumptions regarding compaction, moisture content and roadway type. Generally, more conservative values of resilient modulus should be used on high traffic roads with a higher cost to early failure, in areas of high soil moisture/high water table and in areas of variable soil, utility trenches, etc. Conversely, less conservative (higher range) values are typically used on lower traffic roads with drier and more uniform soils.

INVESTIGATION RESULTS

Listed below are the encountered subsurface conditions within the area of investigation. The boring logs located in the Appendix should be reviewed for detailed soil descriptions. Some variation between boring locations is to be expected.

Pavement

Borings B-1, B-2, B-5, B-7 to B-12, B-14 and B-16 generally encountered 6 1/2 to 18 1/2 inches of HMA and 3 to 4 inches of sand base or 8 to 13 inches of natural aggregate base, with the exception of Borings B-2, B-7 and B-10 which encountered no base material, Boring B-14 which encountered 15 inches of crushed limestone aggregate base and Boring B-11 which encountered 3 3/4 inches of HMA millings or deteriorated HMA and 11 inches of natural aggregate base. The natural aggregate base in Borings B-9 and B-16 contained HMA millings.

Several borings encountered brick and/or concrete within the pavement section, as follows:

- Boring B-3: 3 1/2" HMA, 5 1/2" Red Brick
- Boring B-4: 4 1/2" HMA, 8 1/2" Red Brick, 5" Concrete
- Boring B-5A: 4" HMA, 3 3/4" Red Brick, 4" Sand Base with Gravel, 3" Weathered Concrete, 11" Natural Aggregate Base
- Boring B-13: 4" HMA, 4 1/2" Concrete, 6" Crushed Limestone Aggregate Base
- Boring B-15: 4" HMA, 3 1/4" Red Brick, 2" Sand Base, 2 1/2" Concrete, 8" Crushed Limestone Aggregate Base

Borings B-6 to 6-B were drilled in the area of the sidewalk during replacement of the concrete. The borings were drilled prior to concrete placement, and 2 inches of sand base was encountered. After the borings were completed, MTC observed placement of 5 1/2 inches of concrete.

Subgrade Soil

Beneath the pavement section, the borings generally encountered fill, consisting of loose to medium dense brown clayey sand (SC) to depths ranging from 2.2 to 5.5 ft (els 869.7 to 877.0 ft), with the exception of Borings B-8 and B-11 where no fill was encountered. Possible fill, consisting of brown poorly graded sand (SP) was encountered in Boring B-6 at depths ranging from 3.0 to 5.5 ft (els 871.3 to 873.8 ft).

Beneath the fill, the borings generally encountered granular subgrade soil with varying amounts of silty and clayey fines to the explored depths of 3.0 to 10.0 ft (els 864.4 to 875.7 ft). The encountered native granular soil generally exhibited a loose to medium dense relative density based on recorded SPT N-values and Dynamic Cone Penetrometer (ASTM STP 399) readings. Borings B-4 and B-16 encountered very loose poorly graded sand (SP) at a depth 7.5 ft (els 869.0 to 872.4 ft).

Borings B-3, B-4, B-10 and B-12 encountered poor recovery due to possible coarse gravel or cobble at depths of up to 6.0 ft (els 869.2 to 873.1 ft). Hand auger refusal due to possible coarse gravel or cobble was noted in Borings B-5A, B-6B and B-13 at depths ranging from 3.2 to 4.5 ft (els 872.9 ft).

Groundwater was not encountered during the investigation. Groundwater levels may fluctuate due to seasonal variations such as precipitation, snowmelt, nearby river or lake levels and other factors that may not be evident at the time of measurement. Groundwater levels may be different at the time of construction.

This section has provided a generalized description of the encountered subsurface soil conditions. The boring logs located in the Appendix should be reviewed for detailed soil descriptions. Some variation between boring locations may be expected.

Infiltration Test Results

Two concentric rings were used to perform the tests, with a 6-inch outer ring diameter and 4-inch inner ring diameter. The purpose of the outer ring is to prevent divergent flow of water from the inner ring while water level in the inner ring is monitored to calculate a one-dimensional infiltration rate. For all tests, readings were taken at 10-minute intervals until stabilized infiltration rates were achieved. The Washtenaw County Water Resource Commissioner's Procedures and Design Criteria for Storm Water Management recommends that the Design Infiltration Rate be taken as ½ the Stabilized Infiltration Rate. The individual infiltration test reports are attached.

A summary of the stabilized infiltration rates, average rate, and design rate (safety factor of 2) for each Test Pit are listed in the following table:

Boring	Test Elevation (ft)	Soil Type at Test Elevation	Stabilized Infiltration Rate (in/hr)	Design Infiltration Rate (in/hr)
B-1	866.6	Brown Poorly Graded Sand (SP)	49 1 /2	10*
B-3	867.7	Brown Poorly Graded Sand with Clay (SP-SC)	27	10*
B-4	869.0	Brown Poorly Graded Sand (SP)	10 1/2	5 1/4

* WCWRC Procedures and Design Criteria for Stormwater Management specify a maximum design infiltration rate of 10 in/hr.

CLOSURE

In this report, descriptions of the geotechnical investigation and encountered conditions have been presented. The limitations of this study are described in the Appendix.

The samples may not fully indicate the nature and extent of the variations that actually exist between sampling locations. For that reason, among others, we strongly recommend that a qualified geotechnical firm be retained to observe earthwork construction. If variations or other latent conditions become evident during construction, we remain available to perform additional exploration or provide recommendations as appropriate.

We appreciate the opportunity to provide this service to you on this project. Should you have any questions or require further assistance, please contact our office.

Sincerely,

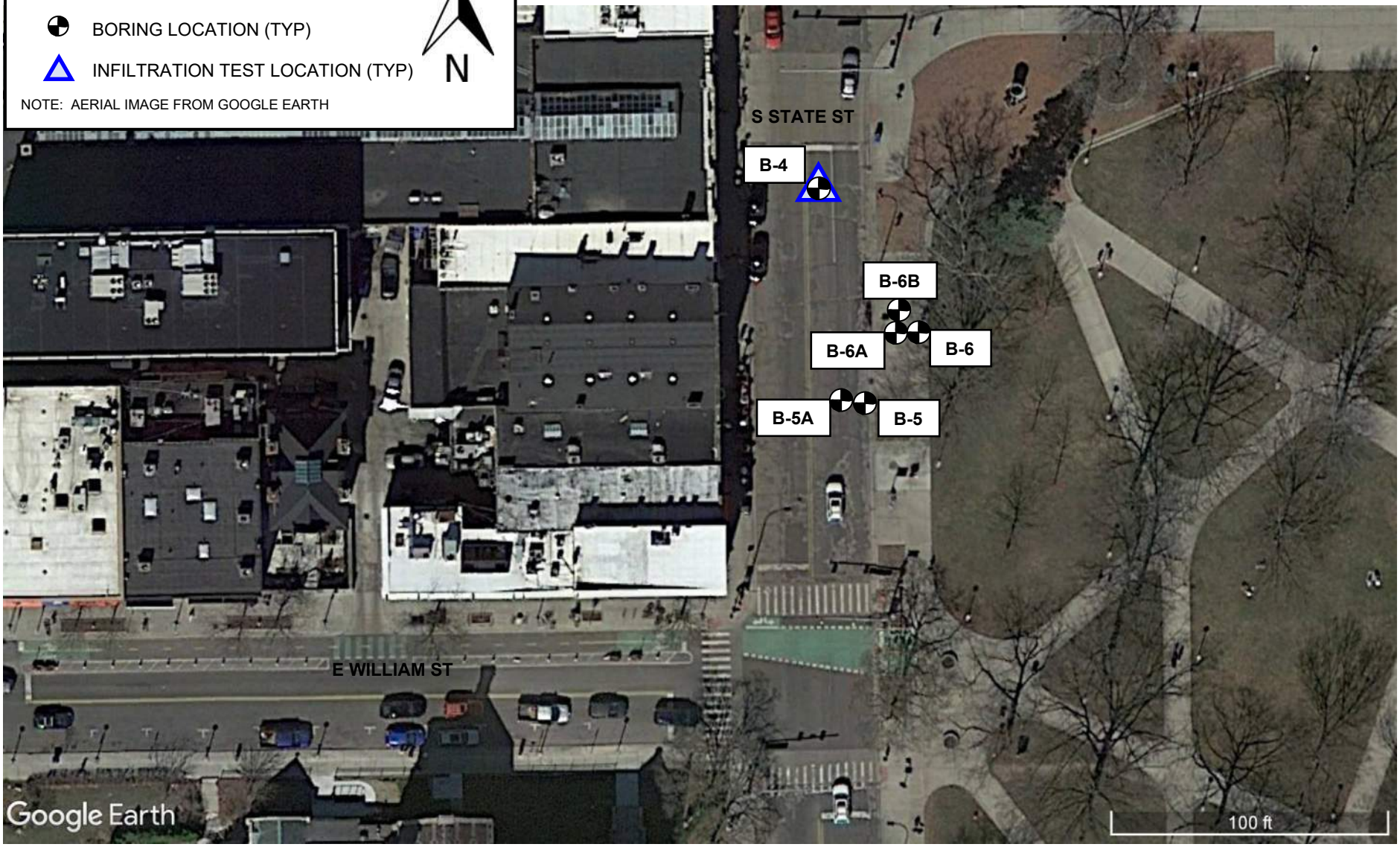
MATERIALS TESTING CONSULTANTS, INC.

Ryan D. Starcher, E.I.T.
Project Engineer

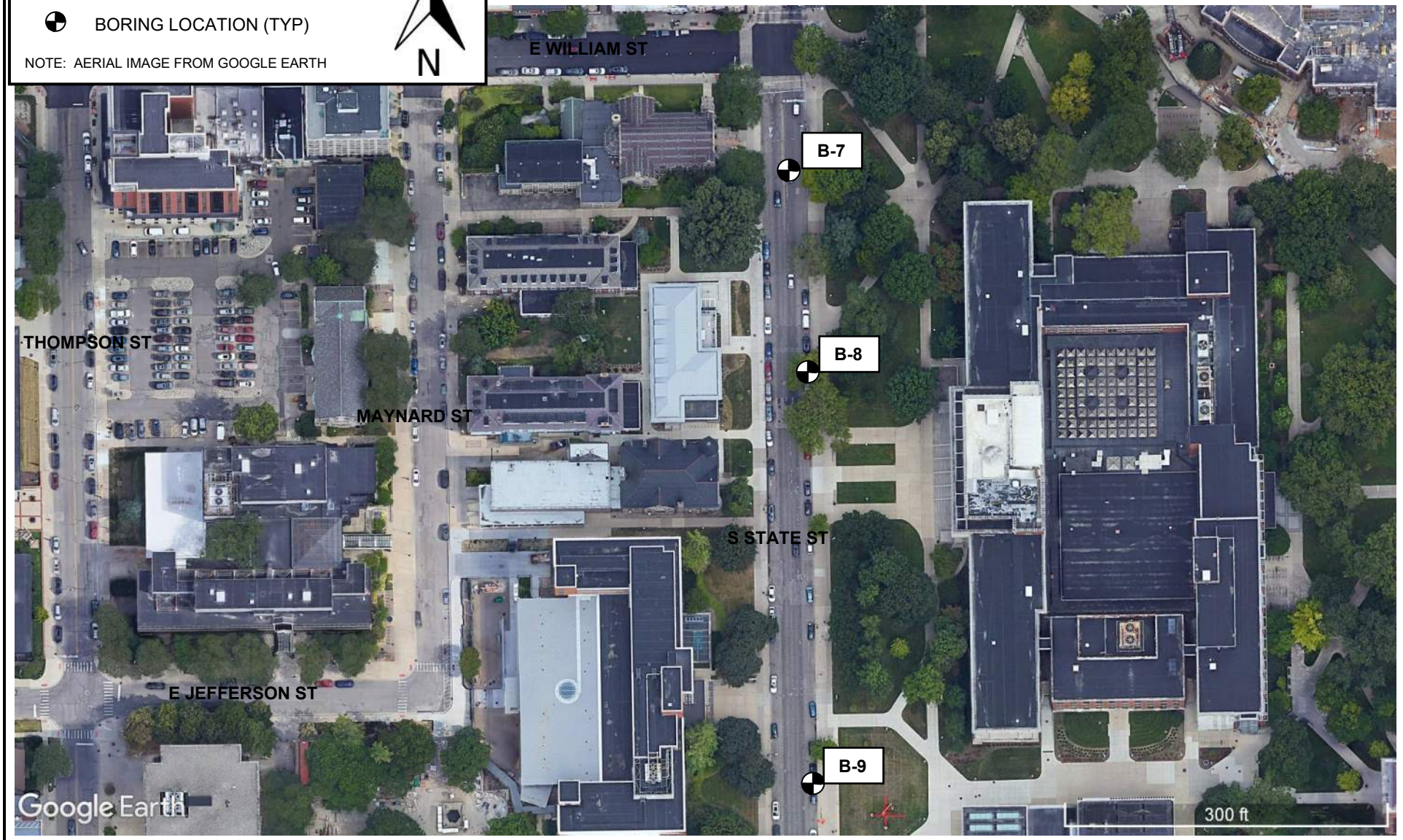
Robert J. Warren, P.E.
Project Manager

Attachments: Figure Nos. 1 to 4 - Boring Location Plan
Table 1 – Summary of Investigation Results
Appendix
- Limitations
- Test Drilling and Sampling Procedures
- Boring Log Terminology and Classification Outline
- Boring Logs
- Infiltration Test Results

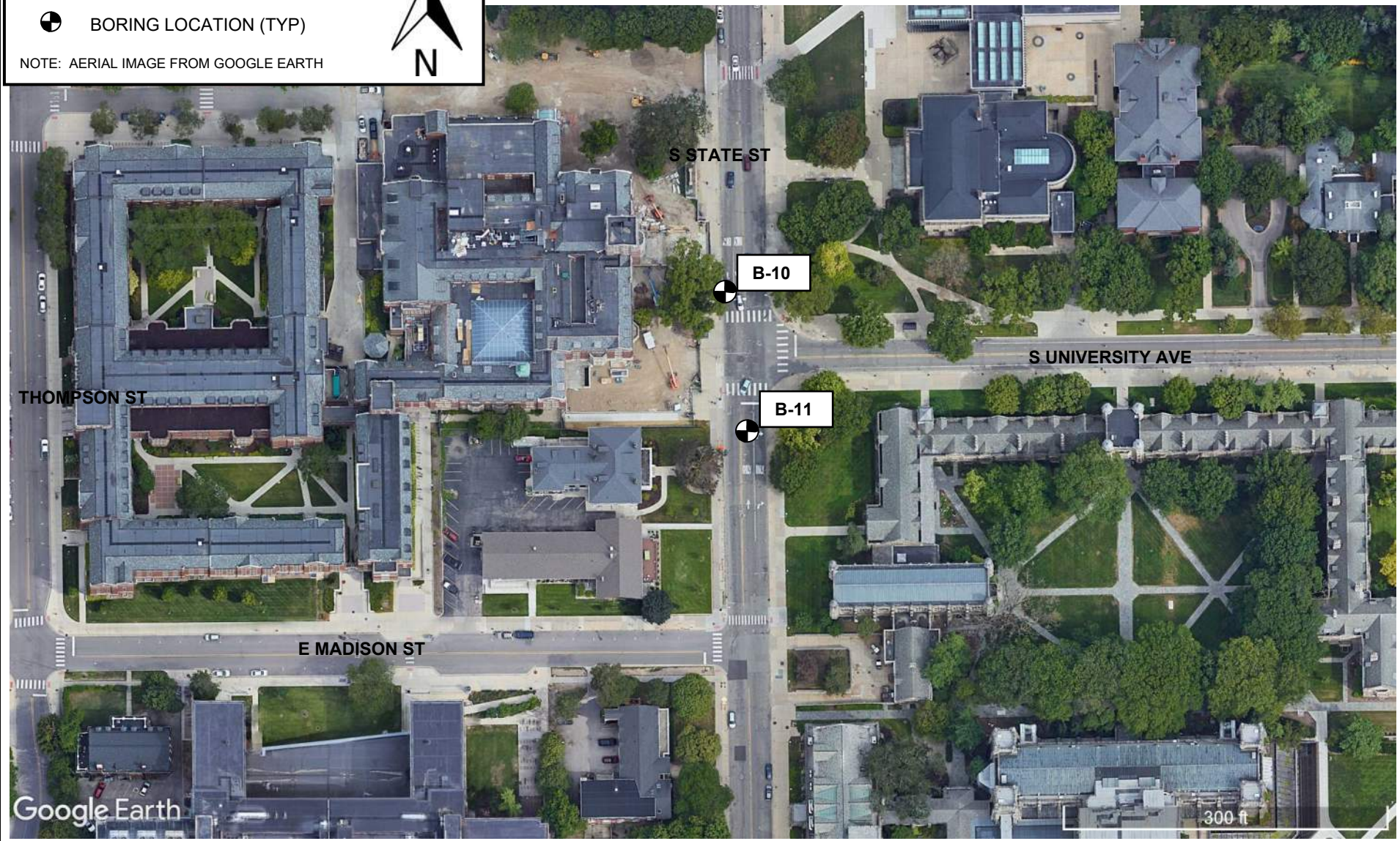
TITLE: BORING LOCATION PLAN		PROJECT: CITY OF ANN ARBOR STATE STREET AND NORTH UNIVERSITY	
SCALE: VISUAL	DATE: 10/22/2021	PROJECT NO.: 211279	MTC MATERIALS TESTING CONSULTANTS
FIG. NO.: 1	DR. BY: KLV	REV. BY: RW	



TITLE: BORING LOCATION PLAN		PROJECT: CITY OF ANN ARBOR STATE STREET AND NORTH UNIVERSITY	
SCALE: VISUAL	DATE: 10/22/2021	PROJECT NO.: 211279	MTC MATERIALS TESTING CONSULTANTS
FIG. NO.: 2	DR. BY: KLV	REV. BY: RW	



TITLE: BORING LOCATION PLAN		PROJECT: CITY OF ANN ARBOR STATE STREET AND NORTH UNIVERSITY	
SCALE: VISUAL	DATE: 10/22/2021	PROJECT NO.: 211279	MTC MATERIALS TESTING CONSULTANTS
FIG. NO.: 3	DR. BY: KLV	REV. BY: RW	



TITLE: BORING LOCATION PLAN		PROJECT: CITY OF ANN ARBOR STATE STREET AND NORTH UNIVERSITY	
SCALE: VISUAL	DATE: 10/22/2021	PROJECT NO.: 211279	MTC MATERIALS TESTING CONSULTANTS
FIG. NO.: 4	DR. BY: KLV	REV. BY: RW	

TABLE 1 - SUMMARY OF INVESTIGATION RESULTS

Street Name	Limits	Borings	Asphalt Thickness (inches)	Base Thickness and Description	Subgrade Soils	Estimated Resilient Modulus, psi
State Street	E. Washington St. to N. University Avenue	B-1 to B-3	3 1/2 to 9	B-1: 3" Sand Base B-2: None B-3: 5 1/2" Red Brick	B-1: Poorly graded sand with clay (SP-SC) to 3.0 ft, Poorly graded sand (SP) to 10.0 ft B-2: Clayey sand (SC) to 2.3 ft, Poorly graded sand (SP) to 10.0 ft B-3: Clayey sand (SC) to 5.5 ft, Poorly graded sand with clay (SP-SC) to 10.0 ft	SC: 3,700 - 5,100 SP: 5,500 – 7,500
State Street	N. University Avenue to E Williams St.	B-4 to B-6B	4 to 11, except for B-6 to B-6B where 5 1/2" concrete was observed	B-4: 8 1/2" Red Brick, 5" Concrete B-5: 13" Natural Aggregate Base B-5A: 3 3/4" Red Brick, 4" Sand with Gravel, 3" Weathered Concrete, 11" Natural Aggregate Base B-6, B-6A, B-6B: 2" Sand Base	B-4, B-5: Clayey sand (SC) to 2.7 to 5.5 ft, Poorly graded sand (SP) to 5.0 to 10.0 ft B-5A, B-6A, B-6B: Clayey sand (SC) with gravel to 3.0 to 3.5 ft B-6: Clayey sand (SC) with gravel to 3.0 ft, Poorly graded sand (SP) to 5.5 ft	SC: 3,700 - 5,100 SP: 5,500 – 7,500
State Street	E. Williams St. to E. Madison St.	B-7 to B-11	8 to 18 1/4	B-7, B-10: None B-8: 13" Natural Aggregate Base B-9: 11" Natural Aggregate Base with HMA Millings B-11: 3 3/4" HMA Millings or Deteriorated HMA, 11" Natural Aggregate Base	B-7, B-9, B-10: Clayey sand (SC) to 2.2 to 4.7 ft, Poorly graded sand (SP) to 10.0 ft B-8: Poorly graded sand with silt (SP-SM) and gravel to 5.0 ft B-11: Poorly graded sand with clay (SP-SC) and gravel to 5.0 ft	SC: 3,700 - 5,100 SP: 5,500 – 7,500 SP-SM: 5,900 – 8,100
North University Avenue	State St. to Fletcher St.	B-12 to B-16	4 to 8 1/2	B-12: 4" Sand Base B-13: 4 1/2" Concrete, 6" Crushed Limestone Aggregate Base B-14: 15" Crushed Limestone Aggregate Base B-15: 3 1/4" Brick, 2" Sand Base, 2 1/2" Concrete, 8" Crushed Limestone Aggregate Base B-16: 8" Natural Aggregate Base with HMA millings	B-12, B-14, B-15, B-16: Clayey sand (SC) to 2.9 to 4.6 ft, Poorly graded sand (SP) to 5.0 to 10.0 ft B-13: Poorly graded sand with clay (SP-SC) to 2.8 ft, Poorly graded sand (SP) to 4.5 ft	SC: 3,700 - 5,100 SP: 5,500 – 7,500

PROJECT NO.: 211279

PAGE: 1 OF 1

APPENDIX

- Limitations
- Test Drilling and Sampling Procedures
- Boring Log Terminology and Classification Outline
- Boring Logs
- Infiltration Test Results

LIMITATIONS

Soil Variations

The recommendations in this report are based upon the data obtained from the soil borings. This report does not reflect variations which may occur between these borings, and which would not become evident until construction. If variations then become evident, it would be necessary for a re-evaluation of recommendations of this report, after performing on-site observations.

Warranties

We have prepared this report in accordance with generally accepted soil and foundation engineering practices. We make no other warranties, either expressed or implied, as to the professional advice provided under the terms of our agreement and included in this report. This report is prepared exclusively for our client and may not be relied upon by other parties without written consent from our office.

Boring Logs

In the process of obtaining and testing samples and preparing this report, we follow reasonable and accepted practice in the field of soil engineering. Field logs maintained during drilling describe field occurrences, sampling locations, and other information. The samples obtained in the field are subjected to additional testing in the laboratory and differences may exist between the field logs and the final logs. The engineer reviews the field logs and laboratory test data, and then prepares the final boring logs. Our recommendations are based on the contents of the final logs.

Review of Design Plans and Specifications

In the event that any changes in the design of the building or the location, however slight, are planned, our recommendations shall not be considered valid unless modified or approved in writing by our office. We recommend that we be provided the opportunity to review the final design and specifications in order to determine whether changes in the original concept may have affected the validity of our recommendations, and whether our recommendations have, in fact, been implemented in the design and specifications.

TEST DRILLING AND SAMPLING PROCEDURES

Test Drilling Methods:

- [X] Hollow stem auger, ASTM D6151
- [ ] Mud rotary, ASTM D5783
- [ ] Casing advancer, ASTM D5872
- [ ] Rock coring, ASTM D2113
- [X] Core/Hand Auger

Note: Cone penetration test data can be used to interpret subsurface stratigraphy and can provide data on engineering properties of soils. The ASTM procedure does not include a procedure for determining soil classification from CPT testing. Soil classifications shown on CPT logs are based on published procedures and are not based on physical ASTM soil classification tests.

Sampling Methods:

- [X] SPT, ASTM D1586, Auto hammer (140 lb., 30" drop, 2" OD split spoon sampler)
- [ ] Thin-walled tube sampler (Shelby), ASTM D1587

Note: The number of hammer blows required to drive the SPT sampler 12 inches, after seating 6 inches, is termed the soil N-value and provides an indication of the soil's relative density and strength parameters at the sample location. SPT blow counts in 6 inch increments are recorded on the boring logs.

Drill Rig:

- [ ] CME 55 LC (ATV)
- [ ] CME 750 Rubber tired (ATV)
- [X] CME 45 Truck
- [ ] Geoprobe Direct Push
- [ ] Geoprobe Rotary Sonic

Boreholes Backfilled With:

- [X] Excavated soil
- [ ] Cement bentonite grout
- [ ] Piezometer or Monitoring Well (see notes on logs)
- [X] Concrete or asphalt patch where appropriate

Sample Handling and Disposition:

- [X] Samples labeled, placed in jars, returned to MTC Laboratory
- [X] Discard after 60 days

BORING LOG TERMINOLOGY AND ASTM D 2488 CLASSIFICATION OUTLINE

TERMS DESCRIBING CONSISTENCY OR CONDITION

COARSE-GRAINED SOILS (major portions retained on No. 200 sieve): includes (1) clean gravel and sands and (2) silty or clayey gravels and sands. Condition is rated according to relative density as determined by laboratory tests or standard penetration resistance tests.

Descriptive Terms	Relative Density	SPT Blow Count
Very loose	0 to 15 %	< 5
Loose	15 to 35 %	5 to 10
Medium dense	35 to 65 %	10 to 30
Dense	65 to 85 %	30 to 50
Very dense	85 to 100 %	> 50

Per ASTM D2487, the following conditions must be met based on laboratory testing to justify the label 'well graded' in a soil description.

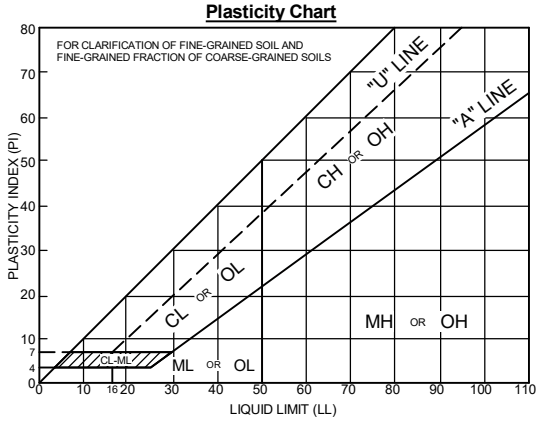
Gravel: $C_U = \frac{D_{60}}{D_{10}}$ greater than 4; $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3

Sand: $C_U = \frac{D_{60}}{D_{10}}$ greater than 6; $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3

FINE-GRAINED SOILS (major portions passing on No. 200 sieve): includes (1) inorganic and organic silts and clays, (2) gravelly, sandy, or silty clays, and (3) clayey silts. Consistency is rated according to shearing strength, as indicated by penetrometer readings, SPT blow count, or unconfined compression tests.

Descriptive Terms	Unconfined Compressive Strength TSF	SPT Blow Count
Very soft	< 0.25	< 2
Soft	0.25 to 0.5	2 to 4
Medium stiff	0.5 to 1.0	4 to 8
Stiff	1.0 to 2.0	8 to 15
Very stiff	2.0 to 4.0	15 to 30
Hard	> 4.0	> 30

Plasticity Chart



MAJOR DIVISIONS					TYPICAL NAMES
COARSE-GRAINED SOILS MORE THAN HALF IS COARSER THAN NO. 200 SIEVE	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE	CLEAN GRAVELS WITH LESS THAN 15% FINES	GW		WELL-GRADED GRAVELS WITH OR WITHOUT SAND
			GP		POORLY-GRADED GRAVELS WITH OR WITHOUT SAND
		GRAVELS WITH 15% OR MORE FINES	GM		SILTY GRAVELS WITH OR WITHOUT SAND
			GC		CLAYEY GRAVELS WITH OR WITHOUT SAND
	SANDS MORE THAN HALF COARSE FRACTION IS FINER THAN NO. 4 SIEVE SIZE	CLEAN SANDS WITH LESS THAN 15% FINES	SW		WELL-GRADED SANDS WITH OR WITHOUT GRAVEL
			SP		POORLY-GRADED SANDS WITH OR WITHOUT GRAVEL
			SP-SM		POORLY-GRADED SANDS WITH SILT WITH OR WITHOUT GRAVEL
		SANDS WITH 15% OR MORE FINES	SM		SILTY SANDS WITH OR WITHOUT GRAVEL
			SC		CLAYEY SANDS WITH OR WITHOUT GRAVEL
FINE-GRAINED SOILS MORE THAN HALF IS FINER THAN NO. 200 SIEVE	SILTS AND CLAYS LIQUID LIMIT 50% OR LESS		ML		INORGANIC SILTS OF LOW TO MEDIUM PLASTICITY WITH OR WITHOUT SAND OR GRAVEL
			CL		INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY WITH OR WITHOUT SAND OR GRAVEL
			OL		ORGANIC SILTS OR CLAYS OF LOW TO MEDIUM PLASTICITY WITH OR WITHOUT SAND OR GRAVEL
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50%		MH		INORGANIC SILTS OF HIGH PLASTICITY WITH OR WITHOUT SAND OR GRAVEL
			CH		INORGANIC CLAYS OF HIGH PLASTICITY WITH OR WITHOUT SAND OR GRAVEL
			OH		ORGANIC SILTS OR CLAYS OF HIGH PLASTICITY WITH OR WITHOUT SAND OR GRAVEL
HIGHLY ORGANIC SOILS			PT/OL		PEAT AND OTHER HIGHLY ORGANIC SOILS

GENERAL NOTES

1. Classifications are based on the United Soil Classification System and include consistency, moisture, and color. Field descriptions have been modified to reflect results of laboratory tests where deemed appropriate.

2. "Grades with" or "Grades without" may be used to describe soil when characteristics vary within a stratum.

3. Preserved soil samples will be discarded after 60 days unless alternate arrangements have been made.

GROUNDWATER OBSERVATIONS:

During - indicates water level encountered during the boring
End- indicates water level immediately after drilling
Date and Depth - Measurements at indicated date

SAMPLE TYPES AND NUMBERING

S	SPT, split barrel sample, ASTM D1586
U	Shelby tube sample, ASTM D1587
R	Rock core run
*S	Other than 2" split barrel sample
L	SPT with liner, ASTM D1586
A	Auger cuttings
G	Geoprobe liner

MINOR COMPONENT QUANTIFYING TERMS

Less than 5%	TRACE
5 to 10%	FEW
15 to 25%	LITTLE
30 to 40%	SOME
50 to 100%	MOSTLY

GRAIN SIZE

BOULDER	>12"
COBBLE	12" to 3"
COARSE GRAVEL	3" to 0.75"
FINE GRAVEL	0.75" to No. 4
COARSE SAND	No. 4 to No. 10
MEDIUM SAND	No. 10 to No.40
FINE SAND	No. 40 to No. 200

LOG OF BORING

Project No.: 211279
Boring No.: B-1
Sheet: 1 of 1

Project: City of Ann Arbor - State Street and North University
Client: City of Ann Arbor
Location: Ann Arbor, Michigan
Drill Type: CME 45
Crew Chief: ZM Field Eng.: JS Rev. By: RW
Coordinates: N=284915.3 E=13292708.7 (MI South ift)
Elevation: 874.4 ft Datum: NAVD 88 (GPS Observation)
Notes:

Plugging Record: Backfilled borehole with compacted cuttings, patched pavement with cold patch. Cave in at 6.5 ft.

Date Begin: 08/26/2021 Date End: 08/26/2021

Tooling	Type	Dia.	Groundwater, ft.	
Casing	HSA	3 1/4"	During	None
Sampler	SPT	2"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer	Auto			

Depth Drilled: 10.0 ft.

Component Percentages: Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

QP = Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Penetration (Blows Per 6") ASTM D 1586	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
873.9	0.5					9" HMA				Fill 0' to 3.0'
873.4	1.0					0.8				
872.9	1.5					3" Sand Base 1.0				
872.4	2.0	S-1	1.5	3-5-7 N=12	SP-SC	Brown poorly graded SAND with clay; mostly coarse to fine sand, little clayey fines, few coarse to fine gravel, moist, Fill with occasional clayey sand lenses				
871.9	2.5									
871.4	3.0					3.0				
870.9	3.5					Brown poorly graded SAND; mostly coarse to fine sand, few coarse to fine gravel, trace clayey fines, moist				
870.4	4.0									
869.9	4.5	S-2	1.5	7-6-7 N=13						
869.4	5.0									
868.9	5.5									
868.4	6.0									
867.9	6.5									
867.4	7.0	S-3	1.5	14-11-9 N=20	SP					
866.9	7.5									
866.4	8.0									
865.9	8.5									
865.4	9.0									
864.9	9.5	S-4	1.5	6-8-7 N=15						
864.4	10.0					10.0				
						End of Boring				

* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.

LOG OF BORING

Project No.: 211279
Boring No.: B-2
Sheet: 1 of 1

Project: City of Ann Arbor - State Street and North University
Client: City of Ann Arbor
Location: Ann Arbor, Michigan
Drill Type: CME 45
Crew Chief: ZM Field Eng.: JS Rev. By: RW
Coordinates: N=284776.2 E=13292714.4 (MI South ift)
Elevation: 874.9 ft Datum: NAVD 88 (GPS Observation)
Notes:

Plugging Record: Backfilled borehole with compacted cuttings, patched pavement with cold patch. Cave in at 3.3 ft.

Date Begin: 08/27/2021 Date End: 08/27/2021

Tooling	Type	Dia.	Groundwater, ft.	
Casing	HSA	3 1/4"	During	None
Sampler	SPT	2"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer	Auto			

Depth Drilled: 10.0 ft.

Component Percentages: Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

QP = Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Penetration (Blows Per 6") ASTM D 1586	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
874.4	0.5					11 1/2" HMA				Fill 0' to 2.3'
873.9	1.0					1.0				
873.4	1.5				SC	Brown clayey SAND; mostly coarse to fine sand, some clayey fines, moist, Fill				
872.9	2.0	S-1	1.5	3-4-5 N=9						
872.4	2.5					2.3				
871.9	3.0					Brown poorly graded SAND with gravel; mostly coarse to fine sand, little coarse to fine gravel, trace clayey fines, moist				
871.4	3.5									
870.9	4.0									
870.4	4.5	S-2	1.5	5-8-10 N=18						
869.9	5.0									
869.4	5.5									
868.9	6.0									
868.4	6.5				SP					
867.9	7.0	S-3	1.5	7-9-9 N=18						
867.4	7.5									
866.9	8.0									
866.4	8.5									
865.9	9.0									
865.4	9.5	S-4	1.5	11-9-9 N=18						
864.9	10.0					10.0				
						End of Boring				

* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.

LOG OF BORING

Project No.: 211279
Boring No.: B-3
Sheet: 1 of 1

Project: City of Ann Arbor - State Street and North University
Client: City of Ann Arbor
Location: Ann Arbor, Michigan
Drill Type: CME 45
Crew Chief: ZM Field Eng.: JS Rev. By: RW
Coordinates: N=284585.5 E=13292721.8 (MI South ift)
Elevation: 875.2 ft Datum: NAVD 88 (GPS Observation)
Notes:

Plugging Record: Backfilled borehole with compacted cuttings, patched pavement with cold patch. Cave in at 2.0 ft.

Date Begin: 09/28/2021 Date End: 09/28/2021

Tooling	Type	Dia.	Groundwater, ft.	
Casing	HSA	3 1/4"	During	None
Sampler	SPT	2"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer	Auto			

Depth Drilled: 10.0 ft.

Component Percentages: Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

QP = Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Penetration (Blows Per 6") ASTM D 1586	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
874.7	0.5					3 1/2" HMA (0.3)				Fill: 0' to 5.5'
874.2	1.0					5 1/2" Red Brick (0.8)				
873.7	1.5					Brown clayey SAND; mostly coarse to fine sand, some clayey fines, moist, Fill with clay lenses				
873.2	2.0									
872.7	2.5	S-1	1.5	15-10-7 N=17						
872.2	3.0									
871.7	3.5				SC					
871.2	4.0									S-2 and S-3: Poor recovery; possible coarse gravel / COBBLE
870.7	4.5	S-2	0.7	6-11-7 N=18						
870.2	5.0									
869.7	5.5					(5.5)				
869.2	6.0					Brown poorly graded SAND with clay; mostly coarse to fine sand, few clayey fines, few coarse to fine gravel, moist				
868.7	6.5									
868.2	7.0	S-3	0.3	8-9-10 N=19						
867.7	7.5									
867.2	8.0				SP-SC					
866.7	8.5									
866.2	9.0									
865.7	9.5	S-4	1.5	5-9-10 N=19						
865.2	10.0					(10.0)				
						End of Boring				

* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.

LOG OF BORING

Project No.: 211279
Boring No.: B-4
Sheet: 1 of 1

Project: City of Ann Arbor - State Street and North University
Client: City of Ann Arbor
Location: Ann Arbor, Michigan
Drill Type: CME 45
Crew Chief: ZM Field Eng.: JS Rev. By: RW
Coordinates: N=284278.6 E=13292742.8 (MI South ift)
Elevation: 876.5 ft Datum: NAVD 88 (GPS Observation)
Notes:

Plugging Record: Backfilled borehole with compacted cuttings, patched pavement with cold patch. Cave in at 3.7 ft.

Date Begin: 08/25/2021 Date End: 08/25/2021

Tooling	Type	Dia.	Groundwater, ft.	
Casing	HSA	3 1/4"	During	None
Sampler	SPT	2"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer	Auto			

Depth Drilled: 10.0 ft.

Component Percentages: Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

QP = Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Penetration (Blows Per 6") ASTM D 1586	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
876.0	0.5					4 1/2" HMA 0.4				Fill 0' to 5.5'
875.5	1.0					8 1/2" Red Brick 1.1				
875.0	1.5					5" Concrete 1.5				
874.5	2.0					Brown clayey SAND; mostly coarse to fine sand, some clayey fines, moist				
874.0	2.5	S-1	0.3	22-5-5 N=10						
873.5	3.0									
873.0	3.5				SC					
872.5	4.0									S-1 and S-2: Poor recovery; possible coarse gravel / COBBLE
872.0	4.5	S-2	1.0	6-4-3 N=7						
871.5	5.0									
871.0	5.5					5.5				
870.5	6.0					Brown poorly graded SAND; mostly coarse to fine sand, few coarse to fine gravel, moist				
870.0	6.5									
869.5	7.0	S-3	1.5	2-1-2 N=3						
869.0	7.5									
868.5	8.0				SP					
868.0	8.5									
867.5	9.0									
867.0	9.5	S-4	1.5	3-3-4 N=7						
866.5	10.0					10.0				
						End of Boring				

* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.

LOG OF BORING

Project No.: 211279
Boring No.: B-5
Sheet: 1 of 1

Project: City of Ann Arbor - State Street and North University
Client: City of Ann Arbor
Location: Ann Arbor, Michigan
Drill Type: Hand Auger
Crew Chief: Field Eng.: JV Rev. By: RW
Coordinates: N=284202.2 E=13292760.9 (MI South ift)
Elevation: 876.0 ft Datum: NAVD 88 (GPS Observation)
Notes:

Plugging Record: Backfilled borehole with compacted cuttings, patched pavement with cold patch.

Date Begin: 08/01/2021 Date End: 08/01/2021

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

Depth Drilled: 5.0 ft.

Component Percentages: Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

QP = Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
875.5	0.5					11" HMA				Fill: 0' to 2.7'
875.0	1.0					0.9				
874.5	1.5	A-1				13" Natural Aggregate Base				
874.0	2.0					1.9				
873.5	2.5	A-2			SC	Brown clayey SAND; mostly coarse to fine sand, little clayey fines, few coarse to fine gravel, moist, Fill				
873.0	3.0	A-3				2.7				
872.5	3.5					Brown poorly graded SAND; mostly coarse to fine sand, few fine gravel, trace silty fines, moist				
872.0	4.0				SP					
871.5	4.5									
871.0	5.0					5.0				
						End of Boring				

* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.

LOG OF BORING

Project No.: 211279
Boring No.: B-5A
Sheet: 1 of 1

Project: City of Ann Arbor - State Street and North University
Client: City of Ann Arbor
Location: Ann Arbor, Michigan
Drill Type: Hand Auger
Crew Chief: Field Eng.: JV Rev. By: RW
Coordinates: N=284202.5 E=13292751.4 (MI South ift)
Elevation: 876.1 ft Datum: NAVD 88 (GPS Observation)
Notes:

Plugging Record: Backfilled borehole with compacted cuttings, patched pavement with cold patch.

Date Begin: 08/01/2021 Date End: 08/01/2021

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

Depth Drilled: 3.2 ft.

Component Percentages: Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

QP = Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
875.6	0.5					4" HMA (0.3)				Fill: 0' to 3.2'
875.1	1.0					3 3/4" Red Brick (0.7)				
874.6	1.5					4" Sand Base with Gravel (1.0)				
874.1	2.0	A-1				3" Weathered Concrete (1.2)				
873.6	2.5					11" Natural Aggregate Base (2.2)				
873.1	3.0	A-2			SC	Brown clayey SAND with gravel; mostly coarse to fine sand, little clayey fines, little coarse to fine gravel, moist, Fill (3.2)				
						End of Boring				Auger refusal at 3.2' due to possible coarse gravel / COBBLE

* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.

LOG OF BORING

Project No.: 211279
Boring No.: B-6
Sheet: 1 of 1

Project: City of Ann Arbor - State Street and North University
Client: City of Ann Arbor
Location: Ann Arbor, Michigan
Drill Type: Hand Auger
Crew Chief: Field Eng.: JS Rev. By: RW
Coordinates: N=284227.4 E=13292777.5 (MI South ift)
Elevation: 876.8 ft Datum: NAVD 88 (GPS Observation)
Notes: Boring performed just prior to concrete installation. Concrete thickness was observed during placement
Plugging Record: Backfilled borehole with compacted cuttings.

Date Begin: 08/27/2021 Date End: 08/27/2021

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer	Auto			

Depth Drilled: 5.5 ft.

Component Percentages: Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

QP = Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
876.3	0.5					5 1/2" Concrete 0.4				Fill 0' to 3.0'
875.8	1.0					2" Sand Base 0.6				Possible Fill 3.0' to 5.5'
875.3	1.5				SC	Brown clayey SAND with gravel; mostly coarse to fine sand, little clayey fines, little coarse to fine gravel, moist, Fill				
874.8	2.0									
874.3	2.5									
873.8	3.0					3.0				
873.3	3.5				SP	Brown poorly graded SAND; mostly coarse to fine sand, few fine gravel, trace clayey fines, moist, possible Fill with occasional clayey sand lenses				
872.8	4.0									
872.3	4.5									
871.8	5.0									
871.3	5.5					5.5				
						End of Boring				

* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.

LOG OF BORING

Project No.: 211279
Boring No.: B-6A
Sheet: 1 of 1

Project: City of Ann Arbor - State Street and North University
Client: City of Ann Arbor
Location: Ann Arbor, Michigan
Drill Type: Hand Auger
Crew Chief: Field Eng.: JS Rev. By: RW
Coordinates: N=284228.4 E=13292772.0 (MI South ift)
Elevation: 876.7 ft Datum: NAVD 88 (GPS Observation)
Notes: Boring performed just prior to concrete installation. Concrete thickness was observed during placement
Plugging Record: Backfilled borehole with compacted cuttings.

Date Begin: 08/27/2021 Date End: 08/27/2021

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer	Auto			

Depth Drilled: 3.0 ft.

Component Percentages: Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

QP = Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
876.2	0.5					5 1/2" Concrete 0.4				Fill 0' to 3.0'
875.7	1.0					2" Sand Base 0.6				
875.2	1.5				SC	Brown clayey SAND with gravel; mostly coarse to fine sand, some clayey fines, little coarse to fine gravel, moist, Fill				
874.7	2.0									
874.2	2.5									
873.7	3.0					3.0				
						End of Boring				

* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.

LOG OF BORING

Project No.: 211279
Boring No.: B-6B
Sheet: 1 of 1

Project: City of Ann Arbor - State Street and North University
Client: City of Ann Arbor
Location: Ann Arbor, Michigan
Drill Type: Hand Auger
Crew Chief: Field Eng.: JS Rev. By: RW
Coordinates: N=284233.8 E=13292772.0 (MI South ift)
Elevation: 876.4 ft Datum: NAVD 88 (GPS Observation)
Notes: Boring performed just prior to concrete installation. Concrete thickness was observed during placement
Plugging Record: Backfilled borehole with compacted cuttings.

Date Begin: 08/27/2021 Date End: 08/27/2021

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

Depth Drilled: 3.5 ft.

Component Percentages: Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

QP = Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
875.9	0.5					5 1/2" Concrete 0.4				Fill 0' to 3.5'
875.4	1.0					2" Sand Base 0.6				
874.9	1.5				SC	Brown clayey SAND with gravel; mostly coarse to fine sand, some clayey fines, little coarse to fine gravel, moist, Fill				
874.4	2.0									
873.9	2.5									
873.4	3.0									
872.9	3.5					3.5				
						End of Boring				Auger refusal at 3.5' on possible coarse gravel / COBBLE

* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.

LOG OF BORING

Project No.: 211279
Boring No.: B-7
Sheet: 1 of 1

Project: City of Ann Arbor - State Street and North University
Client: City of Ann Arbor
Location: Ann Arbor, Michigan
Drill Type: CME 45
Crew Chief: ZM Field Eng.: JS Rev. By: RW
Coordinates: N=283992.4 E=13292751.0 (MI South ift)
Elevation: 877.1 ft Datum: NAVD 88 (GPS Observation)
Notes:

Plugging Record: Backfilled borehole with compacted cuttings, patched pavement with cold patch. Cave in at 4.0 ft.

Date Begin: 08/31/2021 Date End: 08/31/2021

Tooling	Type	Dia.	Groundwater, ft.	
Casing	HSA	3 1/4"	During	None
Sampler	SPT	2"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer	Auto			

Depth Drilled: 10.0 ft.

Component Percentages: Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

QP = Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Penetration (Blows Per 6") ASTM D 1586	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
876.6	0.5					14" HMA				Fill: 0' to 4.7'
876.1	1.0					1.2				
875.6	1.5									
875.1	2.0				SC	Brown clayey SAND; mostly coarse to fine sand, some clayey fines, moist, Fill				
874.6	2.5	S-1	1.5	5-5-3 N=8						
874.1	3.0									
873.6	3.5									
873.1	4.0									
872.6	4.5	S-2	1.5	3-4-5 N=9						
872.1	5.0					4.7				
871.6	5.5				SP	Brown poorly graded SAND; mostly coarse to fine sand, few coarse to fine gravel, trace silty fines, moist				
871.1	6.0									
870.6	6.5									
870.1	7.0	S-3	1.5	5-6-7 N=13						
869.6	7.5									
869.1	8.0									
868.6	8.5									
868.1	9.0									
867.6	9.5	S-4	1.5	5-6-7 N=13						
867.1	10.0					10.0				
						End of Boring				

* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.

LOG OF BORING

Project No.: 211279
Boring No.: B-8
Sheet: 1 of 1

Project: City of Ann Arbor - State Street and North University
Client: City of Ann Arbor
Location: Ann Arbor, Michigan
Drill Type: Hand Auger
Crew Chief: Field Eng.: JV Rev. By: RW
Coordinates: N=283804.0 E=13292769.5 (MI South ift)
Elevation: 877.0 ft Datum: NAVD 88 (GPS Observation)
Notes:

Plugging Record: Backfilled borehole with compacted cuttings, patched pavement with cold patch.

Date Begin: 09/08/2021 Date End: 09/08/2021

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

Depth Drilled: 5.0 ft.

Component Percentages: Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

QP = Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
876.5	0.5					18 1/4" HMA				
876.0	1.0									
875.5	1.5	A-1				1.5				
875.0	2.0					13"Natural Aggregate Base				
874.5	2.5					2.6				
874.0	3.0					Brown poorly graded SAND with silt and gravel; mostly coarse to fine sand, little coarse to fine gravel, few silty fines, moist				
873.5	3.5									
873.0	4.0	A-2			SP-SM					
872.5	4.5									
872.0	5.0					5.0				
						End of Boring				

* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.

LOG OF BORING

Project No.: 211279
Boring No.: B-9
Sheet: 1 of 1

Project: City of Ann Arbor - State Street and North University
Client: City of Ann Arbor
Location: Ann Arbor, Michigan
Drill Type: CME 45
Crew Chief: ZM Field Eng.: JS Rev. By: RW
Coordinates: N=283422.5 E=13292777.2 (MI South ift)
Elevation: 876.1 ft Datum: NAVD 88 (GPS Observation)
Notes:

Plugging Record: Backfilled borehole with compacted cuttings, patched pavement with cold patch. Cave in at 2.7 ft.

Date Begin: 08/26/2021 Date End: 08/26/2021

Tooling	Type	Dia.	Groundwater, ft.	
Casing	HSA	3 1/4"	During	None
Sampler	SPT	2"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer	Auto			

Depth Drilled: 10.0 ft.

Component Percentages: Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

QP = Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Penetration (Blows Per 6") ASTM D 1586	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
875.6	0.5					8" HMA				Fill 0' to 2.2'
875.1	1.0					0.7				
874.6	1.5					11" Natural Aggregate Base with HMA Millings				
874.1	2.0	S-1	1.5	15-5-4 N=9	SC	1.6 Brown clayey SAND; mostly coarse to fine sand, trace silty fines, moist, Fill				
873.6	2.5					2.2				
873.1	3.0					Brown poorly graded SAND; mostly coarse to fine sand, trace silty fines, moist				
872.6	3.5									
872.1	4.0									
871.6	4.5	S-2	1.5	6-7-7 N=14						
871.1	5.0									
870.6	5.5									
870.1	6.0				SP					
869.6	6.5									
869.1	7.0	S-3	1.5	5-7-8 N=15		Grades with few coarse to fine gravel				
868.6	7.5									
868.1	8.0									
867.6	8.5									
867.1	9.0									
866.6	9.5	S-4	1.5	5-8-8 N=16						
866.1	10.0					10.0				
						End of Boring				

* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.

LOG OF BORING

Project No.: 211279
Boring No.: B-10
Sheet: 1 of 1

Project: City of Ann Arbor - State Street and North University
Client: City of Ann Arbor
Location: Ann Arbor, Michigan
Drill Type: CME 45
Crew Chief: ZM Field Eng.: JS Rev. By: RW
Coordinates: N=283102.6 E=13292750.3 (MI South ift)
Elevation: 874.5 ft Datum: NAVD 88 (GPS Observation)
Notes:

Plugging Record: Backfilled borehole with compacted cuttings, patched pavement with cold patch. Cave in at 5.0 ft.

Date Begin: 09/28/2021 Date End: 09/28/2021

Tooling	Type	Dia.	Groundwater, ft.	
Casing	HSA	3 1/4"	During	None
Sampler	SPT	2"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer	Auto			

Depth Drilled: 10.0 ft.

Component Percentages: Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

QP = Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Penetration (Blows Per 6") ASTM D 1586	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
874.0	0.5					14" HMA				Fill: 0' to 3.2'
873.5	1.0									
873.0	1.5					1.2				
872.5	2.0					Brown clayey SAND; mostly coarse to fine sand, some clayey fines, moist, Fill with clay lenses				
872.0	2.5	S-1	1.5	3-3-3 N=6	SC					
871.5	3.0					3.2				
871.0	3.5					Brown poorly graded SAND; mostly coarse to fine sand, few coarse to fine gravel, trace clayey fines, moist				
870.5	4.0									S-2: Poor recovery; possible coarse gravel / COBBLE
870.0	4.5	S-2	1.0	8-9-11 N=20						
869.5	5.0									
869.0	5.5				SP					
868.5	6.0									
868.0	6.5					Grades with trace coarse to fine gravel and without clayey fines				
867.5	7.0	S-3	1.5	4-5-4 N=9						
867.0	7.5									
866.5	8.0					8.0				
866.0	8.5					Brown poorly graded SAND with gravel; mostly coarse to fine sand, little coarse to fine gravel, moist				
865.5	9.0				SP					
865.0	9.5	S-4	1.5	9-14-9 N=23						
864.5	10.0					10.0				
						End of Boring				

* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.

LOG OF BORING

Project No.: 211279
Boring No.: B-11
Sheet: 1 of 1

Project: City of Ann Arbor - State Street and North University
Client: City of Ann Arbor
Location: Ann Arbor, Michigan
Drill Type: Hand Auger
Crew Chief: Field Eng.: JV Rev. By: RW
Coordinates: N=282927.7 E=13292772.2 (MI South ift)
Elevation: 874.6 ft Datum: NAVD 88 (GPS Observation)
Notes:

Plugging Record: Backfilled borehole with compacted cuttings, patched pavement with cold patch.

Date Begin: 09/08/2021 Date End: 09/08/2021

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

Depth Drilled: 5.0 ft.

Component Percentages: Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

QP = Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
874.1	0.5					8 7/8" HMA 0.7				
873.6	1.0					3 3/4" HMA Millings or Deteriorated HMA 1.1				
873.1	1.5	A-1				11" Natural Aggregate Bse 2.0				
872.6	2.0	A-2								
872.1	2.5				SP-SC	Brown poorly graded SAND with clay and gravel; mostly coarse to fine sand, little coarse to fine gravel, few clayey fines, moist				
871.6	3.0									
871.1	3.5	A-3								
870.6	4.0									
870.1	4.5									
869.6	5.0					5.0				
						End of Boring				

* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.

LOG OF BORING

Project No.: 211279
Boring No.: B-12
Sheet: 1 of 1

Project: City of Ann Arbor - State Street and North University
Client: City of Ann Arbor
Location: Ann Arbor, Michigan
Drill Type: CME 45
Crew Chief: ZM Field Eng.: JS Rev. By: RW
Coordinates: N=284352.4 E=13292856.6 (MI South ift)
Elevation: 876.6 ft Datum: NAVD 88 (GPS Observation)
Notes:

Plugging Record: Backfilled borehole with compacted cuttings, patched pavement with cold patch. Cave in at 3.5 ft.

Date Begin: 08/31/2021 Date End: 08/31/2021

Tooling	Type	Dia.	Groundwater, ft.	
Casing	HSA	3 1/4"	During	None
Sampler	SPT	2"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer	Auto			

Depth Drilled: 10.0 ft.

Component Percentages: Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

QP = Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Penetration (Blows Per 6") ASTM D 1586	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
876.1	0.5					6 1/2" HMA (0.5)				Fill: 0' to 4.6'
875.6	1.0					4" Sand Base (0.8)				
875.1	1.5					Brown clayey SAND; mostly coarse to fine sand, some clayey fines, moist, Fill				
874.6	2.0	S-1	1.5	2-3-2 N=5						
874.1	2.5									
873.6	3.0				SC					S-2: Poor recovery; possible coarse gravel / COBBLE
873.1	3.5									
872.6	4.0									
872.1	4.5	S-2	0.4	2-3-3 N=6						
871.6	5.0					(4.6)				
871.1	5.5					Brown poorly graded SAND with gravel; mostly coarse to fine sand, little coarse to fine gravel, moist				Driller noted possible coarse gravel 4.6' to 8.0'
870.6	6.0									
870.1	6.5				SP					
869.6	7.0	S-3	1.5	7-9-8 N=17						
869.1	7.5									
868.6	8.0					(8.0)				
868.1	8.5					Brown poorly graded SAND; mostly coarse to fine sand, few fine gravel, trace silty fines, moist				
867.6	9.0				SP					
867.1	9.5	S-4	1.5	6-7-10 N=17						
866.6	10.0					(10.0)				
						End of Boring				

* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.

LOG OF BORING

Project No.: 211279
Boring No.: B-13
Sheet: 1 of 1

Project: City of Ann Arbor - State Street and North University
Client: City of Ann Arbor
Location: Ann Arbor, Michigan
Drill Type: Hand Auger
Crew Chief: Field Eng.: JV Rev. By: RW
Coordinates: N=284405.1 E=13293179.1 (MI South ift)
Elevation: 877.4 ft Datum: NAVD 88 (GPS Observation)
Notes:

Plugging Record: Backfilled borehole with compacted cuttings, patched pavement with cold patch.

Date Begin: 09/09/2021 Date End: 09/09/2021

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

Depth Drilled: 4.5 ft.

Component Percentages: Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

QP = Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
876.9	0.5					4" HMA (0.3)				Fill: 0' to 2.8'
876.4	1.0	A-1				4 1/2" Concrete (0.7)				
875.9	1.5	A-2				6" Crushed Limestone Aggregate Base (1.2)				
875.4	2.0				SP-SC	Brown poorly graded SAND with clay; mostly coarse to fine sand, few clayey fines, few fine gravel, moist, Fill (2.8)				
874.9	2.5									
874.4	3.0	A-3								
873.9	3.5				SP	Brown poorly graded SAND; mostly coarse to fine sand, few coarse to fine gravel, trace silty fines, moist				
873.4	4.0									
872.9	4.5					(4.5)				
						End of Boring				Auger refusal at 4.5' due to possible coarse gravel / COBBLE

* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.

LOG OF BORING

Project No.: 211279
Boring No.: B-14
Sheet: 1 of 1

Project: City of Ann Arbor - State Street and North University
Client: City of Ann Arbor
Location: Ann Arbor, Michigan
Drill Type: Hand Auger
Crew Chief: Field Eng.: JV Rev. By: RW
Coordinates: N=284367.3 E=13293507.2 (MI South ift)
Elevation: 878.2 ft Datum: NAVD 88 (GPS Observation)
Notes:

Plugging Record: Backfilled borehole with compacted cuttings, patched pavement with cold patch.

Date Begin: 09/09/2021 Date End: 09/09/2021

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

Depth Drilled: 5.0 ft.

Component Percentages: Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

QP = Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
877.7	0.5					8 1/2" HMA 0.7				Fill: 0' to 2.9'
877.2	1.0	A-1				15" Crushed Limestone Aggregate Base 2.0				
876.7	1.5									
876.2	2.0									
875.7	2.5	A-2			SC	Brown clayey SAND; mostly coarse to fine sand, little clayey fines, few coarse to fine gravel, moist, Fill 2.9				
875.2	3.0									
874.7	3.5	A-3			SP	Brown poorly graded SAND; mostly coarse to fine sand, few coarse to fine gravel, trace silty fines, moist 5.0				
874.2	4.0			20						
873.7	4.5									
873.2	5.0									
						End of Boring				

* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.

LOG OF BORING

Project No.: 211279
Boring No.: B-15
Sheet: 1 of 1

Project: City of Ann Arbor - State Street and North University
Client: City of Ann Arbor
Location: Ann Arbor, Michigan
Drill Type: Hand Auger
Crew Chief: Field Eng.: JV Rev. By: RW
Coordinates: N=284398.8 E=13293675.4 (MI South ift)
Elevation: 880.7 ft Datum: NAVD 88 (GPS Observation)
Notes:

Plugging Record: Backfilled borehole with compacted cuttings, patched pavement with cold patch.

Date Begin: 09/09/2021 Date End: 09/09/2021

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

Depth Drilled: 5.0 ft.

Component Percentages: Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

QP = Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
880.2	0.5					4" HMA (0.3)				Fill: 0' to 3.9'
879.7	1.0					3 1/4" Red Brick (0.6)				
879.2	1.5	A-1				2" Sand Base (0.7)				
878.7	2.0					2 1/2" Concrete (1.0)				
878.2	2.5	A-2				8" Crushed Limestone Aggregate Base (1.7)				
877.7	3.0				SC	Brown clayey SAND; mostly coarse to fine sand, little clayey fines, trace coarse to fine gravel, moist, Fill				
877.2	3.5					Grades with few coarse to fine gravel at 3.0'				
876.7	4.0					(3.9)				
876.2	4.5	A-3		5	SP	Brown poorly graded SAND with gravel; mostly coarse sand, little coarse to fine gravel, trace silty fines, moist				
875.7	5.0					(5.0)				
						End of Boring				

* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.

LOG OF BORING

Project No.: 211279
Boring No.: B-16
Sheet: 1 of 1

Project: City of Ann Arbor - State Street and North University
Client: City of Ann Arbor
Location: Ann Arbor, Michigan
Drill Type: CME 45
Crew Chief: ZM Field Eng.: JS Rev. By: RW
Coordinates: N=284372.9 E=13293670.0 (MI South ift)
Elevation: 879.9 ft Datum: NAVD 88 (GPS Observation)
Notes:

Plugging Record: Backfilled borehole with compacted cuttings, patched pavement with cold patch. Cave in at 3.6 ft.

Date Begin: 08/31/2021 Date End: 08/31/2021

Tooling	Type	Dia.	Groundwater, ft.	
Casing	HSA	3 1/4"	During	None
Sampler	SPT	2"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer	Auto			

Depth Drilled: 10.0 ft.

Component Percentages: Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

QP = Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Penetration (Blows Per 6") ASTM D 1586	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
879.4	0.5					8" HMA (0.7)				Fill: 0' to 3.0'
878.9	1.0					8" Natural Aggregate Base with HMA Millings (1.3)				
878.4	1.5	S-1	1.5	3-3-2 N=5	SC	Brown clayey SAND; mostly coarse to fine sand, some clayey fines, moist, Fill (3.0)				
877.9	2.0									
877.4	2.5									
876.9	3.0									
876.4	3.5					Brown poorly graded SAND; mostly coarse to fine sand, few fine gravel, trace silty fines, moist				
875.9	4.0	S-2	1.5	4-4-5 N=9						
875.4	4.5									
874.9	5.0									
874.4	5.5									
873.9	6.0									
873.4	6.5	S-3	1.5	3-2-2 N=4	SP	Grades with trace fine gravel				
872.9	7.0									
872.4	7.5									
871.9	8.0									
871.4	8.5									
870.9	9.0	S-4	1.5	3-4-5 N=9						
870.4	9.5									
869.9	10.0					(10.0)				
						End of Boring				

* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.

mtc-test.com 800.968.8378

Double Ring Infiltration Test

Client:	Project:
City of Ann Arbor	211279 City of Ann Arbor State Street and North University Various Locations

Activity Information

Weather: Sunny
Low / High Temp, °F: 67 / 87
Activity Date: 08/26/2021
Tested By: Schaap, Jonathan
Test No.: B-1

DOUBLE RING INFILTRATION TEST - SEMCOG METHOD

Pre-Test Soaking Duration (min): 60
Water Level Drop in Last 30 Minutes of Presoak (in): 30
Inner Diameter (in): 4
Outer Diamter (in): 6

Ground Surface Elev. (ft): 874.4
Test Elev. (ft): 866.6
Groundwater Elev. (ft): None

Soil Description: Brown poorly graded SAND

Test Data

Time (min:sec)	Water Drop (in)	Time Interval (min)	Infiltration Rate (inches per hour)
10	8 1/2	10	51
20	8 1/2	10	51
30	8 1/4	10	49 1/2
40	8 1/4	10	49 1/2
50	8 1/4	10	49 1/2

Note: This test method provides a measure of infiltration rate, not hydraulic conductivity. Although the units of infiltration rate, and hydraulic conductivity are similar, there is a distinct difference between these two quantities. They cannot be directly related unless the hydraulic boundary conditions, such as hydraulic gradient and the extent of lateral flow of water are known or can be reliably estimated. Test results apply only to the specific test location, depth/elevation, and in-situ moisture content and density at time of test. An appropriate factor of safety should be applied to these results.

Remarks: Initial Head: 36"

mtc-test.com 800.968.8378

Double Ring Infiltration Test

Client:	Project:
City of Ann Arbor	211279 City of Ann Arbor State Street and North University Various Locations

Activity Information

Weather: Sunny
Low / High Temp, °F: 46 / 72
Activity Date: 09/28/2021
Tested By: Schaap, Jonathan
Test No.: B-3

DOUBLE RING INFILTRATION TEST - SEMCOG METHOD

Pre-Test Soaking Duration (min): 60
Water Level Drop in Last 30 Minutes of Presoak (in): 14
Inner Diameter (in): 4
Outer Diamter (in): 6

Ground Surface Elev. (ft): 875.2
Test Elev. (ft): 867.7
Groundwater Elev. (ft): None

Soil Description: Brown poorly graded SAND with clay

Test Data

Time (min:sec)	Water Drop (in)	Time Interval (min)	Infiltration Rate (inches per hour)
10:00	4 1/2	10	27
20:00	4 1/2	10	27
30:00	4 1/2	10	27
40:00	4 1/2	10	27

Note: This test method provides a measure of infiltration rate, not hydraulic conductivity. Although the units of infiltration rate, and hydraulic conductivity are similar, there is a distinct difference between these two quantities. They cannot be directly related unless the hydraulic boundary conditions, such as hydraulic gradient and the extent of lateral flow of water are known or can be reliably estimated. Test results apply only to the specific test location, depth/elevation, and in-situ moisture content and density at time of test. An appropriate factor of safety should be applied to these results.

Remarks: Initial Head: 26"

mtc-test.com 800.968.8378

Double Ring Infiltration Test

Client:	Project:
City of Ann Arbor	211279 City of Ann Arbor State Street and North University Various Locations

Activity Information

Weather: Sunny
Low / High Temp, °F: 68 / 86
Activity Date: 08/25/2021
Tested By: Schaap, Jonathan
Test No.: B-4

DOUBLE RING INFILTRATION TEST - SEMCOG METHOD

Pre-Test Soaking Duration (min): 60
Water Level Drop in Last 30 Minutes of Presoak (in): 6
Inner Diameter (in): 4
Outer Diamter (in): 6

Ground Surface Elev. (ft): 876.5
Test Elev. (ft): 869.0
Groundwater Elev. (ft): None

Soil Description: Brown poorly graded SAND

Test Data

Time (min:sec)	Water Drop (in)	Time Interval (min)	Infiltration Rate (inches per hour)
10	1 3/4	10	10 1/2
20	1 3/4	10	10 1/2
30	1 3/4	10	10 1/2
40	1 3/4	10	10 1/2

Note: This test method provides a measure of infiltration rate, not hydraulic conductivity. Although the units of infiltration rate, and hydraulic conductivity are similar, there is a distinct difference between these two quantities. They cannot be directly related unless the hydraulic boundary conditions, such as hydraulic gradient and the extent of lateral flow of water are known or can be reliably estimated. Test results apply only to the specific test location, depth/elevation, and in-situ moisture content and density at time of test. An appropriate factor of safety should be applied to these results.

Remarks: Initial Head: 30"

APPENDIX

CITY OF ANN ARBOR
ENGINEERING

NOTES:

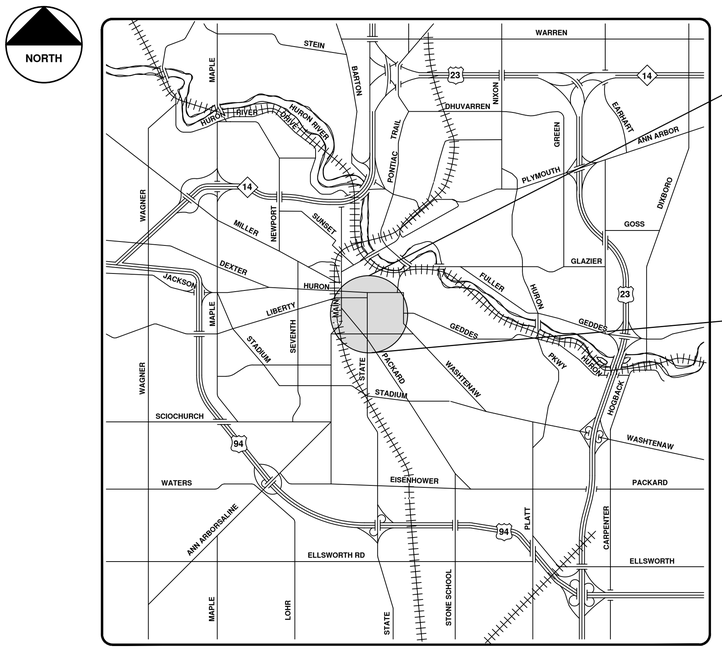
FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CALL 811 OR 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS 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.

THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS, TELEPHONE, ELECTRICAL POWER, CABLE TV AND FIBER OPTIC LINES ARE APPROXIMATE. THE CITY OF ANN ARBOR ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. MISS DIG MUST BE CONTACTED PRIOR TO CONSTRUCTION TO LOCATE THESE UTILITIES.

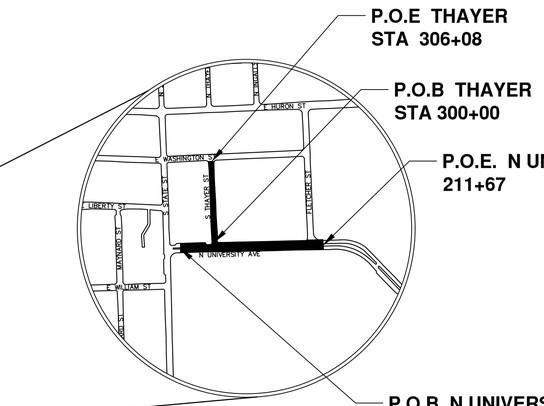
THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO THE 2024 EDITION OF THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS, IT'S DETAILS, WHICH ARE INCLUDED BY REFERENCE, AND THIS PROJECT'S CONTRACT DOCUMENTS. THE OMISSION OF ANY CURRENT STANDARD DETAIL DOES NOT RELIEVE THE CONTRACTOR FROM THIS REQUIREMENT.

N. UNIVERSITY & THAYER IMPROVEMENTS

BID No. 26-11, FILE No. 2023-023



VICINITY MAP



PREPARED UNDER THE SUPERVISION OF

STATE OF MICHIGAN
MARK H. McCULLOCH
ENGINEER
No. 50395
LICENSED PROFESSIONAL ENGINEER

01/ 26/ 2026

MARK H. McCULLOCH, P.E. - MI LICENSE No. 50395 — **DATE**
PROJECT MANAGER

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

Know what's below. Call before you dig. 811

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
(734) 794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

COVER SHEET

SCALE

DRAWING No. 2023-023-1

SHEET No. 1 OF 83

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Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

INDEX

SCALE: NTS

DRAWING No. 2023-023-2

SHEET No. 2 OF 83

CONSTRUCTION NOTES:

1. VEHICLE AND PEDESTRIAN TRAFFIC WILL BE MAINTAINED AT ALL TIMES TO ALL PROPERTIES. MAINTAIN DRIVEWAY OPENINGS, SIDEWALKS, BIKE PATHS, MAIL DELIVERIES, AND SOLID WASTE/RECYCLE PICK-UPS. THIS INCLUDES THE PLACEMENT AND MAINTENANCE OF MAINTENANCE AGGREGATE IN DRIVEWAY OPENINGS, ACROSS SIDEWALK RAMPS AS NEEDED AND AS DIRECTED BY THE ENGINEER. A MINIMUM OF 1 DRIVEWAY SHALL BE MAINTAINED AT ALL TIMES TO ALL RESIDENCES AND BUSINESS UNLESS OTHERWISE APPROVED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL NECESSARY DRIVEWAY CLOSURE WITH THE PROPERTY OWNER(S) AND RESIDENT(S).

2. THE CONTRACTOR SHALL MAINTAIN REASONABLE ACCESS FOR RESIDENTS AND BUSINESSES TO ACCESS THEIR HOMES AND BUSINESSES AT ALL TIMES. A SAFE ACCESS PATH SHALL BE IDENTIFIED ALONG WITH VEHICLE PARKING IN THE EVENT THAT CONSTRUCTION ACTIVITIES INHIBIT VEHICULAR ACCESS TO HOMES AND BUSINESSES.

3. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO LOCATE OR HAVE LOCATED ALL EXISTING UTILITIES PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES. THIS SHALL BE PERFORMED IN ACCORDANCE WITH PUBLIC ACT 174 OF 2013, MISS DIG UNDERGROUND FACILITY DAMAGE PREVENTION AND SAFETY ACT, MCL 460.721 -MCL 460.733 AS AMENDED.

4. THE CONTRACTOR SHALL EXPOSE ALL UTILITY CROSSINGS PRIOR TO ANY EXCAVATION ACTIVITY AND AT THE DIRECTION OF THE ENGINEER. PAYMENT FOR THIS WORK WILL NOT BE PAID FOR SEPARATELY AND WILL BE INCLUDED IN PAYMENT FOR OTHER PAY ITEMS.

5. DURING NON-WORKING HOURS NO MORE THAN TEN (10) FEET OF TRENCH SHALL REMAIN OPEN. ANY OPEN TRENCH SHALL BE PROPERLY SECURED WITH PROTECTIVE FENCING. THIS WORK SHALL BE INCLUDED IN THE ITEMS OF WORK BEING UNDERTAKEN AND WILL NOT BE PAID FOR SEPARATELY.

6. TRENCHES FOR NEW WATER AND/OR SANITARY SERVICES SHALL BE EXCAVATED TO MIOSHA AND CITY OF ANN ARBOR PUBLIC WORKS REQUIREMENTS. WHERE SEWER AND WATER MAIN ARE TO BE REMOVED & REPLACED OR ADDED, ALL PIPE SHALL BE INSTALLED USING TRENCH DETAIL DETAILED IN THE SPECIFICATIONS OR SHOWN ON PLANS. BACKFILL FOR SEWER AND WATER CONSTRUCTION SHALL BE MDOT GRANULAR MATERIAL, CLASS II.

7. THE TAPPING OF WATER MAINS, THE INSTALLATION OF ALL CORPORATIONS, AND THE OPERATION OF VALVES AND HYDRANTS IS RESERVED FOR CITY PERSONNEL ONLY. THE CONTRACTOR IS REQUIRED TO SCHEDULE AND COORDINATE WITH CITY PERSONNEL AND ASSIST IN VALVE AND HYDRANT OPERATION. THE CONTRACTOR SHALL NOT RECEIVE ADDITIONAL COMPENSATION FOR DELAYS DUE TO THE SCHEDULING OF, OR COORDINATION WITH, CITY OF ANN ARBOR PUBLIC WORKS. CITY OF ANN ARBOR PUBLIC WORKS WILL INSTALL THE CORPORATION AND COPPER SERVICE LEAD(S) TO TRANSFER THE CONNECTION(S). IF AN EXISTING WATER SERVICE IS FOUND TO BE FAILING OR IS NOT COPPER, THE LEAD WILL BE REPLACED TO THE CURB BOX BY PUBLIC WORKS.

8. THE CONTRACTOR SHALL BACKFILL TRENCHES IN ACCORDANCE WITH APPLICABLE CITY OF ANN ARBOR TRENCH DETAIL(S) FOUND ONLINE. THIS WORK SHALL BE INCLUDED IN THE ITEM OF WORK BEING PERFORMED.

9. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE POLYETHYLENE WRAPPED PER ANSI/AWWA C105/A21.5.

10. ALL FITTINGS, HYDRANTS, VALVES AND CASTINGS REMOVED DURING CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CITY OF ANN ARBOR. THE CONTRACTOR SHALL COORDINATE PICKUP BY THE CITY OF ANN ARBOR FIELD OPERATIONS UNIT.

11. FLOUROPOLYMER COATED BOLTS ARE TO BE USED AT ALL MECHANICAL WATER MAIN JOINTS (HYDRANTS AND MEGALIG FITTINGS). SEE DETAILED SPECIFICATION ENTITLED "WATER MAIN AND APPURTENANCES" FOR ADDITIONAL INFORMATION.

12. THE CONTRACTOR SHALL CONSTRUCT, FLUSH, AND BACTERIOLOGICALLY TEST THE WATER MAIN PER DETAILED SPECIFICATION "WATER MAIN AND APPURTENANCES" AND AS APPROVED BY THE ENGINEER. ALL CHLORINATED WATER SHALL BE DISCHARGED DIRECTLY INTO AN APPROVED SANITARY SEWER. THE CONTRACTOR SHALL SUPPLY ALL NECESSARY HOSES, FITTINGS AND THE LIKE TO ACCOMPLISH THIS WORK.

13. WATER MAIN FITTINGS, OTHER THAN THOSE SPECIFICALLY LISTED AS SEPARATE PAY ITEMS, WHICH ARE REQUIRED TO COMPLETE THE WORK, SUCH AS BLOW-OFF ASSEMBLIES, CONCRETE THRUST BLOCKS, SOLID SLEEVES AND MECHANICAL PLUGS, SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE ASSOCIATED ITEMS OF WORK.

14. WHERE CURB AND GUTTER, CURB, PAVEMENT OR SIMILAR ITEMS BECOME UNDERMINED DUE TO THE CONTRACTOR'S OPERATIONS, THEY SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE ENGINEER AT THE CONTRACTOR'S SOLE EXPENSE.

15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUOUS MAINTENANCE OF THE TEMPORARY ROAD SURFACE AND SOIL EROSION CONTROL MEASURES, FOR WHICH NO PAY ITEM EXISTS, WITHIN THE CONSTRUCTION AREA UNTIL THE COMPLETION OF THE PROJECT. THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE ITEM OF WORK "GENERAL CONDITIONS, MAX._____".

16. THE LOCATION OF MATERIAL STOCK PILES AND ON-SITE STAGING AREAS SHALL BE APPROVED BY THE ENGINEER. ALL MATERIAL STOCKPILES SHALL BE MAINTAINED SUCH THAT DRAINAGE AND SIGHT DISTANCES ARE NOT ADVERSELY IMPACTED. SOIL EROSION REQUIREMENTS SHALL APPLY TO ALL MATERIAL STOCKPILES. ALL STOCKPILES WILL REMAIN IN RIGHT OF WAY AND SHOULD BE COVERED FOR WIND EROSION.

17. WHERE SEWER PIPES OF DIFFERENT SIZES OR MATERIALS ARE JOINED, FERNCO FLEXIBLE COUPLINGS WITH STAINLESS STEEL SHEAR RINGS WILL BE USED. THE CONTRACTOR'S PURCHASE PRICE FOR THESE DEVICES, INCLUDING SHIPPING, SHALL BE PAID FOR AS AN EXTRA_PRIOR TO PAYMENT FOR THIS ITEM, THE CONTRACTOR SHALL SUBMIT RECEIPTS FOR THE ENGINEER'S REVIEW AND APPROVAL. ALL OTHER COSTS ASSOCIATED WITH THE INSTALLATION OF THESE DEVICES SHALL BE INCLUDED IN THE PAYMENT FOR THE SEWER.

18. THE CONTRACTOR IS TO TAKE SPECIAL CARE TO PROTECT THE EXISTING WATER MAIN AND BE RESPONSIBLE FOR MAINTAINING CONSISTENT WATER SERVICE.

CONSTRUCTION NOTES (CON'T):

19. SOME STORM SEWER MAY UNAVOIDABLY BECOME DAMAGED DURING CONSTRUCTION OR IT MAY BE DETERMINED BY THE ENGINEER THAT EXISTING STORM SEWER NEEDS TO BE REPLACED. IN EITHER CASE, THE ENGINEER MAY DIRECT THE SEWER TO BE REMOVED AND REPLACED. THE REMOVAL OF THE EXISTING SEWER AND/OR DRAINAGE STRUCTURES SHALL BE INCLUDED IN THE CONTRACT WORK ITEMS "STORM SEWER PIPE, _ IN. DIA., REM" OR "STORM SEWER STRUCTURE, REM", AND THE REPLACEMENT SEWER SHALL BE INSTALLED AND PAID FOR AT THE CORRESPONDING CONTRACT UNIT PRICE, IF CONTAINED WITHIN THE CONTRACT, FOR THE VARIOUS TYPES AND SIZES OF SEWER TO BE REPLACED.

20. WHERE EXISTING SEWER AND/OR DRAINAGE STRUCTURES ARE TO BE REMOVED, THEY SHALL BE PROPERLY DISPOSED OF OFF-SITE AND THE EXCAVATION SHALL BE BACKFILLED WITH MDOT CLASS II GRANULAR MATERIAL, COMPACTED TO 95% OF ITS MAX. DRY DENSITY. THIS WORK SHALL BE INCLUDED IN THE CONTRACT ITEMS "STORM SEWER PIPE, _ IN. DIA., REM" AND/OR "STORM SEWER STRUCTURE, REM".

21. IF THE CONTRACTOR ENCOUNTERS EXISTING EDGE DRAIN(S) DURING CONSTRUCTION OF THE PROPOSED EDGE DRAINS, INLET LEADS, OR CATCH BASINS, IT SHALL BE CAPPED AT EACH END TO PREVENT MATERIAL FROM ENTERING THE PIPE. THE COST OF THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE PARTICULAR ITEM OF WORK BEING PERFORMED WHEN EXISTING EDGE DRAIN(S) ARE ENCOUNTERED.

22. EXISTING STREET NAME, GUIDE AND REGULATORY SIGNS, AND MAILBOXES WHICH CONFLICT WITH THE PROPOSED CONSTRUCTION SHALL BE REMOVED PRIOR TO CONSTRUCTION STORED IN A MANNER WHICH WILL PREVENT DAMAGE, AND RE-SET IN LOCATIONS AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN "GENERAL CONDITIONS, MAX____".

23. ALL EXCAVATION REQUIRED FOR PROJECT GRADING WITHIN THE PROJECT LIMITS, INCLUDING PROPOSED PAVEMENT, DRIVE APPROACHES, SIDEWALK, AND SIDEWALK RAMPS SHALL BE INCLUDED IN "MACHINE GRADING, MODIFIED."

24. ALL CURB, SIDEWALK, AND DRIVEWAY APPROACH REMOVALS SHALL BE APPROVED BY THE ENGINEER BEFORE THE WORK IS PERFORMED. ALL CONCRETE AND BITUMINOUS MATERIALS SHALL BE SAW-CUT FULL-DEPTH AT THEIR REMOVAL LIMITS PRIOR TO REMOVAL. SAW-CUTTING WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE ITEM OF WORK "MACHINE GRADING, MODIFIED."

25. "NO PARKING" SIGNS SHALL BE INSTALLED BY THE CONTRACTOR AT LOCATIONS AS APPROVED OR DIRECTED BY THE ENGINEER. ALL SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILED SPECIFICATIONS.

26. SAWED SEWER PIPE CONNECTIONS SHALL BE COUPLED WITH A FERNCO FLEXIBLE COUPLING AND A STAINLESS STEEL SHEAR RING.

27. ALL STRUCTURES SHALL RECEIVE NEW CASTINGS AS DIRECTED BY THE ENGINEER, AS SPECIFIED ON THE STANDARD CASTING SCHEDULE. THE EXISTING CASTINGS ARE THE PROPERTY OF THE CITY OF ANN ARBOR. THE CONTRACTOR SHALL DELIVER TO CITY OF ANN ARBOR PUBLIC WORKS FACILITY AT THE W.R. WHEELER SERVICE CENTER LOCATED AT 4251 STONE SCHOOL ROAD. CONTRACTOR TO CONTACT 734.794.6320 OR customerservice@a2gov.org TO ARRANGE FOR DELIVERY.

28. PAYMENT FOR DRAINAGE STRUCTURE SUMPS, WHERE SPECIFIED, SHALL BE INCLUDED IN THE PAYMENT FOR THE VARIOUS DRAINAGE STRUCTURE SIZES AND OR TYPES.

29. IN AREAS WHERE EDGE DRAIN CANNOT BE INSTALLED IN ACCORDANCE WITH CITY OF ANN ARBOR DETAIL SD-TD-4, THE EDGE DRAIN SHALL BE INSTALLED AT THE DEPTH AS INDICATED ON THE PLANS, OR AS DIRECTED BY ENGINEER. IN NO CASE SHALL THE EDGE DRAIN BE INSTALLED AT A GRADE LESS THAN 0.50% OR AT A DEPTH OF LESS THAN 3.25' FROM TOP OF CURB.

30. GEOFABRIC, 6A STONE, 12" PERFORATED HDPE, AND SAND BACKFILL INCLUDED PAY ITEM "INFILTRATION TRENCH."

31. DURING WORK ACTIVITIES IF SUSPECTED CONTAMINATED SOIL, GROUNDWATER, OR OTHER UNKNOWN MATERIAL IS ENCOUNTERED ON UNIVERSITY OF MICHIGAN PROPERTY, CONTACT YOUR CONSTRUCTION MANAGEMENT REPRESENTATIVE AND THE UM ENVIRONMENT, HEALTH & SAFETY DEPARTMENT (647-1143) IMMEDIATELY. SUSPECT CONTAMINATED SOIL MAY EXHIBIT CHEMICAL OR UNUSUAL ODORS, STAINING, UNUSUAL COLORING, AND/OR CONTAIN MAN-MADE DEBRIS. SUSPECT CONTAMINATED GROUNDWATER MAY EXHIBIT CHEMICAL OR UNUSUAL ODORS, UNUSUAL COLORING, AND/OR SHEEN.

32. IMMEDIATELY CEASE ALL EXCAVATION, DEWATERING, TRANSPORT, OR DISTURBANCE OF THE SUSPECT MATERIAL UNTIL GIVEN DIRECTION BY THE UM CONSTRUCTION MANAGEMENT REPRESENTATIVE.

WATER MAIN CONSTRUCTION NOTES

1. SEE EROSION CONTROL SHEETS FOR DETAILS ON PLACEMENT, MAINTENANCE, AND REMOVAL OF EROSION CONTROL ITEMS.

2. THE CONTRACTOR SHALL CAREFULLY PROTECT FROM DAMAGE OR INJURY DURING CONSTRUCTION OPERATIONS ALL UTILITIES, SITE FEATURES, LANDSCAPING, AND OTHER ITEMS NOT DESIGNATED FOR REMOVAL OR ABANDONMENT. PAYMENT FOR PROTECTION OF UTILITIES INCLUDED IN "GENERAL CONDITIONS, MAX". EXISTING FACILITIES NOT DESIGNATED FOR REMOVAL OR ABANDONMENT, BUT WHICH ARE DAMAGED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT HIS SOLE EXPENSE, AS DETERMINED BY THE ENGINEER.

3. THE EXISTING UTILITIES SHOWN ON THESE PLANS REPRESENT THE BEST INFORMATION AVAILABLE AS OBTAINED THROUGH SURVEYS AND/OR EXISTING PLANS. THIS INFORMATION DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO BE SATISFIED AS TO ITS ACCURACY AND THE LOCATION OF EXISTING UTILITIES. IF STORM OR WATERMAINS CROSS OTHER UTILITIES, CONTACT THEIR RESPECTIVE OWNERS FOR INFORMATION ON HOW TO PROCEED. PAYMENT FOR THE COORDINATION EFFORTS AND ASSOCIATED ITEMS SHALL BE INCLUDED IN ASSOCIATED PROPOSED STORM OR WATERMAIN ITEMS AND SHALL NOT BE PAID FOR SEPARATELY.

4. THE CONTRACTOR SHALL CAREFULLY PROTECT FROM DAMAGE OR INJURY THE EXISTING WATER MAIN DURING CONSTRUCTION OPERATIONS. ANY DAMAGE TO THIS FACILITY BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT HIS EXPENSE, AS DETERMINED BY THE ENGINEER. PAYMENT FOR PROTECTION OF THE EXISTINGWATER MAIN WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE ITEM OF WORK "GENERAL CONDITIONS, MAX".

5. THE CONTRACTOR SHALL NOT REMOVE OR DAMAGE EXISTING SANITARY SEWER OR WATER MAIN LEADS FOR EASE OF CONSTRUCTING OTHER ASPECTS OF WORK. THE CONTRACTOR SHALL CAREFULLY PROTECT ALL LEADS FROM DAMAGE OR INJURY.

6. THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS WHICH ARE FOUND UNDER ARTICLE 12 OF THE 2024 ANN ARBOR STANDARD SPECIFICATIONS. THE OMISSION OF ANY CURRENT STANDARD DETAIL FROM THESE PLANS DOES NOT RELIEVE THE CONTRACTOR FROM THE REQUIREMENT. THE WORK SHALL BE PERFORMED IN COMPLETE CONFORMANCE WITH CURRENT PUBLIC SERVICE DEPARTMENT STANDARD SPECIFICATIONS AND DETAILS.

7. 12 INCH AND SMALLER WATER MAIN SHALL BE, PC 350; 14 TO 20 INCH SHALL BE PC 250; 24 INCH SHALL BE PC 200; EXCEPT UNDER RAILROAD, RIVER, OR INTERSTATE HIGHWAY WILL BE SPECIAL THICKNESS CLASS 56 OR AS SPECIFIED. ALL WATER MAIN SHALL BE DUCTILE IRON WATER MAIN, CEMENT-LINED (DOUBLE THICKNESS), WITH POLYWRAP UNLESS NOTED OTHERWISE.

8. RESTRAINED JOINT SYSTEMS FOR WATER MAIN SHALL BE UTILIZED WHERE INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. RESTRAINED JOINT GASKET SYSTEMS ARE TO BE USED. (FIELD-LOK 350 BY U.S. PIPE, FAST-GRIP BY AMERICAN DUCTILE IRON PIPE, OR APPROVED EQUAL).

9. ALL WATER MAIN TO HAVE 5.5 FEET MINIMUM OF COVER. MAINTAIN A MINIMUM OF 18-INCH VERTICAL CLEARANCE FOR STORM AND SANITARY CROSSINGS AND A MINIMUM OF 12-INCH VERTICAL CLEARANCE WITH ALL OTHER UTILITIES.

10. UNLESS OTHERWISE NOTED, THE CONTRACTOR SHALL UTILIZE STANDARD PIPE DEFLECTIONS FOR FOLLOWING THE PROPOSED ALIGNMENT.

11. NEW FIRE HYDRANTS SHALL BE EJIW 5BR-250 WITH 5-INCH STORZ CONNECTION, 1-3/8-INCH PENTAGON OPERATING NUT, 3-3/8-INCH AA PUMPER CONNECTION, PUSH-ON JOINT WITH NO BARREL DRAIN.

12. FIRE HYDRANT ASSEMBLIES SHALL INCLUDE ALL NECESSARY HYDRANT EXTENSIONS, THRUST BLOCKS, PIPE AND FITTINGS, INCLUDING ADJUSTMENT OF THE COMPANION VALVE. FIRE HYDRANT ASSEMBLY INCLUDES 6-INCH COMPANION VALVE LOCATED THREE FEET FROM THE HYDRANT.

13. ALL WATER MAIN TRENCH BACKFILL SHALL BE MDOT CLASS II GRANULAR MATERIAL. (SEE UTILITY TRENCH DETAIL SD-TD-1)

14. CONNECTIONS TO THE EXISTING WATER MAIN SHALL NOT BE MADE UNTIL THE NEW MAIN HAS BEEN SUCCESSFULLY TESTED AND HAS PASSED ALL HYDROSTATIC AND BACTERIOLOGICAL TESTING. FINAL CONNECTIONS SHALL BE COORDINATED WITH THE ENGINEER.

15. WATER SERVICES SHOWN REPRESENT THE BEST INFORMATION AVAILABLE BASED ON RECORDS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE CITY IN LOCATING, VERIFYING AND RECONNECTING ALL EXISTING ACTIVE SERVICES.

16. ALL LINE STOP LOCATIONS SHALL BE DETERMINED BY THE CITY ENGINEER AS NEEDED. THIS ITEM OF WORK SHALL BE PAID FOR AS "TEMPORARY WATER MAIN LINE STOP, _ IN."

SOIL EROSION AND SEDIMENTATION CONTROL NOTES

NOTIFY THE CITY OF ANN ARBOR SOIL EROSION CONTROL OFFICE 48 HOURS PRIOR TO BEGINNING WORK ON THE PROJECT. PHONE: 734-794-6265.

1. THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN THE SOIL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER AT ALL TIMES DURING CONSTRUCTION. ANY MODIFICATIONS OR ADDITIONS TO THE SOIL EROSION CONTROL MEASURES DUE TO CONSTRUCTION OR CHANGED CONDITIONS SHALL BE AS DIRECTED AND APPROVED BY THE ENGINEER.

2. ALL SOIL EROSION AND SEDIMENTATION CONTROL WORK SHALL CONFORM TO THE PERMIT REQUIREMENTS OF THE CITY OF ANN ARBOR, CHAPTER 55 ANN ARBOR UNIFIED DEVELOPMENT CODE, CITY OF ANN ARBOR STANDARDS DIVISION VII, THE LAWS OF THE STATE OF MICHIGAN, AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

3. DAILY, OR AFTER ANY STORM EVENT, INSPECTIONS OF EROSION CONTROL MEASURES SHALL BE MADE BY THE CONTRACTOR. PERIODIC INSPECTIONS MAY BE MADE BY THE ENGINEER TO DETERMINE THE EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES. ANY NECESSARY CORRECTIONS SHALL BE MADE WITHOUT DELAY, AND WITHOUT ADDITIONAL COST TO THE CITY OF ANN ARBOR.

4. EROSION AND SEDIMENTATION FROM WORK ON THE SITE SHALL BE CONTAINED ON THE SITE AND NOT BE ALLOWED TO COLLECT ON ANY OFF-SITE AREAS, ROADWAYS OR WATERWAYS.

5. ALL MUD/SOIL TRACKED ONTO ROADWAYS FROM THE SITE DUE TO CONSTRUCTION, SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR. IF SO ORDERED, THE CONTRACTOR SHALL PROVIDE AND OPERATE A VACUUM-TYPE STREET SWEEPER, AT NO ADDITIONAL COST TO THE CITY OF ANN ARBOR.

6. RESTORATION OF ALL DISTURBED AREAS, INCLUDING PLACEMENT OF TOPSOIL, SEED, FERTILIZER AND MULCH AND/OR SOD SHALL BE PERFORMED WITHIN FIVE (5) DAYS OF THE COMPLETION OF FINAL GRADE.

7. CONSTRUCTION OPERATIONS SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE SOIL EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO EXCAVATION IN CRITICAL AREAS AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING OPERATIONS.

8. SPECIAL PRECAUTIONS WILL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION.

9. PROPER DUST CONTROL SHALL BE MAINTAINED DURING CONSTRUCTION BY USE OF WATER TRUCKS AND/OR DUST PALLATIVE AS REQUIRED.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND REMOVAL OF SOME MEASURES UPON AUTHORIZED COMPLETION OF THE PROJECT. FINAL COMPLETION OF PROJECT WILL NOT BE AUTHORIZED UNTIL ALL SITE WORK AND UTILITY CONSTRUCTION IS COMPLETE AND ALL SOILS ARE STABILIZED.

11. THE CONTRACTOR SHALL NOT GRADE INTO ADJACENT PROPERTIES. SILT AND PROTECTIVE FENCE SHALL BE INSTALLED AND MAINTAINED TO PREVENT GRADING, EROSION AND SEDIMENTATION INTO THE ADJACENT PROPERTIES.

12. TREE PROTECTION FENCING MUST REMAIN INTACT UNTIL RESTORATION OF THE SITE IS COMPLETE.

SEQUENCE OF EROSION CONTROL MEASURES:

1. THE CONTRACTOR IS TO SUBMIT TO THE ENGINEER, A SEQUENCE OF CONSTRUCTION WITH RESPECT TO THE SOIL EROSION CONTROL MEASURES FOR REVIEW, COMMENT AND APPROVAL. THIS SCHEDULE IS TO INCLUDE INSPECTION AND REPAIR OF ALL TEMPORARY EROSION CONTROL MEASURES DAILY AND WITHIN 24 HOURS OF A STORM EVENT.

SAMPLE SOIL EROSION AND SEDIMENTATION CONTROL INSTALLATION MINIMUM REQUIREMENTS:

1.1. INSTALL SILT FENCE, TREE PROTECTION FENCING, MUD MATS, INLET FILTERS ON EXISTING DRAINAGE FEATURES, AND ALL OTHER TEMPORARY SOIL EROSION CONTROLS, PRIOR TO ANY CLEARING OR EARTH MOVING OPERATION.

1.2. STRIP AND STOCKPILE TOPSOIL. STABILIZE STOCKPILE AS REQUIRED.

1.3. INSTALL WATER MAINS, STORM AND SANITARY SEWERS, AND OTHER ENCLOSED DRAINAGE FEATURES. NEW INLET FILTERS SHALL BE INSTALLED IMMEDIATELY FOLLOWING INSTALLATION OF NEW DRAINAGE INLETS.

1.4. PERFORM MACHINE GRADING OPERATIONS AND CONSTRUCT PAVEMENTS (MAINLINE, SIDEWALKS, DRIVES, ETC.).

1.5. CONTINUALLY MAINTAIN EROSION AND SEDIMENTATION CONTROL MEASURES, AS REQUIRED TO ALLOW DRAINAGE AND SEDIMENT REMOVAL. REMOVE ANY ACCUMULATED SEDIMENT IMMEDIATELY.

1.6. COMPLETE ALL FINE GRADING.

1.7. TEMPORARY SEED AND INSTALL EROSION CONTROL BLANKET IN ALL DISTURBED AREAS.

1.8. REFER TO PLANS AND SPECIFICATIONS FOR PERMANENT SITE STABILIZATION.

1.9. CLEAN OUT STORM SEWER SYSTEMS.

1.10. REMEDY ANY NOTED DEFECTS TO THE SATISFACTION OF THE CITY OF ANN ARBOR'S SOIL EROSION AND SEDIMENTATION CONTROL OFFICIAL.

1.11. ALL TEMP. SOIL EROSION CONTROL MEASURES MUST BE REMOVED, WITH ENGINEERS APPROVAL, PRIOR TO FINAL INSPECTION

NOTE: THIS SEQUENCE IS FOR INFORMATION ONLY. IT IS INTENDED TO SHOW THE SEQUENCE OF CONSTRUCTION WITH RESPECT TO THE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING THEIR OWN DETAILED CONSTRUCTION SEQUENCE AND SCHEDULE TO THE ENGINEER FOR REVIEW, COMMENT, AND APPROVAL.

TEMPORARY SEEDING:

1. SEED IN ACCORDANCE WITH PROJECT DRAWINGS AND SPECIFICATIONS.

2. ANY DISTURBED AREA NOT PAVED, SEEDED, MULCHED, SODDED OR BUILT UPON BY NOVEMBER 15TH OR JUNE 30TH IS TO BE TEMPORARILY STABILIZED PER SPECIFICATIONS.

IMPERVIOUS PROJECT AREA

PRIOR TO CONSTRUCTION = 3.26 ACRES

POST CONSTRUCTION = 3.30 ACRES

AREA OF PROPOSED DISTURBANCE = 3.51 ACRES

Know what's below. Call before you dig. 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04				
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM
BID		01/26/2026	VARIOUS	MHM

CITY OF ANN ARBOR
PUBLIC SERVICES
301 E. HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734.794.6320
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

NOTES

SCALE : NTS

DRAWING No. 2023-023-3

SHEET No. 3 OF 83

PERMITS REQUIRED TO BE OBTAINED BY THE CONTRACTOR PRIOR TO THE BEGINNING OF CONSTRUCTION.

PERMIT	ISSUING AUTHORITY
LANE CLOSURE PERMIT*	CITY OF ANN ARBOR ENGINEERING
"NO PARKING" SIGNS PERMIT*	CITY OF ANN ARBOR ENGINEERING
GRADING/SOIL EROSION & SEDIMENTATION CONTROL PERMIT*	CITY OF ANN ARBOR CUSTOMER SERVICE
RIGHT-OF-WAY PERMIT*	CITY OF ANN ARBOR CUSTOMER SERVICE
TEMPORARY ACCESS PERMIT*	UNIVERSITY OF MICHIGAN REAL ESTATE OFFICE
RIGHT-OF-WAY PERMIT*	MICHIGAN DEPARTMENT OF TRANSPORTATION

* NO COST TO CONTRACTOR

UNLESS OTHERWISE INDICATED, ALL REQUIRED PERMITS, LICENSES, INSPECTIONS, APPROVALS AND FEES SHALL BE SECURED AND PAID FOR BY THE CONTRACTOR. ALL WORK SHALL CONFORM TO ALL APPLICABLE CODES, RULES AND REGULATIONS.

PERMITS REQUIRED TO BE OBTAINED BY THE CITY OF ANN ARBOR PRIOR TO THE BEGINNING OF CONSTRUCTION.

PERMIT	ISSUING AUTHORITY
EGLE ACT 399 WATER MAIN CONSTRUCTION PERMIT	MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
EGLE PART 41 WASTEWATER CONSTRUCTION PERMIT	MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

CONTACT INFORMATION

PUBLIC UTILITIES	OWNER	CONTACT
WATER (JASON MCDONALD)	CITY OF ANN ARBOR PUBLIC WORKS W.R. WHEELER SERVICE CENTER 4251 STONE SCHOOL ROAD ANN ARBOR, MI 48108	(734) 794-6350
SANITARY (TRAVIS CONLEY)		
STORM (MARK SIRLS)		
FORESTRY (NICK JACOB)		
SIGNS SIGNALS STREET LIGHTS (MARC MORENO)		(734) 794-6361
FIBER OPTIC (IT)		KEVIN MCLAUGHLIN (734) 615-5699
HIGH VOLTAGE	UNIVERSITY OF MICHIGAN	STEVE PRINGLE (734) 615-5279

PRIVATE UTILITIES	OWNER	CONTACT
GAS	DTE ENERGY 3150 E. MICHIGAN AVE, YPSILANTI TOWNSHIP, MI 48198	LAURIE MURRAY (313) 919-0523
ELECTRIC	DTE ENERGY WESTERN WAYNE SERVICE CENTER 8001 HAGGERTY ROAD BELLEVILLE, MI 48111	ANDREA HUNTER (734) 460-9880
CABLE	COMCAST 27800 FRANKLIN ROAD SOUTHFIELD, MI 48034	RON SUTHERLAND (313) 999-8300
PHONE	AT&T 550 S. MAPLE ROAD ANN ARBOR, MI 48103	CHRIS SHOUP (734) 263-7385
FIBER OPTIC	MCI/VERIZON 4401 STECKER STREET DEARBORN, MI 48126	MARLON REDD (313) 588-0849
FIBER OPTIC	WINDSTREAM 1295 S LINBDEN ROAD, SUITE B FLINT, MI	JEFFERY WEBB (734) 790-6556
FIBER OPTIC	LUMEN 19675 W 10 MILE ROAD SOUTHFIELD, MI 48075	DAVE HUCKFELDT (517) 812-2592
FIBER OPTIC	FIBERLINK, INC 3529 GENESEE RD SUITE 6 LAPEER, MI 48446	TINA SNOBLEN (810) 667-2891 EXT 307
STREET LIGHTING	DTE ENERGY 8001 HAGGERTY ROAD BELLEVILLE, MI 48111	BRIAN KINNICK (734) 358-1529

EXISTING LEGEND

EX = EXISTING

- FIRE HYDRANT
- FIRE DEPARTMENT CONNECTION
- GATE VALVE IN BOX
- GATE VALVE IN WELL
- STOP BOX
- WATER VAULT
- WELL
- CATCH BASIN (SQ)
- CATCH BASIN (RD)
- NON-CURB CATCH BASIN (SQ)
- END SECTION
- SANITARY MANHOLE
- CLEAN-OUT
- POST
- PEDESTRIAN SIGNAL
- SIGN
- HAND HOLE
- ORNAMENTAL LIGHT
- FLOOD LIGHT
- UNKNOWN MANHOLE
- TELEPHONE MANHOLE
- TELEPHONE RISER
- GAS VALVE
- GAS VENT
- GAS BOX
- ELECTRICAL RISER
- TRANSFORMER
- UTILITY POLE
- LAMP POLE
- GUY ANCHOR
- GUY POLE
- MONITORING WELL
- MAILBOX
- SOIL BORING
- TRAVERSE POINT
- BENCH MARK
- IRON PIPE
- MON BOX

- WATER MAIN
- WATER MAIN ABANDONED
- STORM SEWER
- STORM SEWER ABANDONED
- SANITARY SEWER
- SANITARY SEWER ABANDONED
- GAS MAIN
- GAS MAIN (DEAD)
- ELECTRICAL OVER HEAD
- ELECTRICAL UNDER GROUND
- ELECTRICAL DUCT BANK
- TELEPHONE OVER HEAD
- TELEPHONE UNDER GROUND
- TELEPHONE DUCT BANK
- CABLE TV OVER HEAD
- CABLE TV UNDER GROUND
- FIBER OPTIC
- FIBER OPTIC DUCT BANK
- BOUNDARY
- BUILDING
- CENTERLINE OF DITCH
- CENTERLINE/CROWN OF ROAD
- CONTOUR MAJOR
- CONTOUR MINOR
- EDGE OF WATER
- FLOODPLAIN
- FENCE
- GRAVEL
- GUARDRAIL
- STONE WALL
- R.O.W.
- TREELINE
- WETLAND
- EDGE OF BRUSH
- HEDGE
- CURB AND GUTTER, ANY TYPE OR SIZE, REM
- TREE PROTECTION FENCE
- UTILITY REMOVAL OR ABANDON
- PAVEMENT, REMOVE
- COLD-MILLING HMA SURFACE
- SIDEWALK, SIDEWALK RAMP, AND DRIVEWAY APPROACH, ANY THICKNESS, REM

- TREE (DECIDUOUS)
- TREE (CONIFEROUS)
- SHRUB (DECIDUOUS)
- STUMP
- TREE TO REMAIN & PROTECT (DECIDUOUS)
  CRITICAL ROOT ZONE (C.R.Z.) = DIAMETER BREAST HEIGHT (INCHES) X 10
- TREE TO REMAIN & PROTECT (CONIFEROUS)
  CRITICAL ROOT ZONE (C.R.Z.) = DIAMETER BREAST HEIGHT (INCHES) X 10

PROPOSED LEGEND

PROP = PROPOSED

- HYDRANT (PLAN)
- WATER GATE WELL
- REDUCER
- WATER GATE VALVE
- WATER STOP BOX
- WATER VAULT
- INLET
- DOUBLE INLET
- INLET JUNCTION CHAMBER
- ROUND CATCH BASIN
- STORM MANHOLE
- DRAIN ARROW
- FLARED END SECTION
- SANITARY MANHOLE
- CLEAN-OUT
- BARREL
- SIGN
- PUSH BUTTON
- HAND HOLE

- WATER MAIN
- STORM SEWER
- SANITARY SEWER
- FIBER OPTIC
- ELECTRICAL
- CENTERLINE OF DITCH
- CENTERLINE OF ROAD
- FENCE
- GRAVEL
- SILT FENCE
- PROTECTIVE FENCE
- GUARDRAIL
- LOT/UNIT
- CURB
- TEMPORARY GRADING PERMIT
- CONTOUR MAJOR
- CONTOUR MINOR
- WATER EASMENT
- STORM EASEMENT
- SANITARY EASEMENT
- R.O.W.
- TEMPORARY GRADING EASEMENT
- LIMIT OF GRADING
- STONE WALL

- DETECTABLE WARNING
- ASPHALT
- CONCRETE
- SIDEWALK
- TREE (DECIDUOUS)
- TREE (CONIFEROUS)
- TREE TO BE REMOVED (DECIDUOUS)
- TREE TO BE REMOVED (CONIFEROUS)
- STUMP TO BE REMOVED
- TREE TO BE PROTECTED

BENCHMARKS

BM #	ELEV	DESCRIPTION
50	878.360	TOP OF ARROW ON HYDRANT 02-01023
51	879.600	TOP NUT (HIGHEST POINT) ON HYDRANT 02-03581
52	879.360	TOP OF ARROW ON HYDRANT 02-00106
53	878.980	TOP OF ARROW ON HYDRANT 02-01017
57	881.510	SOUTHEAST CORNER LIGHT POLE BASE AT HILL AUDITORIUM
58	882.650	TOP OF ARROW ON HYDRANT 02-00981
200	877.330	EAST SIDE OF MLP CONC BASE (NEW POLE) SOUTHWEST CORNER OF S. THAYER & N. UNIVERSITY
201	877.950	WEST SIDE OF MLP CONC BASE EAST SIDE OF S. THAYER IN FRONT OF HILL AUDITORIUM
203	877.630	SOUTHWEST CORNER OF MLP CONC BASE SOUTHEAST CORNER OF S. THAYER & E. WASHINGTON

Know what's below. Call before you dig. 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734.794.6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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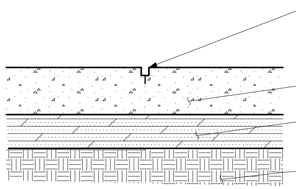
LEGEND

SCALE : NTS

DRAWING No. 2023-023-4

SHEET No. 4 OF 83



CONC, SIDEWALK, FIBERMESH, 8 IN.

NO SCALE

SEE SHEET 8 FOR PAY ITEM "DS_CONC, SIDEWALK, 9IN., RAISED" DETAIL

NOTES: EXPANSION JOINTS SHALL BE INSTALLED SUCH THAT NO SINGLE DIMENSION EXCEEDS 50 FT.

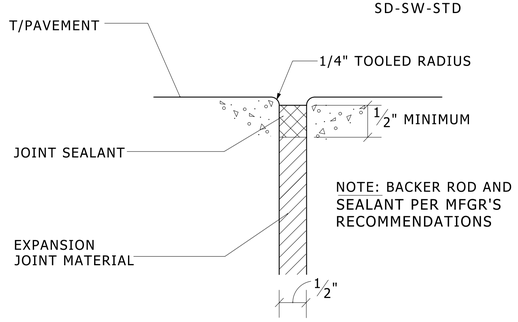
3/4" EXPANSION PAPER SHALL BE PLACED BEHIND CURB, 1" EXPANSION PAPER SHALL BE PLACED IN PAVEMENT, AND 1/2" EXPANSION PAPER SHALL BE PLACED AT ALL OTHER LOCATIONS

SNAP-CAP EXPANSION JOINT STRIPS CAN BE USED ON ALL EXPANSION JOINTS.

ALL EXPANSION JOINTS SHALL BE SEALED.

BROOM FINISH PARALLEL TO JOINTS AND PERPENDICULAR TO TRAFFIC (IF BROOMING PATTERN NOT SHOWN).

SD-SW-STD



PAVEMENT EXPANSION JOINT (E.J.)

NO SCALE

1. VERTICAL SURFACES:
   PROVIDE MANUFACTURER'S STANDARD, NON-MODIFIED, TWO-OR-MORE-PART, POLY-SULFIDE-BASED, ELASTOMERIC SEALANT; COMPLYING WITH EITHER ASTM C 920 TYPE M CLASS 25, OR FS TT-S-00227E CLASS A; NON-SAG GRADE/TYPE.

2. HORIZONTAL SURFACES:
   PROVIDE MANUFACTURER'S STANDARD, NON-MODIFIED, TWO-OR-MORE-PART, POLYURETHANE-BASED, ELASTOMERIC SEALANT; COMPLYING WITH EITHER ASTM C 920 TYPE M CLASS 25, OR FS TT-S-00227E CLASS A; SELF-LEVELING GRADE/TYPE.

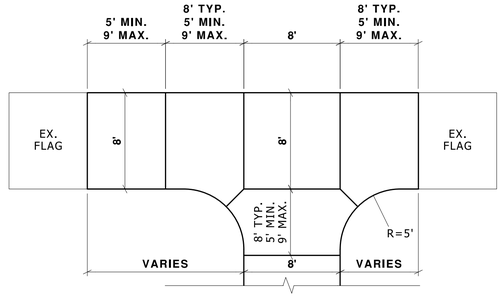
3. SET UP TIME FOR SEALANT ON WALKING SURFACES SHALL BE NO LONGER THAN 8 HOURS.

4. PROVIDE PRODUCT OF ONE OF THE FOLLOWING MANUFACTURES:
   a. CONTECH/SONNEBORN
   b. MAMECO INTERNATIONAL
   c. W.R. MEADOWS, INC.
   d. PECORA CORP.
   e. PRODUCTS RESEARCH & CHEMICAL CORP.
   f. SIKA CHEMICAL CORP.
   g. TREMCO, INC.
   h. TOCH/CARBOLINE

5. DO NOT ALLOW SEALANTS TO OVERFLOW OR SPILL ONTO ADJOINING SURFACES. REMOVE EXCESS AND SPILLAGE OF SEALANTS PROMPTLY.

6. SEALED ZIP STRIPS ARE ACCEPTABLE.

7. INCLUDED IN PAYMENT FOR CORRESPONDING

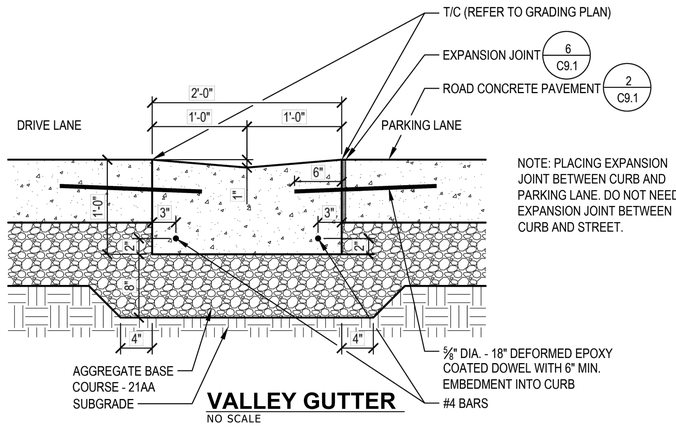


SIDEWALK CONTROL JOINT LAYOUT

NO SCALE

NOTE: DETAIL ONLY APPLICABLE TO UNIVERSITY OF MICHIGAN SIDEWALKS.

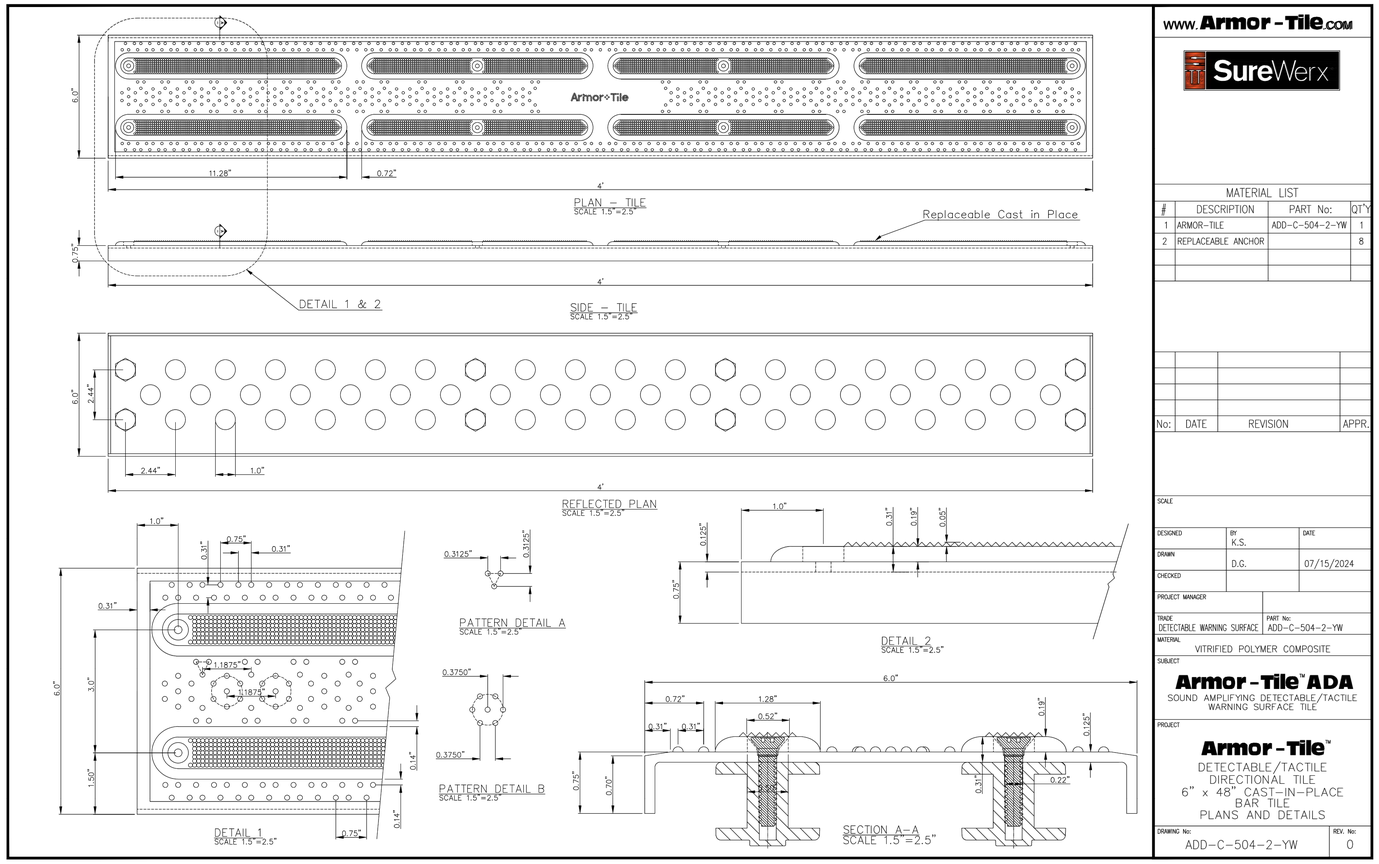
SD-SW-CTRL_JNT



NOTE: PLACING EXPANSION JOINT BETWEEN CURB AND PARKING LANE. DO NOT NEED EXPANSION JOINT BETWEEN CURB AND STREET.

VALLEY GUTTER

NO SCALE



DETECTABLE WARNING SURFACE DETAIL

NO SCALE

www.Armor-Tile.com

SureWerx

MATERIAL LIST

#	DESCRIPTION	PART No:	QTY
1	ARMOR-TILE	ADD-C-504-2-YW	1
2	REPLACEABLE ANCHOR		8

No:	DATE	REVISION	APPR.

SCALE

	BY	DATE
DESIGNED	K.S.	
DRAWN	D.G.	07/15/2024
CHECKED		

PROJECT MANAGER

TRADE: DETECTABLE WARNING SURFACE | PART No: ADD-C-504-2-YW

MATERIAL: VITRIFIED POLYMER COMPOSITE

SUBJECT

Armor-Tile™ ADA

SOUND AMPLIFYING DETECTABLE/TACTILE WARNING SURFACE TILE

PROJECT

Armor-Tile™

DETECTABLE/TACTILE DIRECTIONAL TILE
6" x 48" CAST-IN-PLACE BAR TILE
PLANS AND DETAILS

DRAWING No: ADD-C-504-2-YW | REV. No: 0

Know what's below. Call before you dig. 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

CITY OF ANN ARBOR
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(734) 794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

DETAILS

SCALE: NTS

DRAWING No. 2023-023-5

SHEET No. 5 OF 83

PEXCO

PEXCO, DAVIDSON TRAFFIC CONTROL PRODUCTS
3110 70TH AVENUE EAST
TACOMA, WA 98424, USA
TOLL FREE: 1-877-335-4638
PHONE: (253) 284-8000
FAX: (253) 284-8080
www.pexco.com/traffic

☑ SELECT DESIRED HEIGHT:

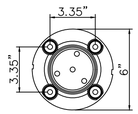
- ☐ 18" ☑ 28"
- ☐ 24" ☐ 36"
- ☐ CUSTOM (SEE NOTE 4)

☑ SELECT DESIRED COLOR:

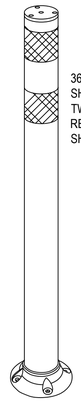
- ☐ WHITE
- ☐ YELLOW
- ☐ FLUORESCENT ORANGE
- ☑ BLACK

☑ SELECT DESIRED REFLECTIVE SHEETING:

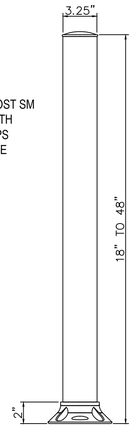
- ☑ ABRASION RESISTANT AR 1000
- ☐ 3M FLEX DIAMOND GRADE
- ☐ 3M FLEXIBLE HIP



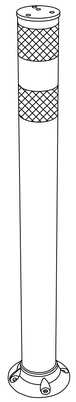
EACH POST REQUIRES 4 HCA ANCHORS:
- CONCRETE: P/N 80SMANCHOR COIL ANCHOR 3" X 3/8"
- ASPHALT: P/N 80SMANCHOR5 COIL ANCHOR 5" X 3/8"



PLAN VIEW



ISOMETRIC



SIDE VIEW

PERSPECTIVE

MANUFACTURER NOTES:
1. FLUORESCENT COLORS ARE RECOMMENDED FOR APPLICATIONS REQUIRING THE HIGHEST VISIBILITY.

NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWING.
3. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
4. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
5. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info AND ENTER REFERENCE NUMBER CDT-PLTS

CITY POST: SURFACE MOUNT MODEL SM

CITY POST SM SURFACE MOUNT

CDT-PLT

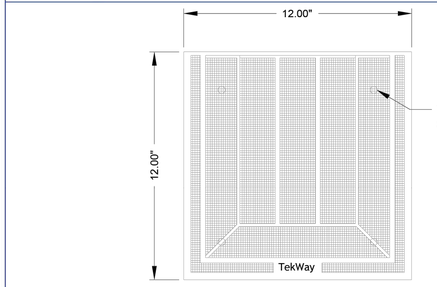
REVISION DATE 01/25/2026

CADdetails.com

BIKEWAY DELINEATOR POST DETAIL

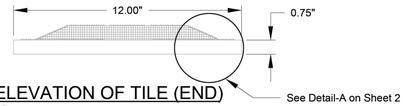
NO SCALE

TekWay Tactile Warning Delineator (Trapezoid)

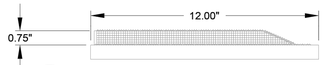


1 PLAN OF TILE
Scale: NTS

NATURAL CHARCOAL COLOR TO BE USED



2 ELEVATION OF TILE (END)
Scale: NTS



3 ELEVATION OF TILE (SIDE)
Scale: NTS

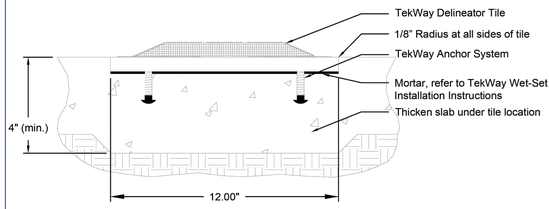
Notes:
1. The allowable width of tile is 12.00" ± 0.06".
2. The allowable length of tile is 12.00" ± 0.06".
3. All dimensions are in inches.

StrongGo INDUSTRIES
3296 E. Hemisphere Loop Tucson, AZ. 85706
Tel: (520) 547-3510 Fax: (520) 547-3515

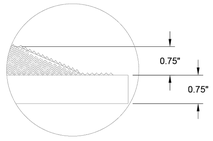
DRAWING TITLE
12" X 12" TekWay Tactile Warning Delineator (Trapezoid End Cap) THA
Plan & Elevation

SHEET NO. 1 of 2

TekWay Tactile Warning Delineator (Trapezoid)



1 TYPICAL - WET-SET INSTALLATION (Fresh Concrete)
Scale: NTS



3 DETAIL - A
Scale: NTS

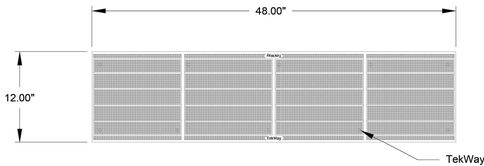
Notes:
1. The allowable width of tile is 12.00" ± 0.06".
2. The allowable length of tile is 12.00" ± 0.06".
3. All dimensions are in inches.

StrongGo INDUSTRIES
3296 E. Hemisphere Loop Tucson, AZ. 85706
Tel: (520) 547-3510 Fax: (520) 547-3515

DRAWING TITLE
12" X 12" TekWay Tactile Warning Delineator (Trapezoid End Cap) THA
Plan & Elevation

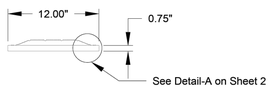
SHEET NO. 2 of 2

TekWay Tactile Warning Delineator (Trapezoid)



1 PLAN OF TILE
Scale: NTS

2 ELEVATION OF TILE
Scale: NTS



3 ELEVATION OF TILE
Scale: NTS

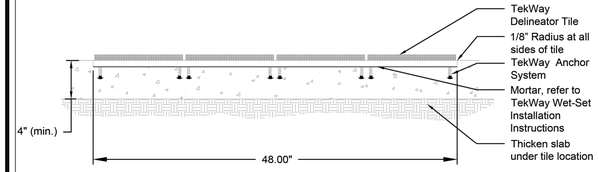
Notes:
1. The allowable width of tile is 12.00" ± 0.06".
2. The allowable length of tile is 48.00" ± 0.06".
3. All dimensions are in inches.

StrongGo INDUSTRIES
3296 E. Hemisphere Loop Tucson, AZ. 85706
Tel: (520) 547-3510 Fax: (520) 547-3515

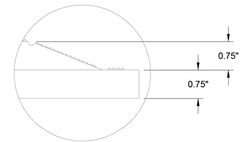
DRAWING TITLE
12" X 48" TekWay Tactile Warning Delineator (Trapezoid Bar) THA
Plan & Elevation

SHEET NO. 1 of 2

TekWay Tactile Warning Delineator (Trapezoid)



1 TYPICAL - WET-SET INSTALLATION (Fresh Concrete)
Scale: NTS



2 DETAIL - A
Scale: NTS

Notes:
1. The allowable width of tile is 12.00" ± 0.06".
2. The allowable length of tile is 48.00" ± 0.06".
3. All dimensions are in inches.

StrongGo INDUSTRIES
3296 E. Hemisphere Loop Tucson, AZ. 85706
Tel: (520) 547-3510 Fax: (520) 547-3515

DRAWING TITLE
12" X 48" TekWay Tactile Warning Delineator (Trapezoid Bar) THA
Plan & Elevation

SHEET NO. 2 of 2

Know what's below. Call before you dig. 811

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02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
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CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
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ANN ARBOR, MI 48107-8647
734.794.6410
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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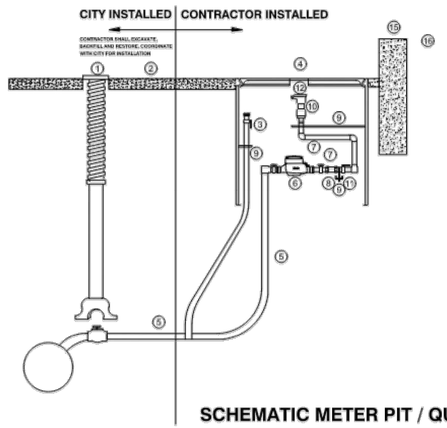
DETAILS

SCALE : NTS

DRAWING No. 2023-023-6

SHEET No. 6 OF 83

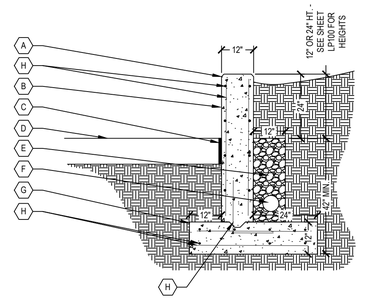
NOTE - CONSULT WITH UTILITY CONTRACTOR, CITY DPW , AND ENGINEER TO DETERMINE EXACT LOCATION AND ORIENTATION OF METER PIT. FINAL LOCATION SHALL BE AS CLOSE TO PLANTER BOX AS POSSIBLE, WHILE SUPPORTING PLANTER DURING INSTALLATION. LOCATION OF METER PIT MAY BE MOVED TO OPPOSITE SIDE OF PLANTER BOX FOR EASE OF CONSTRUCTABILITY AT THE APPROVAL OF THE ENGINEER.



1. 1" TAP, SHUT OFF GATE, BOX AND CORPORATION STOP -- PER CITY SPECIFICATIONS
2. SIDEWALK GRADE
3. CAPPED BALL VALVE FOR WINTERIZATION AIR COMPRESSOR ATTACHMENT PER CITY SPECIFICATIONS
4. EAST JORDAN IRON WORKS (800-626-4653) #1730C-18 RECTANGULAR SERIES METER BOX WITH 1730 COVER 21-1/4" X 34-1/8" X 18"BCF HATCH MUST BE CENTERED OVER QUICK COUPLER FOR ACCESS
5. 1" TYPE 'K' COPPER PIPE
6. WATER METER-CONSULT WITH CITY FOR SIZE REQUIREMENTS. CONTRACTOR RESPONSIBLE FOR INSTALLING ALL COMPONENTS OF METER PIT INCLUDING METER HORNS, AND COORDINATE WITH CITY FOR INSTALLATION OF WATER METER.
7. 1" TYPE 'L' HARD COPPER PIPE
8. WATTS LF7 1-1/4" DUAL CHECK VALVE ASSEMBLY
9. UNISTRUT PIPE SUPPORT. SECURE PIPE ASSEMBLY TO SUPPORT.
10. RAINBIRD 33DNP 3/4-INCH QUICK COUPLER WITH 33-DK KEY AND SH-O MALE HOSE SWIVEL.
11. 1" BALL VALVE
12. QUICK COUPLER MUST BE SET AND ALIGNED WITH VALVE BOX LID OPENING. VALVE BOX LID IS NOT TO BE REMOVED TO ALLOW ACCESS TO QUICK COUPLER.
13. PLANTER INSTALLATIONS ONLY - (IF DESIRED). SECURE RAINBIRD 33DNP QUICK COUPLER TO INSIDE EDGE AND BELOW TOP OF PLANTER, WITH METHOD APPROVED BY CITY DPW
14. 1" POLYETHYLENE PIPE FROM METER PIT TO ADDITIONAL QUICK COUPLERS IF DESIRED. DOUBLE CLAMP PIPE TO FITTINGS WITH WORM GEAR CLAMPS
15. PLANTER BOX
16. ABANDON AND REMOVE EXISTING ABOVE-GRADE IRRIGATION COMPONENTS IN PLANTER

SCHEMATIC METER PIT / QUICK COUPLER INSTALLATION

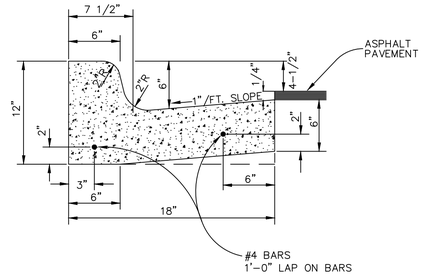
NTS



A. 1" CHAMFER (TYP) PITCH TOP OF WALL AT 1/8" PER FOOT TO INTERIOR OF PLANTER
B. PIP CONCRETE WALL
C. 1/2" EXPANSION JOINT W/ LATEX CAULKING
D. ADJACENT SURFACE - SEE CIVIL LAYOUT DRAWINGS
E. WASHED STONE FOR DRAINAGE
F. 4" PERFORATED TILE WITH GEOTEXTILE WRAP
G. 3,500 PSI CONCRETE FOOTING WITH NOTCH
H. #4 REBAR 12 O.C.
I. 18" X 24" L-BAR

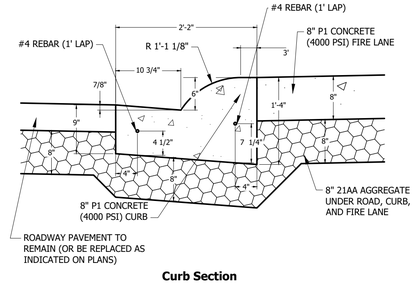
DS_PLANTER WALL, 12 IN & DS_PLANTER WALL, 24 IN

NO SCALE



18" WIDE CURB AND GUTTER DETAIL (NON STANDARD)

NO SCALE



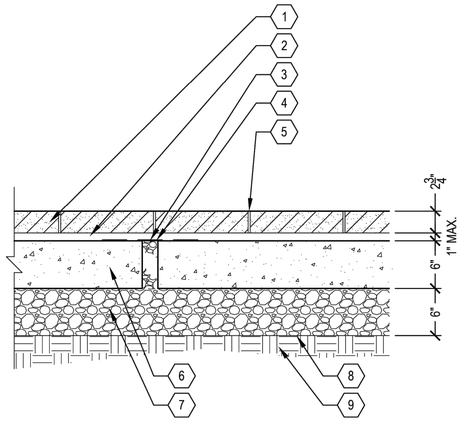
Curb Section

NOTES:
1) TO BE USED WITH 18" CONCRETE CURB & GUTTER (NON-STANDARD).
2) REBAR TO BE EPOXY-COATED.
3) DOWEL CURB PATCHES TO ADJACENT CURB
4) PLACE CONTROL JOINTS EVERY 10 FEET

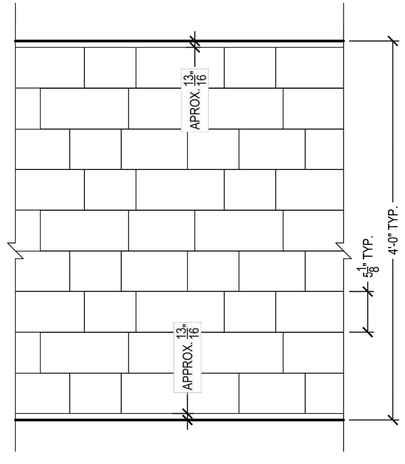
26" CONCRETE CURB & GUTTER - FIRE TRUCK ACCESS

NO SCALE

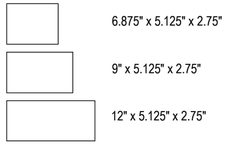
MD 321313 004 26" Concrete Curb & Gutter - Fire Truck Access
Last Updated 9/12/23



1. PAVERS
2. SAND BED
3. 2" DIA. DRAIN HOLES 5' O.C. TYP., FILL WITH PEA STONE
4. 12" SQUARE FILTER FABRIC AT EACH DRAIN HOLE, TYP.
5. SAND JOINTS
6. CONCRETE BASE
7. PERMEABLE AGGREGATE BASE CLII SAND OR 6AA
8. GEOTEXTILE
9. SUBGRADE



TYPICAL PAVER PATTERN



6.875" x 5.125" x 2.75"

9" x 5.125" x 2.75"

12" x 5.125" x 2.75"

NOTE: TRIBECA COBBLE PAVERS FROM UNILOCK, COBALT GREY COLOR, RANDOME BUNDLE, PATTERN A

BRICK PAVER DETAIL

NO SCALE

PAID FOR AS "DS_BRICK PAVERS, SIDEWALK, REM AND REINSTALL" AND "DS_PERFORATED CONCRETE BASE, 6 IN."

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

Know what's below. Call before you dig. 811

CITY OF ANN ARBOR
PUBLIC SERVICES
301 E. HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

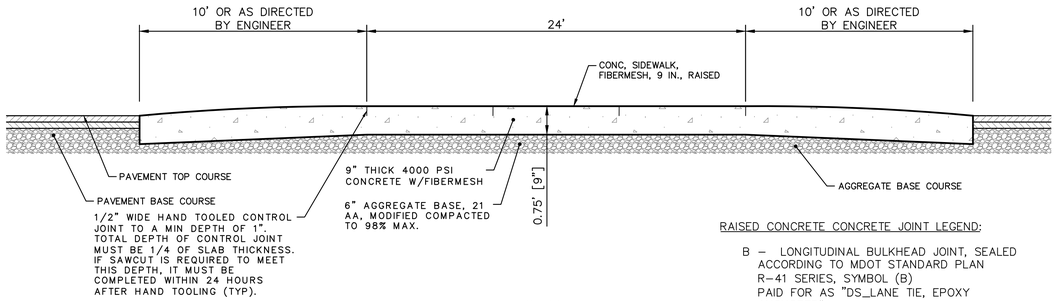
N. UNIVERSITY & THAYER IMPROVEMENTS

DETAILS

SCALE : NTS

DRAWING No. 2023-023-7

SHEET No. 7 OF 83



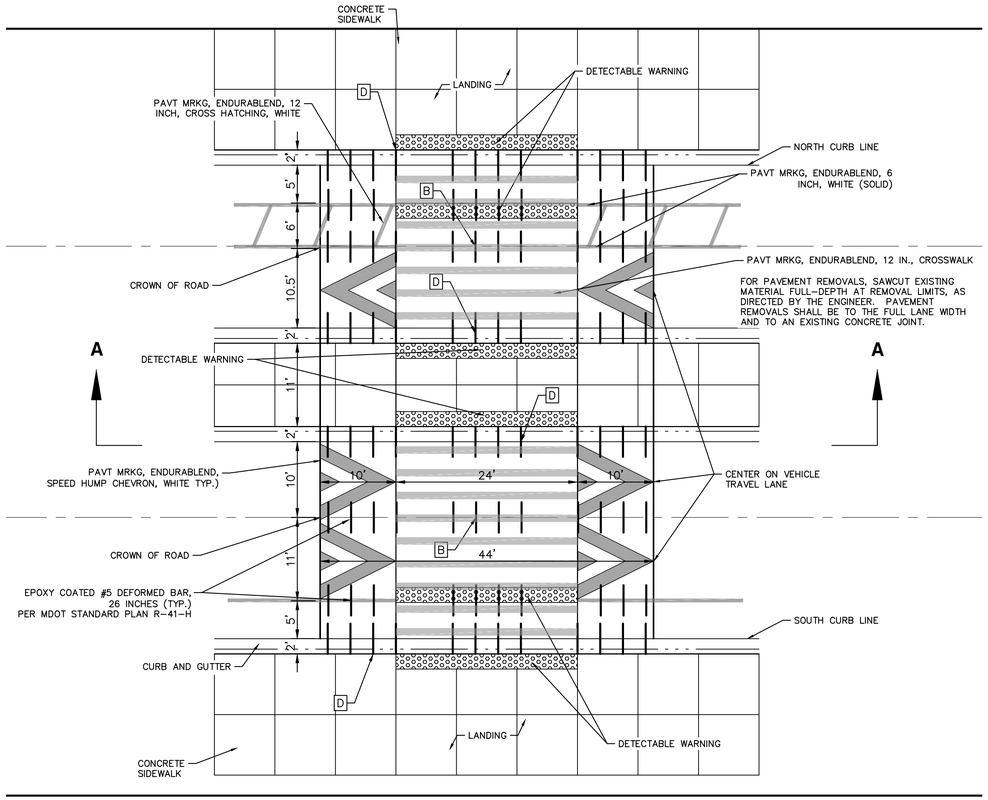
SECTION A-A

NOT TO SCALE

RAISED CONCRETE CONCRETE JOINT LEGEND:

B – LONGITUDINAL BULKHEAD JOINT, SEALED ACCORDING TO MDOT STANDARD PLAN R-41 SERIES, SYMBOL (B) PAID FOR AS "DS_LANE TIE, EPOXY ANCHORED"

D – LONGITUDINAL LANE TIE JOINT WITH TIE BARS, SEALED ACCORDING TO MDOT STANDARD PLAN R-41 SERIES, SYMBOL (D) PAID FOR AS "DS_LANE TIE, EPOXY ANCHORED"

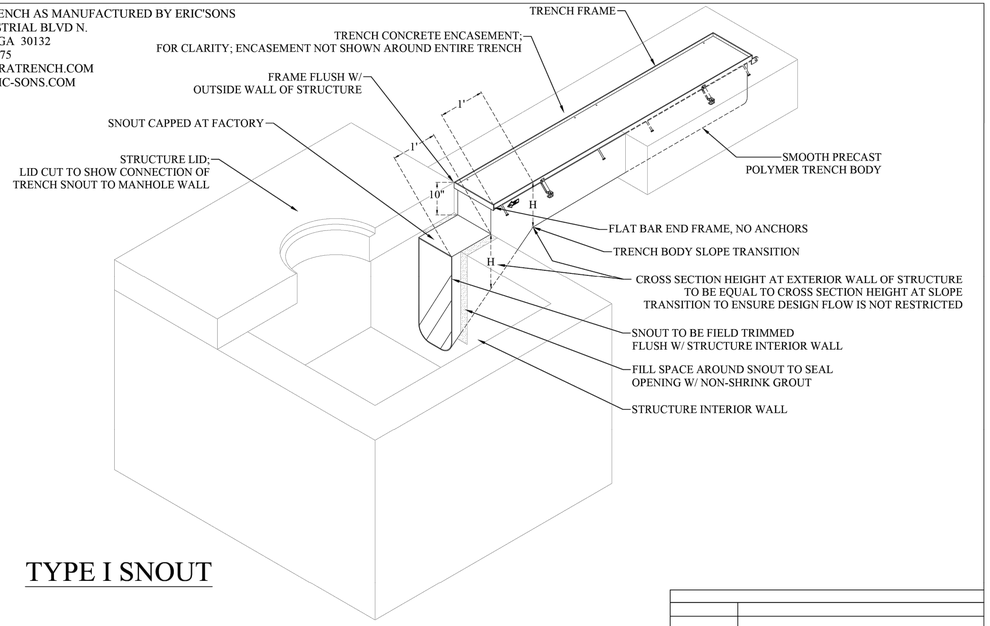


NORTH UNIVERSITY AVENUE RAISED CROSSWALK PLAN VIEW - STA 206+91

NOT TO SCALE

PAID FOR AS "DS_CONC, SIDEWALK, FIBERMESH, 9 IN., RAISED"

DURA-TRENCH AS MANUFACTURED BY ERIC'SONS
296 INDUSTRIAL BLVD N.
DALLAS, GA 30132
770-505-6575
WWW.DURATRENCH.COM
INFO@ERIC-SONS.COM



TYPE I SNOUT

THE TRENCH DRAIN LAYOUT HAS BEEN DEVELOPED FROM DRAWINGS OR SKETCHES PROVIDED TO ERIC'SONS. PLEASE REVIEW AND VERIFY OUR INTERPRETATION.

APPROVED:

APPROVED AS NOTED:

REVISE & RESUBMIT:

TYPE I SNOUT ISOMETRIC

Scale: NTS

Eric'SONS "THE DRAIN BRAINS" 396 INDUSTRIAL BLVD N. DALLAS, GA. 30132 770-505-6575

DRAWING TOLERANCES	
DECIMAL	FRACTIONAL
.X ± .1	± .010 TO 2
.XX ± .02	± 2 TO 10

DRAWN BY:	J.D.P.	CHECKED BY:	M.D.W.
SCALE:	NTS	DATE:	1/17/2022

TYPE I SNOUT DETAIL

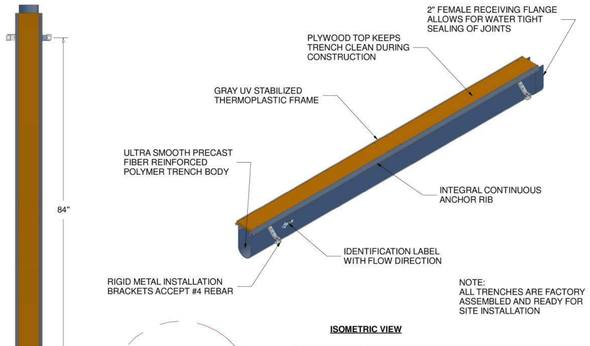
DRAWING NUMBER: TD-501

DISCLAIMER: The customer and the customer's architects, engineers, consultants and other professionals are completely responsible for the selection, installation, and maintenance of any product purchased from Eric'sons, and EXCEPT AS EXPRESSLY PROVIDED IN Eric'sons'S STANDARD WARRANTIES, Eric'sons MAKES NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE SUITABILITY, DESIGN, MERCHANTABILITY, OR FITNESS OF THE PRODUCT FOR CUSTOMER'S APPLICATION. Copies of Eric'sons standard warranties are available upon request.

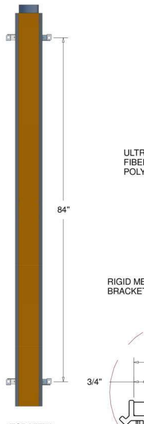
DTPF4-LDTP05ZIA

4" PRECAST TRENCH DRAIN

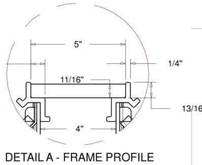
R1



ISOMETRIC VIEW

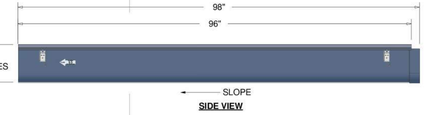


TOP VIEW



DETAIL A - FRAME PROFILE

END VIEW



SIDE VIEW

TRENCH MATERIAL	FIBER REINFORCED POLYMER
FRAME MATERIAL	UV STABILIZED GRAY PVC
FRAME COATING	NA
ANCHOR STUDS	CONTINUOUS ANCHOR RIB
INSTALL DEVICE	RIGID STAMPED METAL FOR #4 BARS
LOAD RATING	LIGHT DUTY
SLOPE	0.5% TYP (CUSTOM SLOPE AVAILABLE)

STANDARD TOLERANCES
0 = +/-0.25
0.0 = +/-0.25
0.00 = +/- 0.13

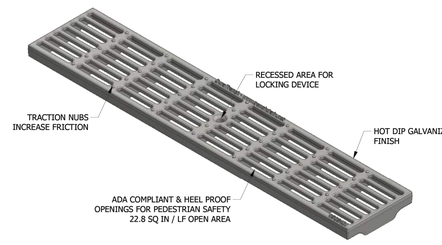
Dura Trench 574c Industrial Way N. Dallas, GA 30132 PH: 770-505-6575 www.trenchdrain.net

PAID FOR AS "DS_TRENCH DRAIN"

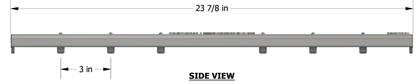
05C24DG

5" DUCTILE IRON HEEL GUARD GRATE

R2

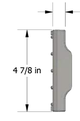


ISOMETRIC VIEW



SIDE VIEW

TOP VIEW



END VIEW

MATERIAL	DUCTILE IRON 65-45-12
COATING	HOT DIP GALVANIZED
LOCKING	BOLT AND TOGGLE
LOAD RATING	DIN CLASS D
ADA / HEEL GUARD	YES

STANDARD TOLERANCES
0 = +/-0.25
0.0 = +/-0.25
0.00 = +/- 0.13

Dura Trench manufactured by Eric'sons 574c Industrial Way N. Dallas, GA 30132 PH: 770-505-6575 www.trenchdrain.net

Know what's below. Call before you dig. 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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DETAILS

SCALE : NTS

DRAWING No. 2023-023-8

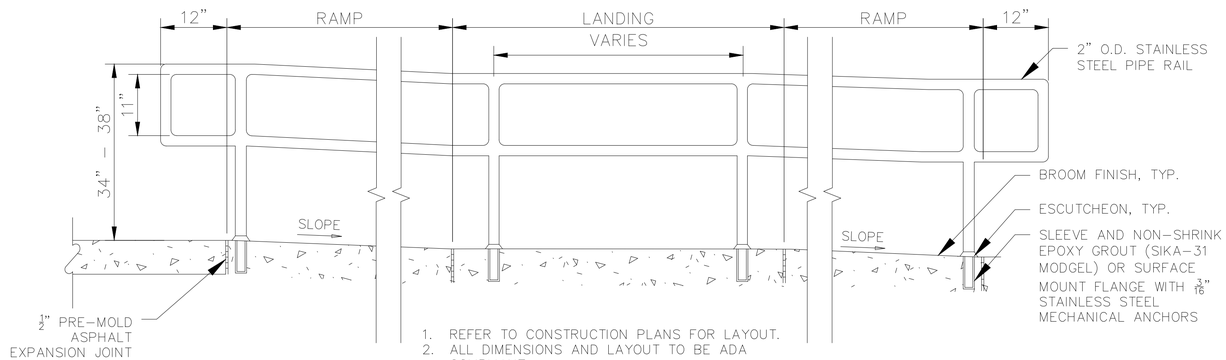
SHEET No. 8 OF 83

C:\pw_work\mflanagan\d1339881\CDT-PLTS-Details-North U.dwg Dwg Created: 24-Jan-26 - _a2 standard bw.stb - Plot Date: 25-Jan-26

STAINLESS STEEL SPECIFICATION

1. GALVANIZED STEEL ASTM A554, GRADE MT 316
2. TYPE 316 PLATE
3. FINISH: OIL GROUND, UNIFORM 180 GRIT TEXTURE AISI NO. 4
4. FUSION–WELDED. WELDS SHALL NOT SHOW ON THE FINISHED HANDRAIL
5. TUBE SECTIONS WILL BE FORMED TO SMOOTH RADII, SHOWING NO BUCKLES, KINKS, OR OTHER IMPERFECTIONS.
6. SUBMIT SHOP DRAWINGS FOR APPROVAL, INCLUDING MATERIALS, FASTENERS, AND LAYOUT

CONTRACTOR TO SCHEDULE A SITE MEETING WITH FABRICATOR AND ENGINEER TO DISCUSS INSTALLATION WHEN GATHERING MEASUREMENTS



4 STAINLESS STEEL RAMP RAILING SECTION

PAID FOR AS DS_HANDRAIL

NTS

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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DETAILS

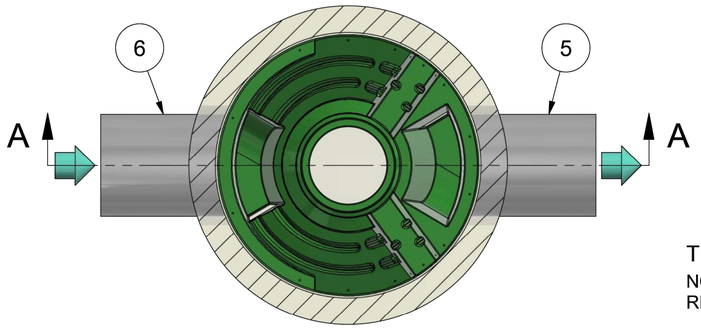
SCALE : NTS

DRAWING No. 2023-023-9

SHEET No. 9 OF 83

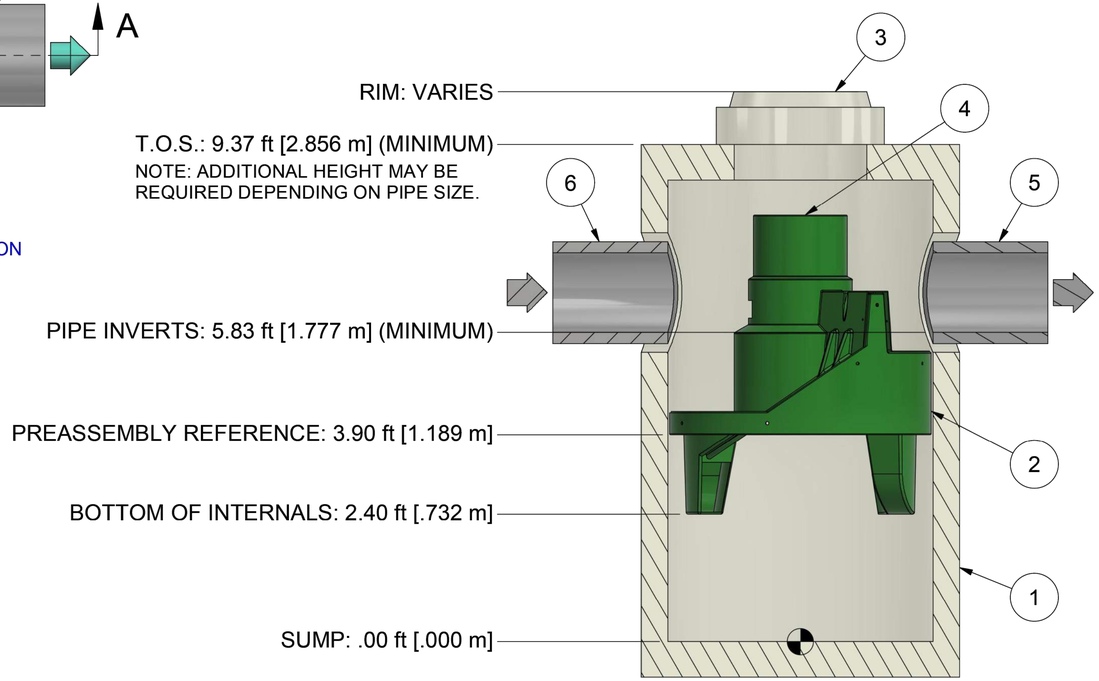
GENERAL ARRANGEMENT

NOT FOR CONSTRUCTION



SEE MANHOLE DRAWING FOR PIPE ORIENTATION

GENERAL DETAIL PROVIDED
FOR REFERENCE ONLY.
NOT FOR CONSTRUCTION



SECTION A-A

NOTE: PRETREATMENT STRUCTURE FRAMES AND COVERS TO BE COATED CONSISTENT WITH TYPICAL ANN ARBOR FRAME AND COVERS

SEE SHEET 39 FOR PRETREATMENT STRUCTURE LOCATIONS PAID FOR AS "DS_STORM PRETREATMENT STRUCTURE, FIRST DEFENSE, 60 IN. DIA., SOLID"

PRODUCT NOTES:

1. PEAK HYDRAULIC FLOW: 20.0 cfs (566 l/s)
2. MIN SEDIMENT STORAGE CAPACITY: 1.1 cu. yd. (0.8 cu. m.)
3. THE TREATMENT SYSTEM SHALL USE AN INDUCED VORTEX TO SEPARATE POLLUTANTS FROM STORMWATER RUNOFF.
4. MULTIPLE INLET PIPES POSSIBLE.
5. INLET/OUTLET PIPE ANGLE CAN VARY TO ALIGN WITH DRAINAGE NETWORK.
6. PEAK FLOW RATE AND MINIMUM HEIGHT LIMITED BY AVAILABLE COVER AND PIPE DIAMETER.
7. LARGER SEDIMENT STORAGE CAPACITY CAN BE PROVIDED WITH A DEEPER SUMP DEPTH.
8. UNIT SHALL CONFORM TO HS20-44 LOAD RATINGS.
9. FOR MORE PRODUCT INFORMATION INCLUDING REGULATORY ACCEPTANCES, PLEASE VISIT: https://hydro-int.com/en/products/first-defense

PARTS LIST

ITEM	QTY	SIZE (in)	SIZE (mm)	DESCRIPTION
1	1	60	1500	PRECAST MANHOLE
2	1			LEDGER SUPPORT
3	1	30	750	FRAME AND COVER (ROUND)
4	1			SEPARATION MODULE
5	1	24 MAX	600 MAX	OUTLET PIPE (BY OTHERS)
6	1	24 MAX	600 MAX	INLET PIPE (BY OTHERS)

Stormwater Quality Unit — Hydro International — www.hydro-int.com — MADE IN USA

HYDRO FRAME AND COVER (INCLUDED)

GRADE RINGS BY OTHERS AS REQUIRED

PROJECTION

IF IN DOUBT ASK

DATE:	SCALE:
5/2/2024	1:30

DRAWN BY:	CHECKED BY:	APPROVED BY

Title
FIRST DEFENSE
5ft DIAMETER
GENERAL ARRANGEMENT

Patent: www.hydro-int.com/patents

Hydro International
hydro-int.com

WEIGHT:	MATERIAL:

REFERENCE NUMBER:

DRAWING NO.: 5ft FD GA

SHEET SIZE:	SHEET:	Rev:
B	1 OF 1	N/A

Know what's below. Call before you dig. 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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ANN ARBOR, MI 48107-8647
(734) 794-6410
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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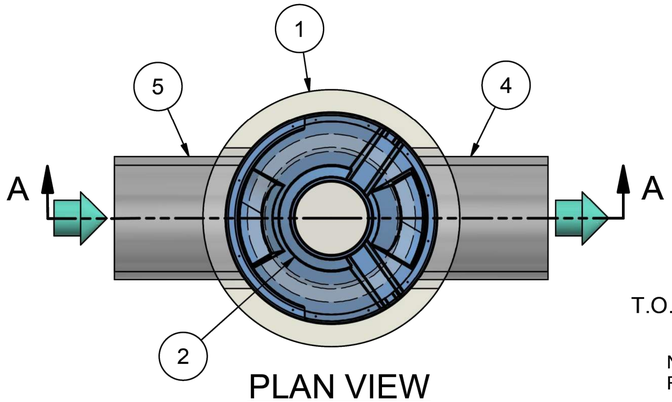
DETAILS

SCALE : NTS

DRAWING No. 2023-023-10

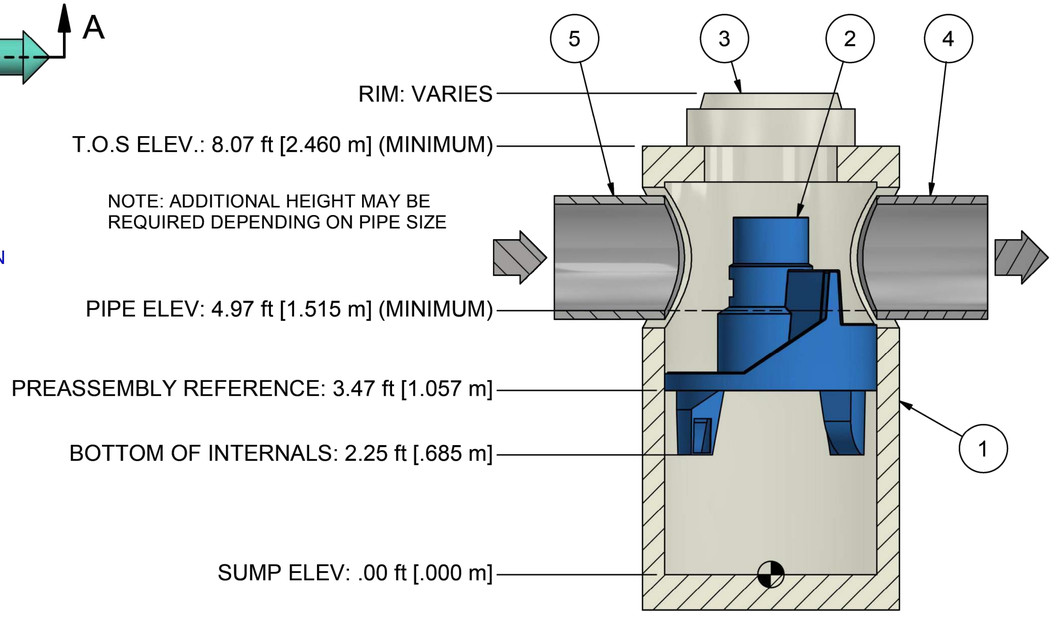
SHEET No. 10 OF 83

C:\pw_work\mflanagan\d133988\1\CDT-PLTS-Details 2-North U.dwg Dwg Created: 24-Jan-26 — _a2 standard bw.stb — Plot Date: 25-Jan-26



PLAN VIEW

SEE MANHOLE DRAWING FOR PIPE ORIENTATION



SECTION A-A

NOTE: PRETREATMENT STRUCTURE FRAMES AND COVERS TO BE COATED CONSISTENT WITH TYPICAL ANN ARBOR FRAME AND COVERS

SEE SHEET 39 FOR PRETREATMENT STRUCTURE LOCATIONS PAID FOR AS "DS_STORM PRETREATMENT STRUCTURE, FIRST DEFENSE, 48 IN. DIA., SOLID"

1. MANHOLE WALL AND SLAB THICKNESSES ARE NOT TO SCALE.

2. CONTACT HYDRO INTERNATIONAL FOR A BOTTOM OF STRUCTURE ELEVATION PRIOR TO SETTING FIRST DEFENSE MANHOLE.

3. CONTRACTOR TO CONFIRM RIM, PIPE INVERTS, PIPE DIA. AND PIPE ORIENTATION PRIOR TO RELEASE OF UNIT TO FABRICATION.

HYDRO FRAME AND COVER (INCLUDED)

GRADE RINGS BY OTHERS AS REQUIRED

GENERAL DETAIL PROVIDED FOR REFERENCE ONLY. NOT FOR CONSTRUCTION

PRODUCT SPECIFICATION:

1. Peak Hydraulic Flow: 18.0 cfs (510 l/s)
2. Min Sediment Storage Capacity: 0.7 cu. yd. (0.5 cu. m.)
3. Maximum Inlet/Outlet Pipe Diameters: 24 in. (600 mm)
4. The Treatment System Shall Use An Induced Vortex To Separate Pollutants From Stormwater Runoff.
5. For More Product Information Including Regulatory Acceptances, Please Visit https://hydro-int.com/en/products/first-defense

GENERAL NOTES:
1. General Arrangement drawings only. Contact Hydro International for site specific drawings.
2. The diameter of the inlet and outlet pipes may be no more than 24".
3. Multiple inlet pipes possible (refer to project plan).
4. Inlet/outlet pipe angle can vary to align with drainage network (refer to project plans).
5. Peak flow rate and minimum height limited by available cover and pipe diameter.
6. Larger sediment storage capacity may be provided with a deeper sump depth.

PARTS LIST

ITEM	QTY	SIZE (in)	SIZE (mm)	DESCRIPTION
1	1	48	1200	I.D. PRECAST MANHOLE
2	1			INTERNAL COMPONENTS (PRE-INSTALLED)
3	1	30	750	FRAME AND COVER (ROUND)
4	1	24 (MAX)	600 (MAX)	OUTLET PIPE (BY OTHERS)
5	1	24 (MAX)	600 (MAX)	INLET PIPE (BY OTHERS)

PROJECTION

IF IN DOUBT ASK

DATE: 11/2/2021 | SCALE: 1:30

DRAWN BY: ER | CHECKED BY: MRJ | APPROVED BY

Title: 4-ft DIAMETER FIRST DEFENSE

GENERAL ARRANGEMENT

Hydro International

hydro-int.com

HYDRO INTERNATIONAL

WEIGHT: | MATERIAL:

STOCK NUMBER:

DRAWING NO.: FD GA-4

SHEET SIZE: B | SHEET: 1 OF 1 | Rev: -

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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ANN ARBOR, MI 48107-8647
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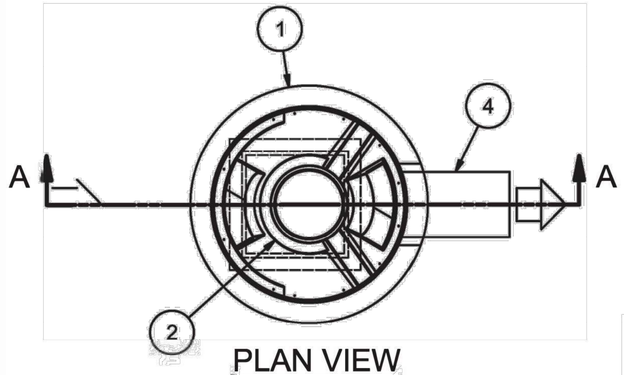
DETAILS

SCALE : NTS

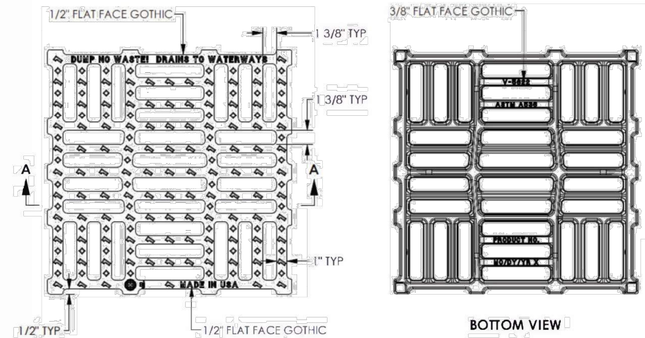
DRAWING No. 2023-023-11

SHEET No. 11 OF 83

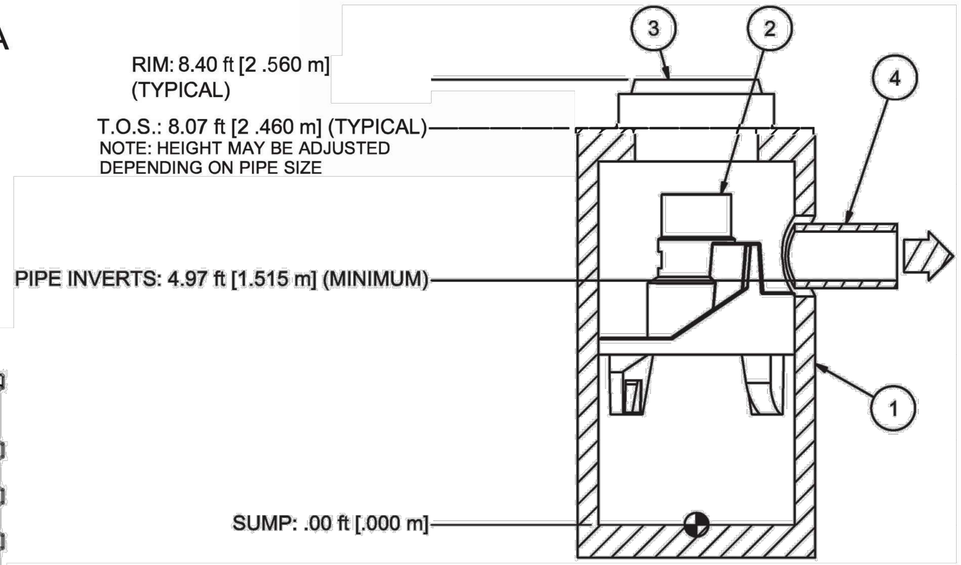
Know what's below. Call before you dig. 811



PLAN VIEW



BOTTOM VIEW



SECTION A-A

NOTE: PRETREATMENT STRUCTURE FRAMES AND COVERS TO BE COATED CONSISTENT WITH TYPICAL ANN ARBOR FRAME AND COVERS

SEE SHEET 39 FOR PRETREATMENT STRUCTURE LOCATIONS PAID FOR AS "DS_STORM PRETREATMENT STRUCTURE, FIRST DEFENSE, 48 IN. DIA., INLET"

GENERAL DETAIL PROVIDED FOR REFERENCE ONLY. NOT FOR CONSTRUCTION

PRODUCT SPECIFICATION:

1. PEAK HYDRAULIC FLOW: 18.0 cfs (510 l/s)
2. MIN SEDIMENT STORAGE CAPACITY: 0.7 cu. yd. (0.5 cu. m.)
3. OIL STORAGE CAPACITY: 191 gal. (723 liters)
4. MAXIMUM INLET/OUTLET PIPE DIAMETERS: 24 in. (600 mm)
5. THE TREATMENT SYSTEM SHALL USE AN INDUCED VORTEX TO SEPARATE POLLUTANTS FROM STORMWATER RUNOFF.

PROJECT SPECIFICATIONS:

	INVERT	MATERIAL	DIAMETER
RIM		-	-
OUTLET			
INLET 1			
INLET 2	-	-	-
INLET 3	-	-	-

PARTS LIST

ITEM	QTY	SIZE (in)	SIZE (mm)	DESCRIPTION
1	1	48	1200	I.D. PRECAST MANHOLE
2	1			INTERNAL COMPONENTS (PRE-INSTALLED)
3	1	24	600	FRAME AND GRATE (SQUARE)
4	1	24 (MAX)	600 (MAX)	OUTLET PIPE (BY OTHERS)

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERENCES ARE:

FRACTIONS ± 1/16
DECIMALS ± .06
ANGLES ± 1°

PROJECTION

COMMENTS:
1. MANHOLE WALL AND SLAB THICKNESSES ARE NOT TO SCALE.

2. CONTACT HYDRO INTERNATIONAL FOR A BOTTOM OF STRUCTURE ELEVATION PRIOR TO SETTING FIRST DEFENSE MANHOLE.

3. CONTRACTOR TO CONFIRM RIM, PIPE INVERTS, PIPE DIA. AND PIPE ORIENTATION PRIOR TO RELEASE OF UNIT TO FABRICATION.

DATE: 10/11/18
SCALE: NTS
DRAWN BY: JLL3
CHECKED BY:
APPROVED BY

Title
4-ft DIAMETER
FIRST DEFENSE HIGH CAPACITY

GENERAL ARRANGEMENT

Hydro International
94 Hutchins Drive
Portland, ME 04102
Tel: +1 (207) 756-6200
Fax: +1 (207) 756-6212
hydro-int.com

APPROX WEIGHT: N/A
MATERIAL:
NEXT ASSEMBLY: -NEXT ASSY
DRAWING NO.: -FDHC GA
SHEET SIZE: B
SHEET: 1 OF 1
Rev: -

811 Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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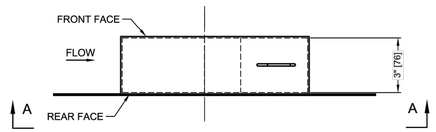
DETAILS

SCALE : NTS

DRAWING No. 2023-023-12

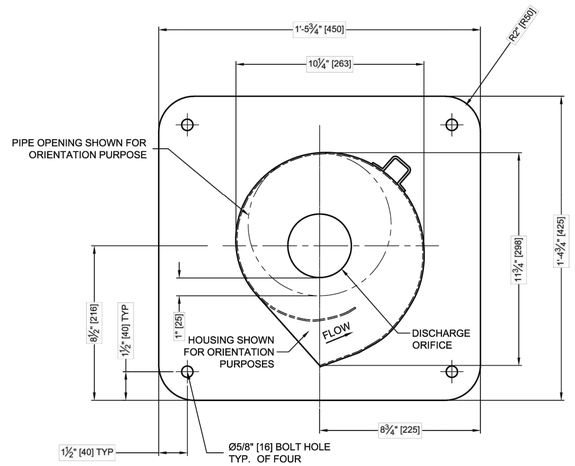
SHEET No. 12 OF 83



TOP VIEW

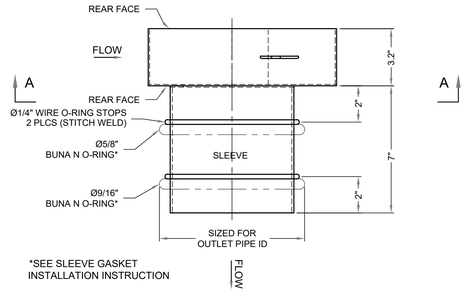
NOTES

1. ALL WELDS CONTINUOUS, UNLESS OTHERWISE NOTED
   MATERIALS:
   - 12 Ga. 304L STAINLESS STEEL
2. MANUFACTURE HOUSING AND BYPASS DOOR AND ASSEMBLE PER DRAWING "FLUIDIC-AMP FABRICATION DETAILS FA1012-FA2023 HOUSING AND INLET"



REAR VIEW

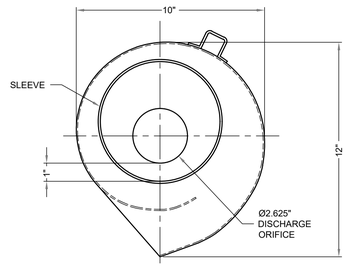
CONTECH ENGINEERED SOLUTIONS LLC www.contechES.com 200 Enterprise Drive, Scarborough, ME 04074 877-907-8676 207-885-9830 207-885-9825 FAX	TYPICAL FABRICATION DRAWING FOR FLUIDIC-AMP VORTEX VALVE MODEL FA1012 w/ PLATE ATTACHMENT			
DATE:06/09/10	SCALE: 1:5	FILE NAME: TYPFA1012-FAB-P	DRAWN: DWB	CHECKED: WSG



TOP VIEW

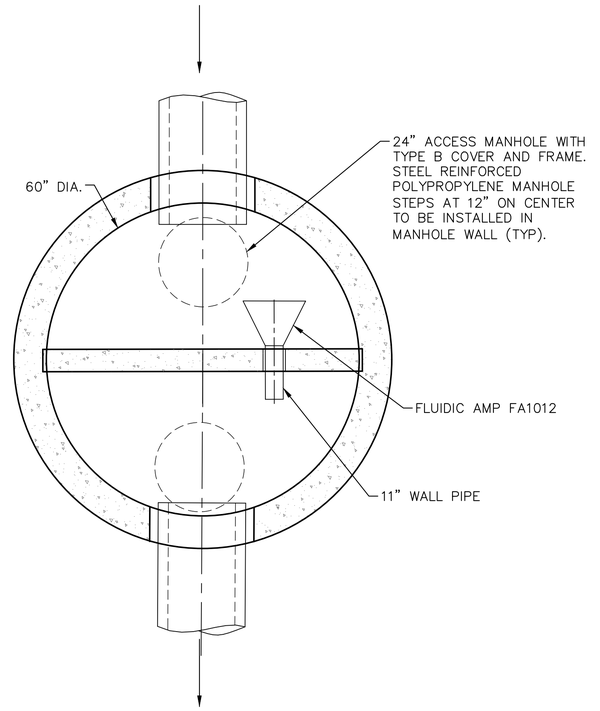
NOTES

1. ALL WELDS CONTINUOUS, UNLESS OTHERWISE NOTED
2. MATERIALS:
   - 1/8" ALUMINUM 5052 OR 12 GAGE STAINLESS STEEL 304L
   - (1) 5/8" AND (1) 9/16" BUNA N, 50 DUROMETER O-RINGS

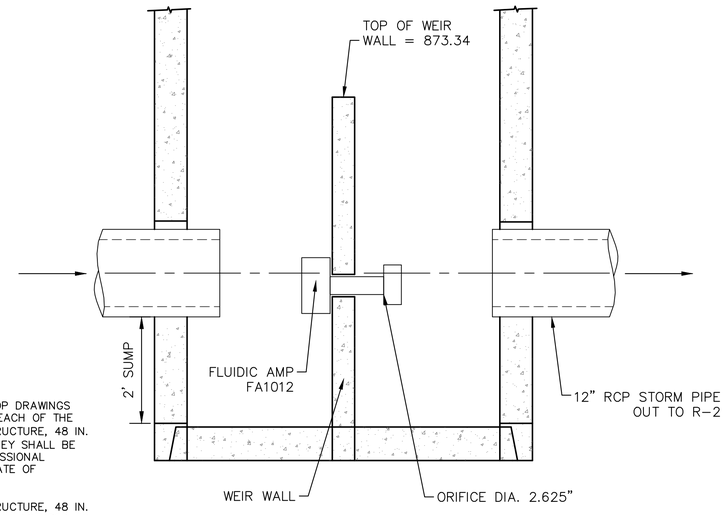


SECTION A-A VIEW

CONTECH ENGINEERED SOLUTIONS LLC www.ContechES.com 71 US RT 1 SUITE F, Scarborough, ME 04074 877-907-8676 207-885-9830 207-885-9825 FAX	VORTEX VALVE MODEL FA1012 WITH SLEEVE ATTACHMENT			
DATE:11/15/16	SCALE: 1:5	FILE NAME:FA1012-S DETAIL	DRAWN:DRA	CHECKED:

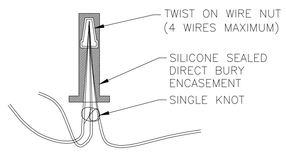


PLAN (NTS)



SECTION (NTS)

PAID FOR AS A PART OF DS_STORM OUTLET CONTROL STRUCTURE, 60 IN. DIA., (0-8' DEEP)



SPLICE CONNECTOR

NOTES:
1. WIRE SHALL BE CONTINUITY TESTED AFTER INSTALLATION. ANY WIRE WHICH FAILS THE CONTINUITY TEST SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.

TRACER WIRE SPLICE DETAIL
N.T.S.

NOTE:

1. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS AND DESIGN CALCULATIONS FOR EACH OF THE "DS_STORM OUTLET CONTROL STRUCTURE, 48 IN. DIA., (0-8' DEEP)" ITEMS AND THEY SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MICHIGAN.
2. "DS_STORM OUTLET CONTROL STRUCTURE, 48 IN. DIA., (0-8' DEEP)" SHALL BE MANUFACTURED TO ASTM C76-CL2 SPECIFICATIONS FOR HS-20 TRUCK LOADING.
3. REINFORCED CONCRETE DESIGN IS TO COMPLY WITH APPLICABLE MINIMUM REQUIREMENTS SET FORTH IN ACI 350-01(CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES).
4. TOP SLAB OF STRUCTURE SHALL BE PRE-CAST CONCRETE WITH TWO 24-INCH OPENINGS.

OUTLET CONTROL STRUCTURE, R-2

PAID FOR AS DS_STORM OUTLET CONTROL STRUCTURE, 60 IN. DIA., (0-8' DEEP)

Know what's below. Call before you dig. 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

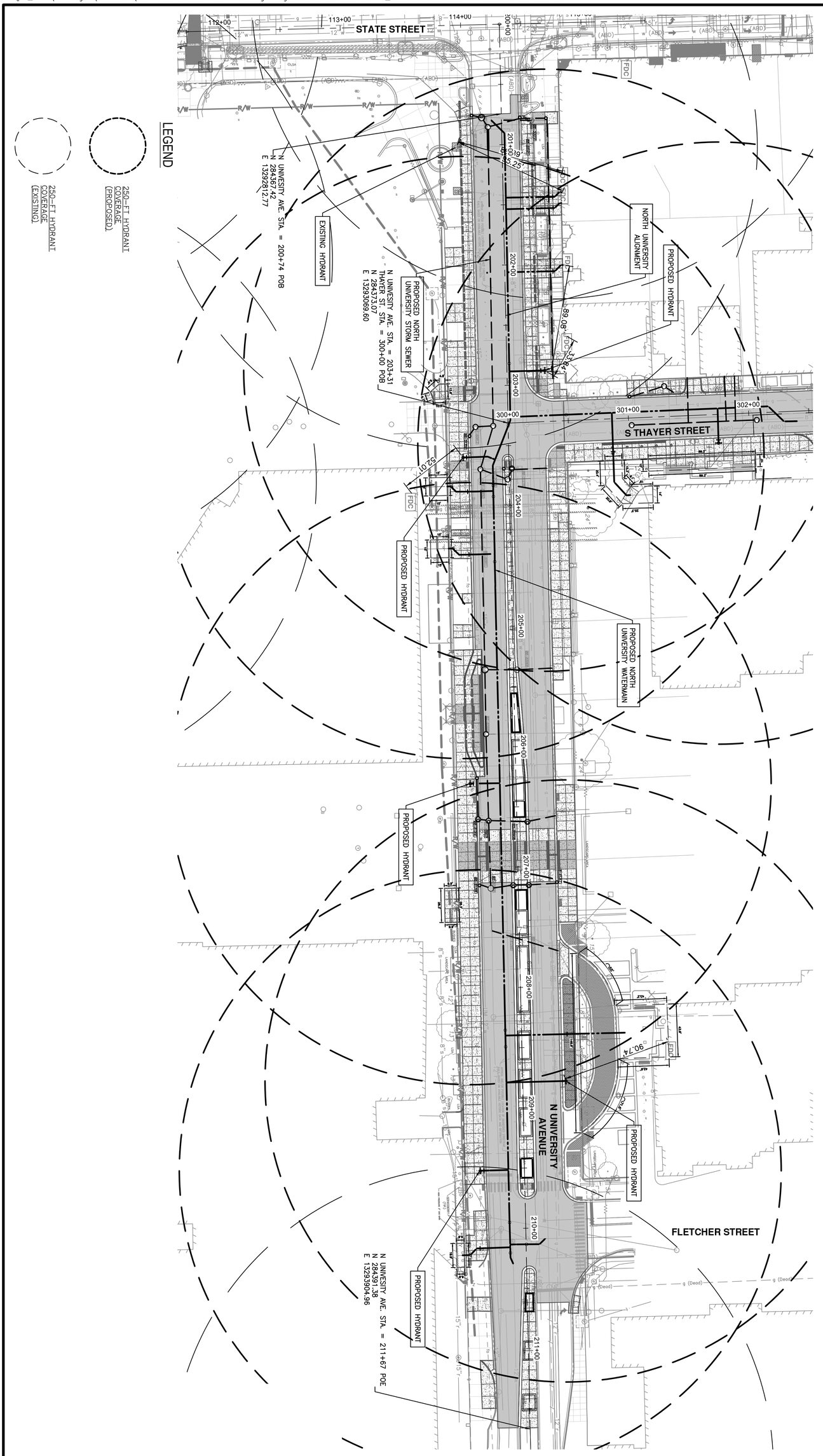
DETAILS

SCALE : NTS

DRAWING No. 2023-023-13

SHEET No. 13 OF 83

C:\pw_work\mflanagan\d1339881\CSP-PLTS-Overall Plan - NU.dwg Dwg Created: 22-Jan-26 - _a2 standard bw.stb - Plot Date: 25-Jan-26

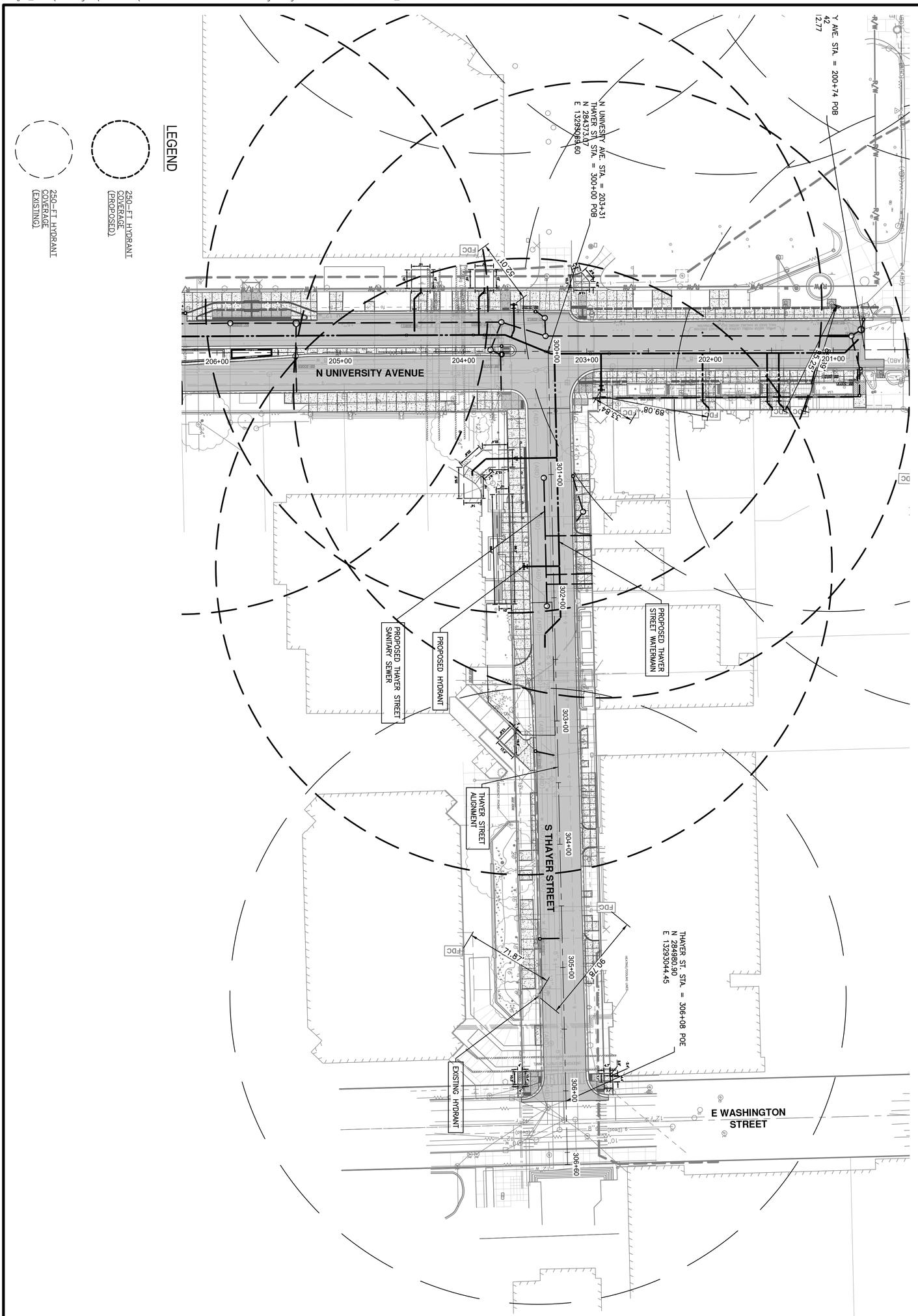


SHEET No.	CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING				
14 OF 83	SCALE : 1" = 40'	N. UNIVERSITY & THAYER IMPROVEMENTS	CITY OF ANN ARBOR PUBLIC SERVICES 301 EAST HURON STREET P.O. BOX 8647 ANN ARBOR, MI 48107-8647 734-794-6410 www.a2gov.org		
	DRAWING No. 2023-023-14	OVERALL PLAN WITH EXISTING UTILITIES			

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

811 Know what's below. Call before you dig.

C:\pw_work\mflanagan\d1339881\CSP-PLTS-Overall Plan - NU.dwg Dwg Created: 22-Jan-26 - _a2 standard bw.stb - Plot Date: 25-Jan-26



04	BID	01/26/2026	VARIOUS	MHM	
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM	
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM	
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM	
REV.	DESCRIPTION	DATE	DRAWN	CHECKED	

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE : 1" = 40'

DRAWING No.
2023-023-15

N. UNIVERSITY & THAYER IMPROVEMENTS

OVERALL PLAN WITH EXISTING UTILITIES

SHEET No.
15 OF 83

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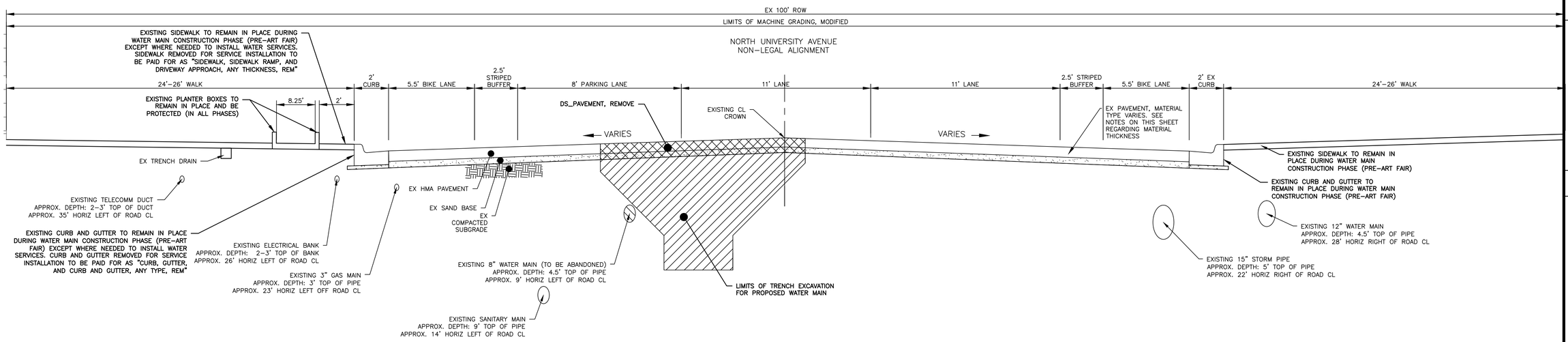
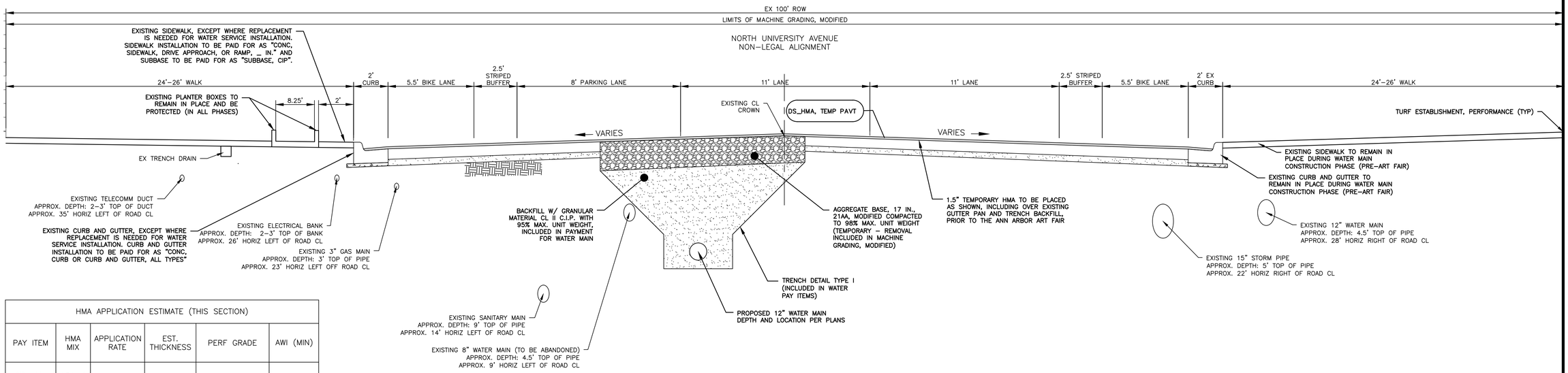
EXISTING GEOTECHNICAL INFORMATION
B–12: 10' SOIL BORING INDICATES 6 ½" HMA PAVEMENT; 4" SAND BASE; 46" BROWN CLAYEY SAND WITH CLAYEY FINES; 41" BROWN POORLY GRADED SAND WITH COARSE TO FINE GRAVEL; AND 24" BROWN POORLY GRADED SAND WITH FINE GRAVEL AND SILTY FINES.

NOTE: THIS SECTION MAY CONTAIN REMNANTS OF TROLLEY TRACKS BELOW THE PAVEMENT SURFACE, INCLUDING MATERIALS SUCH AS CONCRETE, WOOD, RAIL TIES, BRICKS, AND STEEL BARS. THE CONTRACTOR SHALL REMOVE THESE MATERIALS AS ENCOUNTERED THROUGHOUT THE PROJECT AREA, AS PAID FOR AS PART OF "DS_TROLLEY TRACK REMOVE" PAY ITEM.



N UNIVERSITY EXISTING CROSS SECTION 1
PRE–ART FAIR PHASE
FOR WATER MAIN INSTALLATION ONLY
STA 200+00 – STA 203+30



HMA APPLICATION ESTIMATE (THIS SECTION)					
PAY ITEM	HMA MIX	APPLICATION RATE	EST. THICKNESS	PERF GRADE	AWI (MIN)
DS_HMA PAVT, TEMP	13A / LVSP	165 LB/SYD	1.5 INCH	PG 58–28	260

FOR INFORMATION ONLY: APPLY BOND COAT AT 0.05 TO 0.15 GAL/SYD BETWEEN PROPOSED HMA LIFTS (PAYMENT INCLUDED IN PAYMENT FOR HMA MIXTURES).

N UNIVERSITY PROPOSED CROSS SECTION 1
PRE–ART FAIR PHASE
FOR WATER MAIN INSTALLATION ONLY
STA 200+00 – STA 203+30

Know what's below. Call before you dig. 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

TYPICAL SECTIONS - NORTH UNIVERSITY

SCALE: NTS

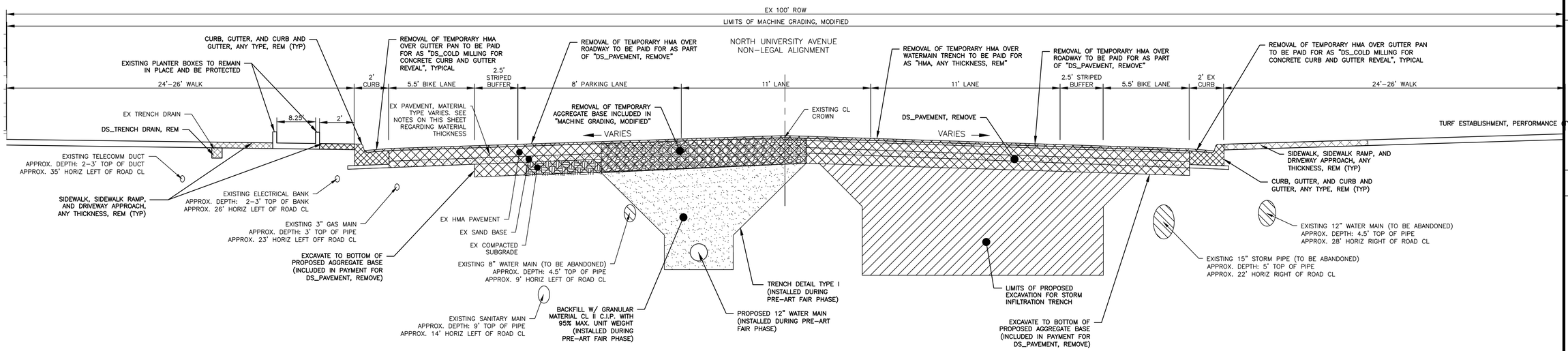
DRAWING No. 2023-023-16

SHEET No. 16 OF 83

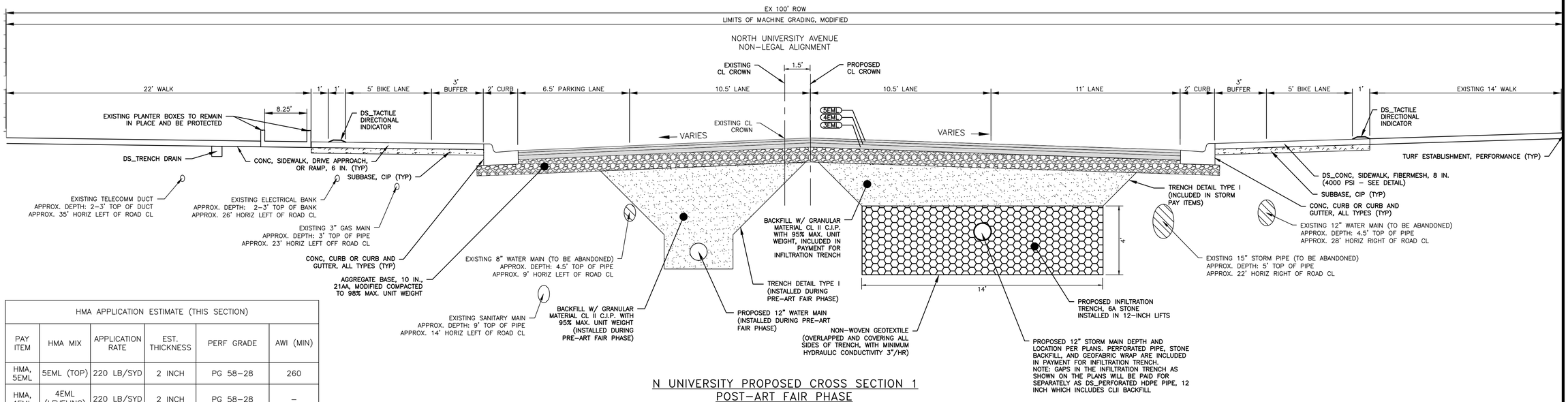
C:\pw_work\mflanagan\d1133981\CTP-PLTS-North University-Typicals.dwg Dwg Created: 24-Jan-26 - _a2 standard bw.stb - Plot Date: 25-Jan-26

EXISTING GEOTECHNICAL INFORMATION
B–12: 10' SOIL BORING INDICATES 6 ½" HMA PAVEMENT; 4" SAND BASE; 46" BROWN CLAYEY SAND WITH CLAYEY FINES; 41" BROWN POORLY GRADED SAND WITH COARSE TO FINE GRAVEL; AND 24" BROWN POORLY GRADED SAND WITH FINE GRAVEL AND SILTY FINES.

NOTE: THIS SECTION MAY CONTAIN REMNANTS OF TROLLEY TRACKS BELOW THE PAVEMENT SURFACE, INCLUDING MATERIALS SUCH AS CONCRETE, WOOD, RAIL TIES, BRICKS, AND STEEL BARS. THE CONTRACTOR SHALL REMOVE THESE MATERIALS AS ENCOUNTERED THROUGHOUT THE PROJECT AREA, AS PAID FOR AS PART OF "DS_TROLLEY TRACK REMOVE" PAY ITEM.



N UNIVERSITY EXISTING CROSS SECTION 1
POST–ART FAIR PHASE
STA 200+00 – STA 203+30



N UNIVERSITY PROPOSED CROSS SECTION 1
POST–ART FAIR PHASE
STA 200+00 – STA 203+30

HMA APPLICATION ESTIMATE (THIS SECTION)					
PAY ITEM	HMA MIX	APPLICATION RATE	EST. THICKNESS	PERF GRADE	AWI (MIN)
HMA, 5EML	5EML (TOP)	220 LB/SYD	2 INCH	PG 58–28	260
HMA, 4EML	4EML (LEVELING)	220 LB/SYD	2 INCH	PG 58–28	–
HMA, 3EML	3EML (BASE)	330 LB/SYD	3 INCH	PG 58–28	–

FOR INFORMATION ONLY: APPLY BOND COAT AT 0.05 TO 0.15 GAL/SYD BETWEEN PROPOSED HMA LIFTS (PAYMENT INCLUDED IN PAYMENT FOR HMA MIXTURES).

Know what's below. Call before you dig. 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

TYPICAL SECTIONS - NORTH UNIVERSITY

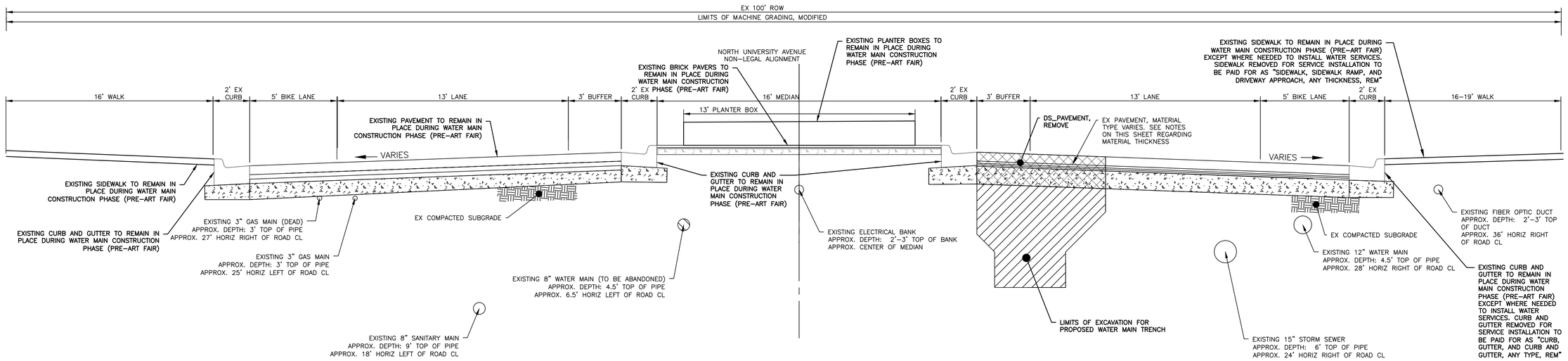
SCALE: NTS

DRAWING No. 2023-023-17

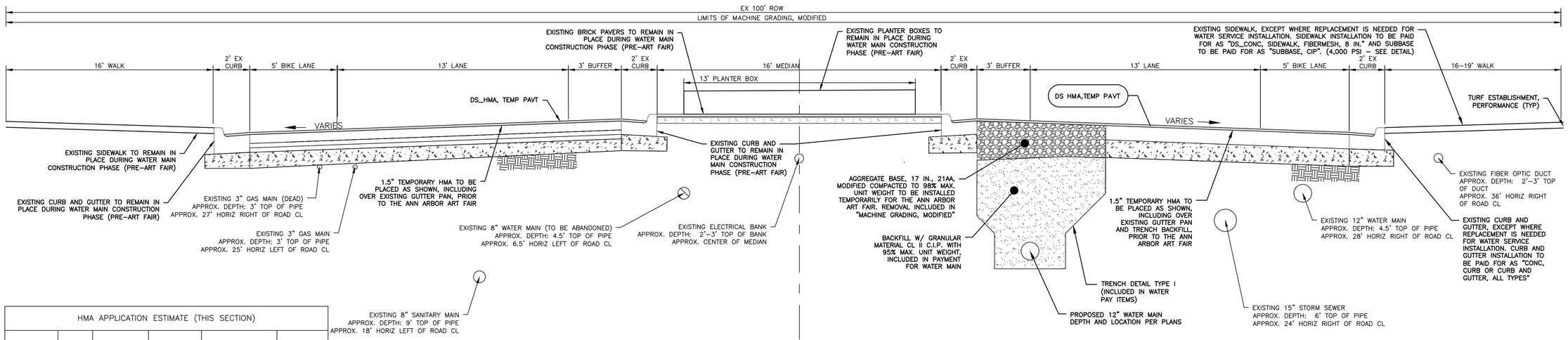
SHEET No. 17 OF 83

EXISTING GEOTECHNICAL INFORMATION
B–13: 5' SOIL BORINGS INDICATE 3.5"–4" OF HMA PAVEMENT, 3" BRICK OR 4 ½" OF CONCRETE, 6" OF CRUSHED LIMESTONE AGGREGATE BASE, 19"–30" OF BROWN POORLY GRADED SAND WITH FEW CLAYEY FINES AND FEW FINE GRAVEL, AND 20" OF BROWN POORLY GRADED SAND WITH FEW COARSE TO FINE GRAVEL AND TRACE SILTY FINES. AUGER REFUSAL AT 4.5' DUE TO POSSIBLE COARSE GRAVEL.

NOTE: THIS SECTION MAY CONTAIN REMNANTS OF TROLLEY TRACKS BELOW THE PAVEMENT SURFACE, INCLUDING MATERIALS SUCH AS CONCRETE, WOOD, RAIL TIES, BRICKS, AND STEEL BARS. THE CONTRACTOR SHALL REMOVE THESE MATERIALS AS ENCOUNTERED THROUGHOUT THE PROJECT AREA, AS PAID FOR AS PART OF "DS_TROLLEY TRACK REMOVE" PAY ITEM.



N UNIVERSITY EXISTING CROSS SECTION 2
PRE–ART FAIR PHASE
FOR WATER MAIN INSTALLATION ONLY
STA 203+30 – STA 205+30



N UNIVERSITY PROPOSED CROSS SECTION 2
PRE–ART FAIR PHASE
FOR WATER MAIN INSTALLATION ONLY
STA 203+60 – STA 205+30

HMA APPLICATION ESTIMATE (THIS SECTION)					
PAY ITEM	HMA MIX	APPLICATION RATE	EST. THICKNESS	PERF GRADE	AWI (MIN)
DS_HMA PAVT, TEMP	13A / LVSP	165 LB/SYD	1.5 INCH	PG 58–28	260

FOR INFORMATION ONLY: APPLY BOND COAT AT 0.05 TO 0.15 GAL/SYD BETWEEN PROPOSED HMA LIFTS (PAYMENT INCLUDED IN PAYMENT FOR HMA MIXTURES).

NOTE: WATERMAIN INSTALLATION AT THE DEPTH AND LOCATION SPECIFIED ON THE PLANS WILL LIKELY REQUIRE THE USE OF TRENCH BOXES IN ORDER TO PROTECT EXISTING ADJACENT CURB AND GUTTER AND TO KEEP THE EXISTING WATERMAIN LIVE. THIS SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE UNIT PRICE FOR WATERMAIN.

Know what's below. Call before you dig. 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

TYPICAL SECTIONS - NORTH UNIVERSITY

SCALE : NTS

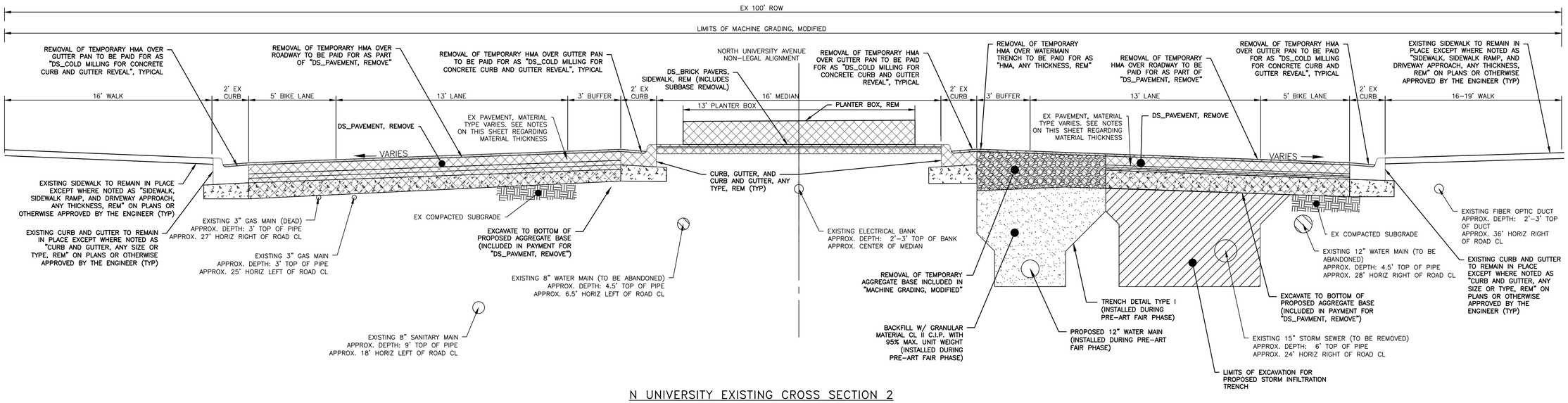
DRAWING No. 2023-023-18

SHEET No. 18 OF 83

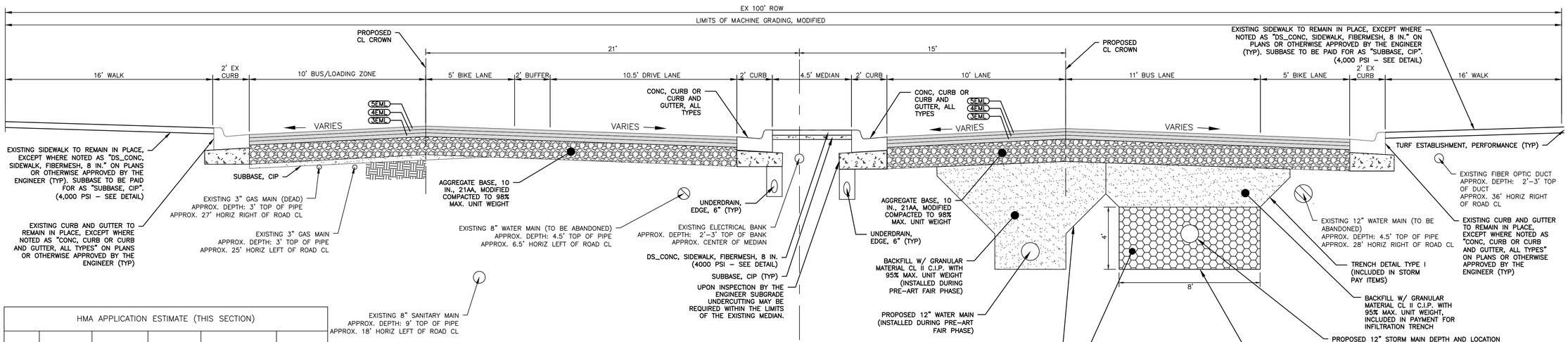
C:\pw_work\mflanagan\d133988\1\CTP-PLTS-North University-Typicals.dwg Dwg Created: 24-Jan-26 - _a2 standard bw.stb - Plot Date: 25-Jan-26

EXISTING GEOTECHNICAL INFORMATION
B-13: 5' SOIL BORINGS INDICATE 3.5"-4" OF HMA PAVEMENT, 3" BRICK OR 4 ½" OF CONCRETE, 6" OF CRUSHED LIMESTONE AGGREGATE BASE, 19"-30" OF BROWN POORLY GRADED SAND WITH FEW CLAYEY FINES AND FEW FINE GRAVEL, AND 20" OF BROWN POORLY GRADED SAND WITH FEW COARSE TO FINE GRAVEL AND TRACE SILTY FINES. AUGER REFUSAL AT 4.5' DUE TO POSSIBLE COARSE GRAVEL.

NOTE: THIS SECTION MAY CONTAIN REMNANTS OF TROLLEY TRACKS BELOW THE PAVEMENT SURFACE, INCLUDING MATERIALS SUCH AS CONCRETE, WOOD, RAIL TIES, BRICKS, AND STEEL BARS. THE CONTRACTOR SHALL REMOVE THESE MATERIALS AS ENCOUNTERED THROUGHOUT THE PROJECT AREA, AS PAID FOR AS PART OF "DS_TROLLEY TRACK REMOVE" PAY ITEM.



N UNIVERSITY EXISTING CROSS SECTION 2
POST-ART FAIR PHASE
STA 203+30 - STA 205+30



HMA APPLICATION ESTIMATE (THIS SECTION)					
PAY ITEM	HMA MIX	APPLICATION RATE	EST. THICKNESS	PERF GRADE	AWI (MIN)
HMA, 5EML	5EML (TOP)	220 LB/SYD	2 INCH	PG 58-28	260
HMA, 4EML	4EML (LEVELING)	220 LB/SYD	2 INCH	PG 58-28	–
HMA, 3EML	3EML (BASE)	330 LB/SYD	3 INCH	PG 58-28	–

FOR INFORMATION ONLY: APPLY BOND COAT AT 0.05 TO 0.15 GAL/SYD BETWEEN PROPOSED HMA LIFTS (PAYMENT INCLUDED IN PAYMENT FOR HMA MIXTURES).

N UNIVERSITY PROPOSED CROSS SECTION 2
POST-ART FAIR PHASE
STA 203+60 - STA 205+30

Know what's below. Call before you dig. 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

TYPICAL SECTIONS - NORTH UNIVERSITY

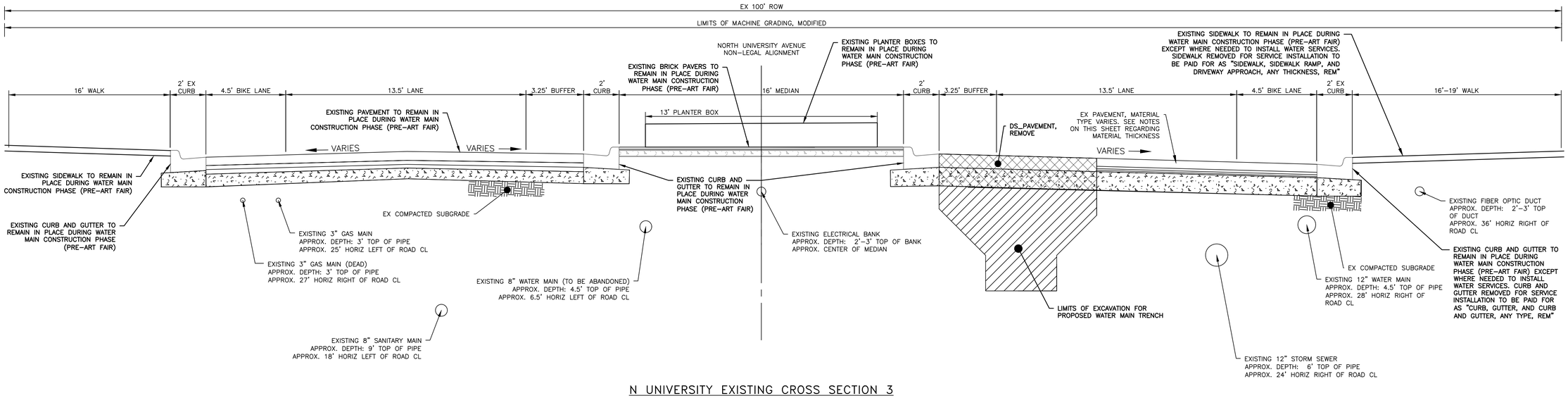
SCALE : NTS

DRAWING No. 2023-023-19

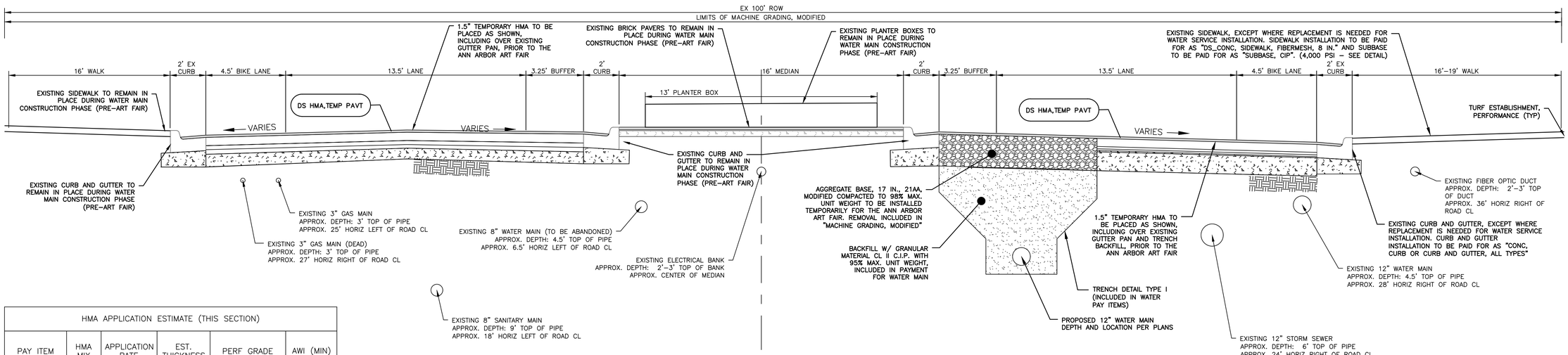
SHEET No. 19 OF 83

EXISTING GEOTECHNICAL INFORMATION
B–14: 5' SOIL BORING INDICATES 8 ½" OF HMA PAVEMENT, 15" OF CRUSHED LIMESTONE AGGREGATE BASE, 11" OF BROWN POORLY GRADED SAND WITH LITTLE CLAYEY FINES AND FEW COARSE TO FINE GRAVEL, AND 25" OF BROWN POORLY GRADED SAND WITH FEW COARSE TO FINE GRAVEL AND TRACE SILTY FINES.
B–15: 5' SOIL BORING LOCATED ON SOUTH SIDE OF MEDIAN INDICATES 4" OF HMA PAVEMENT, 3 ½" OF RED BRICK, 2" OF SAND BASE, 2 ½" OF CONCRETE, 8" OF CRUSHED LIMESTONE AGGREGATE BASE, 26" BROWN CLAYEY SAND WITH LITTLE CLAYEY FINES, AND TRACE COARSE TO FINE GRAVEL, AND 13" OF BROWN POORLY GRADED SAND WITH LITTLE COARSE TO FINE GRAVEL AND TRACE SILTY FINES.
B–16: 5'–10' SOIL BORINGS LOCATED ON NORTH SIDE OF MEDIAN INDICATE 4"–8" OF HMA PAVEMENT; 5.5" OF BRICK, 4" OF CONCRETE, OR 8" OF NATURAL AGGREGATE BASE WITH HMA MILLINGS; 20" OF BROWN CLAYEY SAND WITH SOME CLAYEY FINES; AND 84" BROWN POORLY GRADED SAND WITH FEW FINE GRAVEL AND TRACE SILTY FINES.

NOTE: THIS SECTION MAY CONTAIN REMNANTS OF TROLLEY TRACKS BELOW THE PAVEMENT SURFACE, INCLUDING MATERIALS SUCH AS CONCRETE, WOOD, RAIL TIES, BRICKS, AND STEEL BARS. THE CONTRACTOR SHALL REMOVE THESE MATERIALS AS ENCOUNTERED THROUGHOUT THE PROJECT AREA, AS PAID FOR AS PART OF "DS_TROLLEY TRACK REMOVE" PAY ITEM.



N UNIVERSITY EXISTING CROSS SECTION 3
PRE–ART FAIR PHASE
FOR WATER MAIN INSTALLATION ONLY
STA 205+30 – STA 210+00



N UNIVERSITY PROPOSED CROSS SECTION 3
PRE–ART FAIR PHASE
FOR WATER MAIN INSTALLATION ONLY
STA 205+30 – STA 210+00

HMA APPLICATION ESTIMATE (THIS SECTION)					
PAY ITEM	HMA MIX	APPLICATION RATE	EST. THICKNESS	PERF GRADE	AWI (MIN)
DS_HMA PAVT, TEMP	13A / LVSP	165 LB/SYD	1.5 INCH	PG 58–28	260

FOR INFORMATION ONLY: APPLY BOND COAT AT 0.05 TO 0.15 GAL/SYD BETWEEN PROPOSED HMA LIFTS (PAYMENT INCLUDED IN PAYMENT FOR HMA MIXTURES).

NOTE: WATERMAIN INSTALLATION AT THE DEPTH AND LOCATION SPECIFIED ON THE PLANS WILL LIKELY REQUIRE THE USE OF TRENCH BOXES IN ORDER TO PROTECT EXISTING ADJACENT CURB AND GUTTER AND TO KEEP THE EXISTING WATERMAIN LIVE. THIS SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE UNIT PRICE FOR WATERMAIN.

Know what's below. Call before you dig. 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
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734.794.6410
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

TYPICAL SECTIONS - NORTH UNIVERSITY

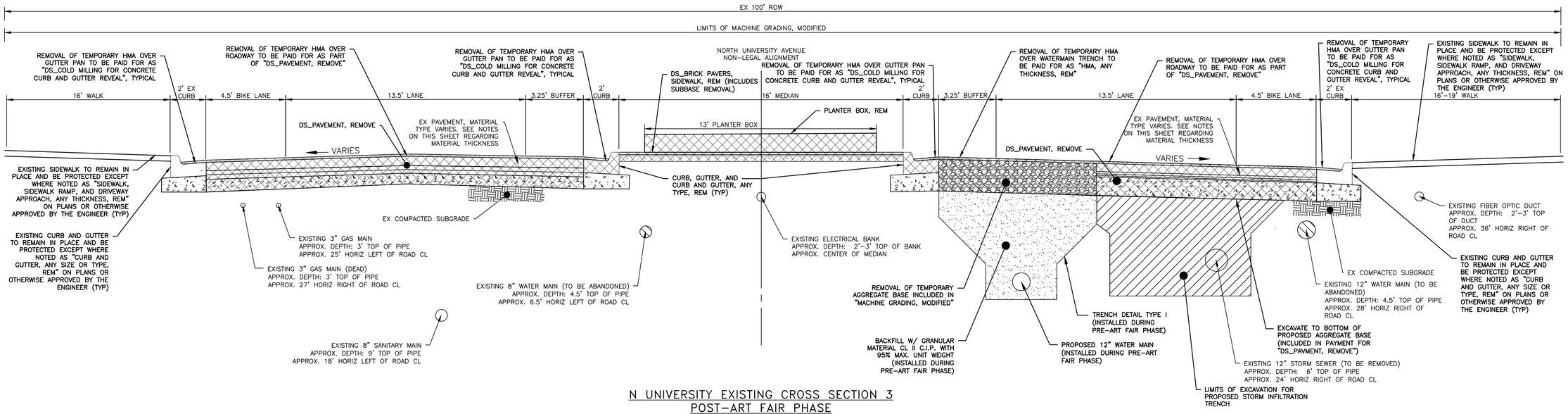
SCALE : NTS

DRAWING No. 2023-023-20

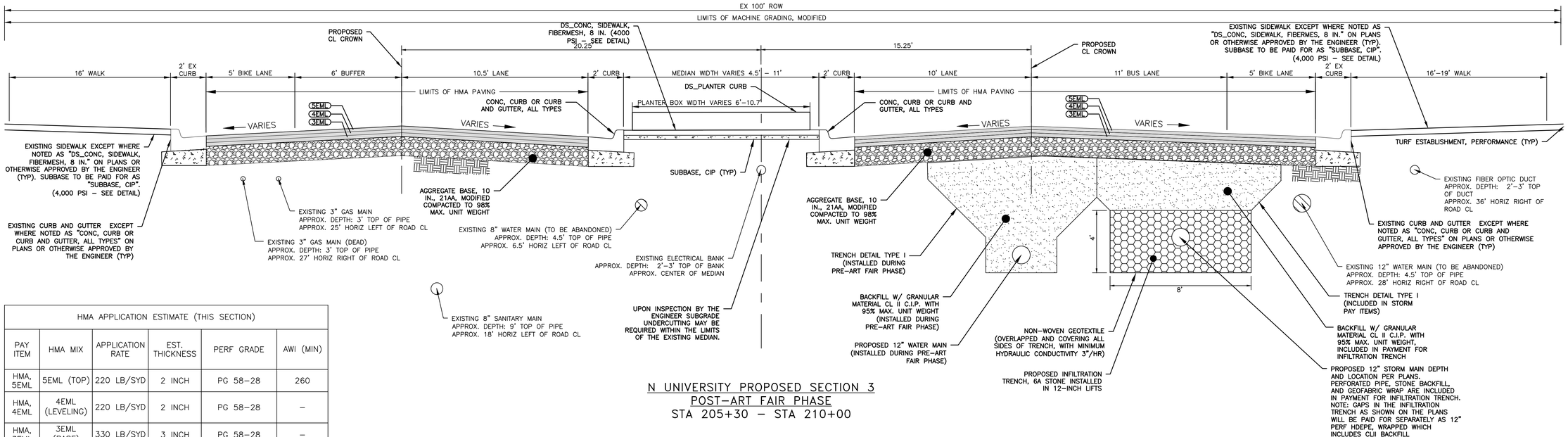
SHEET No. 20 OF 83

EXISTING GEOTECHNICAL INFORMATION
B–14: 5' SOIL BORING INDICATES 8 ¼" OF HMA PAVEMENT, 15" OF CRUSHED LIMESTONE AGGREGATE BASE, 11" OF BROWN POORLY GRADED SAND WITH LITTLE CLAYEY FINES AND FEW COARSE TO FINE GRAVEL, AND 25" OF BROWN POORLY GRADED SAND WITH FEW COARSE TO FINE GRAVEL AND TRACE SILTY FINES.
B–15: 5' SOIL BORING LOCATED ON SOUTH SIDE OF MEDIAN INDICATES 4" OF HMA PAVEMENT, 3 ½" OF RED BRICK, 2" OF SAND BASE, 2 ½" OF CONCRETE, 8" OF CRUSHED LIMESTONE AGGREGATE BASE, 26" BROWN CLAYEY SAND WITH LITTLE CLAYEY FINES, AND TRACE COARSE TO FINE GRAVEL, AND 13" OF BROWN POORLY GRADED SAND WITH LITTLE COARSE TO FINE GRAVEL AND TRACE SILTY FINES.
B–16: 5'–10' SOIL BORINGS LOCATED ON NORTH SIDE OF MEDIAN INDICATE 4"–8" OF HMA PAVEMENT; 5.5" OF BRICK, 4" OF CONCRETE, OR 8" OF NATURAL AGGREGATE BASE WITH HMA MILLINGS; 20" OF BROWN CLAYEY SAND WITH SOME CLAYEY FINES; AND 84" BROWN POORLY GRADED SAND WITH FEW FINE GRAVEL AND TRACE SILTY FINES.

NOTE: THIS SECTION MAY CONTAIN REMNANTS OF TROLLEY TRACKS BELOW THE PAVEMENT SURFACE, INCLUDING MATERIALS SUCH AS CONCRETE, WOOD, RAIL TIES, BRICKS, AND STEEL BARS. THE CONTRACTOR SHALL REMOVE THESE MATERIALS AS ENCOUNTERED THROUGHOUT THE PROJECT AREA, AS PAID FOR AS PART OF "DS_TROLLEY TRACK REMOVE" PAY ITEM.



N UNIVERSITY EXISTING CROSS SECTION 3
POST–ART FAIR PHASE
STA 205+30 – STA 210+00



N UNIVERSITY PROPOSED SECTION 3
POST–ART FAIR PHASE
STA 205+30 – STA 210+00

HMA APPLICATION ESTIMATE (THIS SECTION)					
PAY ITEM	HMA MIX	APPLICATION RATE	EST. THICKNESS	PERF GRADE	AWI (MIN)
HMA, 5EML	5EML (TOP)	220 LB/SYD	2 INCH	PG 58–28	260
HMA, 4EML	4EML (LEVELING)	220 LB/SYD	2 INCH	PG 58–28	–
HMA, 3EML	3EML (BASE)	330 LB/SYD	3 INCH	PG 58–28	–

FOR INFORMATION ONLY: APPLY BOND COAT AT 0.05 TO 0.15 GAL/SYD BETWEEN PROPOSED HMA LIFTS (PAYMENT INCLUDED IN PAYMENT FOR HMA MIXTURES).

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

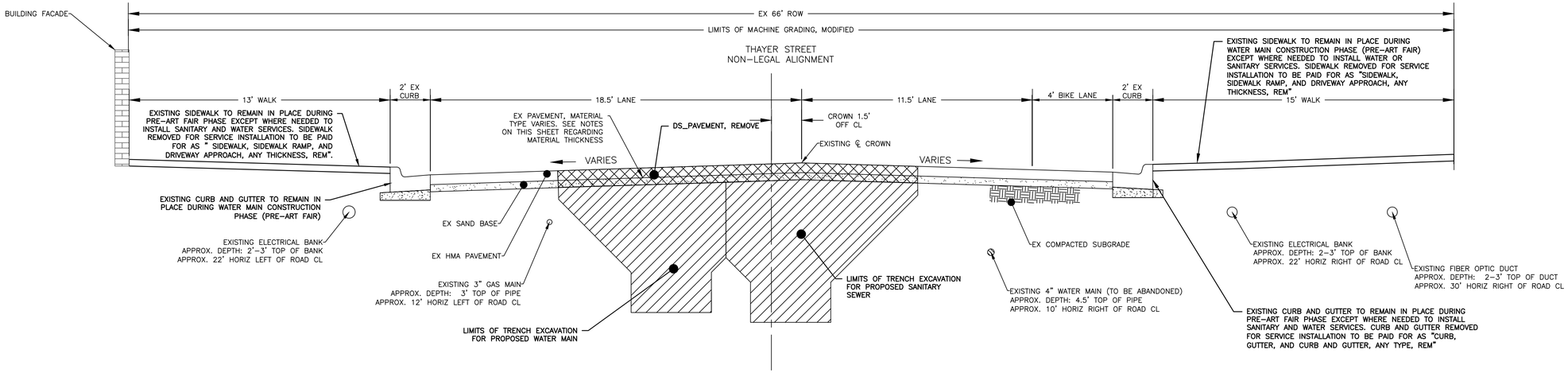
TYPICAL SECTIONS - NORTH UNIVERSITY

SCALE : NTS

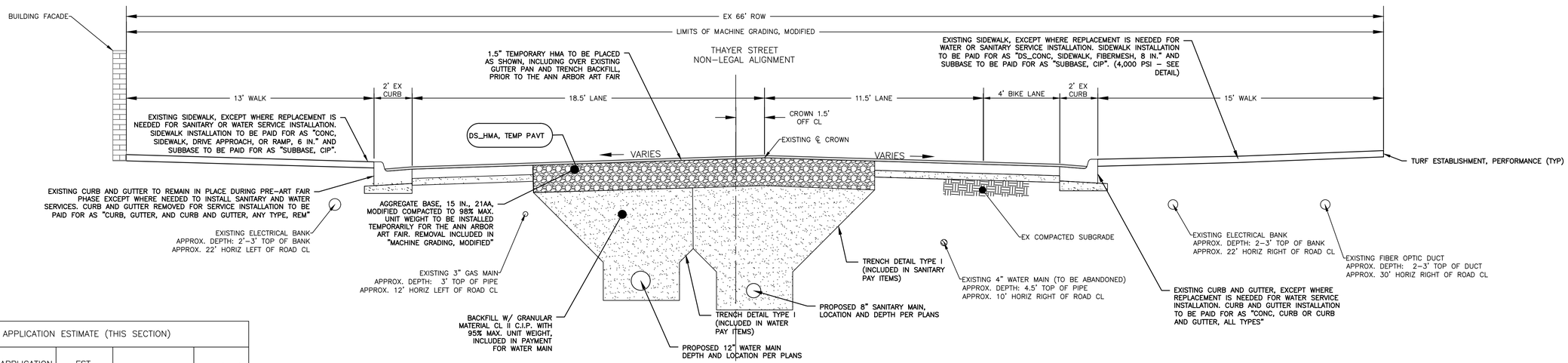
DRAWING No. 2023-023-21

SHEET No. 21 OF 83

EXISTING GEOTECHNICAL INFORMATION
B-1: 5' SOIL BORING INDICATES 5 ¾" OF ASPHALT, 4 ½" OF CONCRETE, 14" OF LOOSE MOIST BROWN CLAYEY WELL GRADED SAND WITH TRACE OF GRAVEL, 36" OF MEDIUM COMPACT MOIST BROWN SAND WITH TRACE OF GRAVEL.
B-2: 5' SOIL BORING INDICATES 5 ½" OF ASPHALT, 54" OF LOOSE MOIST BROWN CLAYEY WELL GRADED SAND WITH TRACE OF GRAVEL.



THAYER STREET EXISTING CROSS SECTION SOUTH
PRE-ART FAIR PHASE
FOR WATER MAIN AND SANITARY MAIN INSTALLATION ONLY
STA 300+00 – STA 302+25



THAYER STREET PROPOSED CROSS SECTION SOUTH
PRE-ART FAIR PHASE
FOR WATER MAIN AND SANITARY MAIN INSTALLATION ONLY
STA 300+00 – STA 302+25

HMA APPLICATION ESTIMATE (THIS SECTION)					
PAY ITEM	HMA MIX	APPLICATION RATE	EST. THICKNESS	PERF GRADE	AWI (MIN)
DS_HMA PAVT, TEMP	13A / LVSP	165 LB/SYD	1.5 INCH	PG 58-28	260

FOR INFORMATION ONLY: APPLY BOND COAT AT 0.05 TO 0.15 GAL/SYD BETWEEN PROPOSED HMA LIFTS (PAYMENT INCLUDED IN PAYMENT FOR HMA MIXTURES).

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
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02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

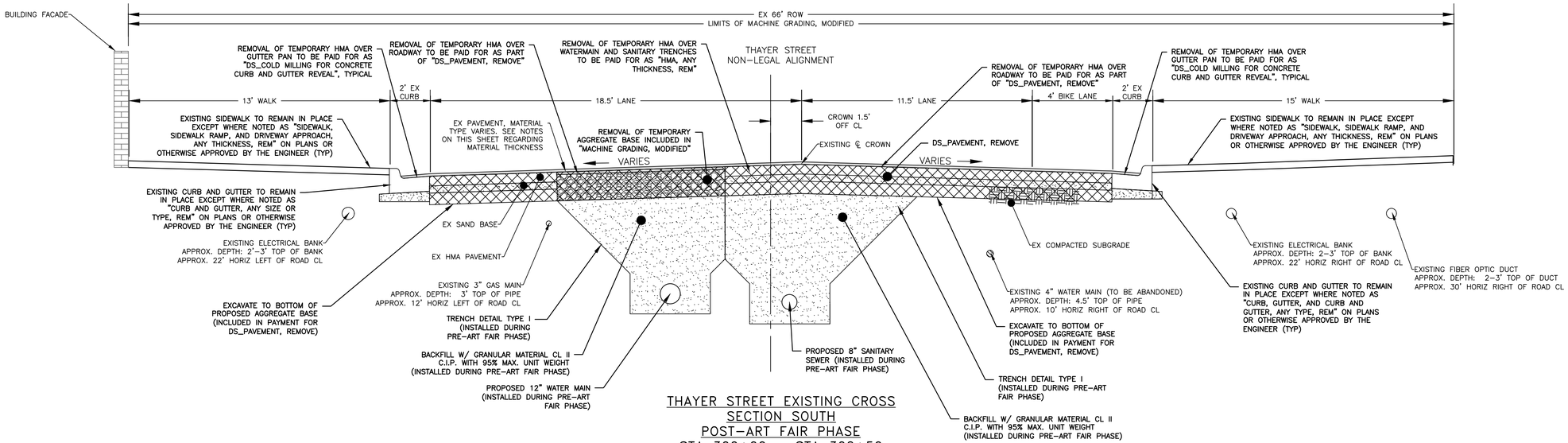
TYPICAL SECTIONS - THAYER

SCALE : NTS

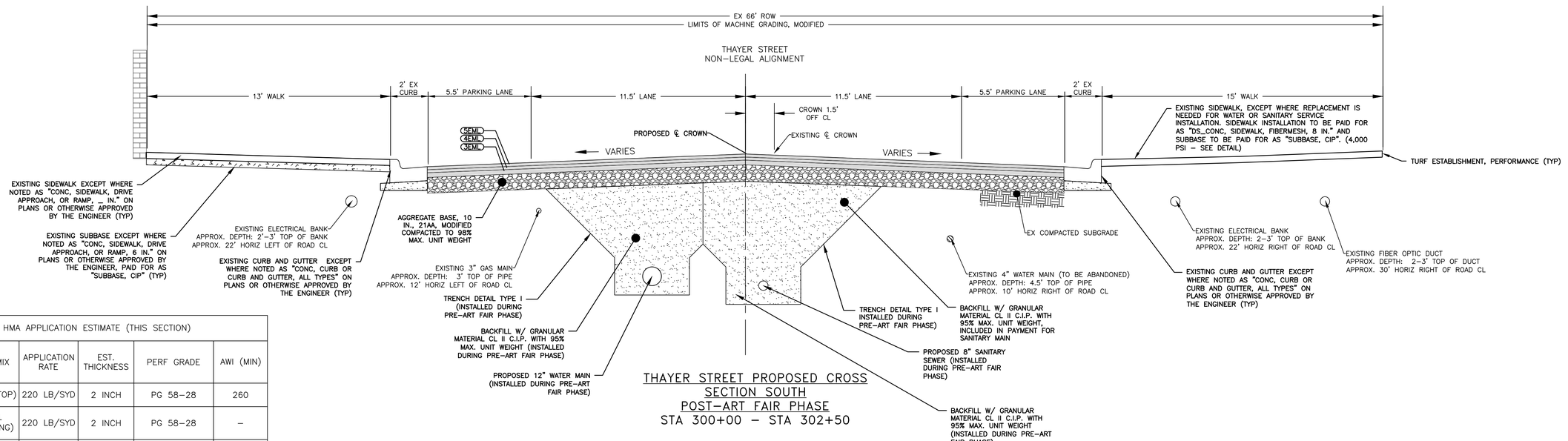
DRAWING No. 2023-023-22

SHEET No. 22 OF 83

EXISTING GEOTECHNICAL INFORMATION
B–1: 5' SOIL BORING INDICATES 5 ½" OF ASPHALT, 4 ½" OF CONCRETE, 14" OF LOOSE MOIST BROWN CLAYEY WELL GRADED SAND WITH TRACE OF GRAVEL, 36" OF MEDIUM COMPACT MOIST BROWN SAND WITH TRACE OF GRAVEL.
B–2: 5' SOIL BORING INDICATES 5 ½" OF ASPHALT, 54" OF LOOSE MOIST BROWN CLAYEY WELL GRADED SAND WITH TRACE OF GRAVEL.



THAYER STREET EXISTING CROSS SECTION SOUTH
POST–ART FAIR PHASE
STA 300+00 – STA 302+50



THAYER STREET PROPOSED CROSS SECTION SOUTH
POST–ART FAIR PHASE
STA 300+00 – STA 302+50

HMA APPLICATION ESTIMATE (THIS SECTION)					
PAY ITEM	HMA MIX	APPLICATION RATE	EST. THICKNESS	PERF GRADE	AWI (MIN)
HMA, 5EML	5EML (TOP)	220 LB/SYD	2 INCH	PG 58–28	260
HMA, 4EML	4EML (LEVELING)	220 LB/SYD	2 INCH	PG 58–28	–
HMA, 3EML	3EML (BASE)	330 LB/SYD	3 INCH	PG 58–28	–

FOR INFORMATION ONLY: APPLY BOND COAT AT 0.05 TO 0.15 GAL/SYD BETWEEN PROPOSED HMA LIFTS (PAYMENT INCLUDED IN PAYMENT FOR HMA MIXTURES).

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

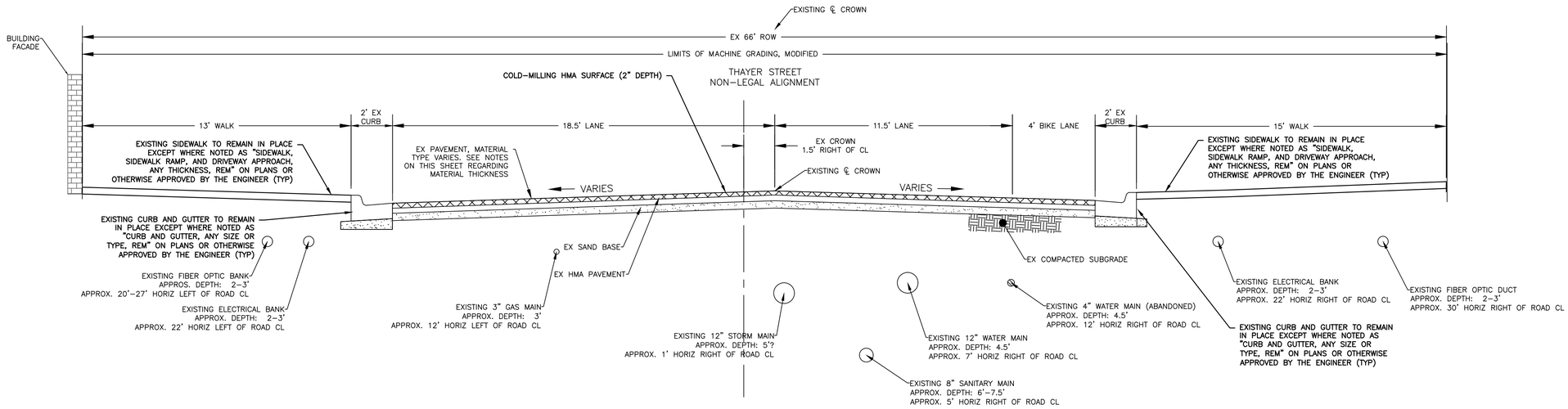
TYPICAL SECTIONS - THAYER

SCALE: NTS

DRAWING No. 2023-023-23

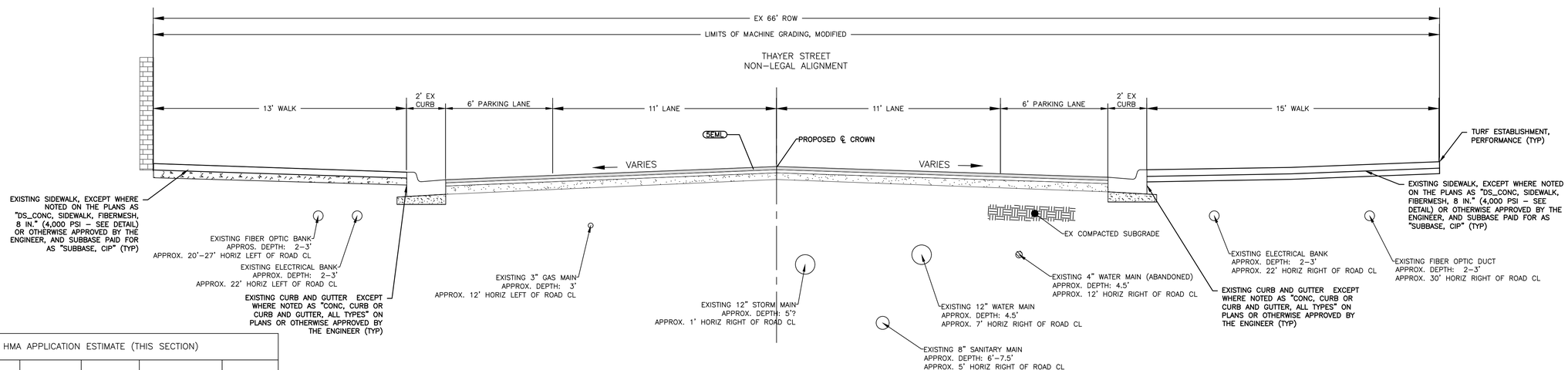
SHEET No. 23 OF 83

EXISTING GEOTECHNICAL INFORMATION
B–1: 5' SOIL BORING INDICATES 5 ¾" OF ASPHALT, 4 ½" OF CONCRETE, 14" OF LOOSE MOIST BROWN CLAYEY WELL GRADED SAND WITH TRACE OF GRAVEL, 36" OF MEDIUM COMPACT MOIST BROWN SAND WITH TRACE OF GRAVEL.
B–2: 5' SOIL BORING INDICATES 5 ¾" OF ASPHALT, 54" OF LOOSE MOIST BROWN CLAYEY WELL GRADED SAND WITH TRACE OF GRAVEL.



THAYER STREET EXISTING CROSS SECTION NORTH
POST–ART FAIR PHASE
STA 302+50 – STA 306+25

NOTE: THIS SECTION DOES NOT HAVE WORK PROPOSED FOR THE PRE–ART FAIR PHASE, ALL WORK WITHIN THIS SECTION IS TO OCCUR AFTER THE ART FAIR



HMA APPLICATION ESTIMATE (THIS SECTION)					
PAY ITEM	HMA MIX	APPLICATION RATE	EST. THICKNESS	PERF GRADE	AWI (MIN)
HMA, 5EML	5EML (TOP)	220 LB/SYD	2 INCH	PG 58–28	260

THAYER STREET PROPOSED CROSS SECTION NORTH
POST–ART FAIR PHASE
STA 302+50 – STA 306+25

NOTE: THIS SECTION DOES NOT HAVE WORK PROPOSED FOR THE PRE–ART FAIR PHASE, ALL WORK WITHIN THIS SECTION IS TO OCCUR AFTER THE ART FAIR

FOR INFORMATION ONLY: APPLY BOND COAT AT 0.05 TO 0.15 GAL/SYD BETWEEN PROPOSED HMA LIFTS (PAYMENT INCLUDED IN PAYMENT FOR HMA MIXTURES).

C:\pw_work\mflanagan\d133988\1\CTP-PLTS-North University-Typicals.dwg Dwg Created: 24-Jan-26 – _a2 standard bw.stb – Plot Date: 25-Jan-26

811 Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

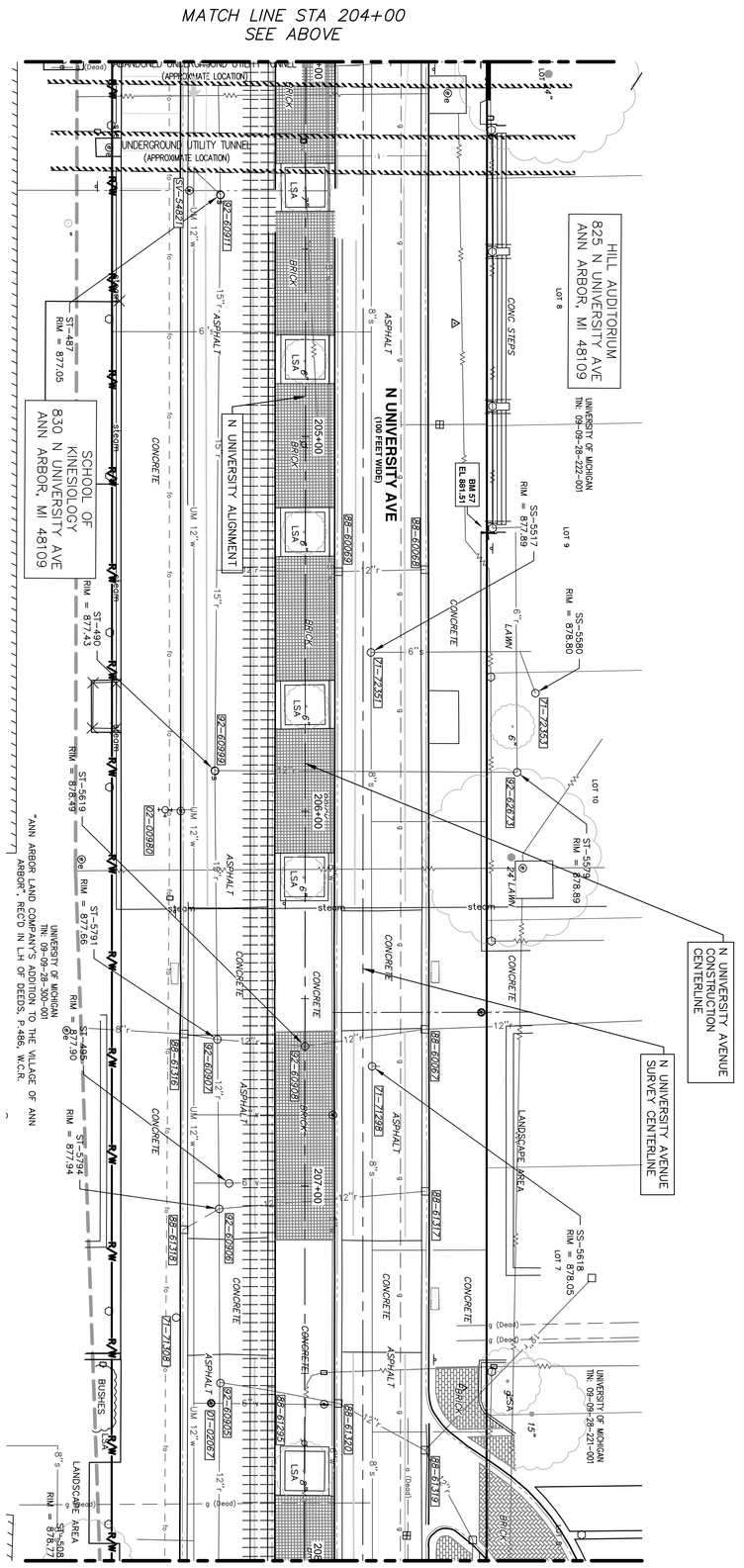
N. UNIVERSITY & THAYER IMPROVEMENTS

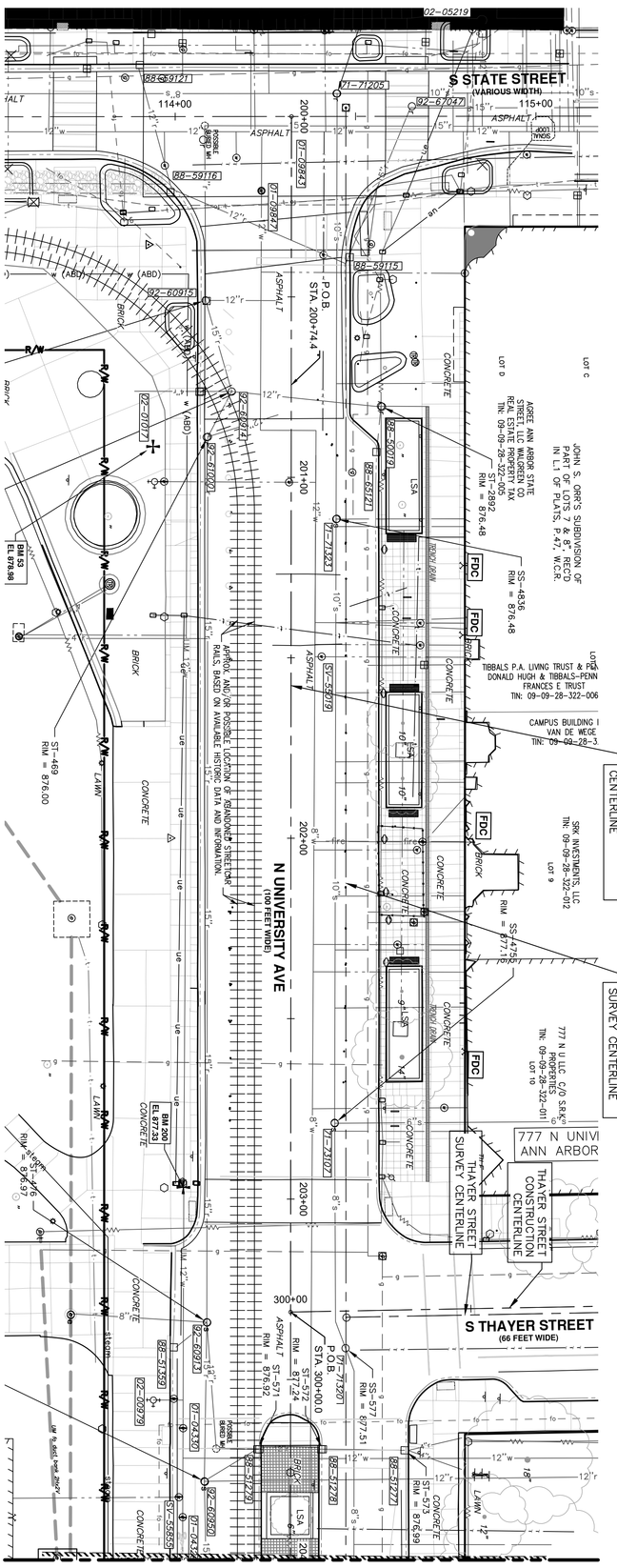
TYPICAL SECTIONS - THAYER

SCALE : NTS

DRAWING No. 2023-023-24

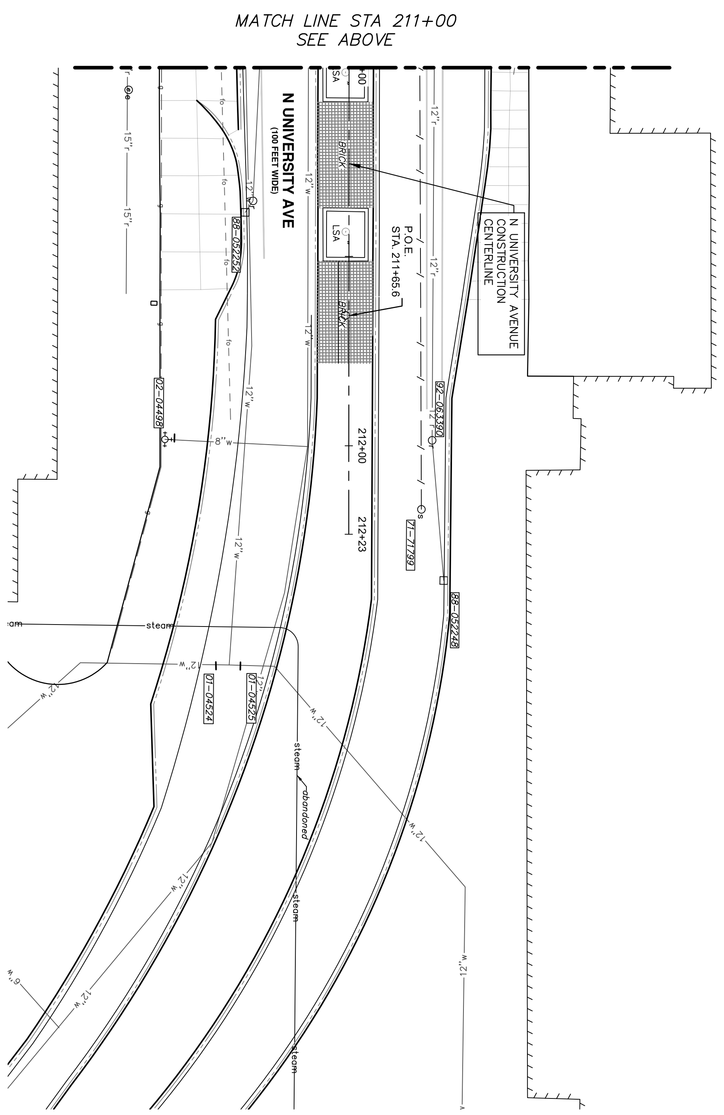
SHEET No. 24 OF 83

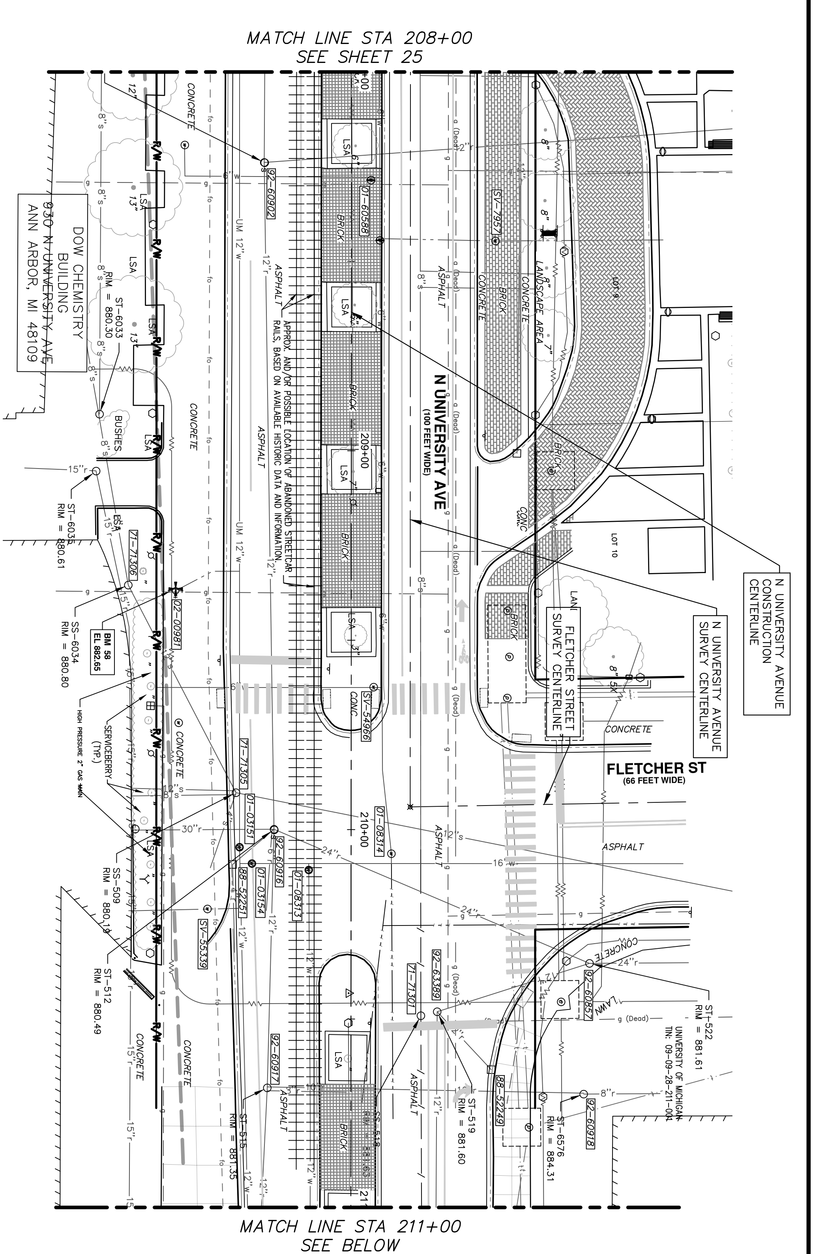




SHEET No. 25 OF 83	CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING	CITY OF ANN ARBOR PUBLIC SERVICES 301 EAST HURON STREET P.O. BOX 8647 ANN ARBOR, MI 48107-8647 734-794-6410 www.a2gov.org	REV.	DESCRIPTION	DATE / DRAWN / CHECKED
	SCALE : 1"=20'				
	DRAWING No. 2023-023-25	N. UNIVERSITY & THAYER IMPROVEMENTS			
		EXISTING CONDITIONS - NORTH UNIVERSITY			

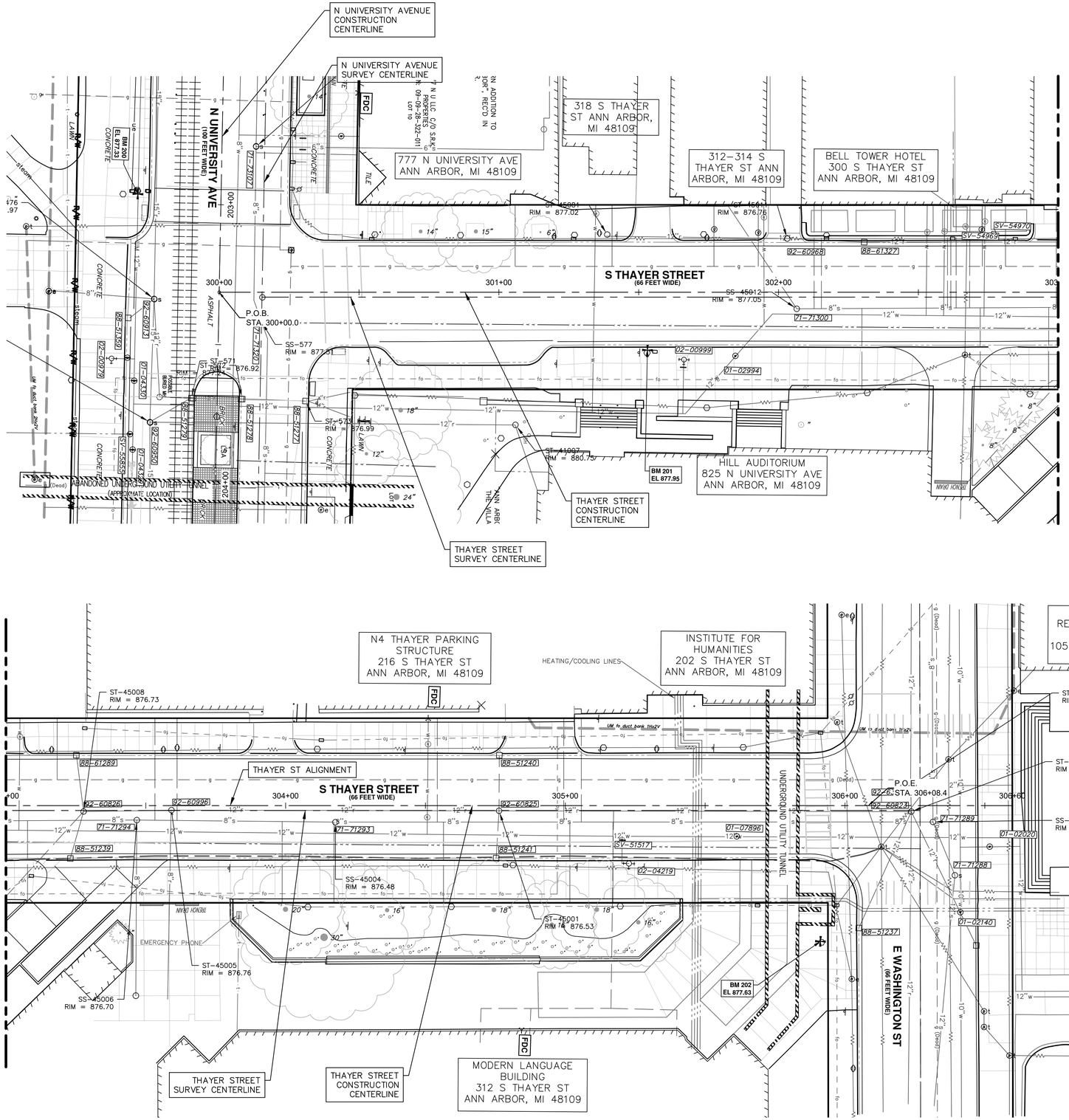
Know what's below. Call before you dig.





SHEET No. 26 OF 83	CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING	CITY OF ANN ARBOR PUBLIC SERVICES 301 EAST HURON STREET P.O. BOX 8647 ANN ARBOR, MI 48107-8647 734-794-6410 www.a2gov.org	REV.	DESCRIPTION	DATE / DRAWN / CHECKED
	SCALE : 1"=20'				
	DRAWING No. 2023-023-26	N. UNIVERSITY & THAYER IMPROVEMENTS			
		EXISTING CONDITIONS - NORTH UNIVERSITY			

811 Know what's below. Call before you dig.



Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED

CITY OF ANN ARBOR
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301 E HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

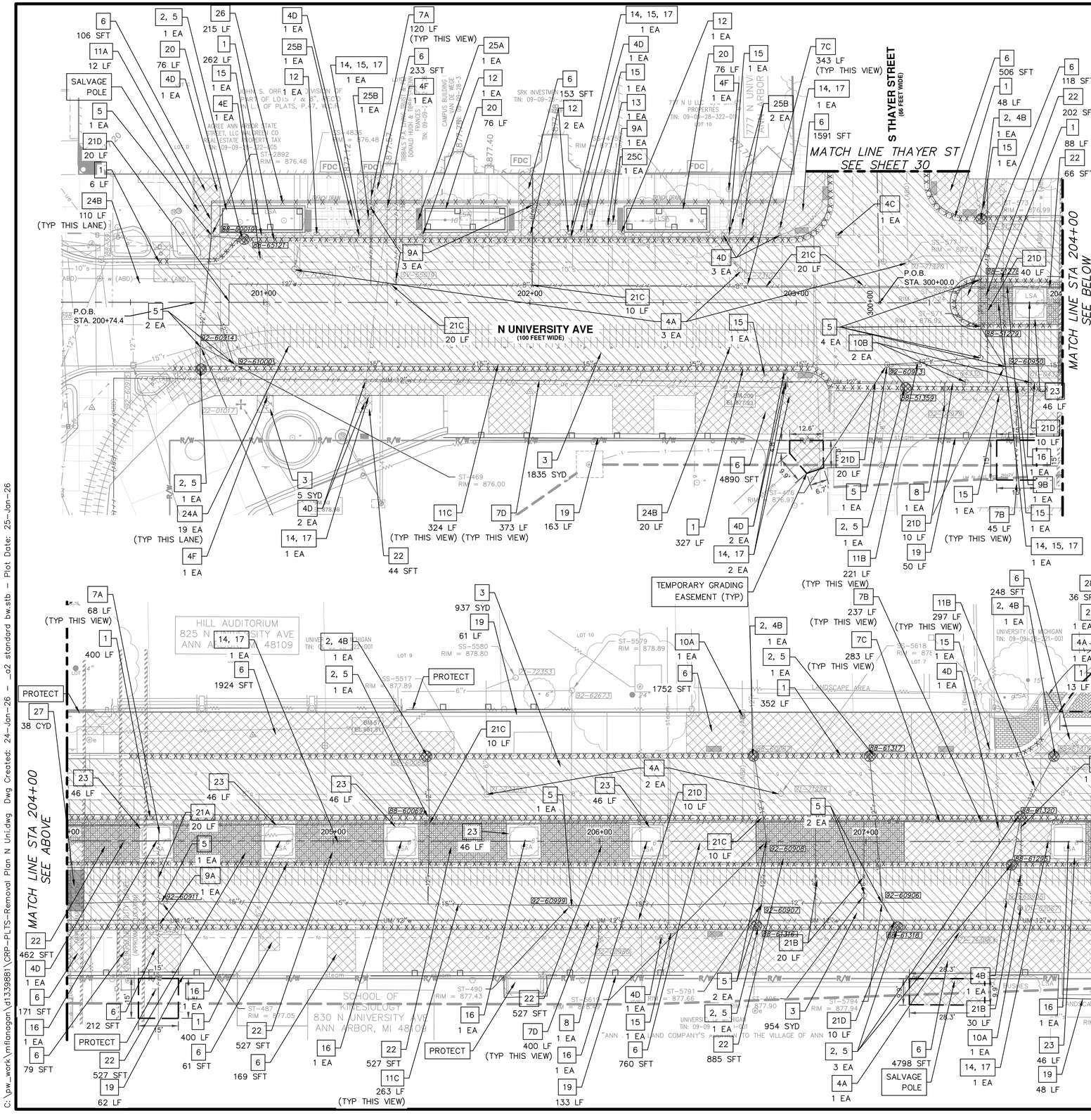
N. UNIVERSITY & THAYER IMPROVEMENTS

EXISTING CONDITIONS - THAYER

SCALE : 1"=20'

DRAWING No. 2023-023-27

SHEET No. 27 OF 83



LEGEND

- CURB AND GUTTER, ANY TYPE OR SIZE, REM
- TREE PROTECTION FENCE OR SILT FENCE
- UTILITY REMOVAL OR ABANDON
- PAVEMENT, REMOVE
- COLD–MILLING HMA SURFACE
- SIDEWALK, SIDEWALK RAMP, AND DRIVEWAY APPROACH, ANY THICKNESS, REM OR DS_BRICK PAVERS, SIDEWALK, REM AND SALV OR DS_BRICK PAVERS, SIDEWALK, REM

REMOVAL KEY

KEY	DESCRIPTION
1	CURB, GUTTER, AND CURB AND GUTTER, ANY TYPE, REM
2	EROSION CONTROL, INLET PROTECTION, FABRIC DROP
3	DS_PAVEMENT, REMOVE
4	A. SANITARY STRUCTURE COVER, ADJUST B. STORM STRUCTURE COVER, ADJUST C. MONUMENT BOX, ADJUST D. DS_HANDHOLE, ADJUST E. DS_MISC. STRUCTURE COVER, ADJUST F. GATE BOX, ADJUST
5	STORM SEWER STRUCTURE, REM
6	SIDEWALK, SIDEWALK RAMP, AND DRIVEWAY APPROACH, ANY THICKNESS, REM
7	A. WATER MAIN PIPE, 4 IN. DIA., ABANDON B. WATER MAIN PIPE, 6 IN. DIA., ABANDON C. WATER MAIN PIPE, 8 IN. DIA., ABANDON D. WATER MAIN PIPE, 12 IN, DIA., ABANDON E. WATER MAIN PIPE, 16 IN. DIA., ABANDON
8	FIRE HYDRANT ASSEMBLY, REM
9	A. GATE VALVE IN BOX, 4 IN. DIA., REM B. GATE VALVE IN BOX, 6 IN. DIA., REM C. GATE VALVE IN BOX, 8 IN. DIA., REM D. GATE VALVE IN BOX, 12 IN. DIA., REM
10	A. GATE VALVE IN WELL, 6 IN. DIA., REM B. GATE VALVE IN WELL, 12 IN. DIA., REM
11	A. STORM SEWER PIPE, 8 IN. DIA., REM B. STORM SEWER PIPE, 12 IN. DIA., REM C. STORM SEWER PIPE, 15 IN. DIA., REM
12	DS_PARKING MARKERS, REM
13	PARKING KIOSK, REMOVED BY OTHERS
14	FOUNDATION, LIGHT POLE, REM
15	SIGN, REM, SALV
16	TREE, REM, 6 IN. – 12 IN.
17	LIGHT POLE, REM
18	COLD–MILLING HMA SURFACE
19	EROSION CONTROL, SILT FENCE
20	TREE PROTECTION FENCE
21	A. WATER MAIN PIPE, 4 IN. DIA., REM B. WATER MAIN PIPE, 6 IN. DIA., REM C. WATER MAIN PIPE, 8 IN. DIA., REM D. WATER MAIN PIPE, 12 IN. DIA., REM E. WATER MAIN PIPE, 16 IN. DIA., REM
22	DS_BRICK PAVERS, SIDEWALK, REM
23	DS_PLANTER BOX, REMOVE
24	A. DS_BIKEWAY DELINEATOR POST, REM B. DS_QWICK CURB, REM, SALV
25	A. DS_BENCH, REM, SALV B. DS_BIKE RACK, REM, SALV C. DS_IRRIGATION SYSTEM, REMOVE AND REPLACE
26	DS_TRENCH DRAIN, REM
27	DS_TUNNEL, REM
28	DS_BRICK PAVERS, SIDEWALK, REM AND SALV

SOIL EROSION NOTES

1: *STREETS EXTERNAL TO THE PROJECT AREA SHALL BE MONITORED FOR TRACKED MUD AND/OR CONSTRUCTION DEBRIS AND SHALL BE IMMEDIATELY CLEANED FOLLOWING ANY SUCH OCCURRENCE.*

NOTE:
1. WHERE EXISTING TROLLEY TRACK IS ENCOUNTERED TO BE IN CONFLICT WITH UTILITIES AND AS DIRECTED BY ENGINEER THAT IT WILL BE REMOVED, THE REMOVAL SHALL BE PAID FOR AS "DS_TROLLEY TRACK, REMOVE"
2. ALL WORK THAT TAKES PLACE OUTSIDE OF THE ROW IS TO FOLLOW THE UNIVERSITY OF MICHIGAN'S REQUIREMENTS AND SPECIFICATION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

SOIL EROSION SEQUENCE OF CONSTRUCTION*

1: *PLACE INLET FILTERS ON EXISTING DRAINAGE FEATURES THAT WILL REMAIN IN PLACE AFTER CONSTRUCTION BEGINS.*
2: *INSTALL WATER MAIN, STORM SEWER, AND PAVEMENT IMPROVEMENTS.*
3: *RESTORE ALL DISTURBED AREAS TO A CONDITION THAT IS BETTER THAN, OR EQUAL TO, THAT WHICH EXISTED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES.*
4: *INSPECT & REPAIR OR REPLACE ALL TEMPORARY SESC MEASURES WEEKLY AND WITHIN 24 HOURS OF A STORM EVENT.*
5: *CLEAN OUT STORM SEWER SYSTEMS.*
6: *REMOVE TEMPORARY SESC FEATURES (CALL FOR FINAL INSPECTION).*
7: *REMEDY ANY NOTED DEFECTS TO THE SATISFACTION OF THE CITY'S SESC OFFICIAL.*

**NOTE: THIS SEQUENCE IS FOR INFORMATION ONLY. IT IS INTENDED TO SHOW THE SEQUENCE OF CONSTRUCTION WITH RESPECT TO THE SOIL EROSION CONTROL MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING THEIR OWN DETAILED CONSTRUCTION SEQUENCE AND SCHEDULE TO THE ENGINEER FOR REVIEW, COMMENT AND ACCEPTANCE.*

Know what's below. Call before you dig. 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

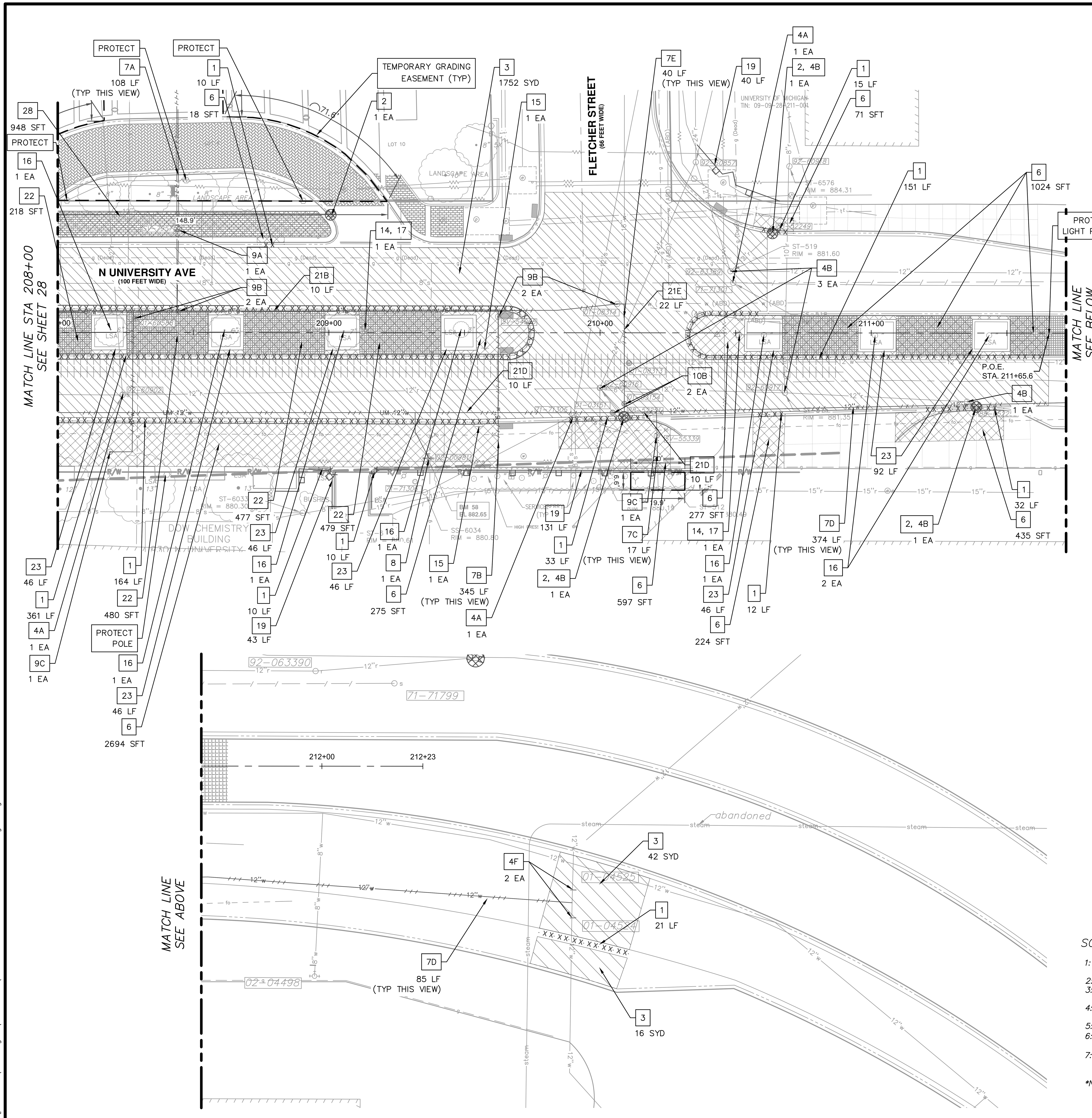
N. UNIVERSITY & THAYER IMPROVEMENTS

REMOVAL PLAN - NORTH UNIVERSITY STA 200+74.3 TO STA 208+00

SCALE : 1"=20'

DRAWING No. 2023-03-28

SHEET No. 28 OF 83



LEGEND

Symbol	Description
· XX·XX·XX ·	CURB AND GUTTER, ANY TYPE OR SIZE, REM
(line with square)	TREE PROTECTION FENCE OR SILT FENCE
(line with ticks)	UTILITY REMOVAL OR ABANDON
(hatch)	PAVEMENT, REMOVE
(hatch)	COLD–MILLING HMA SURFACE
(crosshatch)	SIDEWALK, SIDEWALK RAMP, AND DRIVEWAY APPROACH, ANY THICKNESS, REM OR DS_BRICK PAVERS, SIDEWALK, REM AND SALV OR DS_BRICK PAVERS, SIDEWALK, REM

SOIL EROSION NOTES

1: STREETS EXTERNAL TO THE PROJECT AREA SHALL BE MONITORED FOR TRACKED MUD AND/OR CONSTRUCTION DEBRIS AND SHALL BE IMMEDIATELY CLEANED FOLLOWING ANY SUCH OCCURRENCE.

NOTE:
1. WHERE EXISTING TROLLEY TRACK IS ENCOUNTERED TO BE IN CONFLICT WITH UTILITIES AND AS DIRECTED BY ENGINEER THAT IT WILL BE REMOVED, THE REMOVAL SHALL BE PAID FOR AS "DS_TROLLEY TRACK, REMOVE"
2. ALL WORK THAT TAKES PLACE OUTSIDE OF THE ROW IS TO FOLLOW THE UNIVERSITY OF MICHIGAN'S REQUIREMENTS AND SPECIFICATION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

REMOVAL KEY

KEY	DESCRIPTION
1	CURB, GUTTER, AND CURB AND GUTTER, ANY TYPE, REM
2	EROSION CONTROL, INLET PROTECTION, FABRIC DROP
3	DS_PAVEMENT, REMOVE
4	A. SANITARY STRUCTURE COVER, ADJUST B. STORM STRUCTURE COVER, ADJUST C. MONUMENT BOX, ADJUST D. DS_HANDHOLE, ADJUST E. DS_MISC. STRUCTURE COVER, ADJUST F. GATE BOX, ADJUST
5	STORM SEWER STRUCTURE, REM
6	SIDEWALK, SIDEWALK RAMP, AND DRIVEWAY APPROACH, ANY THICKNESS, REM
7	A. WATER MAIN PIPE, 4 IN. DIA., ABANDON B. WATER MAIN PIPE, 6 IN. DIA., ABANDON C. WATER MAIN PIPE, 8 IN. DIA., ABANDON D. WATER MAIN PIPE, 12 IN. DIA., ABANDON E. WATER MAIN PIPE, 16 IN. DIA., ABANDON
8	FIRE HYDRANT ASSEMBLY, REM
9	A. GATE VALVE IN BOX, 4 IN. DIA., REM B. GATE VALVE IN BOX, 6 IN. DIA., REM C. GATE VALVE IN BOX, 8 IN. DIA., REM D. GATE VALVE IN BOX, 12 IN. DIA., REM
10	A. GATE VALVE IN WELL, 6 IN. DIA., REM B. GATE VALVE IN WELL, 12 IN. DIA., REM
11	A. STORM SEWER PIPE, 8 IN. DIA., REM B. STORM SEWER PIPE, 12 IN. DIA., REM C. STORM SEWER PIPE, 15 IN. DIA., REM
12	DS_PARKING MARKERS, REM
13	PARKING KIOSK, REMOVED BY OTHERS
14	FOUNDATION, LIGHT POLE, REM
15	SIGN, REM, SALV
16	TREE, REM, 6 IN. – 12 IN.
17	LIGHT POLE, REM
18	COLD–MILLING HMA SURFACE
19	EROSION CONTROL, SILT FENCE
20	TREE PROTECTION FENCE
21	A. WATER MAIN PIPE, 4 IN. DIA., REM B. WATER MAIN PIPE, 6 IN. DIA., REM C. WATER MAIN PIPE, 8 IN. DIA., REM D. WATER MAIN PIPE, 12 IN. DIA., REM E. WATER MAIN PIPE, 16 IN. DIA., REM
22	DS_BRICK PAVERS, SIDEWALK, REM
23	DS_PLANTER BOX, REMOVE
24	A. DS_BIKEWAY DELINEATOR POST, REM B. DS_QWICK CURB, REM, SALV
25	A. DS_BENCH, REM, SALV B. DS_BIKE RACK, REM, SALV C. DS_IRRIGATION SYSTEM, REMOVE AND REPLACE
26	DS_TRENCH DRAIN, REM
27	DS_TUNNEL, REM
28	DS_BRICK PAVERS, SIDEWALK, REM AND SALV

*SOIL EROSION SEQUENCE OF CONSTRUCTION**

1: PLACE INLET FILTERS ON EXISTING DRAINAGE FEATURES THAT WILL REMAIN IN PLACE AFTER CONSTRUCTION BEGINS.
2: INSTALL WATER MAIN, STORM SEWER, AND PAVEMENT IMPROVEMENTS.
3: RESTORE ALL DISTURBED AREAS TO A CONDITION THAT IS BETTER THAN, OR EQUAL TO, THAT WHICH EXISTED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
4: INSPECT & REPAIR OR REPLACE ALL TEMPORARY SESC MEASURES WEEKLY AND WITHIN 24 HOURS OF A STORM EVENT.
5: CLEAN OUT STORM SEWER SYSTEMS.
6: REMOVE TEMPORARY SESC FEATURES (CALL FOR FINAL INSPECTION).
7: REMEDY ANY NOTED DEFECTS TO THE SATISFACTION OF THE CITY'S SESC OFFICIAL.

**NOTE: THIS SEQUENCE IS FOR INFORMATION ONLY. IT IS INTENDED TO SHOW THE SEQUENCE OF CONSTRUCTION WITH RESPECT TO THE SOIL EROSION CONTROL MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING THEIR OWN DETAILED CONSTRUCTION SEQUENCE AND SCHEDULE TO THE ENGINEER FOR REVIEW, COMMENT AND ACCEPTANCE.*

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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
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01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

CITY OF ANN ARBOR
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

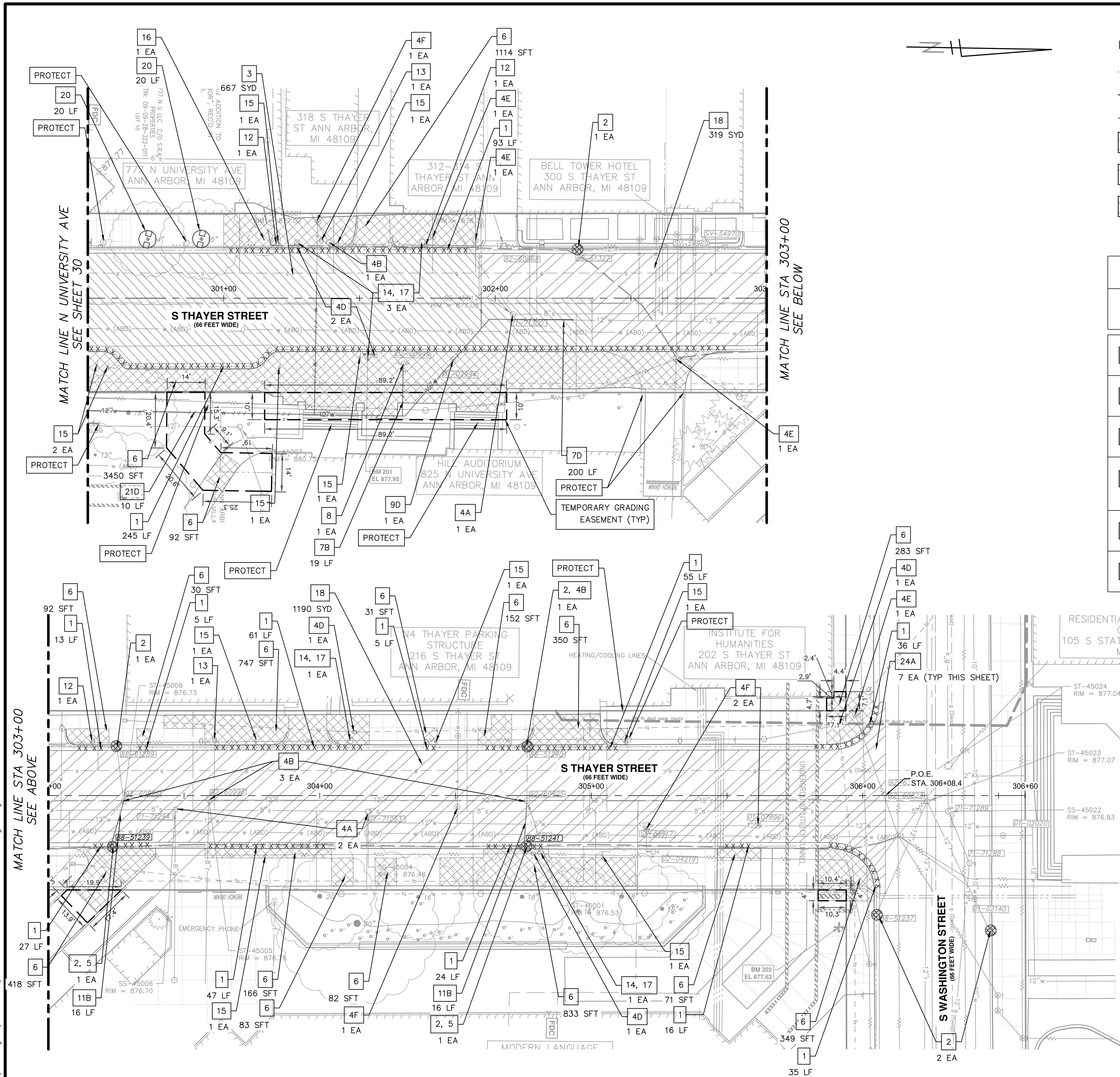
N. UNIVERSITY & THAYER IMPROVEMENTS

REMOVAL PLAN - NORTH UNIVERSITY STA 208+00 TO STA 211+65.6

SCALE : 1"=20'

DRAWING No. 2023-023-29

SHEET No. 29 OF 83



LEGEND

- CURB AND GUTTER, ANY TYPE OR SIZE, REM
- TREE PROTECTION FENCE OR SILT FENCE
- UTILITY REMOVAL OR ABANDON
- PAVEMENT, REMOVE
- COLD-MILLING HMA SURFACE
- SIDEWALK, SIDEWALK RAMP, AND DRIVEWAY APPROACH, ANY THICKNESS, REM OR DS_BRICK PAVERS, SIDEWALK, REM AND SALV OR DS_BRICK PAVERS, SIDEWALK, REM

REMOVAL KEY

KEY	DESCRIPTION
1	CURB, GUTTER, AND CURB AND GUTTER, ANY TYPE, REM
2	EROSION CONTROL, INLET PROTECTION, FABRIC DROP
3	DS_PAVEMENT, REMOVE
4	A. SANITARY STRUCTURE COVER, ADJUST B. STORM STRUCTURE COVER, ADJUST C. MONUMENT BOX, ADJUST D. DS_HANDHOLE, ADJUST E. DS_MISC. STRUCTURE COVER, ADJUST F. GATE BOX, ADJUST
5	STORM SEWER STRUCTURE, REM
6	SIDEWALK, SIDEWALK RAMP, AND DRIVEWAY APPROACH, ANY THICKNESS, REM
7	A. WATER MAIN PIPE, 4 IN. DIA., ABANDON B. WATER MAIN PIPE, 6 IN. DIA., ABANDON C. WATER MAIN PIPE, 8 IN. DIA., ABANDON D. WATER MAIN PIPE, 12 IN. DIA., ABANDON E. WATER MAIN PIPE, 16 IN. DIA., ABANDON
8	FIRE HYDRANT ASSEMBLY, REM
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10	A. GATE VALVE IN WELL, 6 IN. DIA., REM B. GATE VALVE IN WELL, 12 IN. DIA., REM
11	A. STORM SEWER PIPE, 8 IN. DIA., REM B. STORM SEWER PIPE, 12 IN. DIA., REM C. STORM SEWER PIPE, 15 IN. DIA., REM
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13	PARKING KIOSK, REMOVED BY OTHERS
14	FOUNDATION, LIGHT POLE, REM
15	SIGN, REM, SALV
16	TREE, REM, 6 IN. – 12 IN.
17	LIGHT POLE, REM
18	COLD-MILLING HMA SURFACE
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20	TREE PROTECTION FENCE
21	A. WATER MAIN PIPE, 4 IN. DIA., REM B. WATER MAIN PIPE, 6 IN. DIA., REM C. WATER MAIN PIPE, 8 IN. DIA., REM D. WATER MAIN PIPE, 12 IN. DIA., REM E. WATER MAIN PIPE, 16 IN. DIA., REM
22	DS_BRICK PAVERS, SIDEWALK, REM
23	DS_PLANTER BOX, REMOVE
24	A. DS_BIKEWAY DELINEATOR POST, REM B. DS_QWICK CURB, REM, SALV
25	A. DS_BENCH, REM, SALV B. DS_BIKE RACK, REM, SALV C. DS_IRRIGATION SYSTEM, REMOVE AND REPLACE
26	DS_TRENCH DRAIN, REM
27	DS_TUNNEL, REM
28	DS_BRICK PAVERS, SIDEWALK, REM AND SALV

SOIL EROSION NOTES

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04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
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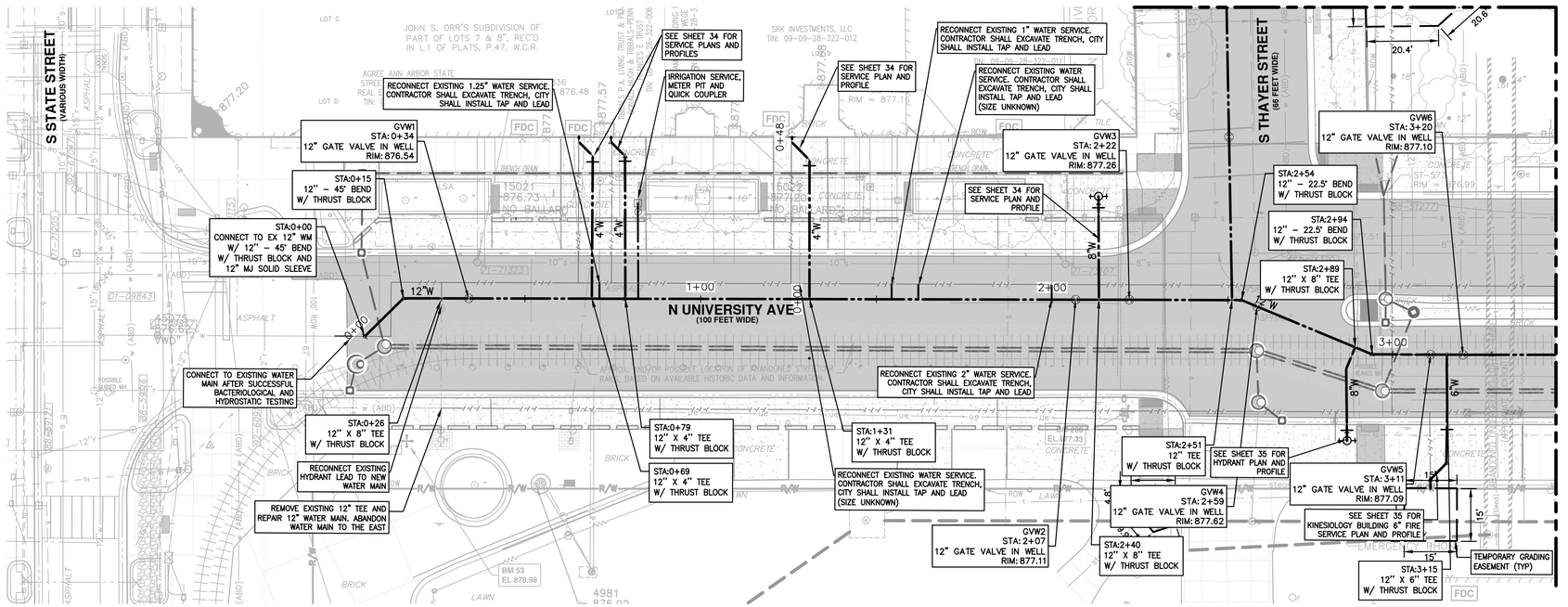
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

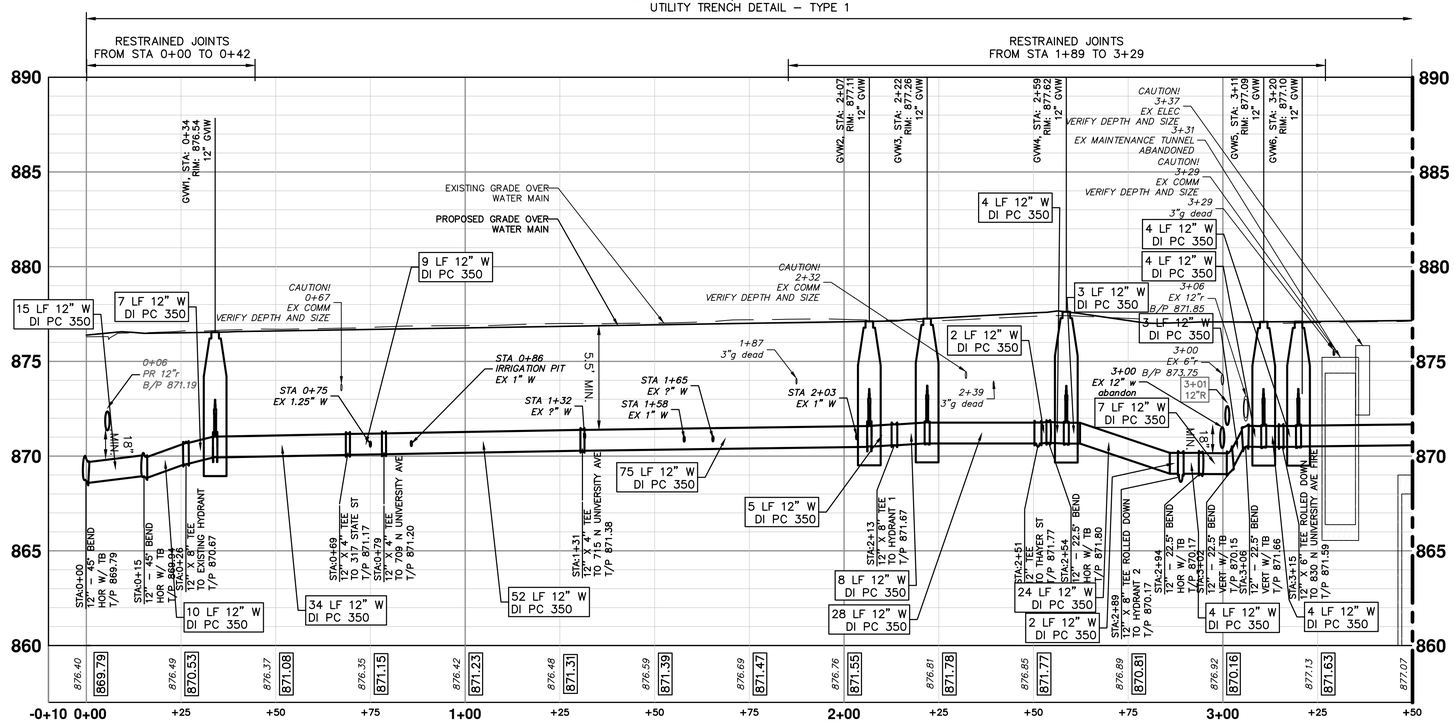
REMOVAL PLAN - THAYER

SCALE : 1"=20'

DRAWING No. 2023-023-30



12" DI PC 350 W/ POLYETHYLENE WRAP
UTILITY TRENCH DETAIL – TYPE 1



MATCH LINE STA 3+50
SEE SHEET 32

Existing Water Services

Address	Station	Size (in)
317 State	0+73	4
709	0+75	1.25
709	0+82	4
Irrigation	0+86	1
711	1+32	uknown
715	1+34	4
715	1+58	1
777	1+62	uknown
777	2+03	2
830	3+18	6

WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	RIM	WELL DEPTH	T/P
GVW1	12" GVIW	0+34	876.54	7.10	5.56
GVW2	12" GVIW	2+07	877.11	7.10	5.56
GVW3	12" GVIW	2+22	877.26	7.09	5.55
GVW4	12" GVIW	2+59	877.62	7.46	5.92
GVW5	12" GVIW	3+11	877.09	7.09	5.55
GVW6	12" GVIW	3+20	877.10	7.10	5.56

*EXACT DEPTH OF CROSSING SANITARY LEADS IS UNKNOWN. CONTRACTOR TO FIELD VERIFY LEADS AND MAINTAIN CLEARANCE AS APPROVED BY CITY ENGINEER. (TYP)

THE DEPTH AND SIZE OF ELECTRICAL, TELEPHONE AND FIBER OPTIC CONDUITS/DUCTS AND THE DEPTH OF GAS MAINS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY, SUPPORT AND PROTECT DURING CONSTRUCTION AND ADJUST WATER MAIN WHERE NECESSARY TO MAINTAIN 12–INCHES VERTICAL CLEARANCE FROM ALL UTILITIES (EXCEPT SANITARY AND STORM SEWER WHERE 18–INCHES IS REQUIRED). THIS WORK IS PAID FOR UNDER ASSOCIATED WATERMAIN PAY ITEMS

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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

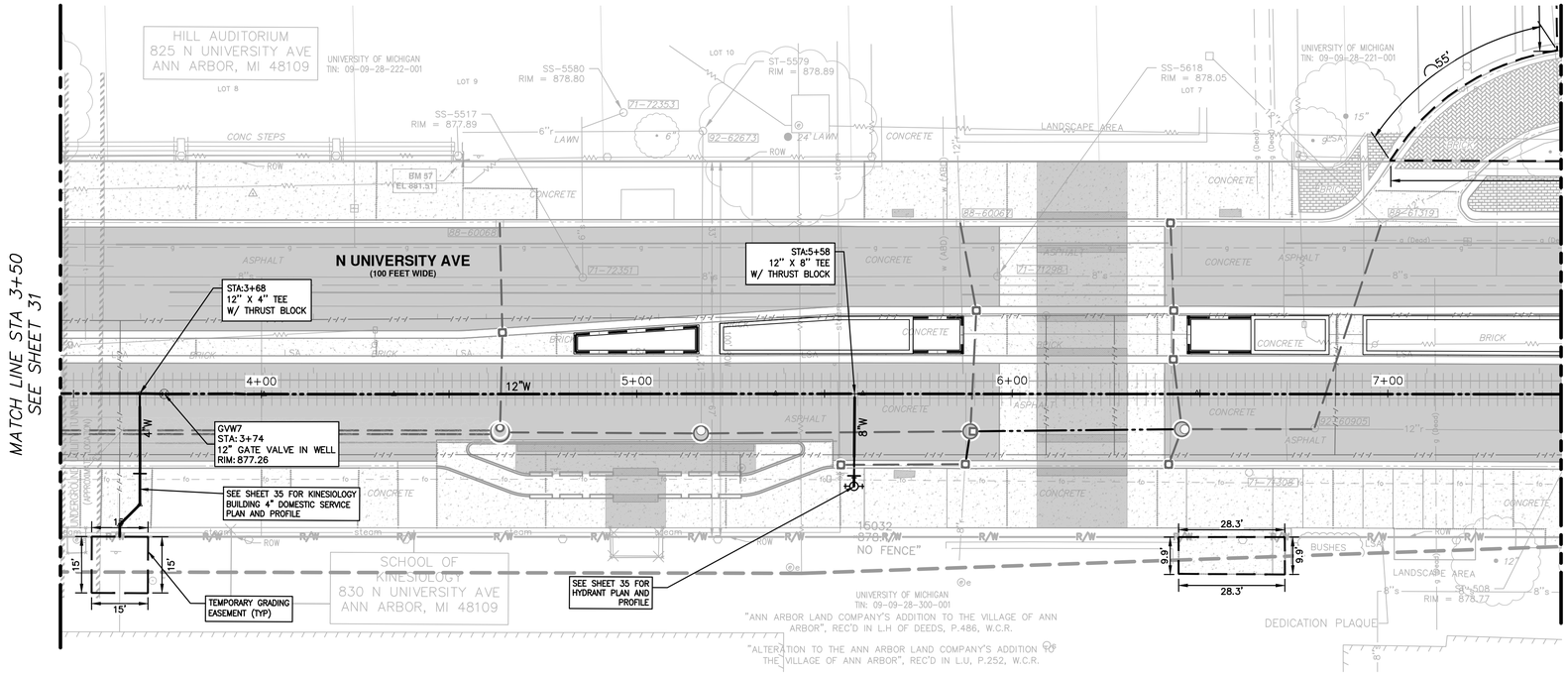
N. UNIVERSITY & THAYER IMPROVEMENTS

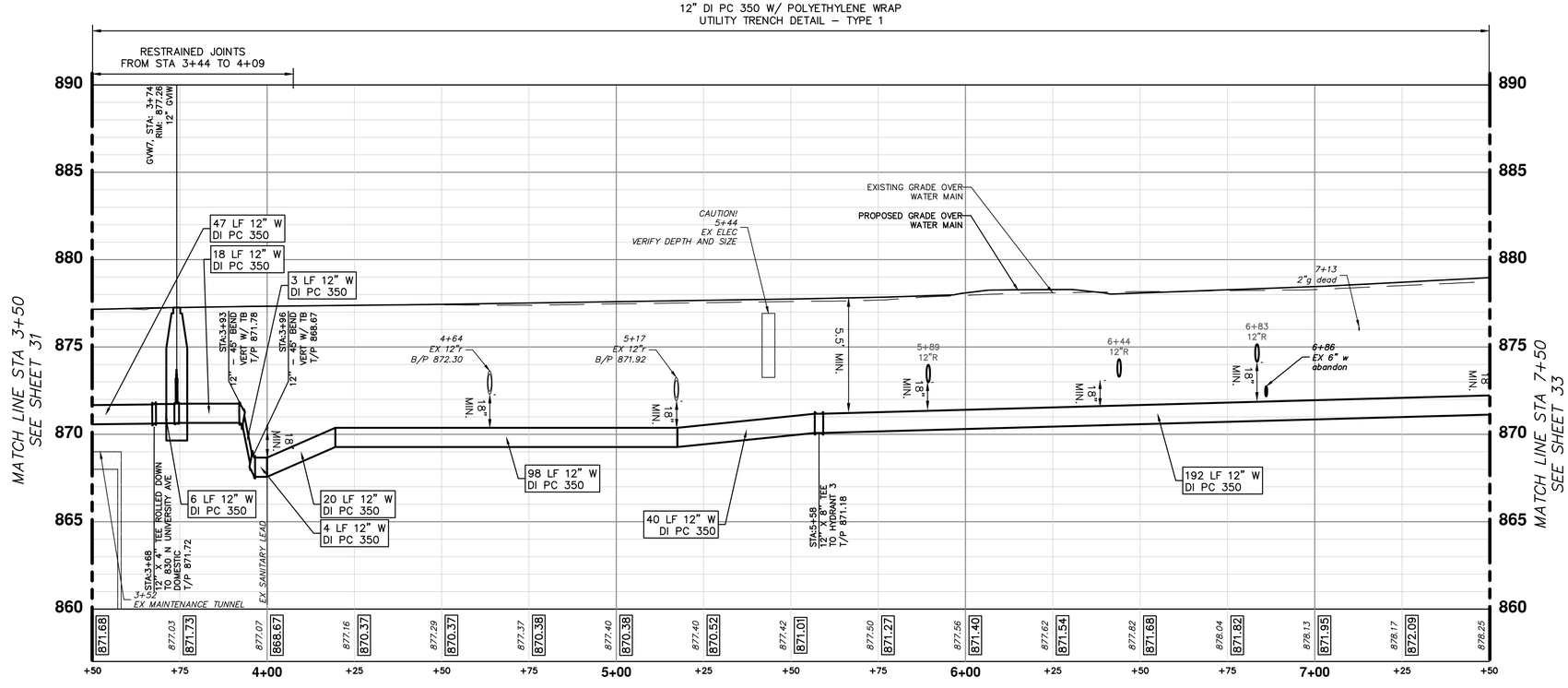
PROPOSED WATER MAIN - NORTH UNIVERSITY STA 0+00 TO STA 3+50

SCALE : 1"=20' VERTICAL 1"=4'

DRAWING No. 2023-023-31

SHEET No. 31 OF 83





Existing Water Services

Address	Station	Size (in)
830	3+71	4

WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	RIM	WELL DEPTH	T/P
GVW7	12" GVlW	3+74	877.26	7.11	5.57

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03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

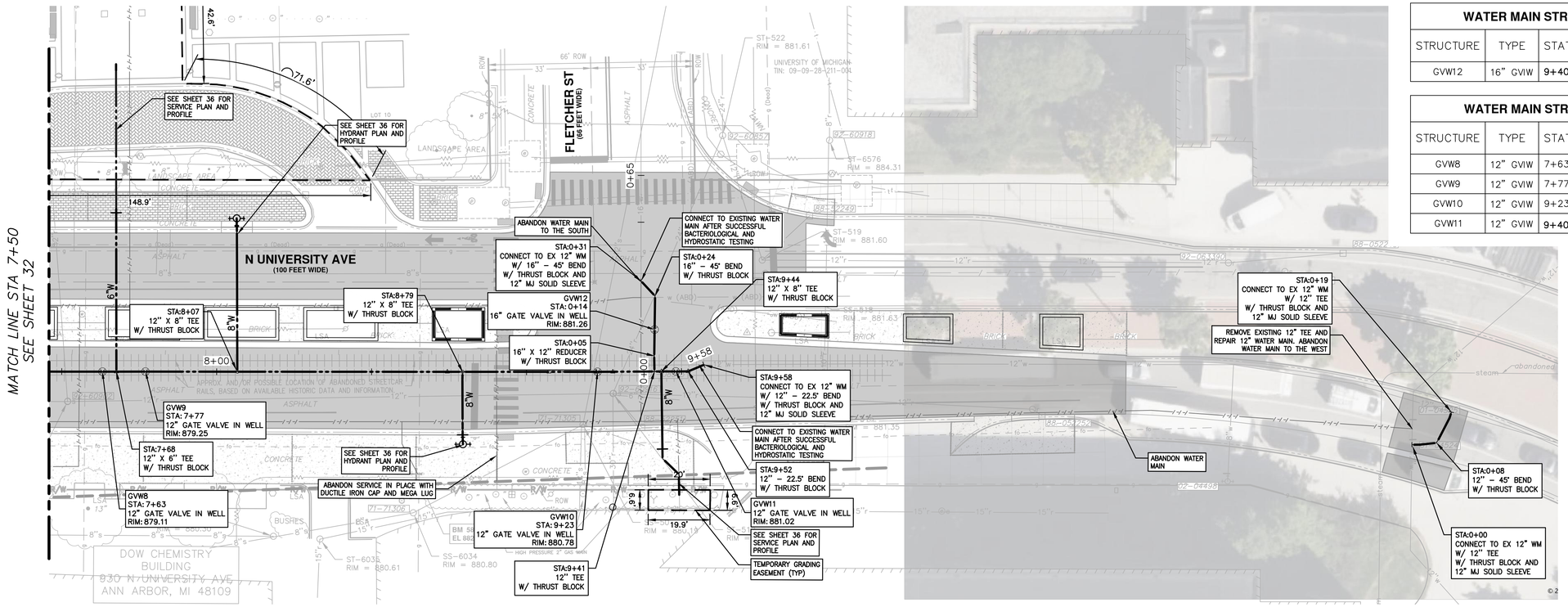
N. UNIVERSITY & THAYER IMPROVEMENTS

PROPOSED WATER MAIN - NORTH UNIVERSITY STA 3+50 TO STA 7+50

SCALE: 1"=20' VERTICAL 1"=4'

DRAWING No. 2023-023-32

SHEET No. 32 OF 83



WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	RIM	WELL DEPTH	T/P
GVW12	16" GVIW	9+40	881.26	8.04	6.17

WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	RIM	WELL DEPTH	T/P
GVW8	12" GVIW	7+63	879.11	8.11	6.57
GVW9	12" GVIW	7+77	879.25	7.90	6.36
GVW10	12" GVIW	9+23	880.78	7.15	5.61
GVW11	12" GVIW	9+40	881.02	7.21	5.67

Existing Water Services

Address	Station	Size (in)
911	7+71	4
950	9+40	8

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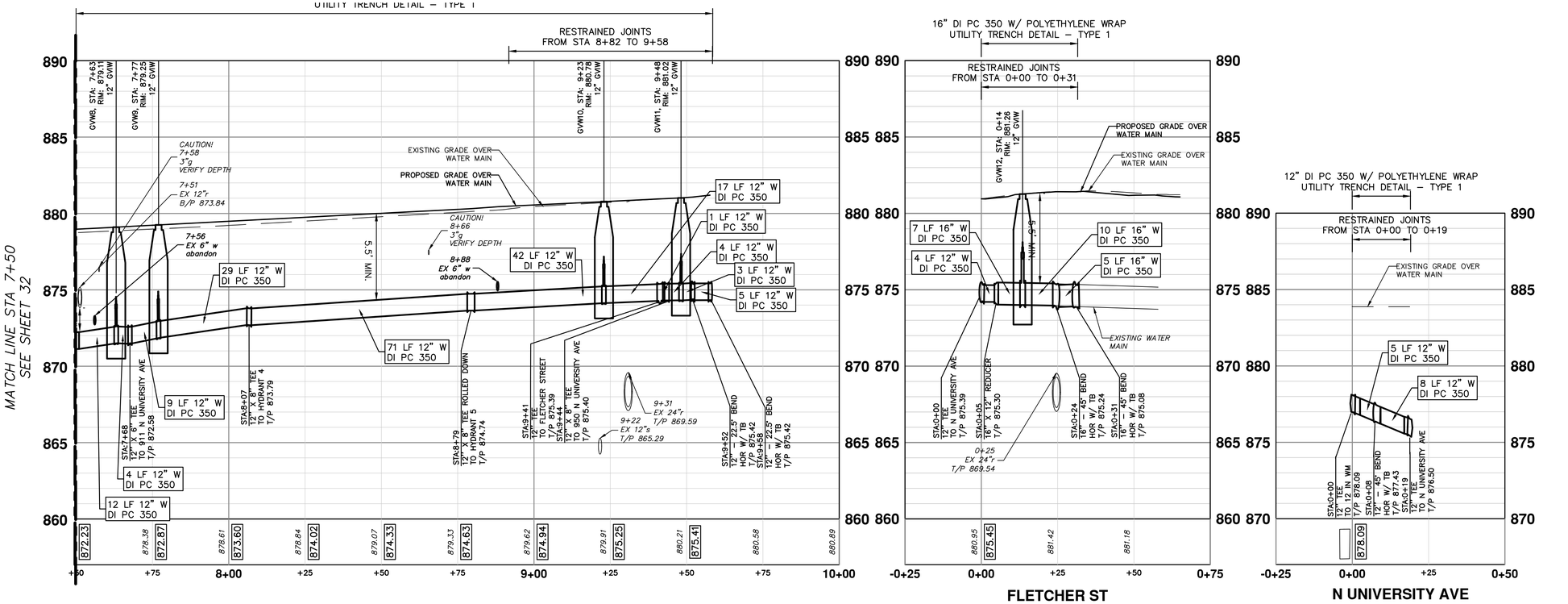

Know what's below. Call before you dig. 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

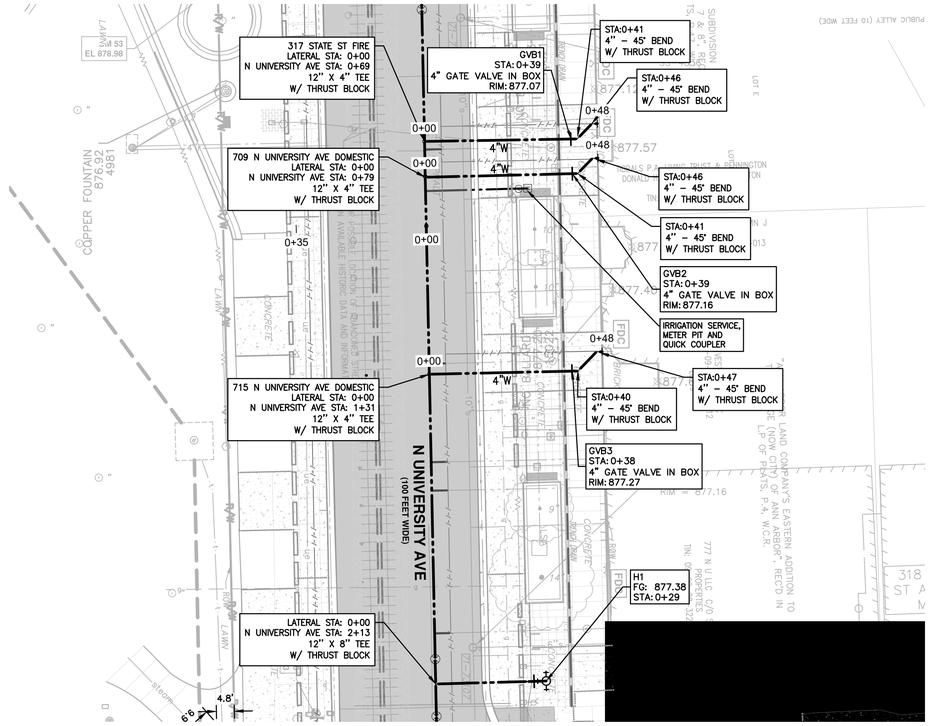
N. UNIVERSITY & THAYER IMPROVEMENTS

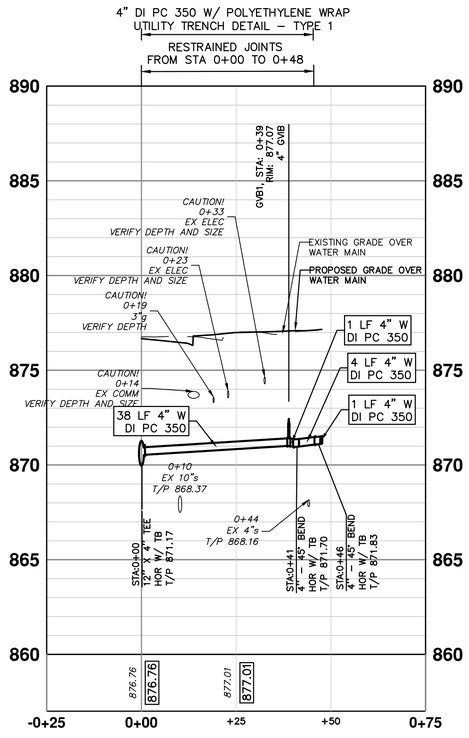
PROPOSED WATER MAIN - NORTH UNIVERSITY STA 7+50 TO STA 9+67

SCALE : 1"=20' VERTICAL 1"=4'

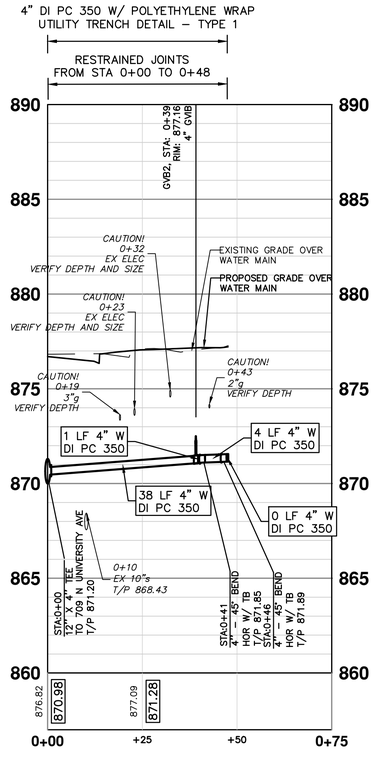
DRAWING No. 2023-023-33

SHEET No. 33 OF 83

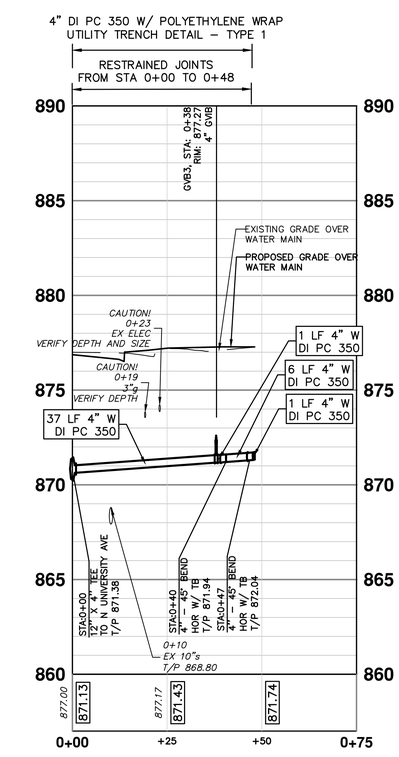




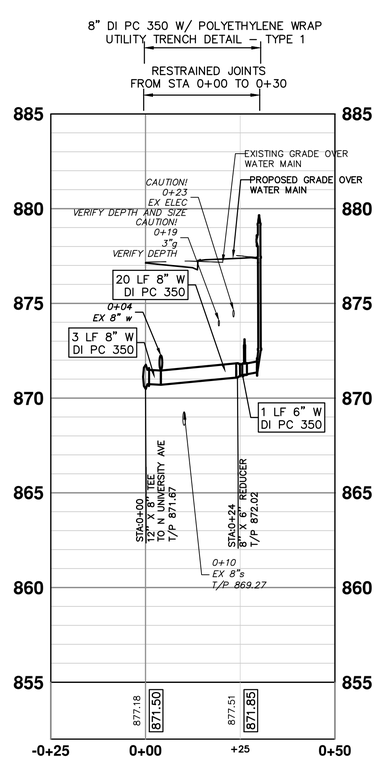
317 STATE STREET FIRE WATER SERVICE



709 N UNIVERSITY AVENUE DOMESTIC WATER SERVICE



715 N UNIVERSITY AVENUE DOMESTIC WATER SERVICE



HYDRANT 1

WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	RIM	T/P
GVB1	4" GVIB	0+39	877.07	5.77
GVB2	4" GVIB	0+39	877.16	5.67
GVB3	4" GVIB	???	877.27	5.76

WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	FG	DEPTH
H1	HYD	0+29	877.38	5.00

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

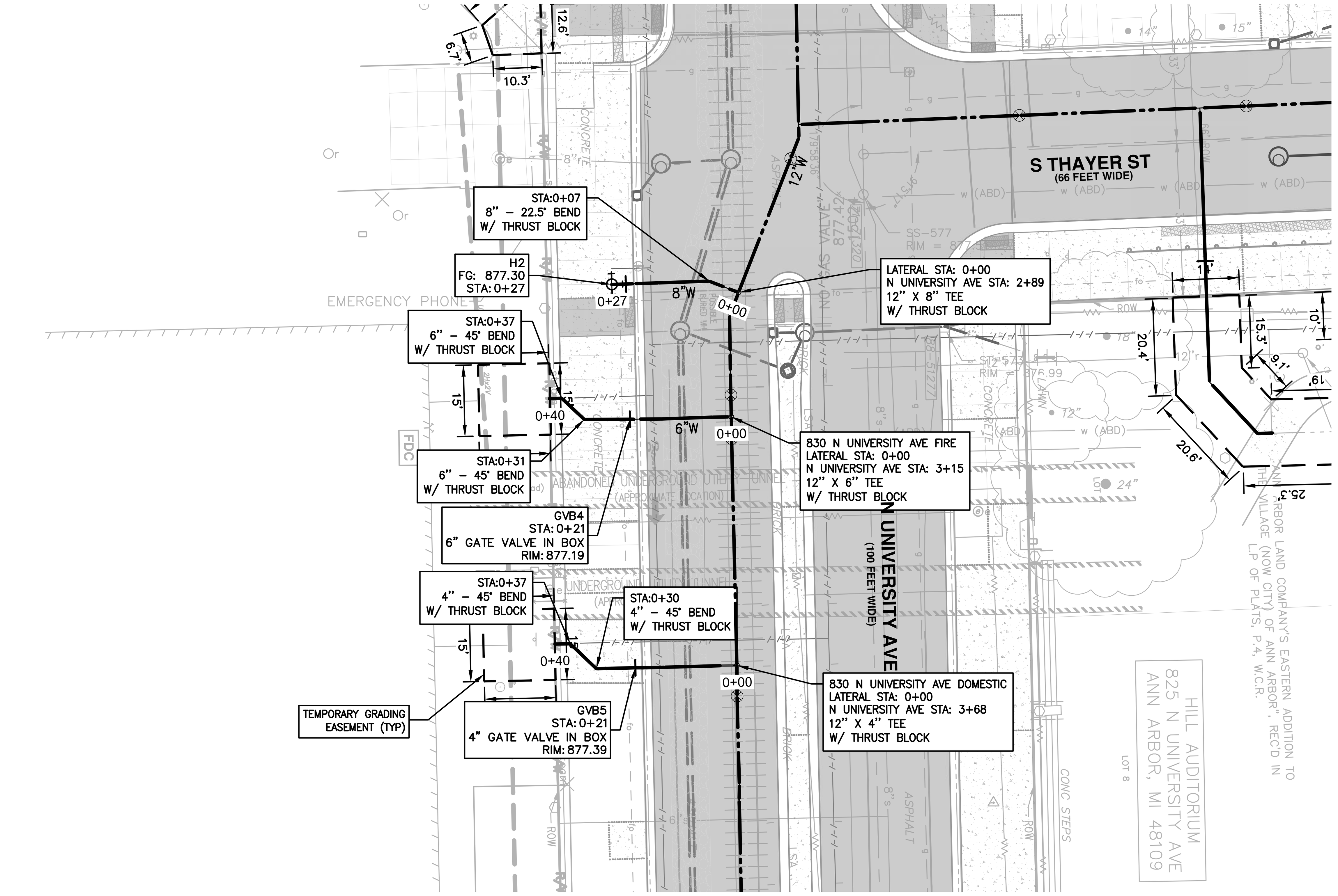
N. UNIVERSITY & THAYER IMPROVEMENTS

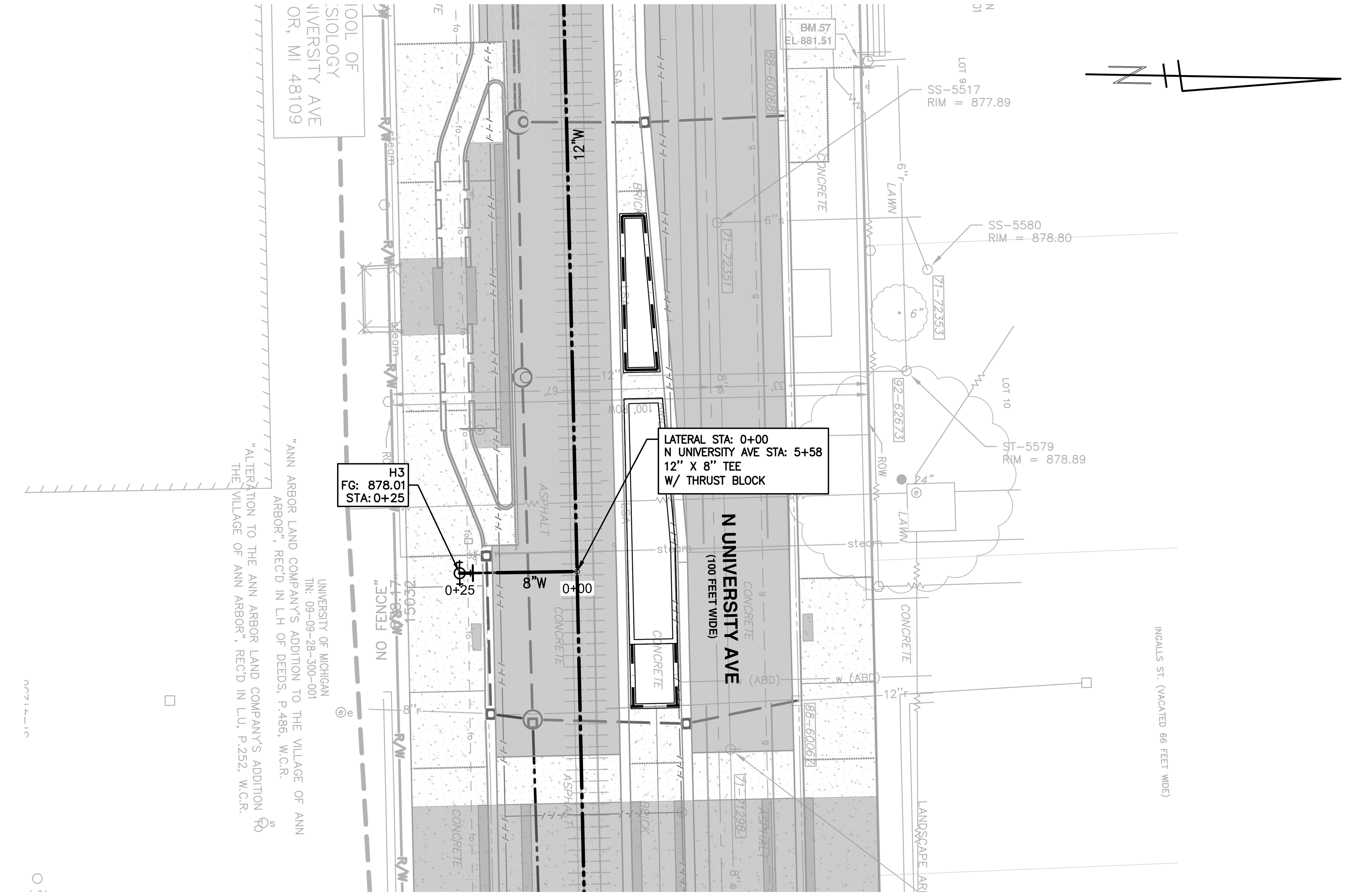
PROPOSED WATER MAIN LATERALS - NORTH UNIVERSITY

SCALE : 1"=20' VERTICAL 1"=4'

DRAWING No. 2023-023-34

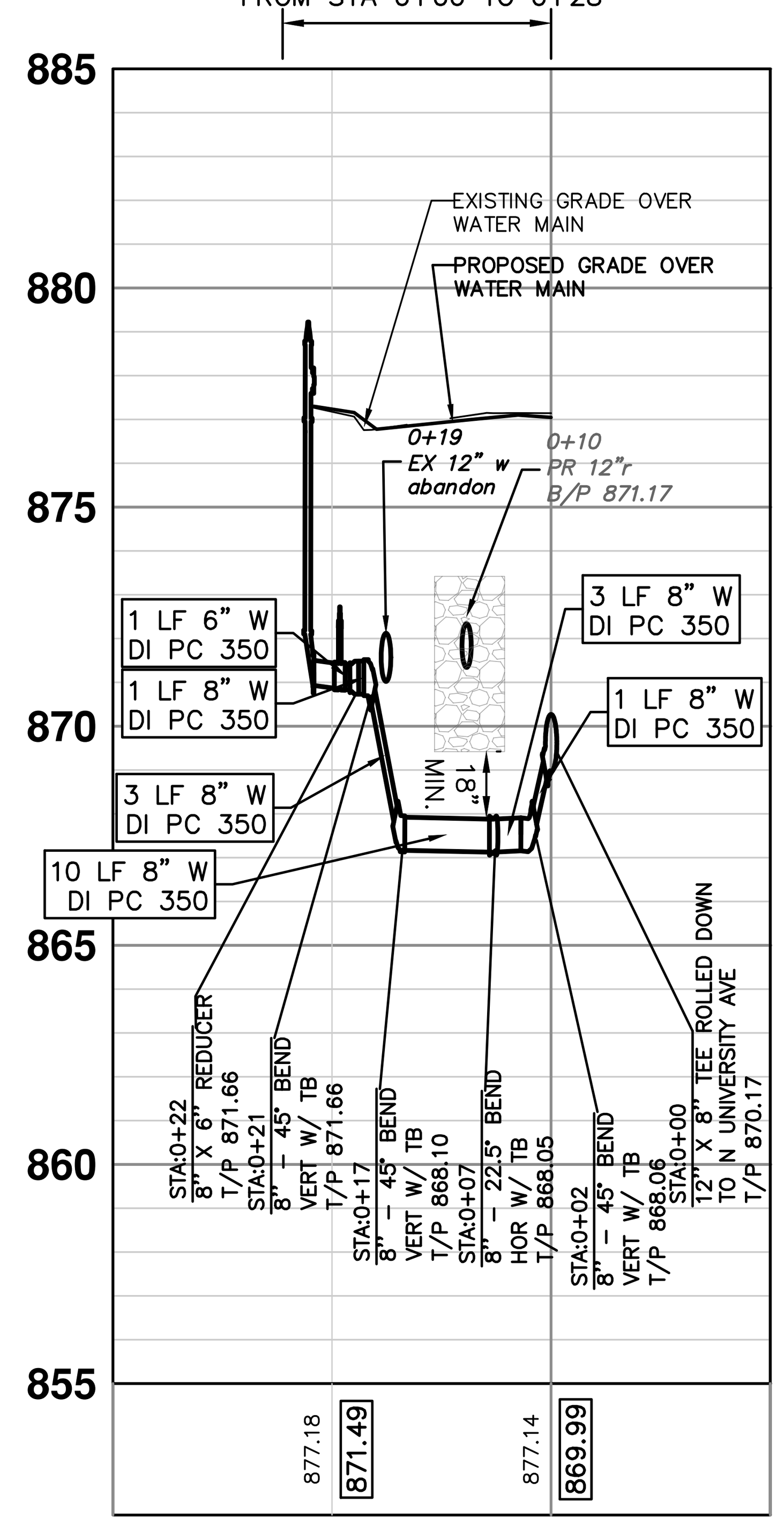
SHEET No. 34 OF 83





8" DI PC 350 W/ POLYETHYLENE WRAP
UTILITY TRENCH DETAIL – TYPE 1

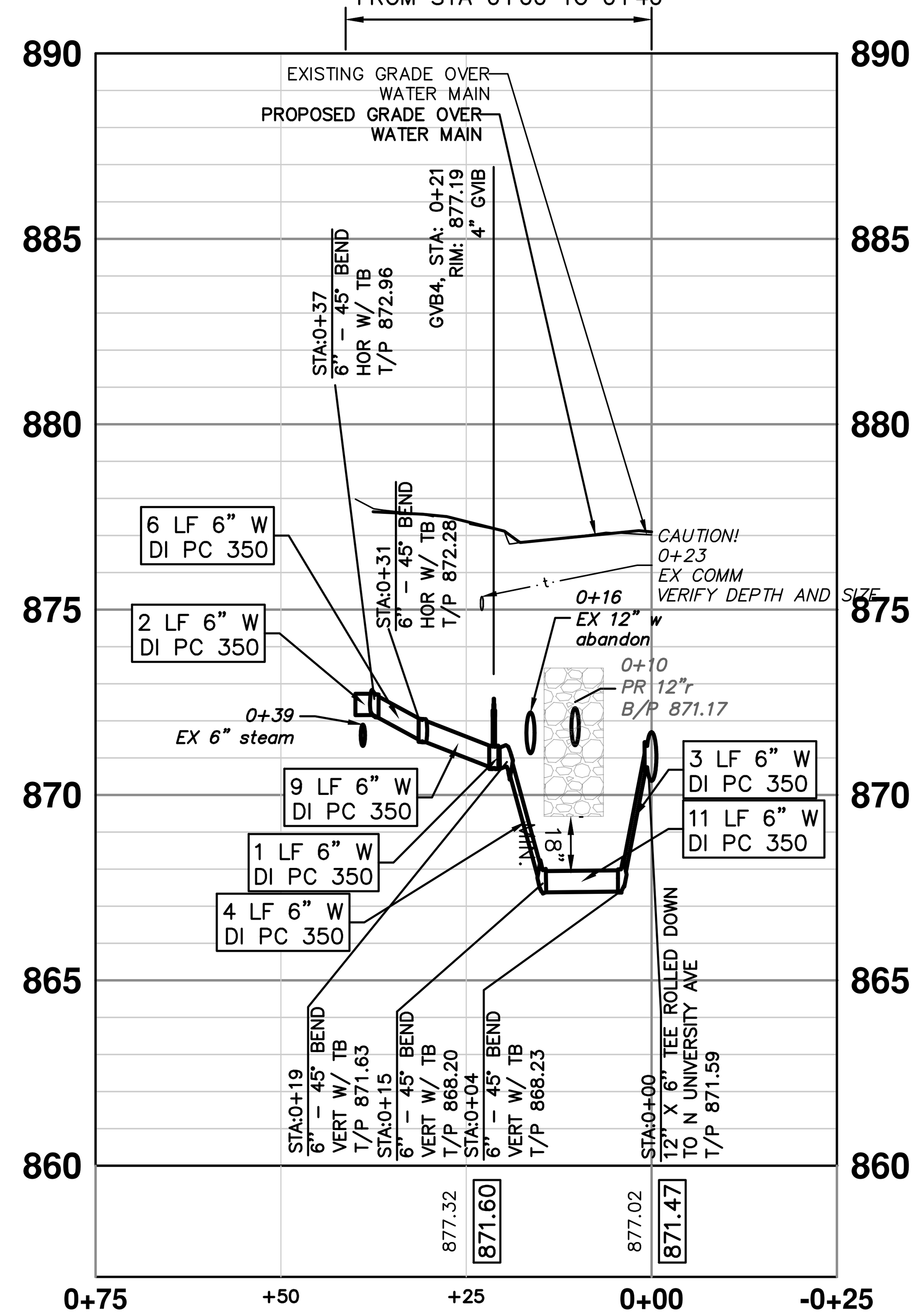
RESTRAINED JOINTS
FROM STA 0+00 TO 0+28



HYDRANT 2

6" DI PC 350 W/ POLYETHYLENE WRAP
UTILITY TRENCH DETAIL – TYPE 1

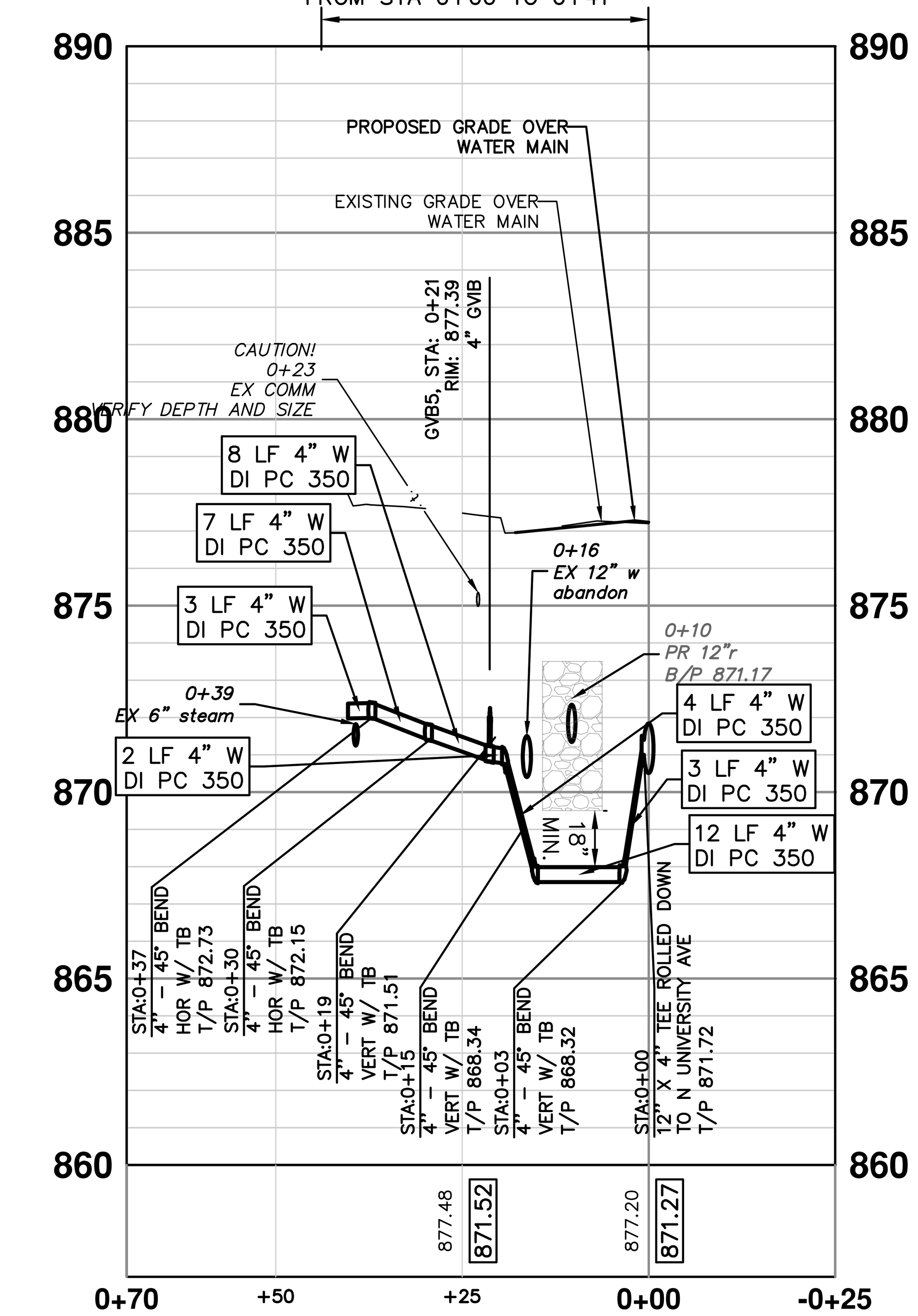
RESTRAINED JOINTS
FROM STA 0+00 TO 0+40



830 N UNIVERSITY AVENUE FIRE WATER SERVICE

4" DI PC 350 W/ POLYETHYLENE WRAP
UTILITY TRENCH DETAIL – TYPE 1

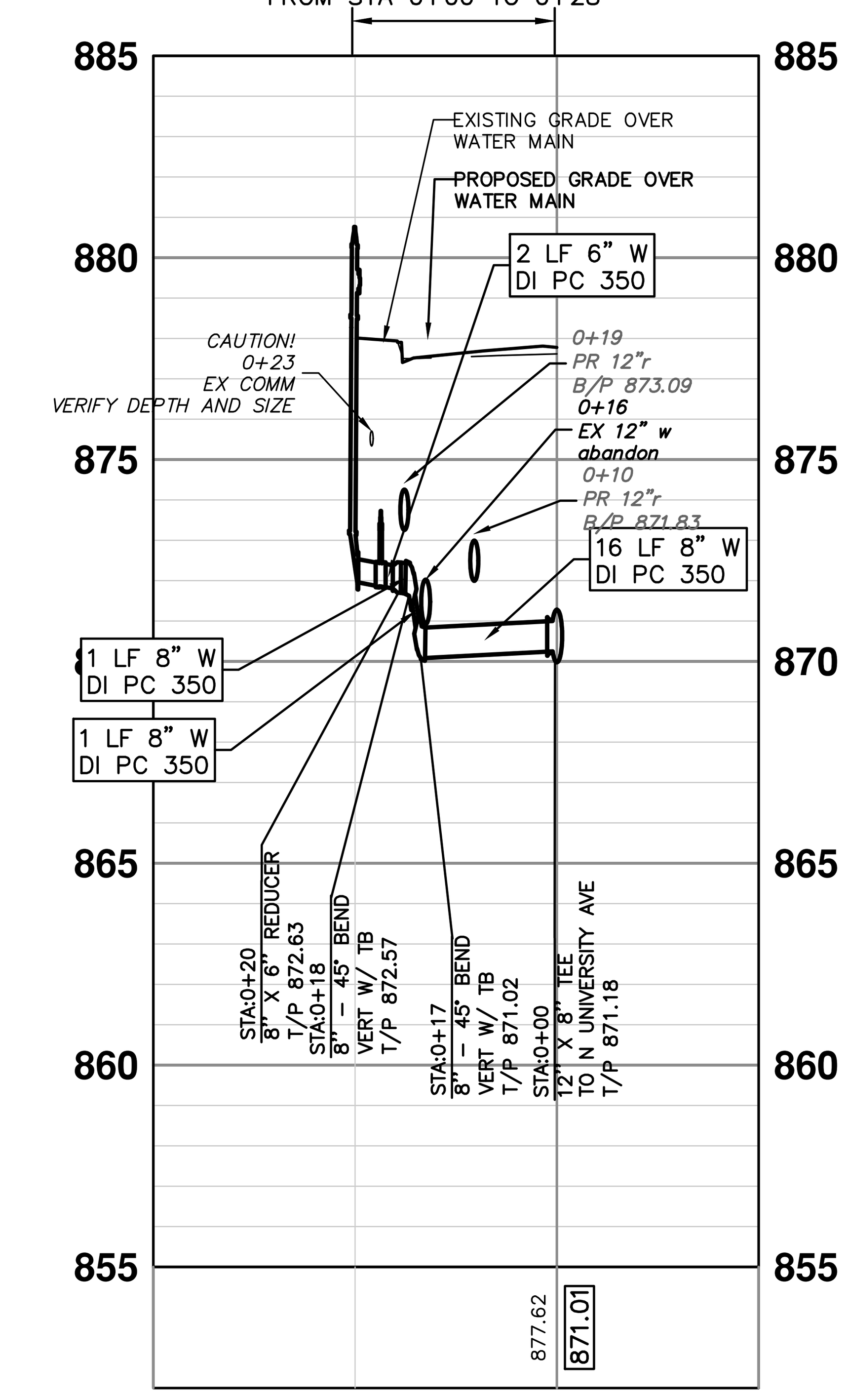
RESTRAINED JOINTS
FROM STA 0+00 TO 0+41



830 N UNIVERSITY AVENUE DOMESTIC WATER SERVICE

8" DI PC 350 W/ POLYETHYLENE WRAP
UTILITY TRENCH DETAIL – TYPE 1

RESTRAINED JOINTS
FROM STA 0+00 TO 0+28



HYDRANT 3

WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	RIM	T/P
GVB4	4" GVIB	0+21	877.19	6.13
GVB5	4" GVIB	0+21	877.39	6.42

WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	FG	DEPTH
H2	HYD	0+27	877.30	5.00
H3	HYD	0+25	878.01	5.00

*EXACT DEPTH OF CROSSING SANITARY LEADS IS UNKNOWN. CONTRACTOR TO FIELD VERIFY LEADS AND MAINTAIN CLEARANCE AS APPROVED BY CITY ENGINEER. (TYP)

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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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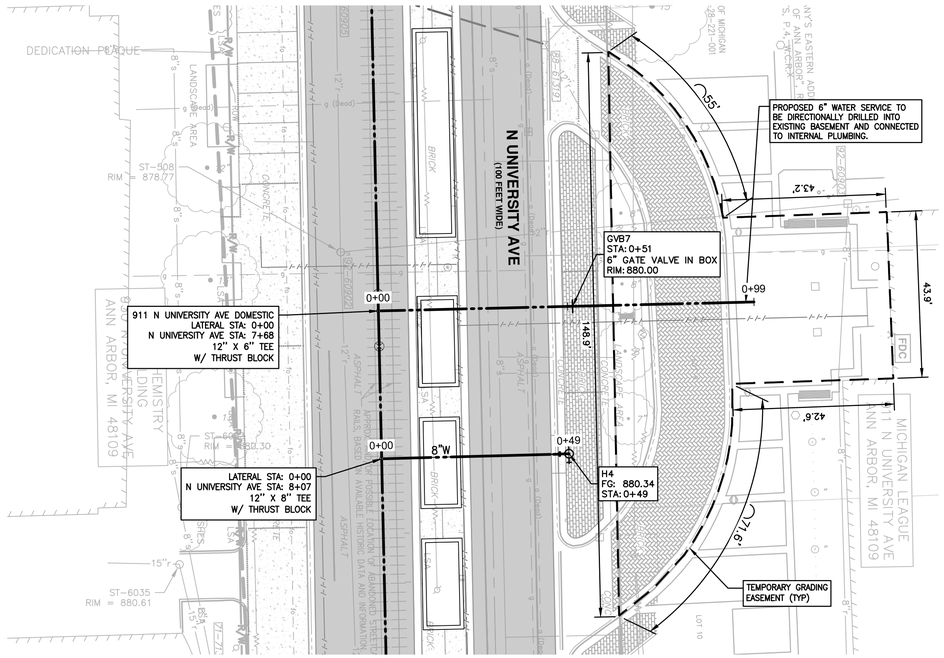
N. UNIVERSITY & THAYER IMPROVEMENTS

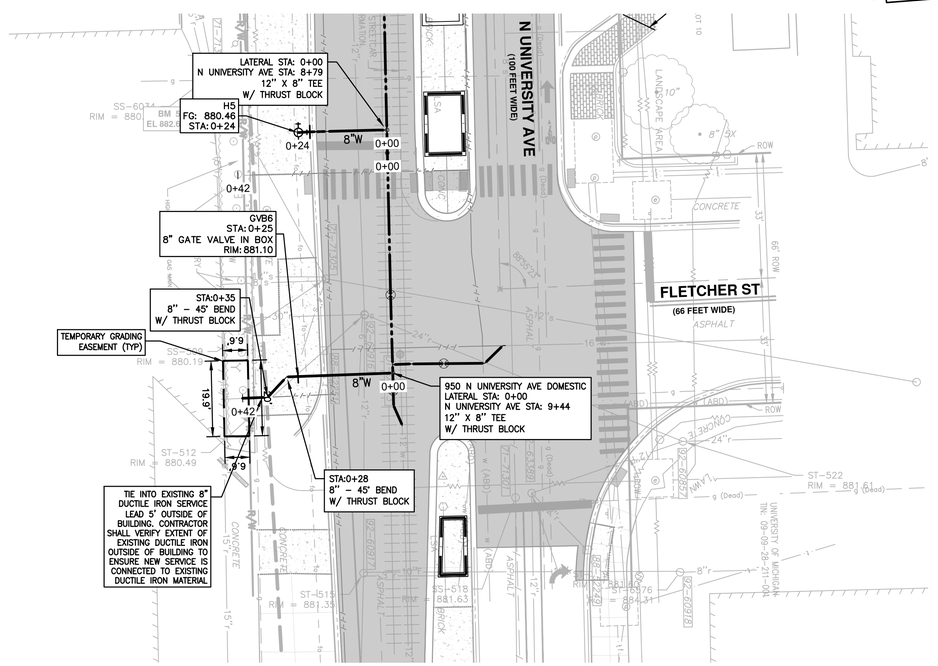
PROPOSED WATER MAIN LATERALS - NORTH UNIVERSITY

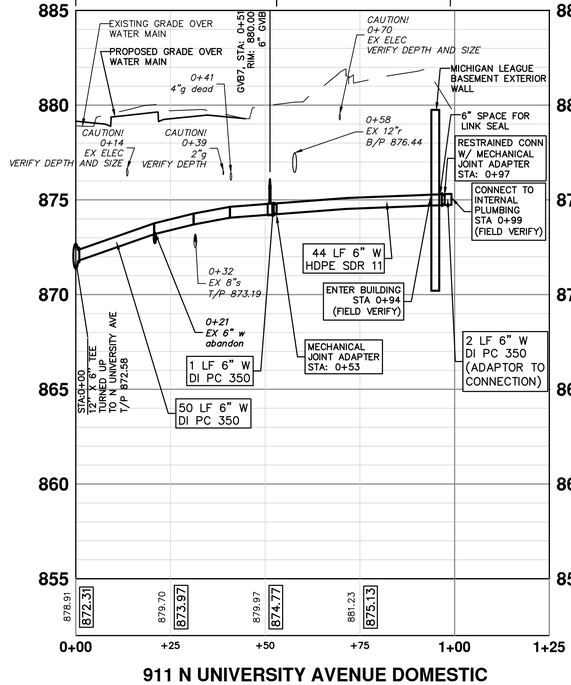
SCALE: 1"=20' VERTICAL 1"=4'

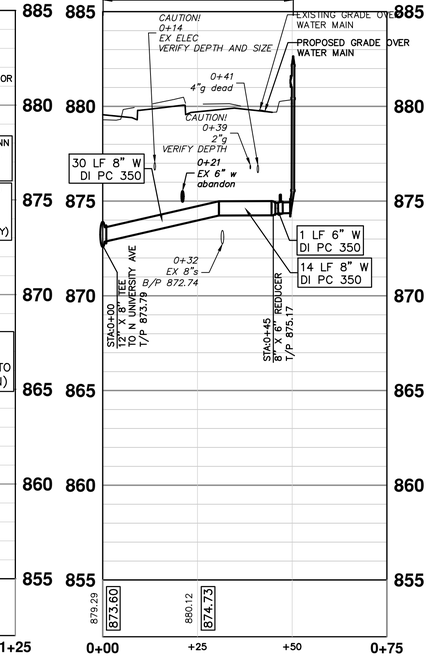
DRAWING No. 2023-023-35

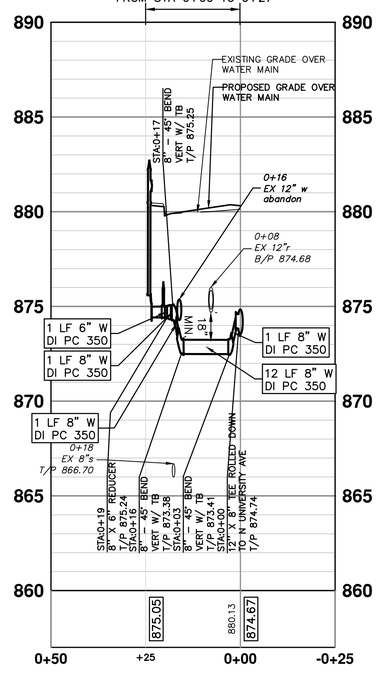
SHEET No. 35 OF 83

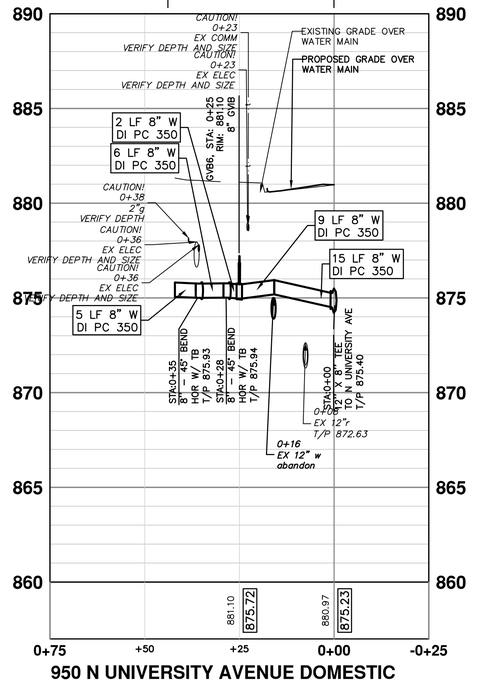












WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	RIM	T/P
GVB6	4" GVIB	0+25	881.10	5.79
GVB7	4" GVIB	0+51	880.00	5.45

WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	FG	DEPTH
H4	HYD	0+49	880.34	5.00
H5	HYD	0+24	880.46	5.00

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04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
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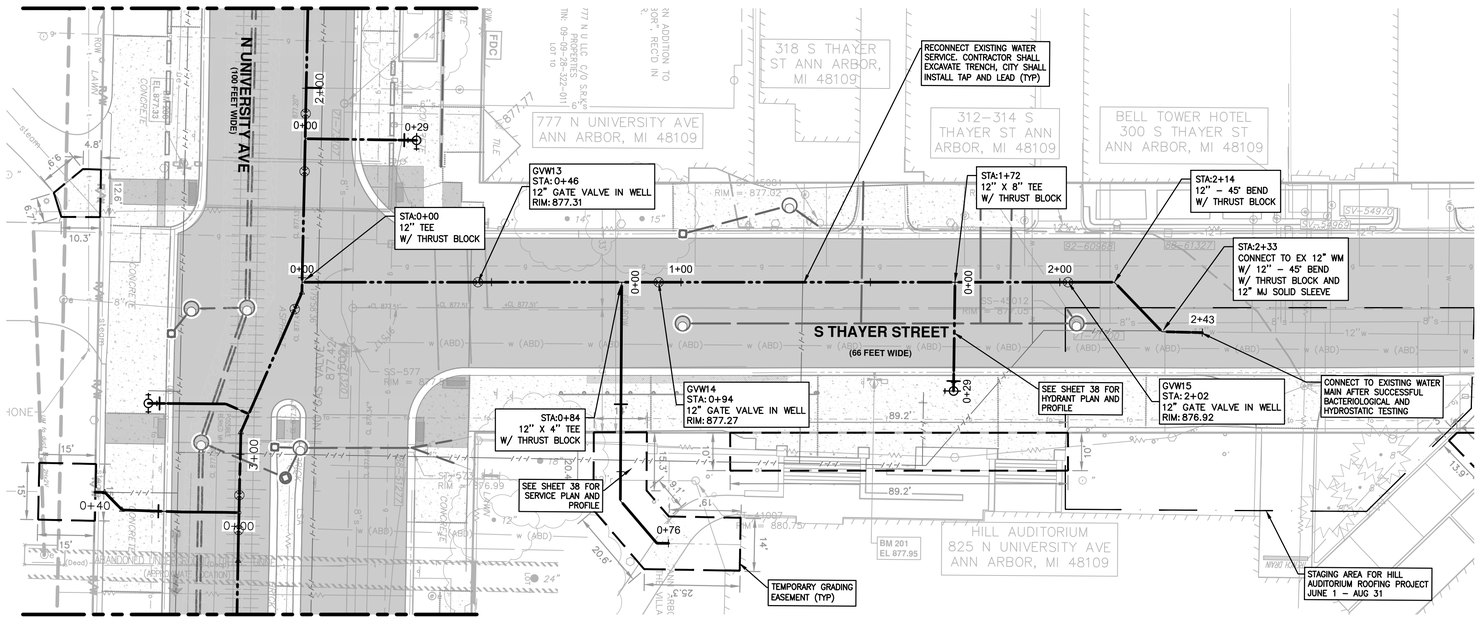
PROPOSED WATER MAIN LATERALS - NORTH UNIVERSITY

SCALE: 1"=20' VERTICAL 1"=4'

DRAWING No. 2023-023-36

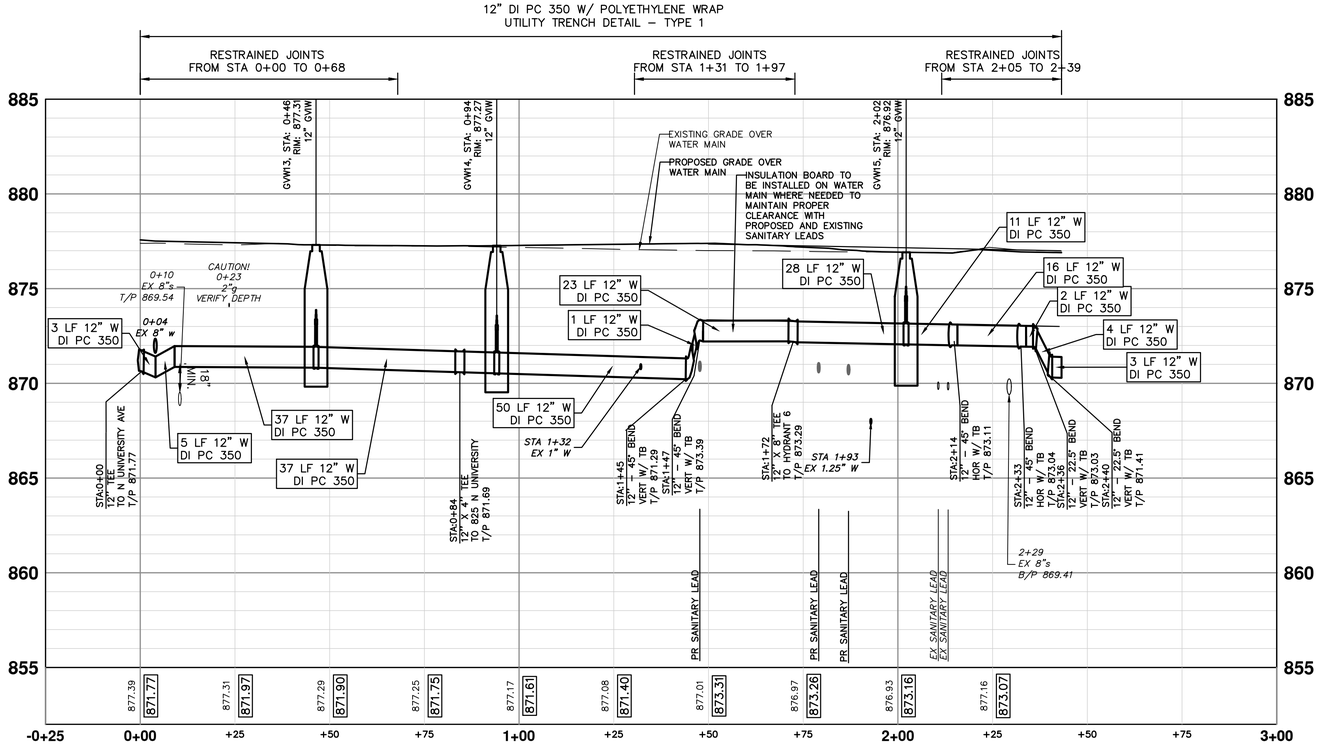
SHEET No. 36 OF 83

MATCH LINE
SEE SHEET 31



MATCH LINE
SEE SHEET 32

12" DI PC 350 W/ POLYETHYLENE WRAP UTILITY TRENCH DETAIL – TYPE 1



Existing Water Services

Address	Station	Size (in)
825	0+87	4
318	1+32	1
312-314	1+93	1.25

WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	RIM	WELL DEPTH	T/P
GVW13	12" GVW	0+46	877.31	6.98	5.44
GVW14	12" GVW	0+94	877.27	7.24	5.70
GVW15	12" GVW	2+02	876.92	6.54	5.00

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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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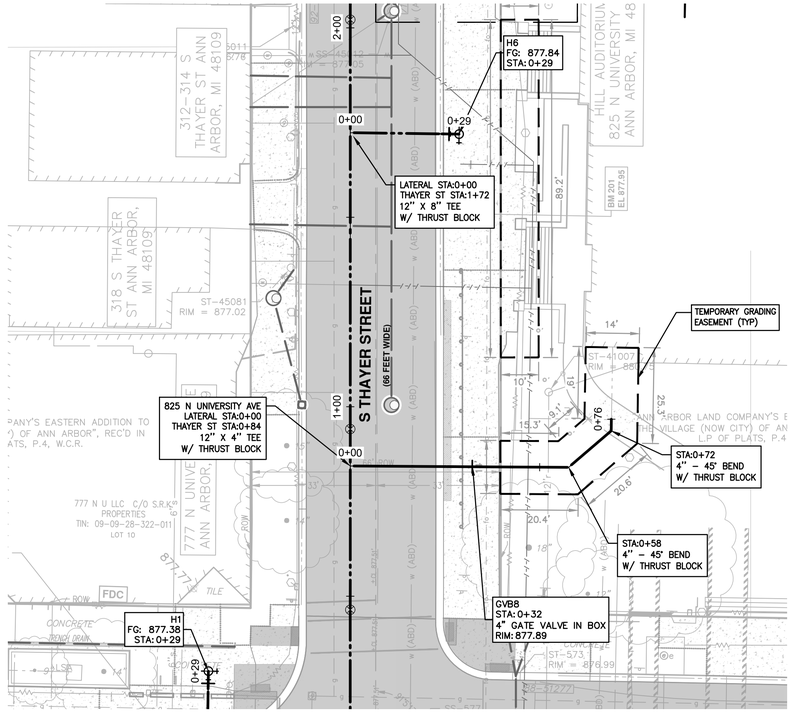
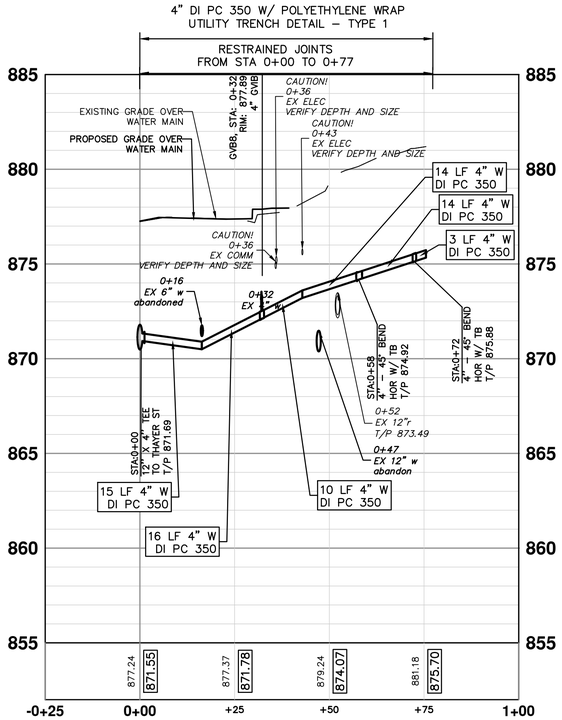
PROPOSED WATER MAIN - THAYER

SCALE : 1"=20'

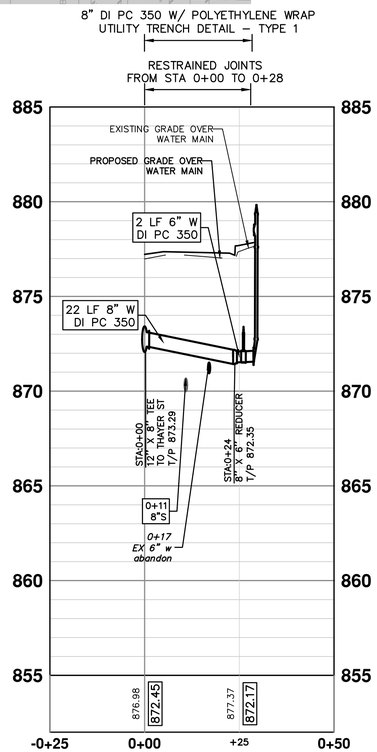
DRAWING No. 2023-023-37

SHEET No. 37 OF 83





825 N UNIVERSITY SERVICE



HYDRANT 6

WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	RIM	T/P
GVB8	4" GVIB	0+32	877.89	5.43

WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	FG	DEPTH
H6	HYD	0+29	877.84	5.00

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

PROPOSED WATER MAIN - THAYER

SCALE : 1"=20'

DRAWING No. 2023-023-38

SHEET No. 38 OF 83

NO.	BID	DATE	DRAWN	CHECKED
04		01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM
REV.	DESCRIPTION	DATE	DRAWN	CHECKED

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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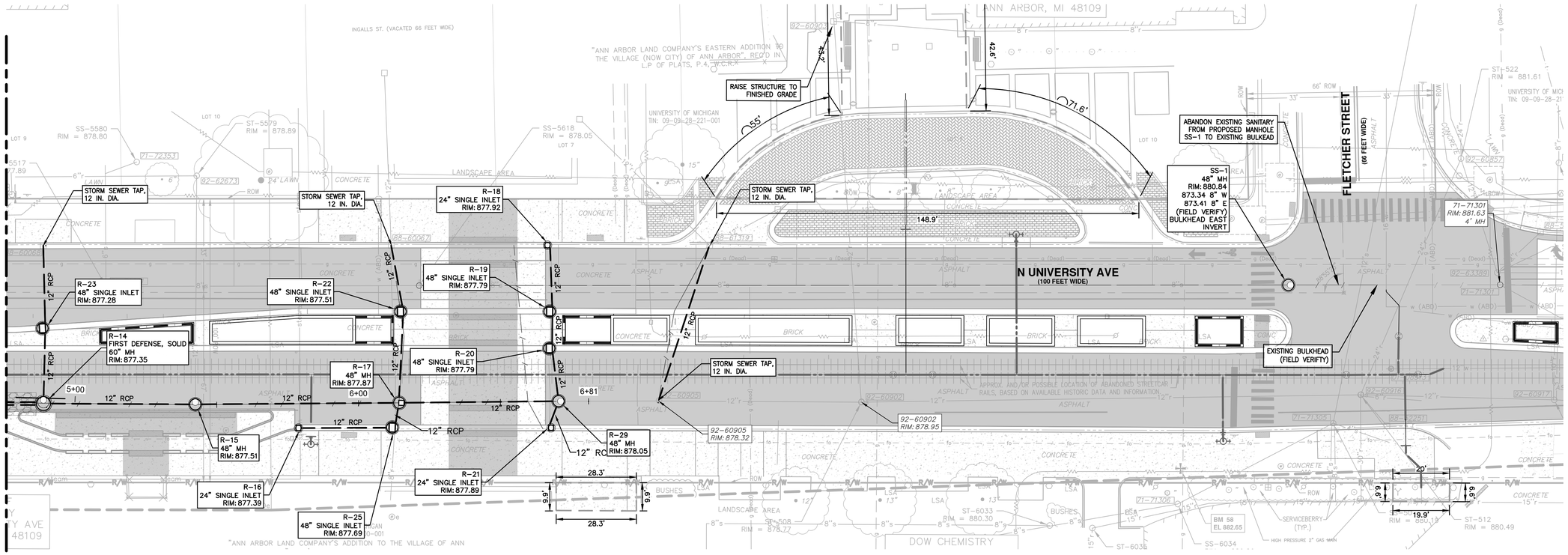
PROPOSED STORM - NORTH UNIVERSITY STA 0+00 TO ST 4+75

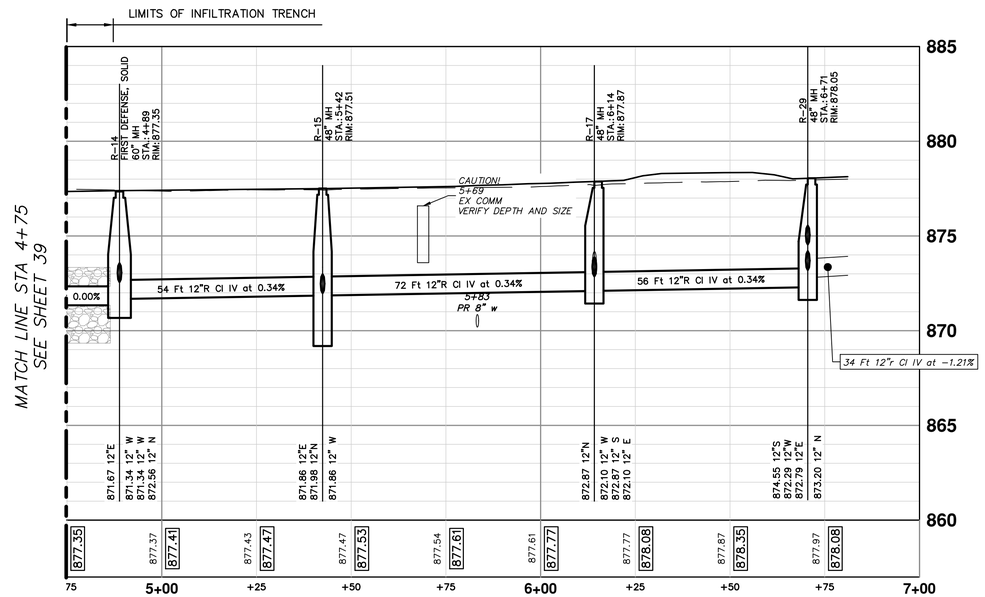
SCALE : 1"=20'

DRAWING No. 2023-023-39

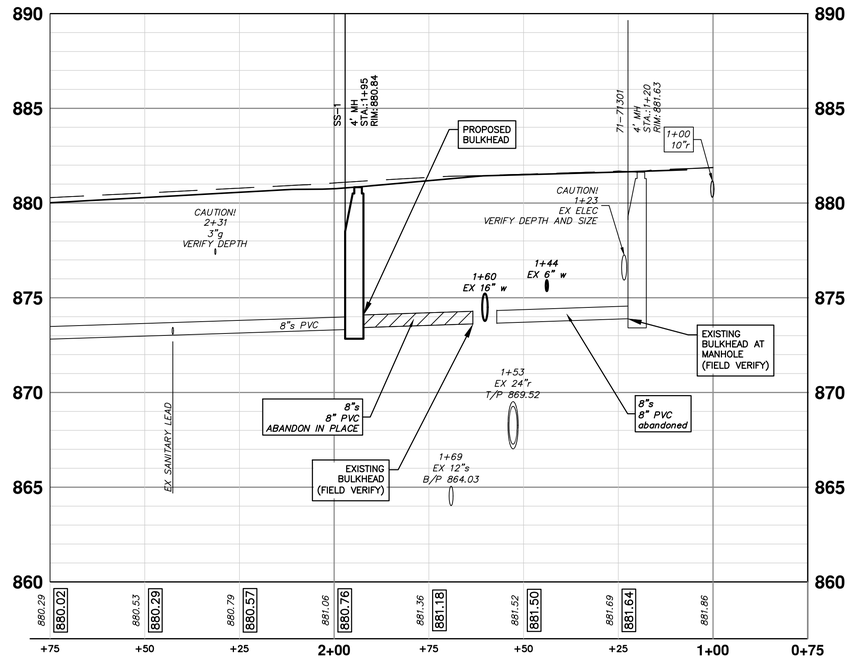
SHEET No. 39 OF 83

C:\pw_work\mflanagan\d133988\1\CST-PLTS-Prop STM-N Uni.dwg Dwg Created: 24-Jan-26 – _a2 standard bw.stb – Plot Date: 25-Jan-26





STORM SEWER PROFILE: R-14, R-15, R-17, R-24



SANITARY SEWER PROFILE: SS-1

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02	60% SUBMITTAL	10/10/2025	VARIOUS	MHM
01	DESCRIPTION	DATE	DRAWN	CHECKED
REV.				

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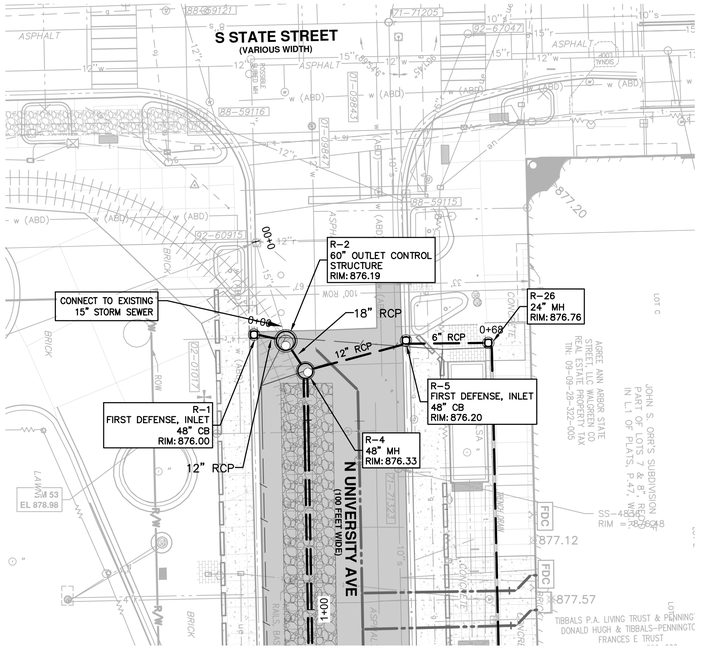
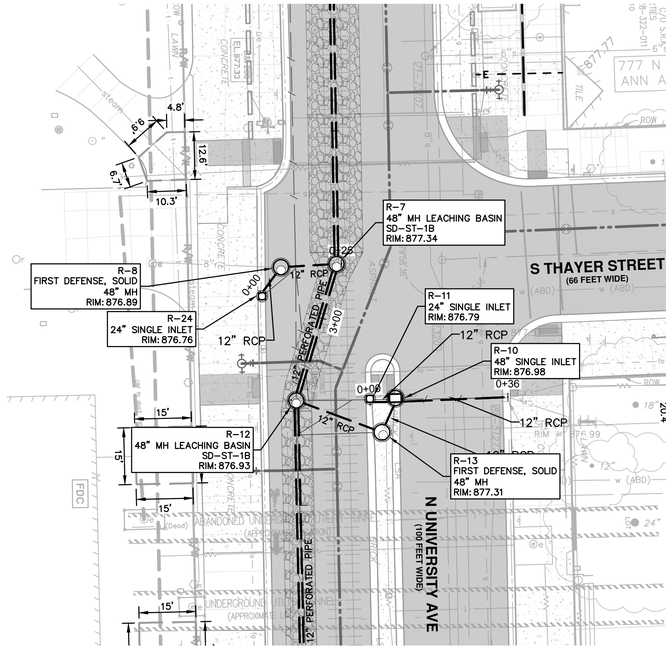
PROPOSED STORM - NORTH UNIVERSITY STA 4+75 TO STA 6+14

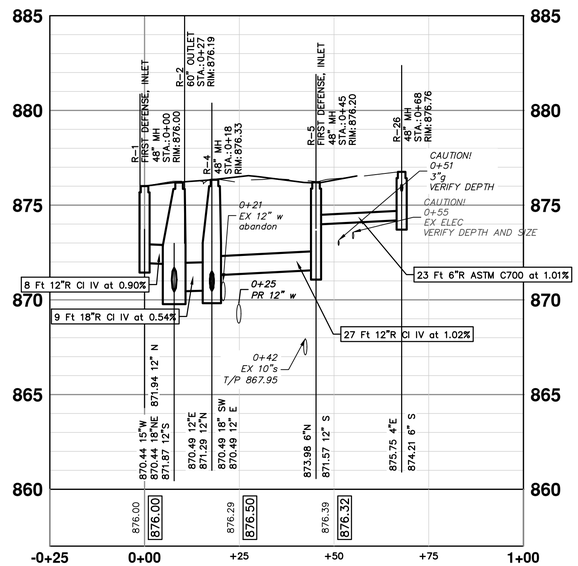
SCALE : 1"=20'

DRAWING No. 2023-023-40

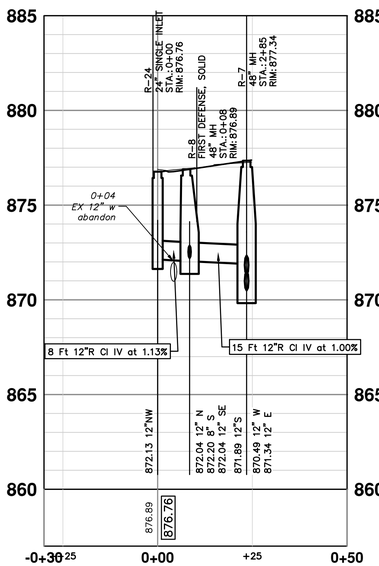
SHEET No. 40 OF 83



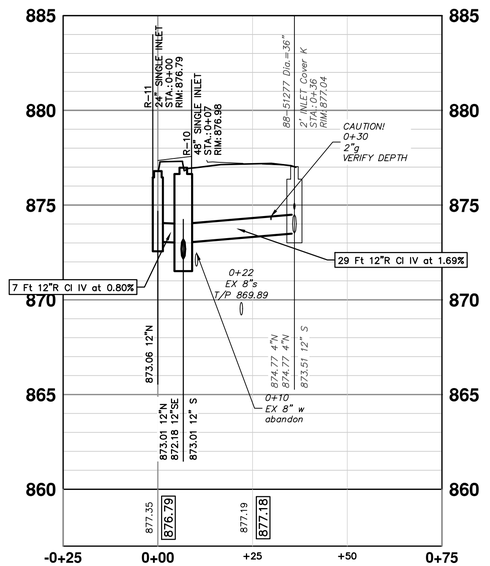




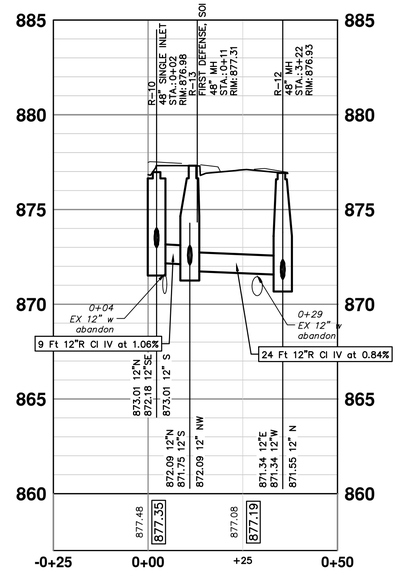
STORM SEWER PROFILE: R-1, R-2, R-3, R-4, R-5, R-26



STORM SEWER PROFILE: R-7, R-8, R-24



STORM SEWER PROFILE: R-10, R-11



STORM SEWER PROFILE: R-10, R-12, R-13

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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
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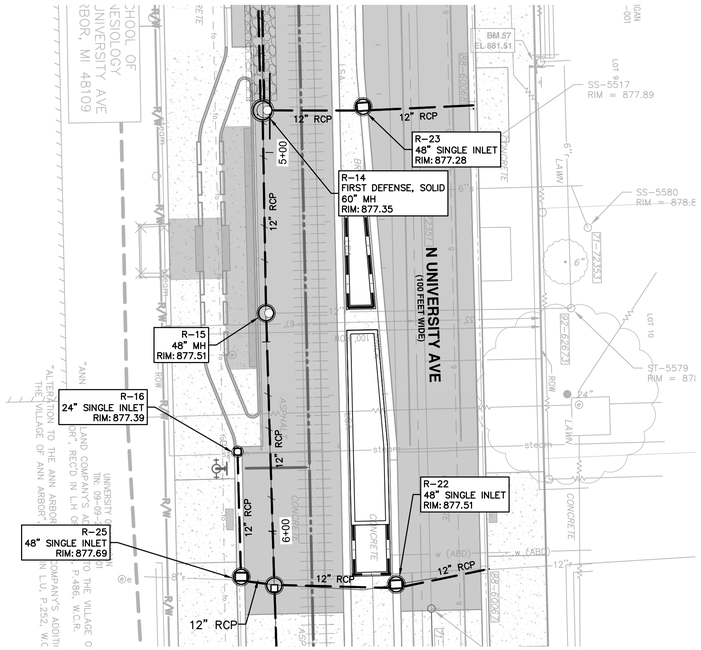
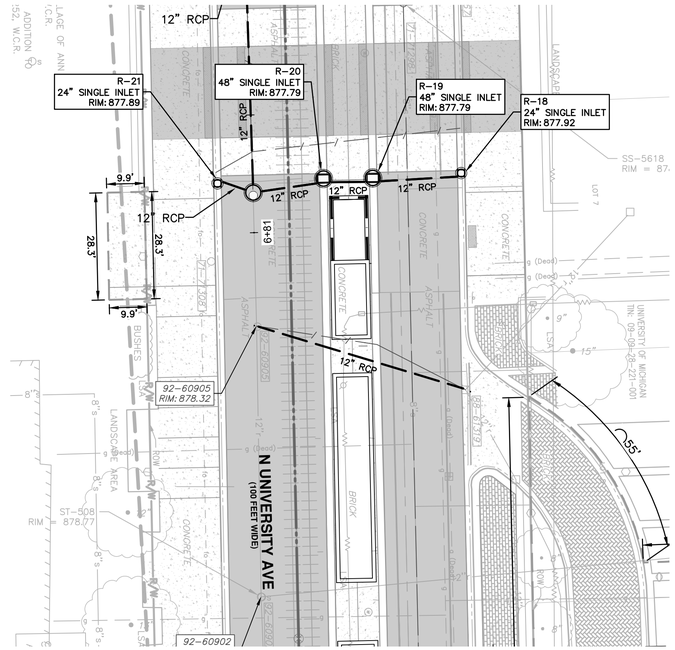
PROPOSED STORM - NORTH UNIVERSITY

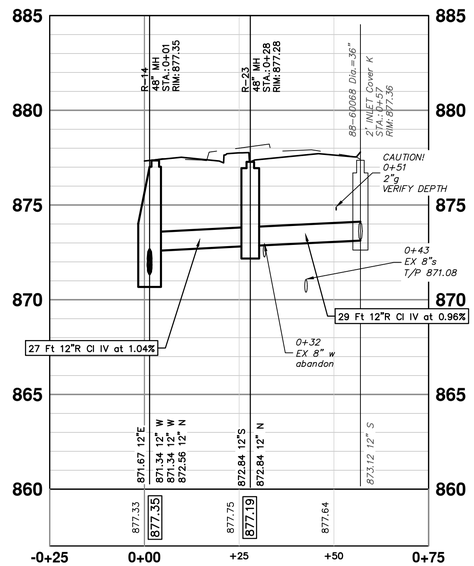
SCALE : 1"=20'

DRAWING No.
2023-023-41

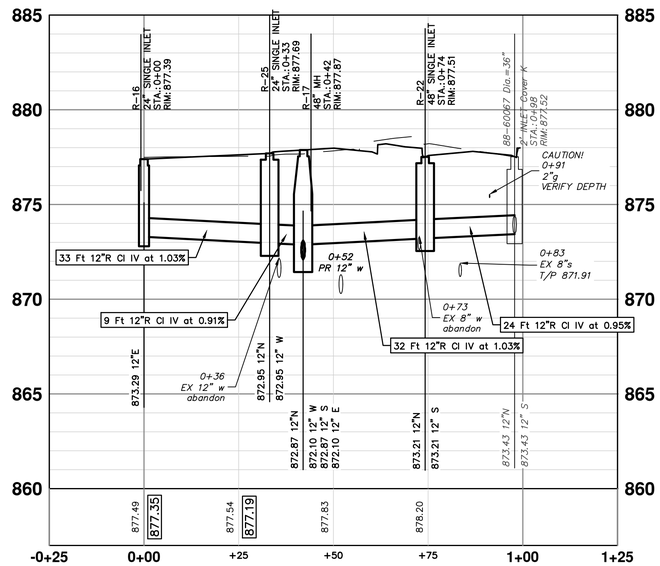
SHEET No.
41 OF 83



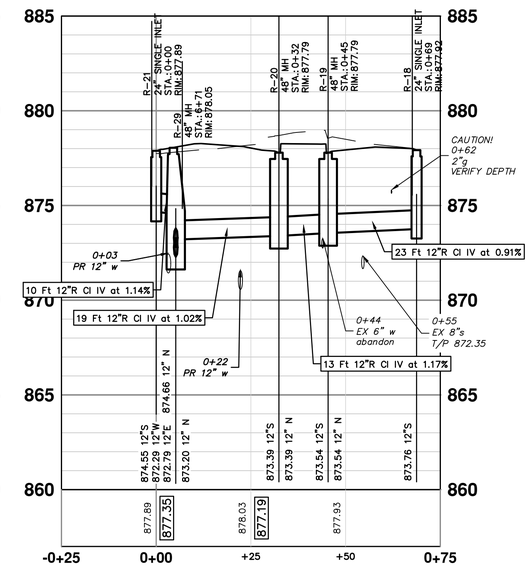




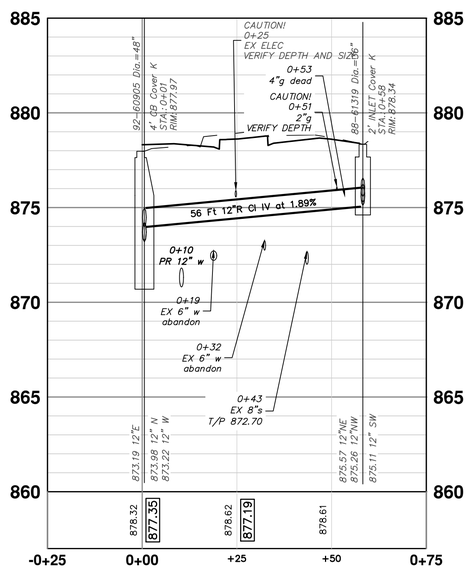
STORM SEWER PROFILE: R-14, R-23



STORM SEWER PROFILE: R-16, R-17, R-22, R-25



STORM SEWER PROFILE: R-18, R-19, R-20, R-21



STORM SEWER PROFILE: 92-60905, 88-61319

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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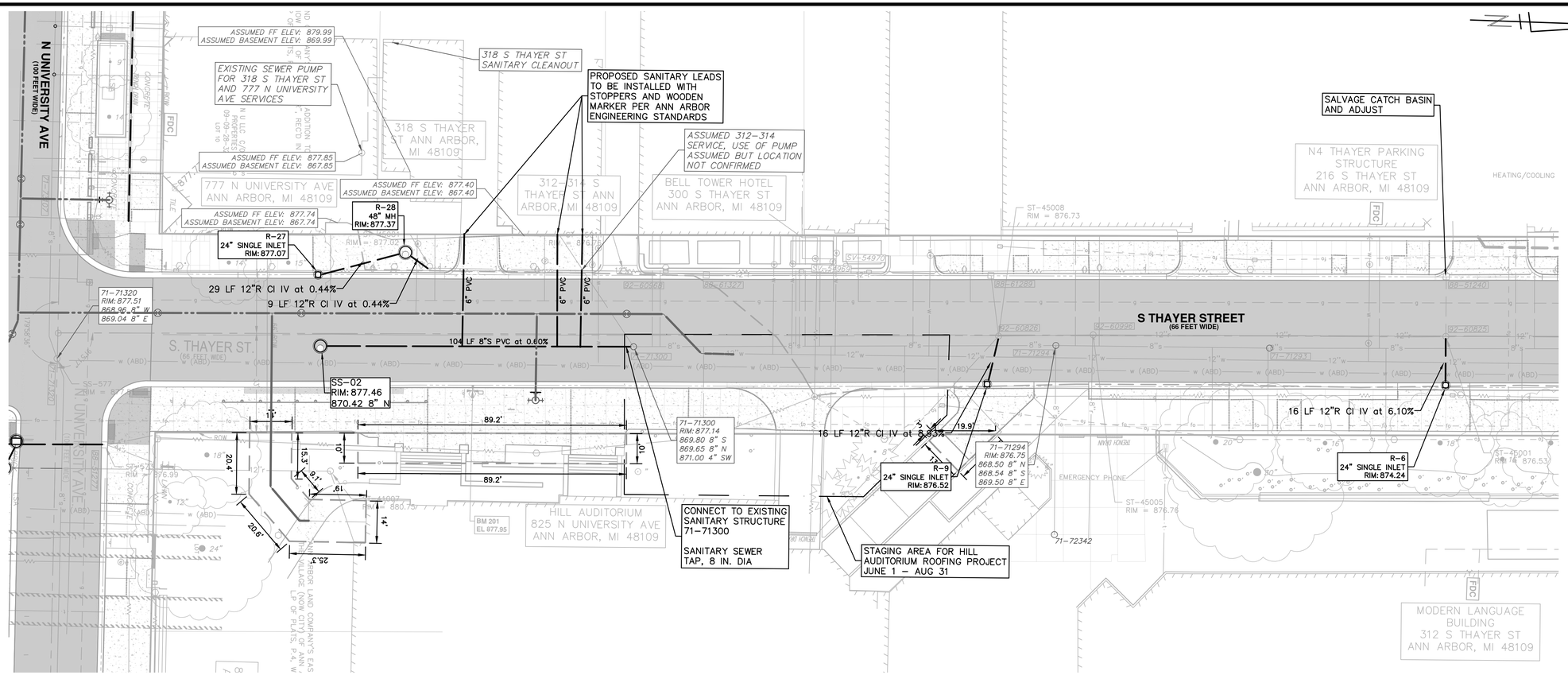
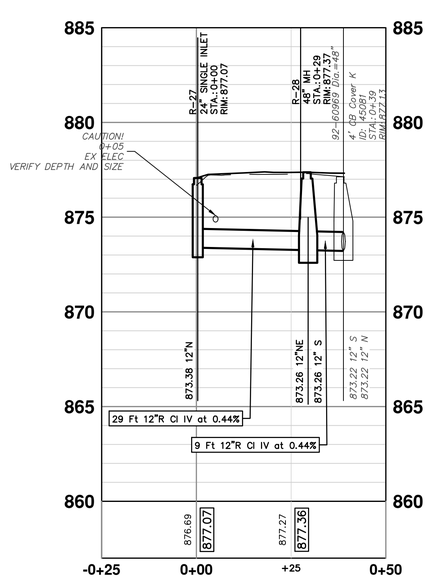
PROPOSED STORM - NORTH UNIVERSITY

SCALE : 1"=20'

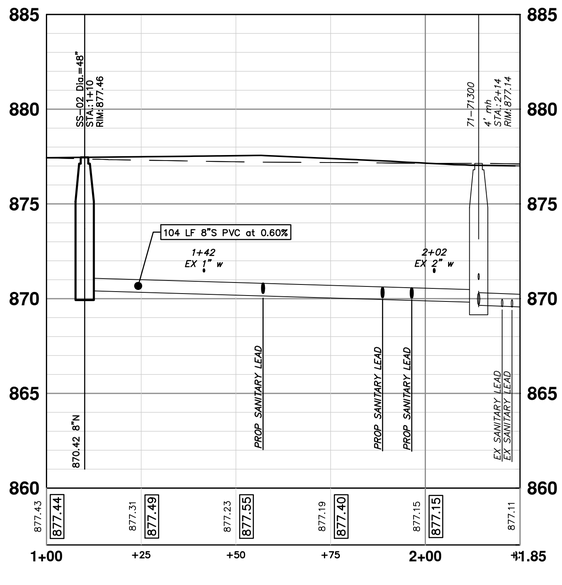
DRAWING No.
2023-023-42

SHEET No.
42 OF 83





STORM SEWER PROFILE: R-27 TO 92-60969



SANITARY SEWER PROFILE: SS-02 TO 71-71300

811 Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

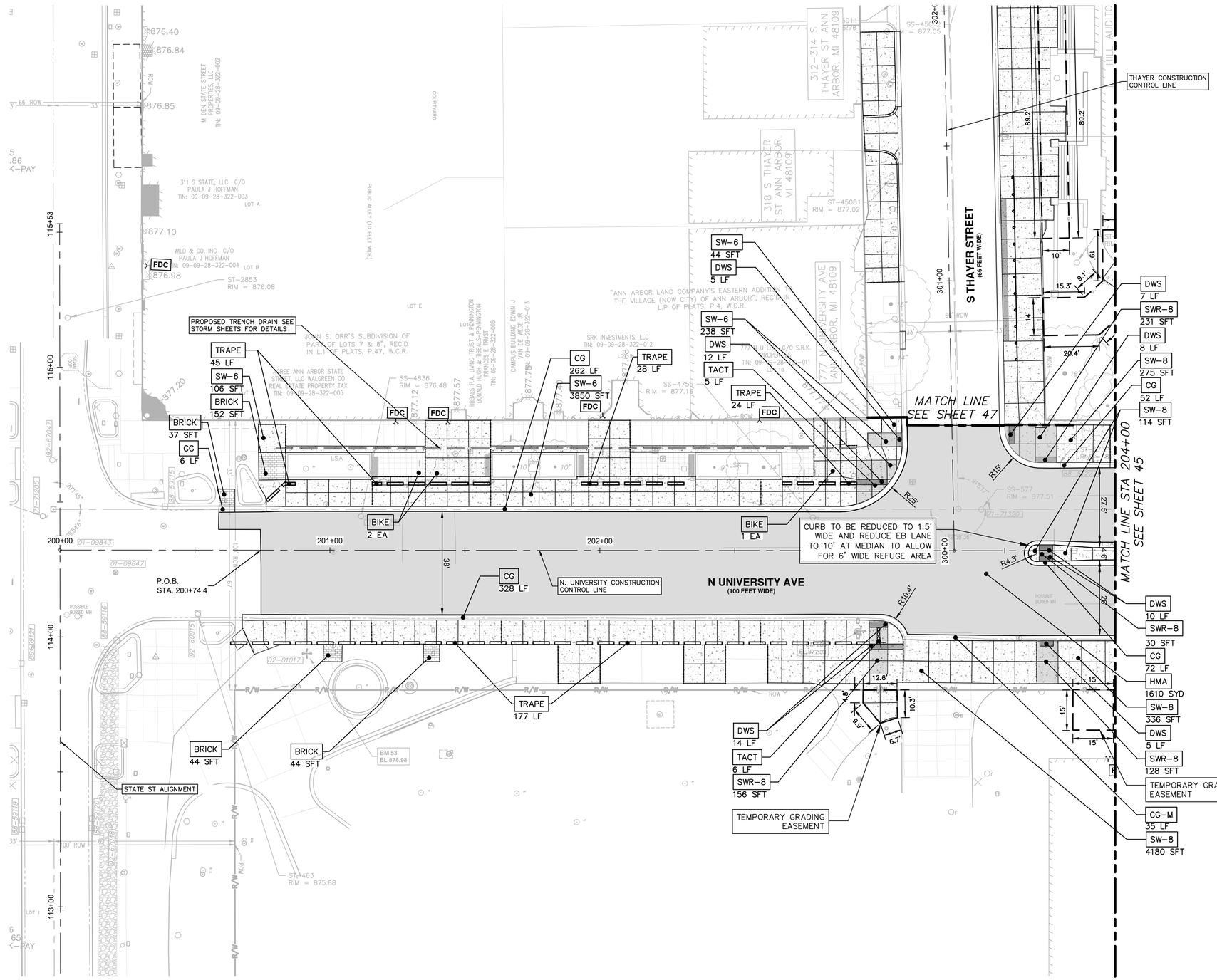
N. UNIVERSITY & THAYER IMPROVEMENTS

PROPOSED SANITARY - THAYER

SCALE : 1"=20'

DRAWING No. 2023-023-43

SHEET No. 43 OF 83



LEGEND

- PROPOSED CONCRETE RAMP/LEVEL LANDING
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PAVEMENT LIMITS
- MULCH
- PROPOSED GRADING EASEMENT
- CONTROL JOINT
- EXPANSION JOINT

CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONC, CURB OR CURB & GUTTER, ALL TYPES
DWS	DETECTABLE WARNING SURFACE
C-P	DS_PLANTER CURB
CG-M	CONC, DRIVEWAY OPENING, TYPE M. PAID FOR AS CONC, CURB, CURB & GUTTER, ALL TYPES
SW-6	CONC, SIDEWALK, DRIVE APPROACH, OR RAMP, 6 IN.
SW-8	DS_CONC, SIDEWALK, FIBERMESH, 8 IN.
SWR-8	DS_CONC, SIDEWALK RAMP, FIBERMESH, 8 IN.
SW-9R	DS_CONC, SIDEWALK, FIBERMESH, 9 IN., RAISED
TRAPE	DS_TRAPEZOID DELINEATOR, ANY SIZE
MULCH	DS_PLANTING SOIL AND MULCH
TREE	TREE, MEDIUM, B&B INSTALL CERCIS CANADENSIS (EASTERN REDBUD) 2" CALIPER, MULTI-STEM
BIKE	BIKE HOOP, CORED
TACT	DS_TACTILE DIRECTIONAL INDICATOR
BRICK	BRICK PAVERS, SIDEWALK, REM AND REINSTALL

NOTE:
- TURF ESTABLISHMENT, PERFORMANCE SHALL BE INSTALLED IN DISTURBED LAWN AREAS AS NECESSARY.

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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
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02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

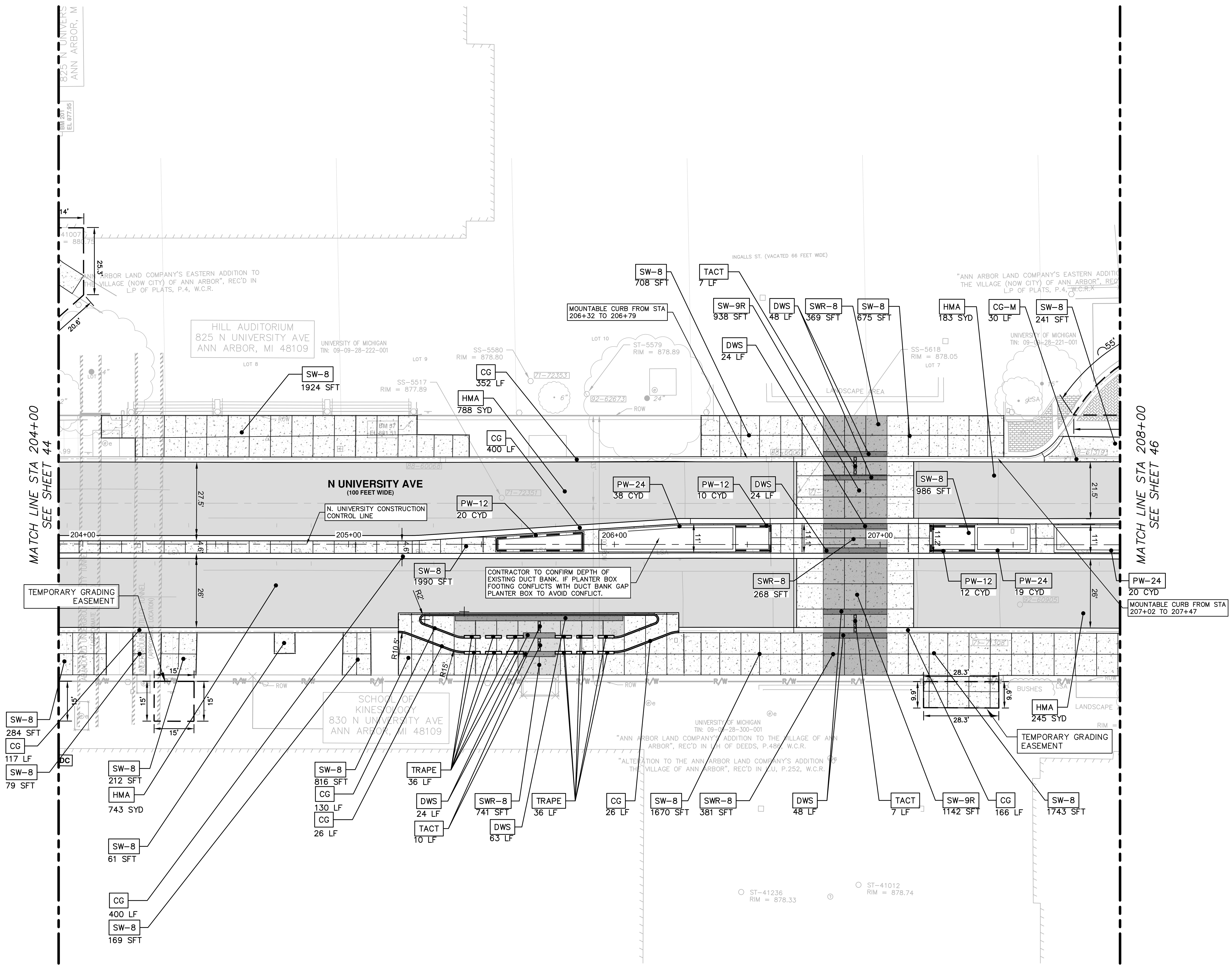
N. UNIVERSITY & THAYER IMPROVEMENTS

CONSTRUCTION PLAN - NORTH UNIVERSITY

SCALE : 1"=20'

DRAWING No. 2023-023-44

SHEET No. 44 OF 83



LEGEND

- PROPOSED CONCRETE RAMP/LEVEL LANDING
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PAVEMENT LIMITS
- MULCH
- PROPOSED GRADING EASEMENT
- CONTROL JOINT
- EXPANSION JOINT

CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONC, CURB OR CURB & GUTTER, ALL TYPES
DWS	DETECTABLE WARNING SURFACE
C-P	DS_PLANTER CURB
CG-M	CONC, DRIVEWAY OPENING, TYPE M. PAID FOR AS CONC, CURB, CURB & GUTTER, ALL TYPES
SW-8	DS_CONC, SIDEWALK, FIBERMESH, 8 IN.
SWR-8	DS_CONC, SIDEWALK RAMP, FIBERMESH, 8 IN.
SW-9R	DS_CONC, SIDEWALK, FIBERMESH, 9 IN., RAISED
TRAPE	DS_TRAPEZOID DELINEATOR, ANY SIZE
MULCH	DS_PLANTING SOIL AND MULCH
TREE	TREE, MEDIUM, B&B INSTALL CERCIS CANADENSIS (EASTERN REDBUD) 2" CALIPER, MULTI-STEM
BIKE	BIKE HOOP, CORED
TACT	DS_TACTILE DIRECTIONAL INDICATOR
PW-12	DS_PLANTER WALL, 12 IN
PW-24	DS_PLANTER WALL, 24 IN

NOTE:
- TURF ESTABLISHMENT, PERFORMANCE SHALL BE INSTALLED IN DISTURBED LAWN AREAS AS NECESSARY.

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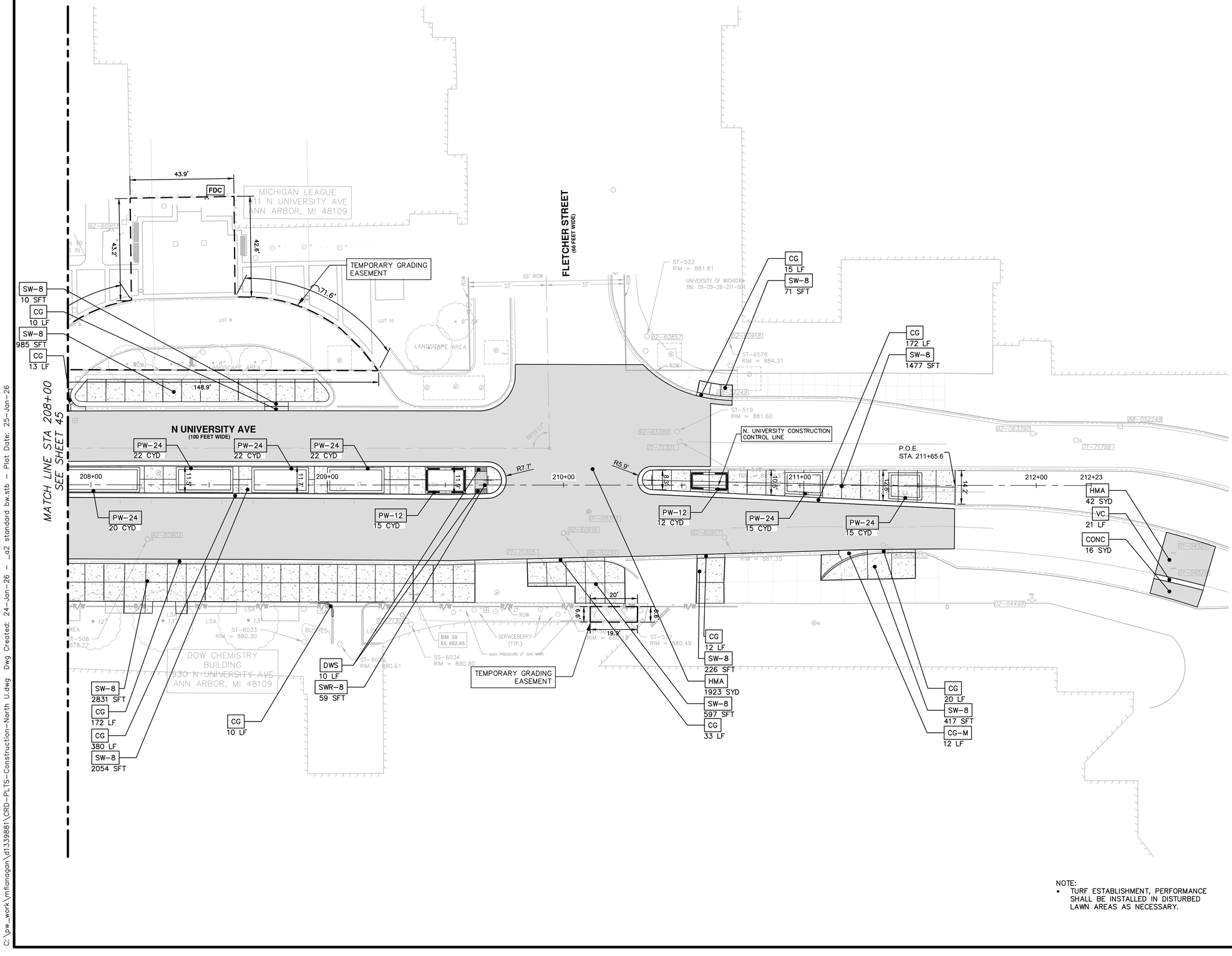
N. UNIVERSITY & THAYER IMPROVEMENTS

CONSTRUCTION PLAN - NORTH UNIVERSITY

SCALE : 1"=20'

DRAWING No. 2023-023-45

SHEET No. 45 OF 83



LEGEND

- PROPOSED CONCRETE RAMP/LEVEL LANDING
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PAVEMENT LIMITS
- MULCH
- PROPOSED GRADING EASEMENT
- CONTROL JOINT
- EXPANSION JOINT

CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONC, CURB OR CURB & GUTTER, ALL TYPES
DWS	DETECTABLE WARNING SURFACE
C-P	DS_PLANTER CURB
CG-M	CONC, DRIVEWAY OPENING, TYPE M. PAID FOR AS CONC, CURB, CURB & GUTTER, ALL TYPES
SW-8	DS_CONC, SIDEWALK, FIBERMESH, 8 IN.
SWR-8	DS_CONC, SIDEWALK RAMP, FIBERMESH, 8 IN.
SW-9R	DS_CONC, SIDEWALK, FIBERMESH, 9 IN., RAISED
TRAPE	DS_TRAPEZOID DELINEATOR, ANY SIZE
MULCH	DS_PLANTING SOIL AND MULCH
TREE	TREE, MEDIUM, B&B INSTALL CERCIS CANADENSIS (EASTERN REDBUD) 2" CALIPER, MULTI-STEM
BIKE	BIKE HOOP, CORED
TACT	DS_TACTILE DIRECTIONAL INDICATOR
PAVER	BRICK PAVERS, SIDEWALK, REM AND REINSTALL
CONC	CONC PAVT, NON-REINF, 8 IN.
PW-12	DS_PLANTER WALL, 12 IN
PW-24	DS_PLANTER WALL, 24 IN
VC	VALLEY CURB (TO BE PAID FOR AS CONC, CURB OR CURB & GUTTER, ALL TYPES)

NOTE:
- TURF ESTABLISHMENT, PERFORMANCE SHALL BE INSTALLED IN DISTURBED LAWN AREAS AS NECESSARY.

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

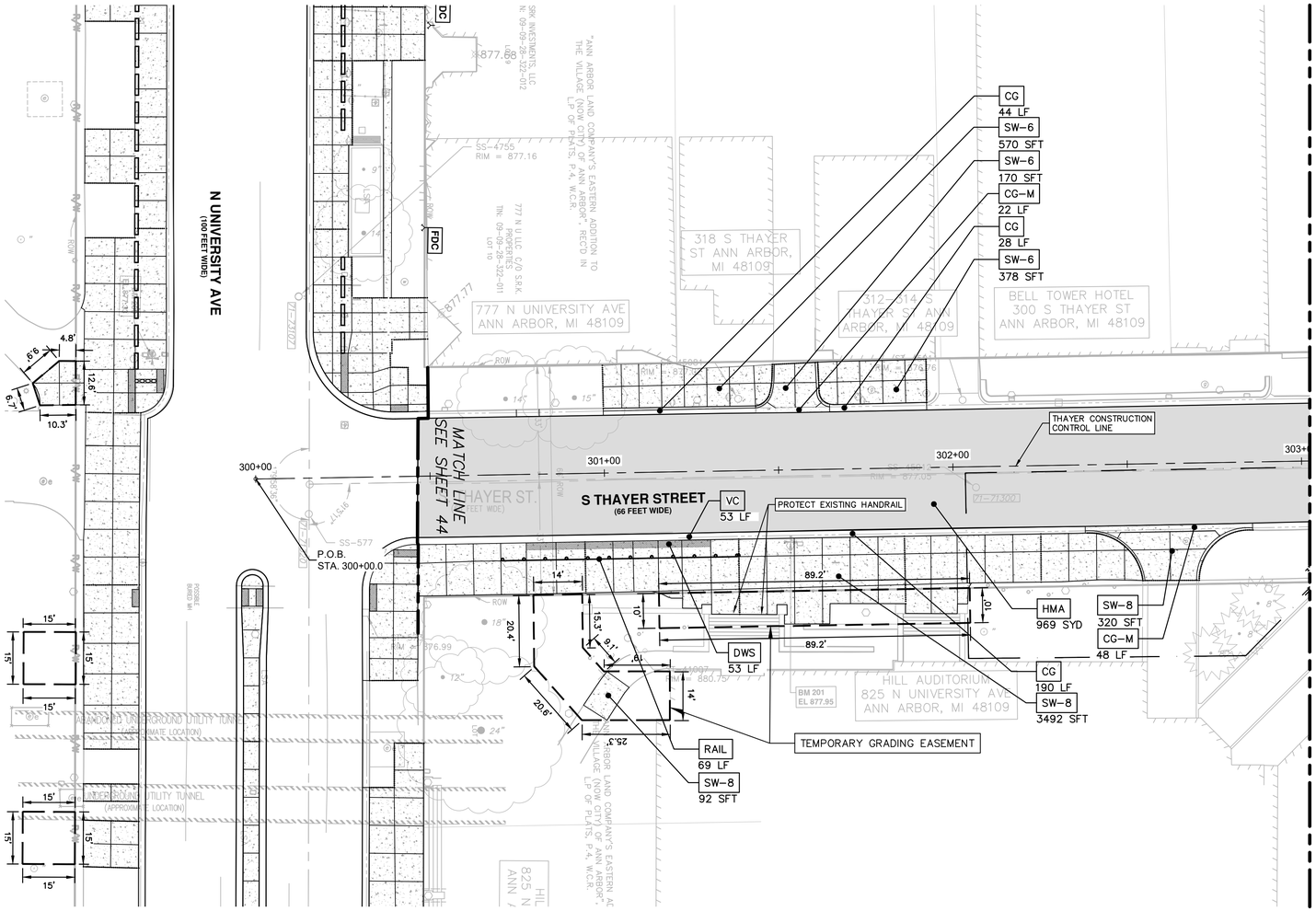
N. UNIVERSITY & THAYER IMPROVEMENTS

CONSTRUCTION PLAN - NORTH UNIVERSITY

SCALE : 1"=20'

DRAWING No. 2023-023-46

SHEET No. 46 OF 83



NOTE:
- TURF ESTABLISHMENT, PERFORMANCE SHALL BE INSTALLED IN DISTURBED LAWN AREAS AS NECESSARY.

LEGEND

- PROPOSED CONCRETE RAMP/LEVEL LANDING
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PAVEMENT LIMITS
- MULCH
- PROPOSED GRADING EASEMENT
- CONTROL JOINT
- EXPANSION JOINT

CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONC, CURB OR CURB & GUTTER, ALL TYPES
MOUNT	DS_MOUNTABLE CURB AND GUTTER
SW-8	DS_CONC, SIDEWALK, FIBERMESH, 8 IN.
DWS	DETECTABLE WARNING SURFACE
C-P	DS_PLANTER CURB
CG-M	CONC, DRIVEWAY OPENING, TYPE M. PAID FOR AS CONC, CURB, CURB & GUTTER, ALL TYPES
TRAPE	DS_TRAPEZOID DELINEATOR, ANY SIZE
SW-6	CONC, SIDEWALK, DRIVE APPROACH, OR RAMP, 6 IN.
SWR-8	DS_CONC, SIDEWALK RAMP, FIBERMESH, 8 IN.
MULCH	DS_PLANTING SOIL AND MULCH
TREE	TREE, MEDIUM, B&B INSTALL CERCIS CANADENSIS (EASTERN REDBUD) 2" CALIPER, MULTI-STEM
BIKE	BIKE HOOP, CORED
TACT	DS_TACTILE DIRECTIONAL INDICATOR
RAIL	DS_HANDRAIL
VC	VALLEY CURB (TO BE PAID FOR AS CONC, CURB OR CURB & GUTTER, ALL TYPES)

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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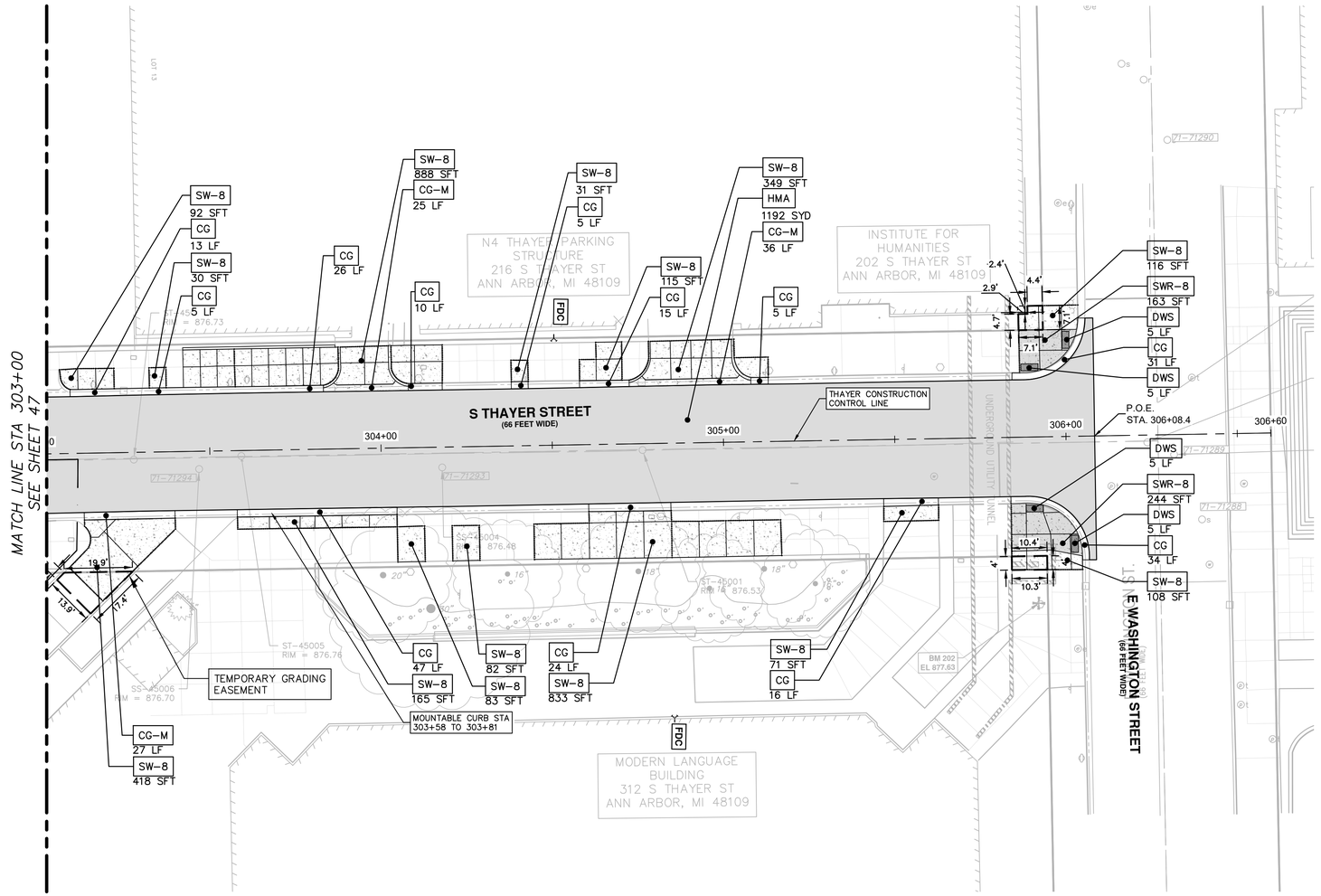
CONSTRUCTION PLAN - THAYER

SCALE : 1"=20'

DRAWING No. 2023-023-47

SHEET No. 47 OF 83



LEGEND

- PROPOSED CONCRETE RAMP/LEVEL LANDING
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PAVEMENT LIMITS
- MULCH
- PROPOSED GRADING EASEMENT
- CONTROL JOINT
- EXPANSION JOINT

CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONC, CURB OR CURB & GUTTER, ALL TYPES
MOUNT	DS_MOUNTABLE CURB AND GUTTER
SW-8	DS_CONC, SIDEWALK, FIBERMESH, 8 IN.
DWS	DETECTABLE WARNING SURFACE
C-P	DS_PLANTER CURB
CG-M	CONC, DRIVEWAY OPENING, TYPE M. PAID FOR AS CONC, CURB, CURB & GUTTER, ALL TYPES
TRAPE	DS_TRAPEZOID DELINEATOR, ANY SIZE
SW-6	CONC, SIDEWALK, DRIVE APPROACH, OR RAMP, 6 IN.
SWR-8	DS_CONC, SIDEWALK RAMP, FIBERMESH, 8 IN.
MULCH	DS_PLANTING SOIL AND MULCH
TREE	TREE, MEDIUM, B&B INSTALL CERCIS CANADENSIS (EASTERN REDBUD) 2" CALIPER, MULTI-STEM
BIKE	BIKE HOOP, CORED
TACT	DS_TACTILE DIRECTIONAL INDICATOR

NOTE:
- TURF ESTABLISHMENT, PERFORMANCE SHALL BE INSTALLED IN DISTURBED LAWN AREAS AS NECESSARY.

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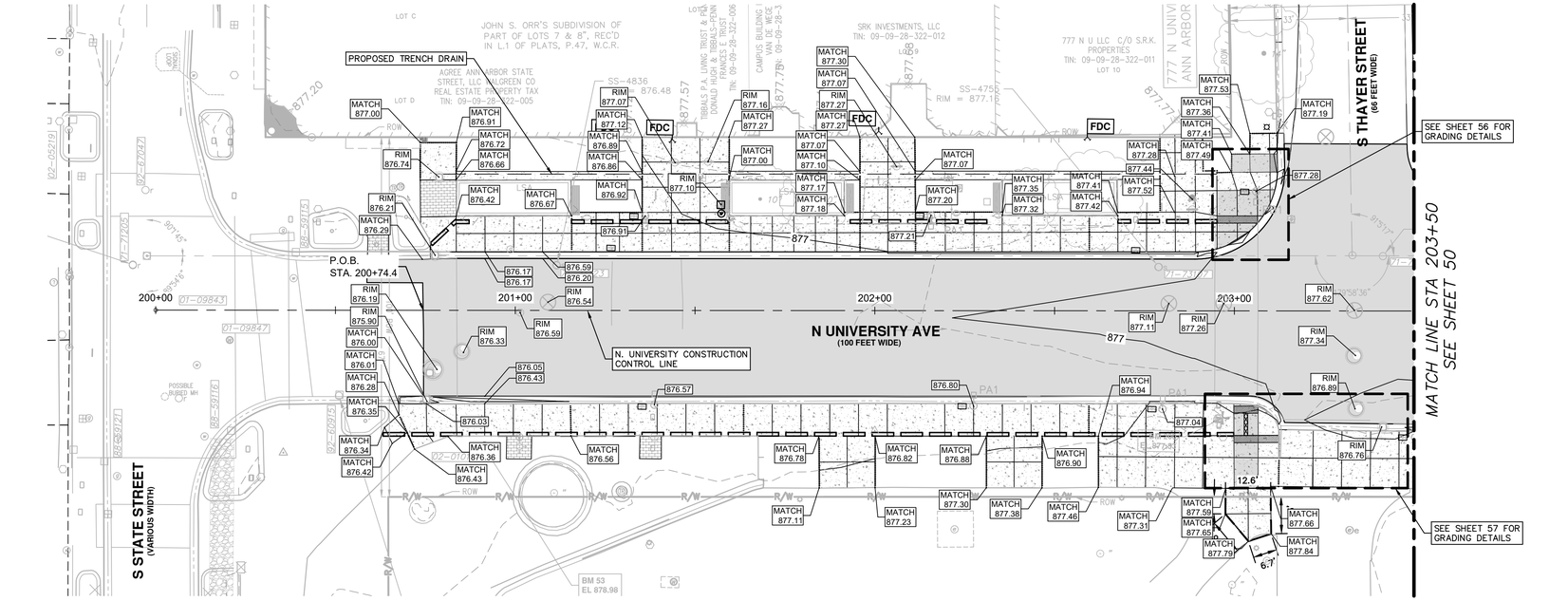
N. UNIVERSITY & THAYER IMPROVEMENTS

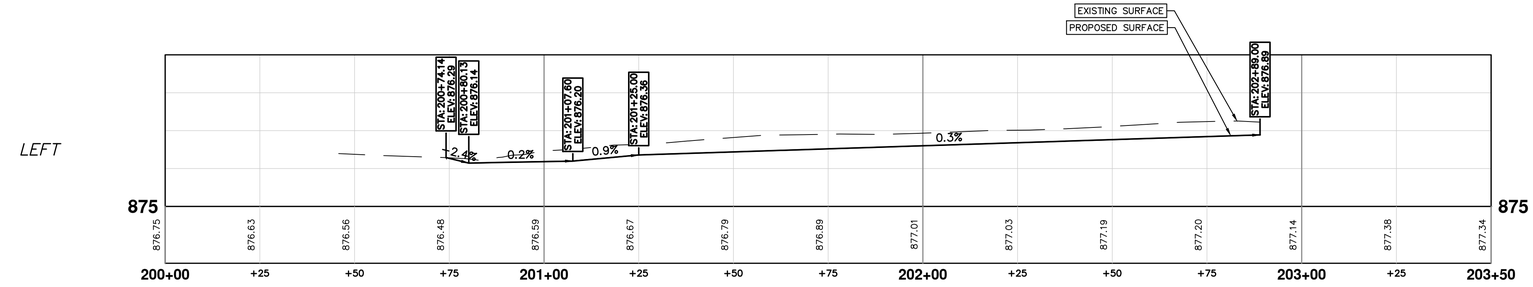
CONSTRUCTION PLAN - THAYER

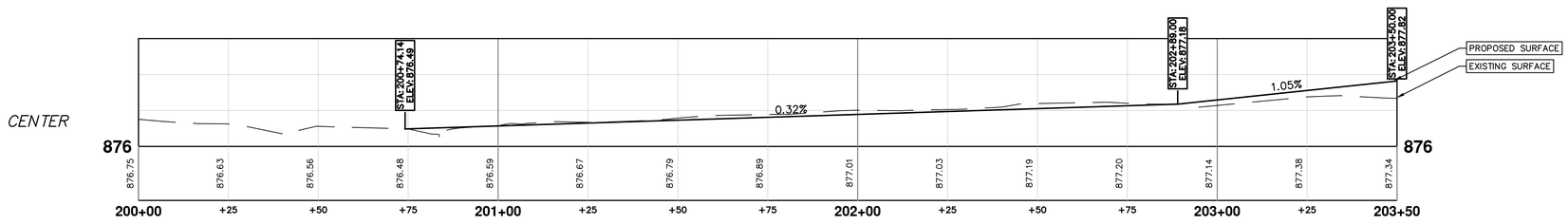
SCALE : 1"=20'

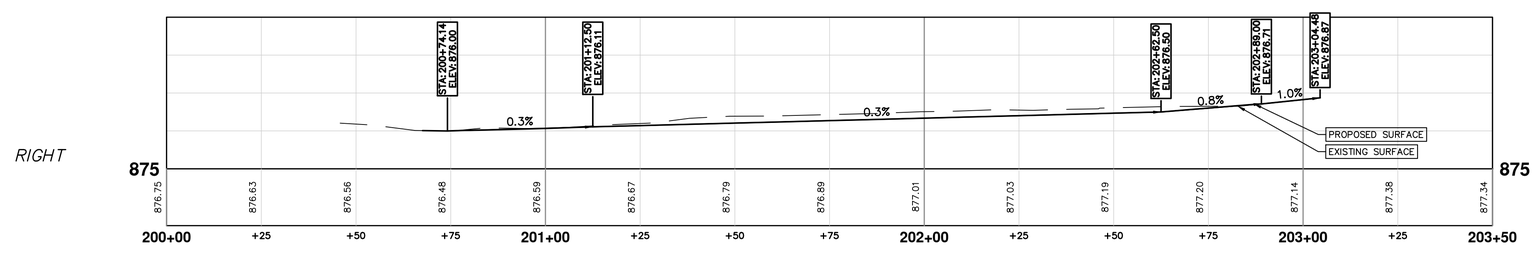
DRAWING No. 2023-023-48

SHEET No. 48 OF 83









REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

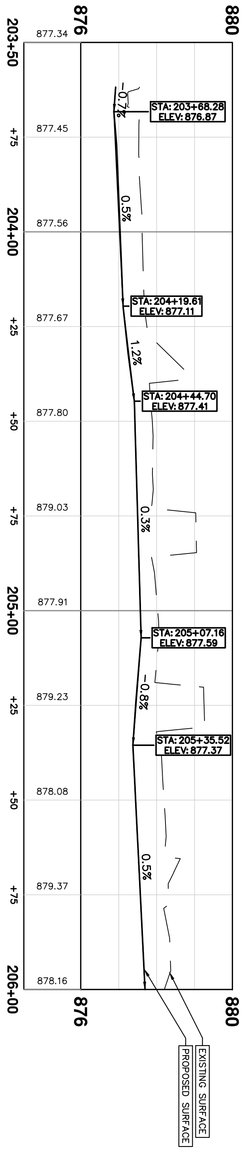
N. UNIVERSITY & THAYER IMPROVEMENTS

PAVING PLAN - NORTH UNIVERSITY STA 200+74.3 TO STA 203+50

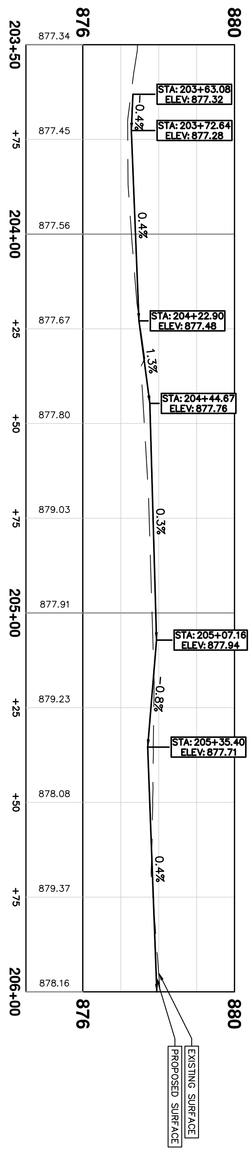
SCALE : 1"=20'

DRAWING No. 2023-023-49

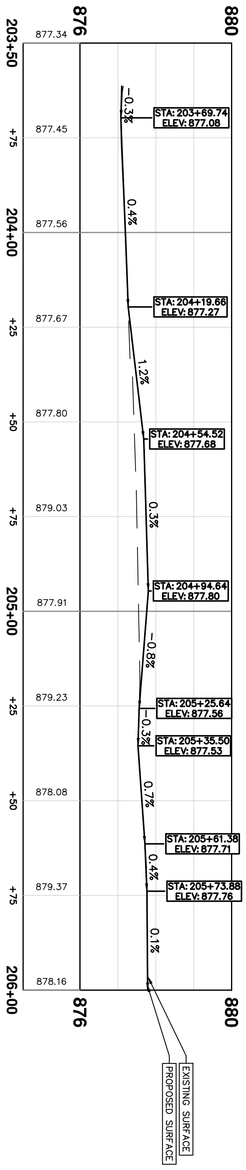
WEST BOUND SOUTH CURB EDGE OF METAL

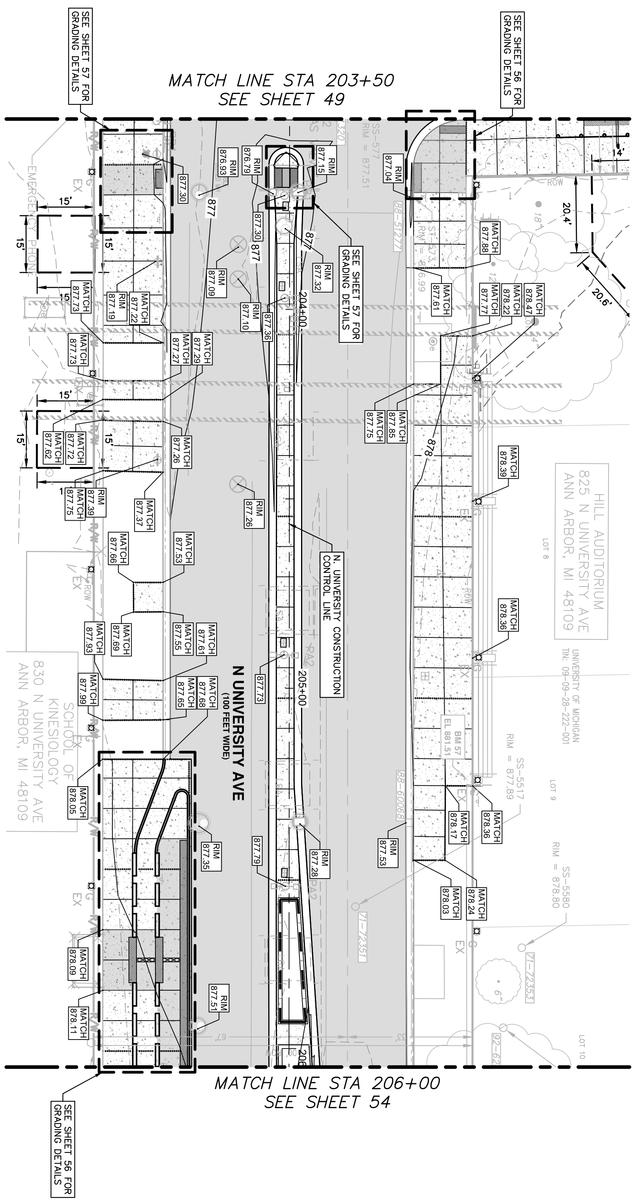


WEST BOUND CROWN - 21' CONSTRUCTION LINE OFFSET



WEST BOUND NORTH CURB EDGE OF METAL





CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE : 1"=20'

DRAWING No. 2023-023-50

N. UNIVERSITY & THAYER IMPROVEMENTS

PAVING PLAN - NORTH UNIVERSITY STA 203+50 TO STA 206+00

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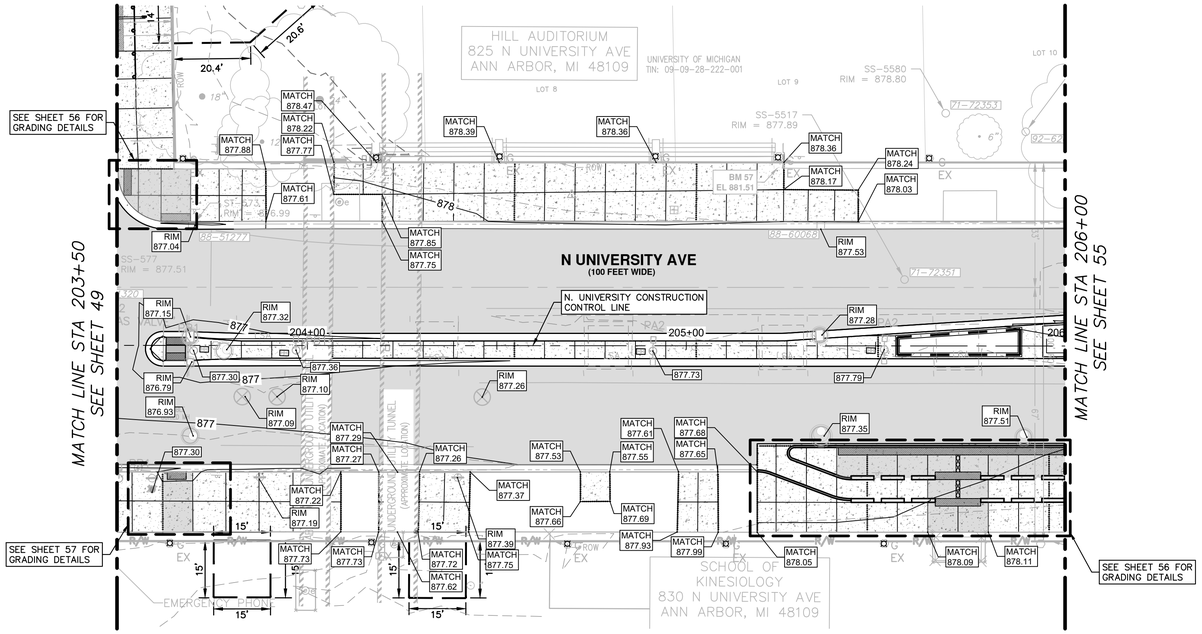
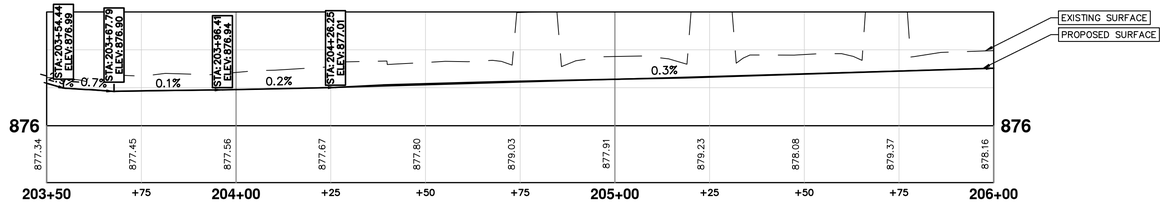
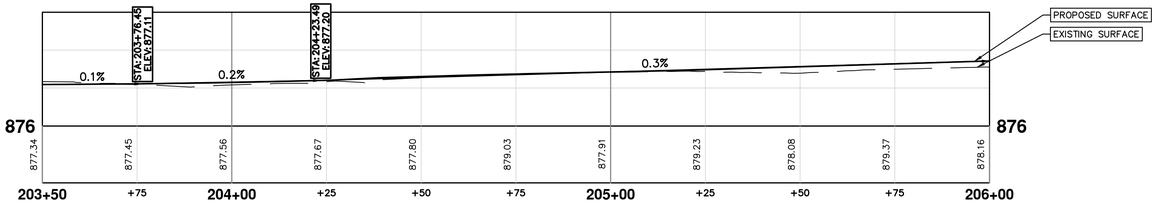
REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM



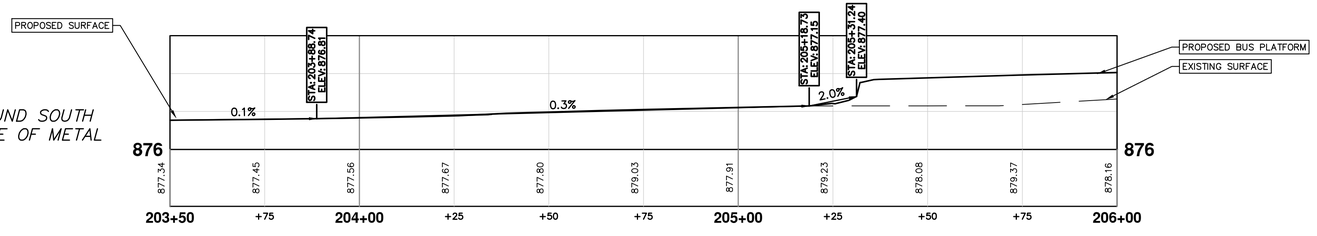
EAST BOUND NORTH CURB EDGE OF METAL



EAST BOUND CROWN – 16' CONSTRUCTION LINE OFFSET



EAST BOUND SOUTH CURB EDGE OF METAL



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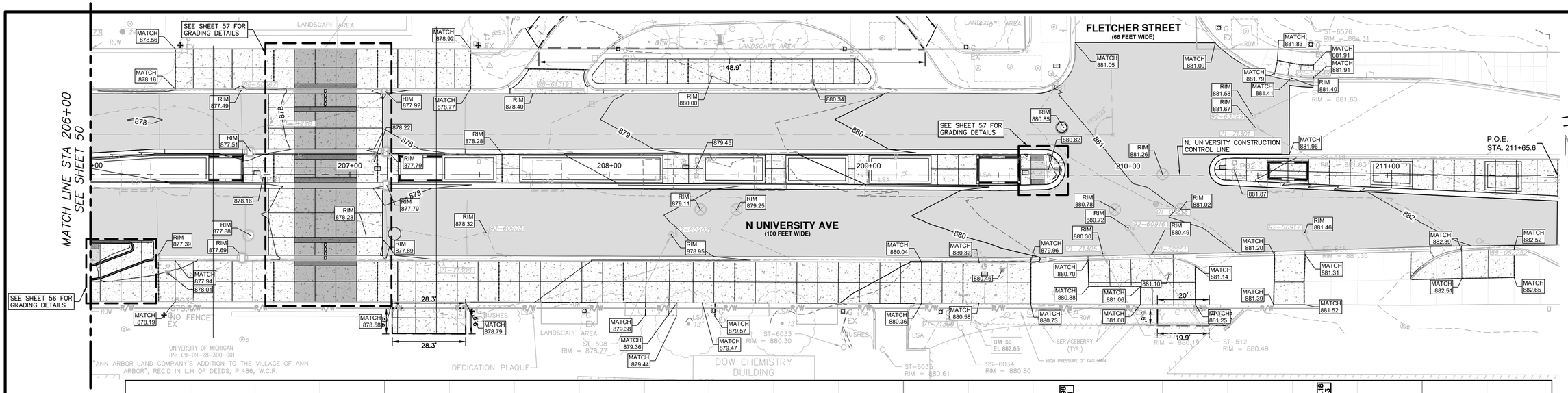
N. UNIVERSITY & THAYER IMPROVEMENTS

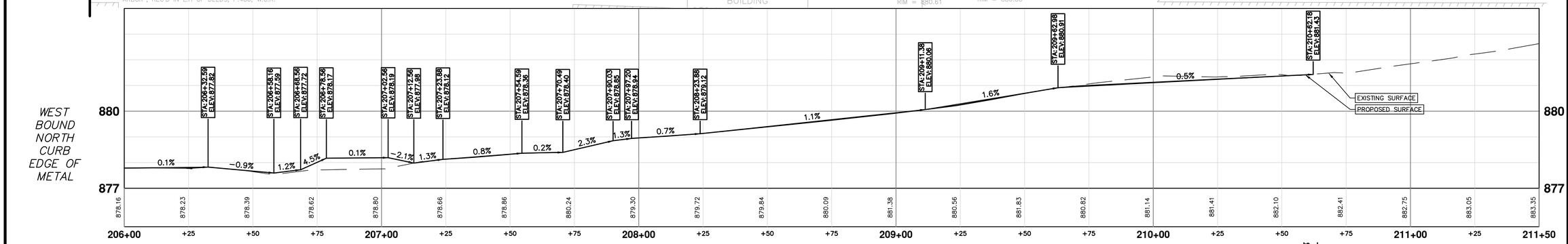
PAVING PLAN - NORTH UNIVERSITY STA 203+50 TO STA 206+00

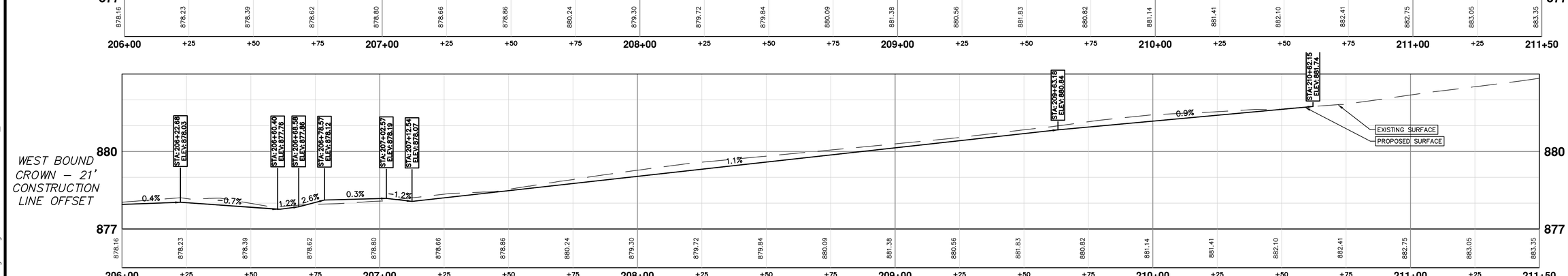
SCALE : 1"=20'

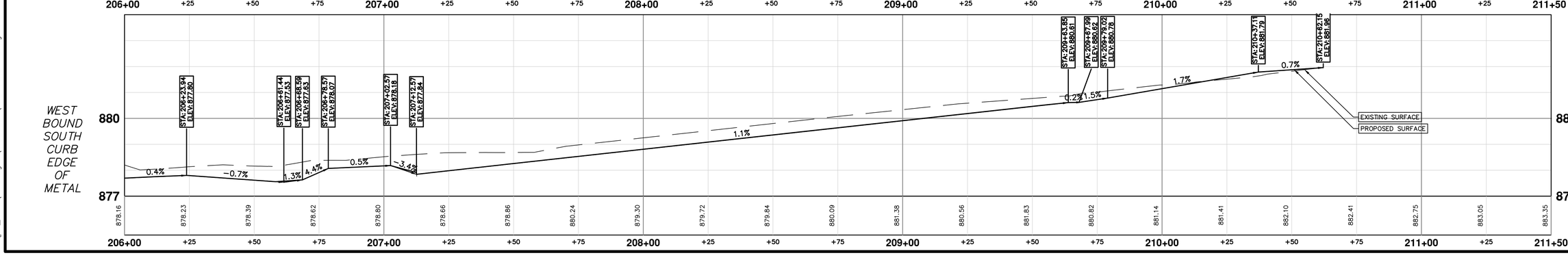
DRAWING No. 2023-023-51

SHEET No. 51 OF 83









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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

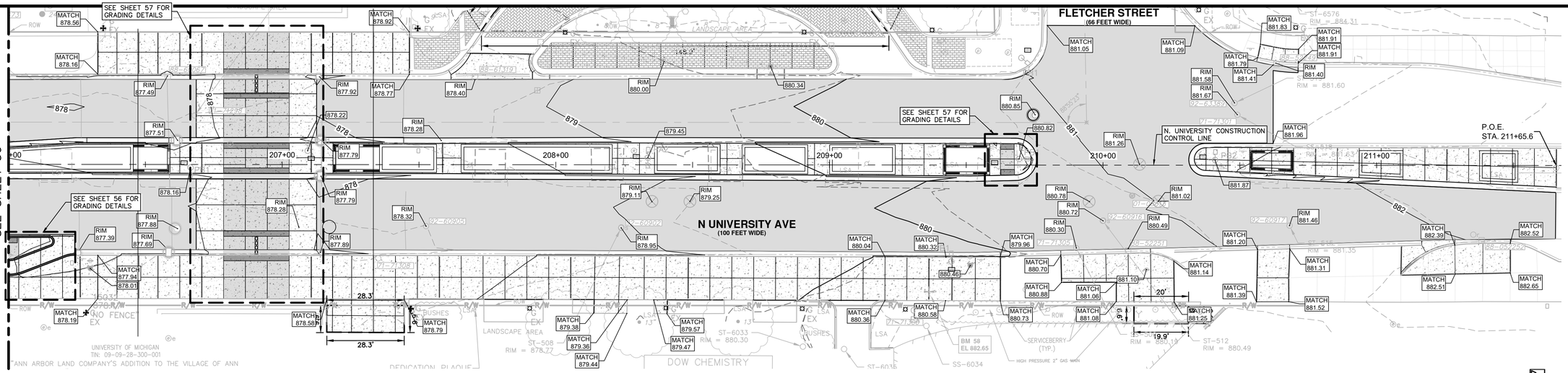
N. UNIVERSITY & THAYER IMPROVEMENTS

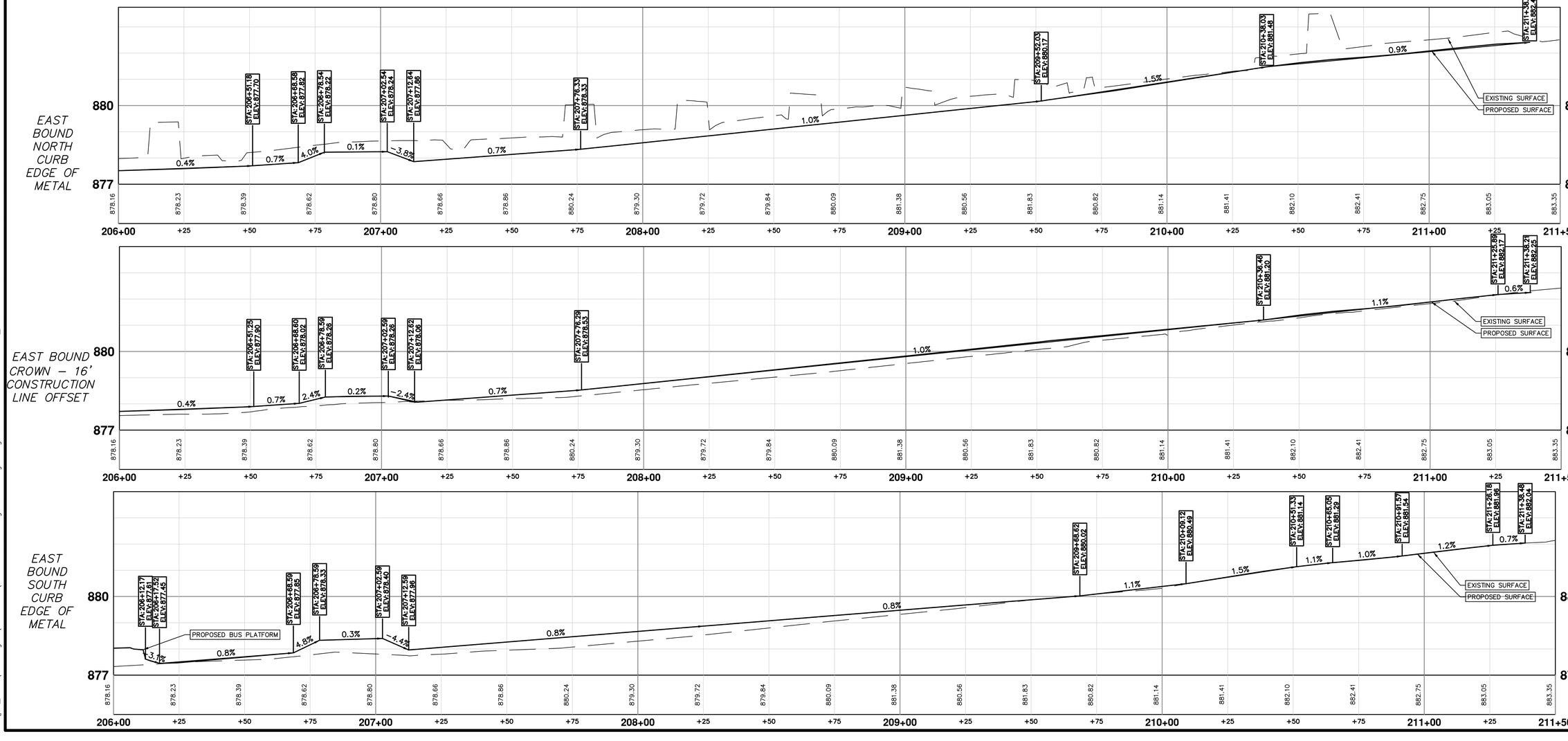
PAVING PLAN - NORTH UNIVERSITY STA 206+00 TO STA 211+65.6

SCALE : 1"=20'

DRAWING No. 2023-023-52

SHEET No. 52 OF 83





C:\pw_work\mflanagan\d1339881\CRD-PLTS-Paving-N Uni.dwg Dwg Created: 24-Jan-26 – _a2 standard bw.stb – Plot Date: 25-Jan-26

Know what's below. Call before you dig. 811

BID	DATE	DRAWN	CHECKED
04	01/26/2026	VARIOUS	MHM
03	01/05/2026	VARIOUS	MHM
02	11/14/2025	VARIOUS	MHM
01	10/10/2025	VARIOUS	MHM
REV.	DESCRIPTION	DRAWN	CHECKED

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

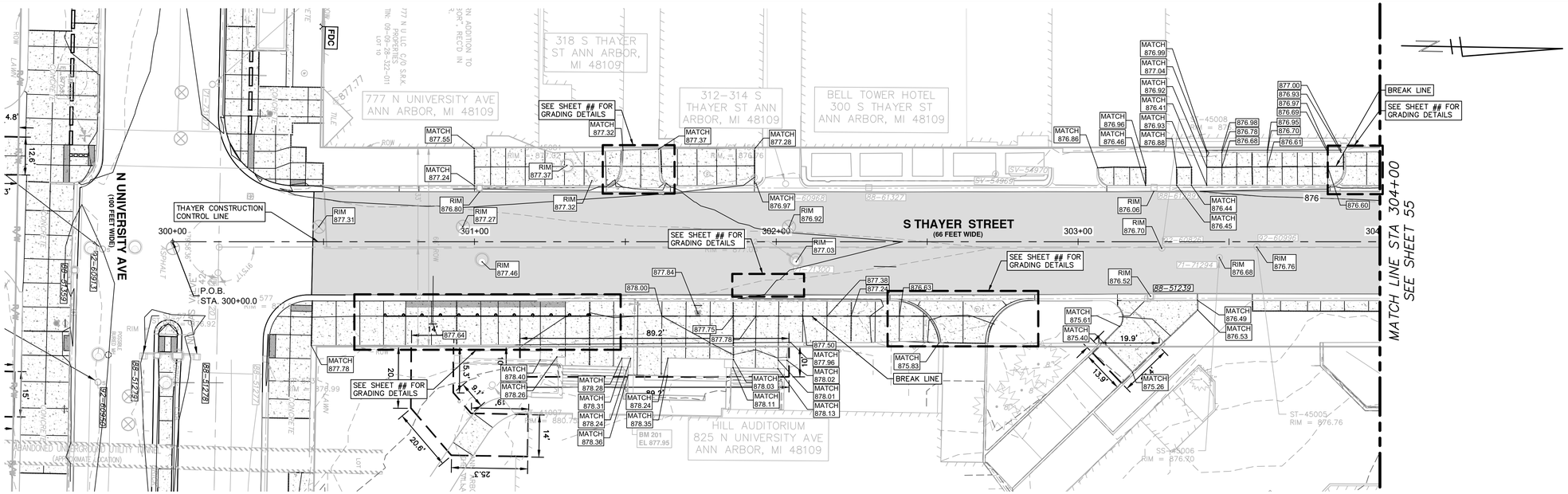
N. UNIVERSITY & THAYER IMPROVEMENTS

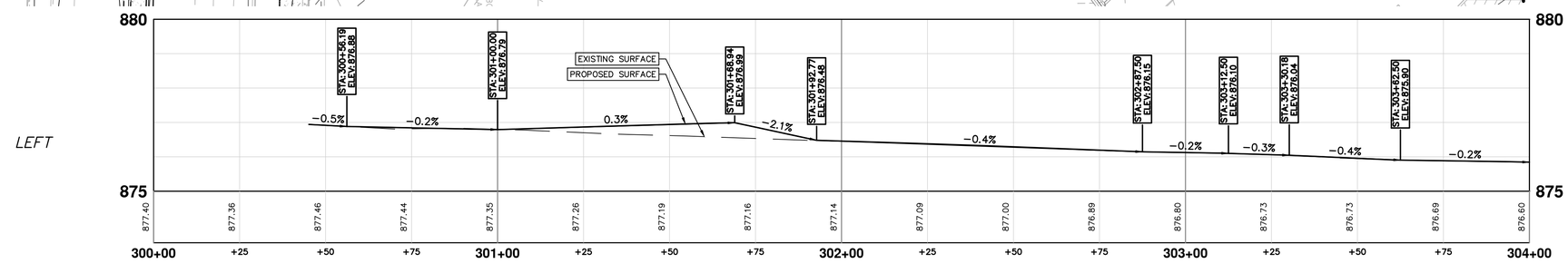
PAVING PLAN - NORTH UNIVERSITY STA 206+00 TO STA 211+65.6

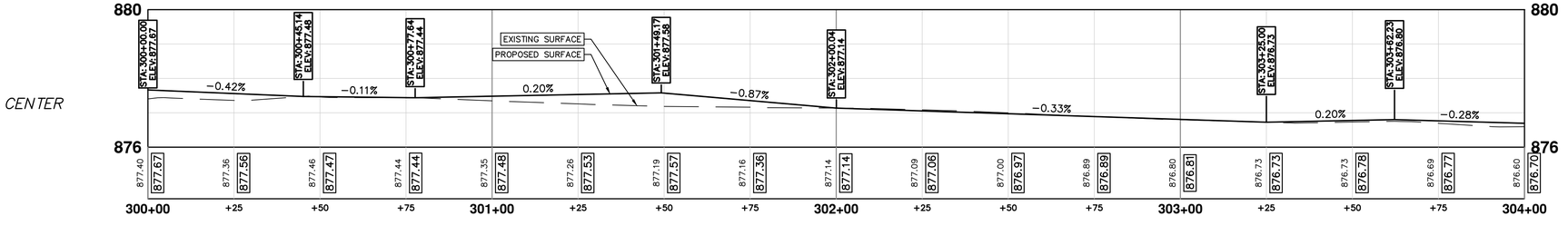
SCALE : 1"=20'

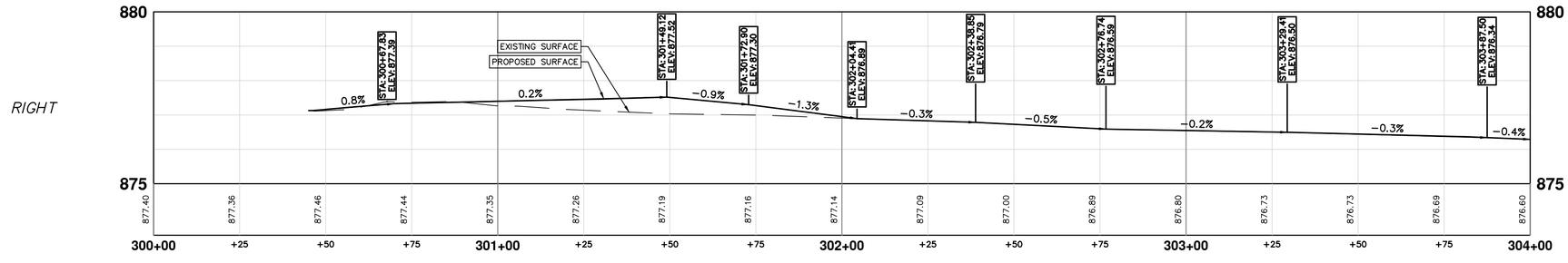
DRAWING No. 2023-023-53

SHEET No. 53 OF 83









811 Know what's **below.** **Call** before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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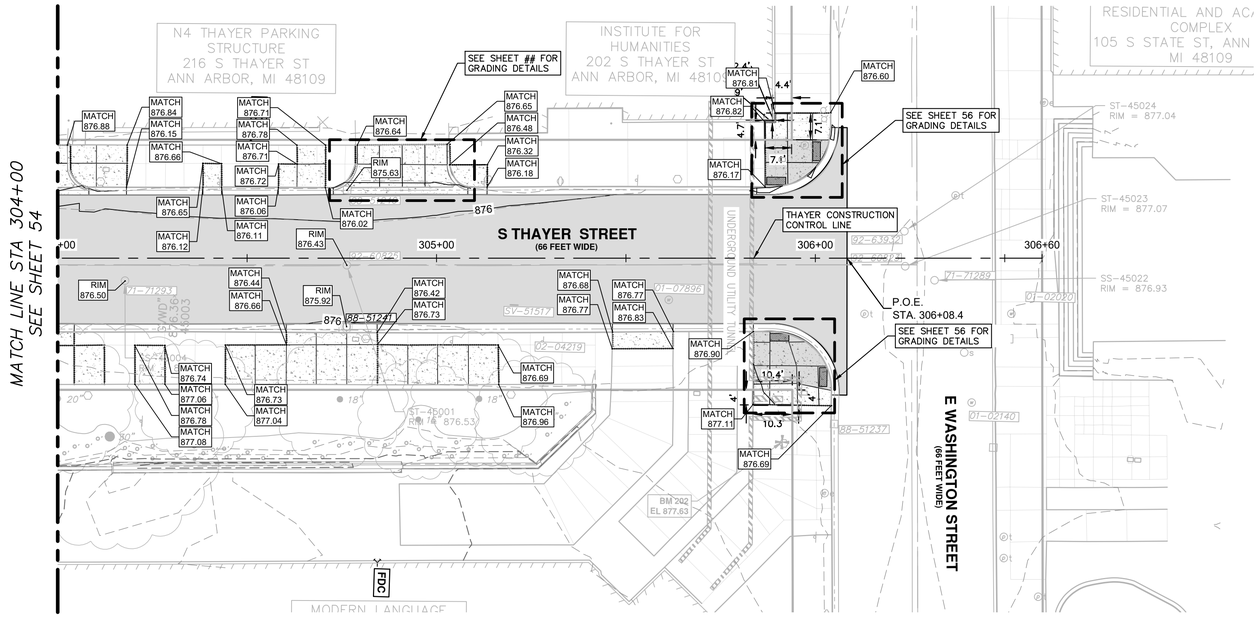
PAVING PLAN - THAYER STA 300+46.4 TO STA 304+00

SCALE : 1"=20'

DRAWING No. 2023-023-54

SHEET No. 54 OF 83



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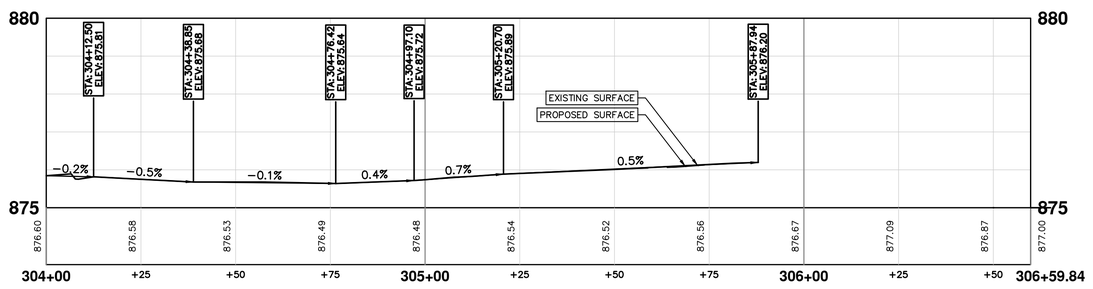
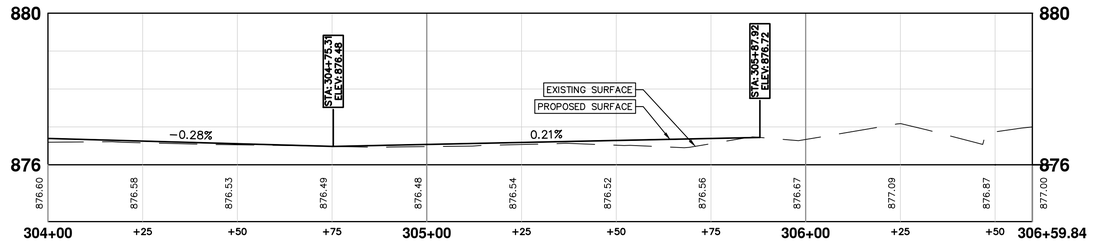
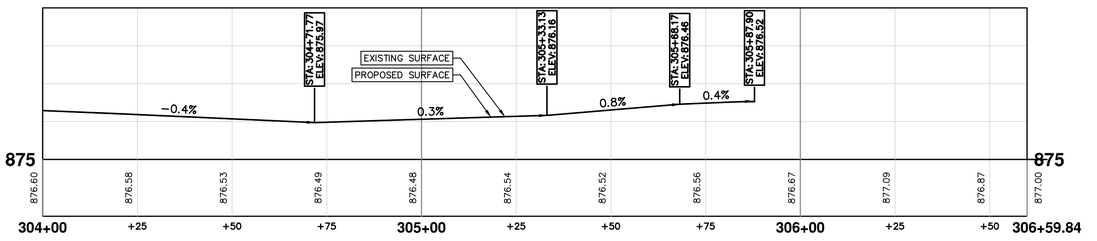


CENTER



RIGHT



811 Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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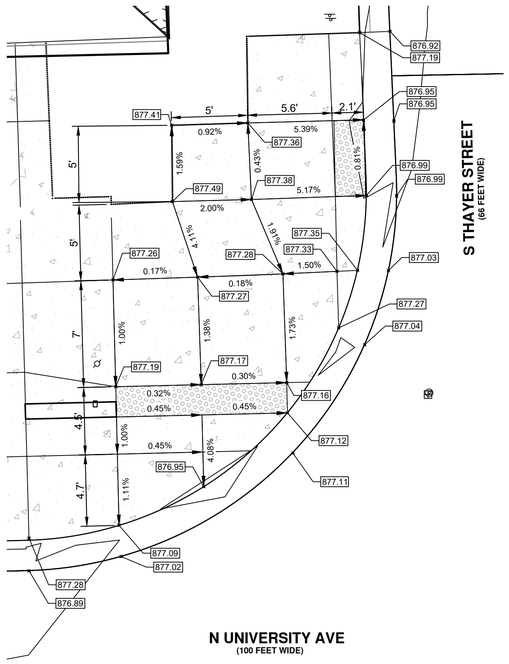
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

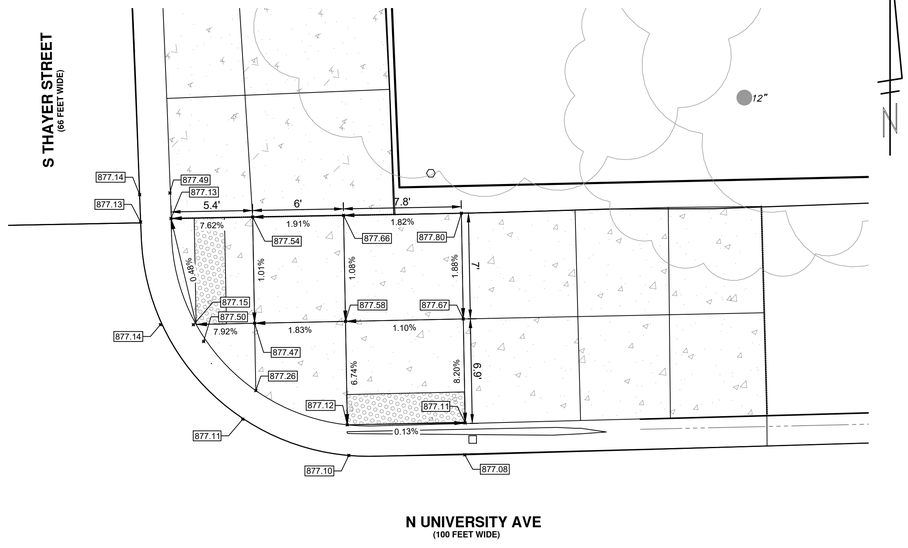
PAVING PLAN - THAYER STA 304+00 TO STA 306+46.7

SCALE : 1"=20'

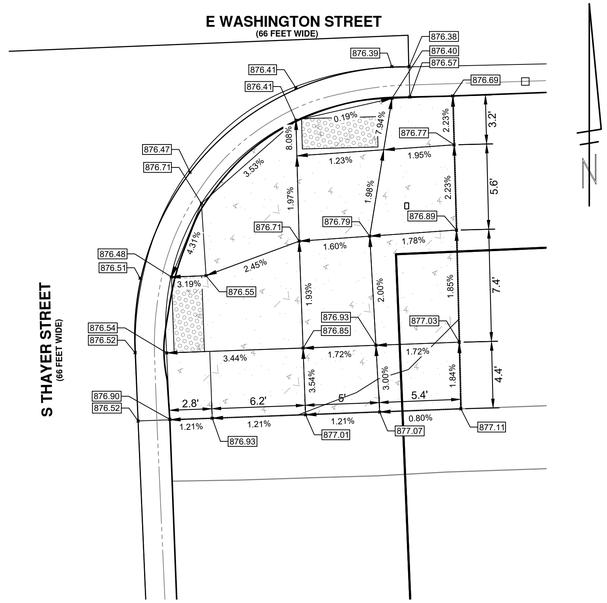
DRAWING No. 2023-023-55



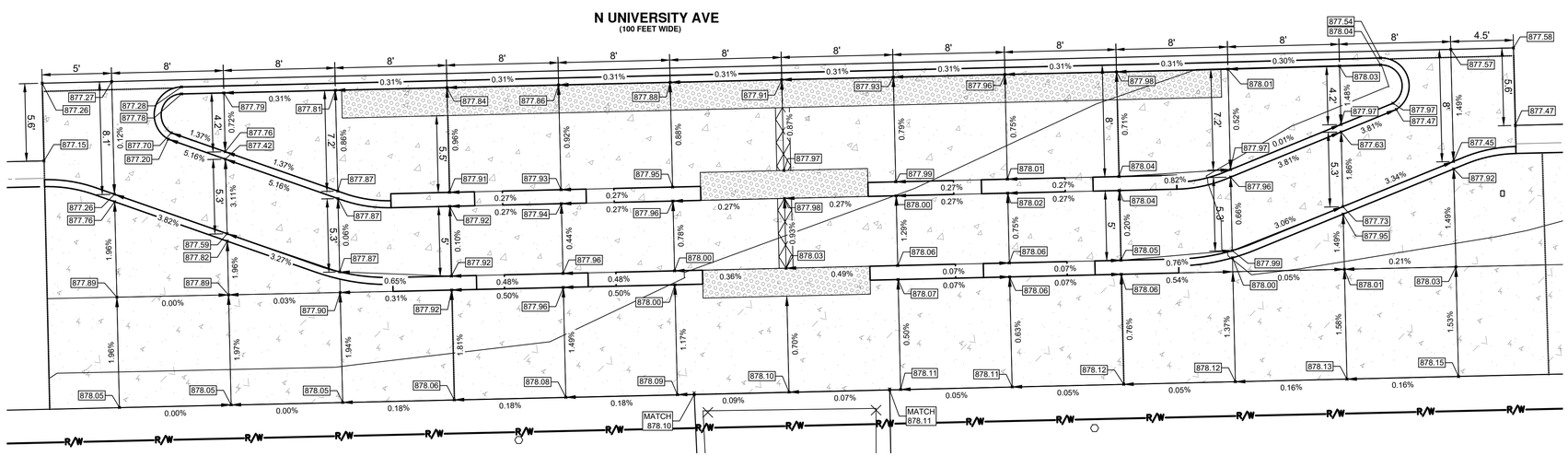
THAYER AND NORTH UNIVERSITY INTERSECTION - NORTHWEST RAMP



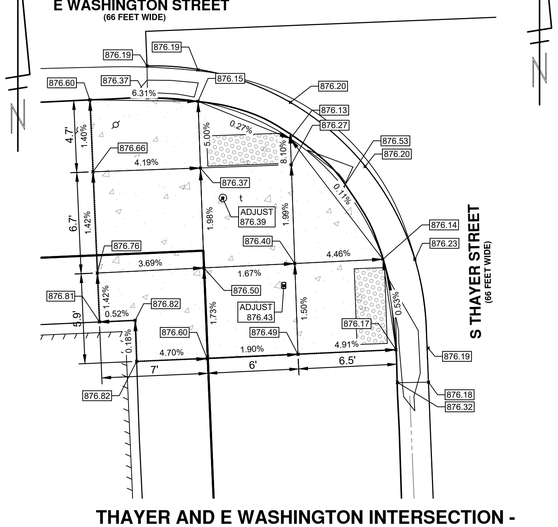
THAYER AND NORTH UNIVERSITY INTERSECTION - NORTHEAST RAMP



THAYER AND E WASHINGTON INTERSECTION - SOUTHEAST RAMP



NORTH UNIVERSITY - BUS STOP



THAYER AND E WASHINGTON INTERSECTION - SOUTHWEST RAMP

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

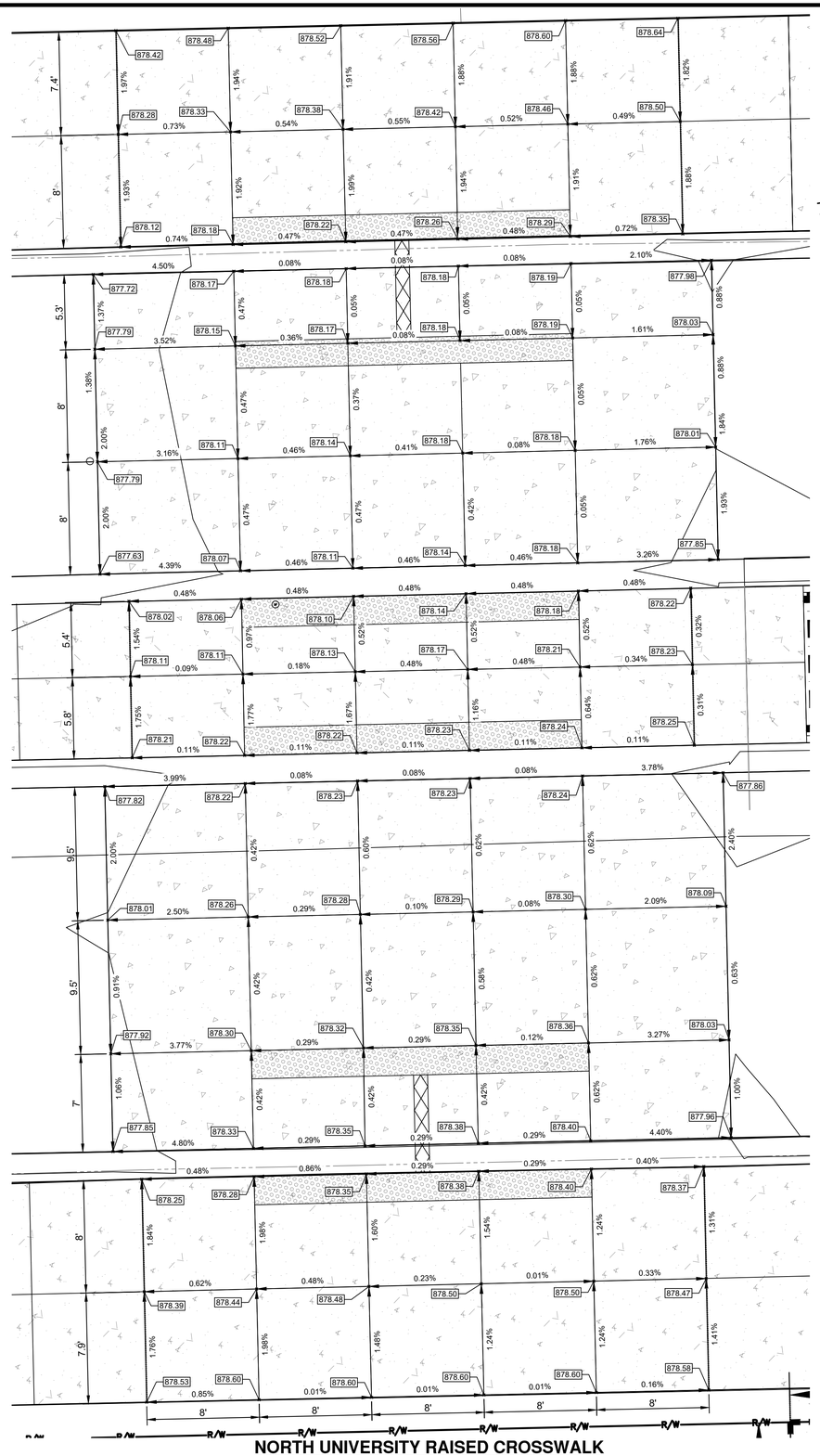
DETAILED GRADING

SCALE **PLAN: ####**

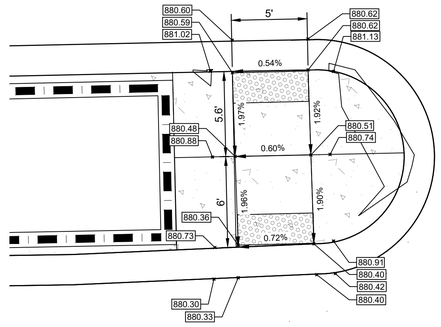
DRAWING No. **2023-023-56**

SHEET No. **56 OF 83**

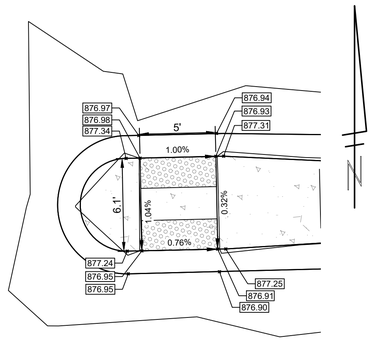
C:\pw_work\mflanagan\d1339881\CSP-PLTS-ADA RAMPS Thayer & North U.dwg Dwg Created: 24-Jan-26 - _02 standard bw.stb - Plot Date: 25-Jan-26

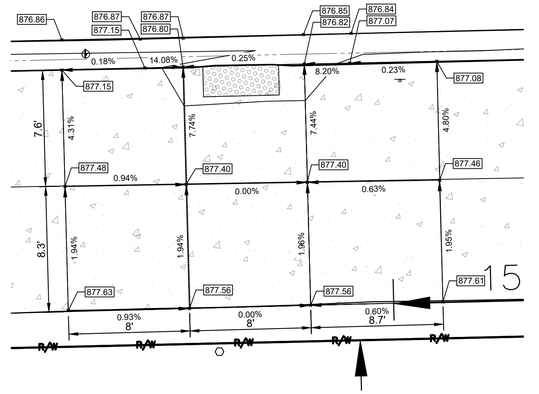


NORTH UNIVERSITY RAISED CROSSWALK



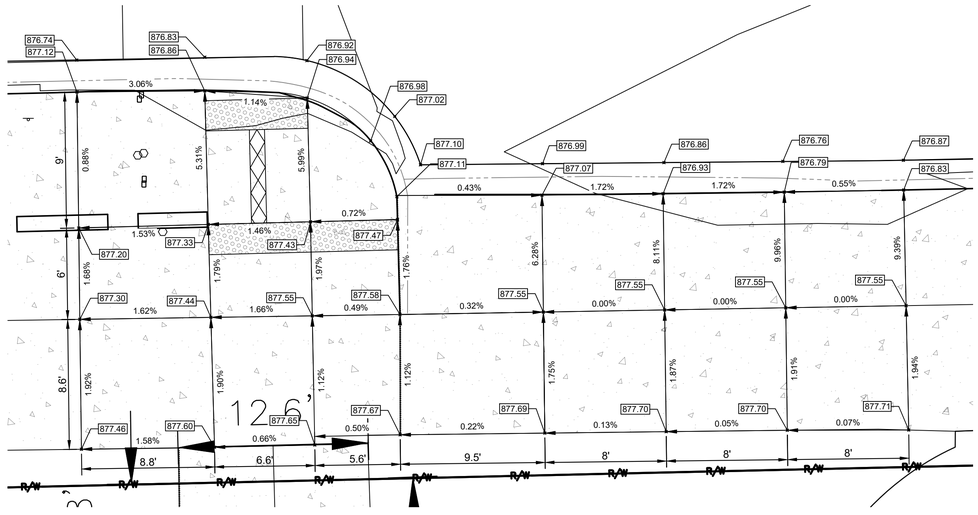
NORTH UNIVERSITY AND FLETCHER INTERSECTION - MEDIAN RAMP





THAYER AND NORTH UNIVERSITY INTERSECTION - SOUTHEAST RAMP

THAYER AND NORTH UNIVERSITY INTERSECTION - MEDIAN RAMP



THAYER AND NORTH UNIVERSITY INTERSECTION - SOUTHWEST RAMP

REV.	DESCRIPTION	DATE	DRAWN	CHECKED

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

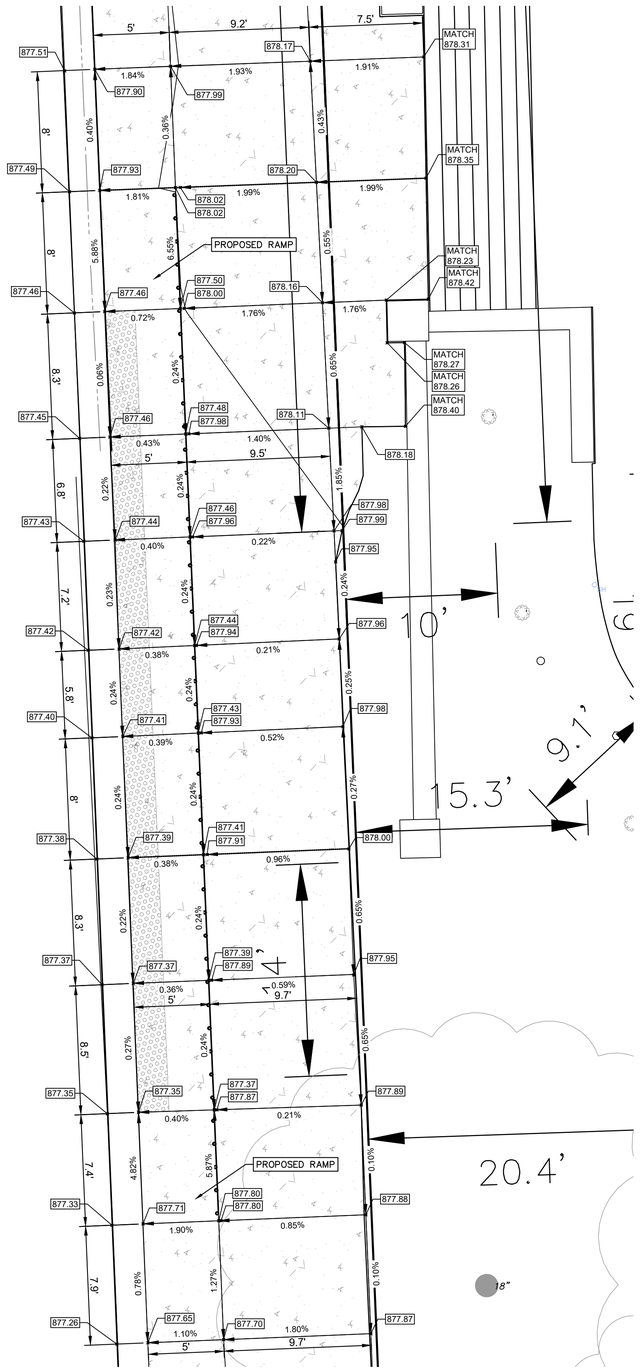
N. UNIVERSITY & THAYER IMPROVEMENTS

DETAILED GRADING

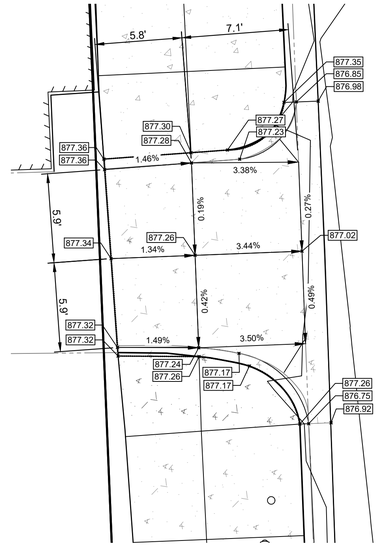
SCALE PLAN: ####

DRAWING No.
2023-023-57

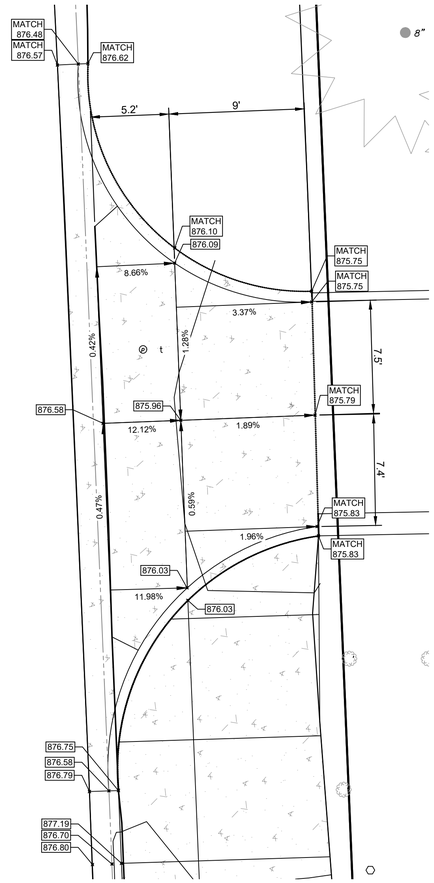
SHEET No.
57 OF 83



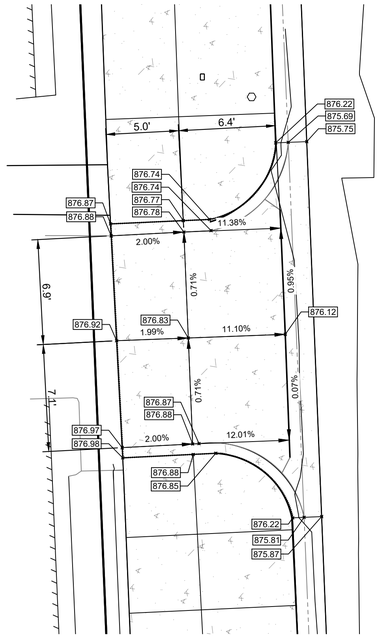
THAYER ADA DROP OFF



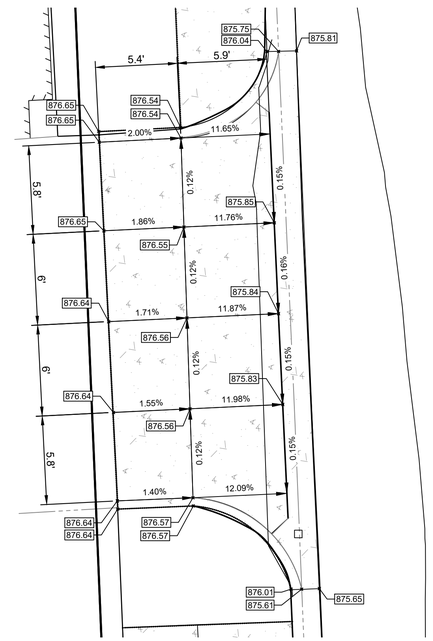
318 S THAYER ALLEY DRIVE ENTRANCE



HILL AUDITORIUM TRUCK DOCK ENTRANCE STA 302+60



N4 THAYER PARKING STRUCTURE EXIT



N4 THAYER PARKING STRUCTURE ENTRANCE

THAYER ADA PARKING SPACE

REV.	DESCRIPTION	DATE	DRAWN	CHECKED

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

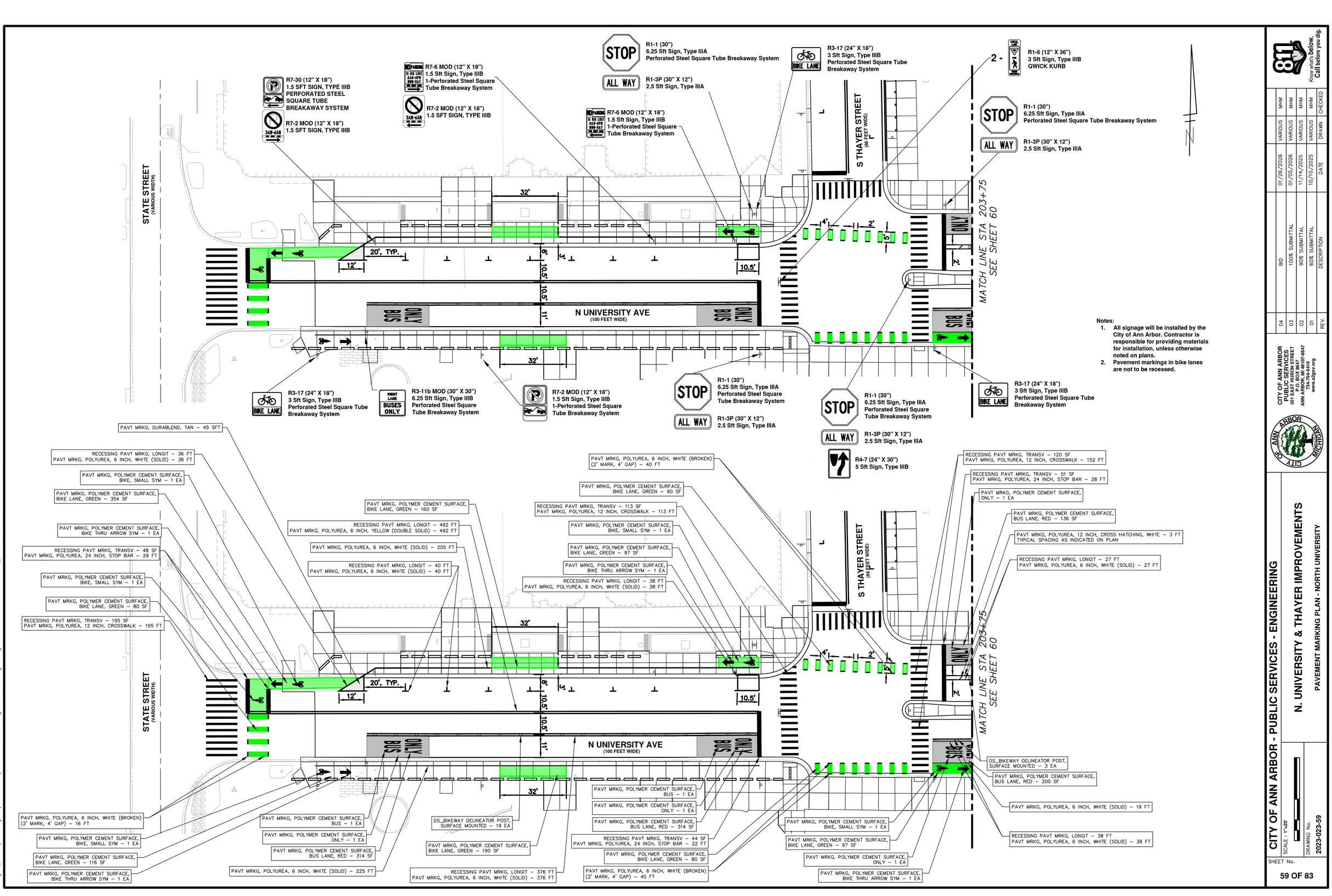
DETAILED GRADING

SCALE PLAN: #####

DRAWING No. 2023-023-58

SHEET No. 58 OF 83

C:\pw_work\mflanagan\d133988t\CSP-PLTS-ADA RAMPS Thayer & North U.dwg Dwg Created: 24-Jan-26 - _o2 standard bw.stb - Plot Date: 25-Jan-26



C:\pw_work\mflanagan\d1339881\CRD-PLTS-Marking-North U.dwg Dwg Created: 24-Jan-26 — _a2 standard bw.stb — Plot Date: 25-Jan-26

Know what's below. Call before you dig. 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

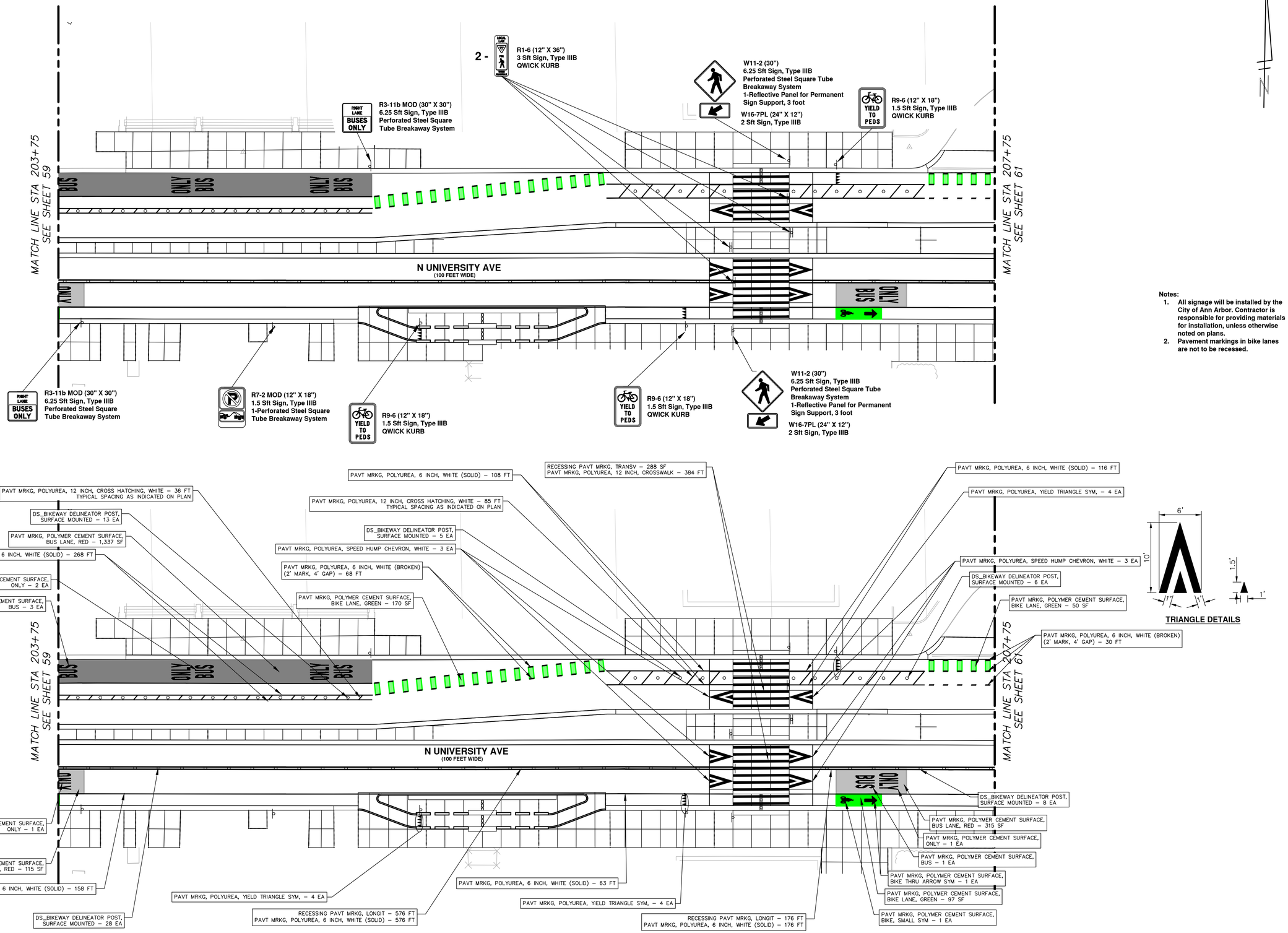
N. UNIVERSITY & THAYER IMPROVEMENTS

PAVEMENT MARKING PLAN - NORTH UNIVERSITY

SCALE: 1"=20'

DRAWING No. 2023-023-59

SHEET No. 59 OF 83



Notes:

1. **All signage will be installed by the City of Ann Arbor. Contractor is responsible for providing materials for installation, unless otherwise noted on plans.**
2. **Pavement markings in bike lanes are not to be recessed.**

Know what's below. Call before you dig. 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

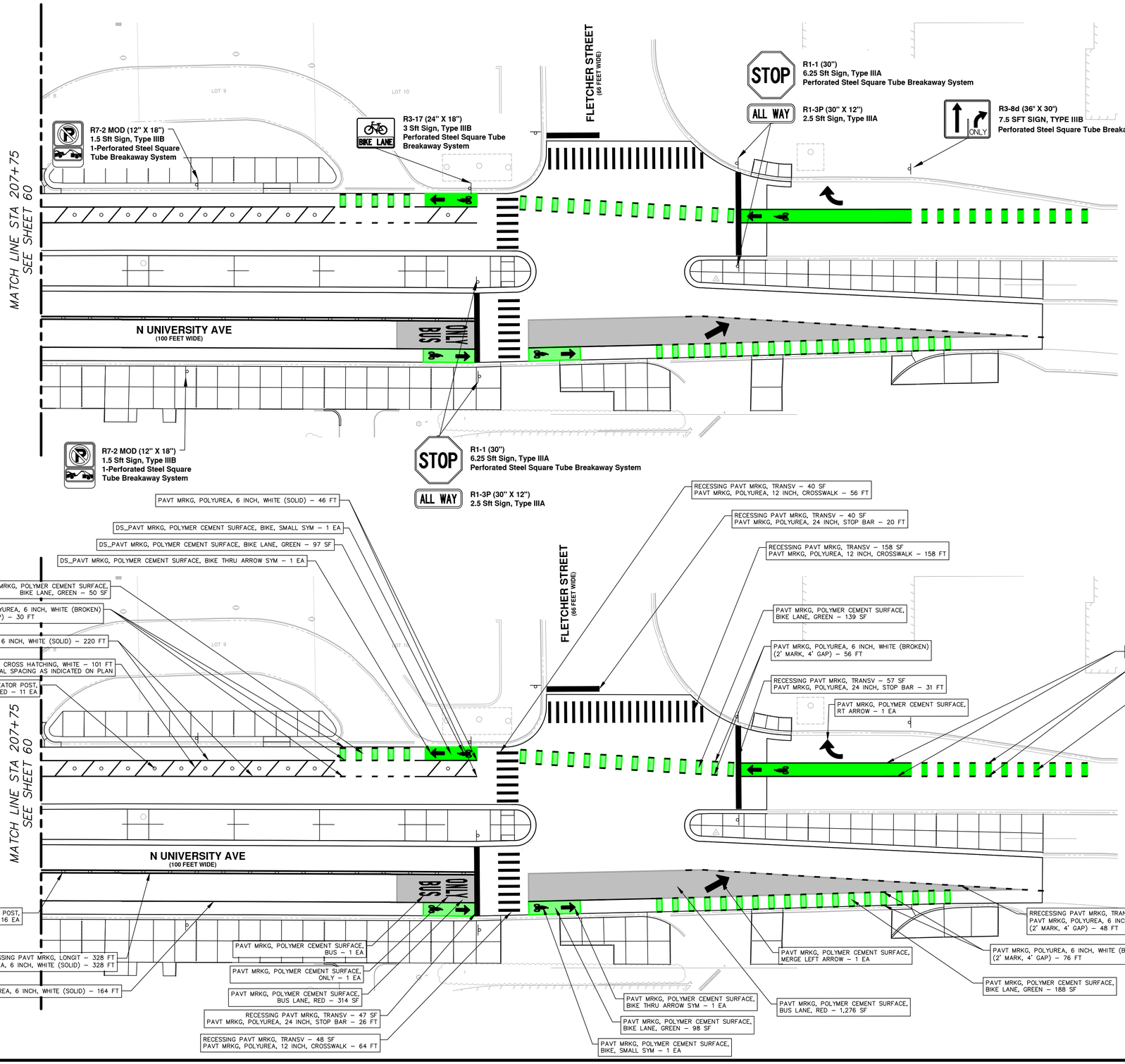
N. UNIVERSITY & THAYER IMPROVEMENTS

PAVEMENT MARKING PLAN - NORTH UNIVERSITY

SCALE : 1"=20'

DRAWING No. 2023-023-60

SHEET No. 60 OF 83



Notes:

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2. **Pavement markings in bike lanes are not to be recessed.**

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

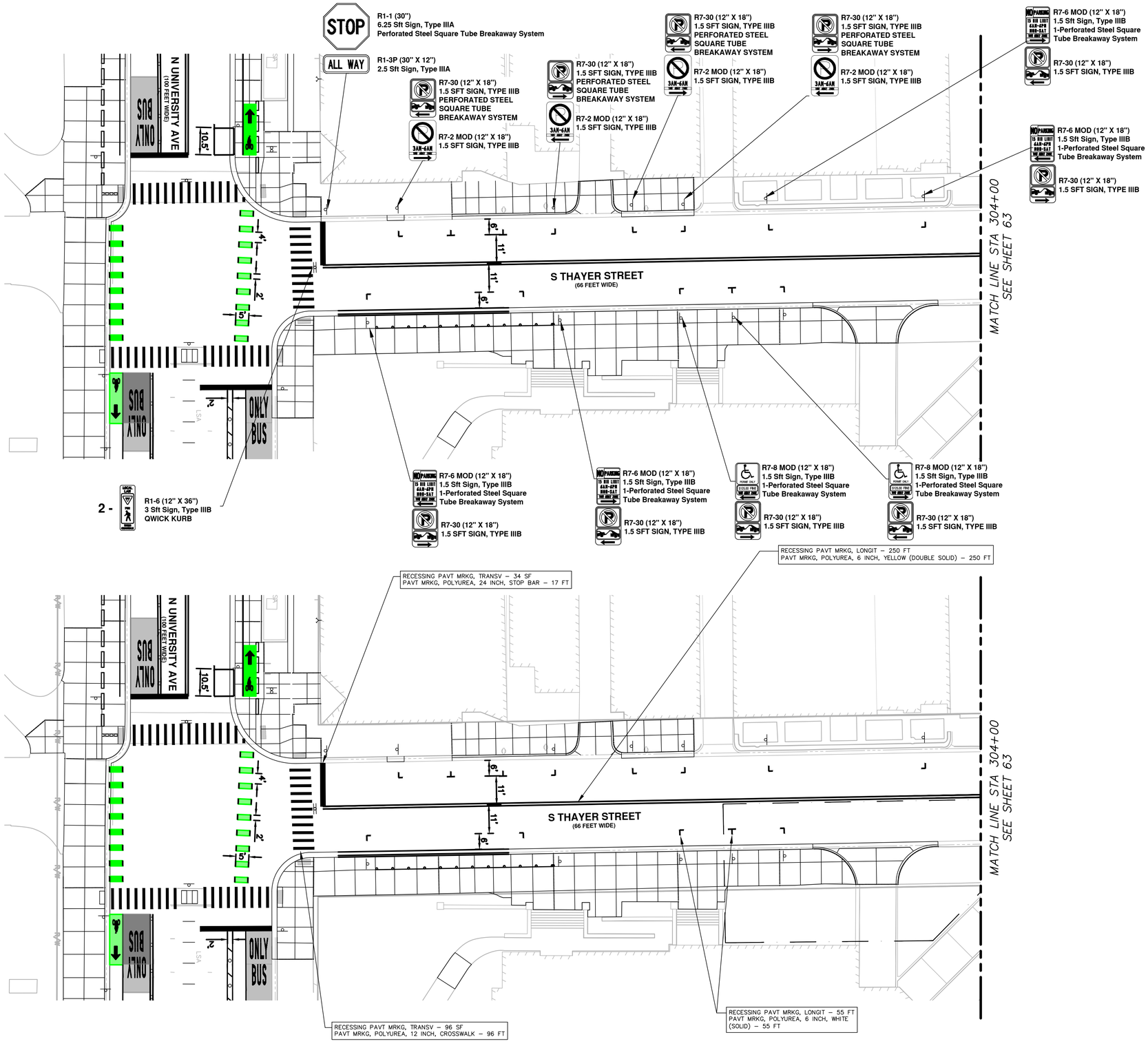
N. UNIVERSITY & THAYER IMPROVEMENTS

PAVEMENT MARKING PLAN - NORTH UNIVERSITY

SCALE : 1"=20'

DRAWING No. **2023-023-61**

SHEET No. **61 OF 83**



Notes:

1. **All signage will be installed by the City of Ann Arbor. Contractor is responsible for providing materials for installation, unless otherwise noted on plans.**

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

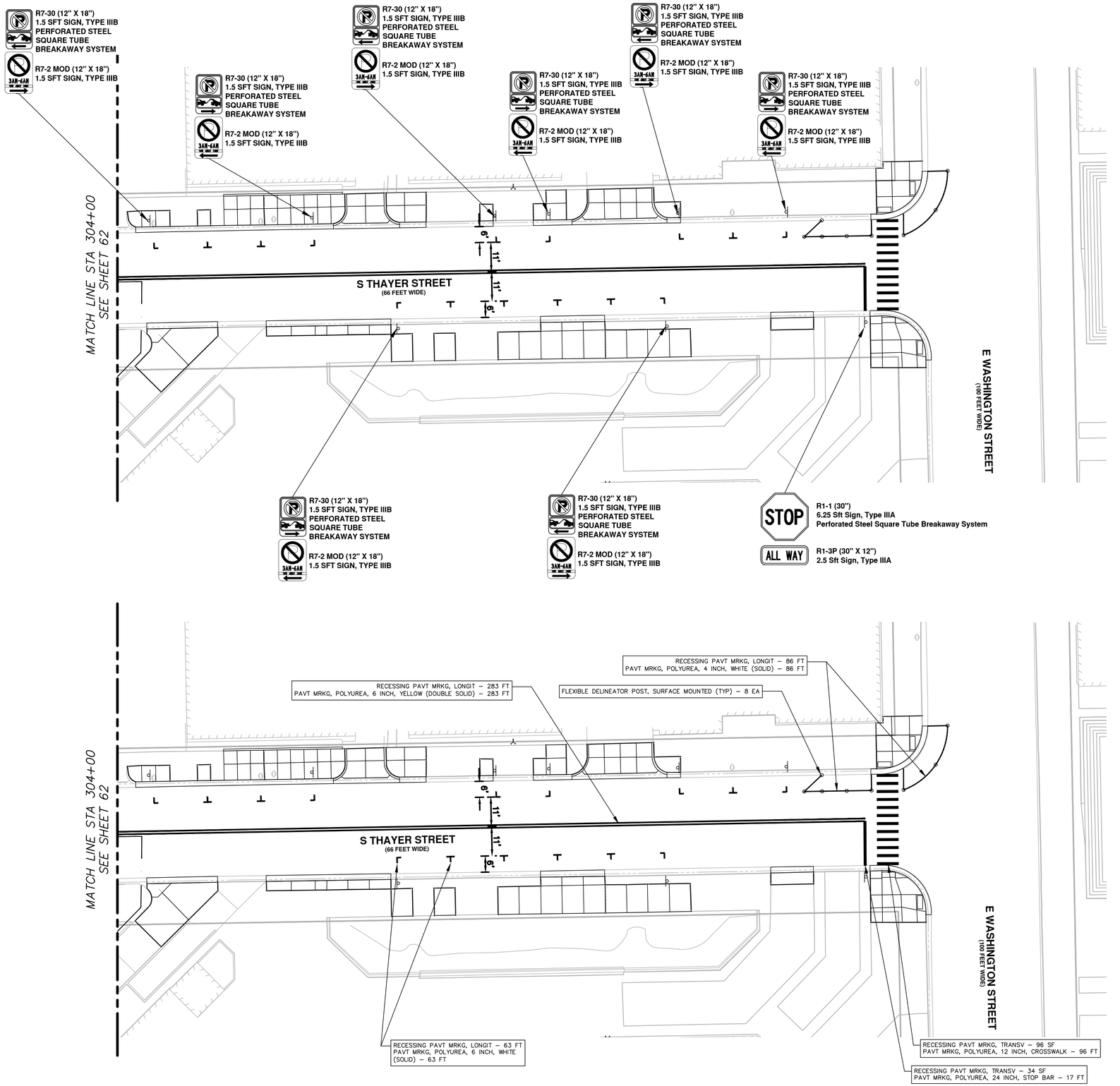
N. UNIVERSITY & THAYER IMPROVEMENTS

PAVEMENT MARKING PLAN - THAYER

SCALE : 1"=20'

DRAWING No. **2023-023-62**

SHEET No. **62 OF 83**



Notes:

1. **All signage will be installed by the City of Ann Arbor. Contractor is responsible for providing materials for installation, unless otherwise noted on plans.**

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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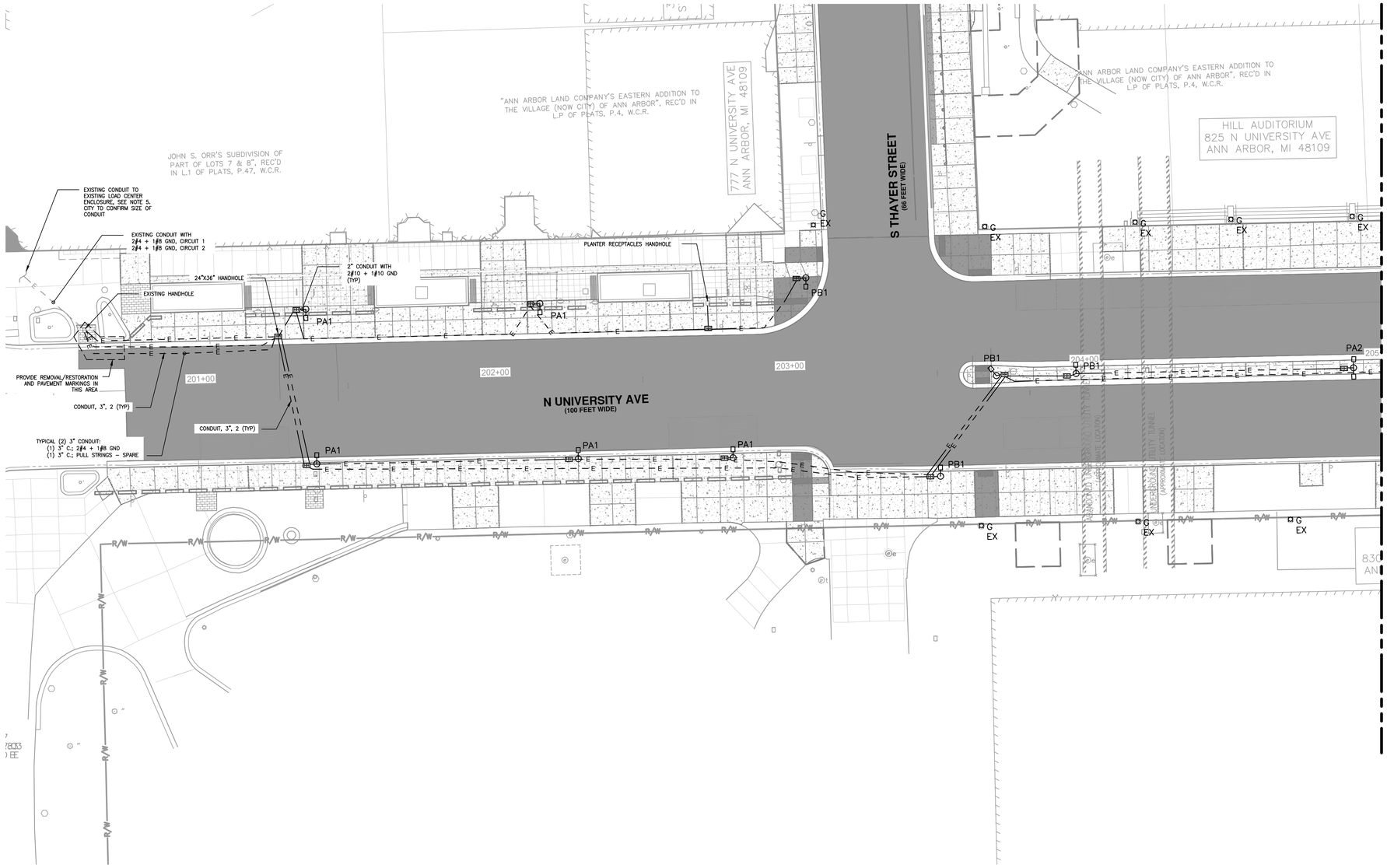
N. UNIVERSITY & THAYER IMPROVEMENTS

PAVEMENT MARKING PLAN - THAYER

SCALE : 1"=20'

DRAWING No. 2023-023-63

SHEET No. 63 OF 83



LEGEND

G EX	EXISTING PEDESTRIAN LIGHT
PA, PB	ROADWAY LIGHT – POLE–MOUNTED, CITY OWN
HH	HANDHOLE
E	UNDERGROUND CONDUIT

GENERAL NOTES:

1. REFER TO CITY'S CONSTRUCTION SPECIFICATIONS "IV STREETLIGHTS AND SIGNALS" FOR STANDARDS.
2. REFER TO SHEETS 67 AND 68 FOR LIGHTING SCHEDULE AND DETAILS.
3. ALL ELECTRICAL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ANY LOCAL AMENDMENTS.
4. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACQUISITION OF AN ELECTRICAL PERMIT AND SCHEDULING OF THE NECESSARY INSPECTIONS.
5. AT EXISTING LOAD CENTER ENCLOSURE: CONTRACTOR SHALL PROVIDE TWO (2) 20A, 240V, 2–POLE CIRCUIT BREAKERS TO SUPPLY POWER FOR THE NEW LIGHTING. ADDITIONALLY, MODIFY THE EXISTING LIGHTING CONTACTOR TO INCLUDE TWO (2) ADDITIONAL CONTACTS FOR CONTROLLING THE NEW FIXTURES. RECONNECT ALL CIRCUITS.
6. FURNISH ALL NECESSARY ELECTRICAL COMPONENTS TO ENSURE A FULLY FUNCTIONAL SYSTEM.
7. EXISTING OUTLET RECEPTACLES IN THREE PLANTER BOXES ON THE NORTH SIDE OF NORTH UNIVERSITY BETWEEN STATE STREET AND THAYER STREET ARE TO BE REWIRED TO CONNECT TO POWER SOURCE ON STATE STREET. CONTRACTOR TO UTILIZE THE EXISTING CONDUIT FROM THE PLANTER BOX TO THE NEAREST EXISTING NEW/HANDHOLE. EXISTING GAUGE WIRE POWERING THE OUTLETS TO BE REPLACED IN KIND.
8. CONDUIT IN MEDIAN TO BE PLACED 4 FEET DEEP FROM TOP OF PROPOSED ROAD SURFACE OR AS DIRECTED BY THE ENGINEER.

QUANTITIES

10	EA	FOUNDATION, LIGHT POLE
9	EA	LIGHT POLE, 30' STANDARD
1	EA	LIGHT POLE, 20' STANDARD, 2 LUMINAIRES
11	EA	HANDHOLE ASSEMBLY, 17 IN. X 30 IN. X 18 IN
40	FT	CONDUIT, SCHEDULE 80 PVC, 2 IN
1426	FT	CONDUIT, SCHEDULE 80 PVC, 3 IN, 2
120	FT	CONDUCTORS, NO. 4AWG
1426	FT	CONDUCTORS, NO. 8AWG
2852	FT	CONDUCTORS, NO. 10AWG
1	EA	STREETLIGHT DISCONNECT BOX, COMPLETE

811 Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED

CITY OF ANN ARBOR
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301 E HURON STREET
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

NORTH UNIVERSITY AVE & THAYER ST

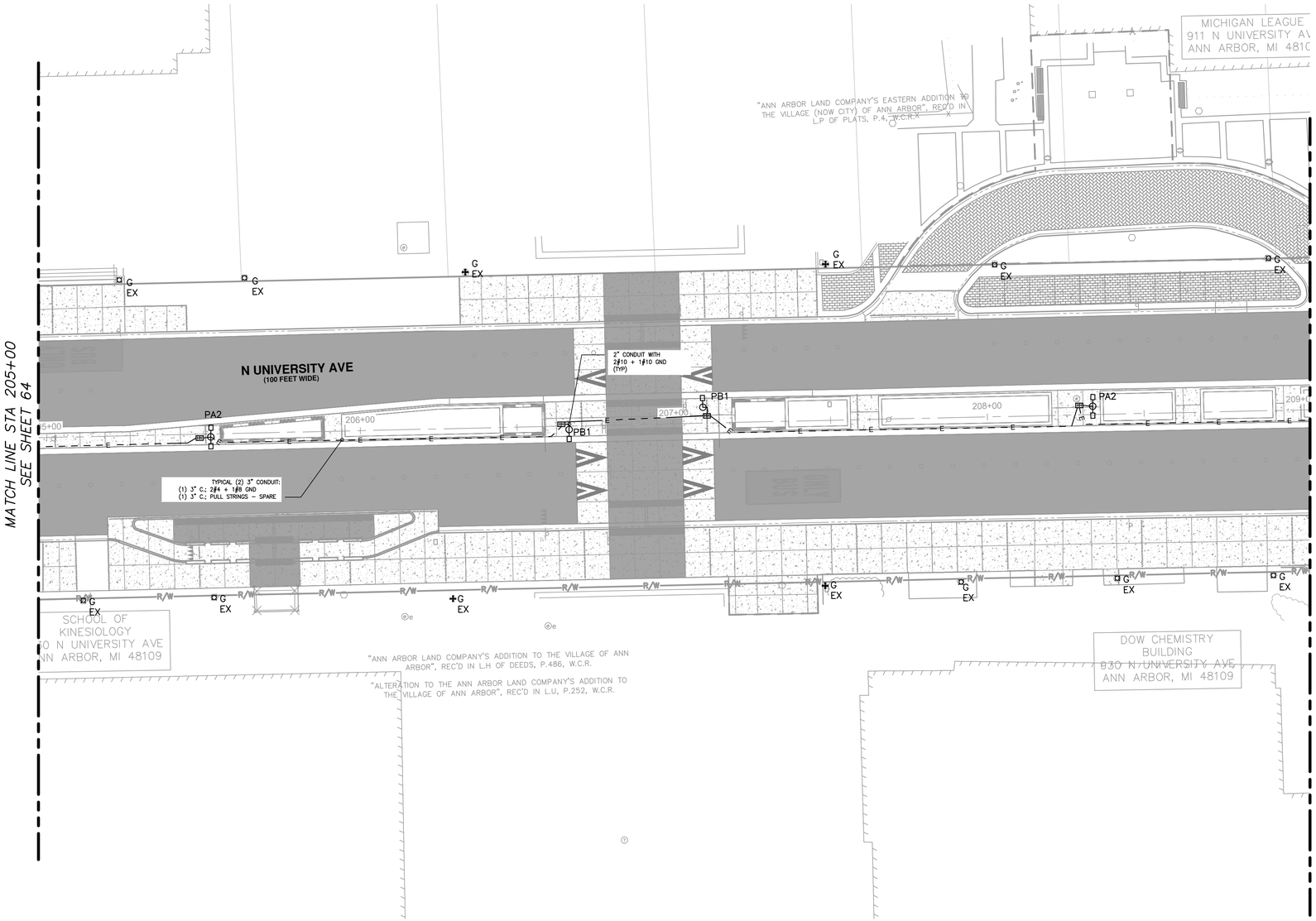
LIGHTING PLAN - NORTH UNIVERSITY

SCALE : 1"=20'

DRAWING No. 2023-023-64

SHEET No. 64 OF 83

C:\pw_work\mflanagan\d133981\ELP-PLTS-Lighting Plan N UNIVERSITY Lighting Plans.dwg Dwg Created: 25-Jan-26 - _a2 standard bw.stb - Plot Date: 25-Jan-26



LEGEND

G EX	EXISTING PEDESTRIAN LIGHT
PA, PB	ROADWAY LIGHT – POLE–MOUNTED, CITY OWN
HH	HANDHOLE
E	UNDERGROUND CONDUIT

GENERAL NOTES:

1. REFER TO CITY'S CONSTRUCTION SPECIFICATIONS "IV STREETLIGHTS AND SIGNALS" FOR STANDARDS.
2. REFER TO SHEETS 67 AND 68 FOR LIGHTING SCHEDULE AND DETAILS.
3. ALL ELECTRICAL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ANY LOCAL AMENDMENTS.
4. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACQUISITION OF AN ELECTRICAL PERMIT AND SCHEDULING OF THE NECESSARY INSPECTIONS.
6. FURNISH ALL NECESSARY ELECTRICAL COMPONENTS TO ENSURE A FULLY FUNCTIONAL SYSTEM.
7. CONDUIT IN MEDIAN TO BE PLACED 4 FEET DEEP FROM TOP OF PROPOSED ROAD SURFACE OR AS DIRECTED BY THE ENGINEER.

QUANTITIES

4	EA	FOUNDATION, LIGHT POLE
2	EA	LIGHT POLE, 30' STANDARD
2	EA	LIGHT POLE, 20' STANDARD, 2 LUMINAIRES
4	EA	HANDHOLE ASSEMBLY, 17 IN. X 30 IN. X 18 IN
12	FT	CONDUIT, SCHEDULE 80 PVC, 2 IN
811	FT	CONDUIT, SCHEDULE 80 PVC, 3 IN, 2
1622	FT	CONDUCTORS, NO. 4AWG
811	FT	CONDUCTORS, NO. 8AWG
36	FT	CONDUCTORS, NO. 10AWG

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

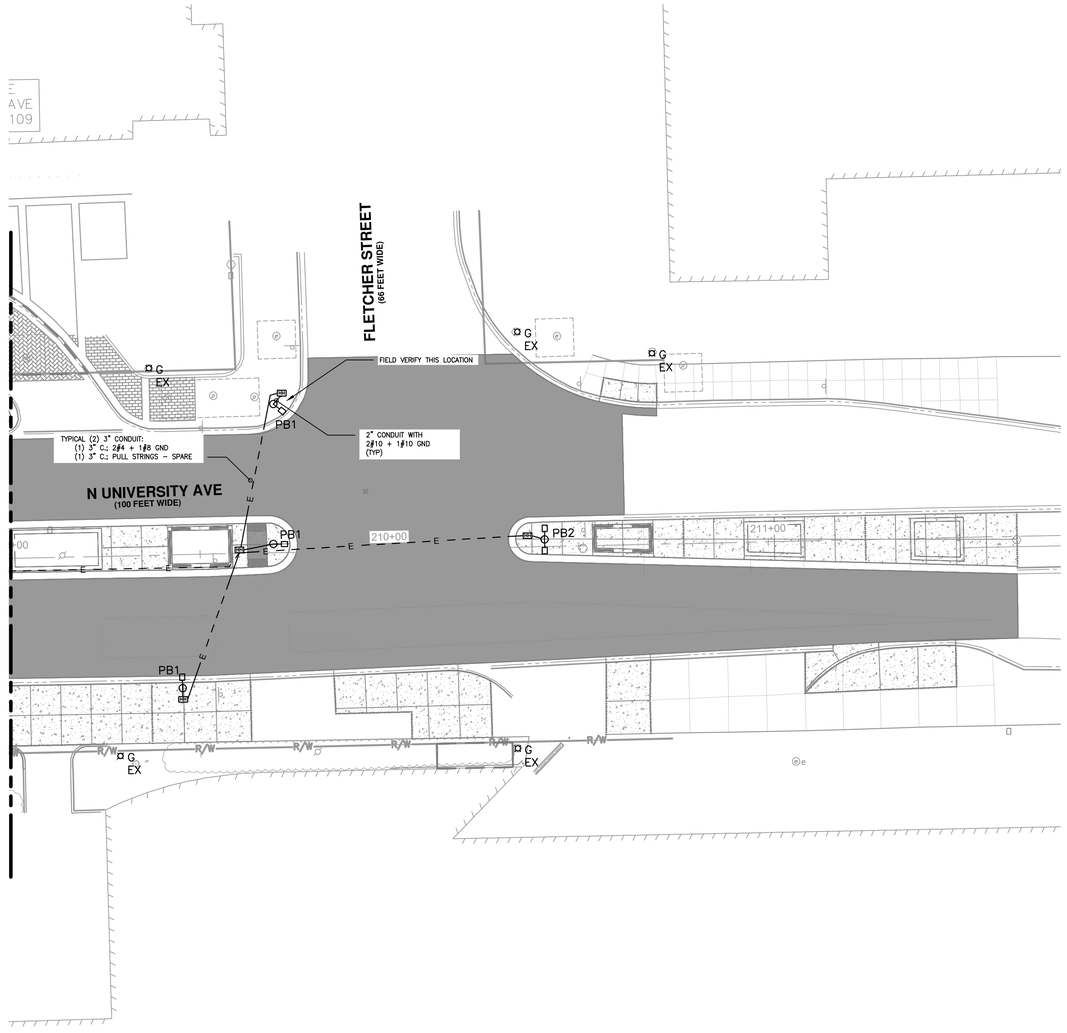
N. UNIVERSITY & THAYER IMPROVEMENTS

LIGHTING PLAN - NORTH UNIVERSITY

SCALE : 1"=20'

DRAWING No. 2023-023-65

SHEET No. 65 OF 83



LEGEND

G EX	EXISTING PEDESTRIAN LIGHT
PA, PB	ROADWAY LIGHT – POLE–MOUNTED, CITY OWN
HH	HANDHOLE
— E —	UNDERGROUND CONDUIT

GENERAL NOTES:

1. REFER TO CITY'S CONSTRUCTION SPECIFICATIONS "IV STREETLIGHTS AND SIGNALS" FOR STANDARDS.
2. REFER TO SHEETS 67 AND 68 FOR LIGHTING SCHEDULE AND DETAILS.
3. ALL ELECTRICAL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ANY LOCAL AMENDMENTS.
4. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACQUISITION OF AN ELECTRICAL PERMIT AND SCHEDULING OF THE NECESSARY INSPECTIONS.
6. FURNISH ALL NECESSARY ELECTRICAL COMPONENTS TO ENSURE A FULLY FUNCTIONAL SYSTEM.
7. CONDUIT IN MEDIAN TO BE PLACED 4 FEET DEEP FROM TOP OF PROPOSED ROAD SURFACE OR AS DIRECTED BY THE ENGINEER.

QUANTITIES

4	EA	FOUNDATION, LIGHT POLE
3	EA	LIGHT POLE, 30' STANDARD
1	EA	LIGHT POLE, 20' STANDARD, 2 LUMINAIRES
5	EA	HANDHOLE ASSEMBLY, 17 IN. X 30 IN. X 18 IN
12	FT	CONDUIT, SCHEDULE 80 PVC, 2 IN
434	FT	CONDUIT, SCHEDULE 80 PVC, 3 IN, 2
868	FT	CONDUCTORS, NO. 4AWG
434	FT	CONDUCTORS, NO. 8AWG
36	FT	CONDUCTORS, NO. 10AWG

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N. UNIVERSITY & THAYER IMPROVEMENTS

LIGHTING PLAN - NORTH UNIVERSITY

SCALE: 1"=20'

DRAWING No. 2023-023-66

SHEET No. 66 OF 83

LUMINAIRE SCHEDULE									
SYMBOL	TAG	QTY	LABEL	ARRANGEMENT	LLF	LUMINAIRE LUMENS	LUMINAIRE WATTS	VOLTAGE V	DESCRIPTION
	PA1	5	LDS-SAL-60-DB-T3-1-40-TM-GR	SINGLE	0.850	8399	60	240	LED SMALL AREA LIGHT, 6000 LUMENS, 4000K COLOR TEMPERATURE, 40KV SURGE SUPPRESSOR, POLE 30' HIGH, SINGLE LIGHT, NO ARM
	PA2	3	LDS-SAL-60-DB-T3-1-40-TM-GR	DOUBLE	0.850	8399	60	240	LED SMALL AREA LIGHT, 6000 LUMENS, 4000K COLOR TEMPERATURE, 40KV SURGE SUPPRESSOR, POLE 30' HIGH, DOUBLE LIGHTS AT 90 DEGREES, NO ARM
	PB1	8	LDS-SAL-80-DB-T3-1-40-TM-GR	SINGLE	0.850	8399	60	240	LED SMALL AREA LIGHT, 8000 LUMENS, 4000K COLOR TEMPERATURE, 40KV SURGE SUPPRESSOR, POLE 30' HIGH, SINGLE LIGHT, NO ARM
	PB2	1	LDS-SAL-80-DB-T3-1-40-TM-GR	DOUBLE	0.850	8399	60	240	LED SMALL AREA LIGHT, 8000 LUMENS, 4000K COLOR TEMPERATURE, 40KV SURGE SUPPRESSOR, POLE 30' HIGH, DOUBLE LIGHTS AT 90 DEGREES, NO ARM

LIGHTING FIXTURE SCHEDULE

NO SCALE

Lumecon DETROIT SERIES

LDS - SAL
LED Small Area Light

Catalog Number:

Project:

Comments:

Prepared By: | Date:

Description

The sleek fixture design of the LDS-SAL is a blend of modern sophistication and unmatched energy efficiency. The LDS-SAL small area light includes the benefits of superior thermal efficiency, an industry-leading ten-year all-parts warranty, and custom optics ensuring best-in-class photometric results. Optimize photometric designs with greater pole spacing, uniformity, and lower energy usage. The LDS-SAL includes lumen packages up to 30,000 lumens allowing one-for-one replacements of existing HID fixtures up to 1000 Watt and is a perfect spec-grade solution for parking lots, pathways, tennis courts, and many other outdoor applications. Proudly Made in the USA.

Technical Specifications

Input Voltage: 120-277V or 347-480V.

Housing: Die-cast aluminum housing with 60% gloss polyester powder coat finishes for maximum durability. The base aluminum material is prepared using an environmentally-friendly non-chrome 2-step surface cleaning and passivation process. The process results in a more durable conversion layer than traditional chromate conversion coatings and allows maximum adhesion of the powder coating to the aluminum substrate. Housing features an integrated heat sink and driver compartment built into the fixture design.

Mounting: Mounting arm designed for a square / round pole (standard). Additional mounting options include a pole mounting arm adaptor.

Split Circuit: Optional

Effective Projected Area (EPA): 0.83 ft²

Color Temperature: 2200K, 2700K, 3000K, 4000K (standard), 5000K.

LED Lifetime: All LEDs are rated for a minimum of 100,000 hours of continuous operation at ambient outdoor temperatures from -40°F/-40°C to 115°F/46°C.

Color Rendering Index (CRI): Minimum of 80 or higher. CRI 90+ available upon request. CRI 90+ not available in 2200K.

Dimming: 0-10V standard dimming capability

Custom Optics: Lumecon meticulously engineered premium acrylic optical lenses to maximize the distribution and uniformity of light while minimizing cost. Our arrays distribute light at least 21% further and with 29% more uniformity than leading competitors. Lumecon custom lenses create a uniform, well-lit environment that mitigates illuminance "hot spots" and use less wattage than typical LED area lights.

Vandal Resistant: Our lens is also resistant to vandalism with a low compact design making the lens material dense and impact resistant. We build to withstand high abuse lighting environments.

Surge Protection: Thermally protected 20kA/ 40kV varistor type surge suppressor is included and meets ANSI C136.2-2015: Extreme Level. Also meets IEC61643-11 Class II / EN61643-11 Type 2, and US Dept of Energy MSSLC Model Spec for surge protection. The device is wired in series with the luminaire input power in order to interrupt power to the luminaire when consumed, protecting the LED power supply and circuit boards from additional electrical surges.

Lumecon ETD™ System: The enhanced thermal dissipation system engines are thermally bonded to provide maximum thermal dissipation to the exterior of the fixture to ensure long life. To protect the light engine panel from moisture and corrosion, the LED light engine panel is uniformly coated with a UV stabilized acrylic polymer resin that meets MIL and ASTM dielectric standards, UL, and IPC standards for flammability, moisture resistance and thermal shock.

Certification Data: ETL Listed to UL 1598, UL 8750 Wet Locations. *Full compliance and test documentation is available for TM-21, LM-79, LM-80, ETL Listing to UL1598 and UL 8750.Salt Fog tested for 3,000 hours per ASTM B117-16 / ASTM D610-08. Ingress Protection: IP66 per ANSI/IEC 60529-2004. Passed 3G vibration @ 100K cycles, per ANSI C136.31-2018.

DesignLights Consortium® (DLC) Qualified Product: Unless noted, not all versions of this product may be DLC® qualified. For a complete list of Lumecon DLC® Qualified Products visit: www.designlights.org.

Dimulator Photo-Control: Maximize the cost-saving benefits of your outdoor LED light fixtures with the stand-alone Dimming solution. All Dimulators (except for CD and DIM 3 versions) have three selectable dimming levels (30%,50%, 70%) with three different start times (10:00 pm, Midnight, or 2:00 am), which are selectable through the ten-position selector switch located on the bottom of the base. All dimming schedules will return to full brightness at 5:00 am. The stand-alone unit is made to work with the ANSI C136.41 receptacle and will provide dimming of LED fixtures.

Manufacturing Origin: US Manufactured and Assembled.

Buy American Act: The product is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS, and DOT regulations.

BABA Compliant: Meets Build America, Buy America Act Included in the Infrastructure Investment and Jobs Act, Public Law Number 117-58, Title IX, Subtitle A, Part I – Buy America Sourcing Requirements, Sections 70911-70917 stating Manufactured in the U.S. The cost of components mined, produced, or manufactured in the U.S. is greater than 55 percent of the total cost of all manufactured product components.

Warranty: 10 Year L70 performance based warranty. For full warranty terms, please visit our website: www.lumecon.com

Email: sales@lumecon.com Website: www.lumecon.com Phone: 248-477-5009

Lumecon DETROIT SERIES

LDS - SAL
LED Small Area Light

Ordering Information

LDS-SAL – Options / Ordering Example: LDS-SAL-110-DB-T5-1-50-MAS

Wattage	Color	Distribution	Voltage	Color Temperature	Mounting Methods
30 - 30 Watts	DB - Dark Bronze	T2 - Type II	1 - 120v-277v	22 - 2200K [4]	MAS - Mounting Arm (Square Pole) [8]
45 - 45 Watts	GR - Gray	T3 - Type III	2 - 347v-480v	27 - 2700K [4]	*For a Round pole, add UARP option*
60 - 60 Watts	BK - Black	T4 - Type IV		30 - 3000K [4]	SF - Slip Fitter
75 - 75 Watts	WH - White	T5 - Type V		40 - 4000K	TM - Tenon Mount [8]
80 - 80 Watts	CC - Custom Color			50 - 5000K	
85 - 85 Watts	AF - Automotive Finish				
95 - 95 Watts					
110 - 110 Watts					
125 - 125 Watts					
160 - 160 Watts					
200 - 200 Watts					
220 - 220 Watts					

Options & Accessories

UARP - Universal Adaptor Round Pole

R - Receptacle Only

RS - Receptacle Only with Shorting Cap

7P - Seven-pin Twist Lock Photocell Receptacle Only [1]

PC1 - 120v-277v Button Eye Photocell [2]

PC2 - 347v-480v Button Eye Photocell [2]

PC3 - 120v-277v Twist Lock Photocell (10 year warranty)

PC4 - 347v-480v Twist Lock Photocell (10 year warranty)

OC1 - On/Off [3]

OC2 - Dim/High [3,4]

OC3 - On/Off w/Photocell [3]

OC4 - Dim/High w/Photocell [3,4]

SC - Split Circuit [3,6,7]

BB - Battery Back-Up (only available on the 30W - 80W models and on 120/277V models)

BBCR - Battery Back-Up Cold Rated (only available on the 30W - 80W models and on 120/277v models)

DIM4 - 105-305 VAC, 50/60 Hz with 10 position field adjustable selector switch with integrated photocell

DIM4-HV - High Voltage 312-530 VAC, 50/60 Hz with 10 position field adjustable selector switch with integrated photocell

DIM4-CD - Constant all-night Dimming with integrated photocell

DIM4-CD-HV - Constant all-night Dimming, 315-530 VAC 50/60Hz with integrated photocell

DIM4-CUL - 120 VAC. 50/60 Hz, cUL certified version with gray cover with integrated photocell

DIM4-ALC - Adaptive Lighting Control with 2% per year incremental increase to compensate for aging fixture with integrated photocell

DIM3-XX - Factory set dimming schedule (10 position selector switch not available) with integrated photocell

BS5 - Bird Spikes (Field Installed)

BL - Backlight Louver(s) snap over LED Array(s) for Backlight Control at the source.[9]

Accessories ordered as a separate line item:
33-00112 - External Glare Shield
33-00120 - Full Glare Snoot

Notes:
1. For units with 7P the mounting must be restricted to +/-45º from horizontal aim per ANSI C1136.10-2010. If more than a 45º Tilt, use PC1 or PC2
2. Cannot be combined with Occupancy Sensor. Use OC3 or OC4 when Occupancy Sensor and Photocell are needed and aiming greater than 45º from horizontal.
3. Must note on PO Mounting Height for proper lens application
4. See Occupancy Sensor Default Settings Table
5. Split circuit is only available for 30W, 45W, 60W, and 80W models.
6. Split circuit is not compatible with Occupancy sensing our photo-eye control.
7. Split Circuit and Battery Back-up cannot both fit in the same housing. Battery Back-Up will require external. Battery Backup will only control one of the circuits.
8. 3000K or warmer, and fixed mounts must be ordered for IDA certification compliance.
9. Works with Type 2, Type 3 and Type 4 arrays.

LIGHTING FIXTURE

NO SCALE

REV.	DESCRIPTION	DATE	DRAWN	CHECKED

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PUBLIC SERVICES
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

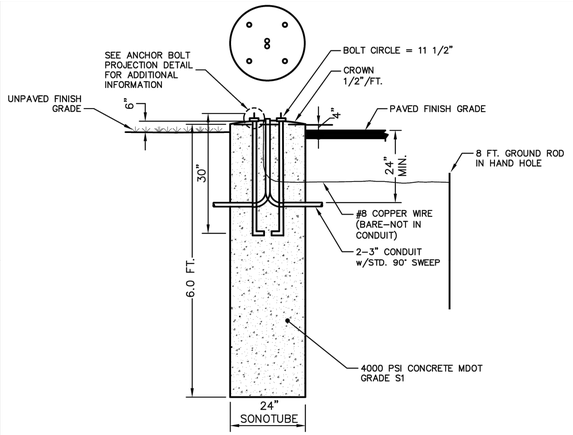
N. UNIVERSITY & THAYER IMPROVEMENTS

SCALE : 1"=20'

DRAWING No. 2023-023-67

SHEET No.

OF 83



NOTES:

1. HOLE TO BE AUGERED. MINIMIZE DISTURBANCE OF IN-SITU SOILS DURING AUGERING.
2. CONTRACTOR TO PROVIDE PREFABRICATED ANCHOR BOLT BUILD-UP.
3. THE CITY WILL INSPECT THE AUGERED HOLE AND THE ANCHOR BOLT BUILD-UP AND PROVIDE WRITTEN APPROVAL PRIOR TO THE PLACEMENT OF CONCRETE.
4. NO WATER IS TO BE IN HOLE AT TIME OF CONCRETE PLACEMENT.
5. CONCRETE SHALL BE VIBRATED DURING PLACEMENT.
6. CONTRACTOR WILL PROVIDE NECESSARY CONDUIT FOR CONDUCTOR ENTRY.
7. COPPER CLAD GROUND ROD (1 REQUIRED) TO BE 5/8" DIA. x 8'-0".
8. CONDUIT TO EXTEND 1-2" ABOVE BASE. CABLES TO EXTEND 6" OUTSIDE OF HAND HOLE.
9. GROUND CABLE SHALL BE #8 SOFT BARE COPPER WIRE WELDED TO GROUND ROD WITH 24" SLACK ABOVE FOUNDATION TOP. THE NEUTRAL AT THE POLE IS TO BE CONNECTED TO THIS GROUND CABLE.

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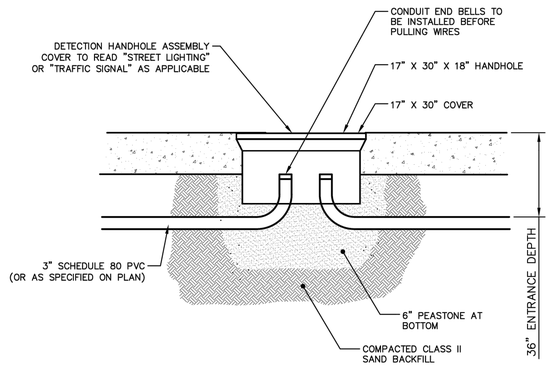
REV. NO.	DATE	DRAWN BY	CHECKED BY

STREETLIGHT FOUNDATION

DR. ENG	CH. ENG	DRAWING NO.
SCALE N.T.S.	DATE 12/8/2023	SD-SL-1



INSTALLATION NOTE:

THE CONDUIT SHALL BE LOWERED TO A MINIMUM ENTRANCE DEPTH OF 36" BELOW TOP OF THE HANDLE OVER A DISTANCE OF 10 FT. ON EACH SIDE OF THE HANDHOLE ASSEMBLY

IF THE CONDUIT HAS TO ENTER THE HANDHOLE AT A DEPTH GREATER THAN 36" DEEP DUE TO CONFLICT, THEN 90 DEGREE SWEEPS SHALL BE PROVIDED."

BACKFILL CONDUIT AND HANDHOLE W/CLASS II SAND. IF PLACED IN GREENBELT, PLACE 4" OF TOP SOIL.

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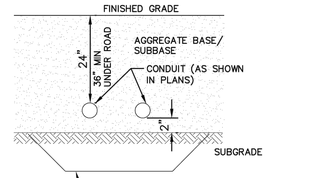
ELECTRICAL HANDHOLE ASSEMBLY

DR. ENG	CH. ENG	DRAWING NO.
SCALE N.T.S.	DATE 12/8/2023	SD-E-3



MAY REQUIRE UNDERCUTTING SUBGRADE TO MAINTAIN MINIMUM DEPTH AND 2" BEDDING. BACKFILL WITH MDOT, CL II GRANULAR MATERIAL COMPACTED TO 95% MAXIMUM DENSITY. THIS WORK SHALL BE INCLUDED IN COST OF CONDUIT IF REQUIRED AND WILL NOT BE PAID FOR SEPARATELY.

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CONDUIT PLACEMENT DETAIL

DR. ENG	CH. ENG	DRAWING NO.
SCALE N.T.S.	DATE 12/8/2023	SD-E-2

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

LIGHTING PLAN - LIGHTING DETAILS

SCALE : 1"=20'

DRAWING No. 2023-023-68

SHEET No. 68 OF 83

STREET LIGHTING DESIGN CRITERIA

(CITY OF ANN ARBOR PUBLIC SERVICES. 2024 STANDARD SPECIFICATIONS, ARTICLE 7 STREETLIGHTS, SECTION H. REQUIRED LIGHTING LEVELS, TABLE A REQUIRED LIGHTING LEVELS, COMMERCIAL USE)

AVERAGE MAINTAINED ILLUMINANCE	2.0 FOOTCANDLES
UNIFORMITY RATIO AVG./MIN.	3:1

CROSSWALK DESIGN CRITERIA

(ANSI/IES RP-8-22, RECOMMENDED PRACTICE: LIGHTING ROADWAY AND PARKING FACILITIES, SECTION 12.6 MIDBLOCK CROSSWALKS, 12.6.4.2 VERTICAL ILLUMINANCE)

VERTICAL AVERAGE ILLUMINANCE	2.0 TO 4.0 FOOTCANDLES (MEASURED AT 5 FT FROM THE MIDBLOCK SURFACE)

Luminaire Schedule

Symbol	Qty	Tag	Label	Arrangement	Description	LLF	Luminaire Lumens	Luminaire Watts	Mounting Height
	1	P2-80	LDS-SAL-80-DB-T3-1-40-MAS-X-X_1	Back-Back	LDS-SAL-80-DB-T3-1-40-MAS-X-X	0.880	10610	80.8	30
	3	P2-60	LDS-SAL-60-DB-T3-1-40-MAS-X-X_1	Back-Back	LDS-SAL-60-DB-T3-1-40-MAS-X-X	0.880	8399	60.21	30
	8	P1-80	LDS-SAL-80-DB-T3-1-40-MAS-X-X	Single	LDS-SAL-80-DB-T3-1-40-MAS-X-X	0.880	10610	80.8	30
	6	P1-60	LDS-SAL-60-DB-T3-1-40-MAS-X-X	Single	LDS-SAL-60-DB-T3-1-40-MAS-X-X	0.880	8399	60.21	30
	4	G5	NW-65W42LED4K-G2-C-RLE5_1	4 @ 90 Plus 1 on top	NW-65W42LED4K-G2-C-RLE5	0.880	6555	70.2	12
	23	G	NW-65W42LED4K-G2-C-RLE5	Single	NW-65W42LED4K-G2-C-RLE5	0.880	6555	70.2	12

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
N UNIV & Fletcher HZ	Illuminance	Fc	3.57	4.9	2.3	1.55	2.13
N UNIV AND S THAYER ST HZ	Illuminance	Fc	3.59	5.1	2.5	1.44	2.04
N UNIV EAST VERT 1	Illuminance	Fc	1.60	2.0	1.2	1.33	1.67
N UNIV EAST VERT 2	Illuminance	Fc	1.74	2.0	1.4	1.24	1.43
N UNIV EAST VERT 3	Illuminance	Fc	1.74	2.2	1.1	1.58	2.00
N UNIV EAST VERT 4	Illuminance	Fc	1.84	2.3	1.2	1.53	1.92
N UNIV NORTH 1	Illuminance	Fc	2.48	3.2	1.1	2.25	2.91
N UNIV NORTH 2	Illuminance	Fc	2.83	7.9	1.2	2.36	6.58
N UNIV SOUTH 1	Illuminance	Fc	2.49	3.4	0.9	2.77	3.78
N UNIV SOUTH 2	Illuminance	Fc	2.47	5.2	0.9	2.74	5.78
N UNIV WEST VERT 1	Illuminance	Fc	1.67	1.8	1.6	1.04	1.13
N UNIV WEST VERT 2	Illuminance	Fc	1.62	1.9	1.2	1.35	1.58
N UNIV WEST VERT 3	Illuminance	Fc	1.77	2.2	1.2	1.48	1.83
N UNIV WEST VERT 4	Illuminance	Fc	1.53	1.6	1.4	1.09	1.14

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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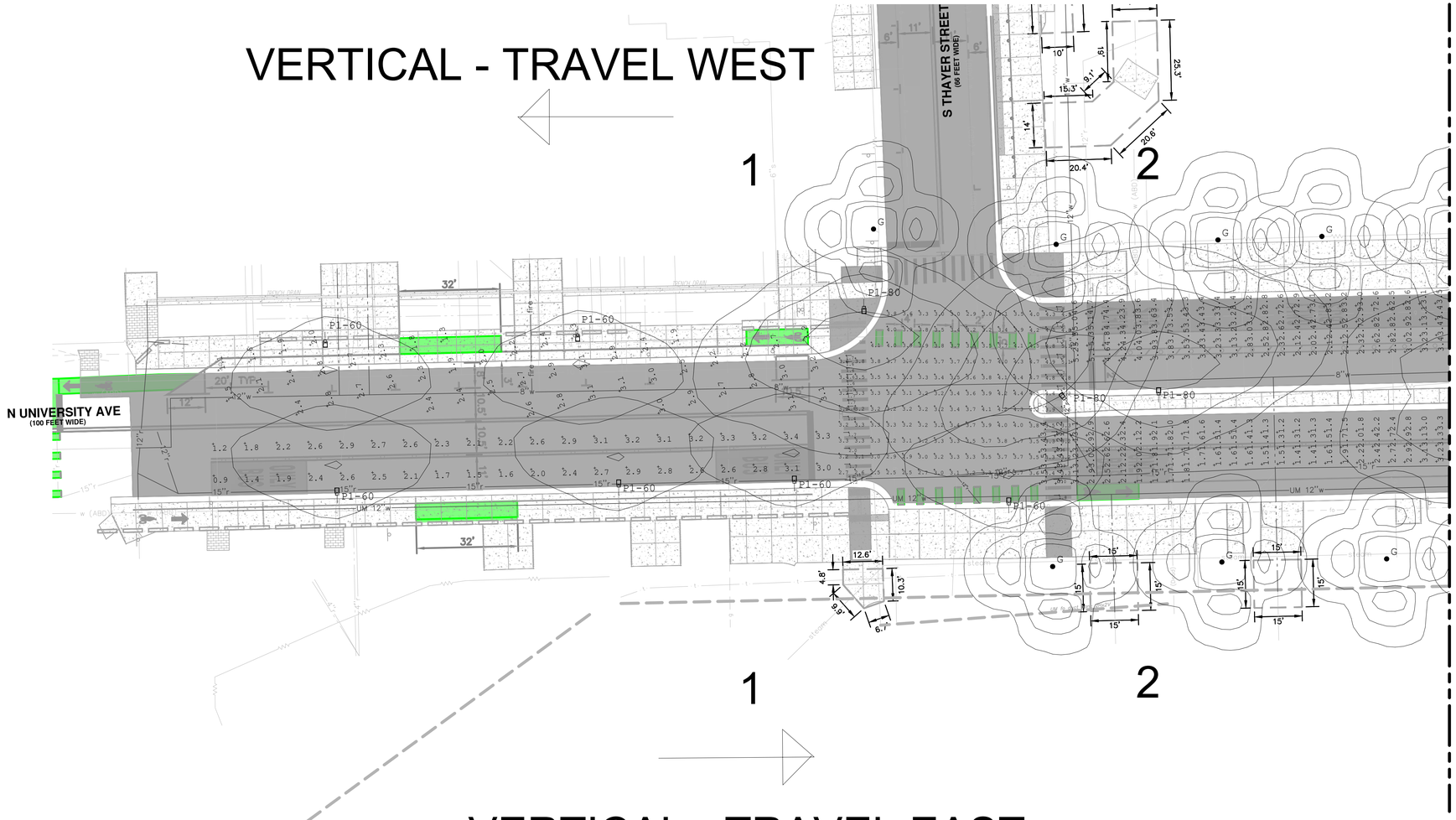
LIGHTING DETAILS

SCALE : 1"=20'

DRAWING No. 2023-023-69

SHEET No. 69 OF 83

VERTICAL - TRAVEL WEST



MATCH LINE SEE SHEET 71

1

2

VERTICAL - TRAVEL EAST

C:\pw_work\mflanagan\d1339881\ELP-PLTS-Lighting Plan N UNIVERSITY PHOTOMETRICS.dwg Dwg Created: 24-Jan-26 -- _a2 standard bw.stb -- Plot Date: 25-Jan-26

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

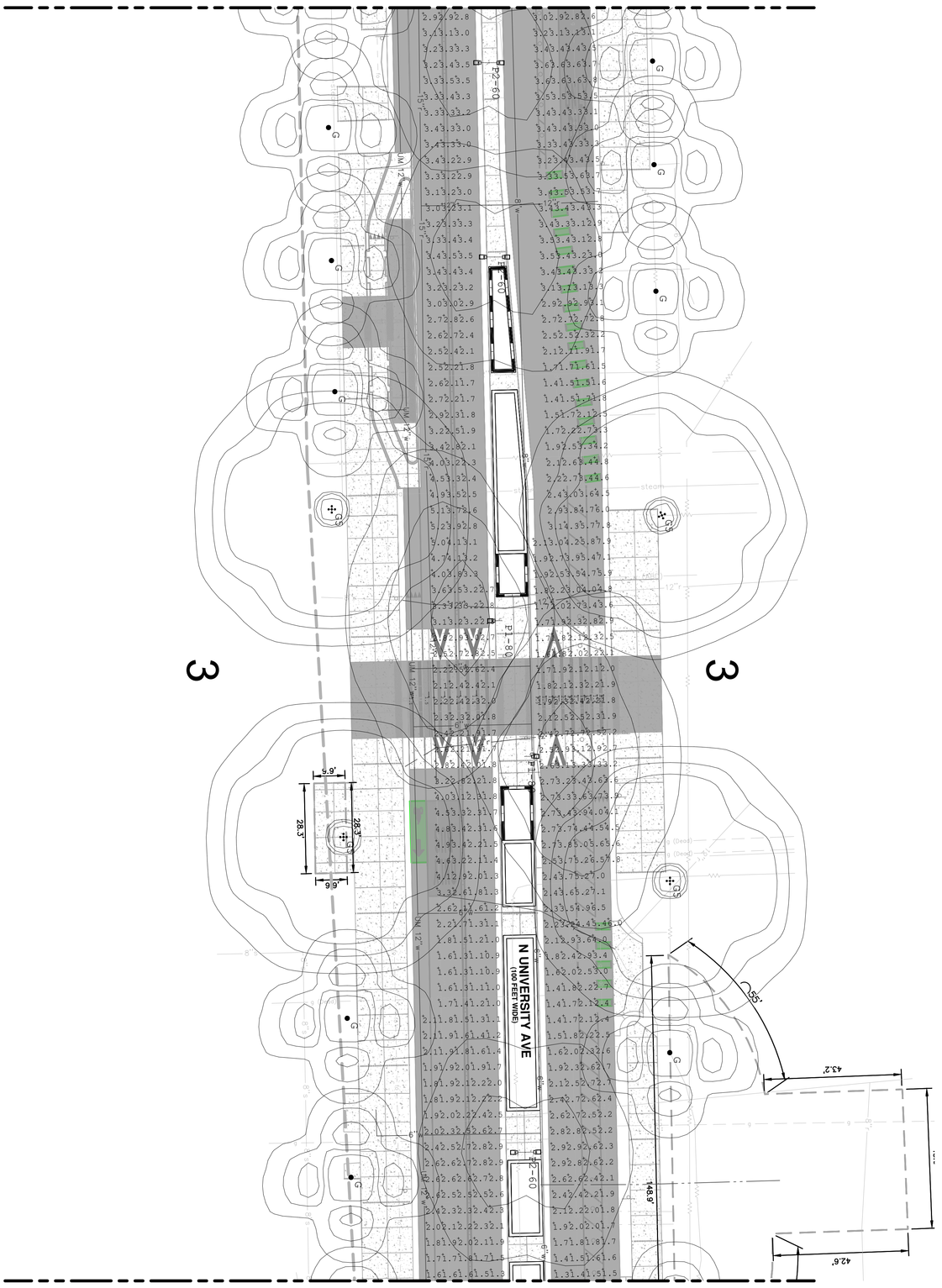
LIGHTING PLAN PHOTOMETRICS - NORTH UNIVERSITY

SCALE : 1"=20'

DRAWING No. 2023-023-70

SHEET No. 70 OF 83

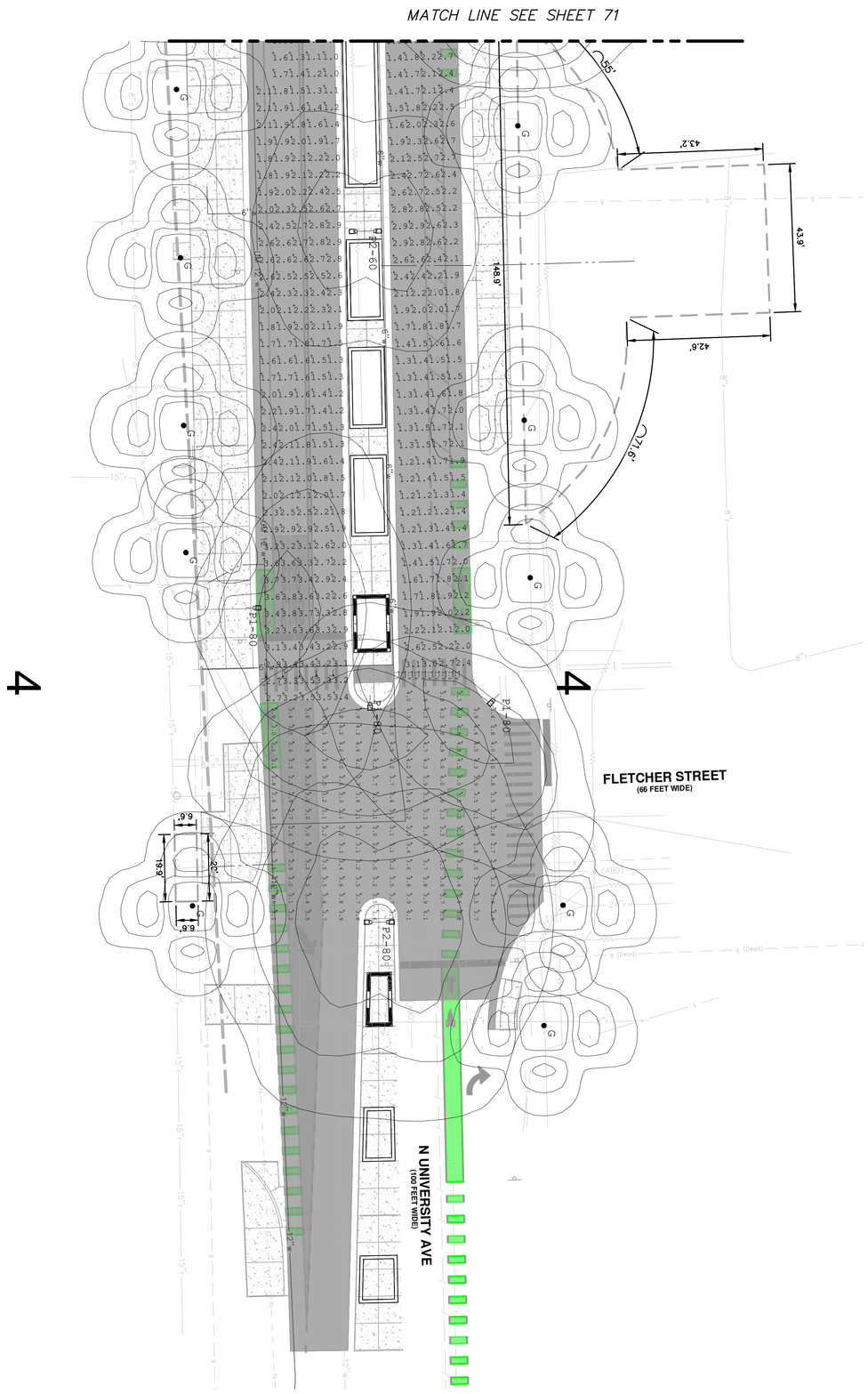
MATCH LINE SEE SHEET 70



MATCH LINE SEE SHEET 72

SHEET No. 71 OF 83	CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING	CITY OF ANN ARBOR PUBLIC SERVICES 301 EAST HURON STREET P.O. BOX 8647 ANN ARBOR, MI 48107-8647 734-794-6410 www.a2gov.org	REV.	DESCRIPTION	DATE / DRAWN / CHECKED
	SCALE : 1"=20'				
	DRAWING No. 2023-023-71	N. UNIVERSITY & THAYER IMPROVEMENTS			
		LIGHTING PLAN PHOTOMETRICS - NORTH UNIVERSITY			

811 Know what's below. Call before you dig.



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE : 1"=20'

DRAWING No. 2023-023-72

N. UNIVERSITY & THAYER IMPROVEMENTS

LIGHTING PLAN PHOTOMETRICS - NORTH UNIVERSITY

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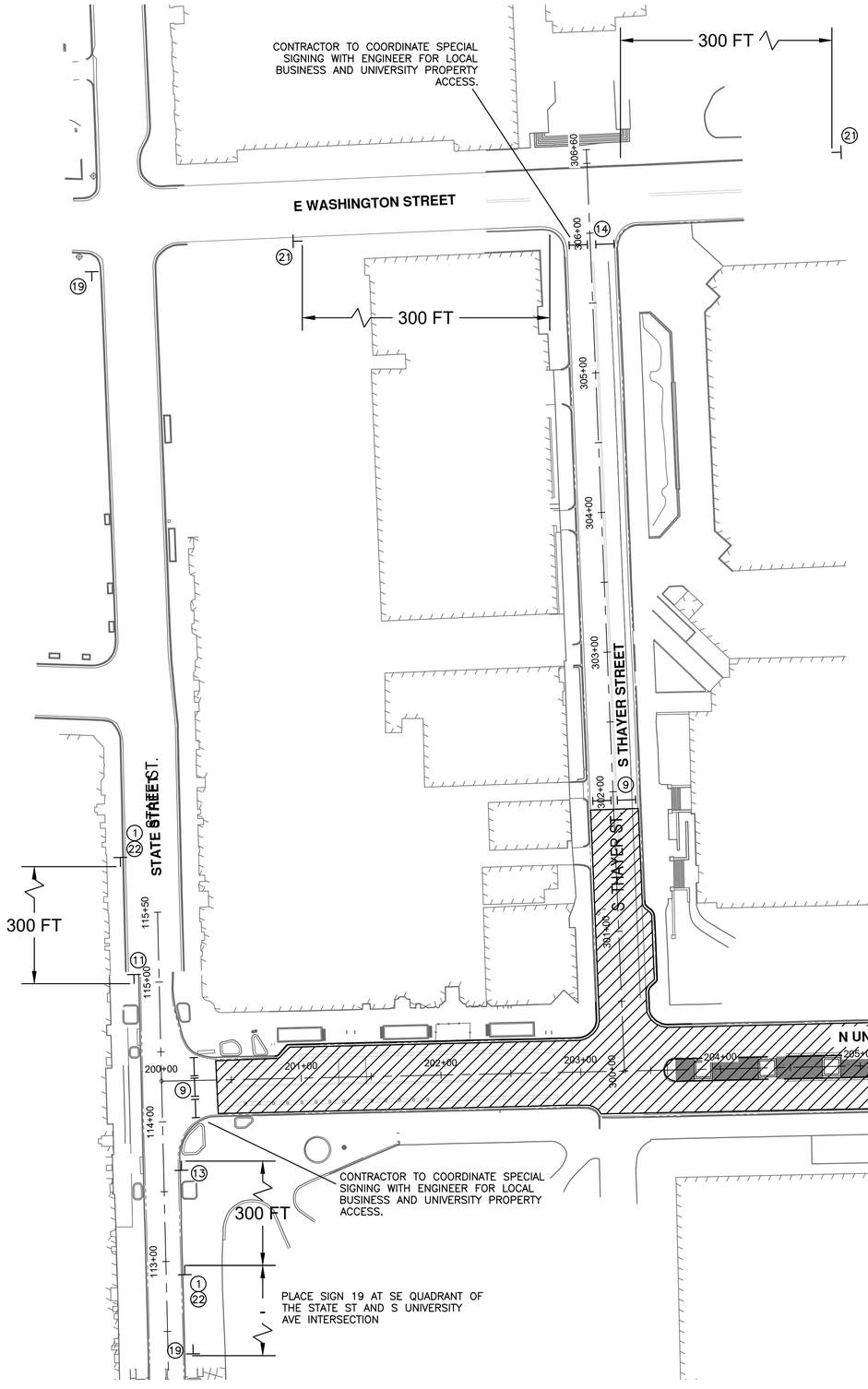
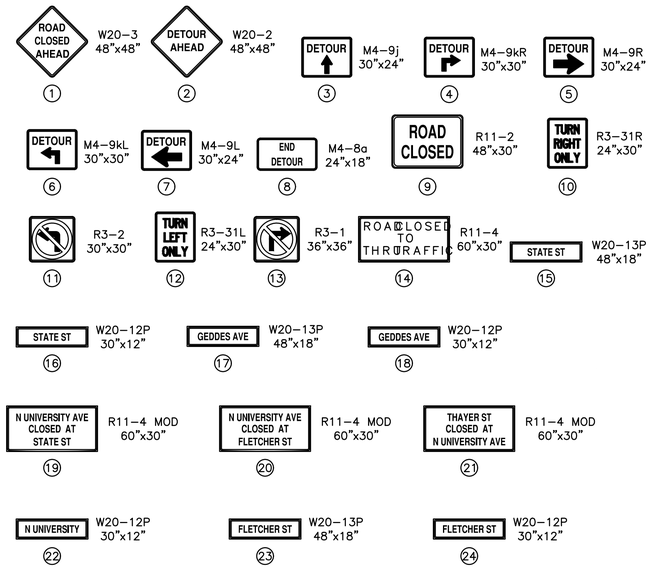


NORTH UNIVERSITY CLOSURE DETAIL PHASE 1 AND 2

NORTH UNIVERSITY AVENUE CLOSURE FROM STATE STREET TO FLETCHER STREET AND THAYER STREET CLOSURE FROM NORTH UNIVERSITY AVENUE TO WASHINGTON STREET.



NOTES:

1. ADDITIONAL DETOUR SIGNAGE SHOWN ON PHASE 2 AND PHASE 3 DETOUR SHEETS.
2. CONSTRUCTION, WARNING, REGULATORY, AND GUIDE SIGNS SHOWN MUST BE PLACED ACCORDING TO MDOT'S WORK ZONE SAFETY AND MOBILITY MANUAL AND MAY REQUIRE FIELD ADJUSTMENTS AS DIRECTED BY THE ENGINEER.
3. TRAFFIC SHALL BE MAINTAINED ACCORDING TO MDOT'S STANDARD SPECIFICATIONS FOR CONSTRUCTION, INCLUDING ANY SUPPLEMENTAL SPECIFICATIONS, MDOT'S WORK ZONE SAFETY AND MOBILITY MANUAL AND AS SPECIFIED IN THIS PLAN SHEET.
4. MAINTAIN ACCESS ON FLETCHER STREET FOR OPERATIONS AND DELIVERIES.
5. MAINTAIN ACCESS TO CHEMISTRY DOW LAB FOR OPERATIONS AND DELIVERIES. WB TO NB TRAFFIC TO BE MAINTAINED AT FLETCHER STREET.
6. MAINTAIN ACCESS TO U-M LOADING DOCK AND PATIENT PARKING AREA TO THE SOUTH OF THE NORTH UNIVERSITY/THAYER INTERSECTION.
7. SPECIAL SIGNS WILL BE UTILIZED DURING CONSTRUCTION TO INDICATE PARKING DECKS AND BUSINESSES ARE OPEN.

LEGEND

- TEMPORARY TRAFFIC SIGN
- BARRICADE, TYPE III, HIGH INTENSITY
- WORK ZONE
- DETOUR ROUTE
- CHANNELIZING DEVICE

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

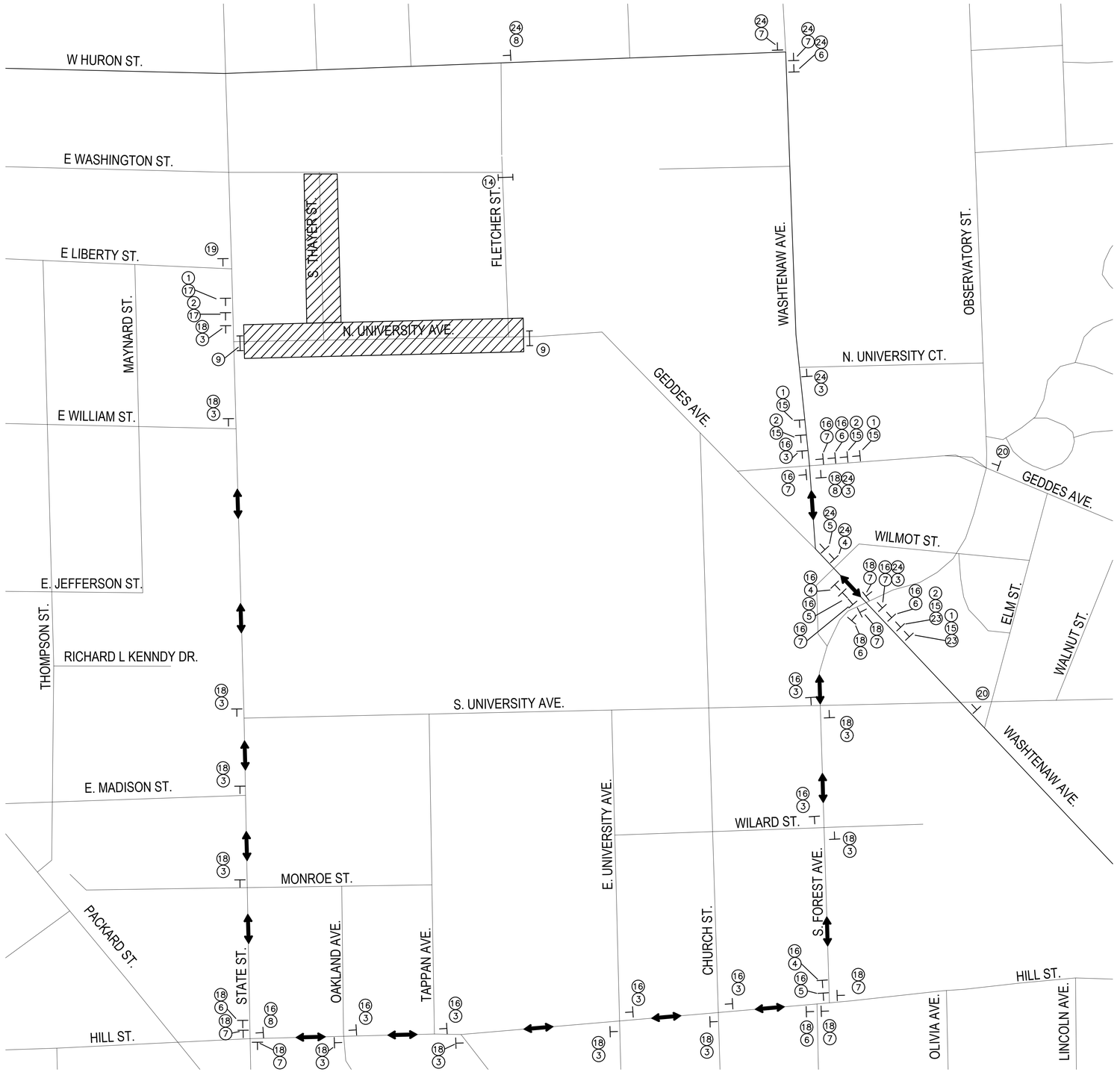
N. UNIVERSITY & THAYER IMPROVEMENTS

MOT PLAN - PHASE 1 AND 2

SCALE : 1"=200'

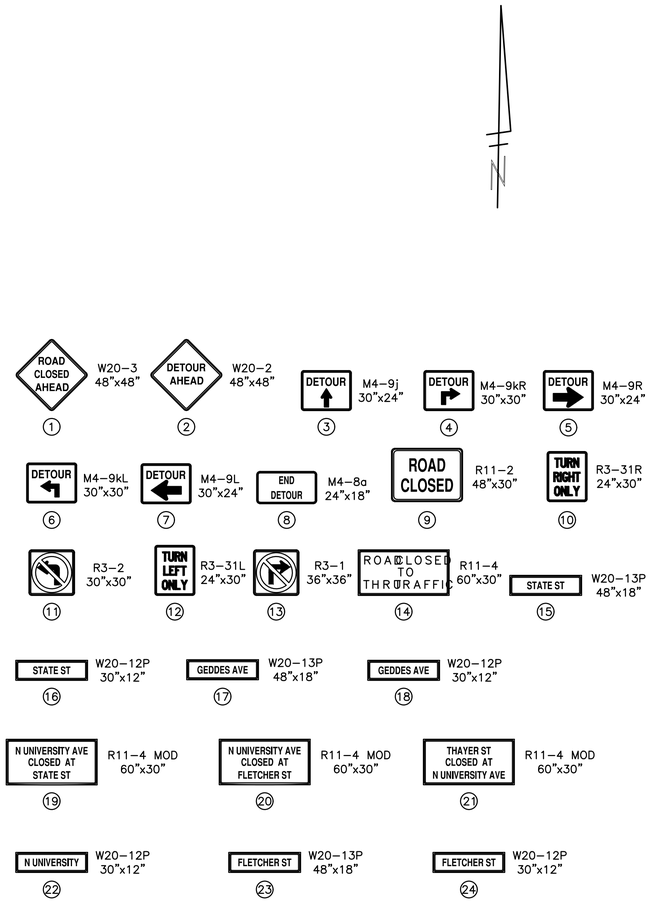
DRAWING No. 2023-023-73

SHEET No. 73 OF 83



NORTH UNIVERSITY DETOUR DURING PHASE 2
(UP TO 21 CALENDAR DAYS)

WB TRAFFIC TO BE DETOURED TO S FOREST AVE TO HILL ST TO STATE ST. EB TRAFFIC TO BE DETOURED FROM STATE ST TO HILL ST TO S FOREST AVE TO GEDDES AVE. NB FLETCHER TRAFFIC TO BE DETOURED TO WASHTENAW AVE TO W HURON ST.



NOTES:

1. ADDITIONAL SIGNAGE AND TRAFFIC CONTROL SHOWN ON PHASE 1 CLOSURE DETAIL SHEET.
2. CONSTRUCTION, WARNING, REGULATORY, AND GUIDE SIGNS SHOWN MUST BE PLACED ACCORDING TO MDOT'S WORK ZONE SAFETY AND MOBILITY MANUAL AND MAY REQUIRE FIELD ADJUSTMENTS AS DIRECTED BY THE ENGINEER.
3. TRAFFIC SHALL BE MAINTAINED ACCORDING TO MDOT'S STANDARD SPECIFICATIONS FOR CONSTRUCTION, INCLUDING ANY SUPPLEMENTAL SPECIFICATIONS, MDOT'S WORK ZONE SAFETY AND MOBILITY MANUAL AND AS SPECIFIED IN THIS PLAN SHEET.

LEGEND

- TEMPORARY TRAFFIC SIGN
- BARRICADE, TYPE III, HIGH INTENSITY
- WORK ZONE
- DETOUR ROUTE
- CHANNELIZING DEVICE

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NO.	BID	DATE	DRAWN	CHECKED
04		01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM
REV.	DESCRIPTION	DATE	DRAWN	CHECKED

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

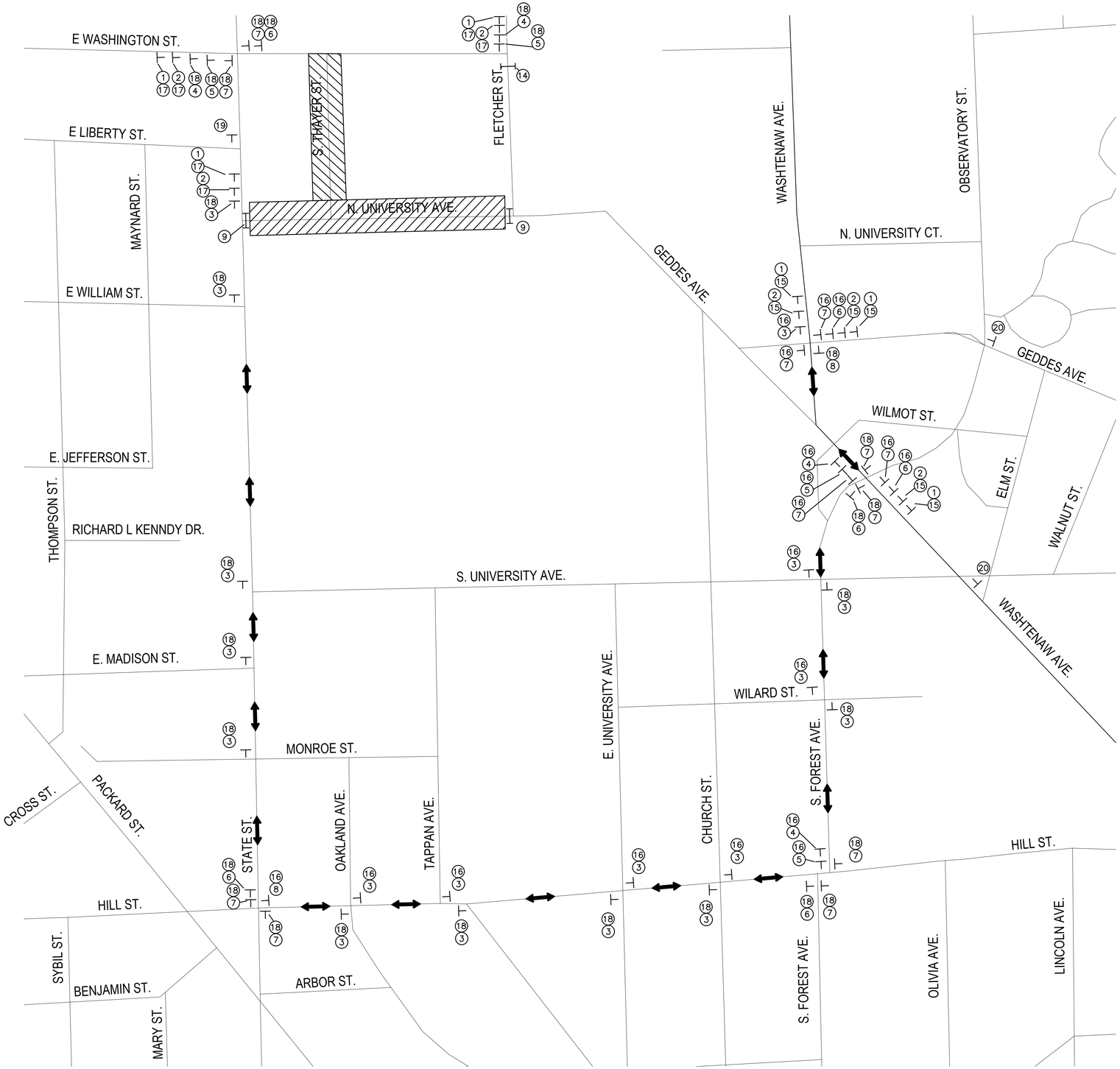
N. UNIVERSITY & THAYER IMPROVEMENTS

MOT PLAN - PHASE 2

SCALE : 1"=20'

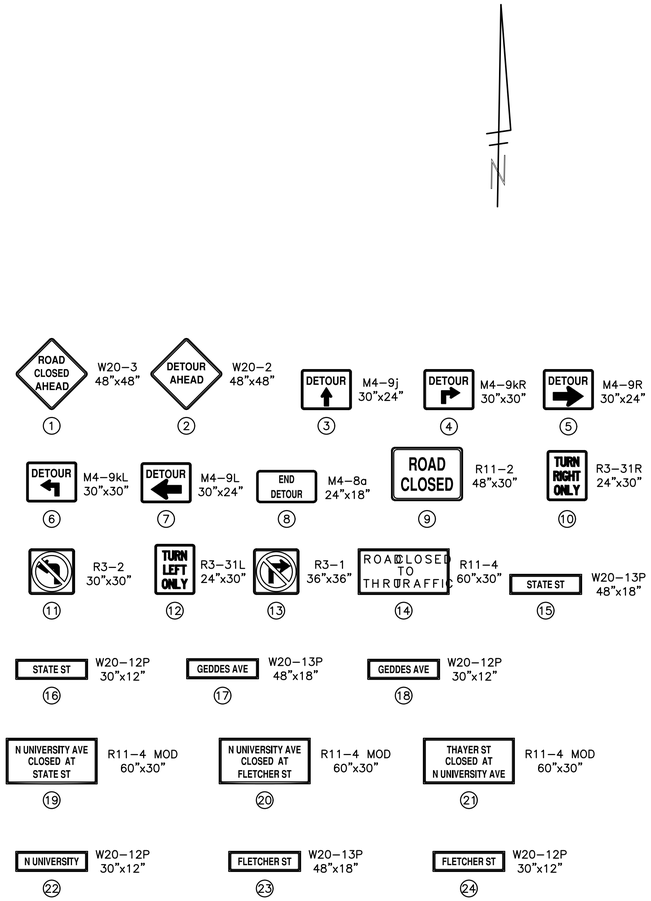
DRAWING No. 2023-023-74

SHEET No. 74 OF 83



NORTH UNIVERSITY DETOUR PHASE 1, 2 & 3

WB TRAFFIC TO BE DETOURED TO S FOREST AVE TO HILL ST TO STATE ST. EB TRAFFIC TO BE DETOURED FROM STATE ST TO HILL ST TO S FOREST AVE TO GEDDES AVE. SB FLETCHER TRAFFIC TO BE DETOURED TO WASHTENAW AVE TO GEDDES AVE.



NOTES:

1. ADDITIONAL SIGNAGE AND TRAFFIC CONTROL SHOWN ON PHASE 1 CLOSURE DETAIL SHEET.
2. CONSTRUCTION, WARNING, REGULATORY, AND GUIDE SIGNS SHOWN MUST BE PLACED ACCORDING TO MDOT'S WORK ZONE SAFETY AND MOBILITY MANUAL AND MAY REQUIRE FIELD ADJUSTMENTS AS DIRECTED BY THE ENGINEER.
3. TRAFFIC SHALL BE MAINTAINED ACCORDING TO MDOT'S STANDARD SPECIFICATIONS FOR CONSTRUCTION, INCLUDING ANY SUPPLEMENTAL SPECIFICATIONS, MDOT'S WORK ZONE SAFETY AND MOBILITY MANUAL AND AS SPECIFIED IN THIS PLAN SHEET.

LEGEND

- TEMPORARY TRAFFIC SIGN
- BARRICADE, TYPE III, HIGH INTENSITY
- WORK ZONE
- DETOUR ROUTE
- CHANNELIZING DEVICE

Know what's below. Call before you dig. 811

BID	DATE	DRAWN	CHECKED
04	01/26/2026	VARIOUS	MHM
03	01/05/2026	VARIOUS	MHM
02	11/14/2025	VARIOUS	MHM
01	10/10/2025	VARIOUS	MHM
REV.	DESCRIPTION	DRAWN	CHECKED

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

N. UNIVERSITY & THAYER IMPROVEMENTS

MOT PLAN - PHASE 1, 2 & 3

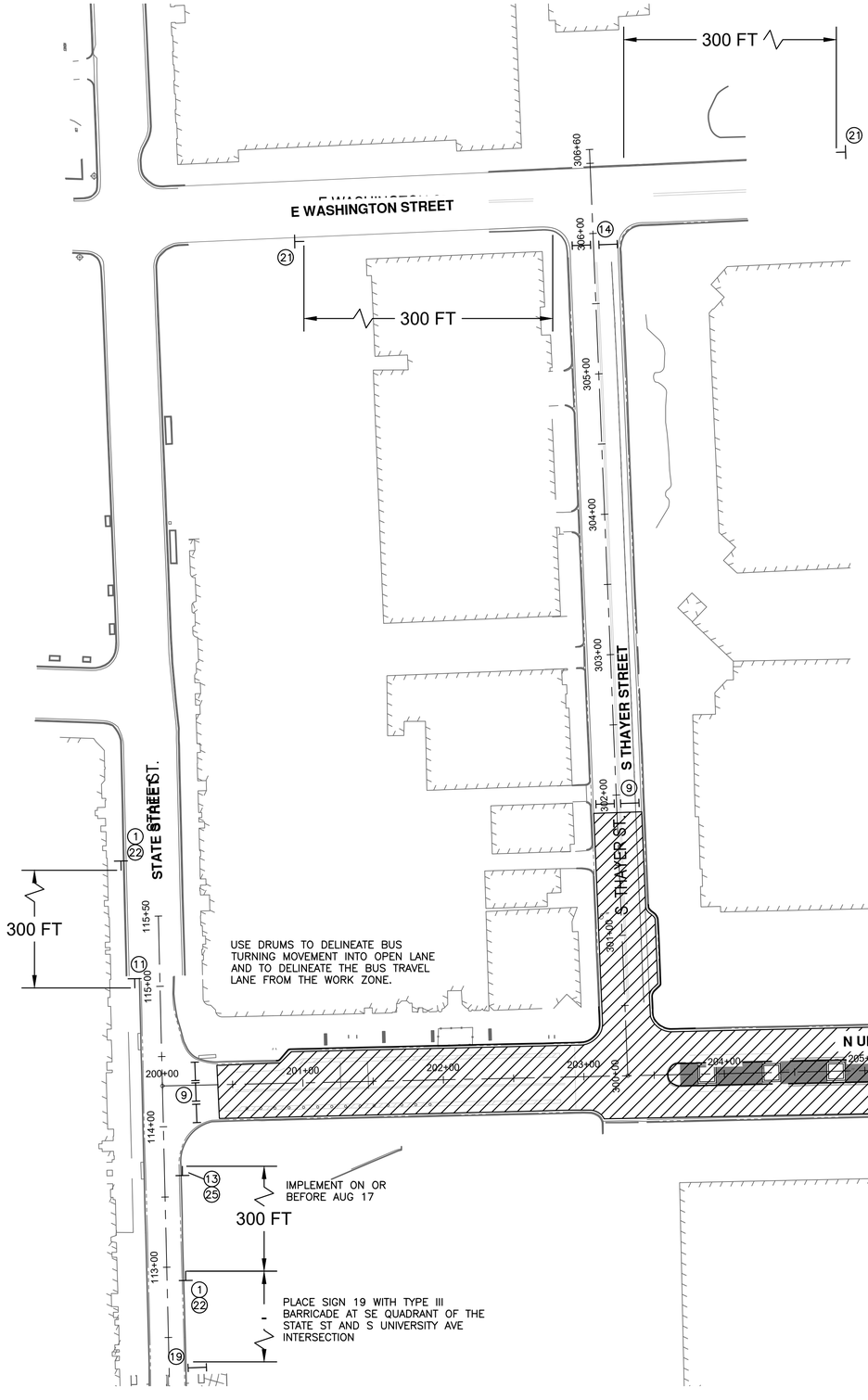
SCALE : 1"=20'

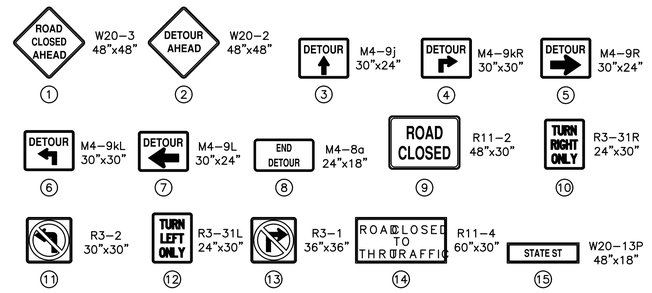
DRAWING No. 2023-023-75

SHEET No. 75 OF 83

NORTH UNIVERSITY CLOSURE DETAIL PHASE 3

NORTH UNIVERSITY AVENUE CLOSURE FROM STATE STREET TO WEST OF FLETCHER STREET AND THAYER STREET CLOSURE FROM NORTH UNIVERSITY AVENUE TO WASHINGTON STREET. EASTBOUND BUS TRAFFIC TO BE MAINTAINED ON NORTH UNIVERSITY AVENUE.





NOTES:

1. CONSTRUCTION, WARNING, REGULATORY, AND GUIDE SIGNS SHOWN MUST BE PLACED ACCORDING TO MDOT'S WORK ZONE SAFETY AND MOBILITY MANUAL AND MAY REQUIRE FIELD ADJUSTMENTS AS DIRECTED BY THE ENGINEER.
2. TRAFFIC SHALL BE MAINTAINED ACCORDING TO MDOT'S STANDARD SPECIFICATIONS FOR CONSTRUCTION, INCLUDING ANY SUPPLEMENTAL SPECIFICATIONS, MDOT'S WORK ZONE SAFETY AND MOBILITY MANUAL AND AS SPECIFIED IN THIS PLAN SHEET.
3. MAINTAIN ACCESS ON FLETCHER STREET FOR OPERATIONS AND DELIVERIES.
4. MAINTAIN ACCESS TO CHEMISTRY DOW LAB FOR OPERATIONS AND DELIVERIES. WB TO NB TRAFFIC TO BE MAINTAINED AT FLETCHER STREET.
5. CONTRACTOR MUST MAINTAIN ONE EB LANE ON NORTH UNIVERSITY AVENUE FOR BUS TRAFFIC ONLY.
6. MAINTAIN ACCESS TO U–M LOADING DOCK AND PATIENT PARKING AREA TO THE SOUTH OF THE NORTH UNIVERSITY/THAYER INTERSECTION.
7. SPECIAL SIGNS WILL BE UTILIZED DURING CONSTRUCTION TO INDICATE PARKING DECKS AND BUSINESSES ARE OPEN.

LEGEND

- TEMPORARY TRAFFIC SIGN
- BARRICADE, TYPE III, HIGH INTENSITY
- WORK ZONE
- DETOUR ROUTE
- CHANNELIZING DEVICE

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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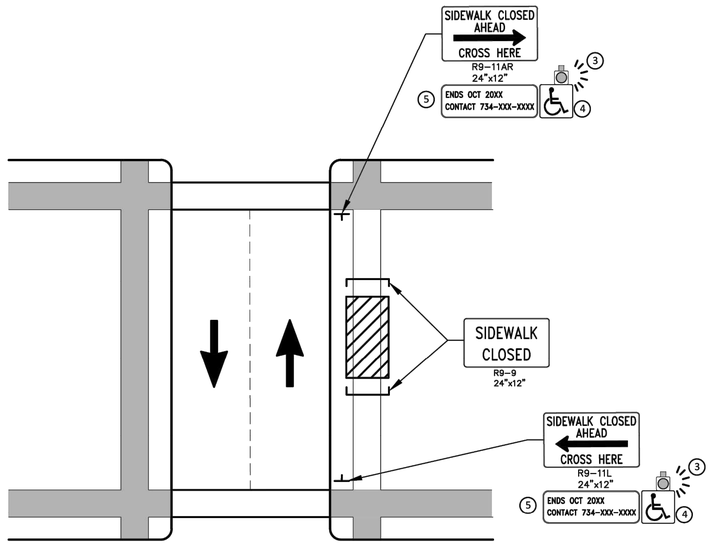
N. UNIVERSITY & THAYER IMPROVEMENTS

MOT PLAN - PHASE 3

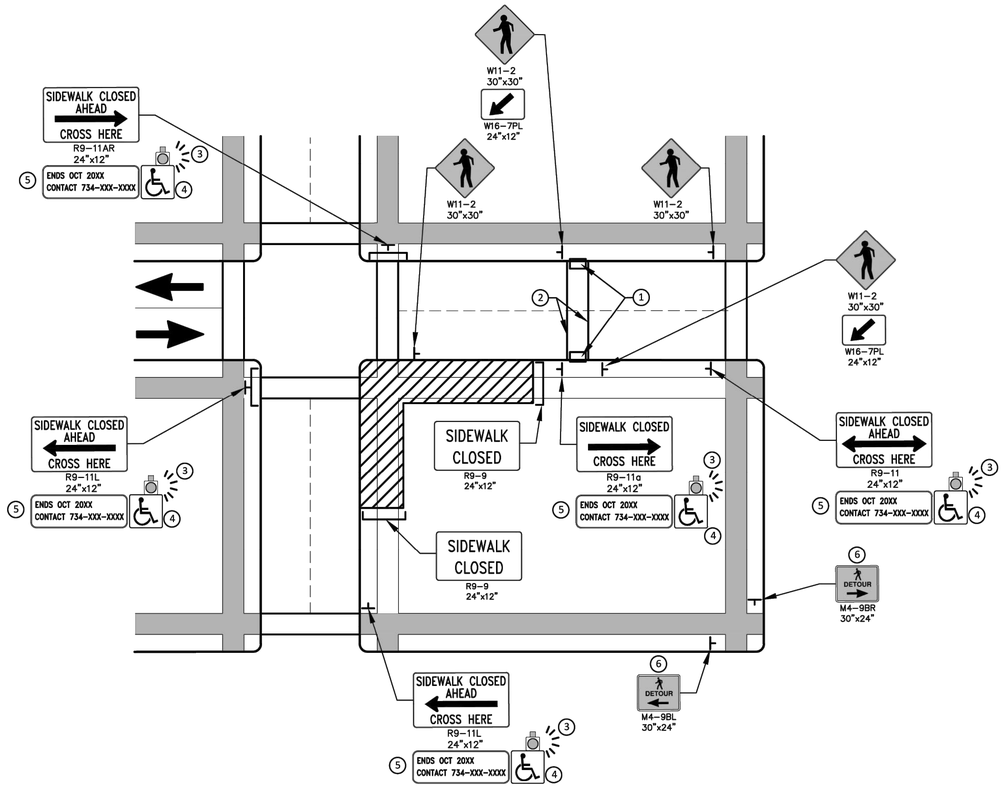
SCALE : 1"=200'

DRAWING No. 2023-023-76

SHEET No. 76 OF 83



PEDESTRIAN DETOUR USING OPPOSITE SIDE OF STREET



OTHER SIDE OF STREET DETOUR OR DETOUR WITH TRAILBLAZING SIGNS
(FOR CORNER SIDEWALK CLOSURE WITH OPTIONAL TEMPORARY CROSSWALK)

GENERAL NOTES

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, THE CONTRACTOR SHALL PROVIDE DETECTABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK, AS NECESSARY, TO PROVIDE AN ALTERNATE PEDESTRIAN ROUTE (APR) AT ALL TIMES. FOR ROADWAYS WITH NO AVAILABLE DETOURS, MAINTAIN ONE OPEN SIDEWALK AT ALL TIMES.

PROVIDE A SMOOTH, CONTINUOUS, HARD SURFACE THROUGH THE LENGTH OF THE APR. COMPACTED GRAVEL, AGGREGATE, OR SLAG MATERIALS ARE NOT ALLOWED. PROVIDE A FIRM, STABLE, AND SLIP RESISTANT TEMPORARY WALKWAY SURFACE TO COVER SHORT SEGMENTS OF ROUGH, SOFT, OR UNEVEN GROUND.

THE PEDESTRIAN TRAFFIC SIGNALS CONTROLLING CLOSED CROSSWALKS SHALL BE COVERED OR DEACTIVATED BY THE CITY OF ANN ARBOR. THE CONTRACTOR SHALL SCHEDULE AND COORDINATE THIS WORK WITH THE ENGINEER A MINIMUM OF 72 HOURS (NOT INCLUDING WEEKENDS & HOLIDAYS) PRIOR TO THE BEGINNING OF WORK THAT REQUIRES A SIDEWALK CLOSURE.

POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7 FOOT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK SURFACE.

WHEN THE ENGINEER DETERMINES THAT THE CONTRACTOR'S OPERATIONS OR PLACEMENT OF TRAFFIC CONTROL DEVICES HAS CAUSED A SITUATION THAT THE VISIBILITY OF IS REDUCED ENOUGH TO CREATE A HAZARD, THE TRAFFIC CONTROL DEVICES SHALL BE DELINEATED WITH FLAGS OR OTHER ENGINEER-APPROVED DEVICES AT NO ADDITIONAL COST TO THE PROJECT.

MINIMIZE DISRUPTION TO PEDESTRIANS TO THE MAXIMUM EXTENT FEASIBLE BY PROVIDING AN APR IN THE FOLLOWING ORDER OF PREFERENCE:

1. PROVIDE THE APR ON THE SAME SIDE OF THE STREET AS THE DISRUPTED ROUTE UTILIZING BYPASSES.
2. WHERE IT IS NOT FEASIBLE TO PROVIDE A SAME SIDE APR, PROVIDE A DETOUR ON THE OTHER SIDE OF THE STREET.
3. WHERE IT IS NOT FEASIBLE TO PROVIDE AN APR ON THE OTHER SIDE OF THE ROADWAY, PROVIDE AN APR DETOUR WITH TRAILBLAZING SIGNS AS SHOWN ON THE PROJECT PLANS.

SPECIFIC NOTES

(1) TEMPORARY CURB RAMPS WITH DETECTABLE WARNINGS.

(2) TEMPORARY PAVEMENT MARKING FOR CROSSWALK LINES.

(3) AN APPROVED AUDIBLE MESSAGE DEVICE OR TACTILE MESSAGE SHALL BE PROVIDED FOR SIGHT-IMPAIRED PEDESTRIANS.

(4) THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHOULD BE DISPLAYED WHEN ANY WALKWAY THROUGH A WORK ZONE HAS BEEN DETERMINED TO BE TPAR COMPLIANT. THE SYMBOL OF ACCESSIBILITY SHALL NOT BE DISPLAYED IF PERSONS WITH DISABILITIES SHOULD NOT USE THE PRIMARY TEMPORARY PEDESTRIAN DETOUR. THE REASON FOR THE NON-COMPLIANCE SHALL BE POSTED AND AN ALTERNATE ROUTE SHALL BE POSTED WHEN THE PRIMARY TEMPORARY PEDESTRIAN DETOUR IS NON-COMPLIANT TO TPAR STANDARDS.

(5) TYPICAL SIGN MESSAGE FOR A TEMPORARY PEDESTRIAN DETOUR SHALL INCLUDE INFORMATION SUCH AS THE DURATION OF THE WALKWAY RESTRICTIONS (BEGINNING AND/OR END DATES) AND A PROJECT CONTACT NUMBER FOR 24 / 7 QUESTIONS OR REPORTING HAZARDS.

(6) PEDESTRIAN DETOUR TRAILBLAZING SIGNS SHALL BE USED IF THE PEDESTRIAN DETOUR IS IN A LOCATION OTHER THAN ACROSS THE STREET FROM THE SIDEWALK CLOSURE.

PEDESTRIAN TEMPORARY TRAFFIC CONTROL NOTES

1. THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN THROUGH MOVEMENTS FROM ONE END OF THE CONSTRUCTION AREA TO THE OTHER, ON AT LEAST ONE SIDE OF THE STREET DURING CONSTRUCTION. ANY SIDEWALK CLOSURES SHALL MEET THE REQUIREMENTS OF THE MMUTCD, PART 6.
2. PEDESTRIAN ACCESS SHALL BE PROVIDED TO ALL ADJACENT PROPERTIES, BUILDINGS, RESIDENCES AND COMMERCIAL PROPERTIES AT ALL TIMES. THIS MAY INCLUDE TEMPORARY WALKWAYS SPANNING THE CONSTRUCTION AREA.
3. IF SIDEWALKS ARE CLOSED, A TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) SHALL BE PROVIDED ON THE SAME SIDE OF THE ROAD AS THE CLOSED SIDEWALK, IF POSSIBLE. SIGNS AND BARRICADES SHALL BE USED TO PROVIDE ADVANCE NOTICE OF THE CLOSURE AND THE ROUTE OF ANY PEDESTRIAN DETOURS. THE TPAR SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4 FEET. IF THE TPAR IS LESS THAN 5 FEET IN WIDTH, A 5 FOOT BY 5 FOOT PASSING SPACE SHALL BE PROVIDED AT LEAST EVERY 200 FEET. THE SURFACE OF THE TPAR SHALL BE SMOOTH AND CONTINUOUS FOR THE LENGTH OF THE TPAR. THE TPAR SHALL MAINTAIN THE SAME LEVEL OF ACCESSIBILITY AND DETECTABILITY AS THE FACILITY THAT IS BEING CLOSED. THE TPAR SHALL NOT LEAD PEDESTRIANS INTO CONFLICTS WITH VEHICLES, EQUIPMENT, OR CONSTRUCTION OPERATIONS.
4. IF THE TPAR IS ADJACENT TO MOVING TRAFFIC, CONSTRUCTION OPERATIONS/EQUIPMENT, OR DROP-OFFS, THEN CRASH WORTHY CHANNELIZING DEVICES THAT MEET THE REQUIREMENTS OF NCHRP 350 AND THE MMUTCD SHALL BE USED.
5. THE CONTRACTOR SHALL NOT STORE OR PLACE ANY CONSTRUCTION MATERIALS, EQUIPMENT OR SIGNS IN THE PEDESTRIAN PATH OF TRAVEL.
6. THE CONTRACTOR'S OPERATIONS SHALL NOT OCCUPY SIDEWALKS EXCEPT WHERE PROPER PROTECTION AND A TPAR HAVE BEEN PROVIDED.
7. WHEN DIRECTED BY THE ENGINEER, OR STATED ON THE PLANS, THE CONTRACTOR SHALL PROVIDE A TEMPORARY PEDESTRIAN TRAFFIC CONTROL PLAN FOR REVIEW AND WRITTEN APPROVAL BY THE ENGINEER A MINIMUM OF THREE WEEKS BEFORE SUCH PLAN IS IMPLEMENTED. THIS PLAN SHALL DETAIL THE CONSTRUCTION PHASING AND SCHEDULE AND THE SPECIFIC METHODS OF MAINTAINING SAFE PEDESTRIAN ACCESS THROUGHOUT THE CONSTRUCTION AREA. THIS PLAN SHALL PROVIDE THE LOCATION AND DETAILS OF TEMPORARY CONSTRUCTION SIGNING, MARKINGS, BARRICADES, CHANNELIZING DEVICES, TPARS AND METHODS TO MAINTAIN ACCESS TO ADJACENT PROPERTIES, BUSINESSES, RESIDENCES, ETC. NO WORK SHALL BE ALLOWED TO BEGIN UNTIL THIS PLAN IS APPROVED BY THE ENGINEER IN WRITING.
8. PROVISION OF THE TPAR AND ALL OF ITS ELEMENTS, INCLUDING BUT NOT LIMITED TO, CREATION OF THE TEMPORARY PEDESTRIAN CONTROL PLAN, SIGNS, CHANNELIZING DEVICES, BARRICADES, TEMPORARY PAVEMENT MARKINGS AND OTHER TRAFFIC CONTROL DEVICES SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE ITEM OF WORK "MINOR TRAF DEVICES."

LEGEND

- SIGN
- EXISTING PEDESTRIAN SURFACE
- WORK AREA
- PEDESTRIAN CHANNELIZATION DEVICE
- BARRIER
- SIDEWALK BARRICADE
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL DEVICE

Know what's below. Call before you dig. 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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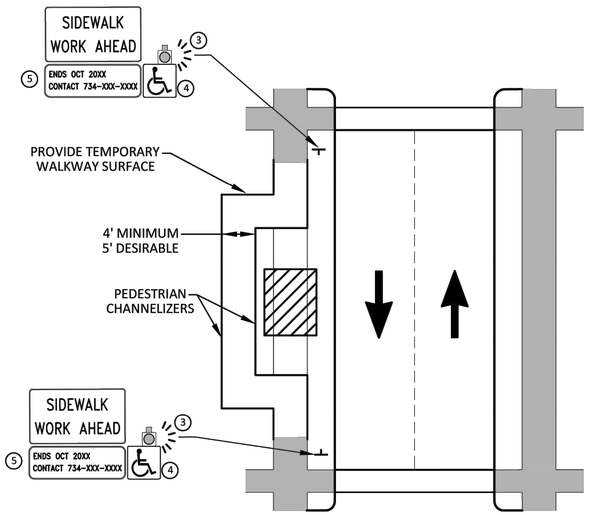
MOT AA PEDESTRIAN DETOUR DETAILS

SCALE : 1"=200'

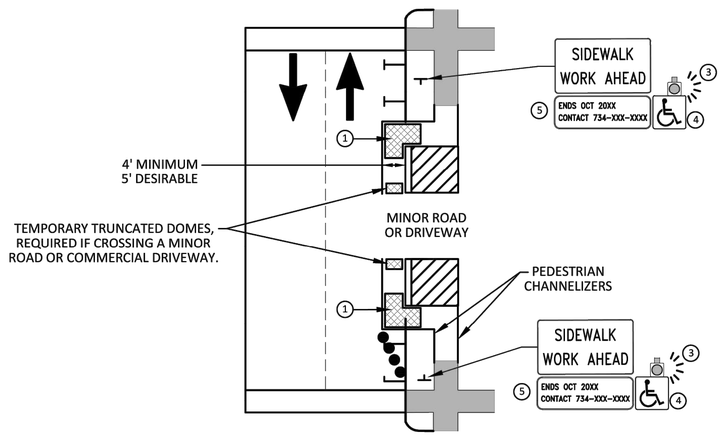
DRAWING No. 2023-023-77



BYPASS ON ADJACENT AVAILABLE
RIGHT OF WAY

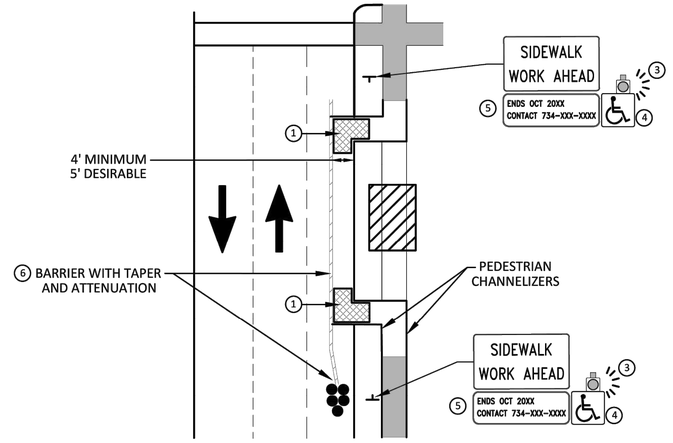
BYPASS TYPE A

NOTE: MAY ONLY BE USED ON ROADWAY WITH POSTED
SPEED OF 45 MPH OR LESS.



SIDEWALK BYPASS USING PARKING OR
SHOULDER ON LOW SPEED ROADWAY

BYPASS TYPE B



SIDEWALK BYPASS USING
SHOULDER OR PARKING LANE ON
HIGH SPEED ROADWAY

BYPASS TYPE C

GENERAL NOTES

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, THE CONTRACTOR SHALL PROVIDE DETECTABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK, AS NECESSARY, TO PROVIDE AN ALTERNATE PEDESTRIAN ROUTE (APR) AT ALL TIMES. FOR ROADWAYS WITH NO AVAILABLE DETOURS, MAINTAIN ONE OPEN SIDEWALK AT ALL TIMES.

PROVIDE A SMOOTH, CONTINUOUS, HARD SURFACE THROUGH THE LENGTH OF THE APR. COMPACTED GRAVEL, AGGREGATE, OR SLAG MATERIALS ARE NOT ALLOWED. PROVIDE A FIRM, STABLE, AND SLIP RESISTANT TEMPORARY WALKWAY SURFACE TO COVER SHORT SEGMENTS OF ROUGH, SOFT, OR UNEVEN GROUND.

THE PEDESTRIAN TRAFFIC SIGNALS CONTROLLING CLOSED CROSSWALKS SHALL BE COVERED OR DEACTIVATED BY THE CITY OF ANN ARBOR. THE CONTRACTOR SHALL SCHEDULE AND COORDINATE THIS WORK WITH THE ENGINEER A MINIMUM OF 72 HOURS (NOT INCLUDING WEEKENDS & HOLIDAYS) PRIOR TO THE BEGINNING OF WORK THAT REQUIRES A SIDEWALK CLOSURE.

POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7 FOOT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK SURFACE.

WHEN THE ENGINEER DETERMINES THAT THE CONTRACTOR'S OPERATIONS OR PLACEMENT OF TRAFFIC CONTROL DEVICES HAS CAUSED A SITUATION THAT THE VISIBILITY OF A TRAFFIC CONTROL DEVICE IS REDUCED ENOUGH TO CREATE A HAZARD, THE TRAFFIC CONTROL DEVICES SHALL BE DELINEATED WITH FLAGS OR OTHER ENGINEER-APPROVED DEVICES AT NO ADDITIONAL COST TO THE PROJECT.

MINIMIZE DISRUPTION TO PEDESTRIANS TO THE MAXIMUM EXTENT FEASIBLE BY PROVIDING AN APR IN THE FOLLOWING ORDER OF PREFERENCE:

1. PROVIDE THE APR ON THE SAME SIDE OF THE STREET AS THE DISRUPTED ROUTE UTILIZING BYPASSES.
2. WHERE IT IS NOT FEASIBLE TO PROVIDE A SAME SIDE APR, PROVIDE A DETOUR ON THE OTHER SIDE OF THE STREET.
3. WHERE IT IS NOT FEASIBLE TO PROVIDE AN APR ON THE OTHER SIDE OF THE ROADWAY, PROVIDE AN APR DETOUR WITH TRAILBLAZING SIGNS AS SHOWN ON THE PROJECT PLANS.

SPECIFIC NOTES

(1) TEMPORARY CURB RAMPS WITH DETECTABLE WARNINGS.

(2) 5 DEVICE TAPER 25 FEET LONG, RECOMMENDED WHEN THE CLOSED AREA WAS USED AS AN INTERMITTENT TRAFFIC LANE OR BYPASS LANE. STREET PARKING SHALL BE PROHIBITED FOR AT LEAST 50 FEET IN ADVANCE OF THE MID-BLOCK CROSSWALK.

(3) AN APPROVED AUDIBLE MESSAGE DEVICE OR TACTILE MESSAGE SHOULD BE PROVIDED FOR SIGHT-IMPAIRED PEDESTRIANS.

(4) THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHALL BE DISPLAYED WHEN ANY WALKWAY THROUGH A WORK ZONE HAS BEEN DETERMINED TO BE TPAR COMPLIANT. THE SYMBOL OF ACCESSIBILITY SHALL NOT BE DISPLAYED IF PERSONS WITH DISABILITIES SHOULD NOT USE THE PRIMARY TEMPORARY PEDESTRIAN DETOUR. THE REASON FOR THE NON-COMPLIANCE SHALL BE POSTED AND AN ALTERNATE ROUTE SHALL BE POSTED WHEN THE PRIMARY TEMPORARY PEDESTRIAN DETOUR IS NON-COMPLIANT TO TPAR STANDARDS.

(5) TYPICAL SIGN MESSAGE FOR A TEMPORARY PEDESTRIAN DETOUR SHALL INCLUDE INFORMATION SUCH AS THE DURATION OF THE WALKWAY RESTRICTIONS (BEGINNING AND/OR END DATES) AND A PROJECT CONTACT NUMBER FOR 24 / 7 QUESTIONS OR REPORTING HAZARDS.

(6) SEE MMUTCD FOR GUIDANCE ON PLACEMENT AND USAGE OF BARRIER.

LEGEND

- SIGN
- EXISTING PEDESTRIAN SURFACE
- WORK AREA
- PEDESTRIAN CHANNELIZATION DEVICE
- BARRIER
- SIDEWALK BARRICADE
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL DEVICE

Know what's below. Call before you dig. 811

	BID	DATE	DRAWN	CHECKED
04		01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM
REV.	DESCRIPTION	DATE	DRAWN	CHECKED

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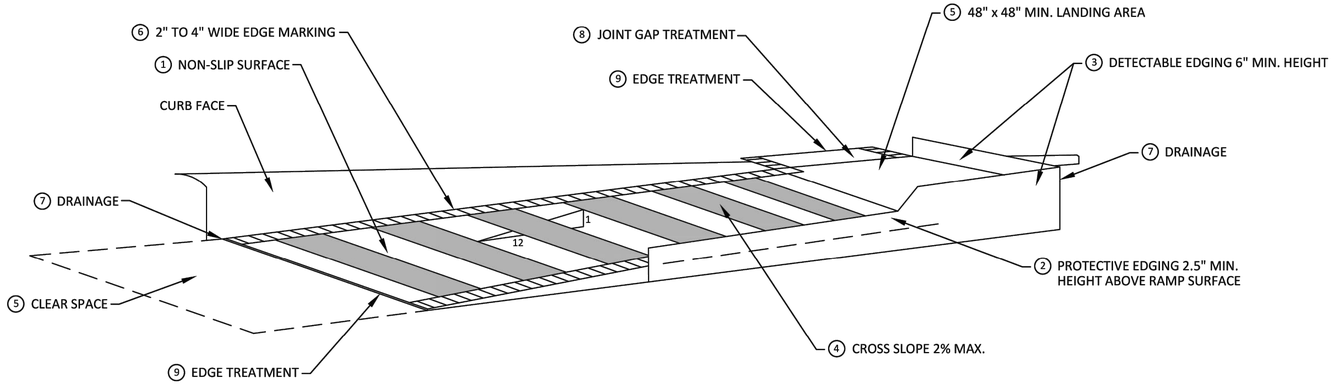
MOT AA PEDESTRIAN DETOUR DETAILS

SCALE : 1"=200'

DRAWING No.
2023-023-78

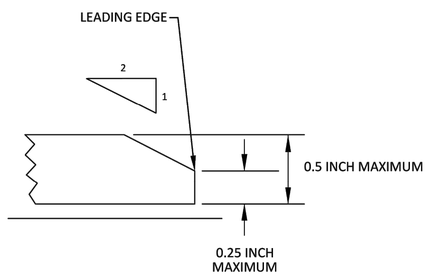
SHEET No.
78 OF 83



TEMPORARY CURB RAMP
PARALLEL TO CURB

SPECIFIC NOTES

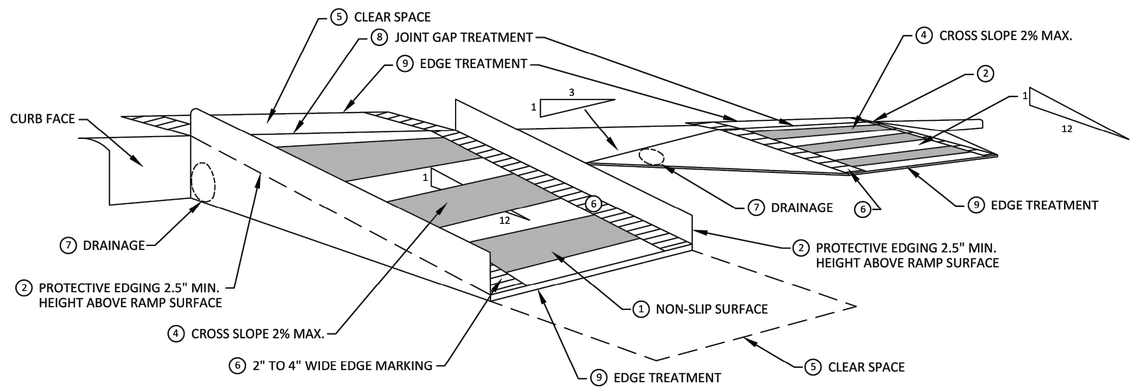
1. CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.
2. PROTECTIVE EDGING WITH A 2.5" MIN. HEIGHT ABOVE THE RAMP SHALL BE PLACED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3. PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
3. DETECTABLE EDGING ANYTIME A HANDRAIL IS REQUIRED, AND ANYTIME THE PATH CHANGES DIRECTION. THIS INCLUDES A TURN ONTO THE RAMP FROM THE PATH. DETECTABLE EDGING MUST BEGIN A MAXIMUM OF 2.5" ABOVE THE RAMP SURFACE, AND EXTEND AT LEAST 6" ABOVE THE RAMP SURFACE. CONTRASTING COLOR SHALL BE PLACED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
4. CURB RAMPS AND LANDINGS SHALL HAVE A 2% MAX. CROSS SLOPE.
5. CLEAR SPACE OF 48" x 48" MIN. SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
6. THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A CONTRASTING COLOR, 2" TO 4" WIDE MARKING. THE MARKING IS OPTIONAL WHERE COLOR CONTRASTING EDGING IS USED.
7. WATER FLOW IN THE GUTTER SYSTEM SHALL NOT BE IMPEDED.
8. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDE.
9. CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES SHOULD BE VERTICAL UP TO 1/4" HIGH, AND BEVELED AT 1:2 BETWEEN 1/4" AND 1/2" HEIGHT.



9 EDGE TREATMENT

SHOWN WITH PROTECTIVE EDGE

SHOWN WITH SIDE APRON



TEMPORARY CURB RAMP
PERPENDICULAR TO CURB

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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
02	90% SUBMITTAL	11/14/2025	VARIOUS	MHM
01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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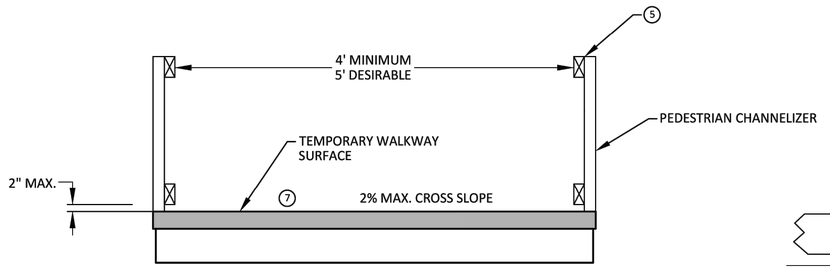
MOT AA PEDESTRIAN DETOUR DETAILS

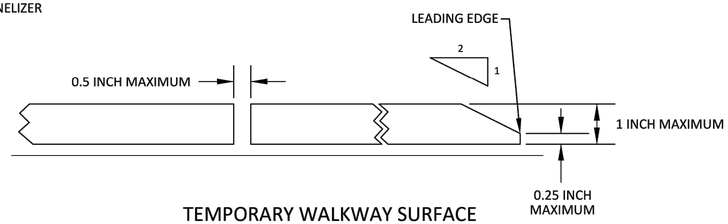
SCALE : 1"=200'

DRAWING No. 2023-023-79

SHEET No. 79 OF 83



TEMPORARY PEDESTRIAN ACCESS



TEMPORARY WALKWAY SURFACE

GENERAL NOTES

RAILINGS OR OTHER OBJECTS MAY PROTRUDE A MAXIMUM OF 4 INCHES INTO THE WALKWAY CLEAR SPACE WHEN LOCATED A MINIMUM OF 27 INCHES ABOVE THE WALKWAY SURFACE.

ANY PEDESTRIAN DEVICES USED TO PROVIDE POSITIVE PROTECTION FOR PEDESTRIANS OR WORKERS SHALL MEET NCHRP 350 CRASHWORTHY REQUIREMENTS APPROPRIATE FOR THE BARRIER'S APPLICATION.

BARRICADES SHALL BE PLACED CONTINUOUSLY ACROSS THE ENTIRE WIDTH OF THE WALKWAY SURFACE BEING CLOSED.

SPECIFIC NOTES

(1) ANY TRIPPING HAZARD IN THE WALKWAY NEEDS A DETECTABLE EDGE. BALLAST SHALL BE LOCATED BEHIND OR INTERNAL TO THE DEVICE. ANY SUPPORT ON THE FRONT OF THE DEVICE SHALL NOT EXTEND INTO THE 48 INCH MINIMUM WALKWAY CLEAR SPACE AND SHALL NOT EXCEED 0.5 INCHES IN HEIGHT ABOVE THE WALKWAY SURFACE.

(2) DETECTABLE EDGES SHALL BE CONTINUOUS AND A MINIMUM OF 6 INCHES IN HEIGHT ABOVE WALKWAY SURFACE AND HAVE COLOR MARKINGS CONTRASTING WITH THE WALKWAY SURFACE.

(3) DEVICES SHALL NOT BLOCK WATER DRAINAGE FROM THE WALKWAY. A GAP HEIGHT OR OPENING FROM THE WALKWAY SURFACE UP TO A MAXIMUM OF 2 INCHES IS ALLOWED FOR DRAINAGE PURPOSES.

(4) PROVIDE A HANDRAIL ON BOTH SIDES OF THE RAMP IF THE RAMP IS NOT EXPOSED TO VEHICLE TRAFFIC AND HAS A TOTAL RISE GREATER THAN 6 INCHES, AND A LENGTH GREATER THAN 72 INCHES.

- ENSURE THE HANDRAIL IS 1.25 AND 1.5 INCHES WIDE AND CONFIGURED TO BE A "GRASPABLE" CROSS-SECTION.

SEE CONSTRUCTION SUBSECTION 2.A FOR ADDITIONAL DETAILS.

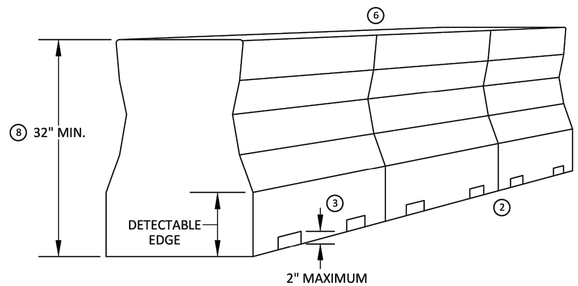
WHEN THE RAMP IS EXPOSED TO TRAFFIC, IN LIEU OF HANDRAILS, USE A PROTECTIVE EDGE 2.5 INCHES MINIMUM HEIGHT ABOVE THE RAMP SURFACE OR 1:10 FLARE ON BOTH SIDES OF THE RAMP.

(5) ALL DEVICES SHALL BE FREE OF SHARP OR ROUGH EDGES, AND FASTENERS (BOLTS) SHALL BE ROUNDED TO PREVENT HARM TO HANDS, ARMS OR CLOTHING OF PEDESTRIANS.

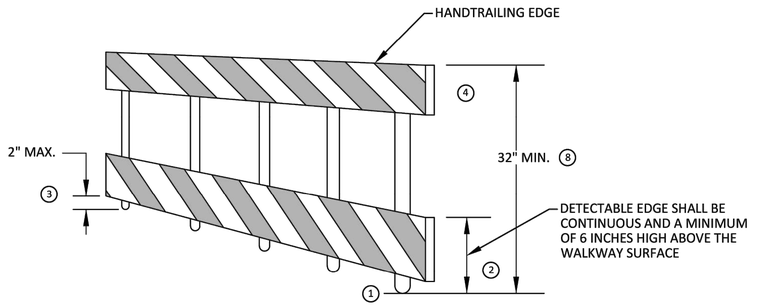
(6) ALL DEVICES USED TO CHANNELIZE PEDESTRIAN FLOW SHOULD INTERLOCK SUCH THAT GAPS DO NOT ALLOW PEDESTRIANS TO STRAY FROM THE INTENDED CHANNELIZED PATH.

(7) A WALKWAY SURFACE SHALL BE FIRM, STABLE, AND SLIP RESISTANT. COMPACTED GRAVEL, AGGREGATE, OR SLAG MATERIALS ARE NOT ALLOWED.

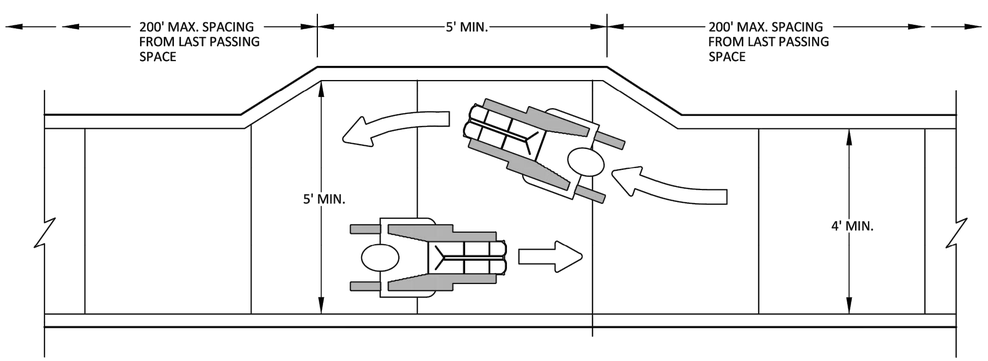
(8) LONGITUDINAL CHANNELIZING DEVICES FOR PEDESTRIANS SHALL BE 32 INCHES IN HEIGHT OR GREATER.



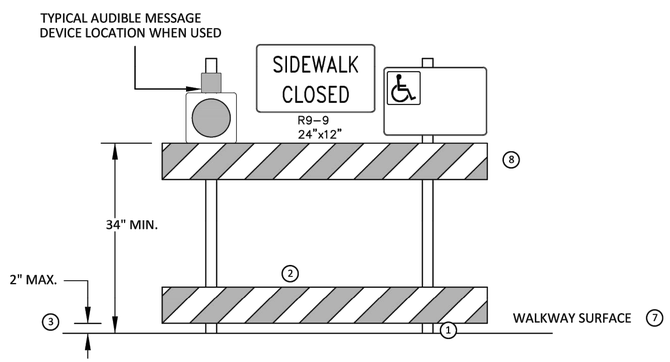
PEDESTRIAN CHANNELIZER USING A BARRIER (MINIMUM REQUIREMENTS)



PEDESTRIAN CHANNELIZER (MINIMUM REQUIREMENTS)



NARROW TEMPORARY PEDESTRIAN ACCESS ROUTE PASSING DETAIL



SIDEWALK BARRICADE

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04	BID	01/26/2026	VARIOUS	MHM
03	100% SUBMITTAL	01/05/2026	VARIOUS	MHM
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01	60% SUBMITTAL	10/10/2025	VARIOUS	MHM

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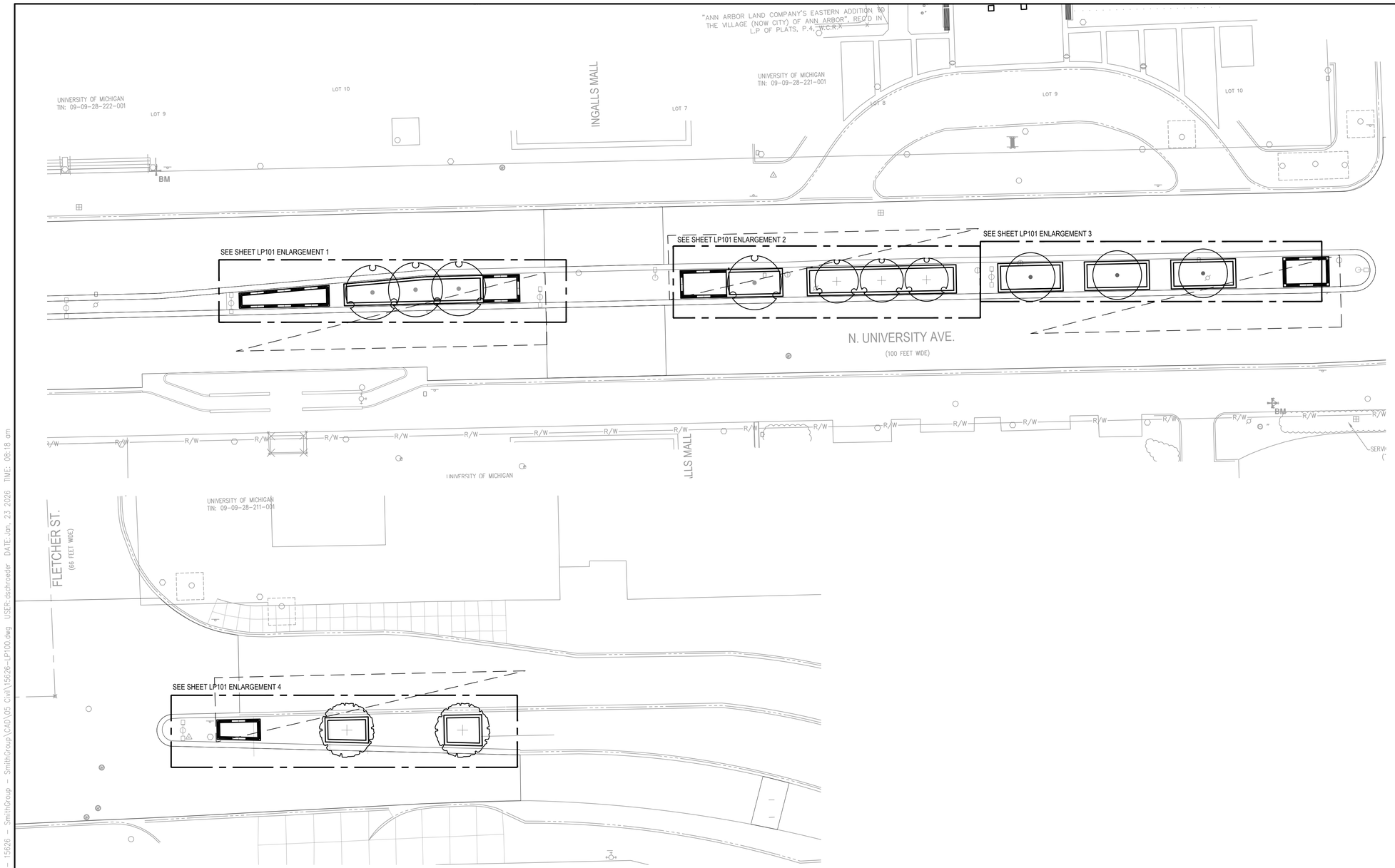
MOT AA PEDESTRIAN DETOUR DETAILS

SCALE : 1"=200'

DRAWING No. 2023-023-80

SHEET No. 80 OF 83



SHEET NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR INDEPENDENTLY VERIFYING PLANT MATERIAL QUANTITIES. ANY DISCREPANCIES BETWEEN THE PLAN AND PLANT LIST SHALL BE REPORTED TO THE LANDSCAPE ARCHITECT PRIOR TO THE PRE-BID MEETING.
2. CONTRACTOR MUST SUBMIT A PROJECT LOGISTICS PLAN WHICH INDICATES ACCESS AND ALL AREAS OF EXISTING WORK TO BE DISTURBED, FOR APPROVAL BY LANDSCAPE ARCHITECT / ENGINEER.
3. THE LAYOUT OF ALL PLANTING BEDS AND INDIVIDUAL TREES SHALL BE MARKED BY THE CONTRACTOR AND APPROVED BY THE LANDSCAPE ARCHITECT / ENGINEER IN ADVANCE OF INSTALLATION. FLAGGING OR PAINT MAY BE USED TO DELINEATE LOCATIONS AS SCALED FROM THE PLANS. THE OWNER'S REPRESENTATIVE WILL REVIEW THESE LOCATIONS WITH THE CONTRACTOR AND MAKE MINOR ADJUSTMENTS AS NECESSARY. MARK THE EDGE ALIGNMENT OF ALL PLANTING BEDS AND HAVE THAT ALIGNMENT APPROVED BY LANDSCAPE ARCHITECT PRIOR TO MATERIAL INSTALLATION. MARK WITH COLOR CODED 12" LONG VINYL RIBBON OR SURVEYORS PAINT.
4. THE TREES ON PLAN ARE SHOWN IN APPROXIMATE LOCATIONS; LANDSCAPE ARCHITECT SHALL BE NOTIFIED 7 DAYS IN ADVANCE OF TREES BEING INSTALLED ONSITE TO FIELD LOCATE. CONTRACTOR SHALL BE PRESENT AND PROVIDE FLAGS/PAINT FOR PLAN FIELD ADJUSTMENTS.
5. CONTRACTOR MUST REPAIR ANY DISTURBED AREAS TO AS LIKE CONDITION AND TO OWNER'S SATISFACTION. IN AREAS OF WHICH PLANTING IS DISTURBED, CONTRACTOR MUST REPLACE PLANT AREA WITH PLANTING MATERIAL.
6. IF LANDSCAPE ARCHITECT DETERMINES PLANTING MIXTURE IS INSUFFICIENT TO MEET QUANTITY AND DEPTH REQUIREMENTS FOR PLANTING IN PLANTERS, IMPORT SUFFICIENT QUANTITY.
7. ALL PLANTING BEDS TO BE MULCHED PER SPECIFICATIONS.
8. LANDSCAPE ARCHITECT MUST BE PRESENT DURING TREE INSTALL TO ENSURE PROPER SOIL MIX, DEPTH, LOCATIONS. AS REQUIRED PER PROFFERS.
9. ESTIMATED TREE HEIGHTS AT MATURITY (OVER TIME 10+ YEARS; BASED ON SPECIES PERFORMANCE IN COMPARABLE INSTALLATIONS). ACTUAL MATURE HEIGHTS MAY VARY.
10. SEE CIVIL LAYOUT SHEETS FOR PLANTER WALL DIMENSIONING AND LAYOUT.

LEGEND

- PLANTER WALL - 24" Ht.
- PLANTER WALL - 12" Ht.
- TRAFFIC SIGHT TRIANGLE

Know what's below. Call before you dig.

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	BID SET	2026/01/23	DWS	OK

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

NORTH UNIVERSITY AVE & THAYER ST IMPROVEMENTS

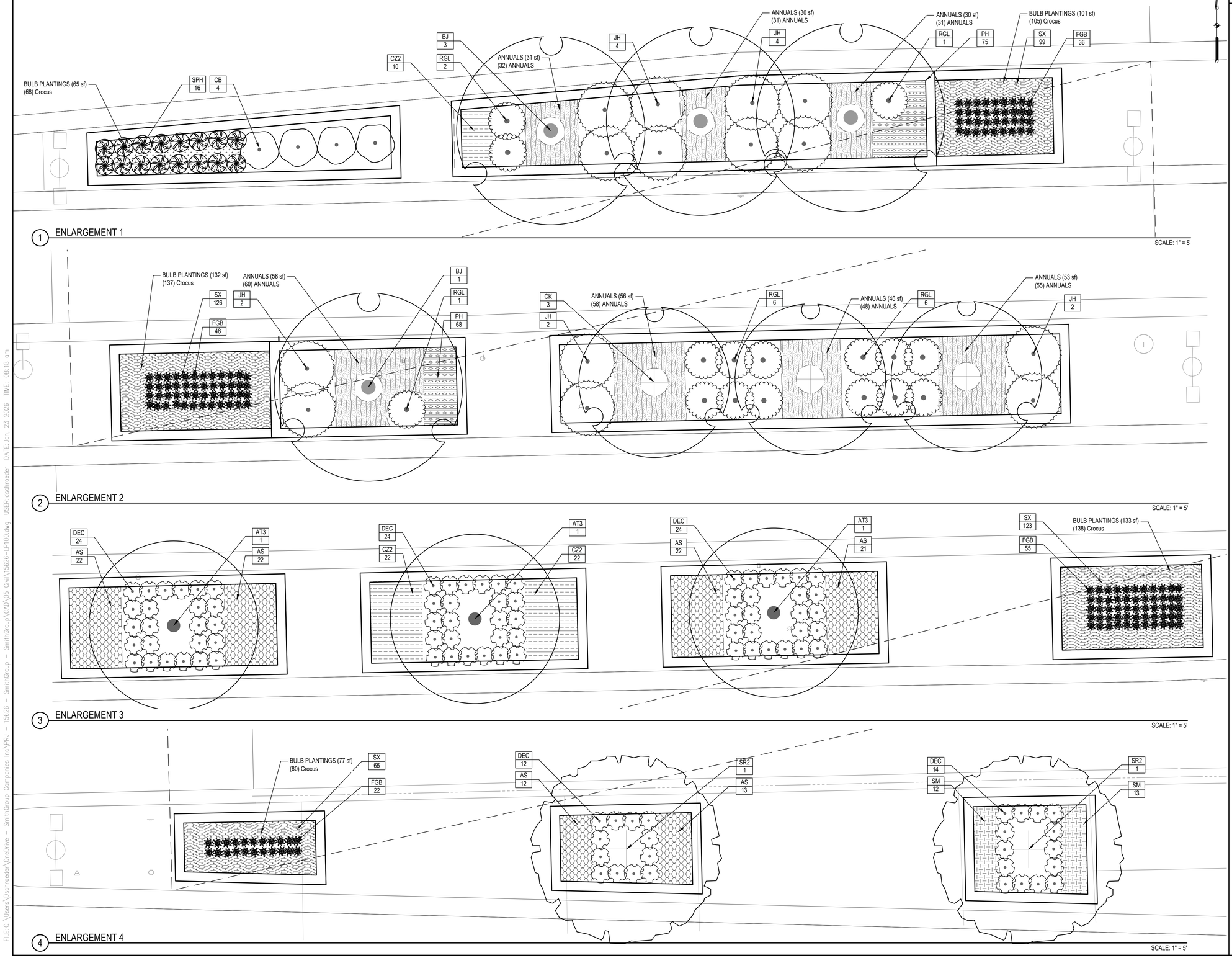
OVERALL LANDSCAPE PLAN

SCALE 1" = 20'

0' 10' 20' 40'

DRAWING No.

SHEET No. 81 of 83



SHEET NOTES

1. SEE SHEET LP500 - LANDSCAPE DETAILS FOR SCHEDULE OF PLANTINGS AND LANDSCAPE DETAILS

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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
	BID SET	2026/01/23	DWS	OK

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CITY OF ANN ARBOR MICHIGAN

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

NORTH UNIVERSITY AVE & THAYER ST IMPROVEMENTS

LANDSCAPE PLAN ENLARGEMENT

SCALE 1" = 5' (0, 5', 25', 5', 10')

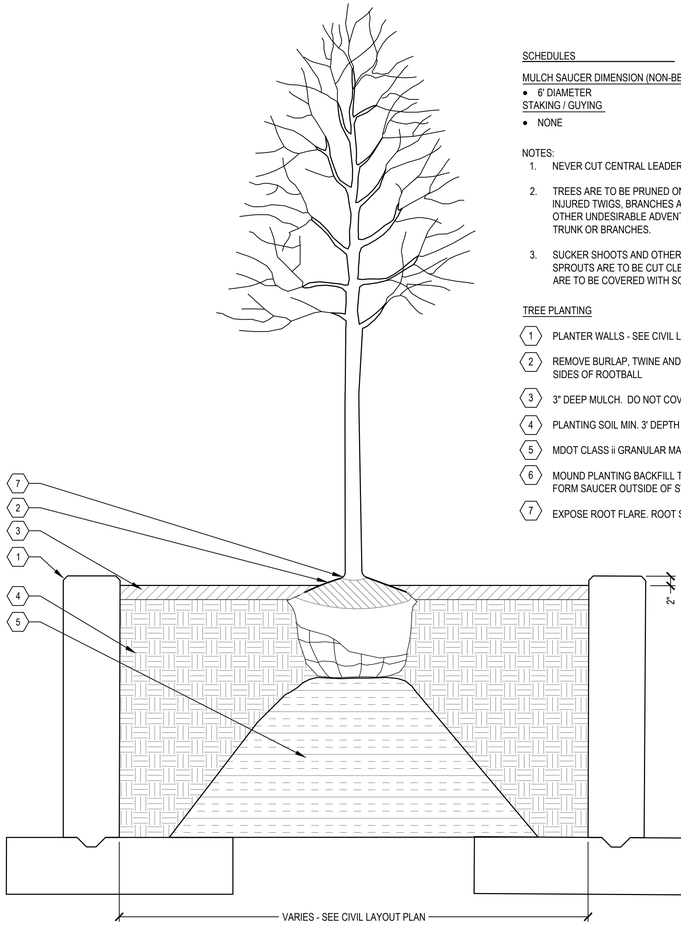
DRAWING No.

SHEET No. 82 of 83

PLANT SCHEDULE

	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER		REMARKS
TREES							
	AT3	3	AMELANCHIER CANADENSIS 'TRAZAM' / TRADITION® CANADIAN SERVICEBERRY	2" CAL.	B&B		
	BJ	4	BETULA PLATYPHYLLA 'JEFPARK' / PARKLAND PILLAR® ASIAN WHITE BIRCH	2" CAL.	B&B		
	CK	3	CORNUS KOUSA / KOUSA DOGWOOD	2" CAL.	B&B		
	SR2	2	SYRINGA RETICULATA / JAPANESE TREE LILAC	2" CAL.	B&B		
	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	FORM	SPACING	REMARKS
SHRUBS							
	CB	4	CORNUS SERICEA 'BAILADELINE' / FIREDANCE™ RED TWIG DOGWOOD	#5	CONT.	48" o.c.	
	JH	14	JUNIPERUS HORIZONTALIS / CREEPING JUNIPER	#5	CONT.	72" o.c.	
	RGL	16	RHUS AROMATICA 'GRO-LOW' / GRO-LOW FRAGRANT SUMAC	#5	CONT.	48" o.c.	
ORNAMENTAL GRASSES							
	DEC	98	DESCHAMPSIA CESPITOSA 'GOLDTAU' / GOLD DEW TUFTED HAIR GRASS	#2	CONT.	24" o.c.	
	FGB	161	FESTUCA GLAUCA 'BOULDER BLUE' / BOULDER BLUE FESCUE	#2	CONT.	12" o.c.	
	SPH	16	SPOROBOLUS HETEROLEPIS / PRAIRIE DROPSEED	#2	CONT.	24" o.c.	
SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	FORM	SPACING	REMARKS
GROUND COVERS							
		304 SF	ANNUALS				ANNUALS SELECTED BY OWNER
	X2	315	ANNUALS / OWNER SELECTED	QUART	CONT.	12" o.c.	
		508 SF	BULB PLANTINGS				
	CS	528	CROCUS / SPECIES	BULB	CLUMP	12" o.c.	MINIMUM 3 VARIETIES WITH EXTENDED BLOOM TIME.
PERENNIALS							
	AS	112	ALLIUM X 'SUMMER BEAUTY' / SUMMER BEAUTY ORNAMENTAL ONION	#2	CONT.	18" o.c.	
	CZ2	54	COREOPSIS VERTICILLATA 'ZAGREB' / ZAGREB TICKSEED	#2	CONT.	18" o.c.	
	PH	143	PHLOX STOLONIFERA 'FORT HILL' / DEEP PINK CREEPING PHLOX	QUART	CONT.	8" o.c.	
	SM	25	SALVIA NEMOROSA 'MAY NIGHT' / MAY NIGHT MEADOW SAGE	#2	CONT.	18" o.c.	
	SX	413	SEDUM X 'YELLOW BRICK ROAD' / YELLOW BRICK ROAD SEDUM	QUART	CONT.	12" o.c.	

NOTE: FOR BULB SPACING SEE DETAIL 5 - TYPICAL INTERPLANTING



SCHEDULES

MULCH SAUCER DIMENSION (NON-BED AREAS)
- 6' DIAMETER

STAKING / GUYING
- NONE

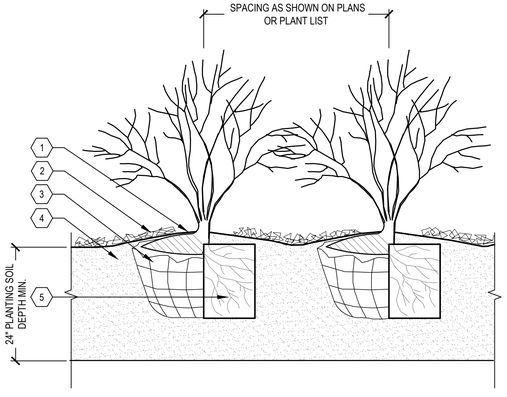
NOTES:
1. NEVER CUT CENTRAL LEADERS.
2. TREES ARE TO BE PRUNED ONLY AS NECESSARY TO REMOVE: DEAD OR INJURED TWIGS, BRANCHES AND/OR LIMBS WATER SPROUTS AND OTHER UNDESIRABLE ADVENTITIOUS GROWTH ARISING FROM THE TRUNK OR BRANCHES.
3. SUCKER SHOOTS AND OTHER UNDESIRABLE BASAL SPROUTS. BASAL SPROUTS ARE TO BE CUT CLEANLY BELOW THE SOIL LINE; CUT STUBS ARE TO BE COVERED WITH SOIL TO PREVENT RESPROUTING.

TREE PLANTING

1. PLANTER WALLS - SEE CIVIL LAYOUT PLANS
2. REMOVE BURLAP, TWINE AND WIRE BASKET FROM TOP AND SIDES AND SIDES OF ROOTBALL
3. 3" DEEP MULCH. DO NOT COVER ROOT FLARE
4. PLANTING SOIL MIN. 3' DEPTH AT TREE LOCATIONS
5. MDOT CLASS ii GRANULAR MATERIAL
6. MOUND PLANTING BACKFILL TO FORM SAUCER AROUND PLANT PIT. FORM SAUCER OUTSIDE OF STAKES
7. EXPOSE ROOT FLARE. ROOT SHALL BE VISIBLE AFTER PLANTING.

1 DECIDUOUS TREE PLANTING

SCALE: 3/4" = 1'-0"

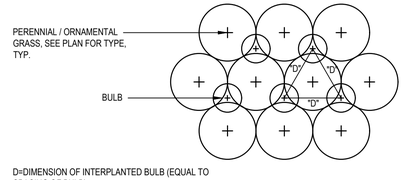


NOTES:
- REMOVE BURLAP FROM TOP 1/3 OF ROOT BALL, OR, WITH CONTAINER PLANTS, REMOVE POTS AND SEPARATE POT BOUND ROOTS AS SPECIFIED.
- DO NOT PRUNE SHRUBS EXCEPT TO REMOVE DEAD OR BROKEN BRANCHES

1. SET ROOT FLARE CROWN OF BALL AT FINISHED GRADE
2. 2" DEEP MULCH. DO NOT COVER ROOT FLARE
3. BALLED AND BURLAPPED SHRUB
4. PLANTING SOIL
5. BARE ROOT OR CONTAINER SHRUB

2 SHRUB PLANTING - BED

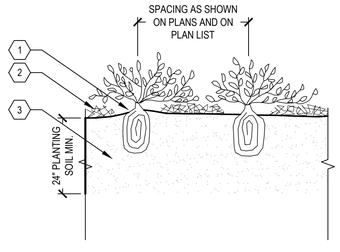
SCALE: 1" = 1'



D=DIMENSION OF INTERPLANTED BULB (EQUAL TO SPACING OF BULB)

5 TYPICAL INTERPLANTING

SCALE: 1/4" = 1'-0"

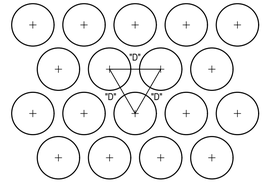


NOTE:
CONTAINER PLANTS: REMOVE POTS AND SEPERATE POT BOUND ROOTS AS SPECIFIED.

1. SET ROOT FLARE (COLLAR) AT FINISHED GRADE
2. 1" DEEP MULCH. DO NOT COVER ROOT FLARE
3. PLANTING SOIL

3 PERENNIAL PLANTING BED

SCALE: 1" = 1'



D=DIMENSION OF PLANT SPACING (SHRUB, GROUNDCOVER OR PERENNIAL) AS INDICATED ON PLANS.

4 TYPICAL PLANT SPACING

SCALE: 1/4" = 1'-0"

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LANDSCAPE DETAILS

SCALE GRAPHIC SCALE 0 3 6 12"

DRAWING No.

SHEET No. 83 of 83