ADDENDUM No. 1

RFP No. 25-01

2025 Miscellaneous Utility Projects

Due Date: January 21, 2025 by 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 a total of 98 pages.**

The Proposer is to acknowledge **receipt of this Addendum No. 1 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 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 their 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
New Content Add#1-8 – 12	Pre-Proposal Meeting Minutes and attendance
High Production Undercutting, DS 22	Added pay item
S Fifth Ave Soil Borings	Soil borings SB-2025-042 – 044

Replace	
2024 Public Services Standard Specifications	2025 Public Services Standard Specifications https://www.a2gov.org/departments/engineering/Pages/Engineering-and-Contractor-Resources.aspx Complete Record of Changes between 2024 and 2025 Standards
Schedule of Pricing, 15 – 18 (The bid form was included twice in error, use the bid form provided in Add. 1)	Modifications to pay items and quantities highlighted Removed Item: 08010.00 Aggregate Base Course, 21AA, CIP New Item: 03022.70 DS_High Production Undercutting 0603.04 Storm Sewer Tap, 12 In. Dia. Quantity change: 08010.03 Aggregate Base, 8 In., 21AA, CIP 02000.01, 020000.02 and 02020.00 contingency quantity added
Project Schedule and Payment, DS 1 – 3	Harding Rd Project time limit updated
Grading, DS 5 – 6	Scope of work clarified
Locate Sanitary Leads, DS 7 – 8	Measurement clarified
Utility Structures, DS 9	High-Capacity Inlet cover specified
Replace Plan Set in its entirety Sheet 1 – 52	Sheet 11: Tench width narrowed Sheet 13 and 15: Curb drain trench updated to include aggregate base Sheet 25: Hatching removed from profile (CAD error) Sheet 40: R-112 and associated storm sewer removed Sheet 50: North arrow and note updated, typical trench detail added Sheet 51: Valve callout updated

II. QUESTIONS AND ANSWERS

The following question has been received by the City. The response is being provided in accordance with the terms of the RFP. Bidders are directed to take note of the following questions and City responses in their review of the RFP as they affect work or details in other areas not specifically referenced here.

Question 1:	If a new storm sewer requires a tap, will that be paid for separately?
Answer 1:	Yes, if a new penetration is needed, a storm tap will be paid, this line item has been added to the bid. If the new pipe invert is within 6 inches of the old pipe invert, the existing penetration can be reused, and a new tap will not be paid.

Question 2: Will all aggregate base under the proposed curb be paid for as 8", 21AA, CIP?

Answer 2: Yes, the 6 inches of base under curb is paid for at 8 inches. "Aggregate Base, 6 In., 21AA, CIP" is reserved for under driveway approaches, where all the base is 6 inches.

Question 3: Will the sanitary and storm pipe called for abandonment require flow fill or will bulkheads be acceptable?

Answer 3: Per the standard specification, abandoned sanitary and storm pipes must be flow filled or completely removed. In either case, any remaining manhole penetration must be bulkheaded, which is included in the line item.

Question 4: Please verify the frame/grate/back to be used for the high-capacity inlets.

Answer 4: Use 7035Z frame with 7030 T1 hood and 7030 M2 grate for high-capacity inlets. This was updated in the Utility Structures Detailed Specification.

Question 5: What is the difference between "Project Clean-up and Restoration" and "Turf Establishment"?

Answer 5: "Project Clean-up and Restoration" includes project clean up as described in the standard specification and restoration of all disturbed areas behind curb including laydown areas. Topsoil and grass seed shall be placed where grass is currently, and topsoil shall be left unseeded where no grass is currently (garden beds, for example). "Turf Establishment" includes topsoil and grass seed in an area that is currently impervious surface. The Harding/ Wallingford intersection is the area measured for "Turf Establishment".

Question 6: Will the locating sanitary item be used to pay for exploratory excavation?

Answer 6: No, the Locate Sanitary Sewer Leads line item is to locate and mark the leads in the field since they are not marked with the standard Miss Dig system. It is also so the leads on Harding can be found to verify the design. Exploratory Excavation is used when a utility needs to be located. There is a contingency quantity for Exploratory Excavation in the bid.

Question 7: Does the payment for DS_ Locate Sanitary Sewer Leads include the existing sanitary main line? Can consideration please be given to making the special provision of locating the existing sanitary laterals as an allowance?

Answer 7: The detailed specification for Locate Sanitary Sewer Leads was updated and the measurement was clarified. The unit will remain per linear foot. The two leads on Harding must be located and depths must be estimated. The leads on Glastonbury, Weldon, and Fifth are to be located for the benefit of the contractor, if any cannot be televised or located, they may be skipped, however, the

contractor shall take extra care in the trench to not damage the lead.

Question 8: If more removal quantity is needed to dig the sanitary trench on Morton, will the additional quantity for removal and replacement be paid?

Answer 8: The contractor shall try to limit disturbances to the limits shown on the plans, if this is not possible, this should be discussed with the Engineer. If the removals are discussed and a new plan is approved by the Engineer prior to work, the removal and replacement quantities will be paid for under the unit prices. If the extra quantity is not discussed, or the contractor accidentally causes damage that requires repair, the extras will not be paid. Note: Project Cleanup and Restoration (which pays for the restoration of the disturbed area behind the curb) is paid for by lump sum and this will not be adjusted for minor quantity changes.

Question 9: Will both natural and limestone MDOT Class II material be acceptable for this project?

Answer 9: Yes, natural or limestone granular material meeting MDOT Class II gradation will be accepted.

Question 10: Will crushed limestone meeting MDOT 6A gradation be acceptable for this project?

Answer 10: Yes, crushed limestone meeting MDOT 6A gradation will be accepted.

Question 11: Will you be adding a “High Production Undercuts” line item in the addendum and what is the process to figure out if that will be used?

Answer 11: Yes, a “High Production Undercut” line item was added to the bid. The quantity for “Earth Excavation” and “Aggregate Base, 8 in., 21AA, CIP” was also amended. The undercut process for Glastonbury and Weldon will be: complete the removals as shown on the plans and proof roll the remaining course; the Engineer will then determine if undercuts are needed and the limits of such.

Question 12: When will the Harding/Wallingford intersection be re-designed?

Answer 12: The design should be done by the end of March. The public engagement meeting is in February and the final design will be after that.

Question 13: Will the corporation have to be removed for the 1.25” water main abandonment at Harding Rd and Wallingford?

Answer 13: Expose the main at the corporation(s) to be abandoned and shut off the corporation. Cut the lead no more than one (1) foot past the corporation and kink the lead.

Question 14: When will dye testing be complete for the three houses on Harding?

Answer 14: Dye testing was completed January 7, 2025, a full report will be provided to the awarded contractor.

Question 15: Will the sanitary sewer system be required to be tested 30 days after installation and will that count against the contract time?

Answer 15: Yes, the sanitary sewer must be tested 30 days after installation. The contract time was updated in the Project Schedule and Payment Detailed Specification.

Question 16: Are the existing sanitary services on Mortan tied into proposed sanitary as it is installed?

Answer 16: No, the leads may not be connected until after the new main and leads are tested, at least 30 days after installation. The cost of the excavation, backfill and lead connection should be included in the unit price for 6 In., SDR 26 PVC Sanitary Service Lead, SD-TD-2.

Question 17: How are the elevations to be established for the sanitary laterals? Will a sonic reading and a ground elevation be required?

Answer 17: The Detailed Specification for Locating Sanitary Leads was updated and is attached to this Addendum. The elevation of the leads is not required, the contractor shall determine the estimated **depth** of the lead relative to the ground surface as specified.

Question 18: What will be the required deliverable for locating the sanitary laterals? Are depths of the laterals required to be established for all project areas?

Answer 18: The Detailed Specification for Locating Sanitary Leads was updated and is attached to this Addendum. The deliverables are listed for each are listed. The videos shall be provided for all locations. If depths are required, a table of the recorded depth at each location shall be provided and the locations should be marked in the field.
Note: Depths are not required for Weldon Blvd, Glastonbury Rd, and Fifth Ave, however, the contractor may gather depths for their own use.

Question 19: What are the bidding contractors to assume for the sanitary service connections for 1520, 1510 and 1521? Will they be connected to an existing service and tied in with the new main or left as a stub? Will vertical risers be required?

Answer 19: The locations of the service wyes will depend on the location of the leads, which is why they are to be located 30 days prior to work. Slight design changes may be implemented via a change order after the leads are located. If the existing lead is in the ROW and accessible, the contractor will be directed to connect the lead to the main. If a lead is not in the ROW, and for 1520 Harding, a stub shall be left, with no riser, within 5 feet from the ROW. Contractors shall bid the project with the service wyes as shown, with no riser, and the lead extended to the front of the sidewalk; do not include sidewalk removal.

Question 20: Is bypass pumping required for the sanitary installation?

Answer 20: Bypass pumping is the responsibility of the contractor as stated on Sheet 21. A pumping plan shall be provided to the Engineer. The contractor should try to minimize pumping as much as possible. The existing sanitary sewer on Morton serves 9 single family homes up stream of manhole 71-69776; the flowrate is unknown. The sewer is allowed to be plugged temporarily and the capacity of the existing pipe may be utilized as long as this is documented in the bypass pumping plan and the contractor monitors the depth of flow and prevents backups.

Question 21: Due to the depth of the of the proposed sanitary sewer on Morton, and the existing sanitary manhole 71-69776, S-2 will need to be moved farther away to facilitate construction.

Answer 21: A trench box should be used to install the new sanitary main as close to the existing main as possible. The sewer may be moved in the field slightly if necessary for construction. The intent was that 71-69776 be removed and a temporary sewer be installed in its place to accommodate S-2.

Question 22: Will the maintenance aggregate, paid for as “Aggregate Base Course, 21AA, CIP” only be used for Fifth Ave or will it be paid for on all streets to maintain traffic?

Answer 22: This was meant for Fifth Ave to be placed on top of the 8-inch base to make a drivable surface flush with the pavement, **however, this is included in General Conditions, Max ____ and has been removed from the project**. See the updated Fifth Street plan sheets. At least one lane of Fifth Ave and all driveways must remain open to traffic. All other roads must stay open to local traffic. It is means and methods how this is done. Other materials, i.e. millings, surplus existing base, or steel plates may be used to maintain a drivable surface, or the new aggregate base may be ramped, so it is drivable, but sand is not considered drivable.

Question 23: It is noted the S Fifth Ave removals, water, storm, and aggregate base will be performed under this contract with all remaining work to be completed by the Resurfacing Project. Will this contract be considered complete once the plan aggregate base and required maintenance aggregate is installed? Is the Resurfacing Project responsible for the removal and final grading of the aggregate base prior to concrete and asphalt pavement work?

Answer 23: S Fifth Ave will be considered complete when underground work is complete, the aggregate base is installed and accepted, and the road is left with a drivable surface. The Resurfacing Project will remove any maintenance aggregate prior to paving. This work must be coordinated with the Resurfacing Project so that project is aware of necessary removals.

Question 24: Can the existing and proposed cross section for S Fifth Ave be provided?

Answer 24: S Fifth Ave consists of utility trenches, an existing cross section was not developed, however, the soil borings are provided in this Addendum. A proposed trench detail is provided on the updated Fifth Ave plan sheets.

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

Pre-Proposal Meeting Minutes
2025 Miscellaneous Utility Projects
Dec 19, 2024 via Microsoft Teams

Attendance sheet attached

Updated information, clarification, and additional information not stated in the pre-proposal meeting is shown in bold.

I. City Introductions
   a. Project Manager – Tracy Anderson
   b. Inspection TBD
   c. Construction Staking – City of Ann Arbor

II. Project Overview
   a. Work components
      i. Harding
         1. Water main installation
         2. Sanitary sewer installation
            a. A new sanitary sewer will be installed on Harding to serve 1510, 1520, and 1521 Harding.
            b. The City is in the process of dye testing these residents to determine what main they connect to. This information will be provided.
            c. **Test the sanitary sewer per City standard, 30 days after installation.**
         3. Storm sewer replacement
         4. Wallingford/Harding intersection reconfiguration
            a. This will be redesigned with a slightly different angle and be submitted as a change order. The same pay items will apply.
         5. Road resurfacing
            a. Morton is in good condition, so limit the pavement and curb removal.
         6. Notes:
            a. Use a trench box to reduce curb and tree removal.
            b. There are no utilities in Harding currently.

      ii. Weldon and Glastonbury
         1. Water main replacement
         2. Curb drain installation
            a. Curb drain will be installed where necessary for sump pump connection.
            b. Curb drain may be removed from the project in places where it is not needed.
            c. Curb drain on the north side of Weldon between Covington and Barrington will be moved into the road, within the water main trench. Subbase and aggregate base above these trenches will be paid for once.
         3. Road resurfacing

a. The asphalt is currently 'overlaid' over the gutter pan. It will be re-paved to the EOM.

iii. S Fifth
1. Concrete underlaid road
a. Remove what is needed for water main and storm sewer trenches.
b. Soil borings provided in addendum.
2. Water main replacement
3. Storm sewer replacement
4. Coordinate with 2025 Resurfacing Project
a. Do not replace curb or asphalt
b. Place 6 inches of aggregate on top of 8" aggregate base to maintain traffic. To be paid for as "Aggregate Base Course, 21AA, CIP".
UPDATE: Aggregate Base Course, 21AA, CIP was mistakenly included and was removed from bid, maintenance aggregate is included in General Condition, Max ___.

b. Engineer's estimate - $3.8M

III. General Items
a. Standard Specifications – 2024
i. Tracer wire
b. Detailed Specifications
i. Schedule and Payment
1. Fifth street must be completed by May 30, and must be coordinated with the Resurfacing Project. This will be awarded after this project.
ii. Grading
1. Resident notification described
2. No trash allowed in trenches
3. High production proof roll will be a line item.
4. Roadway grading includes proof roll of course to remain. Undercutting or high production undercutting will be determined after proof roll.
iii. Locate Sanitary Leads
1. CCTV must be completed on Harding 30 days before construction so the sanitary sewer design can be verified.
2. Glastonbury, Weldon and Fifth, leads must be located since they are not located with Miss Dig.
3. This will be updated to clarify that the measurement.
iv. Curb Drain
1. Curb drain will be open cut operation using SDR 26 pipe.
2. Install a wye and stub for each house, location will be determined in the field.
3. Put a bend on the end and add a buried cleanout in the greenbelt.
v. Excavate and Backfill for Water Service Tap and Leads
1. Share a trench where possible.

2. The length of the long service will be paid when a trench is shared, minimum 5 feet.

vi. Water main abandonment
1. Curb box abandon was added for Harding Road
2. Each road is paid for separately and will be paid when the entire main is abandoned.

vii. HMA Acceptance

c. Misc. construction items
i. Wallingford/Harding intersection will be re-designed and implemented via a change order
1. The public engagement meeting is scheduled in February, the final design will be after that.

ii. Curb drain will be installed where needed
1. This is still being determined

iii. Save trees where possible
1. Catch basin replacements that are near trees will be abandoned in place and a new structure will be installed further away from the tree.

d. Accessibility
i. Must maintain local traffic
1. Backfill with 21AA – will not be paid for as aggregate base until base is complete.
2. Must maintain a drivable surface. 21AA does not have to be used, millings or existing base may be used.

ii. Fifth Ave MOT by Resurfacing

iii. The contractor will be responsible for making sure that resident trash, recycling and compost bins are able to be picked up weekly. This may include moving them to and from a location that the waste collection truck is able to access them. This cost is incidental to General Conditions.
1. Garbage day is:
a. Monday – Fifth Ave
b. Tuesday – Harding
c. Thursday – Weldon and Glastonbury

iv. Mail service is walked door to door. Contractor shall ensure that USPS has sufficient space to pass to make their daily deliveries.

e. Davis Bacon Wage Decisions
i. 10 days before proposals are due

f. Addendum
i. Answer all questions received
ii. Pre-proposal meeting minutes
iii. Updated bid form
1. Updated excel file can be provided

iv. Minor plan clarifications/details (if required)

IV. Project Schedule
a. Written Questions due Monday, January 6, 2025, by 5:00PM
b. Addendum anticipated by Friday, January 10, 2025
c. Proposal Due, January 21, 2025, by 11:00AM
d. Anticipated Council Award, March 3, 2025
e. Construction Start, April 28, 2025

V. Questions
See questions and answers in Addendum 1.

Notes by:
Tracy Anderson, PE
Tanderson@a2gov.org

Summary

Meeting title	2025 Misc. Utility Project Pre-proposal Meeting
Attended participants	8
Start time	12/19/24, 9:47:58 AM
End time	12/19/24, 10:51:46 AM
Meeting duration	1h 3m 47s

Participants

Name	**Email**	**Organization**
Anderson, Tracy	TAnderson@a2gov.org	Ann Arbor
John Niemiec (External)	jniemiec@mackenzieco.com	Mackenzie Co
Angelia Chappell (External)	angie.chappell@lgccorp.com	LGC Global
Jennah (Unverified)		Fonson Company
Monisha Govindaraju (External)	monisha.govindaraju@lgccorp.com	LGC Global
Ryan Hittle, ICC (Unverified)		Inner City Contracting
Meghana Varakala (External)	meghana.varakala@lgccorp.com	LGC Global
Ben Spada (External)	bspada@diponiocontracting.com	Diponio Contracting

E. Schedule of Pricing/Cost – 20 Points

Company:

Project:2025 Miscellaneous Utility Projects
File #: 2024-006 **RFP#: 25-01**

ITEM NUMBER	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL PRICE
	General				
01000.00	General Conditions, Max. $140,000	LS	1	$	$ -
01001.00	Project Supervision, Max. $70,000	LS	1	$	$ -
01002.00	Project Clean-Up and Restoration	LS	1	$	$ -
01003.00	Digital Audio Visual Coverage	LS	1	$	$ -
01004.00	Allowance for Unforeseen Conditions	Dlr	40,000	$ 1.00	$ 40,000.00
01021.00	Erosion Control, Inlet Protection, Fabric Drop	Ea	44	$	$ -
01030.00	Tree Protection Fence	Ft	2,352	$	$ -
01040.00	Minor Traffic Control, Max. $30,000	LS	1	$	$ -
01050.00	Sign, Type B, Temp, Prismatic, Furn & Oper	Sft	252	$	$ -
01052.00	Temporary "No Parking" Sign	Ea	75	$	$ -
01080.00	Plastic Drum, High Intensity, Lighted, Furn & Oper *Contingency	Ea	30	$	$ -
01081.00	Channelizer Cone, High Intensity, 42 In., Furn & Oper *Contingency	Ea	20	$	$ -
01092.00	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn & Oper	Ea	28	$	$ -
01100.00	Pedestrian Type II Barricade, Temp, Furn & Oper	Ea	10	$	$ -
01101.00	Pedestrian Channelizer Device, Furn & Oper	Ea	10	$	$ -
01102.00	Temporary Pedestrian Ramp, Furn & Oper	Ea	2	$	$ -
01103.00	Temporary Pedestrian Mat, Furn & Oper	Ft	20	$	$ -
	Removals				
02000.01	Tree, Rem, 6 In. - 12 In.	Ea	6	$	$ -
02000.02	Tree, Rem, 13 In. - 19 In.	Ea	2	$	$ -
02020.00	HMA, Any Thickness, Rem	Syd	12,300	$	$ -
02020.70	Pavement, Any Thickness, Rem	Syd	361	$	$ -
02030.00	Curb, Gutter, and Curb and Gutter, Any Type, Rem	Ft	3,068	$	$ -
02040.00	Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem	Sft	1,069	$	$ -
02050.00	Sign, Rem, Salv	Ea	2	$	$ -
	Earthwork				
03001.71	DS_Sidewalk Grading	Syd	50	$	$ -
03001.72	DS_Driveway Grading	Syd	56	$	$ -
03001.73	DS_Roadway Grading, Harding Rd	Syd	1,980	$	$ -
03001.74	DS_Roadway Grading, Morton Ave	Syd	425	$	$ -

03001.75	DS_Roadway Grading, Weldon Blvd	Syd	4,450	$	$ -
03001.76	DS_Roadway Grading, Glastonbury Rd	Syd	5,650	$	$ -
03021.00	Subgrade Undercutting, Type II *Contingency	Cyd	100	$	$ -
03022.00	Subgrade Undercutting, Type III *Contingency	Cyd	200	$	$ -
03022.70	DS_High Production Undercutting *Contingency	Syd	2,000	$	$ -
03030.01	Exploratory Excavation, SD-TD-1, (0-10' Deep)	Ea	5	$	$ -
03040.00	Earth Excavation *Contingency	Cyd	10	$	$ -
	Sanitary Sewer				
04000.01	8 In., SDR 26 PVC Sanitary Sewer, SD-TD-2	Ft	517	$	$ -
04010.01	6 In., SDR 26 PVC Sanitary Sewer Wye	Ea	7	$	$ -
04014.01	6 In., SDR 26 PVC Sanitary Service Lead, SD-TD-2	Ft	110	$	$ -
04020.00	Pipe Undercut & Backfill, Sanitary *Contingency	Cyd	20	$	$ -
04030.71	DS_Sanitary Manhole, 48 In. Dia. (0-8' Deep)	Ea	5	$	$ -
04030.02	Sanitary Manhole, 48 In. Dia., Additional Depth	Ft	37.31	$	$ -
04040.03	Sanitary Manhole Drop Connection, 8 In.	Ft	12.18	$	$ -
04050.01	Sanitary Manhole Over Existing ("Doghouse"), 48 In. Dia.	Ea	2	$	$ -
04060.00	Sanitary Structure Cover	Ea	13	$	$ -
04061.00	Sanitary Structure Cover, Adjust	Ea	13	$	$ -
04070.01	Sanitary Sewer Pipe, 8 In. Dia., Abandon	Ft	165	$	$ -
04070.02	Sanitary Sewer Pipe, 4 In. Dia., Abandon	Ft	65	$	$ -
04090.00	Sanitary Sewer Structure, Abandon	Ea	2	$	$ -
	Sewer and Manhole Rehab				
05010.7	DS_Locate Sanitary Leads	Ft	3,000	$	$ -
	Storm and Drainage				
06000.01	12 In., CL IV RCP Storm Sewer, SD-TD-1	Ft	872	$	$ -
06030.04	Storm Sewer Tap, 12 In. Dia.	Each	2	$	$ -
06050.71	DS_Storm Manhole, 48 In. Dia. (0-8' deep)	Ea	2	$	$ -
06050.02	Storm Manhole, 48 In. Dia. , Additional Depth	Ft	0.37	$	$ -
06050.73	DS_Storm Manhole, 60 In. Dia. (0-8' deep)	Ea	1	$	$ -
06050.04	Storm Manhole, 60 In. Dia. , Additional Depth	Ft	0.75	$	$ -
06060.01	DS_Storm Inlet-Junction, 36 In. Dia., (0-8' deep)	Ea	2	$	$ -
06060.02	Storm Inlet-Junction, 36 In. Dia., Additional Depth	Ft	0.50	$	$ -
06070.71	DS_Storm Single Inlet, 24 In. Dia., (0-8' deep)	Ea	21	$	$ -
06080.71	DS_Storm High Capacity Inlet, 48 In. Dia., (0-8' deep)	Ea	7	$	$ -
06080.02	Storm High Capacity Inlet, 48 In. Dia., Additional Depth	Ft	4.24	$	$ -
06100.02	Storm Manhole Over Existing ("Doghouse"), 60 In. Dia.	Ea	1	$	$ -

06100.03	Storm Manhole Over Existing ("Doghouse"), 72 In. Dia.	Ea	1	$	$ -
06110.03	Storm Sewer Pipe, 12 In. Dia., Abandon	Ft	134	$	$ -
06120.03	Storm Sewer Pipe, 12 In. Dia., Rem	Ft	834	$	$ -
06130.00	Storm Sewer Structure, Abandon	Ea	1	$	$ -
06140.00	Storm Sewer Structure, Rem	Ea	33	$	$ -
06160.01	Storm Structure Cover	Ea	9	$	$ -
06160.02	Storm Structure Cover, Adjust	Ea	9	$	$ -
06182.02	Underdrain, Edge, 6 In.	Ft	240	$	$ -
06190.71	DS_Curb Drain, 6 In.	Ft	1,058	$	$ -
06200.01	Curb Drain, Tap	Ea	7	$	$ -
06210.01	Curb Drain, Cleanout	Ea	2	$	$ -
	Water Mains				
07000.02	6 In., PC 350 DIP w/polywrap, SD-TD-1	Ft	85	$	$ -
07000.03	8 In., PC 350 DIP w/polywrap, SD-TD-1	Ft	3,357	$	$ -
07000.05	12 In., PC 350 DIP w/polywrap, SD-TD-1	Ft	186	$	$ -
07010.01	6 In. 90° DIP Bend	Ea	1	$	$ -
07011.02	8 In. 45° DIP Bend	Ea	19	$	$ -
07011.03	8 In. 22.5° DIP Bend	Ea	11	$	$ -
07011.04	8 In. 11.25° DIP Bend	Ea	6	$	$ -
07013.01	12 In. 90° DIP Bend	Ea	1	$	$ -
07020.03	8 In. X 6 In. DIP Reducer	Ea	17	$	$ -
07020.08	12 In. X 6 In. DIP Reducer	Ea	1	$	$ -
07030.06	8 In. X 8 In. X 8 In. DIP Tee	Ea	14	$	$ -
07050.72	DS_Gate Valve in Box, 8 In.	Ea	6	$	$ -
07060.72	DS_Gate Valve in Well, 8 In.	Ea	9	$	$ -
07080.70	DS_Excavate & Backfill For Water Service Tap and Lead	Ft	651	$	$ -
07090.00	Water Structure Cover *Contingency	Ea	1	$	$ -
07091.00	Water Structure Cover, Adjust *Contingency	Ea	1	$	$ -
07100.00	Fire Hydrant Assembly, Complete	Ea	7	$	$ -
07102.00	Fire Hydrant Assembly, Rem	Ea	4	$	$ -
07110.01	Sacrificial Anode, 17-pound	Ea	7	$	$ -
07110.02	Sacrificial Anode, 32-pound	Ea	1	$	$ -
07120.00	Gate Box, Adjust *Contingency	Ea	1	$	$ -
07121.00	Curb Box, Adjust *Contingency	Ea	2	$	$ -
07121.70	DS_Curb Box, Abandon	Ea	2	$	$ -
07130.01	Temporary Water Main Line Stop, 8 In. or less	Ea	7	$	$ -

07131.00	Temporary Water Main Line Stop, Additional Rental Day	Ea	1	$	$ -
07141.71	DS_Water Main Pipe, Abandon, Harding Rd	LS	1	$	$ -
07141.72	DS_Water Main Pipe, Abandon, Weldon Blvd	LS	1	$	$ -
07141.73	DS_Water Main Pipe, Abandon, Glastonbury Rd	LS	1	$	$ -
07141.74	DS_Water Main Pipe, Abandon, Fifth Ave	LS	1	$	$ -
07160.01	Gate Valve in Box, 4 In. Dia., Abandon	Ea	1	$	$ -
07160.02	Gate Valve in Box, 6 In. Dia., Abandon	Ea	3	$	$ -
07180.02	Gate Valve in Well, 6 In. Dia., Abandon	Ea	10	$	$ -
	Streets, Driveways, & Sidewalks				
08000.00	Subbase, CIP	Cyd	8	$	$ -
08000.70	DS_Subbase, 10 In., Cl II, CIP	Syd	7,530	$	$ -
08010.02	Aggregate Base, 6 In., 21AA, CIP	Syd	36	$	$ -
08010.03	Aggregate Base, 8 In., 21AA, CIP	Syd	9,300	$	$ -
08060.00	Hand Patching	Ton	30	$	$ -
08070.14	HMA, 4EL	Ton	2,800	$	$ -
08110.00	Conc, Curb or Curb & Gutter, All Types	Ft	2,032	$	$ -
08120.01	Conc, Driveway Opening, Type M	Ft	1,126	$	$ -
08120.03	Conc, Driveway Opening, Type M, High Early *Contingency	Ft	100	$	$ -
08130.01	Conc, Sidewalk, 4 In.	Sft	600	$	$ -
08131.01	DS_Conc, Sidewalk, Drive Approach, or Ramp, 6 In.	Sft	625	$	$ -
08132.01	DS_Conc, Sidewalk, Drive Approach, or Ramp, 6 In., High Early *Contingency	Sft	100	$	$ -
08140.00	Brick Pavers, Sidewalk, Rem and Reinstall	Sft	60	$	$ -
08150.00	Detectable Warning Surface	Ft	30	$	$ -
08200.07	Pavt Mrkg, Polyurea, 12 In., Crosswalk	Ft	1,400	$	$ -
08200.09	Pavt Mrkg, Polyurea, 24 In., Stop Bar	Ft	33	$	$ -
08252.00	Recessing Pavt Mrkg, Transv	Sft	1,466	$	$ -
08300.00	Monument Box, Adjust *Contingency	Ea	2	$	$ -
	Landscaping				
10050.00	Underground Sprinkling System, Restore	Dlr	5,000	$ 1.00	$ 5,000.00
10060.00	Turf Restoration	Syd	230	$	$ -
	Total Estimated Cost			**$**	**45,000.00**

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PROJECT SCHEDULE AND PAYMENT

Description

Examination of Plans, Specifications, and Work Site

Bidders shall 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 shall 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.

The entire work under this Contract shall be completed in accordance with, and subject to, the scheduling requirements as outlined below, and all other requirements of the Contract Documents.

1. The Contractor shall begin the work of this project on or before **April 7, 2025**, and only upon receipt of the fully executed Contract and Notice to Proceed. Appropriate time extensions shall be granted if the Notice to Proceed is delayed beyond this date.

2. This Contract requires water main, storm sewer, sanitary sewer, sidewalk ramps, road resurfacing and restoration, in three (3) locations: S Fifth Ave (Packard to E Jefferson); Harding Road (Morton to Wallingford); and Weldon Boulevard (Covington to Waverly) & Glastonbury Road (entirety). Contractor shall not be actively working on more than one project location, unless otherwise approved by the Engineer.

3. S Fifth Ave will be resurfaced by the City of Ann Arbor's Annual Resurfacing Program; work must be coordinated. Contractor shall give two weeks' notice before start of work on S Fifth Ave, anticipated to be on or around April 28, 2025.

4. All water main and storm sewer work on S Fifth Ave shall be completed and backfilled and aggregate base course shall be placed, graded, and compacted within **thirty (30) consecutive calendar days** but no later than **May 30, 2025.**

5. Weldon Blvd and Glastonbury Rd shall be substantially complete within **one hundred ten (110) consecutive calendar days.**

6. Harding Rd shall be substantially complete within **seventy-five (75) consecutive calendar days.**

7. Sanitary sewer leads shall be televised and located prior to commencement of work on each street as indicated in the Detailed Specification for Locate Sanitary Leads; this shall not count against work limits listed above.

8. Contractor shall maintain access for local traffic and shall maintain a drivable surface in all proposed roadways where not actively working.

9. Contractor shall sequence the water main, sanitary sewer, and storm sewer installation in a way that does not interrupt service of other utilities.

10. Contractor shall provide all necessary sewer flow control to maintain flow at all existing sewer crossings, connections and lead transfers.

11. No work shall be performed during Holiday weekends as follows, unless approved by the City of Ann Arbor:

    - Memorial Day, from 3:00 p.m. Friday May 23, 2025, through 7:00 a.m. Tuesday May 27, 2025
    - Fourth of July, from 3:00 p.m. Thursday July 3, 2025, through 7:00 a.m. Monday July 7, 2025
    - Labor Day, from 3:00 p.m. Friday August 29, 2025, through 7:00 a.m. Tuesday September 2, 2025

12. No work shall be performed during University of Michigan home football games, unless approved by the Engineer.

13. No work shall be performed on S Fifth Ave during Ann Arbor Art Fair, July 17-19, 2025.

City Council approval is expected on or before **March 3, 2025**. The Contractor shall not begin the work without approval from the Project Engineer, and in no case before the receipt of the Notice to Proceed.

Contractor will be furnished with an electronic copy of the Contract, for his/her execution, before the aforementioned City Council meeting. The Contractor shall properly execute the Contract and return it, with the required Bonds and Insurance Certificate, to the City within **ten (10) days.**

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. Should the Contractor demonstrate that they must work on some 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.

Prior to the start of any construction, the Contractor shall submit a detailed schedule of work for the Engineer's review and approval. Work shall not be started 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 shall update the approved work schedule upon request by the Engineer and present it to the Engineer within seven days of said request.

Liquidated Damages

Failure to complete all work as specified herein within the times specified herein, including time extensions granted thereto as determined by the Engineer, shall entitle the City to deduct from the payments due the Contractor, **$2,000.00** in Liquidated Damages, and not as a penalty, for

delays in the completion of the work for each and every calendar day beyond the times for each sub-phase, as required by this Detailed Specification.

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.

Measurement and Payment

If the construction Contract is not completed within the specified calendar day period including any extensions of time granted thereto, at the sole discretion of the City of Ann Arbor, this Contract may be terminated with no additional compensation due to the Contractor, and the Contractor may be forbidden to bid on future City of Ann Arbor projects for a period of at least three (3) years. If the Engineer elects to terminate the Contract, Contract items paid for on a Lump Sum basis shall be paid up to a maximum percentage equal to the percentage of the Contract work that has been completed.

Costs for the Contractor to organize, coordinate, and schedule all of the work of the project, will not be paid for separately, but shall be included in the bid price of the Contract Item "General Conditions, Max $_____".

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
GRADING

AA:TCA 1 of 2 1/10/25

Description

This work shall consist of furnishing all labor, tools, equipment, and material to shape and prepare all subgrade, and/or base layers to remain to grades and cross sections indicated on the Plans or as directed by the Engineer. This work shall be performed in accordance with 2024 Public Services Standard Specifications Article 10, Section III.G., except as specified herein.

Construction

It is the responsibility of the contractor to notify residents of road and/or driveway inaccessibility due to construction activity. The contractor shall provide written notice at least 24 hours prior to a disturbance estimated to last longer than six (6) hours. The written notice template shall be approved by the Engineer. The contractor shall verbally notify residents at least the day before if their driveway will be inaccessible for less than six (6) hours.

Access to driveways shall not be interrupted for more than ten (10) days, unless approved by the Engineer.

The contractor shall minimize the disturbance and curb removal on Harding Road by using a trench box, or approved equal, for sanitary and water main installation.

Restore and establish turf to limits of disturbance.

The site and trenches shall be kept free of trash and debris. The Contractor shall provide and maintain trash receptacles for workers, as directed by the Engineer. No trash is permitted to be buried onsite.

After all associated removals, the remaining subgrade, subbase, or aggregate base course shall be shaped and prepared to the grades and cross-sections indicated on the plans, including excavation, removal, and offsite disposal of any surplus material. The remaining course shall be proof rolled in areas no wider than 15 feet. The proof rolled course shall be inspected by the Engineer.

Following the proof roll, the remaining areas shall be fine graded.

Areas of insufficient soils shall be undercut as directed by the Engineer.

All other work shall be performed to prepare for the placement of the subsequent course and must be approved by the Engineer.

Measurement And Payment

The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	Pay Unit
DS_Sidewalk Grading	Square Yards
DS_Driveway Grading	Square Yards
DS_Roadway Grading, _____	Square Yards

DS_Sidewalk Grading will be measured in the unit above for the area of required subbase for new sidewalk and new sidewalk ramps. This item shall be paid when grading of the subgrade is complete.

DS_Driveway Grading will be measured in the unit above for the area of required aggregate base for new driveways, including new sidewalk through driveways. This item shall be paid when final grading of the subgrade is complete.

DS_Roadway Grading, _____ will be measured in the unit above for the area disturbed to construct the associated roadway and new curb. Area will be measured from the edge of metal of remaining curb to 1 foot beyond the back of new curb. This item shall be paid when final grading of remaining subgrade and/or aggregate base is complete.

Areas where the existing grade is to be cut to achieve the proposed subgrade elevation (cut-sections) will not be paid for separately. The removal and offsite disposal of cut- section materials required to meet specified grades and cross sections shall be included in **DS_ _____ Grading, _____**.

Restoration and turf establishment of disturbed areas shall be paid for as **Project Clean-up and Restoration**.

Payment of new subbase and/or aggregate base shall include the fine grading of each associated course and shall be paid when final grading is complete.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
LOCATE SANITARY LEADS

Description

This work shall consist of furnishing all labor, tools, equipment, and material to located and mark existing sanitary sewer leads within the project limits and where directed by the Engineer. This work shall be performed in accordance with performed in accordance with 2024 Public Services Standard Specifications Article 2 and Article 10, Section II.X., as shown on the plans, and as specified herein.

Construction

Prior to construction, and as indicated below, the contractor shall televise the sanitary sewer main and service leads in the influence of the project to determine location and depth of sanitary sewer leads. Coordinate work with the Engineer. Notify the Engineer at least one week before work is to commence. The City will notify residents at least 48 hours prior to work.

The locations of the leads shall be marked with spray paint and/or flags. Use a lateral launch camera with a transmitter to determine the approximate depth underground via sonar where required. The City will survey the marks as needed. It is the responsibility of the contractor to maintain the lead location marks throughout construction and to take care when excavating within the vicinity of the leads.

CCTV videos, PACP reports, and GIS maps will be provided for sanitary mains in the project area prior to work.

Specifics for each location are as follows:

Harding Rd – **At least thirty (30) days prior to commencement of work**, the contractor shall locate and estimate depth of the sanitary service leads for 1510 and 1521 Harding Road from the main to within 10 feet of the house. Record depth of leads every 25 feet and mark on the ground where each depth was measured. Provide the videos and depths to the Engineer.

1510 Harding Rd is tapped on Wallingford Rd at 63.8 ft going downstream of manhole 71-69804. 1521 is tapped in private manhole 71-69808 and the private 4” lead is tapped into city manhole 71-69804.

Morton Ave – Prior to work, locate and mark leads indicated on the plans within the proposed sanitary sewer trench limits. Record depths of leads and risers. Provide the videos and depths to the Engineer.

Weldon Blvd, Glastonbury Rd, and Fifth Ave – Prior to work, locate and mark leads that cross utility trenches as indicated on the plans. The leads shall be televised from the main to the ROW boundary. Provide the videos to the Engineer.

Measurement and Payment

The completed work as measured will be paid for at the contract unit prices for the following Contract items (pay items):

Pay Item	Pay Unit
DS_Locate Sanitary Leads.	Linear Foot

Measurement for **DS_Locate Sanitary Leads** shall be in linear foot of sewer main and located leads. Payment includes all labor, material and equipment needed to televise, locate, determine depth, and mark sanitary sewer lead as indicated on the plans. Work also includes providing the associated deliverables to the Engineer and maintaining the markings throughout construction.

No payment will be made for the repair a marked sanitary lead that is damaged during construction.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
UTILITY STRUCTURES

Description

This work shall consist of furnishing all labor, tools, equipment, and material to construct drainage structures in accordance with 2024 Public Services Standard Specifications Article 2, 3, and 4 and Article 10, Section II.S., as shown on the plans, and as specified herein.

Materials

Structure cover, as specified on the plans.

For high-capacity inlet covers use EJ 7035Z frame with 7030 T1 hood and 7030 M2 grate.

Measurement and Payment

The completed work, as described, will be measured and paid for at the approved price for the following pay item:

Pay Item	Pay Unit
DS_Sanitary Manhole, __ In. Dia. (0-8' deep)	Each
DS_Storm Manhole, __ In. Dia. (0-8' deep)	Each
DS_Storm Inlet-Junction, __ In. Dia., (0-8' deep)	Each
DS_Storm Single Inlet, __ In. Dia., (0-8' deep)	Each
DS_Storm High Capacity Inlet, __ In. Dia., (0-8' deep)	Each
DS_Gate Valve in Well, __ In.	Each
DS_Gave Valve in Box, __ In.	Each

Payment for the structure frame and cover, as specified, and the adjustment of structure covers shall be included in payment for the structure and shall not paid for separately.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
HIGH PRODUCTION UNDERCUTTING

Description

This work shall consist of furnishing all labor, tools, equipment, and material to shape and prepare all subgrade and install aggregate base as directed by the Engineer. This work shall be performed in accordance with 2024 Public Services Standard Specifications Article 10, Section III.G., except as specified herein.

Construction

After the remaining subgrade, subbase, or aggregate base course is proof rolled and inspected by the Engineer, as specified, undercuts shall be performed as directed by the Engineer.

Areas of insufficient soils larger than 200 square yards shall be replaced with 8 inches of aggregate base, 15 feet wide. Areas of insufficient soils smaller than 200 square yards and/or less than 15 feet wide, shall be undercut to a depth determined by the Engineer.

Measurement And Payment

The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	Pay Unit
DS_High Production Undercutting	Square Yards

DS_High Production Undercutting will be measured in the unit above for the area of required undercutting no less than 200 square yards per area, as directed by the Engineer. Payment shall include all labor, equipment, and material necessary to remove and properly dispose of excess material and place, compact, and fine grade 8 inches of 21AA aggregate. Work shall be paid when final grading is complete.

All quantity is contingency and not guaranteed to be utilized.

MATERIALS TESTING CONSULTANTS

REVISED GEOTECHNICAL DATA PACKAGE

2025 STREET RESURFACING

ANN ARBOR, MICHIGAN

Prepared For:

CITY OF ANN ARBOR

Ann Arbor, Michigan

Prepared By:

MATERIALS TESTING CONSULTANTS, INC.

October 2024

MTC Project No. 241423 Rev. 1

October 18, 2024
Project No. 241423 Rev. 1

City of Ann Arbor
Guy C. Larcom City Hall
301 E. Huron, 4th Floor
Ann Arbor, Michigan 48107

Attention: Andrea Wright

Reference: Revised Geotechnical Data Package
2025 Street Resurfacing
Ann Arbor, Michigan

Dear Ms. Wright:

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 for streets associated with the 2025 street resurfacing program. The report was revised in response to review comments received from the City of Ann Arbor on October 11, 2024. This work has been performed as described in our proposal dated June 17, 2024, and in accordance with our active City of Ann Arbor contract for Geotechnical and Environmental Services.

Presented herein are descriptions of our understanding of the design considerations, 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:

- A set of maps with associated requested boring locations, received from Ms. Andrea Wright of the City of Ann Arbor on June 13, 2024.
- A map with additional soil borings along East Ann Street, received from Ms. Andrea Wright of the City of Ann Arbor on August 16, 2024.
- A map with additional soil borings along South Fifth Street, received from Ms. Andrea Wright of the City of Ann Arbor on August 19, 2024
- Telephone and email conversations with Ms. Andrea Wright of the City of Ann Arbor regarding the scope of geotechnical investigation, including removal of South University Avenue from the project scope.

The areas of investigation are shown in Figure Nos. 1 to 10. The investigation was located along 15 streets within the City of Ann Arbor, and a full list of explored locations is provided in

the data table of the Appendix. We understand the investigated roads are candidates for resurfacing in the 2025 season.

INVESTIGATION METHODOLOGY

Field Investigation

Pavement cores, hand auger borings and sampling along with field engineering reconnaissance were used to investigate the subsurface conditions. Boring locations are shown on the attached plans, Figure Nos. 1 to 10. Investigation procedures, soil classification information and boring logs are provided in the Appendix.

Number of Borings	47
Boring Depth Range, ft.	0.7 to 5

MTC staked the approximate boring locations in the field. Boring elevations were approximated from the Washtenaw County GIS. The elevations used in this report are given in feet and are based on NAVD88 datum, with boring locations noted on the logs based on offsets from physical reference points. If more precise location and elevation data are desired, a registered professional land surveyor should be retained to locate the borings and determine their ground elevations.

The drilling was performed using hand auger equipment to advance the boreholes through pavement cores. The boreholes were backfilled to the original ground surface after drilling completion and patched at the surface with asphalt cold patch.

Recovered samples were sealed, labeled and transported to our laboratory. All soil samples will be discarded after sixty days unless a longer hold time is specifically requested.

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.

Laboratory

The recovered soil samples were reviewed by an engineer and technically classified according to the methods of ASTM D2488 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)". Estimates of the unconfined compressive strength of the cohesive samples were made using a calibrated penetrometer. A copy of the test boring logs along with a description of the terminology used on the logs and a chart of the ASTM D2488 group symbol names are provided in the Appendix. Selected samples were subjected to various laboratory tests, including:

- ASTM D2216 "Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass"
- ASTM D2974 "Test Methods for Determining the Water (Moisture) Content, Ash Content, and Organic Material of Peat and Other Organic Soils"

A summary table of the soil conditions, laboratory moisture results 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 summaries of 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.

Groundwater was only encountered in SB2025-039 at a depth of 3.9 ft. 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.

Subsurface Conditions

Independence Boulevard from Packard Street to Essex Road – Borings SB2025-001 to SB2025-006

Borings SB2025-001 to SB2025-005 generally encountered 3 to 3 ¼ inches of HMA, while Boring SB2025-006 encountered 6 inches of HMA. Borings SB2025-001 to SB2025-003, SB2025-005 and SB2025-006 generally encountered 9 to 15 inches of gravel base. Boring SB2025-004 encountered 6 ¾ inches of gravel base before meeting shallow refusal within the gravel base. Beneath the surficial materials, Borings SB2025-001, SB2025-002, SB2025-005 and SB2025-006 generally encountered poorly graded sand with varying amounts of clayey fines (SP, SP-SC, SC) to the explored depths of 2.3 to 5 ft, with the exception

of a layer of lean clay with sand (CL) encountered in Boring SB2025-005 at depths ranging from 2 to 4 ft. Boring SB2025-003 encountered sandy lean clay (CL) to the explored depth of 3.8 ft.

Essex Road from Independence Boulevard to Colony Road – Borings SB2025-007 to SB2025-008

Borings SB2025-007 and SB2025-008 generally encountered 2 ¾ to 3 inches of HMA and 12 to 20 inches of gravel base. Beneath the pavement sections, Boring SB2025-007 encountered lean clay with sand (CL) to the explored depth of 2.2 ft and Boring SB2025-008 encountered poorly graded sand (SP) to the explored depth of 5 ft.

Ferdon Road from East Stadium Boulevard to Crestland Drive – Borings SB2025-009 to SB2025-012

Borings SB2025-009 to SB2025-012 generally encountered 3 to 5 ½ inches of HMA overlying 10 to 15 inches of gravel base. Boring SB2025-012 encountered 16 inches of gravel base before meeting shallow refusal within the gravel base. Beneath the pavement sections, Borings SB2025-009 and SB2025-010 generally encountered lean clay with sand (CL) to the explored depths of 2 ft and Boring SB2025-011 encountered poorly graded sand (SP) to the explored depth of 1.5 ft.

Steele Place from South Boulevard to Brockman Boulevard – Borings SB2025-013 and SB2025-014

Borings SB2025-013 and SB2025-014 generally encountered 2 inches of HMA and 15 to 16 inches of gravel base. Beneath the pavement sections, the borings generally encountered poorly graded sand with varying amounts of clayey fines (SP, SC) to the explored depths of 2 to 2.3 ft.

Devolson Avenue from Brockman Boulevard to Anderson Avenue – Borings SB2025-015 and SB2025-016

Borings SB2025-015 and SB2025-016 generally encountered 5 to 6 inches of HMA and 7 to 12 inches of gravel base. Beneath the pavement sections, the borings generally encountered clayey sand (SC) to the explored depths of 2.2 to 2.5 ft.

Gladstone Avenue from Columbia Avenue to Packard Road – Borings SB2025-017 to SB2025-019

Borings SB2025-017 to SB2025-019 generally encountered 3 to 3 ¼ inches of HMA overlying 15 inches of gravel base. Boring SB2025-018 encountered 9 inches of gravel base before meeting shallow refusal within the gravel base. Beneath the pavement sections, Borings

SB2025-017 and SB2025-019 generally encountered poorly graded sand with varying amounts of clayey fines (SP-SC, SC) to the explored depths of 2.1 to 2.2 ft.

Carhart Avenue from Winchell Drive to Crestland Drive – Borings SB2025-020 to SB2025-022

Borings SB2025-020 to SB2025-022 generally encountered 4 to 4 ¾ inches of HMA and 13 to 18 inches of gravel base. Beneath the pavement sections, Borings SB2025-020 to SB2025-022 generally encountered lean clay (CL) to the explored depths of 1.6 to 5 ft. A layer of dark brown lean clay (CL) with organic odor and organic content of 8.3 percent was encountered in Boring SB2025-020 from 1.5 to 3 ft depth.

Anderson Avenue from Ferdon Road to Carhart Avenue – Borings SB2025-023 to SB2025-025

Borings SB2025-023 to SB2025-025 generally encountered 3 ½ to 4 inches of HMA and 10 to 15 inches of gravel base. Beneath the pavement sections, Borings SB2025-024 and SB2025-025 generally encountered lean clay (CL) to the explored depths of 1.9 to 2.4 ft and SB2025-023 encountered clayey sand (SC) to the explored depth of 2 ft.

Gloucester Way from Oakwood Street to Norwood Street – Borings SB2025-026 to SB2025-028

Borings SB2025-026 to SB2025-028 generally encountered 4 to 5 ¼ inches of HMA and 7 to 10 inches of gravel base. Beneath the pavement sections, Borings SB2025-026 to SB2025-028 generally encountered lean clay (CL) and clayey sand (SC) to the explored depths of 3.8 to 5 ft. Boring SB2025-027 encountered lean clay (CL) and clayey sand (SC) to a depth of 3 ft and silty sand (SM) to the explored depth of 3.2 ft.

Old Boston Court – Boring SB2025-029

Boring SB2025-029 encountered 4 inches of HMA and 10 inches of gravel base. Beneath the pavement section, the boring encountered fill, consisting of sandy lean clay (CL), to a depth of 3 ft and native sandy lean clay (CL) to the explored depth of 3.4 ft.

Washtenaw Service Drive from South Huron Parkway to Pittsfield Boulevard – Borings SB2025-030 to SB2025-033

Borings SB2025-030 to SB2025-033 generally encountered 3 ½ to 6 ½ inches of HMA and 7 to 11 inches of gravel base. Beneath the pavement sections, Boring SB2025-031 encountered fill, consisting of poorly graded sand with silt (SP-SM) to a depth of 1.3 ft. Beneath the pavement sections and fill, Borings SB2025-031, SB2025-032 and SB2025-033 generally encountered lean clay (CL) to the explored depths of 1.4 to 5 ft, while Boring

SB2025-030 encountered poorly graded sand with silt and gravel to the explored depth of 5 ft.

LaSalle Drive from St. Aubin Avenue to LeFere Street – Boring SB2025-036

Boring SB2025-036 encountered 4 ½ inches of HMA over 3 inches of gravel base. Beneath the pavement section, the boring encountered very stiff sandy lean clay (CL) to the explored depth of 1.8 ft.

Creek Drive from Belvidere Street to LeFere Street – Boring SB2025-037

Boring SB2025-037 encountered 3 ½ inches of HMA over 9 inches of gravel base. Beneath the pavement section, the boring encountered lean clay (CL) to the explored depth of 4.7 ft.

Belvidere Drive from Lorraine Street to Creek Drive – Borings SB2025-038 and SB2025-039

Borings SB2025-038 and SB2025-039 generally encountered 3 to 4 inches of HMA and 11 inches of gravel base. Beneath the pavement sections, Boring SB2025-039 encountered fill, consisting of lean clay (CL), to a depth of 3.9 ft, poorly graded sand (SP) to 4.5 ft and lean clay to the explored depth of 5 ft. Boring SB2025-038 encountered lean clay (CL) to the explored depth of 5 ft. Groundwater was encountered in Boring SB2025-039 at a depth of 3.9 ft.

South Fifth Avenue from East Williams Street to East Madison Avenue – Borings SB2025-042 to SB2025-044, SB2025-051 and SB2025-052

Borings SB2025-042 to SB2025-044, SB2025-051 and SB2025-052 encountered the following pavement sections.

Boring No.	HMA (in.)	Concrete (in)	Gravel Base (in)
SB2025-042	7 1/2	-	12
SB2025-043	6	-	11
SB2025-044	2 1/2	7 1/2	-
SB2025-050	3	7	8
SB2025-051	5	5	12

Beneath the pavement sections, Borings SB2025-043, SB2025-044 and SB2025-051 generally encountered poorly graded sand with varying amounts of clayey and silty fines (SP-SM, SC, SM) to the explored depths of 1.6 to 5 ft, while Boring SB2025-050 encountered poorly graded gravel (GP) to the explored depth of 2.5 ft and Boring SB2025-042 encountered poorly graded sand with silt (SP-SM) to a depth of 1.9 ft and gravelly lean clay (CL) to the explored depth of 2.3 ft.

East Ann Street from Observatory Street to Zina Pitcher Place – Borings SB2025-045 to SB2025-050

Borings SB2025-045 to SB2025-050 generally encountered 4 ¾ to 6 ½ inches of HMA. Borings SB2025-045, SB2025-046 and SB2025-048 generally encountered 10 to 12 inches of gravel base beneath the HMA, while Boring SB2025-047 encountered 6 inches of concrete. Boring SB2025-050 encountered shallow hand auger refusal within the gravel base and encountered only 3 inches of gravel base.

Beneath the pavement sections, Boring SB2025-045 encountered fill, consisting of poorly graded sand with silt (SP-SM) to a depth of 2.3 ft. Beneath the pavements and fill, Borings SB2025-045 and SB2025-046 encountered poorly graded sand with varying amounts of silty and clayey fines (SP-SC, SP-SM), while Borings SB2025-047 and SB2025-048 generally encountered lean clay (CL) and clayey sand (SC) to the explored depths of 3.1 to 5 ft.

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.

CLOSURE

In this data package, descriptions of the geotechnical investigation and encountered conditions have been presented. The limitations of this study are described in the Appendix.

We appreciate this opportunity to provide this service to you on this project. Please contact our office should you have any questions or require further assistance.

Sincerely,

MATERIALS TESTING CONSULTANTS, INC.

Ryan D. Starcher, P.E.
Project Manager

Robert J. Warren, P.E.
Senior Project Manager

Attachments: Figure Nos. 1 to 10 - Boring Location Plans
Table 1 – Summary of Investigation Results
Appendix
- Limitations
- Test Drilling and Sampling Procedures
- Boring Log Terminology and Classification Outline
- Boring Logs
- Summary of Laboratory Test Data
- Core Photograph Log

TITLE: BORING LOCATION PLAN			PROJECT: CITY OF ANN ARBOR 2025 RESURFACING PAVEMENT CORING
SCALE: AS	DATE: 10/18/2024	PROJECT NO.: 241423	MTC MATERIALS TESTING CONSULTANTS
FIG. NO.: 8	DR. BY: RS	REV. BY: RW	

Table 1 - Summary of Investigation Results, Continued

Street Name	Limits	Borings	Asphalt Thickness (inches)	Base Thickness and Description	Subgrade Soils	Estimated Resilient Modulus, psi	Laboratory Results - Moisture, %
Old Boston Court	Platt Road	SB2025-029	4	10" Gravel	Sandy lean clay (CL) to 3.0 ft (Fill), sandy lean clay (possible bureid clayey topsoil) to 3.4 ft	CL: 3,700 - 5,100	CL: 13.2 to 20.1
Washtenaw Service Dr	South Huron Parkway to Pittsfield Blvd	SB2025-030 to SB2025-033	3 1/2 to 6 1/2	7" to 11" Gravel	SB2025-030: Poorly graded sand with silt and gravel (SP-SM) to 5 ft SB2025-031: Poorly graded sand with silt (SP-SM) to 1.3 ft (Fill), sandy lean clay with gravel (CL) to 1.4 ft SB2025-032, SB2025-033: Lean clay (CL) to 3 to 5 ft	SP-SM: 5,900 - 8,100 CL: 3,700 - 5,100	CL: 16.1 to 18.3
LaSalle Dr	St Aubin Ave to LeFere St	SB2025-036	4 1/2	3" Gravel	Sandy lean clay (CL) to 1.8 ft	CL: 3,700 - 5,100	CL: 16.0
Creek Drive	Belvidere St to Lorraine St	SB2025-037	3 1/2	9" Gravel	Lean clay (CL) to 4.7 ft	CL: 3,700 - 5,100	CL: 13.4 to 17.6
Belvidere Drive	Lorraine St to Creek Dr	SB2025-038, SB2025-039	3 to 4	11" Gravel	SB2025-038: Lean clay (CL) to 5 ft SB2025-039: Lean clay (CL) to 3.9 ft (Fill), poorly graded sand (SP) to 4.5 ft, lean clay (CL) to 5 ft	SP: 5,500 - 7,500 CL: 3,700 - 5,100	CL: 16.4 to 25.1
South Fifth Avenue	East William St to East Madison Ave	SB2025-042 to SB2025-044, SB2025-050, SB2025-051	6 to 7 1/2 SB2025-044: 2 1/2 SB2025-051: 3 SB2025-052: 5	11 to 12" Gravel. SB2025-044: 7 1/2" Concrete SB2025-051: 7" Concrete, 8" Gravel SB2025-052: 5" Concrete, 12" Gravel	SB20225-042: Poorly graded sand with silt (SP-SM) to 1.9 ft, gravelly lean clay (CL) to 2.3 ft SB2025-043: Poorly graded sand with silt and gravel (SP-SM) to 1.6 ft SB2025-044: Clayey sand (SC) to 1.5 ft, silty sand (SM) to 2 ft SB2025-051: Poorly graded gravel (GP) to 2.5 ft SB2025-052: Poorly graded sand with silt (SP-SM) to 3.5 ft, clayey sand (SC) to 4.2 ft, poorly graded sand with silt (SP-SM) to 5 ft	SP-SM: 5,900 - 8,100 CL: 3,700 - 5,100 SC: 3,700 - 5,100	SC: 8.4 to 20.8
East Ann St	Observatory St to Zina Pitcher Pl	SB2025-045 to SB2025-050	4 3/4 to 6 1/2	SB2025-045, SB2025-046 and SB2025-048: 10" to 12" Gravel SB2025-047: 6" Concrete SB2025-050 refusal within gravel base at 3"	SB2025-045: Poorly graded sand with silt (SP-SM) to 2.3 ft (Fill), poorly graded sand with silt and gravel (SP-SM) to 2.8 ft SB2025-046: Poorly graded sand with clay (SP-SC) to 3.2 ft SB2025-047: Lean clay (CL) to 2.5 ft, silty sand (SM) to 3.7 ft, clayey sand (SC) to 4.7 ft, lean clay (CL) to 5 ft SB2025-048: Clayey sand (SC) to 2.6 ft, lean clay with sand (CL) to 3.1 ft SB2025-050: None	SP-SM: 5,900 - 8,100 SP-SC: 3,700 - 5,100 CL: 3,700 - 5,100 SM: 4,400 - 6,000 SC: 3,700 - 5,100	CL: 14.7 to 22.5 SC: 17.9 to 20.8

APPENDIX

- Limitations
- Test Drilling and Sampling Procedures
- Boring Log Terminology and Classification Outline
- Boring Logs
- Summary of Laboratory Test Data
- Core Photograph Log

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)
- [X] Grab Samples

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.

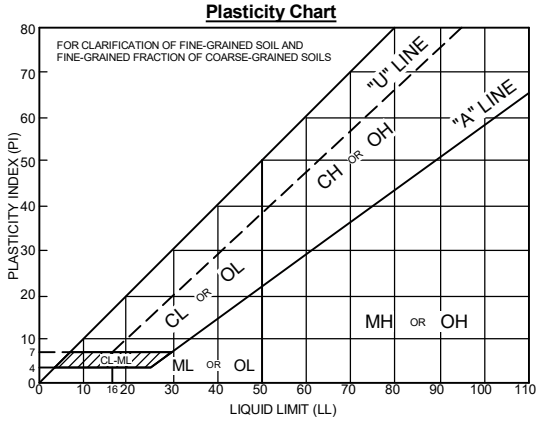
Gravel: $C_U = \frac{D_{60}}{D_{10}}$ greater than 4; $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3

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.: 241423
Boring No.: SB2025-042
Sheet: 1 of 1

Project: 2025 Street Resurfacing Pavement Coring
Client: City of Ann Arbor
Location: Ann Arbor, Michigan
Drill Type: Hand Auger
Crew Chief: Field Eng.: JV Rev. By: RS
Coordinates:
Elevation: 854ft Datum: Washtenaw County GIS
Notes: S. 5th Ave.; 45'N of 403 S 5th Ave Driveway Centerline, 2'W of East Curb
Plugging Record: Backfilled borehole with compacted cuttings, patched pavement with cold patch.

Date Begin: 09/04/2024 Date End: 09/04/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

Depth Drilled: 2.3 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
	0.25					7 1/2" HMA				
	0.50	A-1				0.7				
	0.75					12" Gravel Base				
	1.00					1.6				
	1.25	A-2			SP-SM	Brown poorly graded SAND with silt; mostly coarse to fine sand, few silty fines, trace fine gravel, moist				
	1.50					1.9				
	1.75				CL	Brown gravelly lean CLAY; mostly clayey fines, some coarse to fine gravel, few coarse to fine sand, moist				
	2.00	A-3				2.3				
	2.25					End of Boring				Hand auger refusal at 2.3' 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.: 241423
Boring No.: SB2025-043
Sheet: 1 of 1

Project: 2025 Street Resurfacing Pavement Coring
Client: City of Ann Arbor
Location: Ann Arbor, Michigan
Drill Type: Hand Auger
Crew Chief: Field Eng.: JV Rev. By: RS
Coordinates:
Elevation: 854ft Datum: Washtenaw County GIS
Notes: S. 5th Ave.; 28'S of 425 S 5th Ave Driveway Centerline, 3'W of East Curb
Plugging Record: Backfilled borehole with compacted cuttings, patched pavement with cold patch.

Date Begin: 09/03/2024 Date End: 09/03/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

Depth Drilled: 1.6 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
	0.25					6" HMA				
	0.50	A-1				0.5				
	0.75					11" Gravel Base				
	1.00									
	1.25									
	1.50	A-2				1.4				
					SP-SM	Brown poorly graded SAND with silt and gravel; mostly coarse to fine sand, few silty fines, few coarse to fine gravel, moist 1.6				Hand auger refusal at 1.6' due to possible coarse gravel / COBBLE
						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.: 241423
Boring No.: SB2025-044
Sheet: 1 of 1

Project: 2025 Street Resurfacing Pavement Coring
Client: City of Ann Arbor
Location: Ann Arbor, Michigan
Drill Type: Hand Auger
Crew Chief: Field Eng.: JV Rev. By: RS
Coordinates:
Elevation: 854ft Datum: Washtenaw County GIS
Notes: S. 5th Ave.; 13'N of 515 S 5th Ave Driveway Centerline, 6'W of East Curb
Plugging Record: Backfilled borehole with compacted cuttings, patched pavement with cold patch.

Date Begin: 09/09/2024 Date End: 09/09/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

Depth Drilled: 2.0 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
	0.25					2 1/2" HMA 0.2				
	0.50					7 1/2" Concrete				
	0.75					0.9		20.8		
	1.00									
	1.25	A-1			SC	Brown clayey SAND; mostly coarse to fine sand, some clayey fines, moist				
	1.50					1.5				
	1.75				SM	Brown silty SAND; mostly coarse to fine sand, some silty fines, few coarse to fine gravel, moist				
	2.00					2.0				
						End of Boring				Auger refusal at 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.

SUMMARY OF LABORATORY TEST DATA

Boring Number	Sample No.*	Sample Depth (ft)	Sample Description (USCS Symbol)	Organic Content (%)	Natural Moisture Content (%)
SB2025-002	A-2	2.25-2.5	SC		9.7
SB2025-003	A-2	2.5-2.75	CL		10.2
SB2025-005	A-1	1.25-1.5	SC		14.8
SB2025-005	A-2	2-2.25	CL		17.5
SB2025-007	A-1	2-2.25	CL		16.6
SB2025-009	A-1	1.5-1.75	CL		9.4
SB2025-010	A-1	1.5-1.75	CL		13.8
SB2025-014	A-1	1.5-1.75	SC		11.1
SB2025-015	A-1	1.5-1.75	SC		9.5
SB2025-016	A-1	1-1.25	SC		11.0
SB2025-019	A-1	1.5-1.75	SC		11.5
SB2025-020	A-1	1.5-1.75	CL	8.4	32.9
SB2025-020	A-2	3-3.25	CL		22.6
SB2025-021	A-1	1.5-1.75	CL		13.2
SB2025-022	A-1	1.75-2	CL		15.0
SB2025-023	A-1	1.25-1.5	SC		11.8
SB2025-024	A-1	1.25-1.5	CL		14.5
SB2025-025	A-1	1.5-1.75	CL		11.4
SB2025-026	A-2	1.75-2	CL		18.8
SB2025-026	A-3	4.75-5	CL		15.5
SB2025-027	A-2	1.5-1.75	CL		16.4
SB2025-027	A-3	2-2.25	SC		10.9
SB2025-028	A-1	1-1.25	CL		6.3
SB2025-028	A-2	1.75-2	SC		14.6
SB2025-028	A-3	2.75-3	CL		7.4
SB2025-029	A-2	1.25-1.5	CL		13.2
SB2025-029	A-3	3-3.25	CL	2.3	20.1
SB2025-032	A-1	1.5-1.75	CL		18.3
SB2025-033	A-1	1.5-1.75	CL		16.1
SB2025-036	A-1	1.25-1.5	CL		16.0
SB2025-037	A-2	1-1.25	CL		13.8
SB2025-037	A-3	1.75-2	CL		17.6
SB2025-037	A-4	4.25-4.5	CL		13.4
SB2025-038	A-2	1.25-1.5	CL		19.5
SB2025-038	A-3	3.75-4	CL		22.1
SB2025-039	A-2	2.25-2.5	CL		16.4
SB2025-039	A-3	3.5-3.75	CL	2.5	25.1
SB2025-039	A-5	4.75-5	CL		18.5
SB2025-044	A-1	1-1.25	SC		20.8
SB2025-047	A-1	1.75-2	CL		17.8
SB2025-047	A-3	3.75-4	SC		20.8
SB2025-047	A-4	4.75-5	CL		22.5
SB2025-048	A-2	1.5-1.75	SC		17.9
SB2025-048	A-3	2.75-3	CL		14.7
SB2025-051	A-3	3.75-4	SC		8.4

* A – Grab Sample

PROJECT NO.: 241423

MTC MATERIALS TESTING CONSULTANTS

Project Name: 2025 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241423

Recorded By: RS Date: 9/27/2024

SB-2025-039

SB2025-042

MTC MATERIALS TESTING CONSULTANTS

Project Name: 2025 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241423

Recorded By: RS Date: 9/27/2024

SB-2025-043

SB2025-044

CITY OF ANN ARBOR
ENGINEERING

2025 MISCELLANEOUS UTILITY PROJECTS

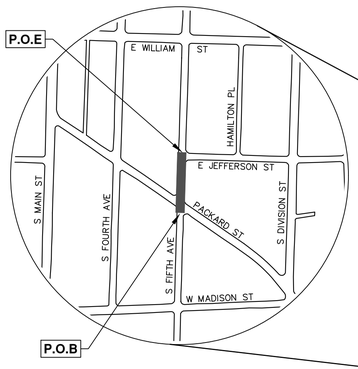
RFP No. 25-01, FILE No. 2024006

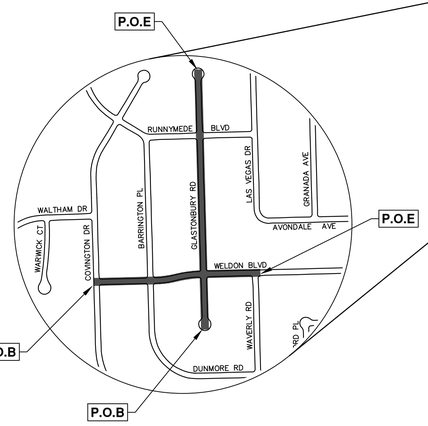
NOTES:

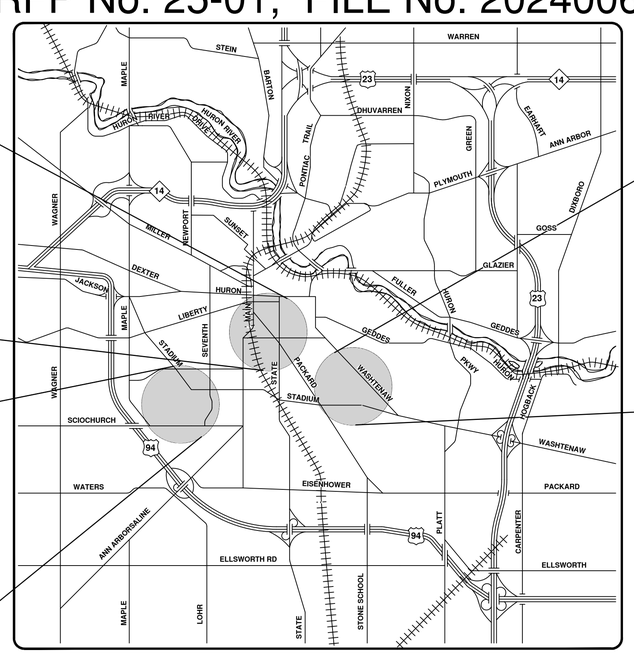
FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CALL 811 OR 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY 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.

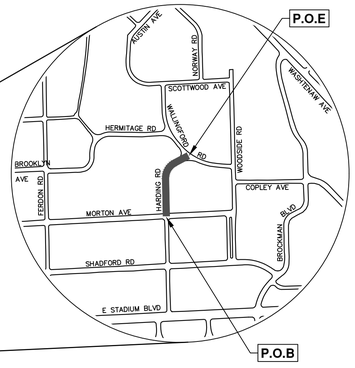
THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO THE CITY OF ANN ARBOR PUBLIC SERVICES AREA DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS ("STANDARDS"). THE OMISSION OF ANY STANDARD DETAIL DOES NOT RELIEVE THE CONTRACTOR OF THEIR OBLIGATION TO CONSTRUCT ITEMS IN COMPLETE ACCORDANCE WITH THOSE STANDARDS.







VICINITY MAP



Sheet Index

PREPARED UNDER THE SUPERVISION OF

TRACY ANDERSON, P.E. - MI LICENSE No. 6201065162
PROJECT MANAGER

/ /2024
DATE

STATE OF MICHIGAN
TRACY CRANE ANDERSON
PROFESSIONAL ENGINEER
No. 6201065162
LICENSED PROFESSIONAL ENGINEER

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01	BID SET	12/12/24	A2D	TA
02	ADDENDUM NO. 1	01/10/24	A2D	TA

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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

THIS PROJECT INCLUDE WATER MAIN REPLACEMENT, STORM SEWER IMPROVEMENTS, SANITARY SEWER INSTALLATION AND REPLACEMENT, AND RESURFACING WITHIN THE RIGHT-OF-WAY OF HARDING RD (MORTON TO WALLINGFORD), GLASTONBURY RD (ENTIRETY) , WELDON BLVD (CONVINGTON TO WAVERLY), AND FIFTH AVE (PACKARD TO JEFFERSON).

SCALE

DRAWING No. 2024006-1

SHEET No. 1 OF 52

R: \2024006 Misc Util 2025\Plan Production\2024006Cov.dwg — _a2 standard bw.stb — Plot Date: 1/10/2025 4:57:14 PM

CONSTRUCTION NOTES:

1. Driveways and entrances to buildings, real property, and the like shall not be blocked except for short durations and only when approved by the Engineer. Vehicular and pedestrian access shall be maintained at all times. It shall be the Contractor's responsibility to coordinate all necessary driveway closures with the property owner(s) and resident(s) in the areas of construction.

2. The location and depth of all existing utilities and service leads are to be field verified by the Contractor prior to construction.

3. Location and depth of utilities as depicted on the plans is approximate and shown according to the best information available. It is the Contractor's responsibility to excavate ahead and adjust depth of conflict utilities accordingly. Any damage to utilities is the Contractor's responsibility to avoid and/or repair as necessary.

4. The Contractor is to take special care to protect the existing water main and be responsible for maintaining consistent water service.

5. During non-working hours no trench shall remain open; any open trench shall be properly secured with protective fencing. This work shall be included in the item of work "General Conditions".

6. Trenches for new water services shall be excavated to MIOSHA and City of Ann Arbor Public Works requirements.

7. 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. For the installation of corporations, or any other related activities, the Contractor shall not receive additional compensation for delays due to the scheduling of or coordination with the City of Ann Arbor Public Works.

9. The Contractor shall backfill trenches in accordance with Trench Detail specified on plans. This work shall be included in the item of work "Excavate and Backfill for Water Service Tap and Lead". All concrete removals and replacements required for this work will be paid for separately.

10. 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 pipe pay items.

11. "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.

12. Postal delivery and refuse pickup service shall be maintained at all times by the Contractor.

13. All fittings, hydrants, valves and castings removed during construction are the property of the City of Ann Arbor. The Contractor within 48 hours shall deliver to City of Ann Arbor Public Works Facility at the W.R. Wheeler Service Center located at 4251 Stone School Road.

14. Where street curbs are undermined due to construction activities, they shall be removed and replaced as directed by the Engineer.

15. The Contractor shall be responsible for the continuous maintenance of the temporary road surface and soil erosion control measures within the construction area until the full completion of the project. This work shall be included in the item of work "General Conditions".

16. All curb, sidewalk, driveway approach removals shall be approved by Engineer before the work is done.

17. The location of material stock piles and on-site staging areas to be approved by the Engineer.

18. 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.

19. 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.

HARDING ROAD BENCHMARKS

BM #	ELEV	DESCRIPTION
1	865.217	SE BOLT ON LIGHT POLE, NW COR. HARDING & STADIUM
2	870.237	SPIKE IN WEST FACE OF UTILITY POLE, WEST SIDE OF HARDING, IN FRONT OF HSE #1717
3	880.275	SPIKE IN WEST FACE OF UTILITY POLE, NE COR. OF HARDING & SHADFORD
4	891.905	SPIKE IN WEST FACE OF UTILITY POLE, SE COR. OF HARDING & MORTON
5	897.958	SPIKE IN NORTHERLY FACE OF UTILITY POLE, IN FRONT OF HSE #1521
6	898.723	SPIKE IN EAST FACE OF UTILITY POLE, SW COR. OF HARDING & WALLINGFORD

WELDON BOULEVARD BENCHMARKS

BM #	ELEV	DESCRIPTION
1	952.191	SET SPIKE, EAST SIDE OF P. POLE SW COR. COVINGTON & WELDON
2	952.393	SET SPIKE, SOUTH SIDE OF P. POLE NE COR. BARRINGTON & WELDON
3	947.703	SET RR SPIKE, NE SIDE OF P. POLE SW COR. WAVERLY & WELDON

GLASTONBURY RD BENCHMARKS

BM #	ELEV	DESCRIPTION
4	948.854	SET SPIKE, EAST SIDE OF P. POLE WEST SIDE OF GLASTONBURY, IN FRONT OF HSE #1712
5	952.370	SET SPIKE, EAST SIDE OF P. POLE WEST SIDE OF GLASTONBURY, IN FRONT OF HSE #1602
6	958.456	WEST FLANGE BOLT ON HYDRANT, WEST SIDE OF GLASTONBURY, IN FRONT OF HSE #1552
7	952.850	SET SPIKE, EAST SIDE OF P. POLE WEST SIDE OF GLASTONBURY, IN FRONT OF HSE #1534
8	969.204	NORTH SIDE, TOP OF CONC. WALL WEST SIDE OF GLASTONBURY, BETWEEN HSE #1444 & 1440

S FIFTH AVENUE BENCHMARKS

BM #	ELEV	DESCRIPTION
1	856.478	SPIKE IN WEST FACE OF UTILITY POLE, NE COR OF 5TH AVE AND PACKARD
2	856.827	SPIKE IN WEST FACE OF UTILITY POLE, SE COR OF 5TH AVE AND JEFFERSON
3	855.130	SPIKE IN EAST FACE OF UTILITY POLE, EAST OF NORTH PROP. LINE OF HSE #438
4	854.320	NE BOLT OF LIGHT POLE ON THE SE COR OF 5TH AND WILLIAM

IMPERVIOUS PROJECT AREA

PRIOR TO CONSTRUCTION = 2.56 ACRES

POST CONSTRUCTION = 2.47 ACRES

AREA OF PROPOSED DISTURBANCE = 2.64 ACRES

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

* NO COST TO CONTRACTOR

PERMITS REQUIRED TO BE OBTAINED BY THE CITY OF ANN ARBOR PRIOR TO THE BEGINNING OF CONSTRUCTION.

PERMIT	ISSUING AUTHORITY
WATER MAIN CONSTRUCTION PERMIT	MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY (EGLE)
SANITARY SEWER CONSTRUCTION PERMIT	MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY (EGLE)

CONTACT INFORMATION

PUBLIC UTILITIES	OWNER	CONTACT
WATER SANITARY STORM FORESTRY	CITY OF ANN ARBOR PUBLIC WORKS W.R. WHEELER SERVICE CENTER 4251 STONE SCHOOL ROAD ANN ARBOR, MI 48108	(734) 794-6350
SIGNS SIGNALS STREET LIGHTS		MARK MORENO (734) 794-6361
FIBER OPTIC	CITY OF ANN ARBOR INFORMATION TECHNOLOGY LARCOM CITY HALL 301 E. HURON STREET ANN ARBOR, MI 48107	(734) 794-6550
PRIVATE UTILITIES	**OWNER**	**CONTACT**
GAS	DTE ENERGY 3150 E. MICHIGAN AVE, YPSILANTI TOWNSHIP, MI 48198	ADAM EGELER 734 929-8042 ADAM.EGELER@DTEENERGY.COM
ELECTRIC	DTE ENERGY WESTERN WAYNE SERVICE CENTER 8001 HAGGERTY ROAD BELLEVILLE, MI 48111	ANTHONY IGNASIAK (734) 397-4447
CABLE	COMCAST 27800 FRANKLIN ROAD SOUTHFIELD, MI 48034	STEPHEN BECK (248) 972-7511
PHONE	AT&T 550 S. MAPLE ROAD ANN ARBOR, MI 48103	CHRIS SHOUP (734) 263-7385 CS6558@ATT.COM
FIBER OPTIC	MCI/VERIZON 4401 STECKER STREET DEARBORN, MICHIGAN 48126	MARLON REDD (313) 588-0849 MARLON.REDD@VERIZON.COM
FIBER OPTIC	WINDSTREAM 1295 S LINDEN ROAD, SUITE B FLINT, MI 48532	DAVID BEGGS (810) 397-8956 DAVID.BEGGS@WINDSTREAM.COM
FIBER OPTIC	ADVANCED COMMUNICATIONS & DATA 1800 NORTH GRAND RIVER AVE LANSING, MI 48906	OSP@ACD.NET
STREET LIGHTING	DTE ENERGY 8001 HAGGERTY ROAD BELLEVILLE, MI 48111	LANCE ALLEY (734) 397-4188

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2025 MISCELLANEOUS UTILITY PROJECTS

STANDARD NOTES

SCALE : NTS

DRAWING No. 2024006-2

SHEET No. 2 OF 52

EXISTING LEGEND

EX = EXISTING

- FIRE HYDRANT
- GATE VALVE IN BOX
- GATE VALVE IN WELL
- STOP BOX
- WATER VAULT
- WELL
- CATCH BASIN (SQ)
- CATCH BASIN (RD)
- STORM MANHOLE
- 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

- 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 VALVE IN WELL
- WATER GATE VALVE IN BOX
- WATER STOP BOX
- WATER VAULT
- INLET
- HIGH CAPACITY INLET
- INLET JUNCTION CHAMBER
- ROUND CATCH BASIN
- STORM MANHOLE
- DRAIN ARROW
- FLARED END SECTION
- OVERFLOW
- 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.
- LIMITS OF CONSTRUCTION
- LIMIT OF GRADING
- STONE WALL

- DETECTABLE WARNING
- ASPHALT
- CONCRETE PAVEMENT
- CONCRETE RAMP
- CONCRETE SIDEWALK
- TURF RESTORATION

- TREE (DECIDUOUS)
- TREE (CONIFEROUS)
- TREE TO BE REMOVED (DECIDUOUS)
- TREE TO BE REMOVED (CONIFEROUS)
- STUMP TO BE REMOVED

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2025 MISCELLANEOUS UTILITY PROJECTS

LEGEND

SCALE: **NTS**

DRAWING No. **2024006-3**

SHEET No. **3 OF 52**

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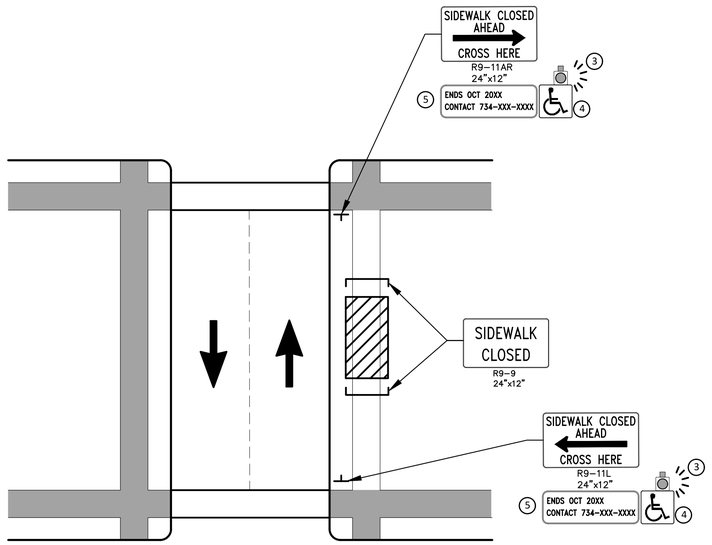
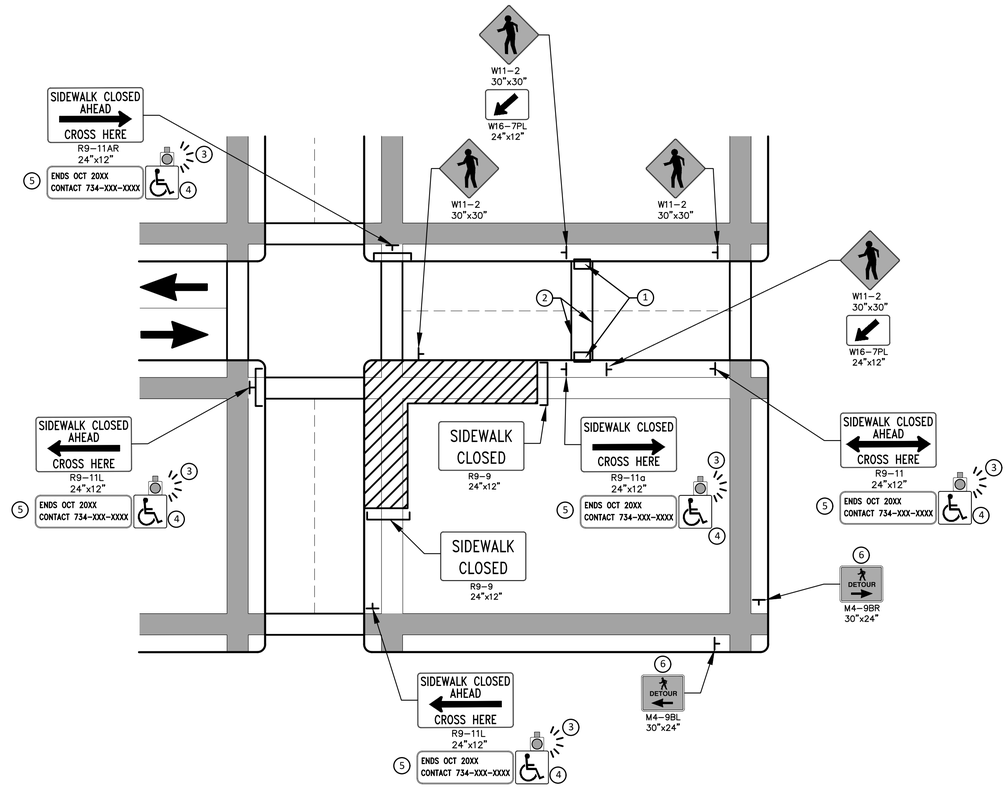


PEDESTRIAN DETOUR USING OPPOSITE SIDE OF STREET



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

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

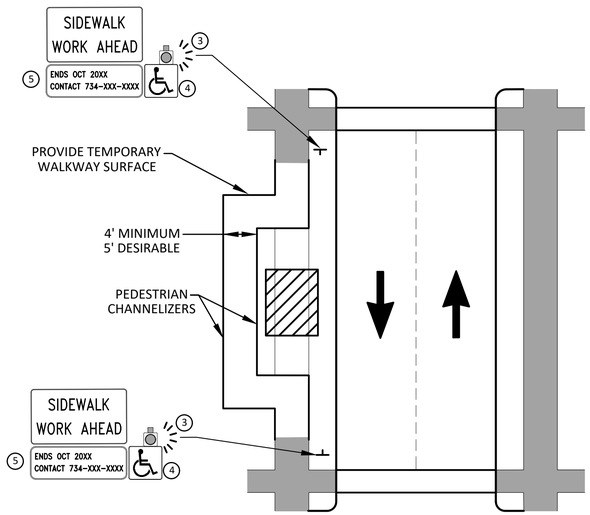
2025 MISCELLANEOUS UTILITY PROJECTS

ALTERNATE PEDESTRIAN ROUTE (APR) DETOUR

SCALE : N.T.S.

DRAWING No. 2024006-4

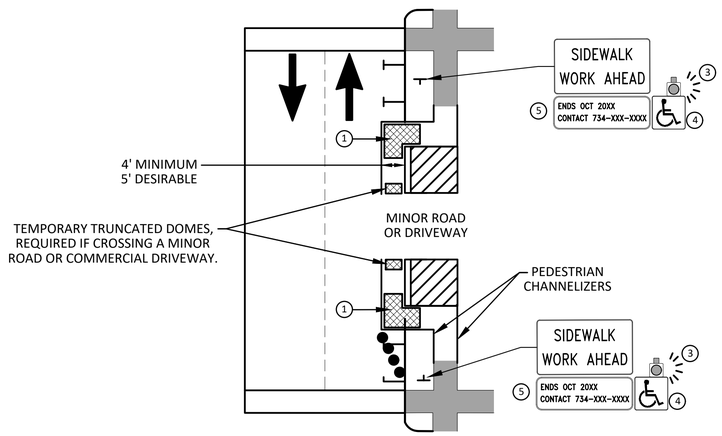
SHEET No. 4 OF 52



BYPASS ON ADJACENT AVAILABLE
RIGHT OF WAY

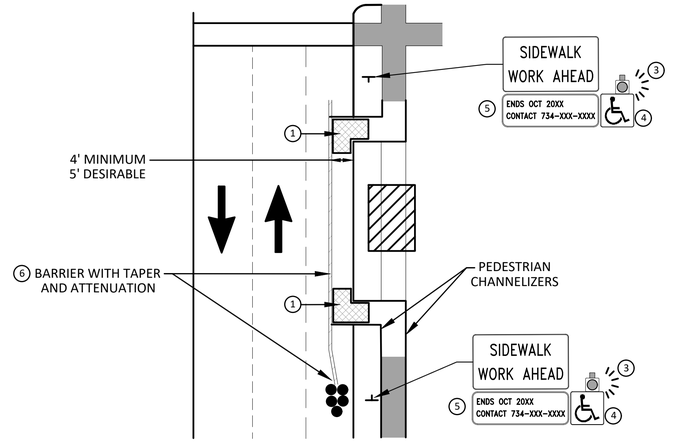
BYPASS TYPE A

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

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
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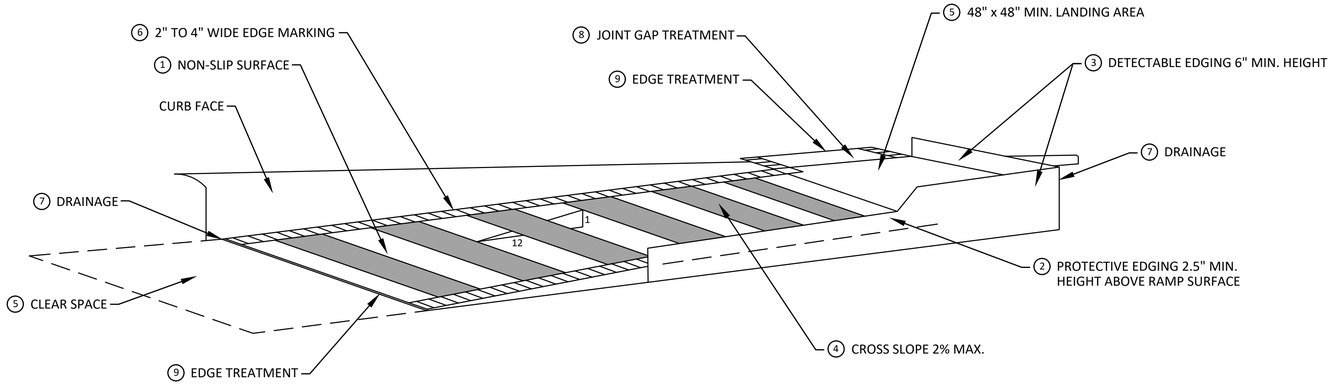
2025 MISCELLANEOUS UTILITY PROJECTS

ALTERNATE PEDESTRIAN ROUTE (APR) BYPASS

SCALE : N.T.S.

DRAWING No. **2024006-5**

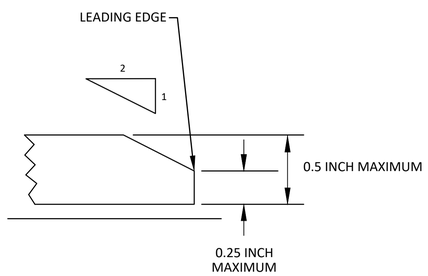
SHEET No. **5 OF 52**



TEMPORARY CURB RAMP PARALLEL TO CURB

SPECIFIC NOTES

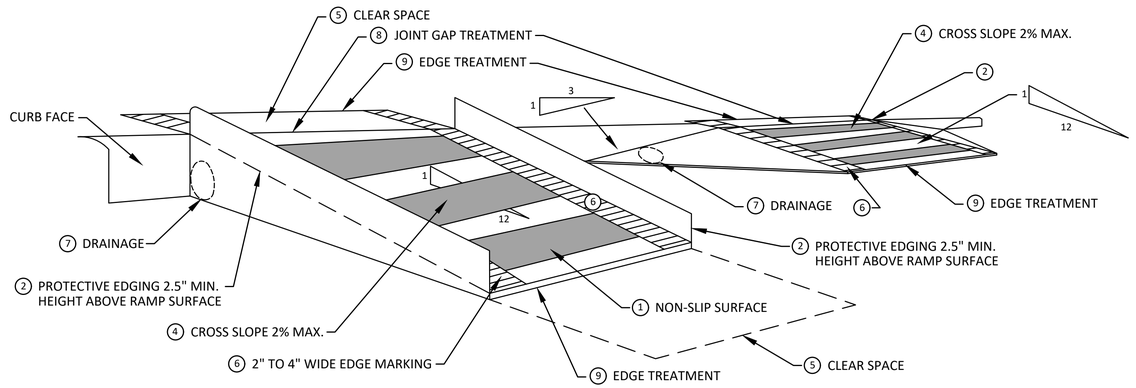
1. CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.
2. PROTECTIVE EDGING WITH A 2.5" MIN. HEIGHT ABOVE THE RAMP SHALL BE PLACED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3. PROTECTIVE EDGING SHOULD 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" WIDTH.
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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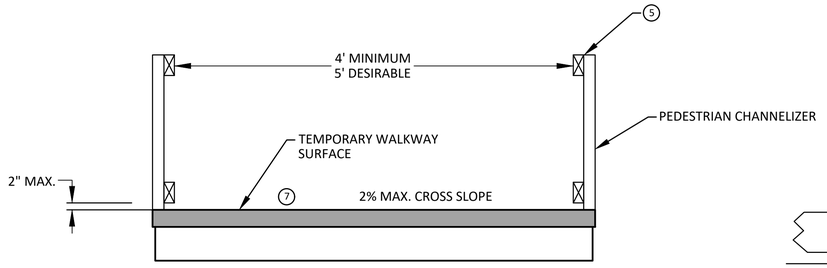
2025 MISCELLANEOUS UTILITY PROJECTS

TPAR RAMPS

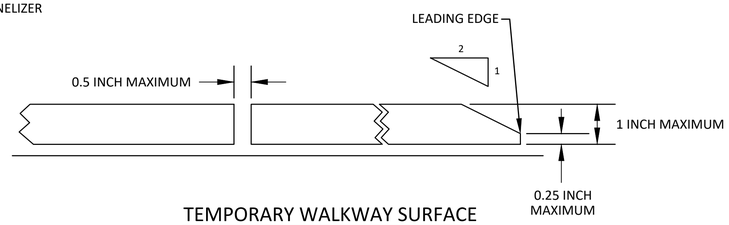
SCALE : N.T.S.

DRAWING No. 2024006-6

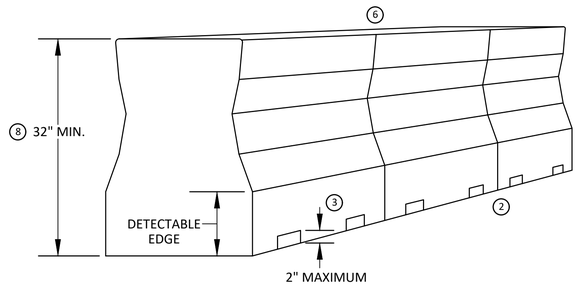
SHEET No. 6 OF 52



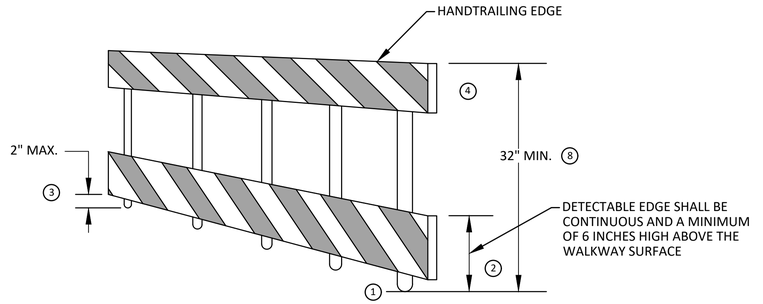
TEMPORARY PEDESTRIAN ACCESS



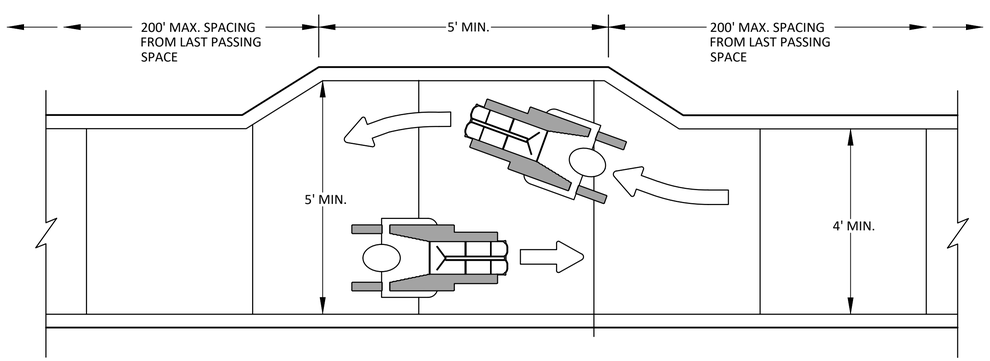
TEMPORARY WALKWAY SURFACE



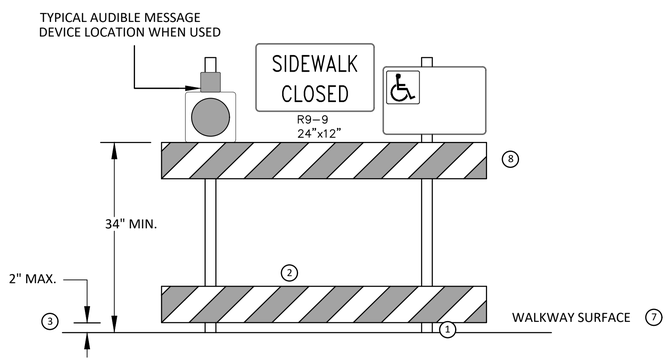
PEDESTRIAN CHANNELIZER USING A BARRIER
(MINIMUM REQUIREMENTS)



PEDESTRIAN CHANNELIZER
(MINIMUM REQUIREMENTS)



NARROW TEMPORARY PEDESTRIAN ACCESS ROUTE PASSING DETAIL



SIDEWALK BARRICADE

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.

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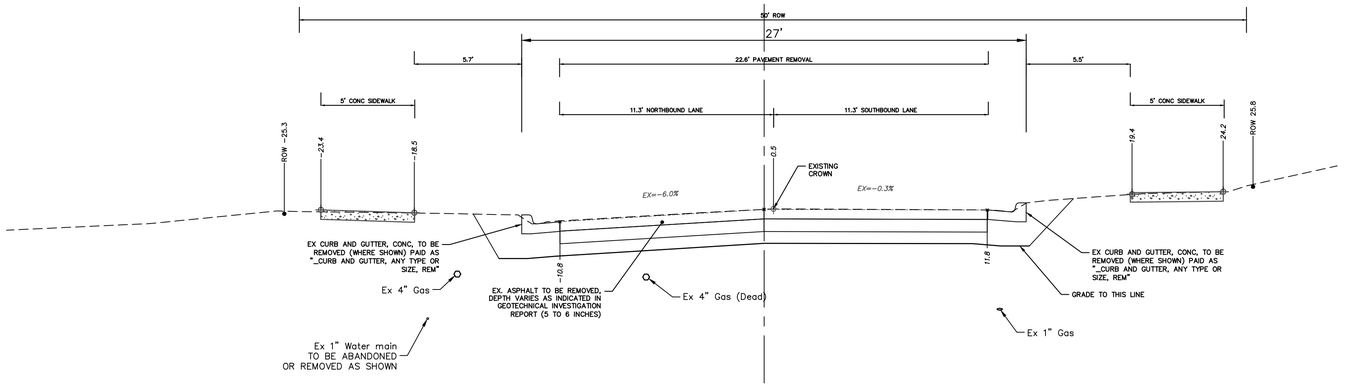
2025 MISCELLANEOUS UTILITY PROJECTS

TPAR WALKWAY DEVICES

SCALE: N.T.S.

DRAWING No. 2024006-7

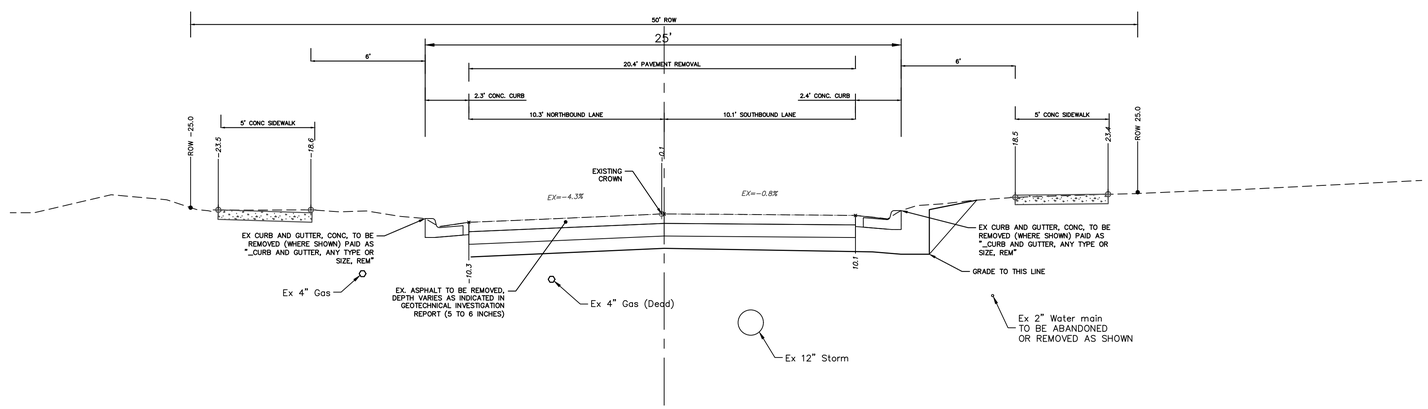
SHEET No. 7 OF 52



HARDING ROAD
TYPICAL SECTION - EXISTING

STA. 10+70 TO P.O.E.

N.T.S.



HARDING ROAD
TYPICAL SECTION - EXISTING

STA. 7+30 TO STA. 10+70

N.T.S.

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2025 MISCELLANEOUS UTILITY PROJECTS

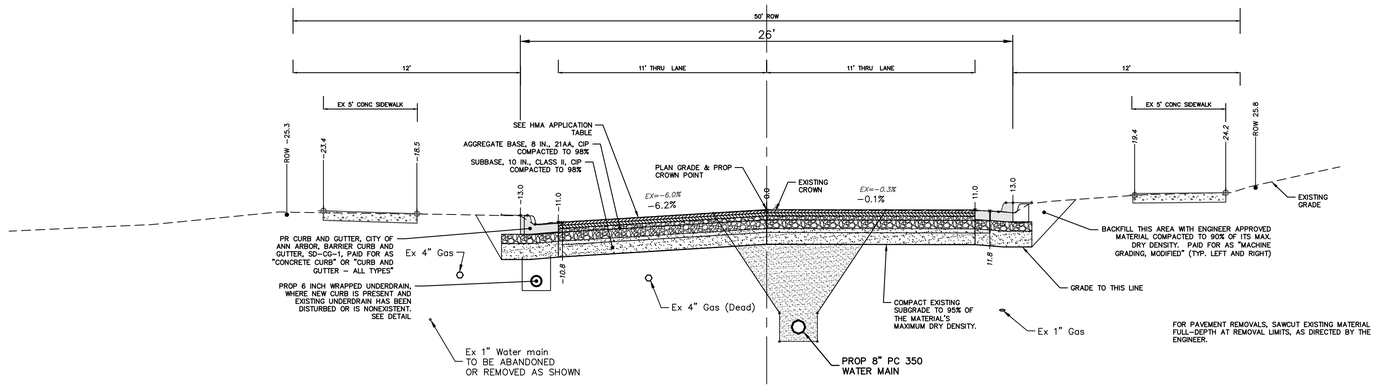
TYPICAL CROSS-SECTIONS

HARDING EXISTINGTYPICAL SECTIONS

SCALE **PLAN:** 1" = 4' **PROFILE:** 1" = x'

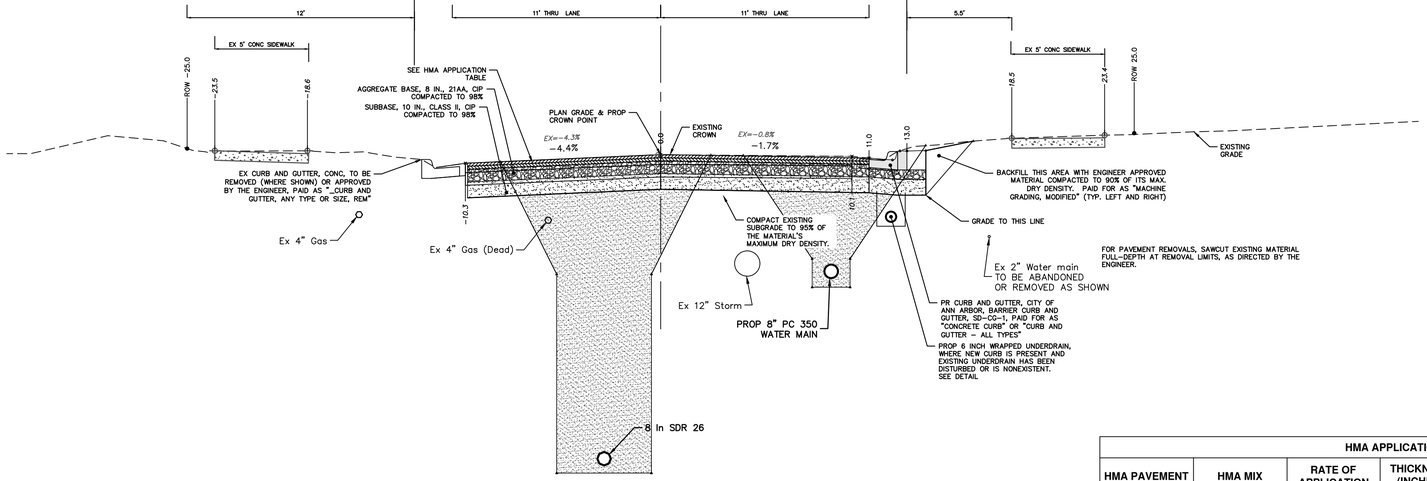
DRAWING No. **2024006-8**

SHEET No. **8 OF 52**



HARDING ROAD
TYPICAL SECTION - PROPOSED

STA. 10+50 TO P.O.E.
N.T.S.



HARDING ROAD
TYPICAL SECTION - PROPOSED

STA. 7+30 TO STA. 10+50
N.T.S.

HMA APPLICATION ESTIMATE						
HMA PAVEMENT	**HMA MIX**	**RATE OF APPLICATION**	**THICKNESS (INCHES)**	**AWI (MIN.)**	**BINDER**	**LOCATION/NOTES**
HMA PAVEMENT TOP	**4EL**	**220 LB/SYD**	**2.0**	**220 (TOP)**	**PG 58-28**	**TOP COURSE**
HMA PAVEMENT LEVELING	**4EL**	**220 LB/SYD**	**2.0**	**-**	**PG 58-28**	**LEVELING COURSE**
HMA APPROACH TOP	**4EL**	**220 LB/SYD**	**2**	**220 (TOP)**	**PG 58-28**	**TOP COURSE**
HMA APPROACH LEVELING	**4EL**	**220 LB/SYD**	**2**	**-**	**PG 58-28**	**LEVELING COURSE**
HAND PATCHING	**4EL**	**0 - 440 LB/SYD**			**PG 58-28**	**HAND PATCHING**
ASPHALT EMULSION	**SS-1h**	**0.05 - 0.15 GAL/SYD**	**-**	**-**	**-**	**INCLUDE IN COST OF HMA ITEM**

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2025 MISCELLANEOUS UTILITY PROJECTS

TYPICAL CROSS-SECTIONS

HARDING PROPOSED TYPICAL SECTIONS

SCALE PLAN: 1" = 4' PROFILE: 1" = x'

DRAWING No. 2024006-9

SHEET No. 9 OF 52

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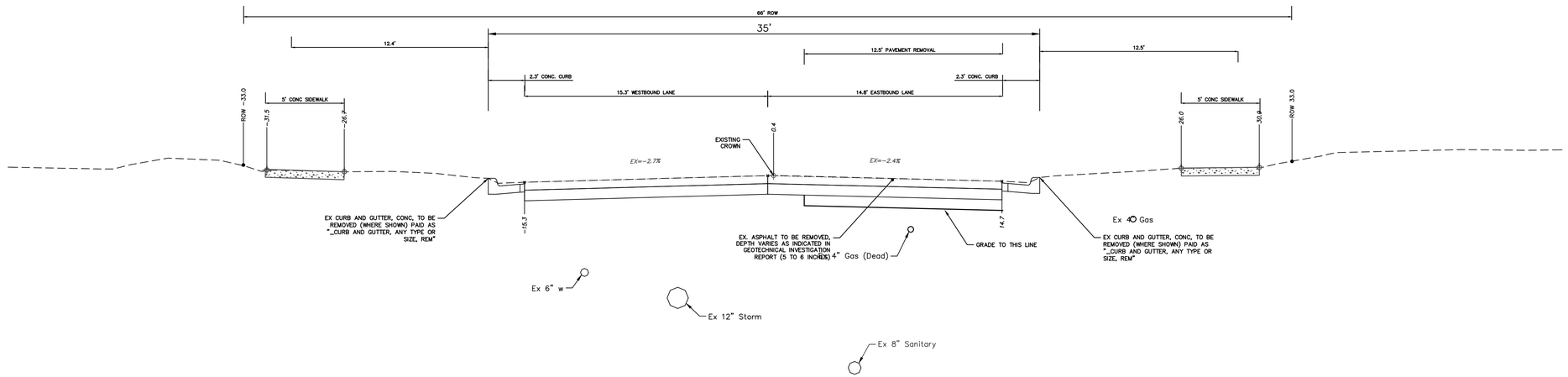

MORTON AVENUE
TYPICAL SECTION - EXISTING

R:\2024006 Misc Util 2025\Plan Production\2024006Txsctn.dwg Dwg Created: 6-Jan-25 — _a2 standard bw.stb — Plot Date: 10-Jan-25

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2025 MISCELLANEOUS UTILITY PROJECTS

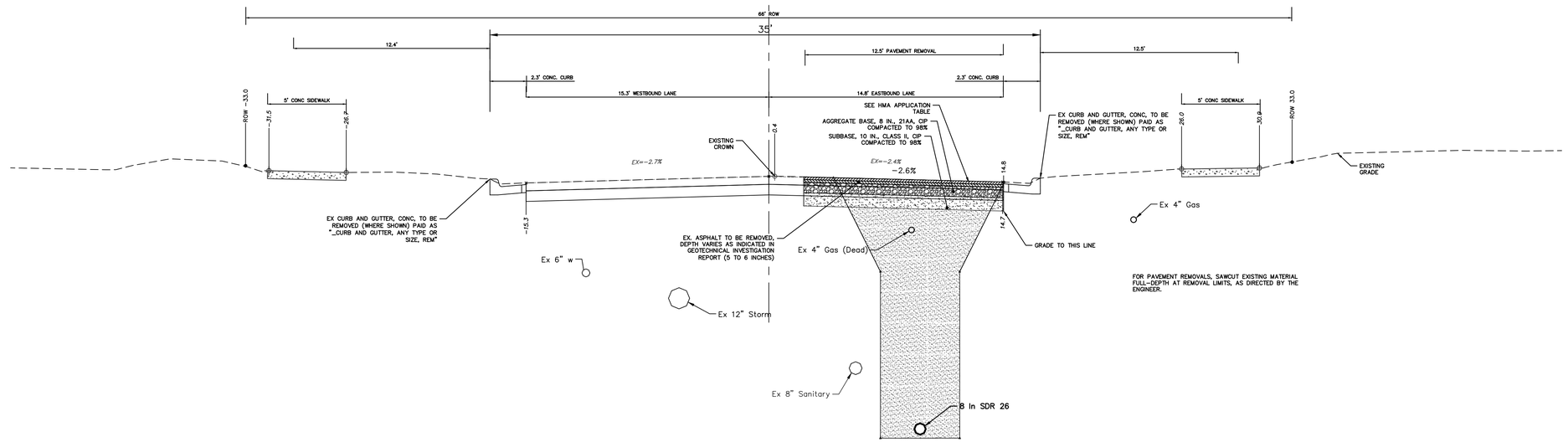
TYPICAL CROSS-SECTIONS

MORTON EXISTINGTYPICAL SECTIONS

SCALE PLAN: CUSTOM PROFILE: 1" = x"

DRAWING No.
2024006-10

SHEET No.
10 OF 52



MORTON AVENUE
TYPICAL SECTION - PROPOSED

HMA APPLICATION ESTIMATE						
HMA PAVEMENT	**HMA MIX**	**RATE OF APPLICATION**	**THICKNESS (INCHES)**	**AWI (MIN.)**	**BINDER**	**LOCATION/NOTES**
HMA PAVEMENT TOP	**4EL**	**220 LB/SYD**	**2.0**	**220 (TOP)**	**PG 58-28**	**TOP COURSE**
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HMA APPROACH TOP	**4EL**	**220 LB/SYD**	**2**	**220 (TOP)**	**PG 58-28**	**TOP COURSE**
HMA APPROACH LEVELING	**4EL**	**220 LB/SYD**	**2**	**-**	**PG 58-28**	**LEVELING COURSE**
HAND PATCHING	**4EL**	**0 - 440 LB/SYD**			**PG 58-28**	**HAND PATCHING**
ASPHALT EMULSION	**SS-1h**	**0.05 - 0.15 GAL/SYD**	**-**	**-**	**-**	**INCLUDE IN COST OF HMA ITEM**

Know what's below. Call before you dig.

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2025 MISCELLANEOUS UTILITY PROJECTS

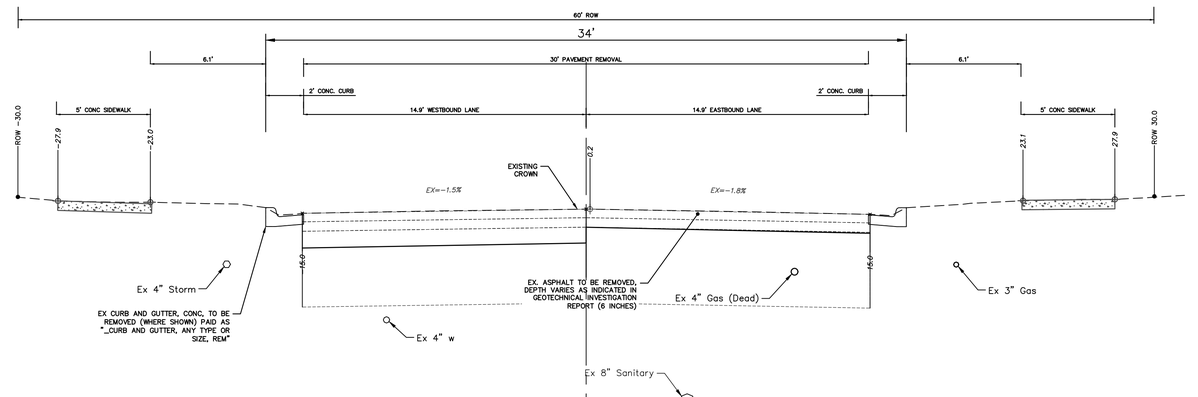
TYPICAL CROSS-SECTIONS

MORTON PROPOSED TYPICAL SECTION

SCALE PLAN: 1" = 4' PROFILE: 1" = x'

DRAWING No. 2024006-11

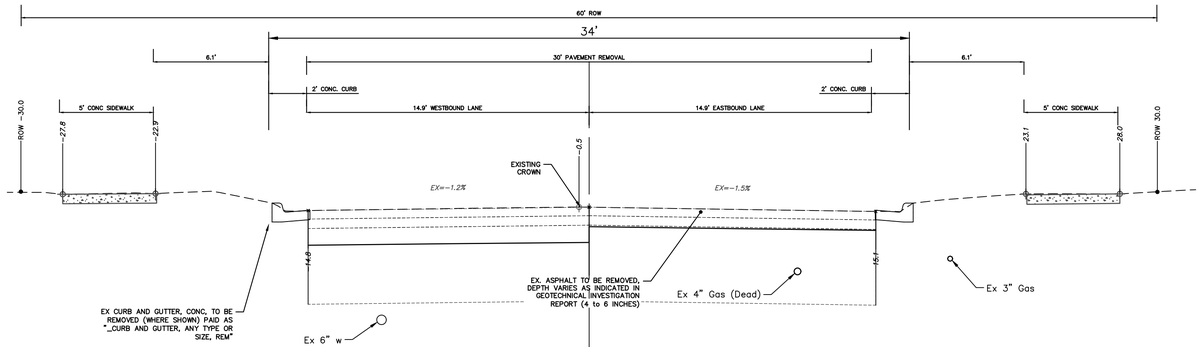
SHEET No. 11 OF 52



GLASTONBURY ROAD
TYPICAL SECTION - EXISTING

STA. 12+15 TO 15+20

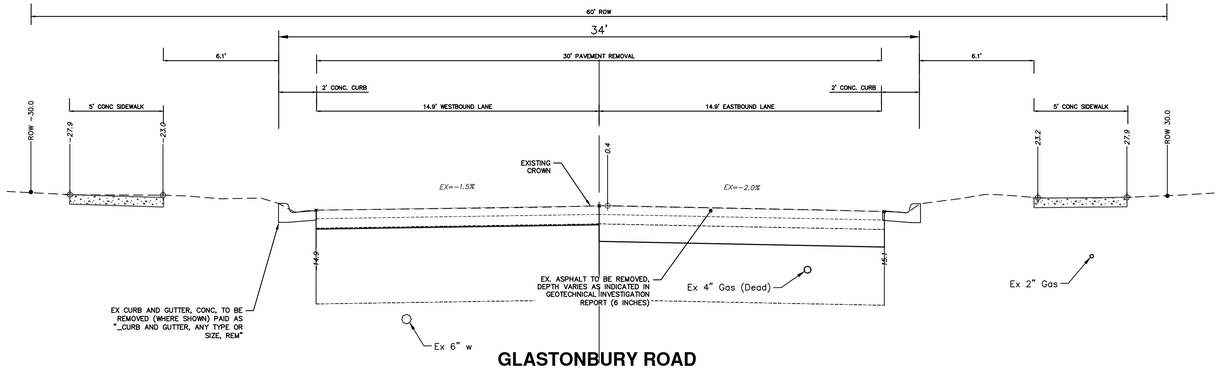
N.T.S.



GLASTONBURY ROAD
TYPICAL SECTION - EXISTING

STA. 3+80 TO 12+15

N.T.S.



GLASTONBURY ROAD
TYPICAL SECTION - EXISTING

STA. 0+95 TO 3+80

N.T.S.

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2025 MISCELLANEOUS UTILITY PROJECTS

TYPICAL CROSS-SECTIONS

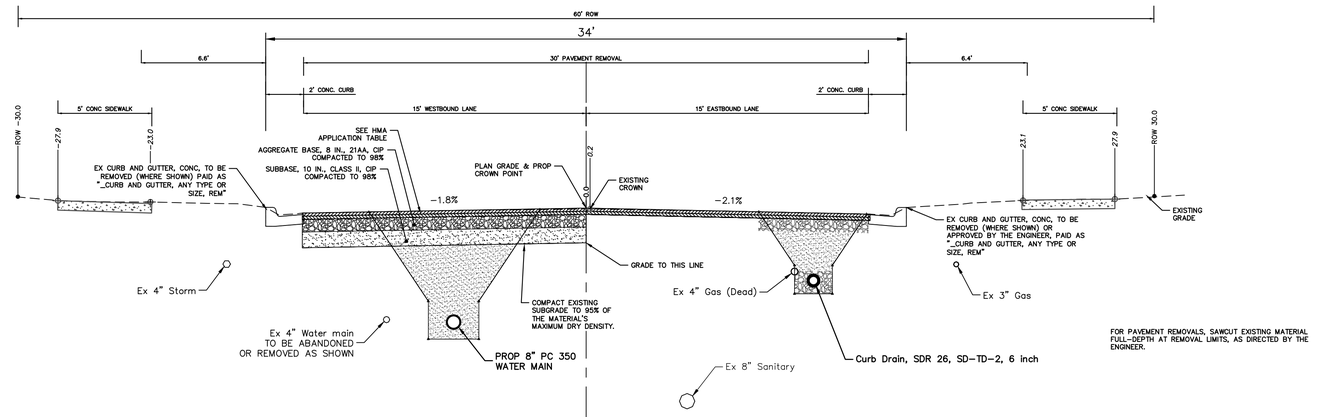
GLASTONBURY EXISTING TYPICAL SECTIONS

SCALE PLAN: 1" = 4' PROFILE: 1" = x'

DRAWING No. **2024006-12**

SHEET No. **12 OF 52**

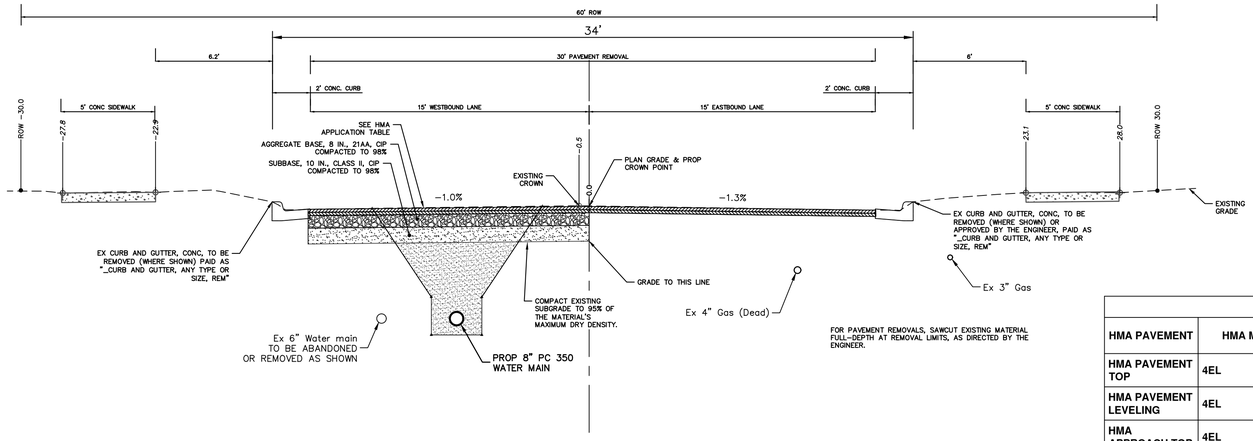
R:\2024006 Misc Util 2025\Plan Production\2024006Txsctn GlasWeld.dwg Dwg Created: 6-Jan-25 - _a2 standard bw.stb - Plot Date: 10-Jan-25



GLASTONBURY ROAD
TYPICAL SECTION - PROPOSED

STA. 12+15 TO 15+20

N.T.S.



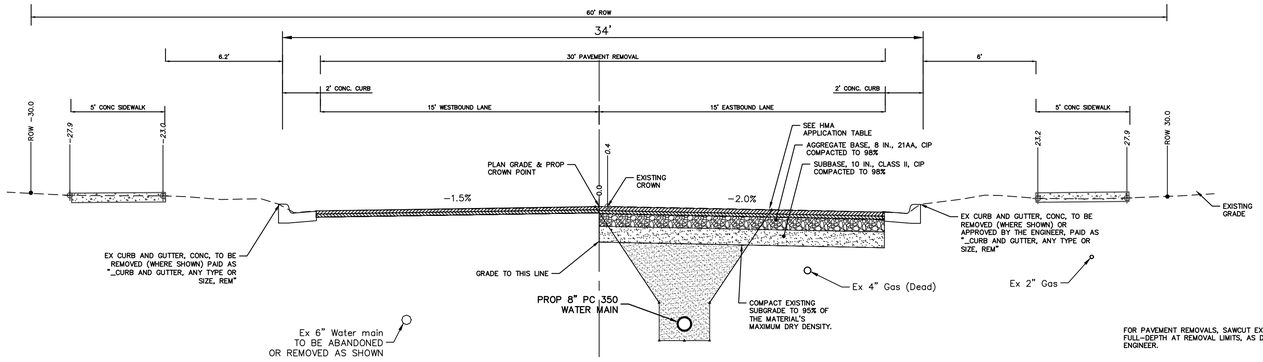
GLASTONBURY ROAD
TYPICAL SECTION - PROPOSED

STA. 3+80 TO 12+15

N.T.S.

HMA APPLICATION ESTIMATE

HMA PAVEMENT	HMA MIX	RATE OF APPLICATION	THICKNESS (INCHES)	AWI (MIN.)	BINDER	LOCATION/NOTES
HMA PAVEMENT TOP	4EL	220 LB/SYD	2.0	220 (TOP)	PG 58-28	TOP COURSE
HMA PAVEMENT LEVELING	4EL	220 LB/SYD	2.0	-	PG 58-28	LEVELING COURSE
HMA APPROACH TOP	4EL	220 LB/SYD	2	220 (TOP)	PG 58-28	TOP COURSE
HMA APPROACH LEVELING	4EL	220 LB/SYD	2	-	PG 58-28	LEVELING COURSE
HAND PATCHING	4EL	0 - 440 LB/SYD			PG 58-28	HAND PATCHING
ASPHALT EMULSION	SS-1h	0.05 - 0.15 GAL/SYD	-	-	-	INCLUDE IN COST OF HMA ITEM



GLASTONBURY ROAD
TYPICAL SECTION - PROPOSED

STA. 0+95 TO 3+80

N.T.S.

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA

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2025 MISCELLANEOUS UTILITY PROJECTS

TYPICAL CROSS-SECTIONS

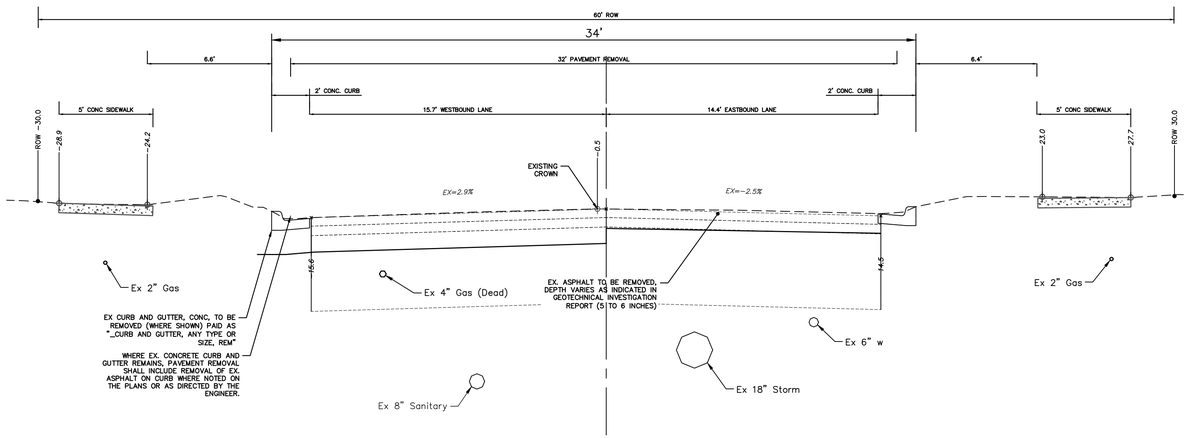
GLASTONBURY PROPOSED TYPICAL SECTIONS

SCALE PLAN: 1" = 4' PROFILE: 1" = x'

DRAWING No. **2024006-13**

SHEET No. **13 OF 52**

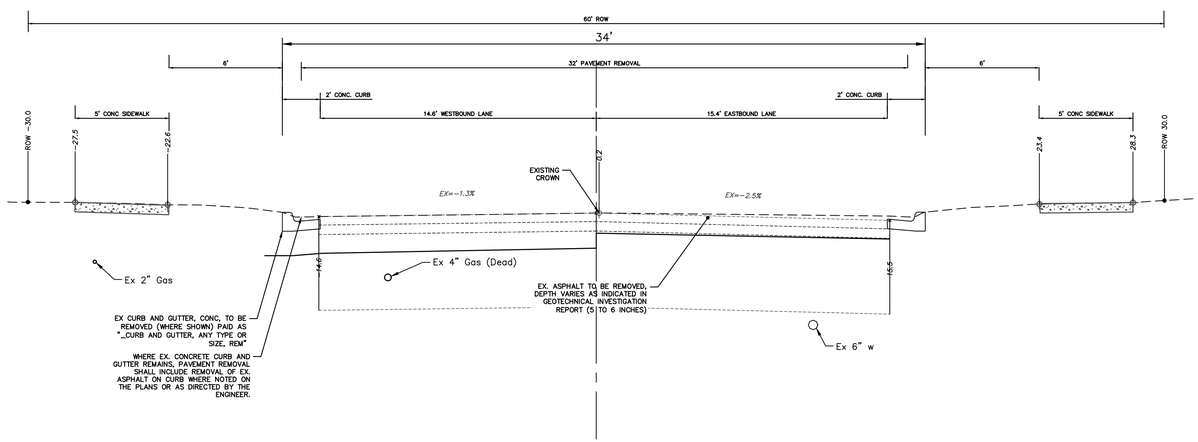
R:\2024006 Misc Util 2025\Plan Production\2024006Txsctn GlasWeld.dwg Dwg Created: 6-Jan-25 -- _a2 standard bw.stb - Plot Date: 10-Jan-25



WELDON BOULEVARD
TYPICAL SECTION - EXISTING

STA. 5+00 TO P.O.E.

N.T.S.



WELDON BOULEVARD
TYPICAL SECTION - EXISTING

STA. 0+55 TO STA. 5+00

N.T.S.

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA

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2025 MISCELLANEOUS UTILITY PROJECTS

TYPICAL CROSS-SECTIONS

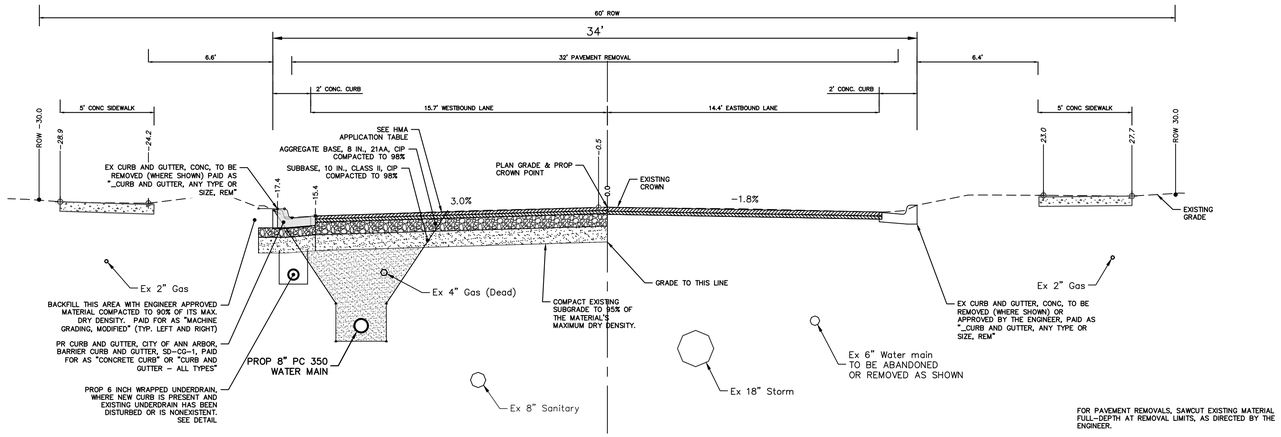
WELDON EXISTING TYPICAL SECTIONS

SCALE PLAN: 1" = 4' PROFILE: 1" = x'

DRAWING No. 2024006-14

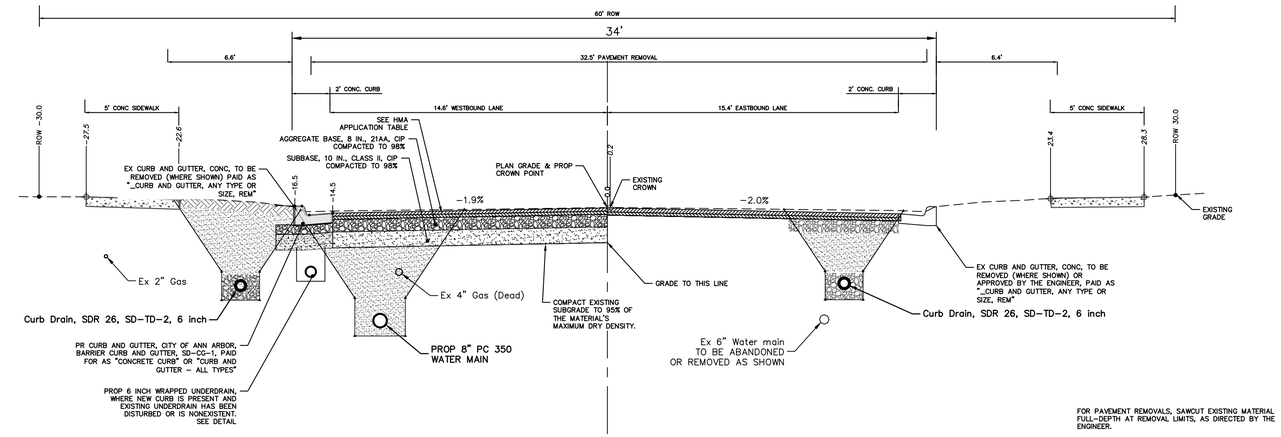
SHEET No. 14 OF 52

R:\2024006 Misc Util 2025\Plan Production\2024006Txsctn GlasWeld.dwg Dwg Created: 6-Jan-25 -- _a2 standard bw.stb - Plot Date: 10-Jan-25



WELDON BOULEVARD
TYPICAL SECTION - PROPOSED

STA. 5+00 TO P.O.E.
N.T.S.



WELDON BOULEVARD
TYPICAL SECTION - PROPOSED

STA. 0+55 TO STA. 5+00
N.T.S.

HMA APPLICATION ESTIMATE						
HMA PAVEMENT	**HMA MIX**	**RATE OF APPLICATION**	**THICKNESS (INCHES)**	**AWI (MIN.)**	**BINDER**	**LOCATION/NOTES**
HMA PAVEMENT TOP	**4EL**	**220 LB/SYD**	**2.0**	**220 (TOP)**	**PG 58-28**	**TOP COURSE**
HMA PAVEMENT LEVELING	**4EL**	**220 LB/SYD**	**2.0**	**-**	**PG 58-28**	**LEVELING COURSE**
HMA APPROACH TOP	**4EL**	**220 LB/SYD**	**2**	**220 (TOP)**	**PG 58-28**	**TOP COURSE**
HMA APPROACH LEVELING	**4EL**	**220 LB/SYD**	**2**	**-**	**PG 58-28**	**LEVELING COURSE**
HAND PATCHING	**4EL**	**0 - 440 LB/SYD**			**PG 58-28**	**HAND PATCHING**
ASPHALT EMULSION	**SS-1h**	**0.05 - 0.15 GAL/SYD**	**-**	**-**	**-**	**INCLUDE IN COST OF HMA ITEM**

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA

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2025 MISCELLANEOUS UTILITY PROJECTS

TYPICAL CROSS-SECTIONS

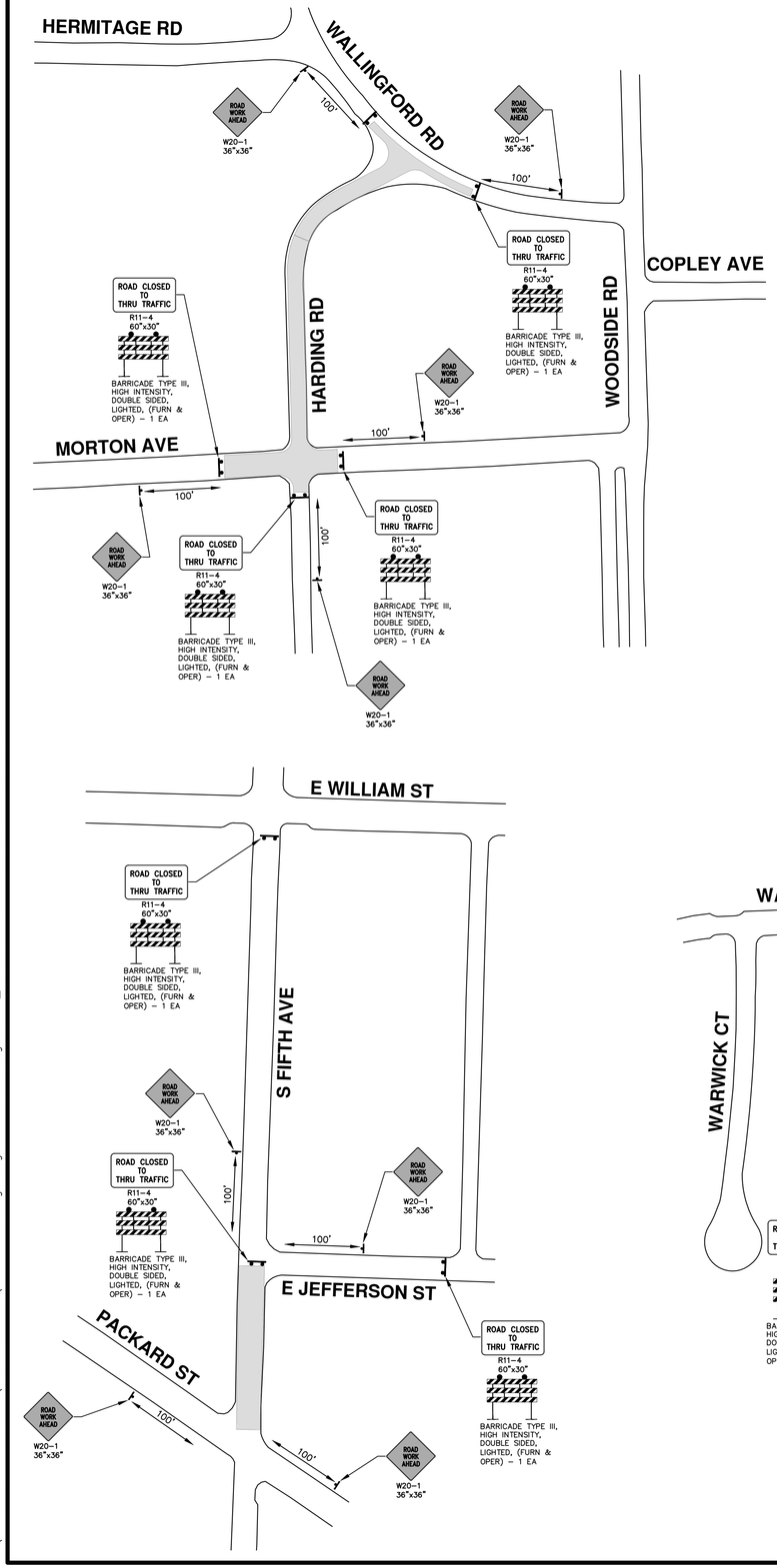
WELDON PROPOSED TYPICAL SECTIONS

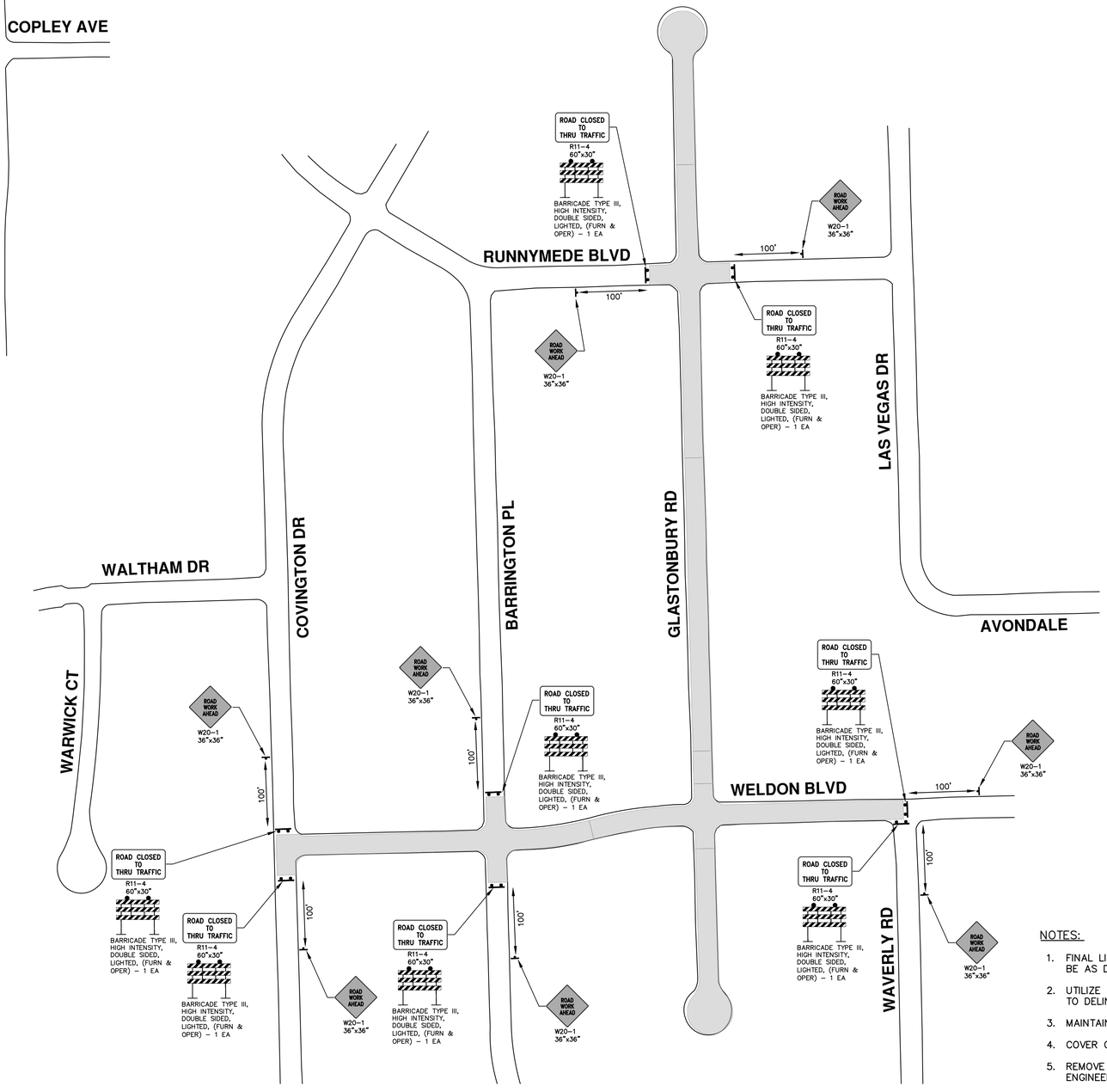
SCALE PLAN: 1" = 4' PROFILE: 1" = x'

DRAWING No. 2024006-15

SHEET No. 15 OF 52

R:\2024006 Misc Util 2025\Plan Production\2024006Txsctn GlasWeld.dwg Dwg Created: 6-Jan-25 - _a2 standard bw.stb - Plot Date: 10-Jan-25





NOTE:

COORDINATE FIFTH AVE WITH RESURFACING PROJECT.

FIFTH AVE MOT BY OTHERS.

ADDITIONAL SIGNAGE FOR WATER MAIN TIE-INS AT STREET INTERSECTIONS

SIGN	NUMBER	QUANTITY
ROAD CLOSED	R11-2 48"x30"	8
BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED - 16 EACH		

NOTES:

1. FINAL LIMITS OF PAVEMENT REMOVAL FOR UTILITY INSTALLATION WILL BE AS DIRECTED BY ENGINEER.
2. UTILIZE PLASTIC DRUMS AND PROTECTIVE FENCING WITHIN WORK ZONE TO DELINEATE OPEN TRENCHES AS DIRECTED BY ENGINEER.
3. MAINTAIN PEDESTRIAN ACCESS DURING CONSTRUCTION.
4. COVER CONFLICTING SIGNS AS NEEDED OR AS DIRECTED BY ENGINEER.
5. REMOVE CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
6. CONTRACTOR SHALL PLACE PORTABLE, CHANGEABLE MESSAGE SIGNS A MINIMUM OF ONE (1) WEEK PRIOR TO THE START OF CONSTRUCTION IN LOCATIONS INDICATED BY ENGINEER. MESSAGE TO BE PROVIDED BY THE ENGINEER.

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2025 MISCELLANEOUS UTILITY PROJECTS

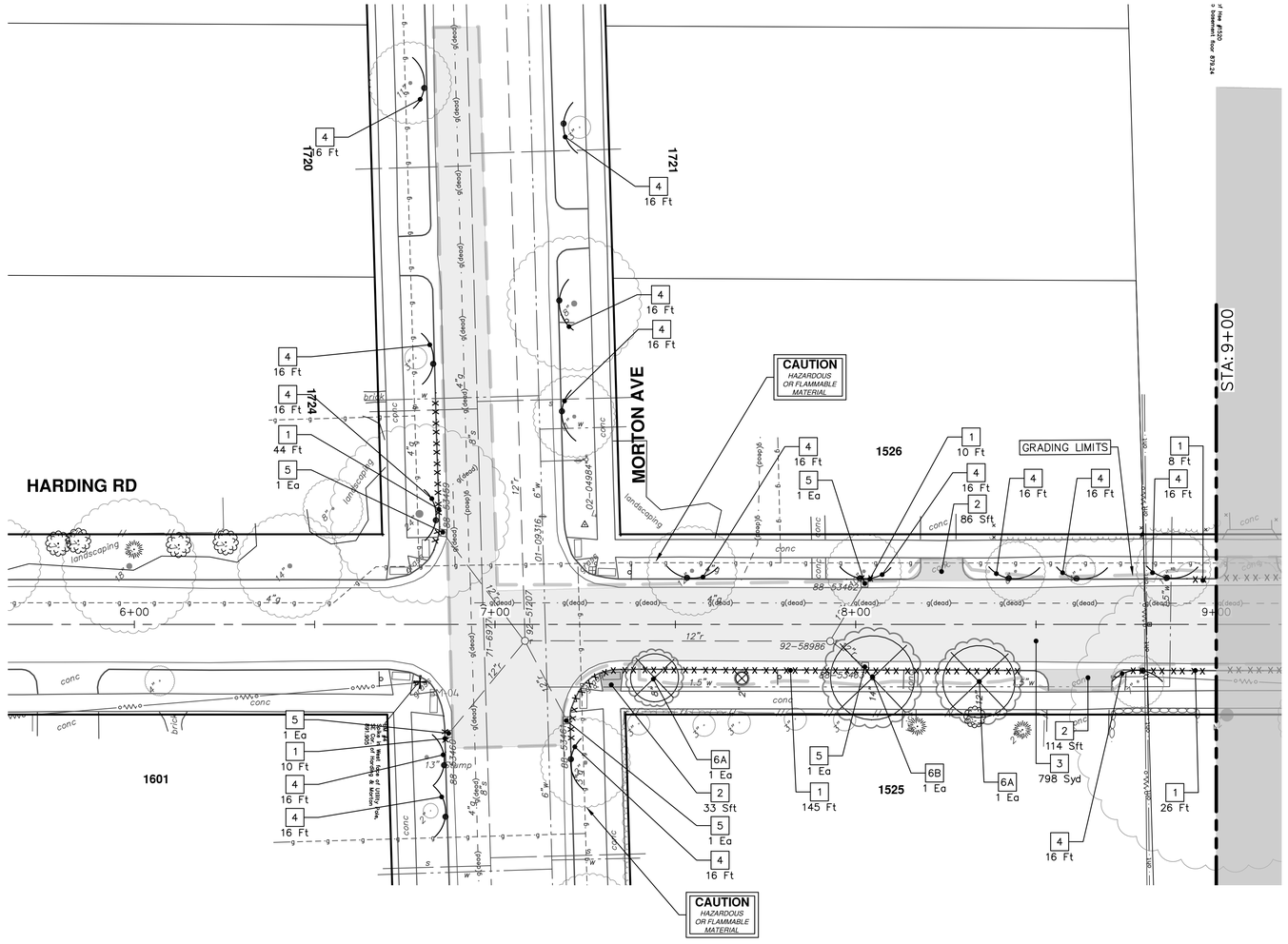
TRAFFIC CONTROL

HARDING RD, GLASTONBURY RD - WELDON BLVD, S FIFTH AVE

SCALE PLAN: 1" = 100'

DRAWING No. 2024006-16

SHEET No. 16 OF 52



REMOVAL KEY

KEY	DESCRIPTION
1	Curb, Gutter, and Curb and Gutter, Any Type, Rem *
2	Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem
3	HMA, Any Thickness, Rem *
4	Tree Protective Fence
5	Erosion Control, Inlet Protection, Fabric Drop
6A	Tree, Rem, 6 In. – 12 In.
6B	Tree, Rem, 13 In. – 19 In.
6C	Tree, Rem, 20 In. – 29 In.

* SAWCUT FULL DEPTH AT REMOVAL LIMITS AS DIRECTED BY ENGINEER

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2025 MISCELLANEOUS UTILITY PROJECTS

REMOVALS - HARDING RD

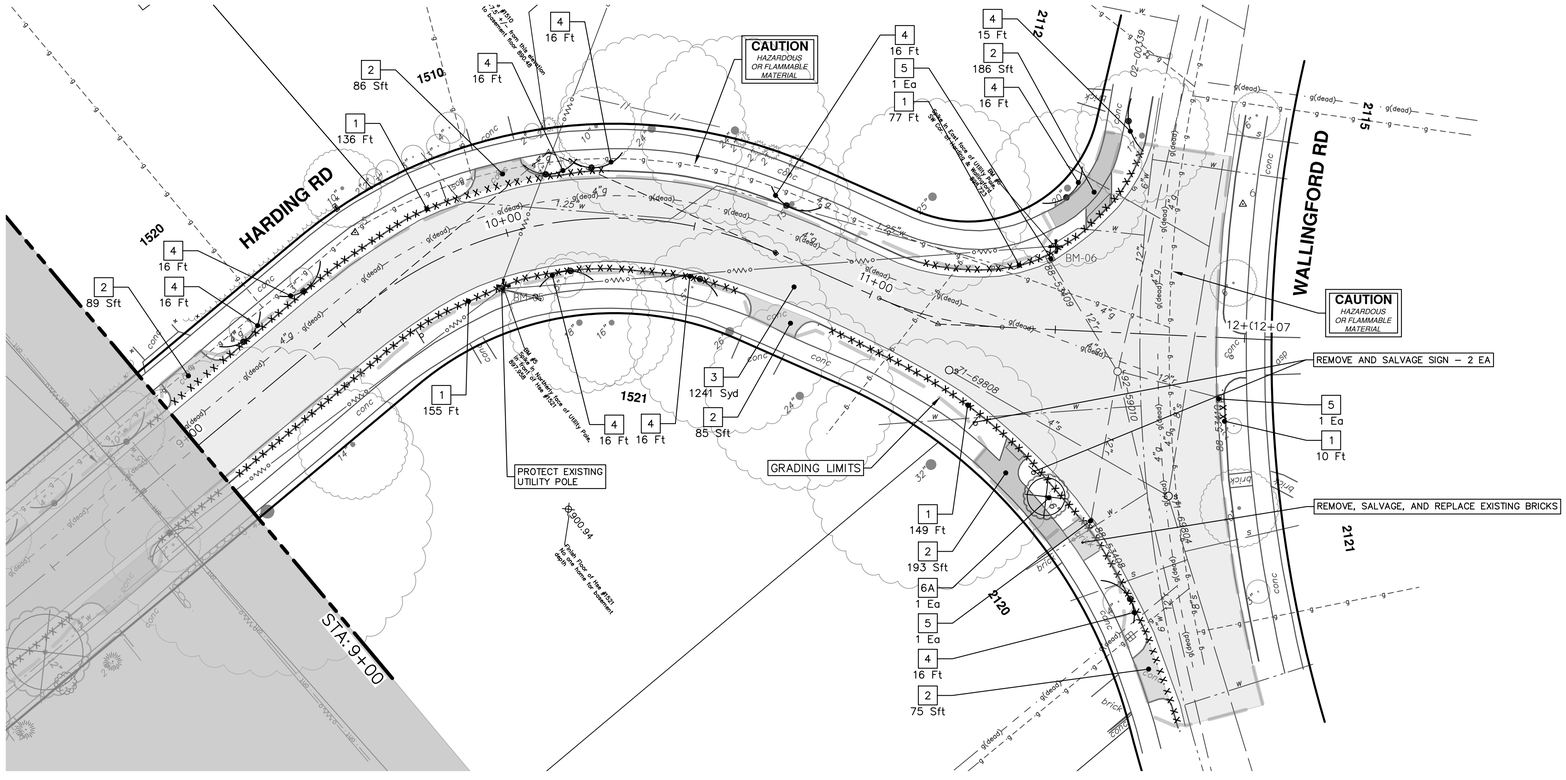
STA. 6+50 - STA. 9+00

SCALE : 1" = 20'

DRAWING No. 2024006-17

SHEET No. 17 OF 52

R:\2024006 Misc Util 2025\Plan Production\2024006Rem Harding.dwg Dwg Created: 9-Dec-24 — _a2 standard bw.stb — Plot Date: 10-Jan-25



REMOVAL KEY

KEY	DESCRIPTION
1	Curb, Gutter, and Curb and Gutter, Any Type, Rem *
2	Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem
3	HMA, Any Thickness, Rem *
4	Tree Protective Fence
5	Erosion Control, Inlet Protection, Fabric Drop
6A	Tree, Rem, 6 In. – 12 In.
6B	Tree, Rem, 13 In. – 19 In.
6C	Tree, Rem, 20 In. – 29 In.

* SAWCUT FULL DEPTH AT REMOVAL LIMITS AS DIRECTED BY ENGINEER

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA

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SCALE : 1" = 20'

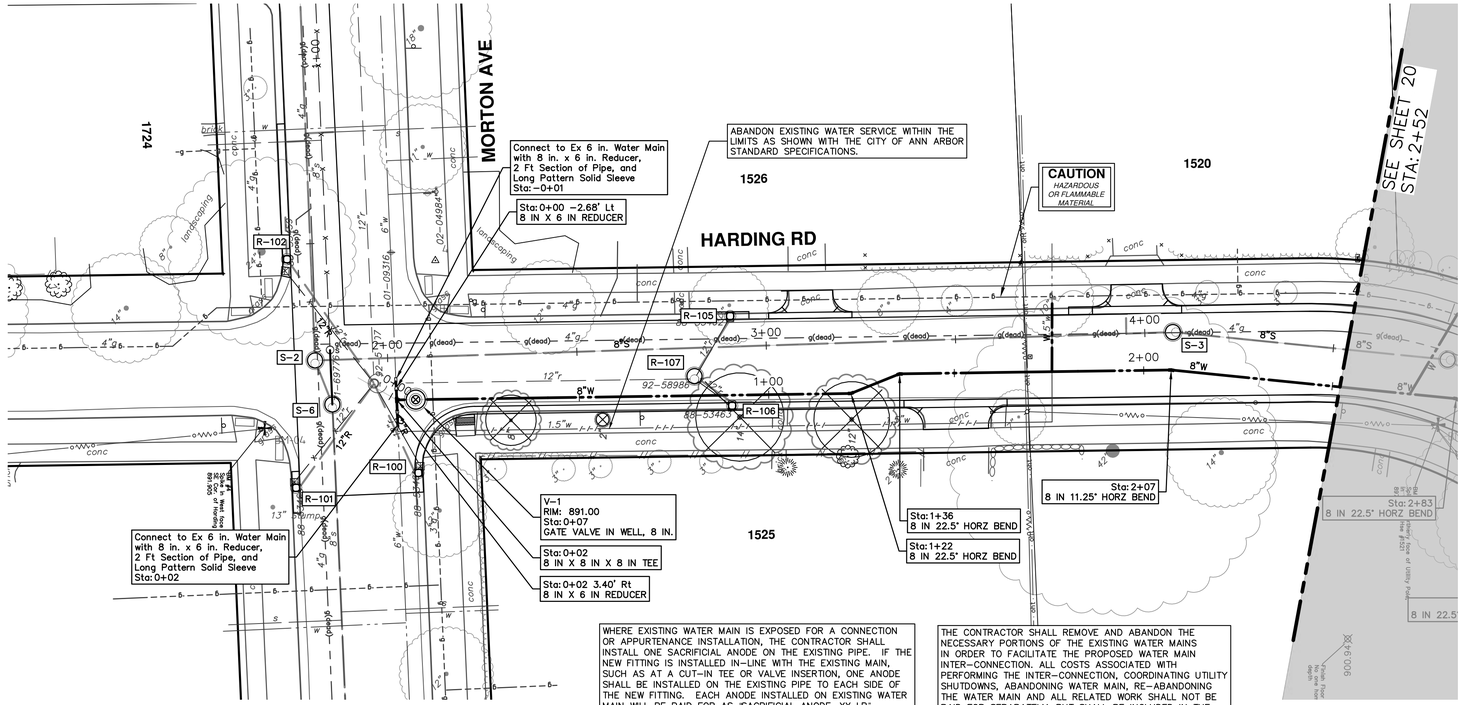
DRAWING No.
2024006-18

SHEET No.
18 OF 52

2025 MISCELLANEOUS UTILITY PROJECTS

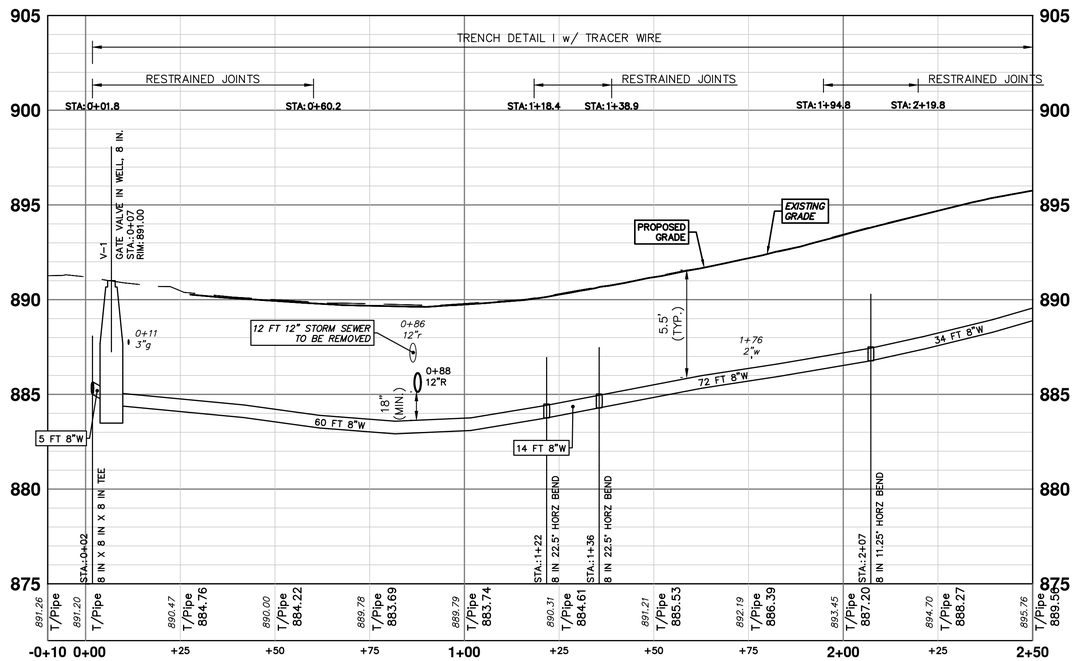
REMOVALS - HARDING RD

STA. 9+00 - STA 11+99



WATER MAIN STRUCTURES			
STRUCTURE	TYPE	STATION	RIM
V-1	Gate Valve in Well, 8 In.	0+07	891.00

PR WATER – HARDING



NO.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2025 MISCELLANEOUS UTILITY PROJECTS

WATER MAIN - HARDING RD

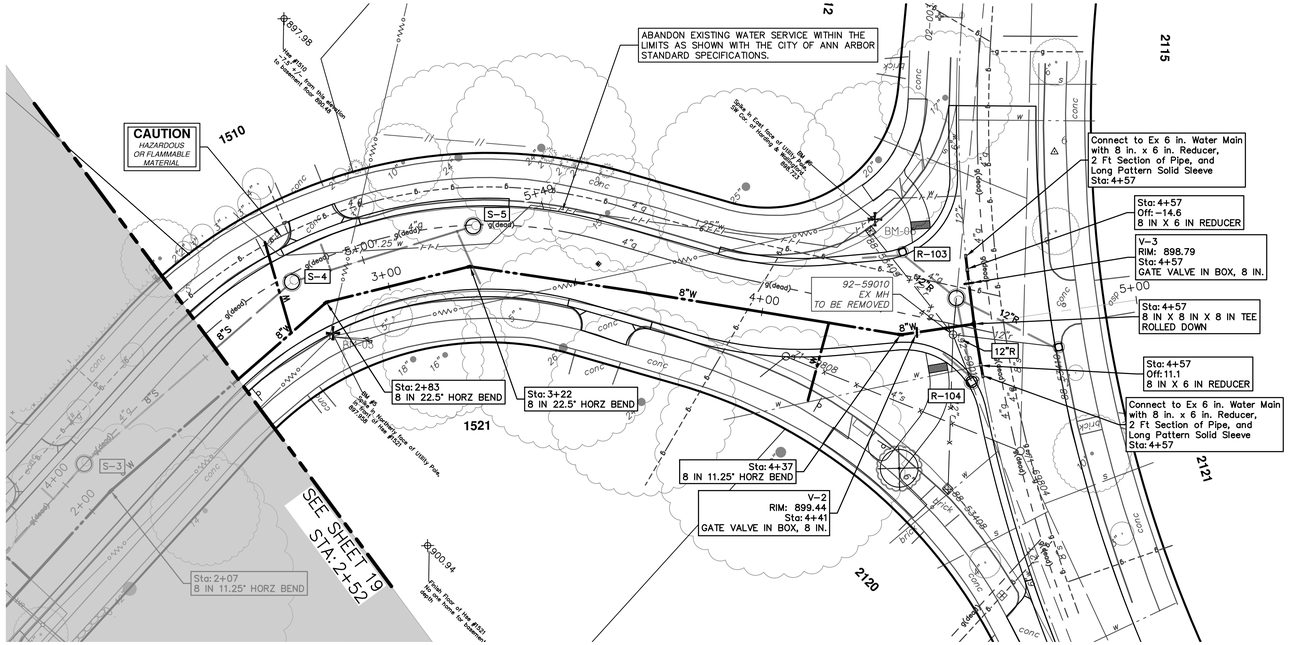
STA. 0+00 - STA. 2+50

SCALE PLAN: 1" = 20' PROFILE: 1" = 4'

DRAWING No. 2024006-19

SHEET No. 19 OF 52

R:\2024006 Misc Util 2025\Plan Production\2024006Wtr Harding.dwg Dwg Created: 5-Dec-24 — _a2 standard bw.stb — Plot Date: 10-Jan-25



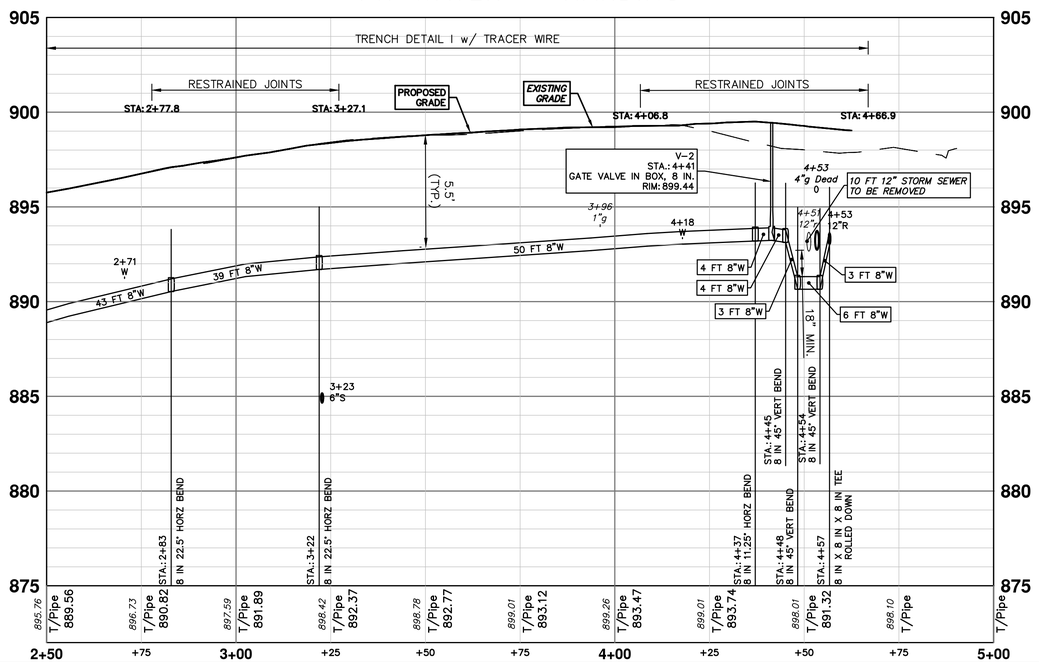
WHERE EXISTING WATER MAIN IS EXPOSED FOR A CONNECTION OR APPURTENANCE INSTALLATION, THE CONTRACTOR SHALL INSTALL ONE SACRIFICIAL ANODE ON THE EXISTING PIPE. IF THE NEW FITTING IS INSTALLED IN-LINE WITH THE EXISTING MAIN, SUCH AS AT A CUT-IN TEE OR VALVE INSERTION, ONE ANODE SHALL BE INSTALLED ON THE EXISTING PIPE TO EACH SIDE OF THE NEW FITTING. EACH ANODE INSTALLED ON EXISTING WATER MAIN WILL BE PAID FOR AS "SACRIFICIAL ANODE, XX LB"

THE CONTRACTOR SHALL REMOVE AND ABANDON THE NECESSARY PORTIONS OF THE EXISTING WATER MAINS IN ORDER TO FACILITATE THE PROPOSED WATER MAIN INTER-CONNECTION. ALL COSTS ASSOCIATED WITH PERFORMING THE INTER-CONNECTION, COORDINATING UTILITY SHUTDOWNS, ABANDONING WATER MAIN, RE-ABANDONING THE WATER MAIN AND ALL RELATED WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE RELATED ITEMS OF WORK.

WATER MAIN STRUCTURES

STRUCTURE	TYPE	STATION	RIM
V-2	Gate Valve in Box, 8 In.	4+41	899.44
V-3	Gate Valve in Box, 8 In.	4+57	898.79

PR WATER – HARDING



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2025 MISCELLANEOUS UTILITY PROJECTS

WATER MAIN - HARDING RD

STA. 2+50 - STA. 4+61

SCALE PLAN: 1" = 20' PROFILE: 1" = 4'

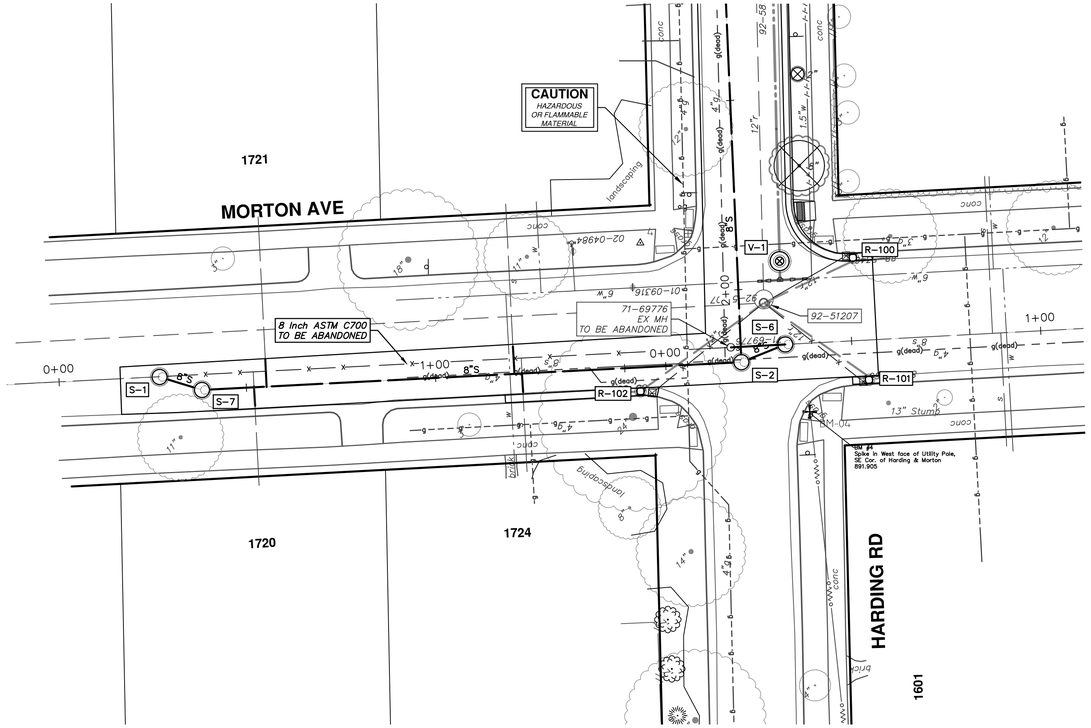
DRAWING No. 2024006-20

SHEET No. 20 OF 52

THE CONTRACTOR SHALL MAINTAIN FLOW IN THE EXISTING SANITARY SEWER AT ALL TIMES BY BYPASS PUMPING, AS NECESSARY. DURING WET WEATHER EVENTS, THE FLOW IN THE SANITARY SEWER WILL RISE RAPIDLY AND MAY BECOME SURCHARGED. THE CONTRACTOR SHALL MAINTAIN FLOW IN SUCH A MANNER AS THE EXISTING FLOW CAN BE ADEQUATELY TRANSPORTED, INCLUDING WET WEATHER FLOW.

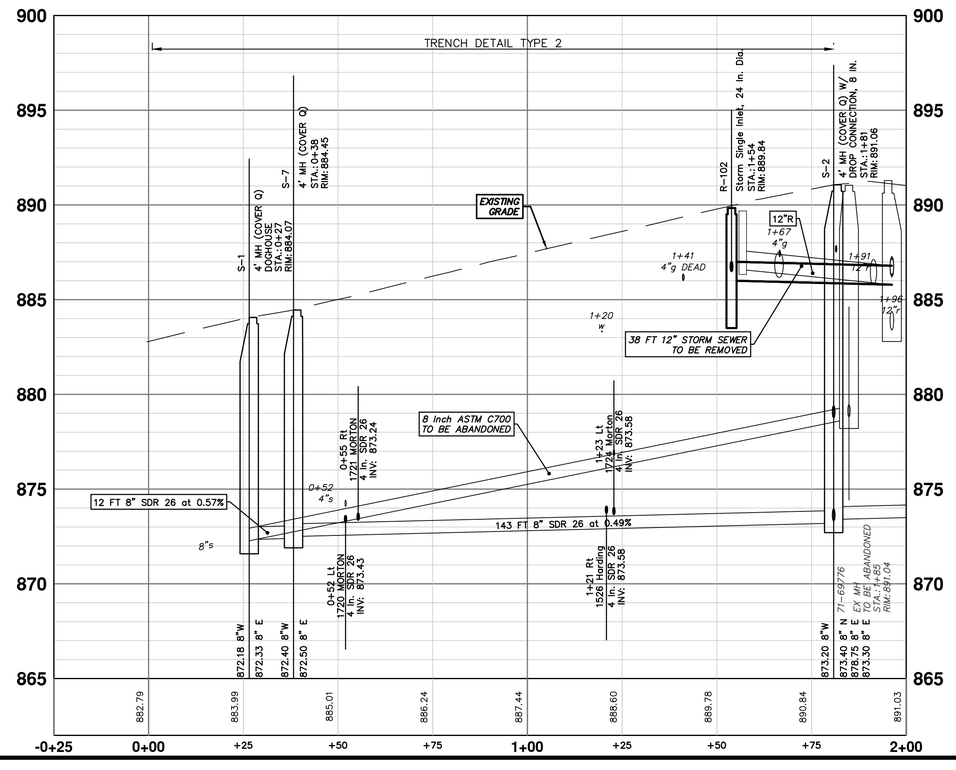
THE CONTRACTOR SHALL SUBMIT A DETAILED BYPASS PUMPING MANAGEMENT PLAN TO BE REVIEWED AND APPROVED BY THE ENGINEER, PRIOR TO ANY OBSTRUCTION OF FLOWS IN THE SANITARY SEWER. THE CONTRACTOR SHALL PLAN HIS OPERATION SUCH THAT THERE WILL BE NO BACKUPS, LEAKS OR DISCHARGES OF SEWERAGE. THE CONTRACTOR WILL BE COMPLETELY RESPONSIBLE FOR ALL CLEANUP OF BACKUPS, LEAKS OR DISCHARGES OF SEWERAGE.

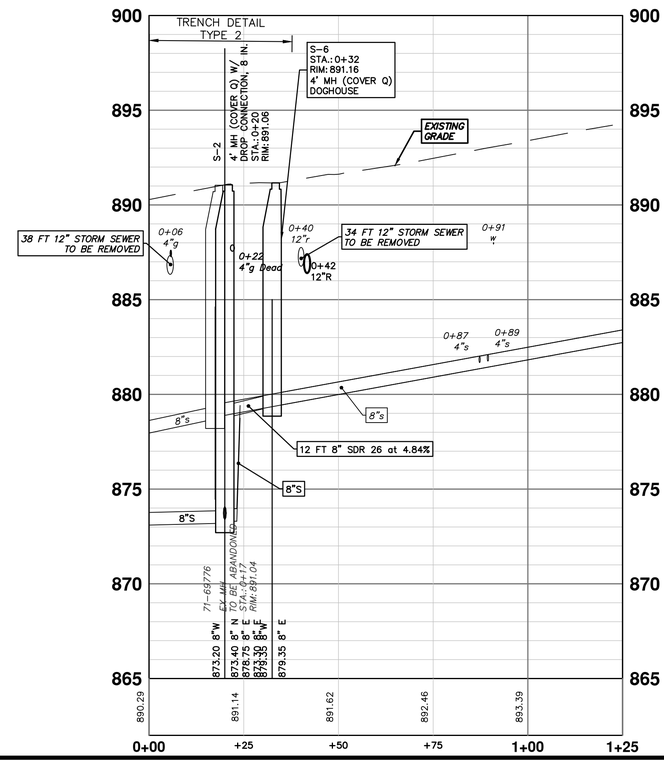
THE CONTRACTOR SHALL ALSO FURNISH AND HAVE AVAILABLE ON-SITE; REDUNDANT PUMPING FACILITIES IN CASE OF ANY FAILURE OF THE PUMPING SYSTEM INCLUDING PUMPS, PIPING, POWER SOURCE, ELECTRICAL CONNECTIONS, ETC. REDUNDANT PUMPING FACILITIES ALSO INCLUDE HAVING A BACKUP POWER GENERATOR IN CASE THE PRIMARY POWER SOURCE FAILS. THE CONTRACTOR SHALL PROVIDE AND ADEQUATE LABOR FORCE TO OVERSEE THE BYPASS PUMPING INCLUDING PROVIDING LABOR TO MAINTAIN 24 HOUR PER DAY OPERATION AND EMERGENCY BACKUP SERVICE, IF NECESSARY. THE CONTRACTOR WILL NOT BE ABLE TO OBSTRUCT FLOWS IN THE SEWER UNLESS THE PRIMARY AND REDUNDANT EQUIPMENT IS ON-SITE AND IN OPERABLE CONDITION. THE BYPASS PUMPING OPERATION SHALL NOT BE PAID FOR SEPARATELY AND SHALL BE INCLUDED IN THE COST OF PAY ITEM FOR 'GENERAL CONDITIONS'.



SANITARY SEWER STRUCTURE TABLE

STRUCTURE	STATION	RIM	DEPTH	DIA.	TYPE	INVERTS	NOTES
S-1	0+27	884.07	11.98	48	4' MH	8" E 872.33 8" W 872.18	4' MH (Cover Q) DOGHOUSE
S-6	0+32	891.16	11.81	48	4' MH	8" E 879.35 8" W 879.35	4' MH (Cover Q) DOGHOUSE
S-7	0+38	884.45	12.05	48	4' MH	8" E 872.50 8" W 872.40	4' MH (Cover Q)
S-2	1+81	891.06	17.86	48	4' MH	8" N 873.40 8" E 878.75 8" E 873.30 8" W 873.20	4' MH (Cover Q) w/ Drop Connection, 8 In.





REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2025 MISCELLANEOUS UTILITY PROJECTS

SANITARY SEWER - HARDING RD

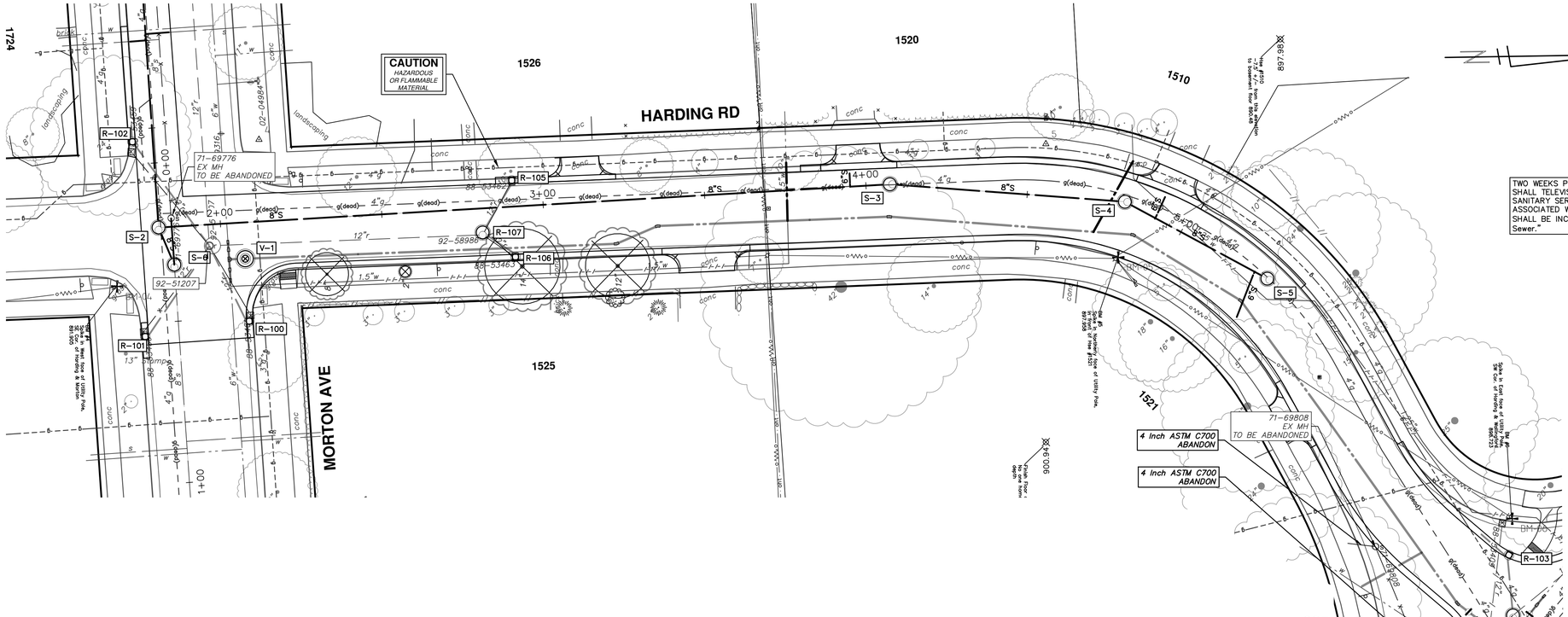
STA. 0+00 - STA. 3+75

SCALE PLAN: 1" = 20' PROFILE: 1" = 4'

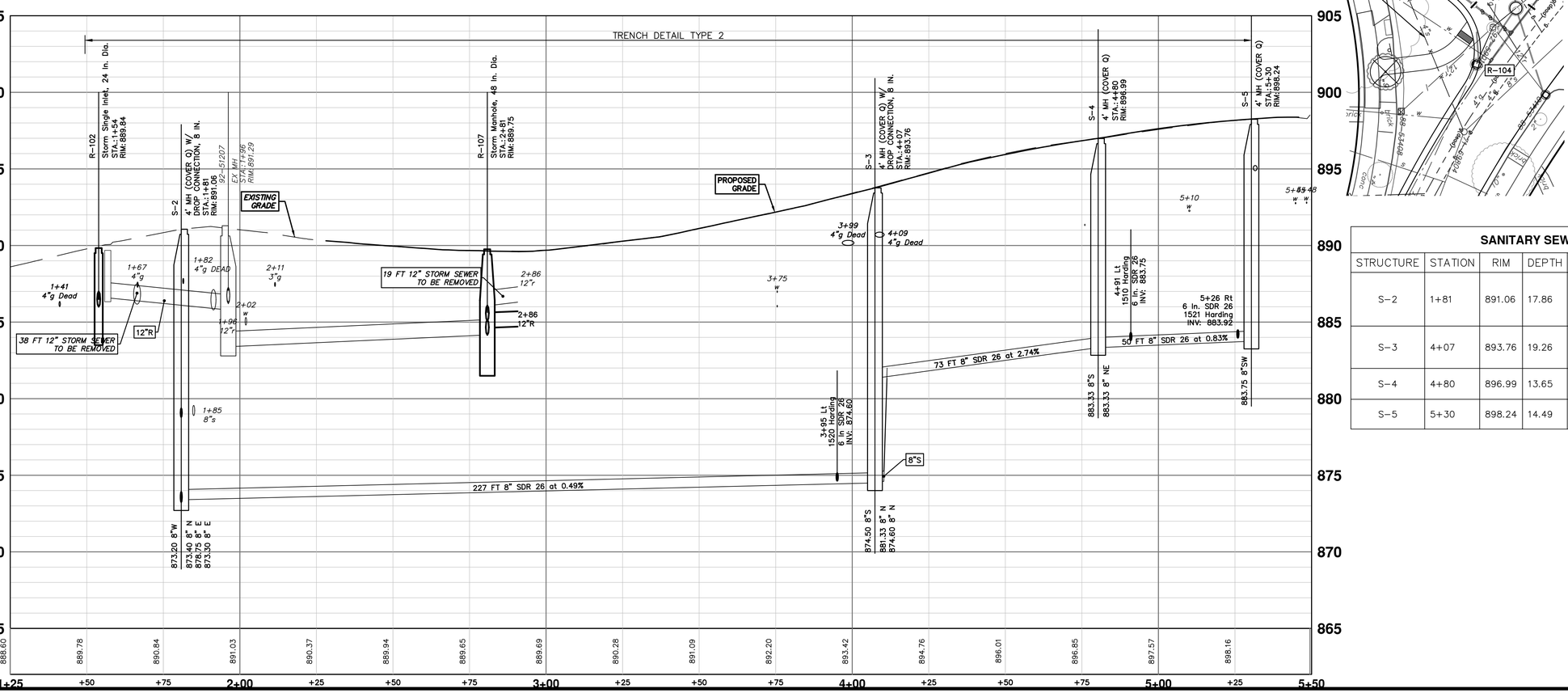
DRAWING No. 2024006-21

SHEET No. 21 OF 52

R:\2024006 Misc Util 2025\Plan Production\2024006Sswr Harding.dwg Dwg Created: 10-Dec-24 - _a2 standard bw.stb - Plot Date: 10-Jan-25



TWO WEEKS PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL TELEVISE, VERIFY AND MARK THE LOCATION AND ELEVATION OF THE SANITARY SERVICE LEADS TO 1510, 1520, AND 1521 HARDING. ALL COSTS ASSOCIATED WITH THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE ITEM OF WORK "____ In., SDR 26 PVC Sanitary Sewer."



SANITARY SEWER STRUCTURE TABLE

STRUCTURE	STATION	RIM	DEPTH	DIA.	TYPE	INVERTS	NOTES
S-2	1+81	891.06	17.86	48	4' MH	8" N 873.40 8" E 878.75 8" E 873.30 8" W 873.20	4' MH (Cover Q) w/ Drop Connection, 8 In.
S-3	4+07	893.76	19.26	48	4' MH	8" N 881.33 8" N 874.60 8" S 874.50	4' MH (Cover Q) w/ Drop Connection, 8 In.
S-4	4+80	896.99	13.65	48	4' MH	8" NE 883.33 8" S 883.33	4' MH (Cover Q)
S-5	5+30	898.24	14.49	48	4' MH	8" SW 883.75	4' MH (Cover Q)

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2025 MISCELLANEOUS UTILITY PROJECTS

SANITARY SEWER - HARDING RD

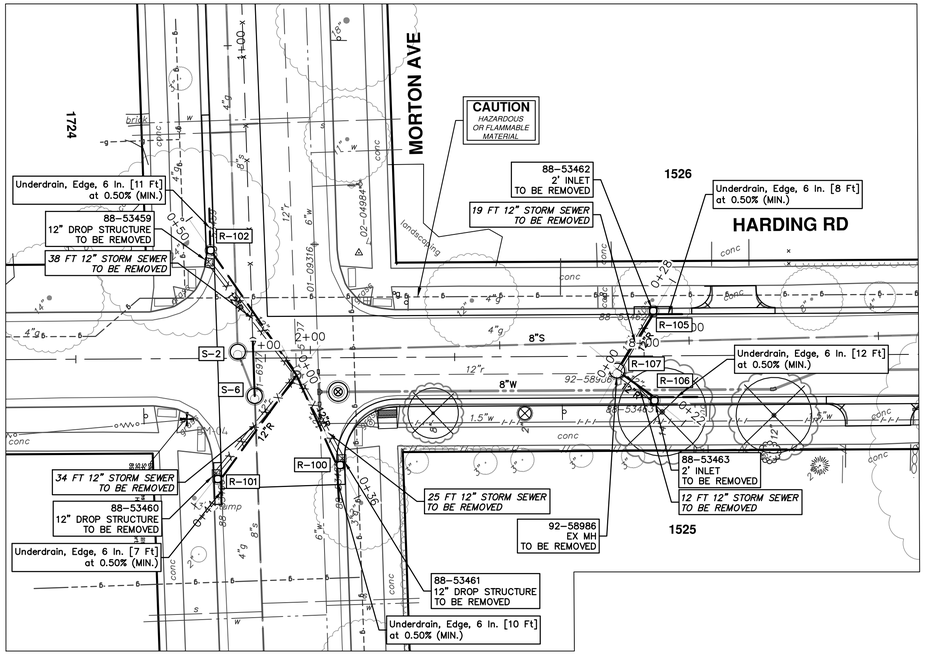
STA. 1+49 - STA. 4+85

SCALE PLAN: 1" = 20' PROFILE: 1" = 4'

DRAWING No. 2024006-22

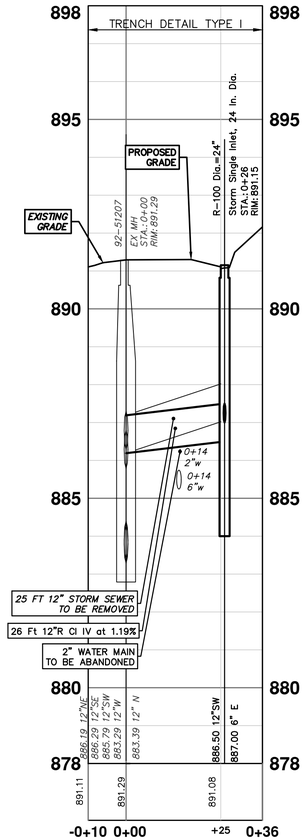
SHEET No. 22 OF 52

EXISTING STORM SEWER STRUCTURE REMOVAL TABLE		
STRUCTURE	DEPTH (Feet)	REMOVE
88–53459	3.10	12" Drop Structure TO BE REMOVED
88–53461	3.84	12" Drop Structure TO BE REMOVED
88–53460	3.70	12" Drop Structure TO BE REMOVED
88–53462	2.70	2' Inlet TO BE REMOVED
88–53463	2.41	2' Inlet TO BE REMOVED
92–58986	5.70	EX MH TO BE REMOVED

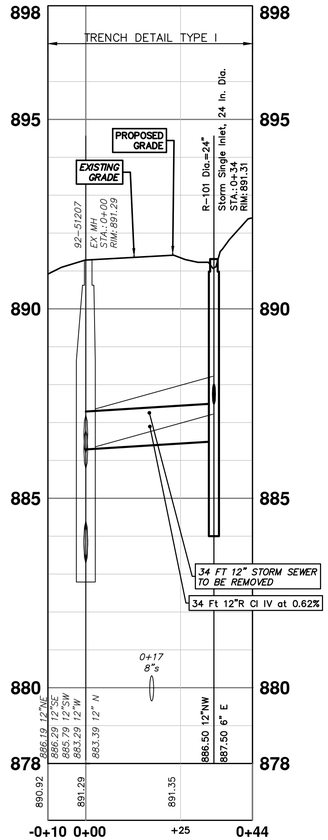


STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	TYPE	RIM	INVERTS	DEPTH (Feet)	SUMP
R–100	0+26	Storm Single Inlet, 24 In. Dia.	891.15	6" E 887.00 12" SW 886.50	6.65	2'
R–101	0+34	Storm Single Inlet, 24 In. Dia.	891.31	6" E 887.50 12" NW 886.50	6.81	2'
R–102	0+40	Storm Single Inlet, 24 In. Dia.	889.84	6" W 886.50 12" NE 886.00	5.84	2'
R–105	0+17	Storm Single Inlet, 24 In. Dia.	889.11	6" N 886.12 12" SE 884.70	6.40	2'
R–106	0+12	Storm Single Inlet, 24 In. Dia.	889.58	12" SW 885.14 6" N 885.72	6.44	2'
R–107	0+00	Storm Manhole, 48 In. Dia.	889.75	12" NW 884.62 12" NE 885.09 12" S 884.16	7.59	2'

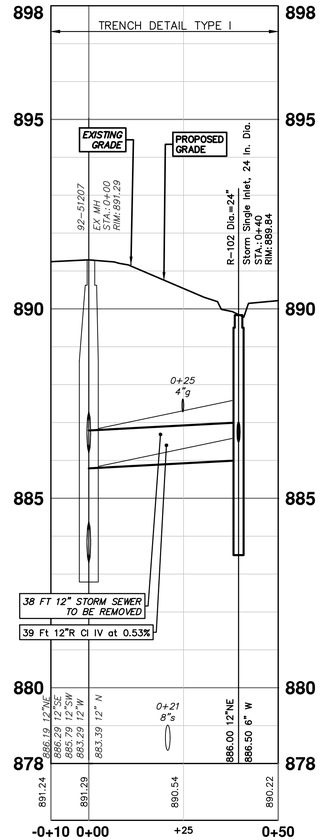
92–51207 – R–100



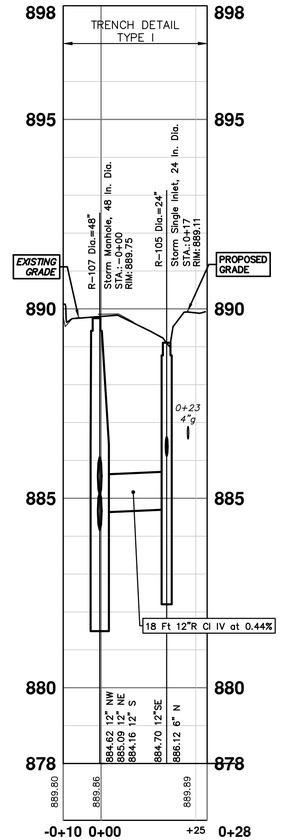
92–51207 – R–101



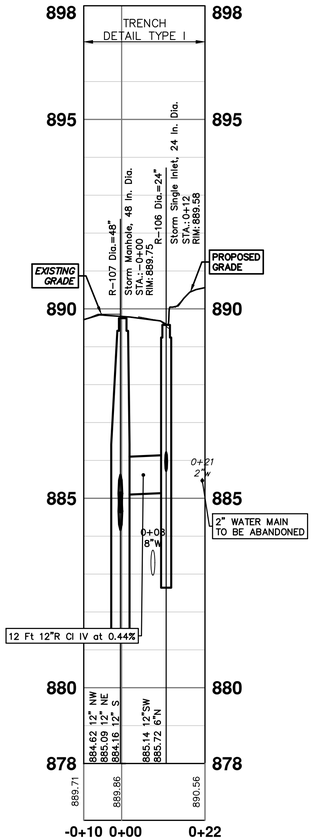
92–51207 – R–102



R–107 – R–105



R–107 – R–106



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

NO.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA
REV.		DATE	DRAWN	CHECKED

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2025 MISCELLANEOUS UTILITY PROJECTS

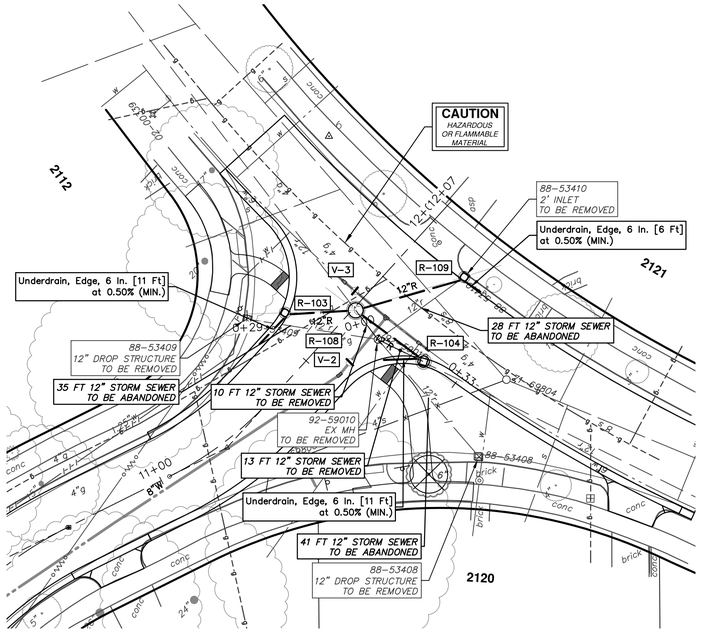
STORM SEWER - HARDING RD

R-100 - R-102, R-105 - R-107

SCALE PLAN: 1" = 20' PROFILE: 1" = 4'

DRAWING No. 2024006-23

SHEET No. 23 OF 52



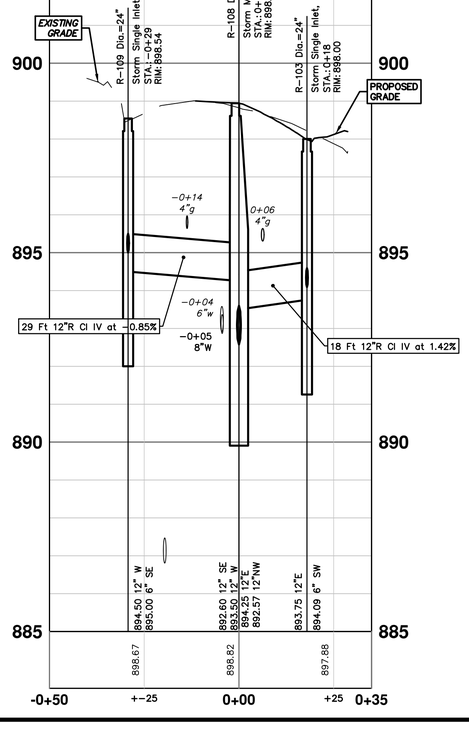
EXISTING STORM SEWER STRUCTURE REMOVAL TABLE

STRUCTURE	DEPTH (Feet)	REMOVE
88-53409	2.51	12" Drop Structure TO BE REMOVED
88-53410	3.11	2' Inlet TO BE REMOVED
88-53408	4.14	12" Drop Structure TO BE REMOVED
92-59010	6.51	EX MH TO BE REMOVED

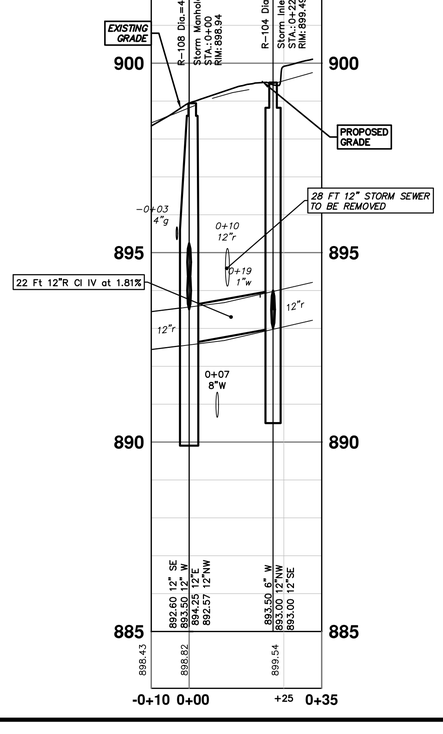
STORM SEWER STRUCTURE TABLE

STRUCTURE	UTILITY STATION	TYPE	RIM	INVERTS	DEPTH (Feet)	SUMP
R-103	0+18	Storm Single Inlet, 24 In. Dia.	898.00	6" SW 894.09 12" E 893.75	6.25	2'
R-104	0+22	Storm Inlet-Junction, 36 In. Dia.	899.49	6" W 893.50 12" NW 893.00 12" SE 893.00	8.49	2'
R-108	0+00	Storm Manhole, 48 In. Dia.	898.94	12" SE 892.60 12" W 893.50 12" E 894.25 12" NW 892.57	8.37	2'
R-109	0+29	Storm Single Inlet, 24 In. Dia.	898.54	12" W 894.50 6" SE 895.00	6.04	2'

R-109 – R-108 – R-103



R-108 – R-104



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA

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2025 MISCELLANEOUS UTILITY PROJECTS

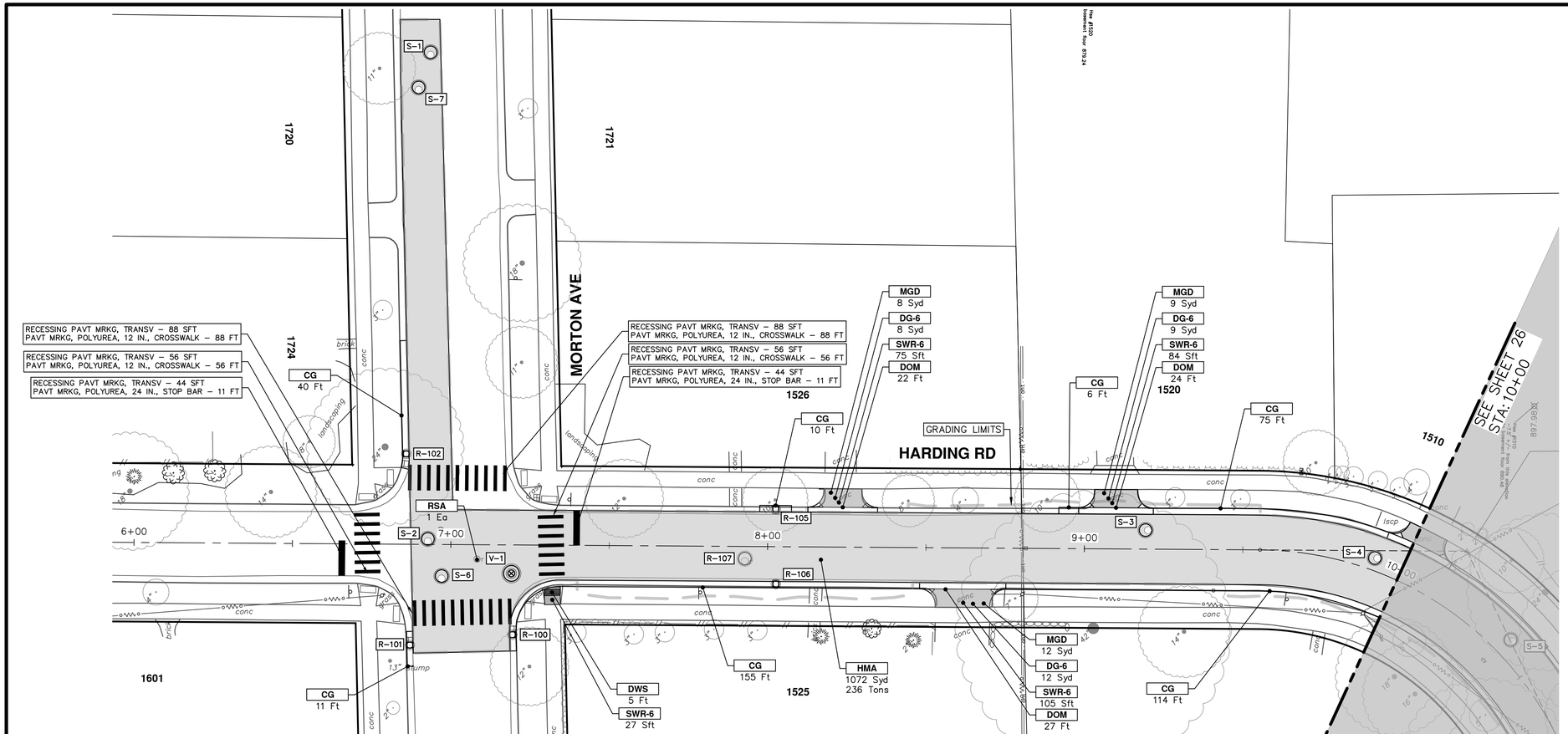
STORM SEWER - HARDING RD

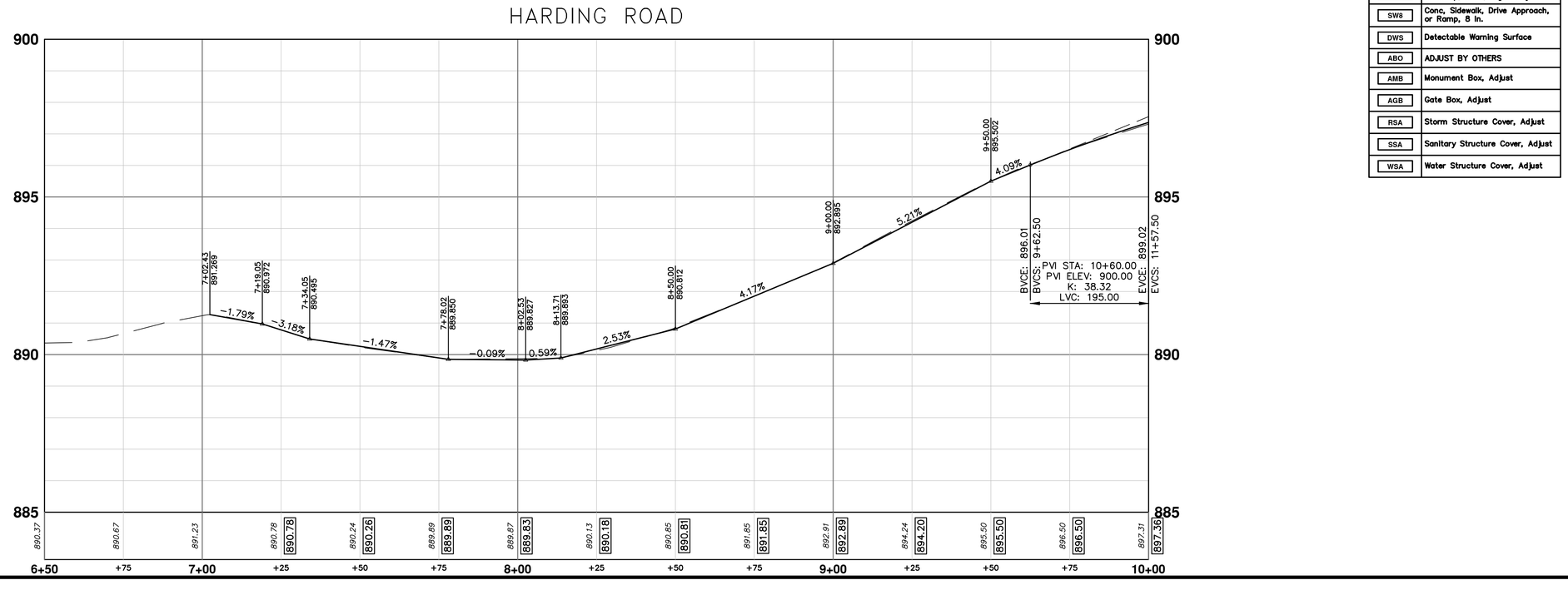
R-103, R-104

SCALE PLAN: 1" = 20' PROFILE: 1" = 4'

DRAWING No. 2024006-24

SHEET No. 24 OF 52





CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	PLACE HMA, PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
HMA APP	HMA Approach
HP	Hand Patching
CG	Conc, Curb or Curb & Gutter, All Types
DOM	Conc, Driveway Opening, Type M
DOM-HE	Conc, Driveway Opening, Type M, High Early
DG-6	DRIVEWAY GRAVEL 6 INCH 21AA LIMESTONE, C.I.P.
MGD	MACHINE GRADING, DRIVEWAY
SW-4	Conc, Sidewalk, 4 in.
SWR-6	Conc, Sidewalk, Drive Approach, or Ramp, 6 in.
SW6-HE	Conc, Sidewalk, Drive Approach, or Ramp, 6 in., High Early
SW8	Conc, Sidewalk, Drive Approach, or Ramp, 8 in.
DWS	Detectable Warning Surface
ABO	ADJUST BY OTHERS
AMB	Monument Box, Adjust
AGB	Gate Box, Adjust
RSA	Storm Structure Cover, Adjust
SSA	Sanitary Structure Cover, Adjust
WSA	Water Structure Cover, Adjust

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA

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2025 MISCELLANEOUS UTILITY PROJECTS

ROAD PLAN & PROFILE - HARDING RD

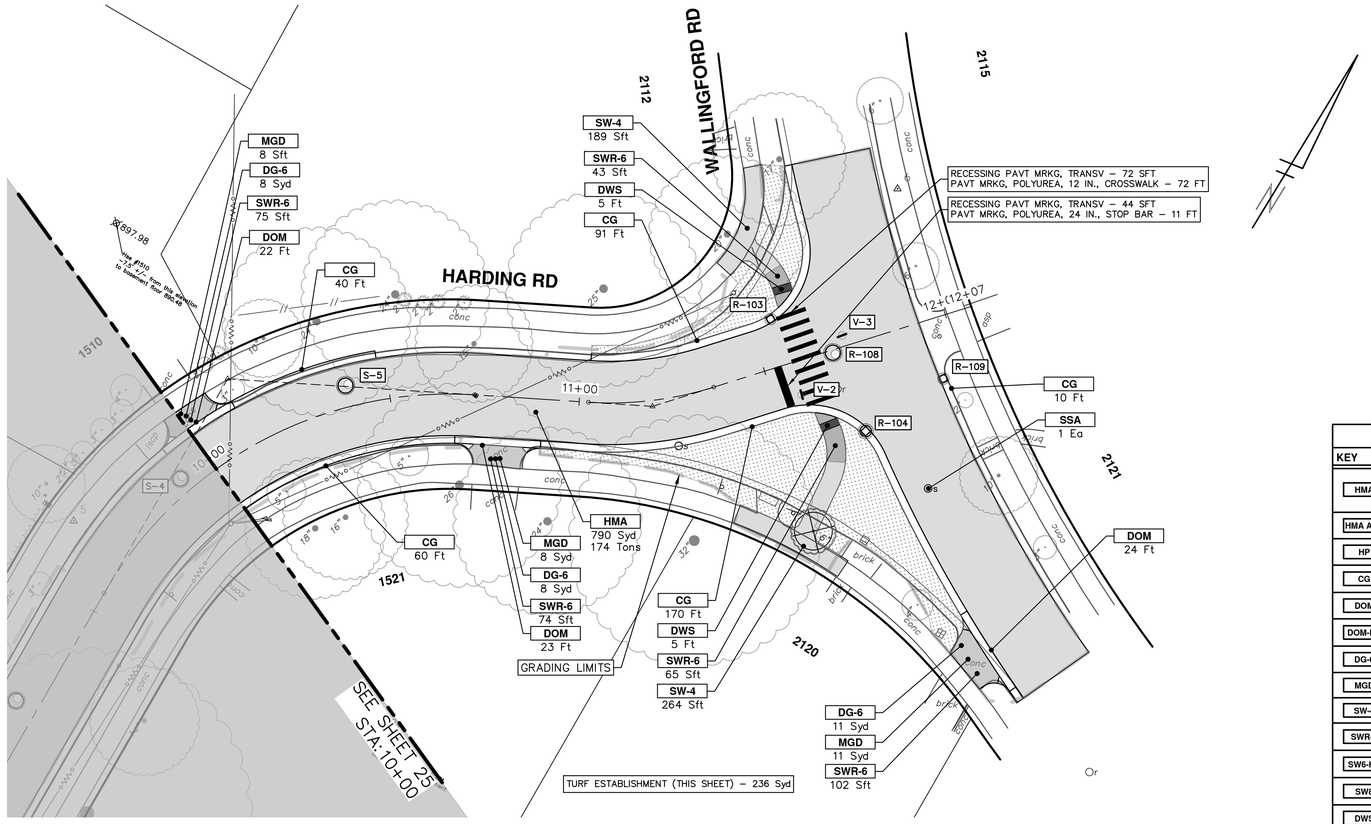
STA. 6+50 - STA. 10+00

SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2024006-25

SHEET No. 25 OF 52

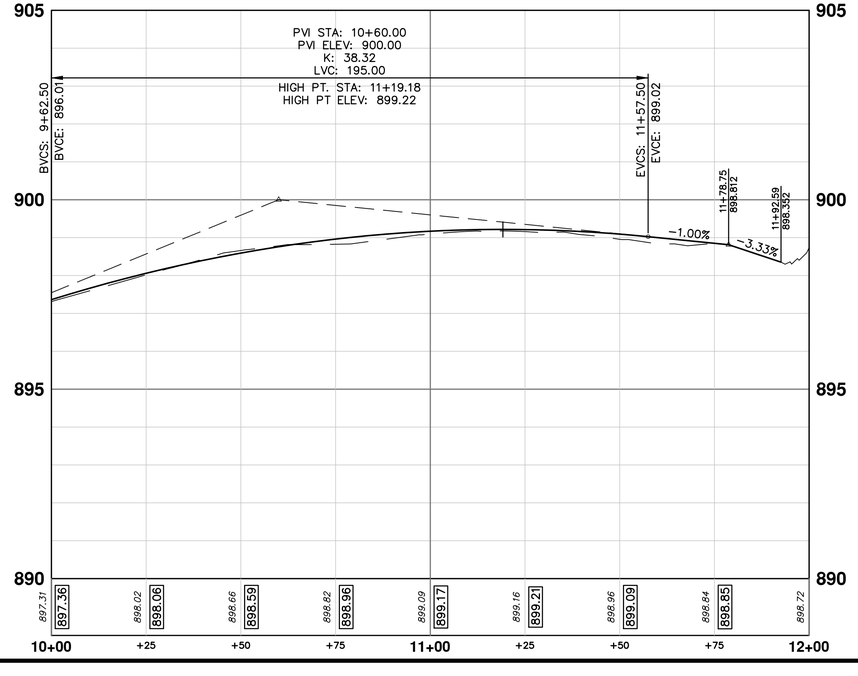
R:\2024006 Misc Util 2025\Plan Production\2024006Prd Harding.dwg Dwg Created: 12-Dec-24 — _a2 standard bw.stb — Plot Date: 10-Jan-25



CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	PLACE HMA, PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
HMA APP	HMA Approach
HP	Hand Patching
CG	Conc, Curb or Curb & Gutter, All Types
DOM	Conc, Driveway Opening, Type M
DOM-HE	Conc, Driveway Opening, Type M, High Early
DG-6	DRIVEWAY GRAVEL 6 INCH 21AA LIMESTONE, C.I.P.
MGD	MACHINE GRADING, DRIVEWAY
SW-4	Conc, Sidewalk, 4 in.
SWR-6	Conc, Sidewalk, Drive Approach, or Ramp, 6 in.
SW6-HE	Conc, Sidewalk, Drive Approach, or Ramp, 6 in., High Early
SW8	Conc, Sidewalk, Drive Approach, or Ramp, 8 in.
DWS	Detectable Warning Surface
ABO	ADJUST BY OTHERS
AMB	Monument Box, Adjust
AGB	Gate Box, Adjust
RSA	Storm Structure Cover, Adjust
SSA	Sanitary Structure Cover, Adjust
WSA	Water Structure Cover, Adjust

HARDING ROAD



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2025 MISCELLANEOUS UTILITY PROJECTS

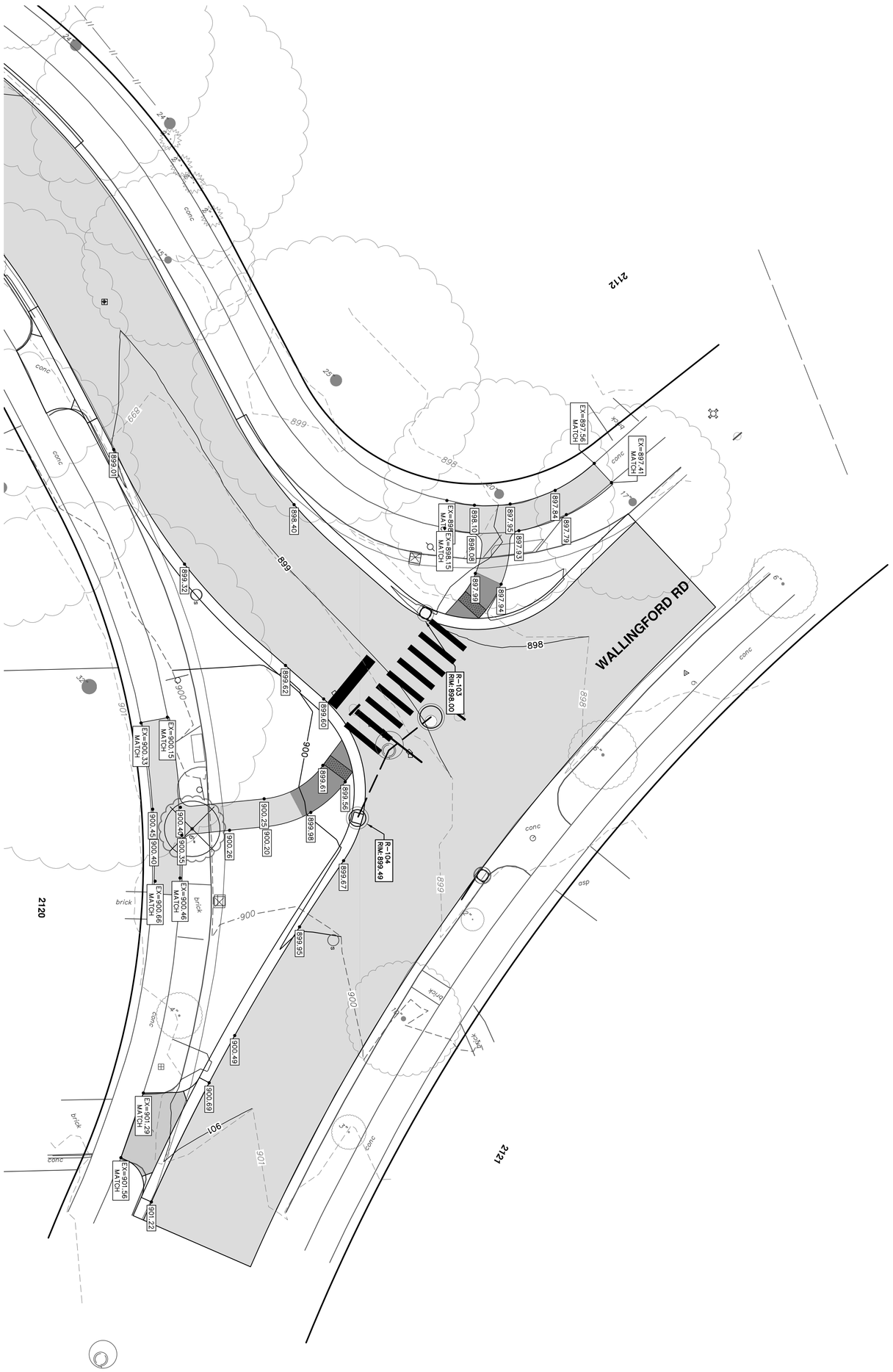
ROAD PLAN & PROFILE - HARDING RD

STA. 10+00 - STA. 11+98

SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

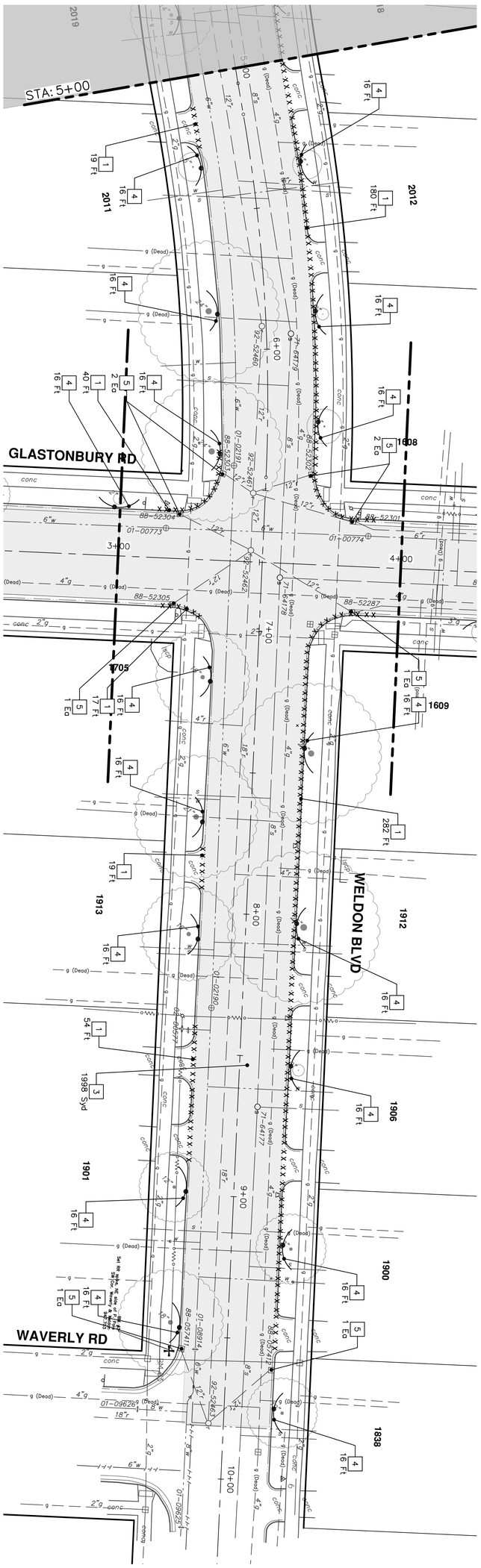
DRAWING No. 2024006-26

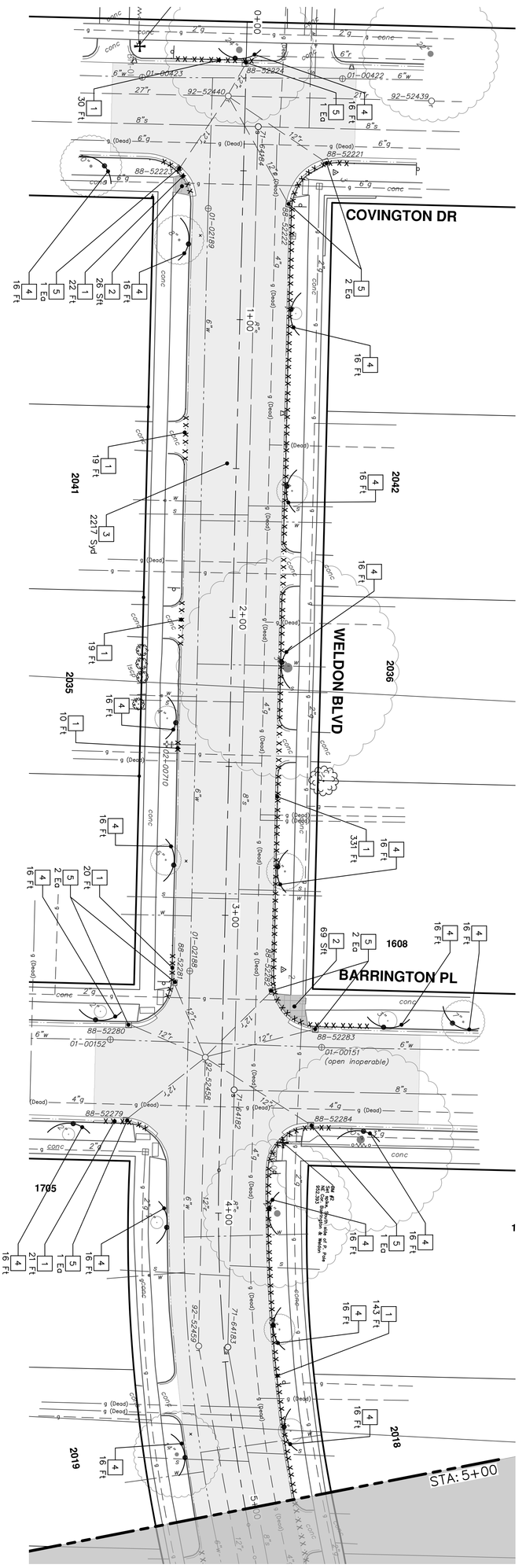
SHEET No. 26 OF 52



SHEET No. 27 OF 52	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			
SCALE PLAN: 1" = 10'	2025 MISCELLANEOUS UTILITY PROJECTS ####				
DRAWING No. 2024006-27	HARDING - WALLINGFORD INTERSECTION GRADING		COPY A2REVDATES.DWG TO PROJECT FOLDER AND		
			00 REVISE THIS WHEN GOING OUT FOR BID	DATE BY	BY
			REV. DESCRIPTION	DATE DRAWN	CHECKED

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





KEY	DESCRIPTION
1	Curb, Gutter, and Curb and Gutter, Any Type, Rem *
2	Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem
3	HMA, Any Thickness, Rem *
4	Tree Protective Fence
5	Erosion Control, Inlet Protection, Fabric Drop
6A	Tree, Rem, 6 In. - 12 In.
6B	Tree, Rem, 13 In. - 19 In.
6C	Tree, Rem, 20 In. - 29 In.

* SAWCUT FULL DEPTH AT REMOVAL LIMITS AS DIRECTED BY ENGINEER

SHEET No. 28 OF 52

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE : 1" = 20'

DRAWING No. 2024006-28

2025 MISCELLANEOUS UTILITY PROJECTS

REMOVALS - WELDON BLVD

STA. 0+00 - STA. 10+25

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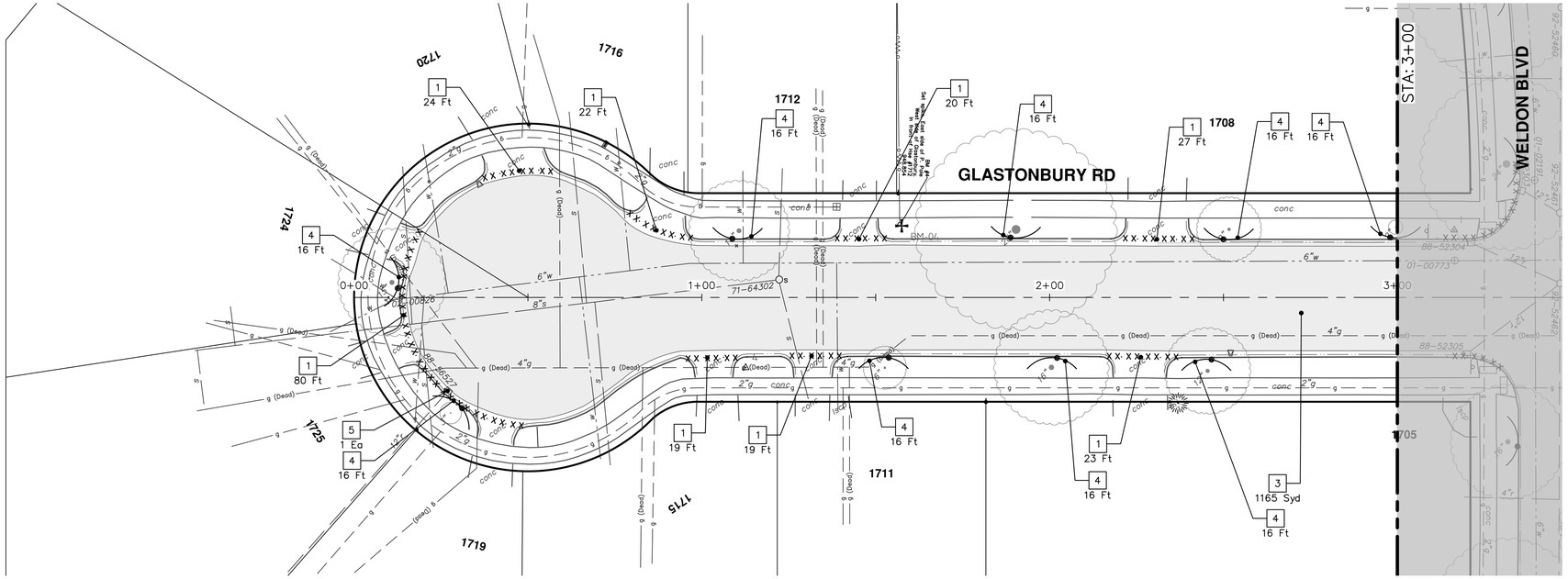
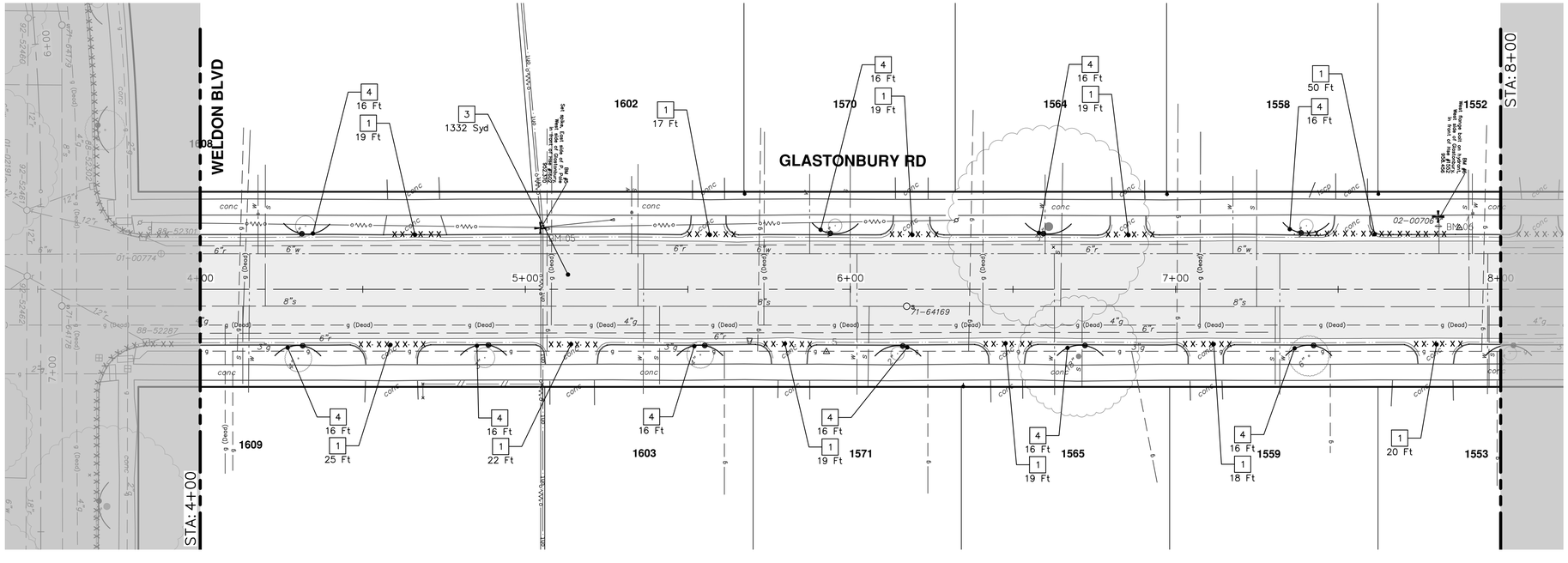
REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA





REMOVAL KEY

KEY	DESCRIPTION
1	Curb, Gutter, and Curb and Gutter, Any Type, Rem *
2	Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem
3	HMA, Any Thickness, Rem *
4	Tree Protective Fence
5	Erosion Control, Inlet Protection, Fabric Drop
6A	Tree, Rem, 6 In. – 12 In.
6B	Tree, Rem, 13 In. – 19 In.
6C	Tree, Rem, 20 In. – 29 In.

* SAWCUT FULL DEPTH AT REMOVAL LIMITS AS DIRECTED BY ENGINEER

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2025 MISCELLANEOUS UTILITY PROJECTS

REMOVALS - GLASTONBURY RD

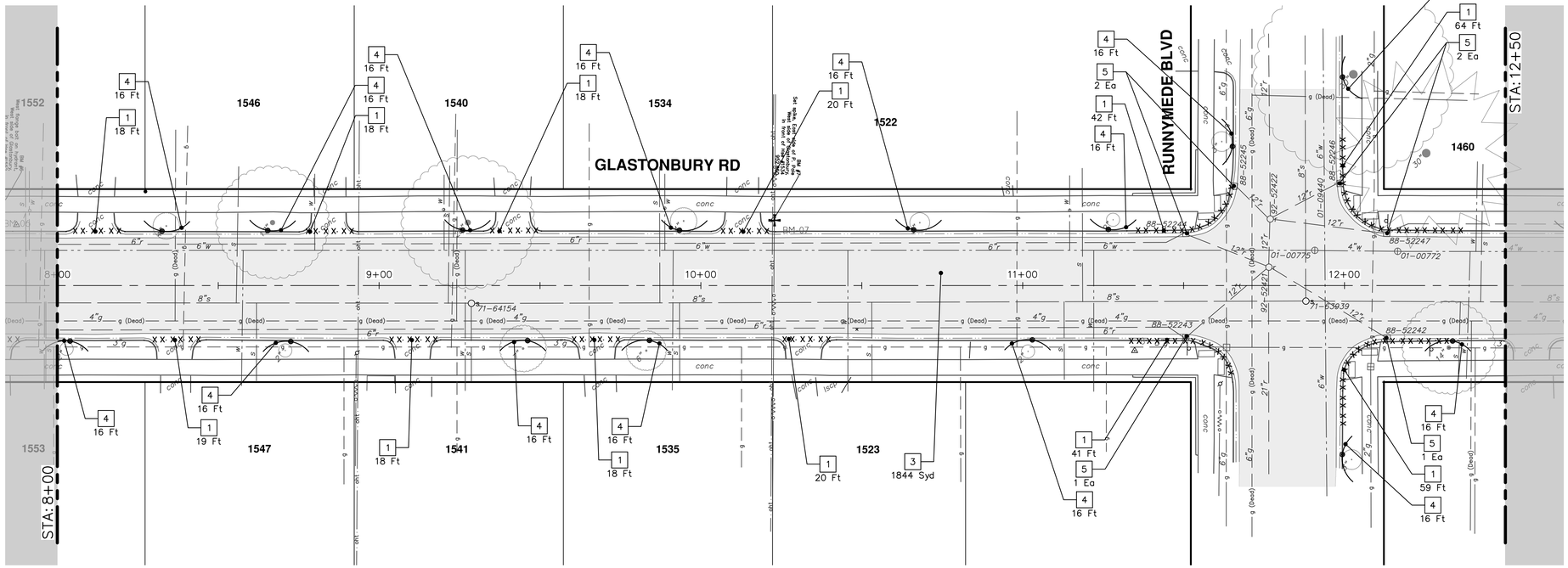
STA. 0+00 - STA. 8+00

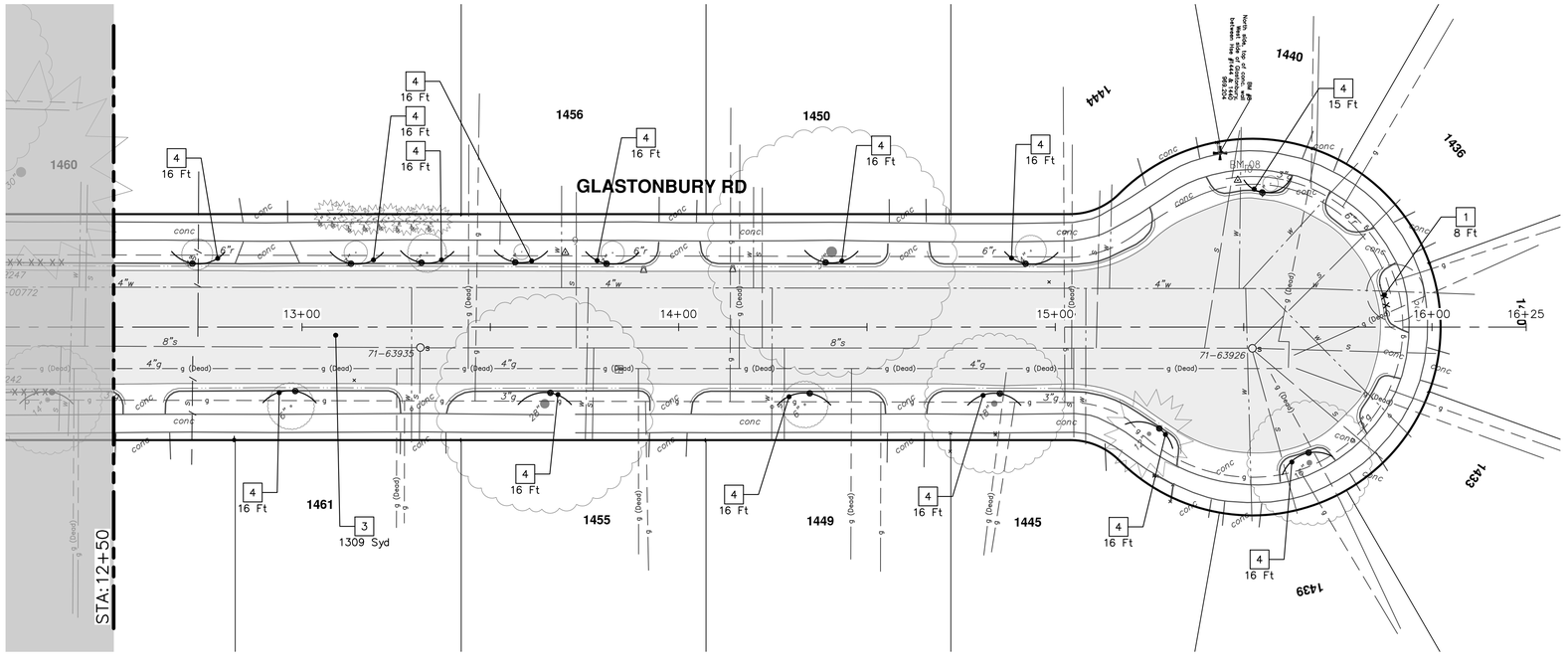
SCALE : 1" = 20'

DRAWING No.
2024006-29

SHEET No.
29 OF 52

R:\2024006 Misc Util 2025\Plan Production\2024006Rem GlasWeld.dwg Dwg Created: 4-Dec-24 – _a2 standard bw.stb – Plot Date: 10-Jan-25





REMOVAL KEY

KEY	DESCRIPTION
1	Curb, Gutter, and Curb and Gutter, Any Type, Rem *
2	Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem
3	HMA, Any Thickness, Rem *
4	Tree Protective Fence
5	Erosion Control, Inlet Protection, Fabric Drop
6A	Tree, Rem, 6 In. – 12 In.
6B	Tree, Rem, 13 In. – 19 In.
6C	Tree, Rem, 20 In. – 29 In.

* SAWCUT FULL DEPTH AT REMOVAL LIMITS AS DIRECTED BY ENGINEER

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2025 MISCELLANEOUS UTILITY PROJECTS

REMOVALS - GLASTONBURY RD

STA. 8+00 - STA. 16+02

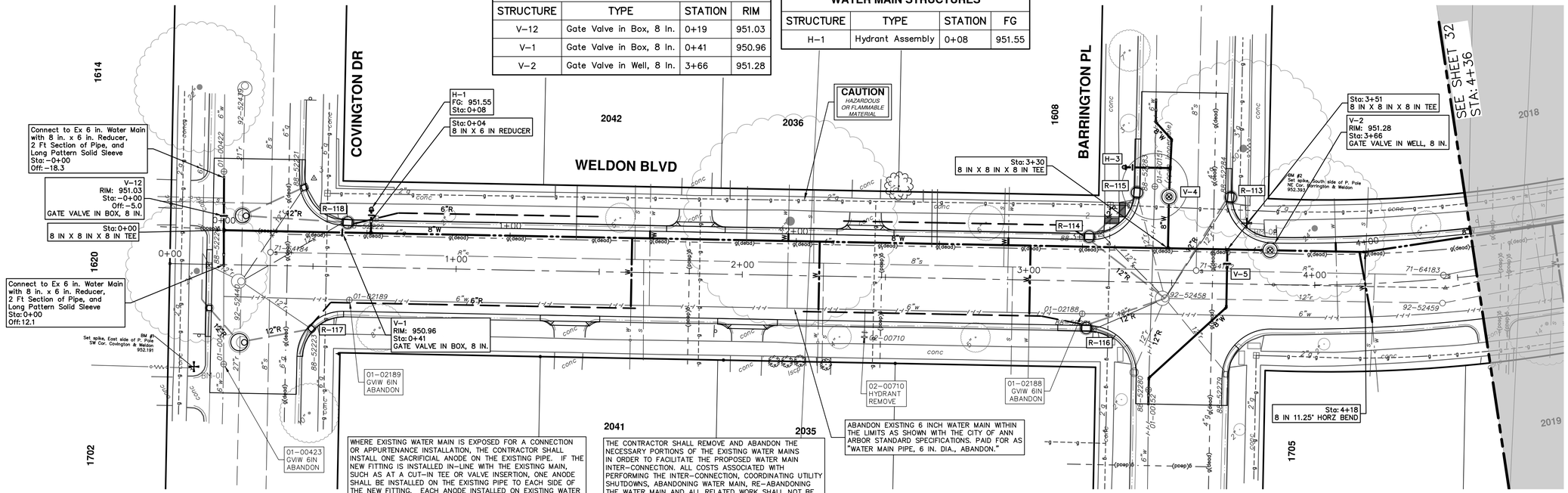
SCALE : 1" = 20'

DRAWING No. 2024006-30

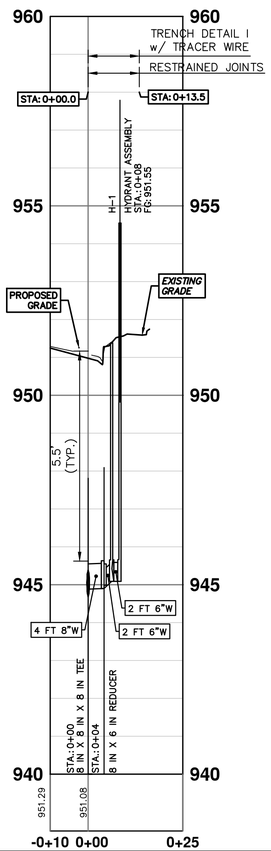
SHEET No. 30 OF 52

WATER MAIN STRUCTURES			
STRUCTURE	TYPE	STATION	RIM
V–12	Gate Valve in Box, 8 In.	0+19	951.03
V–1	Gate Valve in Box, 8 In.	0+41	950.96
V–2	Gate Valve in Well, 8 In.	3+66	951.28

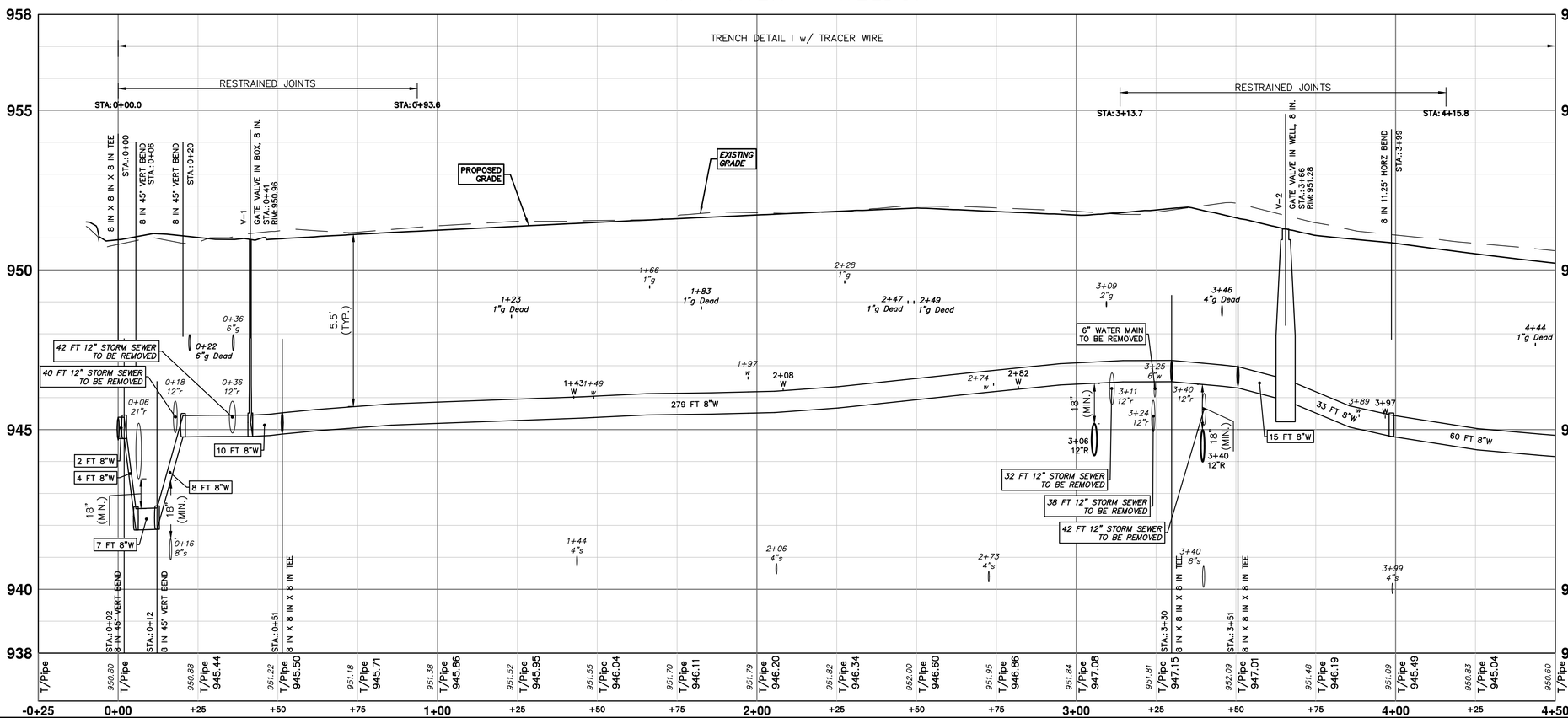
WATER MAIN STRUCTURES			
STRUCTURE	TYPE	STATION	FG
H–1	Hydrant Assembly	0+08	951.55



H–1 GW



PR WATER – WELDON



NO.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA
REV.		DATE	DRAWN	CHECKED

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2025 MISCELLANEOUS UTILITY PROJECTS

WATER MAIN - WELDON BLVD

STA. 0+00 - STA. 4+50, HYD H-1

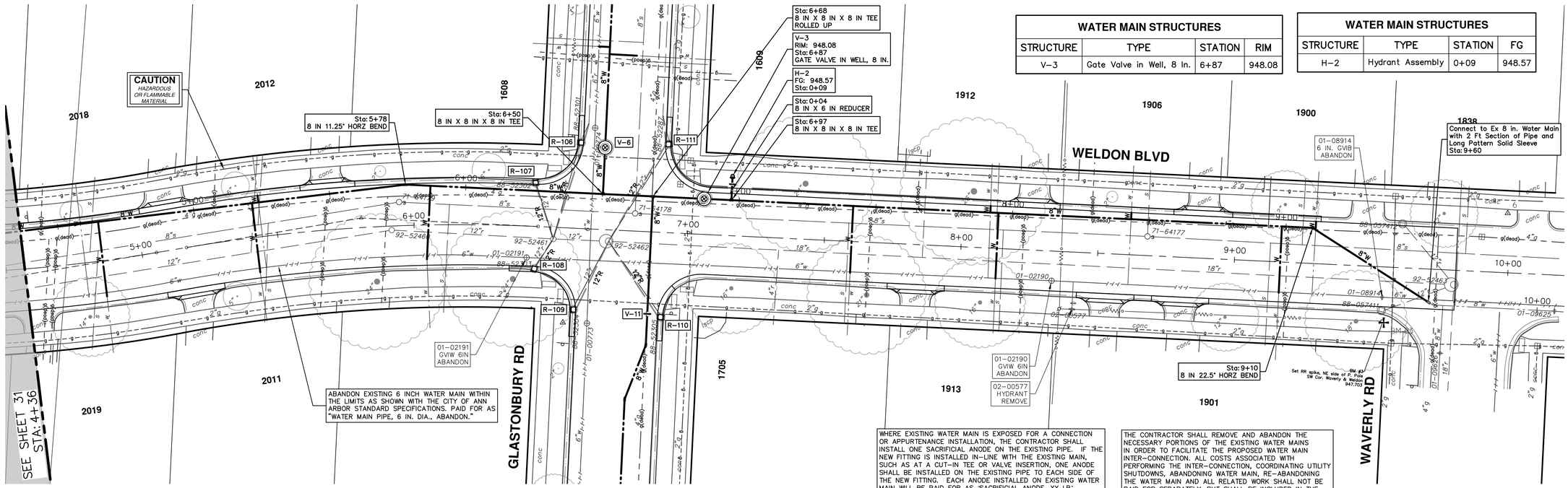
SCALE PLAN: 1" = 2'
PROFILE: 1" = 2'
DRAWING No. 2024006-31
SHEET No. 31 OF 52

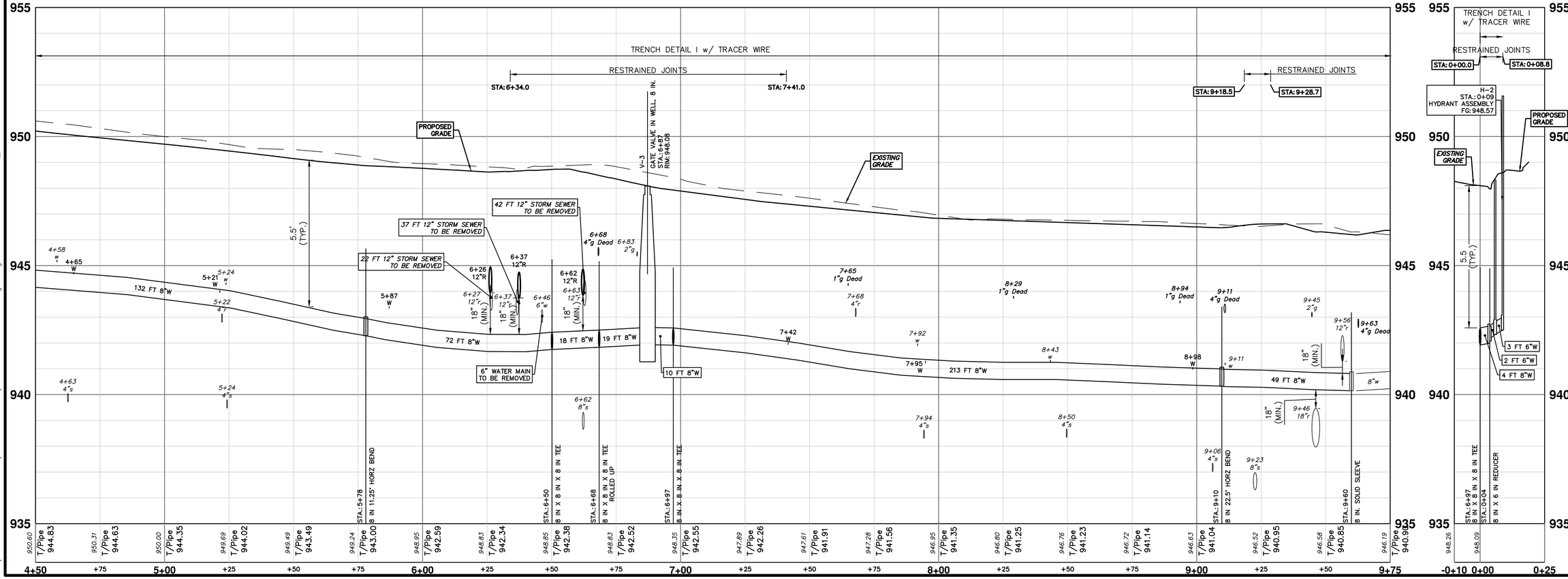
WATER MAIN STRUCTURES			
STRUCTURE	TYPE	STATION	RIM
V–3	Gate Valve in Well, 8 In.	6+87	948.08

WATER MAIN STRUCTURES			
STRUCTURE	TYPE	STATION	FG
H–2	Hydrant Assembly	0+09	948.57

PR WATER – WELDON

H–2 GW





R:\2024006 Misc Util 2025\Plan Production\2024006Wtr GlasWeld.dwg Dwg Created: 10-Dec-24 — _a2 standard bw.stb — Plot Date: 10-Jan-25

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02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2025 MISCELLANEOUS UTILITY PROJECTS

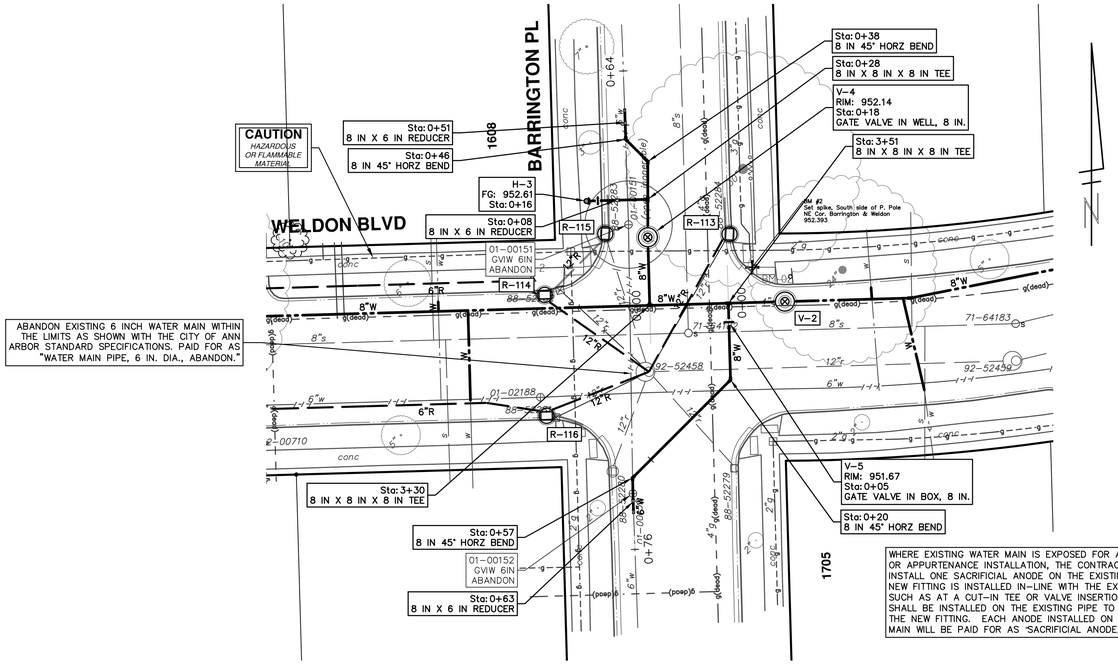
WATER MAIN - WELDON BLVD

STA. 4+50 - STA. 9+66, HYD H-2

SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2024006-32

SHEET No. 32 OF 52



WATER MAIN STRUCTURES			
STRUCTURE	TYPE	STATION	RIM
V-4	Gate Valve in Well, 8 In.	0+18	952.14

WATER MAIN STRUCTURES			
STRUCTURE	TYPE	STATION	FG
H-3	Hydrant Assembly	0+16	952.61

WATER MAIN STRUCTURES			
STRUCTURE	TYPE	STATION	RIM
V-5	Gate Valve in Box, 8 In.	0+05	951.67

WHERE EXISTING WATER MAIN IS EXPOSED FOR A CONNECTION OR APPURTENANCE INSTALLATION, THE CONTRACTOR SHALL INSTALL ONE SACRIFICIAL ANODE ON THE EXISTING PIPE. IF THE NEW FITTING IS INSTALLED IN-LINE WITH THE EXISTING MAIN, SUCH AS AT A CUT-IN TEE OR VALVE INSERTION, ONE ANODE SHALL BE INSTALLED ON THE EXISTING PIPE TO EACH SIDE OF THE NEW FITTING. EACH ANODE INSTALLED ON EXISTING WATER MAIN WILL BE PAID FOR AS "SACRIFICIAL ANODE, XX LB"

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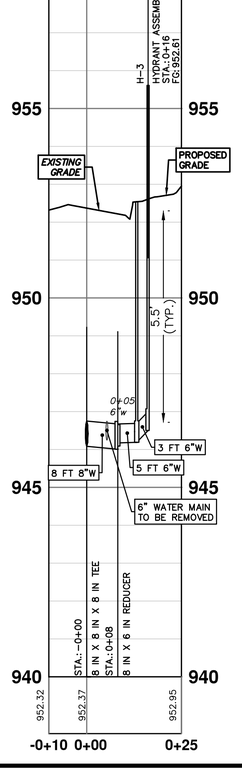
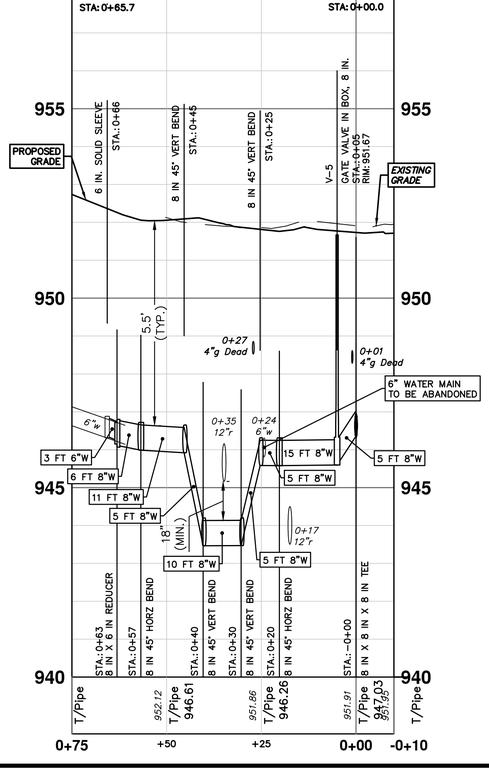
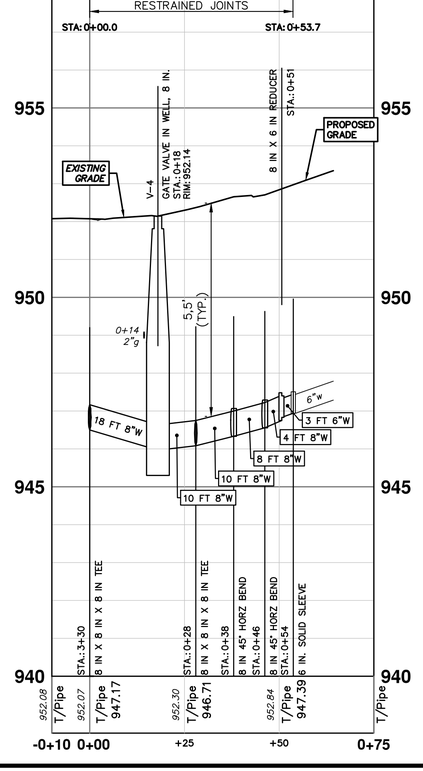
H-3 GW



PR WATER GW – BARRINGTON PL SOUTH



PR WATER GW – BARRINGTON PL NORTH



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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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2025 MISCELLANEOUS UTILITY PROJECTS

WATER MAIN - BARRINGTON PL

STA. 0+00 - STA. 0+85(S), STA. 0+00 - STA. 0+54(N), HYD H-3

SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

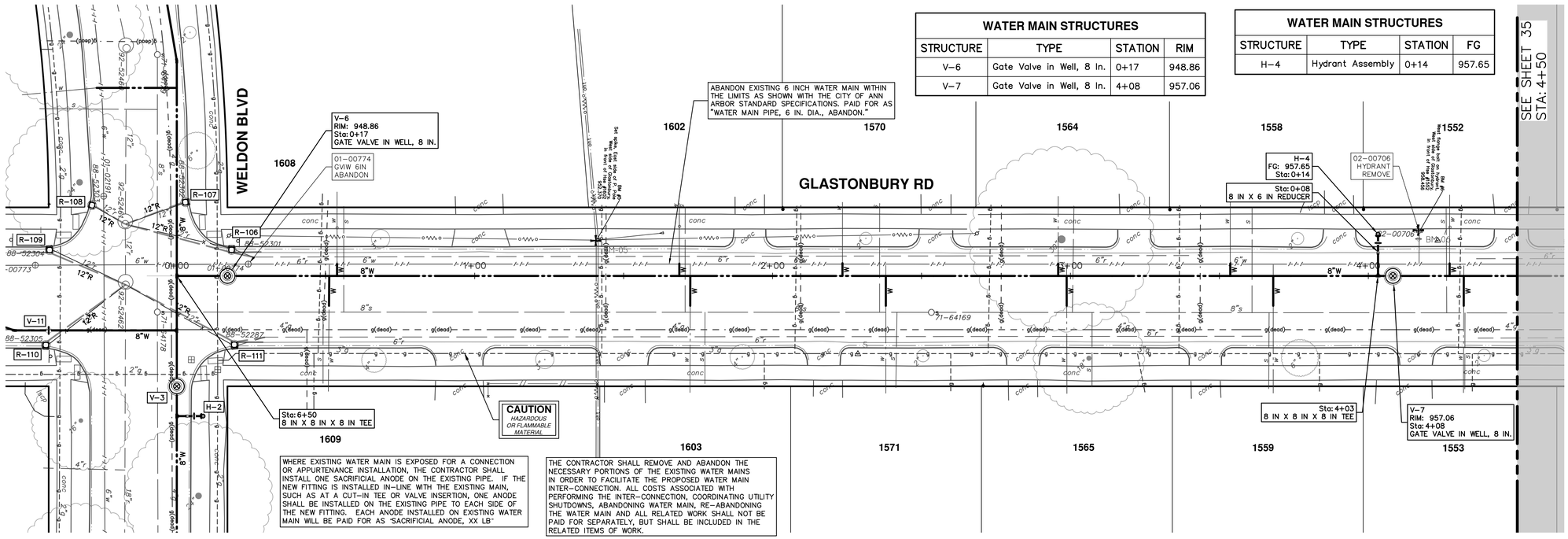
DRAWING No. 2024006-33

SHEET No. 33 OF 52

R:\2024006 Misc Util 2025\Plan Production\2024006Wtr2 GasWeld.dwg Dwg Created: 10-Dec-24 — _a2 standard bw.stb — Plot Date: 10-Jan-25

WATER MAIN STRUCTURES			
STRUCTURE	TYPE	STATION	RIM
V–6	Gate Valve in Well, 8 In.	0+17	948.86
V–7	Gate Valve in Well, 8 In.	4+08	957.06

WATER MAIN STRUCTURES			
STRUCTURE	TYPE	STATION	FG
H–4	Hydrant Assembly	0+14	957.65



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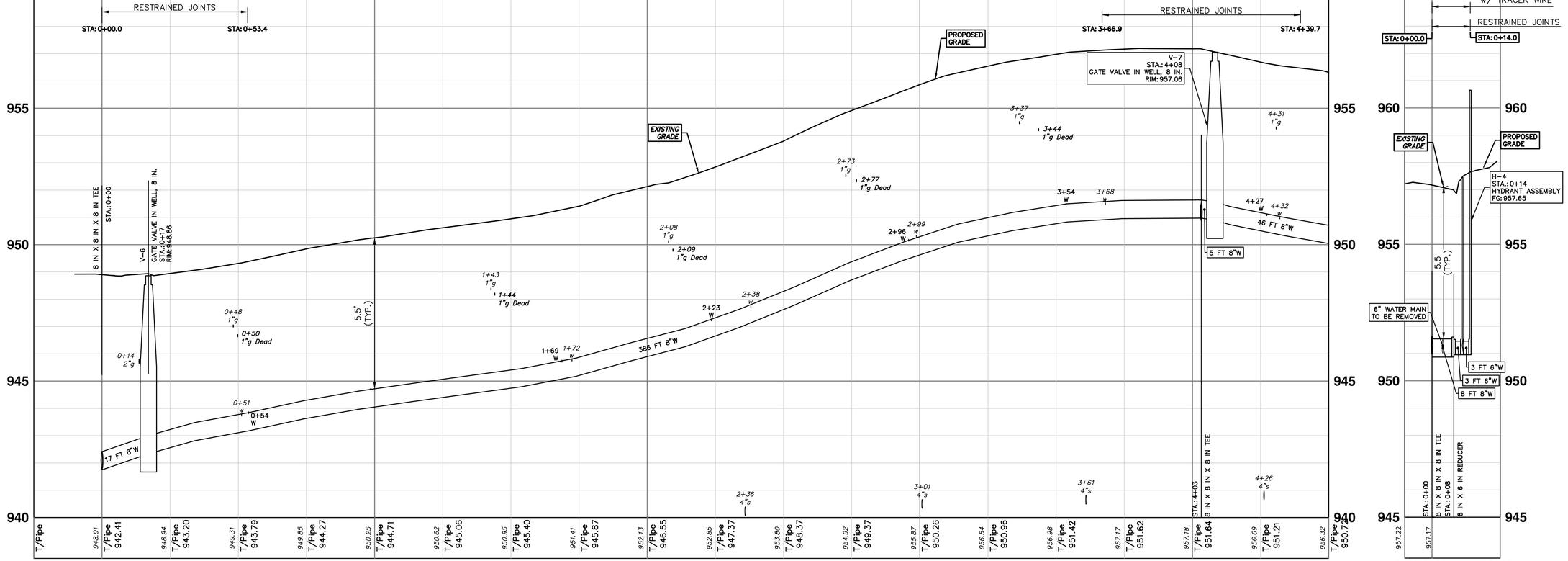
PR WATER – GW – GLASTONBURY NORTH



H–4 GW

R:\2024006 Misc Util 2025\Plan Production\2024006Wtr2 GlasWeld.dwg Dwg Created: 10–Dec–24 – _a2 standard bw.stb – Plot Date: 10–Jan–25

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2025 MISCELLANEOUS UTILITY PROJECTS

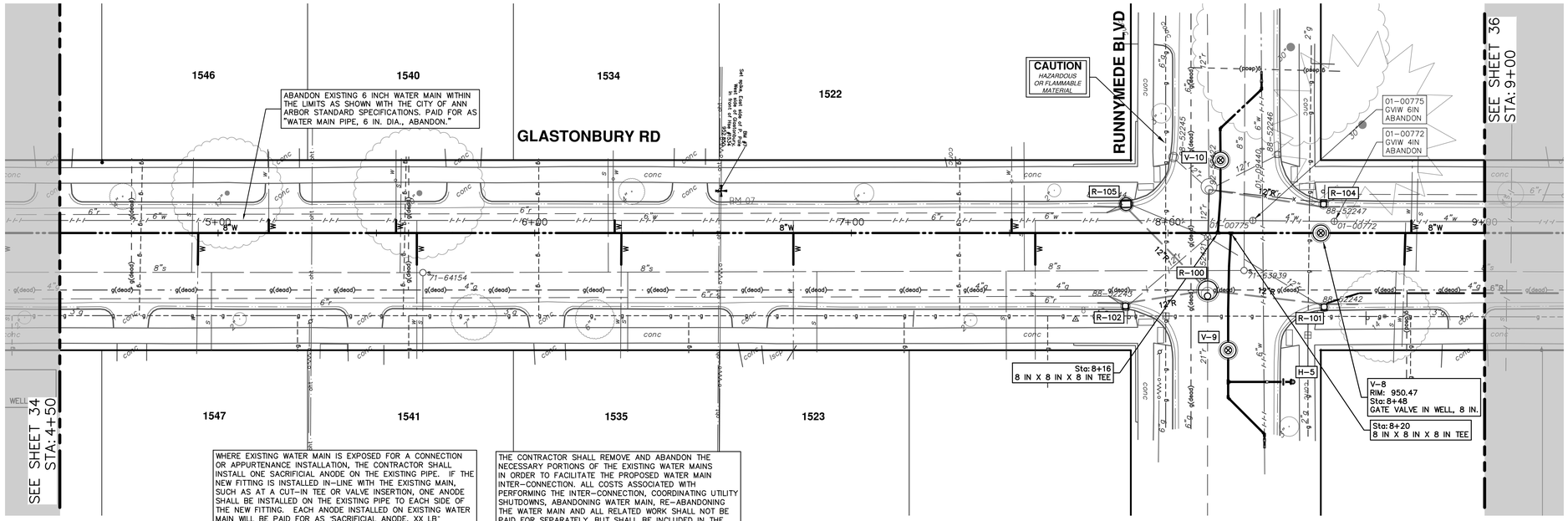
WATER MAIN - GLASTONBURY (NORTH)

STA. 0+00 - STA. 4+50, HYD H-4

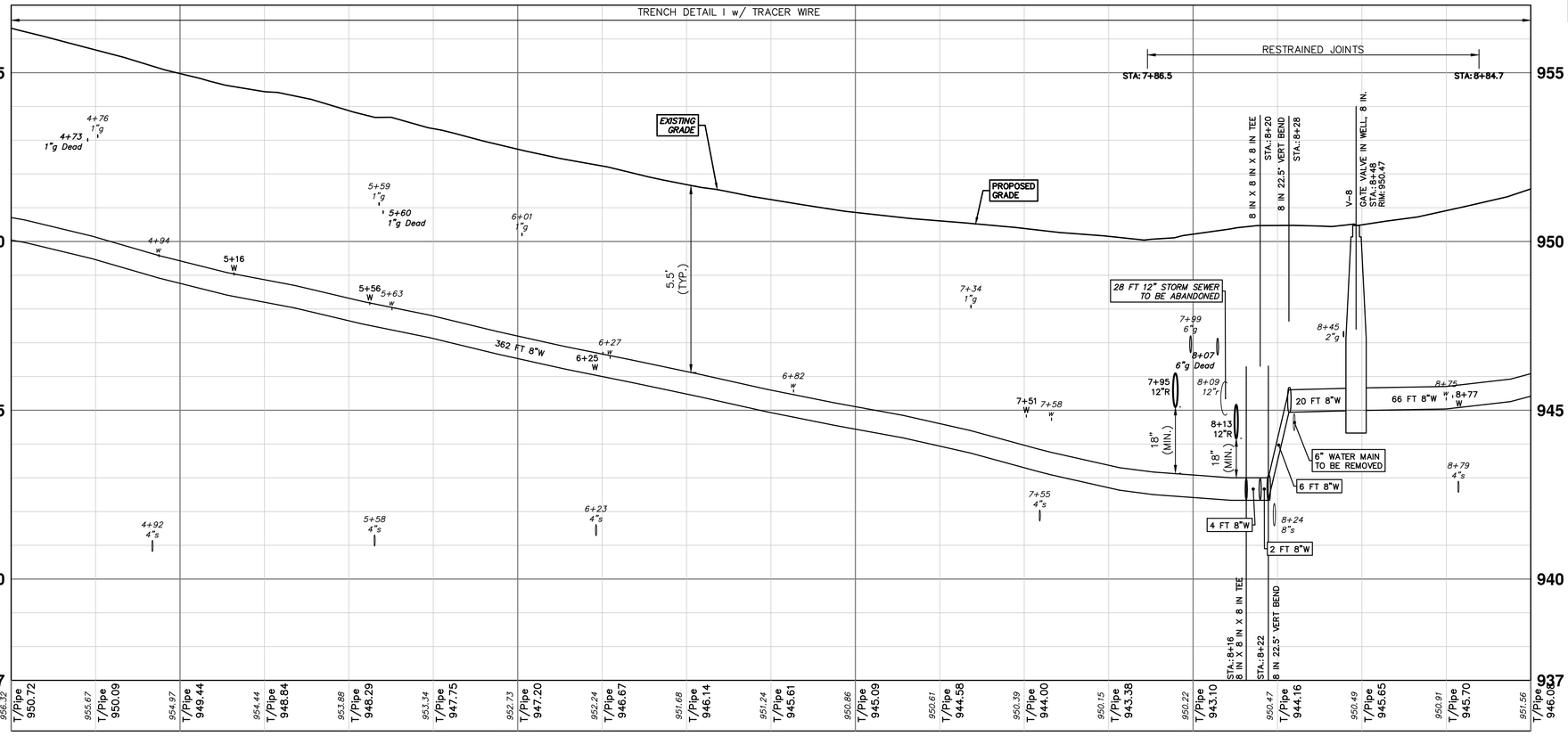
SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2024006-34

SHEET No. 34 OF 52



PR WATER – GW – GLASTONBURY NORTH



WATER MAIN STRUCTURES			
STRUCTURE	TYPE	STATION	RIM
V-8	Gate Valve in Well, 8 In.	8+48	950.47

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2025 MISCELLANEOUS UTILITY PROJECTS

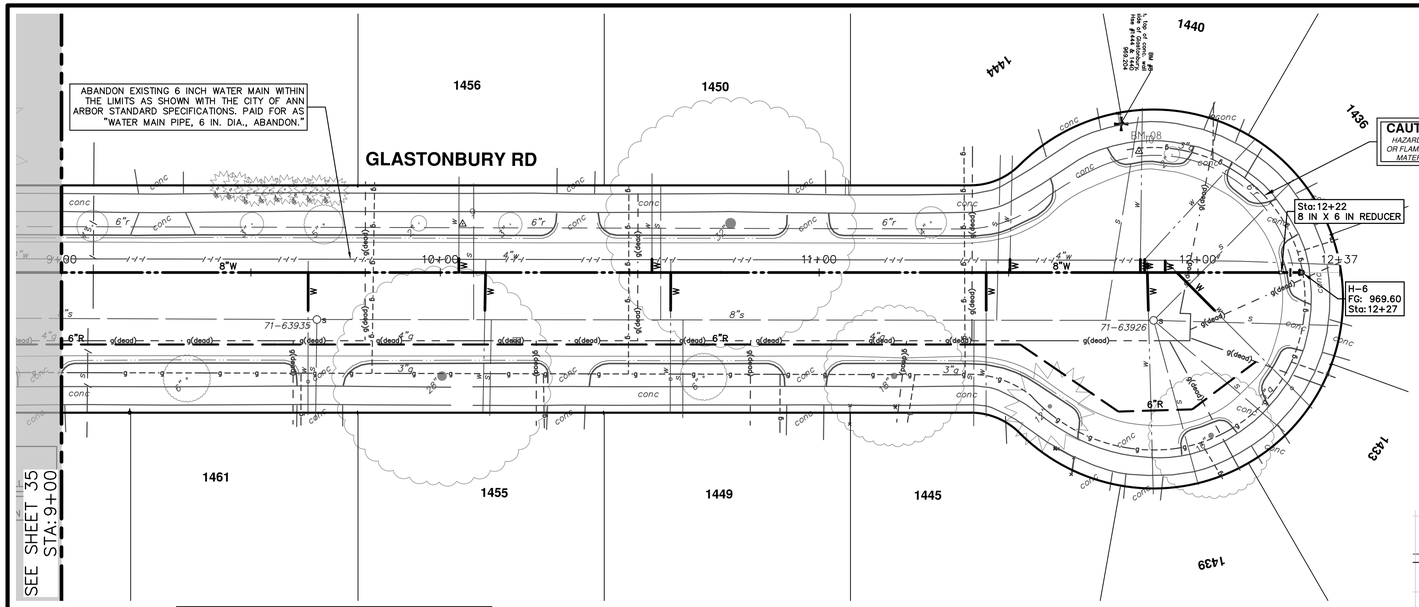
WATER MAIN - GLASTONBURY (NORTH)

STA. 4+50 - STA. 9+00

SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2024006-35

SHEET No. 35 OF 52



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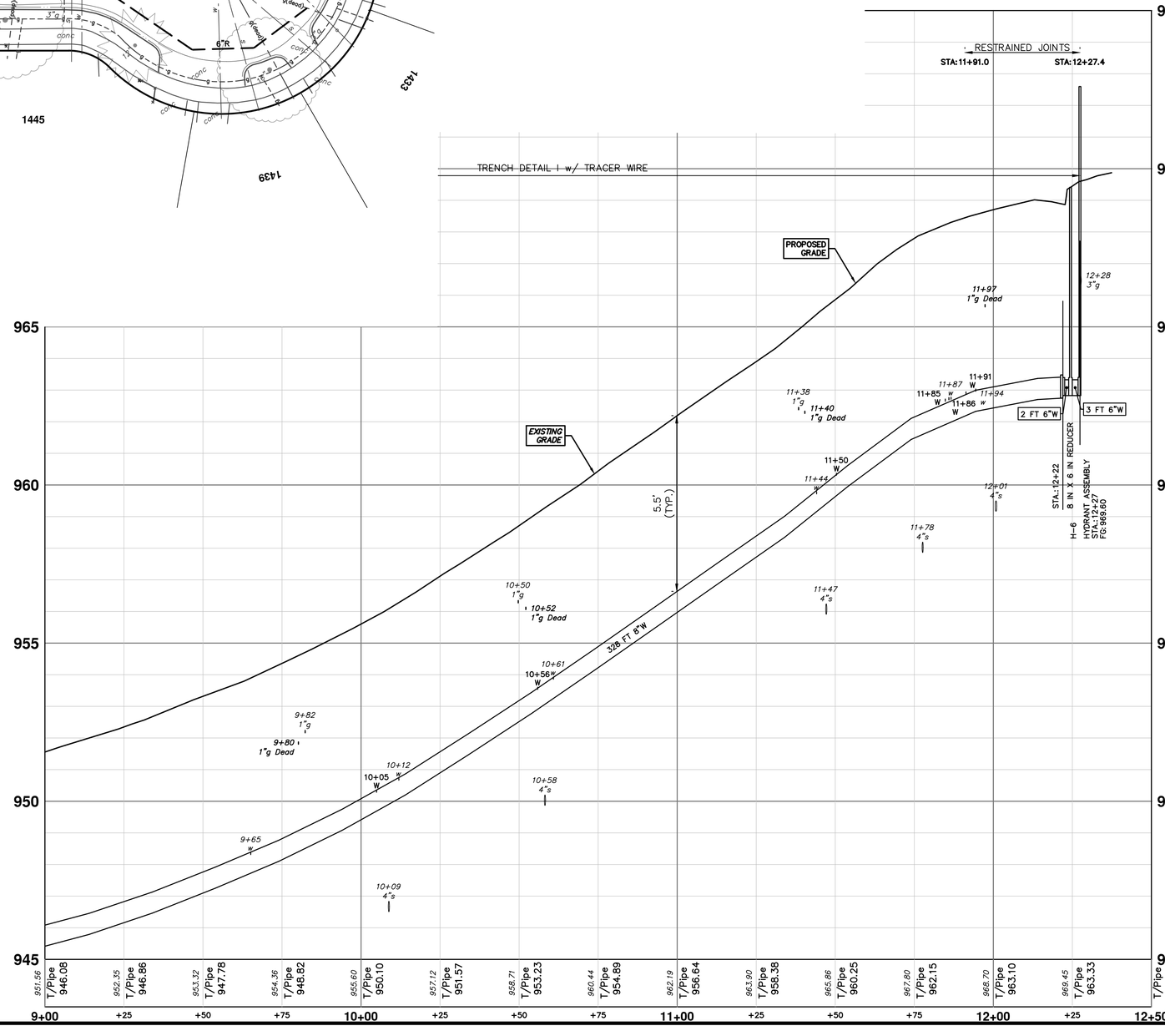
WATER MAIN STRUCTURES

STRUCTURE	TYPE	STATION	FG
H-6	Hydrant Assembly	12+27	969.60



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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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01	BID SET	12/12/24	A2D	TA

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2025 MISCELLANEOUS UTILITY PROJECTS

WATER MAIN - GLASTONBURY (NORTH)

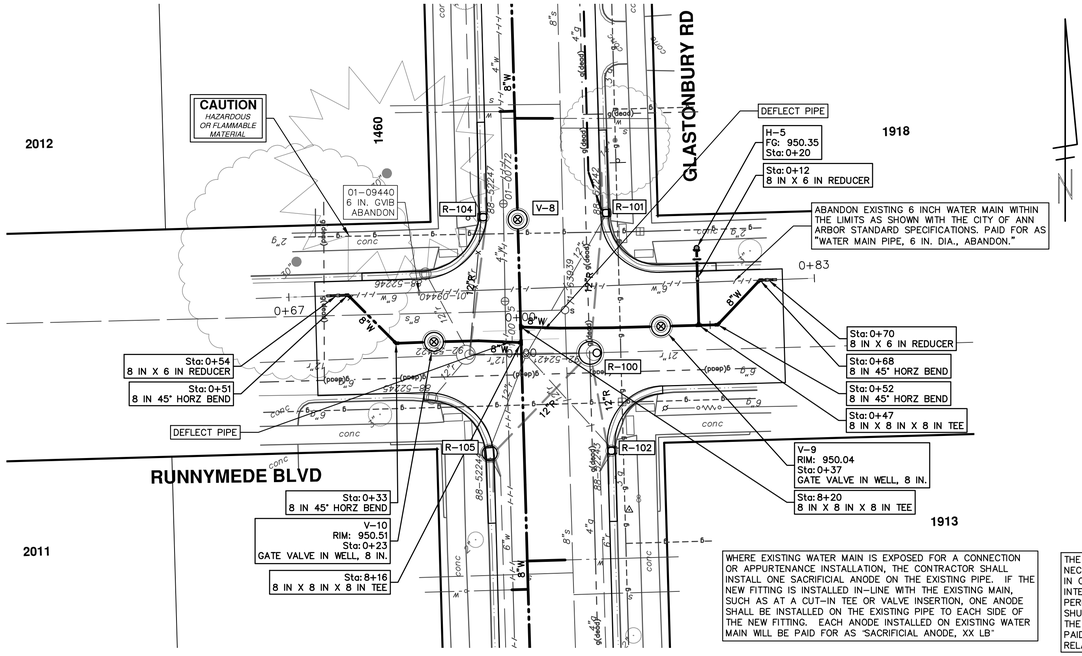
STA. 9+00 - STA. 12+27, HYD H-6

SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2024006-36

SHEET No. 36 OF 52

R:\2024006 Misc Util 2025\Plan Production\2024006Wtr2 GlasWeld.dwg Dwg Created: 10-Dec-24 - _a2 standard bw.stb - Plot Date: 10-Jan-25



WATER MAIN STRUCTURES			
STRUCTURE	TYPE	STATION	RIM
V-9	Gate Valve in Well, 8 In.	0+37	950.04

WATER MAIN STRUCTURES			
STRUCTURE	TYPE	STATION	FG
H-5	Hydrant Assembly	0+20	950.35

WATER MAIN STRUCTURES			
STRUCTURE	TYPE	STATION	RIM
V-10	Gate Valve in Well, 8 In.	0+23	950.51

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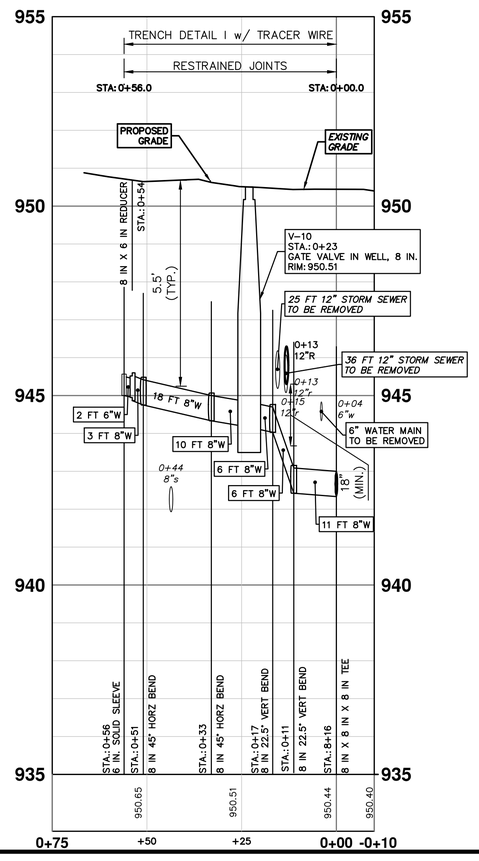
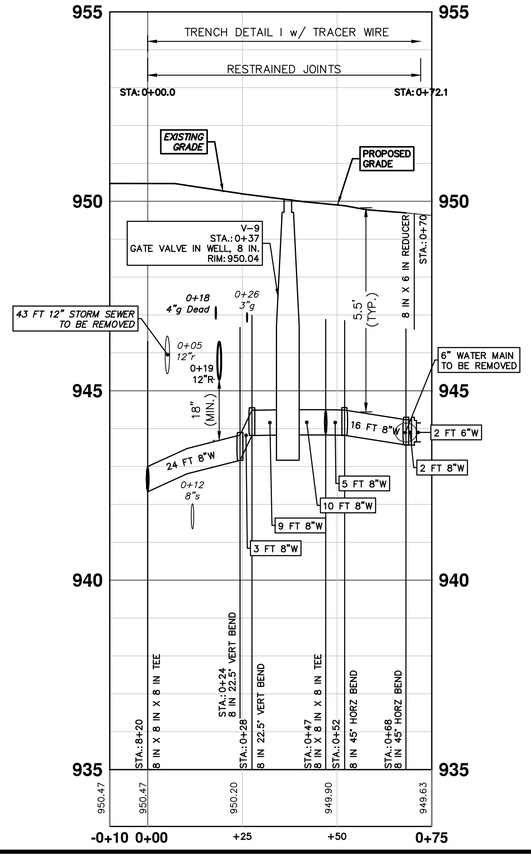
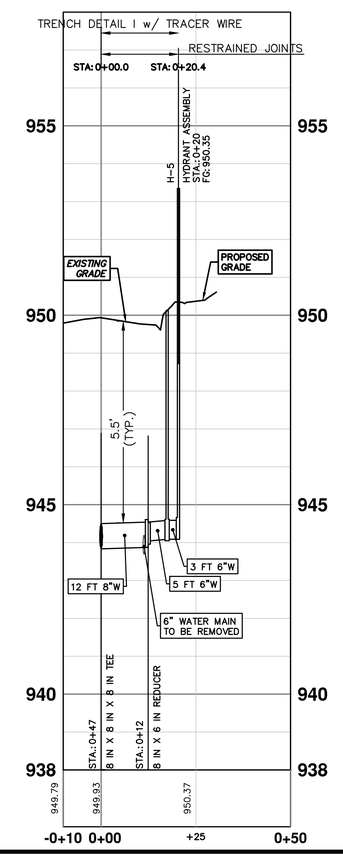
PR WATER GW – RUNNYMEDE WEST



PR WATER GW – RUNNYMEDE EAST



H-5 GW



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

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2025 MISCELLANEOUS UTILITY PROJECTS

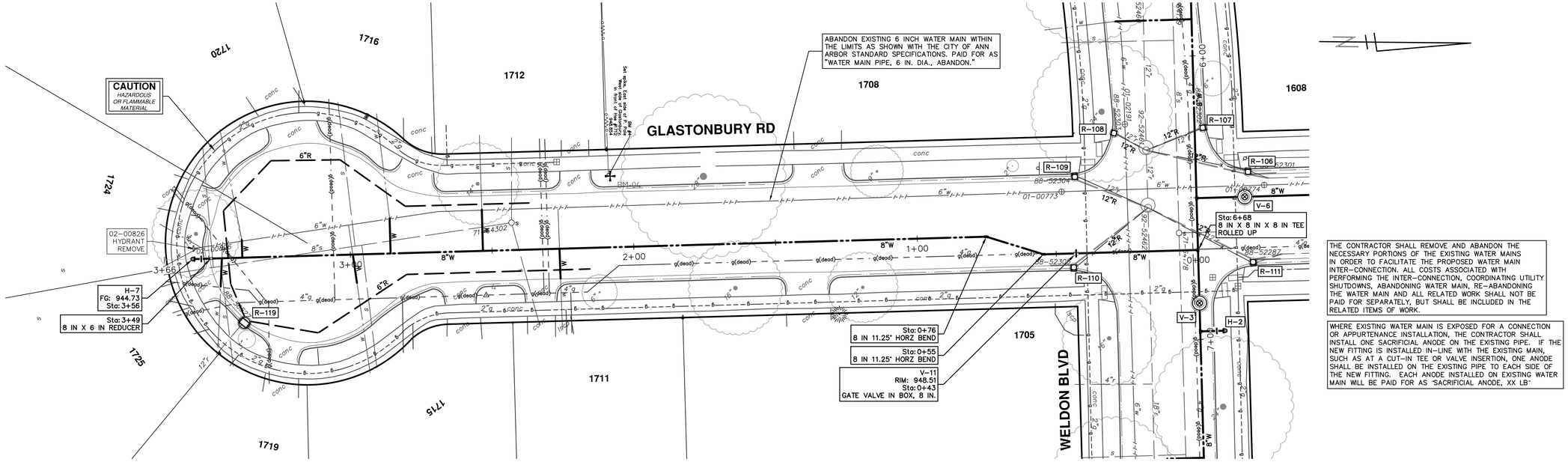
WATER MAIN - RUNNYMEDE BLVD

STA. 0+00 - STA. 0+56(W), STA. 0+00 - STA. 0+72(E), HYD H-5

SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2024006-37

SHEET No. 37 OF 52



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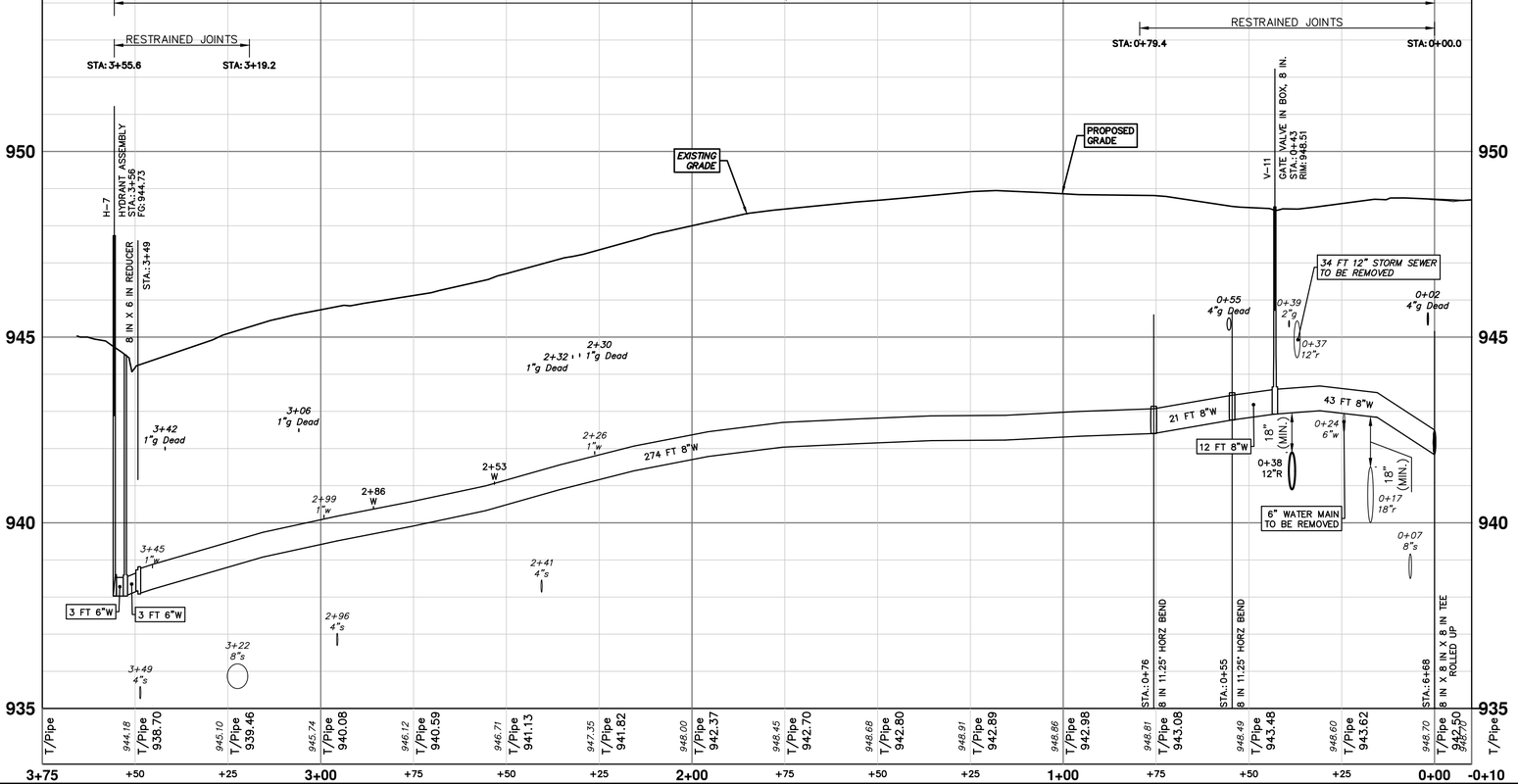
PR WATER – GLASTONBURY SOUTH



WATER MAIN STRUCTURES			
STRUCTURE	TYPE	STATION	RIM
V-11	Gate Valve in Box, 8 In.	0+43	948.51

WATER MAIN STRUCTURES			
STRUCTURE	TYPE	STATION	FG
H-7	Hydrant Assembly	3+56	944.73

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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2025 MISCELLANEOUS UTILITY PROJECTS

WATER MAIN - GLASTONBURY (SOUTH)

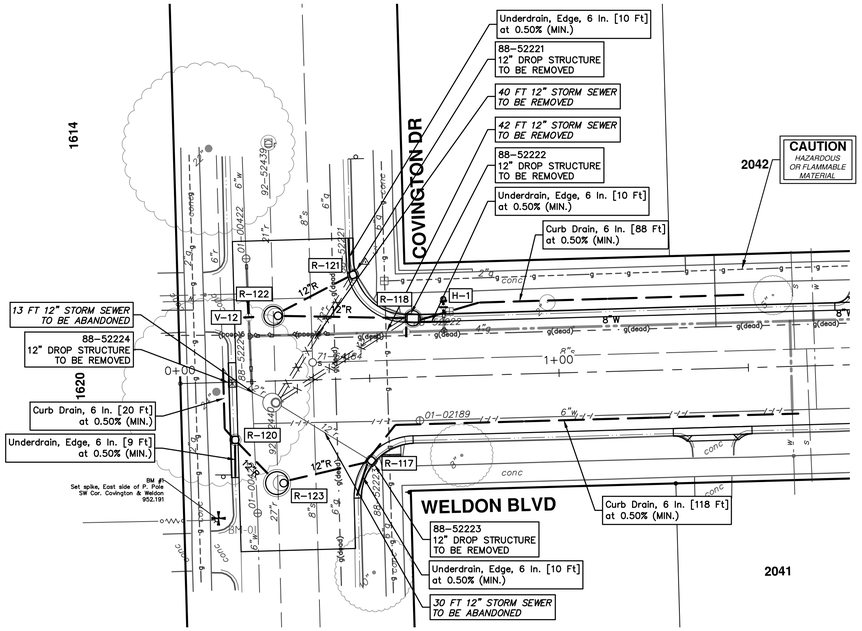
STA. 0+00 - STA. 3+56, HYD H-7

SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

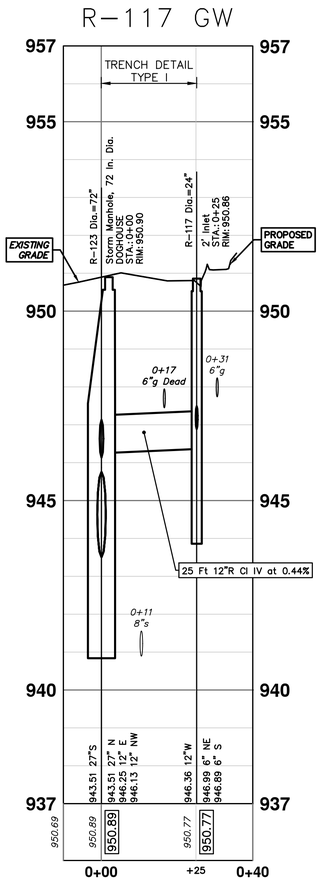
DRAWING No. 2024006-38

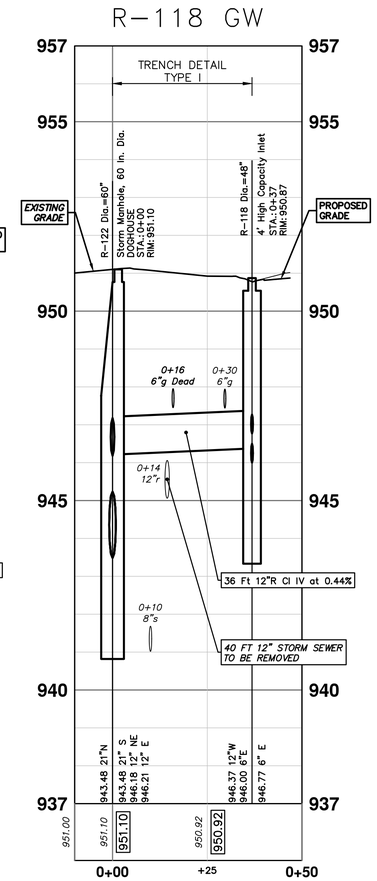
SHEET No. 38 OF 52

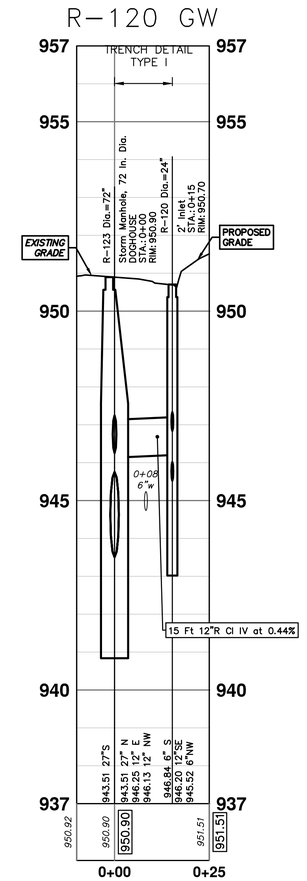
EXISTING STORM SEWER STRUCTURE REMOVAL TABLE		
STRUCTURE	DEPTH (Feet)	REMOVE
88-52224	5.65	12" Drop Structure TO BE REMOVED
88-52223	5.51	12" Drop Structure TO BE REMOVED
88-52221	5.10	12" Drop Structure TO BE REMOVED
88-52222	5.61	12" Drop Structure TO BE REMOVED

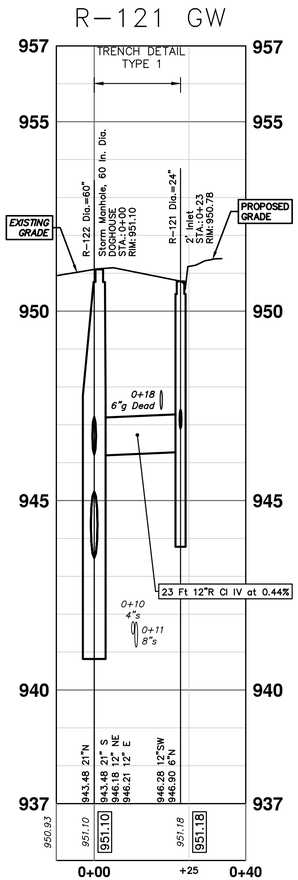


STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	TYPE	RIM	INVERTS	DEPTH (Feet)	SUMP
R-117	0+25	2' Inlet	950.86	6" NE 946.99 6" S 946.89 12" W 946.36	6.50	2'
R-118	0+37	4' High Capacity Inlet	950.87	6" E 946.77 12" W 946.37 6" E 946.00	6.87	2'
R-120	0+15	2' Inlet	950.70	6" S 946.84 12" SE 946.20 6" NW 945.52	7.18	2'
R-121	0+23	2' Inlet	950.78	12" SW 946.28 6" N 946.90	6.50	2'
R-122	0+00	Storm Manhole, 60 In. Dia. DOGHOUSE	951.10	21" S 943.48 12" NE 946.18 12" E 946.21 21" N 943.48	9.62	2'
R-123	0+00	Storm Manhole, 72 In. Dia. DOGHOUSE	950.90	27" N 943.51 12" E 946.25 12" NW 946.13 27" S 943.51	9.39	2'









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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2025 MISCELLANEOUS UTILITY PROJECTS

STORM SEWER - GLASTONBURY WELDON

R-117, R-118, R-120, R-121

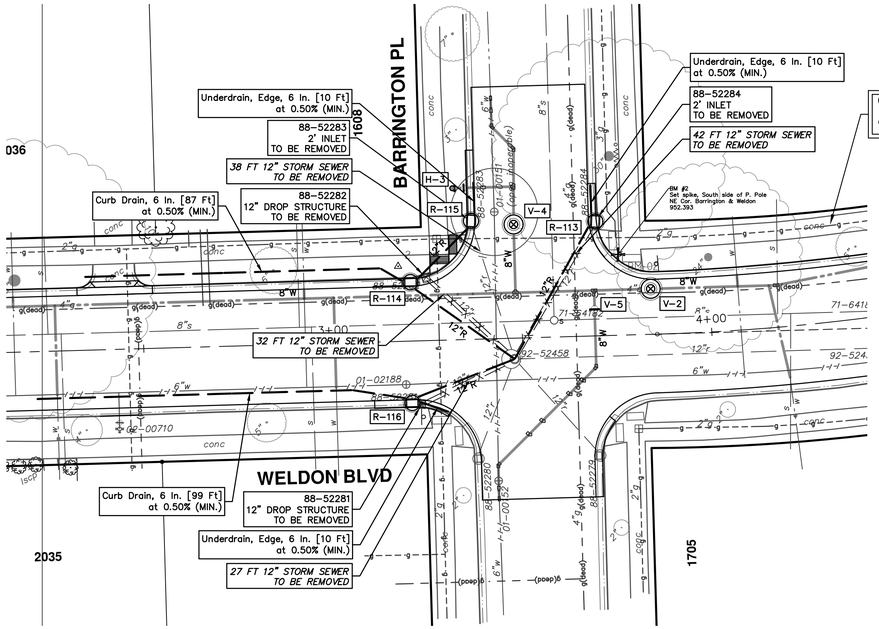
SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2024006-39

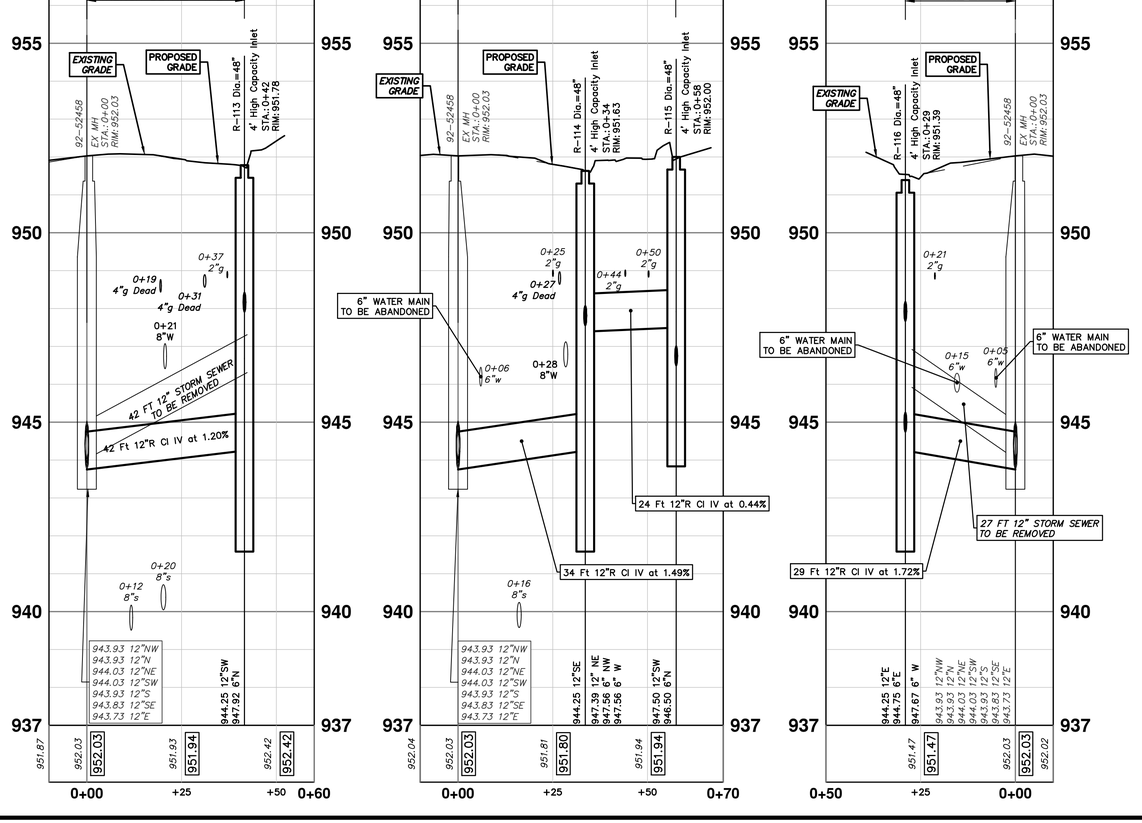
SHEET No. 39 OF 52

R:\2024006 Misc Util 2025\Plan Production\2024006Strm GlasWeld.dwg Dwg Created: 10-Dec-24 – _a2 standard bw.stb – Plot Date: 10-Jan-25

EXISTING STORM SEWER STRUCTURE REMOVAL TABLE		
STRUCTURE	DEPTH (Feet)	REMOVE
88-52283	5.91	2' Inlet TO BE REMOVED
88-52281	5.31	12" Drop Structure TO BE REMOVED
88-52282	5.01	12" Drop Structure TO BE REMOVED
88-52284	5.40	2' Inlet TO BE REMOVED



STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	TYPE	RIM	INVERTS	DEPTH (Feet)	SUMP
R-113	0+42	4' High Capacity Inlet	951.78	12" SW 944.25 6" N 947.92	9.53	2'
R-114	0+34	4' High Capacity Inlet	951.63	12" NE 947.39 6" NW 947.56 6" W 947.56 12" SE 944.25	9.38	2'
R-115	0+58	4' High Capacity Inlet	952.00	12" SW 947.50 6" N 946.50	7.50	2'
R-116	0+29	4' High Capacity Inlet	951.39	6" W 947.67 12" E 944.25 6" E 944.75	9.14	2'



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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2025 MISCELLANEOUS UTILITY PROJECTS

STORM SEWER - GLASTONBURY WELDON

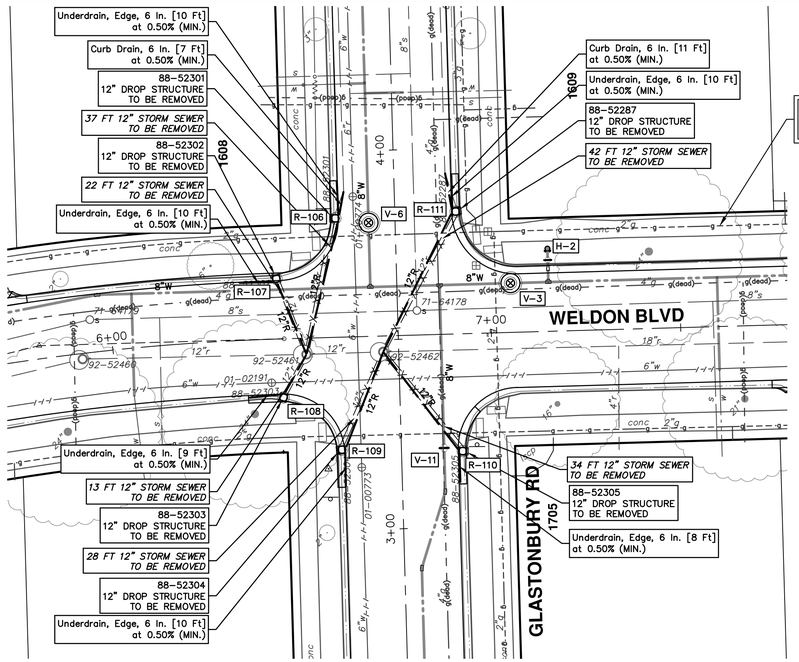
R-113 - R-116

SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2024006-40

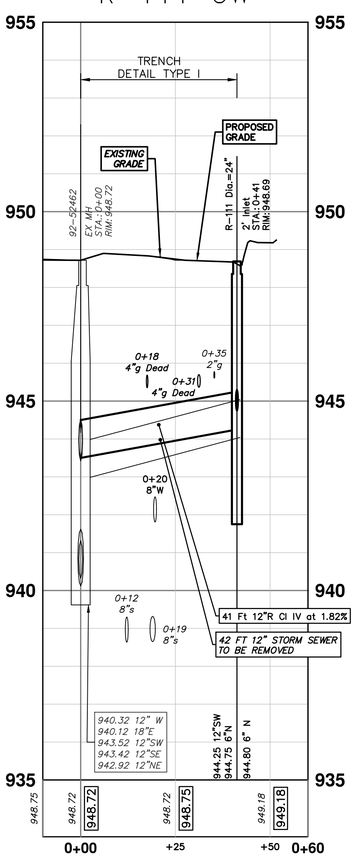
SHEET No. 40 OF 52

EXISTING STORM SEWER STRUCTURE REMOVAL TABLE		
STRUCTURE	DEPTH (Feet)	REMOVE
88-52304	4.30	12" Drop Structure TO BE REMOVED
88-52303	4.51	12" Drop Structure TO BE REMOVED
88-52302	5.00	12" Drop Structure TO BE REMOVED
88-52301	4.90	12" Drop Structure TO BE REMOVED
88-52287	4.55	12" Drop Structure TO BE REMOVED
88-52305	3.32	12" Drop Structure TO BE REMOVED

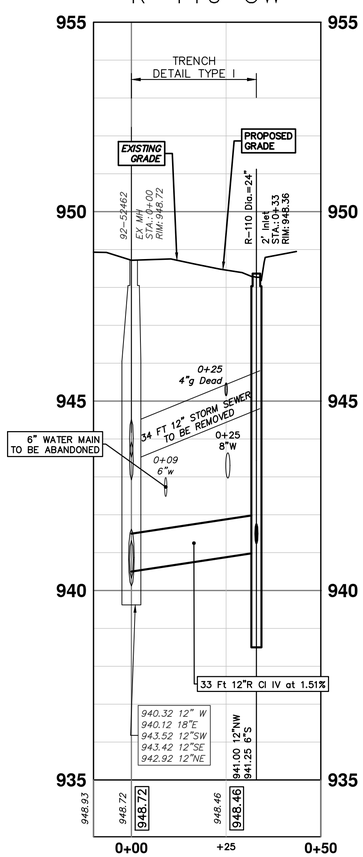


STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	TYPE	RIM	INVERTS	DEPTH (Feet)	SUMP
R-106	0+37	2' Inlet	948.73	6" N 944.82 12" S 944.00 6" N 944.25	6.73	2'
R-107	0+21	2' Inlet	948.57	12" S 944.00 6" W 944.25	6.57	2'
R-108	0+12	2' Inlet	948.57	12" NE 944.00 6" W 944.25	6.57	2'
R-109	0+28	2' Inlet	948.36	12" N 944.00 6" S 944.25	6.36	2'
R-110	0+33	2' Inlet	948.36	12" NW 941.00 6" S 941.25	9.36	2'
R-111	0+41	2' Inlet	948.69	6" N 944.80 12" SW 944.25 6" N 944.75	6.44	2'

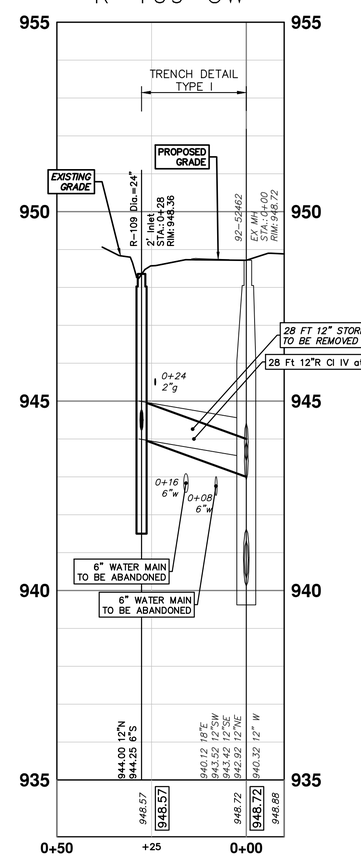
R-111 GW



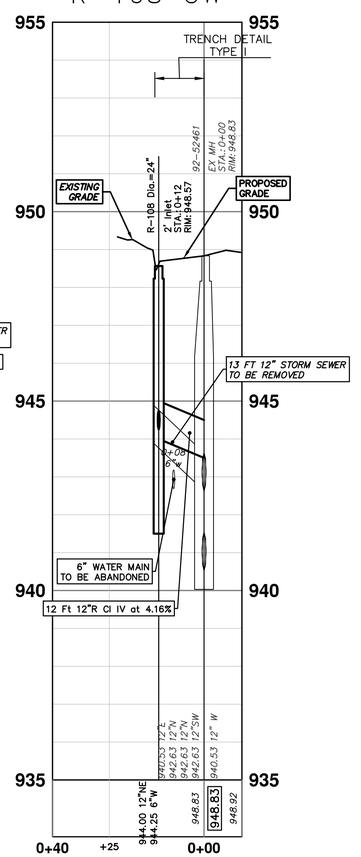
R-110 GW



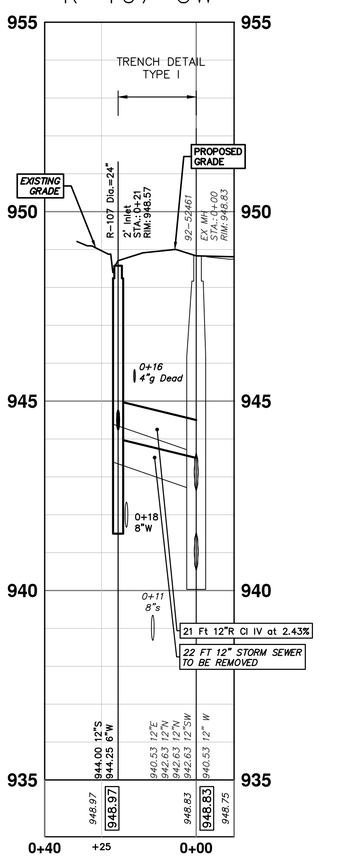
R-109 GW



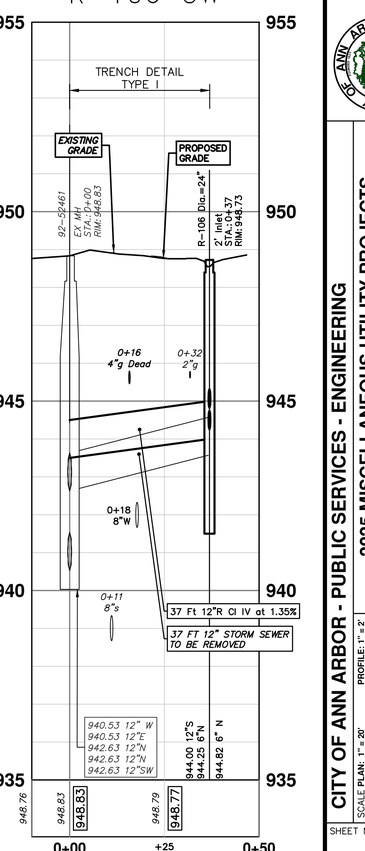
R-108 GW



R-107 GW



R-106 GW



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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2025 MISCELLANEOUS UTILITY PROJECTS

STORM SEWER - GLASTONBURY WELDON

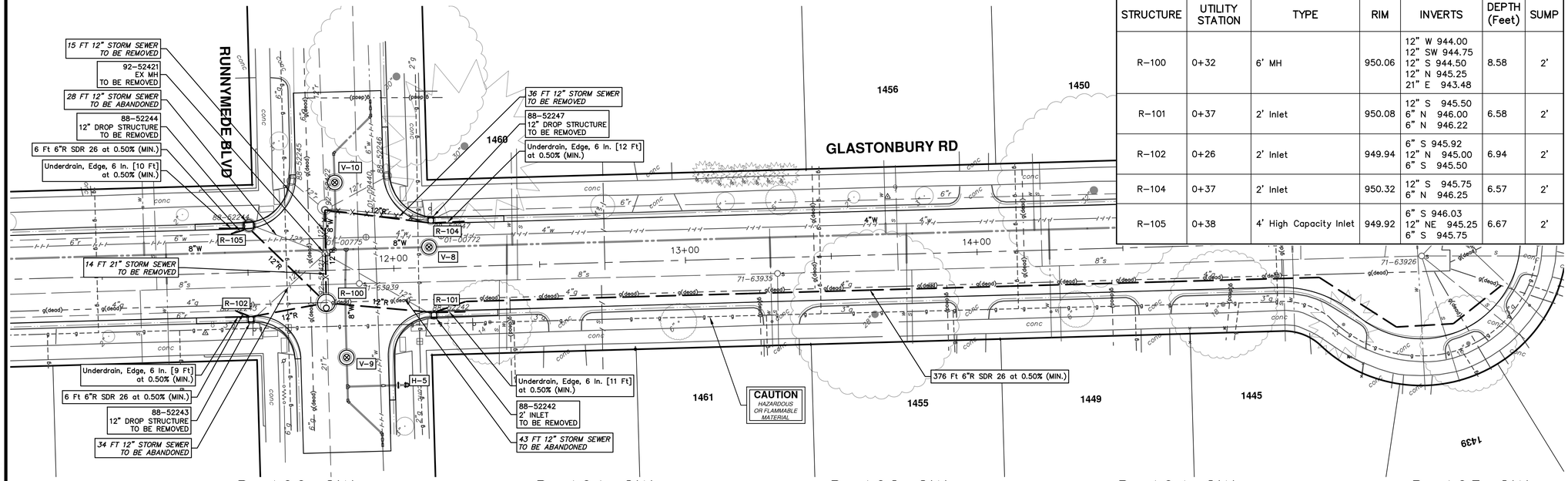
R-106 - R-111

SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2024006-41

SHEET No. 41 OF 52

R:\2024006 Misc Util 2025\Plan Production\2024006Strm GlasWeld.dwg Dwg Created: 10-Dec-24 — _a2 standard bw.stb — Plot Date: 10-Jan-25

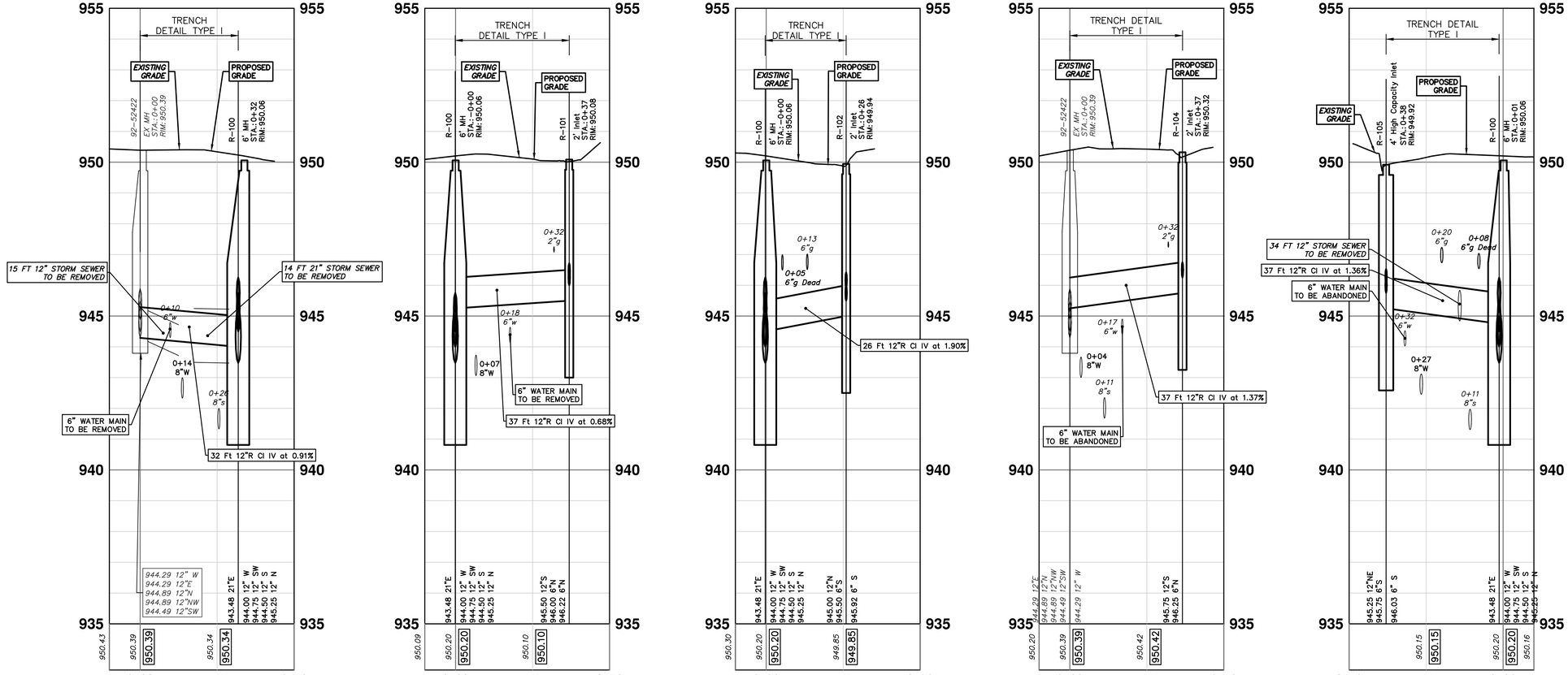


STORM SEWER STRUCTURE TABLE

STRUCTURE	UTILITY STATION	TYPE	RIM	INVERTS	DEPTH (Feet)	SUMP
R-100	0+32	6' MH	950.06	12" W 944.00 12" SW 944.75 12" S 944.50 12" N 945.25 21" E 943.48	8.58	2'
R-101	0+37	2' Inlet	950.08	12" S 945.50 6" N 946.00 6" N 946.22	6.58	2'
R-102	0+26	2' Inlet	949.94	6" S 945.92 12" N 945.00 6" S 945.50	6.94	2'
R-104	0+37	2' Inlet	950.32	12" S 945.75 6" N 946.25	6.57	2'
R-105	0+38	4' High Capacity Inlet	949.92	6" S 946.03 12" NE 945.25 6" S 945.75	6.67	2'

EXISTING STORM SEWER STRUCTURE REMOVAL TABLE

STRUCTURE	DEPTH (Feet)	REMOVE
88-52244	3.87	12" Drop Structure TO BE REMOVED
88-52243	4.71	12" Drop Structure TO BE REMOVED
88-52242	2.93	2' Inlet TO BE REMOVED
88-52247	3.30	12" Drop Structure TO BE REMOVED
92-52421	6.90	EX MH TO BE REMOVED



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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	BID SET	01/10/24	A2D	TA
02	ADDENDUM NO. 1	12/12/24	A2D	TA

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2025 MISCELLANEOUS UTILITY PROJECTS

STORM SEWER - GLASTONBURY WELDON

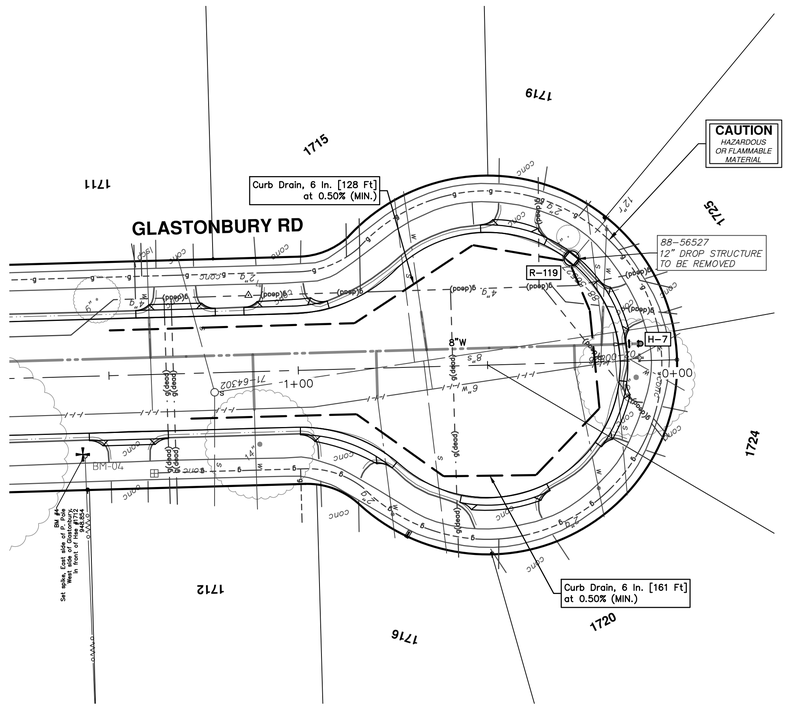
R-100 - R-102, R-104 - R-105

SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2024006-42

SHEET No. 42 OF 52

R:\2024006 Misc Util 2025\Plan Production\2024006Strm GlasWeld.dwg Dwg Created: 10-Dec-24 — _a2 standard bw.stb — Plot Date: 10-Jan-25



EXISTING STORM SEWER STRUCTURE REMOVAL TABLE		
STRUCTURE	DEPTH (Feet)	REMOVE
88-56527	4.31	12" Drop Structure TO BE REMOVED

STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	TYPE	RIM	INVERTS	DEPTH (Feet)	SUMP
R-119	0+28	4' High Capacity Inlet	943.92	6" N 939.90 6" SW 939.90 12" SE 939.38	6.54	2'

Know what's below. Call before you dig.

NO.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
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SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

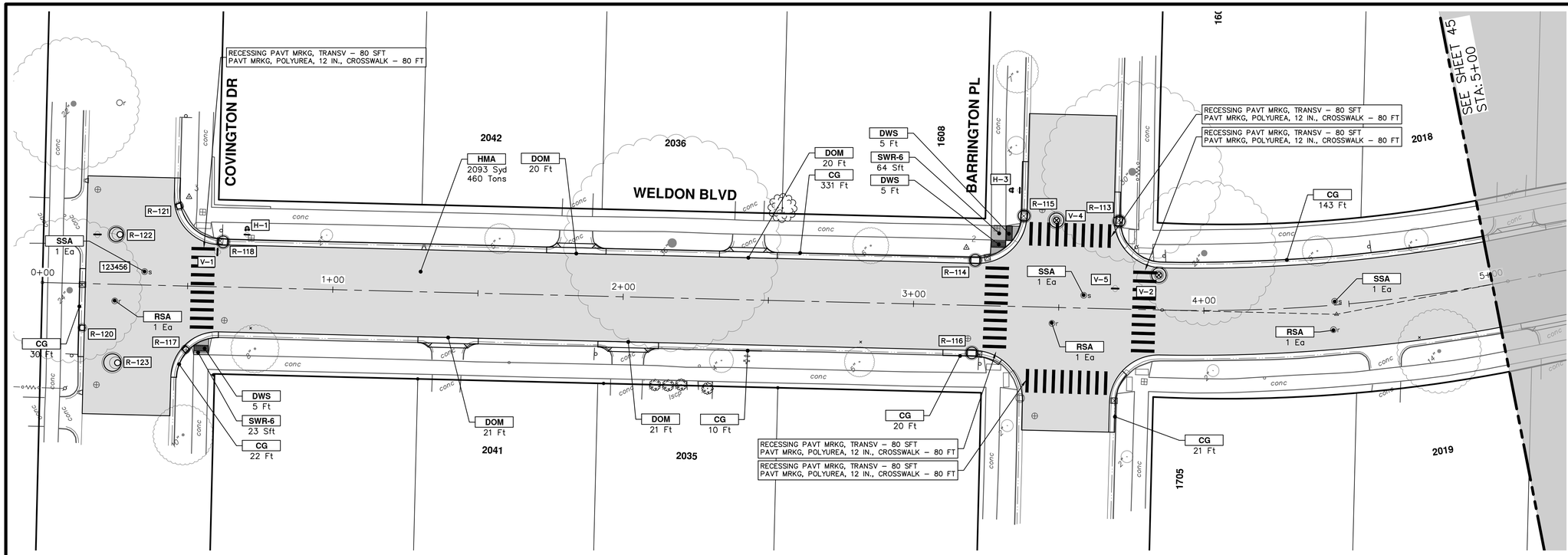
DRAWING No. 2024006-43

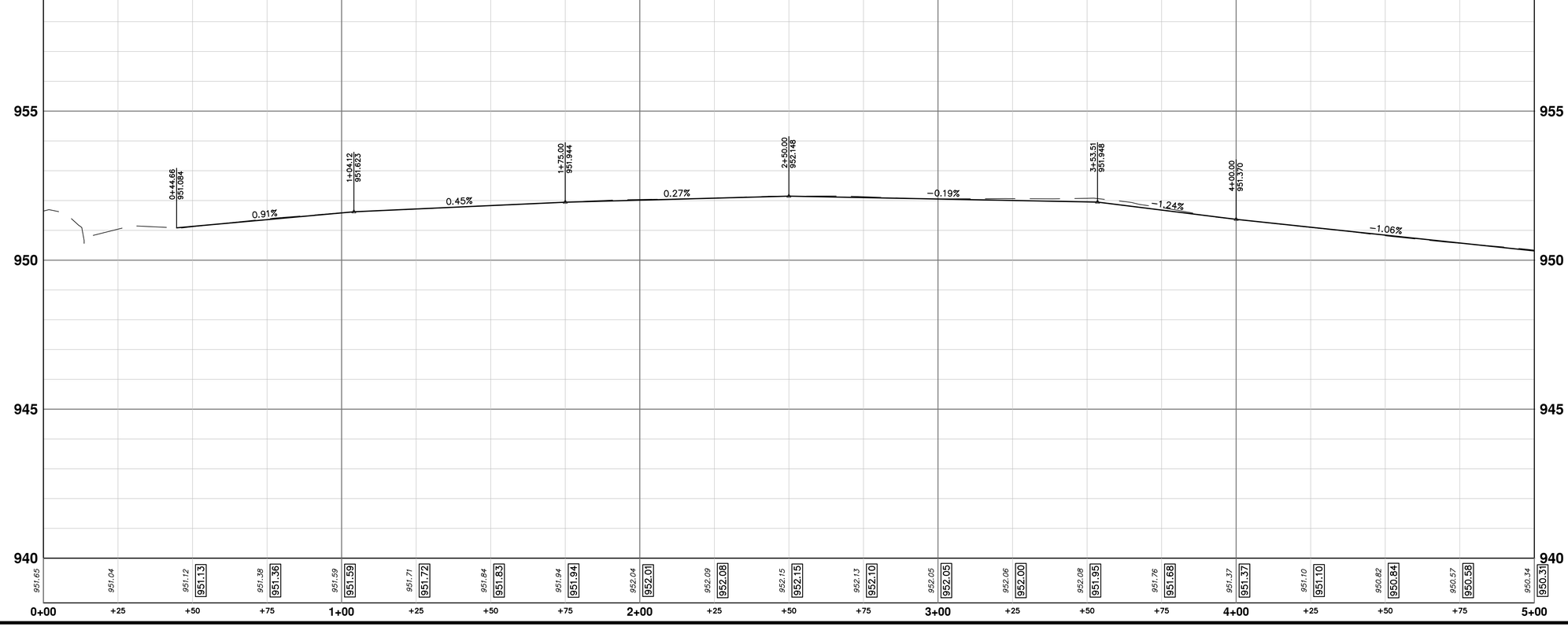
SHEET No. 43 OF 52

2025 MISCELLANEOUS UTILITY PROJECTS

STORM SEWER - GLASTONBURY WELDON

R-119





CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	PLACE HMA, PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
HMA APP	HMA Approach
HP	Hand Patching
CG	Conc, Curb or Curb & Gutter, All Types
DOM	Conc, Driveway Opening, Type M
DOM-HE	Conc, Driveway Opening, Type M, High Early
DG-6	DRIVEWAY GRAVEL 6 INCH 21AA LIMESTONE, C.I.P.
MGD	MACHINE GRADING, DRIVEWAY
SW-4	Conc, Sidewalk, 4 in.
SWR-6	Conc, Sidewalk, Drive Approach, or Ramp, 6 in.
SW6-HE	Conc, Sidewalk, Drive Approach, or Ramp, 6 in., High Early
SW8	Conc, Sidewalk, Drive Approach, or Ramp, 8 in.
DWS	Detectable Warning Surface
ABO	ADJUST BY OTHERS
AMB	Monument Box, Adjust
AGB	Gate Box, Adjust
RSA	Storm Structure Cover, Adjust
SSA	Sanitary Structure Cover, Adjust
WSA	Water Structure Cover, Adjust

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA

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2025 MISCELLANEOUS UTILITY PROJECTS

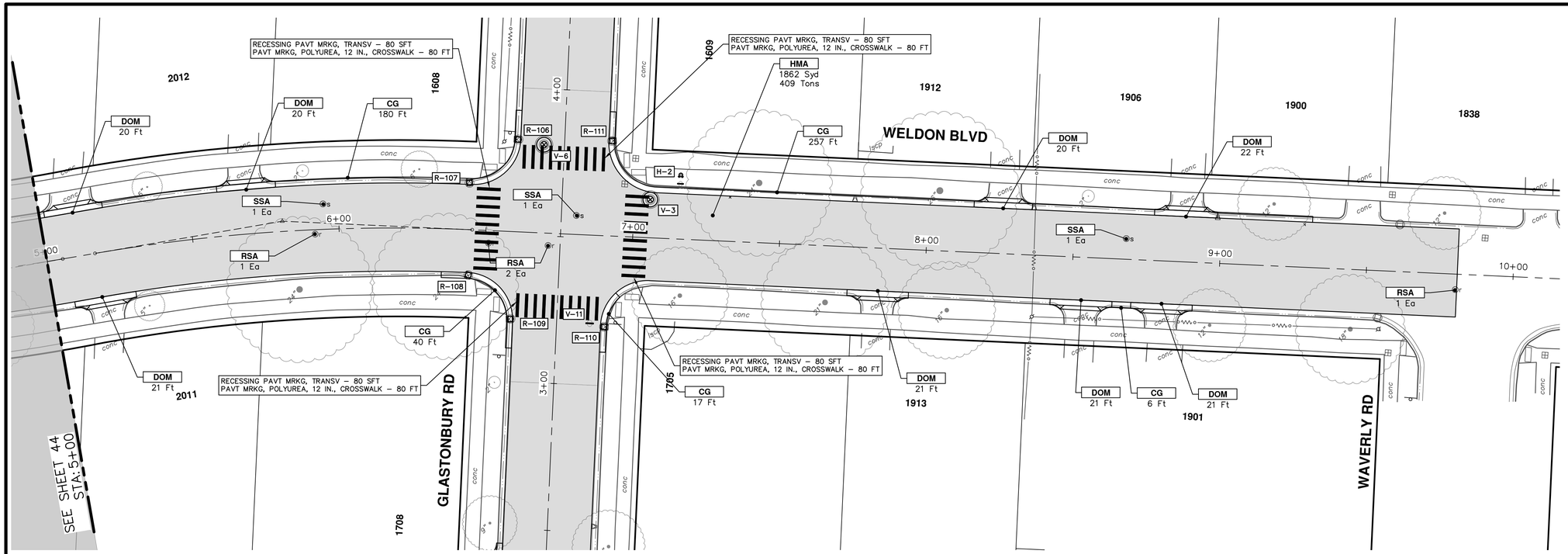
ROAD PLAN & PROFILE - WELDON BLVD

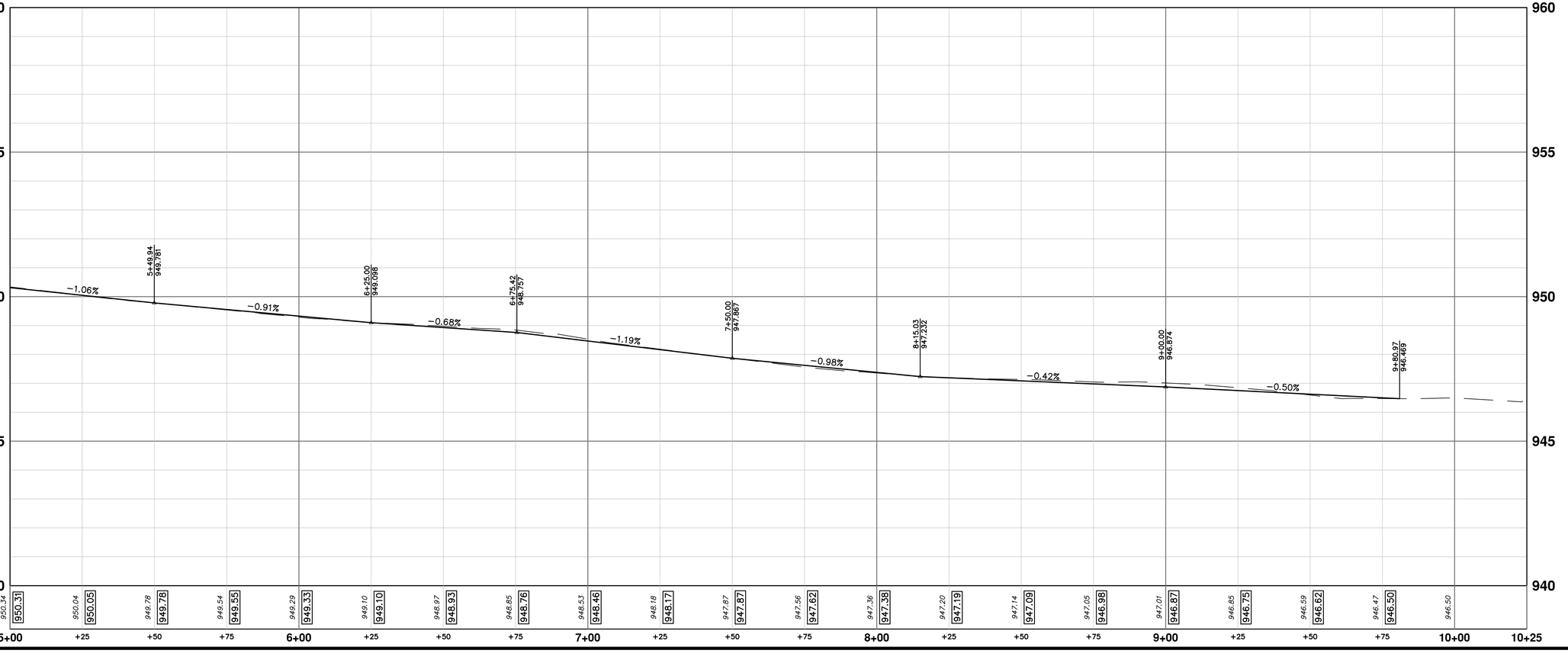
STA. 0+00 - STA. 5+00

SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2024006-44

SHEET No. 44 OF 52





CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	PLACE HMA, PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
HMA APP	HMA Approach
HP	Hand Patching
CG	Conc, Curb or Curb & Gutter, All Types
DOM	Conc, Driveway Opening, Type M
DOM-HE	Conc, Driveway Opening, Type M, High Early
DG-6	DRIVEWAY GRAVEL 6 INCH 21AA LIMESTONE, C.I.P.
MGD	MACHINE GRADING, DRIVEWAY
SW-4	Conc, Sidewalk, 4 In.
SWR-6	Conc, Sidewalk, Drive Approach, or Ramp, 6 In.
SW6-HE	Conc, Sidewalk, Drive Approach, or Ramp, 6 In., High Early
SW8	Conc, Sidewalk, Drive Approach, or Ramp, 8 In.
DWS	Detectable Warning Surface
ABO	ADJUST BY OTHERS
AMB	Monument Box, Adjust
AGB	Gate Box, Adjust
RSA	Storm Structure Cover, Adjust
SSA	Sanitary Structure Cover, Adjust
WSA	Water Structure Cover, Adjust

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA

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2025 MISCELLANEOUS UTILITY PROJECTS

ROAD PLAN & PROFILE - WELDON BLVD

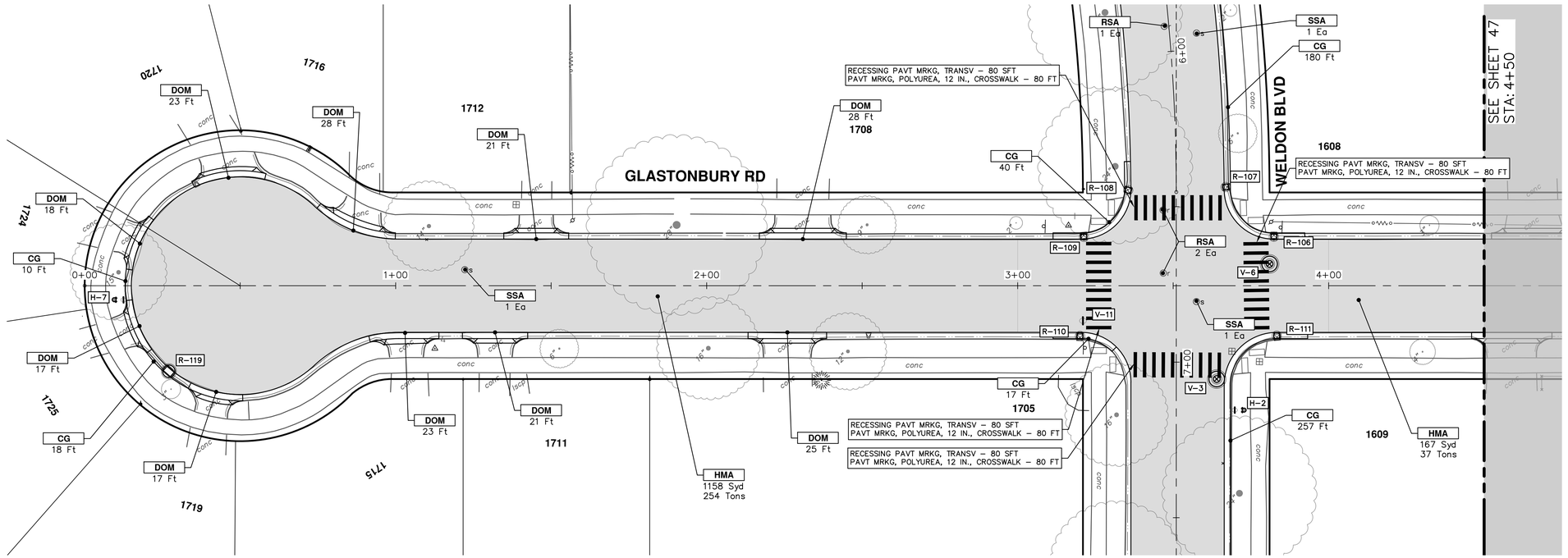
STA. 5+00 - STA. 10+25

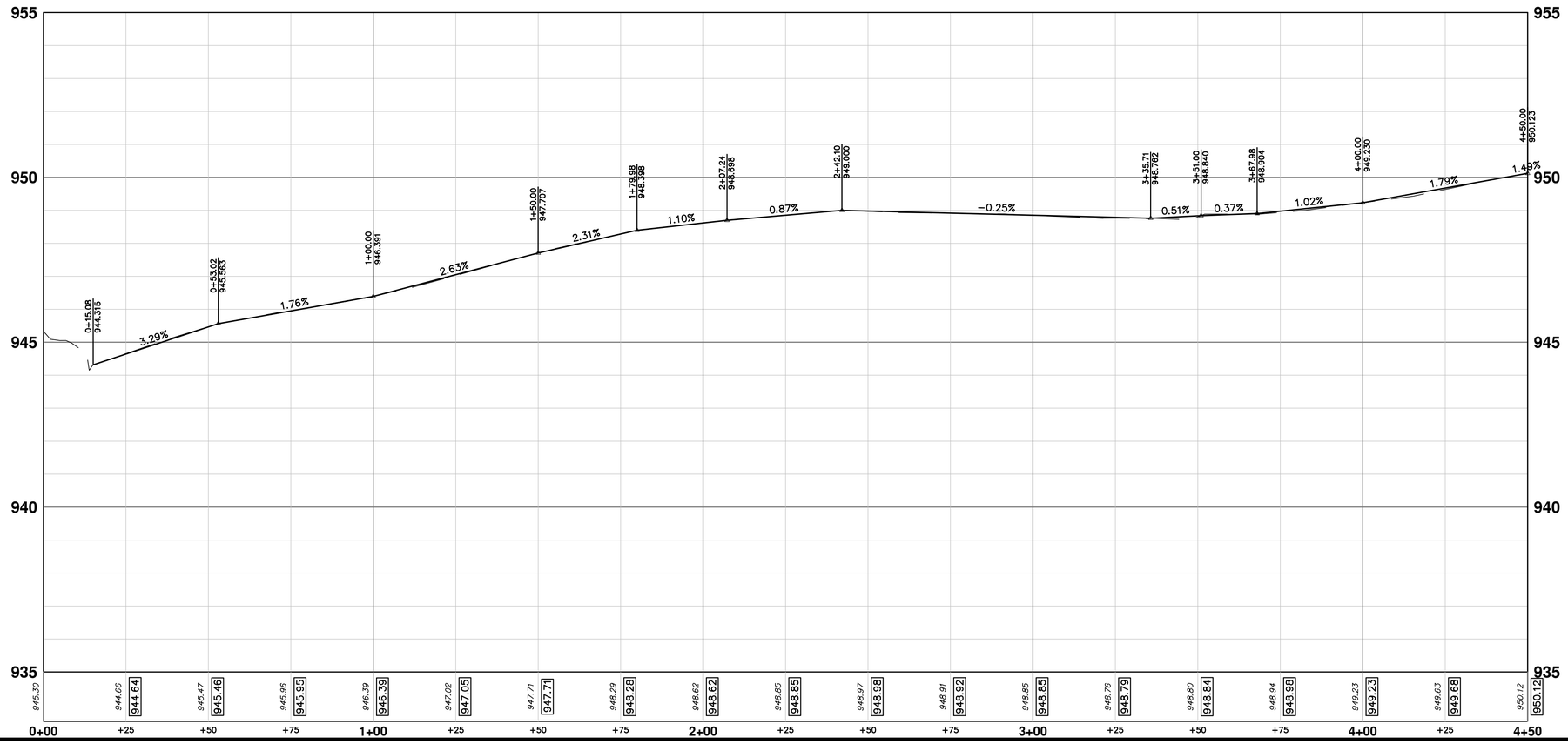
SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2024006-45

SHEET No. 45 OF 52

R:\2024006 Misc Util 2025\Plan Production\2024006Prd GlasWeld.dwg Dwg Created: 12-Dec-24 – _a2 standard bw.stb – Plot Date: 10-Jan-25





CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	PLACE HMA, PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
HMA APP	HMA Approach
HP	Hand Patching
CG	Conc, Curb or Curb & Gutter, All Types
DOM	Conc, Driveway Opening, Type M
DOM-HE	Conc, Driveway Opening, Type M, High Early
DG-6	DRIVEWAY GRAVEL 6 INCH 21AA LIMESTONE, C.I.P.
MGD	MACHINE GRADING, DRIVEWAY
SW-4	Conc, Sidewalk, 4 In.
SWR-6	Conc, Sidewalk, Drive Approach, or Ramp, 6 In.
SW6-HE	Conc, Sidewalk, Drive Approach, or Ramp, 6 In., High Early
SW8	Conc, Sidewalk, Drive Approach, or Ramp, 8 In.
DWS	Detectable Warning Surface
ABO	ADJUST BY OTHERS
AMB	Monument Box, Adjust
AGB	Gate Box, Adjust
RSA	Storm Structure Cover, Adjust
SSA	Sanitary Structure Cover, Adjust
WSA	Water Structure Cover, Adjust

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
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2025 MISCELLANEOUS UTILITY PROJECTS

ROAD PLAN & PROFILE - GLASTONBURY RD

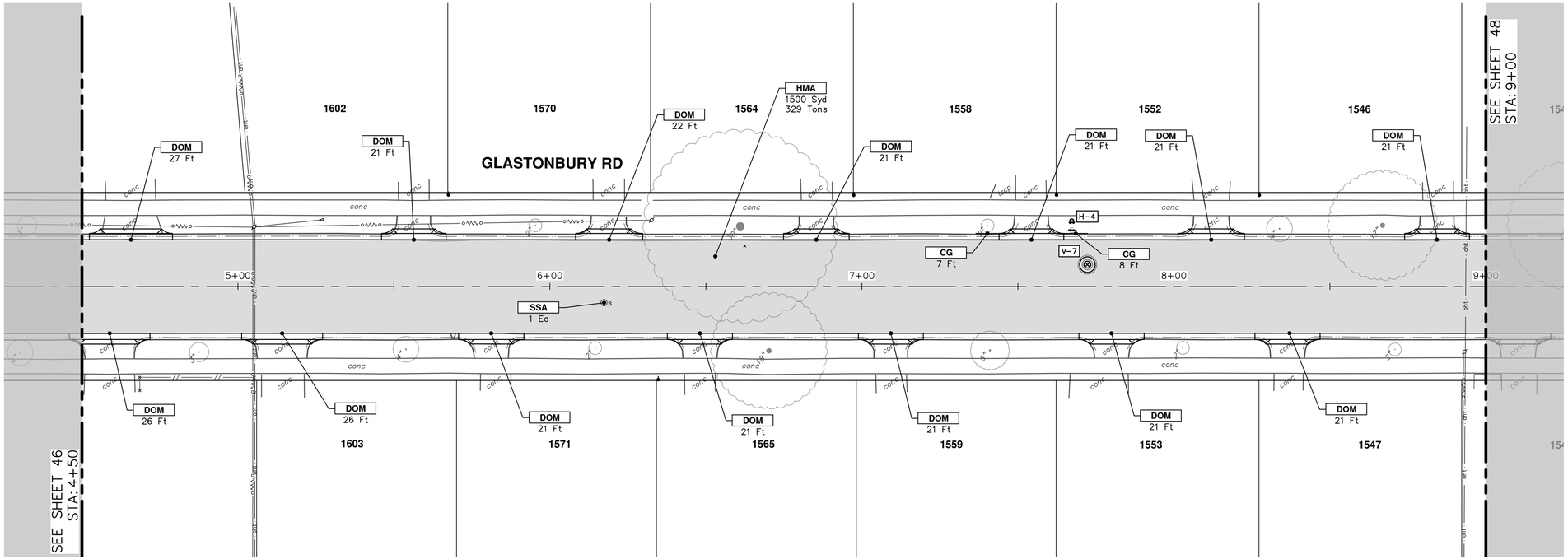
STA. 0+00 - STA. 4+50

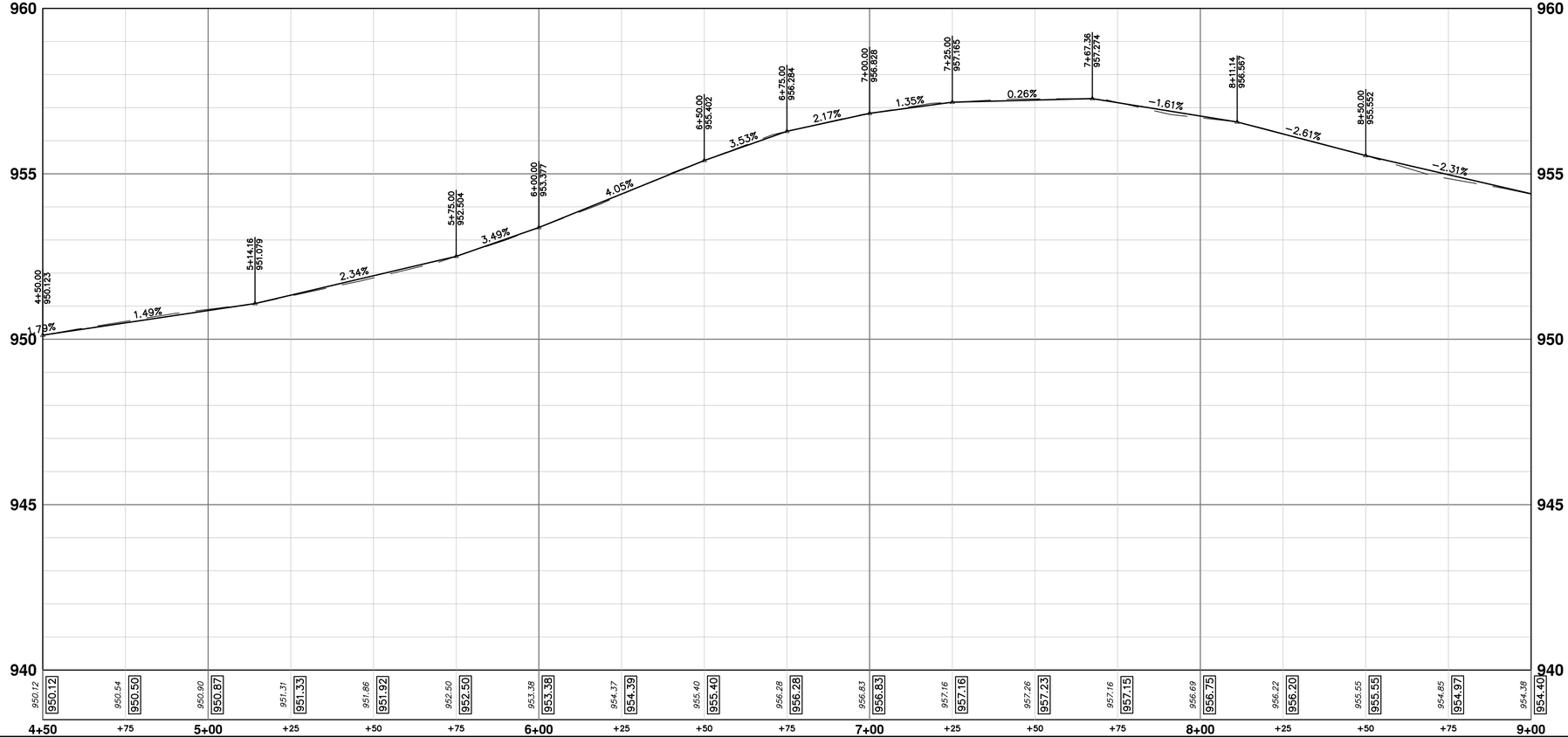
SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2024006-46

SHEET No. 46 OF 52

R:\2024006 Misc Util 2025\Plan Production\2024006Prd GlasWeld.dwg Dwg Created: 12-Dec-24 — _a2 standard bw.stb — Plot Date: 10-Jan-25





CONSTRUCTION KEY

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HMA	PLACE HMA, PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
HMA APP	HMA Approach
HP	Hand Patching
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MGD	MACHINE GRADING, DRIVEWAY
SW-4	Conc, Sidewalk, 4 in.
SWR-6	Conc, Sidewalk, Drive Approach, or Ramp, 6 in.
SW6-HE	Conc, Sidewalk, Drive Approach, or Ramp, 6 in., High Early
SW8	Conc, Sidewalk, Drive Approach, or Ramp, 8 in.
DWS	Detectable Warning Surface
ABO	ADJUST BY OTHERS
AMB	Monument Box, Adjust
AGB	Gate Box, Adjust
RSA	Storm Structure Cover, Adjust
SSA	Sanitary Structure Cover, Adjust
WSA	Water Structure Cover, Adjust

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

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01	BID SET	12/12/24	A2D	TA

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2025 MISCELLANEOUS UTILITY PROJECTS

ROAD PLAN & PROFILE - GLASTONBURY RD

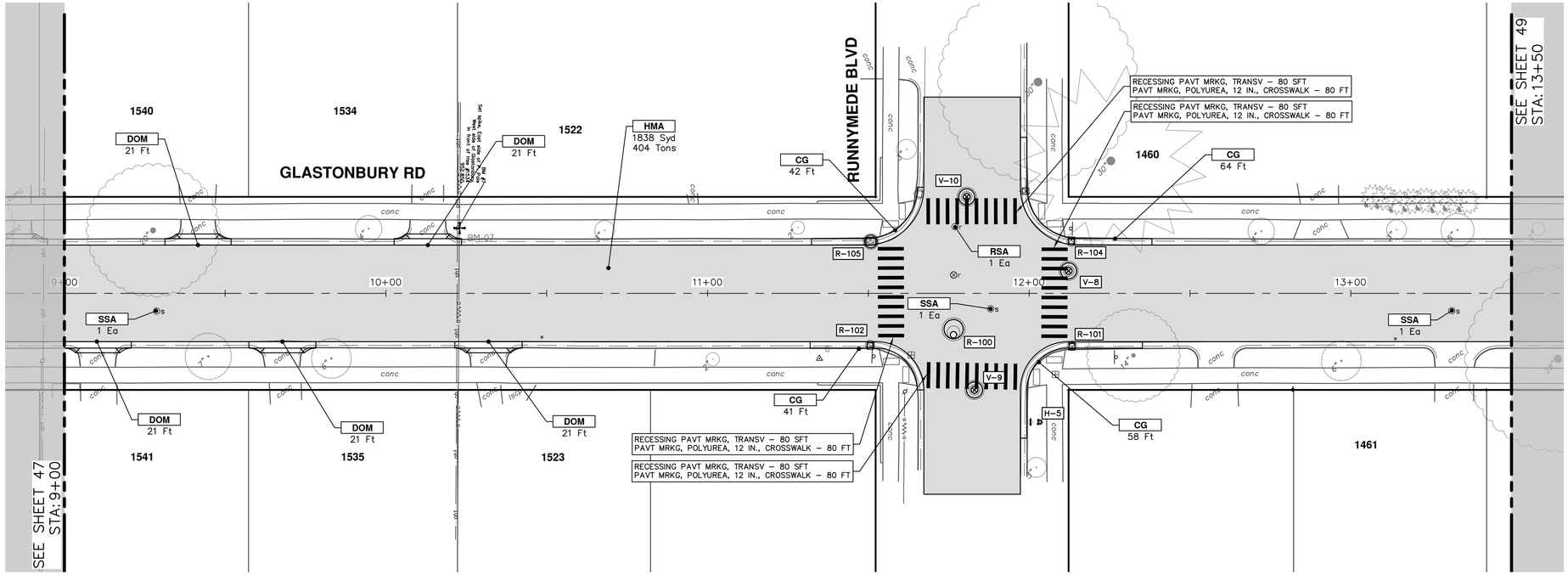
STA. 4+50 - STA. 9+00

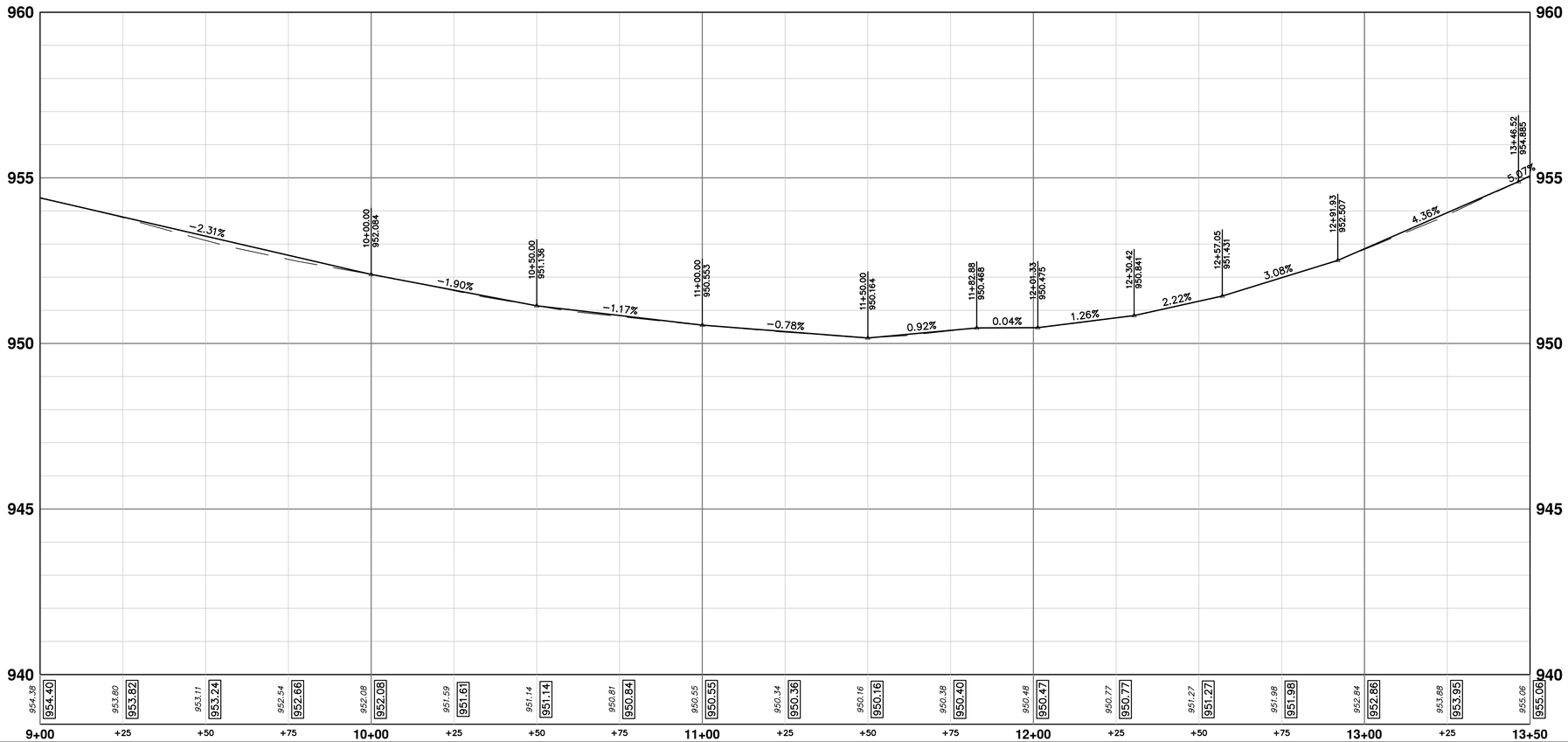
SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2024006-47

SHEET No. 47 OF 52

R:\2024006 Misc Util 2025\Plan Production\2024006Prd GlasWeld.dwg Dwg Created: 12-Dec-24 — _a2 standard bw.stb — Plot Date: 10-Jan-25





CONSTRUCTION KEY	
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HMA	PLACE HMA, PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
HMA APP	HMA Approach
HP	Hand Patching
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DOM-HE	Conc, Driveway Opening, Type M, High Early
DG-6	DRIVEWAY GRAVEL 6 INCH 21AA LIMESTONE, C.I.P.
MGD	MACHINE GRADING, DRIVEWAY
SW-4	Conc, Sidewalk, 4 In.
SWR-6	Conc, Sidewalk, Drive Approach, or Ramp, 6 In.
SW6-HE	Conc, Sidewalk, Drive Approach, or Ramp, 6 In., High Early
SW8	Conc, Sidewalk, Drive Approach, or Ramp, 8 In.
DWS	Detectable Warning Surface
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AMB	Monument Box, Adjust
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RSA	Storm Structure Cover, Adjust
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WSA	Water Structure Cover, Adjust

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	BID SET	12/12/24	A2D	TA
02	ADDENDUM NO. 1	01/10/24	A2D	TA

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2025 MISCELLANEOUS UTILITY PROJECTS

ROAD PLAN & PROFILE - GLASTONBURY RD

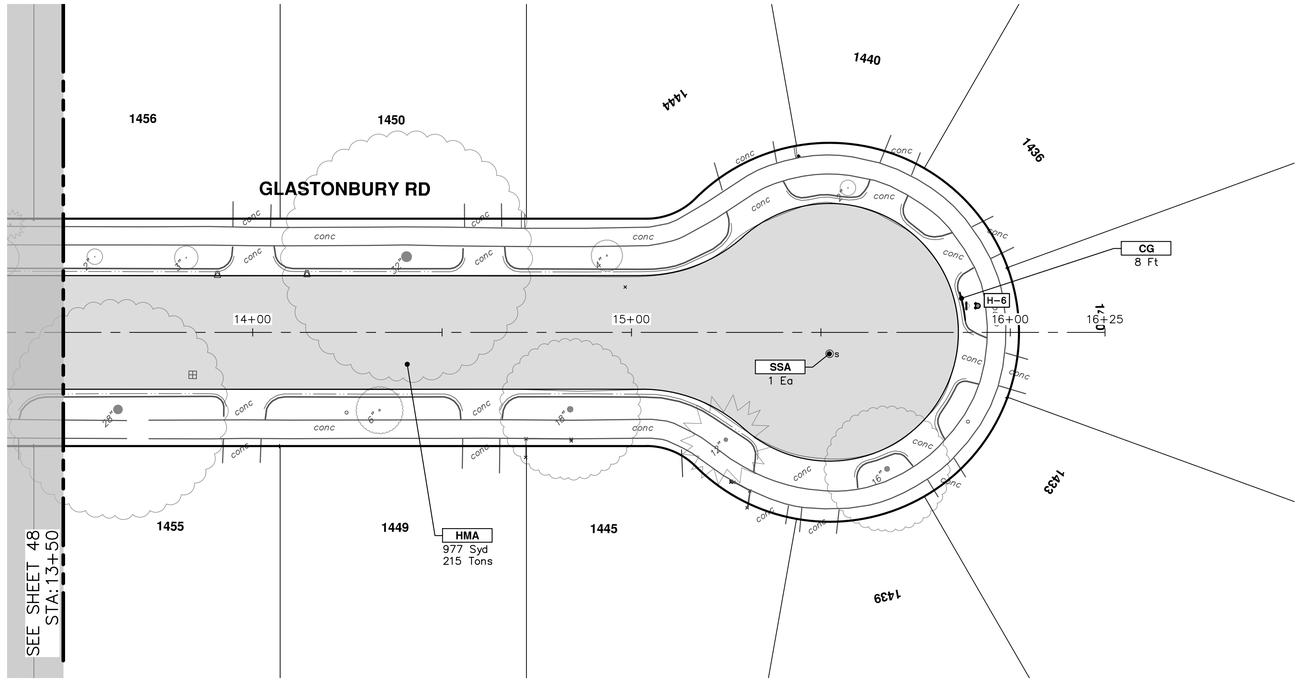
STA. 9+00 - STA. 13+50

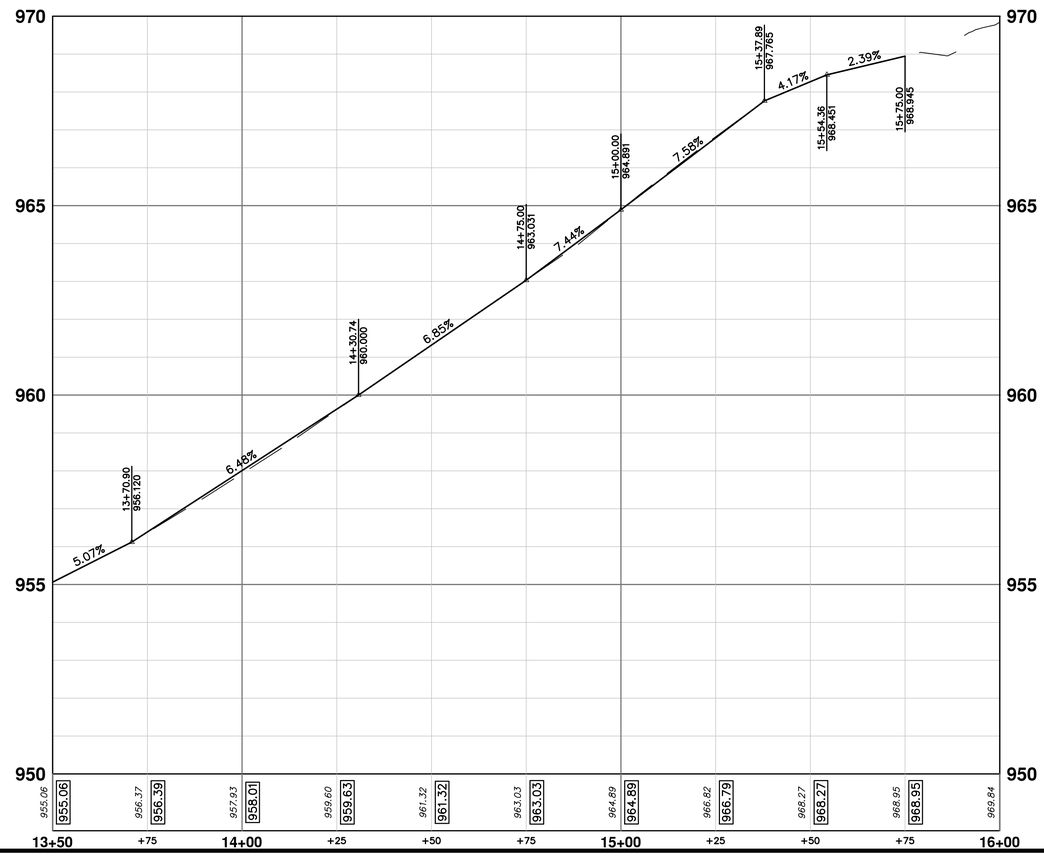
SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2024006-48

SHEET No. 48 OF 52

R:\2024006 Misc Util 2025\Plan Production\2024006Prd GlasWeld.dwg Dwg Created: 12-Dec-24 — _a2 standard bw.stb — Plot Date: 10-Jan-25





CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	PLACE HMA, PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
HMA APP	HMA Approach
HP	Hand Patching
CG	Conc, Curb or Curb & Gutter, All Types
DOM	Conc, Driveway Opening, Type M
DOM-HE	Conc, Driveway Opening, Type M, High Early
DG-6	DRIVEWAY GRAVEL 6 INCH 21AA LIMESTONE, C.I.P.
MGD	MACHINE GRADING, DRIVEWAY
SW-4	Conc, Sidewalk, 4 in.
SWR-6	Conc, Sidewalk, Drive Approach, or Ramp, 6 in.
SW6-HE	Conc, Sidewalk, Drive Approach, or Ramp, 6 in., High Early
SW8	Conc, Sidewalk, Drive Approach, or Ramp, 8 in.
DWS	Detectable Warning Surface
ABO	ADJUST BY OTHERS
AMB	Monument Box, Adjust
AGB	Gate Box, Adjust
RSA	Storm Structure Cover, Adjust
SSA	Sanitary Structure Cover, Adjust
WSA	Water Structure Cover, Adjust

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA

CITY OF ANN ARBOR
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301 E. HURON STREET
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2025 MISCELLANEOUS UTILITY PROJECTS

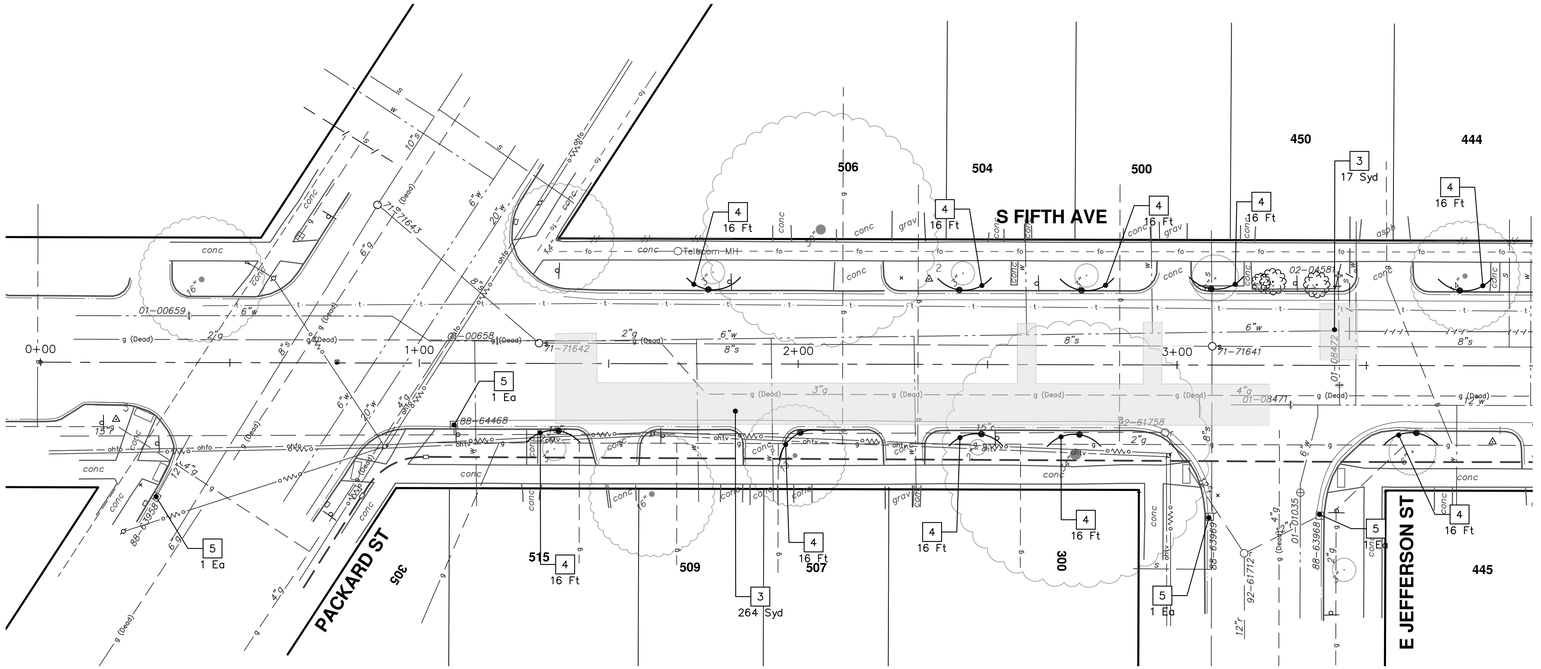
ROAD PLAN & PROFILE - GLASTONBURY RD

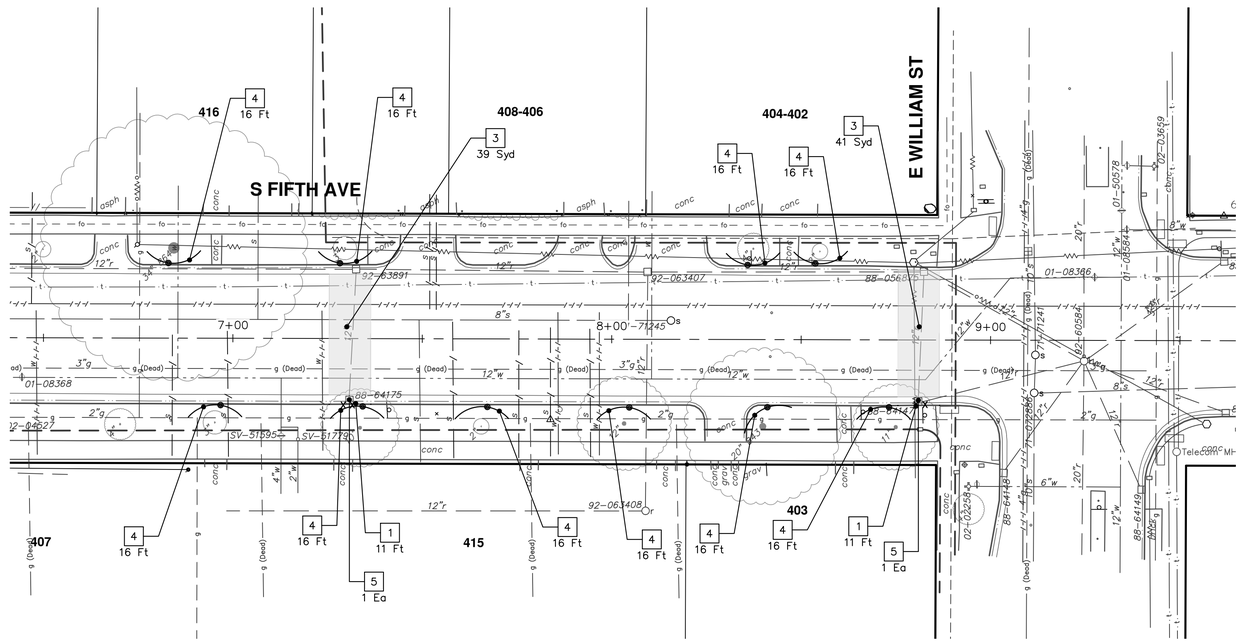
STA. 13+50 - STA. 16+00

SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2024006-49

SHEET No. 49 OF 52



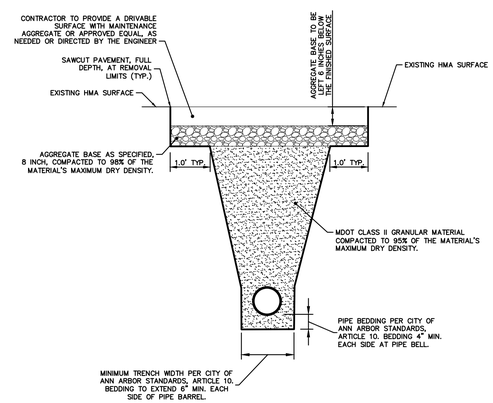


REMOVAL KEY	
KEY	DESCRIPTION
1	Curb, Gutter, and Curb and Gutter, Any Type, Rem *
2	Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem
3	Pavement, Any Thickness or Material, Rem *
4	Tree Protective Fence
5	Erosion Control, Inlet Protection, Fabric Drop
6A	Tree, Rem, 6 In. – 12 In.
6B	Tree, Rem, 13 In. – 19 In.
6C	Tree, Rem, 20 In. – 29 In.

* SAWCUT FULL DEPTH AT REMOVAL LIMITS AS DIRECTED BY ENGINEER

THE CITY'S 2025 RESURFACING PROJECT WILL REPLACE ASPHALT AND CURB.

CONTRACTOR SHALL PLAN WORK TO MAINTAIN ONE LANE OF LOCAL TRAFFIC AT ALL TIMES.



NOTES:

1. ALL TRENCH EXCAVATION, BEDDING, BACKFILLING, AND SURFACE RESTORATION SHALL COMPLY WITH CITY OF ANN ARBOR STANDARDS, ARTICLE 10.
2. TRENCH DETAILS SHOW TYPE OF BACKFILL AND TRENCHING REQUIREMENTS ONLY.
3. ALL TRENCHING TO CONFORM TO ALL APPLICABLE M.I.O.S.H.A. AND CITY STANDARDS.
4. PIPE BEDDING THICKNESS UNDER CONCRETE PIPE 66" OR LARGER SHALL BE INCREASED TO 6".
5. SEE SD-TD-2 FOR SANITARY BEDDING AREA DETAIL. SEE SD-TD-4 FOR EDGE DRAIN BEDDING AND BACKFILL.
6. SURFACE RESTORATION SHALL NOT BE INCLUDED IN THE UNIT PRICE FOR PIPE AND WILL BE PAID FOR SEPARATELY.
7. NOT TO BE USED FOR SANITARY SEWER OR EDGE DRAIN.

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA

CITY OF ANN ARBOR
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2025 MISCELLANEOUS UTILITY PROJECTS

REMOVALS - S FIFTH AVE

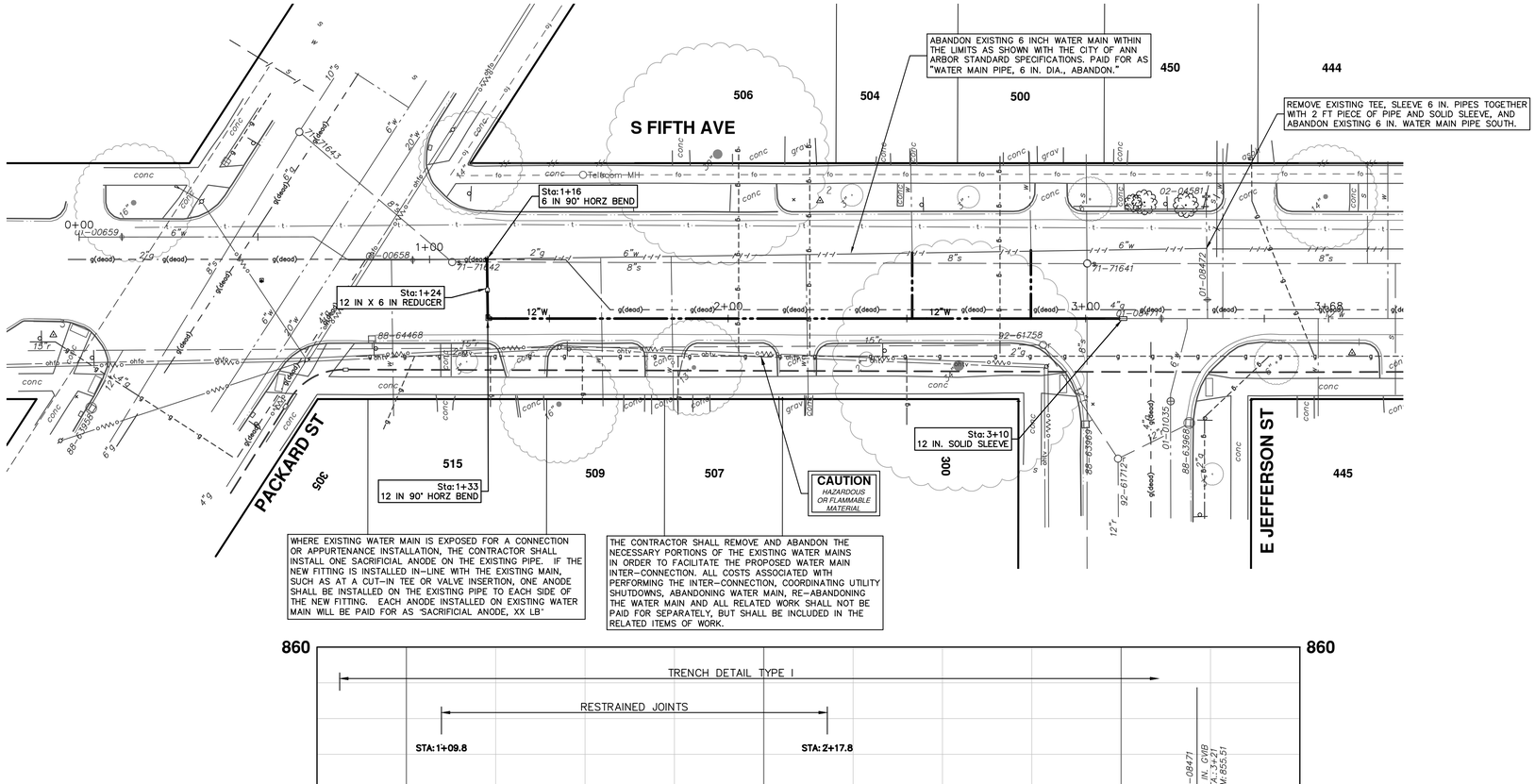
STA. 1+06 - STA. 9+00

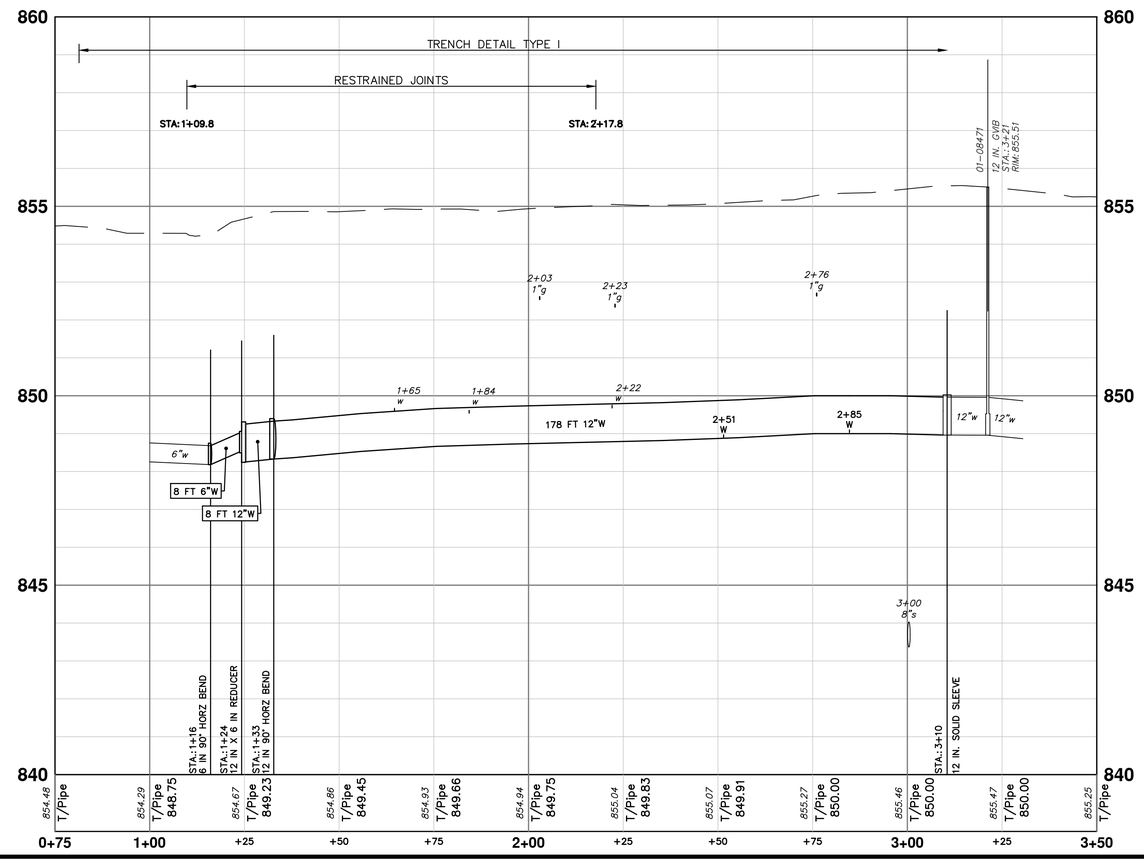
SCALE : 1" = 20'

DRAWING No. 2024006-50

SHEET No. 50 OF 52

R:\2024006 Misc Util 2025\Plan Production\2024006Rem Fifth.dwg Dwg Created: 10-Jan-25 - _a2 standard bw.stb - Plot Date: 10-Jan-25
Plot Date: 10-Jan-25





REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM NO. 1	01/10/24	A2D	TA
01	BID SET	12/12/24	A2D	TA

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

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CITY OF ANN ARBOR MICHIGAN

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2025 MISCELLANEOUS UTILITY PROJECTS

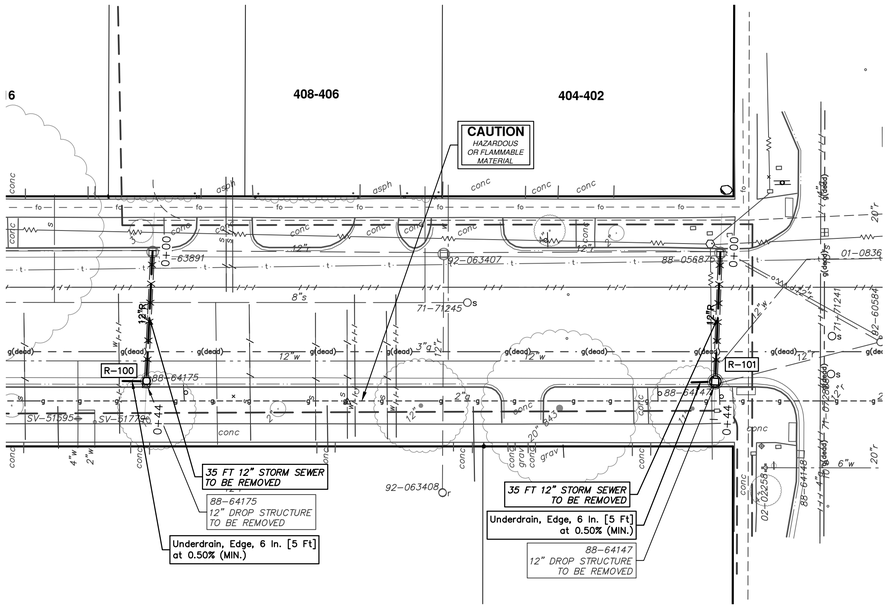
WATER MAIN - S FIFTH AVE

STA. 0+81 - STA. 3+01

SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

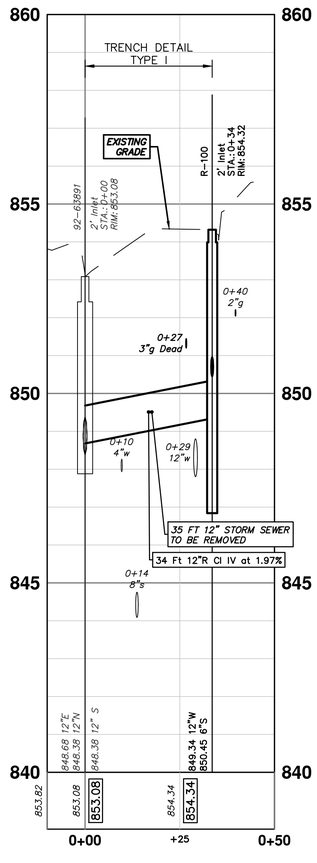
DRAWING No. **2024006-51**

SHEET No. **51 OF 52**

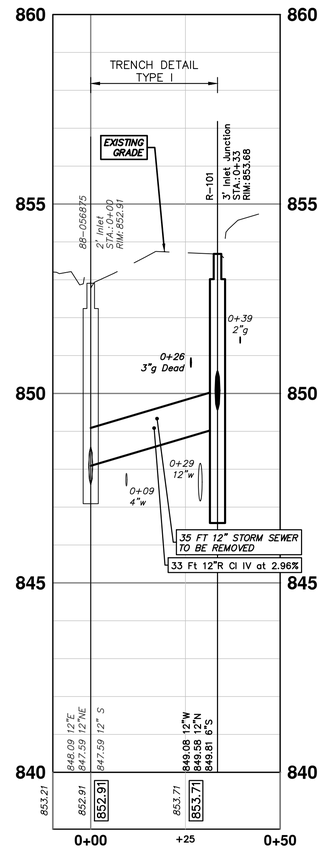


EXISTING STORM SEWER STRUCTURE REMOVAL TABLE		
STRUCTURE	DEPTH (Feet)	REMOVE
88-64147	4.00	12" Drop Structure TO BE REMOVED
88-64175	4.70	12" Drop Structure TO BE REMOVED

92-63891 - R-100



88-056875 - R-101



STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	TYPE	RIM	INVERTS	DEPTH (Feet)	SUMP
R-100	0+34	2' Inlet	854.32	12" W 849.34 6" S 850.45	6.98	2'
R-101	0+33	3' Inlet Junction	853.68	12" W 849.08 12" N 849.58 6" S 849.81	6.60	2'

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2025 MISCELLANEOUS UTILITY PROJECTS

STORM - S FIFTH AVE

R-100, R-101

SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2024006-52

SHEET No. 52 OF 52