

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 |
|--|---|
| <u>New Content</u> 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: Trench 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 |
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| 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., CI 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

AA:TCA

1 of 3

1/10/25

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.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PROJECT SCHEDULE AND PAYMENT

AA:TCA

2 of 3

1/10/25

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

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PROJECT SCHEDULE AND PAYMENT

AA:TCA

3 of 3

1/10/25

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.

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
GRADING

AA:TCA

2 of 2

1/10/25

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

AA:TCA

1 of 2

1/10/25

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.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
LOCATE SANITARY LEADS

AA:TCA

2 of 2

1/10/25

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

AA:TCA

1 of 1

1/7/25

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

AA:TCA

1 of 1

1/10/25

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.



**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



MATERIALS TESTING CONSULTANTS

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, M_r , 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 $\frac{3}{4}$ 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 $\frac{1}{2}$ 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 $\frac{1}{4}$ 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 $\frac{1}{2}$ to 6 $\frac{1}{2}$ 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 $\frac{3}{4}$ to 6 $\frac{1}{2}$ 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

LEGEND

 BORING LOCATION (TYP)

NOTE: AERIAL IMAGE FROM GOOGLE EARTH





| | | | | |
|-----------------------------|------------------|---------------------|--|--|
| 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 | SB2025-042: 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:

- Hollow stem auger, ASTM D6151
- Mud rotary, ASTM D5783
- Casing advancer, ASTM D5872
- Rock coring, ASTM D2113
- 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:

- SPT, ASTM D1586, Auto hammer (140 lb., 30" drop, 2" OD split spoon sampler)
- 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)
- CME 45 Truck
- Geoprobe Direct Push
- Geoprobe Rotary Sonic

Boreholes Backfilled With:

- Excavated soil
- Cement bentonite grout
- Piezometer or Monitoring Well (see notes on logs)
- Concrete or asphalt patch where appropriate

Sample Handling and Disposition:

- Samples labeled, placed in jars, returned to MTC Laboratory
- 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.

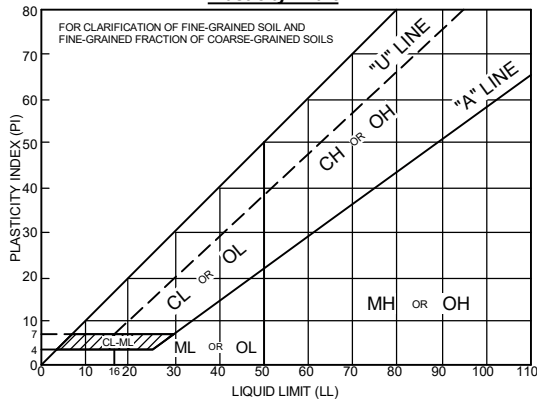
Gravel: $C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3

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 |
| | | GRAVELS WITH 15% OR MORE FINES | GP | POORLY-GRADED GRAVELS WITH OR WITHOUT SAND |
| | | | 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 |
| | | SANDS WITH 15% OR MORE FINES | SP-SM | POORLY-GRADED SANDS WITH SILT WITH OR WITHOUT GRAVEL |
| | | | 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 |
| 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

- 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.
- "Grades with" or "Grades without" may be used to describe soil when characteristics vary within a stratum.
- 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 | A-1 | | | | 7 1/2" HMA | | | | |
| | 0.50 | | | | | | | | | |
| | 0.75 | | | | | | | | | |
| | 1.00 | A-2 | | | | 12" Gravel Base | 0.7 | | | |
| | 1.25 | | | | | | | | | |
| | 1.50 | | | | | | | | | |
| | 1.75 | A-3 | | | | | 1.6 | | | |
| | 2.00 | | | | SP-SM | Brown poorly graded SAND with silt; mostly coarse to fine sand, few silty fines, trace fine gravel, moist | 1.9 | | | |
| | 2.25 | | | | CL | Brown gravelly lean CLAY; mostly clayey fines, some coarse to fine gravel, few coarse to fine sand, moist | 2.3 | | | |
| | | | | | | 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 | A-1 | | | | 6" HMA | | | | |
| | 0.50 | | | | | | 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 | | | |
| | | | | | | End of Boring | | | | Hand auger refusal at 1.6' 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.: SB2025-044

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 | A-1 | | | | 2 1/2" HMA | 0.2 | 20.8 | | |
| | 0.50 | | | | | 7 1/2" Concrete | | | | |
| | 0.75 | | | | | | | | | |
| | 1.00 | | | | | | 0.9 | | | |
| | 1.25 | | | | | 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



MATERIALS TESTING CONSULTANTS

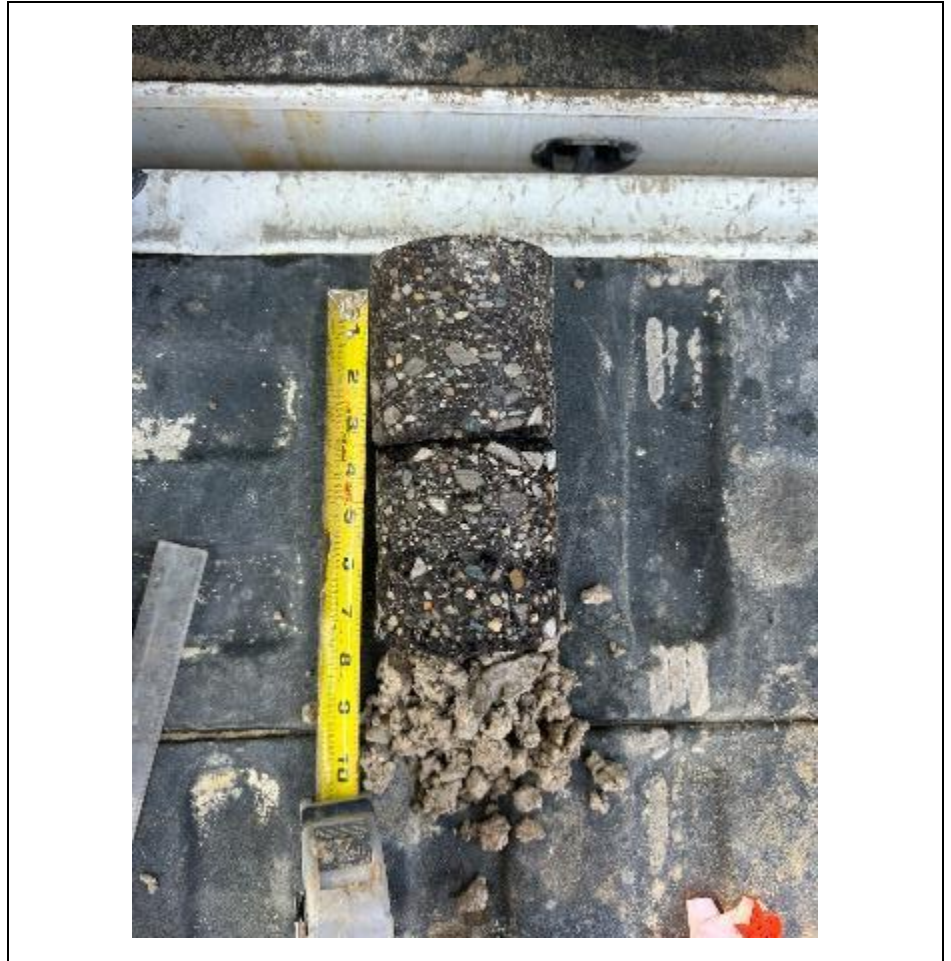
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Client: City of Ann Arbor Project No.: 241423

Recorded By: RS Date: 9/27/2024



SB-2025-039



SB2025-042



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

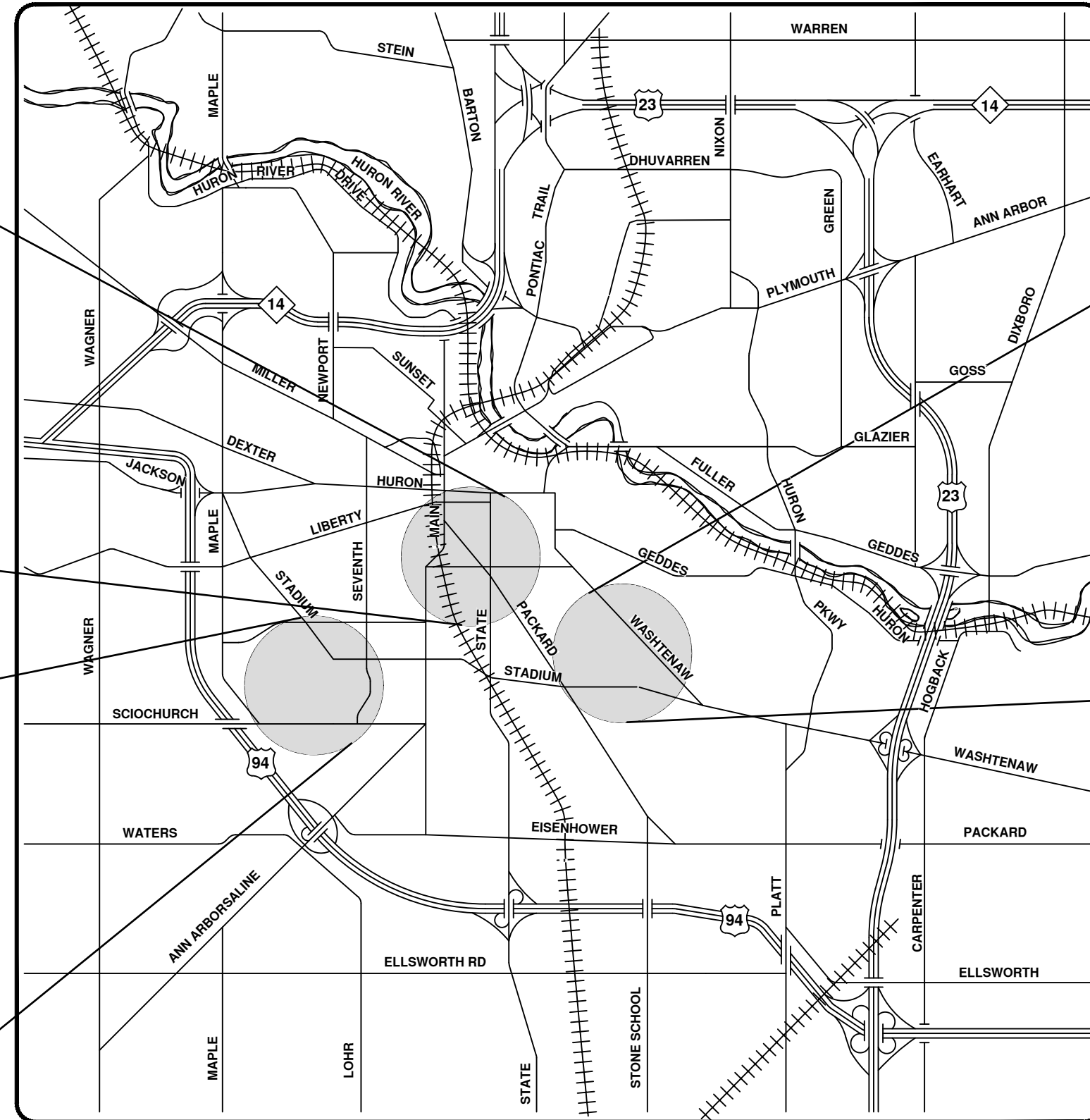
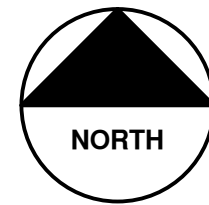
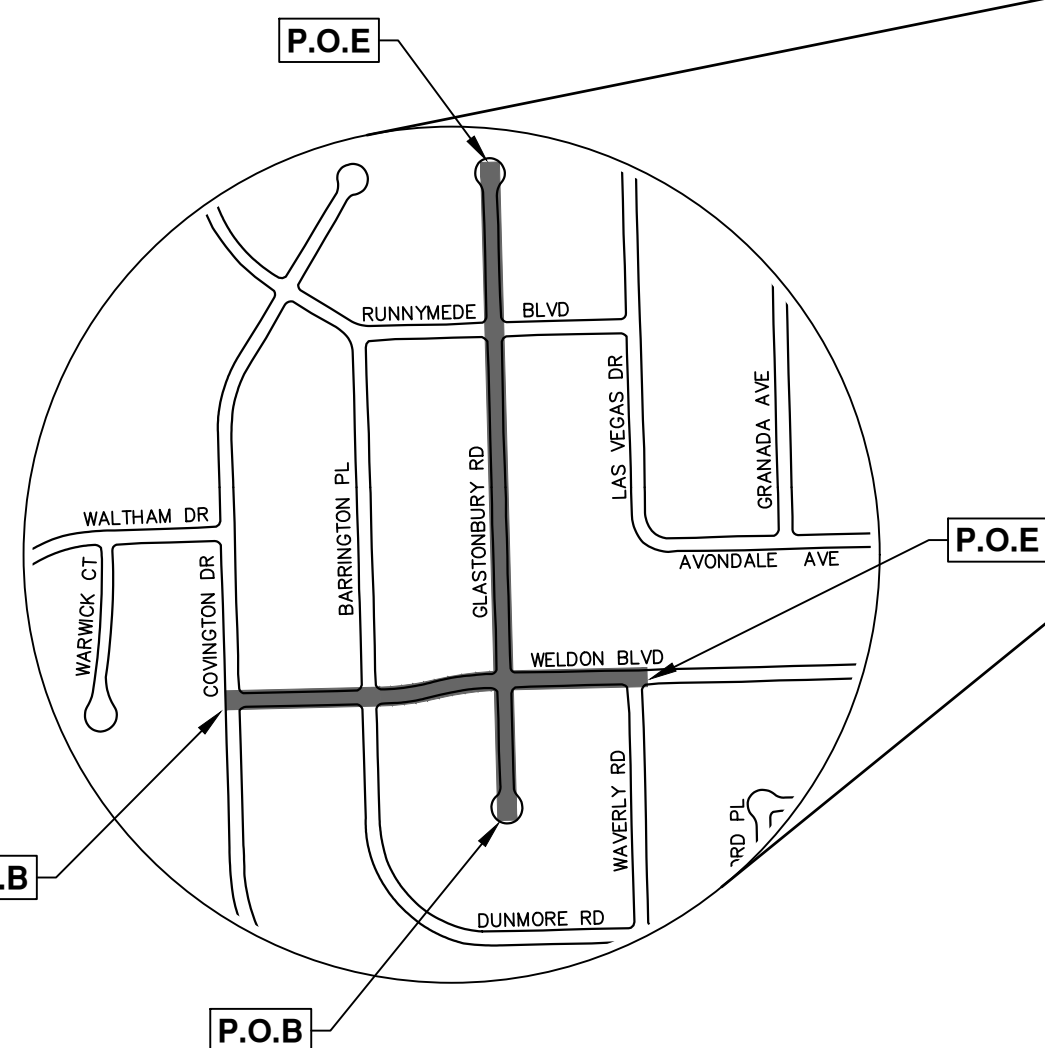
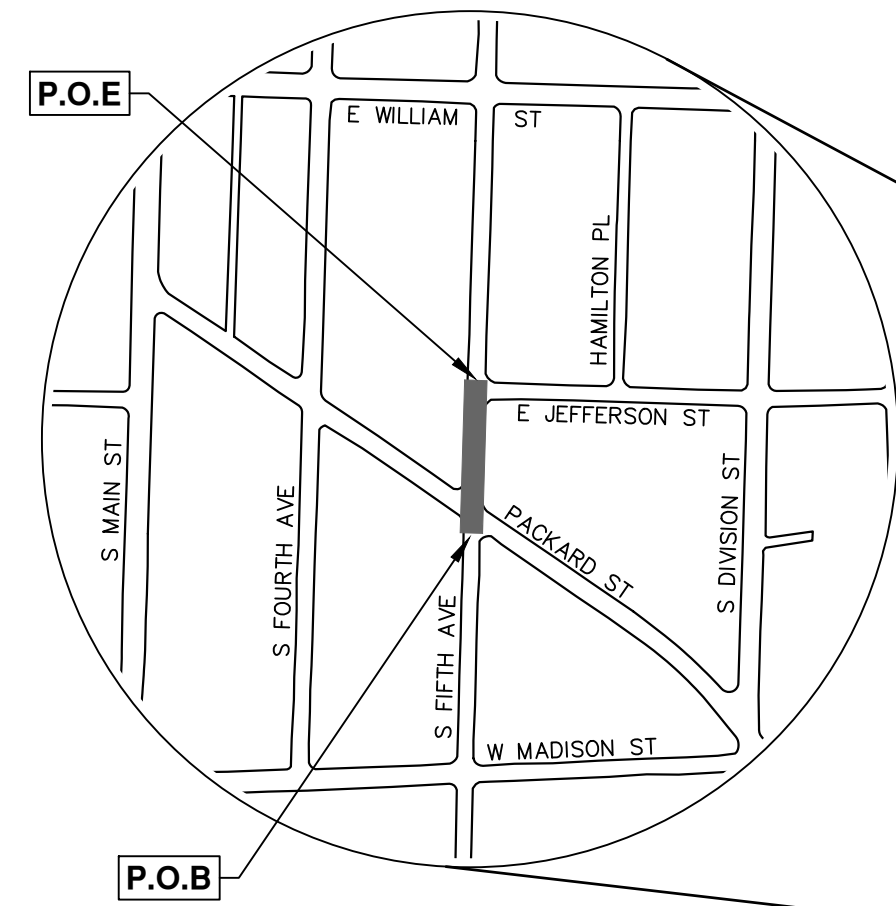
NOTES

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 NOT 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.

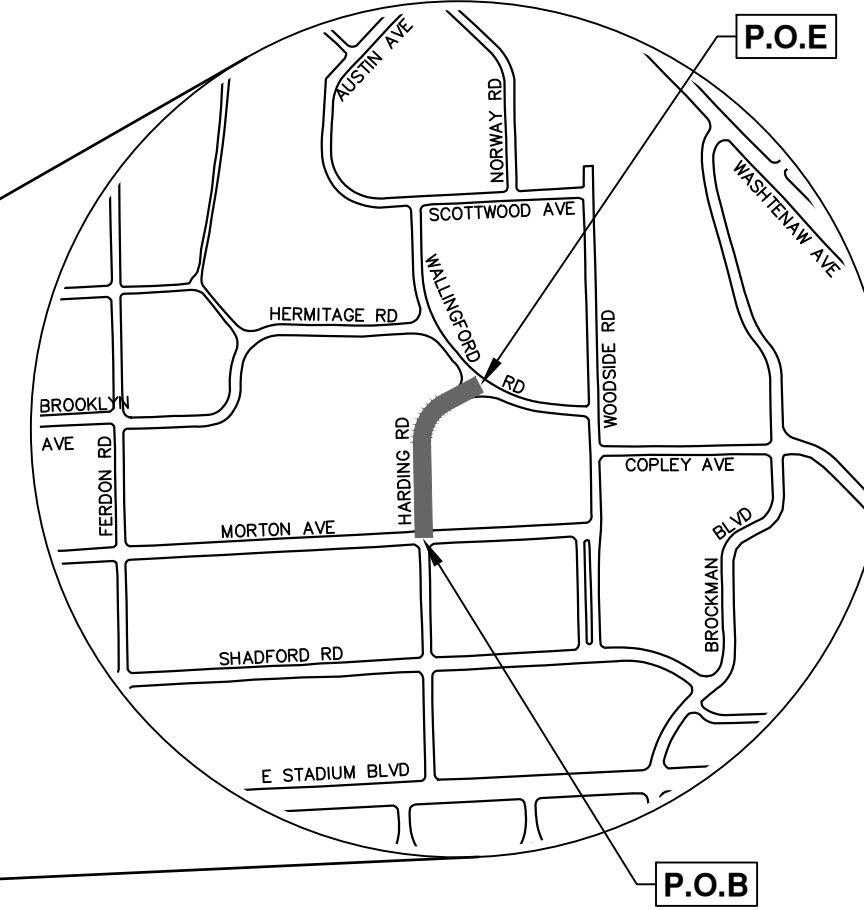
THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS, TELEPHONE, ELECTRICAL POWER, CABLE TV AND FIBER OPTIC LINES ARE APPROXIMATE. THE CITY OF ANN ARBOR ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. MISS DIG MUST BE CONTACTED PRIOR TO CONSTRUCTION TO LOCATE THESE UTILITIES.

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.

RFP No. 25-01, FILE No. 2024006



VICINITY MAP

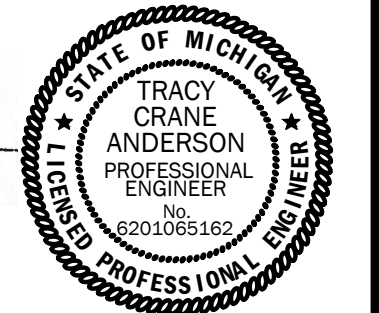


| Sheet Index | |
|--------------------------------------|---|
| Sheet Number | Sheet Title |
| 1 | Cover Sheet |
| 2 | Standard Notes |
| 3 | Legend |
| 4 | Alternate Pedestrian Route (APR) Detour |
| 5 | Alternate Pedestrian Route (APR) Bypass |
| 6 | TPAR Ramps |
| 7 | TPAR Walkway Devices |
| Typical Cross-sections | |
| 8 | Harding Existing Typical Sections |
| 9 | Harding Proposed Typical Sections |
| 10 | Morton Existing Typical Sections |
| 11 | Morton Proposed Typical Section |
| 12 | Glastonbury Existing Typical Sections |
| 13 | Glastonbury Proposed Typical Sections |
| 14 | Weldon Existing Typical Sections |
| 15 | Weldon Proposed Typical Sections |
| Traffic Control | |
| 16 | Harding Rd, Glastonbury Rd - Weldon Blvd, S Fifth Ave |
| Removals - Harding Rd | |
| 17 | Sta. 6+50 - Sta. 9+00 |
| 18 | Sta. 9+00 - Sta. 11+99 |
| Water Main - Harding Rd | |
| 19 | Sta. 0+00 - Sta. 2+50 |
| 20 | Sta. 2+50 - Sta. 4+61 |
| Sanitary Sewer - Harding Rd | |
| 21 | Sta. 0+00 - Sta. 3+75 |
| 22 | Sta. 1+49 - Sta. 4+85 |
| Storm Sewer - Harding Rd | |
| 23 | R-100, R-102, R-105 - R-107 |
| 24 | R-103, R-104 |
| Road Plan & Profile - Harding Rd | |
| 25 | Sta. 6+50 - Sta. 10+00 |
| 26 | Sta. 10+00 - Sta. 11+98 |
| 27 | Harding - Wallingford Intersection Grading |
| 28 | Sta. 0+00 - Sta. 10+25 |
| Removals - Glastonbury Rd | |
| 29 | Sta. 0+00 - Sta. 8+00 |
| 30 | Sta. 8+00 - Sta. 16+02 |
| Water Main - Weldon Blvd | |
| 31 | Sta. 0+00 - Sta. 4+50, Hyd H-1 |
| 32 | Sta. 4+50 - Sta. 9+66, Hyd H-2 |
| Water Main - Barrington Pl | |
| 33 | Sta. 0+00 - Sta. 0+85(S), Sta. 0+00 - Sta. 0+54(N), Hyd H-3 |
| Water Main - Glastonbury (North) | |
| 34 | Sta. 0+00 - Sta. 4+50, Hyd H-4 |
| 35 | Sta. 4+50 - Sta. 9+00 |
| 36 | Sta. 9+00 - Sta. 12+27, Hyd H-6 |
| Water Main - Runnymede Blvd | |
| 37 | Sta. 0+00 - Sta. 0+56(W), Sta. 0+00 - Sta. 0+72(E), Hyd H-5 |
| Water Main - Glastonbury (South) | |
| 38 | Sta. 0+00 - Sta. 3+56, Hyd H-7 |
| Storm Sewer - Glastonbury Weldon | |
| 39 | R-117, R-118, R-120, R-121 |
| 40 | R-112 - R-116 |
| 41 | R-119 |
| 42 | R-106 - R-111 |
| 43 | R-100 - R-102, R-104 - R-105 |
| Road Plan & Profile - Weldon Blvd | |
| 44 | Sta. 0+00 - Sta. 5+00 |
| 45 | Sta. 5+00 - Sta. 10+25 |
| Road Plan & Profile - Glastonbury Rd | |
| 46 | Sta. 0+00 - Sta. 4+50 |
| 47 | Sta. 4+50 - Sta. 9+00 |
| 48 | Sta. 9+00 - Sta. 13+50 |
| 49 | Sta. 13+50 - Sta. 16+00 |
| Removals - S Fifth Ave | |
| 50 | Sta. 1+06 - Sta. 3+19 |
| Water Main - S Fifth Ave | |
| 51 | Sta. 0+81 - Sta. 3+01 |
| Storm - S Fifth Ave | |
| 52 | R-100, R-101, R-102 |

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PREPARED UNDER THE SUPERVISION OF

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



1 / 2024
DATE



| NO. | DATE | DESCRIPTION | REV. |
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| 02 | 12/12/24 | BID SET | 01 |

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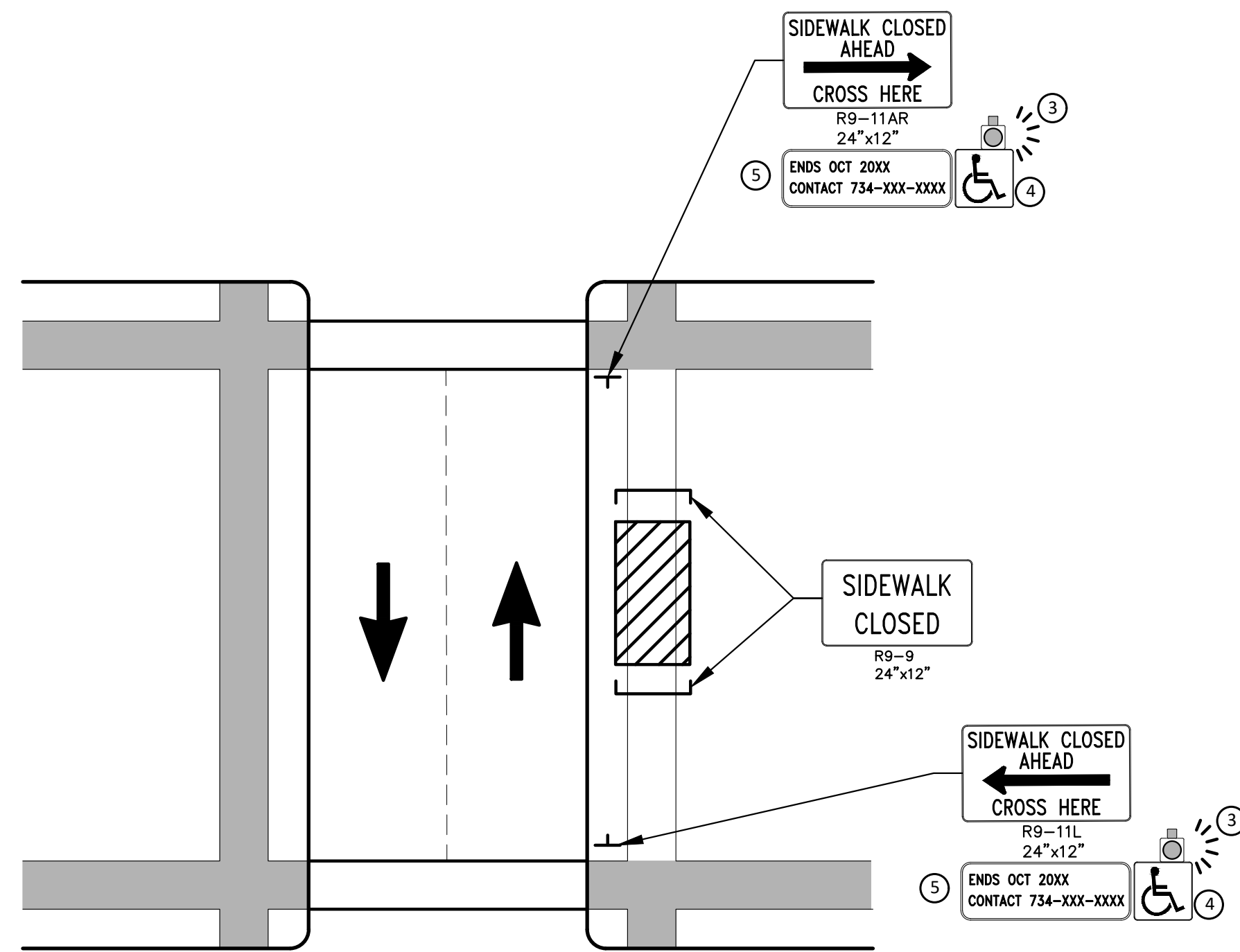


CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
THIS PROJECT INCLUDES WATER MAIN REPLACEMENT, STORM SEWER IMPROVEMENTS, SANITARY SEWER INSTALLATION AND REPLACEMENT, AND RESURFACING WITHIN THE RIGHT-OF-WAY OF HARDING RD (MORTON TO WALLINGFORD), GLASTONBURY RD (ENTIRETY), WELDON BLVD (CONVINGTON TO WALTERLY), AND FIFTH AVE (PACKARD TO JEFFERSON).

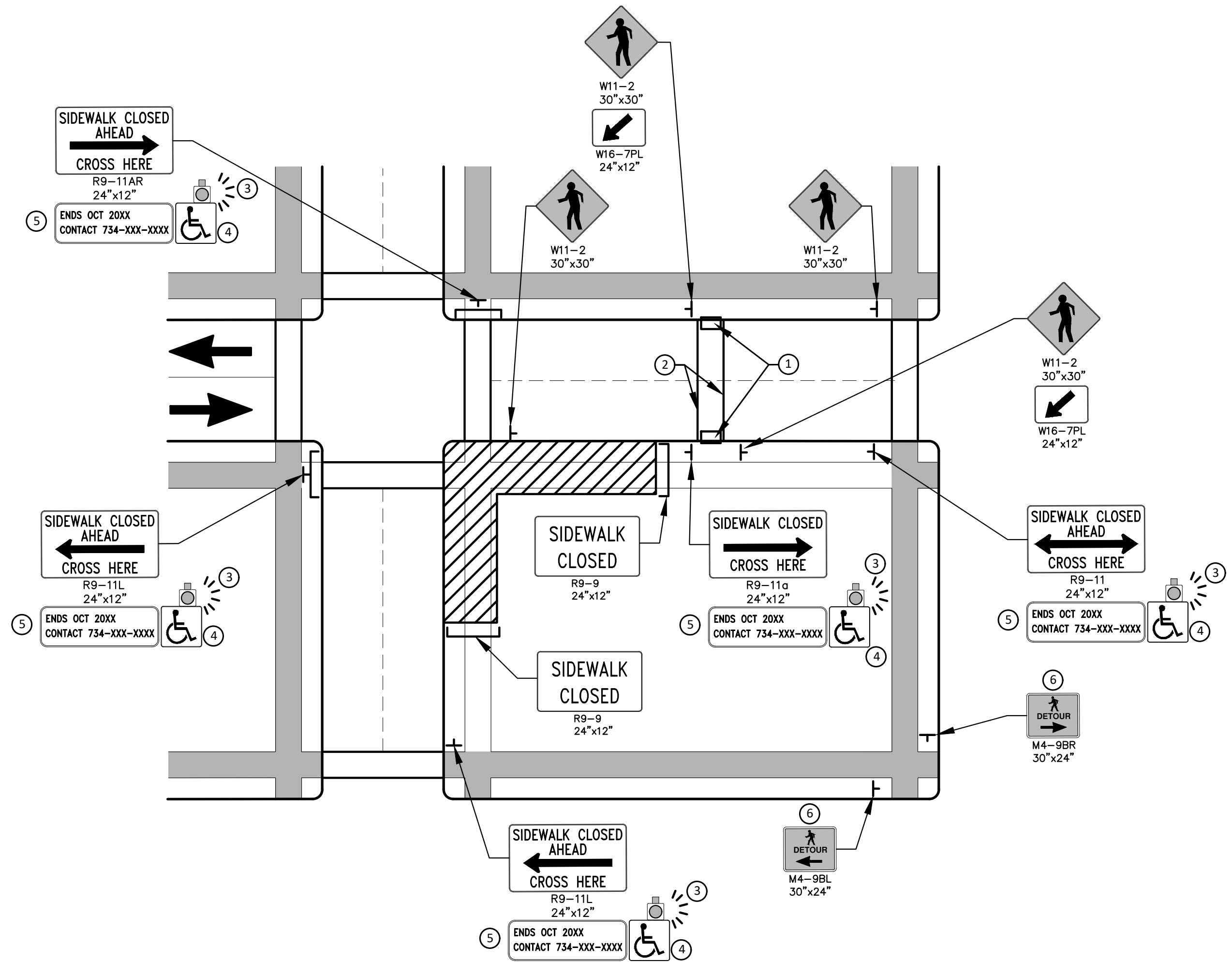
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DRAWING No. 2024006-1
SHEET No. 1 OF 52

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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



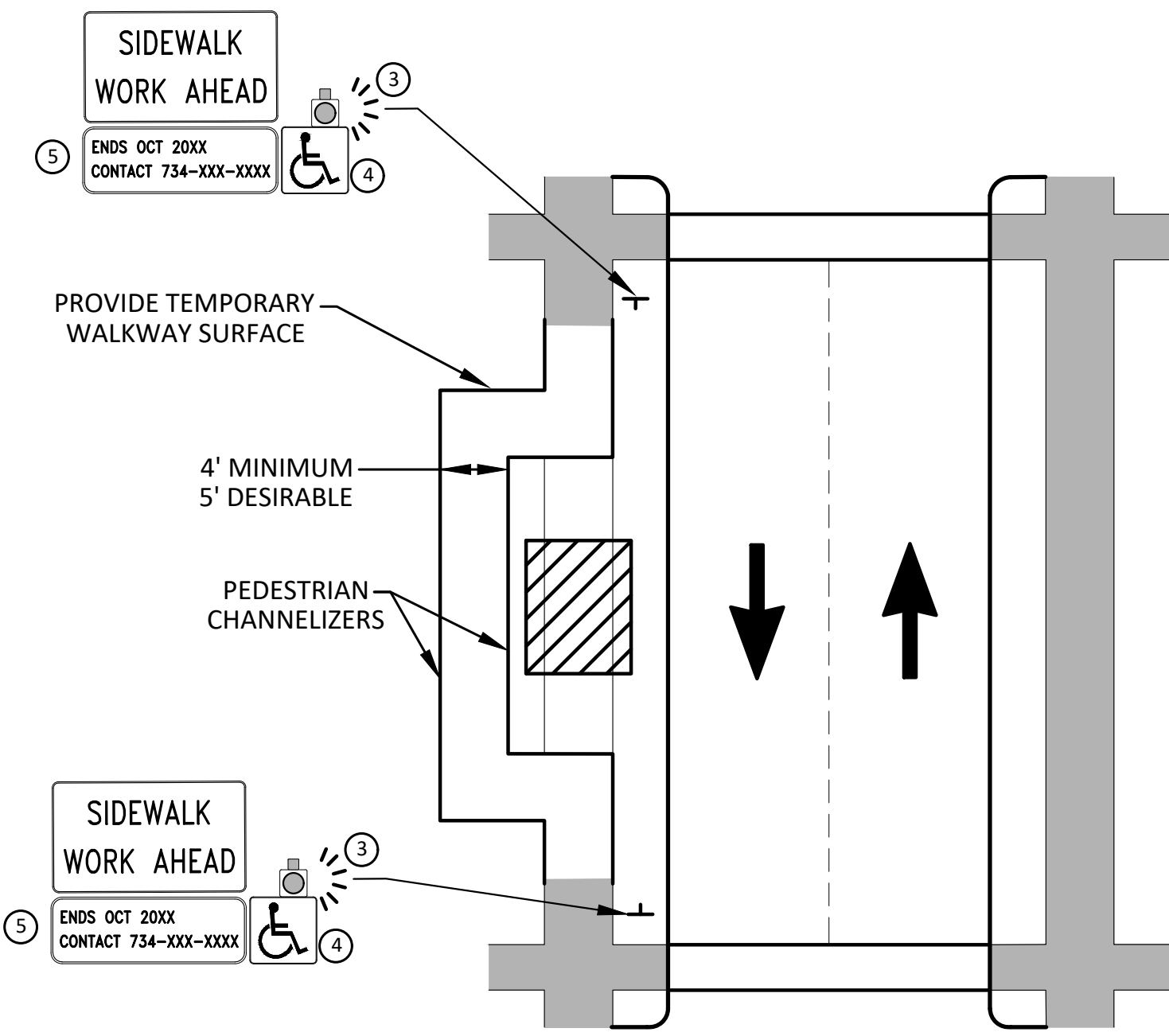
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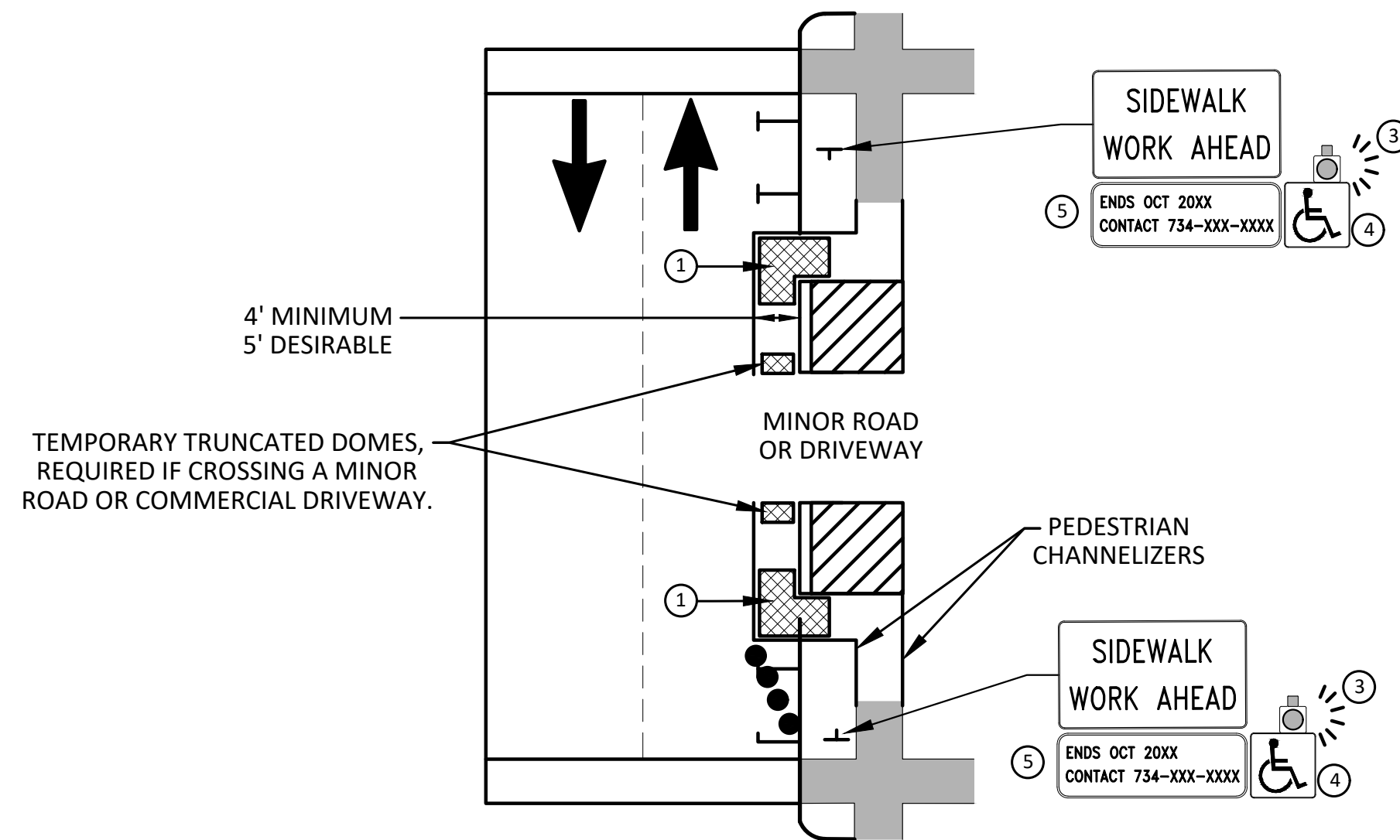
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
2025 MISCELLANEOUS UTILITY PROJECTS
ALTERNATE PEDESTRIAN ROUTE (APR) DETOUR
SCALE: N.T.S.
DRAWING No. 2024006-4

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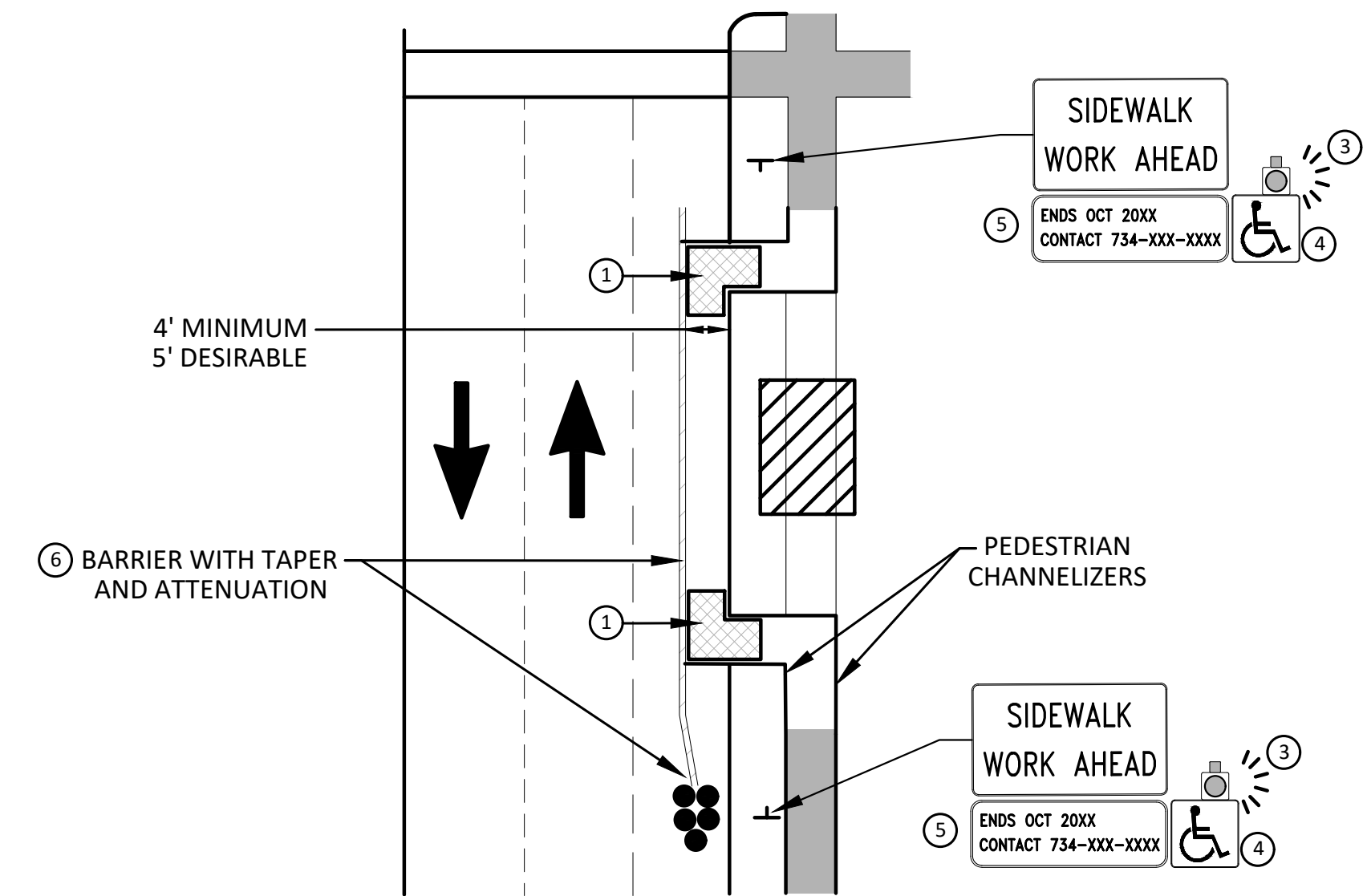


**BYPASS ON ADJACENT AVAILABLE
RIGHT OF WAY**
BYPASS TYPE A

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.

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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 RAMP WITH DETECTABLE WARNINGS.
2. S 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



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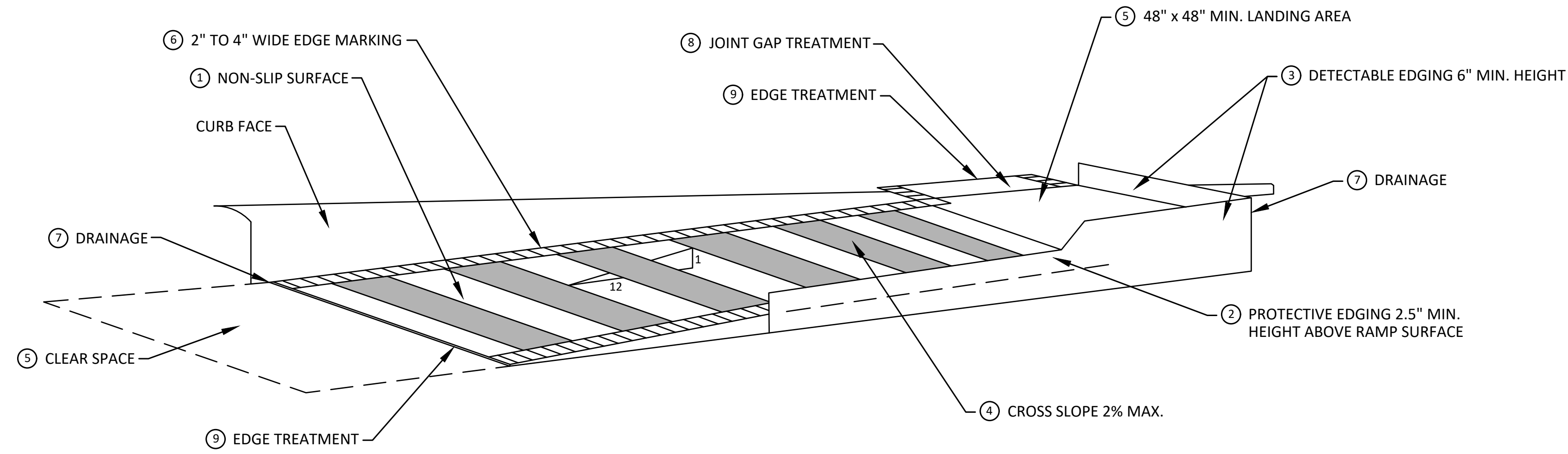
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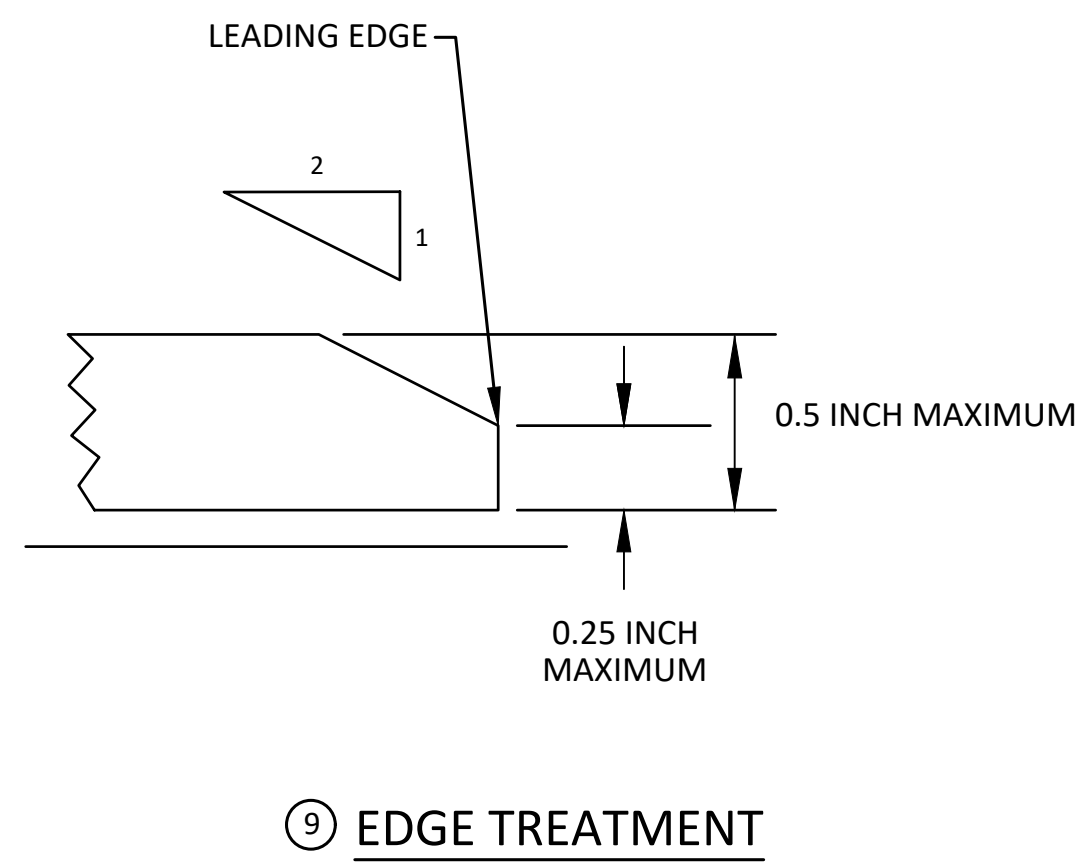
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
2025 MISCELLANEOUS UTILITY PROJECTS
ALTERNATE PEDESTRIAN ROUTE (APR) BYPASS

SCALE: N.T.S.
DRAWING No. 2024006-5

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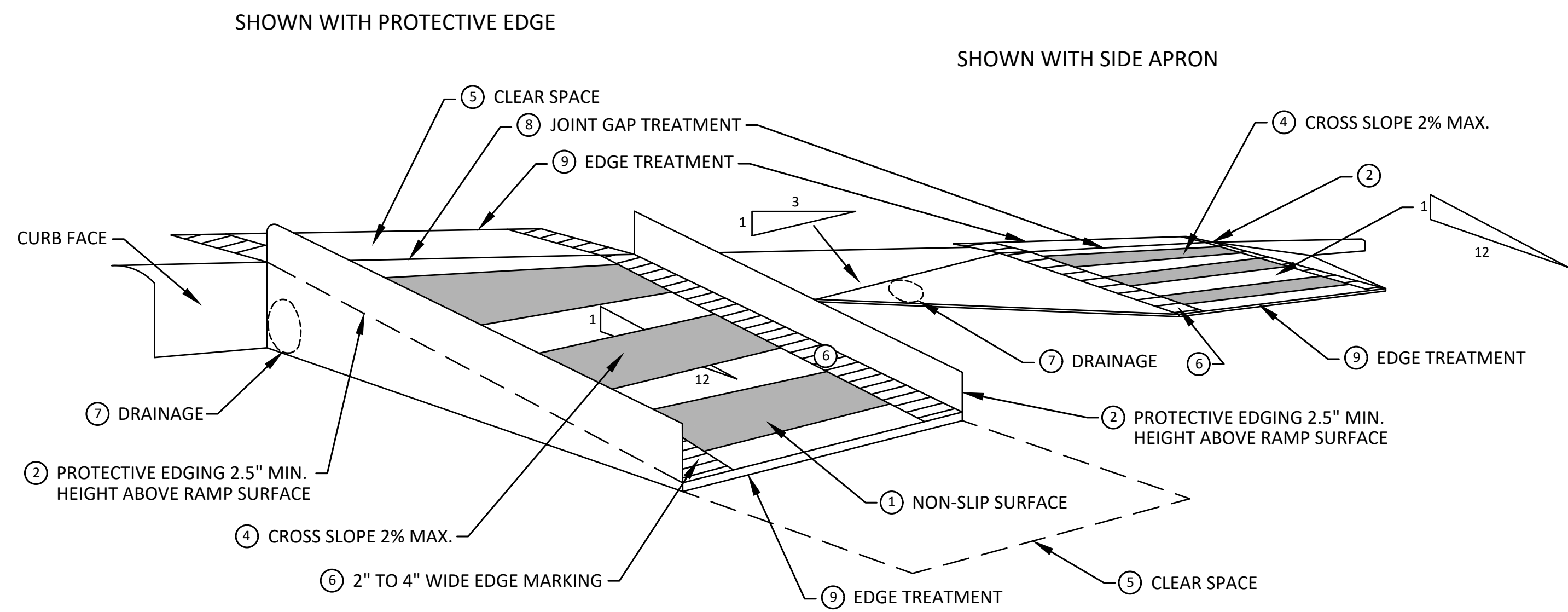
**TEMPORARY CURB RAMP
PARALLEL TO CURB**



EDGE TREATMENT

SPECIFIC NOTES

- 1 CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE. 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.
- 2 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).
- 3 CURB RAMPS AND LANDINGS SHALL HAVE A 2% MAX. CROSS SLOPE.
- 4 CLEAR SPACE OF 48" x 48" MIN. SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
- 5 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.
- 6 WATER FLOW IN THE GUTTER SYSTEM SHALL NOT BE IMPEDED.
- 7 LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.
- 8 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.



**TEMPORARY CURB RAMP
PERPENDICULAR TO CURB**



| REV. | DATE | DESCRIPTION |
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| 01 | 12/12/24 | BID SET |
| 02 | 01/10/24 | ADDENDUM NO. 1 |
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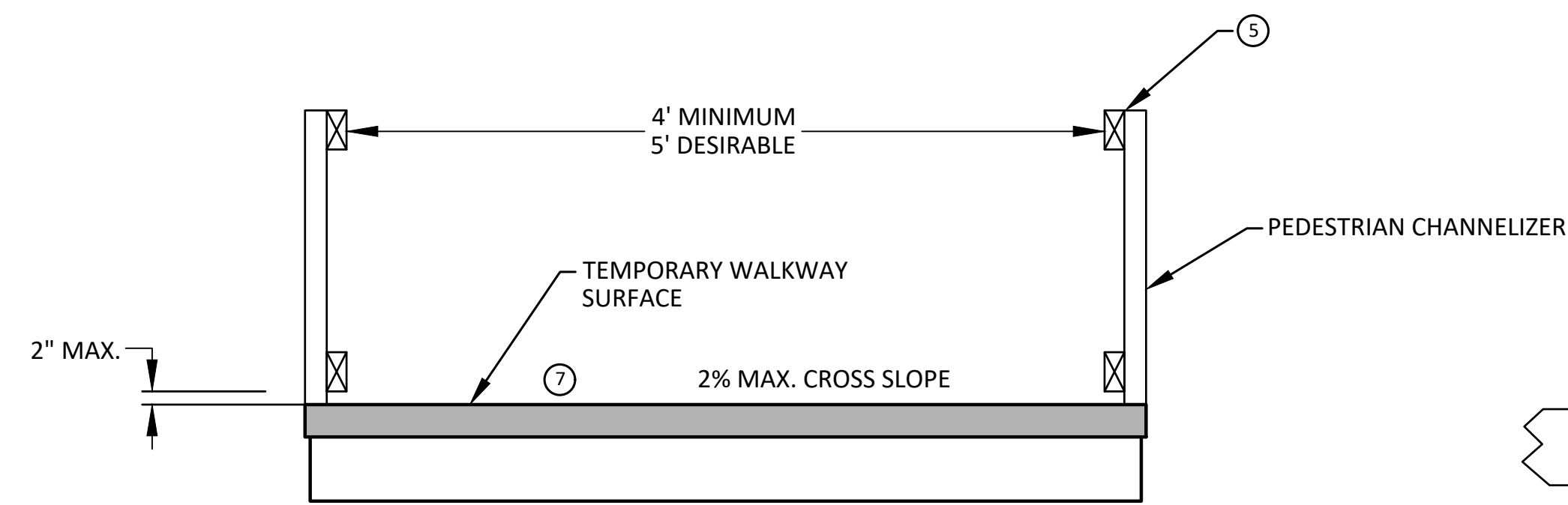
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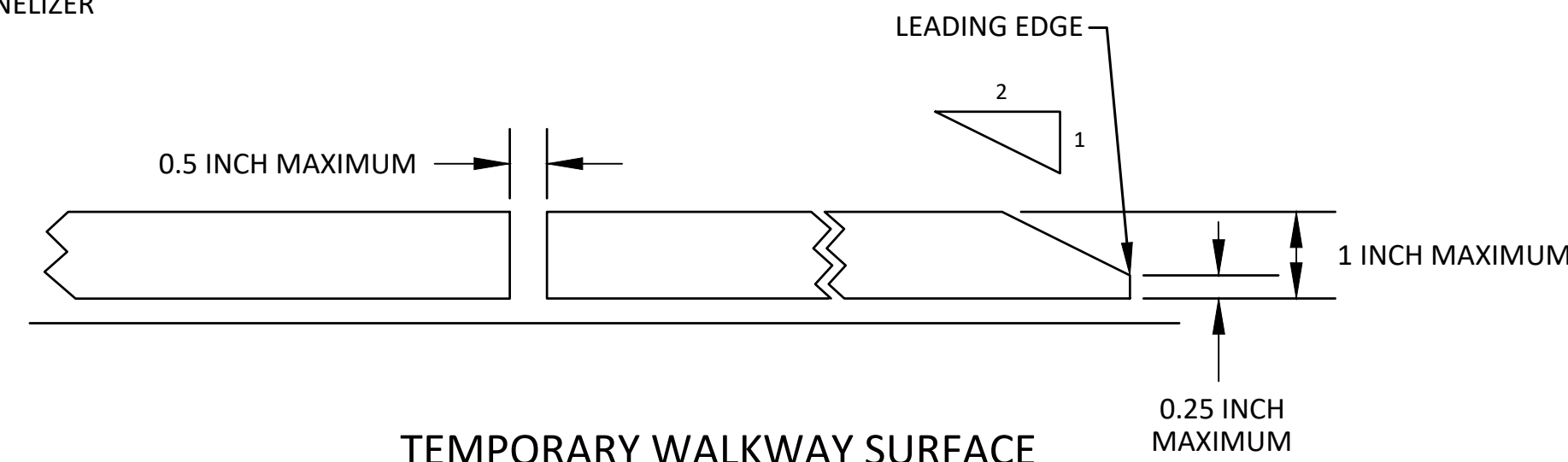
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
2025 MISCELLANEOUS UTILITY PROJECTS
TPAR RAMPS

SCALE: N.T.S.
DRAWING No. 2024006-6

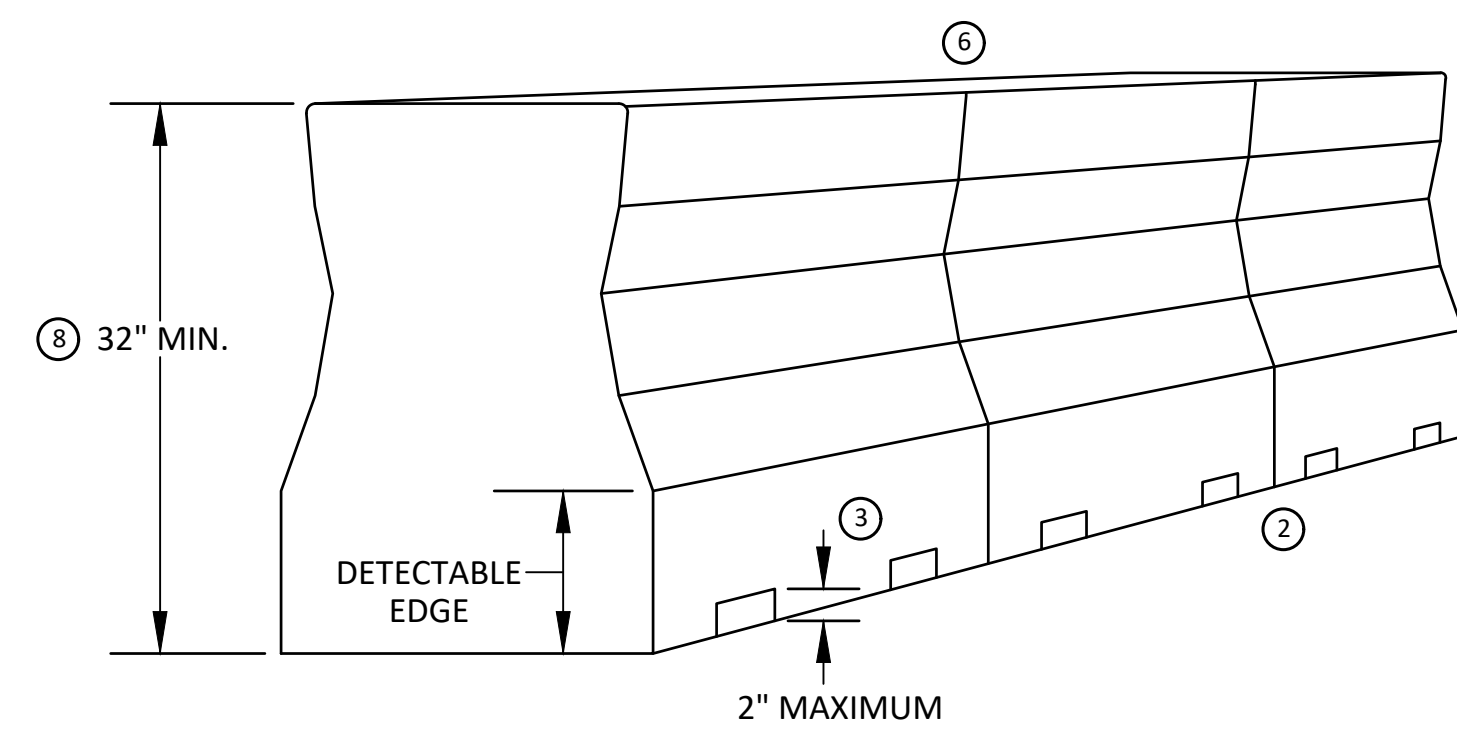
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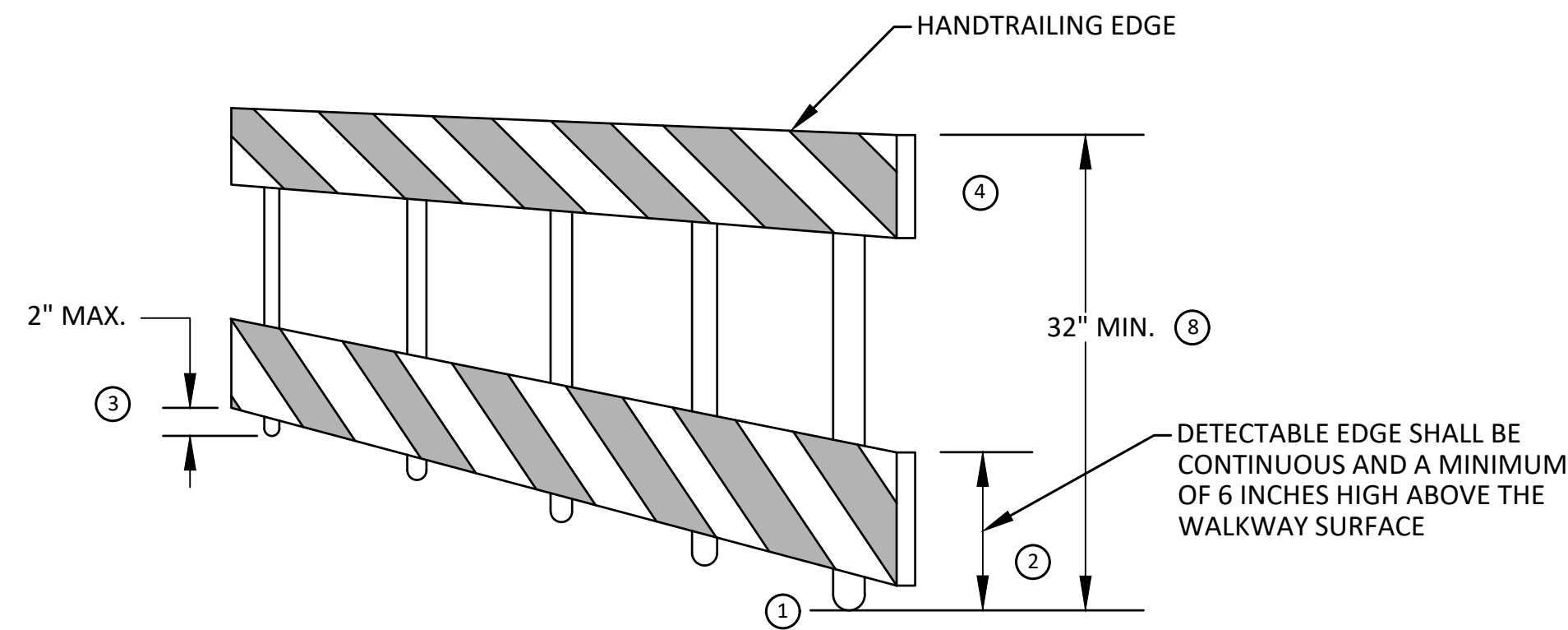
TEMPORARY PEDESTRIAN ACCESS



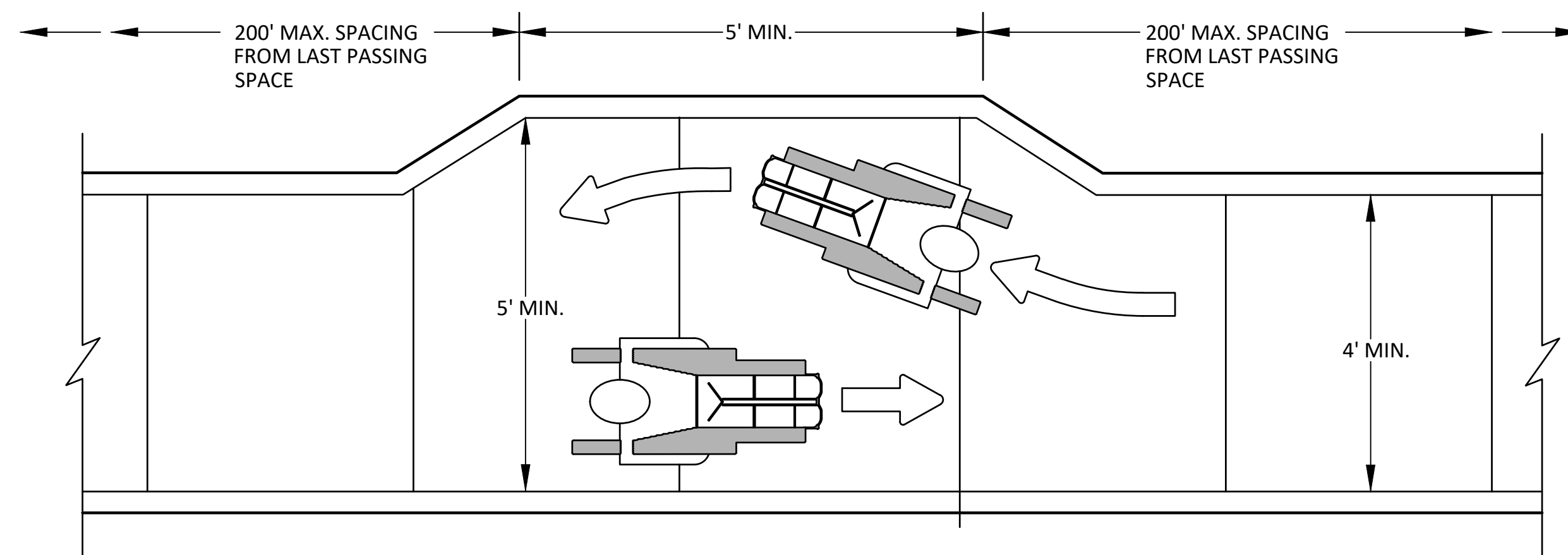
TEMPORARY WALKWAY SURFACE



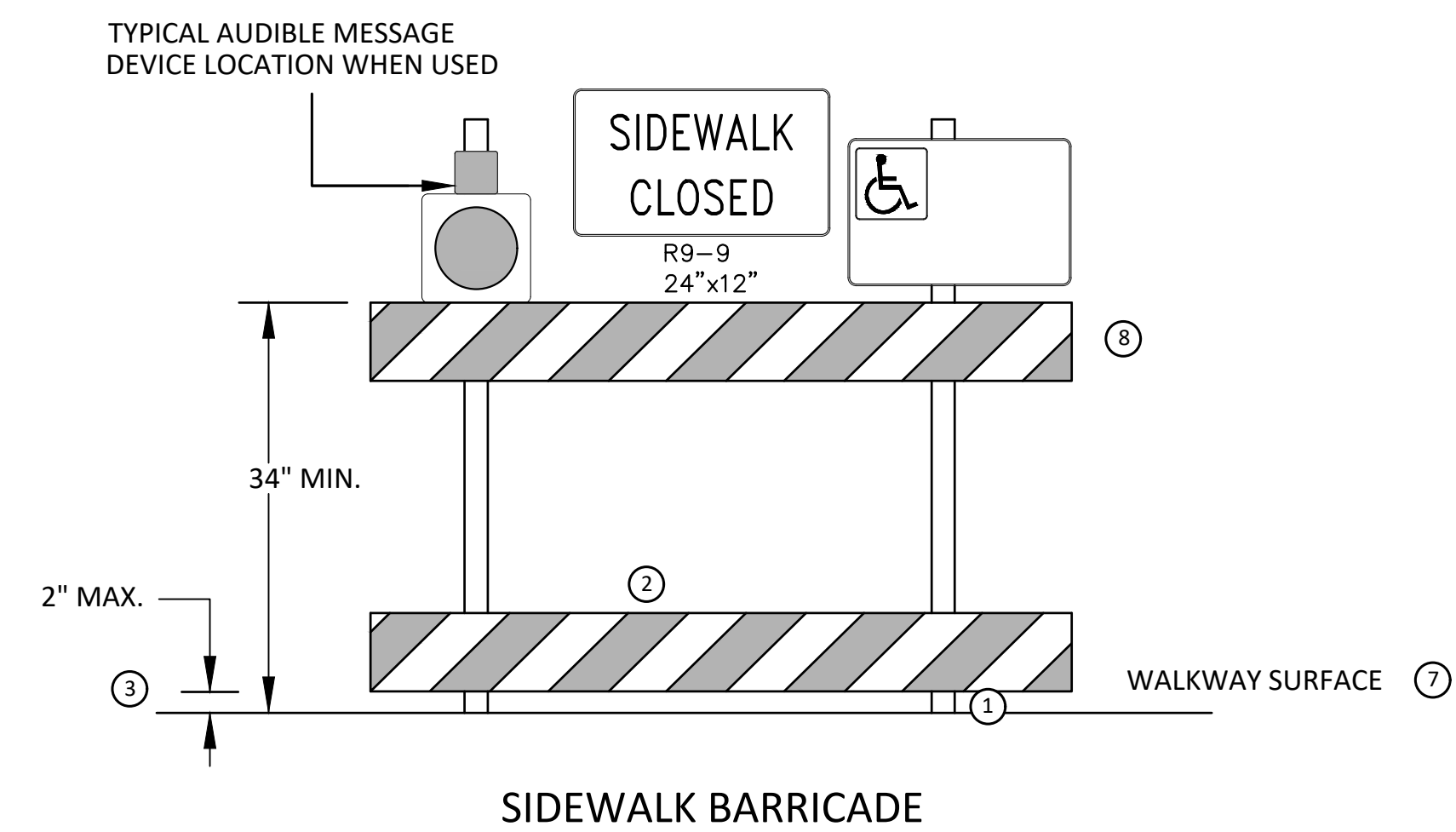
PEDESTRIAN CHANNELIZER USING A BARRIER
(MINIMUM REQUIREMENTS)



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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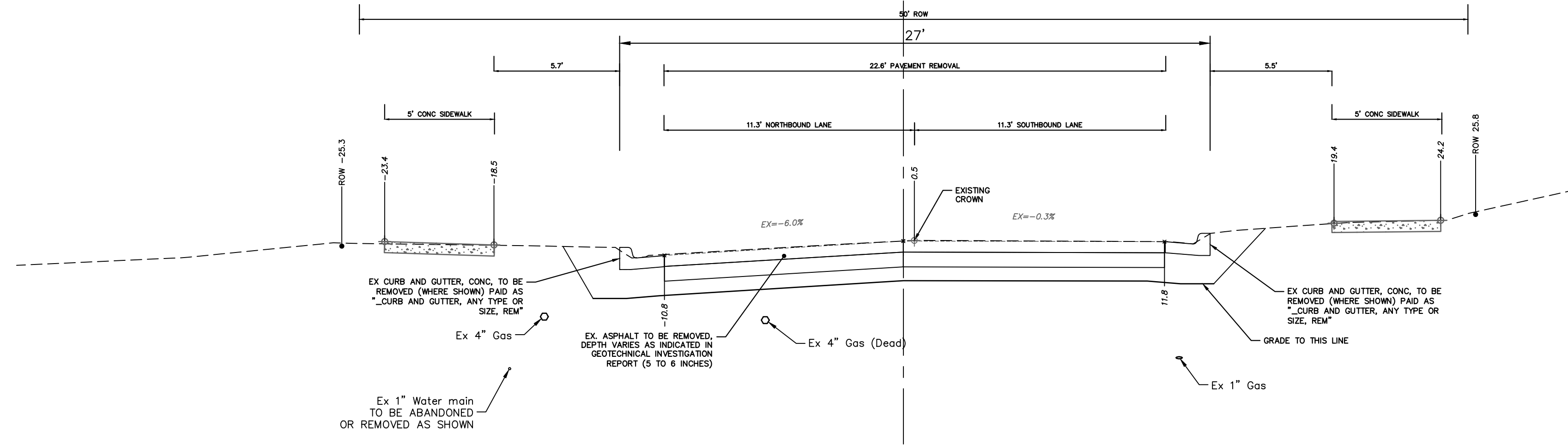
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TPAR WALKWAY DEVICES

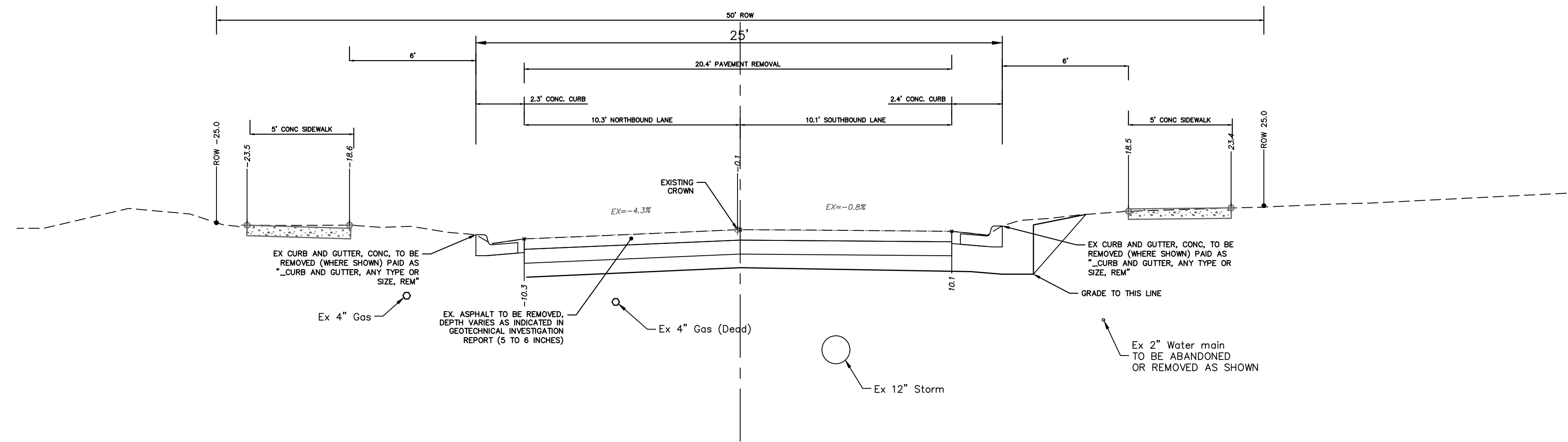
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**HARDING ROAD
TYPICAL SECTION - EXISTING**

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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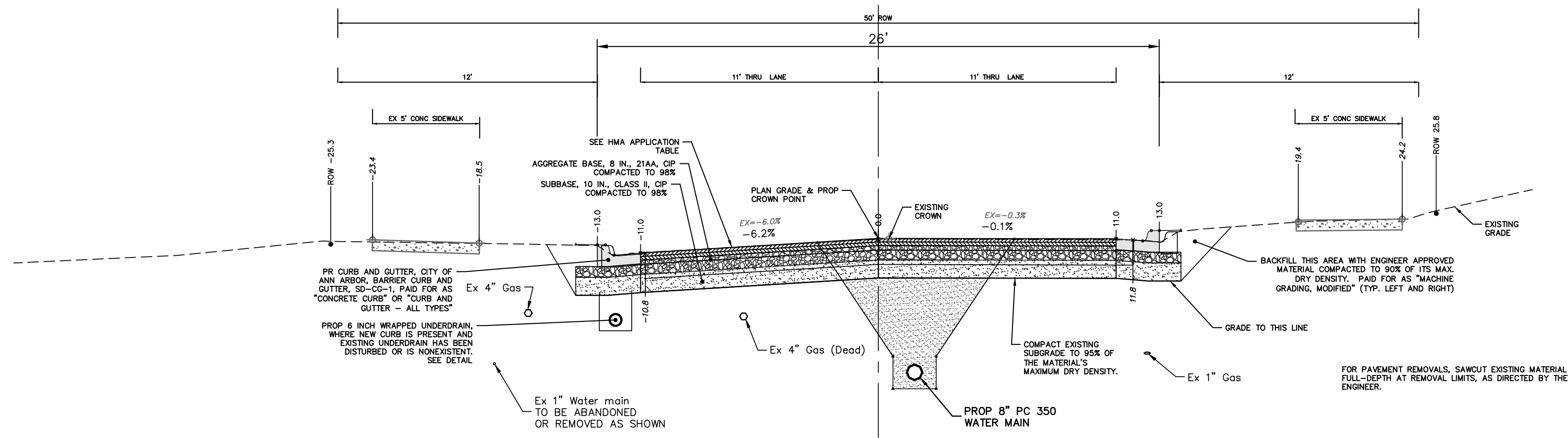
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TYPICAL CROSS-SECTIONS
HARDING EXISTING TYPICAL SECTIONS

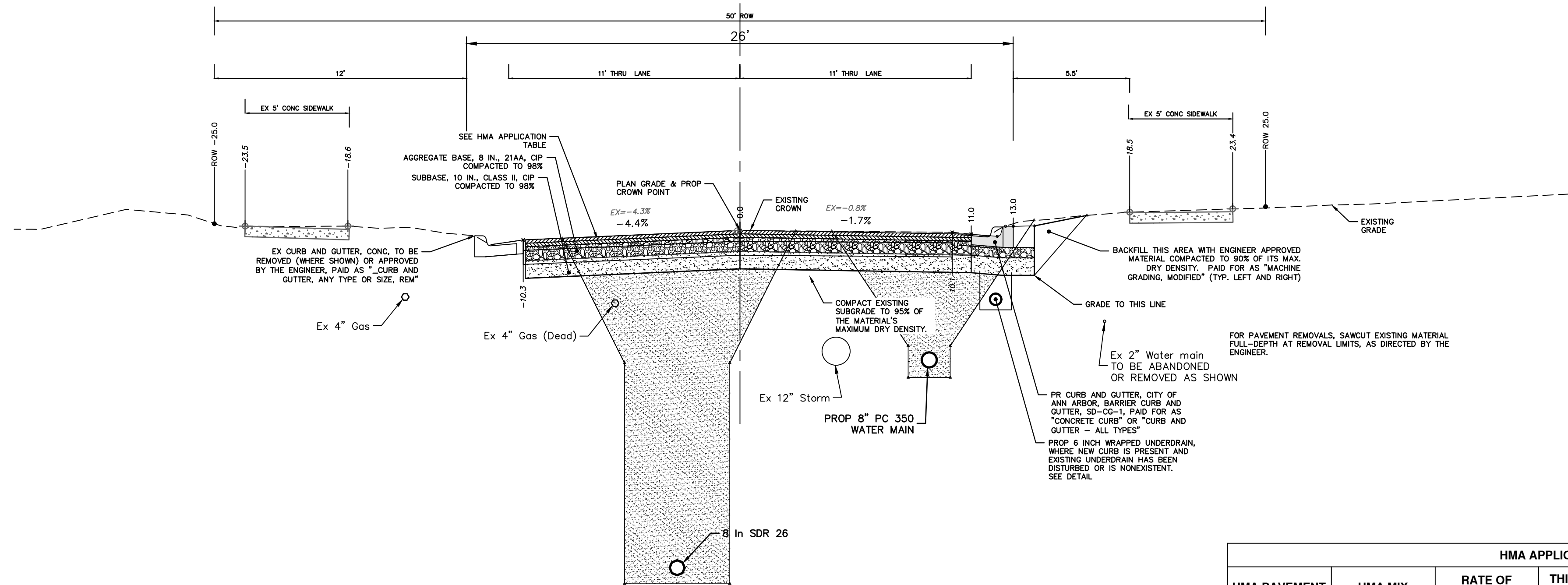
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PROFILE: 1" = 4'
DRAWING No. 2024006-8

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**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 |



Know what's below.
Call before you dig.

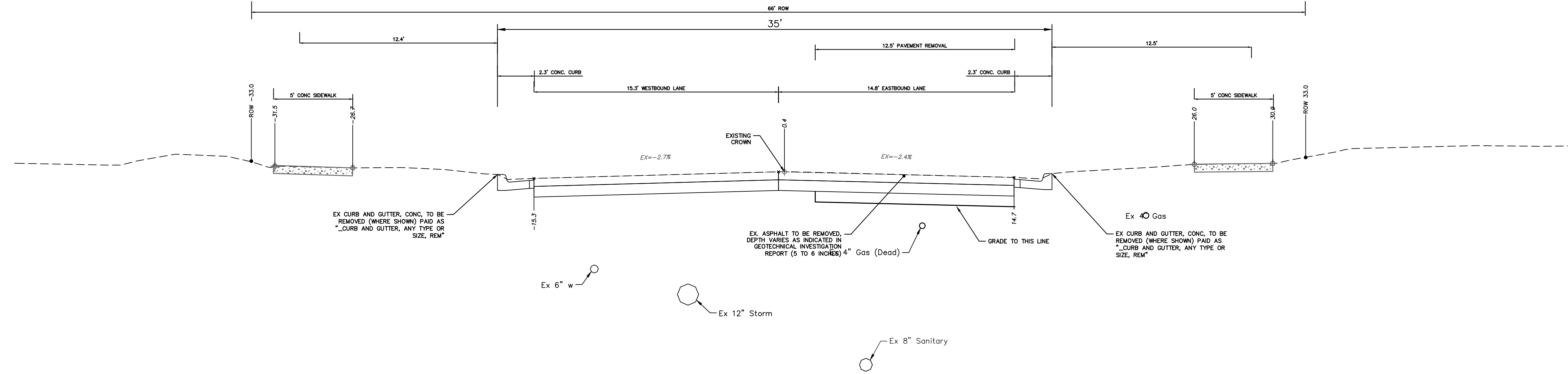
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| 01 | 12/12/24 | BID SET |

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2025 MISCELLANEOUS UTILITY PROJECTS
TYPICAL CROSS-SECTIONS
HARDING PROPOSED TYPICAL SECTIONS

SCALE PLAN: 1" = 4'
PROFILE: 1" = 4'
DRAWING No. 2024006-9



**MORTON AVENUE
TYPICAL SECTION - EXISTING**



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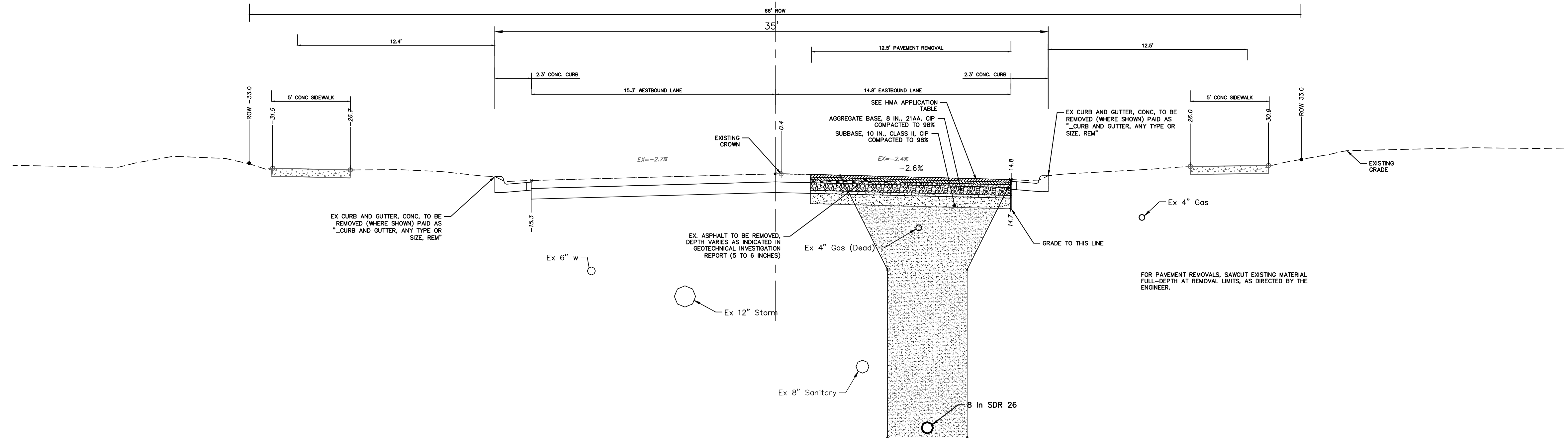


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2025 MISCELLANEOUS UTILITY PROJECTS
TYPICAL CROSS-SECTIONS
MORTON EXISTING TYPICAL SECTIONS

SCALE PLAN: CUSTOM PROFILE: 1" = 4'
DRAWING No. 2024006-10

| REV. | DATE | DESCRIPTION |
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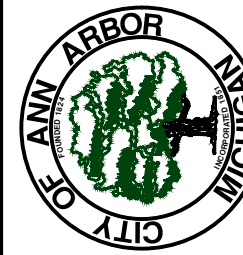
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**MORTON AVENUE
TYPICAL SECTION - PROPOSED**

| 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 |
| 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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TYPICAL CROSS-SECTIONS
MORTON PROPOSED TYPICAL SECTION

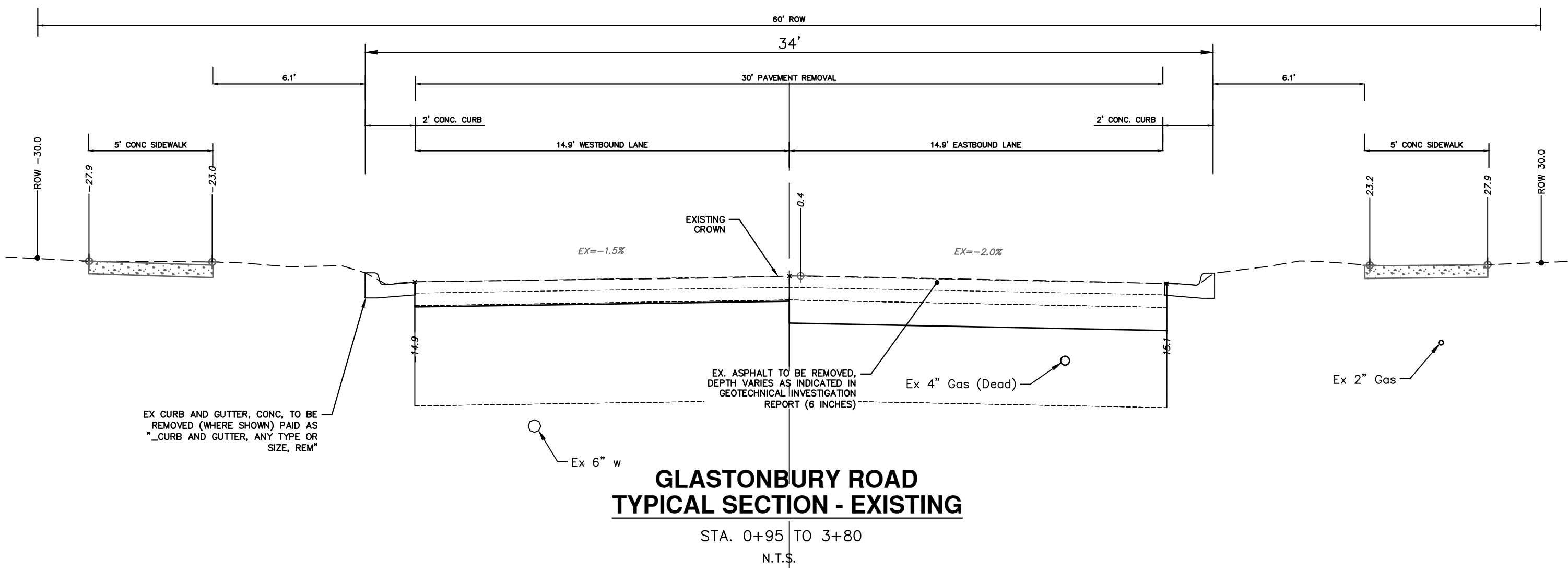
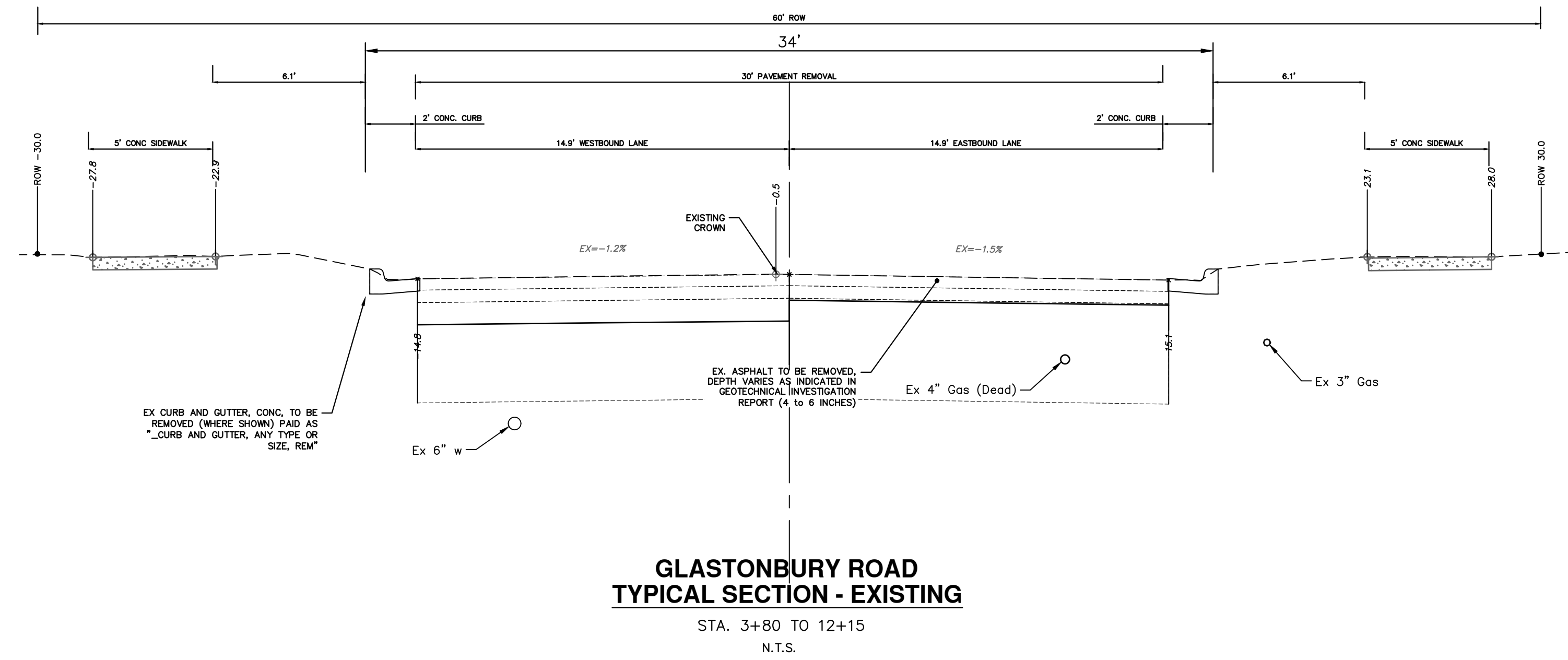
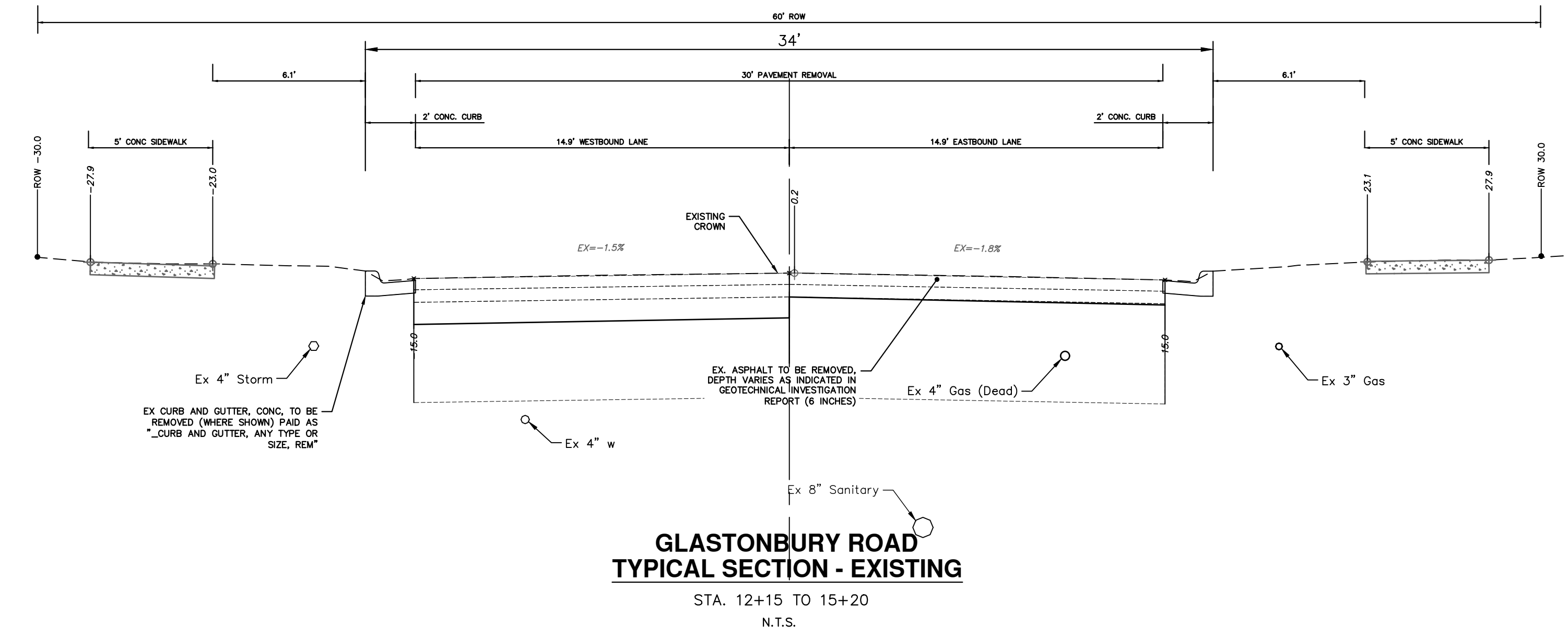
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PROFILE: 1" = 4'
DRAWING No. 2024006-11

SHEET No.



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

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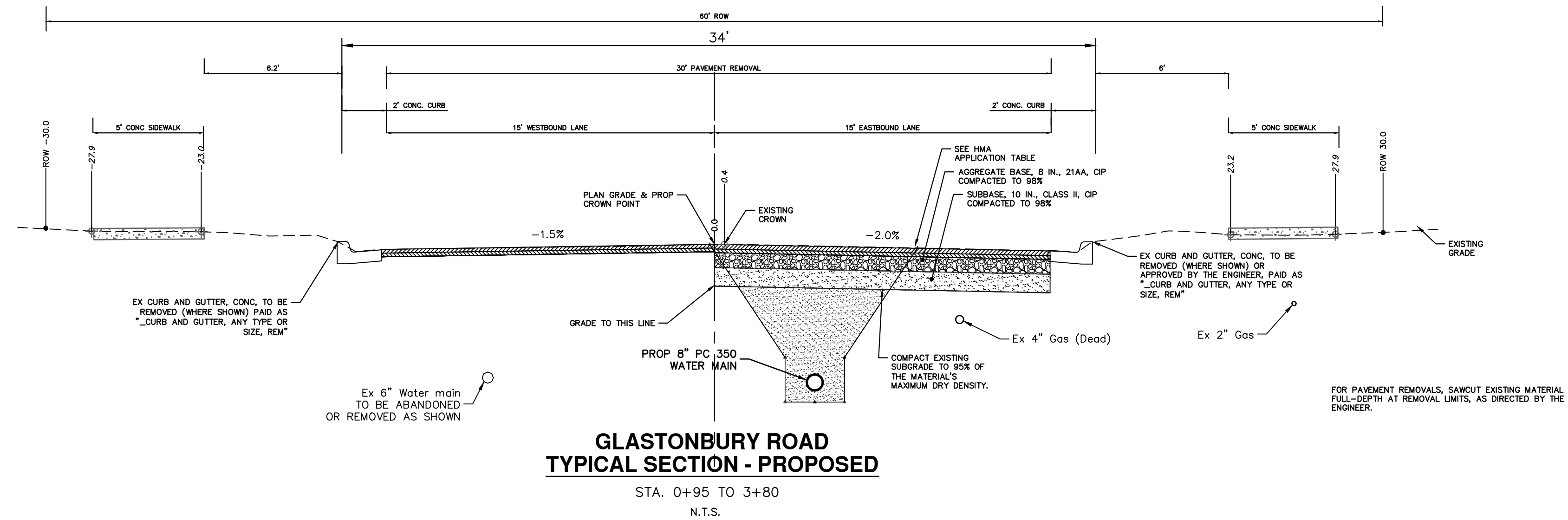
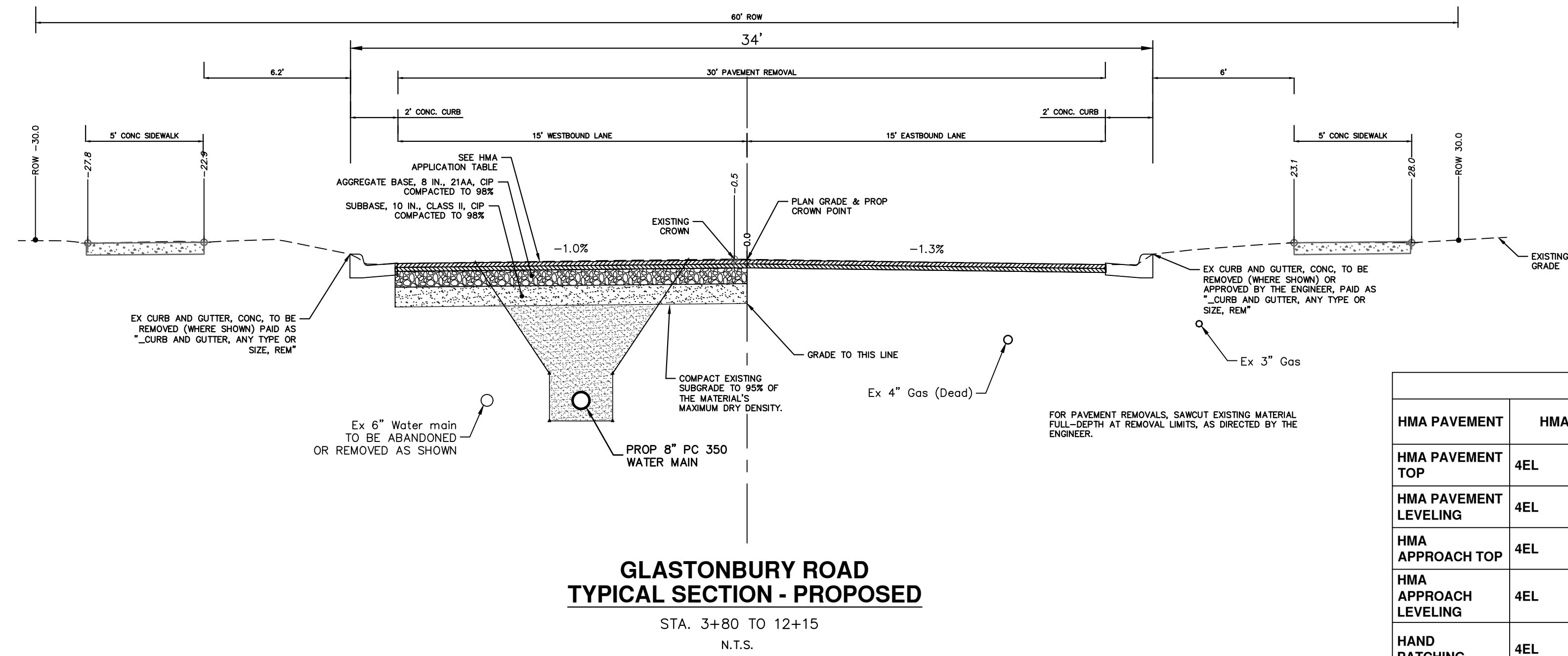
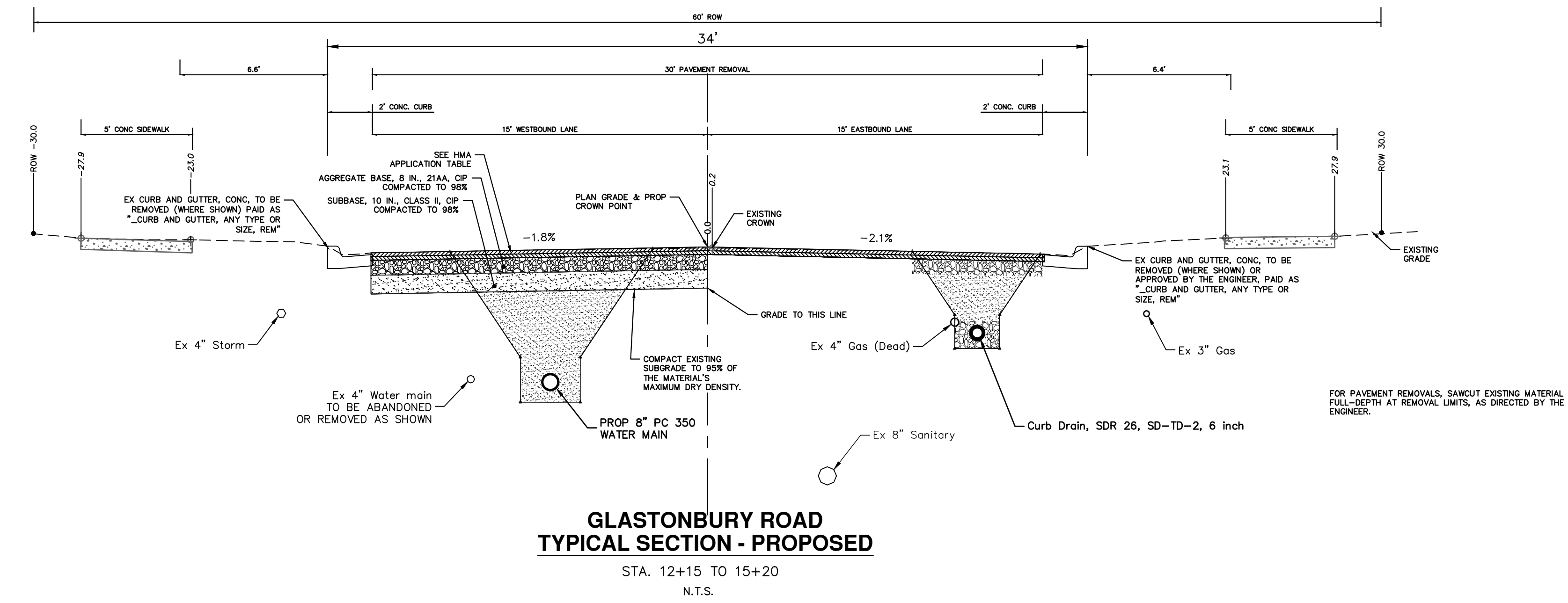
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 TYPICAL CROSS-SECTIONS
 GLASTONBURY EXISTING TYPICAL SECTIONS

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

DRAWING No. 2024006-12

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| 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 |

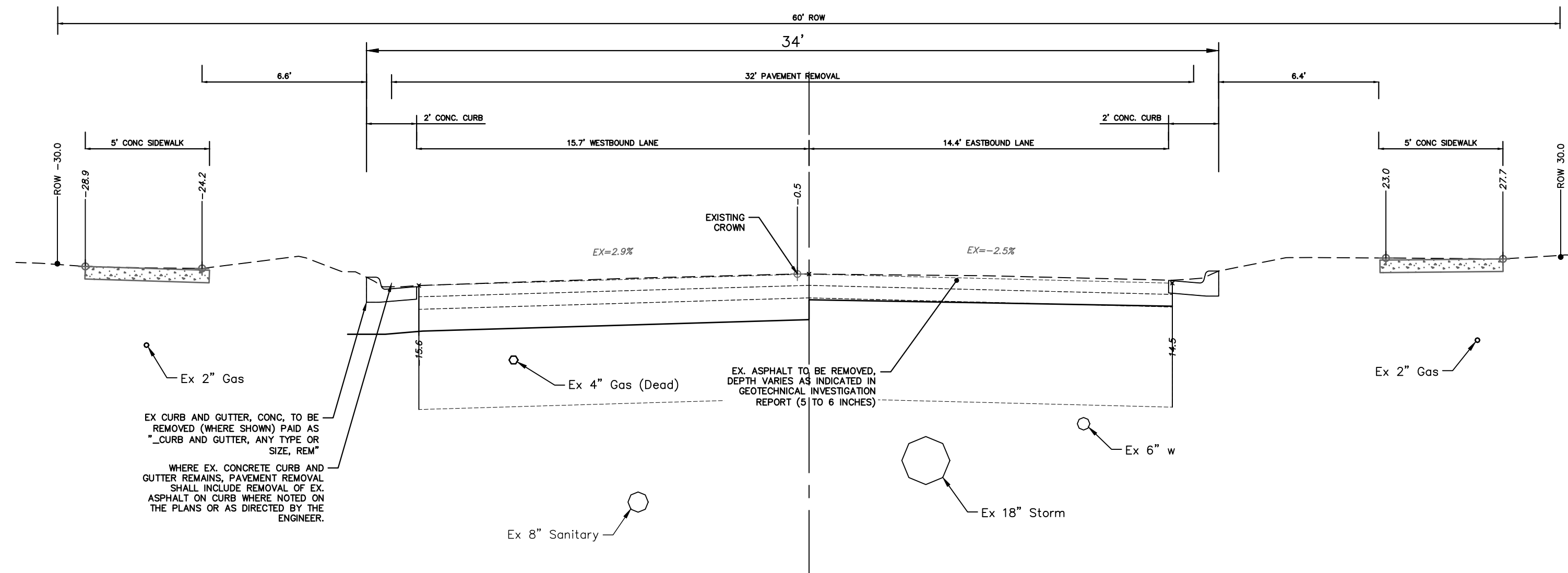


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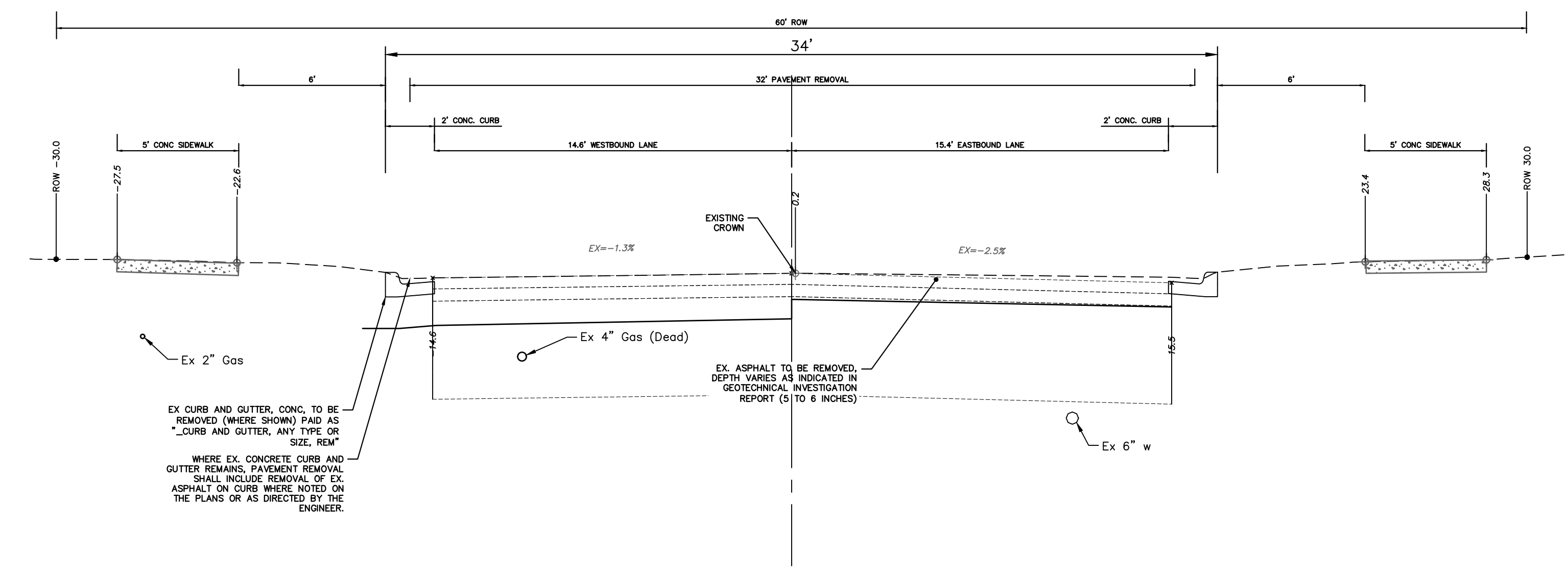
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2025 MISCELLANEOUS UTILITY PROJECTS
TYPICAL CROSS-SECTIONS
GLASTONBURY PROPOSED TYPICAL SECTIONS

SCALE PLAN: 1" = 4'
PROFILE: 1" = 4'
DRAWING No. 2024006-13



**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.



| REV. | DESCRIPTION | DATE | DRAWN | CHECKED |
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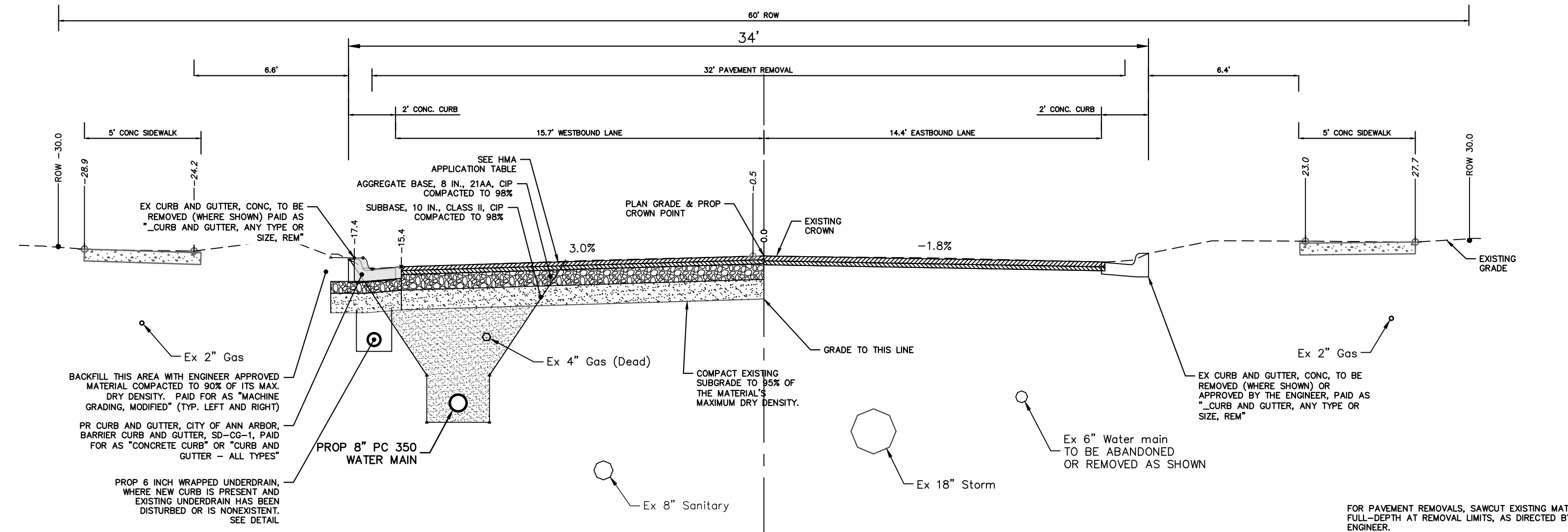
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TYPICAL CROSS-SECTIONS
WELDON EXISTING TYPICAL SECTIONS

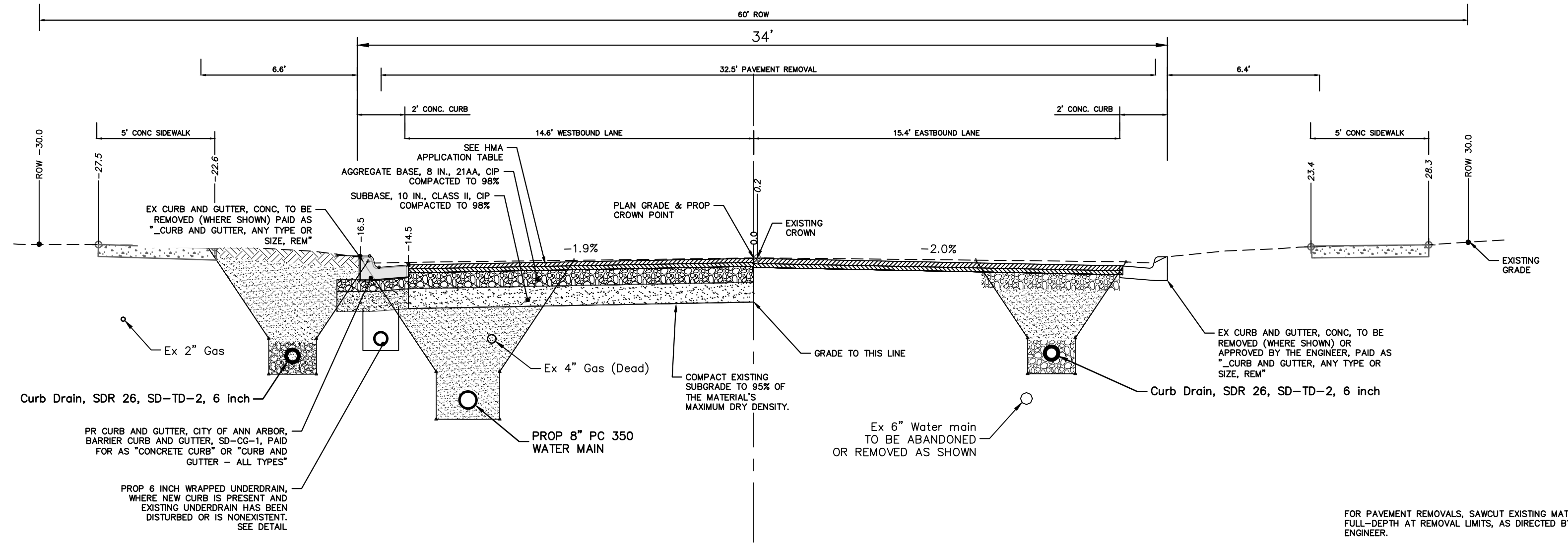
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**WELDON BOULEVARD
TYPICAL SECTION - PROPOSED**

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 |
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| 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 |



| REV. | DATE | DESCRIPTION |
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| 01 | 12/12/24 | A2D |

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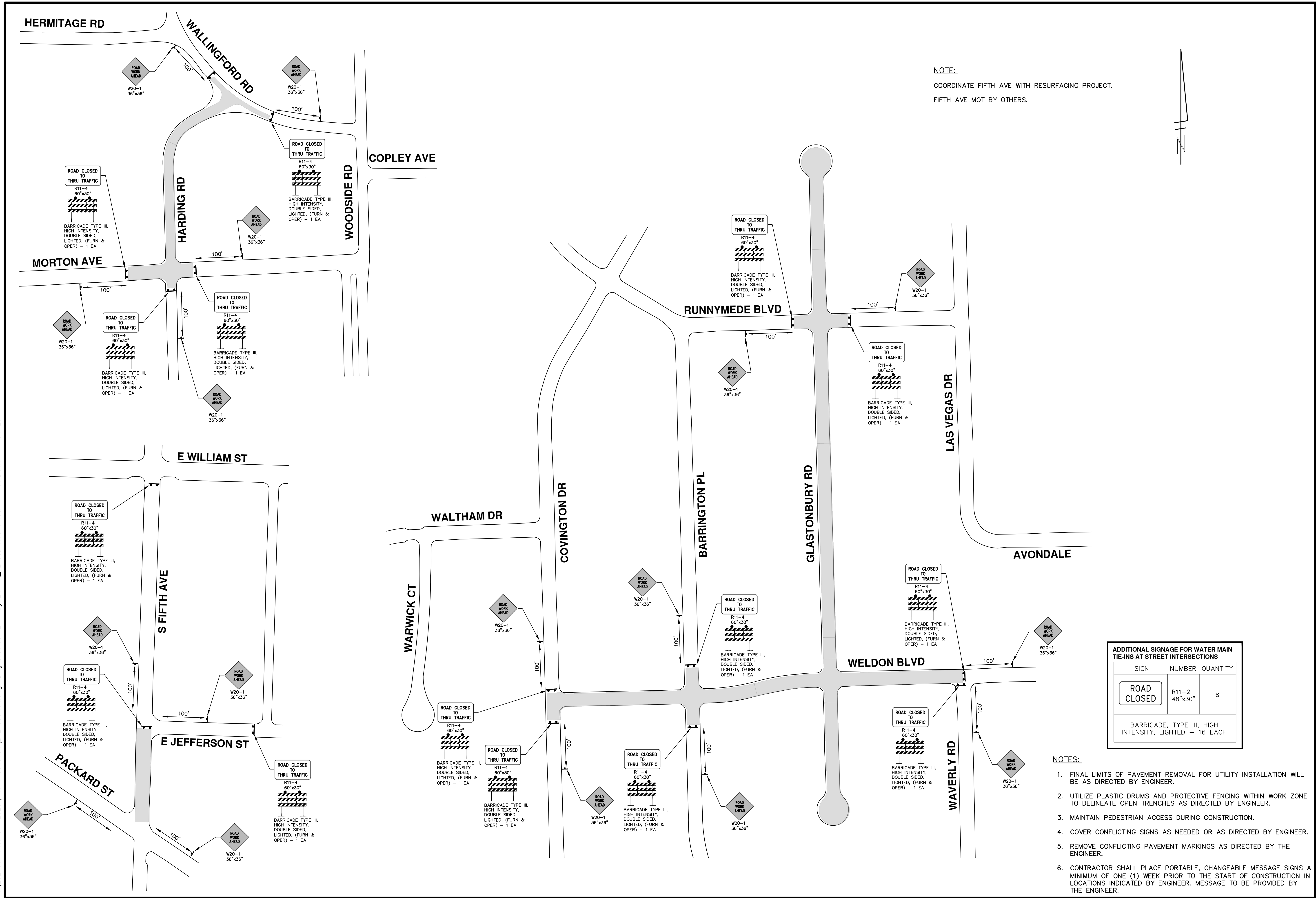


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2025 MISCELLANEOUS UTILITY PROJECTS
TYPICAL CROSS-SECTIONS
WELDON PROPOSED TYPICAL SECTIONS

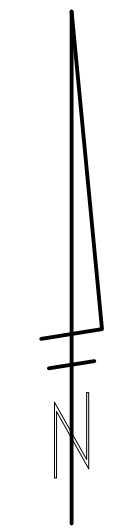
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DRAWING No. 2024006-15

SHEET No.

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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:
- FINAL LIMITS OF PAVEMENT REMOVAL FOR UTILITY INSTALLATION WILL BE AS DIRECTED BY ENGINEER.
 - UTILIZE PLASTIC DRUMS AND PROTECTIVE FENCING WITHIN WORK ZONE TO DELINEATE OPEN TRENCHES AS DIRECTED BY ENGINEER.
 - MAINTAIN PEDESTRIAN ACCESS DURING CONSTRUCTION.
 - COVER CONFLICTING SIGNS AS NEEDED OR AS DIRECTED BY ENGINEER.
 - REMOVE CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
 - 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.

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'

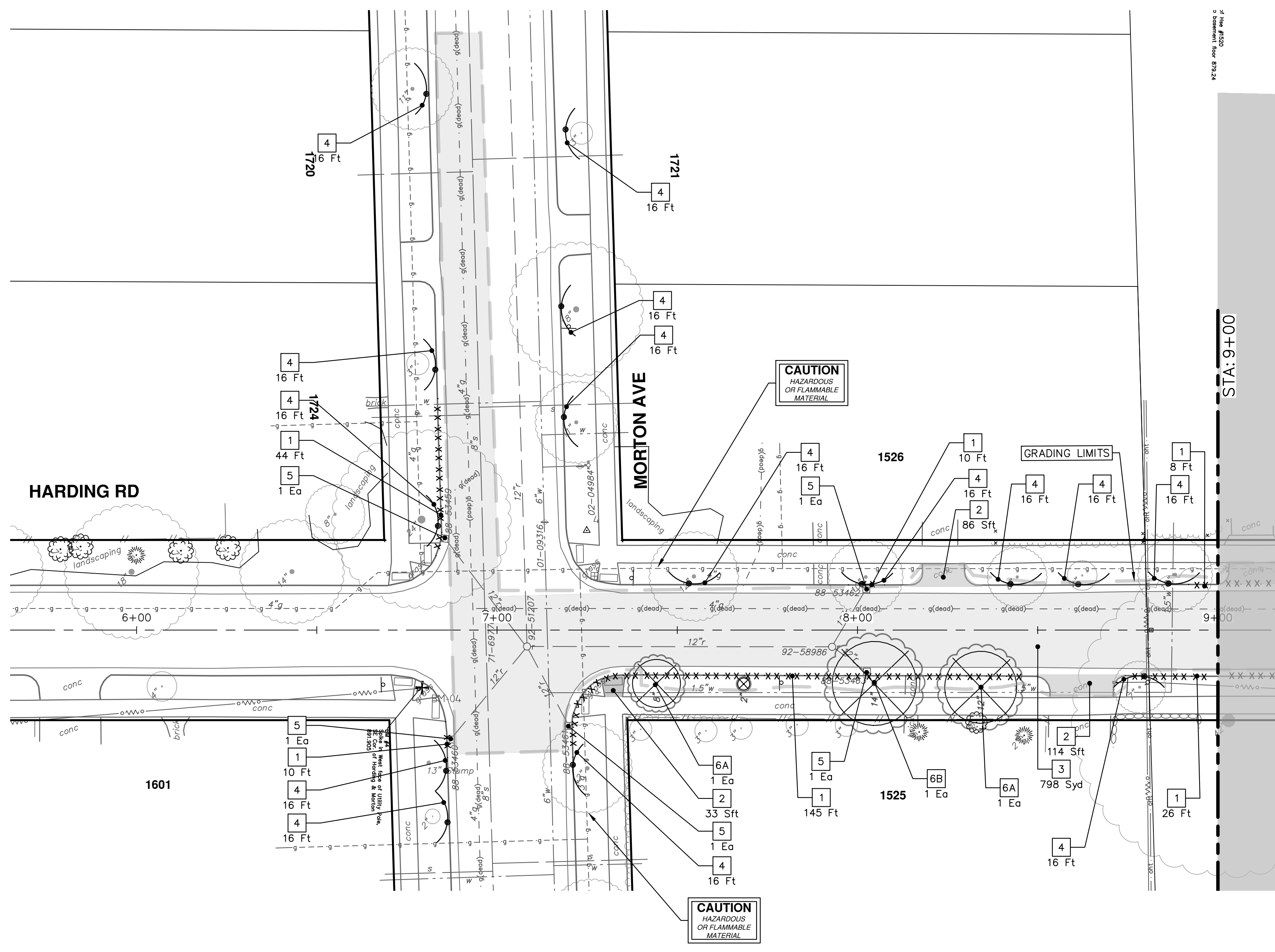
DRAWING NO: 2024006-16

SHEET NO. 16 OF 52

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

| | | |
|---------|----------|-------------|
| REV. | DATE | DESCRIPTION |
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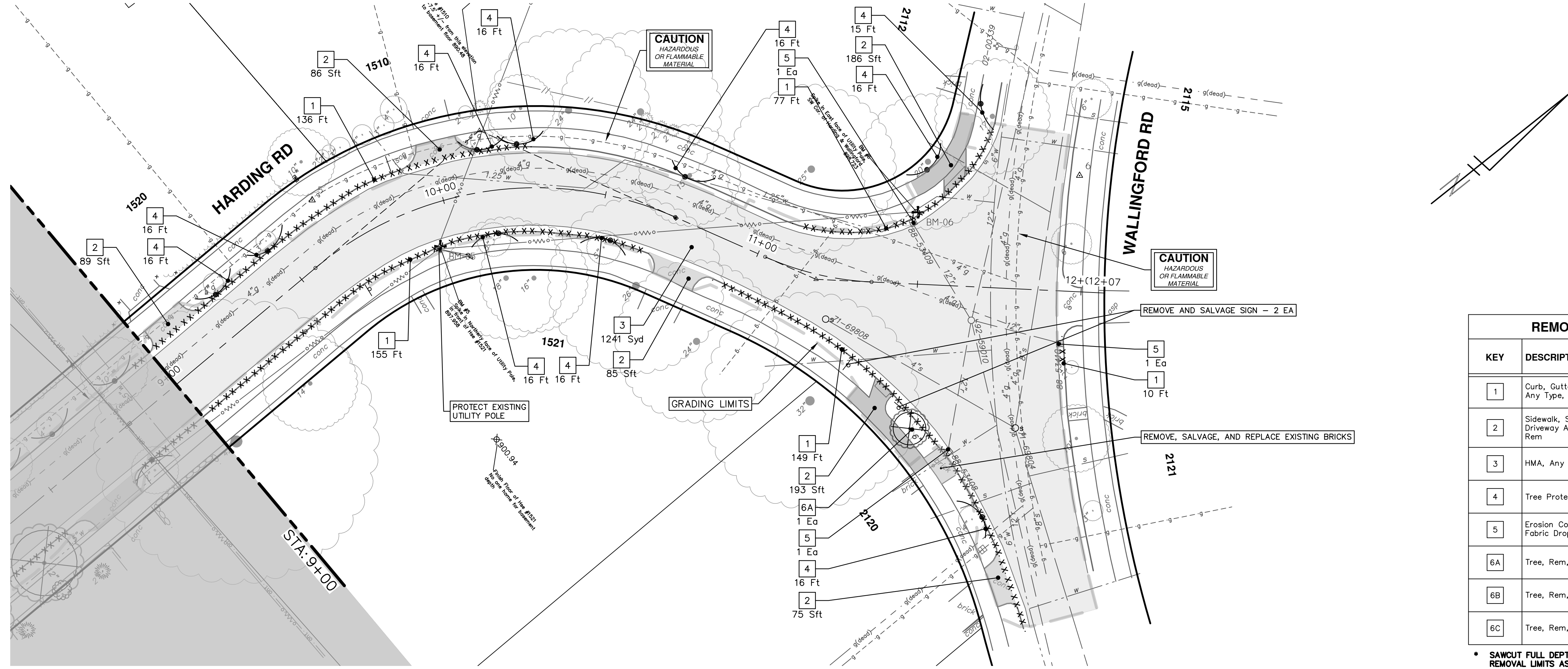
| REMOVAL KEY | |
|-------------|--|
| KEY | DESCRIPTION |
| 1 | Curb, Gutter, and Curb and Gutter, Any Type, Rem * |
| 2 | Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem |
| 3 | HMA, Any Thickness, Rem * |
| 4 | Tree Protective Fence |
| 5 | Erosion Control, Inlet Protection, Fabric 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



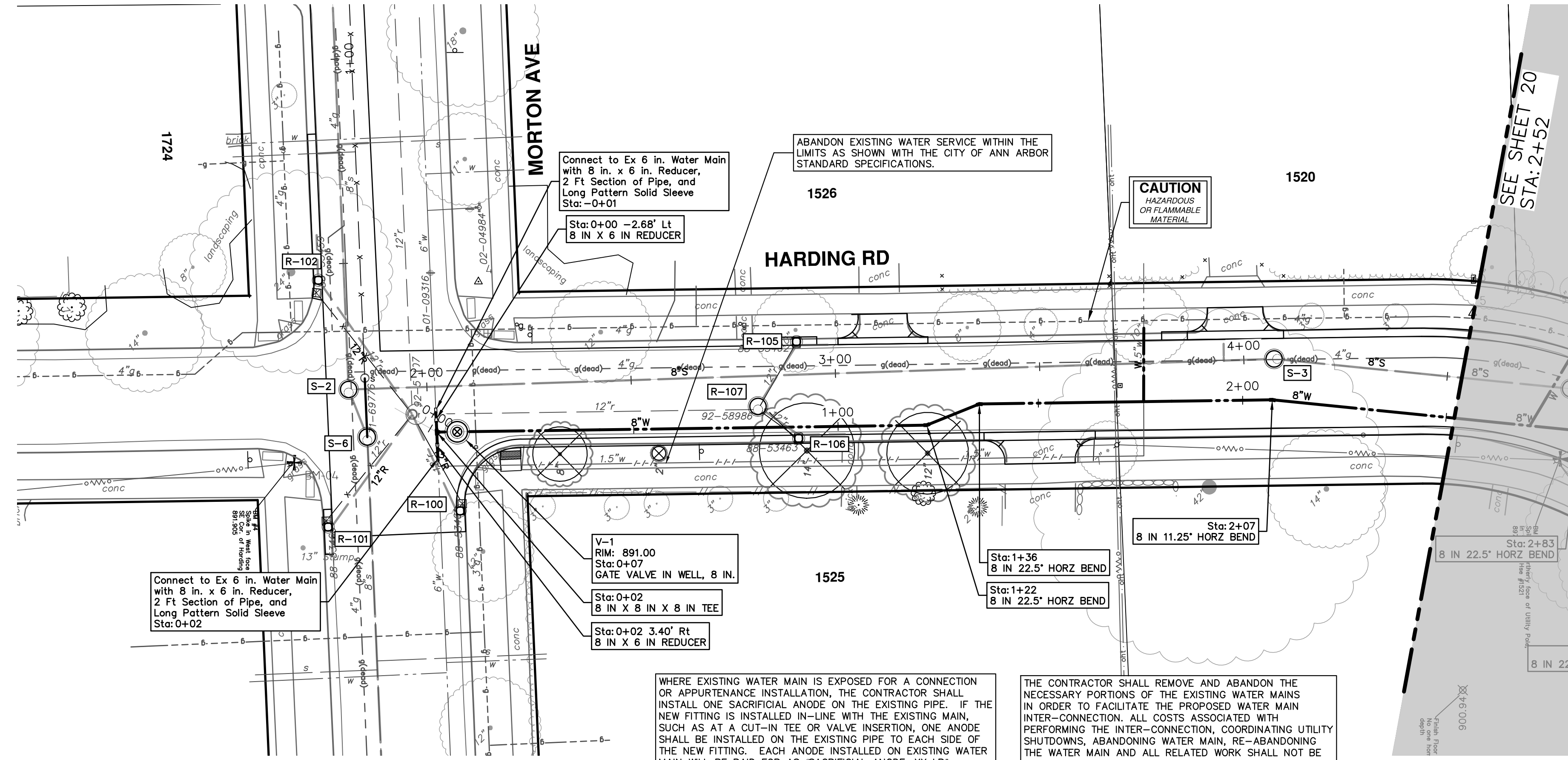
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|------|----------------|----------|-------|---------|
| 01 | BID SET | 12/12/24 | A2D | TA |
| 02 | ADDENDUM NO. 1 | 01/10/24 | A2D | TA |





| 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



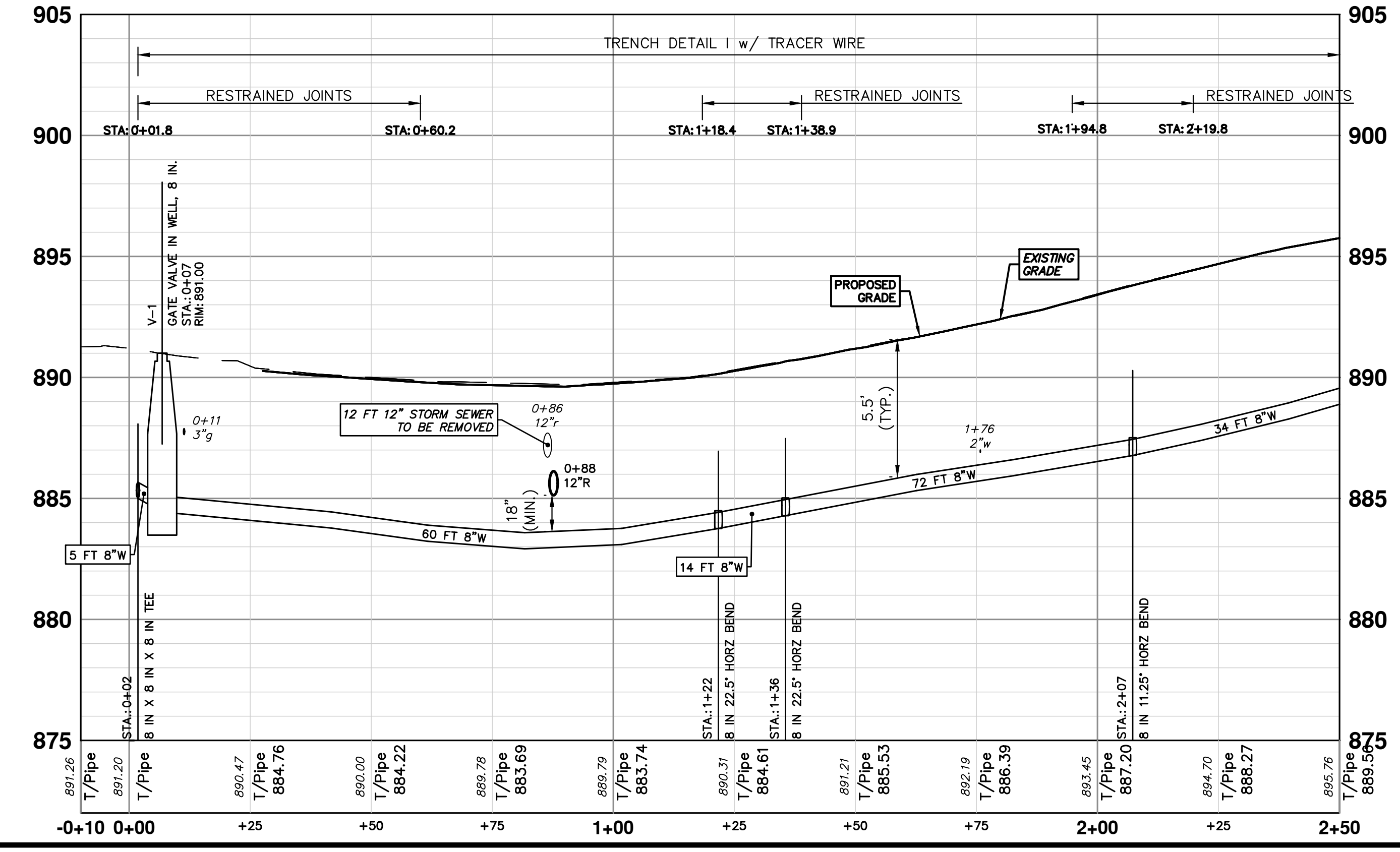
| WATER MAIN STRUCTURES | | | |
|-----------------------|---------------------------|---------|--------|
| STRUCTURE | TYPE | STATION | RIM |
| V-1 | Gate Valve in Well, 8 In. | 0+07 | 891.00 |



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.

PR WATER - HARDING



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2025 MISCELLANEOUS UTILITY PROJECTS

WATER MAIN - HARDING RD

STA. 0+00 - STA. 2+50

SHEET No. **19 OF 52**

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

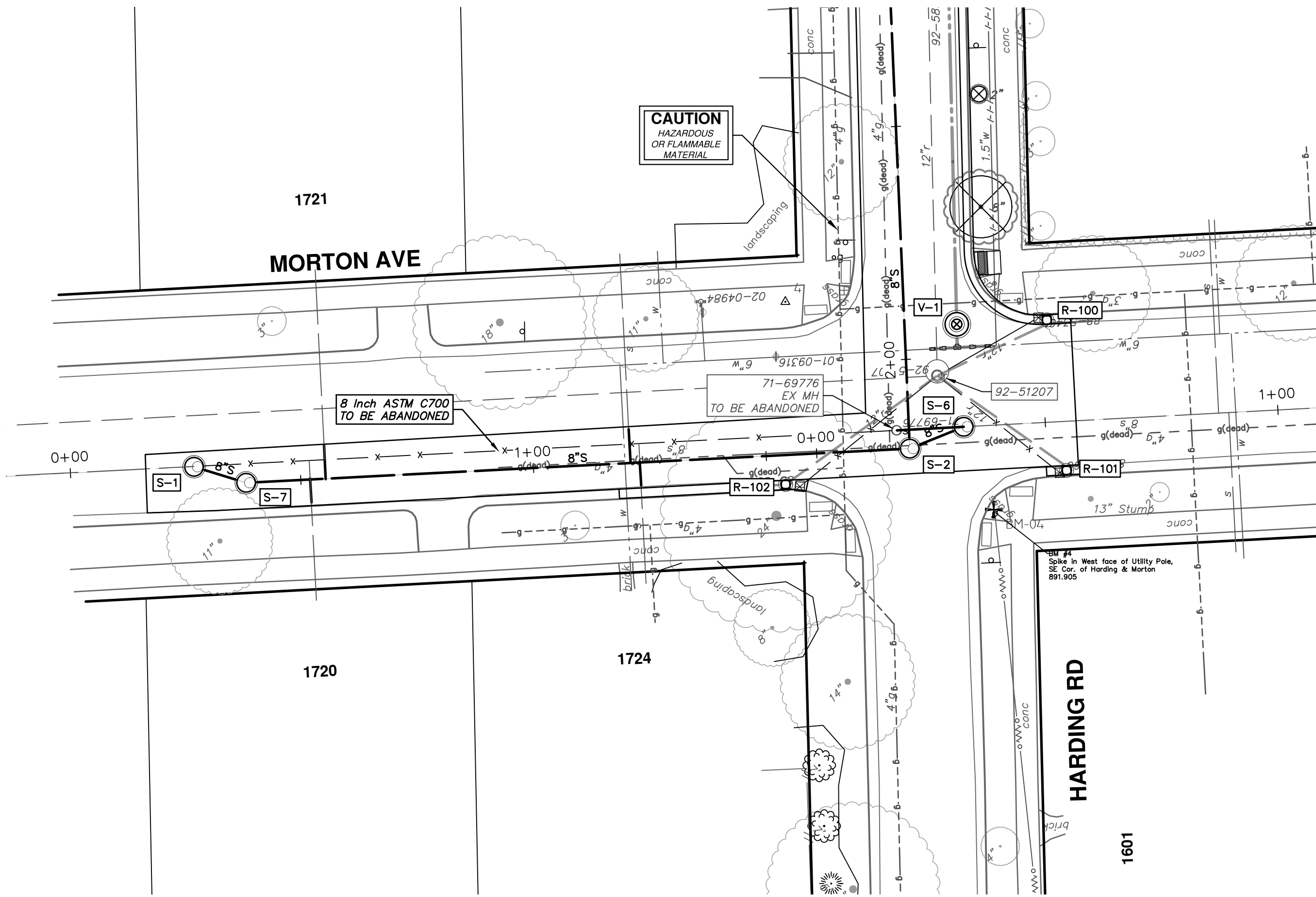
DRAWING No. **2024006-19**

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

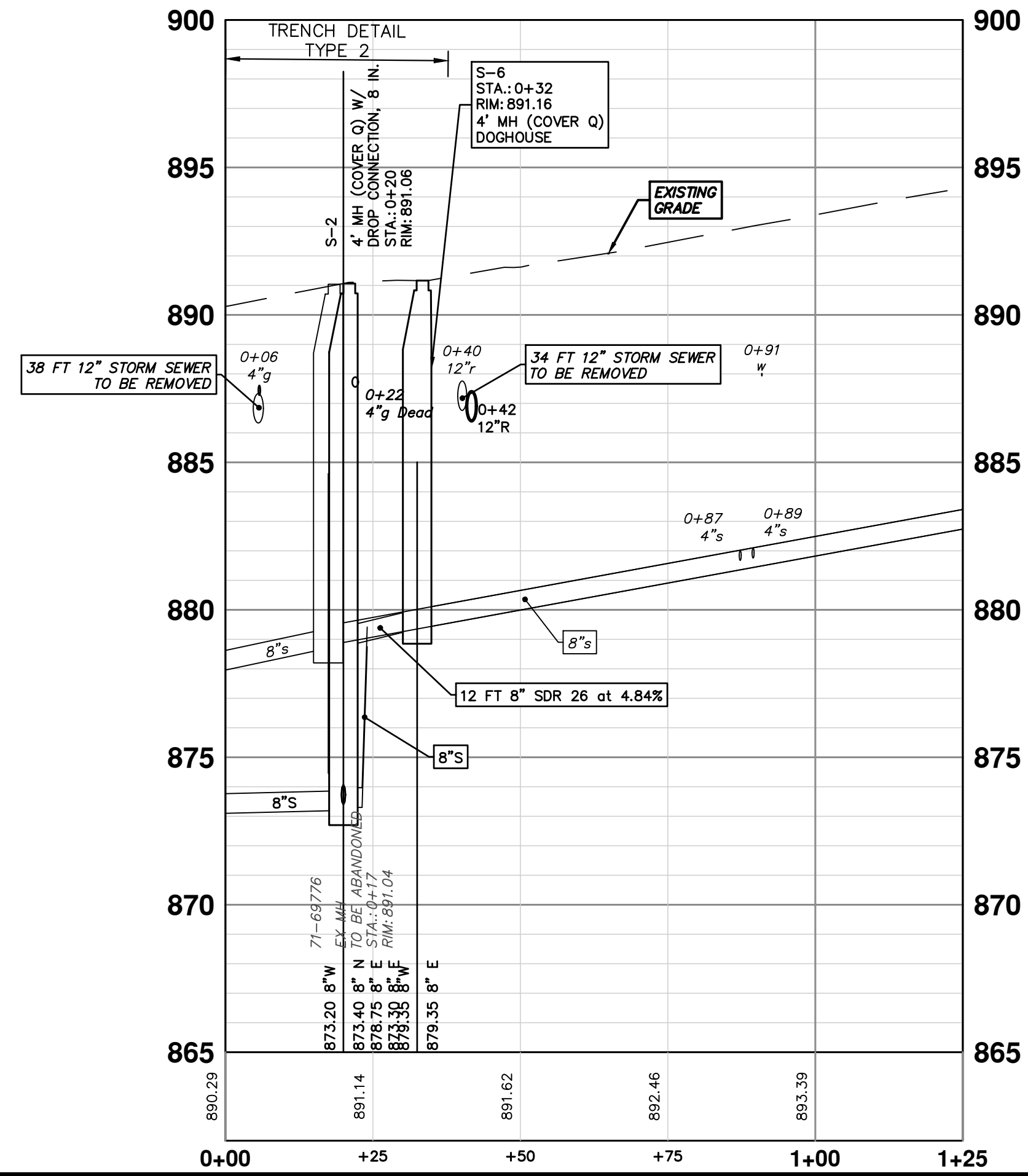
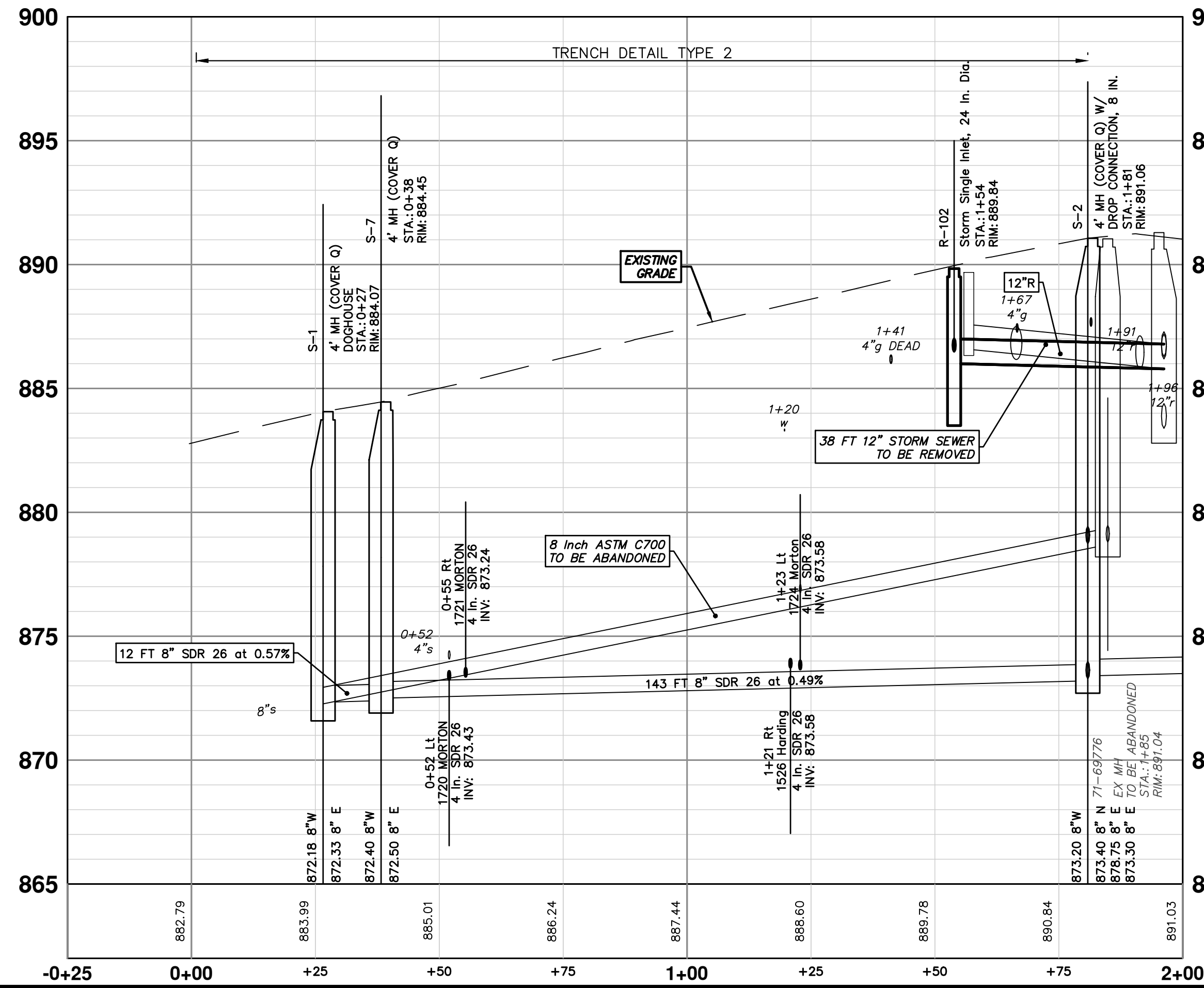
THE CONTRACTOR SHALL MAINTAIN FLOW IN THE EXISTING SANITARY SEWER AT ALL TIMES BY BYPASS PUMPING, AS NECESSARY. DURING WET WEATHER EVENTS, THE FLOW IN THE SANITARY SEWER WILL RISE RAPIDLY AND MAY BECOME SURCHARGED. THE CONTRACTOR SHALL MAINTAIN FLOW IN SUCH A MANNER AS THE EXISTING FLOW CAN BE ADEQUATELY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



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| REV. | DATE | DESCRIPTION |
|------|----------|-------------|
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| 02 | 01/10/24 | A2D |
| TA | | TA |

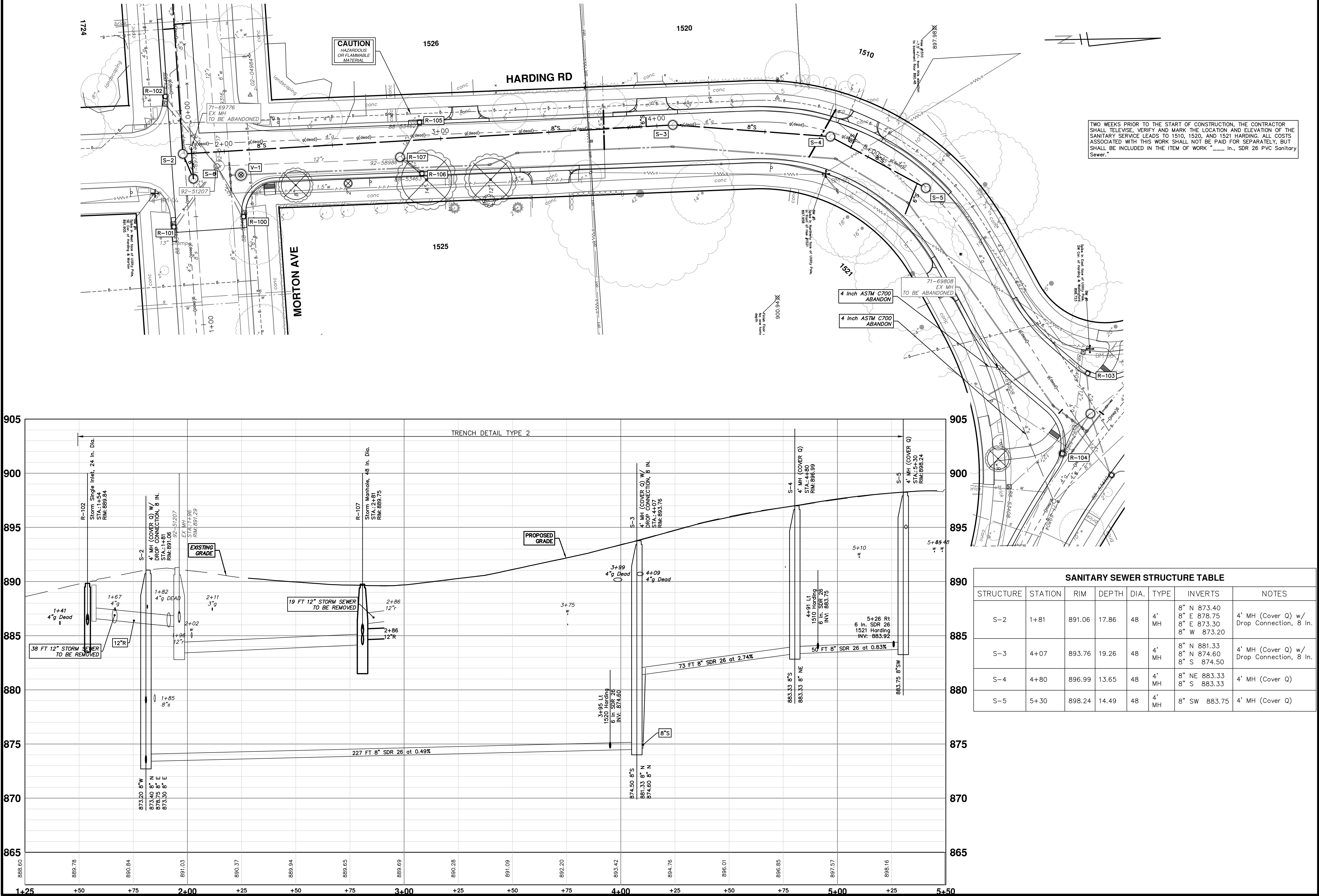
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2025 MISCELLANEOUS UTILITY PROJECTS
SANITARY SEWER - HARDING RD
STA. 0+00 - STA. 3+75

SCALE PLAN: 1" = 20'
PROFILE: 1" = 4'
DRAWING NO. 2024006-21

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| 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" 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) |

TWO WEEKS PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL TELEPHONE, 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."

CAUTION
HAZARDOUS
OR FLAMMABLE
MATERIAL

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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

DRAWING No. 2024006-22

SHEET No. 22 OF 52

2025 MISCELLANEOUS UTILITY PROJECTS

SANITARY SEWER - HARDING RD

STA. 1+49 - STA. 4+85

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| 02 | 01/10/24 | ADDENDUM NO. 1 |

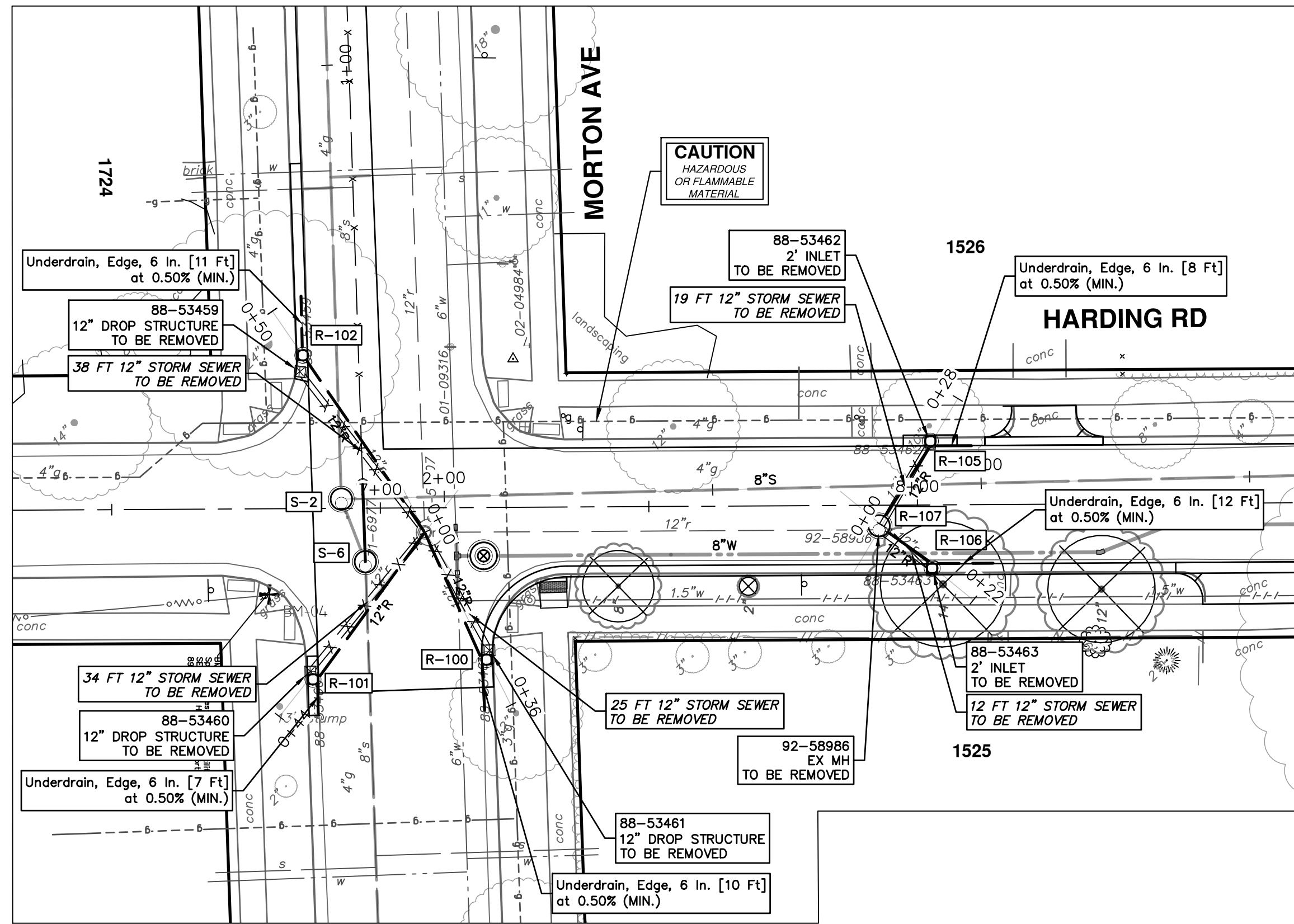
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DRAWN

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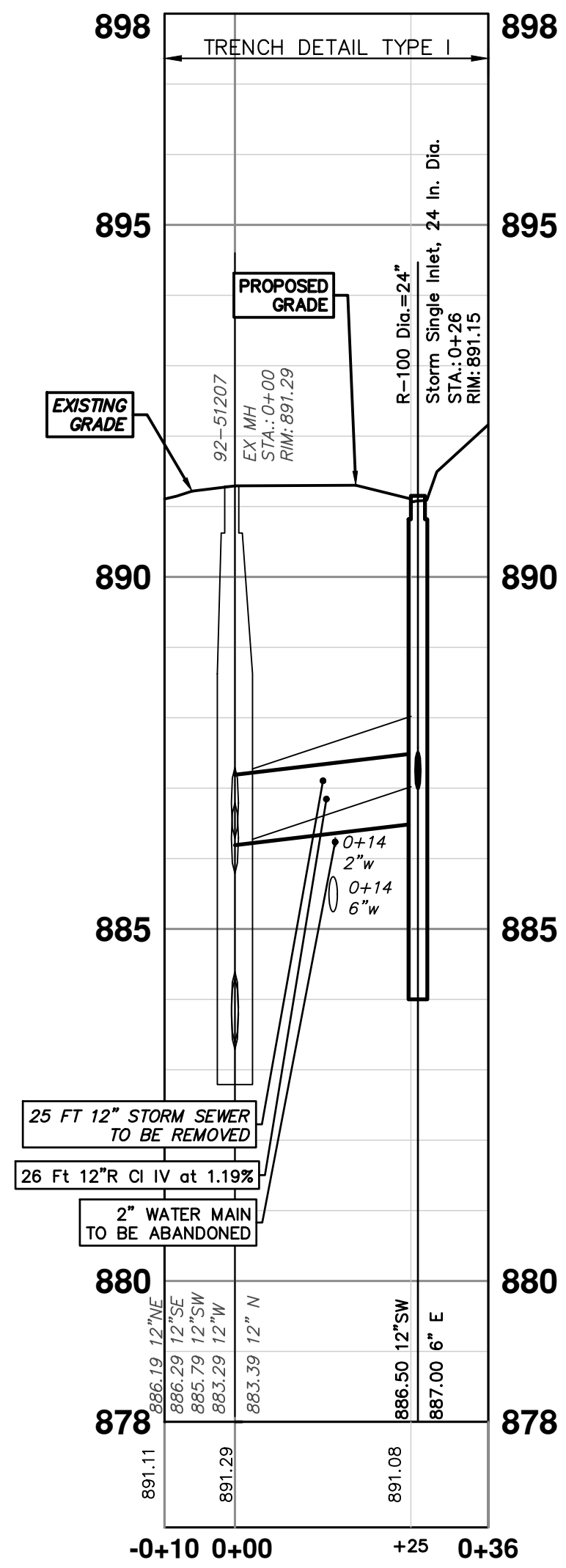
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| EXISTING STORM SEWER STRUCTURE REMOVAL TABLE | | |
|--|--------------|----------------------------------|
| STRUCTURE | DEPTH (Feet) | REMOVE |
| 88-53459 | 3.10 | 12" Drop Structure TO BE REMOVED |
| 88-53461 | 3.84 | 12" Drop Structure TO BE REMOVED |
| 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 |

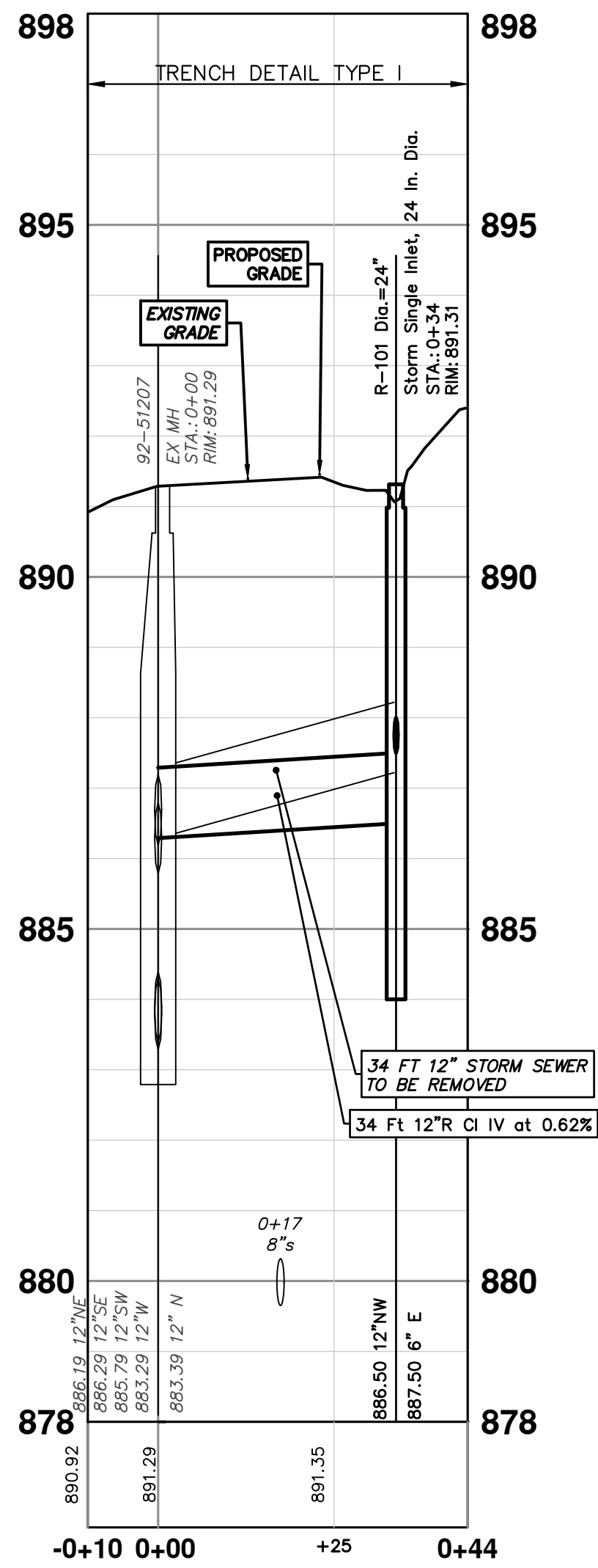


| STORM SEWER STRUCTURE TABLE | | | | | | |
|-----------------------------|-----------------|---------------------------------|--------|--|--------------|------|
| STRUCTURE | UTILITY STATION | TYPE | RIM | INVERTS | DEPTH (Feet) | SUMP |
| R-100 | 0+26 | Storm Single Inlet, 24 In. Dia. | 891.15 | 6" 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' |

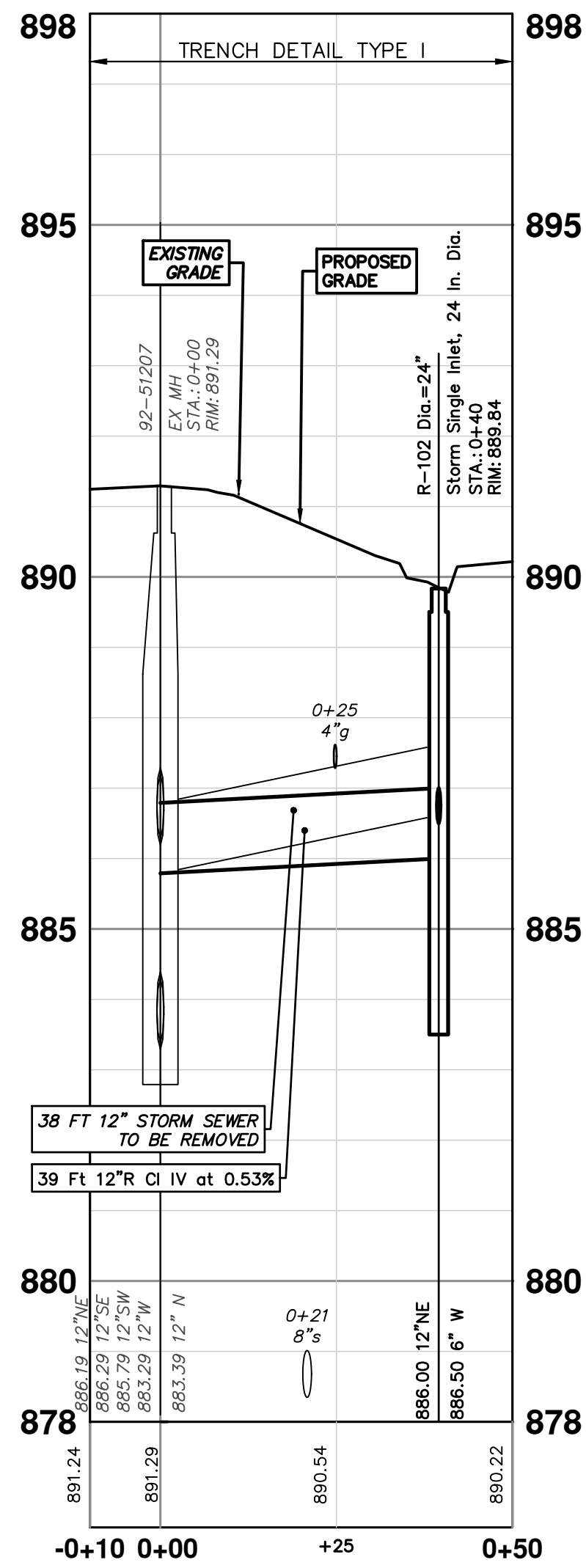
92-51207 - R-100



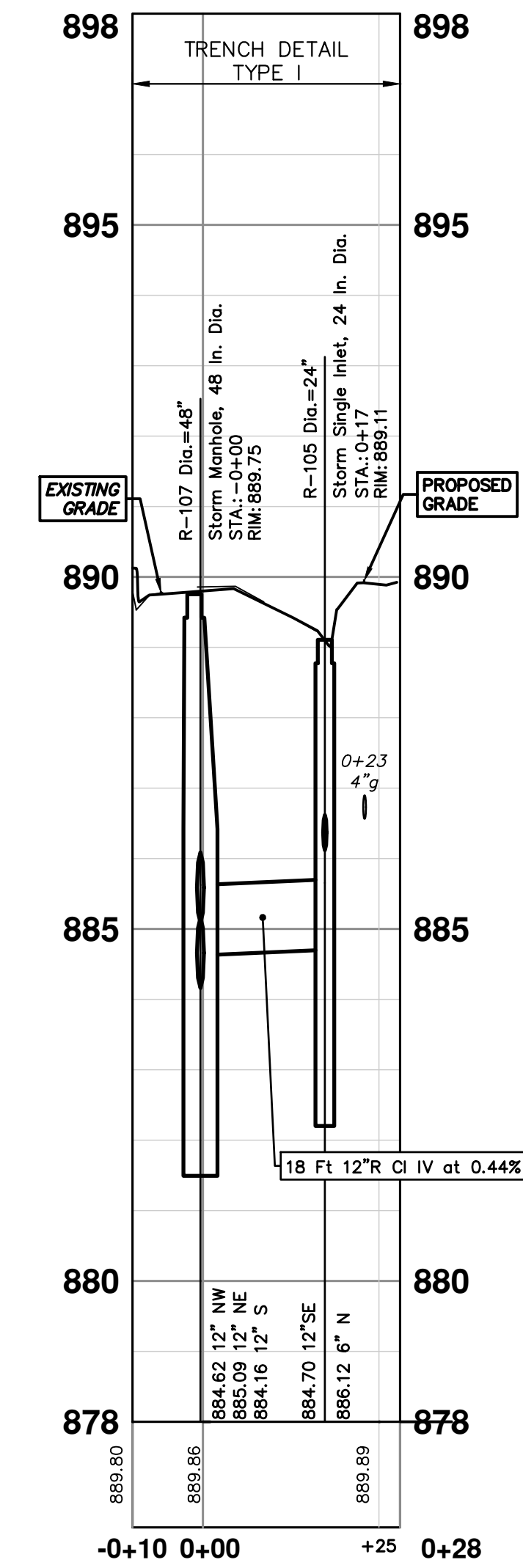
92-51207 - R-101



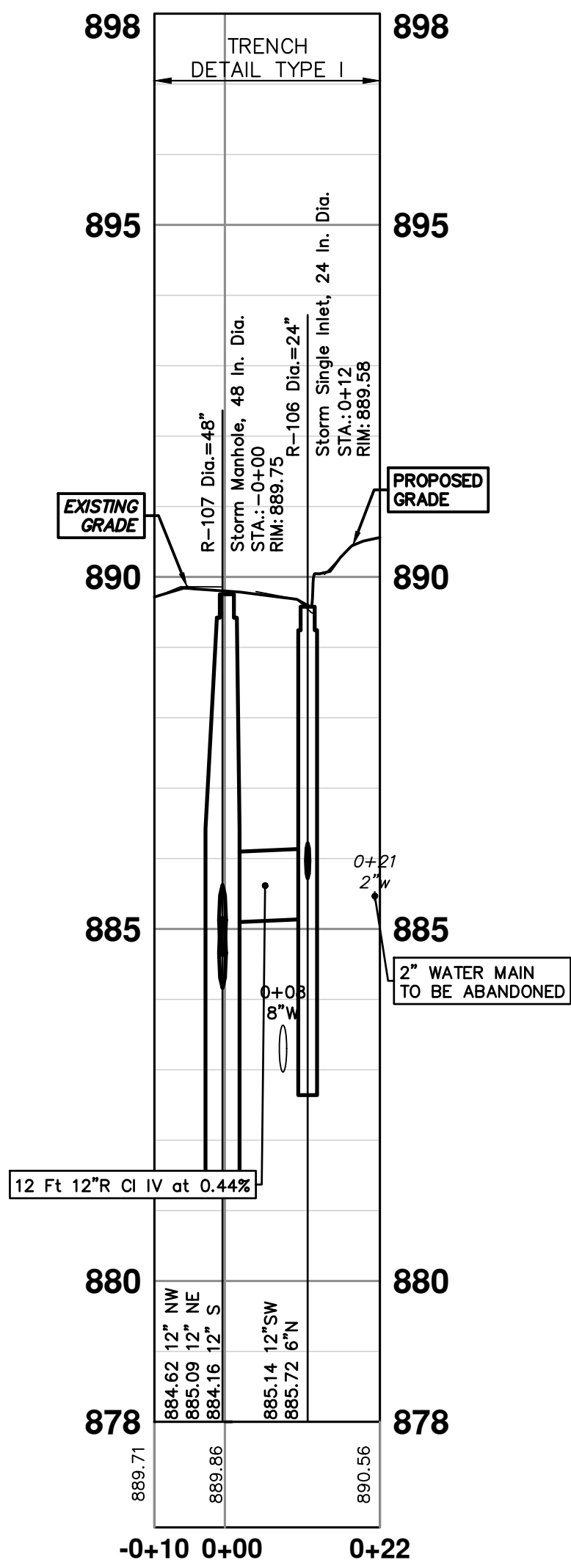
92-51207 - R-102



R-107 - R-105



R-107 - R-106



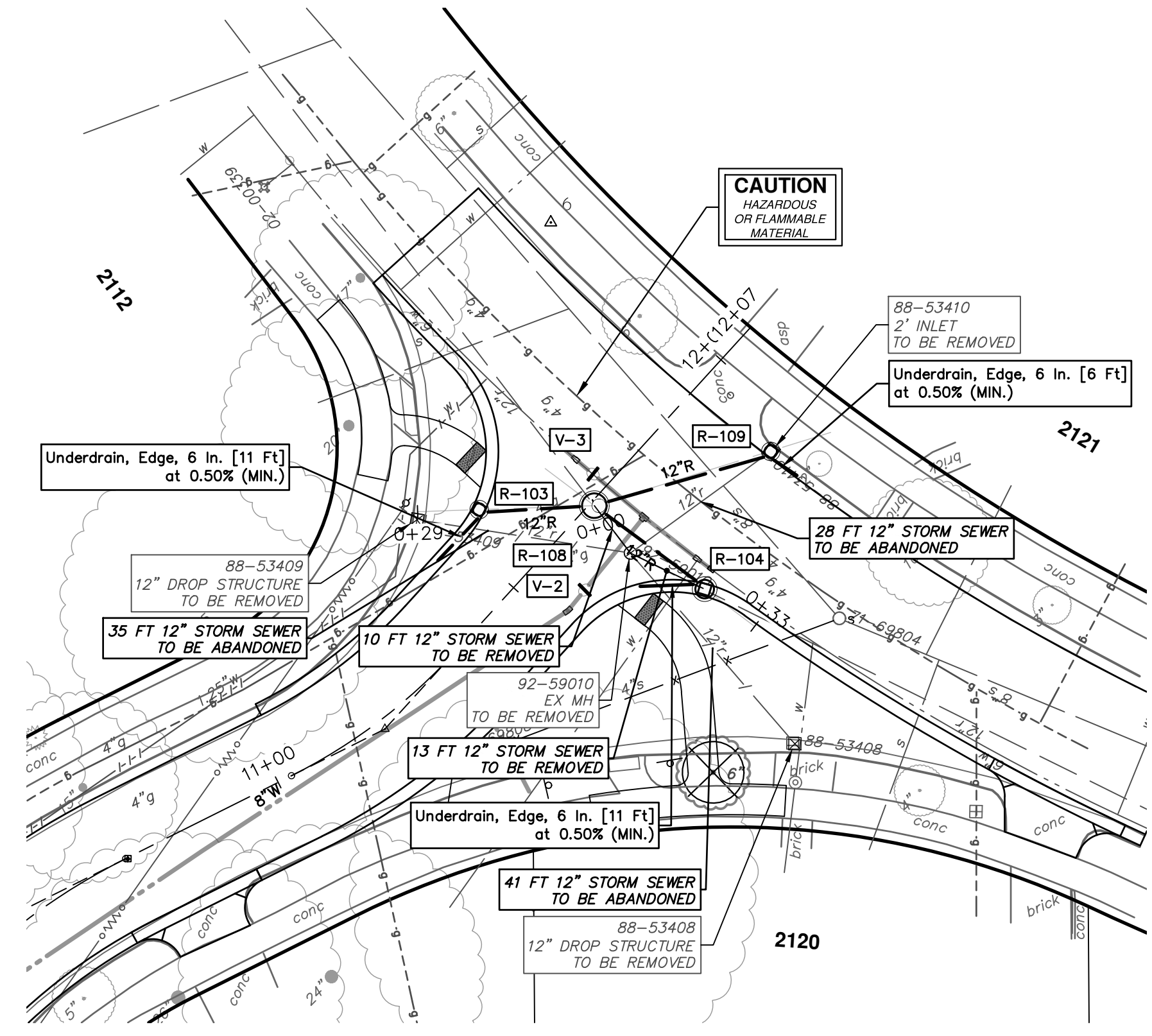
| REV. | DATE | DESCRIPTION |
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| 02 | 01/10/24 | ADDENDUM NO. 1 |
| 01 | 12/12/24 | BID SET |

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2025 MISCELLANEOUS UTILITY PROJECTS
STORM SEWER - HARDING RD
R-100 - R-102, R-105 - R-107

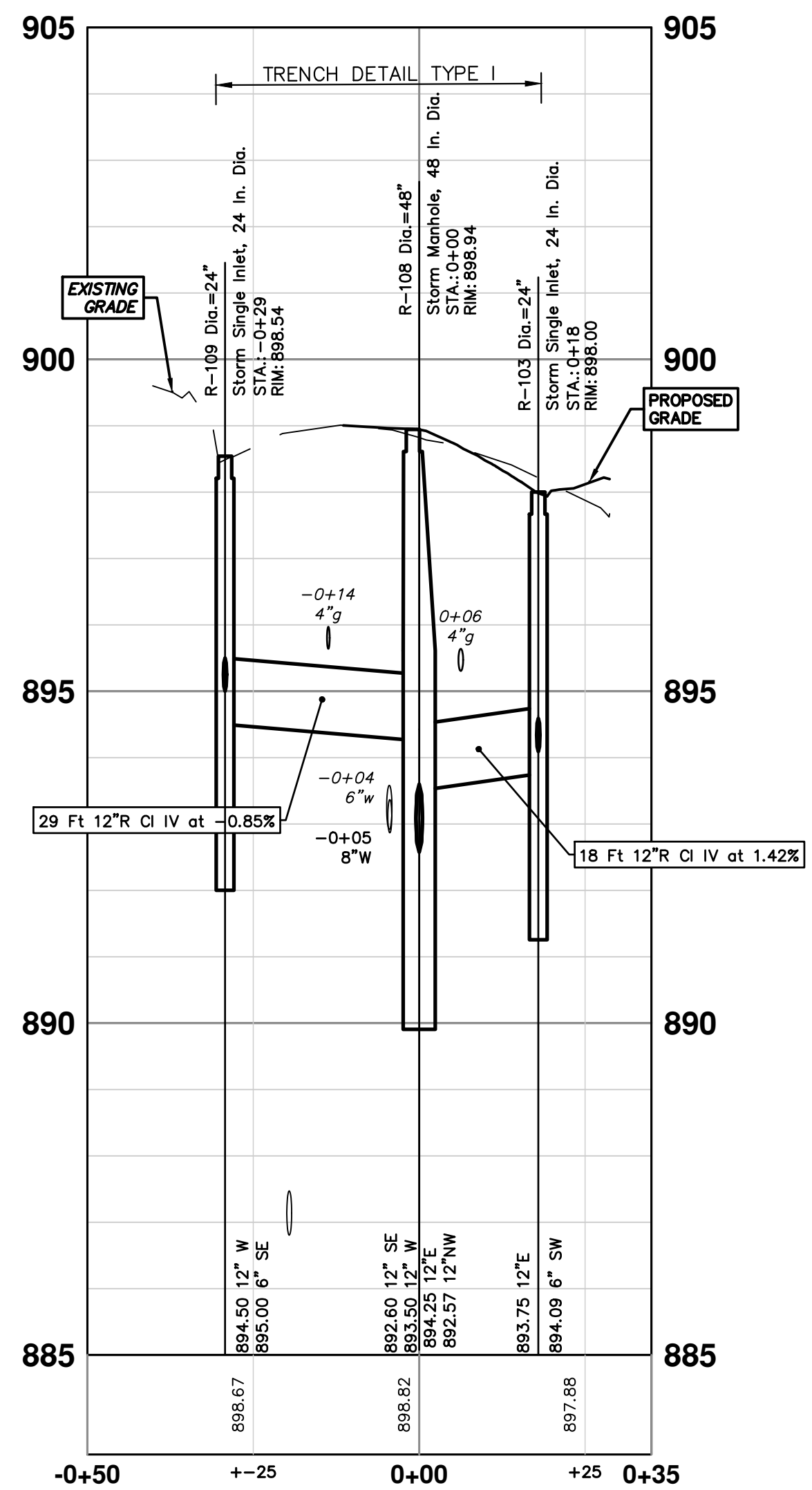
SCALE PLAN: 1" = 20'
PROFILE: 1" = 4'
DRAWING NO.: 2024006-23



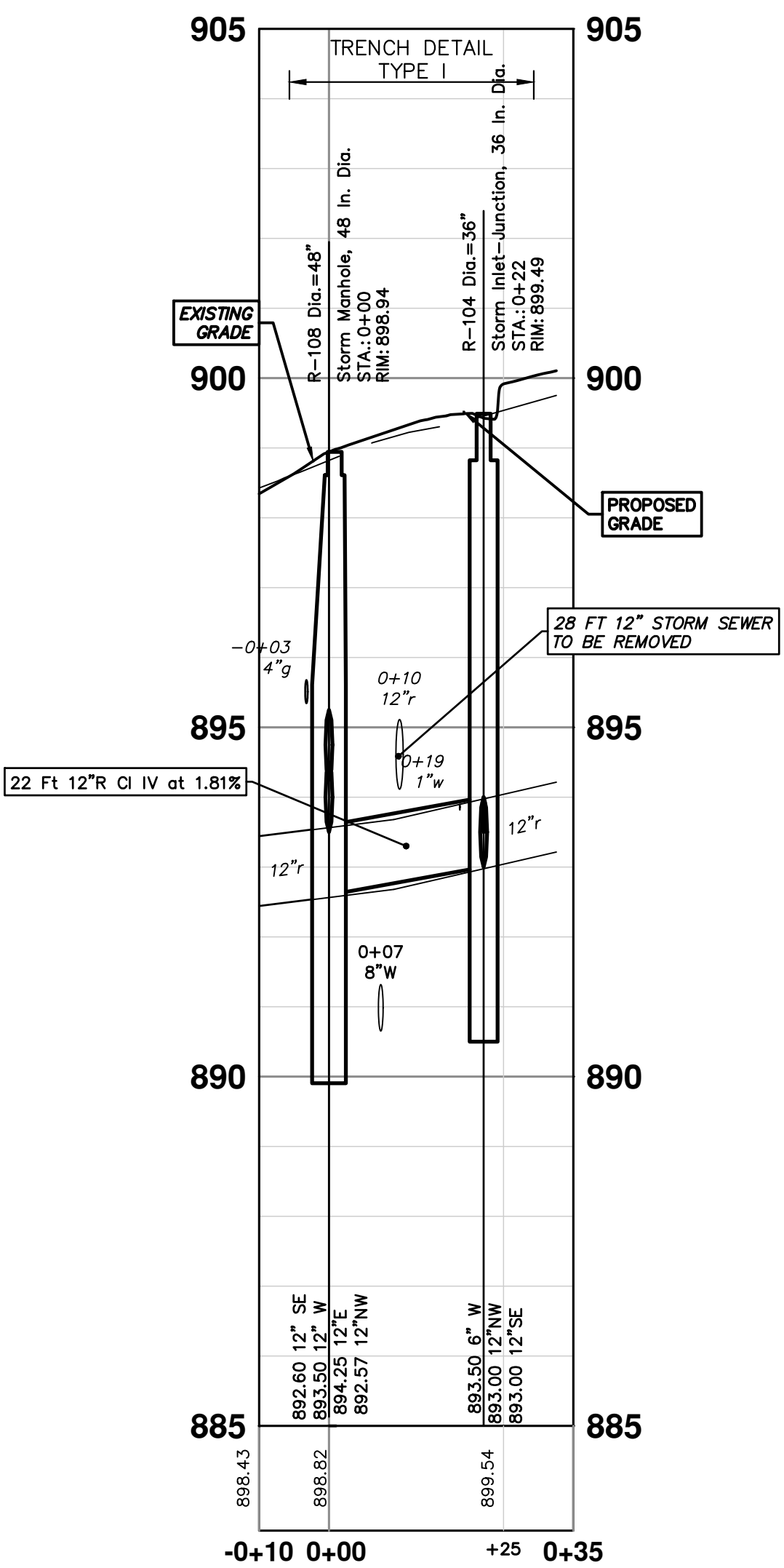
| STRUCTURE | DEPTH (Feet) | REMOVE |
|-----------|--------------|----------------------------------|
| 88-53409 | 2.51 | 12" Drop Structure TO BE REMOVED |
| 88-53410 | 3.11 | 2' Inlet TO BE REMOVED |
| 88-53408 | 4.14 | 12" Drop Structure TO BE REMOVED |
| 92-59010 | 6.51 | EX MH TO BE REMOVED |

| 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



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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

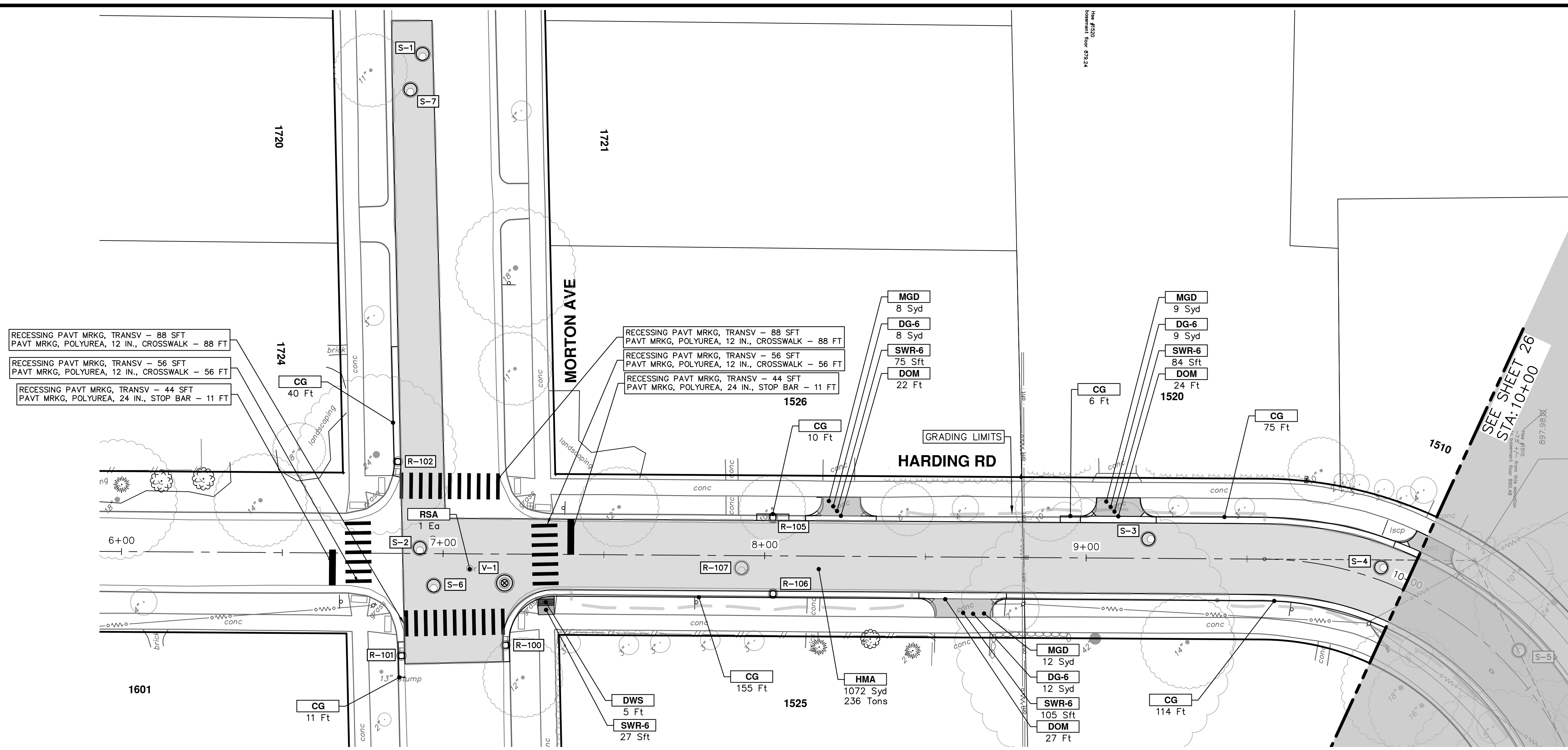
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A2D
01/10/24
DATE
12/12/24
DRAWN
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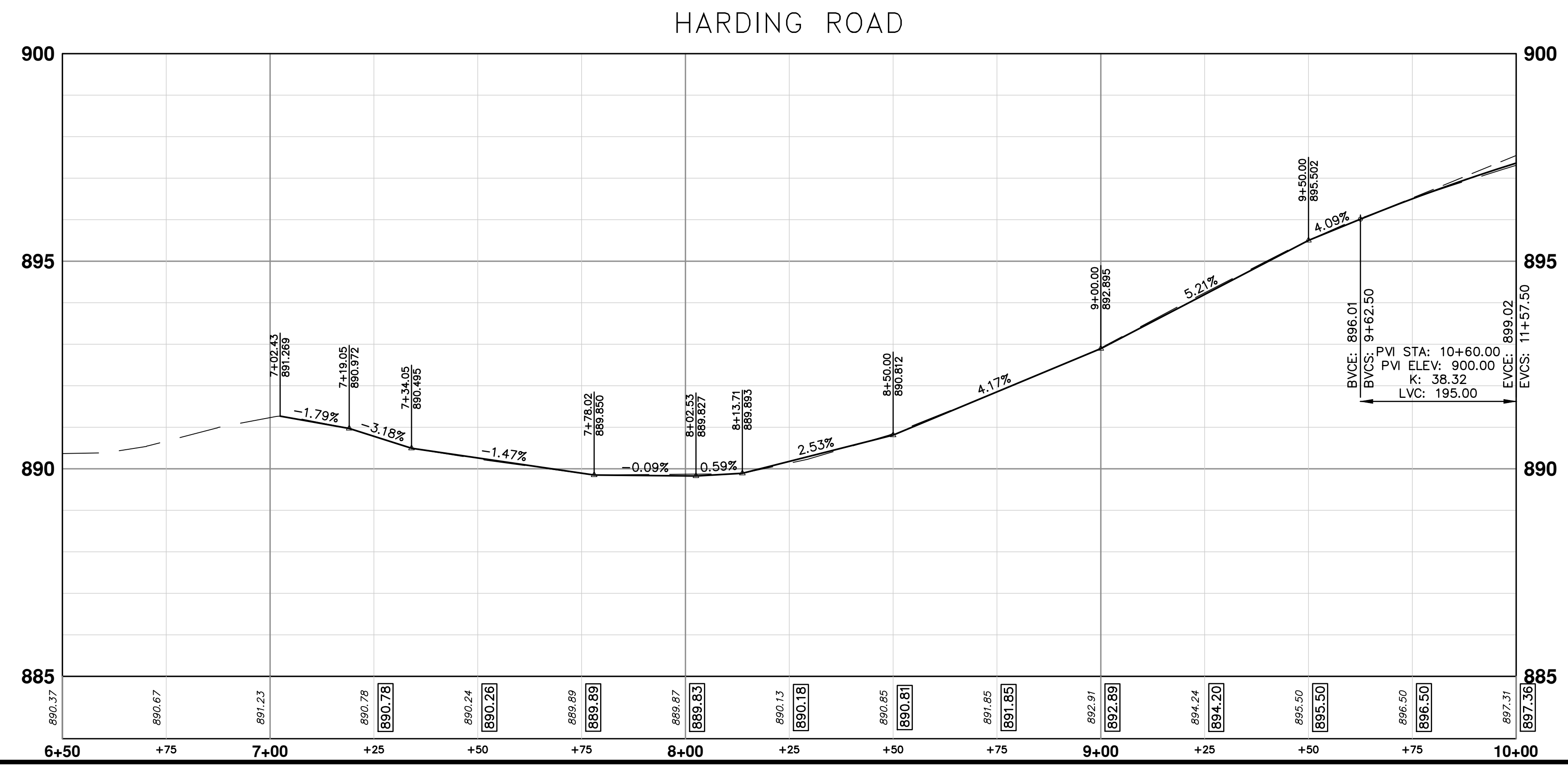
DESCRIPTION
REV.

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| 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 |

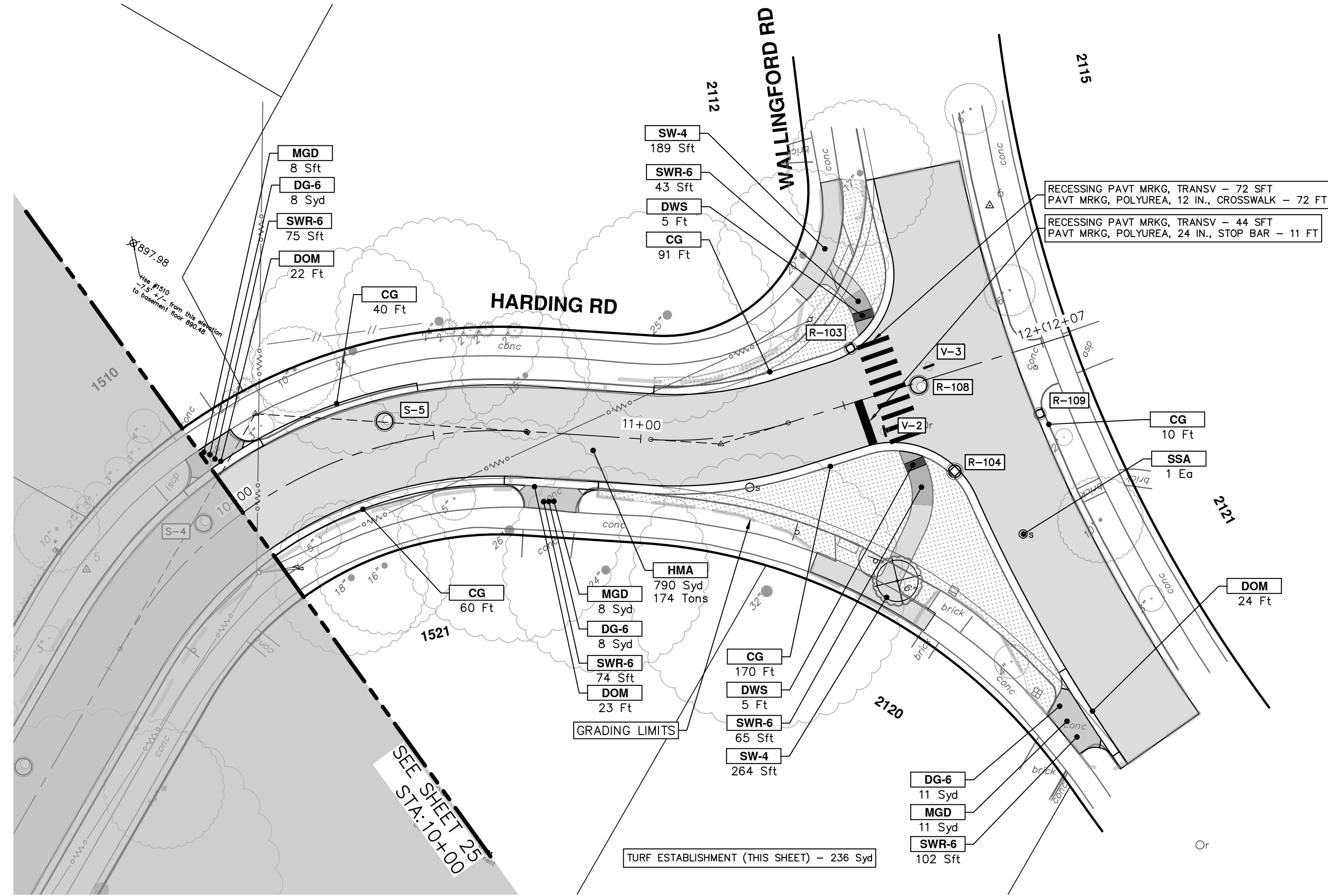


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| REV | DATE | DESCRIPTION |
| 02 | 01/10/24 | ADDENDUM NO. 1 |
| 01 | 12/12/24 | BID SET |

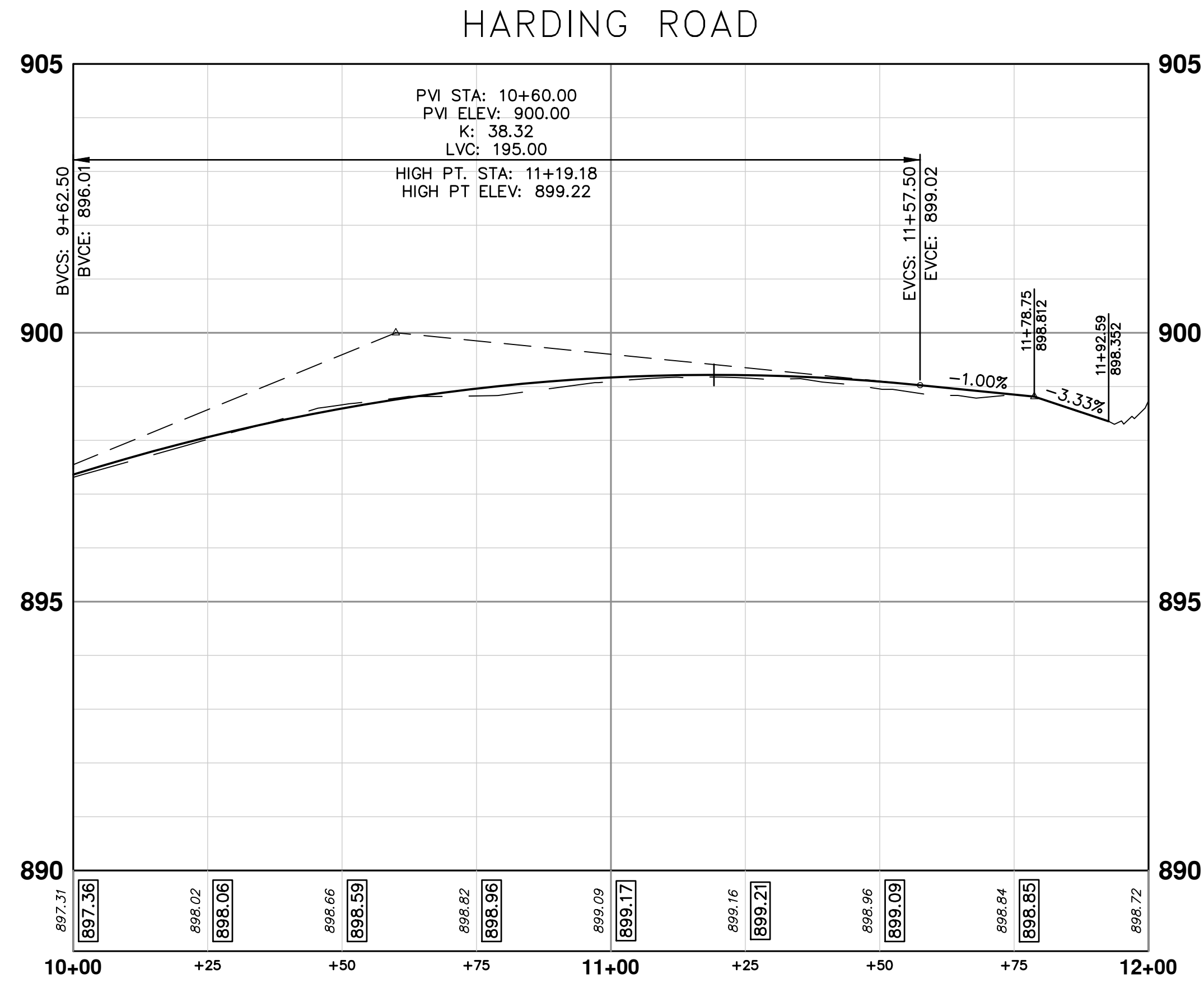
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2025 MISCELLANEOUS UTILITY PROJECTS
 ROAD PLAN & PROFILE - HARDING RD
 STA. 6+50 - STA. 10+00

SHEET No. **25 OF 52**

SCALE PLAN: 1" = 20'
 PROFILE: 1" = 2'
 DRAWING No. **2024006-25**



| 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 |



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ADDENDUM NO. 1
01/10/24
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01
12/12/24
DATE

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
2025 MISCELLANEOUS UTILITY PROJECTS
 ROAD PLAN & PROFILE - HARDING RD

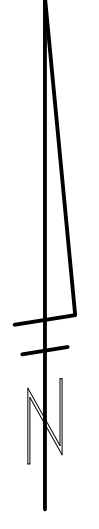
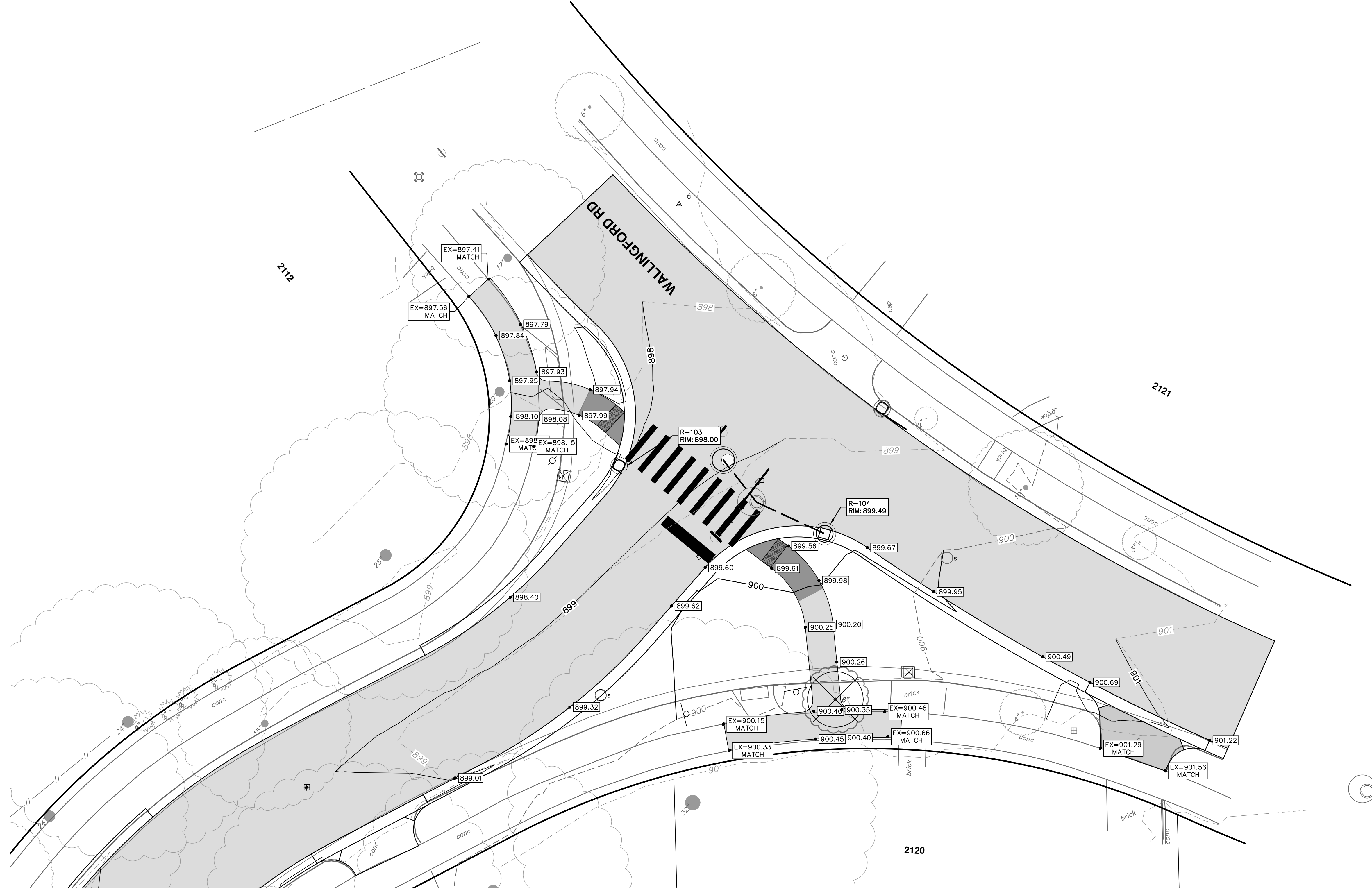
SHEET No. **26 OF 52**

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

DRAWING No. **2024006-26**

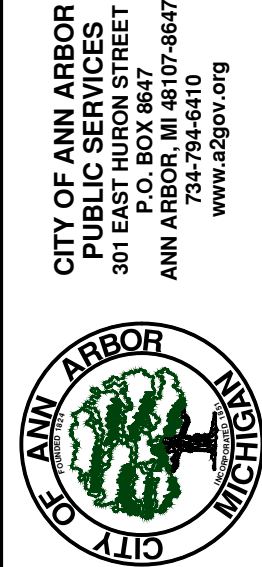
STA. 10+00 - STA. 11+98

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 SCALE PLAN: 1" = 10'
 DRAWING No. 2024006-27

2025 MISCELLANEOUS UTILITY PROJECTS
 ###
 HARDING - WALLINGFORD INTERSECTION GRADING

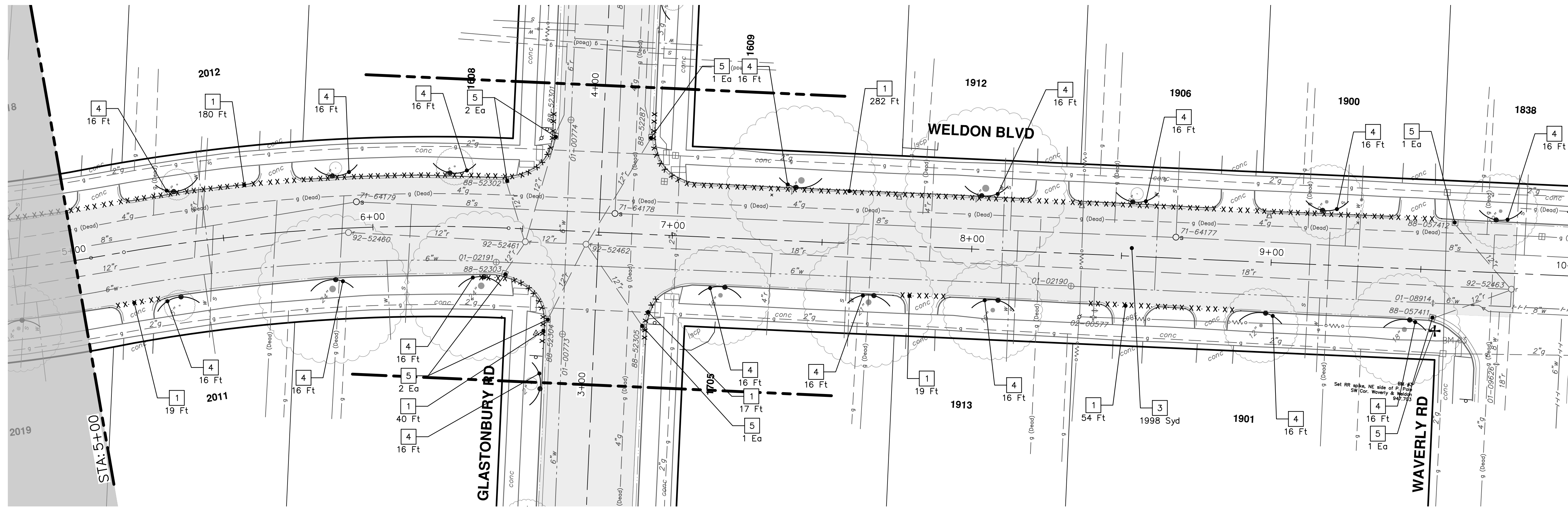
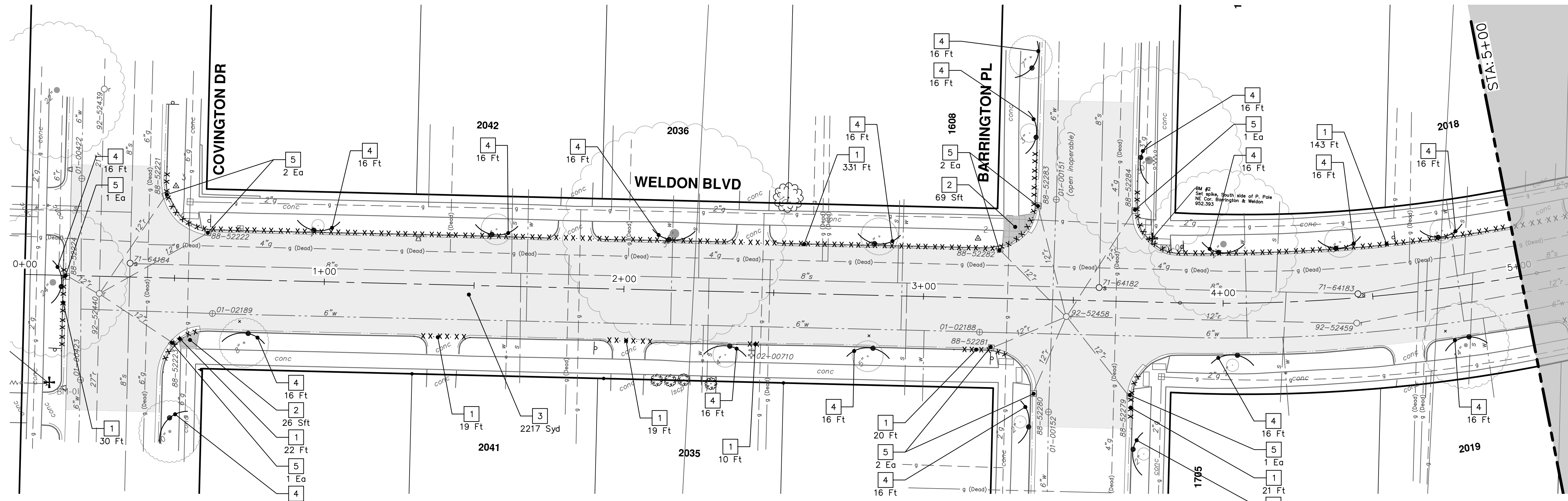


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 734.794.4410
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| REV. | DESCRIPTION | DATE | BY | CHECKED |
|------|---|------|----|---------|
| 00 | REVISION THIS WHEN GOING OUT FOR BID | DATE | BY | CHECKED |
| | COPY A2REV04TES.DWG TO PROJECT FOLDER AND | | | |

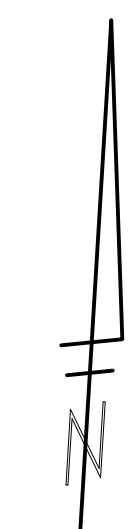


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| REMOVAL KEY | |
|-------------|--|
| KEY | DESCRIPTION |
| 1 | Curb, Gutter, and Curb and Gutter, Any Type, Rem * |
| 2 | Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem |
| 3 | HMA, Any Thickness, Rem * |
| 4 | Tree Protective 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



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2025 MISCELLANEOUS UTILITY PROJECTS

REMOVALS - WELDON BLVD

STATION: 0+00 - STA. 10+25

SCALE: 1" = 20'

DRAWING NO. 2024006-28

SHEET NO. 28 OF 52

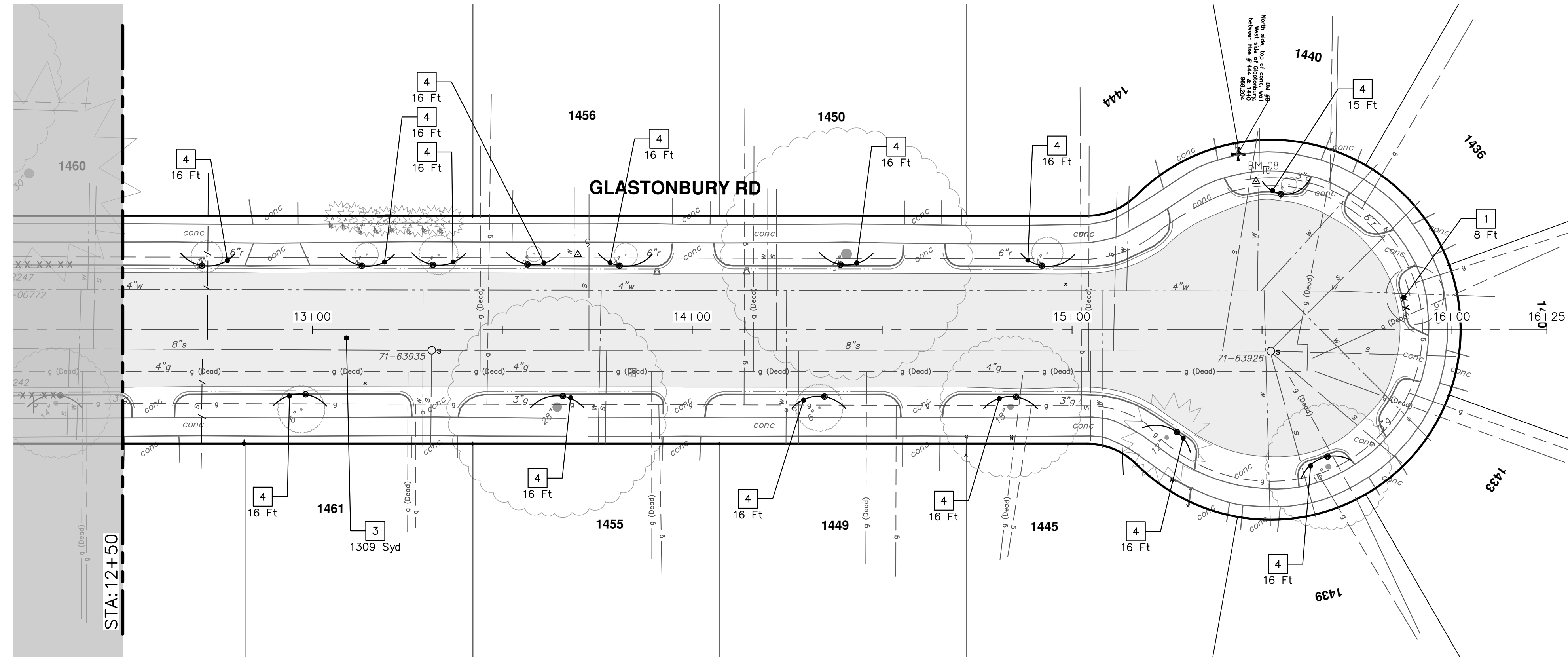
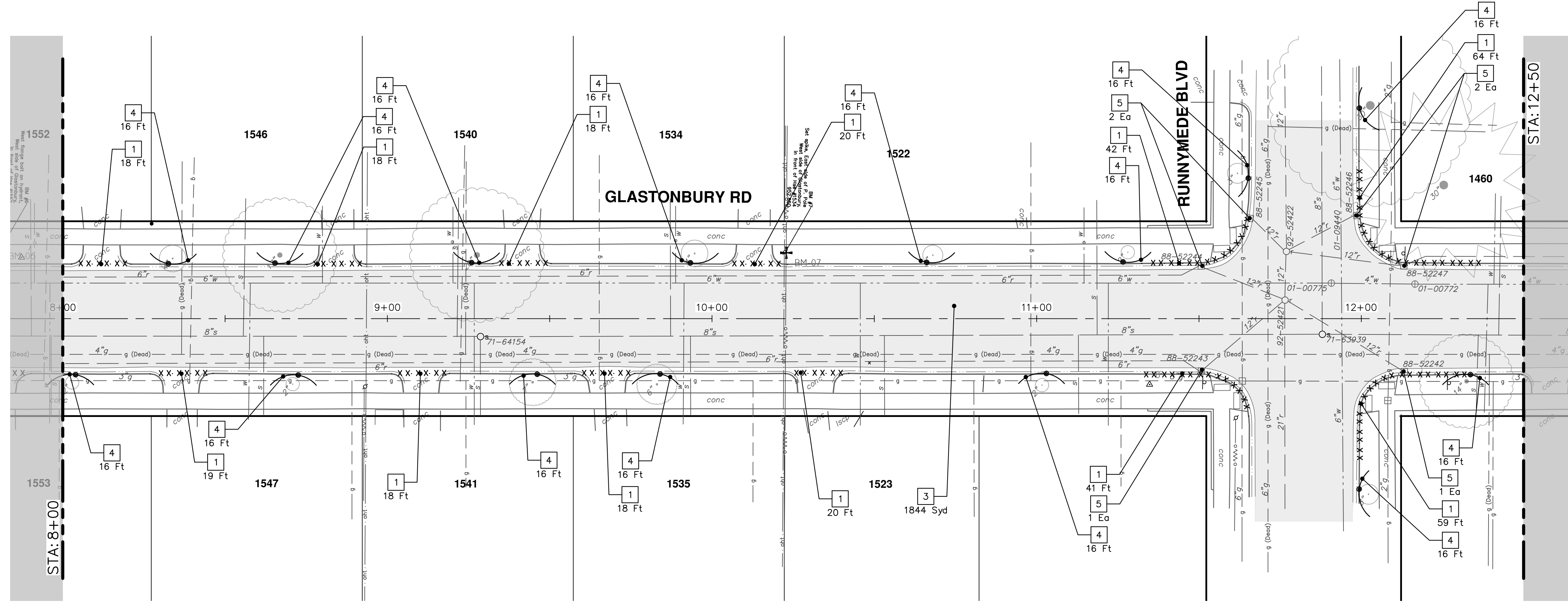
811
Know what's below. Call before you dig.

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

DESCRIPTION

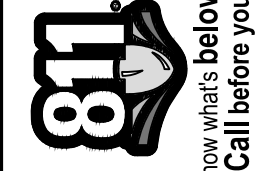
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| REMOVAL KEY | |
|-------------|--|
| KEY | DESCRIPTION |
| 1 | Curb, Gutter, and Curb and Gutter, Any Type, Rem * |
| 2 | Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem |
| 3 | HMA, Any Thickness, Rem * |
| 4 | Tree Protective 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



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

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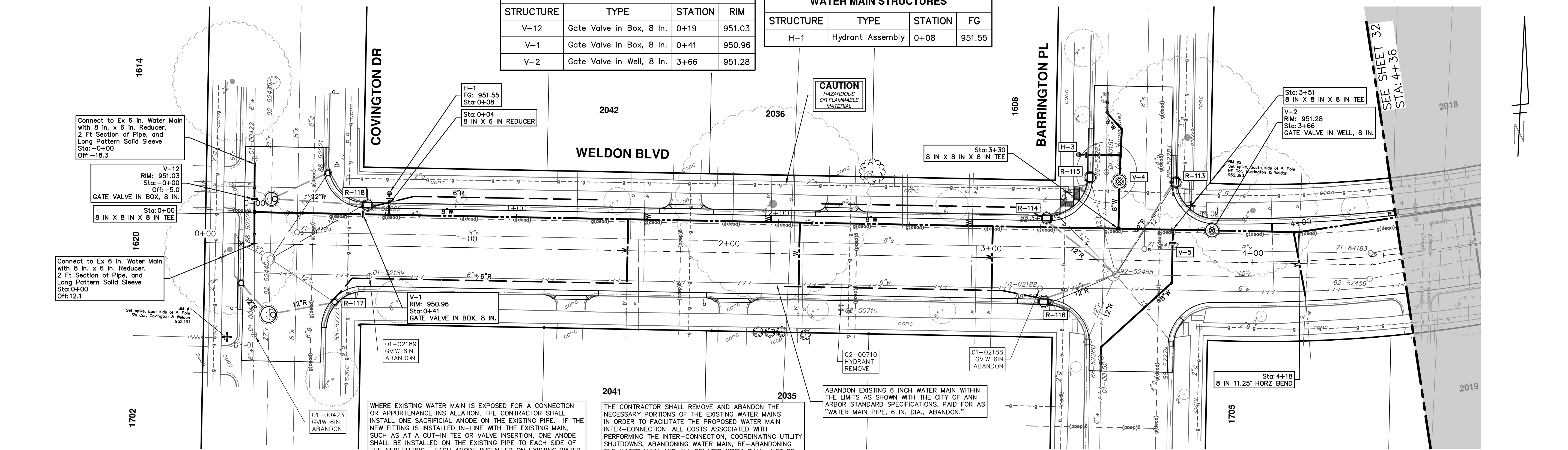
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
2025 MISCELLANEOUS UTILITY PROJECTS
REMOVALS - GLASTONBURY RD
STA. 8+00 - STA. 16+02

SHEET No. 30 OF 52
DRAWING No. 2024006-30
SCALE: 1" = 20'

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

| 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 |

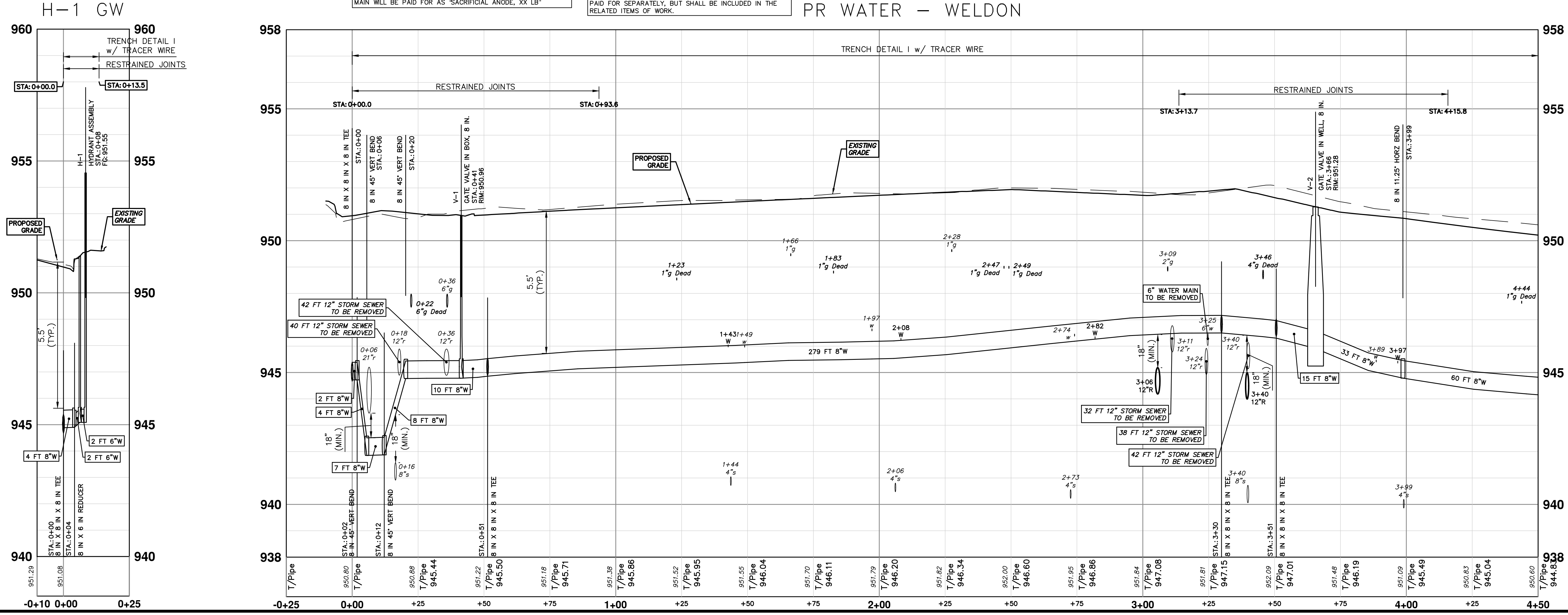
| WATER MAIN STRUCTURES | | | |
|-----------------------|------------------|---------|--------|
| STRUCTURE | TYPE | STATION | FG |
| H-1 | Hydrant Assembly | 0+08 | 951.55 |




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.


PR WATER - WELDON





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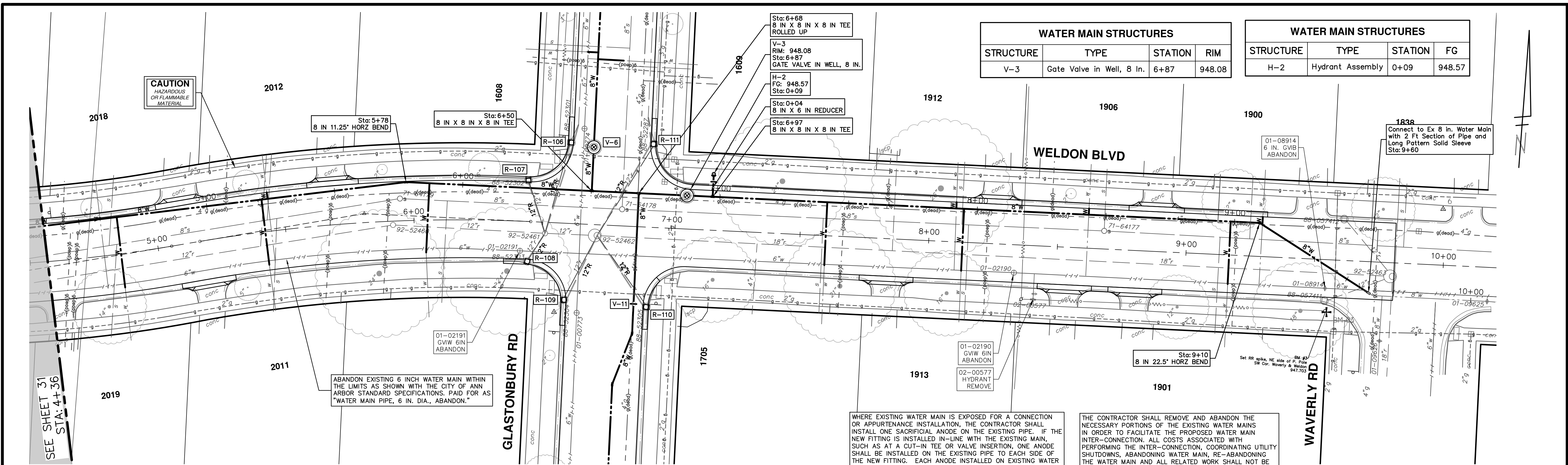
| REV. | DATE | DRAWN | CHECKED | DESCRIPTION |
|------|----------|-------|---------|----------------|
| 01 | 12/12/24 | AZD | TA | BID SET |
| 02 | 01/10/24 | AZD | TA | ADDENDUM NO. 1 |



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
2025 MISCELLANEOUS UTILITY PROJECTS
 WATER MAIN - WELDON BLVD
 STA. 0+00 - STA. 4+50, HYD H-1

SCALE PLAN: 1" = 20'
 PROFILE: 1" = 2'
 DRAWING NO. 2024006-31
 SHEET NO. 31 OF 52

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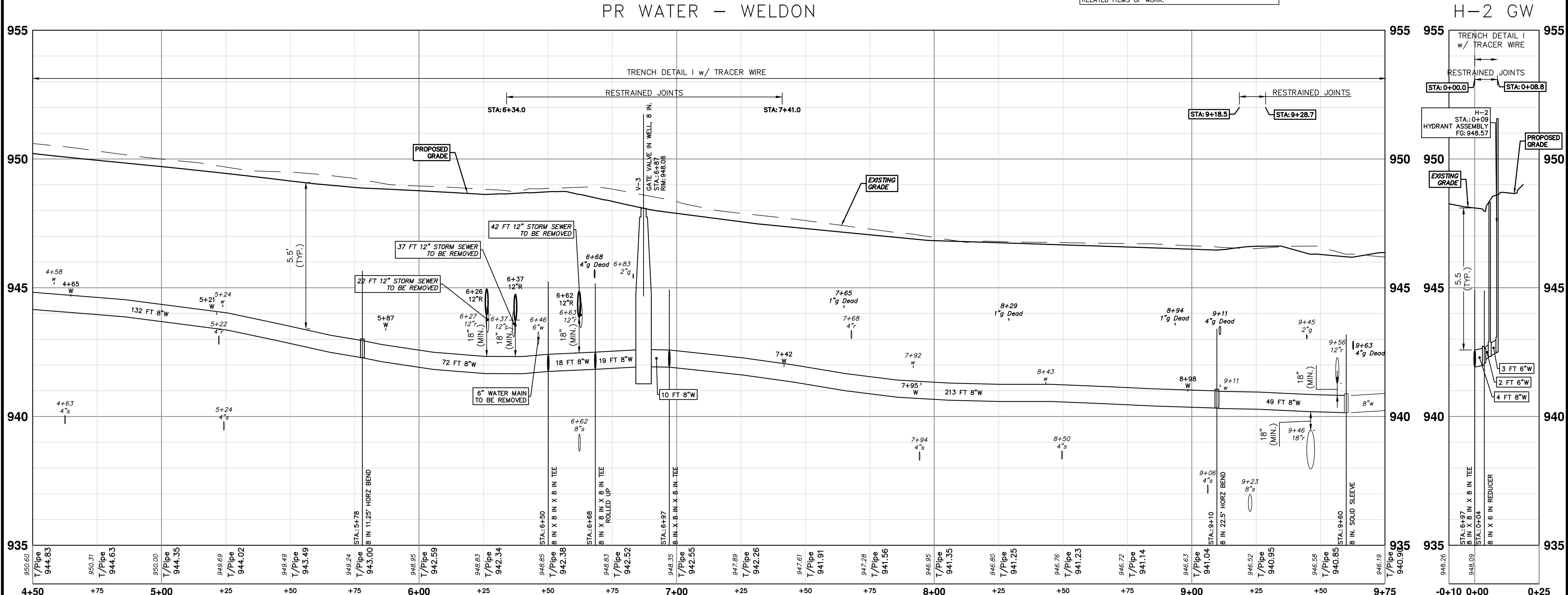



| WATER MAIN STRUCTURES | | | |
|-----------------------|---------------------------|---------|--------|
| STRUCTURE | TYPE | STATION | RIM |
| V-3 | Gate Valve in Well, 8 in. | 6+87 | 948.08 |

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

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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| REV. | DATE | DESCRIPTION |
|------|----------|-------------|
| 01 | 12/12/24 | DRAWN |
| 02 | 01/10/24 | A2D |
| 01 | 01/10/24 | TA |
| 02 | 01/10/24 | A2D |

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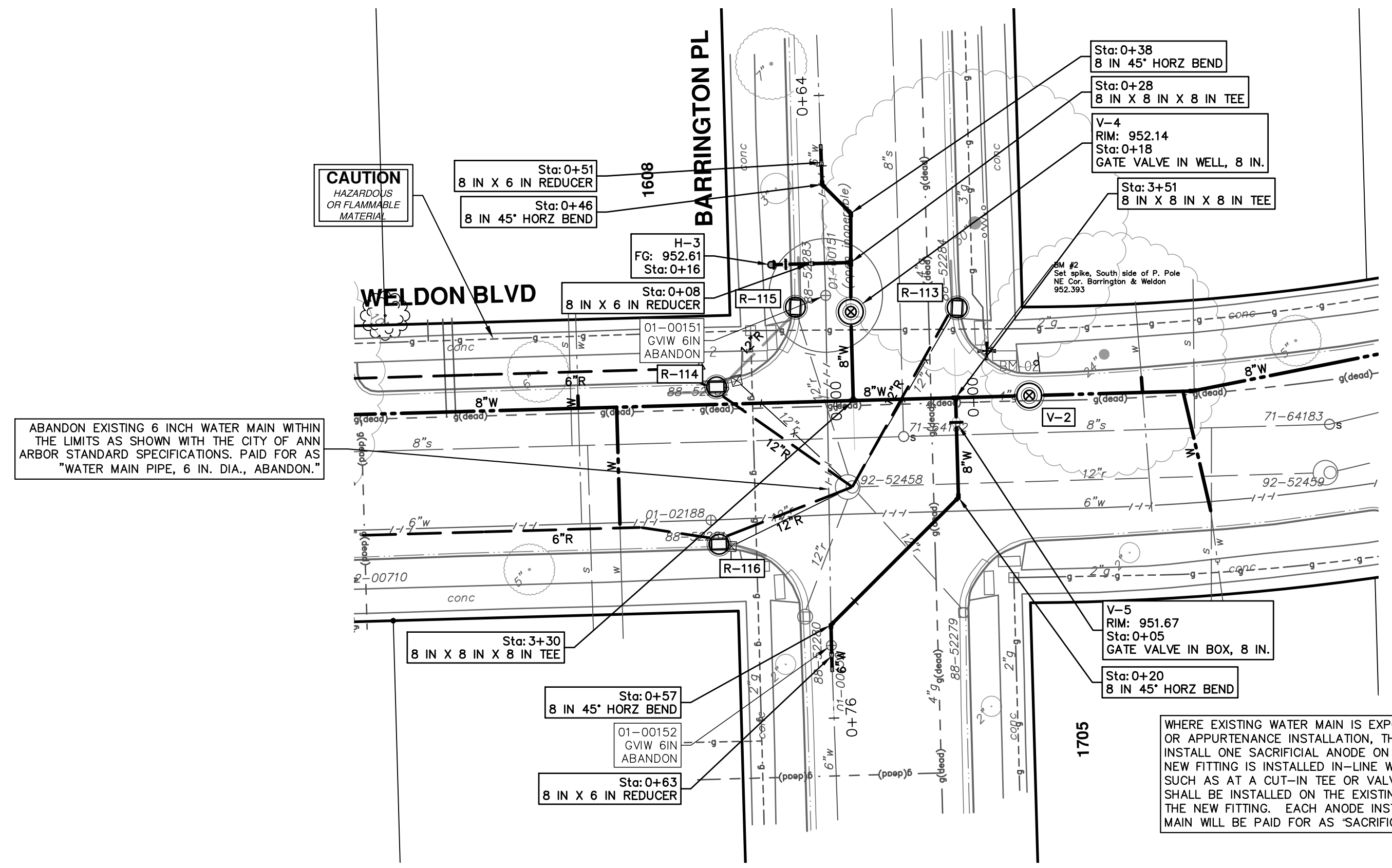
2025 MISCELLANEOUS UTILITY PROJECTS
WATER MAIN - WELDON BLVD
STA. 4+50 - STA. 9+66, HYD H-2

CITY OF ANN ARBOR - ENGINEERING

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

SHEET NO. 32 OF 52

DRAWING NO. 2024006-32



ABANDON EXISTING 6 INCH WATER MAIN WITHIN THE LIMITS AS SHOWN WITH THE CITY OF ANN ARBOR STANDARD SPECIFICATIONS. PAID FOR AS "WATER MAIN PIPE, 6 IN. DIA., ABANDON."

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-4 | Gate Valve in Well, 8 In. | 0+18 | 952.14 |

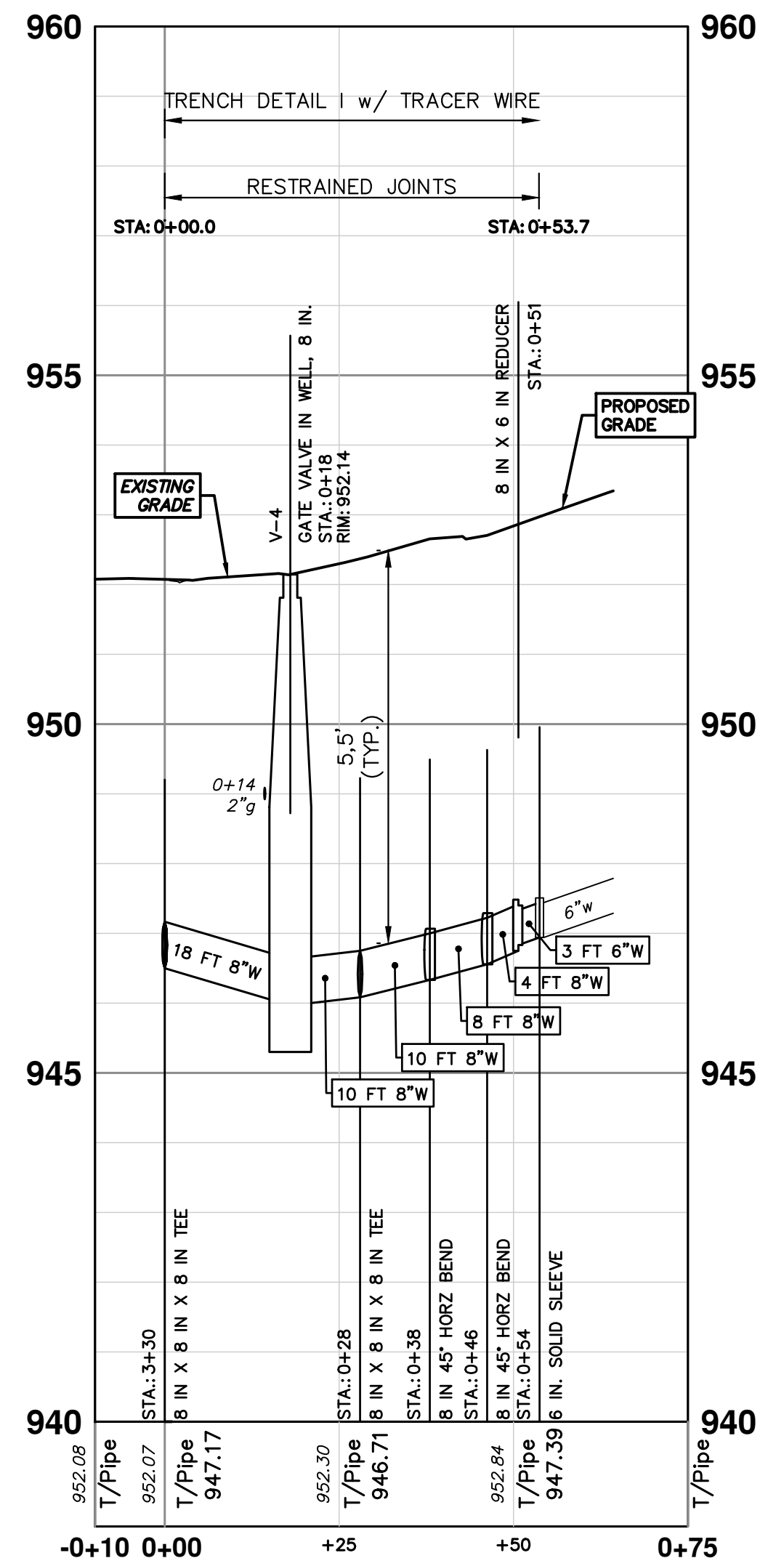
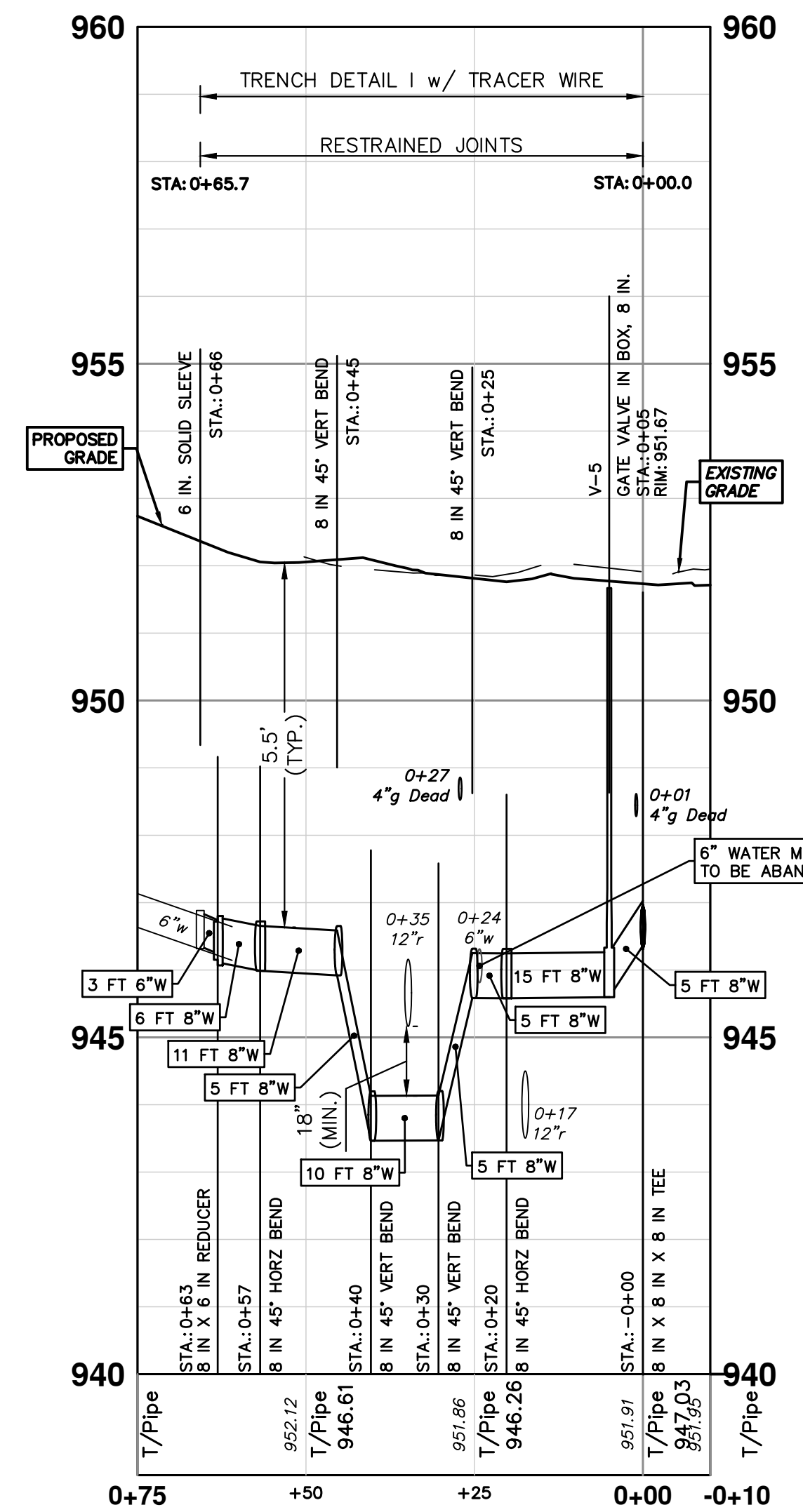
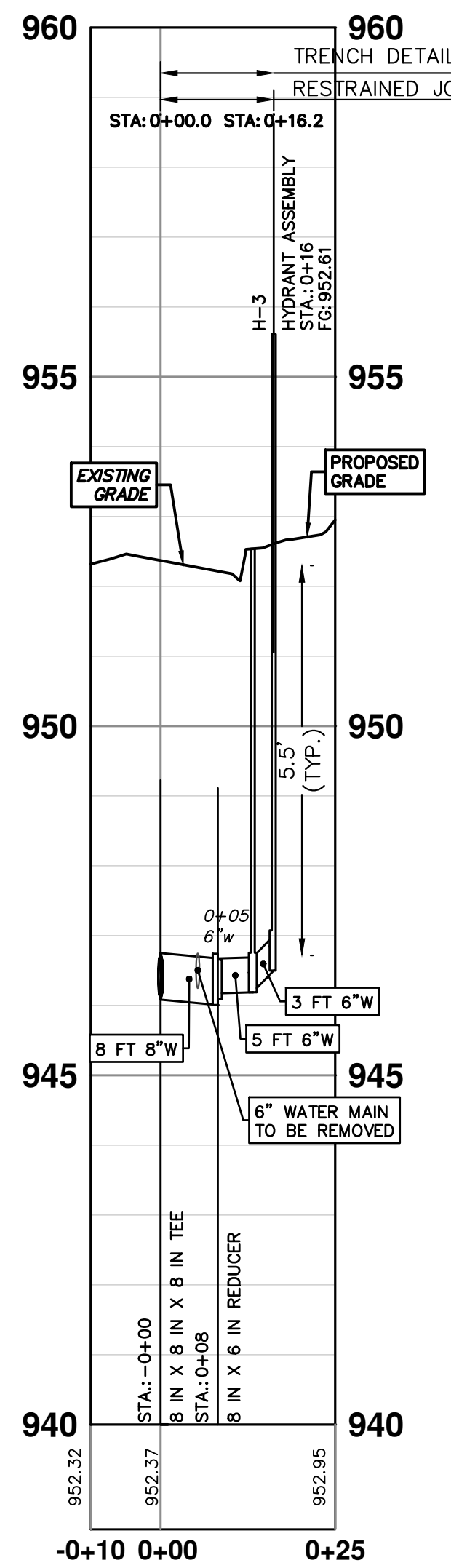
| WATER MAIN STRUCTURES | | | |
|-----------------------|------------------|---------|--------|
| STRUCTURE | TYPE | STATION | FG |
| H-3 | Hydrant Assembly | 0+16 | 952.61 |

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

H-3 GW

PR WATER GW - BARRINGTON PL SOUTH

PR WATER GW - BARRINGTON PL NORTH



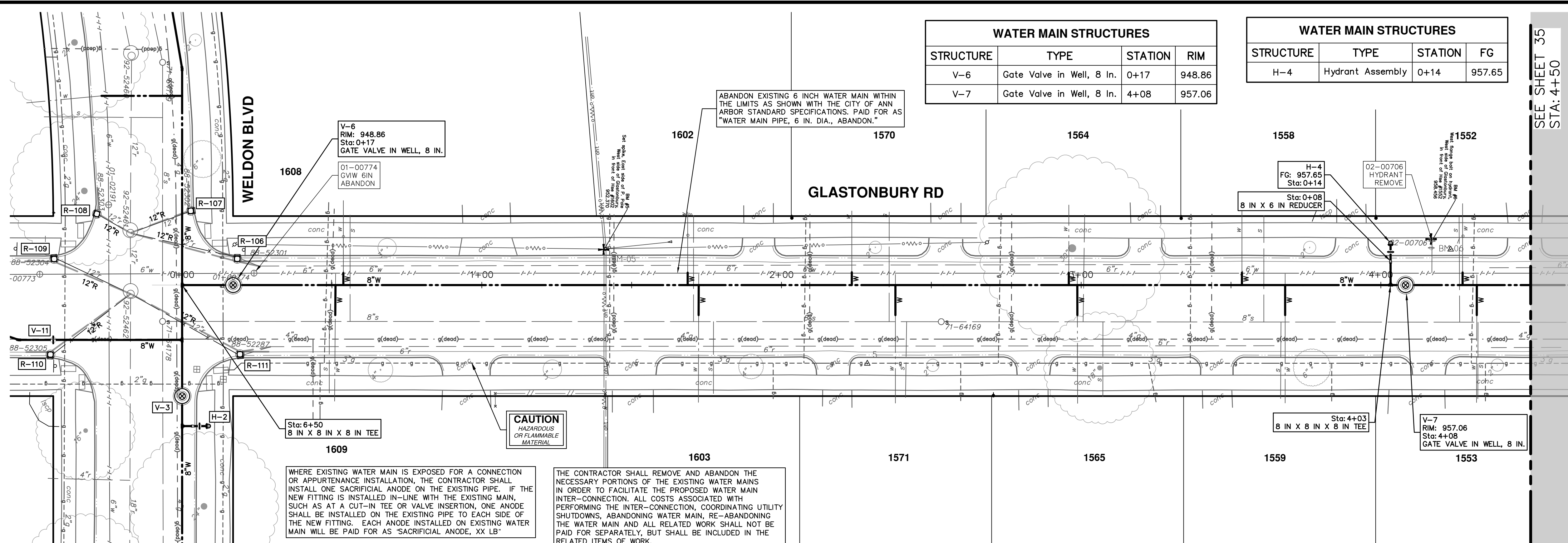
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2025 MISCELLANEOUS UTILITY PROJECTS
WATER MAIN - BARRINGTON PL
STA. 0+00 - STA. 0+85(S), STA. 0+00 - STA. 0+54(N), HYD H-3

SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'
DRAWING NO.: 2024006-33

R:\2024006 Misc Util 2025\Plan Production\2024006Wtr2 GlasWeld.dwg Dwg Created: 10-Dec-24 - _g2 standard bw.stb - Plot Date: 10-Jan-25



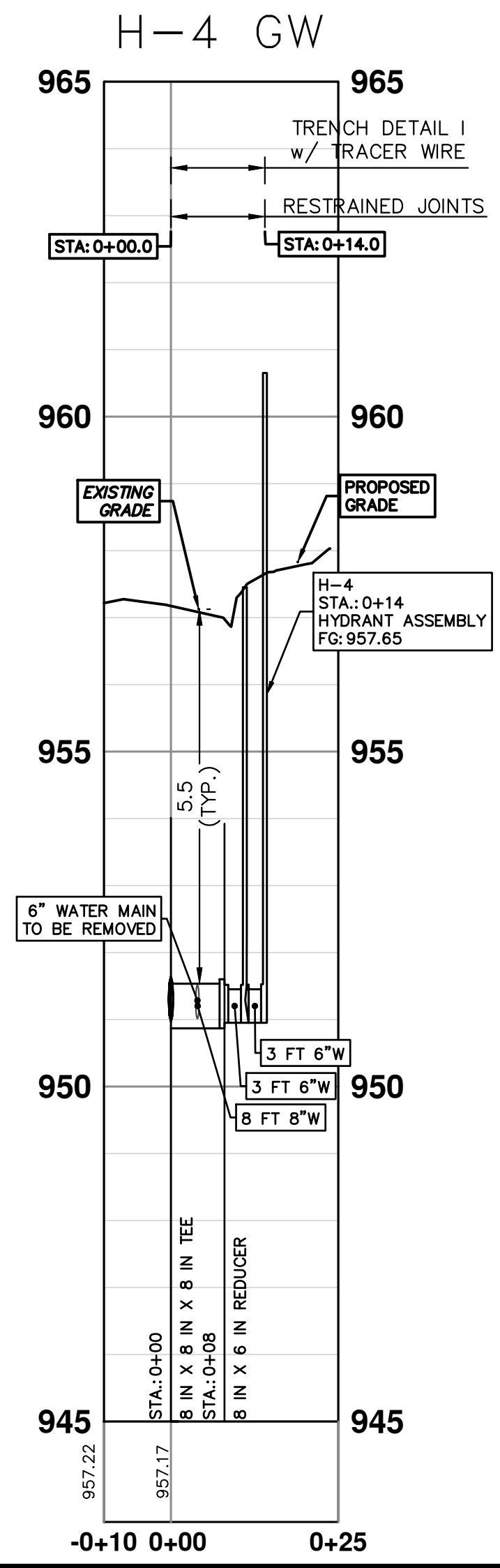
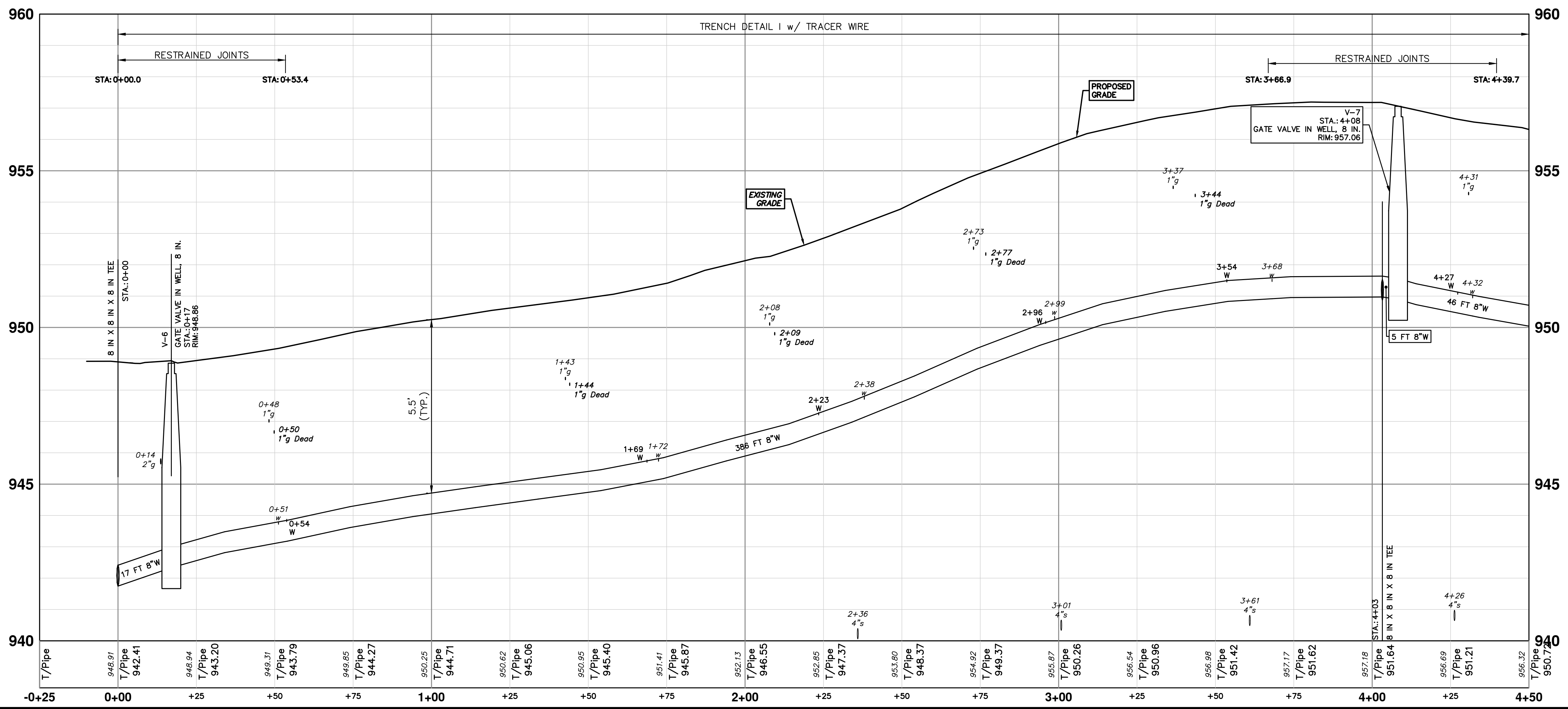
| WATER MAIN STRUCTURES | | | |
|-----------------------|---------------------------|---------|--------|
| STRUCTURE | TYPE | STATION | RIM |
| V-6 | Gate Valve in Well, 8 In. | 0+17 | 948.86 |
| V-7 | Gate Valve in Well, 8 In. | 4+08 | 957.06 |

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

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.

PR WATER - GW - GLASTONBURY NORTH



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SEE SHEET 35
STA: 4+50

| REV. | DATE | DESCRIPTION |
|------|----------|-------------|
| 01 | 12/12/24 | DRAWN |
| 02 | 01/10/24 | A2D |
| 03 | 01/10/24 | TA |

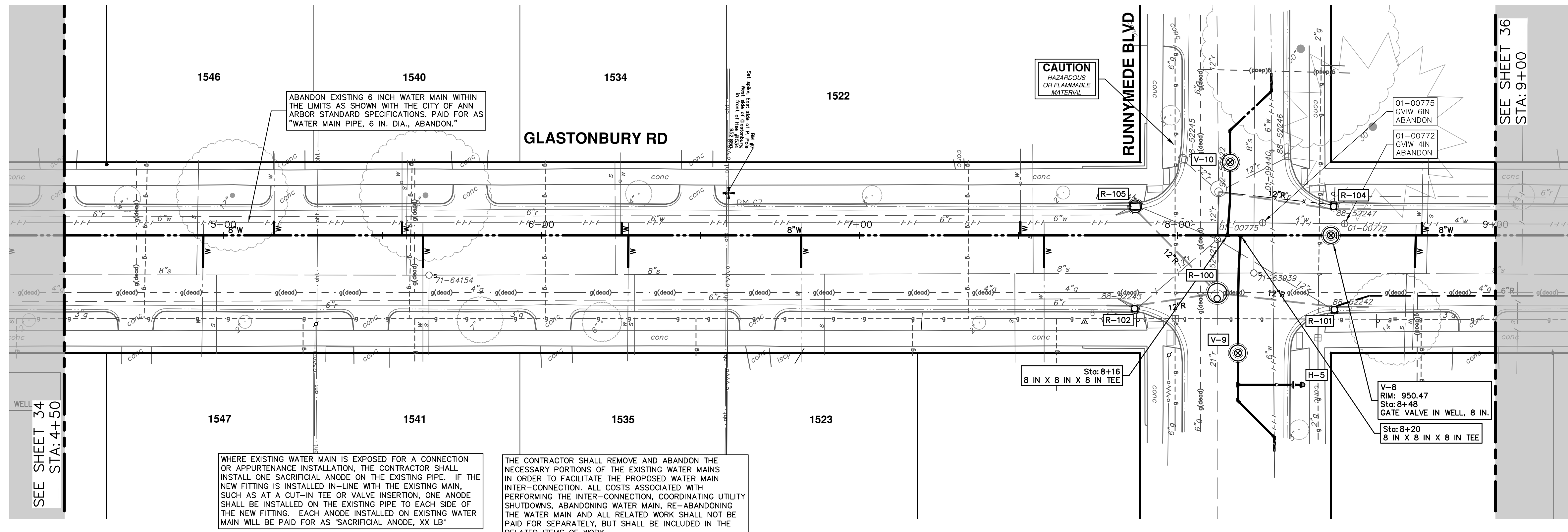
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2025 MISCELLANEOUS UTILITY PROJECTS
WATER MAIN - GLASTONBURY (NORTH)
STA. 0+00 - STA. 4+50, HYD H-4

SHEET No. 34 OF 52

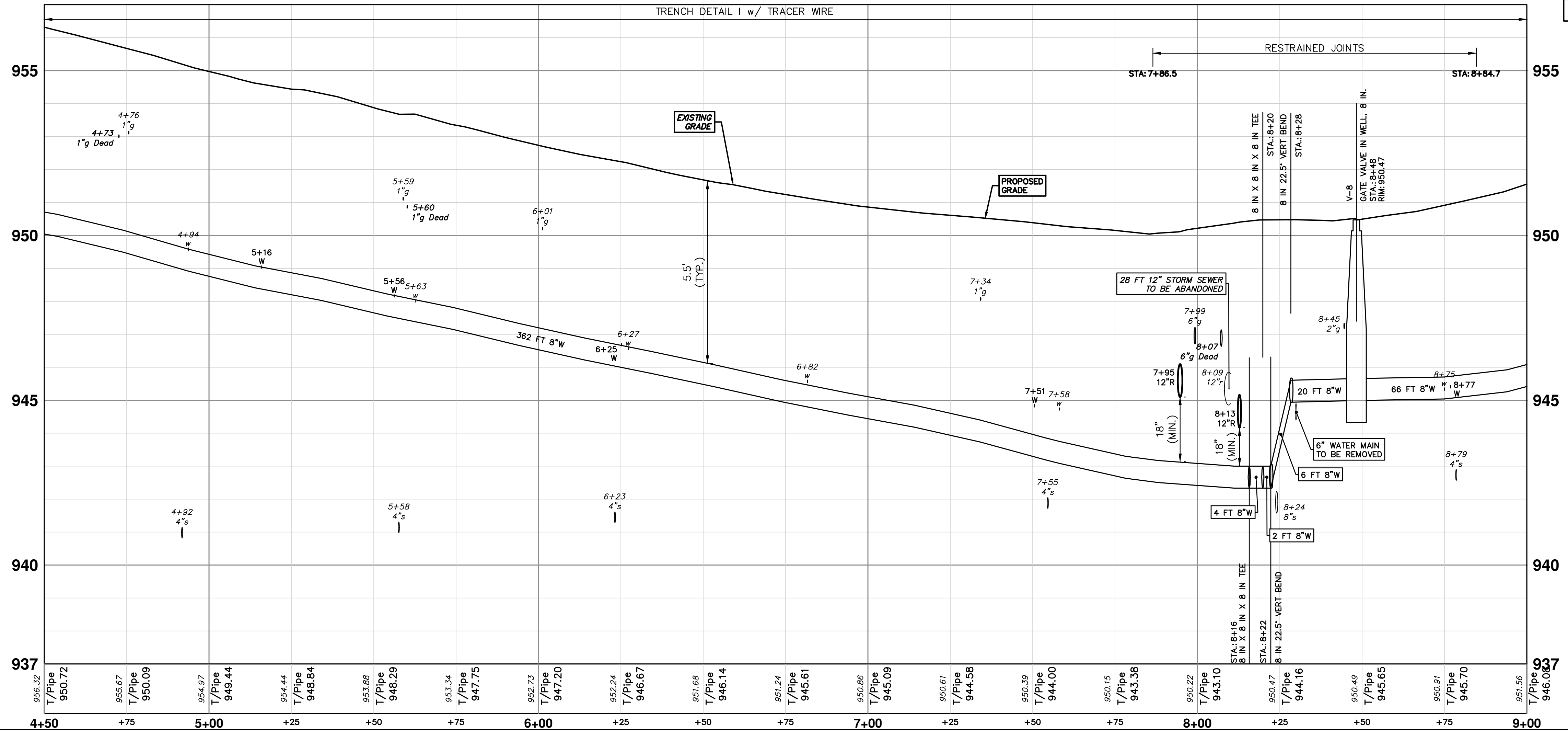
DRAWING No. 2024006-34
SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'

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PR WATER - GW - GLASTONBURY NORTH

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



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2025 MISCELLANEOUS UTILITY PROJECTS

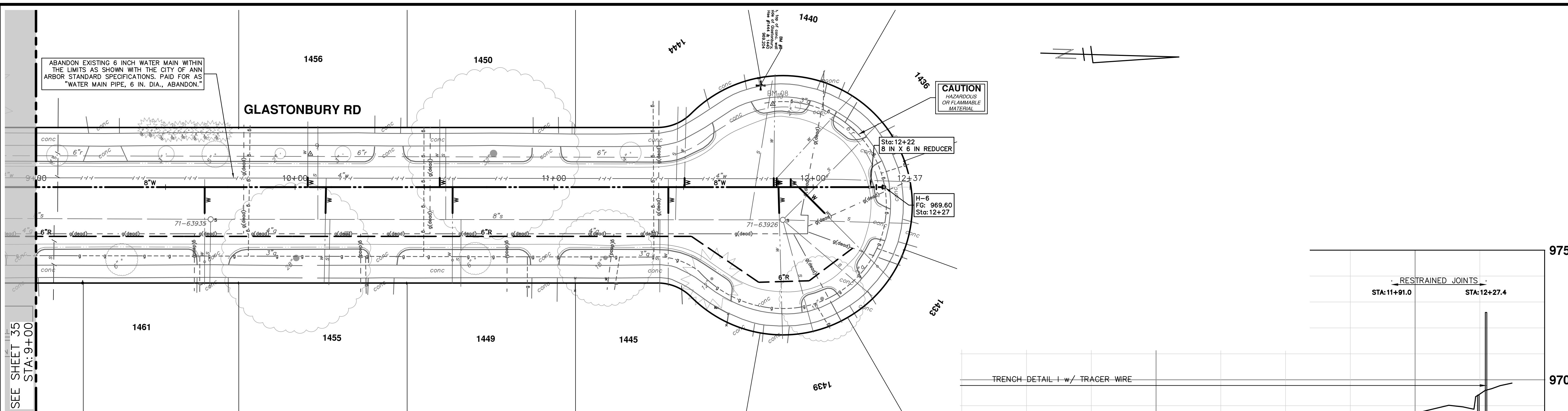
WATER MAIN - GLASTONBURY (NORTH)

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

DRAWING No. 2024006-35

STA. 4+50 - STA. 9+00

SHEET No. 35 OF 52

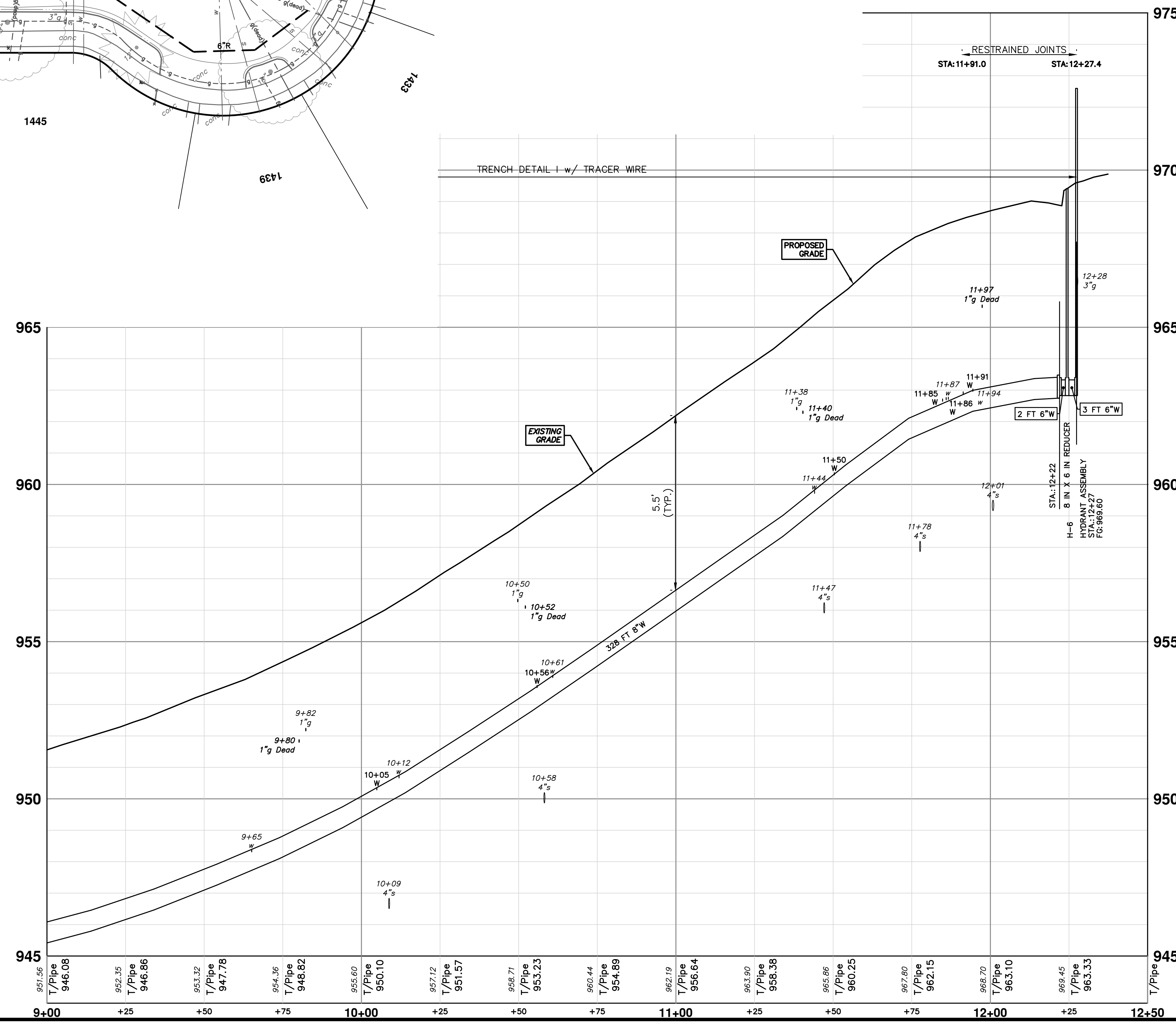


SEE SHEET 35
STA: 9+00

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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| 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. | DATE | DESCRIPTION |
| 02 | 01/10/24 | ADDENDUM NO. 1 |
| 01 | 12/12/24 | BID SET |

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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'

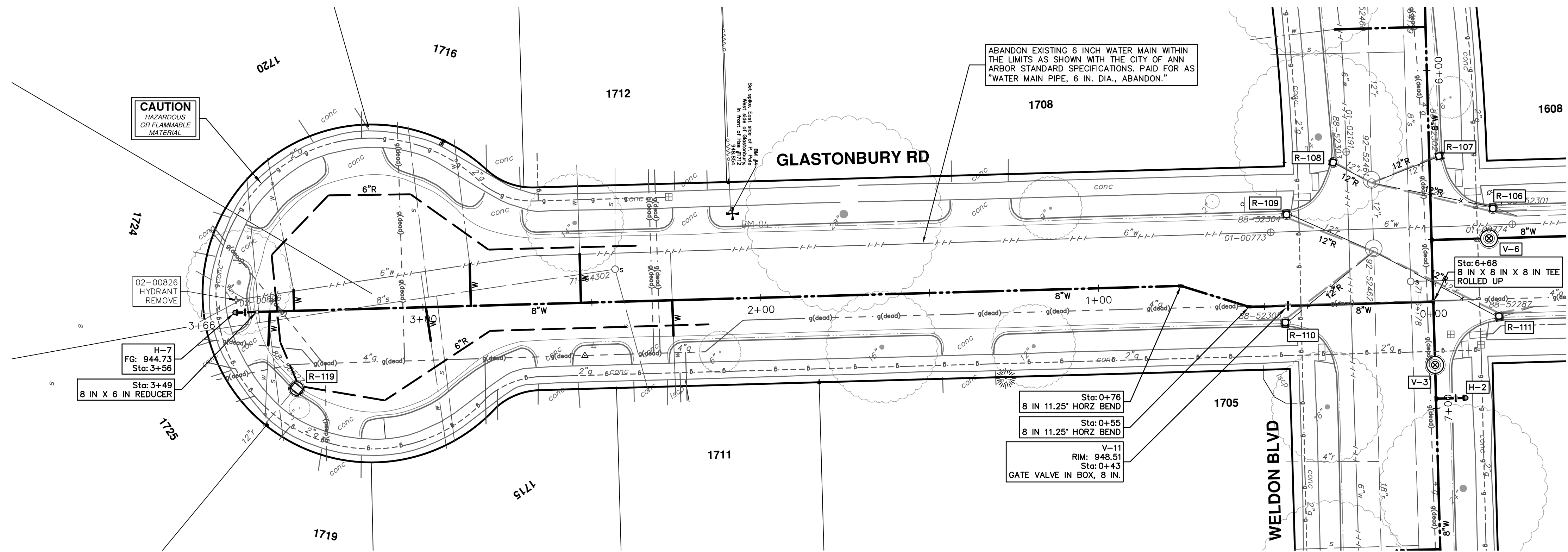
PROFILE: 1" = 2'

DRAWING NO. 2024006-36

SHEET NO. 36 OF 52

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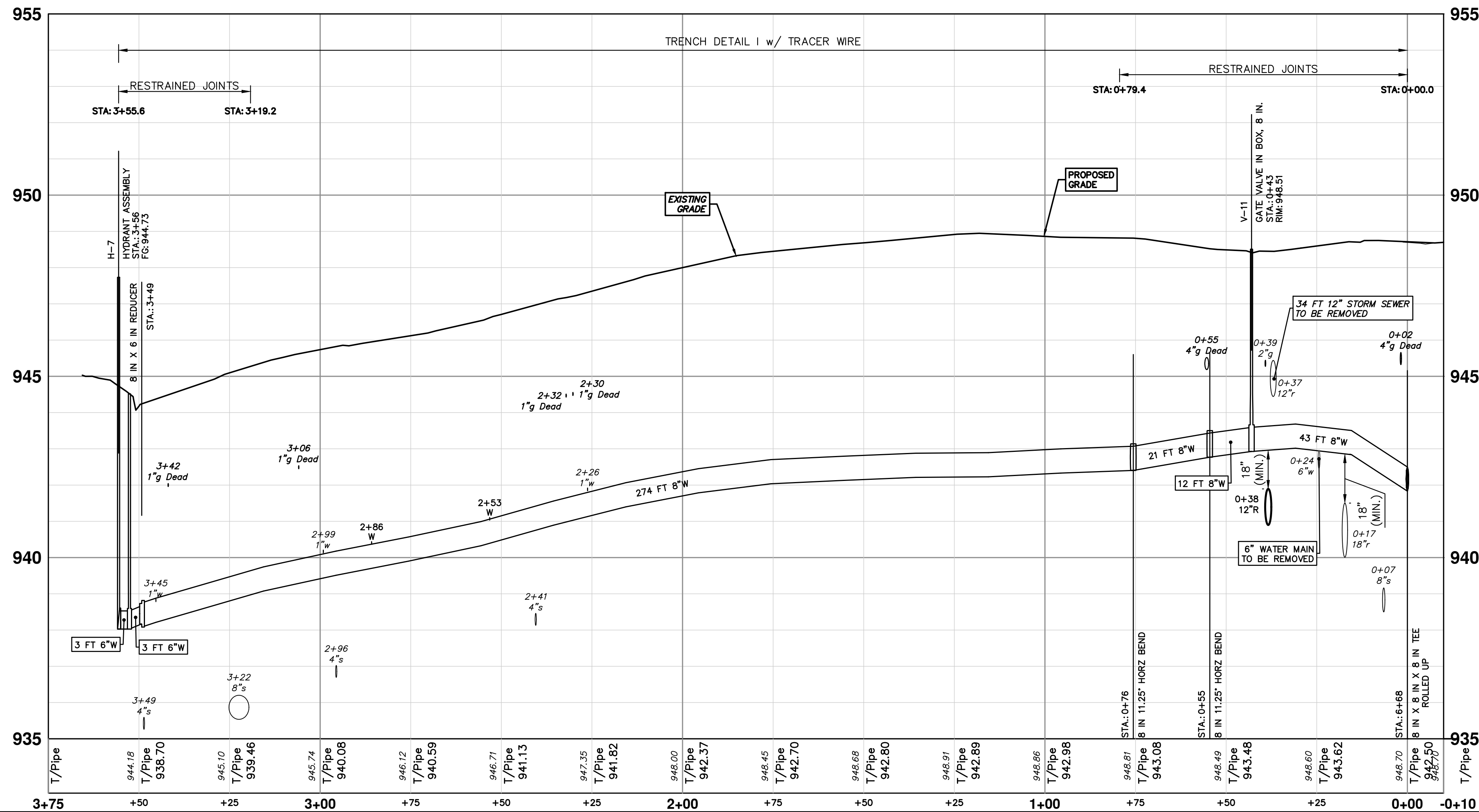
CAUTION
HAZARDOUS
OR FLAMMABLE
MATERIAL

ABANDON EXISTING 6 INCH WATER MAIN WITHIN THE LIMITS AS SHOWN WITH THE CITY OF ANN ARBOR STANDARD SPECIFICATIONS. PAID FOR AS "WATER MAIN PIPE, 6 IN. DIA., ABANDON."

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.

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"

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 |



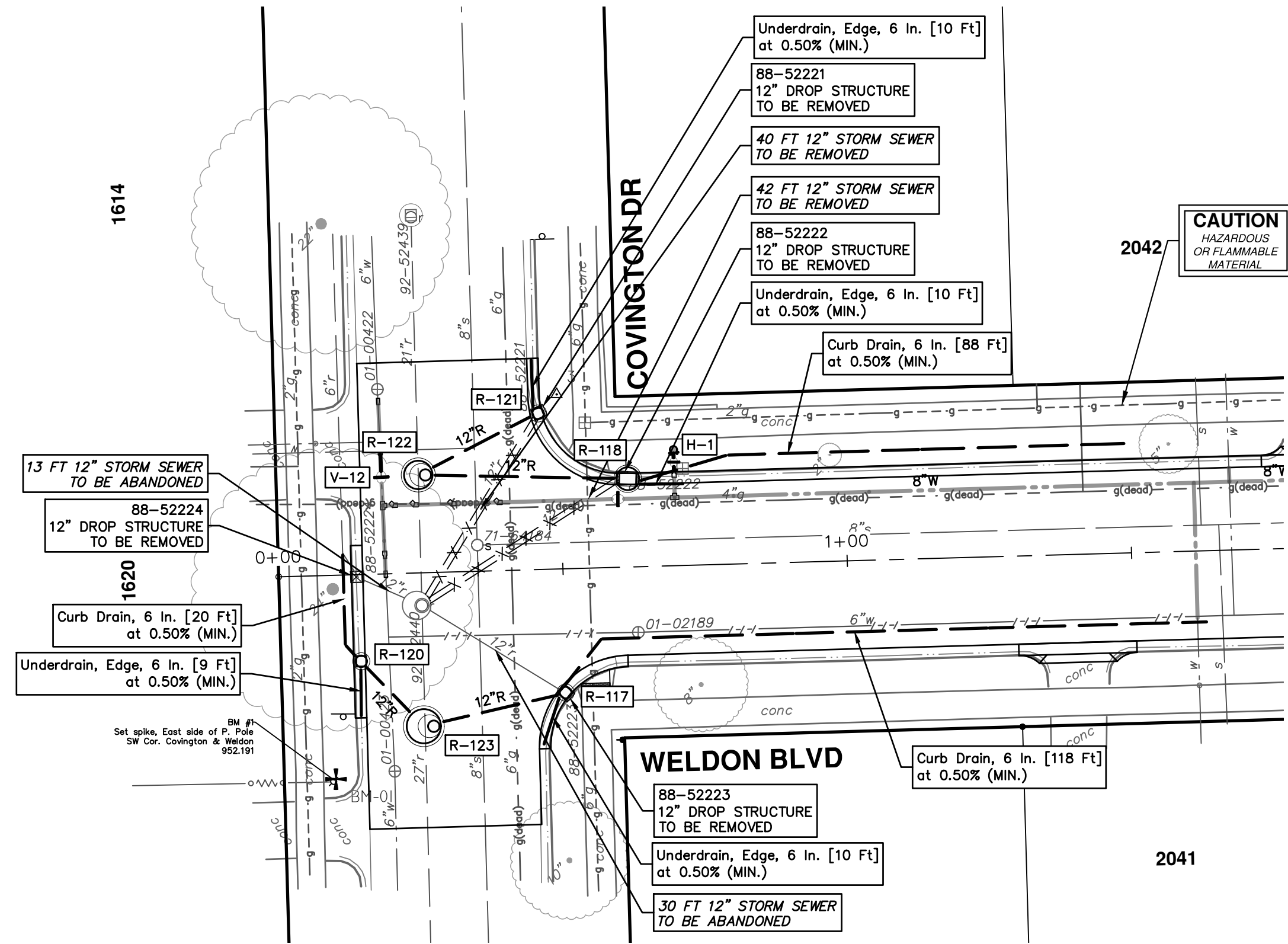
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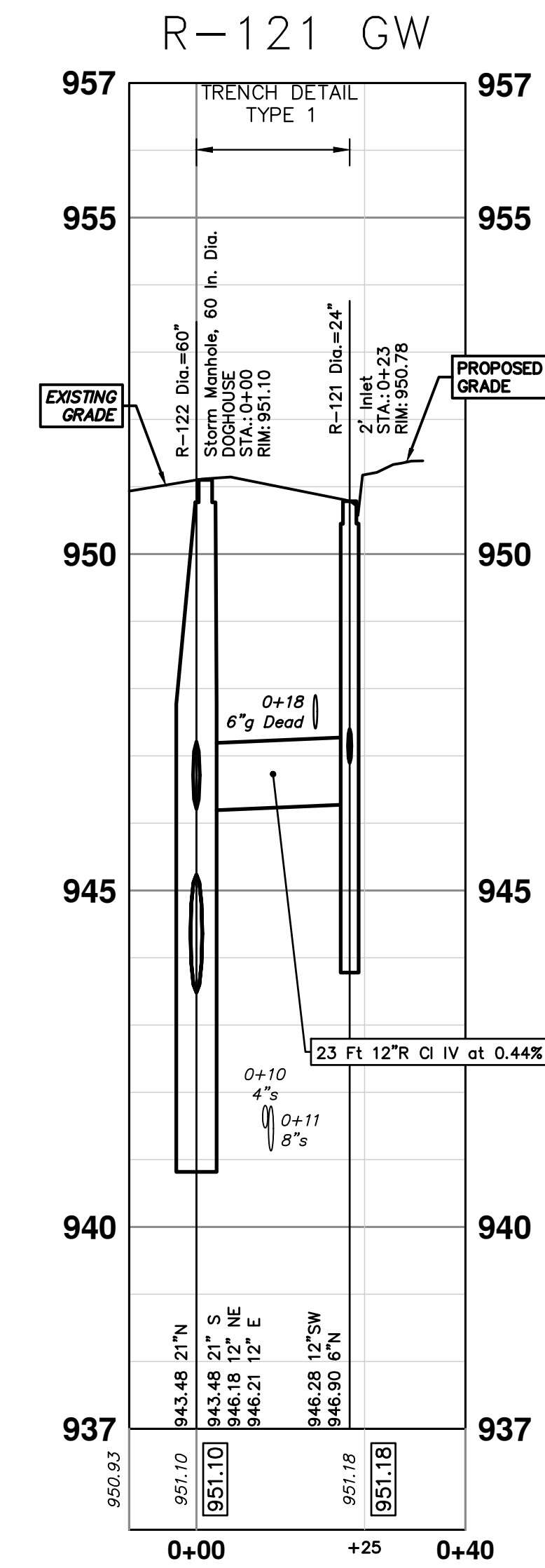
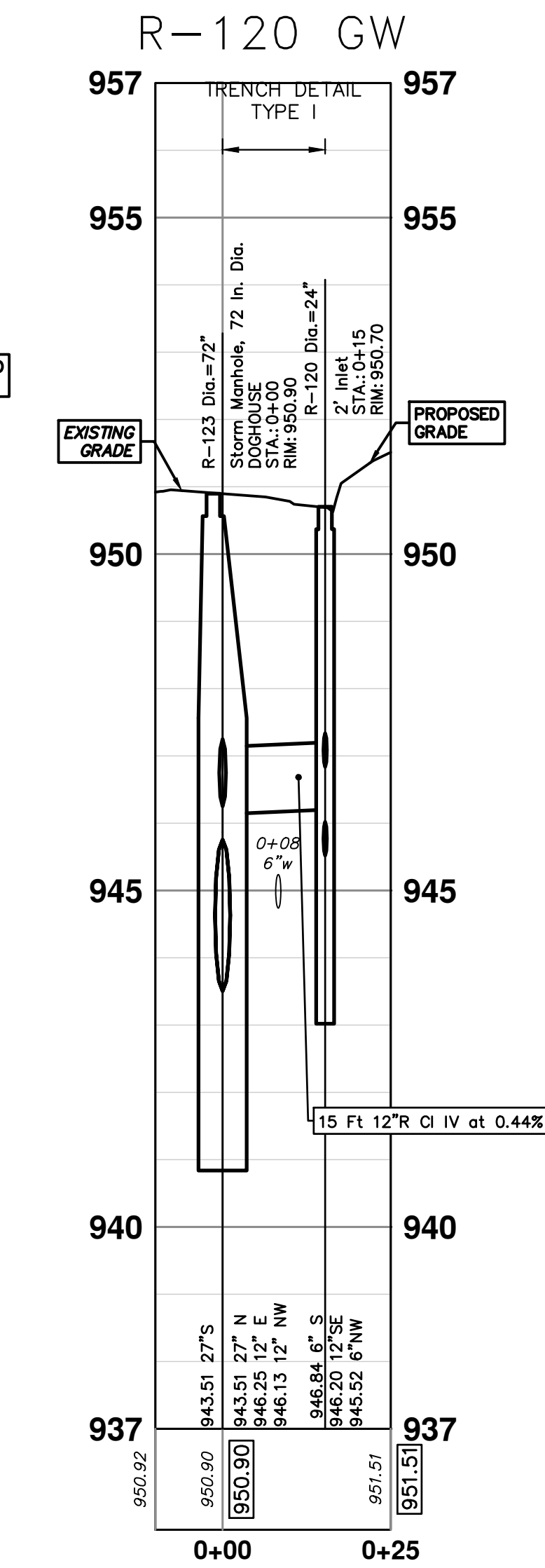
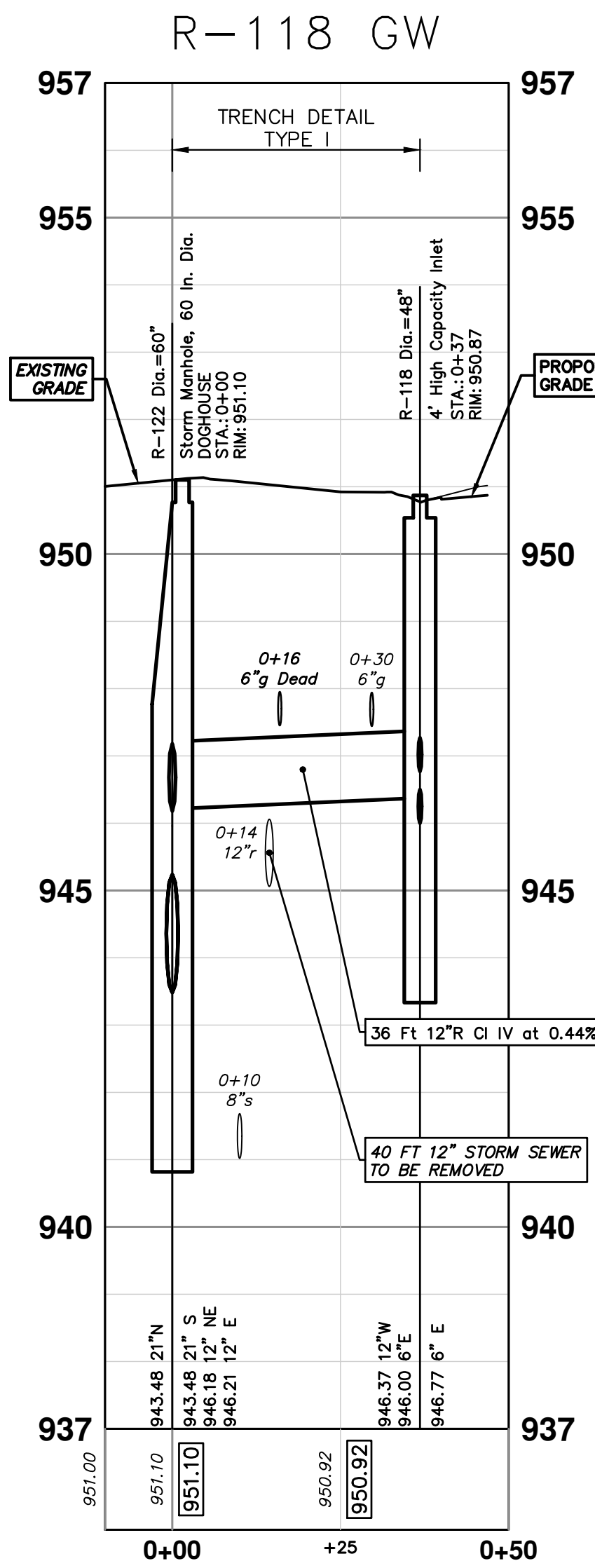
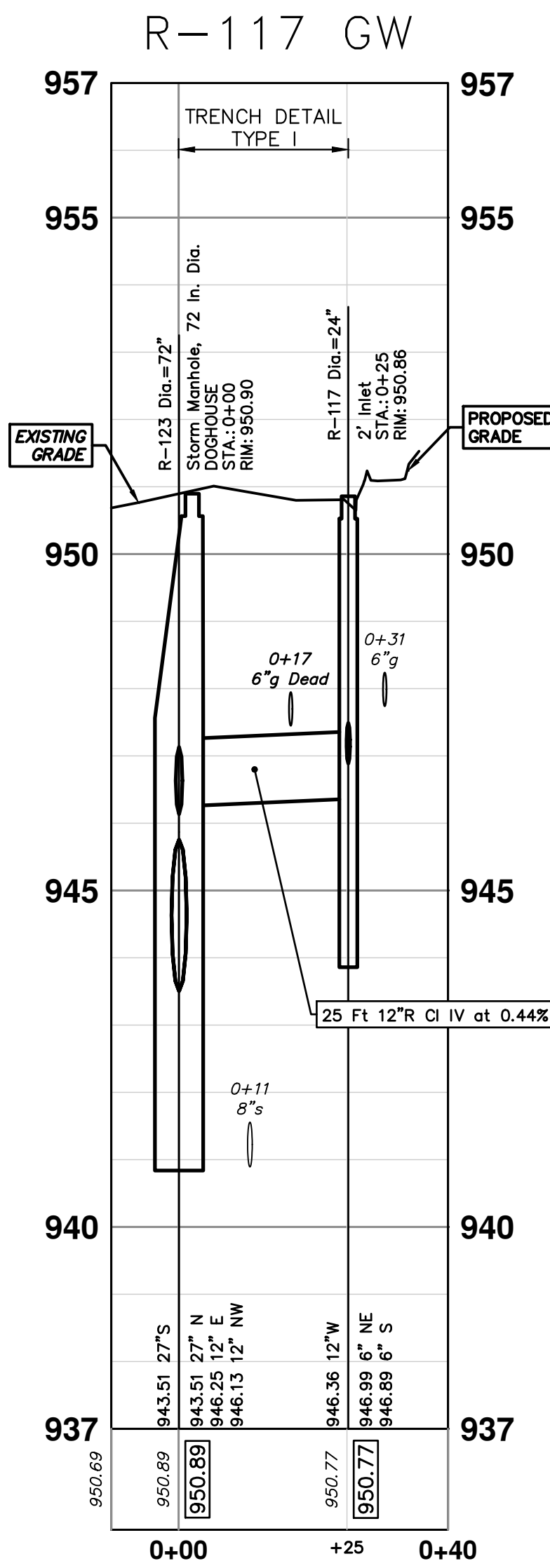
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
2025 MISCELLANEOUS UTILITY PROJECTS
WATER MAIN - GLASTONBURY (SOUTH)
STA. 0+00 - STA. 3+56, HYD H-7

SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'
DRAWING NO. 2024006-38

| 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 |



| 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" SE 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" NE 946.25 12" NW 946.13 27" S 943.51 | 9.39 | 2' |



| REV. | DATE | DESCRIPTION |
|------|----------|----------------|
| 02 | 01/10/24 | APPENDIX NO. 1 |
| 01 | 12/12/24 | BID SET |

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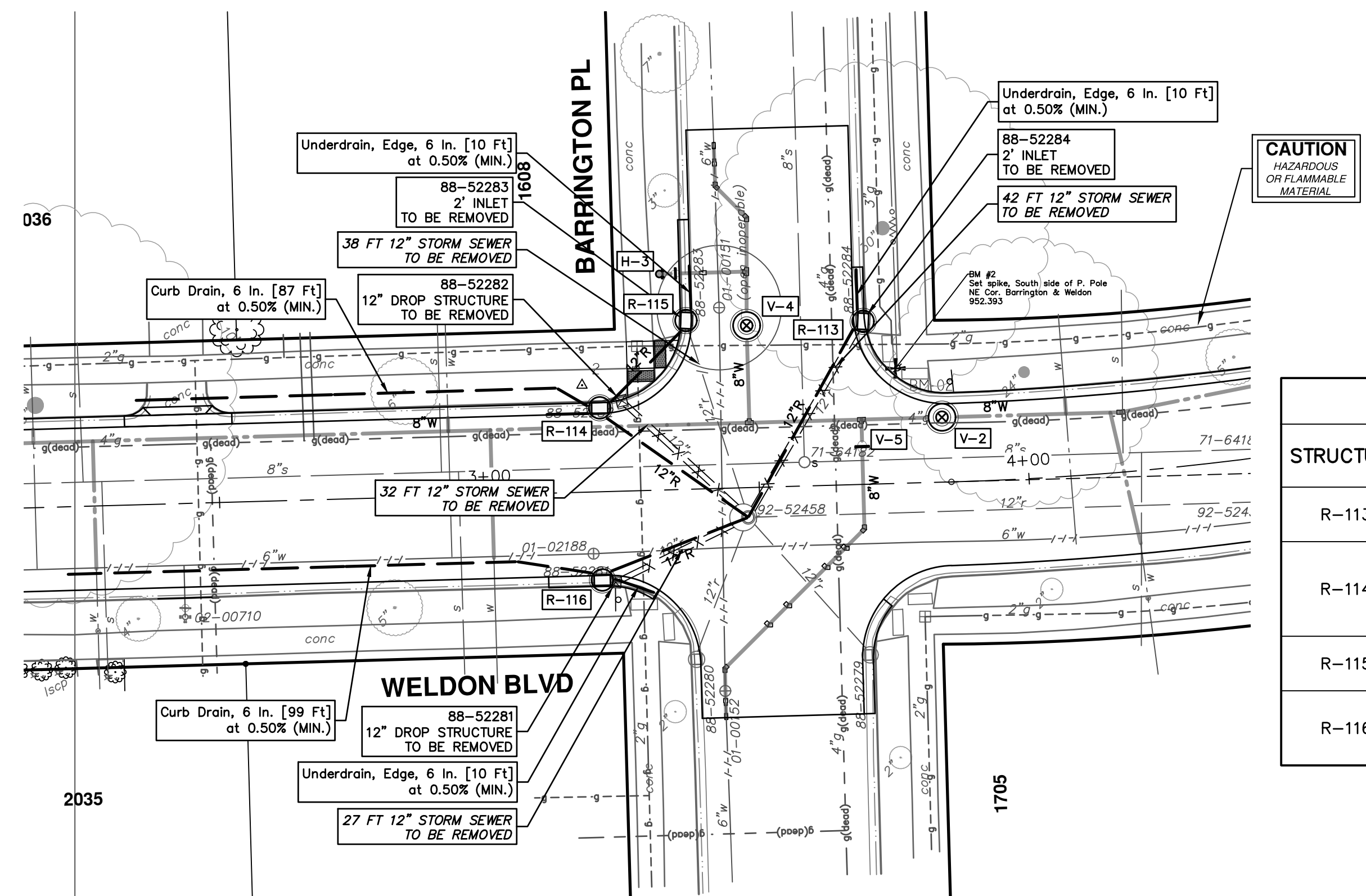


CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
2025 MISCELLANEOUS UTILITY PROJECTS
STORM SEWER - GLASTONBURY WELDON
R-117, R-118, R-120, R-121

SHEET No. 39 OF 52
SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'
DRAWING No. 2024006-39

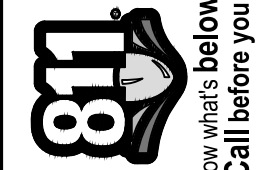
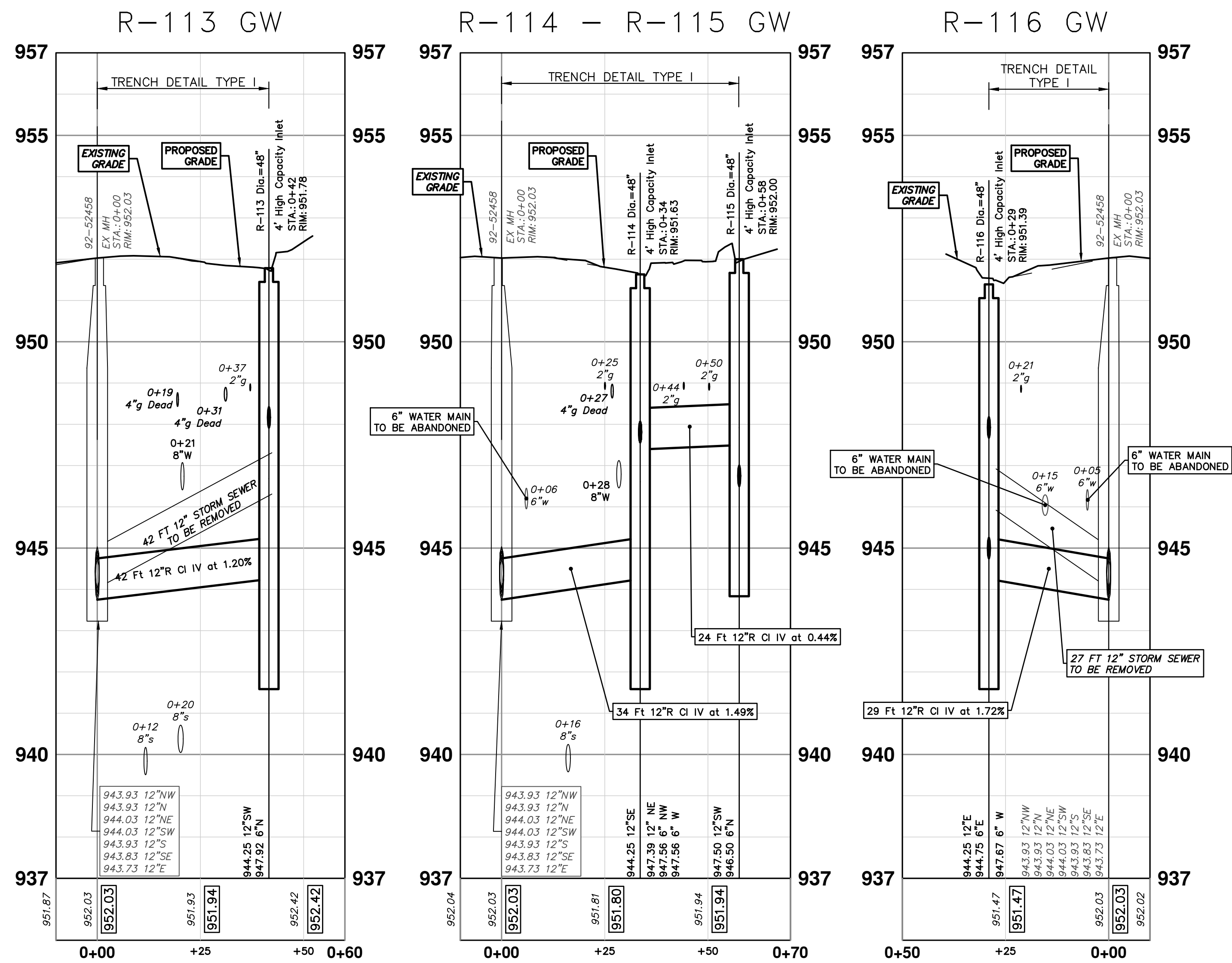
EXISTING STORM SEWER STRUCTURE REMOVAL TABLE

| 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' |



Know what's below. Call before you dig.

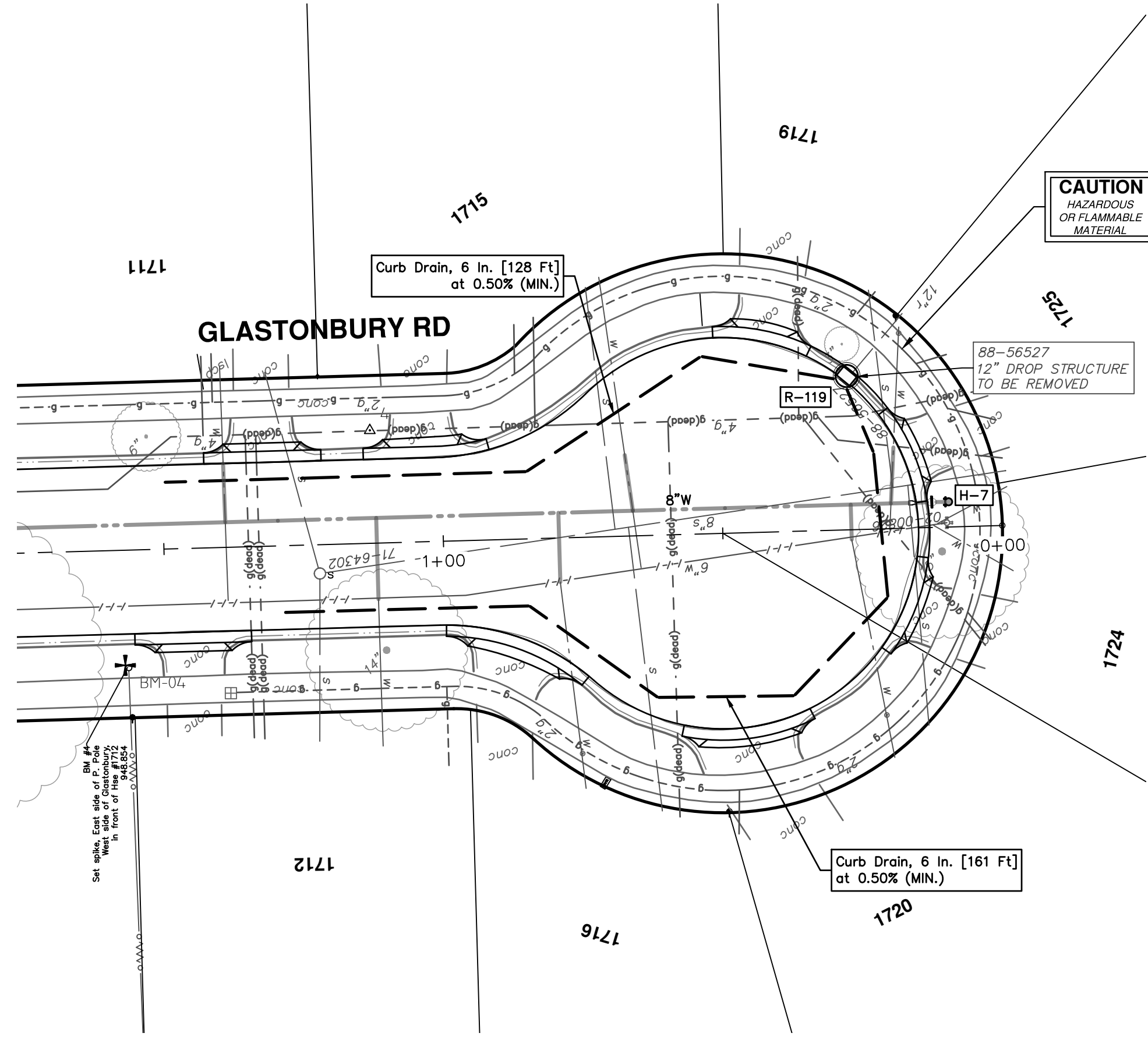
| REV. | DATE | DESCRIPTION |
|------|----------|----------------|
| 02 | 01/10/24 | ADDENDUM NO. 1 |
| 01 | 12/12/24 | BID SET |

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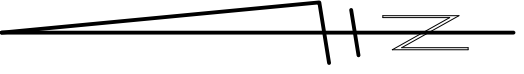
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
2025 MISCELLANEOUS UTILITY PROJECTS
STORM SEWER - GLASTONBURY WELDON

SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'
DRAWING NO. 2024006-40



| STRUCTURE | DEPTH (Feet) | REMOVE |
|-----------|--------------|----------------------------------|
| 88-56527 | 4.31 | 12" Drop Structure TO BE REMOVED |

| 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' |



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2025 MISCELLANEOUS UTILITY PROJECTS

STORM SEWER - GLASTONBURY WELDON

R-119

SCALE PLAN: 1" = 20'

PROFILE: 1" = 2'

DRAWING No. 2024006-43

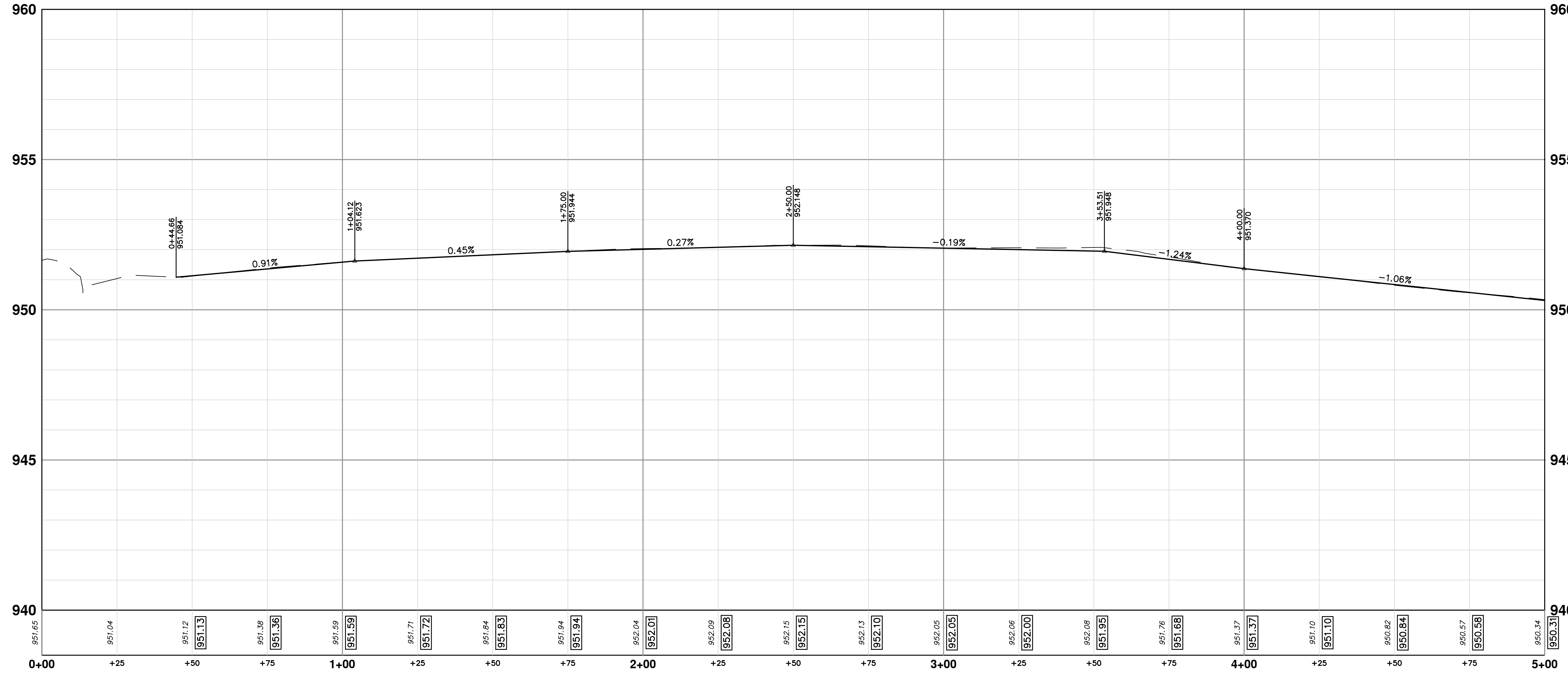
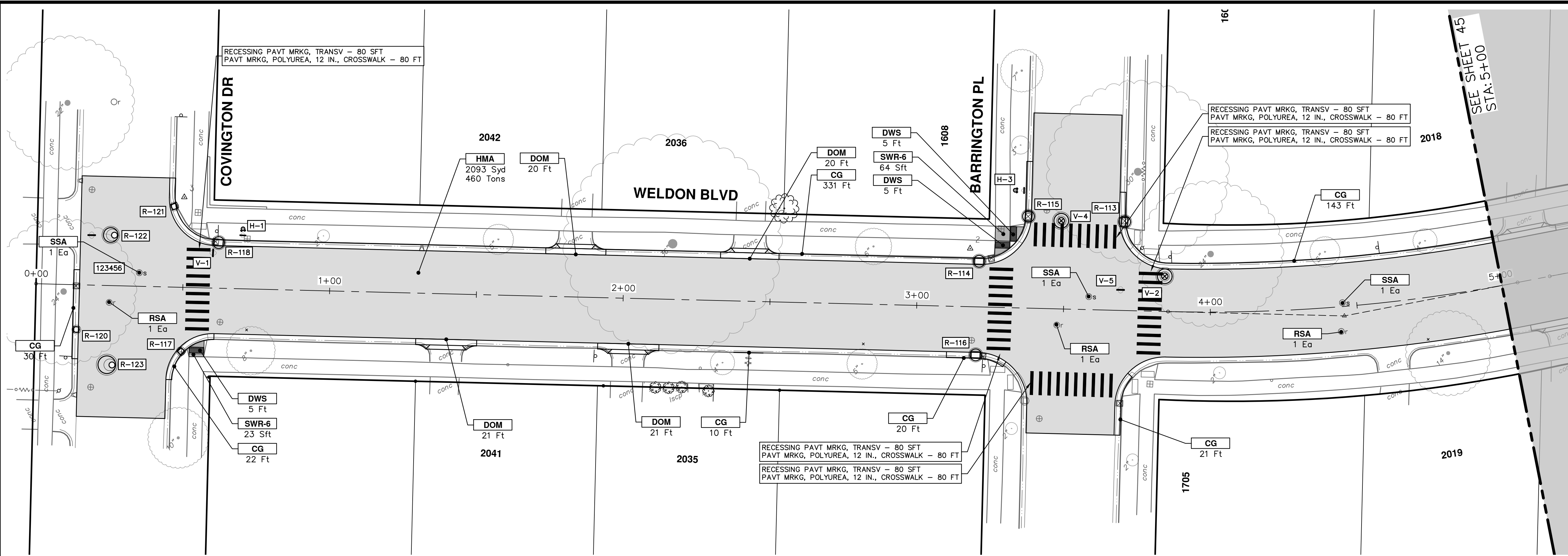
SHEET No. 43 OF 52

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| REV. | DESCRIPTION | DATE | DRAWN | CHECKED |
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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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Know what's below.
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| 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 |

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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

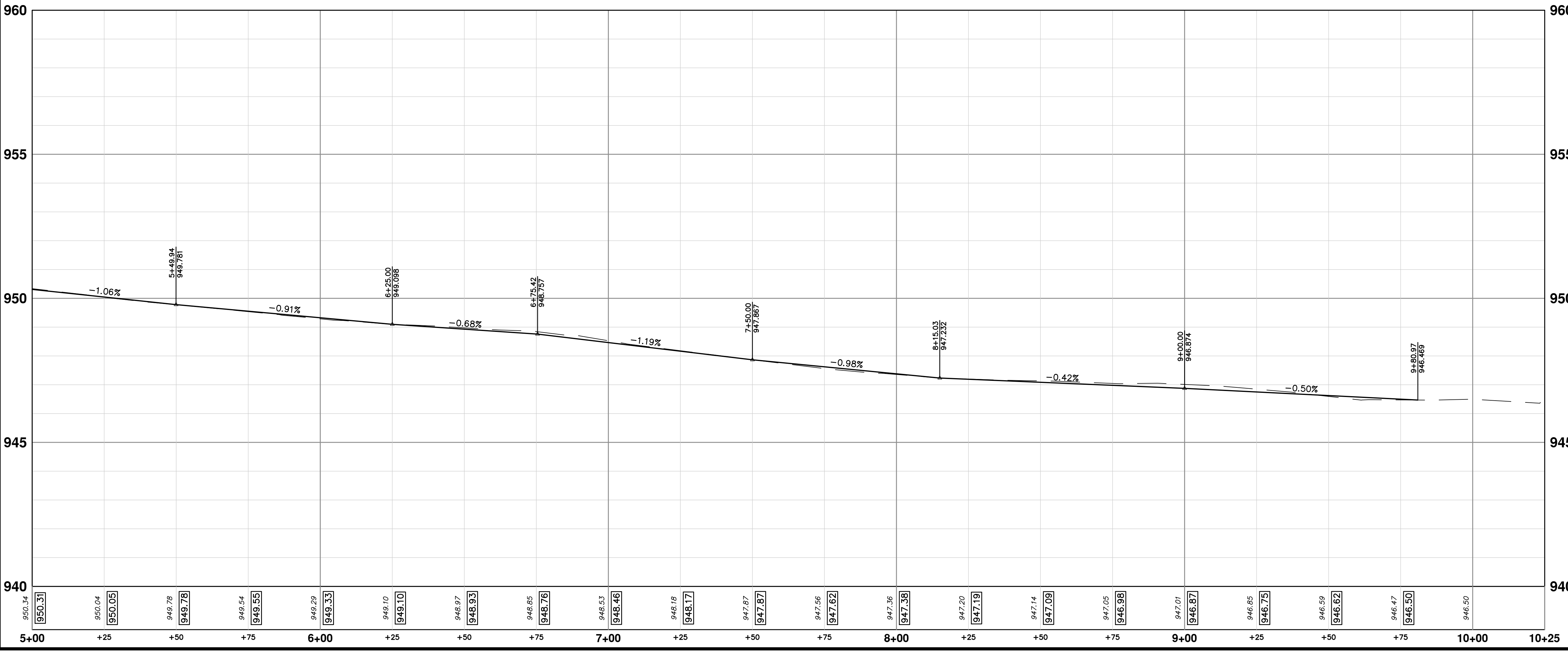
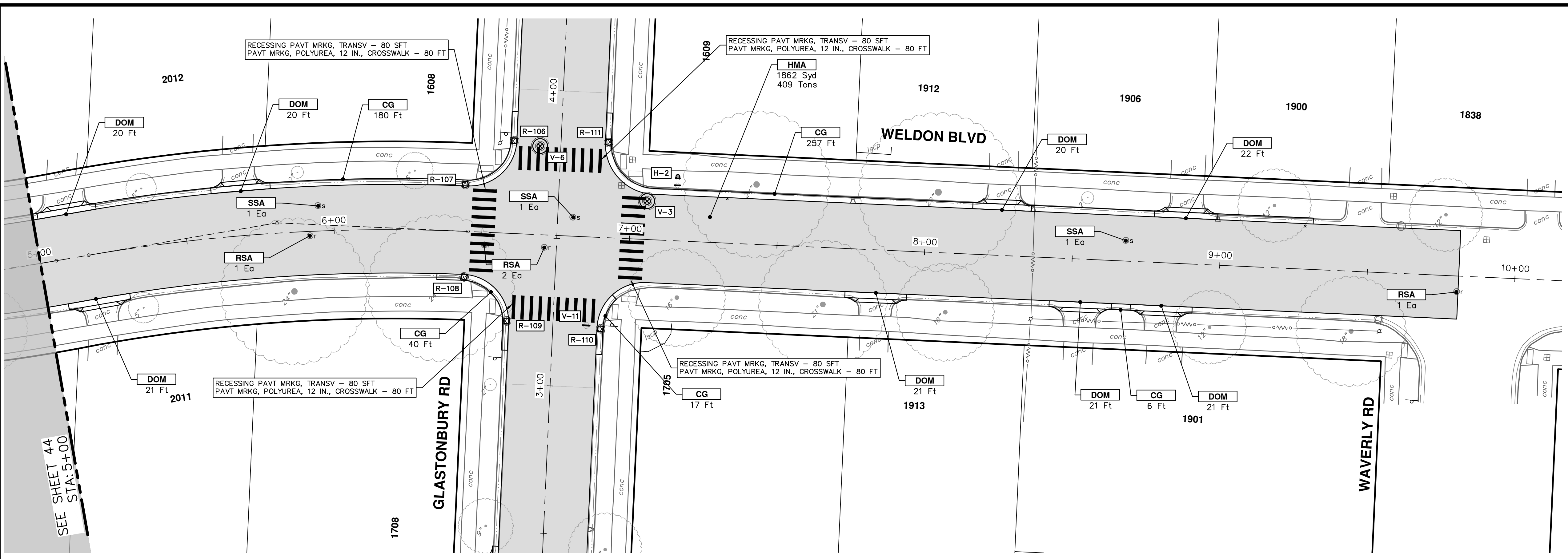
SHEET No. 44 OF 52

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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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| 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 |

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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

2025 MISCELLANEOUS UTILITY PROJECTS

ROAD PLAN & PROFILE - WELDON BLVD

DRAWING No. 2024006-45

SHEET No. 45 OF 52

STA. 5+00 - STA. 10+25

DATE: 01/10/24
DRAWN: A2D
CHECKED: TA

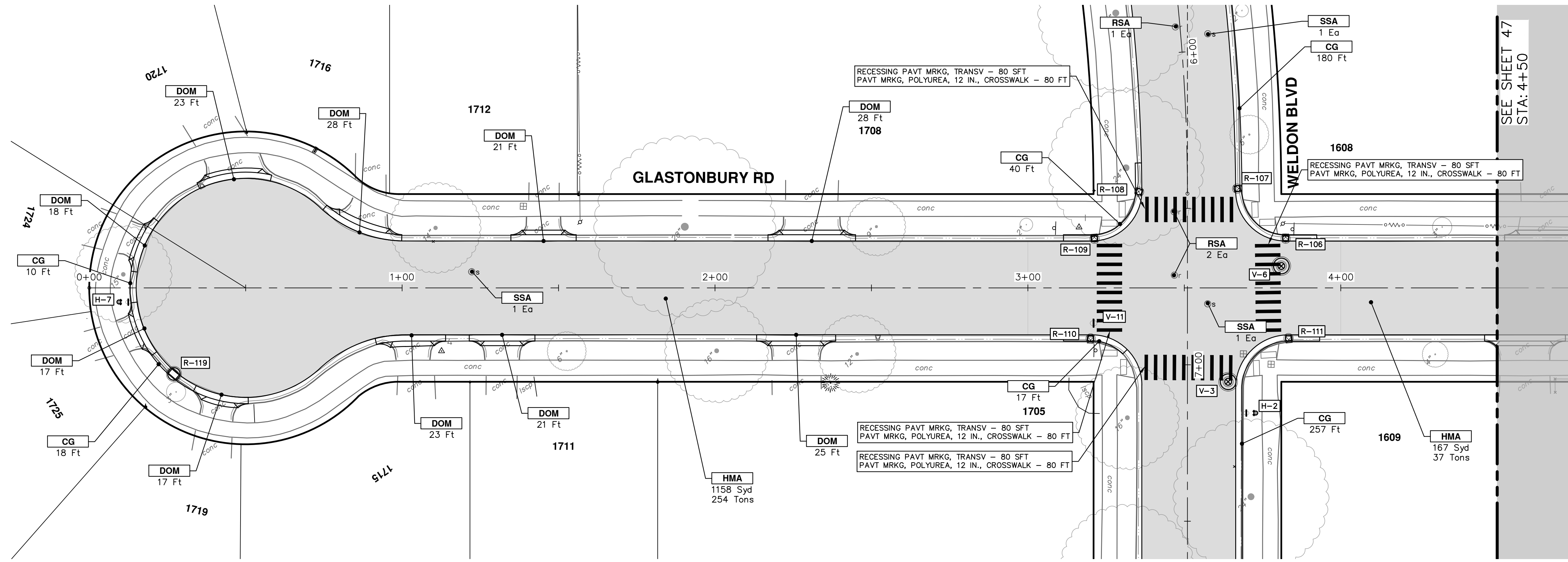
REV. 01 12/12/24
DESCRIPTION: BID SET

ADDENDUM NO. 1
DATE: 01/10/24
DRAWN: A2D
CHECKED: TA

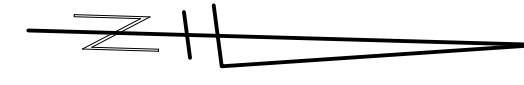
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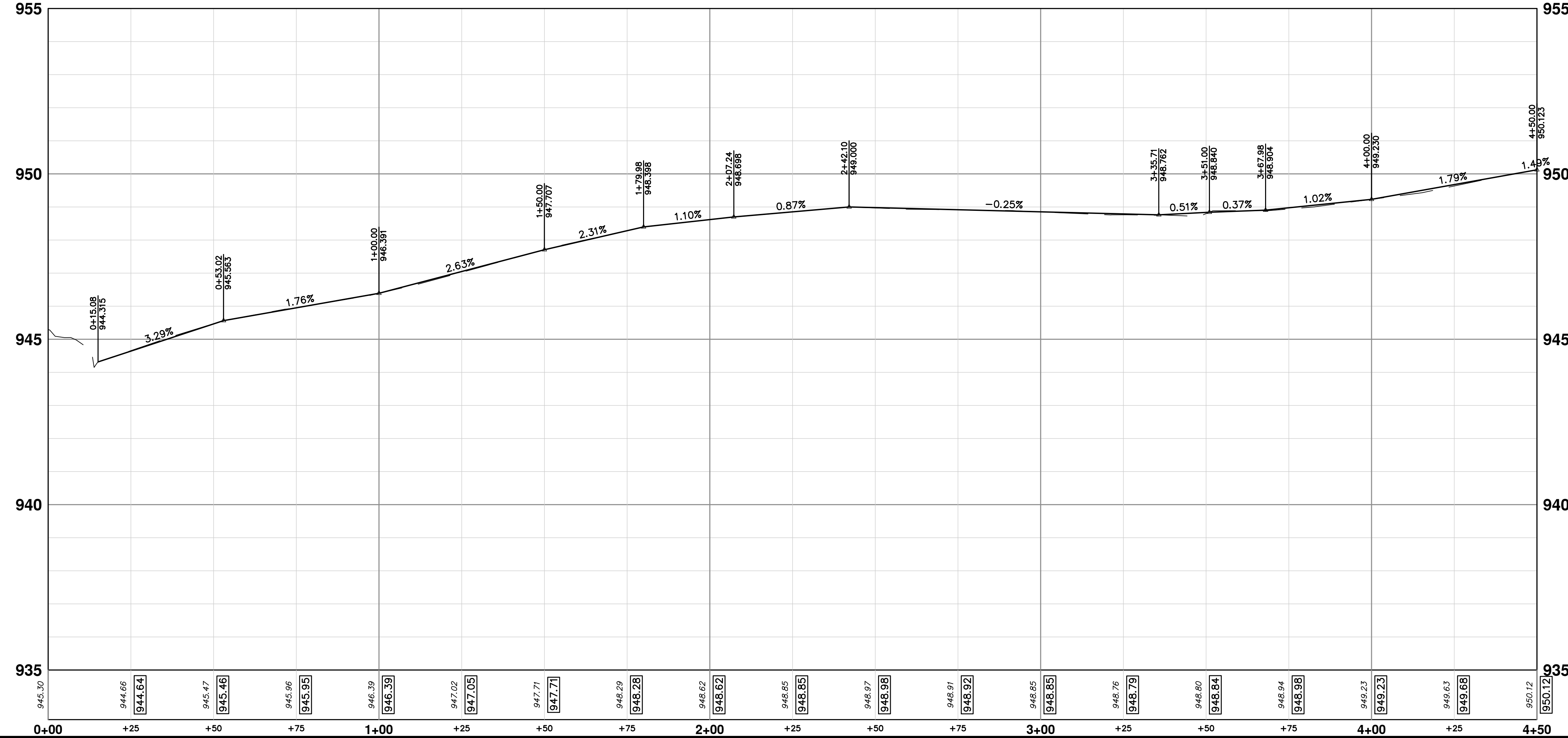
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SEE SHEET 47
STA: 4+50



| 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 |



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
2025 MISCELLANEOUS UTILITY PROJECTS
ROAD PLAN & PROFILE - GLASTONBURY RD

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

DRAWING No. 2024006-46

SHEET No. 46 OF 52

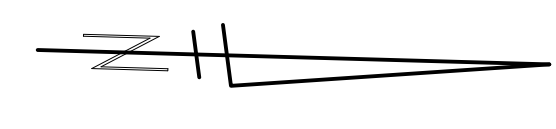
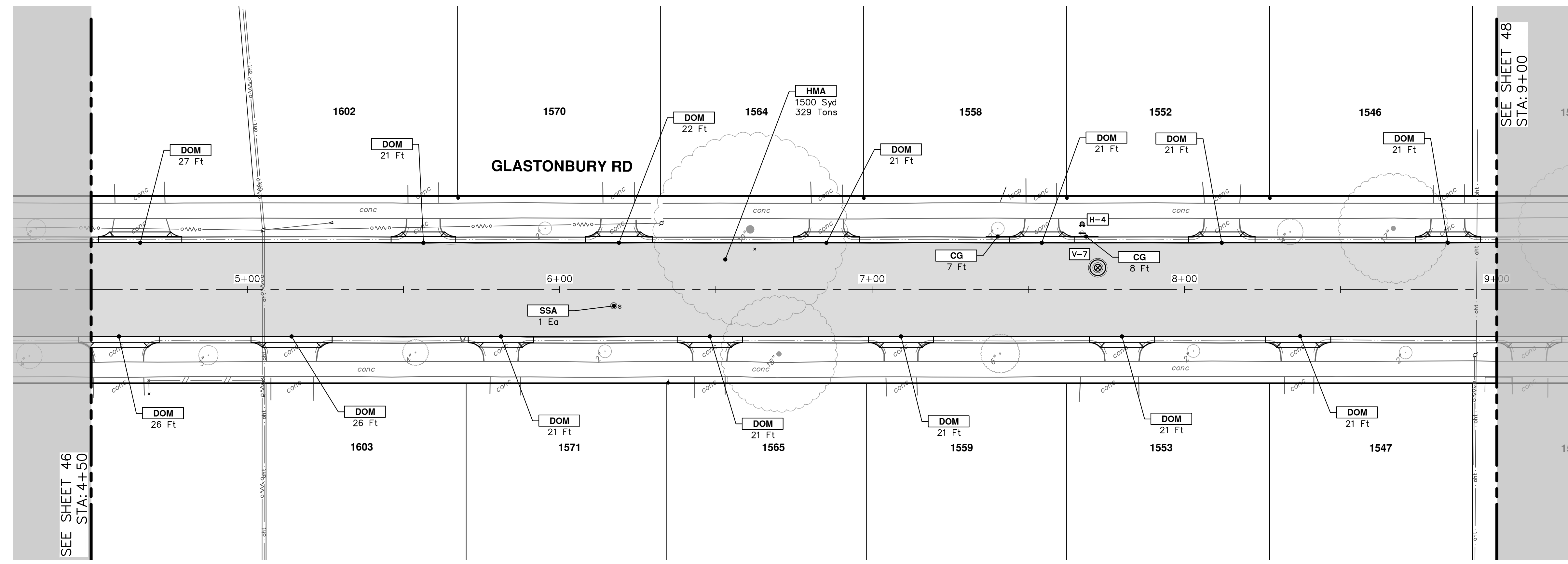
| REV. | DATE | DESCRIPTION |
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| 01 | 12/12/24 | BID SET |
| 02 | 01/10/24 | ADDENDUM NO. 1 |

APPENDIX NO. 1
REV. DATE DESCRIPTION

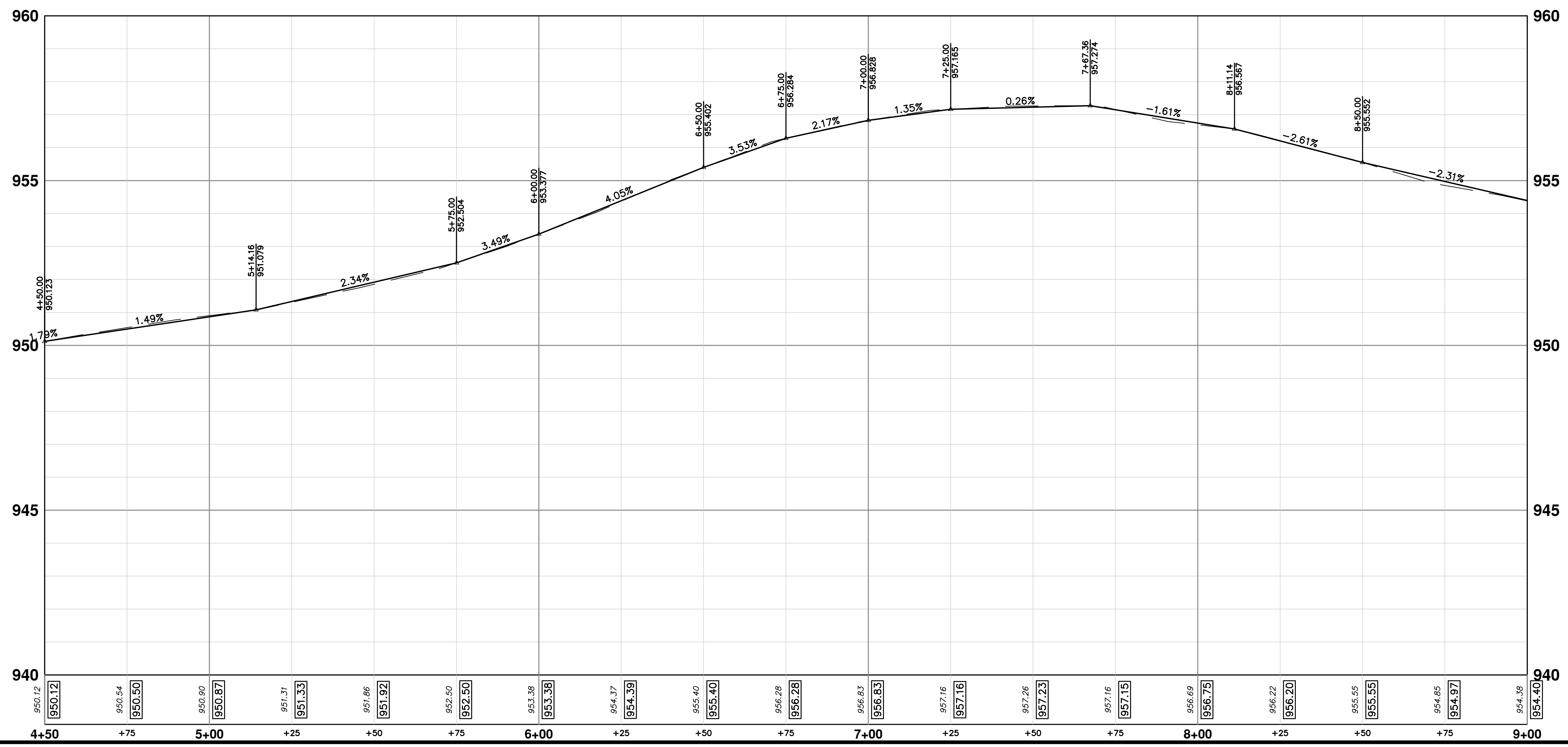
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ANN ARBOR, MI 48107-8647
ANN ARBOR, MI 734-794-6410
www.a2gov.org

STA. 0+00 - STA. 4+50

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| 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 |



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02 ADDENDUM NO. 1
01 BID SET
01 REV.

01/10/24
12/12/24

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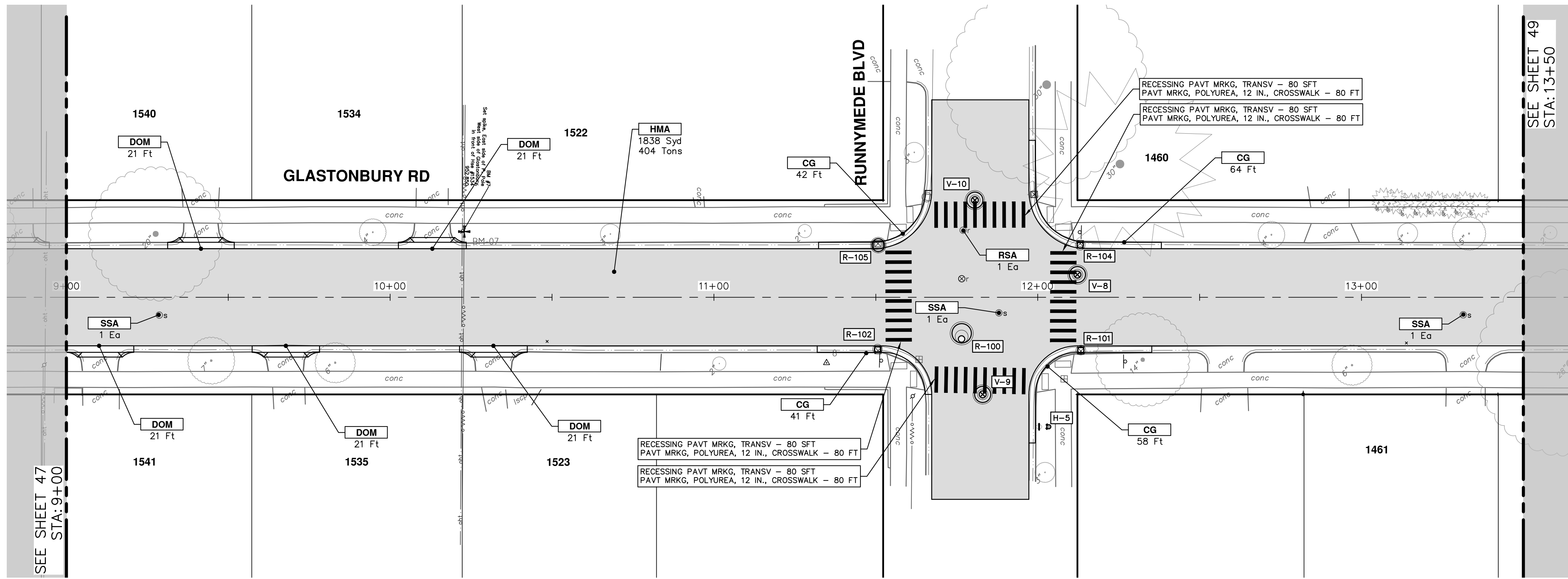
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2025 MISCELLANEOUS UTILITY PROJECTS
ROAD PLAN & PROFILE - GLASTONBURY RD
STA. 4+50 - STA. 9+00

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

DRAWING No. 2024006-47

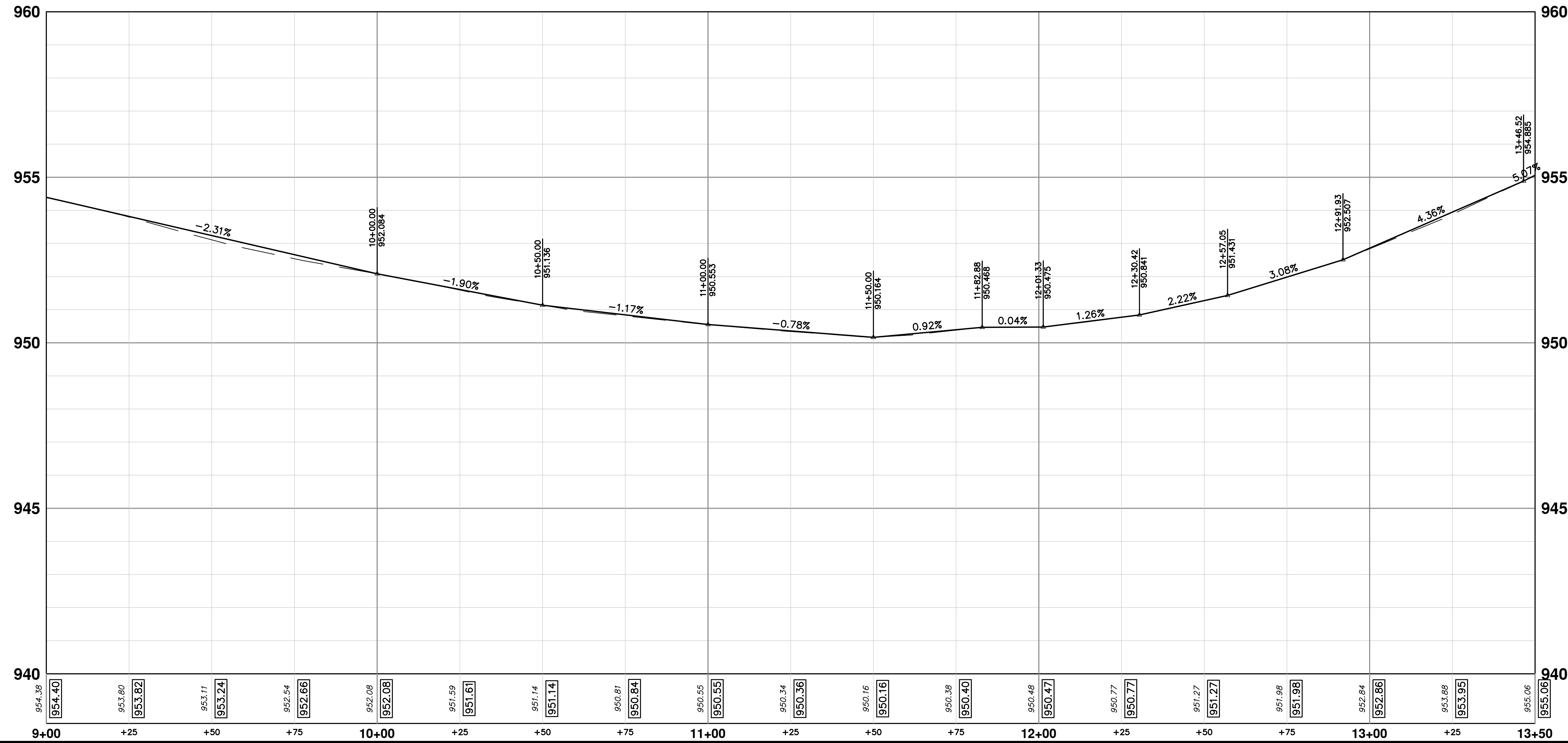
SHEET No. 47 OF 52

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SEE SHEET 49
STA: 13+50

| CONSTRUCTION KEY | |
|------------------|--|
| KEY | DESCRIPTION |
| HMA | PLACE HMA, PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER. |
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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. |
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| AGB | Gate Box, Adjust |
| RSA | Storm Structure Cover, Adjust |
| SSA | Sanitary Structure Cover, Adjust |
| WSA | Water Structure Cover, Adjust |



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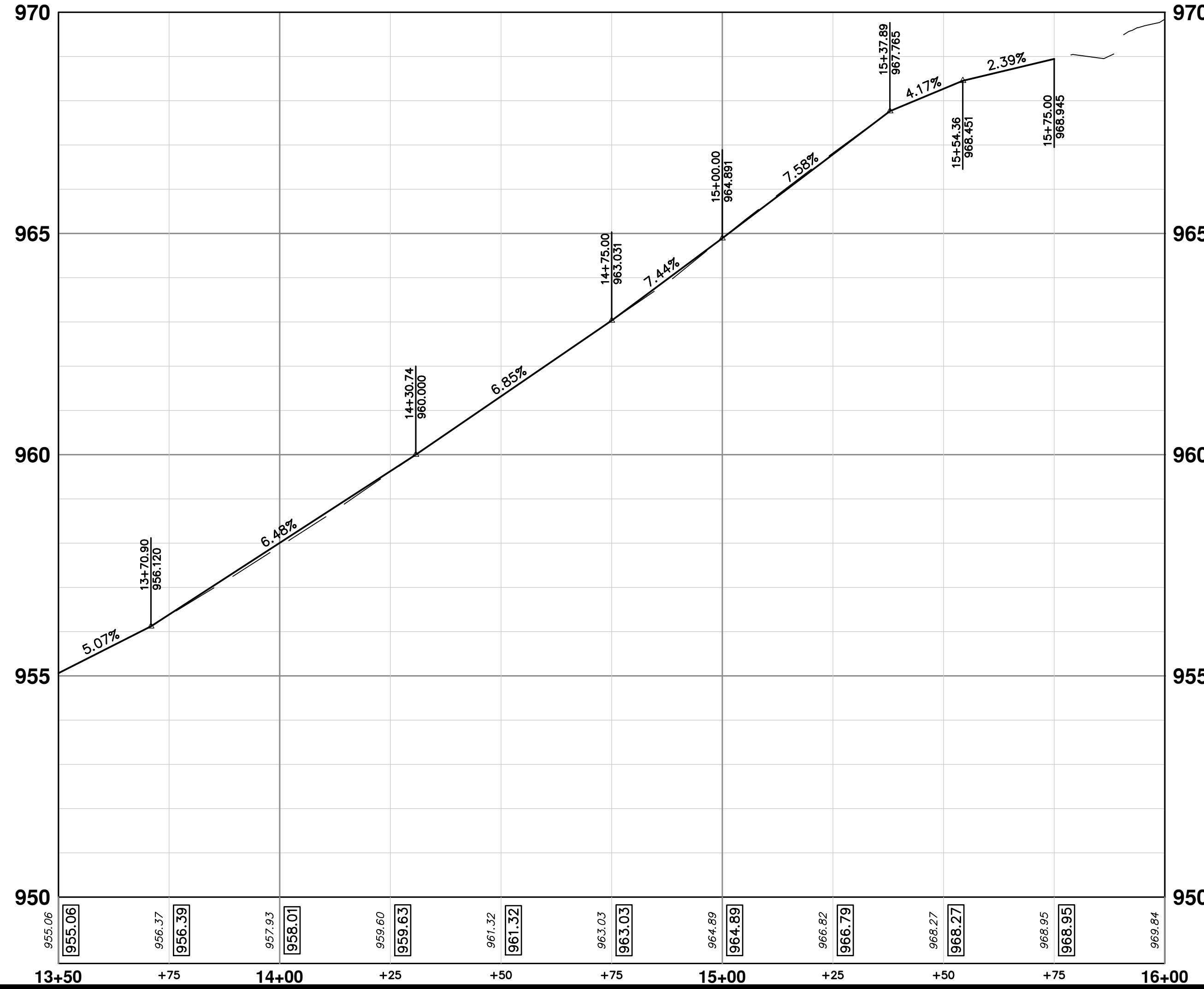
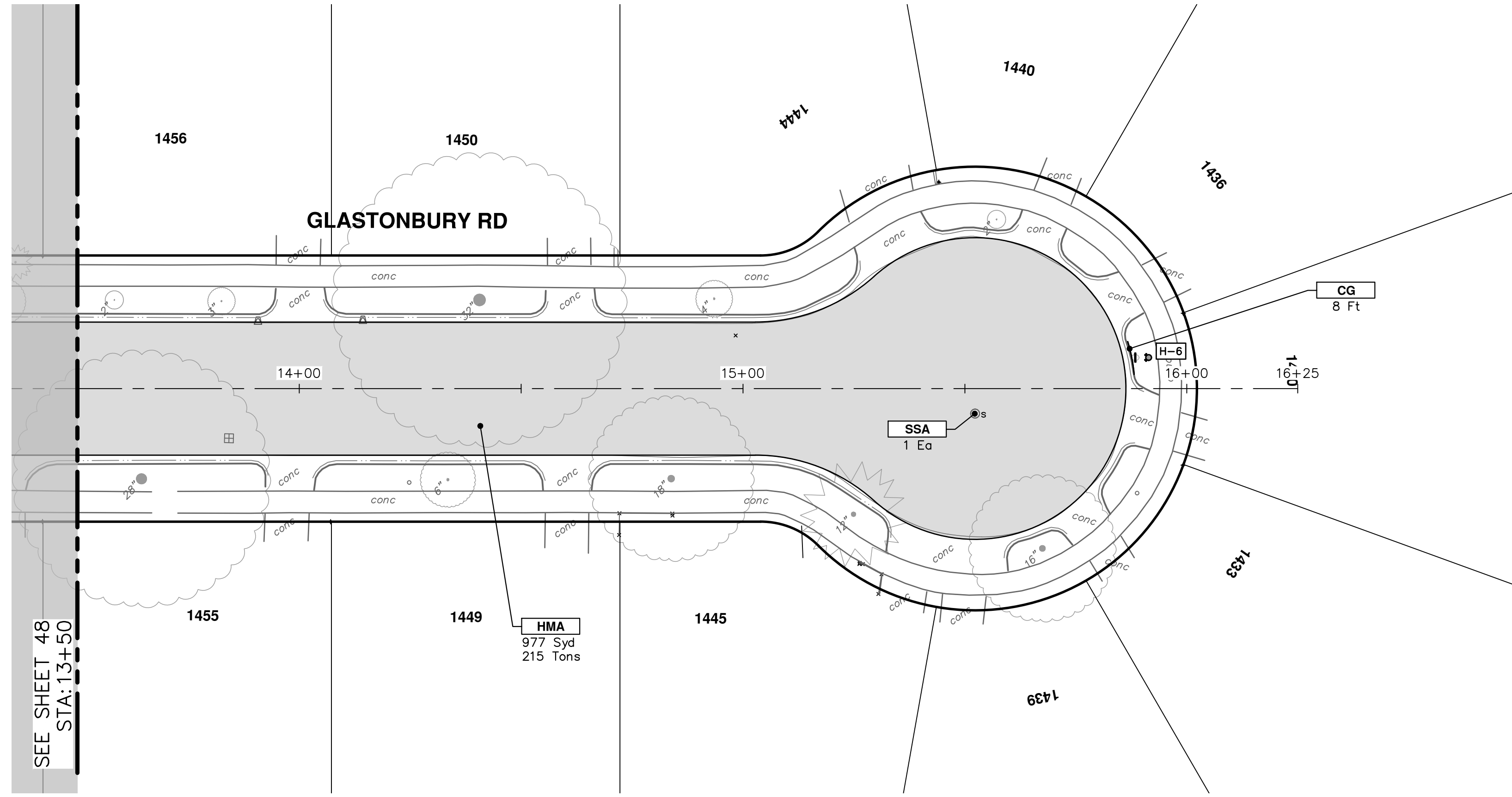
ROAD PLAN & PROFILE - GLASTONBURY RD

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

DRAWING No. 2024006-48

STA. 9+00 - STA. 13+50

SHEET No. 48 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 |

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2025 MISCELLANEOUS UTILITY PROJECTS

ROAD PLAN & PROFILE - GLASTONBURY RD

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

DRAWING No. 2024006-49

STA. 13+50 - STA. 16+00

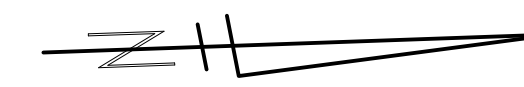
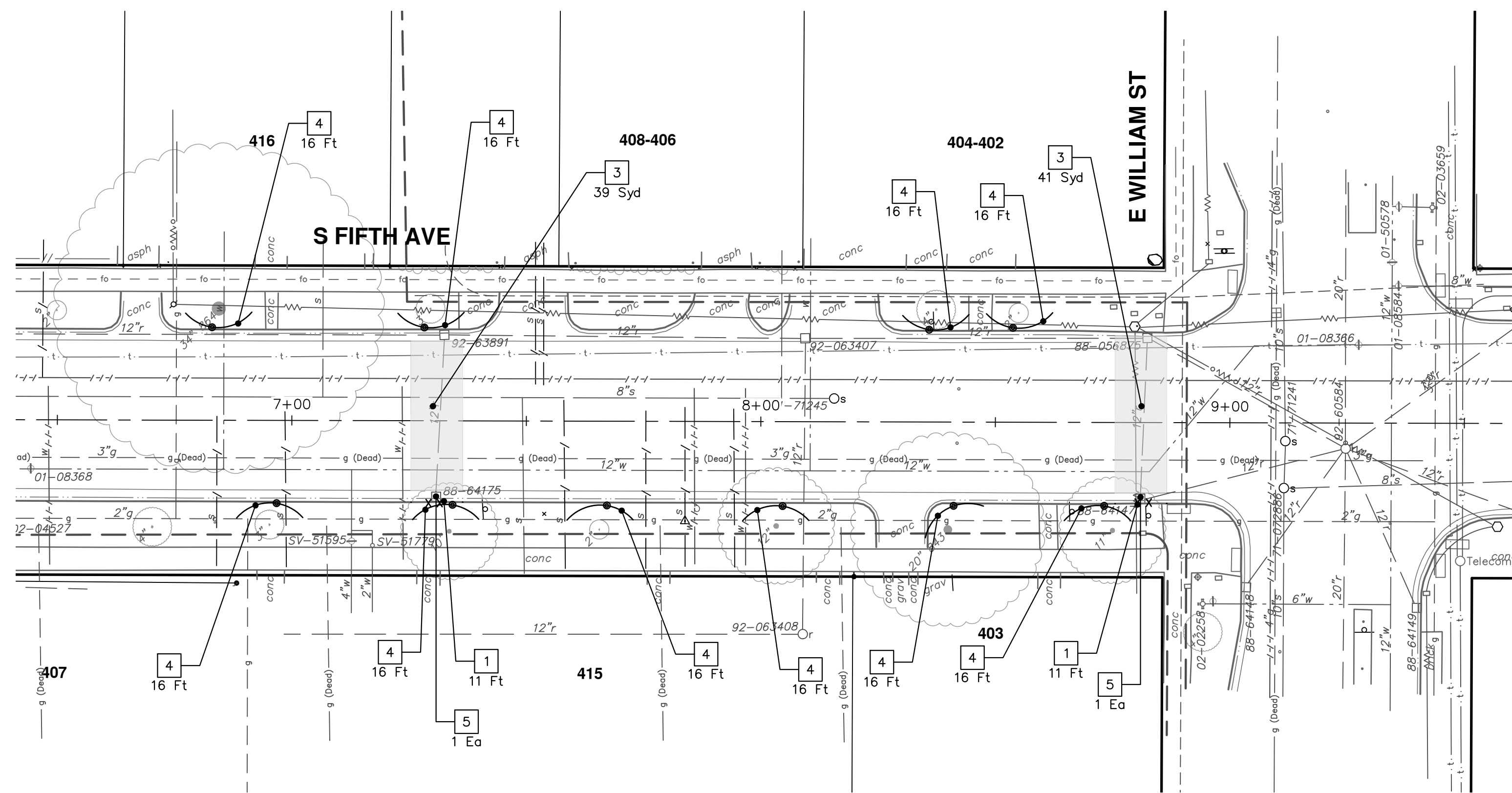
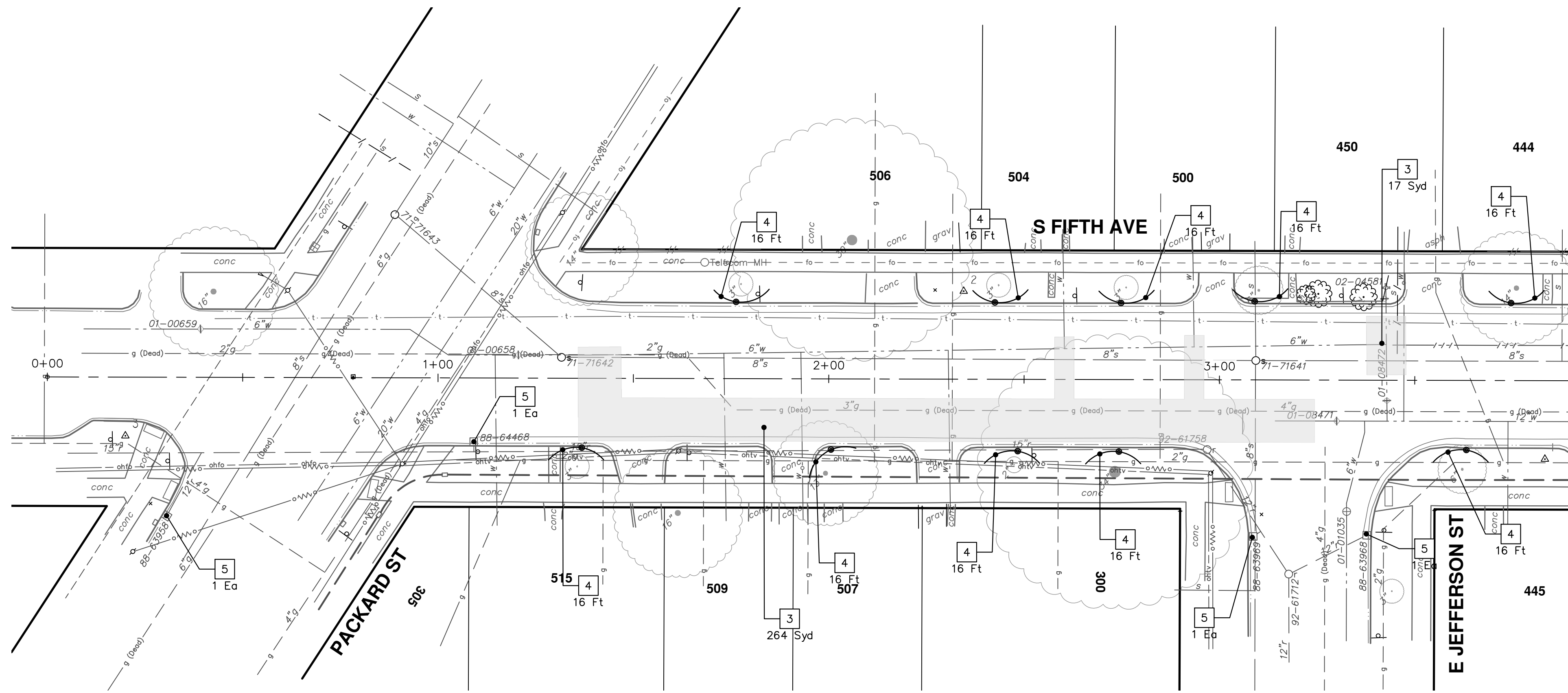
49 OF 52

SHEET No.

| | | |
|------|----------|-------------|
| REV. | DATE | DESCRIPTION |
| 01 | 12/12/24 | DRAWN |
| 02 | 01/10/24 | A2D |
| TA | | TA |

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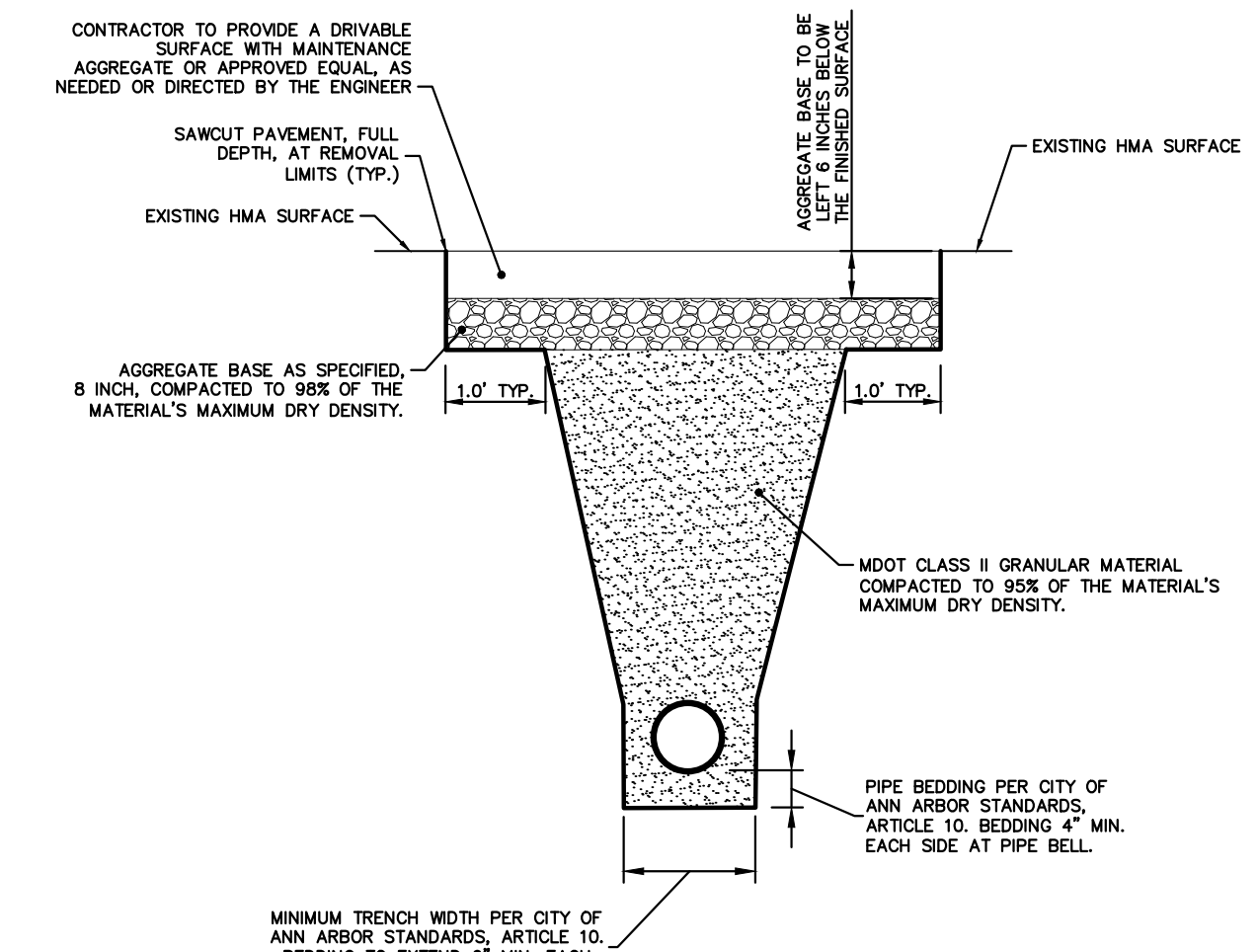
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PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR, MI 48106-6647
www.aagov.org



| 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.



| REV. | DATE | DESCRIPTION |
|---------|----------|-------------|
| 01 | 12/12/24 | DRAWN |
| 02 | 01/10/24 | A2D |
| TA | | TA |
| CHECKED | | |

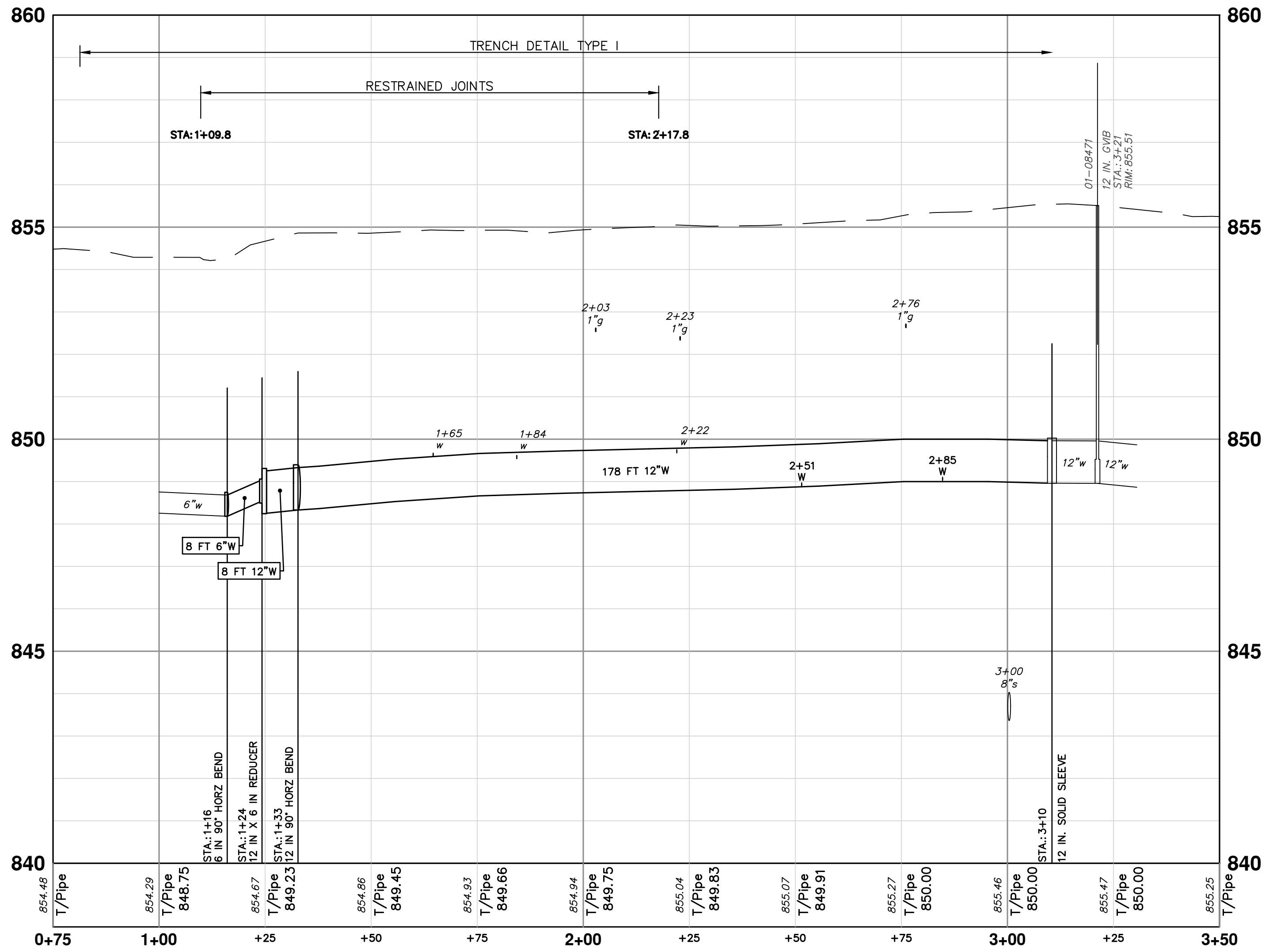
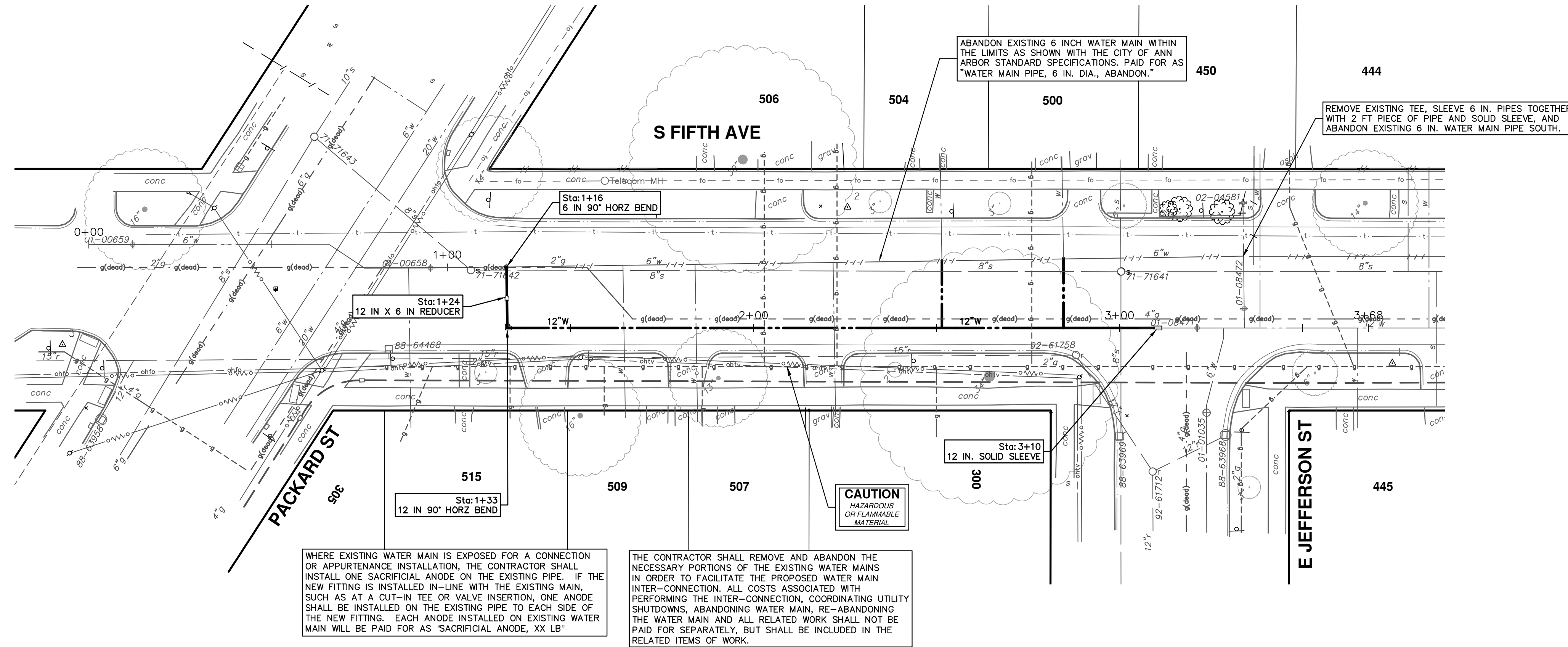
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
2025 MISCELLANEOUS UTILITY PROJECTS
REMOVALS - S FIFTH AVE
STA. 1+06 - STA. 9+00

SCALE: 1" = 20'
DRAWING No. 2024006-50
SHEET No.

R:\2024006 Misc Util 2025\Plan Production\2024006Wtr Fifth.dwg Dwg Created: 21-Nov-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.



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'

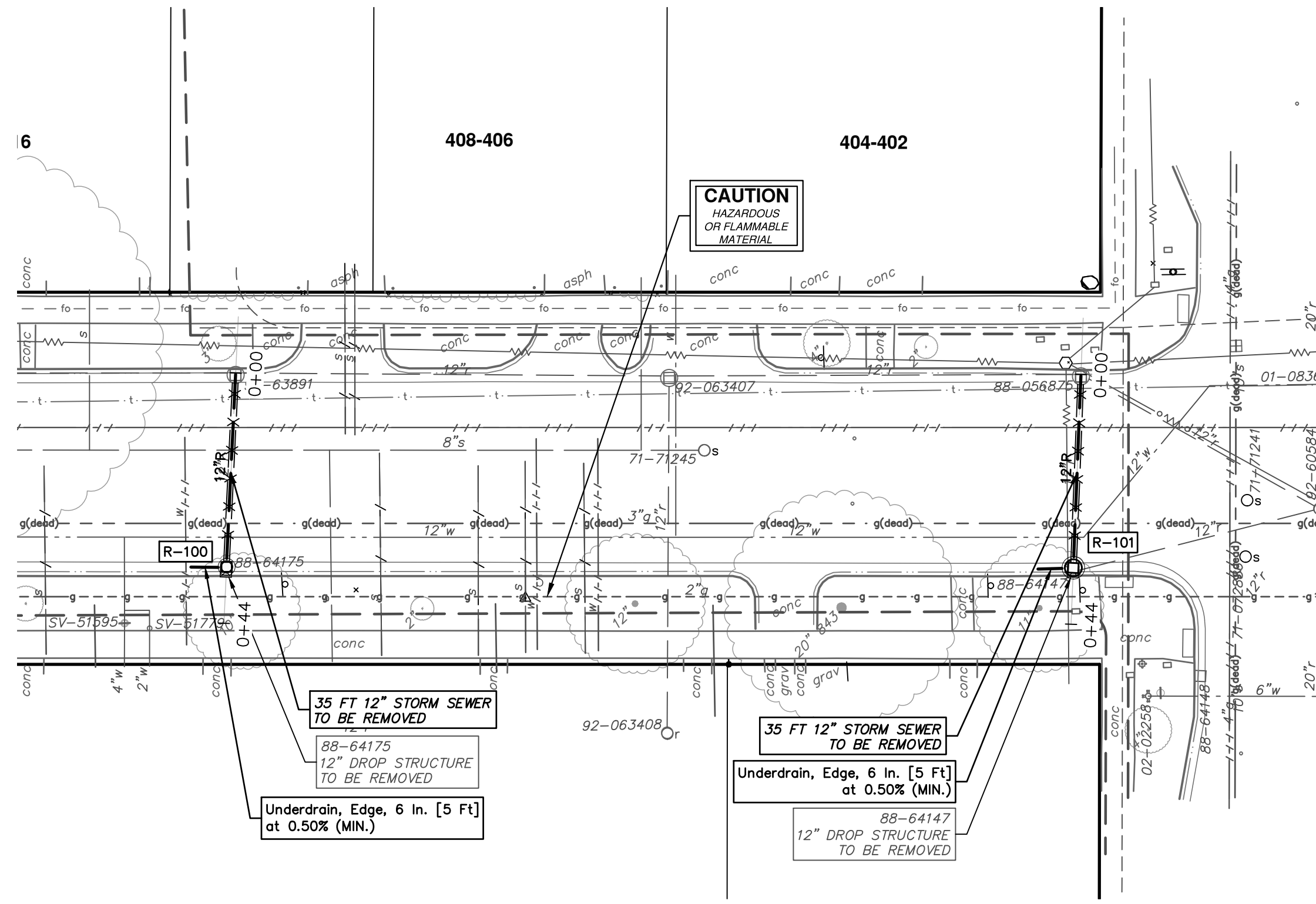
DRAWING NO. 2024006-51

SHEET NO. 51 OF 52

811
Know what's below.
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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 |

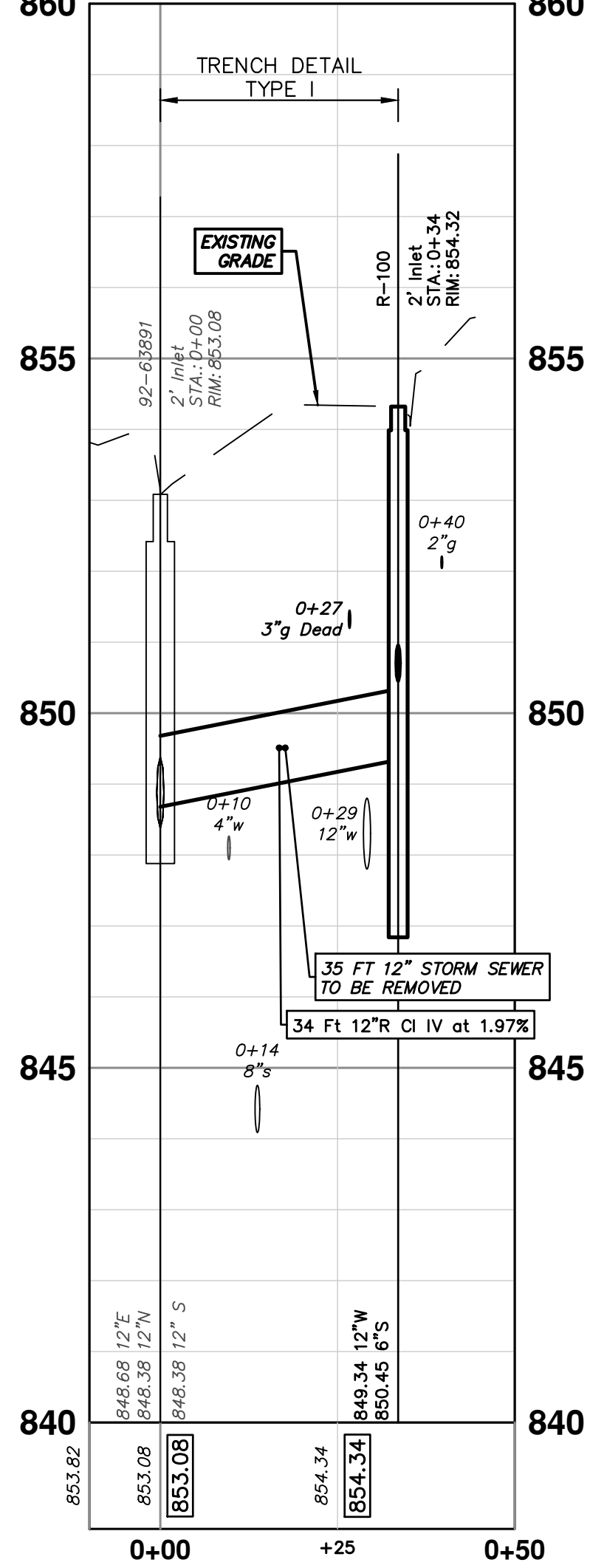
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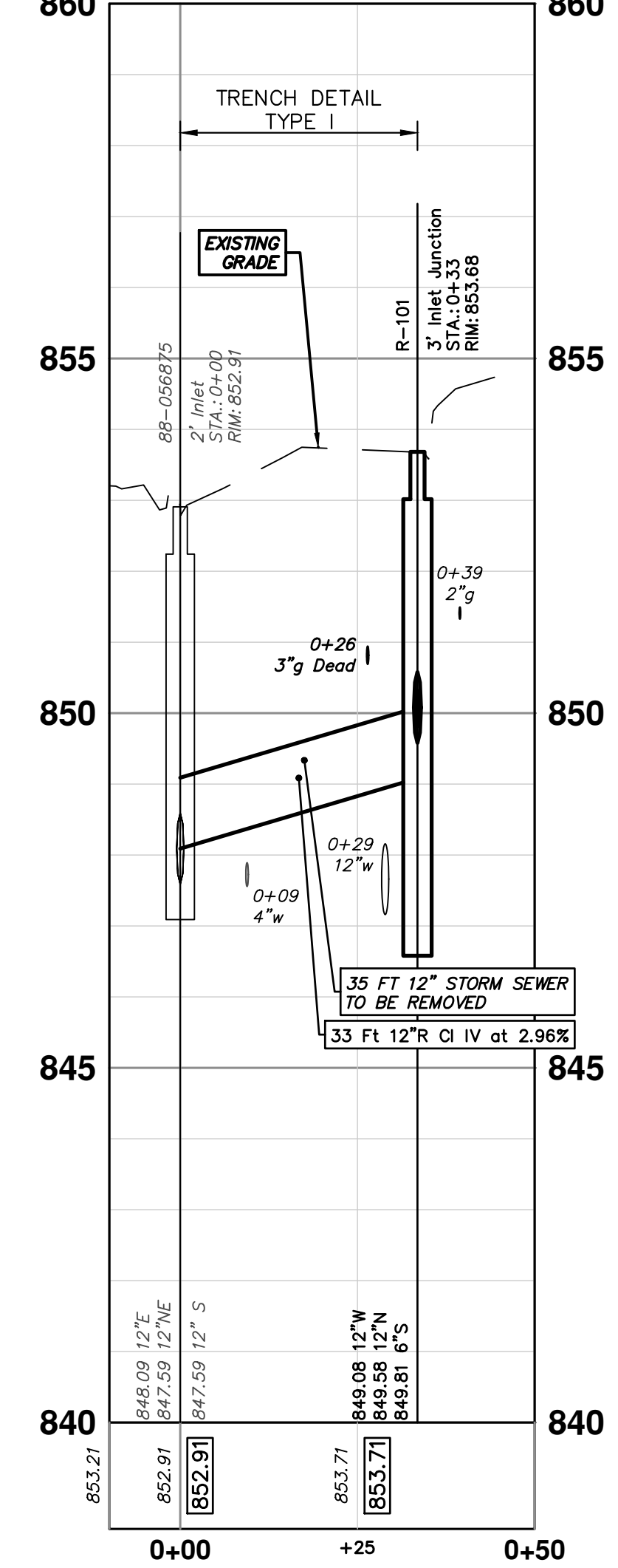
EXISTING STORM SEWER STRUCTURE REMOVAL TABLE

| 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' |

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

2025 MISCELLANEOUS UTILITY PROJECTS

STORM - S FIFTH AVE

R-100, R-101

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| REV. | DATE | DESCRIPTION |
|------|----------|-------------|
| 01 | 12/12/24 | DRAWN |
| 02 | 01/10/24 | A2D |
| 01 | 01/10/24 | TA |

SHEET No. **52 OF 52**

DRAWING No. **2024006-52**

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