ADDENDUM No. 1

RFP No. 23-09

BROOKS STREET IMPROVEMENTS PROJECT

Due: April 5, 2023 at 10:00 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 28 pages and 54 plan sheets.**

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

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

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

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

I. CORRECTIONS/ADDITIONS/DELETIONS

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

Section/Page(s)	Change
III.E/ Pages E1 – E4	**Schedule of Pricing/Cost** Modifications to Pay Items and Quantities, shown in bold 120.1 Maximum amount reduced 215, 230 Quantity reduced to reflect scope reduction on Bydding 245 Quantity increased to reflect additional in front of 1311 Brooks 246 Item renamed and quantity increased to reflect additional area for water service excavations on east side of Brooks, north of Bydding 315 Quantity increased to reflect revised configuration of the bioretention area 367.1, 367.2 Quantity revised to reflect R212 change of structure type 400.3 Quantity increased to reflect additional water main relocation around the bioretention area

410.45 Item added for additional water main relocation around bioretention
481.2 Quantity increased to reflect relocation around bioretention
500.1 Quantity reduced to reflect scope reduction on Bydding
501.1 Quantity reduced to reflect change in pavement removal in Sunset due to additional water relocation
502.1 Quantity reduced to reflect scope reduction on Bydding
503.1 Quantity corrected
520.1 Quantity reduced to reflect scope reduction on Bydding
520.2 Item added to account for subgrade excavation
521.1 Item renamed to specify backfill type and quantity reduced (as estimated)
521.2 Item added to reflect Subgrade Undercutting backfill type in trench
522.1 Quantity reduced (as estimated)
522.2 Quantity reduced to reflect contingency
524.1 Quantity corrected
525.1 Quantity corrected
531.1 Quantity increased to reflect combination of revision to HMA pavement cross section thicknesses and types
539.1 Quantity reduced to reflect scope reduction on Bydding
539.2 Quantity corrected
545.1 Quantity increased to correlate to the amount of bumpout curbs along the east side of Brooks
550.1 Quantity reduced to reflect scope reduction on Bydding, scope increase at the intersection of Mixtwood and Red Oak, and intent to protect existing curb as feasible along watermain trench
552.1 Quantity reduced to reflect scope reduction on Bydding, scope increase at the intersection of Mixtwood and Red Oak, and scope increase for 4 bus stop pads
554.1 – 554.2
Item added to reflect scope increase at the intersection of Mixtwood and Red Oak
556.1 Item renamed to reflect inclusion of rip rap cost in the item
557.1 Item added to reflect scope increase at the intersection of Mixtwood and Red Oak
586.1 Quantity increased to reflect scope increase at the intersection of Mixtwood and Red Oak
586.2 Quantity and units corrected
587.1 Quantity increased to reflect scope increase at the intersection of Mixtwood and Red Oak
587.2 Quantity corrected
587.4 – 587.5, 588.1 – 588.3, 640.1
Items added to reflect scope increase at the intersection of Mixtwood and Red Oak
640.2 – 640.4
Item added to reflect additional scope to furnish permanent signs for City installation
800 Quantity reduced to reflect scope reduction on Bydding
850.1 Item renamed for clarity and quantity corrected
850.2 Item added for clarity of scope

850.3 Item added for clarity of scope
850.4 Item renumbered
850.5 Item added to scope
851.01 – 851.08
Quantity revised for overall reduction of types Bioretention area plantings, number of plantings, and specified in multiples typically available for purchase
885.1 Item renamed to reflect scope increase in revised configuration of the bioretention area

Comment: The intent with this change is to simply replace the Pages E1 - E4 provided in the RFP Document with the updated Pages Add1-E1 – Add1-E4 provided herein.

VI/ Page DS-25 **Maintenance of Traffic Detailed Spec:**
Additional information inserted as 3rd paragraph in Maintenance of Local Traffic section, "School buses will traverse the site via the intersection of Brooks and Hiscock Monday through Friday 7:45-8:30 a.m. and 2:45-3:30 p.m. during the school year."

Comment: The intent with this change is to alert contractor of anticipated school bus traffic to be maintained.

VI/ Page DS-87 **HMA Pavement Removal Detailed Specification (DS):**
The first paragraph shall be replaced with the following two paragraphs:
Comment: The intent with this change is to account for removal of materials for backfilling and machine grading.

VI/ Page DS-91-97 **Machine Grading DS:**
Revisions to the first two paragraphs, the Removal of Trees and Vegetation section, the Protection of Utilities and Vaults/Structures section, and the Measurement and Payment section.

Comment: The intent with this change is to indicate additional separate pay items that relate to "Machine Grading", and to add the "Excavation, Earth" Pay Item.

VI/ Page DS-98 **Subgrade Undercutting DS:**
Revisions to specify types of backfill.

VI/ Page DS-102 **Subbase and Aggregate Base DS:**
Revisions to the Description section and the Materials section for adherence to MDOT type materials and not to be more restrictive with regard to gradation and loss by weight.

VI/ Page DS-111 **Concrete Curb, Sidewalk, Drive Approach, and Pavement DS:**
Revisions to the Materials section, eliminating 3000 psi concrete mixture and specifying patterned concrete pavement.

VI/ Page DS-132 **Pavement Marking DS:**
Revisions to the Contract Pay Items

VI/ Page DS-134 **Infiltration Trench DS:**
Replaced with Bioretention and Adjacent Plantings Detailed Specification.

VI/ New section **Trees and Plantings DS:**
Added.

Plan Sheet 5 Typical Edge Drain Trench specifies MDOT Class 2NS Sand Backfill

Plan Sheet 7 Additional Curb details to reflect scope increase at the intersection of Mixtwood and Red Oak

Plan Sheet 8 Cross sections updated with additional subgrade preparation; HMA Application Table Top and Leveling revised

Plan Sheets 9-11 Cross sections updated to remove sand subbase

Plan Sheet 19 Quantities and units updated

Plan Sheets 21-23, 38, 40, 51
Added 4 bus stop pads and revised location of Mixtwood and Brooks crosswalk

Plan Sheets 23, 42, 46, 49
Reduced scope on Bydding. Match lines eliminated.

Plan Sheets 24, 45 Increased scope at the intersection of Mixtwood and Red Oak

Plan Sheet 28 Added 16-inch watermain relocation around the bioretention area, and removal of 16-inch watermain under the bioretention area

Plan Sheet 33 Revised R-212 structure type, inverts and depth at R-214, and eliminated sump on R-214; revised perforated pipe under bioretention

Plan Sheet 34 Bioretention quantities (Cut and Geotextile fabric) added

Plan Sheets 39, 41 Addition of Thermoplastic Crosswalk Pavement markings

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

E. Schedule of Pricing/Cost – 20 Points

Company:_____

Project: Brooks Street Improvements								
RFP#: 23-09								**City Project #: 2021-016**
Item	**Description**	**Unit**	**Estimated Quantity**		**Unit Price**			**Total Price**
101.1	General Conditions, Max. $150,000	LS	1	$			$	
102.1	Digital Audio Visual Coverage	LS	1	$			$	
120.1	**Project Supervision, Max $75,000**	LS	1	$			$	
200	Certified Payroll Compliance and Reporting	LS	1	$			$	
201	Allowance for Unforeseen Site Conditions	DLR	25,000	$	1.00		$	25,000.00
210	Minor Traffic Devices, Max $40,000	LS	1	$			$	
215	"No Parking" Sign	EA	**55**	$			$	
216	Pedestrian Type II Barricade, Temp	EA	10	$			$	
219	Barricade Type III - Lighted	EA	20	$			$	
220	Temporary Sign, Type B	SFT	375	$			$	
221	Temporary Sign, Type B, Special	SFT	12	$			$	
222	Plastic Drum - Lighted	EA	30	$			$	
223	Grabber Cone, High Intensity, 42 Inch	EA	30	$			$	
224	Temporary Pedestrian Ramp	EA	4	$			$	
225	Temporary Pedestrian Mat	FT	140	$			$	
226	Pedestrian Channelizer Device	FT	440	$			$	
230	Protective Fencing	FT	**3,500**	$			$	
235	Tree Removal, 6-inch to 12-inch	EA	2	$			$	
236	Tree Removal, 13-inch to 24-inch	EA	8	$			$	
237	Tree Removal, Greater than 24-inch	EA	1	$			$	
240	Exploratory Excavation (0-10' deep)	EA	1	$			$	
245	Hand Dig, Sidewalk	SYD	**300**	$			$	
246	**Hand Dig, Watermain Depth**	SYD	**275**	$			$	
305	6 inch SDR 35 PVC Sanitary Lead, Trench Detail 1A	FT	50	$			$	
315	6 Inch AASHTO M252 Perf. HDPE Storm Pipe w/ Slow Release Orifice	FT	**36**	$			$	
320	12 Inch CL IV RCP Storm Sewer Pipe, Trench Detail 1A	FT	389	$			$	
321	36 Inch CL IV RCP Storm Sewer Pipe, Trench Detail 1A	FT	201	$			$	
359.1	Sewer Tap, 12 inch	EA	1	$			$	
360.1	Dr Structure MH, 60 inch dia	EA	1	$			$	
360.2	Dr Structure MH, 72 inch dia	EA	1	$			$	
360.3	Dr Structure MH, 72 inch dia, Weir Wall, Vortex Valve, Including Depth	EA	1	$			$	
365.1	Dr Inlet Junction Structure, 36 inch dia	EA	2	$			$	
365.2	Dr Inlet Junction Structure, 60 inch dia	EA	3	$			$	
365.3	Dr Inlet Junction Structure, 72 inch dia	EA	1	$			$	

E. Schedule of Pricing/Cost

Project: Brooks Improvements Project

Item	Description	Unit	Estimated Quantity		Unit Price			Total Price
365.4	Dr Inlet Junction Struction, 60 inch dia, Add Depth	FT	6	$			$	
367.1	Dr Inlet Structure, 24-inch dia	EA	**9**	$			$	
367.2	Dr Structure, Low Point, 48-inch dia	EA	**3**	$			$	
368.1	Dr Inlet Overflow Structure, 36 inch dia	EA	1	$			$	
358.1	Sewer Remove, Any Size or Depth	FT	355	$			$	
386.1	Structure Remove, Any Size or Depth	EA	14	$			$	
400.1	6 inch Class 52 DIP w/polywrap, Trench Detail 1A	FT	41	$			$	
400.2	8 inch Class 52 DIP w/polywrap, Trench Detail 1A	FT	2,502	$			$	
400.3	16 inch Class 52 DIP w/polywrap, Trench Detail 1A	FT	**172**	$			$	
410.1	6 inch 45° Bend	EA	4	$			$	
410.2	8 inch 11.25° Bend	EA	1	$			$	
410.3	8 inch 22.5° Bend	EA	7	$			$	
410.4	8 inch 45° Bend	EA	8	$			$	
410.45	**16 inch 45° Bend**	**EA**	**5**	$			$	
410.5	8 x 6 Inch Reducer	EA	11	$			$	
410.6	16 x 8 Inch Reducer	EA	1	$			$	
430.1	8 x 8 x 8 inch Tee	EA	10	$			$	
430.2	16 x 16 x 16 inch Tee	EA	1	$			$	
440.1	Fire Hydrant Assembly	EA	5	$			$	
442.1	8 Inch Gate Valve-in-Box	EA	3	$			$	
446.1	8 Inch Gate Valve-in Well	EA	9	$			$	
460	Excavate & Backfill for Water Service Tap and Lead	FT	530	$			$	
481.1	Water Main Pipe Abandonment	LS	1	$			$	
481.2	Water Main, Remove	FT	**195**	$			$	
482.1	Gate Valve-in-Box, Abandonment	EA	6	$			$	
483.1	Gate Valve-in-Well, Abandonment	EA	5	$			$	
484.1	Fire Hydrant Assembly, Remove	EA	4	$			$	
485.1	Temporary Water Main Line Stop, Additional Rental Day	EA	5	$			$	
485.2	Temporary Water Main Line Stop, 8 inch or less	EA	4	$			$	
485.4	Temporary Water Main Line Stop, 16 inch	EA	2	$			$	
486.1	Sacrificial Anode, 17 lb	EA	14	$			$	
486.2	Sacrificial Anode, 32 lb	EA	4	$			$	
500.1	HMA Pavement Removal, Any Depth	SYD	**15,700**	$			$	
501.1	Cold-Milling, 1.5 Inches	SYD	**450**	$			$	
502.1	Remove Concrete Curb or Curb & Gutter - Any Type	FT	**2,900**	$			$	
503.1	Remove Concrete Sidewalk, Ramp, & Drive - Any Thickne	SFT	**5,200**	$			$	

E. Schedule of Pricing/Cost

Project: Brooks Improvements Project

Item	Description	Unit	Estimated Quantity		Unit Price			Total Price
520.1	Machine Grading	SYD	**17,750**	$			$	
520.2	**Excavation, Earth**	**CYD**	**600**	$			$	
521.1	**Subgrade Undercutting, Cl. II Backfill**	CYD	**150**	$			$	
521.2	**Subgrade Undercutting, 6A Limestone Backfill**	**CYD**	**50**	$			$	
522.1	Non-Hazardous Contaminated Material Handling & Disposal	CYD	100	$			$	
522.2	Hazardous Contaminated Material Handling & Disposal - Contingency	CYD	10	$			$	
524.1	Class II Granular Material, C.I.P.	CYD	**1,400**	$			$	
525.1	21AA Limestone, C.I.P.	CYD	**1,600**	$			$	
531.1	HMA, 4EL	TON	**3,150**	$			$	
539.2	HMA Hand Patching	TON	**10**	$			$	
539.3	Temporary HMA (13A)	TON	**10**	$			$	
545.1	6-Inch Wrapped Underdrain	FT	**1,250**	$			$	
550.1	Concrete Curb or Curb and Gutter - All Types	FT	**3,250**	$			$	
551.1	Concrete Speed Tables or Raised Cross Walk	SYD	271	$			$	
552.1	4 Inch Concrete Sidewalk	SFT	**12,525**	$			$	
553.1	6 Inch Concrete Sidewalk, Ramp, Drive Approach	SFT	1,000	$			$	
553.2	6 Inch Concrete Drive or Sidewalk - High Early	SFT	3,500	$			$	
554.1	**4 Inch Patterned Concrete Pavement**	**SFT**	**110**	$			$	
554.2	**8 Inch Concrete Apron**	**SFT**	**691**	$			$	
555.1	Driveway Opening, Conc, Detail M	FT	50	$			$	
555.2	Driveway Opening, Conc, Detail M - High Early	FT	450	$			$	
556.1	**Spillway, Conc, Modified, including rip rap**	EA	1	$			$	
557.1	Detectable Warning, Cast In Place	FT	**98**	$			$	
563.1	Structure Covers	EA	28	$			$	
566.1	Adjust Structure Cover	EA	28	$			$	
567.1	Adjust Monument Box or Gate Valve Box	EA	10	$			$	
568.1	Additional Depth Structure Adjust/Repair	VF	3	$			$	
586.1	Recessing Pavt Mrkg, Longit	FT	**1,200**	$			$	
586.2	Recessing Pavt Mrkg, Transv	**SFT**	**232**	$			$	
587.1	Pavt Mrkg, Polyurea, 12 inch, Crosswalk	FT	**1,250**	$			$	
587.2	Pavt Mrkg, Polyurea, 24 inch, Stop Bar	FT	**116**	$			$	
587.3	Pavt Mrkg, Polyurea, Chevron	EA	20	$			$	
587.4	**Pavt Mrkg, Polyurea, 12 inch, Cross Hatch, Yellow**	**FT**	**162**	$			$	
587.5	**Pavt Mrkg, Polyurea, 6 inch, Yellow**	**EA**	**390**	$			$	
588.1	**Pavt Mrkg, Thermoplastic, 12 inch, Crosswalk**	**FT**	**232**	$			$	

E. Schedule of Pricing/Cost

Project: Brooks Improvements Project

Item	Description	Unit	Estimated Quantity		Unit Price			Total Price
588.2	**Pavt Mrkg, Thermoplastic, 12 inch, Cross Hatch, Yellow**	**FT**	**105**	$			$	
588.3	**Pavt Mrkg, Thermoplastic, 6 inch, Yellow**	**FT**	**527**	$			$	
594.3	Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, Yellow, Temp	FT	400	$			$	
640.1	**Permanent Sign, R6-1, Yellow Base, furnish and install**	**EA**	**10**	$			$	
640.2	**Permanent Sign, Stop, furnish**	**EA**	**6**	$			$	
640.3	**Permanent Sign, Yield, furnish**	**EA**	**4**	$			$	
640.4	**Permanent Sign, No Parking, furnish**	**EA**	**10**	$			$	
702.1	Erosion Control, Inlet Filter	EA	20	$			$	
703.1	Erosion Control, Silt Fence	FT	100	$			$	
800	Transplanting Tree (Spade and Re-Plant)	EA	**3**	$			$	
850.1	**Bioretention Area Excavation**	CYD	**450**	$			$	
850.2	**Bioretention Geotextile Fabric**	**SYD**	**580**	$			$	
850.3	**Bioretention Aggregate**	**CYD**	**400**	$			$	
850.4	Bioretention Soil Mix (Topsoil + Compost)	CYD	50	$			$	
850.5	**Bioretention Annual Ryeseed**	**LBS**	**25**	$			$	
851.01	Bioretention Plantings, Carex Vulpinoidea	EA	**114**	$			$	
851.02	Bioretention Plantings, Echinacea Purpurea	EA	**76**	$			$	
851.03	Bioretention Plantings, Eupatorium Perfoliatum	EA	**114**	$			$	
851.04	Bioretention Plantings, Liatris Spicata	EA	**76**	$			$	
851.05	Bioretention Plantings, Rudbeckia Fulgida	EA	38	$			$	
851.06	Bioretention Plantings, Schizachyrium Scoparium	EA	**76**	$			$	
851.07	Bioretention Plantings, Silphium Terbinthinaceum	EA	**76**	$			$	
851.08	Bioretention Plantings, Verbena Hastata	EA	**76**	$			$	
855.1	Fescue Seed Mix	LBS	14	$			$	
882.1	Turf establishment	SYD	1,600	$			$	
882.2	Mulch Blanket	SYD	150	$			$	
885.1	**Check Dam**	SYD	**10**	$			$	
891.1	Site Clean-Up, Max $35,000	LS	1	$			$	
892.1	Irrigation System, Protection and Maintenance	DLR	5,000	$	1.00		$	5,000.00
	TOTAL BID AMOUNT					**$**		

DETAILED SPECIFICATIONS

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
MAINTENANCE OF TRAFFIC

Description

Traffic shall be maintained in accordance with the City of Ann Arbor Public Services Department Standard Specifications and as specified in Sections 104.11, 812, and 922 of the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction, the 2011 Michigan Manual of Uniform Traffic Control Devices (MMUTCD), and as described herein.

The Contractor shall furnish, erect, maintain and, upon completion of the work, remove all traffic control devices and barricade lights as required on the project for the safety and protection of local traffic. This includes, but is not limited to, temporary advance, regulatory, and warning signs; barricades and channelizing devices at intersections and on streets where traffic is to be maintained; barricades at the ends of the project and at right-of-way lines of intersecting streets, and traffic control devices for moving construction operations.

Materials

The materials and equipment shall meet the requirements specified in the corresponding sections of the MDOT 2020 Standard Specifications for Construction and the 2011 MMUTCD.

Maintenance of Local Traffic

Unless otherwise indicated on the plans, all side roads shall not be closed to through traffic except during construction operations of short duration and only upon written approval of the Engineer.

Local access shall be maintained at all times for emergency vehicles, refuse pick-up, mail delivery, school buses, and ingress/egress to public and private properties.

School buses will traverse the site via the intersection of Brooks and Hiscock Monday through Friday 7:45-8:30 a.m. and 2:45-3:30 p.m. during the school year.

Contractor must accommodate the safe access to the residential buildings and businesses located within construction area.

Driveways shall not be blocked for extended periods of time unless arrangements can be made with the affected property owner(s). When it becomes necessary to temporarily block driveways, the Contractor shall notify the affected property owners in advance to coordinate the work and allow sufficient time for vehicles to vacate from properties. It may be necessary to allow for vehicles to temporarily park in the roadway at locations that do not interfere with the Contractor's work. During these periods the owners of the respective vehicles must be available to, with proper notice, move their vehicles if it becomes necessary to accommodate the work.

At times, when it becomes necessary to temporarily obstruct local traffic during the performance of the work, the Contractor shall provide traffic regulator control in conformance with Chapter 6E of the MMUTCD, Sections 6E.01 thru 6E.08. A minimum of two traffic regulators are required. The cost of traffic regulator control shall be included in the contract pay item "Minor Traffic Control, Max $_____".

Aggregate base materials are specified to be either removed or added to the job-site to properly complete the work. The addition of such materials shall be paid for as the Item of Work: "21AA Limestone, C.I.P" or “Class II Granular Material, C.I.P.” Such materials to be removed shall be paid with the Item of Work, “Excavation, Earth”, unless the removal of materials is incidental to utility installation.

Where the Engineer directs additional materials to be removed and replaced for subgrade stabilization, it will paid for as the Item of Work, “Subgrade Undercutting, ____ Backfill.”

Excavated/removal areas shall be adequately protected with barricades or fencing at all times.

The Contractor shall remove the full depth of the pavement unless otherwise shown on the plans or directed by the Engineer.

The Contractor shall construct butt-joints, and trim butt-joints just prior to HMA paving as shown on the Plans, and as directed by the Engineer.

At various times throughout the work, the Engineer may direct the Contractor to use smaller and/or lighter equipment, and to defer certain work tasks, in order to protect the grade and/or adjacent areas. The Contractor shall not be entitled to any additional compensation for the use of smaller equipment, lighter equipment, or work task deferral.

Measurement and Payment

The completed work, as described, will be measured, and paid for at the respective Contract unit prices for the following respective pay items:

Contract Item (Pay Item)	Pay Unit
HMA Pavement Removal, Any Depth	Square Yard
Cold Milling, __ inches	Square Yard

All saw-cutting required for removals shall be included in the appropriate item of work and will not be paid for separately.

The unit prices for these items of work shall include all material disposal, labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Detailed Specification.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
MACHINE GRADING
EXCAVATION, EARTH

Description

The pay item “Machine Grading” shall be completed in accordance with Section 205 the Michigan Department of Transportation 2020 Standard Specifications for Construction (MDOT 2020 SSC) and shall include all work indicated in the MDOT 2020 SSC, shown on the plans, and as specified herein, with the exception that “Subgrade Undercutting, ___ Backfill,” “Excavation, Earth,” “Class II Granular Material, C.I.P.”, “21AA Limestone, C.I.P.”, “___ Contaminated Material Handling & Disposal”, “Bioretention Excavation”, “Bioretention Aggregate”, “Tree Removals, __ inch”, Transplant Tree”, and “Turf Establishment” shall be paid for separately when separate pay items for the respective items are included in the proposal. “Machine Grading“ shall include all the work specified herein for which there is no separate pay item.

“Excavation, Earth” shall include excavation and removal of soil to provide subgrade elevations. This shall include the roadway, curb, sidewalk, and incidental cross-section removal of existing aggregate to establish planned subgrades. This pay item shall exclude excavation and removal incidental to utility installation and bioretention installation, which shall be paid for separately. Areas that are deemed by the Engineer to require subgrade undercutting with engineered backfill to provide a stable subgrade shall be paid for as “Subgrade Undercutting, ___ Backfill”.

The following abbreviated table of contents for Section 205 (Roadway Earthwork) of the MDOT 2020 SSC is provided for reference. It is not a complete table of contents for all Section 205 work required to complete the project.

SECTION/TITLE **PAGE**

Soils Information

Soil information provided as part of the contract documents is for informational purposes only and shall not relieve the Contractor of the responsibility of investigating all local conditions before bidding.

Materials

All materials and mixtures shall meet the requirements as specified in Section 205 of the MDOT

2020 Standard Specifications for Construction, except as specified herein.

General Provisions

The contractor shall:

1. Grade around mailboxes, trees, light poles, power poles, and the like, which are to remain in place. The Contractor shall be responsible for any damage caused to such structures.

2. Maintain the work in a finished condition until it is accepted by the Engineer.

Removal of Trees and Vegetation

The Contractor shall remove and properly dispose of off-site all vegetation; brush; roots; and stumps, as shown on the plans and as directed by the Engineer as required to complete the project. Unless the size of the tree is otherwise provided in the Tree Removal pay items or shall be transplanted as directed by the Engineer and paid for as such, this work will be paid for be paid for as “Machine Grading” and will not be paid for separately.

Removal and Salvaging of Topsoil

The removal, salvaging and stockpiling of topsoil, and all related work, shall be performed in accordance with Section 205.03.A.1 (Removing and Salvaging Topsoil) of the MDOT 2020 SSC.

Miscellaneous Removals

“Machine Grading” includes the removal of any surface feature located within the grading limits which must be removed and for which there is no specific pay item established in the proposal for its removal.

Protection of Grade

The work shall be kept well drained at all times. Foundation, roadway embankment or subgrade that becomes damaged by rain shall be undercut and backfilled, or otherwise remedied, by the Contractor, at his/her sole expense, as directed by the Engineer.

The Contractor shall be responsible for the maintenance of the foundation, roadway embankment, and subgrade. Any damage caused by traffic or the Contractor’s operations, to the foundation, roadway embankment or subgrade shall be remedied by the Contractor at his/her sole expense.

The Contractor shall conduct his/her operations and provide the necessary equipment to ensure the satisfactory completion of the work without damaging the foundation, roadway embankment or subgrade. This may require the transporting and movement of materials over additional

distances.

Protection of Utilities and Vaults/Structures

Utility lines, vaults, and structures may become exposed at, above, or below, the foundation or subgrade elevation during machine grading or subgrade undercutting operations. If this occurs, the Contractor shall protect facilities and excavate around, above and/or below the utility lines, as directed, to complete the machine grading or subgrade undercutting operations. Payment, at contract unit prices, for “Machine Grading” or “Subgrade Undercutting” or “Exploratory Excavation,” whichever applies, will be considered as payment in full for this work. The contractor shall protect vaults and structures and not undermine or damage facilities.

Removal of Cable, Conduits, and Pipe

The Contractor shall remove, and properly dispose of off-site, all abandoned cables, conduit, and pipe encountered at, or above the bottom of any earthwork excavation or undercut. Where the inverts of abandoned, or to be abandoned or removed, conduits or pipe are less than 16 inches below the bottom of any earth excavation or undercut, the conduits and/or pipe shall be removed and the resulting void filled with an Engineer approved material. The fill material shall be compacted to 95% of its maximum unit weight in lifts not exceeding 12 inches. No separate payment will be made for removal of conduit or pipe, or any of the work, described in this section.

Foundation Preparation

Foundation is defined as the original earth grade upon which roadway embankment is placed. The foundation work shall be completed in accordance with Section 205.03.A (Preparing Roadway Foundation) of the MDOT 2020 SSC as shown on the plans, and as specified herein.

The foundation shall be compacted to 95% of its maximum unit weight, as measured by the AASHTO T-180 method, to a depth of at least 10 inches. If this cannot be achieved, in the opinion of the Engineer, he/she will direct the Contractor to perform “Subgrade Undercutting” as described herein, on the foundation.

Roadway Embankment Construction

Roadway embankment is defined as the construction of earth on the prepared foundation to form the subgrade. Roadway embankment work shall be completed in accordance with Section 205.03 H (Roadway Embankment) of the MDOT 2020 SSC as shown on the plans, and as specified herein.

Roadway embankment shall be compacted to a minimum of 95% of its maximum unit weight, as measured by the AASHTO T-180 method.

Subgrade Construction

Subgrade is defined as the final earth grade which extends from grading limit to grading limit. The subgrade shall be constructed by performing earth excavation and roadway embankment work in accordance with Section 205.03.G (Earth Excavation) and Section 205.03 H (Roadway Embankment) of the MDOT 2020 SSC, as shown on the plans, and as specified herein.

The subgrade shall be constructed to the contours and cross-sections shown on the plans, as specified herein. To achieve this, the work shall include, but not be limited to:

1. Removal and disposal off-site of any surplus or unsuitable materials.
2. Furnishing from off-site any additional Engineer approved fill materials necessary.
3. Moving existing and/or furnished materials longitudinally and transversely as necessary.
4. Cutting, placing, compacting, and trimming existing and/or furnished materials to construct the roadway embankment and subgrade to the specified tolerances.
5. Stockpiling, and moving again, any cut materials which cannot be immediately placed upon excavation due to construction staging.

The subgrade shall be graded to accommodate all subbases and aggregate bases wherever used, all bioswale and adjacent planting beds, all roadway pavements, curb and gutter, driveways, sidewalks, bicycle paths, other similar structures, bioswale planting mix, topsoil and any other features which the subgrade supports.

The subgrade shall be prepared so as to ensure uniform support for the pavement structure. The finished subgrade shall be placed to within 1 inch below and ¾ inch above plan grade. Variations within this tolerance shall be gradual.

The subgrade shall be compacted to a minimum of 95% of its maximum unit weight, as measured by the AASHTO T-180 method, to a depth of 10 inches. If this cannot be achieved, in the opinion of the Engineer, he/she may direct the Contractor to perform ”Subgrade Undercutting” as described herein.

Proof Rolling

The Contractor shall proof-roll the foundation and/or subgrade with a pneumatic tired roller with a suitable body for ballast loading and a gross load capacity that can be varied from 25 and 40 tons. In lieu of this test roller, with the approval of the Engineer, the Contractor may use a fully loaded single axle or tandem axle dump truck.

Subgrade Undercutting

“Subgrade Undercutting” shall be performed on the foundation or subgrade in accordance with Section 205.03.E (Subgrade Undercutting) of the MDOT 2020 SSC, as shown on the plans, as specified herein, and as directed by the Engineer.

Rock Excavation

Rock excavation shall be performed in accordance with Section 205.03.B (Rock Excavation) of the MDOT 2020 SSC, as shown on the plans, and as directed by the Engineer.

The pay item “Rock Excavation” will apply only to boulders over ½ cubic yard in volume. Boulders will be measured individually, and the volume computed from the average dimension measured in three directions. The removal of rocks, concrete and masonry less than ½ cubic yard in volume shall not be included in the pay item “Rock Excavation,” but shall be included in the pay item “Machine Grading”.

If the proposal does not include a pay item for “Rock Excavation,” rocks measuring over ½ cubic yard in volume shall be paid for as extra work.

Lowering Structures

All structures shall be lowered prior to Machine Grading, paid for as part of “Adjust Structure Cover” or “Adjust Monument Box or Gate Valve Box”.

Structure and Sewer Cleanliness

All sewers, and structures, including manholes, gate wells, valve boxes, inlet structures and curbs shall be protected from damage and contamination by debris and construction materials. Structures shall be maintained clean of construction debris and properly covered at all times during the construction. The Contractor shall immediately clean any structures and/or sewers that become contaminated with construction debris. The Contractor shall be responsible for all direct and indirect damages which are caused by sewers or structures which have been made unclean or have been damaged by the Contractor.

Contractor’s Calculations

Existing and proposed cross sections are provided in the plans. The Contractor shall perform his/her own computations and is responsible to inspect the site to determine his/her own estimate of the quantities of work involved.

Deviations between the existing contours and the existing and proposed cross-sections shown on the plans shall not be cause for additional compensation.

Construction Method

The Contractor shall construct earth grades as required to develop the typical and/or detailed cross-section(s) as shown on the Plans, as detailed in the Specifications, and as directed by the Engineer. This shall include, but not be limited to, the excavation of miscellaneous concrete and miscellaneous HMA pavement, soil, rocks of any size, stumps, trees less than 6-inches, logs, and bricks; the removal and proper disposal off-site of surplus excavated material; the scarifying, plowing, disking, moving and shaping of earth; the trimming, grading, compaction and proof-rolling

of the prepared subgrade; the importing, furnishing, placement and compaction of embankment and/or fill materials; the full depth saw-cutting of pavement at the removal limits; the grading of sideslopes; general restoration in accordance with the Detailed Specifications elsewhere herein and the general items of the work as specified herein. Road subbase and base materials shall be paid for separately.

The Contractor shall remove, add to, re-shape, re-grade, and re-compact the existing roadbed materials, and shall construct the roadway to the cross-section(s) as indicated on the Plans, as detailed in the Specifications, and as directed by the Engineer. The Contractor shall use blade graders, maintainers, vibratory rollers, and/or other equipment as necessary, and as detailed in the Specifications and as directed by the Engineer, for this work. Use of each specific piece of equipment is subject to the approval of the Engineer.

The Contractor shall remove, dispose or salvage, deliver to any location within the City limits, and neatly stack/stockpile all bricks, if present, as directed by the Engineer.

Signs in the grading limits shall be salvaged and provided to City as directed by the Engineer.

The Contractor shall move excavated and/or imported materials longitudinally and/or transversely where necessary, and as directed by Engineer.

The Contractor shall keep the work well graded and drained at all times.

The Contractor shall not use rubber-tired equipment on the subgrade, when its use causes or may cause, in the opinion of the Engineer, damage to the subgrade. The Contractor shall conduct its operation(s), and provide all necessary equipment, to insure the satisfactory completion of the work without damaging the subgrade. This includes the transporting, stockpiling, re-handling, and movement of materials over additional distances, in-lieu-of driving on an unprotected, or partially unprotected, subgrade.

The Contractor is solely responsible for the maintenance and protection of the subgrade. Further, any damage to the subgrade which, in the opinion of the Engineer, is caused as a result of the Contractor's operation(s), or its subcontractors' or suppliers' operation(s), shall be repaired by the Contractor at the Contractor's expense. This includes any additional earthwork and/or maintenance materials as directed by the Engineer, for the purposes of the Contractor's maintenance and protection of the subgrade. The Contractor shall not be entitled to any additional compensation for the implementation of these procedures.

The Contractor shall perform all rough and/or finish grading and compaction to the grades shown on the Plans, as detailed in the Specifications, and as directed by the Engineer.

The Contractor shall proof roll all graded and compacted surfaces in the presence of the Engineer as detailed in the Specifications. The Engineer will monitor the proof rolling operation to locate deleterious and/or uncompacted materials and will direct undercuts, as necessary.

At various times throughout the work, the Engineer may direct the Contractor to use smaller and/or

lighter equipment, and to defer certain work tasks, in order to protect the grade and/or adjacent areas. The Contractor shall not be entitled to any additional compensation for the use of smaller equipment, lighter equipment, or work task deferral.

The Contractor shall coordinate with the City Forester prior to the removal of any tree roots 1½ -inch or larger in size.

Measurement and Payment

Measurement for payment for the item “Machine Grading” shall be measured as the site area of disturbance within the limits of the work. The measurement shall exclude areas protected by tree fence and any area outside the limits of disturbance provided in the plans.

The completed work as measured for this item of work will be paid for at the Contract unit price for the following Contract (Pay) Item:

Contract Item (Pay Item)	Pay Unit
Machine Grading	Square Yard
Excavation, Earth	Cubic Yard

“Machine Grading” shall be paid for one time per square yard regardless of any re-working that may be necessary.

The pay item “Machine Grading” shall include all the work specified herein, including, but not limited to, the removal and offsite disposal of any surplus or unsuitable materials and the furnishing from off-site any additional Engineer approved fill materials necessary to construct the embankment and subgrade per plans.

The unit price for this item of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Detailed Specification.

The Contractor is advised that due to the phasing of the project and the probable unsuitability of some or all of the excavated material for use as approved fill material, there may be imbalances between the amount of earth cut which is suitable for reuse as fill, and the amount of earth needed to construct the lines and grades shown on the plans, or as directed by the Engineer. The Contractor shall make provisions for such imbalances and shall include in the bid price for this work the cost of importing/furnishing, placement, and compaction of the material, as well as the cost of stockpiling and re-handling of imported and/or on-site Engineer approved materials as necessary to complete the work of constructing the embankment and subgrade to the cross sections shown on the plans.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
SUBGRADE UNDERCUTTING

Description

This work includes removal of unsuitable subgrade material(s) in the areas and limits identified by the Engineer and backfill with Class II Granular Material or 6A Limestone in accordance with the 2020 MDOT Standard Specifications for Construction, and the City of Ann Arbor Public Services Department Standard Specifications, except as modified herein.

Materials

Materials will be in accordance with those specified in Sections 902 and 910 of the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction.

Construction

After the pavement has been removed, and/or after rough/finish grading, and/or at the time of proof rolling, the Engineer may inspect the grade to determine the need for, and the limits of, undercuts. Backfill areas of Subgrade Undercutting with Granular Material Class II or such other such material as directed by the Engineer. After undercut areas are excavated to the depths as directed by the Engineer, the areas shall be trimmed, shaped, evenly graded, and re-compacted to not less than 95% of the soils maximum unit weight as determined by the AASHTO T-180 test. The Contractor shall properly dispose of all excess materials.

During trenching activities, should ground water not feasibly be sufficiently controlled and destabilization of the grade is occurring, the Engineer may determine the need for, and the limits of, undercuts. Backfill areas of Subgrade Undercutting with 6A Limestone or such other such material as directed by the Engineer. Encapsulate 6A aggregate with geotextile separator, and ensure stable subgrade.

At various times throughout the work, the Engineer may direct the Contractor to use smaller and/or lighter equipment, and to defer certain work tasks, in order to protect the grade and/or adjacent areas. The Contractor shall not be entitled to any additional compensation for the use of smaller equipment, lighter equipment, or work task deferral.

Measurement and Payment

These items of work shall be measured for payment by calculating the volume of the undercut excavation prior to the placement of backfill. The completed work as measured for these items of work will be paid for at the Contract Unit Price for the following Contract (Pay) Item:

Contract Item (Pay Item)	Pay Unit
Subgrade Undercutting, _____ Backfill	Cubic Yard

The unit price for this item of work shall include all labor, material, and equipment costs to perform all the work specified by this Detailed Specification, including backfill aggregate and geotextile separator.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
SUBBASE AND AGGREGATE BASE

Description

This work shall consist of constructing subbase and/or aggregate base courses, on either a prepared subgrade or subbase as indicated on the Plans or where directed by the Engineer. This work shall be performed in accordance with Sections 301, 302, 306, and 307 of the 2020 MDOT Standard Specification for Construction and the City of Ann Arbor Public Services Department Standard Specifications, except as modified herein.

Materials

The material used for this work shall meet the requirements of Sections 301, 302, 306, 307 and 902 of MDOT 2020 Standard Specification for Construction, except that the aggregate base shall be 21AA limestone (permanent and temporary applications) and any subbase shall be Class II Granular Material.

Construction Method

Subbase and aggregate base courses shall not be placed when there are indications that the mixture may become frozen before the maximum unit weight is obtained, and in no case shall they be placed on a frozen subbase or subgrade.

The subbase and subgrade shall be shaped to the crown and grade specified on the plans and maintained in a smooth condition. The top of the subbase shall be placed to within ½-inch below and ½-inch above plan grade. The top of the aggregate base shall be placed to within ½-inch below and ¼-inch above plan grade. Variations within this tolerance shall be gradual. If, in the opinion of the Engineer, the Contractor's equipment is causing or will cause any ruts in or damage to the subbase or subgrade, the equipment shall not be permitted on the subbase or subgrade.

Should the subgrade, subbase or aggregate base become damaged due to the Contractor's equipment or by local traffic, the subgrade, subbase, or aggregate base course shall be restored to the condition required by the Specifications without additional compensation to the Contractor.

No pavement course, concrete curb and gutter, or concrete driveway opening shall be placed until the subbase has been compacted to not less than 95%, and aggregate base course to not less than 98% of their respective maximum dry densities and approved by the Engineer.

Base course aggregate shall be handled and/or stockpiled on-site in a manner that minimizes segregation. Base course aggregate shall be deposited from trucks or through a spreader in a manner that will minimize segregation of material and that is approved by the Engineer. The re-handling of base course aggregate by the Contractor will not be considered sufficient cause to allow the material to become segregated. The Contractor may be required to wet the materials prior to and/or during placement to minimize segregation and to aid in compaction of the material should it be necessary.

Aggregate base courses shall be placed in uniform layers such that when compacted, they have the thicknesses shown on the Plans, or as directed by the Engineer. The loose measure of any layer shall not be more than 9-inches or less than 4-inches.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CONCRETE CURB, SIDEWALK, DRIVE APPROACH, AND PAVEMENT

Description

This work shall consist of constructing concrete items including curb, gutter, curb and gutter, sidewalks, drive approaches, and drive openings, all of any type and/or dimensions, all of either regular, and/or high-early concrete, in accordance with Sections 801, 802, and 803 of the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction, except as specified herein, as shown on the Plans, as described in this Detailed Specification, and as directed by the Engineer.

The Contractor is responsible to construct all sidewalks, sidewalk ramps, curbs, and all other concrete items within ADAAG (ADA Accessibility Guidelines) compliance. All sidewalks and curb ramps must be constructed in accordance with MDOT Standard Plan R-28 latest version of standard plan/detail in place at time of the bid letting.

In addition, all concrete items of work shall comply with the Detailed Specifications for Concrete Durability and Concrete Placement and Protection.

Materials

Concrete mixtures shall be as follows (or as directed by the Engineer), and concrete materials shall meet the requirements specified in the referenced sections of the MDOT Standard Specifications for Construction:

Item Description	Concrete Mixture	MDOT Section
All Items Except High Early	3500	1004
All High Early Items	4500	1004

Patterned concrete pavement shall be a stamped brick or similar pattern. The contractor shall submit a sample pattern to the Engineer for approval.

Construction Method

General

Curb, gutter, curb and gutter, sidewalk, sidewalk ramps, drive openings, and drives shall be replaced the same day they are removed unless otherwise prohibited by the required construction.

Concrete items, including sidewalk, non-integral curb/gutter, drives, and structure adjustments shall be completed prior to the placement of pavement.

All subgrade work shall be completed prior to placing concrete items, unless directed or approved by the Engineer.

The subbase shall be trimmed to final elevation before placing curb. Curb shall not be placed on a pedestal or mound.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PAVEMENT MARKINGS

Description

This work consists of providing and placing permanent pavement markings in accordance with the Michigan Manual of Uniform Traffic Control Devices (MMTUTCD), lasted version published at time of advertisement. Provide pavement markings that conform to the Plans, the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction, MDOT Pavement Marking Standard Plans, City of Ann Arbor Special Details, and as specified herein.

Materials

Provide materials in accordance with Sections 811 and 920 of the MDOT 2020 Standard Specifications for Construction. Provide the Material Safety Data Sheets to the Engineer for required materials and supplies. Dispose of unused material and containers in accordance with the federal Resource Conservation Recovery Act (RCRA) of 1976 as amended, and 1994 PA 451, Part 111 Hazardous Waste Management. Provide samples of permanent marking materials upon request.

Construction Methods

The preparation and placement of permanent markings shall conform to Section 811 of the MDOT 2020 Standard Specifications, the Plans, and as specified herein.

Measurement and Payment

Completed work, as described, will be measured, and paid for at Contract unit prices for the following Contract (pay) items:

Contract Item (Pay Item)	Pay Unit
Pavt Mrkg, Polyurea, __-inch, White	Foot
Pavt Mrkg, Polyurea, __-inch, Yellow	Foot
Recessing Pavt Mrkg, Longit	Foot
Recessing Pavt Mrkg, Transv	Square Foot
Pavt Mrkg, Polyurea, 12-inch Crosswalk	Foot
Pavt Mrkg, Polyurea, 24-inch Stop Bar	Foot
Pavt Mrkg, Polyurea, _____ Sym	Each
Pavt Mrkg, Polyurea, _____ Legend	Each
Pavt Mrkg, Thermoplastic, __-inch, Yellow	Foot
Pavt Mrkg, Thermoplastic, 12-inch Crosswalk	Foot
Pavt Mrkg, Thermoplastic, 12-inch Cross Hatch, Yellow	Each

Guide lines are included in “Recessing Pavt Mrkg, Longit”.

The unit prices for these items of work shall include all labor, material, and equipment costs to perform all the work specified in the MDOT 2020 Standard Specifications for Construction and as modified by this Detailed Specification.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
BIORETENTION AND ADJACENT PLANTING AREAS

Description

This work shall consist of constructing the bioretention and adjacent planting areas as shown on the plans and as directed by the Engineer, in accordance with MDOT 2020 Standard Specifications for Construction, and the City of Ann Arbor Public Services Department Standard Specifications, as modified herein.

Materials

The materials used for this work shall conform to MDOT 2020 Standard Specifications for Construction including:

- Nonwoven geotextile fabric, minimum 6 oz., Marafi 160N, TerraTex N06, US Fabric 165 NW, or Engineer approved equal.
- 6A limestone.
- 50% imported, Engineer-approved, topsoil and 50% compost (no peat moss).
- Herbaceous plugs
- Annual ryegrass
- Fescue seed mix

Native seed shall be fresh, clean, new seed of native plant material of genotypes from the north central states only (IL, IN, MI, OH) and from a recognized nursery of this region. Seed mix shall be composed of seed with the purity, germination, and proportions by acre, as indicated on the drawings.

Seed weights listed for native seed mixes are shown as pure live seed (PLS) and indicate the total amount of fresh, new crop seed per acre for all species listed. The native seed mixture shall be by weight and proportions as shown on the plans.

Seed sources for all the native seed are available through The Michigan Wildflower Farm, Portland, Michigan, (517) 647-6010; JFNew, Walkerton, IN (574) 586-2412; or LaFayette Home Nursery, LaFayette IL, (309) 995-3311, or approved substitution.

Mulch for native seed shall be clean chopped straw from oats to protect seeded areas from invasive species frequently found in common straw. **No other type of mulch is acceptable.** It shall be natural and suited for horticultural use and not contain lumps, roots or other foreign matter over one inch in diameter. It shall be free of seeds and noxious weeds. Mulch shall not contain more than 35% moisture by weight. Mulch is not necessary under straw mulch blanket.

Seed for bioretention plantings crop cover shall be Annual Rye, *Lolium multiflorum*.

Compost can be purchased from the City of Ann Arbor compost facility at 4170 Platt Road for reduced cost for Capital Projects.

Construction

The entire bioretention area shall be excavated to subgrade prior to installing geotextile fabric. Completely remove all roots and deleterious material from the excavated area. Avoid compaction of subgrade soil and scarify compacted subgrade soils to a minimum depth of 6 inches. Do not place geotextile until subgrade surface has been inspected and approved by the Engineer.

Begin installation of stone reservoir immediately after approval of subgrade preparation by placing geotextile in accordance with Manufacturer's standards and recommendations, with minimum 16 inches overlap. Place stone aggregate in uniform layers to the dimensions shown on the Plans. Wrap the stone completely in geotextile fabric.

Soil preparation and placement will not be allowed when materials are wet and/or saturated. Compost stockpiled on-site must be kept dry, and silt fence shall be placed around stockpiles. It is the responsibility of the Contractor to estimate and achieve adequate quantities to cover the planting area to the depth indicated on the plans.

Prepare all bioretention and adjacent planting bed areas to the limits as shown on the plans in accordance with Section 816.03.A.1. All areas of the proposed bioretention shall be considered Class A slopes and shall be prepared in accordance with Section 205.03.N except that all stones and rocks 1½ -inch in diameter and greater, roots, brush, litter, and any other deleterious matter shall be removed and properly disposed of off-site.

In order to develop the contours and elevations as shown on the plan sheets, it may be necessary to use smaller equipment, hand methods, raking, grooming, or other techniques to achieve the required results. All work necessary to develop the plan contours as staked in the field shall be deemed to be included this item of work and shall not be paid for separately.
Place Bioretention soil mix in accordance with Section 816.03.A.2. Bioswale soil mix shall be placed to a minimum depth as indicated on the plans.

Repair prepared soil surface as directed by the Engineer so that finish grades are met.

Final grades will be reviewed and approved by the Engineer prior to planting.

Planting for herbaceous plugs shall be performed after May 1st and before June 15th or, after August 15th but before September 15th, or as otherwise approved by the PSAA, and subject to the following requirements:

1. All containers and packaging material shall be removed before planting and removed from site;
2. Plants shall be set plumb;
3. Root structure shall not be damaged;
4. Root matter shall be thoroughly soaked with water; and
5. Where plugs are planted in areas of mulch blankets, planting shall be through the mulch blanket after its installation.

Establishment of a dense stand of wet meadow perennial grasses and/or flowers as specified in Plans is the responsibility of the Contractor. Any part of the area that fails to thrive shall be re-planted until a dense planting in these areas is established.

Acceptance of Rain Garden and Bioswale and Adjacent Planting Areas

- Provisional Acceptance shall be granted when 90% total cover with no bare areas as large as 4 square feet exist as determined by the Engineer. The PSAA will utilize a meander/search method for reviewing the area(s). Bare areas as large as 4 square feet shall be “re-plugged” by the Contractor without additional compensation.
- Final Acceptance shall be granted when no bare areas as large as 1.5 square feet exist as determined by the PSAA. Bare areas as large as 1.5 square feet shall be “re-plugged” by the Contractor without additional compensation.

Measurement and Payment

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

Contract Item (Pay Item)	Pay Unit
Bioretention Area Excavation	Cubic Yard
Bioretention Geotextile Fabric	Square Yard
Bioretention Aggregate	Cubic Yard
Bioretention Soil Mix (Topsoil and Compost)	Cubic Yard
Bioretention Plantings, _____	Each
Bioretention Annual Ryeseed	Pounds
Fescue Seed Mix	Pounds

Payment includes furnishing the labor, equipment, and materials for excavation, disposing of excavated material, and constructing the bioretention area, complete with preparation, geotextile fabric, stone reservoir, bioretention soil mix and plantings.

Geotextile fabric shall be measured in covered area of bed, and will not include overlapped fabric separately.

HMA Pavement Removal, Remove Concrete Curb & Gutter, Remove Concrete Sidewalk, Sewer Remove, Structure Remove, Water Main Remove and Abandonment, and new pipe, spillway & riprap, and overflow structure shall be paid for separately.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
TREES AND PLANTINGS

Description

This work shall consist of planting trees or shrubs, and placement of shredded bark mulch at the locations shown on the plans or as directed by the Engineer. Work shall be in accordance with Sections 815, 816 and 917 of the 2020 Michigan Department of Transportation Standard Specifications for Construction with the following amendments or additions.

Watering, removing weeds, and completing all necessary tasks to maintain a healthy stand of plants, and Balled and Burlapped (B&B) Trees shall be included in this work.. Extent of work shall include a two year warranty and maintenance period, including but not limited to the following:

1. Watering
2. Weed Control
3. Mulching
4. Disease and Insect Control
5. Pruning
6. Fertilizer Application
7. Removal of Tree Support and Tags

The Contractor shall attend a site walkthrough to review final plantings within the project area.

Tree drip irrigation bags are in addition to planting specifications 815, 816 and 917 of the 2020 Michigan Department of Transportation Standard Specifications.

Materials

All planting methods and materials shall conform to Sections 815, 816 and 917 and the planting details shown on the plans. In addition, tree planting shall include and Tree Drip Irrigation Bags and Watering and Cultivating. Tree and plant types shall be as shown on the Drawings or as directed by the Engineer.

Tree Drip Irrigation Bags shall be Treegator Original 20-gallon slow release watering bags, or approved substitution.

Fertilizer shall be slow release, at minimum 50% derived from a natural, organic source, 12-0-6 or approved substitution.

The Contractor shall submit a minimum size sample of ½-gallon sized container of structural soil and topsoil for approval prior to installation.

The Contractor shall submit to the ENGINEER sources for all plant material.

Construction Methods

The construction methods shall be in accordance with the 2020 Michigan Department of Transportation Standard Specifications for Construction Section 815.03 unless otherwise stated

in this special provision.

All open tree pits shall be excavated to the full extent of their dimensions as shown in the details.

Watering and Cultivating shall follow the schedule in the 2020 Michigan Department of Transportation Standard Specifications for construction Section 815 with the adjustment of filling the tree drip irrigation bags with water and using the fertilizer as dictated in this special provision. For each watering and cultivating visit, verification in the form of a report of maintenance activities and certified payroll covering visits, shall be provided to the OWNER by the end of each month that the visits have taken place.

Measurement and Payment

The completed work as measured shall be paid for at the Contract unit price for the following Contract items (pay items):

Contract Item (Pay Item)	Pay Unit
Tree, __ inch caliper	Each

Measurement and payment for the item Trees and Plantings shall include excavation, backfill, topsoil, shredded bark mulch, tree drip irrigation bags, water, and all other equipment necessary, and as described herein, for a complete installation. Warranty and maintenance for two seasons shall also be included in the prices provided under this allowance.

The final inspection of all planting work under the Contract will be made by the Contractor and Engineer at the end of the maintenance and establishment periods. Before final acceptance is given, the terms of the establishment shall be met and the site shall be cleared of all debris, soil and containers.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PERMANENT SIGNS

BMS:TCB 1 of 1 3/28/23

Description

This work shall consist of fabricating, shipping and installing permanent signs and similar materials. Signs to be installed by the City of Ann Arbor are indicated as “furnished” and shall be delivered to the Wheeler Service Center, 4251 Stone School Road. Ann Arbor, MI 48108, Attn: Signs and Signals. Work shall be in accordance with Sections 810 and 919 of MDOT 2020 Standard Specifications.

Materials

Signs are to be fabricated in accordance with Section 919.02 Traffic Signs of the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction and the 2011 Michigan Manual of Uniform Traffic Control Devices (MMUTCD).

The plans indicate the signs to be fabricated.

Materials for traffic signs include steel posts and hardware needs to install signs.

Signs to be installed by City (furnish only) are to be delivered to the City of Ann Arbor at a location designed by the Engineer in an undamaged condition.

R1-6 base shall be manufactured by Qwick Kurb, Inc, model number L60 in yellow color. End sections shall be model number L61. The assembly shall include L65 reflective arcs, a reboundable flex boot with bolt in construction, with a 224 sq. in. reflective crosswalk marker panel MDOT sign R1-6. All pavement mounting hardware shall be stainless steel meeting the dimensional and strength capacity of the manufacturer’s recommendation.

Construction

Signs shall be installed per manufacturer’s specifications at locations determined by the Engineer.

Measurement and Payment

The completed work will be measured and paid for the following pay items:

Contract Item (Pay Item)	Pay Unit
Permanent Sign, ____, furnish	Each
Permanent Sign, ____, furnish and install	Each

The approved price for this item shall include all labor, material, and equipment costs required to complete the work.

CITY OF ANN ARBOR
ENGINEERING

BROOKS STREET IMPROVEMENTS

RFP No. 23-09, FILE No. 2021016

VICINITY MAP

NOTES:

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CALL 811 OR 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

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

THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO THE 1994 EDITION OF THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS, ITS DETAILS, WHICH ARE INCLUDED BY REFERENCE, AND THIS PROJECT'S CONTRACT DOCUMENTS. THE OMISSION OF ANY CURRENT STANDARD DETAIL DOES NOT RELIEVE THE CONTRACTOR FROM THIS REQUIREMENT.

Sheet List Table

PROJECT DESCRIPTION

This project includes water main replacement, storm water management improvements, road-narrowing and new sidewalk. The limits of disturbance include the entire Brooks Street corridor (0.70 mi.), 1 block of Mixtwood Street (0.13 mi) and ½ block of Bydding Road (0.07 mi.)

The following project quantities are approximate:

2,400 linear feet of 8-inch watermain, 25 storm water structures, 370 linear feet of 12-inch storm water pipe, 200 linear feet of 36-inch storm water pipe, a rain garden, 15,600 square yards of HMA surface removal and 13,500 square yards of HMA resurfacing, 2,750 linear feet of 5-foot wide sidewalk, 3,500 linear feet of concrete curb and gutter removal and replacement for utility trenching, road-narrowing, and the Sunset intersection reconfiguration.

PREPARED UNDER THE SUPERVISION OF

CHRISTOPHER CARSON, P.E. - MI LICENSE No. 47156

3 / 13 / 2023
DATE

STATE OF MICHIGAN
CHRISTOPHER CARSON ENGINEER No. 47156
LICENSED PROFESSIONAL ENGINEER

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT TO BID	3-13-23	CC/DF/KB	TB
01	ADDENDUM 1	3-28-23	CC/DF	TB

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
(734) 794-6410
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

COVER SHEET

SCALE

DRAWING No. 2021016-1

SHEET No. 1 OF 54

R:\2021016 Brooks Street\Plan Production\2021016Cov.dwg — _a2 standard bw.stb — Plot Date: 3/28/2023 2:07:22 PM

CONSTRUCTION NOTES:

1. Driveways and entrances to buildings, real property, and the like shall not be blocked except for short durations and only when approved by the Engineer. Vehicular and pedestrian access shall be maintained at all times. It shall be the Contractor's responsibility to coordinate all necessary driveway closures with the property owner(s) and resident(s) in the areas of construction.
2. The location and depth of all existing utilities and service leads are to be field verified by the Contractor prior to construction.
3. Location and depth of utilities as depicted on the plans is approximate and shown according to the best information available. It is the Contractor's responsibility to excavate ahead and adjust depth of conflict utilities accordingly. Any damage to utilities is the Contractor's responsibility to avoid and/or repair as necessary.
4. The Contractor is to take special care to protect the existing water main and be responsible for maintaining consistent water service.
5. During non-working hours no trench shall remain open; any open trench shall be properly secured with protective fencing. This work shall be included in the item of work "General Conditions".
6. Trenches for new water services shall be excavated to MIOSHA and City of Ann Arbor Public Works requirements.
7. City of Ann Arbor Public Works will install the corporation and copper service lead(s) to transfer the connection(s). If an existing water service is found to be failing or is not copper, the lead will be replaced to the curb box by Public Works.
8. For the installation of corporations, or any other related activities, the Contractor shall not receive additional compensation for delays due to the scheduling of or coordination with the City of Ann Arbor Public Works.
9. The Contractor shall backfill trenches in accordance with Trench Detail specified on plans. This work shall be included in the item of work "Excavate and Backfill for Water Service Tap and Lead". All concrete and HMA removals and replacements required for this work will be paid for separately.
10. All ductile iron pipe and fittings shall be polyethylene wrapped per ANSI/AWWA C105/A21.5.
11. Cor-blu bolts to be used at all mechanical water main joints at hydrants and Megalug fittings.
12. The Contractor shall construct, flush, and bacteriologically test the water main per Detailed Specification "Water Main Installation and Testing" and as approved by the Engineer. All chlorinated water shall be discharged directly into an approved sanitary sewer. The Contractor shall supply all necessary hoses, fittings and the like to accomplish this work.
13. Water main fittings, other than those specifically listed as separate pay items, which are required to complete the work, such as blow-off assemblies, concrete thrust blocks, solid sleeves and mechanical plugs, shall not be paid for separately, but shall be included in the pipe pay items.
14. "No Parking" signs shall be installed by the Contractor at locations as approved or directed by the Engineer. All signs shall be installed in accordance with the detailed specifications.
15. Postal delivery and refuse pickup service shall be maintained at all times by the Contractor.
16. All fittings, hydrants, valves and castings removed during construction are the property of the City of Ann Arbor. The Contractor within 48 hours shall deliver to City of Ann Arbor Public Works Facility at the W.R. Wheeler Service Center located at 4251 Stone School Road.
17. Where street curbs are undermined due to construction activities, they shall be removed and replaced as directed by the Engineer.
18. The Contractor shall be responsible for the continuous maintenance of the temporary road surface and soil erosion control measures within the construction area until the full completion of the project. This work shall be included in the item of work "General Conditions".
19. All curb, sidewalk, driveway approach removals shall be approved by Engineer before the work is done.
20. Sawed sewer pipe connections shall be coupled with a Fernco flexible coupling and a stainless steel shear ring.
21. The location of material stock piles and on-site staging areas to be approved by the Engineer.
22. For mainline paving, the width of the mat for each pass of the paver shall be not less than 10.5' or greater than 15', as directed by the Engineer. The Engineer will direct the layout of the longitudinal joints during construction.
23. All structures shall receive new castings as directed by the Engineer, as specified on the standard casting schedule. The existing castings are the property of the City of Ann Arbor. The Contractor shall deliver to City of Ann Arbor Public Works Facility at the W.R. Wheeler Service Center located at 4251 Stone School Road.
24. Payment for drainage structure sumps, where specified, shall be included in the payment for the various drainage structure sizes and or types.
25. Where sewer pipes of different sizes or materials are joined, Fernco flexible couplings with stainless steel shear rings shall be used. The Contractor's purchase price for these devices, including shipping, shall be paid as an extra. Prior to payment for this item, the Contractor shall submit receipts for the Engineer's review and approval. All other costs associated with the installation of these devices shall be included in the payment for the sewer.
26. Where sewer and water main are to be removed & replaced or added, all pipe shall be installed using Trench Detail detailed in the specifications or shown on Plans. Backfill for sewer and water construction shall be MDOT Granular Material, Class II, Modified.
27. Existing street name, guide, and regulatory signs, and mailboxes which conflict with the proposed construction shall be removed prior to construction, stored in a manner which will prevent damage, and re-set in locations as directed by the Engineer. This work will not be paid for separately, but shall be included in "Machine Grading, Modified"
28. In areas where edge drain cannot be installed in accordance with Typical Edge Drain Trench SD-TD-4, the edge drain shall be installed at the depth as indicated on the plans, or as directed by Engineer. In no case shall the edge drain be installed at a grade less than 0.50% or at a depth of less than 2' below top of proposed pavement.

SOIL EROSION AND SEDIMENTATION CONTROL NOTES:

NOTIFY THE CITY OF ANN ARBOR SOIL EROSION CONTROL OFFICE 48 HOURS PRIOR TO BEGINNING WORK ON THE PROJECT. PHONE: 734-794-6265.

1. THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN THE SOIL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER AT ALL TIMES DURING CONSTRUCTION. ANY MODIFICATIONS OR ADDITIONS TO THE SOIL EROSION CONTROL MEASURES DUE TO CONSTRUCTION OR CHANGED CONDITIONS SHALL BE AS DIRECTED AND APPROVED BY THE ENGINEER.
2. ALL SOIL EROSION AND SEDIMENTATION CONTROL WORK SHALL CONFORM TO THE PERMIT REQUIREMENTS OF THE CITY OF ANN ARBOR, CHAPTER 55 ANN ARBOR UNIFIED DEVELOPMENT CODE, CITY OF ANN ARBOR STANDARDS DIVISION VII, THE LAWS OF THE STATE OF MICHIGAN, AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
3. DAILY, OR AFTER ANY STORM EVENT, INSPECTIONS OF EROSION CONTROL MEASURES SHALL BE MADE BY THE CONTRACTOR. PERIODIC INSPECTIONS MAY BE MADE BY THE ENGINEER TO DETERMINE THE EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES. ANY NECESSARY CORRECTIONS SHALL BE MADE WITHOUT DELAY, AND WITHOUT ADDITIONAL COST TO THE CITY OF ANN ARBOR.
4. EROSION AND SEDIMENTATION FROM WORK ON THE SITE SHALL BE CONTAINED ON THE SITE AND NOT BE ALLOWED TO COLLECT ON ANY OFF-SITE AREAS, ROADWAYS OR WATERWAYS.
5. ALL MUD/SOIL TRACKED ONTO ROADWAYS FROM THE SITE DUE TO CONSTRUCTION, SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR. IF SO ORDERED, THE CONTRACTOR SHALL PROVIDE AND OPERATE A VACUUM-TYPE STREET SWEEPER, AT NO ADDITIONAL COST TO THE CITY OF ANN ARBOR.
6. RESTORATION OF ALL DISTURBED AREAS, INCLUDING PLACEMENT OF TOPSOIL, SEED, FERTILIZER AND MULCH AND/OR SOD SHALL BE PERFORMED WITHIN FIVE (5) DAYS OF THE COMPLETION OF FINAL GRADE.
7. CONSTRUCTION OPERATIONS SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE SOIL EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO EXCAVATION IN CRITICAL AREAS AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING OPERATIONS.
8. SPECIAL PRECAUTIONS WILL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION.
9. PROPER DUST CONTROL SHALL BE MAINTAINED DURING CONSTRUCTION BY USE OF WATER TRUCKS AND/OR DUST PALLATIVE AS REQUIRED.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND REMOVAL OF SOME MEASURES UPON AUTHORIZED COMPLETION OF THE PROJECT. FINAL COMPLETION OF PROJECT WILL NOT BE AUTHORIZED UNTIL ALL SITE WORK AND UTILITY CONSTRUCTION IS COMPLETE AND ALL SOILS ARE STABILIZED.
11. THE CONTRACTOR SHALL NOT GRADE INTO ADJACENT PROPERTIES. SILT AND PROTECTIVE FENCE SHALL BE INSTALLED AND MAINTAINED TO PREVENT GRADING, EROSION AND SEDIMENTATION INTO THE ADJACENT PROPERTIES.
12. TREE PROTECTION FENCING MUST REMAIN INTACT UNTIL RESTORATION OF THE SITE IS COMPLETE.

SEQUENCE OF EROSION CONTROL MEASURES:

1. THE CONTRACTOR IS TO SUBMIT TO THE ENGINEER, A SEQUENCE OF CONSTRUCTION WITH RESPECT TO THE SOIL EROSION CONTROL MEASURES FOR REVIEW, COMMENT AND APPROVAL. THIS SCHEDULE IS TO INCLUDE INSPECTION AND REPAIR OF ALL TEMPORARY EROSION CONTROL MEASURES DAILY AND WITHIN 24 HOURS OF A STORM EVENT.

SAMPLE SOIL EROSION AND SEDIMENTATION CONTROL INSTALLATION MINIMUM REQUIREMENTS:

1.1. INSTALL SILT FENCE, TREE PROTECTION FENCING, MUD MATS, INLET FILTERS ON EXISTING DRAINAGE FEATURES, AND ALL OTHER TEMPORARY SOIL EROSION CONTROLS, PRIOR TO ANY CLEARING OR EARTH MOVING OPERATION.

1.2. STRIP AND STOCKPILE TOPSOIL. STABILIZE STOCKPILE AS REQUIRED.

1.3. INSTALL WATER MAINS, STORM AND SANITARY SEWERS, AND OTHER ENCLOSED DRAINAGE FEATURES. NEW INLET FILTERS SHALL BE INSTALLED IMMEDIATELY FOLLOWING INSTALLATION OF NEW DRAINAGE INLETS.

1.4. PERFORM MACHINE GRADING OPERATIONS AND CONSTRUCT PAVEMENTS (MAINLINE, SIDEWALKS, DRIVES, ETC.).

1.5. CONTINUALLY MAINTAIN EROSION AND SEDIMENTATION CONTROL MEASURES, AS REQUIRED TO ALLOW DRAINAGE AND SEDIMENT REMOVAL. REMOVE ANY ACCUMULATED SEDIMENT IMMEDIATELY.

1.6. COMPLETE ALL FINE GRADING.

1.7. TEMPORARY SEED AND INSTALL EROSION CONTROL BLANKET IN ALL DISTURBED AREAS.

1.8. REFER TO LANDSCAPE PLANTING PLANS FOR PERMANENT SITE STABILIZATION.

1.9. CLEAN OUT STORM SEWER SYSTEMS.

1.10. REMEDY ANY NOTED DEFECTS TO THE SATISFACTION OF THE CITY OF ANN ARBOR'S SOIL EROSION AND SEDIMENTATION CONTROL OFFICIAL.

1.11. ALL TEMP. SOIL EROSION CONTROL MEASURES MUST BE REMOVED, WITH ENGINEERS APPROVAL, PRIOR TO FINAL INSPECTION

NOTE: THIS SEQUENCE IS FOR INFORMATION ONLY. IT IS INTENDED TO SHOW THE SEQUENCE OF CONSTRUCTION WITH RESPECT TO THE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING THEIR OWN DETAILED CONSTRUCTION SEQUENCE AND SCHEDULE TO THE ENGINEER FOR REVIEW, COMMENT, AND APPROVAL.

TEMPORARY SEEDING:

1. SEED IN ACCORDANCE WITH PROJECT DRAWINGS AND SPECIFICATIONS.
2. ANY DISTURBED AREA NOT PAVED, SEEDED, MULCHED, SODDED OR BUILT UPON BY NOVEMBER 15TH OR JUNE 30TH IS TO BE TEMPORARILY STABILIZED PER SPECIFICATIONS.

THE ESTIMATED COST OF SOIL EROSION AND SEDIMENTATION CONTROL MEASURES, TOPSOIL, SEEDING, AND MULCH = $50,000

ON SITE SOILS PER THE USDA SOIL SURVEY OF WASHTENAW COUNTY, MICHIGAN:

BROOKS ST./MIXTWOOD ST.

- FoB – FOX SANDY LOAM, TILL PLAIN, 2 TO 6 PERCENT SLOPES
- WawabC – WAWASEE LOAM, 6 TO 12 PERCENT SLOPES
- MmF – MIAMI LOAM, 25 TO 35 PERCENT SLOPES

AREA OF PROPOSED DISTURBANCE
= 3.94 ACRES

PERMITS REQUIRED TO BE OBTAINED BY THE CONTRACTOR PRIOR TO THE BEGINNING OF CONSTRUCTION.

PERMIT	ISSUING AUTHORITY
LANE CLOSURE PERMIT*	CITY OF ANN ARBOR ENGINEERING
"NO PARKING" SIGNS PERMIT*	CITY OF ANN ARBOR ENGINEERING
GRADING/SOIL EROSION & SEDIMENTATION CONTROL PERMIT*	CITY OF ANN ARBOR CUSTOMER SERVICE
RIGHT-OF-WAY PERMIT*	CITY OF ANN ARBOR CUSTOMER SERVICE
* NO COST TO CONTRACTOR	

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

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

CONTACT INFORMATION

PUBLIC UTILITIES	OWNER	CONTACT
WATER SANITARY STORM FORESTRY	CITY OF ANN ARBOR PUBLIC WORKS W.R. WHEELER SERVICE CENTER 4251 STONE SCHOOL ROAD ANN ARBOR, MI 48108	(734) 794-6350
SIGNS SIGNALS STREET LIGHTS		MARK MORENO (734) 794-6361
FIBER OPTIC	CITY OF ANN ARBOR INFORMATION TECHNOLOGY LARCOM CITY HALL 301 E. HURON STREET ANN ARBOR, MI 48107	(734) 794-6550
PRIVATE UTILITIES	**OWNER**	**CONTACT**
GAS	DTE ENERGY 3150 E. MICHIGAN AVE, YPSILANTI TOWNSHIP, MI 48198	ROBERT CZAPIEWSKI (734) 544-7818
ELECTRIC	DTE ENERGY WESTERN WAYNE SERVICE CENTER 8001 HAGGERTY ROAD BELLEVILLE, MI 48111	ANTHONY IGNASIAK (734) 397-4447
CABLE	COMCAST 27800 FRANKLIN ROAD SOUTHFIELD, MI 48034	RON SOUTHERLAND (313) 999-8300
PHONE	AT&T 550 S. MAPLE ROAD ANN ARBOR, MI 48103	STEVEN ALLSHOUSE (734) 996-5381
FIBER OPTIC	MCI 2800 N. GLENFILLE ROAD RICHARDSON, TX 75082	DEAN BOYERS (972) 729-6016
FIBER OPTIC	WINDSTREAM 1295 S LINDEN ROAD, SUITE B FLINT, MI 48532	GREG SERICH (810) 244-3500
STREET LIGHTING	DTE ENERGY 8001 HAGGERTY ROAD BELLEVILLE, MI 48111	LANCE ALLEY (734) 397-4188

BROOKS STREET IMPROVEMENTS

BM #	ELEV	DESCRIPTION
1	852.358	SET RR SPIKE ON NORTH SIDE OF UTILITY POLE, ON THE SOUTH SIDE OF MILLER, BETWEEN HOUSE #S 825 & 829
2	856.789	SET RR SPIKE ON EAST SIDE OF UTILITY POLE, ON THE WEST SIDE OF BROOKS, BETWEEN HOUSE #S 613 & 621
3	860.889	SET RR SPIKE ON EAST SIDE OF UTILITY POLE, AT THE NW CORNER OF BROOKS & HISCOCK
4	856.334	THIS IS BM-9 FROM THE HISCOCK TOPO, BOOK 1113A PAGE 34
5	867.020	SET RR SPIKE ON EAST SIDE OF UTILITY POLE, ON THE WEST SIDE OF BROOKS, BETWEEN HOUSE #S 721 & 727
6	879.697	SET RR SPIKE ON EAST SIDE OF UTILITY POLE, ON THE WEST SIDE OF BROOKS, 20' SOUTH FROM CENTERLINE OF SUMMIT
7	889.749	SET RR SPIKE ON EAST SIDE OF UTILITY POLE, ON THE WEST SIDE OF BROOKS, ACROSS THE STREET FROM DRIVE FOR HOUSE #S 820 & 822
8	896.483	FOUND BOAT SPIKE ON EAST SIDE OF UTILITY POLE, ON THE WEST SIDE OF BROOKS, 20' SOUTH OF CENTERLINE OF PEARL
9	908.170	FOUND BOAT SPIKE ON EAST SIDE OF UTILITY POLE, ON THE NW CORNER OF BROOKS & MIXTWOOD
10	930.437	SET RR SPIKE ON EAST SIDE OF UTILITY POLE, ON THE WEST SIDE OF BROOKS, 10' NORTH OF DRIVE FOR HOUSE # 1116
11	956.068	SET RR SPIKE ON SE SIDE OF UTILITY POLE, AT THE NW CORNER OF BROOKS & ROBIN
12	950.526	SET RR SPIKE ON WEST SIDE OF UTILITY POLE, AT THE SE CORNER OF BROOKS & BYDDING
13	963.484	SET RR SPIKE ON WEST SIDE OF UTILITY POLE, ON THE EAST SIDE OF BROOKS, 45' NORTH OF DRIVE FOR HOUSE # 1304
14	954.764	SET RR SPIKE ON NE SIDE OF UTILITY POLE, AT THE SW CORNER OF BROOKS & VESPER
16	909.177	NORTH SIDE OF RIM ON SANITARY MH, ON THE NORTH SIDE OF CENTERLINE OF MIXTWOOD, BETWEEN HOUSE #S 920 & 904
17	901.037	FOUND RR SPIKE ON SE SIDE OF UTILITY POLE, ON THE SW CORNER OF MIXTWOOD & RED OAK

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

BY	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM 1	3-28-23	CC/DF	TB
00	OUT TO BID	3-13-23	CC/DF/KB	TB
REV.				

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

BROOKS STREET IMPROVEMENTS

STANDARD NOTES

SCALE : NTS

DRAWING No. 2021016-2

SHEET No. 2 OF 54

EXISTING LEGEND

- FIRE HYDRANT
- GATE VALVE IN BOX
- GATE VALVE IN WELL
- STOP BOX
- WATER VAULT
- WELL
- CATCH BASIN (SQ)
- CATCH BASIN (RD)
- STORM MANHOLE
- NON-CURB CATCH BASIN (SQ)
- END SECTION
- SANITARY MANHOLE
- CLEAN-OUT
- POST
- PEDESTRIAN SIGNAL
- SIGN
- HAND HOLE
- ORNAMENTAL LIGHT
- FLOOD LIGHT
- UNKNOWN MANHOLE
- TELEPHONE MANHOLE
- TELEPHONE RISER
- GAS VALVE
- GAS VENT
- GAS BOX
- ELECTRICAL RISER
- TRANSFORMER
- UTILITY POLE
- LAMP POLE
- GUY ANCHOR
- GUY POLE
- MONITORING WELL
- MAILBOX
- SOIL BORING
- TRAVERSE POINT
- BENCH MARK
- IRON PIPE
- MON BOX

- WATER MAIN
- WATER MAIN ABANDONED
- STORM SEWER
- STORM SEWER ABANDONED
- SANITARY SEWER
- SANITARY SEWER ABANDONED
- GAS MAIN
- GAS MAIN (DEAD)
- ELECTRICAL OVER HEAD
- ELECTRICAL UNDER GROUND
- ELECTRICAL DUCT BANK
- TELEPHONE OVER HEAD
- TELEPHONE UNDER GROUND
- TELEPHONE DUCT BANK
- CABLE TV OVER HEAD
- CABLE TV UNDER GROUND
- FIBER OPTIC
- FIBER OPTIC DUCT BANK
- BOUNDARY
- BUILDING
- CENTERLINE OF DITCH
- CENTERLINE/CROWN OF ROAD
- CONTOUR MAJOR
- CONTOUR MINOR
- EDGE OF WATER
- FLOODPLAIN
- FENCE
- GRAVEL
- GUARDRAIL
- STONE WALL
- R.O.W.
- TREELINE
- WETLAND
- EDGE OF BRUSH
- HEDGE

- TREE (DECIDUOUS)
- TREE (CONIFEROUS)
- SHRUB (DECIDUOUS)
- STUMP
- TREE TO REMAIN & PROTECT (DECIDUOUS)
  CRITICAL ROOT ZONE (C.R.Z.) = DIAMETER BREAST HEIGHT (INCHES) X 10
- TREE TO REMAIN & PROTECT (CONIFEROUS)
  CRITICAL ROOT ZONE (C.R.Z.) = DIAMETER BREAST HEIGHT (INCHES) X 10

PROPOSED LEGEND

- HYDRANT (PLAN)
- WATER GATE WELL
- REDUCER
- WATER GATE VALVE
- WATER STOP BOX
- WATER VAULT
- INLET
- DOUBLE INLET
- INLET JUNCTION CHAMBER
- ROUND CATCH BASIN
- STORM MANHOLE
- DRAIN ARROW
- FLARED END SECTION
- SANITARY MANHOLE
- CLEAN-OUT
- BARREL
- SIGN
- PUSH BUTTON
- HAND HOLE

- WATER MAIN
- STORM SEWER
- SANITARY SEWER
- FIBER OPTIC
- ELECTRICAL
- CENTERLINE OF DITCH
- CENTERLINE OF ROAD
- FENCE
- GRAVEL
- SILT FENCE
- PROTECTIVE FENCE
- GUARDRAIL
- LOT/UNIT
- CURB
- TEMPORARY GRADING PERMIT
- CONTOUR MAJOR
- CONTOUR MINOR
- WATER EASMENT
- STORM EASEMENT
- SANITARY EASEMENT
- R.O.W.
- LIMITS OF CONSTRUCTION
- LIMIT OF GRADING
- STONE WALL

- DETECTABLE WARNING
- ASPHALT
- CONCRETE
- SIDEWALK
- TREE (DECIDUOUS)
- TREE (CONIFEROUS)
- TREE TO BE REMOVED (DECIDUOUS)
- TREE TO BE REMOVED (CONIFEROUS)
- STUMP TO BE REMOVED

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
				TB
			CC/DF	TB
		3-28-23	CC/DF	JKB
01	ADDENDUM 1	3-13-23		
00	OUT TO BID			

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

BROOKS STREET IMPROVEMENTS

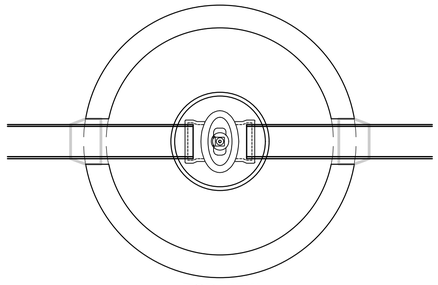
LEGEND

SCALE : NTS

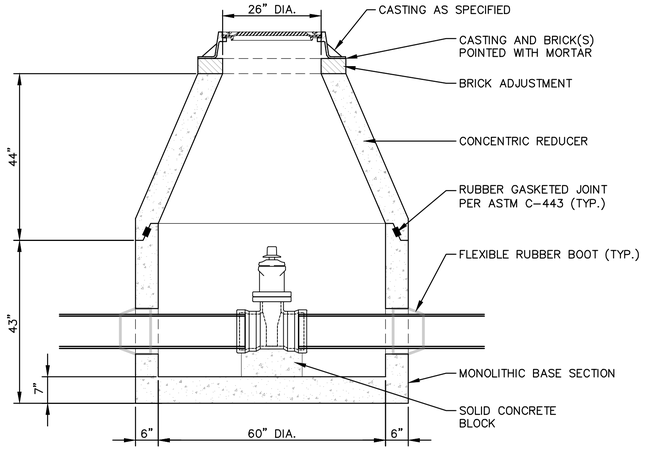
DRAWING No.
2021016-3

SHEET No.
3 OF 54

R:\2021016 Brooks Street\Plan Production\2021016cov.dwg — _a2 standard bw.stb — Plot Date: 3/28/2023 2:07:31 PM



TOP VIEW

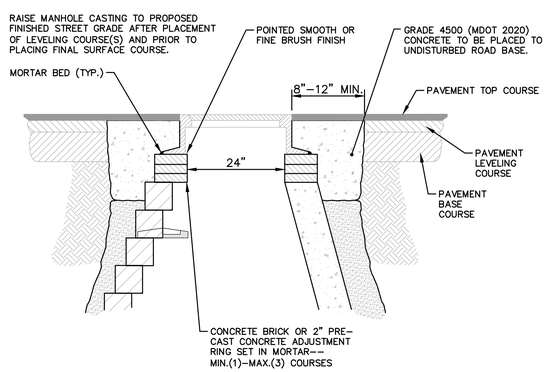


TYPICAL MANHOLE SECTION

NOTES:

1. PRECAST MANHOLE PER ASTM C-478.
2. REINFORCING IN WALLS TO BE ONE LAYER OF 2" X 8" W3/W2.9 WELDED WIRE MESH. CIRCUMFERENTIAL REINFORCEMENT = 0.18 SQ. IN./VERT. FT.
3. BASE SLAB TO BE REINFORCED WITH ONE LAYER OF #4 REBAR AT 12" C-C, E.W. AREA/STEEL = .20 SQ. IN./FT E.W.

PRECAST GATE WELL (WATERMAINS 16 INCH AND SMALLER) SD-W-3



NOTE:

1. IF MANHOLE WILL BE PLACED IN GRAVEL ROAD, CASTING TO BE SET 6" TO 8" BELOW ROADWAY GRADE. ALL CONSTRUCTION METHODS SHALL REMAIN AS SHOWN ABOVE.

MANHOLE CASTING ADJUSTMENT SD-GU-5

MINIMUM STANDARDS

THE MDOT GRADE 3500 OR P-NC CONCRETE AT THE FITTING FACE SHALL EXTEND TO WITHIN 2" OF THE BELL AND SHALL EXTEND FROM THE FITTING FACE A MINIMUM OF 2' TO THE UNDISTURBED SOLID GROUND.

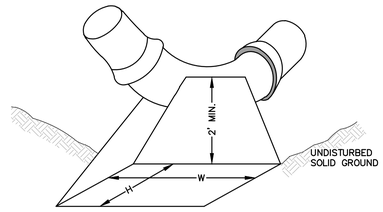
THE DIMENSIONS OF THE THRUST BLOCK AT THE FACE OF THE UNDISTURBED SOLID GROUND SHALL BE AS SHOWN IN THE TABLE BELOW.

IF THERE ISN'T SUFFICIENT SPACE FOR THE INSTALLATION OF THE THRUST BLOCK WITHOUT INTERFERENCE WITH OTHER SERVICES, ANOTHER ARRANGEMENT SATISFACTORY TO THE ENGINEER SHALL BE USED.

FITTINGS I.D.	PLUG TEE CROSS		BENDS								HYDRANT	
			90°		45°		22½°		11¼°			
INCHES	W	H	W	H	W	H	W	H	W	H	W	H
4	1.0	1.0	1.0	1.0	1.0	1.0						
6	2.0	1.5	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	2.0	1.5
8	2.5	2.0	3.5	2.0	2.0	2.0	2.0	1.0	1.0	1.0	2.5	2.0
12	3.5	3.0	5.5	3.0	3.5	2.5	2.0	2.0	2.0	1.0		
16	6.0	3.5	6.0	4.0	5.0	3.0	3.5	2.5	2.0	2.0		

FOR FITTING SIZES LARGER THAN 16", THRUST BLOCK DIMENSIONS SHALL BE AS SPECIFIED BY ENGINEER.

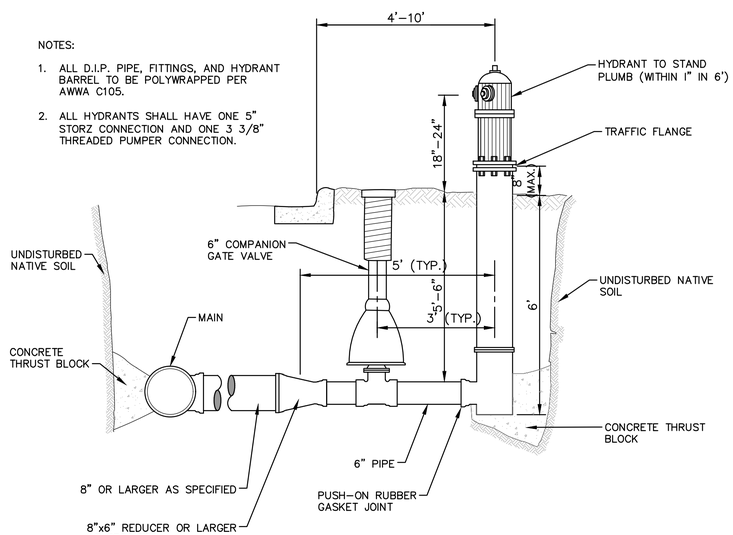
W = WIDTH IN FEET
H = HEIGHT IN FEET



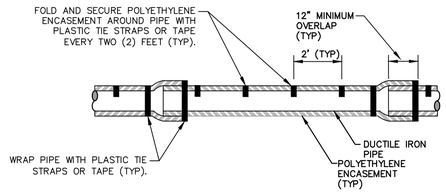
NOTE:

THESE ARE MINIMUM STANDARDS. WHERE SOIL CONDITIONS DICTATE, ADJUSTMENTS IN SIZE SHALL BE MADE AS DIRECTED BY THE PUBLIC SERVICES AREA ADMINISTRATOR.

THRUST BLOCK SD-W-2



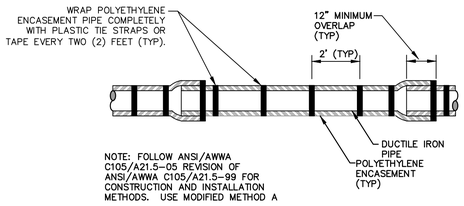
FIRE HYDRANT ASSEMBLY SD-W-1



NOTE: FOLLOW ANSI/AWWA C105/A21.5-05 REVISION OF ANSI/AWWA C105/A21.5-99 FOR CONSTRUCTION AND INSTALLATION METHODS. USE MODIFIED METHOD A

APPLIES TO: POLYETHYLENE WRAPPED D.I. WATERMAIN SEE PLANS FOR LOCATIONS

(DRY INSTALLATION)

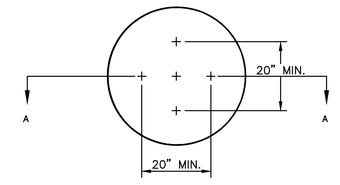


NOTE: FOLLOW ANSI/AWWA C105/A21.5-05 REVISION OF ANSI/AWWA C105/A21.5-99 FOR CONSTRUCTION AND INSTALLATION METHODS. USE MODIFIED METHOD A

APPLIES TO: POLYETHYLENE WRAPPED D.I. WATERMAIN SEE PLANS FOR LOCATIONS

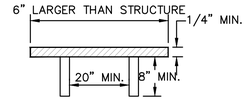
(WET INSTALLATION)

POLYETHYLENE ENCASEMENT SD-W-7



NOTE: PLATE MAY BE CIRCULAR, SQUARE OR RECTANGULAR

SECTION A - A

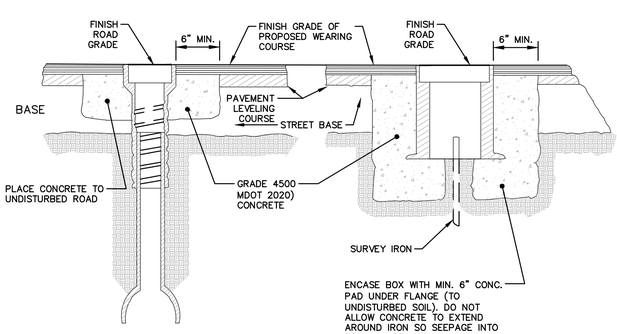


1/4" MIN. THICKNESS AND SUFFICIENT TO CARRY THE CONSTRUCTION LOAD.

STRUCTURE PLATE SD-GU-8

WATER OR GAS VALVE BOX ADJUSTMENT

MONUMENT BOX ADJUSTMENT



NOTES:

1. GAS VALVE BOXES TO BE ADJUSTED BY THE GAS COMPANY.
2. PLACE CENTER OF [MONUMENT] BOX OVER SURVEY IRON.
3. RAISE CASTING TO PROPOSED FINISH STREET GRADE AFTER PLACEMENT OF LEVELING COURSE(S) AND PRIOR TO PLACING FINAL SURFACE COURSE.

VALVE AND MONUMENT BOX ADJUSTMENT SD-GU-6

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT TO BID	3-13-23	CC/DF	TB
01	ADDENDUM 1	3-28-23	CC/DF/KB	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

BROOKS STREET IMPROVEMENTS

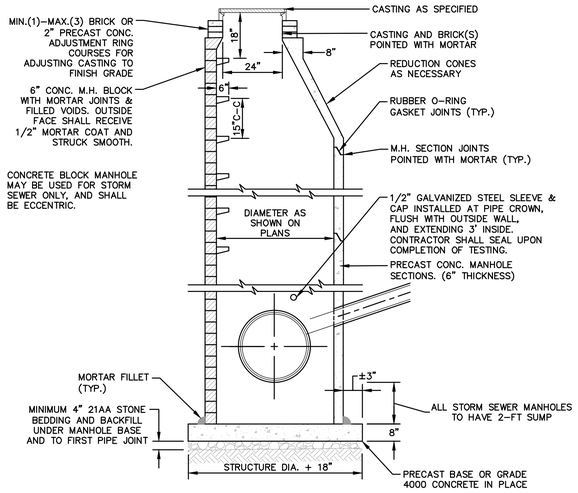
WATER MAIN DETAILS

SCALE: NTS

DRAWING No. 20210116-4

SHEET No. 4 OF 54

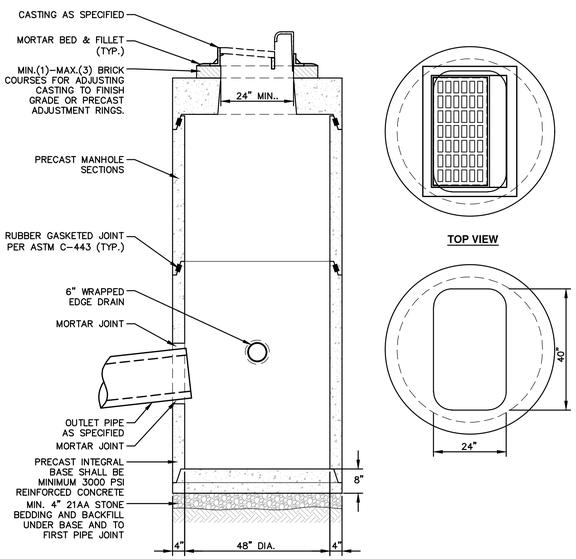
R:\2021016 Brooks Street\Plan Production\20210116Det.dwg Dwg Created: 27-Mar-23 - _a2 standard bw.stb - Plot Date: 28-Mar-23



NOTES:

1. ALL STORM MANHOLES MAY BE PRECAST CONCRETE OR MANHOLE BLOCK.
2. ALL MANHOLES MUST HAVE ECCENTRIC CONES.
3. ALL MANHOLE SECTIONS SHALL BE REINFORCED PER ASTM–185.
4. ALL STORM SEWER OPENINGS SHALL BE PRECAST WITH RUBBER BOOT CONNECTIONS PER ASTM C–923.
5. 2' SUMP REQUIRED ON ALL DRAINAGE STRUCTURES.
6. IF A FLAT TOP IS REQUIRED, THEN IT SHALL BE REINFORCED IN BOTH DIRECTIONS TO MEET ASTM C–615.

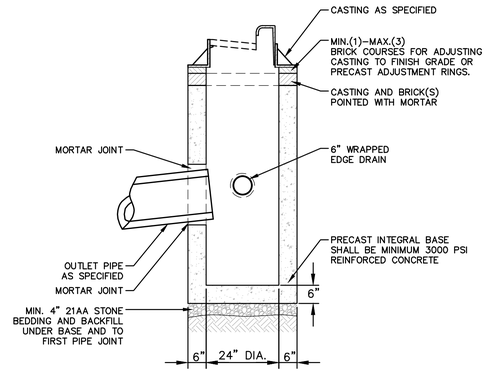
STANDARD STORM MANHOLE (SEPARATE BASE) SD-ST-1A



NOTES:

1. FRONT EDGE OF INLET CASTING SHALL BE FLUSH WITH FRONT EDGE OF GUTTER (EDGE–OF–METAL)

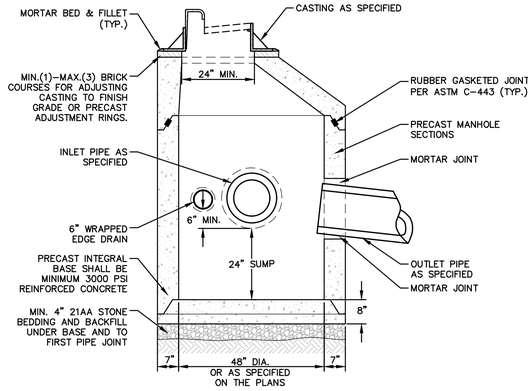
PRECAST LOW POINT INLET SD-ST-4



NOTES:

1. MAY BE USED WITH SINGLE OUTLET PIPE AND SINGLE INLET PIPE.
2. FRONT EDGE OF INLET CASTING SHALL BE FLUSH WITH FRONT EDGE OF GUTTER (EDGE–OF–METAL)

PRECAST SINGLE INLET SD-ST-3



NOTES:

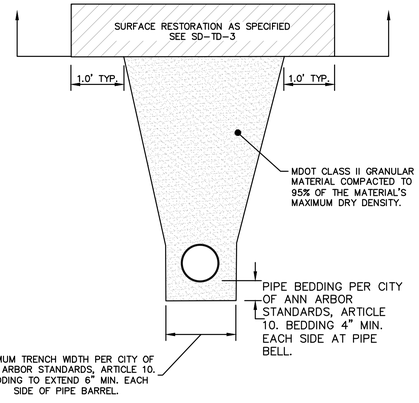
1. FRONT EDGE OF INLET CASTING SHALL BE FLUSH WITH FRONT EDGE OF GUTTER (EDGE–OF–METAL)

PRECAST JUNCTION INLET SD-ST-2

TYPE OF CASTING	MDOT DESIGNATION	EJ CASTING NO.	NEENAH CASTING NO.
MANHOLE AND GATE WELL FRAME AND COVER	Q/B	1040Z W/ TYPE A COVER*	R–1642 W/ TYPE C COVER*
BARRIER CURB INLET FRAME AND COVER	K	7045Z W/ TYPE M1 GRATE	R–3031–B W/ TYPE S GRATE
BARRIER CURB LOW POINT INLET FRAME AND COVER	K	7035Z W/ TYPE M2 GRATE	N/A
GUTTER INLET FRAME AND COVER	R	5080Z W/ TYPE 5000M2 GRATE	R–3448C, W/ TYPE S GRATE
GUTTER LOW POINT INLET FRAME AND COVER	R	7034Z W/ TYPE M GRATE	N/A
MOUNTABLE CURB INLET ASSEMBLY		7065	N/A
YARD DRAIN (BEE HIVE) FRAME AND COVER	G	1040Z, TYPE 02 GRATE	R–2560–E1
WATER VALVE BOX ASSEMBLY IN PAVEMENT		8560	N/A
MONUMENT BOX ASSEMBLY		8360	N/A

NOTES:
*EACH COVER SHALL HAVE "SANITARY", "STORM", OR "WATER" CAST IN THE SURFACE, WHICHEVER IS APPLICABLE. SANITARY SEWER COVERS SHALL BE GASKETED IN FLOOD PRONE AREAS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE PSAA. FRAMES AND COVERS MUST HAVE MACHINED BEARING SURFACES.

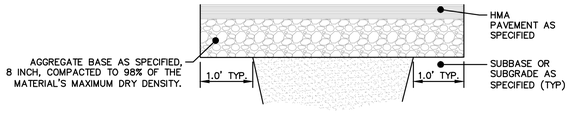
STANDARD CASTING SCHEDULE SD-GU-1



NOTES:

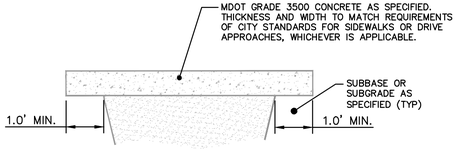
1. ALL TRENCH EXCAVATION, BEDDING, BACKFILLING, AND SURFACE RESTORATION SHALL COMPLY WITH CITY OF ANN ARBOR STANDARDS, ARTICLE 10.
2. TRENCH DETAILS SHOW TYPE OF BACKFILL AND TRENCHING REQUIREMENTS ONLY.
3. ALL TRENCHING TO CONFORM TO ALL APPLICABLE M.I.O.S.H.A. AND CITY STANDARDS.
4. PIPE BEDDING THICKNESS UNDER CONCRETE PIPE 66" OR LARGER SHALL BE INCREASED TO 6".
5. SEE SD–TD–1B 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.

UTILITY TRENCH - TYPE IA EXCLUDING SANITARY SEWER AND EDGE DRAIN

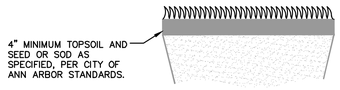


BITUMINOUS PAVEMENT RESTORATION

UTILITY TRENCH SURFACE RESTORATION SD-TD-3A

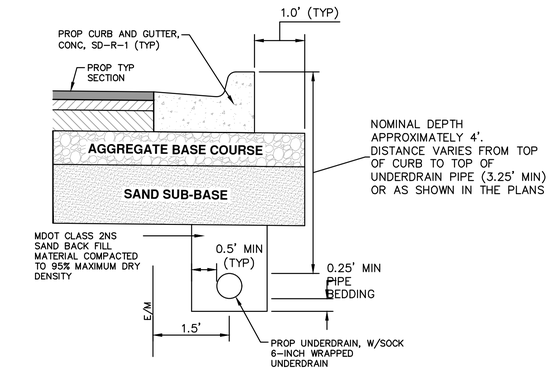


SIDEWALK OR DRIVE APPROACH



TURF

UTILITY TRENCH SURFACE RESTORATION SD-TD-3B



NOTES:

1. IN AREAS WHERE EDGE DRAIN CANNOT BE INSTALLED IN ACCORDANCE WITH THE DETAIL, THE EDGE DRAIN SHALL BE INSTALLED AT THE DEPTH AS INDICATED ON THE PLANS, OR AS DIRECTED BY ENGINEER. IN NO CASE SHALL THE EDGE DRAIN BE INSTALLED AT A GRADE LESS THAN 0.50% OR AT A DEPTH OF LESS THAN 2' BELOW TOP OF PROPOSED PAVEMENT.
2. FOR PAVEMENT BASE AND SUBBASE THICKNESS, SEE TYPICAL PAVEMENT CROSS–SECTION(S)
3. TRENCH DETAILS SHOW TYPE OF BACKFILL AND SURFACE RESTORATION ONLY
4. ALL TRENCHING TO CONFORM TO ALL APPLICABLE M.I.O.S.H.A. STANDARDS
5. EDGE DRAINS SHALL BE CONNECTED TO A DRAINAGE STRUCTURE AND WILL EXTEND A MINIMUM OF 100 FEET UPSLOPE FROM THE STRUCTURE.
6. ADDITIONAL LENGTHS OF EDGE DRAIN MAY BE REQUIRED BY THE ENGINEER BASED ON EXISTING SITE CONDITIONS, INCLUDING CONDITION OF THE SUBGRADE.

TYPICAL EDGE DRAIN TRENCH SD-TD-4

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT TO BID	3–13–23	CC/DF/KB	TB
01	ADDENDUM 1	3–28–23	CC/DF	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

BROOKS STREET IMPROVEMENTS

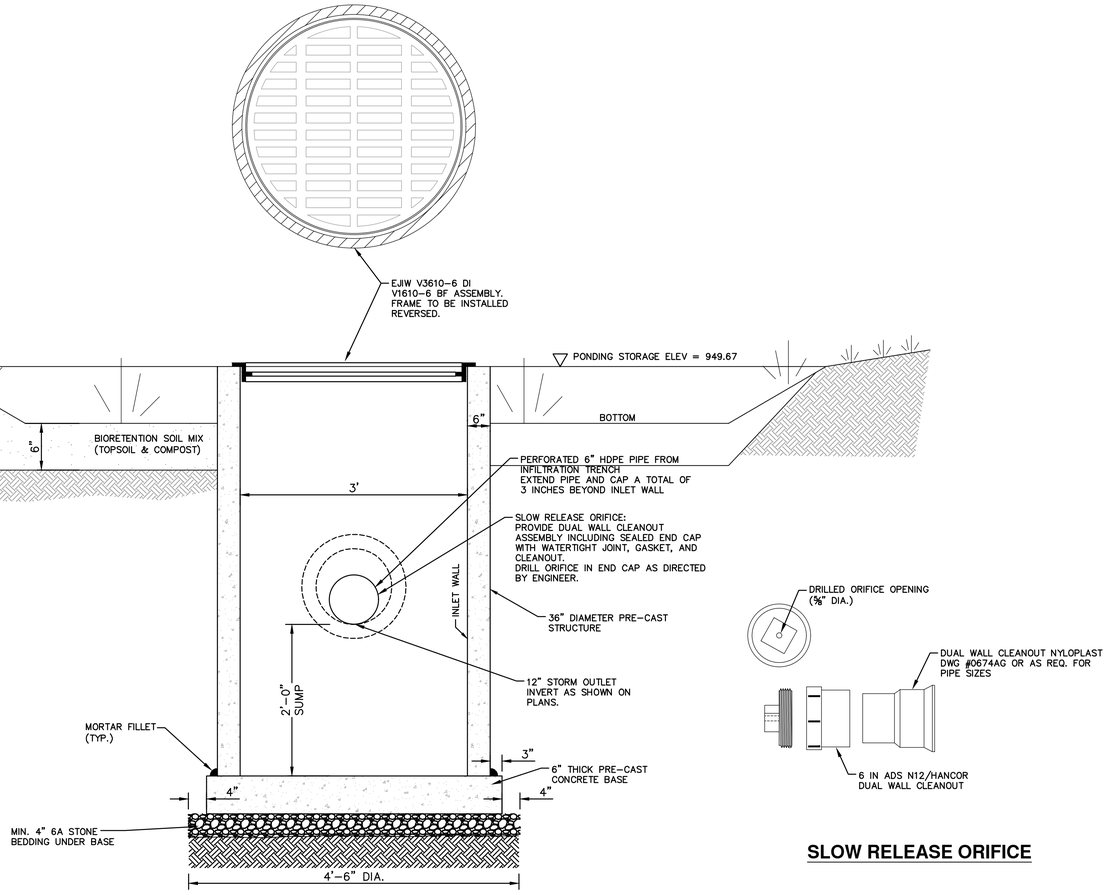
STORM SEWER AND TRENCH DETAILS

SCALE: NTS

DRAWING No. 2021016-5

SHEET No. 5 OF 54

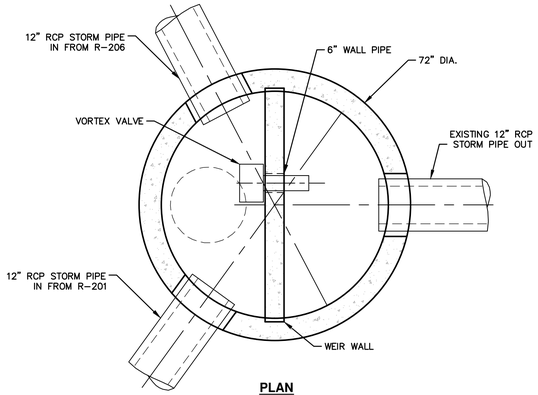
GRATE DETAIL



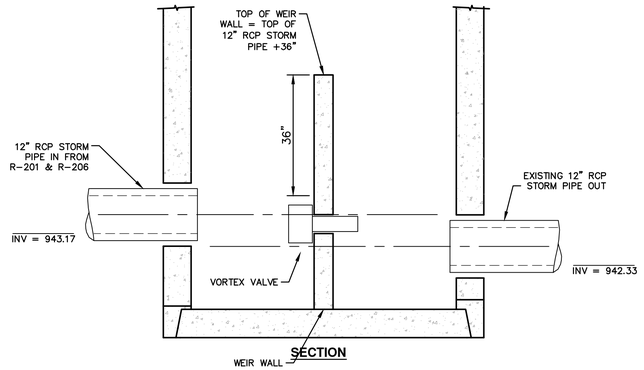
BIORETENTION OVERFLOW STRUCTURE R-211

NOT TO SCALE

SLOW RELEASE ORIFICE



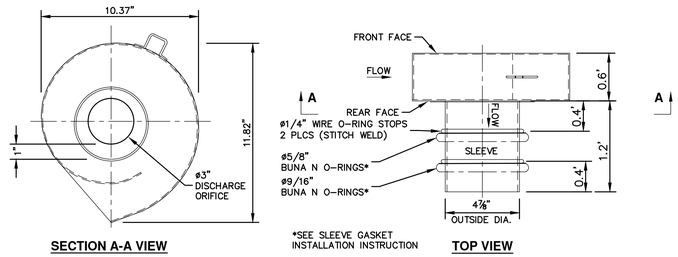
PLAN



SECTION

UNDERGROUND STORMWATER STORAGE CONTROL STRUCTURE, R-200

NOT TO SCALE



*SEE SLEEVE GASKET INSTALLATION INSTRUCTION

SECTION A-A VIEW

TOP VIEW

NOTES:

1. ALL WELDS CONTINUOUS UNLESS NOTED OTHERWISE.
2. MATERIALS:
   - 12 GA. 304L STAINLESS STEEL
   - (1) ø5/8" AND (1) ø9/16" BUNA N, 50 DUROMETER O-RINGS.
3. MANUFACTURE HOUSING AND BYPASS DOOR AND ASSEMBLE PER DRAWING "2 mm FLUIDIC-AMP FABRICATION DETAILS FA1012-FA2023 HOUSING AND INLET"
4. DISCHARGE ORIFICE LOCATED REAR FACE. ø4" BYPASS OPENING LOCATED FRONT FACE.
5. INCLUDES 20" BYPASS DOOR PULL CABLE.

FLUIDIC-AMP VORTEX VALVE MODEL FA1012 WITH SLEEVE ATTACHMENT FOR Ø6" OPENING

FABRICATION DRAWING

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

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00	OUT TO BID	3-13-23	CC/DF/KB	TB
01	ADDENDUM 1	3-28-23	CC/DF	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

BROOKS STREET IMPROVEMENTS

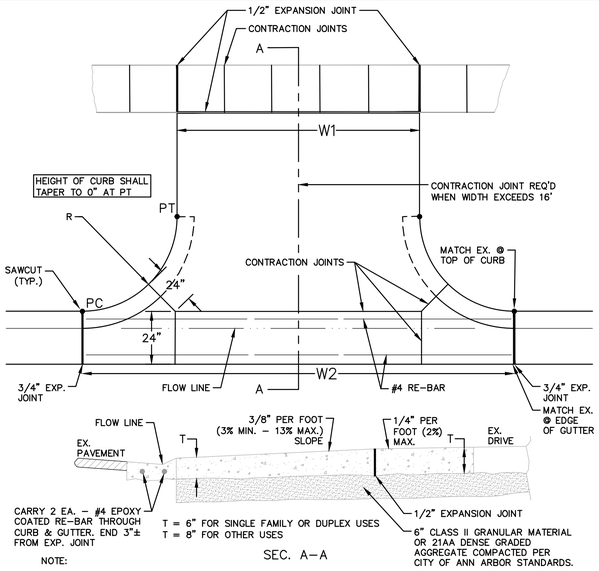
BIORETENTION OVERFLOW STRUCTURE DETAIL

SCALE: NTS

DRAWING No. 2021016-6

SHEET No. 6 OF 54

R:\2021016 Brooks Street\Plan Production\2021016Det.dwg Dwg Created: 27-Mar-23 — _a2 standard bw.stb — Plot Date: 28-Mar-23

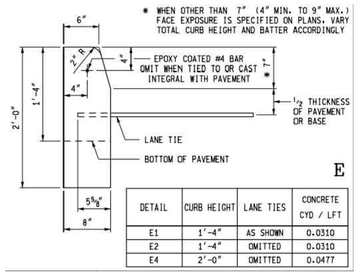


SEC. A-A

NOTE:

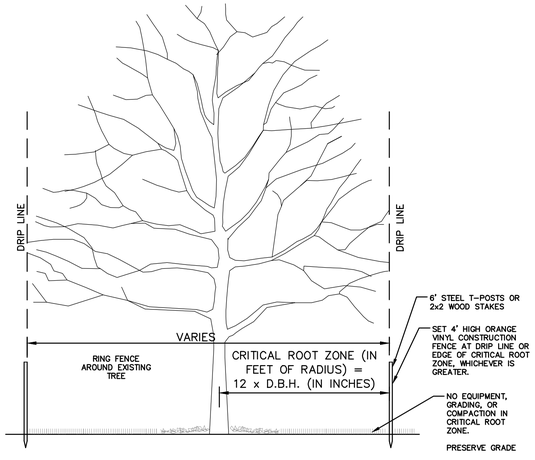
1. MINIMUM REQUIREMENT FOR DRIVE APPROACH TO BE MDOT 3500 CONCRETE.
2. R (RADIUS) AND W1 (OPENING WIDTH) AND W2 (CURB CUT WIDTH) AS REQUIRED PER TABLE A, ARTICLE 6 OF CITY STANDARDS
3. IF GUTTER IS OVERLAID, GUTTER OF THE APPROACH SHALL BE AT SAME ELEVATION AS EXISTING CONCRETE GUTTER AND ASPHALT WEDGE SHALL BE PLACED IN THE APPROACH.

TYPE M DRIVE APPROACH FOR ASPHALT STREETS WITH BARRIER CURB

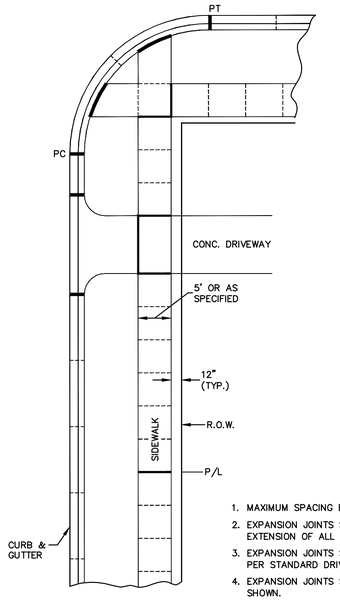


DETAIL	CURB HEIGHT	LANE TIES	CONCRETE CYD / LFT
E1	1'-4"	AS SHOWN	0.0310
E2	1'-4"	OMITTED	0.0310
E4	2'-0"	OMITTED	0.0477

E BARRIER CURB



TREE PROTECTION



LEGEND:

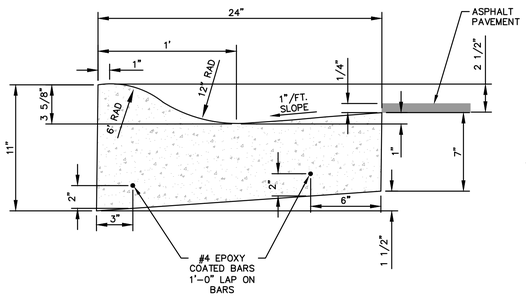
CONTRACTION JOINTS ---------

1/2" EXPANSION JOINTS ———

3/4" EXPANSION JOINTS ———

1. MAXIMUM SPACING BETWEEN ALL EXPANSION JOINTS SHALL BE 300'.
2. EXPANSION JOINTS SHALL BE PLACED IN SIDEWALKS AT THE EXTENSION OF ALL PROPERTY LINES.
3. EXPANSION JOINTS SHALL BE PLACED AT DRIVE APPROACH EDGES PER STANDARD DRIVE APPROACH DETAILS SD-R-6 THROUGH SD-R-8.
4. EXPANSION JOINTS SHALL BE PLACED AT SIDEWALK INTERSECTIONS AS SHOWN.
5. EXPANSION JOINTS SHALL BE PLACED IN CURB AND GUTTER AT PC AND PT OF INTERSECTION RADII.
6. CONTRACTION JOINT SPACING FOR CURB AND CURB SHALL BE 10' STANDARD AND 8' MINIMUM.
7. CONTRACTION JOINTS FOR SIDEWALKS SHALL BE PLACED AT ALL SLAB ENDS (5' TYPICAL, 3' MINIMUM TO 7' MAXIMUM).

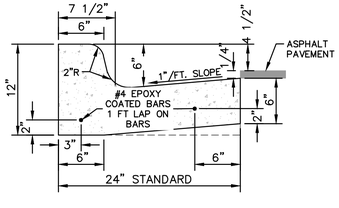
SIDEWALK AND CURB & GUTTER JOINT SPACING



NOTES:

1. FRONT EDGE OF INLET CASTINGS SHALL BE FLUSH WITH FRONT EDGE OF GUTTER (EDGE-OF-METAL).
2. THIS DETAIL SHALL BE USED FOR MOUNTABLE CURB AND GUTTER ON ASPHALT STREETS. SEE SD-R-3 FOR MOUNTABLE CURB AND GUTTER ON CONCRETE STREETS.

MOUNTABLE CURB AND GUTTER



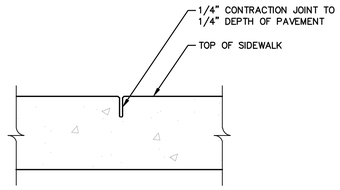
NOTES:

1. BARRIER CURB AND GUTTER ON ASPHALT STREETS SHALL CONFORM TO THIS DETAIL.
2. BARRIER CURB AND GUTTER ON CONCRETE STREETS SHALL CONFORM TO MDOT CURB AND GUTTER DETAIL F3.

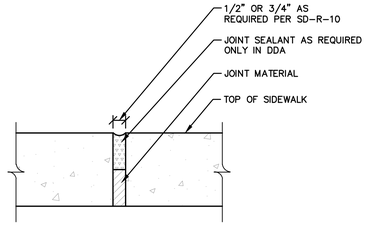
BARRIER CURB AND GUTTER

GENERAL NOTES:

1. DESIGN MAY UTILIZE TOOLED OR SAW-CUT CONTRACTION JOINT. PLANS MUST INDICATE SELECTION OF JOINT TYPE. PROJECT MUST HAVE EITHER JOINT TYPE, BUT NOT BOTH.

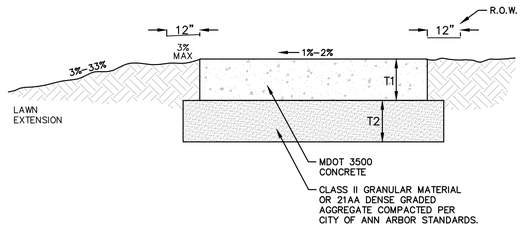


CONTRACTION JOINT



EXPANSION JOINT

SIDEWALK CURB AND GUTTER JOINTS



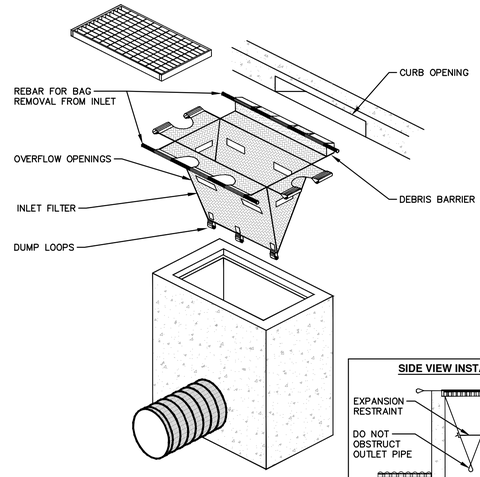
GENERAL NOTE:

SIDEWALKS IN THE DDA SHALL BE CONSTRUCTED PER DETAILS SD-DDA-1 THROUGH SD-DDA-7.

NOTES:

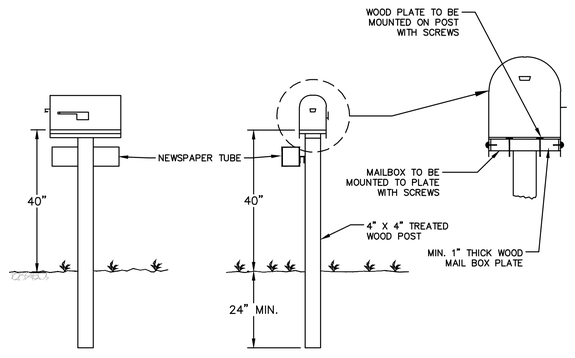
1. STANDARD SIDEWALK WIDTH SHALL BE 5'.
2. STANDARD SLAB LENGTH SHALL BE 5'.
3. MINIMUM SLAB LENGTH SHALL BE 3' AND MAXIMUM 7'.
4. MINIMUM SIDEWALK THICKNESS (T1) SHALL BE 4".
5. SIDEWALK THICKNESS (T1) SHALL BE INCREASED AT DRIVE APPROACHES TO 6" FOR SINGLE OR DUPLEX USES AND TO 8" FOR ALL OTHER USES.
6. MINIMUM BASE THICKNESS (T2) SHALL BE 4".
7. MINIMUM BASE THICKNESS (T2) SHALL BE INCREASED TO 6" AT DRIVE APPROACHES.
8. NATIVE MATERIAL IS ACCEPTABLE FOR SIDEWALK REPLACEMENT IF BASE IS STABLE AND FREE OF ORGANIC OR DELETERIOUS MATERIALS.
9. SIDEWALK RAMPS SHALL BE CONSTRUCTED AT STREET INTERSECTIONS AS DIRECTED AND SHALL COMPLY WITH THE REQUIREMENTS OF MDOT DETAIL R-28 (LATEST VERSION).
10. If SIDEWALKS ARE APPROVED TO MEANDER WITHIN THE RIGHT-OF-WAY TO PROTECT AND SAVE TREES, SLOPES, ETC., CURVES IN THE SIDEWALK SHALL HAVE A MINIMUM 5' RADIUS, WITH A MINIMUM 3" LAWN EXTENSION.
11. EXPANSION AND CONTRACTION JOINTS SHALL BE PROVIDED PER SIDEWALK AND CURB & GUTTER JOINT SPACING DETAIL SD-R-10.

SIDEWALK CROSS SECTION



1. SIZE AND SHAPE OF INLET FILTER SHALL MATCH THE STRUCTURE.
2. WHERE CONDITIONS WARRANT, THE FILTER SHALL BE MADE WITH AN OIL-ABSORBENT FILTER WITH A WOVEN PILLOW INSERT.

INLET PROTECTION



NOTES:

1. ALL WORK TO BE DONE UNDER CURRENT FEDERAL POSTAL SERVICE SPECIFICATIONS.
2. FOR PERMANENT MAILBOX RELOCATION, POST TO BE NEW 4" X 4" POST, OR RESTORE ORIGINAL POST TO AS GOOD OR BETTER THAN ORIGINAL CONDITION.
3. FOR TEMPORARY MAILBOX RELOCATION, THE USE OF EXISTING POST WILL BE PERMITTED.
4. FOR NEWS PAPER TUBE RELOCATION THE USE OF EXISTING POST WILL BE PERMITTED.

MAILBOX NEWSPAPER TUBE INSTALLATION AND RELOCATION

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM 1	3-28-23	CC/DF	TB
00	OUT TO BID	3-13-23	CC/DF/KB	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

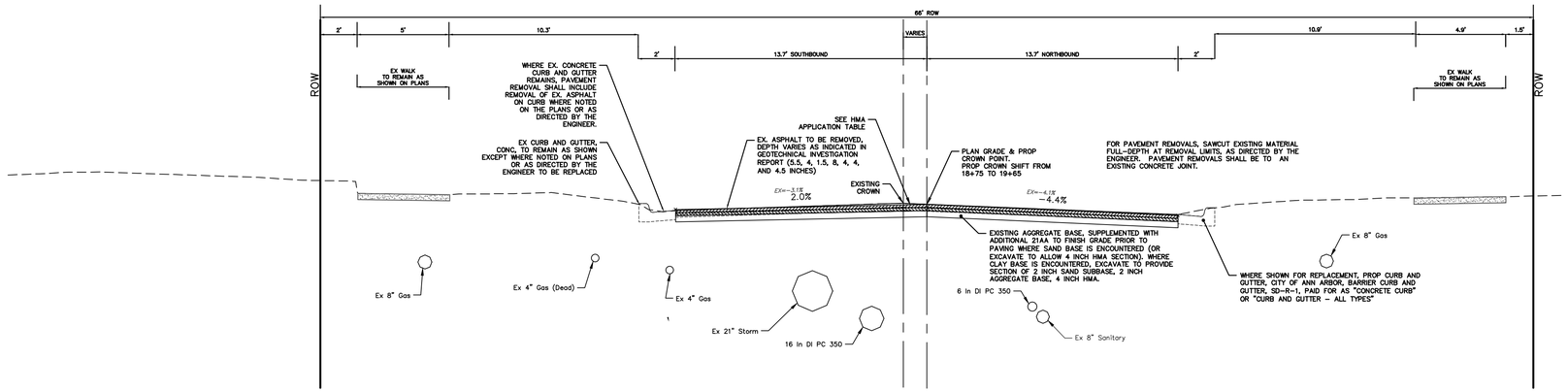
BROOKS STREET IMPROVEMENTS

MISC. DETAILS

SCALE : NTS

DRAWING No. 2021016-7

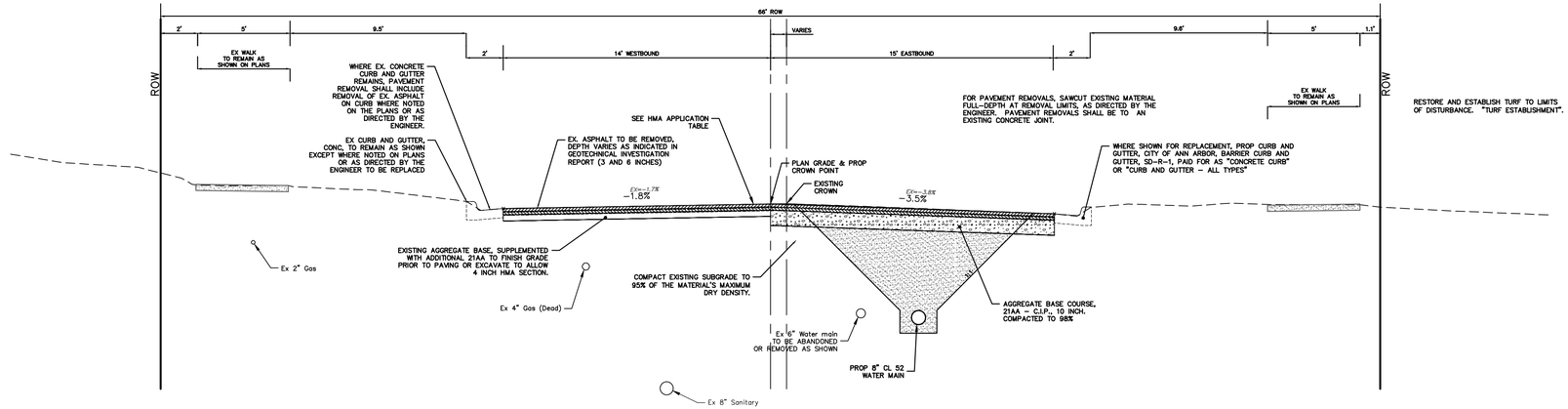
SHEET No. 7 OF 54



BROOKS STREET TYPICAL SECTION

POB TO STA. 19+65

N.T.S.



MIXTWOOD ROAD TYPICAL SECTION

POB TO STA. 5+54

N.T.S.

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

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

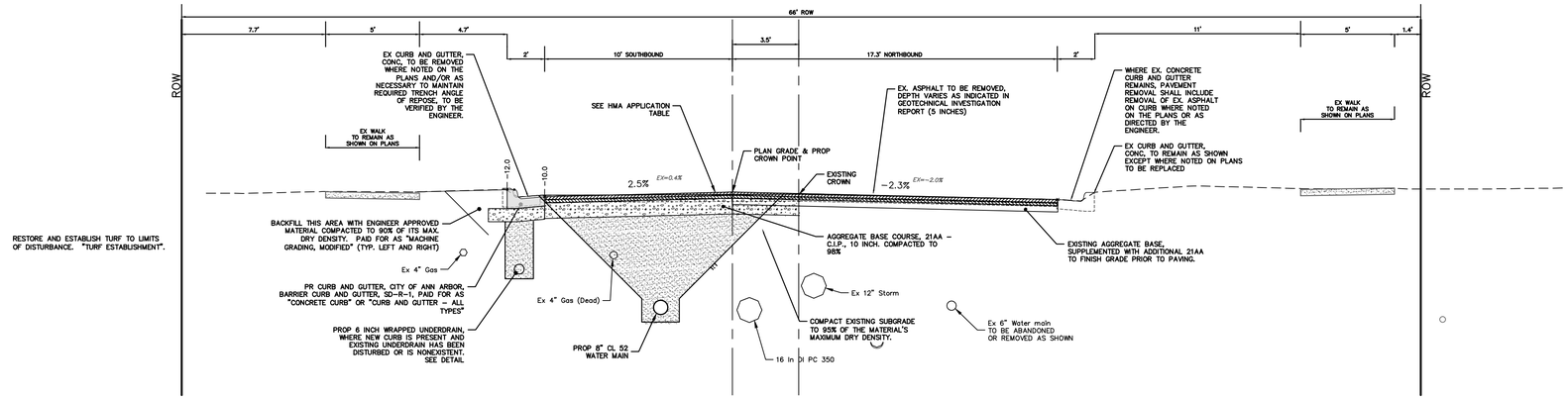
BROOKS STREET IMPROVEMENTS

MIXTWOOD RD & BROOKS ST TYPICAL SECTIONS

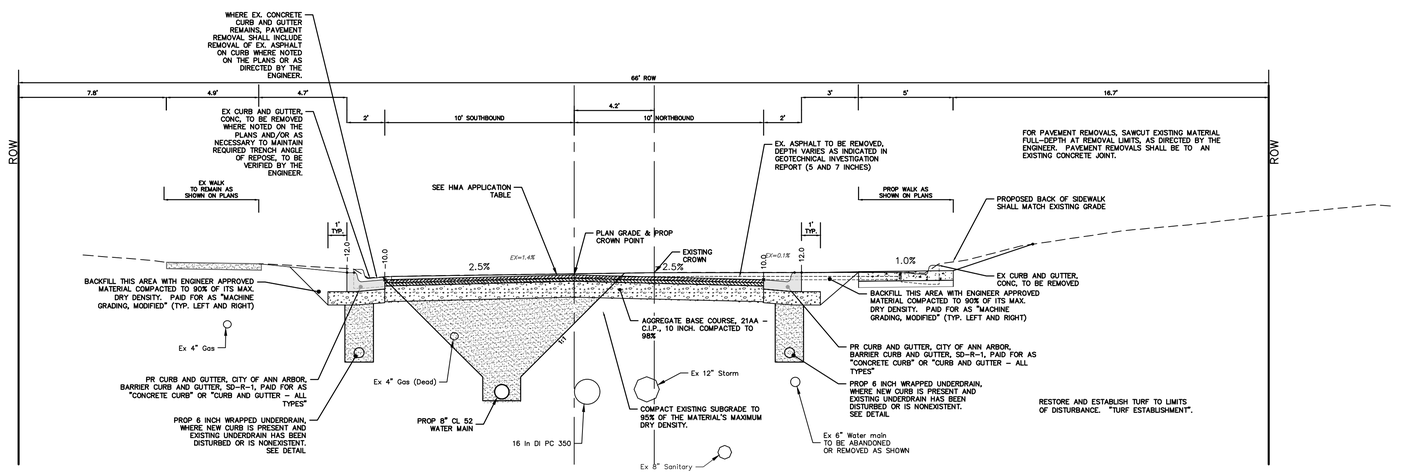
SCALE: **PLAN: NTS**

DRAWING No. **2021016-8**

SHEET No. **8 OF 54**



BROOKS STREET
TYPICAL SECTION
STA. 19+65 TO STA. 22+90
N.T.S.



BROOKS STREET
TYPICAL SECTION
STA. 22+90 TO STA. 27+80
N.T.S.

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

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00	OUT TO BID	3-13-23	CC/DF	TB
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

BROOKS STREET IMPROVEMENTS

BROOKS STREET TYPICAL SECTIONS

SCALE PLAN: NTS

DRAWING No. 2021016-9

SHEET No. **9 OF 54**

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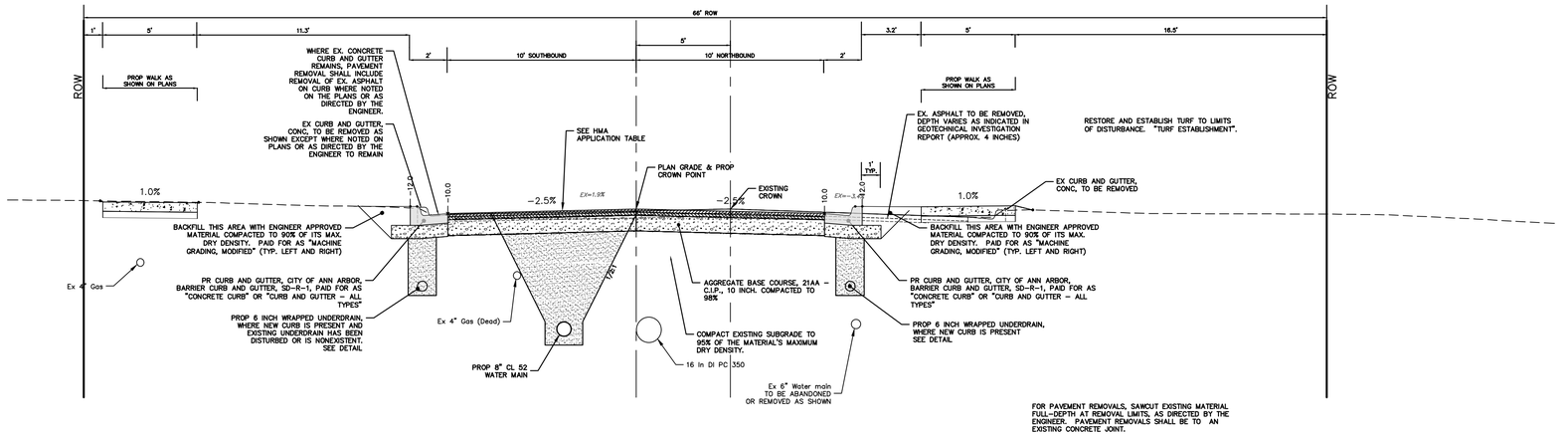
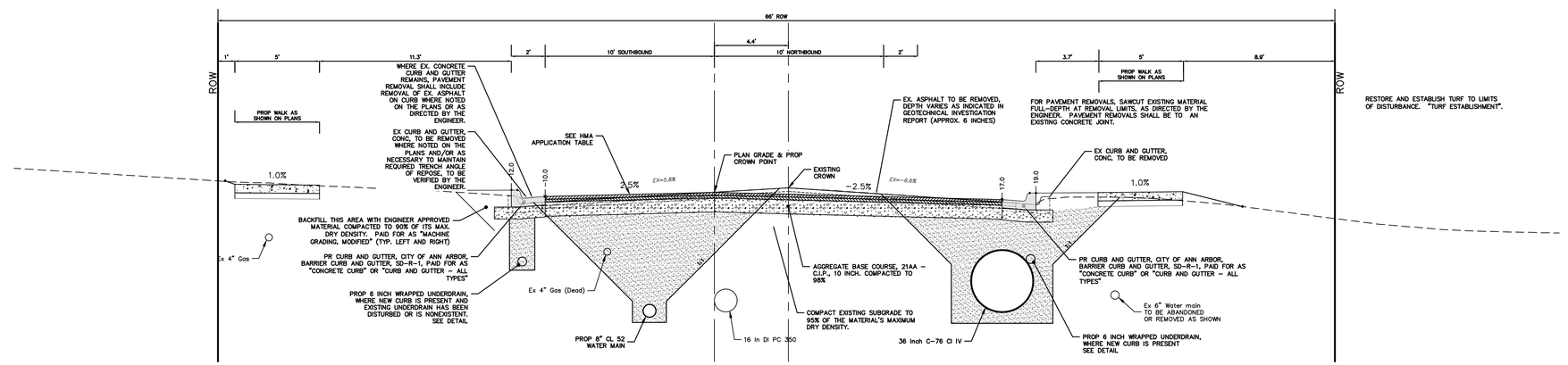


BROOKS STREET
TYPICAL SECTION
STA. 27+80 TO STA. 29+60
N.T.S.



BROOKS STREET
TYPICAL SECTION
STA. 29+60 TO STA. 30+55
N.T.S.

R:\2021016 Brooks Street\Plan Production\2021016xsctn.dwg Dwg Created: 27-Mar-23 — _o2 standard bw.stb — Plot Date: 28-Mar-23

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

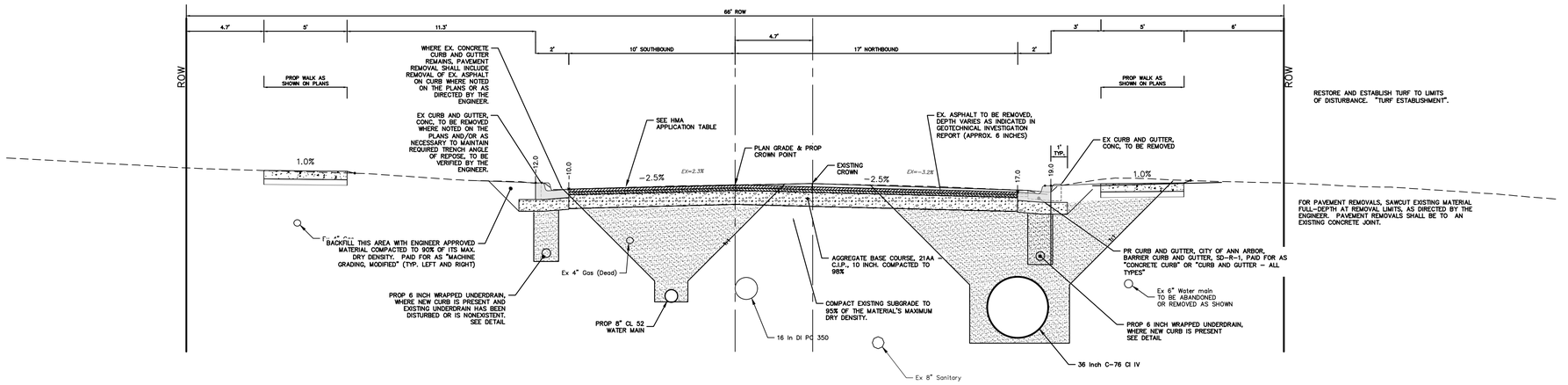
BROOKS STREET IMPROVEMENTS

BROOKS STREET TYPICAL SECTIONS

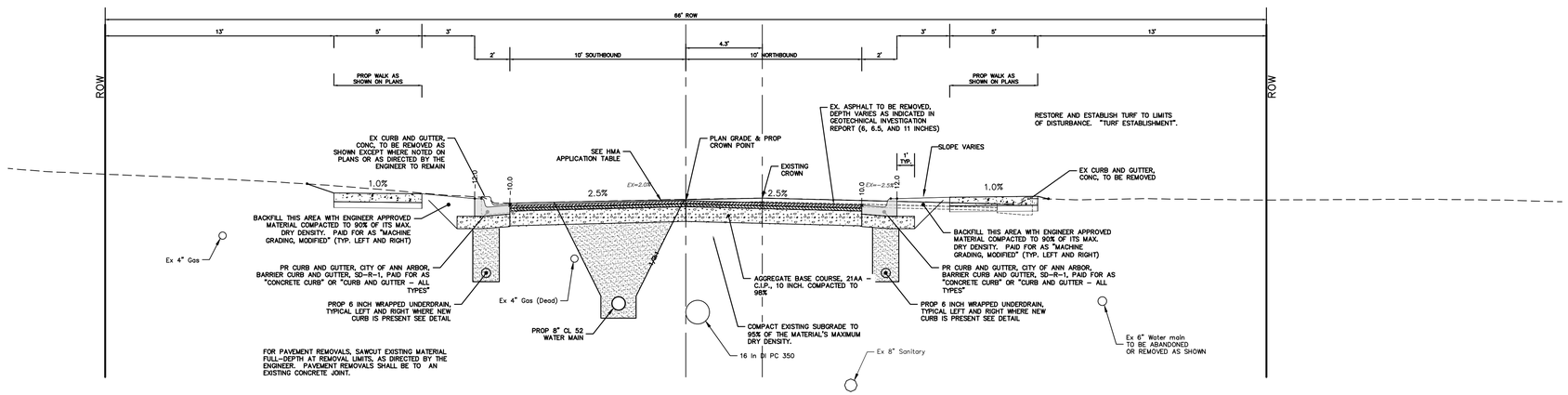
SCALE PLAN: NTS

DRAWING No.
2021016-10

SHEET No.
10 OF 54



BROOKS STREET
TYPICAL SECTION
STA. 30+50 TO STA. 31+85
N.T.S.



BROOKS STREET
TYPICAL SECTION
STA. 31+85 TO POE
N.T.S.

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

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BROOKS STREET IMPROVEMENTS

BROOKS STREET TYPICAL SECTIONS

SCALE PLAN: NTS

DRAWING No.
2021016-11

SHEET No.
11 OF 54

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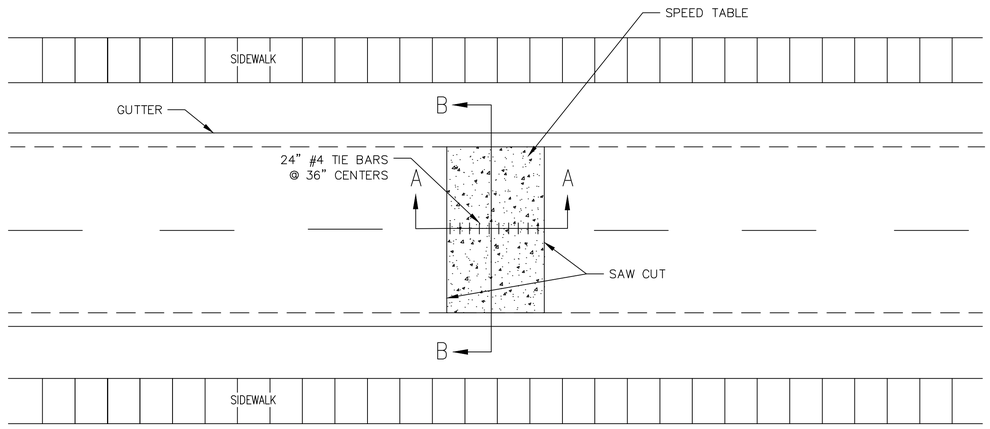
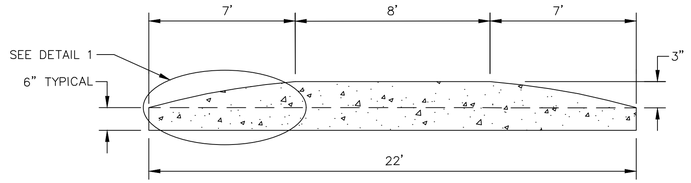
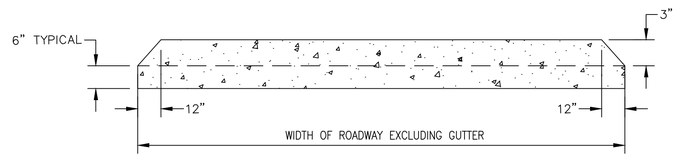


PLAN VIEW



SECTION AA



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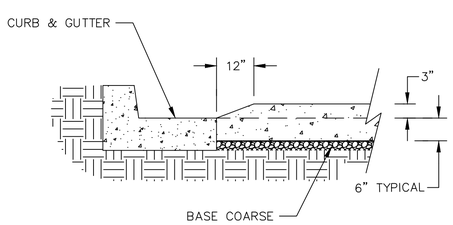
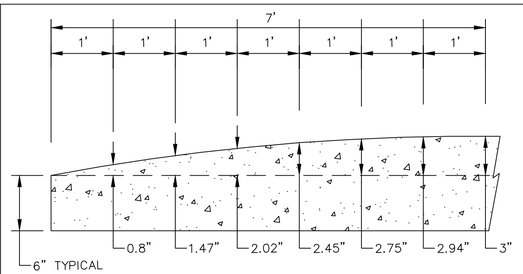


CURB DETAIL



DETAIL 1

CONCRETE SPEED TABLE DETAIL

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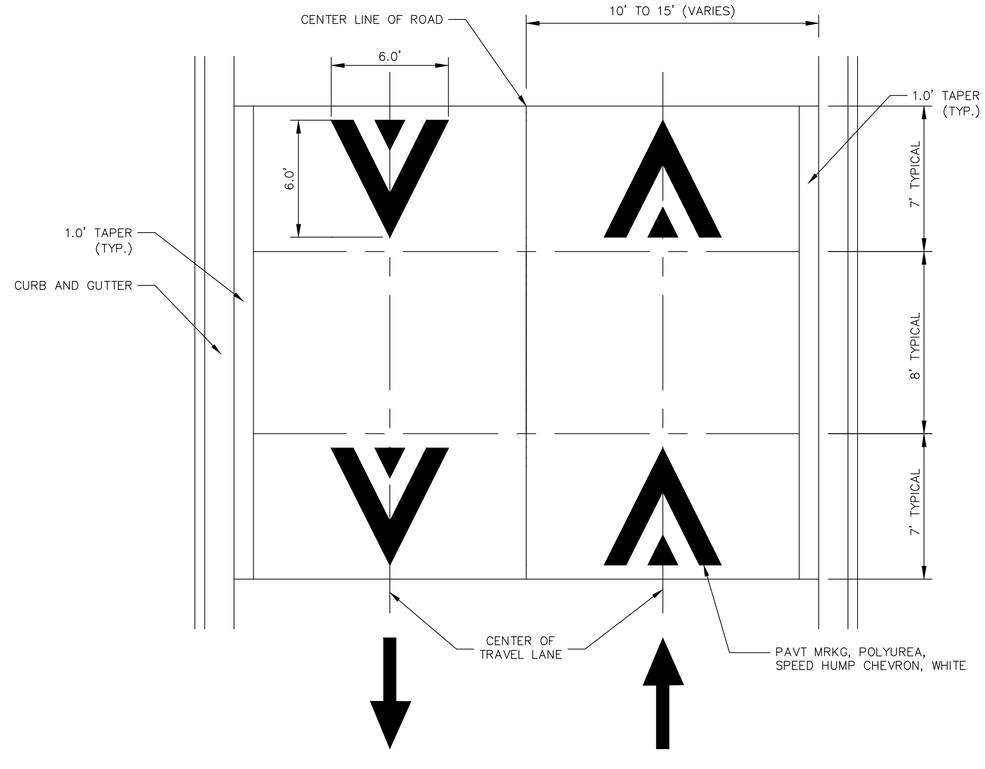

PAVEMENT MARKING DETAIL

SCALE: NOT TO SCALE

GENERAL NOTES

1. RAISED INTERSECTIONS SHALL FOLLOW THE SAME TAPER REQUIREMENT AS THE SPEED HUMPS DETAILED HEREIN.

2. PAYMENT FOR PAVEMENT MARKINGS FOR SPEED HUMPS AND RAISED INTERSECTIONS SHALL BE INCLUDED IN THE RESPECTIVE BID ITEMS AND SHALL NOT BE PAID FOR SEPARATELY.

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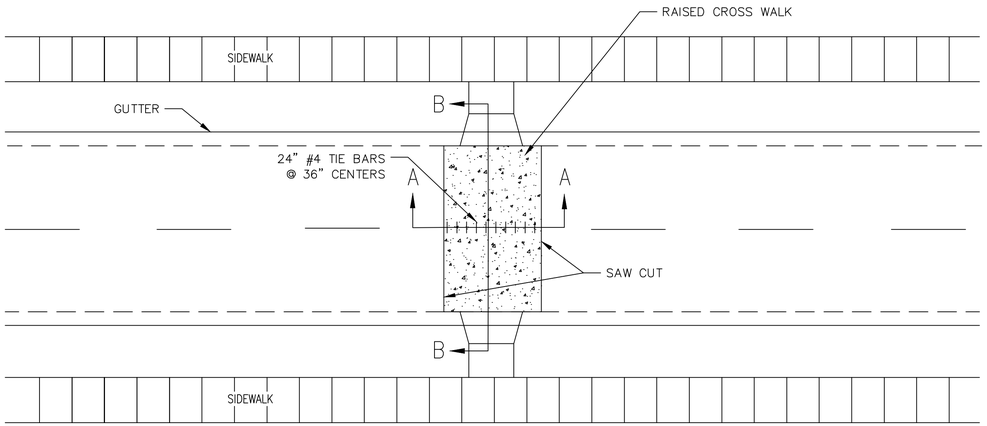
BROOKS STREET IMPROVEMENTS

CONCRETE SPEED TABLE DETAIL

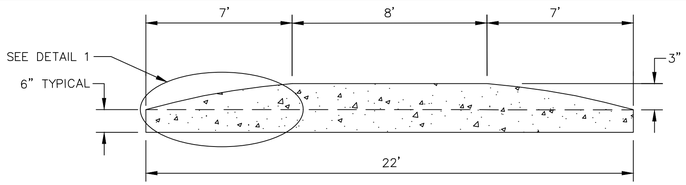
SCALE: NTS

DRAWING No. 2021016-12

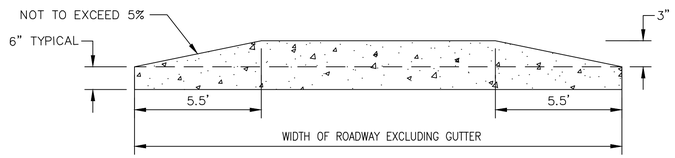
SHEET No. 12 OF 54



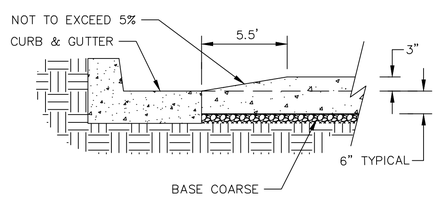
PLAN VIEW



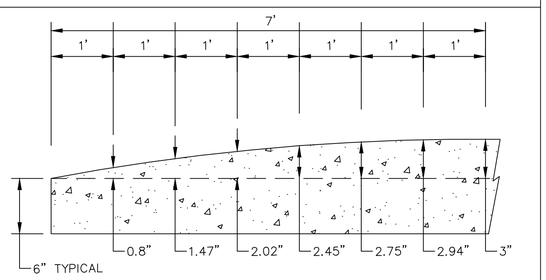
SECTION AA



SECTION BB



CURB DETAIL



DETAIL 1

CONCRETE RAISE CROSS WALK DETAIL

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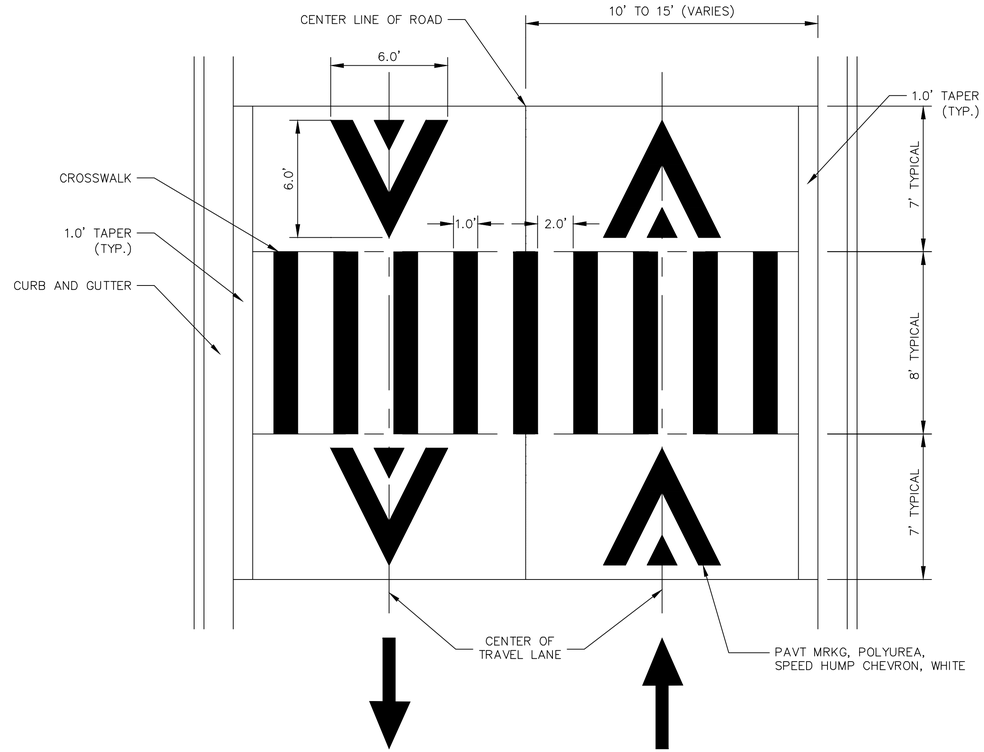

PAVEMENT MARKING DETAIL

SCALE: NOT TO SCALE

GENERAL NOTES

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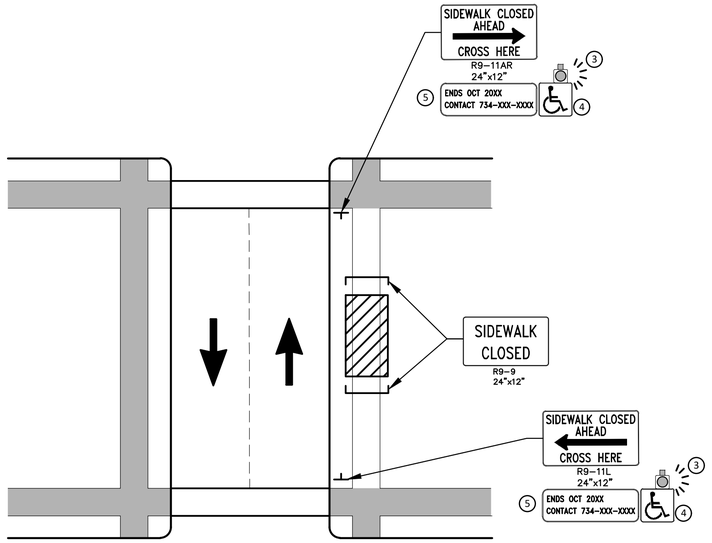
BROOKS STREET IMPROVEMENTS

CONCRETE RAISED CROSS WALK DETAIL

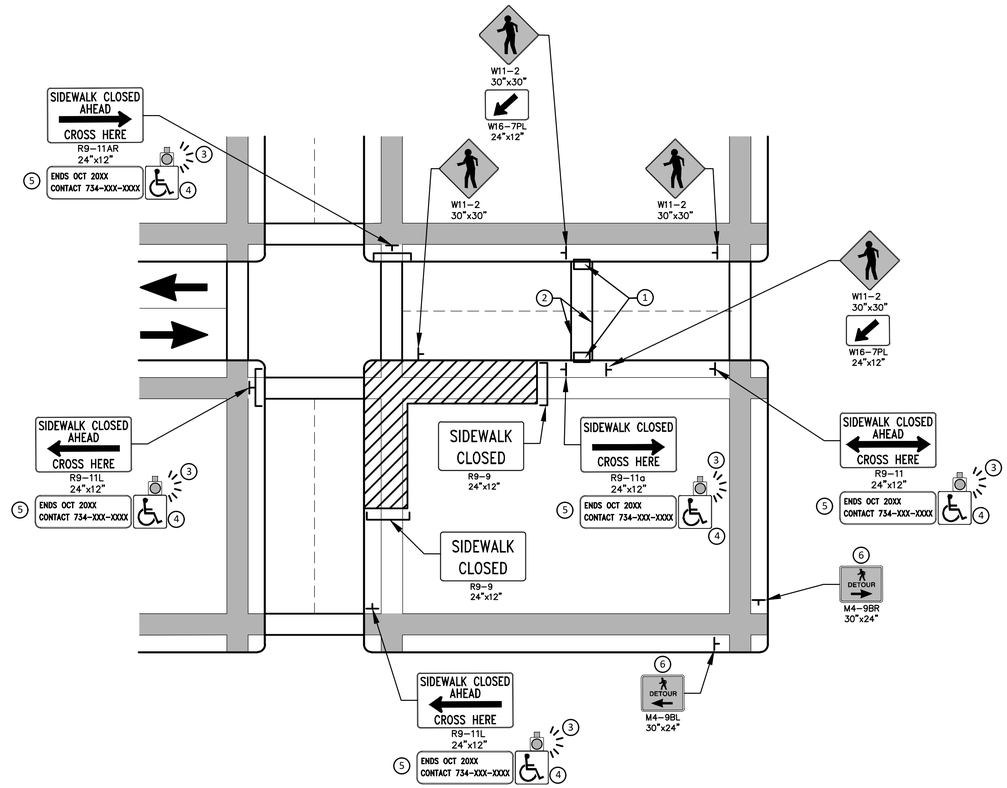
SCALE: NTS

DRAWING No. 2021016-13

SHEET No. 13 OF 54



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

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT TO BID	3-13-23	CC/DF/KB	TB
01	ADDENDUM 1	3-28-23	CC/DF/KB	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

BROOKS STREET IMPROVEMENTS

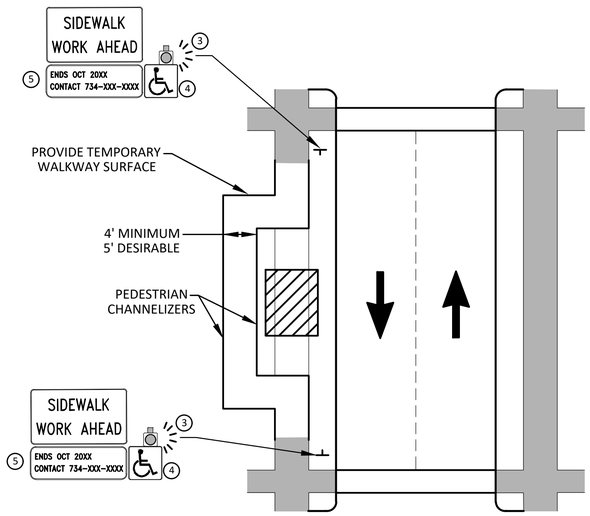
ALTERNATE PEDESTRIAN ROUTE (APR) DETOUR

SCALE : N.T.S.

DRAWING No. 2021016-14

SHEET No. 14 OF 54

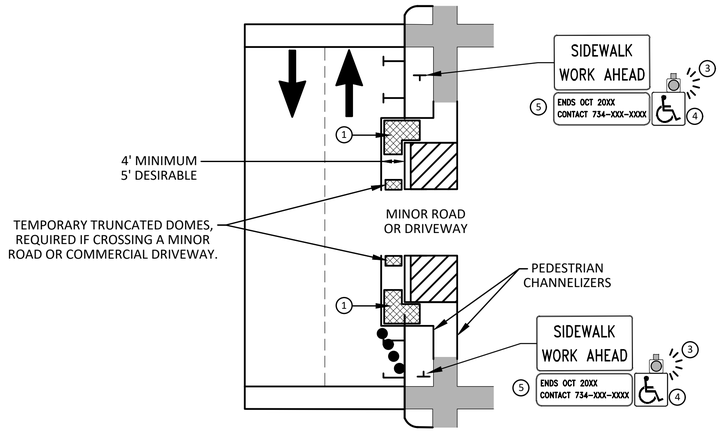
R:\2021016 Brooks Street\Plan Production\20210160et1.dwg Dwg Created: 13-Mar-23 — _a2 standard bw.stb — Plot Date: 28-Mar-23



BYPASS ON ADJACENT AVAILABLE
RIGHT OF WAY

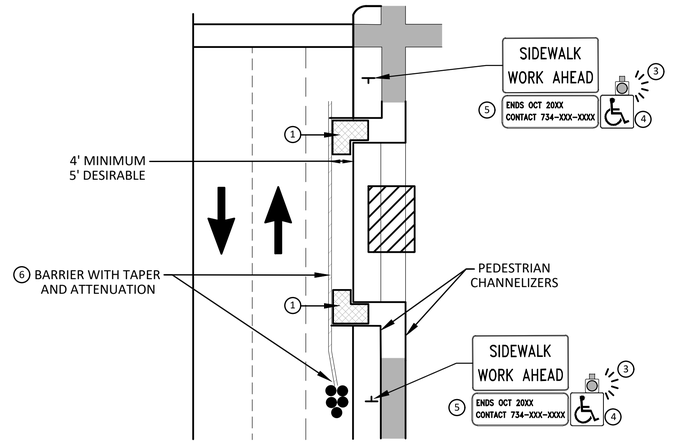
BYPASS TYPE A

NOTE: MAY ONLY BE USED ON ROADWAY WITH POSTED
SPEED OF 45 MPH OR LESS.



SIDEWALK BYPASS USING PARKING OR
SHOULDER ON LOW SPEED ROADWAY

BYPASS TYPE B



SIDEWALK BYPASS USING
SHOULDER OR PARKING LANE ON
HIGH SPEED ROADWAY

BYPASS TYPE C

GENERAL NOTES

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, THE CONTRACTOR SHALL PROVIDE DETECTABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK, AS NECESSARY, TO PROVIDE AN ALTERNATE PEDESTRIAN ROUTE (APR) AT ALL TIMES. FOR ROADWAYS WITH NO AVAILABLE DETOURS, MAINTAIN ONE OPEN SIDEWALK AT ALL TIMES.

PROVIDE A SMOOTH, CONTINUOUS, HARD SURFACE THROUGH THE LENGTH OF THE APR. COMPACTED GRAVEL, AGGREGATE, OR SLAG MATERIALS ARE NOT ALLOWED. PROVIDE A FIRM, STABLE, AND SLIP RESISTANT TEMPORARY WALKWAY SURFACE TO COVER SHORT SEGMENTS OF ROUGH, SOFT, OR UNEVEN GROUND.

THE PEDESTRIAN TRAFFIC SIGNALS CONTROLLING CLOSED CROSSWALKS SHALL BE COVERED OR DEACTIVATED BY THE CITY OF ANN ARBOR. THE CONTRACTOR SHALL SCHEDULE AND COORDINATE THIS WORK WITH THE ENGINEER A MINIMUM OF 72 HOURS (NOT INCLUDING WEEKENDS & HOLIDAYS) PRIOR TO THE BEGINNING OF WORK THAT REQUIRES A SIDEWALK CLOSURE.

POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7 FOOT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK SURFACE.

WHEN THE ENGINEER DETERMINES THAT THE CONTRACTOR'S OPERATIONS OR PLACEMENT OF TRAFFIC CONTROL DEVICES HAS CAUSED A SITUATION THAT THE VISIBILITY OF A TRAFFIC CONTROL DEVICE IS REDUCED ENOUGH TO CREATE A HAZARD, THE TRAFFIC CONTROL DEVICES SHALL BE DELINEATED WITH FLAGS OR OTHER ENGINEER-APPROVED DEVICES AT NO ADDITIONAL COST TO THE PROJECT.

MINIMIZE DISRUPTION TO PEDESTRIANS TO THE MAXIMUM EXTENT FEASIBLE BY PROVIDING AN APR IN THE FOLLOWING ORDER OF PREFERENCE:

1. PROVIDE THE APR ON THE SAME SIDE OF THE STREET AS THE DISRUPTED ROUTE UTILIZING BYPASSES.
2. WHERE IT IS NOT FEASIBLE TO PROVIDE A SAME SIDE APR, PROVIDE A DETOUR ON THE OTHER SIDE OF THE STREET.
3. WHERE IT IS NOT FEASIBLE TO PROVIDE AN APR ON THE OTHER SIDE OF THE ROADWAY, PROVIDE AN APR DETOUR WITH TRAILBLAZING SIGNS AS SHOWN ON THE PROJECT PLANS.

SPECIFIC NOTES

1. TEMPORARY CURB RAMPS WITH DETECTABLE WARNINGS.
2. 5 DEVICE TAPER 25 FEET LONG, RECOMMENDED WHEN THE CLOSED AREA WAS USED AS AN INTERMITTENT TRAFFIC LANE OR BYPASS LANE. STREET PARKING SHALL BE PROHIBITED FOR AT LEAST 50 FEET IN ADVANCE OF THE MID-BLOCK CROSSWALK.
3. AN APPROVED AUDIBLE MESSAGE DEVICE OR TACTILE MESSAGE SHOULD BE PROVIDED FOR SIGHT-IMPAIRED PEDESTRIANS.
4. THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHALL BE DISPLAYED WHEN ANY WALKWAY THROUGH A WORK ZONE HAS BEEN DETERMINED TO BE TPAR COMPLIANT. THE SYMBOL OF ACCESSIBILITY SHALL NOT BE DISPLAYED IF PERSONS WITH DISABILITIES SHOULD NOT USE THE PRIMARY TEMPORARY PEDESTRIAN DETOUR. THE REASON FOR THE NON-COMPLIANCE SHALL BE POSTED AND AN ALTERNATE ROUTE SHALL BE POSTED WHEN THE PRIMARY TEMPORARY PEDESTRIAN DETOUR IS NON-COMPLIANT TO TPAR STANDARDS.
5. TYPICAL SIGN MESSAGE FOR A TEMPORARY PEDESTRIAN DETOUR SHALL INCLUDE INFORMATION SUCH AS THE DURATION OF THE WALKWAY RESTRICTIONS (BEGINNING AND/OR END DATES) AND A PROJECT CONTACT NUMBER FOR 24 / 7 QUESTIONS OR REPORTING HAZARDS.
6. SEE MMUTCD FOR GUIDANCE ON PLACEMENT AND USAGE OF BARRIER.

LEGEND

- SIGN
- EXISTING PEDESTRIAN SURFACE
- WORK AREA
- PEDESTRIAN CHANNELIZATION DEVICE
- BARRIER
- SIDEWALK BARRICADE
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL DEVICE

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM 1	3-28-23	CC/DF	TB
00	OUT TO BID	3-13-23	CC/DF/KB	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

BROOKS STREET IMPROVEMENTS

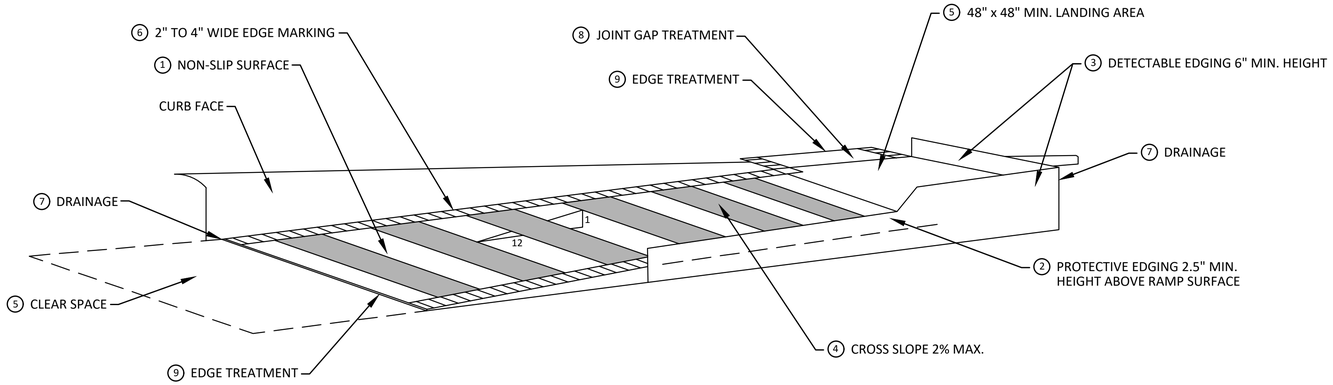
ALTERNATE PEDESTRIAN ROUTE (APR) BYPASS

SCALE : N.T.S.

DRAWING No.
2021016-15

SHEET No.
15 OF 54

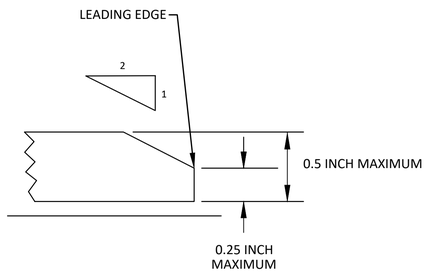
R:\2021016 Brooks Street\Plan Production\2021016Det1.dwg Dwg Created: 13-Mar-23 — _a2 standard bw.stb — Plot Date: 28-Mar-23



TEMPORARY CURB RAMP
PARALLEL TO CURB

SPECIFIC NOTES

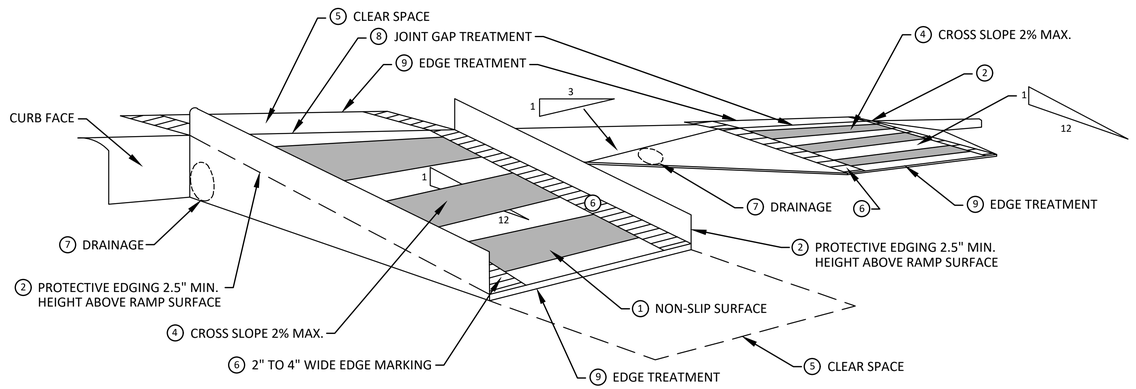
1. CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.
2. PROTECTIVE EDGING WITH A 2.5" MIN. HEIGHT ABOVE THE RAMP SHALL BE PLACED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3. PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
3. DETECTABLE EDGING ANYTIME A HANDRAIL IS REQUIRED, AND ANYTIME THE PATH CHANGES DIRECTION. THIS INCLUDES A TURN ONTO THE RAMP FROM THE PATH. DETECTABLE EDGING MUST BEGIN A MAXIMUM OF 2.5" ABOVE THE RAMP SURFACE, AND EXTEND AT LEAST 6" ABOVE THE RAMP SURFACE. CONTRASTING COLOR SHALL BE PLACED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
4. CURB RAMPS AND LANDINGS SHALL HAVE A 2% MAX. CROSS SLOPE.
5. CLEAR SPACE OF 48" x 48" MIN. SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
6. THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A CONTRASTING COLOR, 2" TO 4" WIDE MARKING. THE MARKING IS OPTIONAL WHERE COLOR CONTRASTING EDGING IS USED.
7. WATER FLOW IN THE GUTTER SYSTEM SHALL NOT BE IMPEDED.
8. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.
9. CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES SHOULD BE VERTICAL UP TO 1/4" HIGH, AND BEVELED AT 1:2 BETWEEN 1/4" AND 1/2" HEIGHT.



9 EDGE TREATMENT

SHOWN WITH PROTECTIVE EDGE

SHOWN WITH SIDE APRON



TEMPORARY CURB RAMP
PERPENDICULAR TO CURB

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

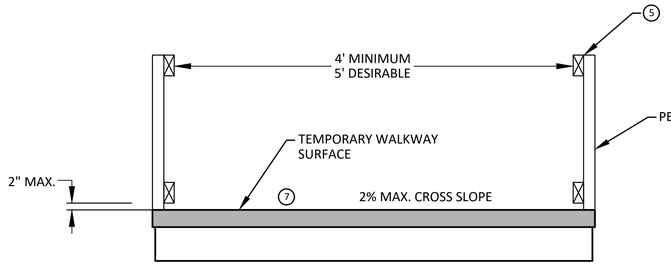
BROOKS STREET IMPROVEMENTS

TPAR RAMPS

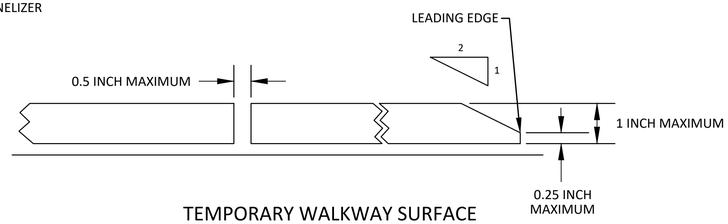
SCALE : N.T.S.

DRAWING No. 2021016-16

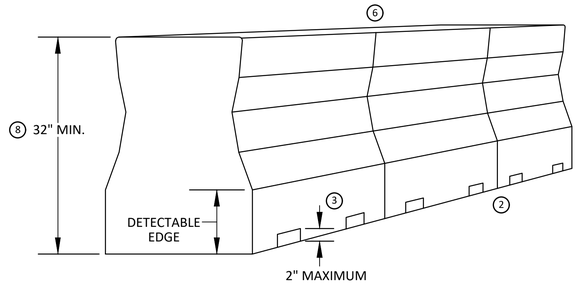
SHEET No. 16 OF 54



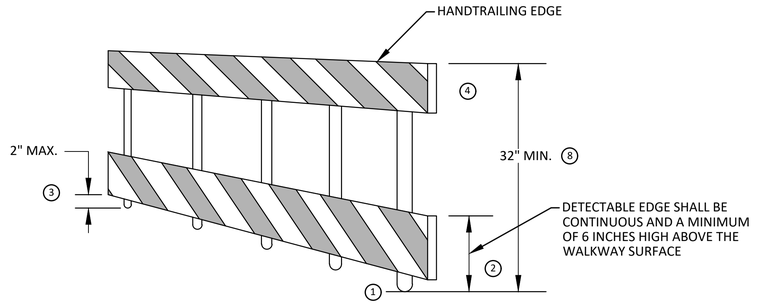
TEMPORARY PEDESTRIAN ACCESS



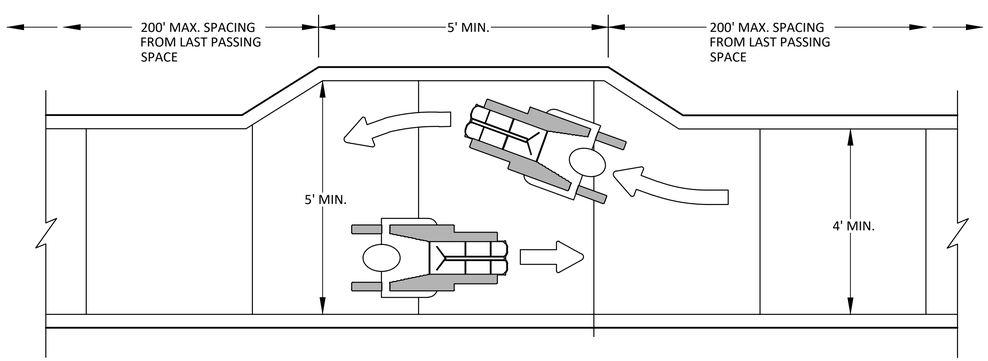
TEMPORARY WALKWAY SURFACE



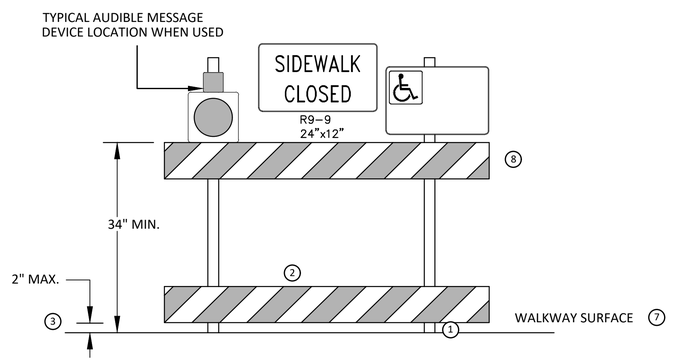
PEDESTRIAN CHANNELIZER USING A BARRIER
(MINIMUM REQUIREMENTS)



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.

Know what's below. Call before you dig.

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00	OUT TO BID	3-13-23	CC/DF/KB	TB
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BROOKS STREET IMPROVEMENTS

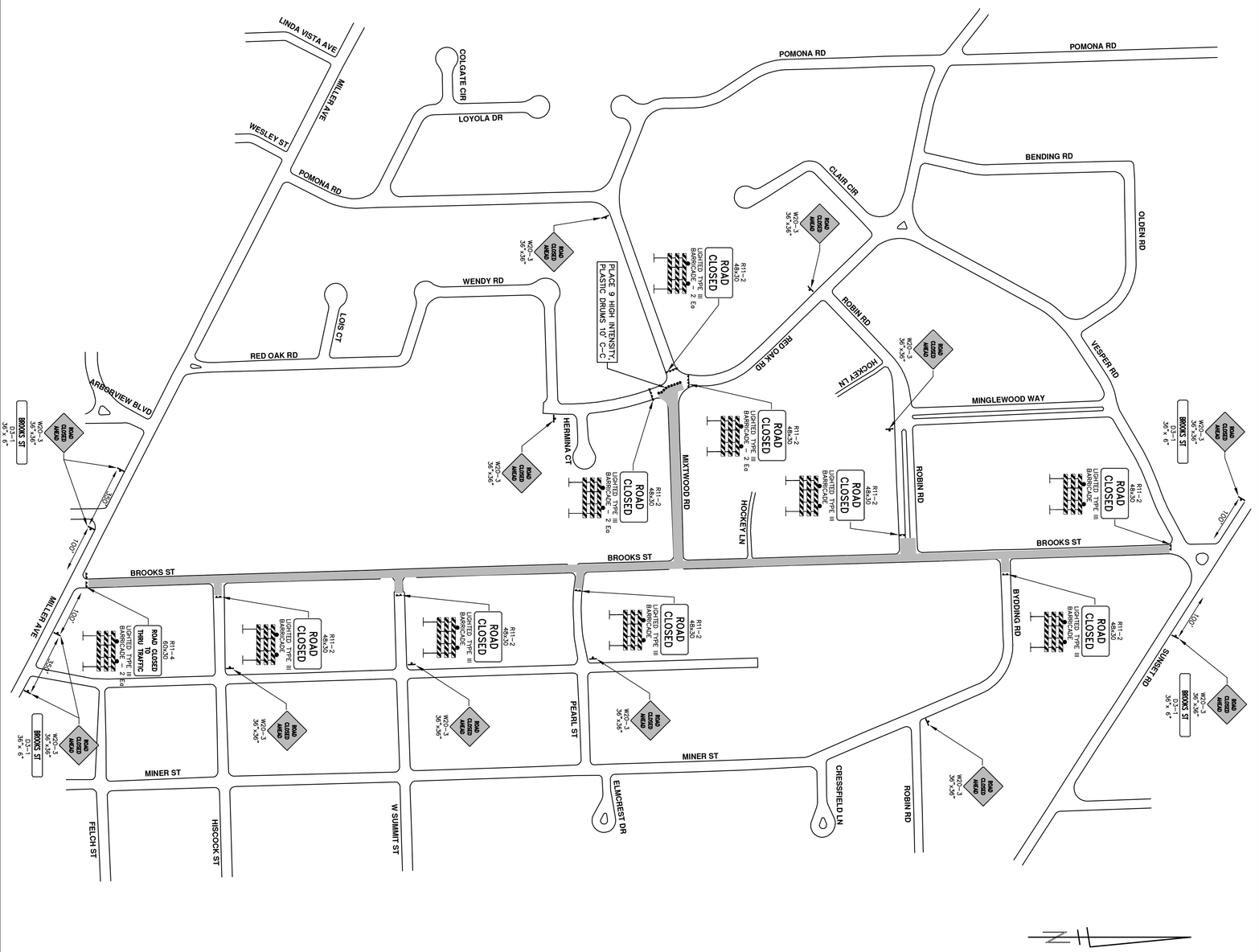
TPAR WALKWAY DEVICES

SCALE: N.T.S.

DRAWING No. 2021016-17

SHEET No. 17 OF 54

R:\2021016 Brooks Street\Plan Production\2021016Traf1.dwg Dwg Created: 21-Mar-23 - _a2 standard bw.stb - Plot Date: 28-Mar-23



01	ADDENDUM 1	3-28-23	CC/DF		TB
00	OUT TO BID	3-13-23	CC/DF/KB		TB
REV.	DESCRIPTION	DATE	DRAWN		CHECKED

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18 OF 54

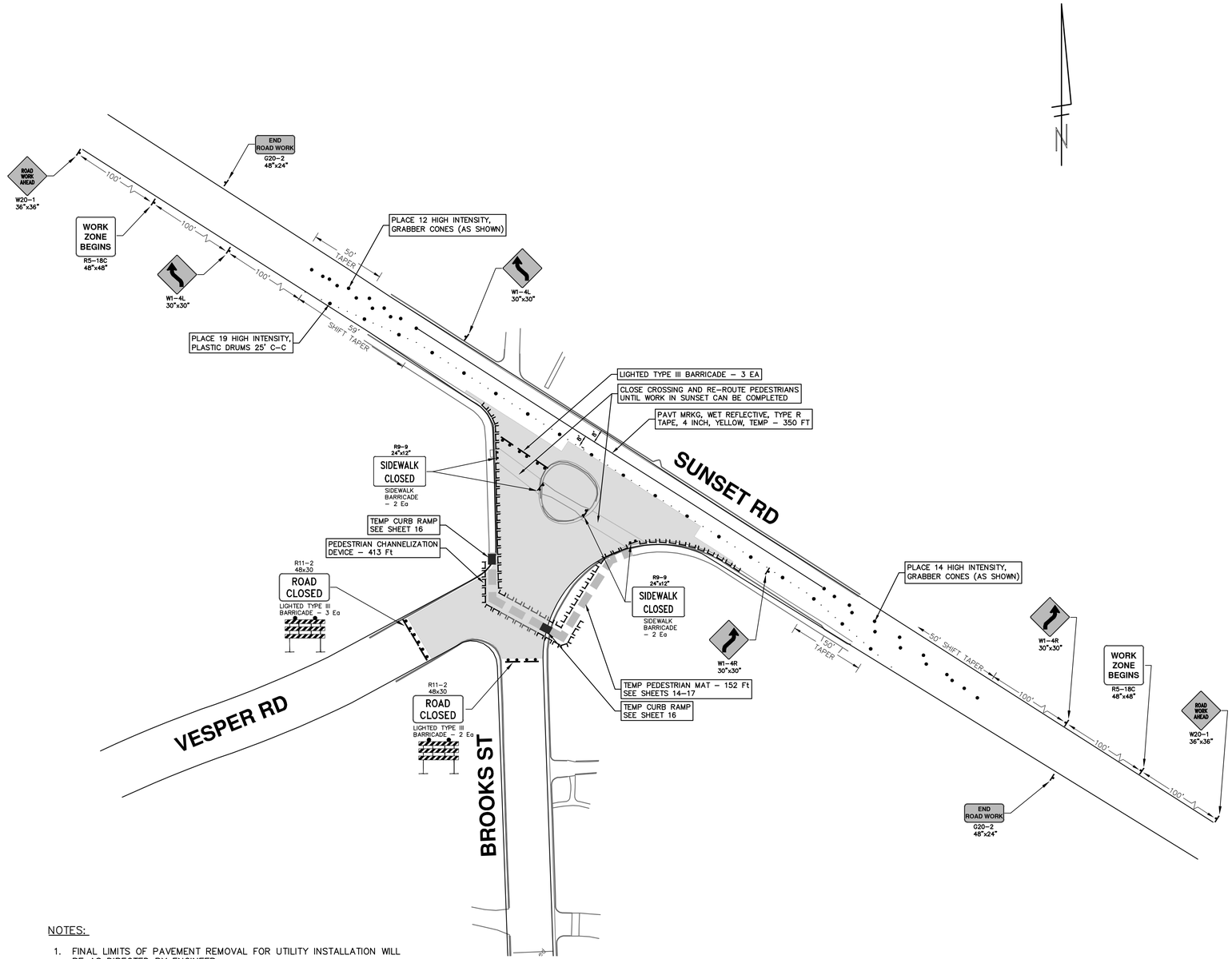
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE : NTS

DRAWING No.
2021016-18

BROOKS STREET IMPROVEMENTS

MAINTENANCE OF TRAFFIC
OVERALL PLAN



NOTES:

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

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT TO BID	3-13-23	CC/DF/KB	TB
01	ADDENDUM 1	3-28-23	CC/DF	TB

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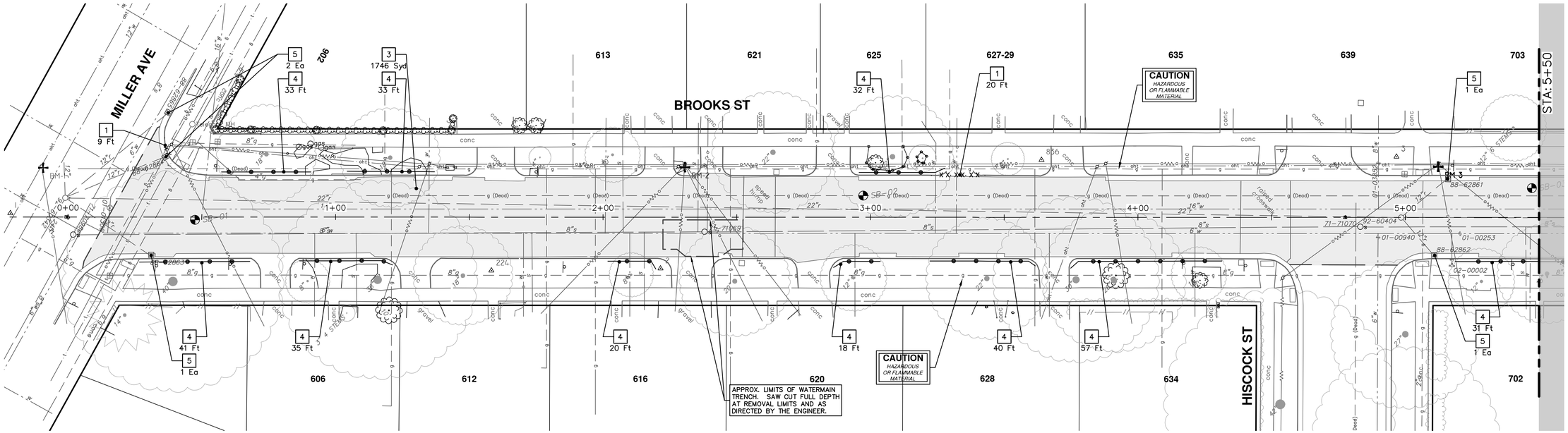
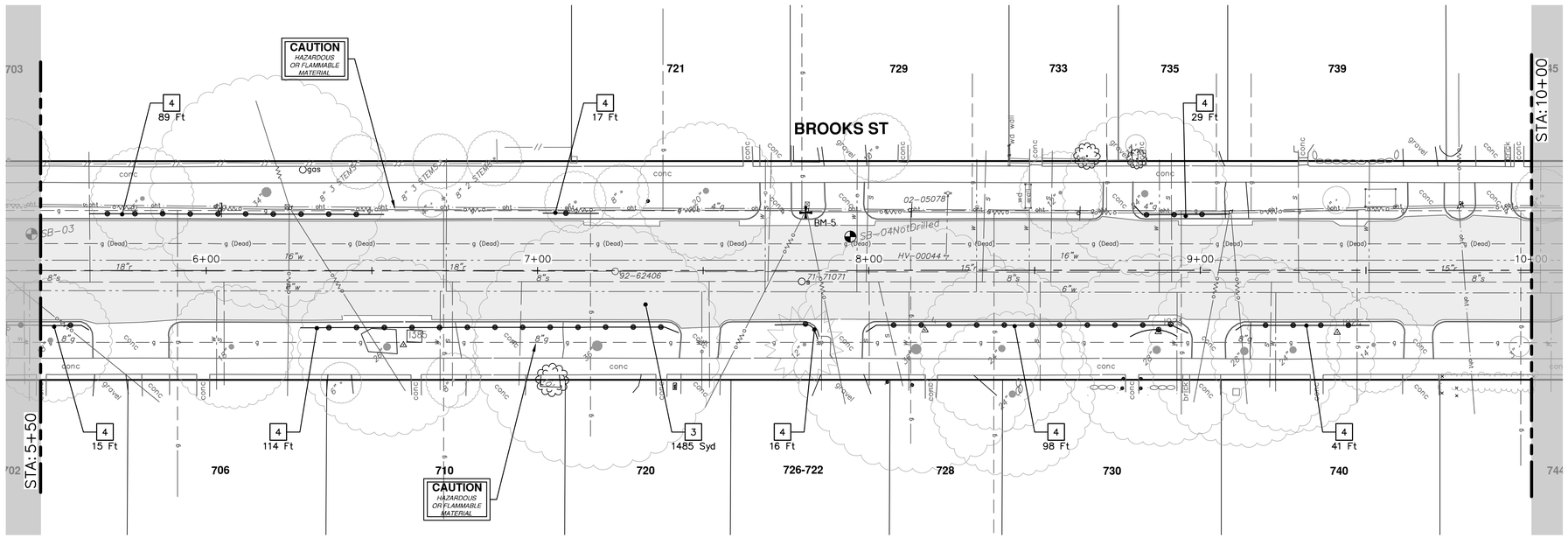
BROOKS STREET IMPROVEMENTS
MAINTENANCE OF TRAFFIC
SUNSET RD AND BROOKS ST INTERSECTION

SCALE: NTS

DRAWING No.
2021016-19

SHEET No.
19 OF 54





REMOVAL KEY

KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB AND GUTTER, – ANY TYPE*
2	REMOVE CONCRETE SIDEWALK AND DRIVE – ANY THICKNESS*
3	PAVEMENT REMOVAL, ANY DEPTH*
4	PROTECTIVE FENCING
5	INLET FILTER
6A	TREE REMOVAL, 6 INCH – 12 INCH
6B	TREE REMOVAL, 13 INCH – 24 INCH
6C	TREE REMOVAL, 25 INCH AND LARGER
7	SILT FENCE
8	MAILBOX (SALVAGE)
9	SPADE TREE
10	COLD MILLING HMA SURFACE

* SAWCUT FULL DEPTH AT REMOVAL LIMITS AS DIRECTED BY ENGINEER

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM 1	3–28–23	CC/DF	TB
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BROOKS STREET IMPROVEMENTS

REMOVALS - BROOKS STREET

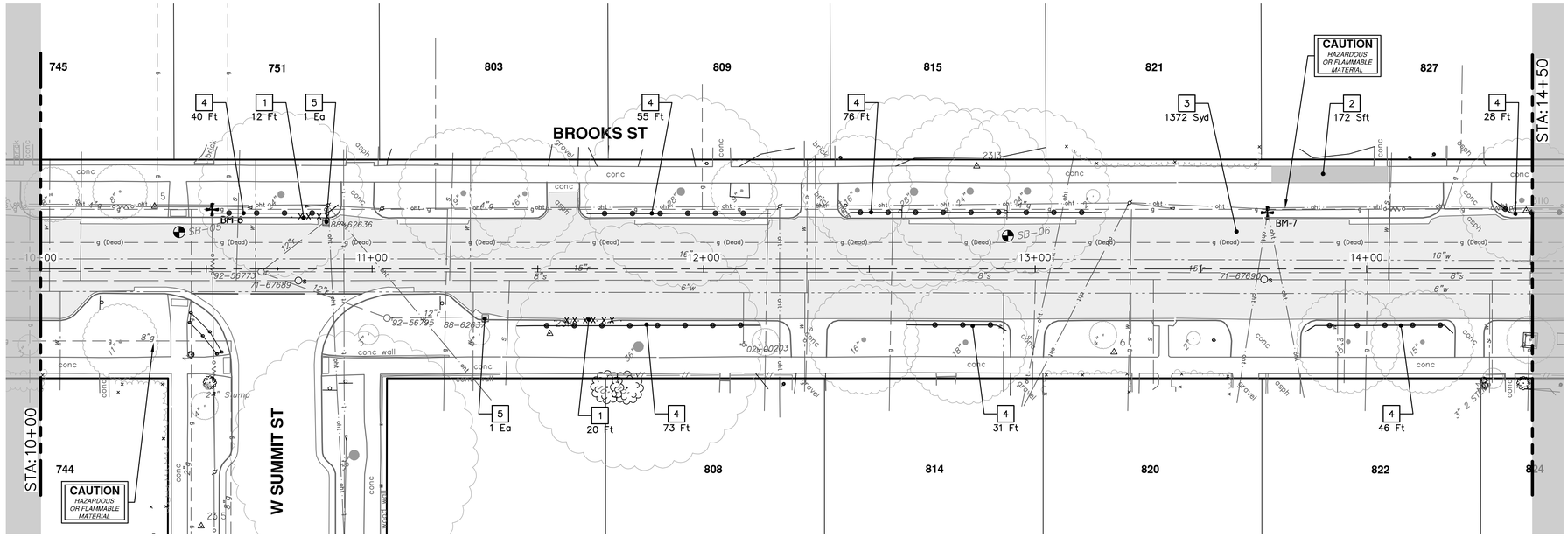
STA. 0+00 - STA. 10+00

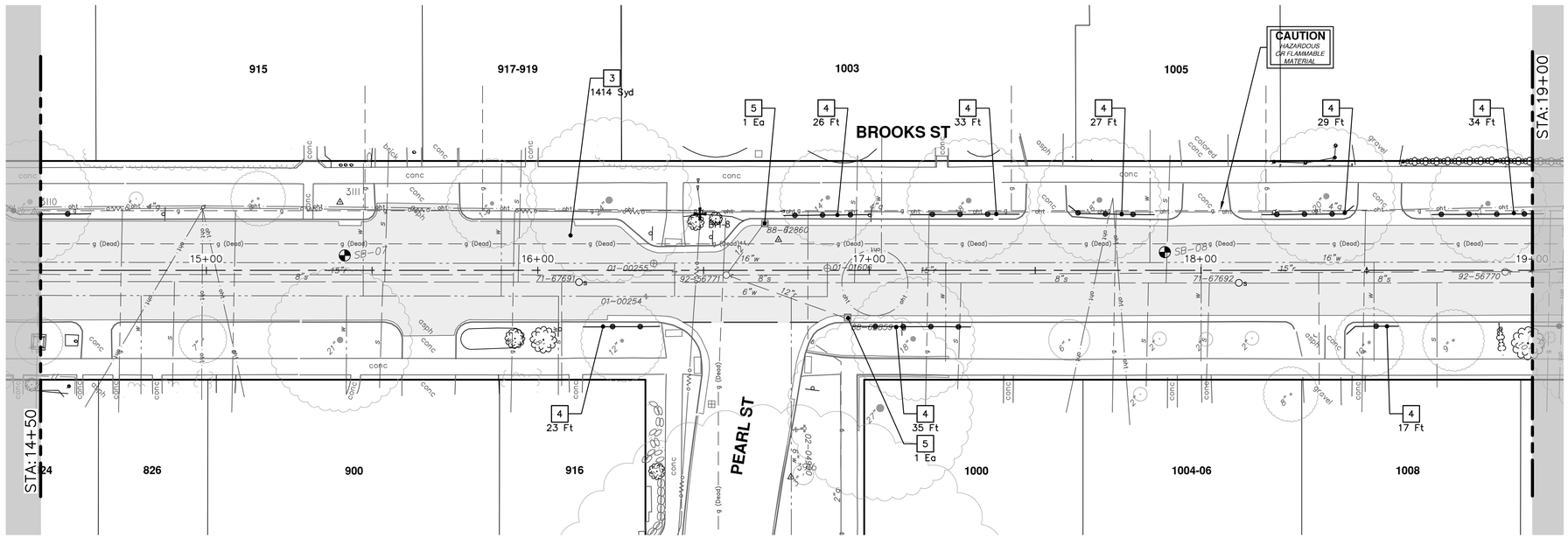
SCALE : 1" = 20'

DRAWING No. 2021016-20

SHEET No. 20 OF 54

R:\2021016 Brooks Street\Plan Production\2021016Rem.dwg Dwg Created: 28-Mar-23 – _a2 standard bw.stb – Plot Date: 28-Mar-23





REMOVAL KEY

KEY	DESCRIPTION
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3	PAVEMENT REMOVAL, ANY DEPTH*
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5	INLET FILTER
6A	TREE REMOVAL, 6 INCH – 12 INCH
6B	TREE REMOVAL, 13 INCH – 24 INCH
6C	TREE REMOVAL, 25 INCH AND LARGER
7	SILT FENCE
8	MAILBOX (SALVAGE)
9	SPADE TREE
10	COLD MILLING HMA SURFACE

- **SAWCUT FULL DEPTH AT REMOVAL LIMITS AS DIRECTED BY ENGINEER**

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT TO BID	3-13-23	CC/DF/KB	TB
01	ADDENDUM 1	3-28-23	CC/DF	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

BROOKS STREET IMPROVEMENTS

REMOVALS - BROOKS STREET

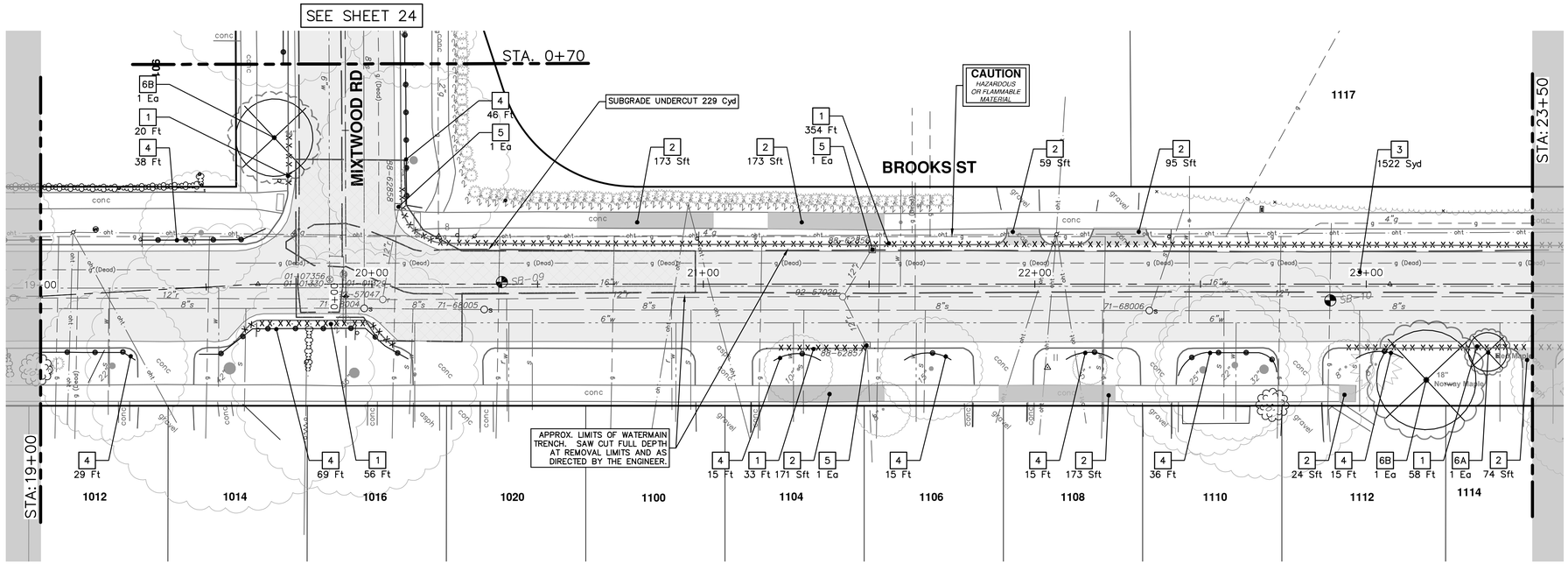
STA. 10+00 - STA. 19+00

SCALE: 1" = 20'

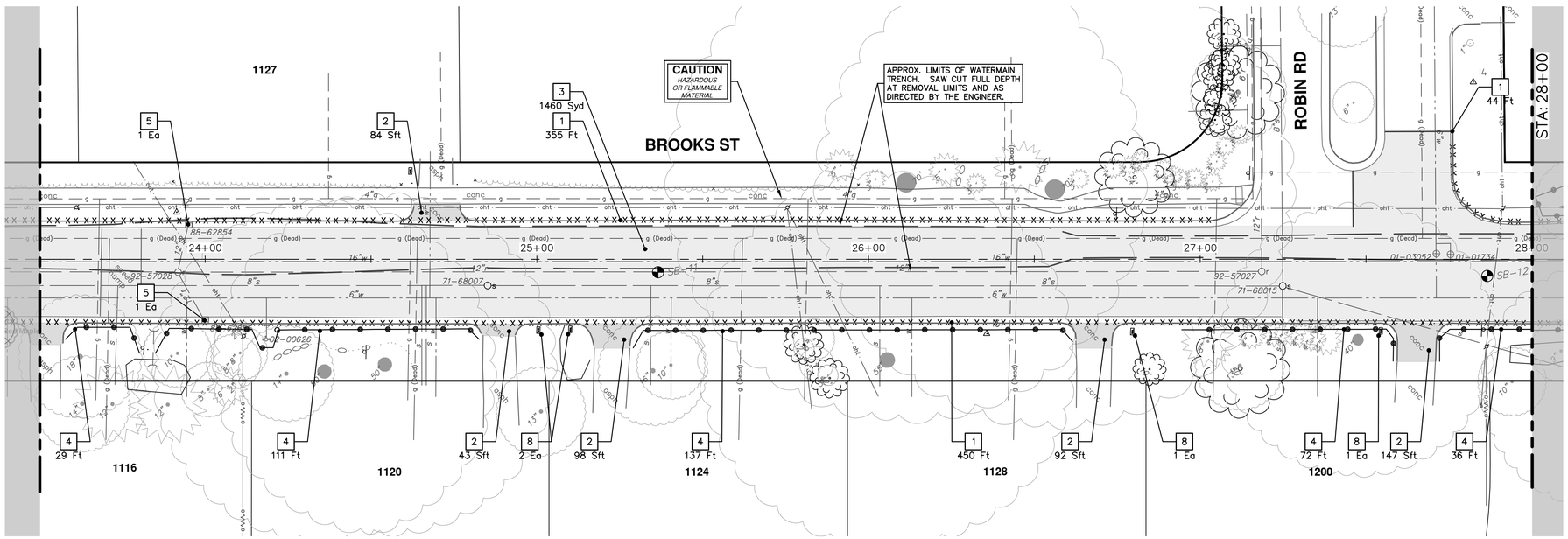
DRAWING No.
2021016-21

SHEET No.
21 OF 54

R:\2021016 Brooks Street\Plan Production\2021016Rem.dwg Dwg Created: 28-Mar-23 — _a2 standard bw.stb — Plot Date: 28-Mar-23



TREE REMOVAL TABLE			
Size	Species	Northing	Easting
18"	Norway Maple	289340.4853	13287984.7437
7"	Red Maple	289358.7511	13287975.7415
14"		288990.8810	13287922.6598



REMOVAL KEY	
KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB AND GUTTER, – ANY TYPE*
2	REMOVE CONCRETE SIDEWALK AND DRIVE – ANY THICKNESS*
3	PAVEMENT REMOVAL, ANY DEPTH*
4	PROTECTIVE FENCING
5	INLET FILTER
6A	TREE REMOVAL, 6 INCH – 12 INCH
6B	TREE REMOVAL, 13 INCH – 24 INCH
6C	TREE REMOVAL, 25 INCH AND LARGER
7	SILT FENCE
8	MAILBOX (SALVAGE)
9	SPADE TREE
10	COLD MILLING HMA SURFACE

* SAWCUT FULL DEPTH AT REMOVAL LIMITS AS DIRECTED BY ENGINEER

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM 1	3–28–23	CC/DF	TB
00	OUT TO BID	3–13–23	CC/DF/KB	TB

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

BROOKS STREET IMPROVEMENTS

REMOVALS - BROOKS STREET

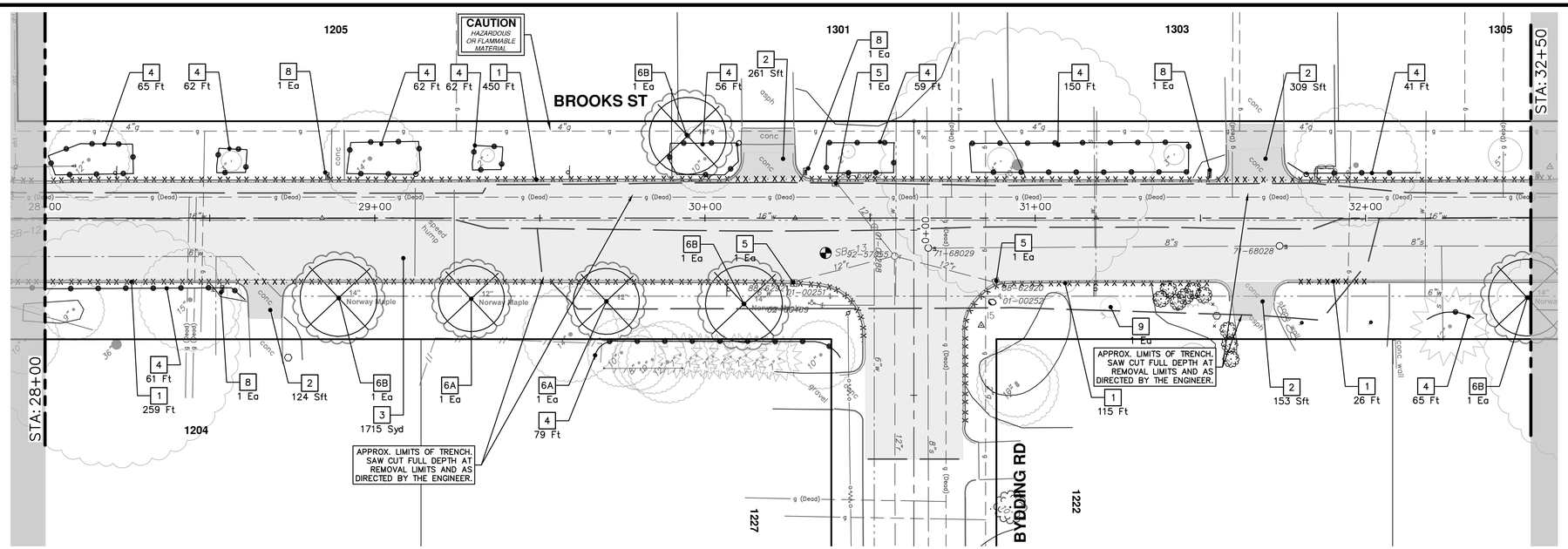
STA. 19+00 - STA. 28+00

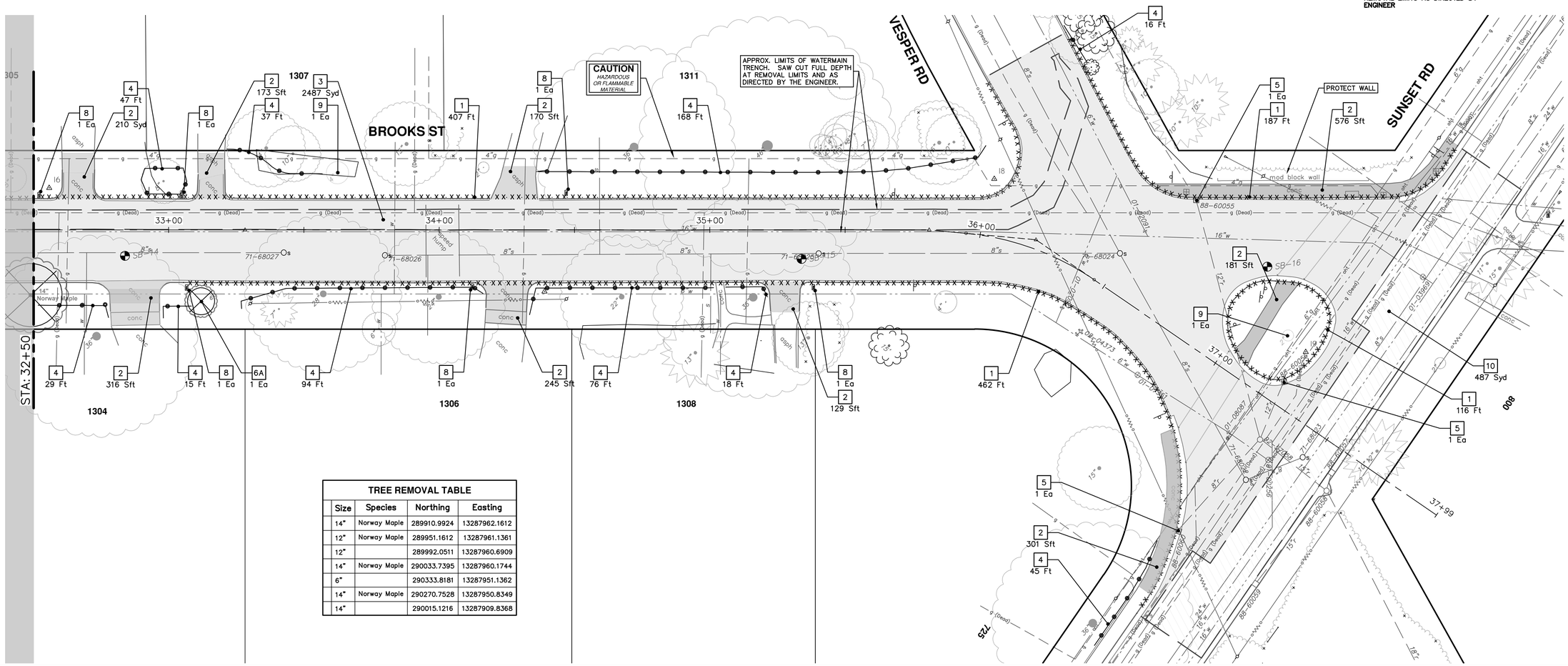
SCALE : 1" = 20'

DRAWING No. 2021016-22

SHEET No. 22 OF 54

R:\2021016 Brooks Street\Plan Production\2021016Rem.dwg Dwg Created: 28–Mar–23 — _a2 standard bw.stb — Plot Date: 28–Mar–23





TREE REMOVAL TABLE				
	Size	Species	Northing	Easting
	14"	Norway Maple	289910.9924	13287962.1612
	12"	Norway Maple	289951.1612	13287961.1361
	12"		289992.0511	13287960.6909
	14"	Norway Maple	290033.7395	13287960.1744
	6"		290333.8181	13287951.1362
	14"	Norway Maple	290270.7528	13287950.8349
	14"		290015.1216	13287909.8368

REMOVAL KEY

KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB AND GUTTER, – ANY TYPE*
2	REMOVE CONCRETE SIDEWALK AND DRIVE – ANY THICKNESS*
3	PAVEMENT REMOVAL, ANY DEPTH*
4	PROTECTIVE FENCING
5	INLET FILTER
6A	TREE REMOVAL, 6 INCH – 12 INCH
6B	TREE REMOVAL, 13 INCH – 24 INCH
6C	TREE REMOVAL, 25 INCH AND LARGER
7	SILT FENCE
8	MAILBOX (SALVAGE)
9	SPADE TREE
10	COLD MILLING HMA SURFACE

* SAWCUT FULL DEPTH AT REMOVAL LIMITS AS DIRECTED BY ENGINEER

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT TO BID	3-13-23	CC/DF	TB
01	ADDENDUM 1	3-28-23	CC/DF/KB	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

BROOKS STREET IMPROVEMENTS

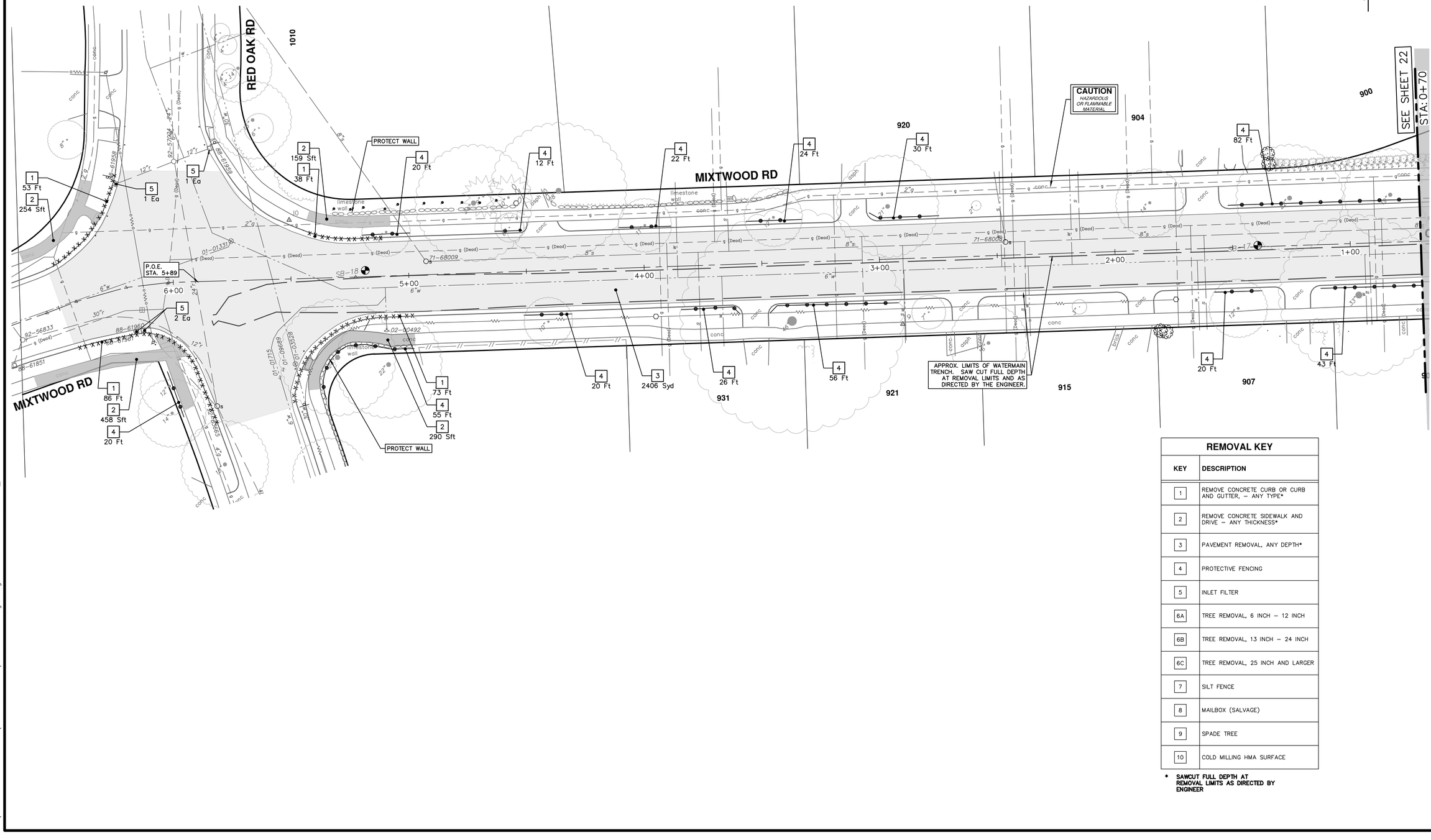
REMOVALS - BROOKS STREET

STA. 28+00 - STA. 38+00

SCALE: 1" = 20'

DRAWING No. 2021016-23

SHEET No. 23 OF 54



REMOVAL KEY	
KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB AND GUTTER, – ANY TYPE*
2	REMOVE CONCRETE SIDEWALK AND DRIVE – ANY THICKNESS*
3	PAVEMENT REMOVAL, ANY DEPTH*
4	PROTECTIVE FENCING
5	INLET FILTER
6A	TREE REMOVAL, 6 INCH – 12 INCH
6B	TREE REMOVAL, 13 INCH – 24 INCH
6C	TREE REMOVAL, 25 INCH AND LARGER
7	SILT FENCE
8	MAILBOX (SALVAGE)
9	SPADE TREE
10	COLD MILLING HMA SURFACE

* SAWCUT FULL DEPTH AT REMOVAL LIMITS AS DIRECTED BY ENGINEER

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT TO BID	3-13-23	CC/DF/JKB	TB
01	ADDENDUM 1	3-28-23	CC/DF	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

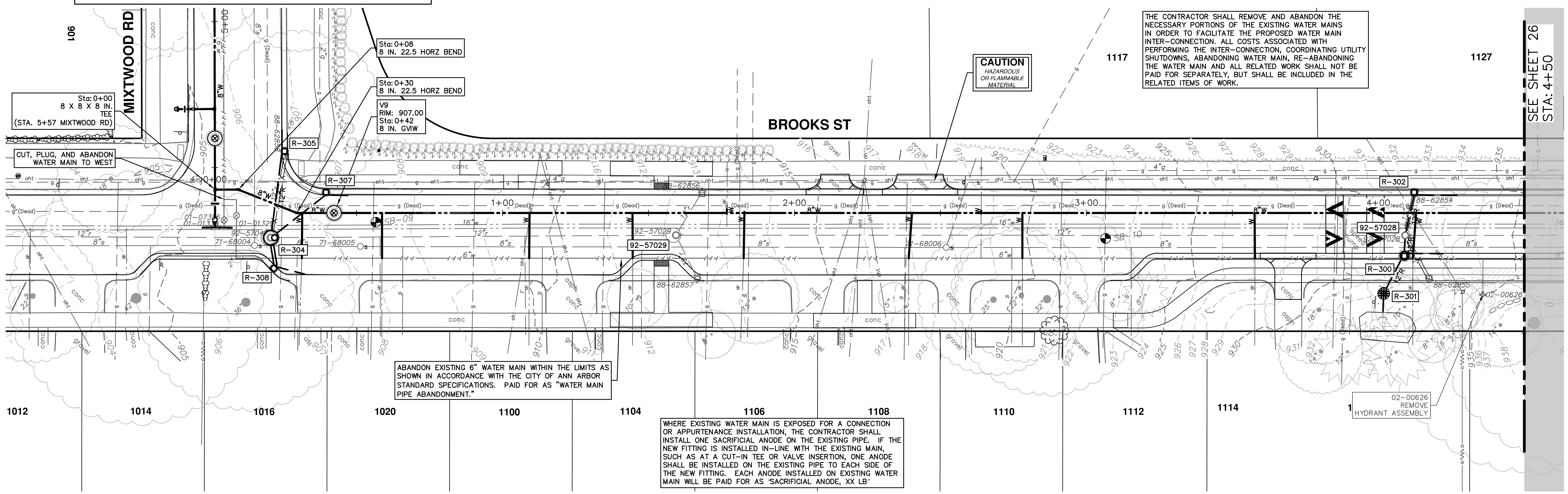
BROOKS STREET IMPROVEMENTS
REMOVALS - MIXTWOOD ROAD
STA. 0+70 - STA. 7+00

SCALE : 1" = 20'

DRAWING No. 2021016-24

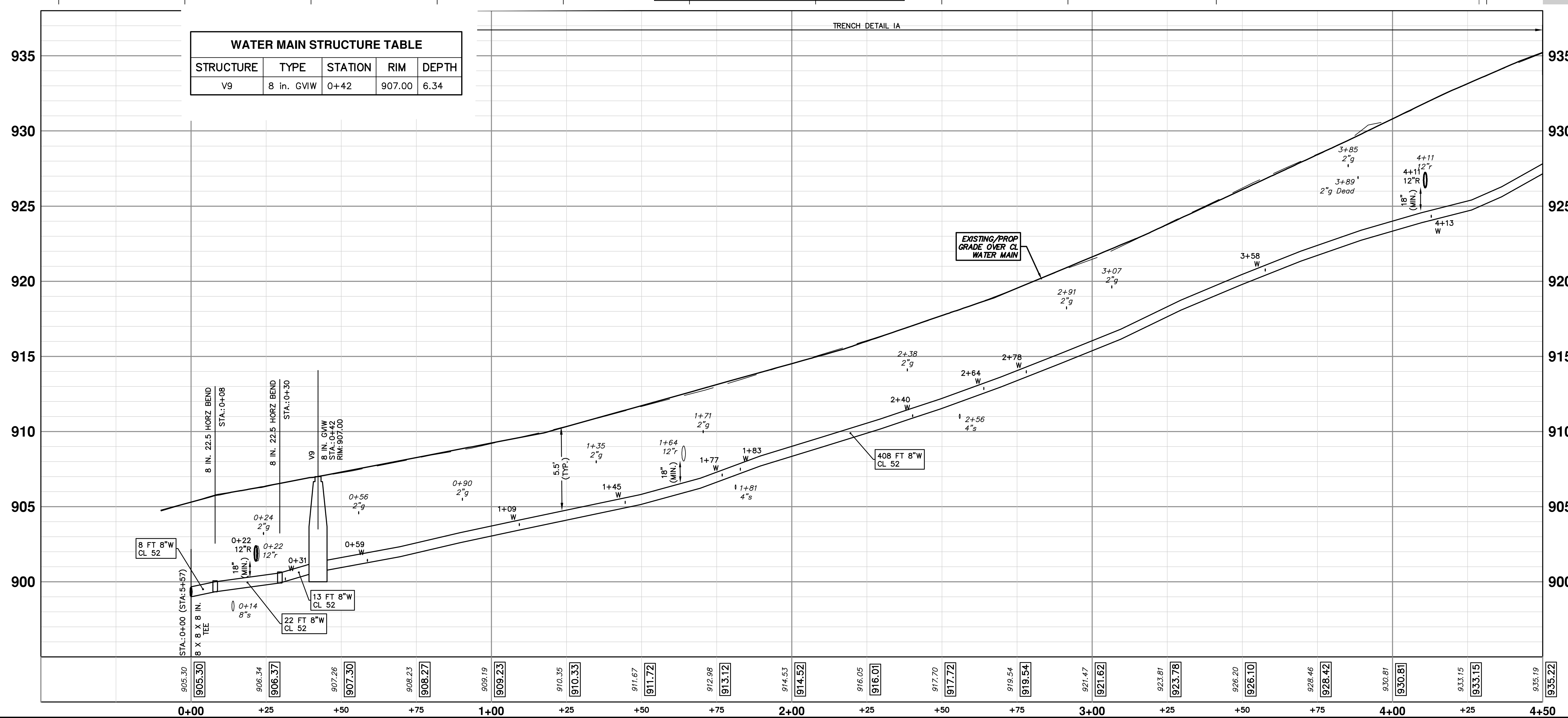
SHEET No. 24 OF 54

R:\2021016 Brooks Street\Plan Production\2021016Rem.dwg Dwg Created: 28-Mar-23 — _a2 standard bw.stb — Plot Date: 28-Mar-23



WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	RIM	DEPTH
V9	8 in. GVIW	0+42	907.00	6.34



R:\2021016 Brooks Street\Plan Production\2021016Wat1.dwg Dwg Created: 27-Mar-23 - _a2 standard bw.stb - Plot Date: 28-Mar-23

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM 1	3-28-23	CC/DF	TB
00	OUT TO BID	3-13-23	CC/DF/KB	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

BROOKS STREET IMPROVEMENTS

BROOKS STREET WATER MAIN

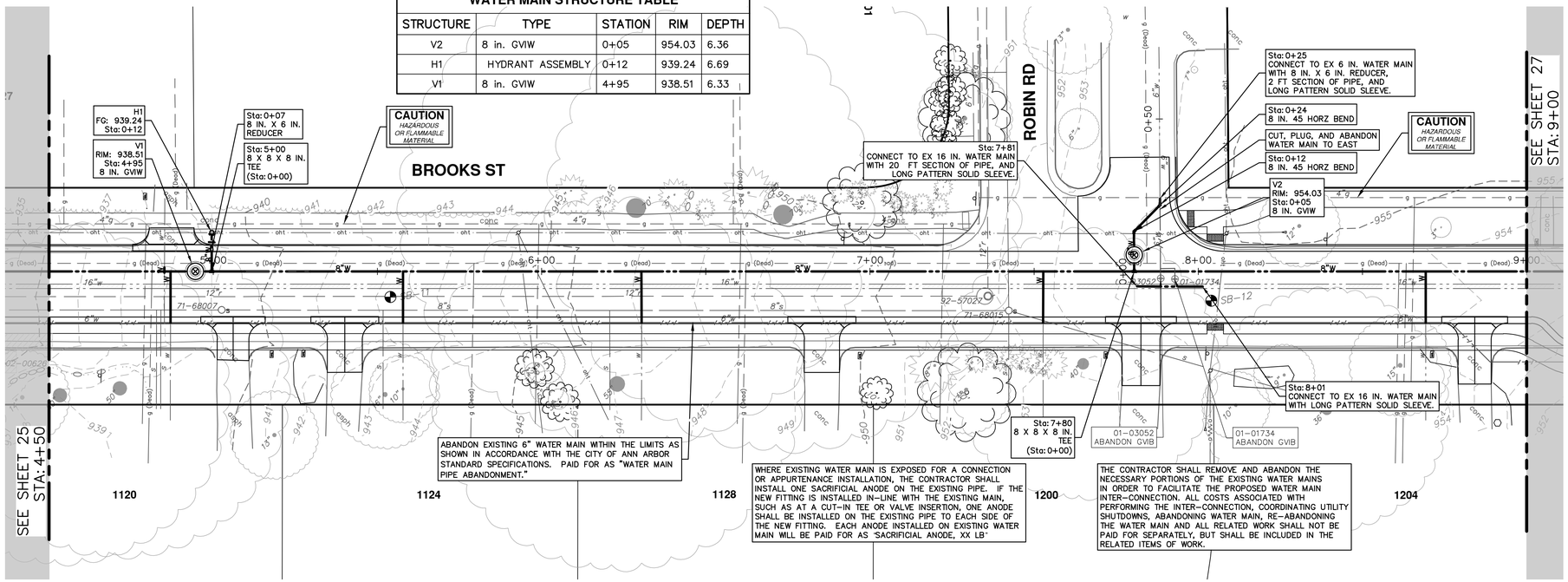
STA. 0+00 - STA. 4+50

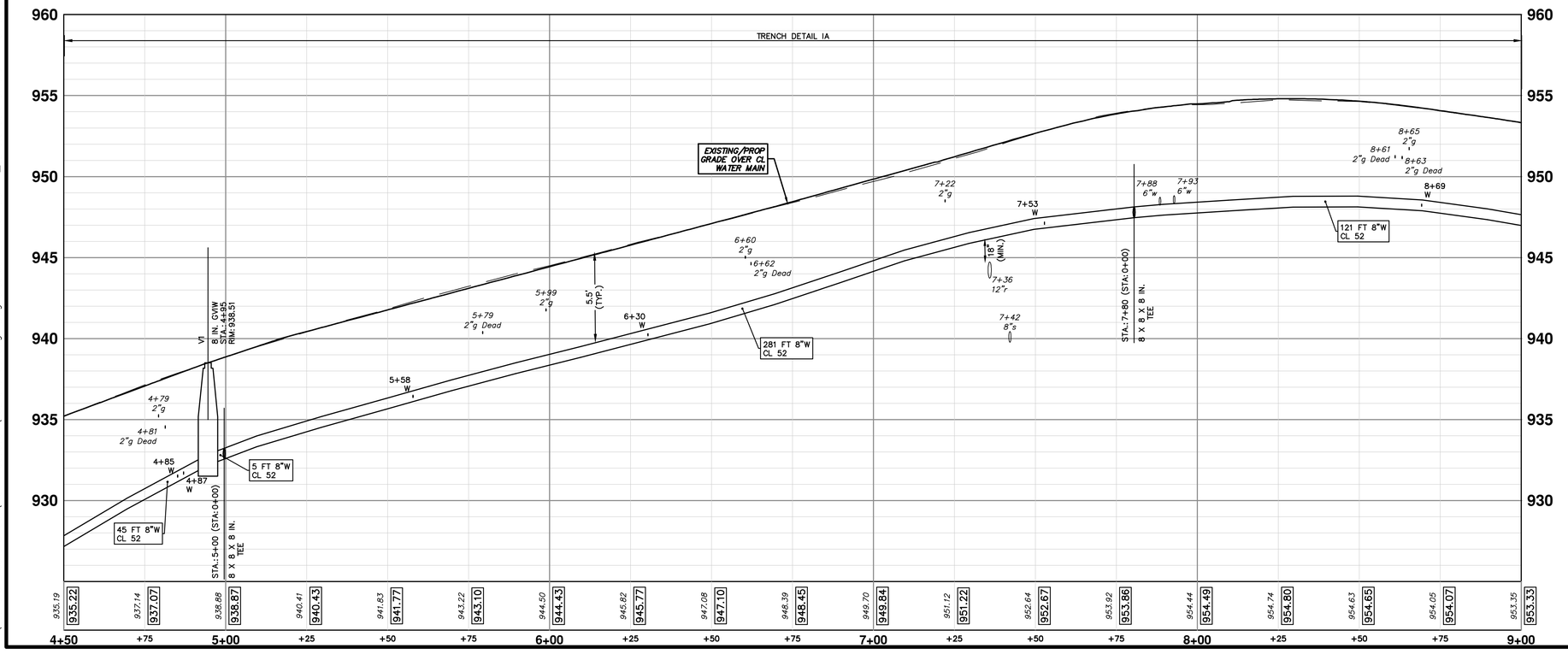
SCALE PLAN: 1" = 20' PROFILE: 1" = 4'

DRAWING No. 2021016-25

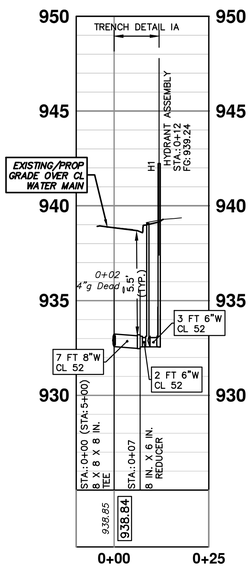
SHEET No. 25 OF 54

WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	DEPTH
V2	8 in. GVIW	0+05	954.03	6.36
H1	HYDRANT ASSEMBLY	0+12	939.24	6.69
V1	8 in. GVIW	4+95	938.51	6.33

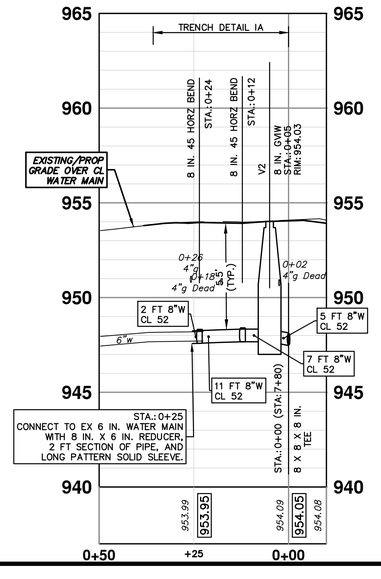




HYDRANT H1



ROBIN WM



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM 1	3-28-23	CC/DF	TB
00	OUT TO BID	3-13-23	CC/DF/KB	TB

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

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

BROOKS STREET IMPROVEMENTS

BROOKS STREET WATER MAIN

STA. 4+50 - STA. 9+00

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

DRAWING No. 2021016-26

SHEET No. 26 OF 54

R:\2021016 Brooks Street\Plan Production\2021016Watl.dwg Dwg Created: 27-Mar-23 — _a2 standard bw.stb — Plot Date: 28-Mar-23

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.

Sta: 10+59
CONNECT TO EX 16 IN. WATER MAIN WITH LONG PATTERN SOLID SLEEVE.

CAUTION
HAZARDOUS OR FLAMMABLE MATERIAL

Sta: 10+80
8 X 8 X 8 IN. TEE
(Sta: 0+00)

Sta: 10+79
CONNECT TO EX 16 IN. WATER MAIN WITH 20 FT SECTION OF PIPE, AND LONG PATTERN SOLID SLEEVE.

V4
RIM: 950.29
Sta: 11+06
8 IN. GVIW

01-00288
ABANDON TSVIW

BROOKS ST

1205 1301 1303 1305

SEE SHEET 26
STA: 9+00

SEE SHEET 28
STA: 13+50

R-200 R-201 R-202 R-203 R-204 R-206 R-207 R-208

CUT, PLUG, AND ABANDON WATER MAIN TO EAST

02-00469
REMOVE HYDRANT ASSEMBLY

01-00252
ABANDON GVIB

EXISTING WATER SERVICE LEAD IS IN CONFLICT WITH PROPOSED STORM SEWER. CONTRACTOR TO RELOCATE PRIOR TO INSTALLATION OF THE STORM SEWER.

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

V3
RIM: 949.07
Sta: 0+41
8 IN. GVIW

Sta: 0+51
8 X 8 X 8 IN. TEE
(Sta: 0+00)

Sta: 0+54
8 IN. 45 HORZ BEND

CUT, PLUG, AND ABANDON WATER MAIN TO WEST

Sta: 0+71
8 IN. 45 HORZ BEND

Sta: 0+72
CONNECT TO EX 6 IN. WATER MAIN WITH 8 IN. X 6 IN. REDUCER, 2 FT SECTION OF PIPE, AND LONG PATTERN SOLID SLEEVE.

BYDDING RD

H2
FG: 943.04
Sta: 0+17

Sta: 0+12
8 IN. X 6 IN. REDUCER

CAUTION
HAZARDOUS OR FLAMMABLE MATERIAL

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

HAND DIG
45 Sft

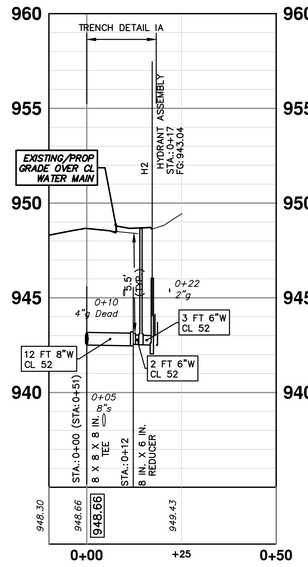
WHERE EXISTING WATER MAIN IS EXPOSED FOR A CONNECTION OR APPURTENANCE INSTALLATION, THE CONTRACTOR SHALL INSTALL ONE SACRIFICIAL ANODE ON THE EXISTING PIPE. IF THE NEW FITTING IS INSTALLED IN-LINE WITH THE EXISTING MAIN, SUCH AS AT A CUT-IN TEE OR VALVE INSERTION, ONE ANODE SHALL BE INSTALLED ON THE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

1222 1304

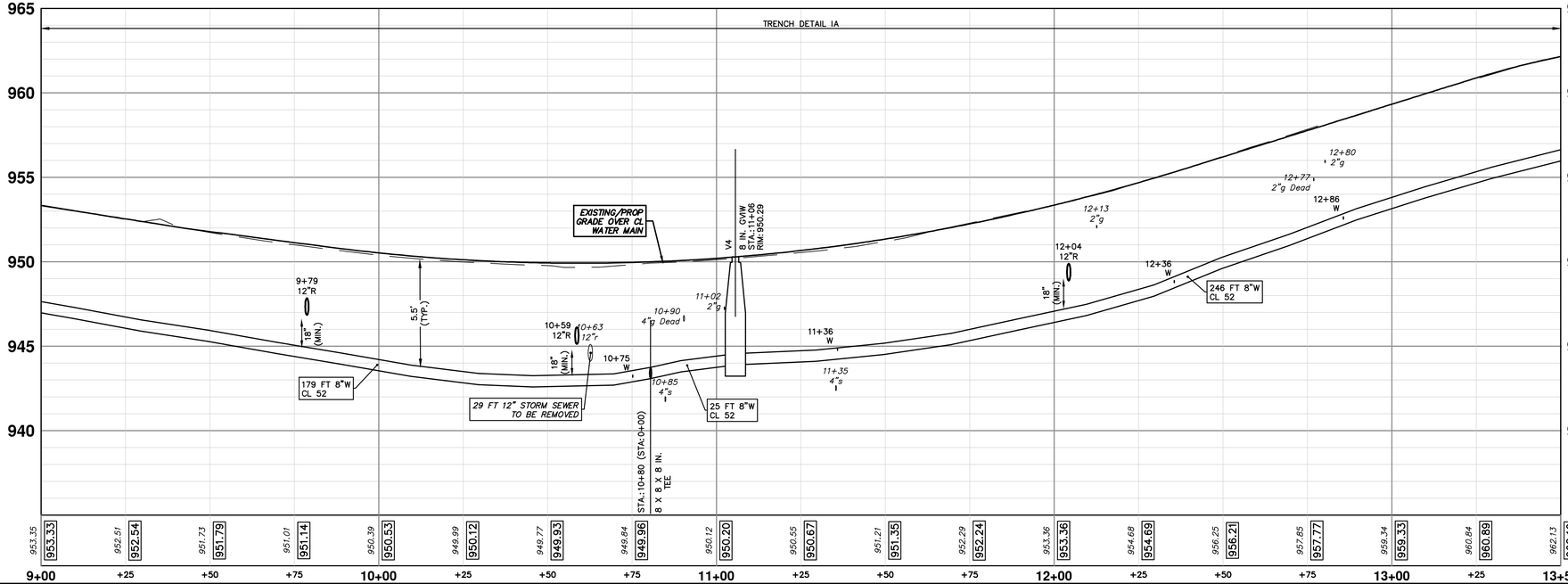
WATER MAIN STRUCTURE TABLE

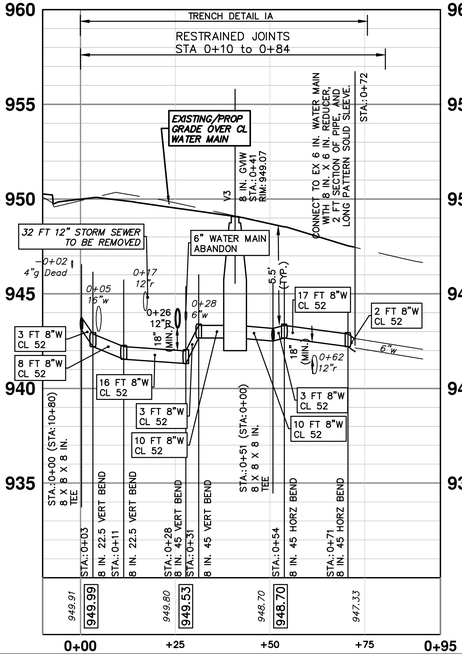
STRUCTURE	TYPE	STATION	RIM	DEPTH
H2	HYDRANT ASSEMBLY	0+17	943.04	1.00
V3	8 in. GVIW	0+41	949.07	6.41
V4	8 in. GVIW	11+06	950.29	6.39

HYDRANT H2



BYDDING WM





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00	OUT TO BID	3-13-23	CC/DF/KB	TB
01	ADDENDUM 1	3-28-23	CC/DF	TB

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

BROOKS STREET IMPROVEMENTS

BROOKS STREET WATER MAIN

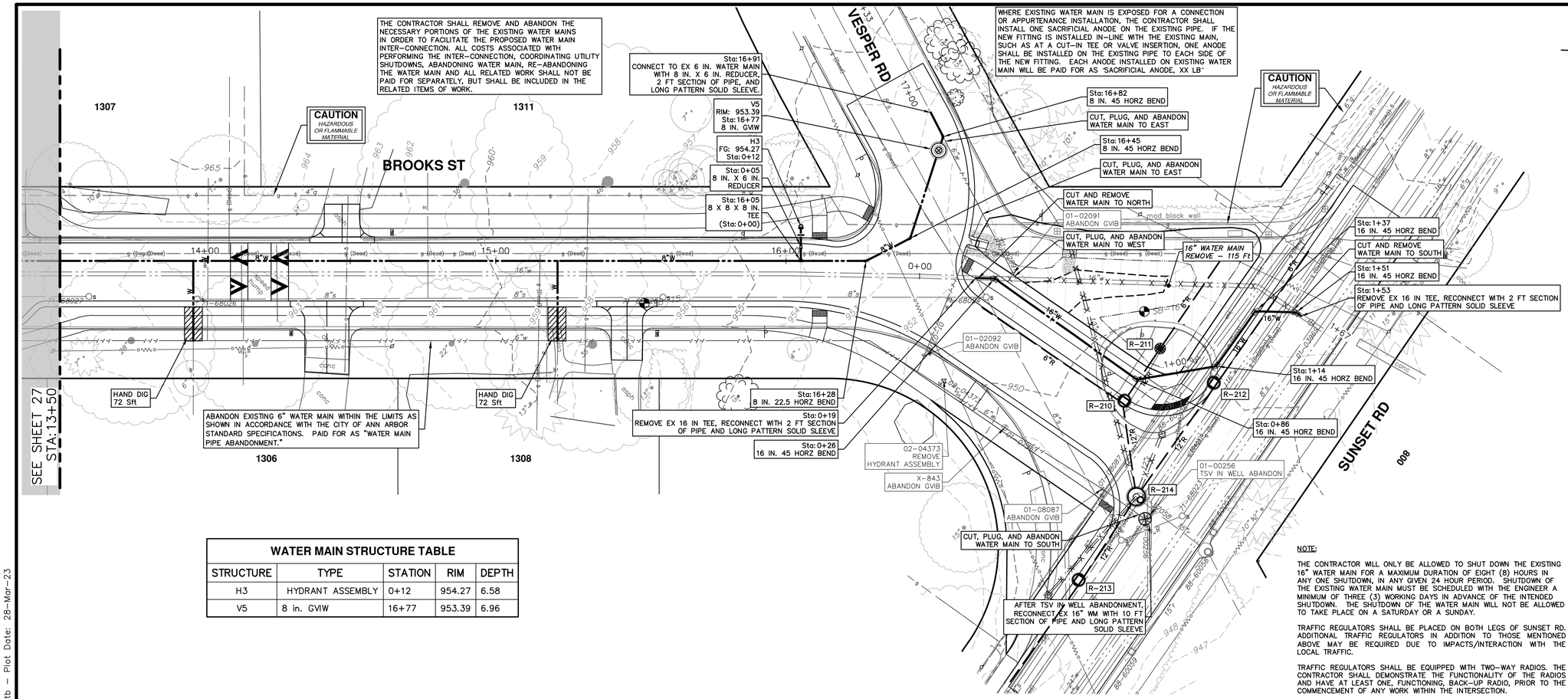
STA. 9+00 - STA. 13+50

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

DRAWING No. 2021016-27

SHEET No. 27 OF 54

R:\2021016 Brooks Street\Plan Production\2021016Watl.dwg Dwg Created: 27-Mar-23 — _a2 standard bw.stb — Plot Date: 28-Mar-23



WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	RIM	DEPTH
H3	HYDRANT ASSEMBLY	0+12	954.27	6.58
V5	8 in. GVIW	16+77	953.39	6.96

NOTE:

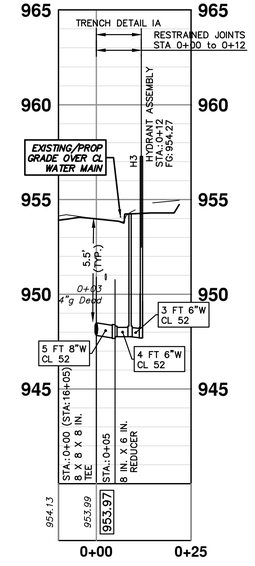
THE CONTRACTOR WILL ONLY BE ALLOWED TO SHUT DOWN THE EXISTING 16" WATER MAIN FOR A MAXIMUM DURATION OF EIGHT (8) HOURS IN ANY ONE SHUTDOWN, IN ANY GIVEN 24 HOUR PERIOD. SHUTDOWN OF THE EXISTING WATER MAIN MUST BE SCHEDULED WITH THE ENGINEER A MINIMUM OF THREE (3) WORKING DAYS IN ADVANCE OF THE INTENDED SHUTDOWN. THE SHUTDOWN OF THE WATER MAIN WILL NOT BE ALLOWED TO TAKE PLACE ON A SATURDAY OR A SUNDAY.

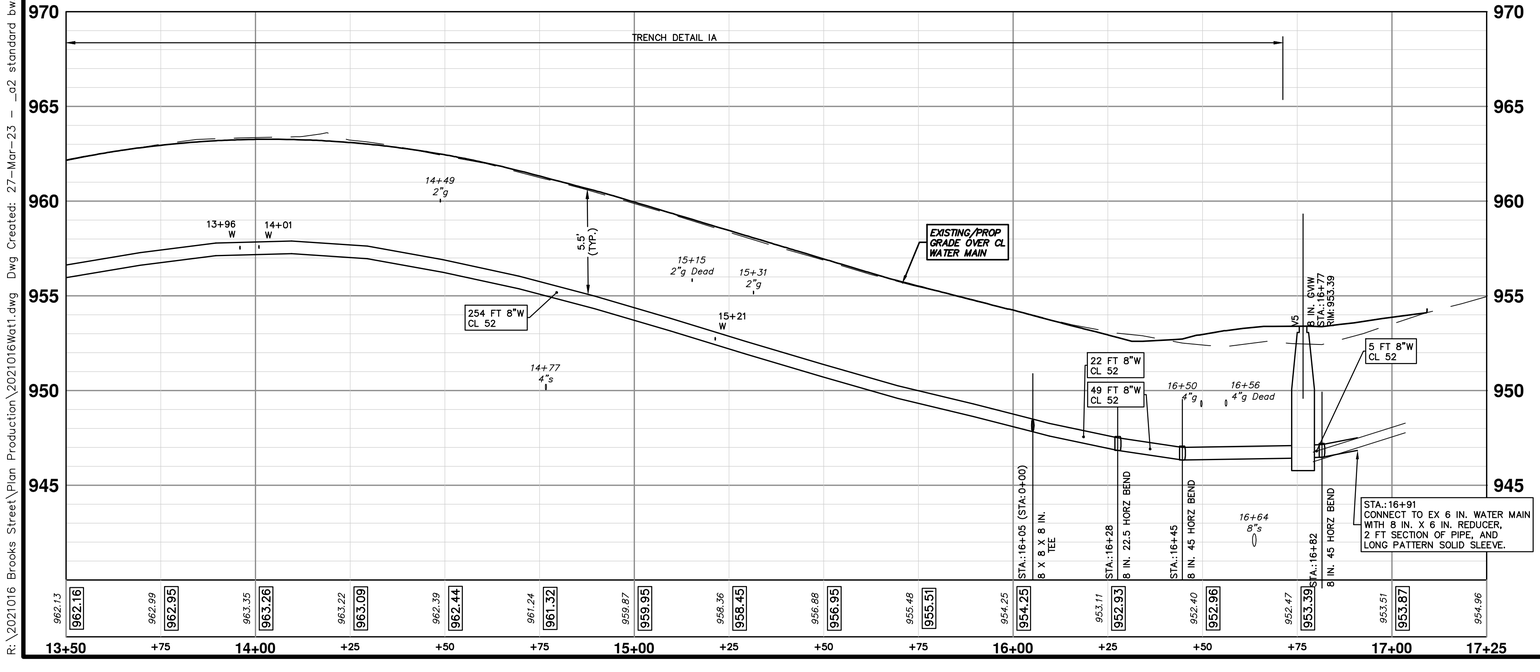
TRAFFIC REGULATORS SHALL BE PLACED ON BOTH LEGS OF SUNSET RD. ADDITIONAL TRAFFIC REGULATORS IN ADDITION TO THOSE MENTIONED ABOVE MAY BE REQUIRED DUE TO IMPACTS/INTERACTION WITH THE LOCAL TRAFFIC.

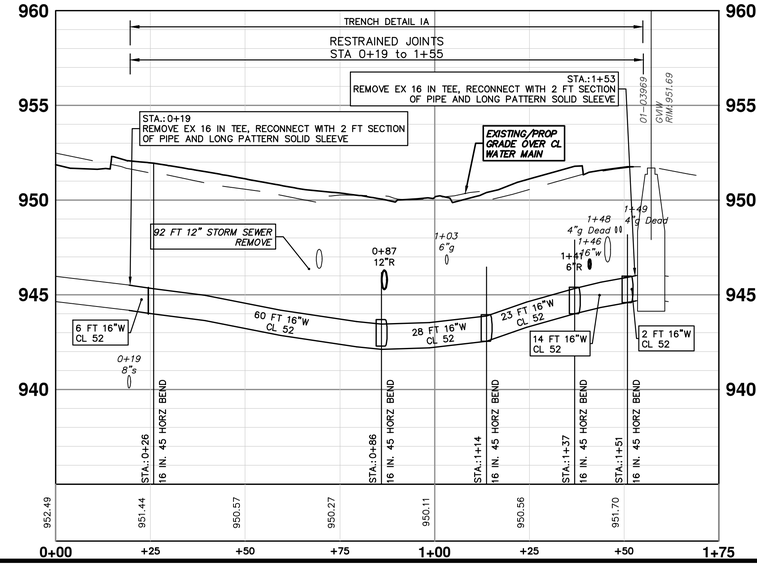
TRAFFIC REGULATORS SHALL BE EQUIPPED WITH TWO-WAY RADIOS. THE CONTRACTOR SHALL DEMONSTRATE THE FUNCTIONALITY OF THE RADIOS AND HAVE AT LEAST ONE, FUNCTIONING, BACK-UP RADIO, PRIOR TO THE COMMENCEMENT OF ANY WORK WITHIN THE INTERSECTION.

ALL DISTURBED PAVEMENT SHALL BE TEMPORARILY REPAIRED USING A MINIMUM THICKNESS OF 8" 21-AA LIMESTONE COMPACTED TO 98% OF ITS MAX. DRY DENSITY AND 2" OF ENGINEER APPROVED TEMPORARY HMA COMPACTED TO 92 TO 96% OF THE Gmm. THE PLACEMENT OF HMA SHALL BE PAID FOR AS "TEMPORARY PAVEMENT". ALL TEMPORARY PAVEMENT SHALL BE PLACED WITHIN FIVE (5) CALENDAR DAYS OF COMPLETING A WATER MAIN TIE-IN OR ABANDONMENT

HYDRANT H3







00	OUT TO BID	3-13-23	CC/DF/KB	TB	CHECKED
01	ADDENDUM 1	3-28-23	CC/DF	TB	
REV.	DESCRIPTION	DATE	DRAWN		

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

BROOKS STREET IMPROVEMENTS

BROOKS STREET WATER MAIN

STA. 13+50 - STA. 17+67 & 16 INCH WATER MAIN RELOCATION

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

DRAWING No. 2021016-28

SHEET No. 28 OF 54

R:\2021016 Brooks Street\Plan Production\2021016Watt.dwg Dwg Created: 27-Mar-23 - _a2 standard bw.stb - Plot Date: 28-Mar-23

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.

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

RED OAK RD

MIXTWOOD RD

CAUTION HAZARDOUS OR FLAMMABLE MATERIAL

CUT, PLUG, AND ABANDON WATER MAIN TO EAST

STA: 0+75
CONNECT TO EX 6 IN. WATER MAIN WITH 8 IN. X 6 IN. REDUCER AND 5 FT SECTION OF PIPE

TSV IN WELL (OPEN, INOPERABLE) ABANDON

V10
RIM: 900.51
Sta: 0+70
8 IN. GVIB

Sta: 0+65
8 X 8 X 8 IN. TEE

Sta: 0+65
Off: -9.1
CONNECT TO EX 8 IN. WATER MAIN WITH 8 IN. X 6 IN. REDUCER, 2 FT SECTION OF PIPE, AND LONG PATTERN SOLID SLEEVE.

CUT, PLUG, AND ABANDON WATER MAIN TO EAST

V6
RIM: 900.79
Sta: 0+44
8 IN. GVIW

Sta: 0+15
8 IN. 11.25 HORZ BEND

V7
RIM: 902.10
Sta: 0+27
8 IN. GVIW

V11
RIM: 900.61
Sta: 0+65
Off: -8.01
8 IN. GVIB

Sta: 0+00
8 X 8 X 8 IN. TEE
(Sta: 0+38)

Sta: 0+31
8 IN. 22.5 HORZ BEND

Sta: 0+16
8 IN. 22.5 HORZ BEND

Sta: 0+07
CONNECT TO EX 6 IN. WATER MAIN WITH 8 IN. X 6 IN. REDUCER, 2 FT SECTION OF PIPE, AND LONG PATTERN SOLID SLEEVE.

02-00492
REMOVE HYDRANT ASSEMBLY

HAND DIG
59 Sft

CUT, PLUG, AND ABANDON WATER MAIN TO NORTH

Sta: 0+67
8 X 8 X 8 IN. TEE
(Sta: 0+00)

Sta: 0+08
8 IN. X 6 IN. REDUCER

H4
FG: 898.50
Sta: 0+13

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"

SEE SHEET 30 STA: 2+75

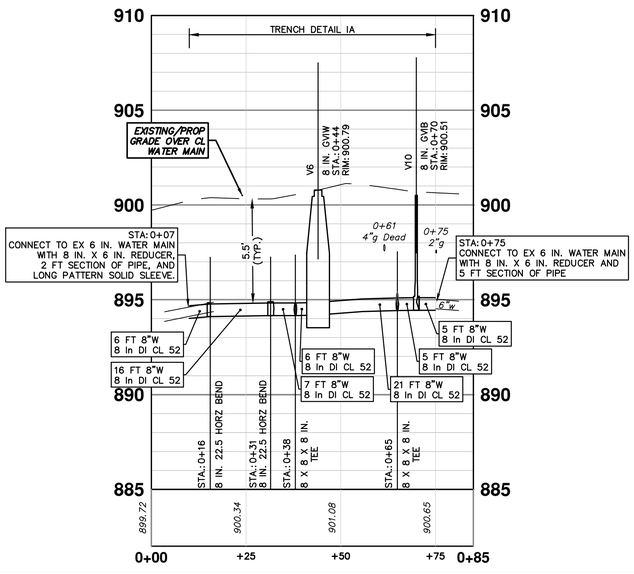
1010 1101 928 931 921

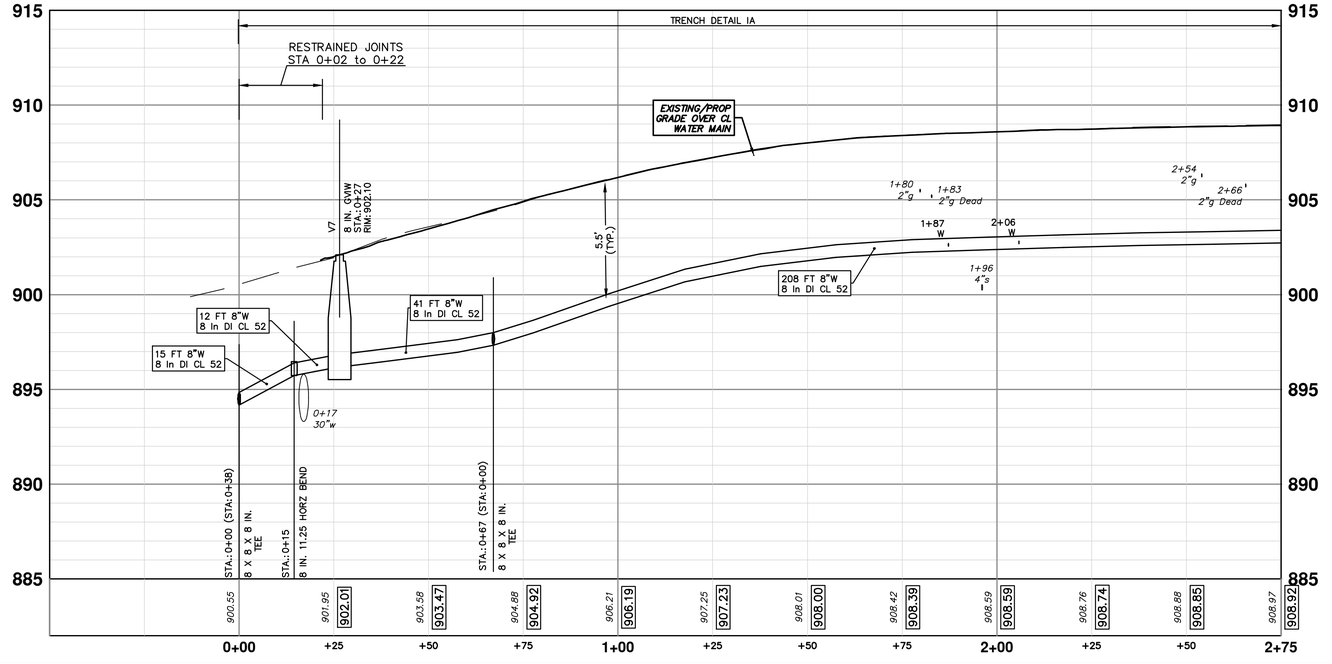
limestone wall

WATER MAIN STRUCTURE TABLE

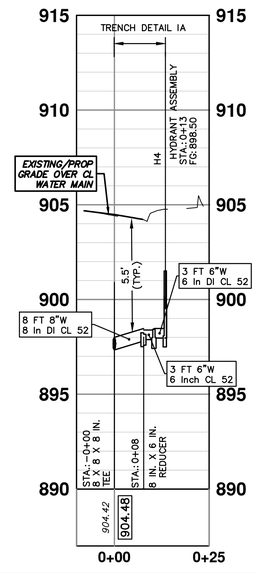
STRUCTURE	TYPE	STATION	RIM	DEPTH
H4	HYDRANT ASSEMBLY	0+13	898.50	1.00
V7	8 in. GVIW	0+27	902.10	5.91
V6	8 in. GVIW	0+44	900.79	6.60
V11	8 in. GVIB	0+65	900.61	5.97
V10	8 in. GVIB	0+70	900.51	6.07

MIXTWOOD CONN





HYDRANT H4



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM 1	3-28-23	CC/DF	TB
00	OUT TO BID	3-13-23	CC/DF/KB	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

BROOKS STREET IMPROVEMENTS
MIXTWOOD ROAD WATER MAIN
STA. 0+00 - STA. 2+75

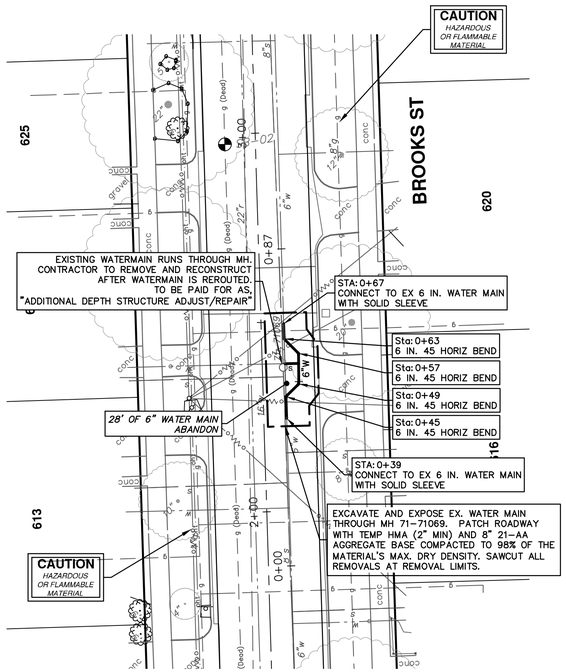
SCALE PLAN: 1" = 20' PROFILE: 1" = 4'

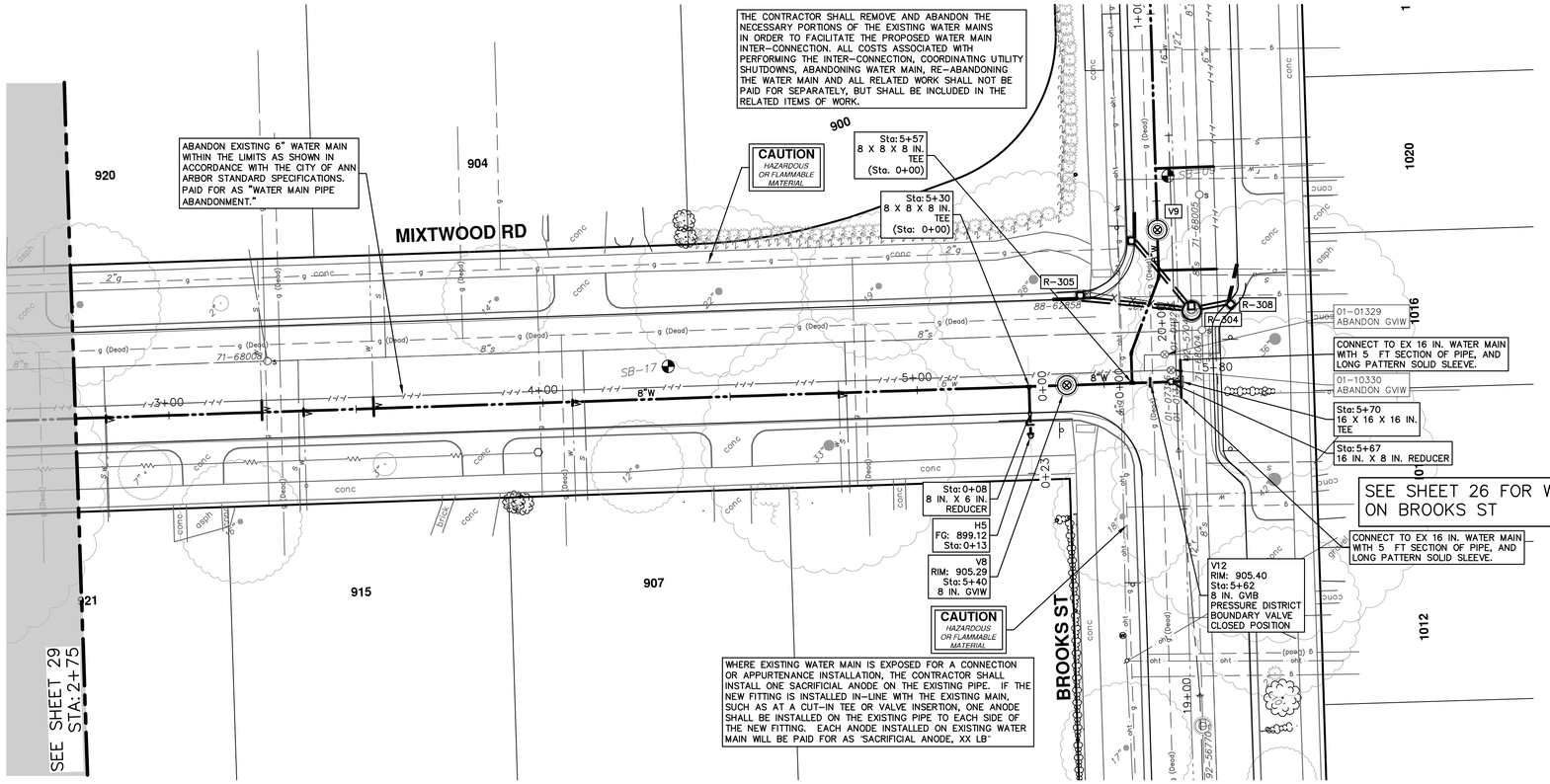
DRAWING No. 2021016-29

SHEET No. 29 OF 54

Know what's below. Call before you dig.

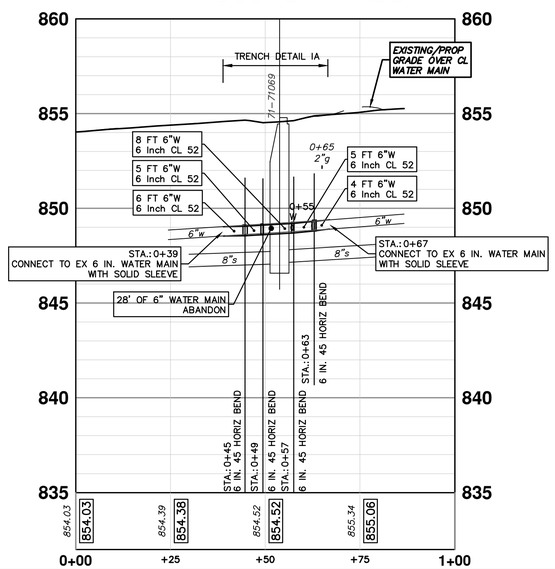
R:\2021016 Brooks Street\Plan Production\2021016Wat.dwg Dwg Created: 27-Mar-23 - _a2 standard bw.stb - Plot Date: 28-Mar-23

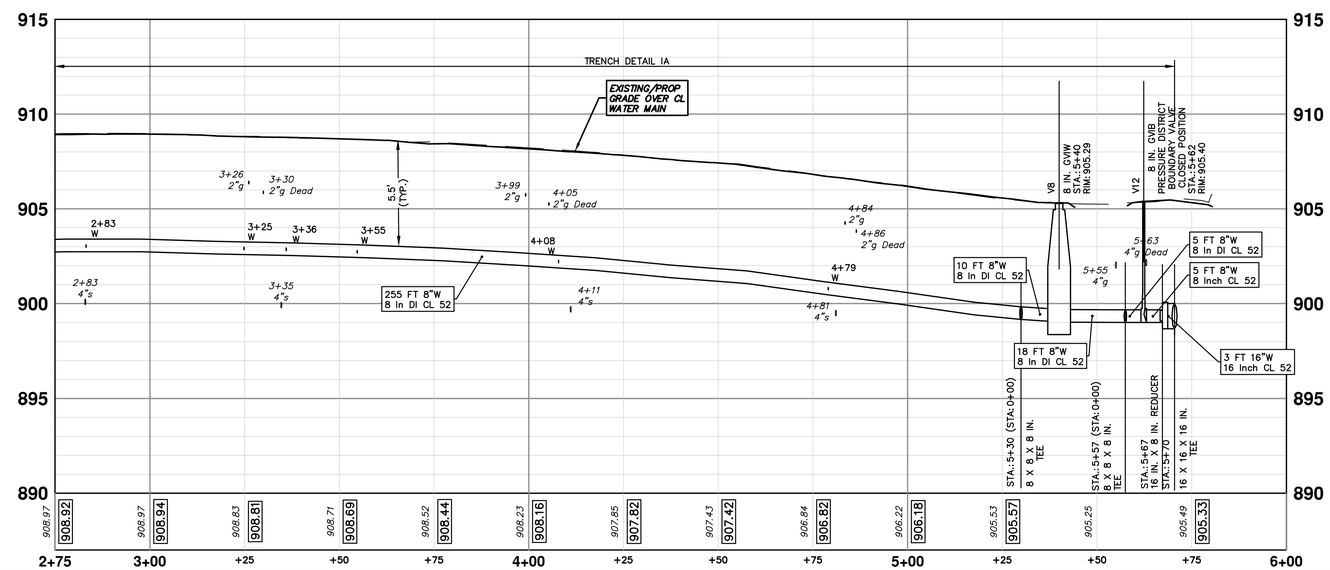


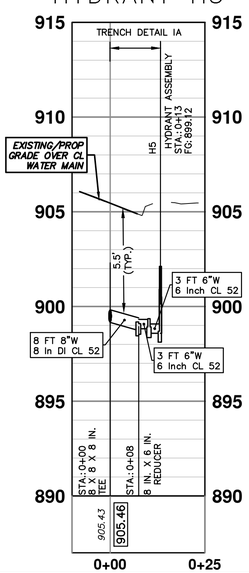


WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	RIM	DEPTH
H5	HYDRANT ASSEMBLY	0+13	899.12	1.00
V8	8 in. GVIW	5+40	905.29	6.26
V12	8 in. GVIB PRESSURE DISTRICT BOUNDARY VALVE CLOSED POSITION	5+62	905.40	6.40







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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	QUT TO BID	3-13-23	CC/DF/KB	TB
01	ADDENDUM 1	3-28-23	CC/DF	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

BROOKS STREET IMPROVEMENTS

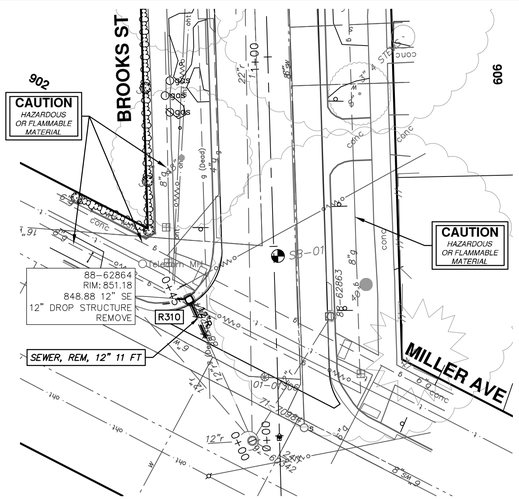
MIXTWOOD ROAD WATER MAIN STA. 2+75 - STA. 5+70
BROOKS ST. WATER MAIN RELOCATION STA. 0+39 - STA. 0+67

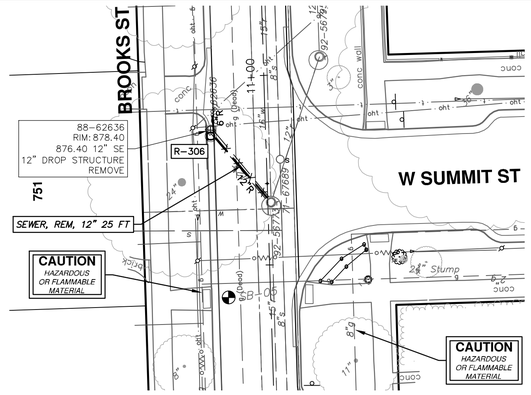
SCALE PLAN: 1" = 20' PROFILE: 1" = 4'

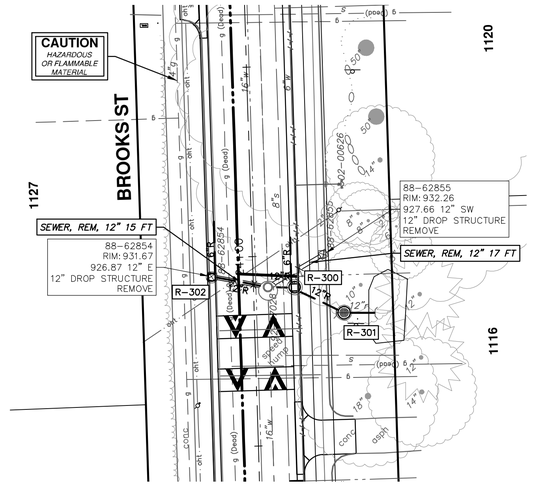
DRAWING No. 20210116-30

SHEET No. 30 OF 54

R:\2021016 Brooks Street\Plan Production\20210116wot.dwg Dwg Created: 27-Mar-23 — _a2 standard bw.stb — Plot Date: 28-Mar-23

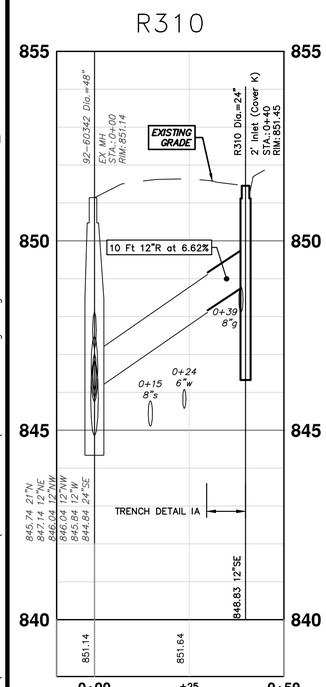


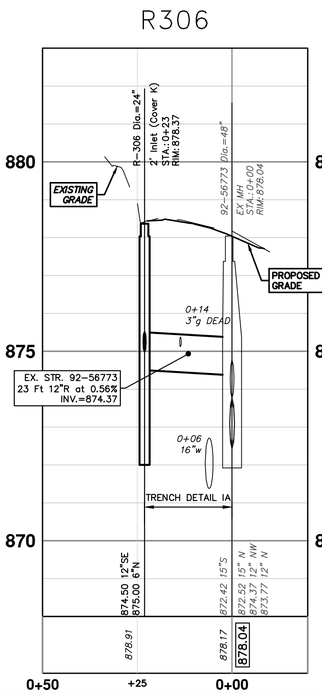


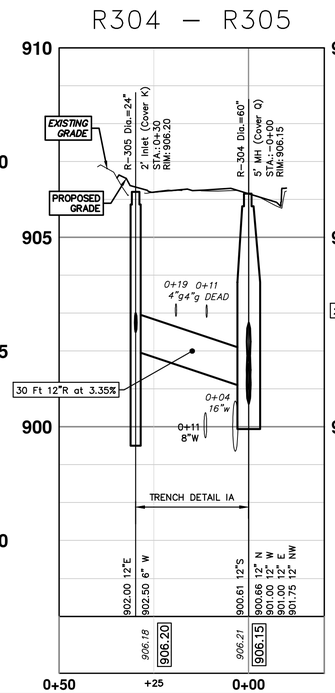


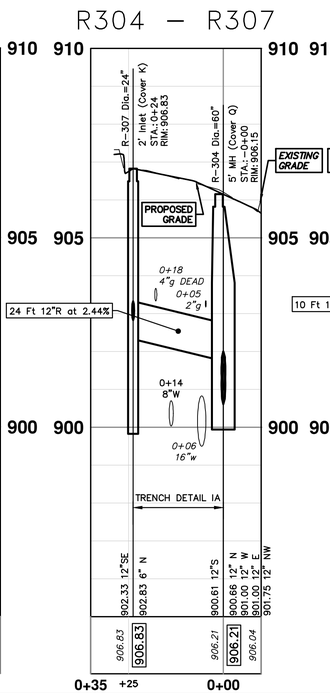
STORM SEWER STRUCTURE TABLE

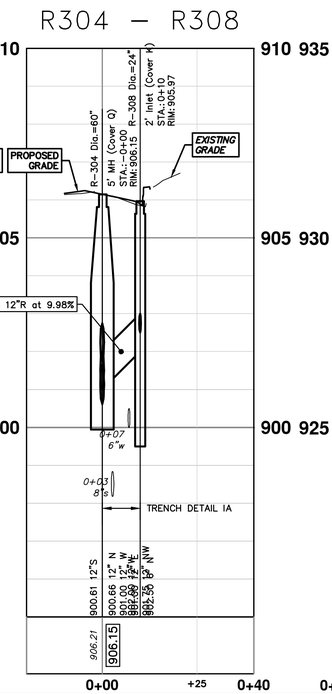
STRUCTURE	UTILITY STATION	TYPE	RIM	INVERTS	DEPTH (Feet)	SUMP
R-300	0+06	3' Inlet Junction (Cover K)	931.51	12" SE 927.25 6" N 927.75 12" W 927.25	6.26	2'
R-301	0+22	3' Inlet Junction (Cover K)	932.18	12" E 929.17 12" NW 928.00	6.18	2'
R-302	0+14	2' Inlet (Cover K)	931.84	6" N 927.33 12" E 926.83	7.01	2'
R-304	0+00	5' MH (Cover Q)	906.15	12" N 900.66 12" W 901.00 12" E 901.00 12" NW 901.75 12" S 900.61	5.54	0'
R-305	0+30	2' Inlet (Cover K)	906.20	6" W 902.50 12" E 902.00	6.20	2'
R-306	0+23	2' Inlet (Cover K)	878.37	12" SE 874.50 6" N 875.00	5.87	2'
R-307	0+24	2' Inlet (Cover K)	906.83	6" N 902.83 12" SE 902.33	6.50	2'
R-308	0+10	2' Inlet (Cover K)	905.97	6" N 902.50 12" W 902.00	5.97	2'
R310	0+40	2' Inlet (Cover K)	851.45	12" SE 848.83	4.62	2'

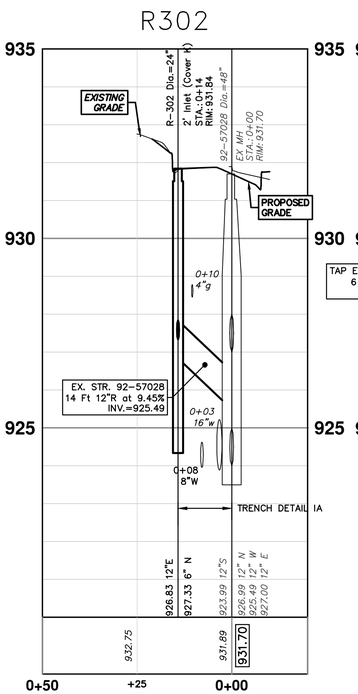


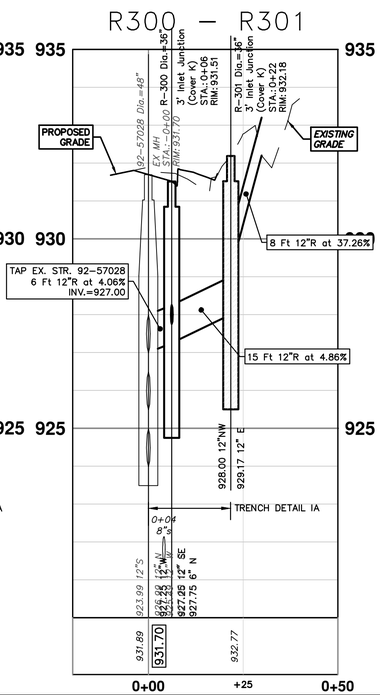












REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT TO BID	3-28-23	CC/DF	TB
01	ADDENDUM 1	3-13-23	CC/DF/KB	TB

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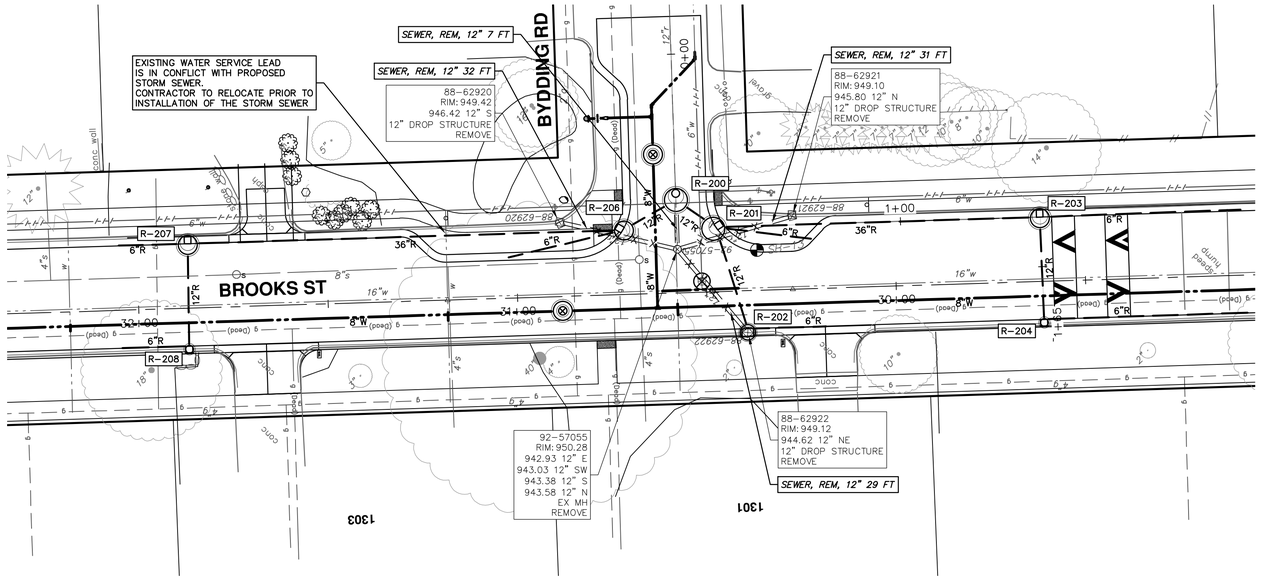
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

BROOKS STREET IMPROVEMENTS
STORM SEWER

R300, R301, R302, R304, R305, R306, R307, R308, R310

SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'
DRAWING No. 2021016-31
SHEET No. 31 OF 54

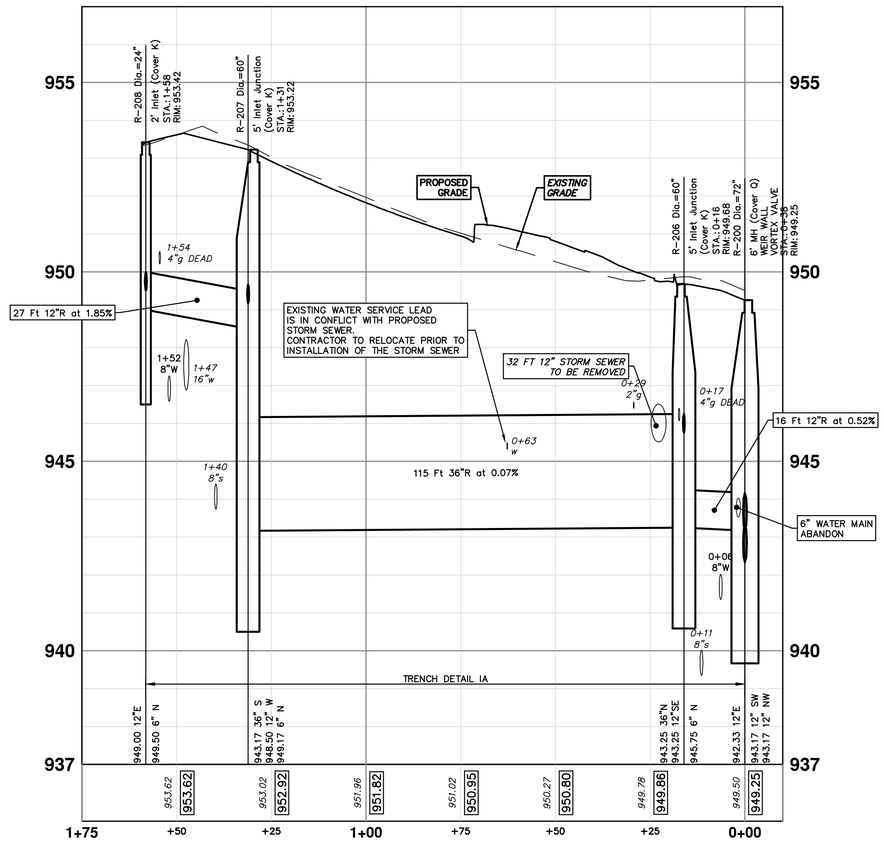
R:\2021016 Brooks Street\Plan Production\2021016Strm.dwg Dwg Created: 27-Mar-23 — _a2 standard bw.stb — Plot Date: 28-Mar-23



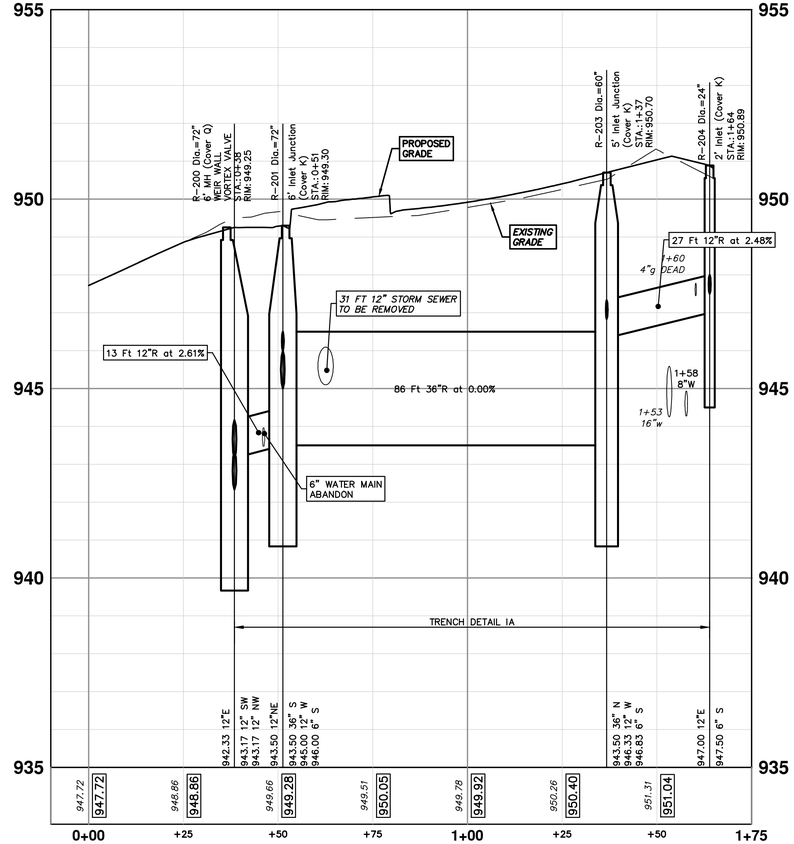
STORM SEWER STRUCTURE TABLE

STRUCTURE	UTILITY STATION	TYPE	RIM	INVERTS	DEPTH (Feet)	SUMP
R–200	0+38	6' MH (Cover Q) WEIR WALL VORTEX VALVE	949.25	12" SW 943.17 12" NW 943.17 12" E 942.33	8.92	2'
R–201	0+51	6' Inlet Junction (Cover K)	949.30	36" S 943.50 12" W 945.00 6" S 946.00 12" NE 943.50	7.80	2'
R–202	0+28	4' Low Point Inlet	949.76	6" S 945.67 12" E 945.17	6.60	2'
R–203	1+37	5' Inlet Junction (Cover K)	950.70	36" N 943.50 12" W 946.33 6" S 946.83	9.20	2'
R–204	1+64	2' Inlet (Cover K)	950.89	6" S 947.50 12" E 947.00	5.89	2'
R–206	0+16	5' Inlet Junction (Cover K)	949.68	6" N 945.75 36" N 943.25 12" SE 943.25	8.43	2'
R–207	1+31	5' Inlet Junction (Cover K)	953.22	36" S 943.17 12" W 948.50 6" N 949.17	12.06	2'
R–208	1+58	2' Inlet (Cover K)	953.42	6" N 949.50 12" E 949.00	6.42	2'

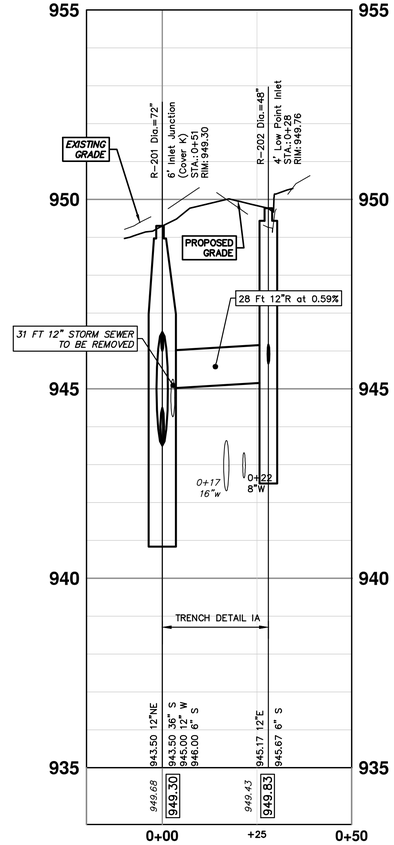
R200 – R208



R200 – R204



R202



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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT TO BID	3–13–23	CC/DF	TB
01	ADDENDUM 1	3–28–23	CC/DF/KB	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

BROOKS STREET IMPROVEMENTS

STORM SEWER

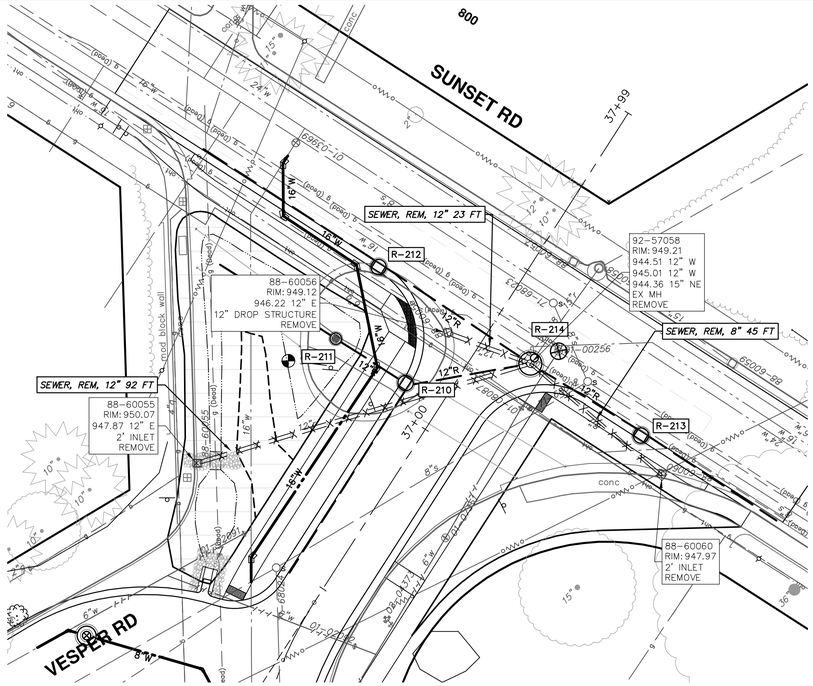
R200, R201, R202, R203, R204, R206, R207, R208

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

DRAWING No. 2021016-32

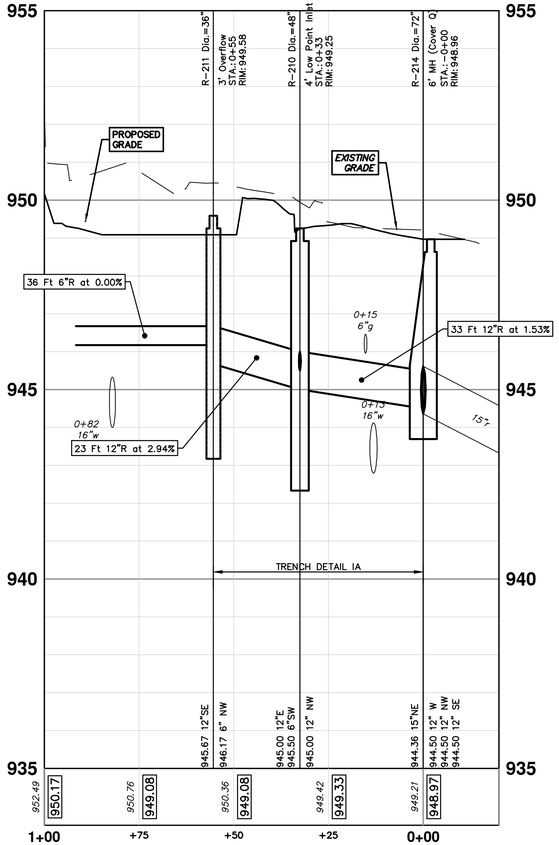
SHEET No. 32 OF 54

R:\2021016 Brooks Street\Plan Production\20210165trm.dwg Dwg Created: 27–Mar–23 – _a2 standard bw.stb – Plot Date: 28–Mar–23

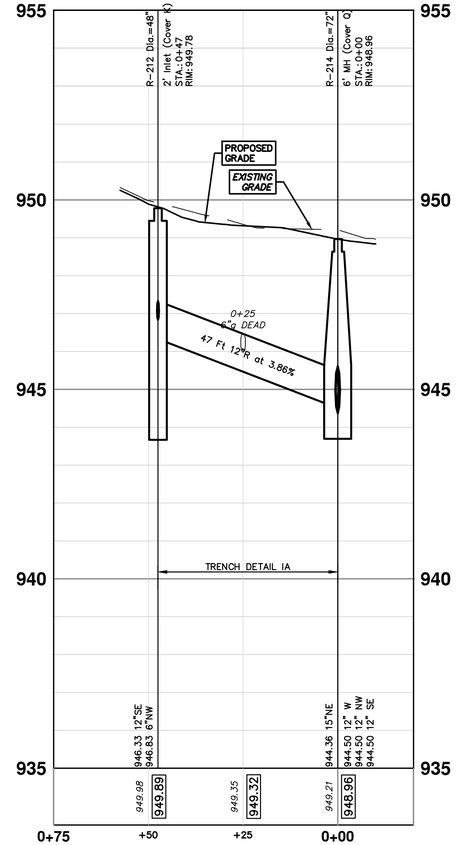


STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	TYPE	RIM	INVERTS	DEPTH (Feet)	SUMP
R-210	0+33	4' Low Point Inlet	949.25	12" NW 945.00 12" E 945.00 6" SW 945.50	6.25	2'
R-211	0+55	3' Overflow	949.58	6" NW 946.17 12" SE 945.67	5.91	2'
R-212	0+47	2' Inlet (Cover K)	949.78	12" SE 946.33 6" NW 946.83	5.45	2'
R-213	0+35	4' Low Point Inlet	948.60	12" NW 944.83 6" SE 945.33	5.77	2'
R-214	0+00	6' MH (Cover Q)	948.96	12" W 944.50 12" NW 944.50 12" SE 944.50 15" NE 944.36	4.60	0'

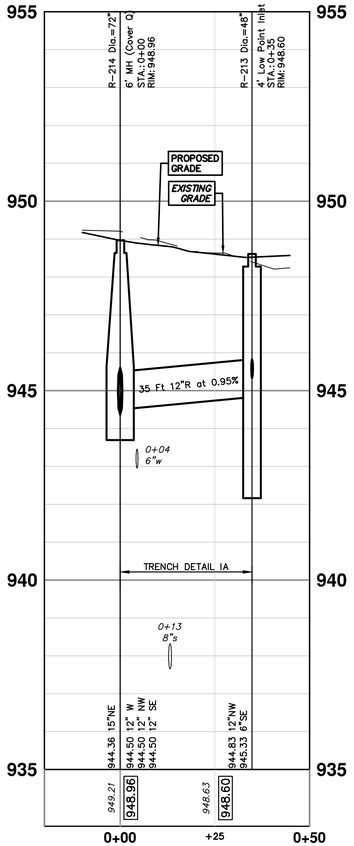
R214 – R211



R214 – R212



R214 – R213



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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT TO BID	3-13-23	CC/DF/KB	TB
01	ADDENDUM 1	3-28-23	CC/DF	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

BROOKS STREET IMPROVEMENTS

STORM SEWER

R210, R211, R212, R213, R214

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

DRAWING No. 2021016-33

SHEET No. 33 OF 54

R:\2021016 Brooks Street\Plan Production\2021016Strm.dwg Dwg Created: 27-Mar-23 — _a2 standard bw.stb — Plot Date: 28-Mar-23

BIORETENTION AREA
RESTORE WITH
(87) PURPLE
CONEFLOWER
(87) LITTLE BLUESTEM

BIORETENTION AREA
RESTORE WITH
(16) RIDDELL'S GOLDENROD
(16) CANADIAN ANEMONE
(16) FOX SEDGE

BIORETENTION AREA PREPARATION
450 Cyd CUT
580 Syd GEOTEXTILE FABRIC

BIORETENTION AREA
RESTORE WITH
(47) FOX SEDGE
(55) BLAZING STAR
(54) BONESET
(55) BLUE VERVAIN

6" MIN. BIORETENTION SOIL MIX
(TOPSOIL+COMPOST) 2760 SFT

RESTORE WITH FESCUE SEED MIX
VEGETATION 1540 SFT AT 5 LBS/1000
SFT = 8 LBS

BIORETENTION AREA
RESTORE WITH
(15) CUP PLANT
(4) FOX SEDGE
(15) YELLOW CONEFLOWER

BIORETENTION AREA
RESTORE WITH
(48) FOX SEDGE
(53) PRAIRIE DOCK
(55) BONESET

BIORETENTION AREA
RESTORE WITH
(26) FOX SEDGE
(39) BLACK EYED SUSAN

THE CONTRACTOR SHALL PLACE
50 SY OF RIP-RAP, PLAIN, MODIFIED, IN THIS
LOCATION AND AS DIRECTED BY THE ENGINEER.

88-60060
RIM: 947.97
2' INLET
REMOVE

RESTORE WITH FESCUE SEED MIX
VEGETATION 1152 SFT AT 5
LBS/1000 SFT = 6 LBS

SUNSET RD
VESPER RD
BROOKS ST
SEWER, REM, 8" 45 FT
R-210
R-211
RIM:949.58
R-212
R-213
R-214
SB-16
36+00
37+00

N

A. PLANT SCHEDULE

IRAIN GARDEN VEGETATION

QTY	Botanical Name	Common Name	Size	Spacing	Condition
141	CAREX VULPINOIDEA	FOX SEDGE	PLUGS	24" o.c.	
87	ECHINACEA PURPUREA	PURPLE CONEFLOWER	PLUGS	24" o.c.	
109	EUPATORIUM PERFOLIATUM	BONE SET	PLUGS	24" o.c.	
16	ANEMONE CANADENSIS L.	CANADIAN ANEMONE	PLUGS	24" o.c.	
16	OLIGONEURON RIDDELLII	RIDDELL'S GOLDEN ROD	PLUGS	24" o.c.	
55	LIATRIS SPICATA	BLAZING STAR	PLUGS	24" o.c.	
-	PENSTEMON DIGITALIS	BEARDTONGUE	PLUGS	24" o.c.	
15	RATIBIDA PINNATA	YELLOW CONEFLOWER	PLUGS	24" o.c.	
39	RUDBECKIA FULGIDA	BLACK EYED SUSAN	PLUGS	24" o.c.	
87	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	PLUGS	24" o.c.	
15	SILPHIUM PERFOLIATU	CUP PLANT	PLUGS	24" o.c.	
53	SILPHIUM TERBINTHINACEUM	PRAIRIE DOCK	PLUGS	24" o.c.	
55	VERBENA HASTATA	BLUE VERVAIN	PLUGS	24" o.c.	

B. LOW FESCUE SEED MIX

	Botanical Name	Common Name	Mix Proportions (%)	Min. Purity (%)	Min. Germination (%)
4.3 LBS	FESTUCA RUBRA VAR CUMMUTATA "SRS 100"	CHEWINGS FESCUS	31	98	85
4.2 LBS	FESTUCA OVINA	SHEEP FESCUE	30	98	85
2.2 LBS	FESTUCA RUBRA "DAWSON"	SAWSON RED FESCUE	16	98	85
2.2 LBS	FESTUCA RUBRA	CREEPING RED FESCUS	16	98	85
1 LBS	LOLIUM MULTIFORUM	ANNUAL RYE GRASS	7	98	95

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01	ADDENDUM 1	3-28-23	CC/DF	TB

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BROOKS STREET IMPROVEMENTS

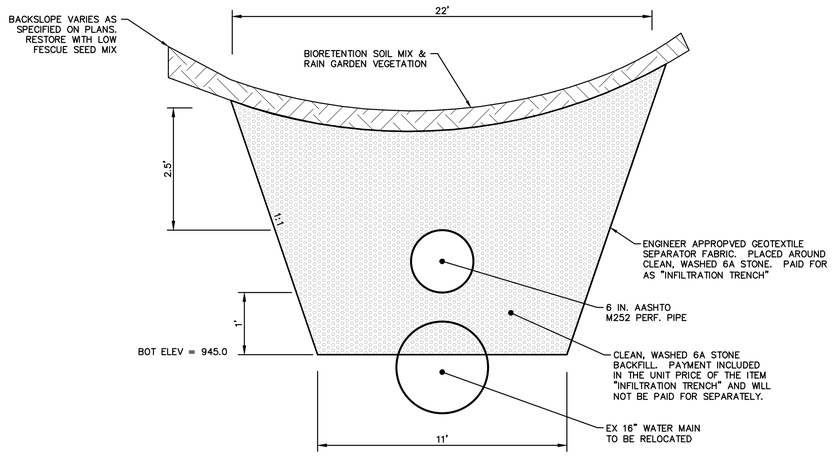
RAIN GARDEN VEGETATION AND SEED MIX PLAN

SCALE **PLAN:** 1" = 10'

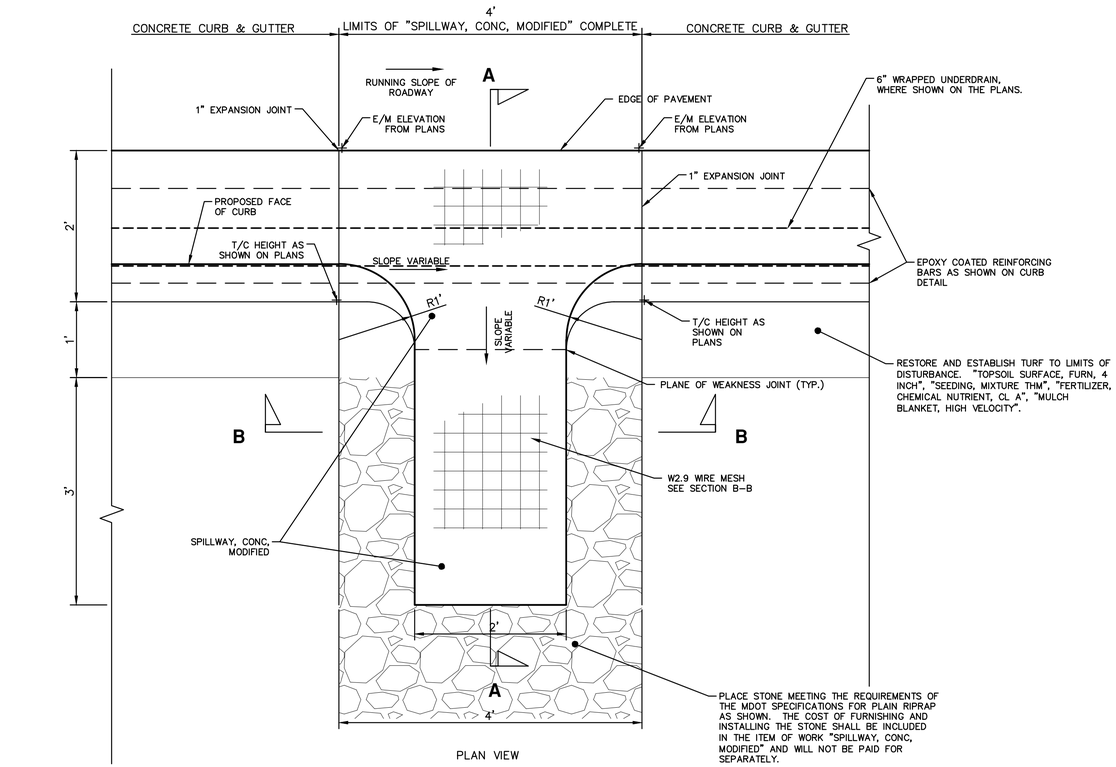
DRAWING No. **2021016-34**

SHEET No. **34 OF 54**

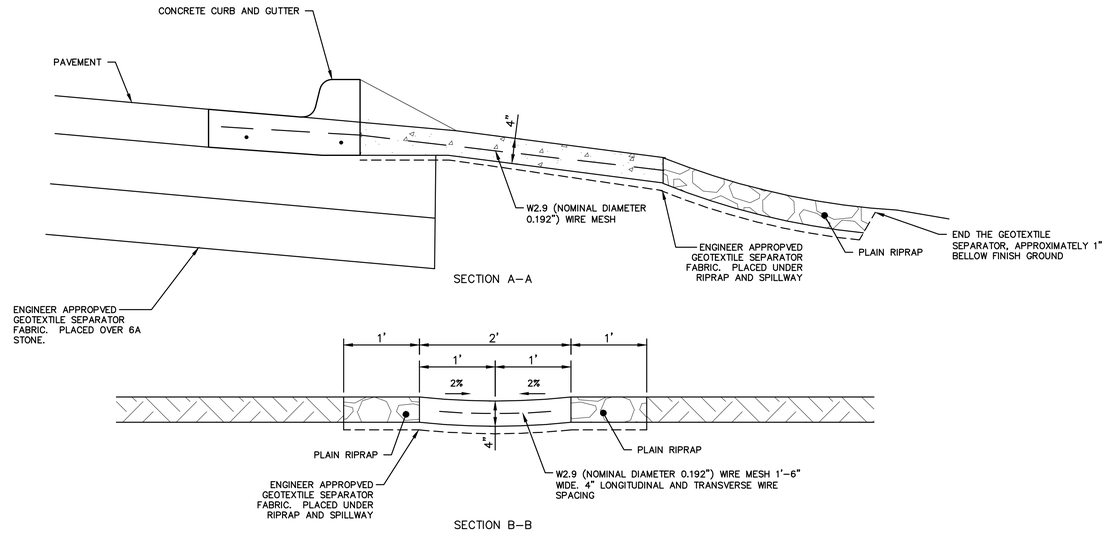
R:\2021016 Brooks Street\Plan Production\2021016Strm1.dwg Dwg Created: 24-Mar-23 — _a2 standard bw.stb — Plot Date: 28-Mar-23



INFILTRATION TRENCH DETAIL
NOT TO SCALE



PLAN VIEW



CONCRETE SPILLWAY DETAIL
NOT TO SCALE

R:\2021016 Brooks Street\Plan Production\2021016Strm1.dwg Dwg Created: 24-Mar-23 — _a2 standard bw.stb — Plot Date: 28-Mar-23

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT TO BID	3-13-23	CC/DF/KB	TB
01	ADDENDUM 1	3-28-23	CC/DF	TB

CITY OF ANN ARBOR
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301 EAST HURON STREET
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

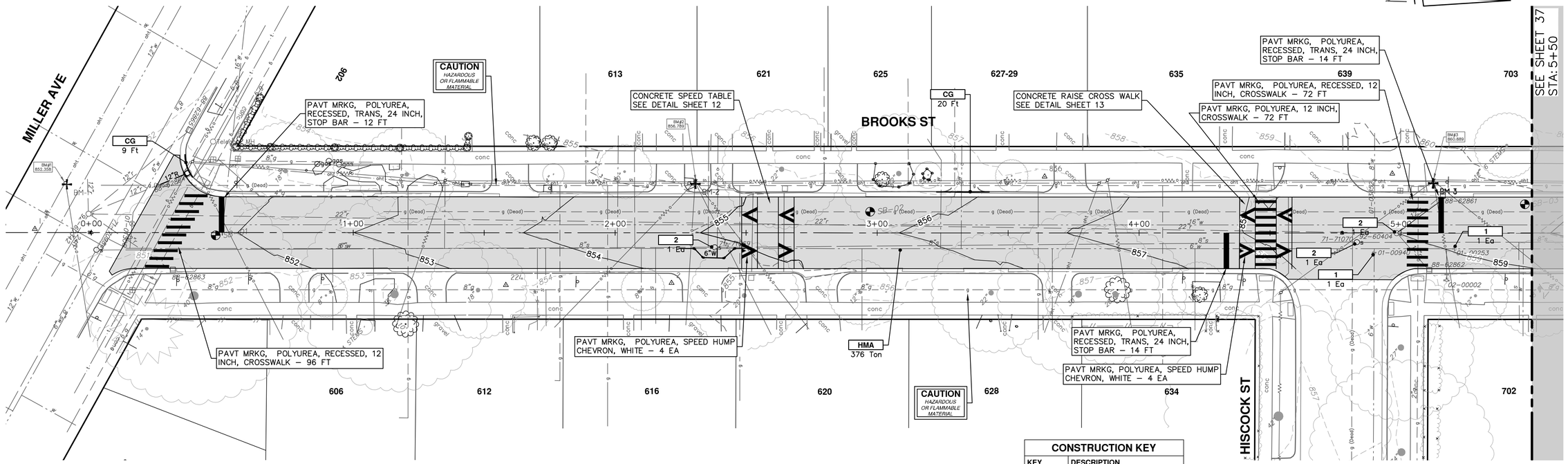
BROOKS STREET IMPROVEMENTS

INFILTRATION TRENCH AND CONCRETE SPILLWAY DETAIL

SCALE: N/A

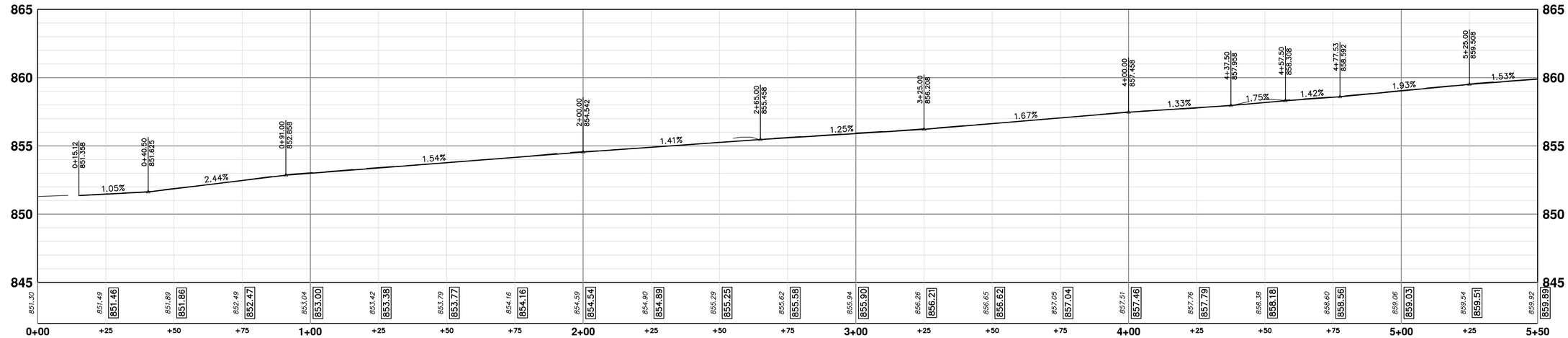
DRAWING No. **2021016-35**

SHEET No.
35 OF 54



CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
HMA APP	PLACE HMA APPROACH
HP	HAND PATCHING
CG	PLACE CURB AND GUTTER, CONC, F4, SPECIAL
DO-M	PLACE DRIVEWAY OPENING, CONC, DETAIL M, P-NC
DC-6	PLACE CONC, DRIVE APPROACH, NON-REINFORCED, P-NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED.
SW-4	PLACE SIDEWALK, CONC, 4 INCH, MODIFIED
SWR-6	PLACE SIDEWALK, SIDEWALK RAMP, CONC, 6 INCH, MODIFIED
DWS	DETECTABLE WARNING, CAST IN PLACE
ABO	ADJUST BY OTHERS
1	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
2	ADJUST STRUCTURE COVER



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM 1	3-28-23	CC/DF	TB
00	OUT TO BID	3-13-23	CC/DF/KB	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

BROOKS STREET IMPROVEMENTS

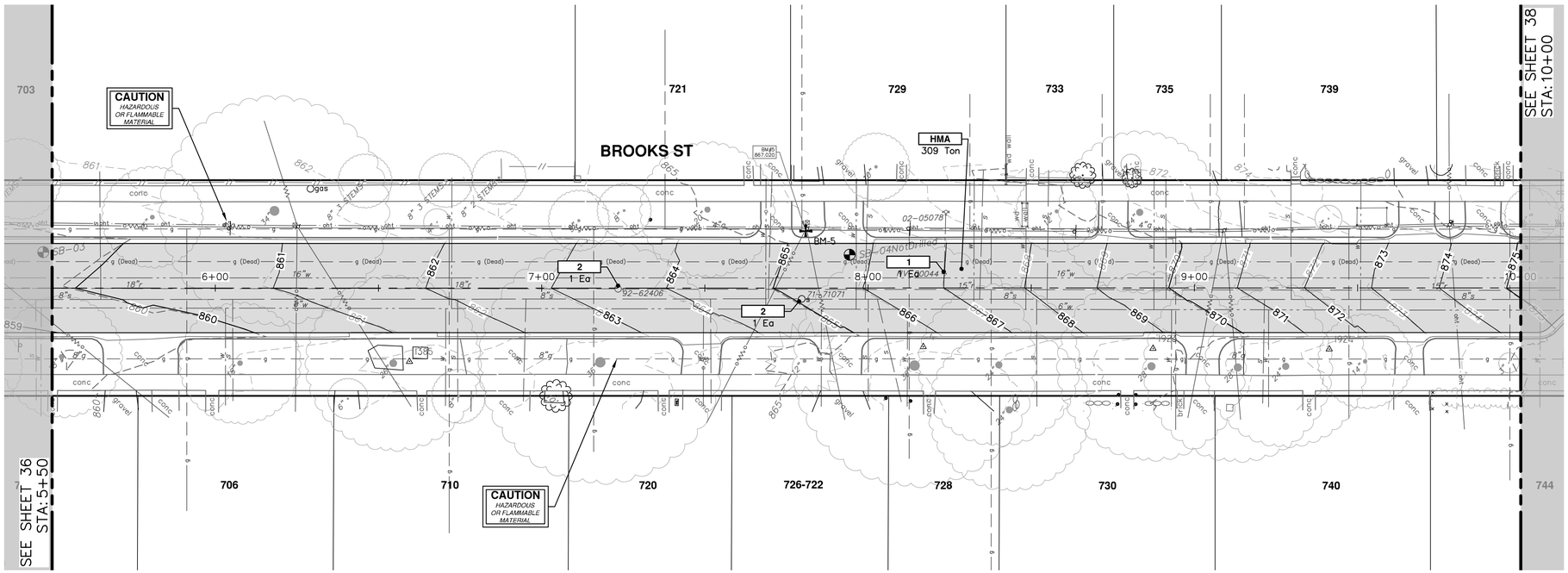
PROPOSED ROAD - BROOKS STREET

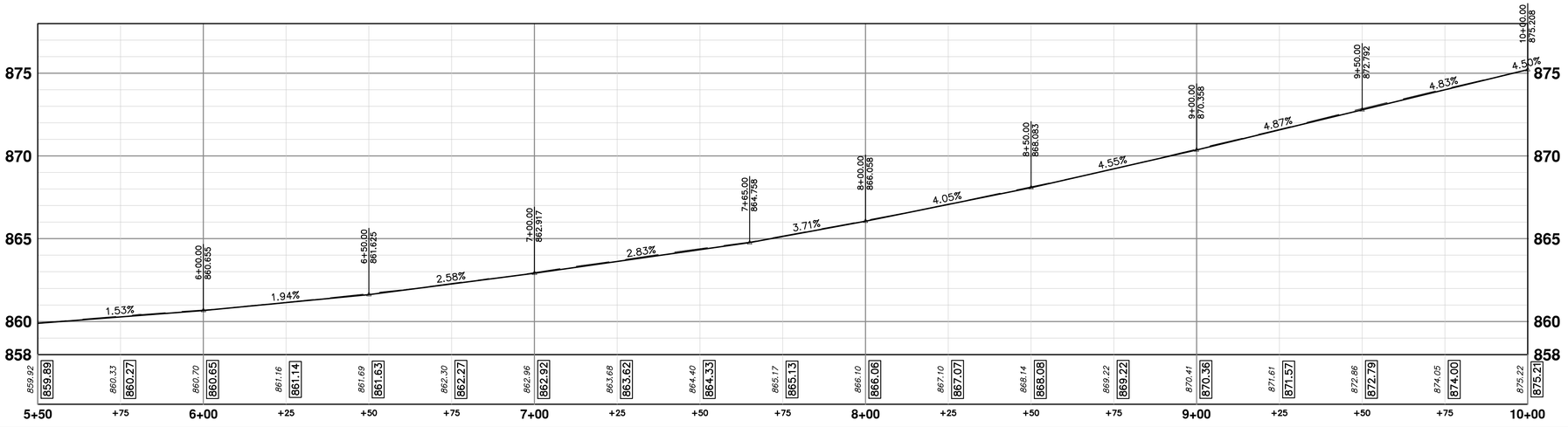
STA. 0+00 - STA. 5+50

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

DRAWING No. 2021016-36

SHEET No. 36 OF 54





CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
HMA APP	PLACE HMA APPROACH
HP	HAND PATCHING
CG	PLACE CURB AND GUTTER, CONC, F4, SPECIAL
DO-M	PLACE DRIVEWAY OPENING, CONC, DETAIL M, P-NC
DC-6	PLACE CONC, DRIVE APPROACH, NON-REINFORCED, P-NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED.
SW-4	PLACE SIDEWALK, CONC, 4 INCH, MODIFIED
SWR-6	PLACE SIDEWALK, SIDEWALK RAMP, CONC, 6 INCH, MODIFIED
DWS	DETECTABLE WARNING, CAST IN PLACE
ABO	ADJUST BY OTHERS
1	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
2	ADJUST STRUCTURE COVER

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT TO BID	3-13-23	CC/DF/KB	TB
01	ADDENDUM 1	3-28-23	CC/DF	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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

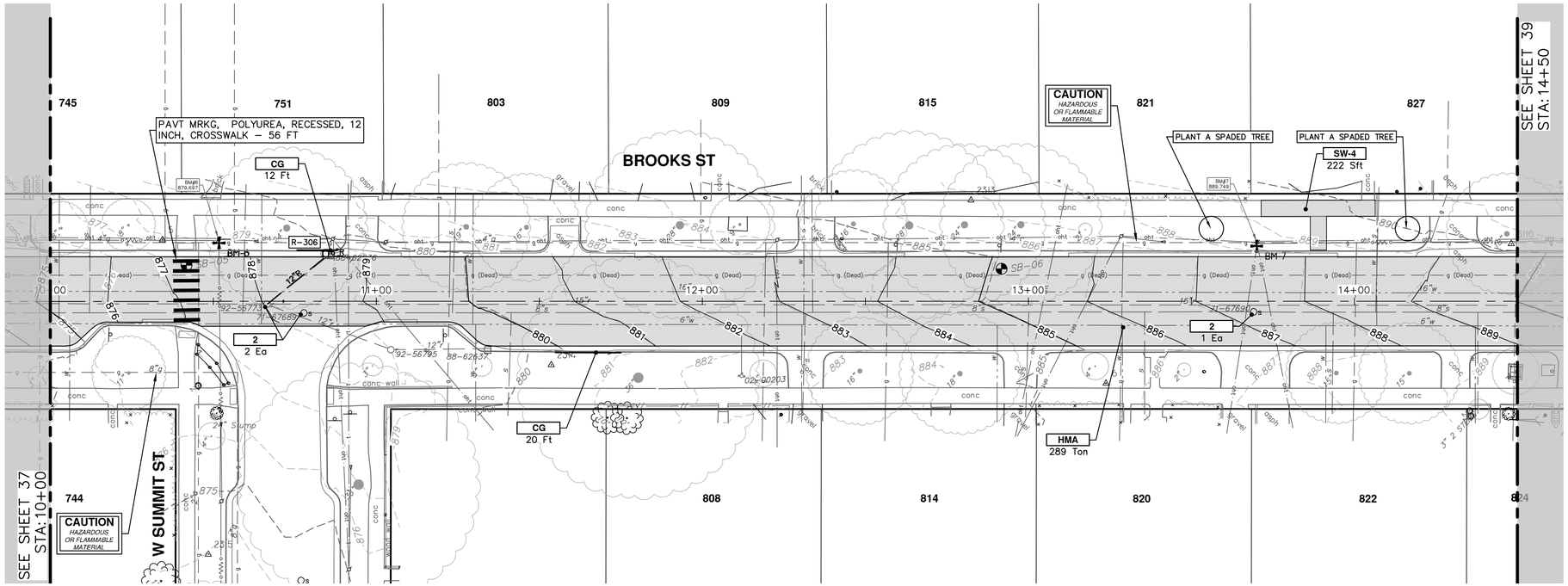
DRAWING No. 2021016-37

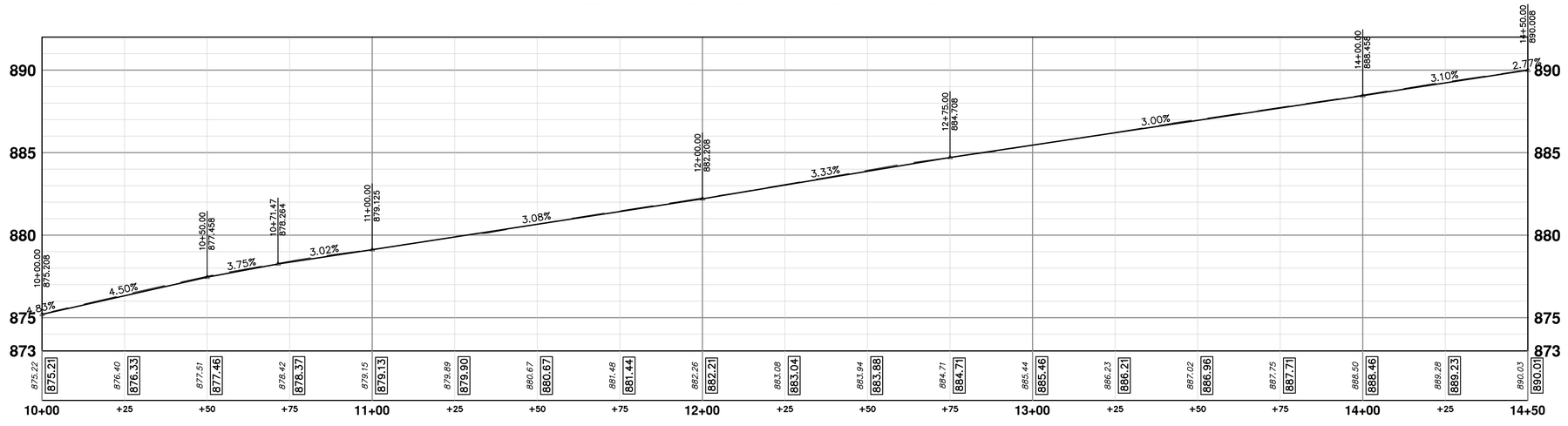
SHEET No. 37 OF 54

BROOKS STREET IMPROVEMENTS

PROPOSED ROAD - BROOKS STREET

STA. 5+50 - STA. 10+00





CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
HMA APP	PLACE HMA APPROACH
HP	HAND PATCHING
CG	PLACE CURB AND GUTTER, CONC, F4, SPECIAL
DO-M	PLACE DRIVEWAY OPENING, CONC, DETAIL M, P–NC
DC-6	PLACE CONC, DRIVE APPROACH, NON–REINFORCED, P–NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED.
SW-4	PLACE SIDEWALK, CONC, 4 INCH, MODIFIED
SWR-6	PLACE SIDEWALK, SIDEWALK RAMP, CONC, 6 INCH, MODIFIED
DWS	DETECTABLE WARNING, CAST IN PLACE
ABO	ADJUST BY OTHERS
1	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
2	ADJUST STRUCTURE COVER

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT TO BID	3–13–23	CC/DF/KB	TB
01	ADDENDUM 1	3–28–23	CC/DF	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

BROOKS STREET IMPROVEMENTS

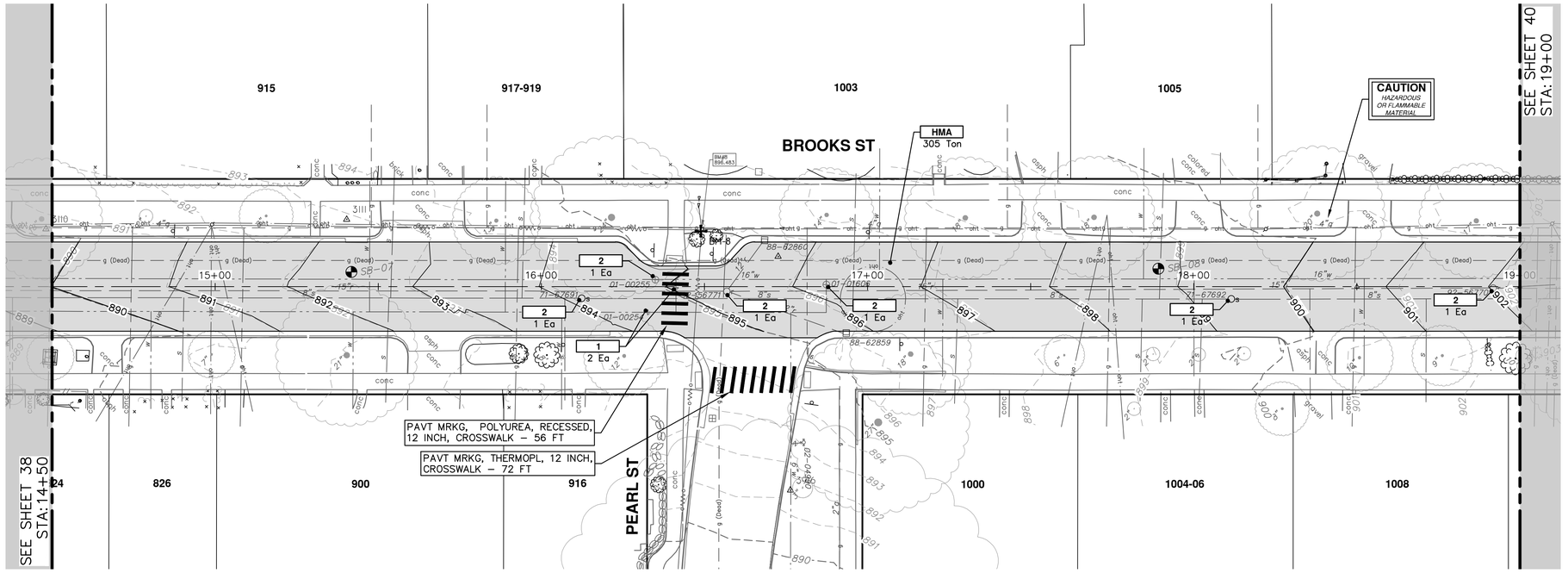
PROPOSED ROAD - BROOKS STREET

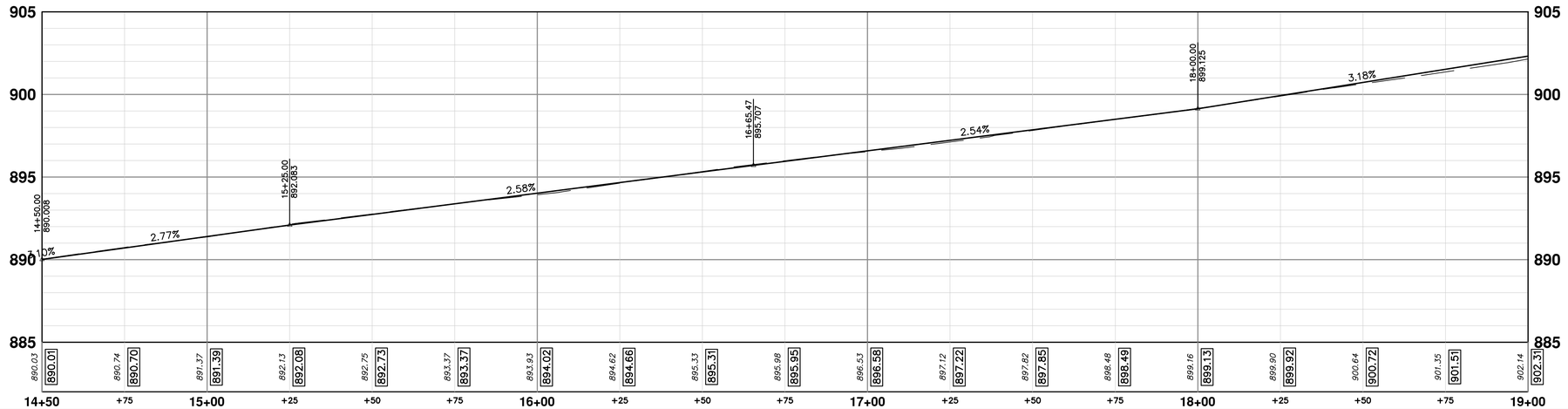
STA. 10+00 - STA. 14+50

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

DRAWING No. 2021016-38

SHEET No. 38 OF 54





CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
HMA APP	PLACE HMA APPROACH
HP	HAND PATCHING
CG	PLACE CURB AND GUTTER, CONC, F4, SPECIAL
DO-M	PLACE DRIVEWAY OPENING, CONC, DETAIL M, P-NC
DC-6	PLACE CONC, DRIVE APPROACH, NON-REINFORCED, P-NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED.
SW-4	PLACE SIDEWALK, CONC, 4 INCH, MODIFIED
SWR-6	PLACE SIDEWALK, SIDEWALK RAMP, CONC, 6 INCH, MODIFIED
DWS	DETECTABLE WARNING, CAST IN PLACE
ABO	ADJUST BY OTHERS
1	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT TO BID	3-13-23	CC/DF/KB	TB
01	ADDENDUM 1	3-28-23	CC/DF	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

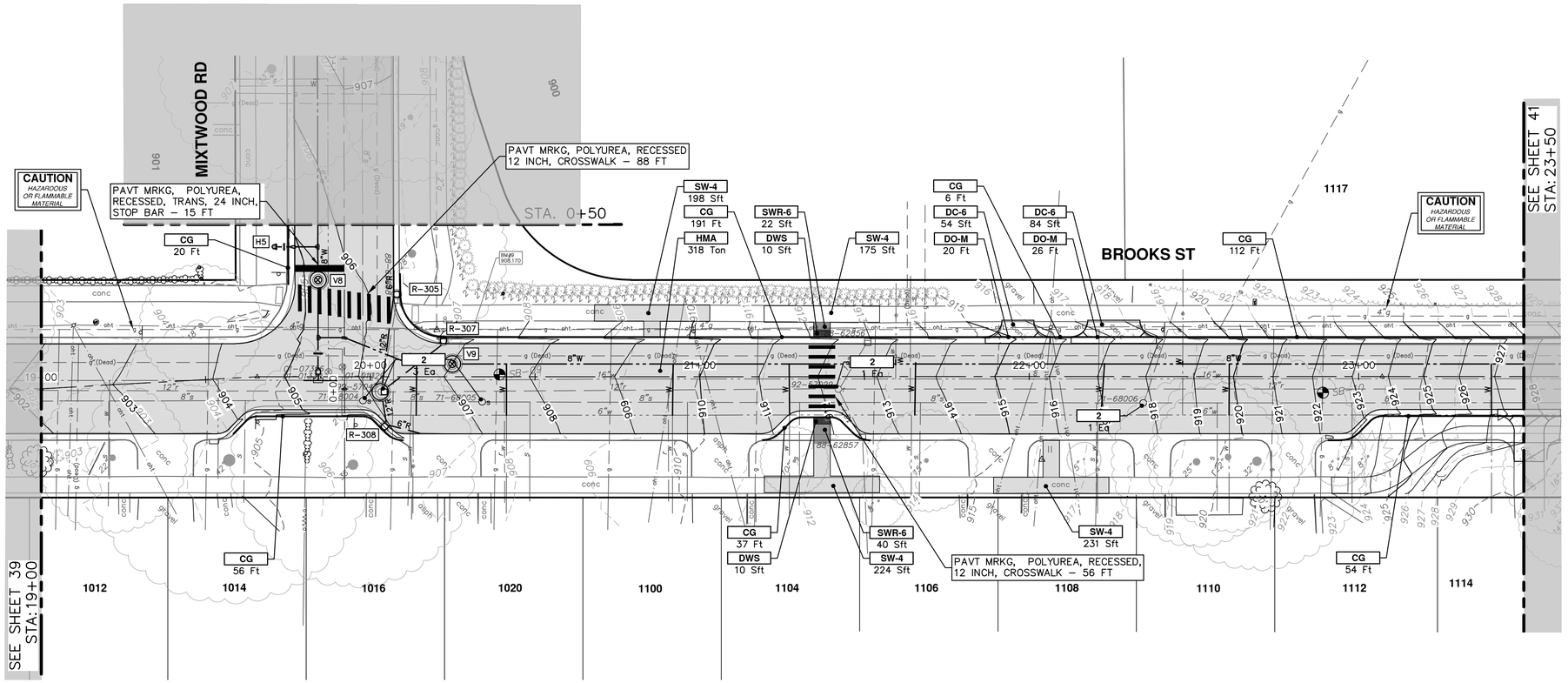
BROOKS STREET IMPROVEMENTS
PROPOSED ROAD - BROOKS STREET
STA. 14+50 - STA. 19+00

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

DRAWING No.
2021016-39

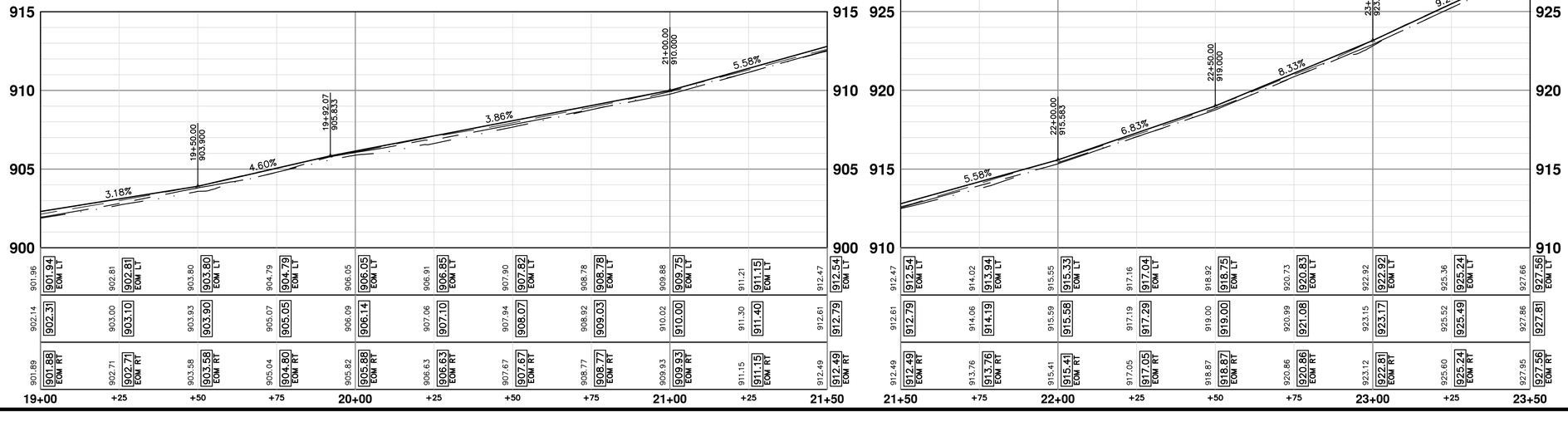
SHEET No.
39 OF 54

R:\2021016 Brooks Street\Plan Production\2021016Prd.dwg Dwg Created: 28-Mar-23 — _a2 standard bw.stb — Plot Date: 28-Mar-23



CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
HMA APP	PLACE HMA APPROACH
HP	HAND PATCHING
CG	PLACE CURB AND GUTTER, CONC, F4, SPECIAL
DO-M	PLACE DRIVEWAY OPENING, CONC, DETAIL M, P–NC
DC-6	PLACE CONC, DRIVE APPROACH, NON–REINFORCED, P–NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED.
SW-4	PLACE SIDEWALK, CONC, 4 INCH, MODIFIED
SWR-6	PLACE SIDEWALK, SIDEWALK RAMP, CONC, 6 INCH, MODIFIED
DWS	DETECTABLE WARNING, CAST IN PLACE
ABO	ADJUST BY OTHERS
1	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
2	ADJUST STRUCTURE COVER



19+00	+25	+50	+75	20+00	+25	+50	+75	21+00	+25	21+50
901.96	902.81	903.80	904.79	906.05	906.91	907.90	908.78	909.88	911.21	912.47
901.94 EOM LT	902.81 EOM LT	903.80 EOM LT	904.79 EOM LT	906.05 EOM LT	906.85 EOM LT	907.82 EOM LT	908.78 EOM LT	909.75 EOM LT	911.15 EOM LT	912.54 EOM LT
902.14	903.00	903.93	905.07	906.09	907.06	907.94	908.92	910.02	911.30	912.61
902.31	903.10	903.90	905.05	906.14	907.10	908.07	909.03	910.00	911.40	912.79
901.89	902.71	903.58	905.04	905.82	906.63	907.67	908.77	909.93	911.15	912.49
901.88 EOM RT	902.71 EOM RT	903.58 EOM RT	904.80 EOM RT	905.88 EOM RT	906.63 EOM RT	907.67 EOM RT	908.77 EOM RT	909.93 EOM RT	911.15 EOM RT	912.49 EOM RT

21+50	+75	22+00	+25	+50	+75	23+00	+25	23+50
912.47	914.02	915.55	917.16	918.92	920.73	922.92	925.36	927.66
912.54 EOM LT	913.94 EOM LT	915.33 EOM LT	917.04 EOM LT	918.75 EOM LT	920.83 EOM LT	922.92 EOM LT	925.24 EOM LT	927.56 EOM LT
912.61	914.06	915.59	917.19	919.00	920.99	923.15	925.52	927.86
912.79	914.19	915.58	917.29	919.00	921.08	923.17	925.49	927.81
912.49	913.76	915.41	917.05	918.87	920.86	922.81	925.24	927.95
912.49 EOM RT	913.76 EOM RT	915.41 EOM RT	917.05 EOM RT	918.87 EOM RT	920.86 EOM RT	922.81 EOM RT	925.24 EOM RT	927.56 EOM RT

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT TO BID	3–28–23	CC/DF	TB
01	ADDENDUM 1	3–13–23	CC/DF/KB	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

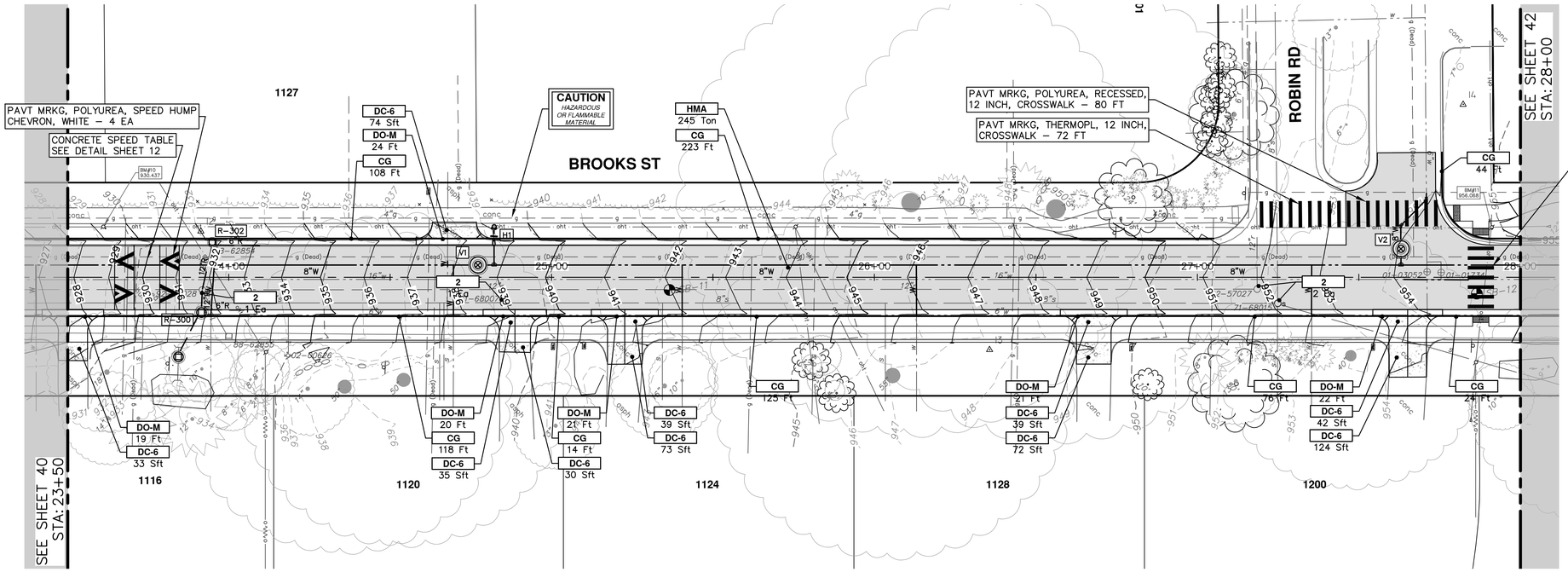
BROOKS STREET IMPROVEMENTS
PROPOSED ROAD - BROOKS STREET
STA. 19+00 - STA. 23+50

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

DRAWING No. 2021016-40

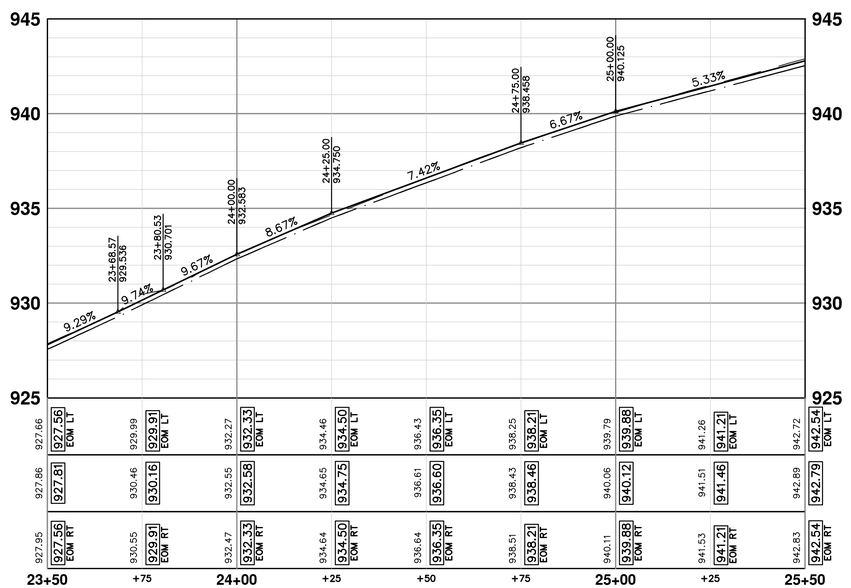
SHEET No. 40 OF 54

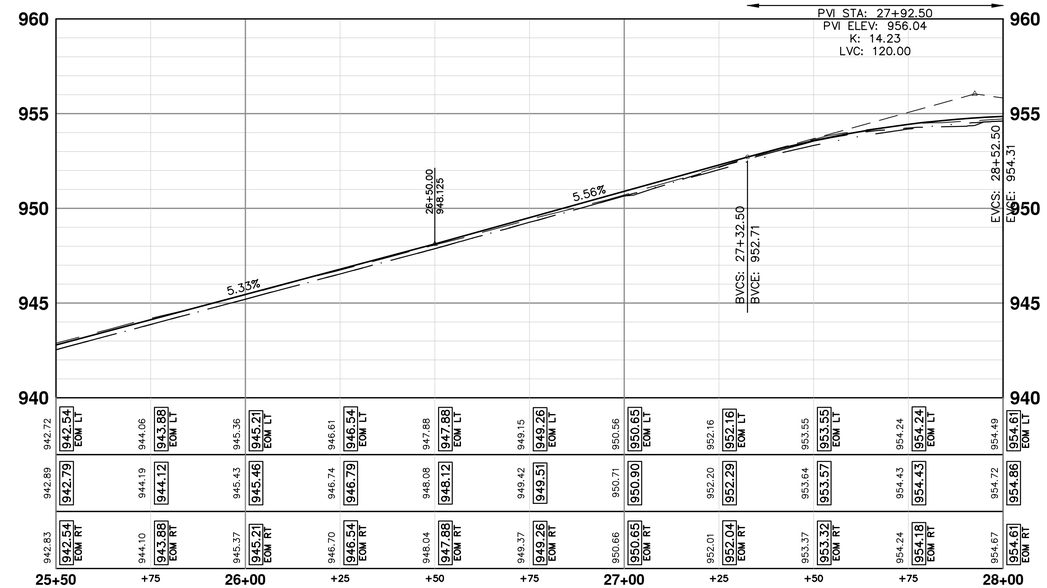
R:\2021016 Brooks Street\Plan Production\2021016Prd.dwg Dwg Created: 28-Mar-23 - _a2 standard bw.stb - Plot Date: 28-Mar-23



CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
HMA APP	PLACE HMA APPROACH
HP	HAND PATCHING
CG	PLACE CURB AND GUTTER, CONC, F4, SPECIAL
DO-M	PLACE DRIVEWAY OPENING, CONC, DETAIL M, P–NC
DC-6	PLACE CONC, DRIVE APPROACH, NON–REINFORCED, P–NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED.
SW-4	PLACE SIDEWALK, CONC, 4 INCH, MODIFIED
SWR-6	PLACE SIDEWALK, SIDEWALK RAMP, CONC, 6 INCH, MODIFIED
DWS	DETECTABLE WARNING, CAST IN PLACE
ABO	ADJUST BY OTHERS
1	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
2	ADJUST STRUCTURE COVER





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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	QUT TO BID	3–28–23	CC/DF	TB
01	ADDENDUM 1	3–13–23	CC/DF/KB	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

BROOKS STREET IMPROVEMENTS

PROPOSED ROAD - BROOKS STREET

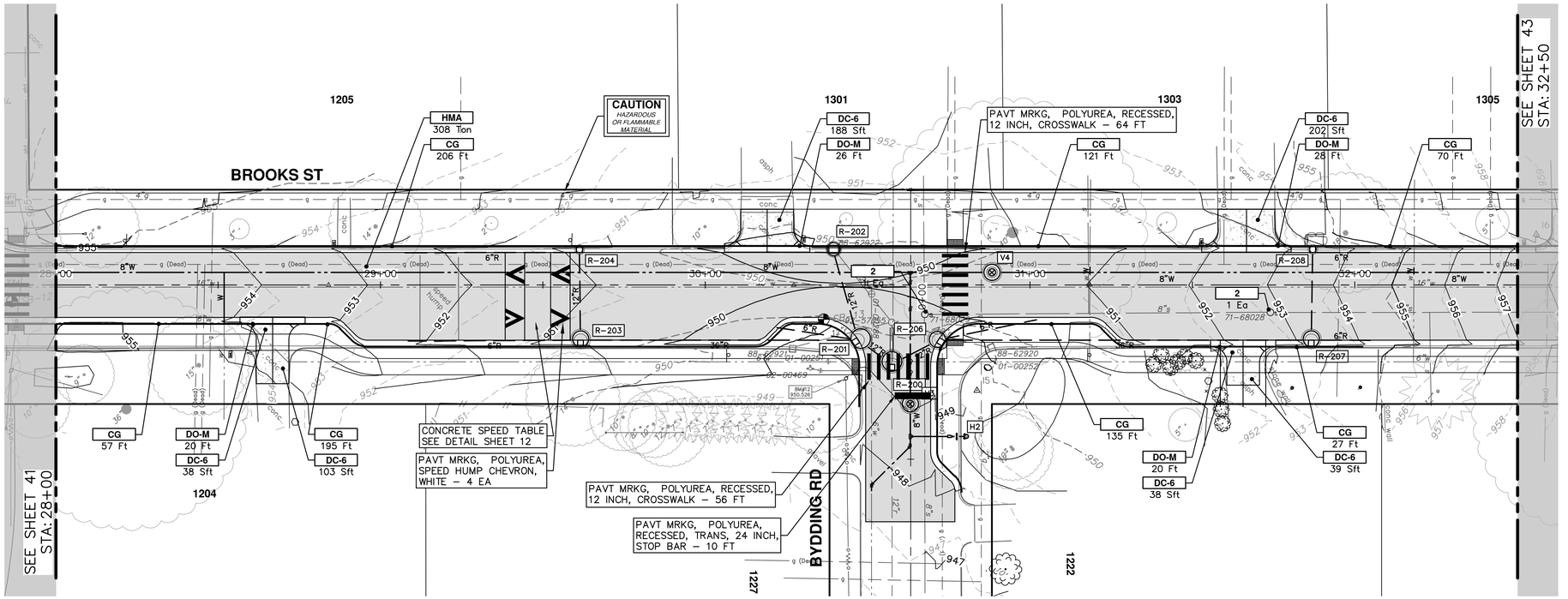
STA. 23+50 - STA. 28+00

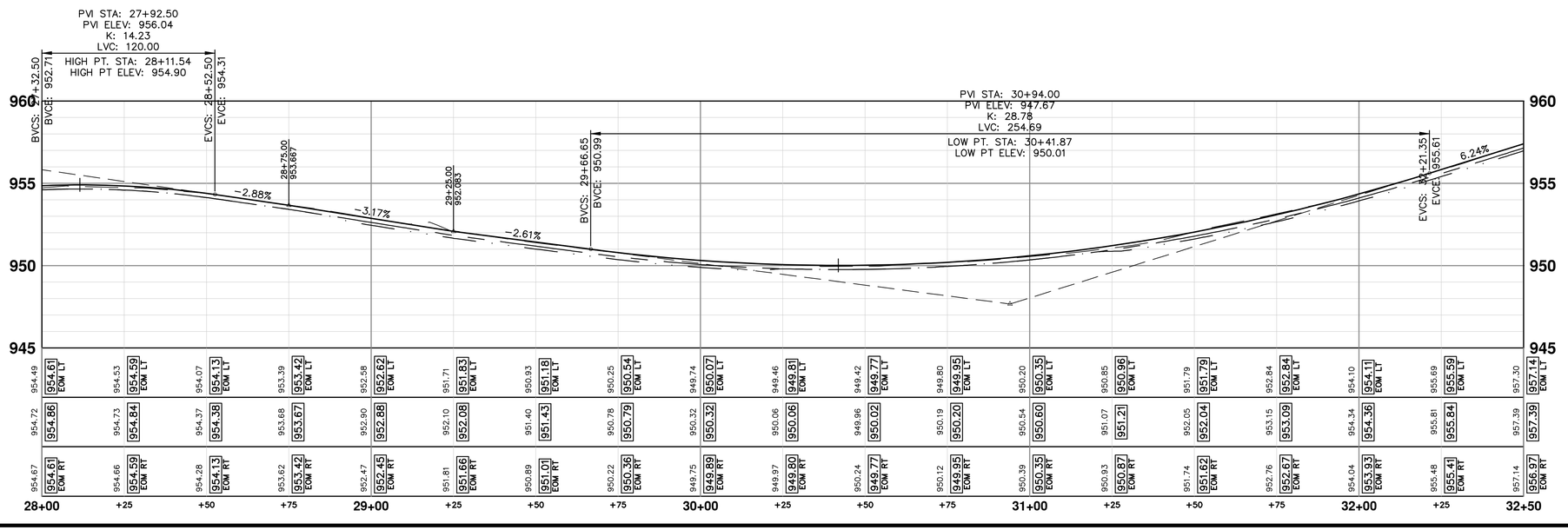
SCALE PLAN: 1" = 20' PROFILE: 1" = 4'

DRAWING No. 2021016-41

SHEET No. 41 OF 54

R:\2021016 Brooks Street\Plan Production\2021016Prd.dwg Dwg Created: 28-Mar-23 — _a2 standard bw.stb — Plot Date: 28-Mar-23





CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
HMA APP	PLACE HMA APPROACH
HP	HAND PATCHING
CG	PLACE CURB AND GUTTER, CONC, F4, SPECIAL
DO-M	PLACE DRIVEWAY OPENING, CONC, DETAIL M, P–NC
DC-6	PLACE CONC, DRIVE APPROACH, NON–REINFORCED, P–NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED.
SW-4	PLACE SIDEWALK, CONC, 4 INCH, MODIFIED
SWR-6	PLACE SIDEWALK, SIDEWALK RAMP, CONC, 6 INCH, MODIFIED
DWS	DETECTABLE WARNING, CAST IN PLACE
ABO	ADJUST BY OTHERS
1	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
2	ADJUST STRUCTURE COVER

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT TO BID	3–13–23	CC/DF/KB	TB
01	ADDENDUM 1	3–28–23	CC/DF	TB

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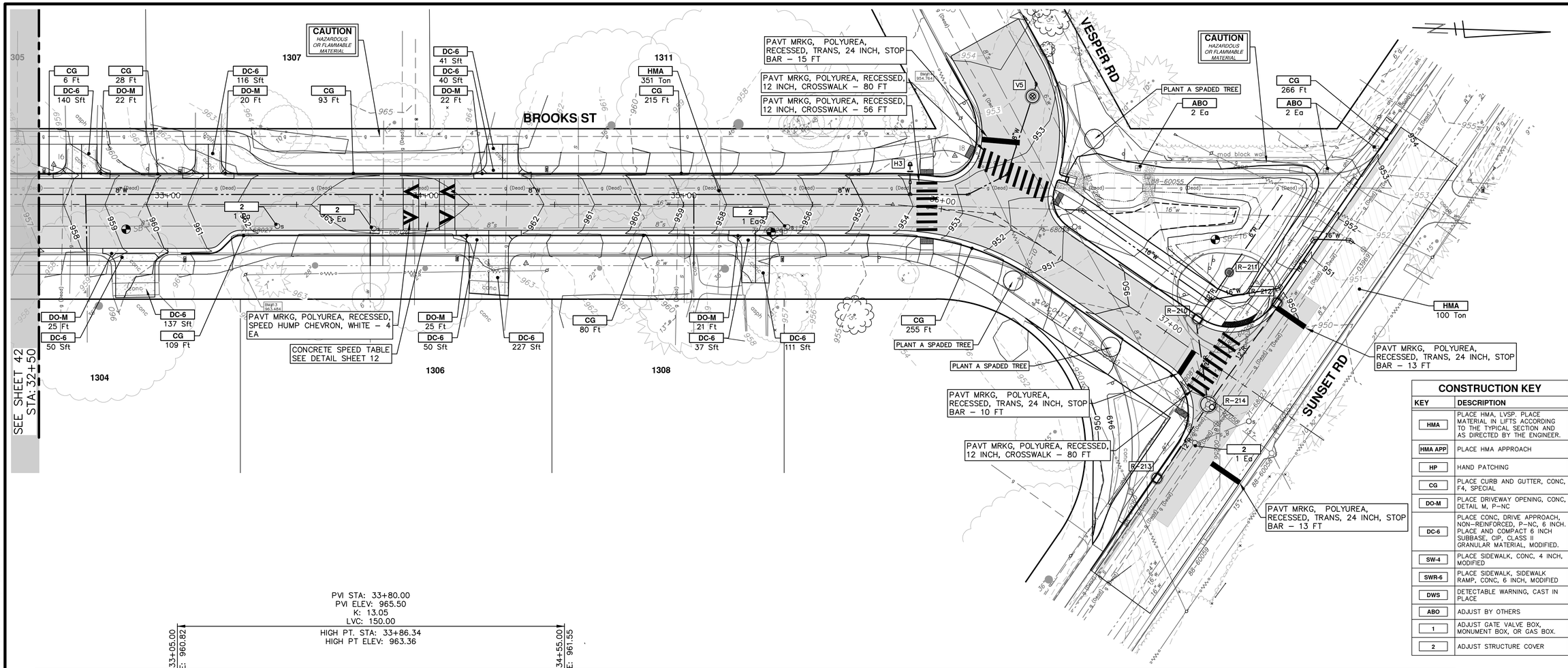
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

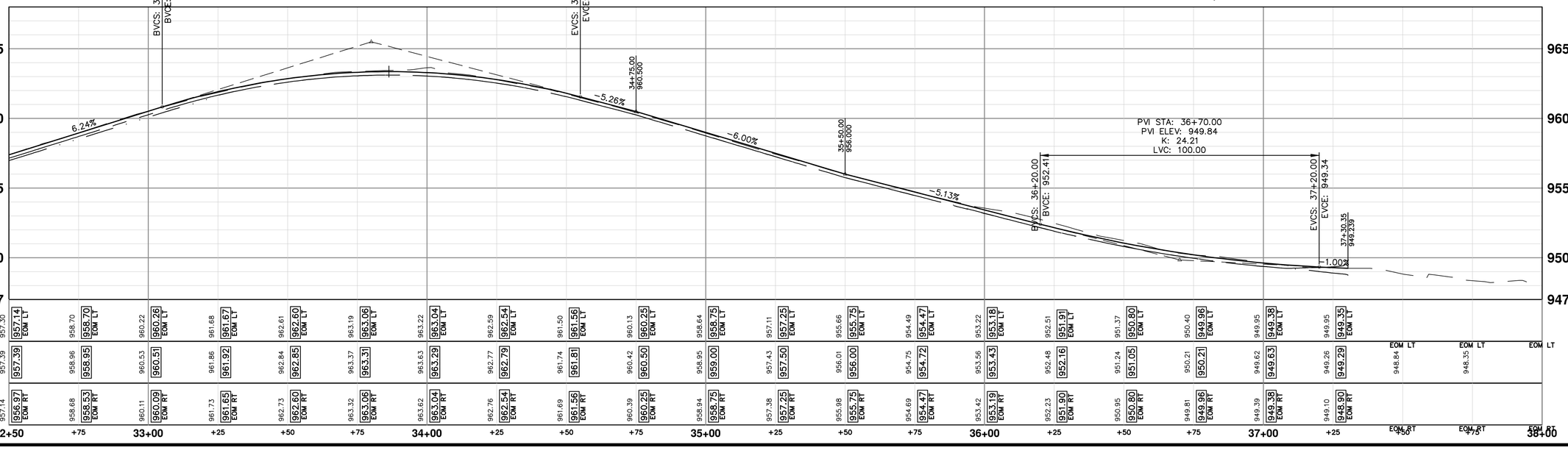
BROOKS STREET IMPROVEMENTS
PROPOSED ROAD - BROOKS STREET
STA. 28+00 - STA. 32+50

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

DRAWING No. 2021016-42

SHEET No. 42 OF 54





CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
HMA APP	PLACE HMA APPROACH
HP	HAND PATCHING
CG	PLACE CURB AND GUTTER, CONC, F4, SPECIAL
DO-M	PLACE DRIVEWAY OPENING, CONC, DETAIL M, P–NC
DC-6	PLACE CONC, DRIVE APPROACH, NON–REINFORCED, P–NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED.
SW-4	PLACE SIDEWALK, CONC, 4 INCH, MODIFIED
SWR-6	PLACE SIDEWALK, SIDEWALK RAMP, CONC, 6 INCH, MODIFIED
DWS	DETECTABLE WARNING, CAST IN PLACE
ABO	ADJUST BY OTHERS
1	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
2	ADJUST STRUCTURE COVER

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT TO BID	3–13–23	CC/DF/KB	TB
01	ADDENDUM 1	3–28–23	CC/DF	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

BROOKS STREET IMPROVEMENTS
PROPOSED ROAD - BROOKS STREET
STA. 32+50 - STA. 38+00

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

DRAWING No. 2021016-43

SHEET No. 43 OF 54

R:\2021016 Brooks Street\Plan Production\2021016Prd.dwg Dwg Created: 28-Mar-23 - _a2 standard bw.stb - Plot Date: 28-Mar-23

CONSTRUCTION KEY

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HMA	PLACE HMA, LVSP, PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
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HP	HAND PATCHING
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DO-M	PLACE DRIVEWAY OPENING, CONC, DETAIL M, P-NC
DC-6	PLACE CONC, DRIVE APPROACH, NON-REINFORCED, P-NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED.
SW-4	PLACE SIDEWALK, CONC, 4 INCH, MODIFIED
SWR-6	PLACE SIDEWALK, SIDEWALK RAMP, CONC, 6 INCH, MODIFIED
DWS	DETECTABLE WARNING, CAST IN PLACE
ABO	ADJUST BY OTHERS
1	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
2	ADJUST STRUCTURE COVER

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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01	ADDENDUM 1	3-28-23	CC/DF	TB

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Know what's below. Call before you dig.

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

BROOKS STREET IMPROVEMENTS

PROPOSED ROAD - MIXTWOOD

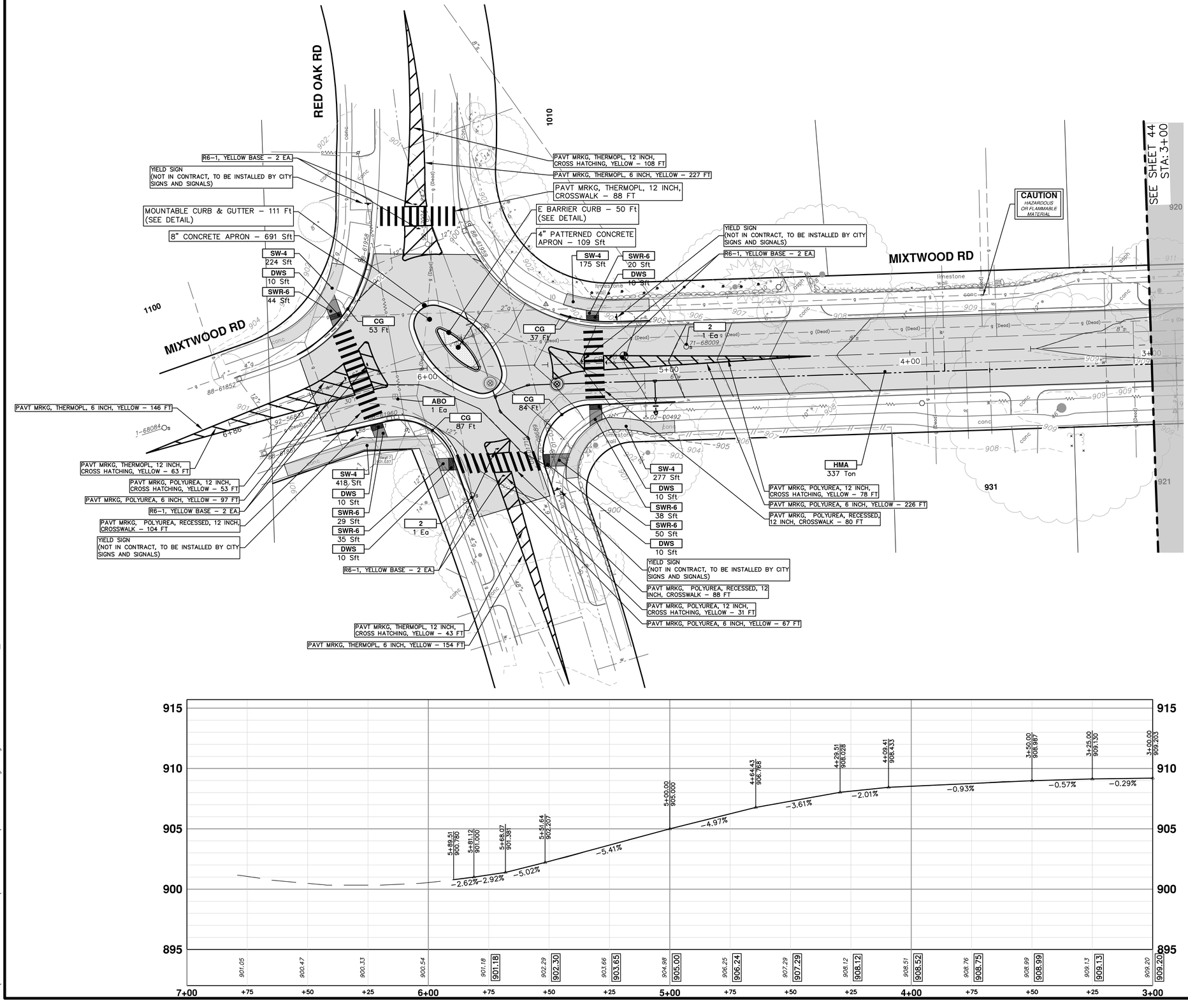
STA. 0+00 - STA. 3+00

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

DRAWING No. 2021016-44

SHEET No. 44 OF 54

R:\2021016 Brooks Street\Plan Production\2021016Prd.dwg Dwg Created: 28-Mar-23 — _a2 standard bw.stb — Plot Date: 28-Mar-23



CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
HMA APP	PLACE HMA APPROACH
HP	HAND PATCHING
CG	PLACE CURB AND GUTTER, CONC, F4, SPECIAL
DO-M	PLACE DRIVEWAY OPENING, CONC, DETAIL M, P-NC
DC-6	PLACE CONC, DRIVE APPROACH, NON-REINFORCED, P-NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED.
SW-4	PLACE SIDEWALK, CONC, 4 INCH, MODIFIED
SWR-6	PLACE SIDEWALK, SIDEWALK RAMP, CONC, 6 INCH, MODIFIED
DWS	DETECTABLE WARNING, CAST IN PLACE
ABO	ADJUST BY OTHERS
1	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
2	ADJUST STRUCTURE COVER

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT TO BID	3-28-23	CC/DF	TB
01	ADDENDUM 1	3-13-23	CC/DF/KB	TB

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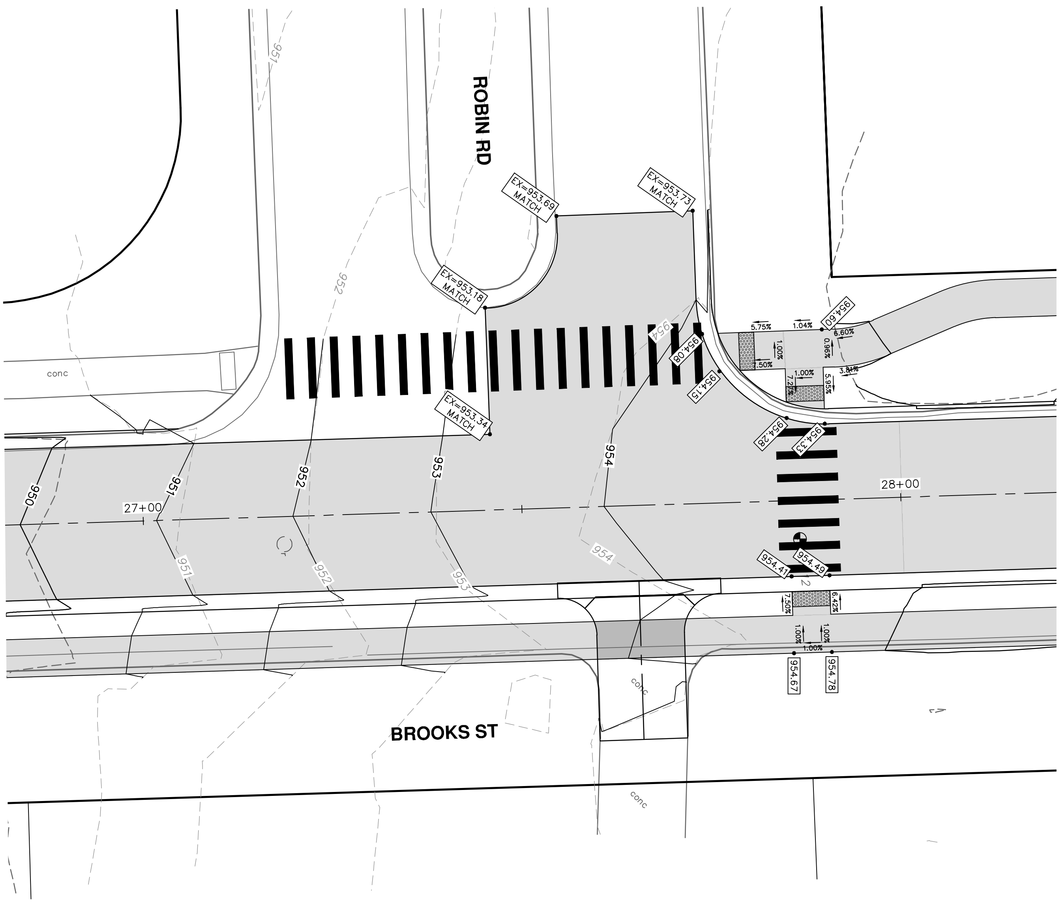
BROOKS STREET IMPROVEMENTS
PROPOSED ROAD - MIXTWOOD
STA. 3+00 - STA. 7+25

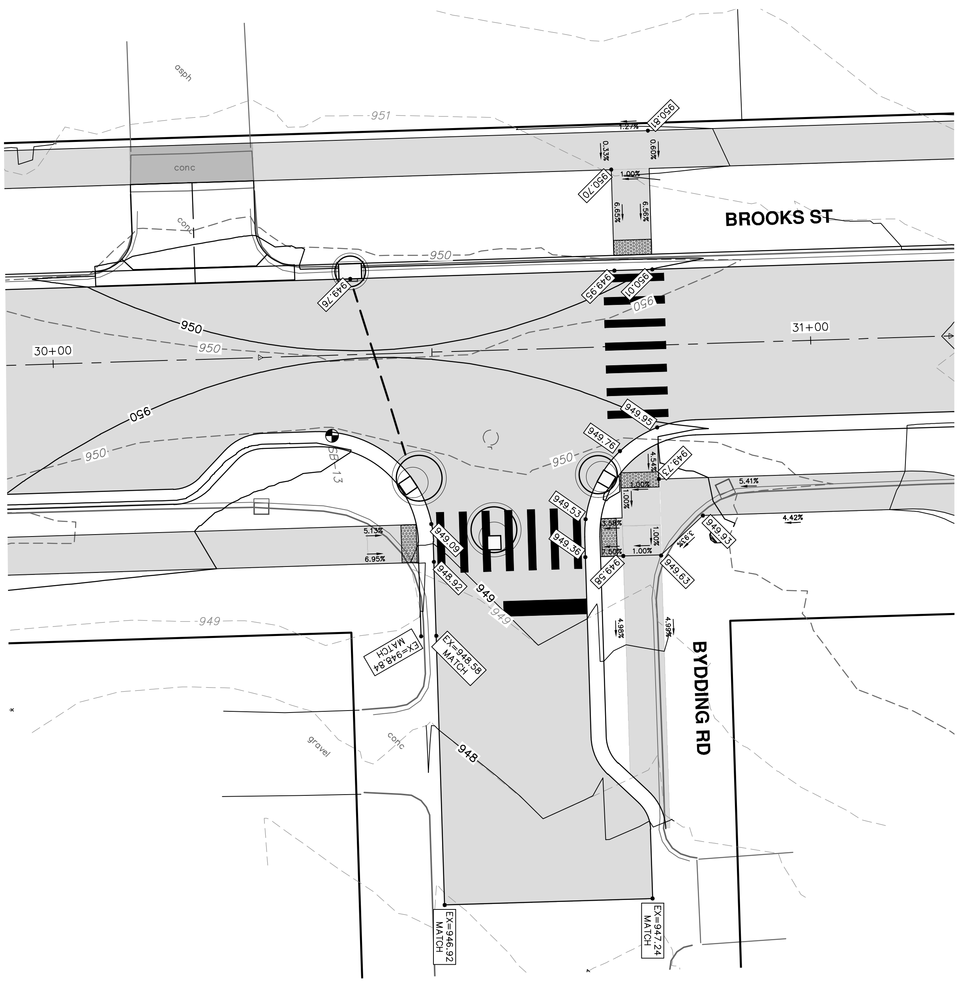
SCALE PLAN: 1" = 20' PROFILE: 1" = 4'

DRAWING No. 2021016-45

SHEET No. 45 OF 54

R:\2021016 Brooks Street\Plan Production\2021016Prd.dwg Dwg Created: 28-Mar-23 — _a2 standard bw.stb — Plot Date: 28-Mar-23





01	ADDENDUM 1	3-28-23	CC/DF	TB	
00	OUT TO BID	3-13-23	CC/DF/KB	TB	
REV.	DESCRIPTION	DATE	DRAWN	CHECKED	

SHEET No. 46 OF 54

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE **PLAN: 1" = 10'**

DRAWING No. **2021016-46**

BROOKS STREET IMPROVEMENTS

ROBIN RD - BROOKS ST AND BYDDING RD AND BROOKS ST

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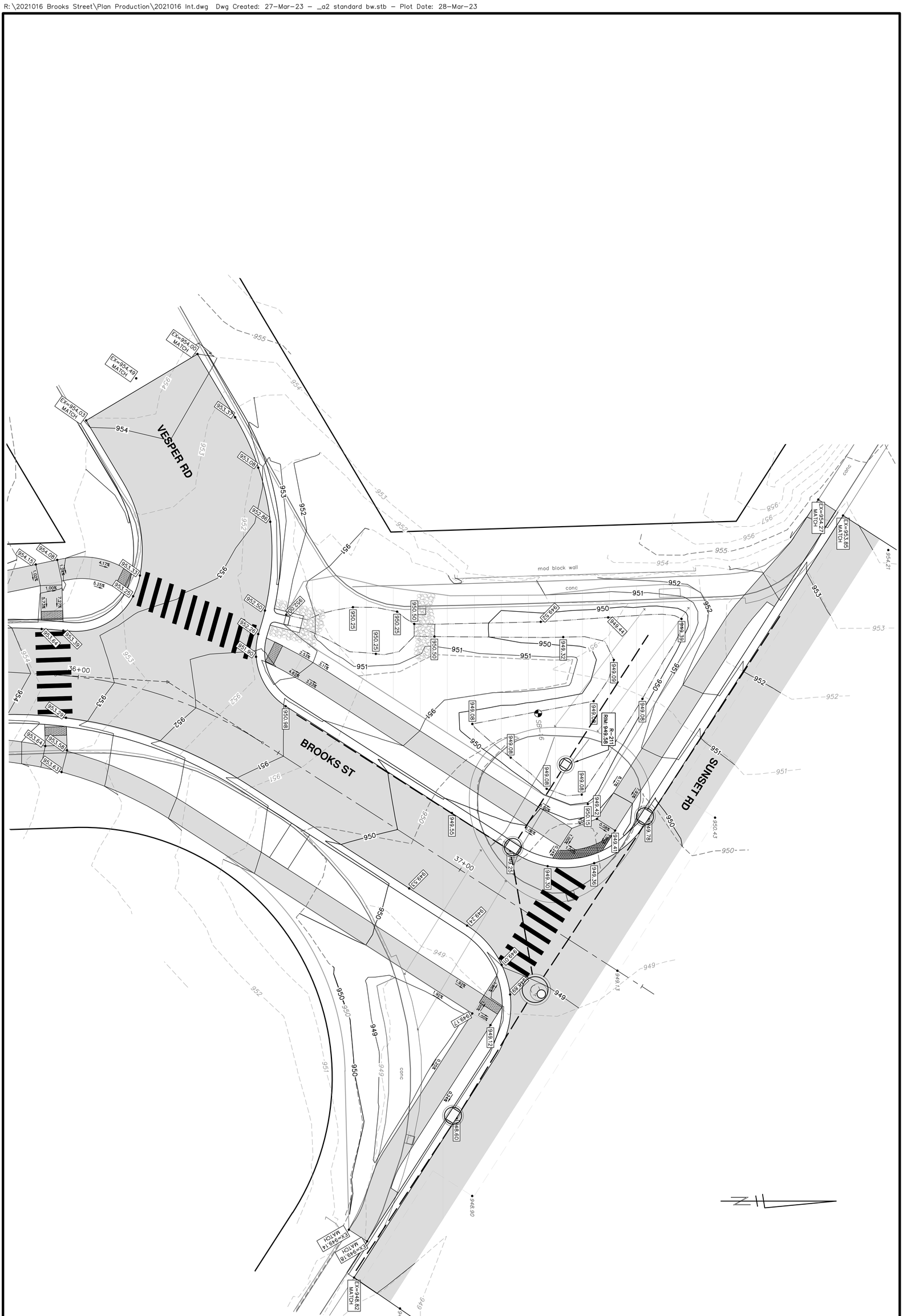
R:\2021016 Brooks Street\Plan Production\2021016 Int.dwg Dwg Created: 27-Mar-23 - _a2 standard bw.stb - Plot Date: 28-Mar-23



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE **PLAN: 1" = 10'**

DRAWING No. **2021016-47**

BROOKS STREET IMPROVEMENTS

BROOKS ST - VESPER RD - SUNSET RD

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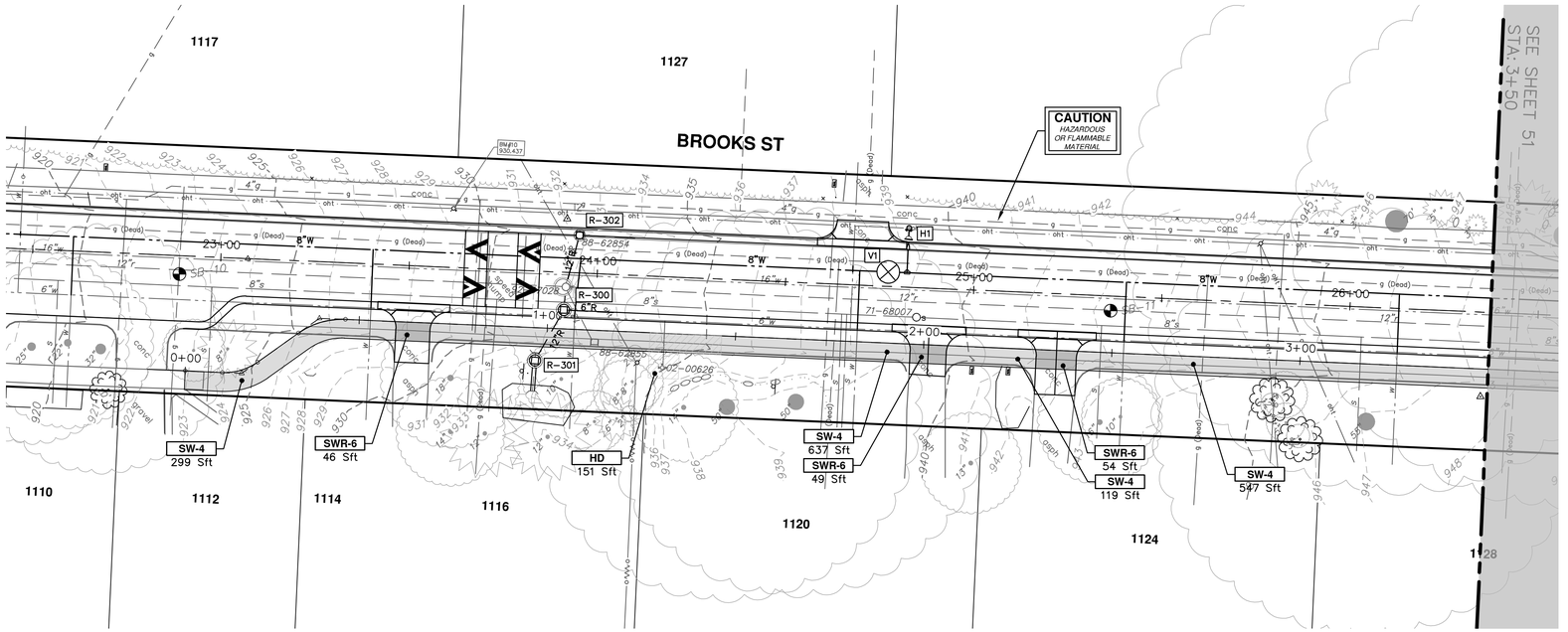
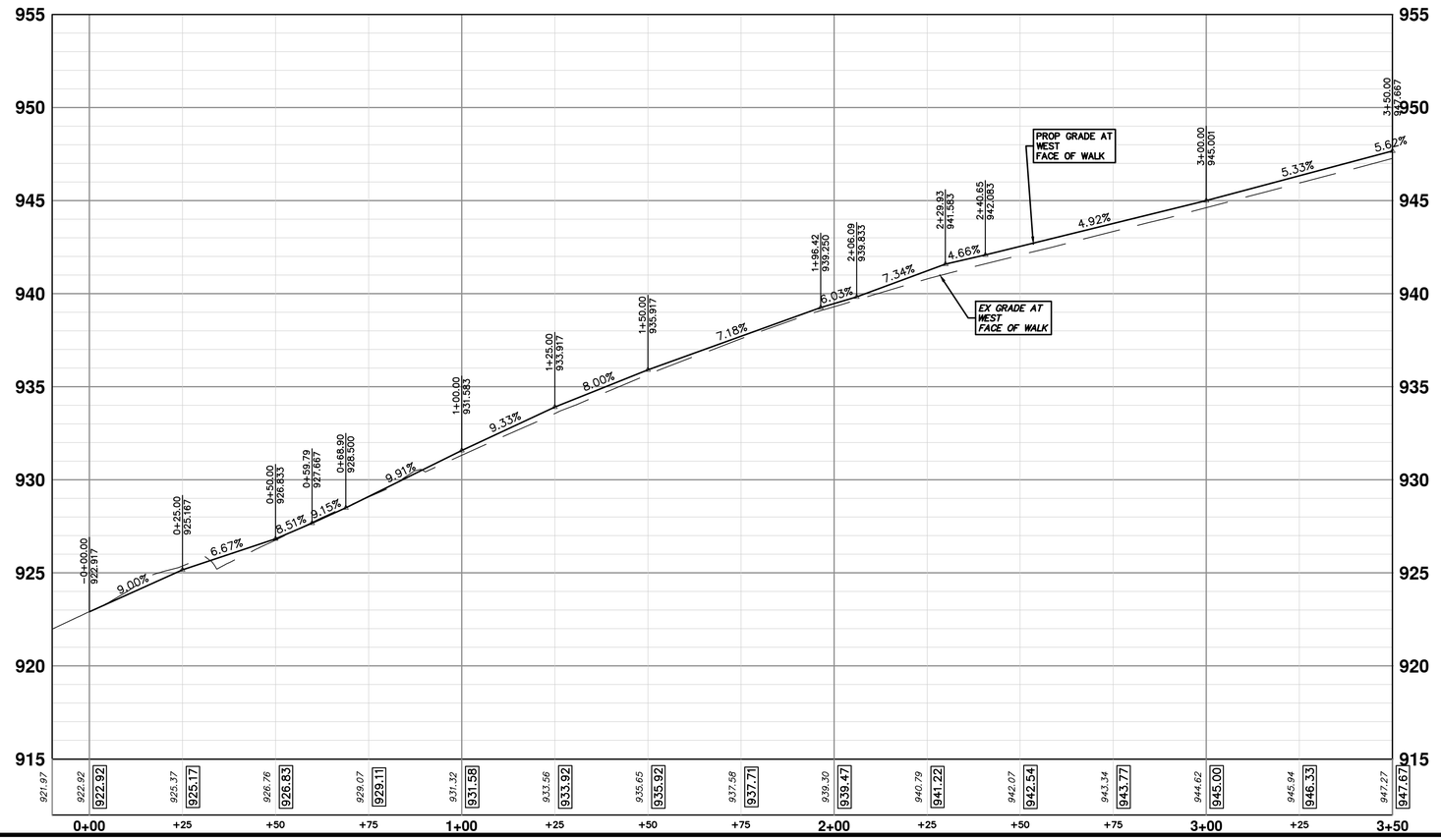
REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM 1	3-28-23	CC/DF	TB
00	OUT TO BID	3-13-23	CC/DF/KB	TB





SIDEWALK CONSTRUCTION KEY

KEY	DESCRIPTION
SW-4	PLACE SIDEWALK, CONC, 4 INCH, MODIFIED
SWR-6	PLACE SIDEWALK, SIDEWALK RAMP, CONC, 6 INCH, MODIFIED
DWS	DETECTABLE WARNING, CAST IN PLACE
ISW-CB	INTEGRAL SIDEWALK/CURB
ABO	ADJUST BY OTHERS
HD	HAND DIG AND PRUNE ROOTS 1-1/2 INCHES OR GREATER
1	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
2	ADJUST STRUCTURE COVER

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT TO BID	3-13-23	CC/DF	TB
01	ADDENDUM 1	3-28-23	CC/DF/KB	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

BROOKS STREET IMPROVEMENTS

BROOKS ST SIDEWALK RIGHT

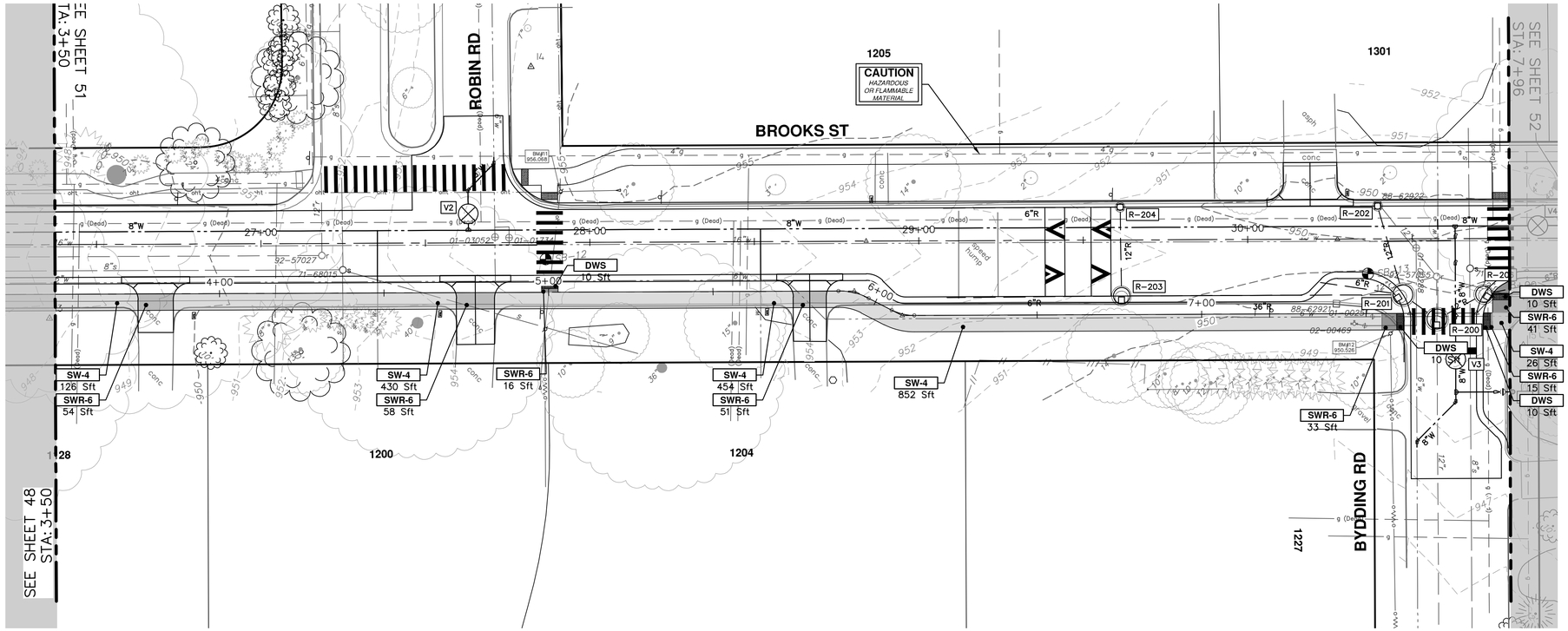
STA. 0+00 - STA. 3+50

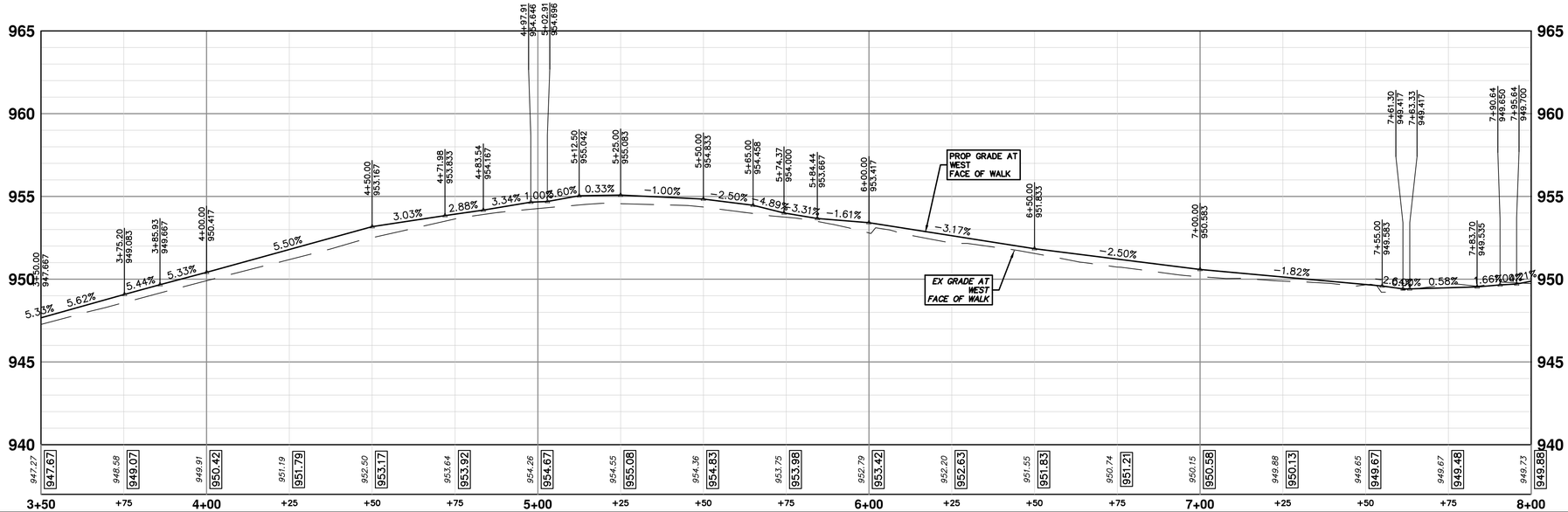
SCALE PLAN: 1" = 20' PROFILE: 1" = 4'

DRAWING No. 2021016-48

SHEET No. 48 OF 54

R:\2021016 Brooks Street\Plan Production\2021016Psw.dwg Dwg Created: 27-Mar-23 — _a2 standard bw.stb — Plot Date: 28-Mar-23





SIDEWALK CONSTRUCTION KEY

KEY	DESCRIPTION
SW-4	PLACE SIDEWALK, CONC, 4 INCH, MODIFIED
SWR-6	PLACE SIDEWALK, SIDEWALK RAMP, CONC, 6 INCH, MODIFIED
DWS	DETECTABLE WARNING, CAST IN PLACE
ISW-CB	INTEGRAL SIDEWALK/CURB
ABO	ADJUST BY OTHERS
HD	HAND DIG AND PRUNE ROOTS 1-1/2 INCHES OR GREATER
1	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
2	ADJUST STRUCTURE COVER

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT TO BID	3-13-23	CC/DF/KB	TB
01	ADDENDUM 1	3-28-23	CC/DF	TB

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BROOKS STREET IMPROVEMENTS

BROOKS ST SIDEWALK RIGHT

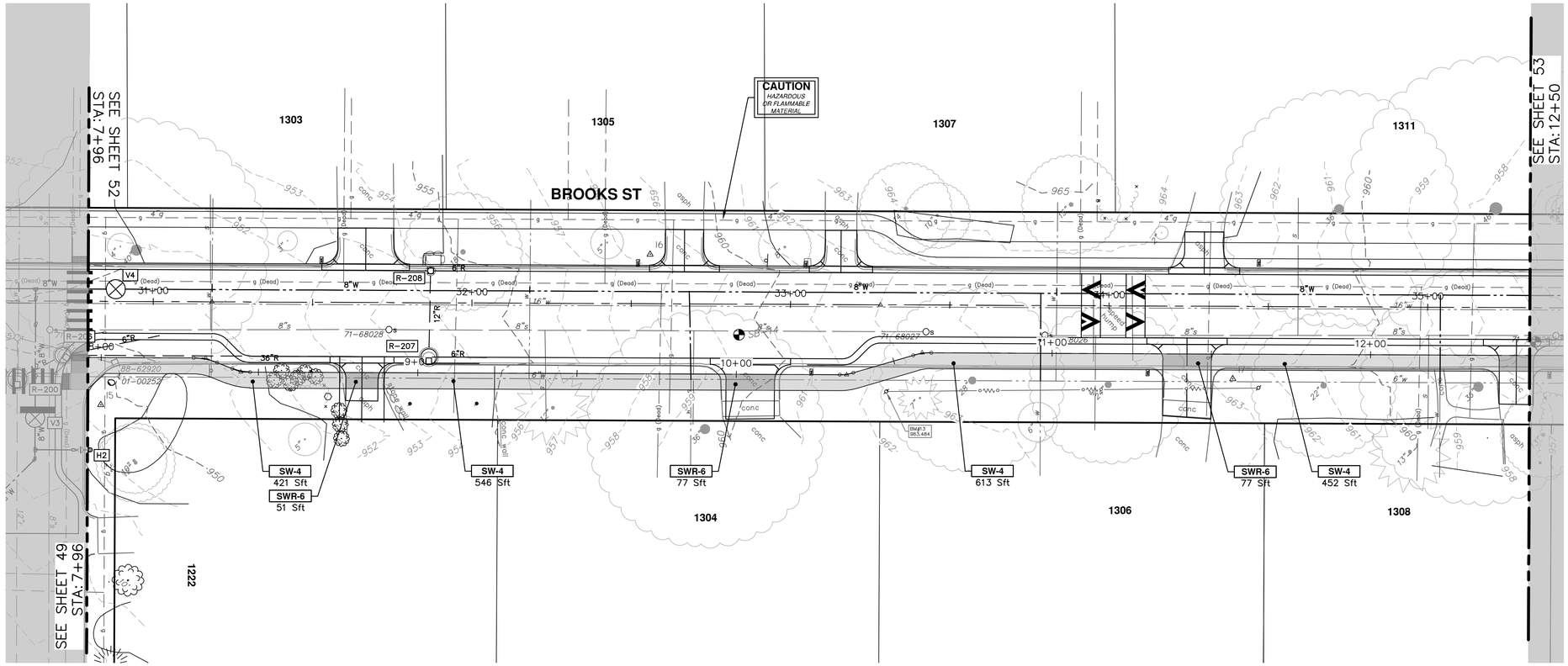
STA. 3+50 - STA. 8+00

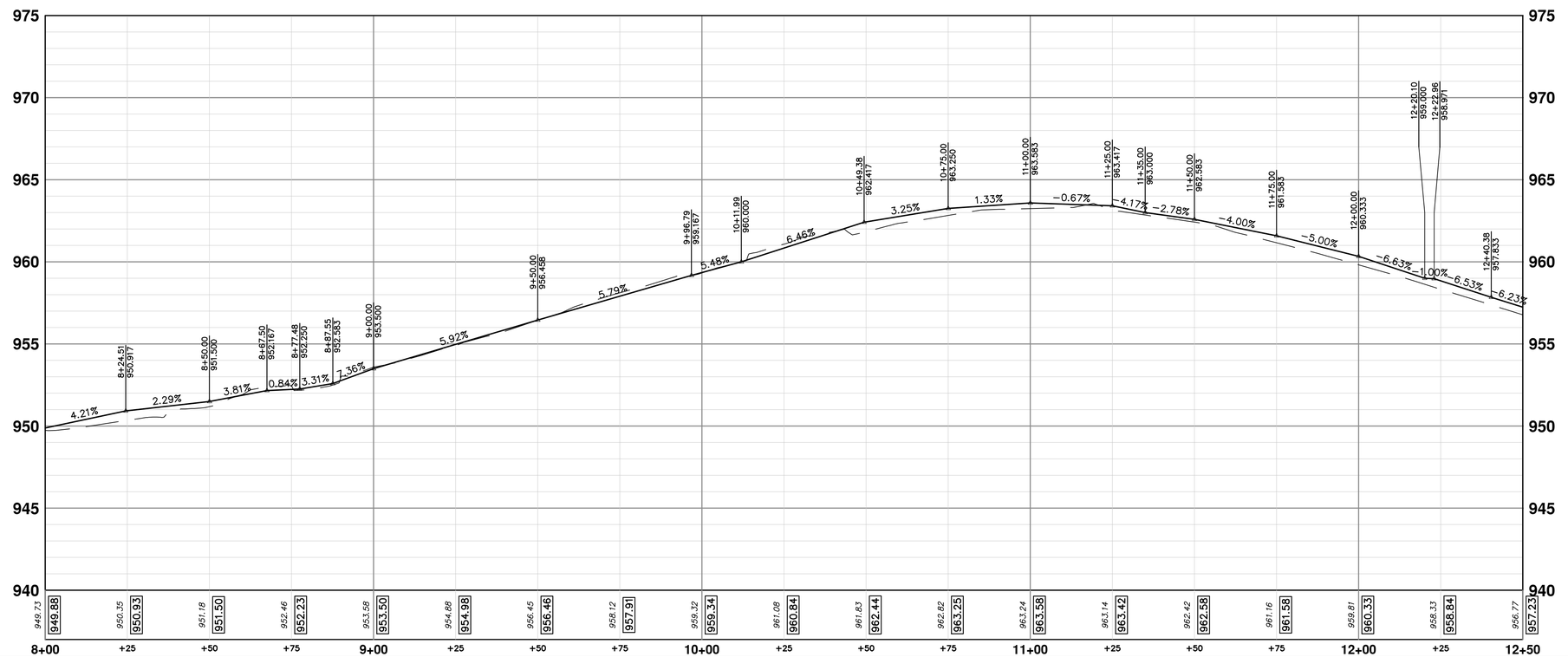
SCALE PLAN: 1" = 20' PROFILE: 1" = 4'

DRAWING No. 2021016-49

SHEET No. 49 OF 54

R:\2021016 Brooks Street\Plan Production\2021016Psw.dwg Dwg Created: 27-Mar-23 — _a2 standard bw.stb — Plot Date: 28-Mar-23





SIDEWALK CONSTRUCTION KEY

KEY	DESCRIPTION
SW-4	PLACE SIDEWALK, CONC, 4 INCH, MODIFIED
SWR-6	PLACE SIDEWALK, SIDEWALK RAMP, CONC, 6 INCH, MODIFIED
DWS	DETECTABLE WARNING, CAST IN PLACE
ISW-CB	INTEGRAL SIDEWALK/CURB
ABO	ADJUST BY OTHERS
HD	HAND DIG AND PRUNE ROOTS 1-1/2 INCHES OR GREATER
1	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
2	ADJUST STRUCTURE COVER

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT TO BID	3-13-23	CC/DF/KB	TB
01	ADDENDUM 1	3-28-23	CC/DF	TB

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BROOKS STREET IMPROVEMENTS

BROOKS ST SIDEWALK RIGHT

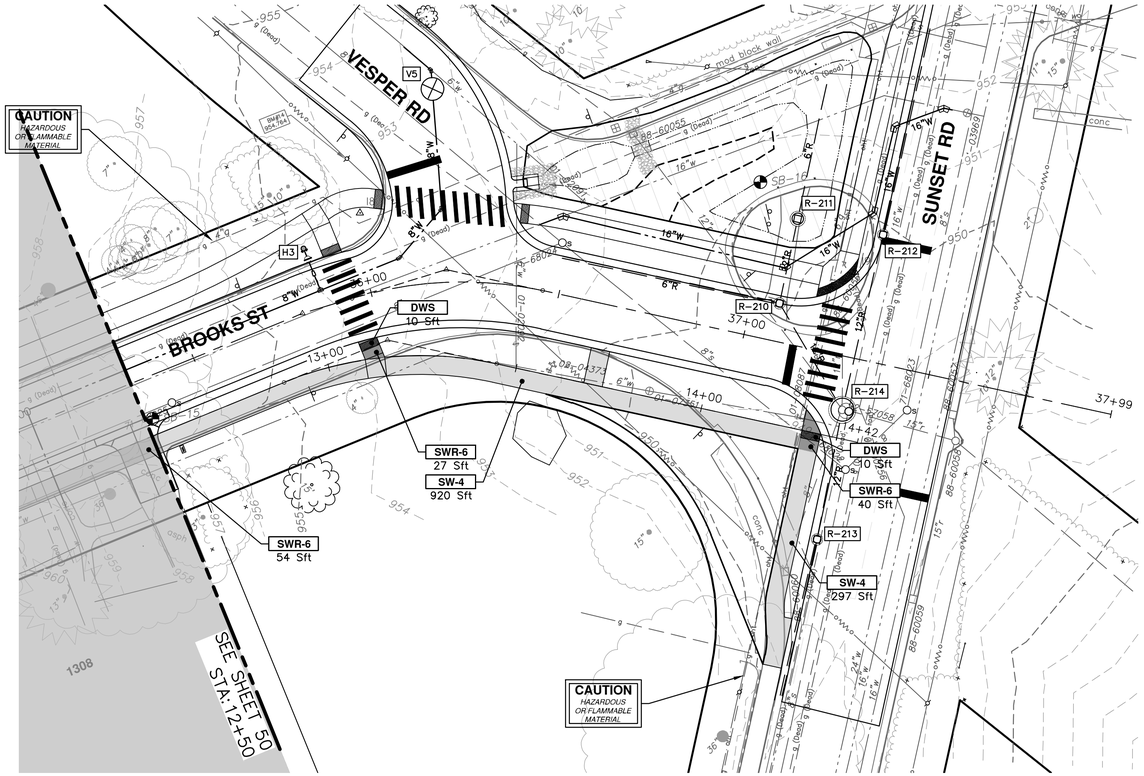
STA. 8+00 - STA. 12+50

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

DRAWING No. 2021016-50

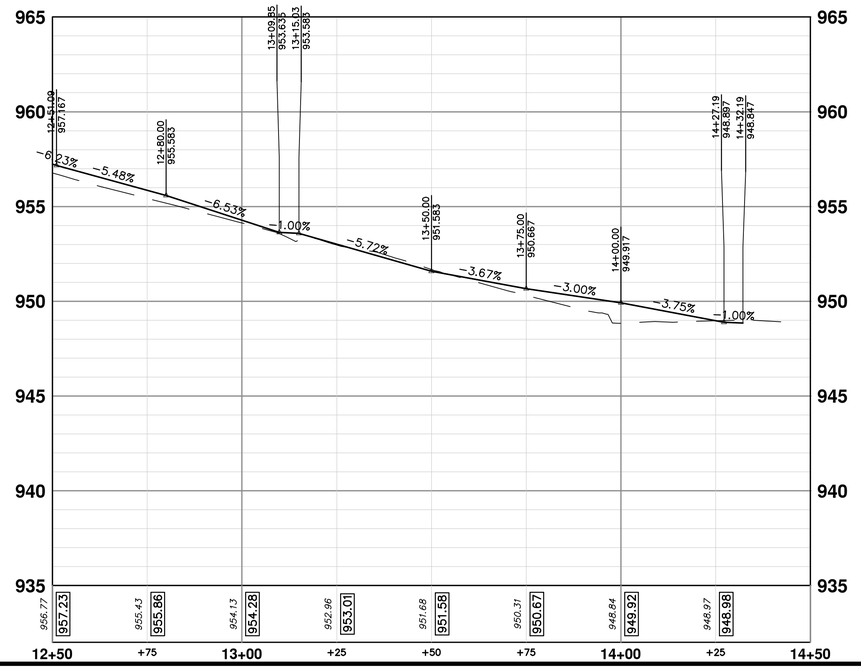
SHEET No. 50 OF 54

R:\2021016 Brooks Street\Plan Production\2021016Psw.dwg Dwg Created: 27-Mar-23 — _a2 standard bw.stb — Plot Date: 28-Mar-23



SIDEWALK CONSTRUCTION KEY

KEY	DESCRIPTION
SW-4	PLACE SIDEWALK, CONC, 4 INCH, MODIFIED
SWR-6	PLACE SIDEWALK, SIDEWALK RAMP, CONC, 6 INCH, MODIFIED
DWS	DETECTABLE WARNING, CAST IN PLACE
ISW-CB	INTEGRAL SIDEWALK/CURB
ABO	ADJUST BY OTHERS
HD	HAND DIG AND PRUNE ROOTS 1-1/2 INCHES OR GREATER
1	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
2	ADJUST STRUCTURE COVER



NO.	REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM 1		3-28-23	CC/DF	TB
00	OUT TO BID		3-13-23	CC/DF/KB	TB

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

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BROOKS STREET IMPROVEMENTS

BROOKS ST SIDEWALK RIGHT

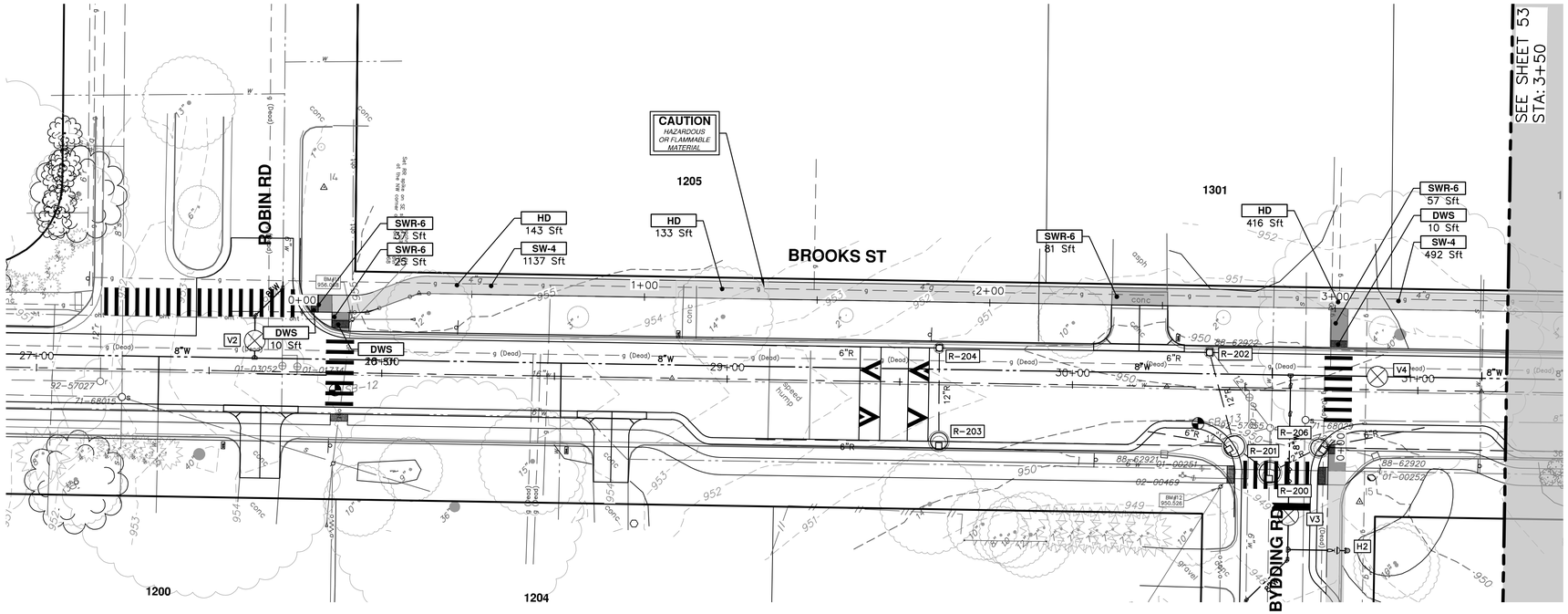
STA. 12+50 - STA. 14+33.8

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

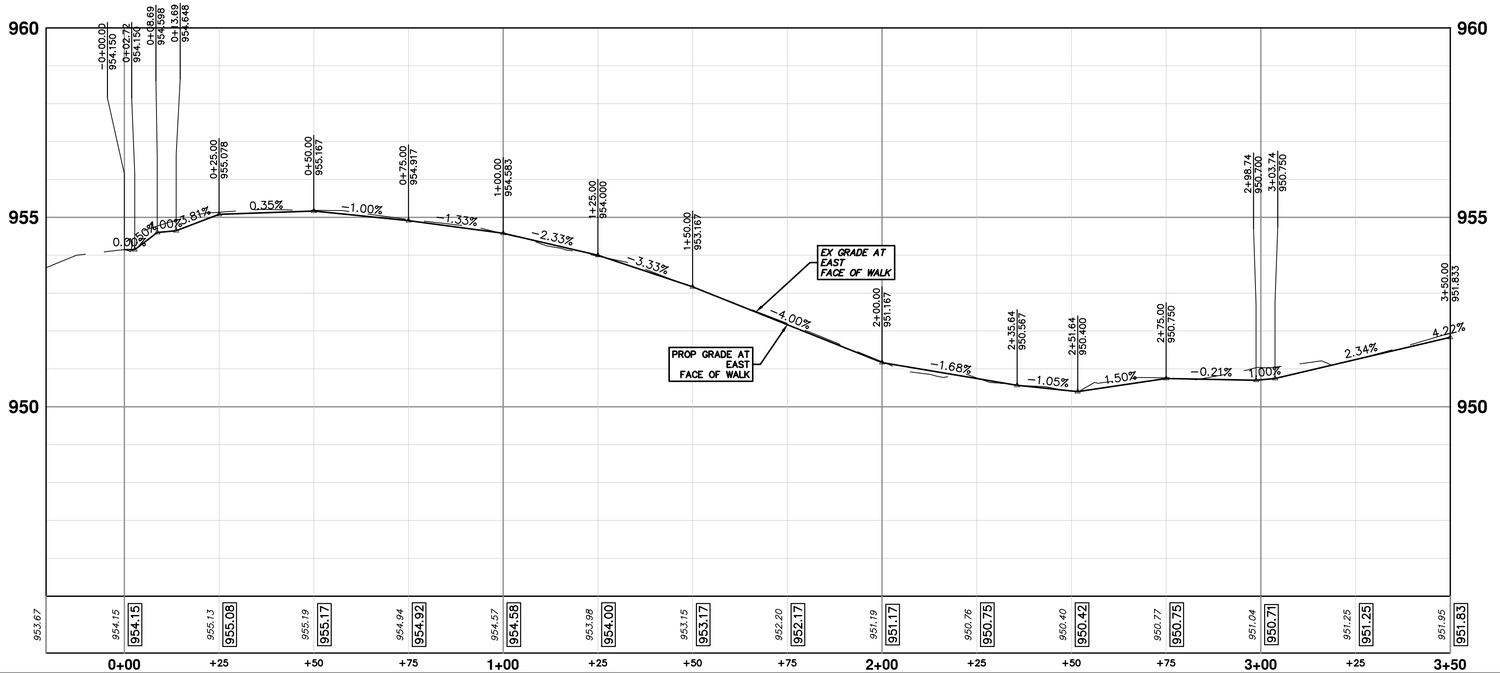
DRAWING No. 2021016-51

SHEET No. 51 OF 54

R:\2021016 Brooks Street\Plan Production\2021016Psw.dwg Dwg Created: 27-Mar-23 — _a2 standard bw.stb — Plot Date: 28-Mar-23



SIDEWALK CONSTRUCTION KEY	
KEY	DESCRIPTION
SW-4	PLACE SIDEWALK, CONC, 4 INCH, MODIFIED
SWR-6	PLACE SIDEWALK, SIDEWALK RAMP, CONC, 6 INCH, MODIFIED
DWS	DETECTABLE WARNING, CAST IN PLACE
ISW-CB	INTEGRAL SIDEWALK/CURB
ABO	ADJUST BY OTHERS
HD	HAND DIG AND PRUNE ROOTS 1-1/2 INCHES OR GREATER
1	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
2	ADJUST STRUCTURE COVER



R:\2021016 Brooks Street\Plan Production\20210016Psw2.dwg Dwg Created: 27-Mar-23 — _a2 standard bw.stb — Plot Date: 28-Mar-23

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT TO BID	3-28-23	CC/DF	TB
01	ADDENDUM 1	3-13-23	CC/DF/KB	TB

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BROOKS STREET IMPROVEMENTS

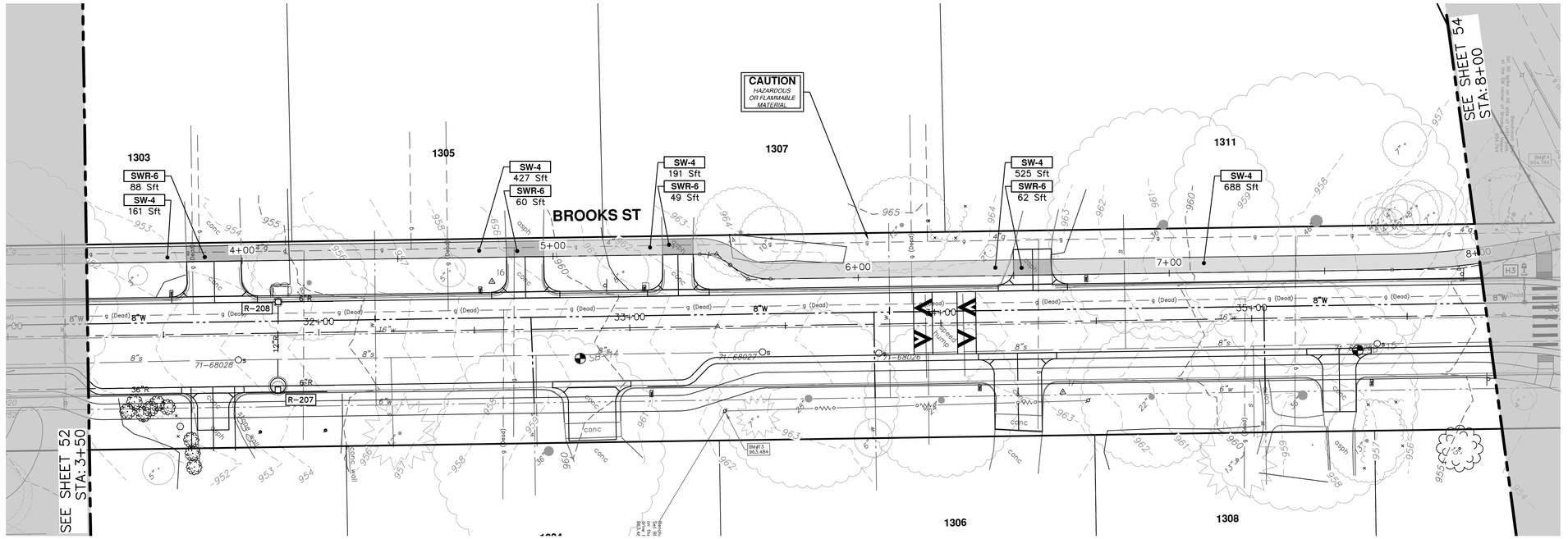
BROOKS ST SIDEWALK LEFT

STA. 0+00 - STA. 3+50

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

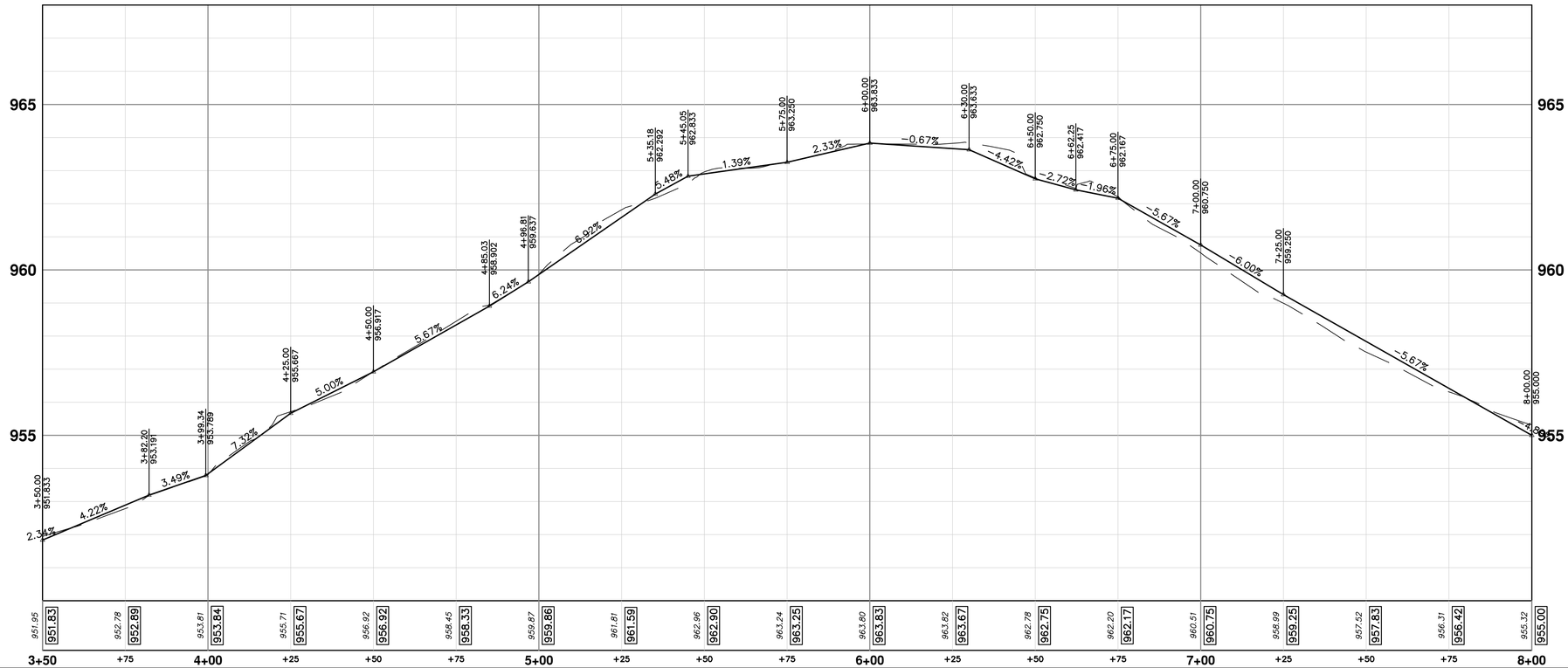
DRAWING No. 2021016-52

SHEET No. 52 OF 54



SIDEWALK CONSTRUCTION KEY

KEY	DESCRIPTION
SW-4	PLACE SIDEWALK, CONC, 4 INCH, MODIFIED
SWR-6	PLACE SIDEWALK, SIDEWALK RAMP, CONC, 6 INCH, MODIFIED
DWS	DETECTABLE WARNING, CAST IN PLACE
ISW-CB	INTEGRAL SIDEWALK/CURB
ABO	ADJUST BY OTHERS
HD	HAND DIG AND PRUNE ROOTS 1–1/2 INCHES OR GREATER
1	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
2	ADJUST STRUCTURE COVER



R:\2021016 Brooks Street\Plan Production\2021016Psw2.dwg Dwg Created: 27-Mar-23 — _a2 standard bw.stb — Plot Date: 28-Mar-23

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	QUT TO BID	3-28-23	CC/DF	TB
01	ADDENDUM 1	3-13-23	CC/DF/KB	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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

DRAWING No. **2021016-53**

SHEET No. **53 OF 54**

BROOKS STREET IMPROVEMENTS

BROOKS ST SIDEWALK LEFT

STA. 3+50 - STA. 8+00

SIDEWALK CONSTRUCTION KEY

KEY	DESCRIPTION
SW-4	PLACE SIDEWALK, CONC, 4 INCH, MODIFIED
SWR-6	PLACE SIDEWALK, SIDEWALK RAMP, CONC, 6 INCH, MODIFIED
DWS	DETECTABLE WARNING, CAST IN PLACE
ISW-CB	INTEGRAL SIDEWALK/CURB
ABO	ADJUST BY OTHERS
HD	HAND DIG AND PRUNE ROOTS 1-1/2 INCHES OR GREATER
1	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
2	ADJUST STRUCTURE COVER

R:\2021016 Brooks Street\Plan Production\20210216Psw2.dwg Dwg Created: 27-Mar-23 — _a2 standard bw.stb — Plot Date: 28-Mar-23

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM 1	3-28-23	CC/DF	TB
00	OUT TO BID	3-13-23	CC/DF/KB	TB

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

DRAWING No. **2021016-54**

SHEET No. **54 OF 54**

BROOKS STREET IMPROVEMENTS

BROOKS ST SIDEWALK LEFT

STA. 8+00 - STA. 9+75