

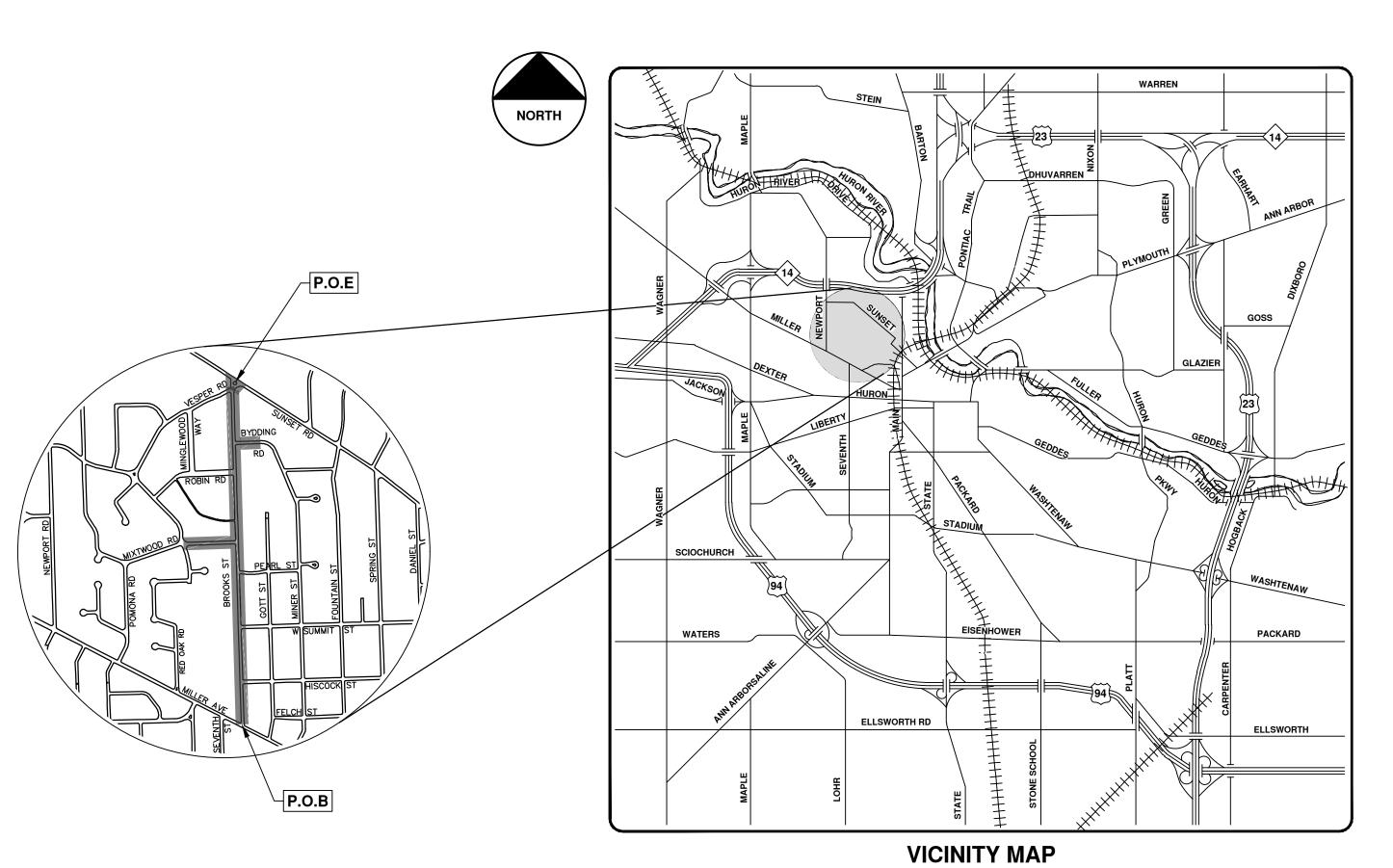
CITY OF ANN ARBOR ENGINEERING

PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CALL 811 OR

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

BROOKS STREET IMPROVEMENTS

RFP No. 23-09, FILE No. 2021016



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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.

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

3 / 13 / 2023



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
- 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
- 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
- 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.

- 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
- 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
- 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
- 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
- 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.
- PRIOR TO FINAL INSPECTION

1.11. ALL TEMP. SOIL EROSION CONTROL MEASURES MUST BE REMOVED, WITH ENGINEERS APPROVAL,

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

<u>AREA OF PROPOSED DISTURBANCE</u>

= 3.94 ACRES

PERMITS REQUIRED TO BE OBTAINED BY THE CONTRACTOR PRIOR TO THE REGINNING 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

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

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

PUBLIC UTILITIES	OWNER	CONTACT
WATER		
SANITARY		
STORM	CITY OF ANN ARBOR PUBLIC WORKS W.R. WHEELER SERVICE CENTER 4251 STONE SCHOOL ROAD	(734) 794–6350
FORESTRY	ANN ARBOR, MI 48108	
SIGNS SIGNALS STREET LIGHTS		MARK MORENO (734) 794-6361
PRIVATE UTILITIES	OWNER	CONTACT
GAS	DTE ENERGY 3150 E. MICHIGAN AVE, YPSILANTI TOWNSHIP, MI 48198	ROBERT CZAPIEWSK (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

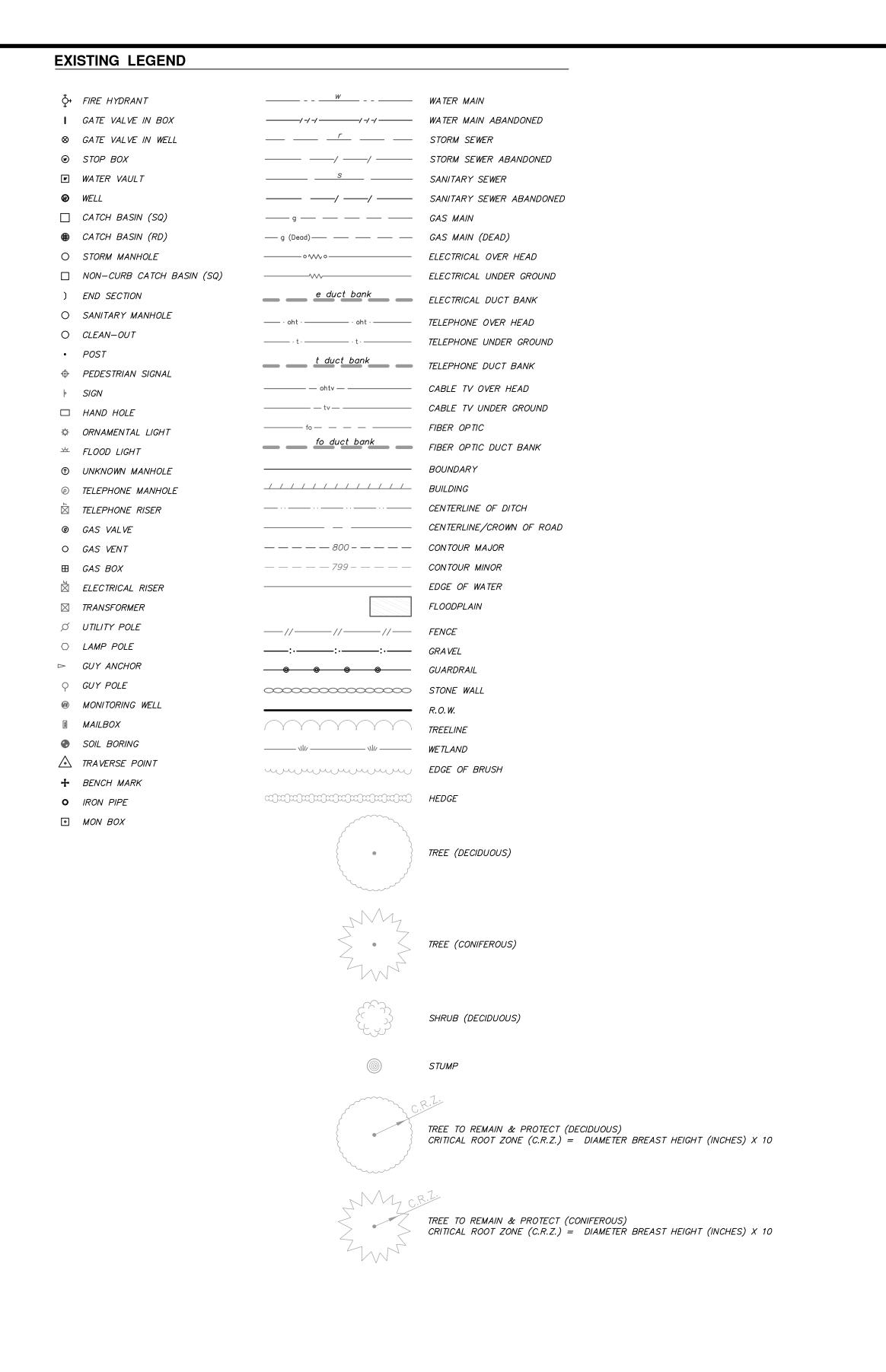
		BROOKS STREET IMPROVEMENTS
BM#	ELEV	DESCRIPTION
1	852.358	SET RR SPIKE ON NORTH SIDE OF UTILITY POLE, ON THE SOUTH SIDE OF MILLER, BETWEEN HOUSE #S 825 & 829
2	856.789	SET RR SPIKE ON EAST SIDE OF UTILITY POLE, ON THE WEST SIDE OF BROOKS, BETWEEN HOUSE #S 613 & 621
3	860.889	SET RR SPIKE ON EAST SIDE 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





ANN ARBOR

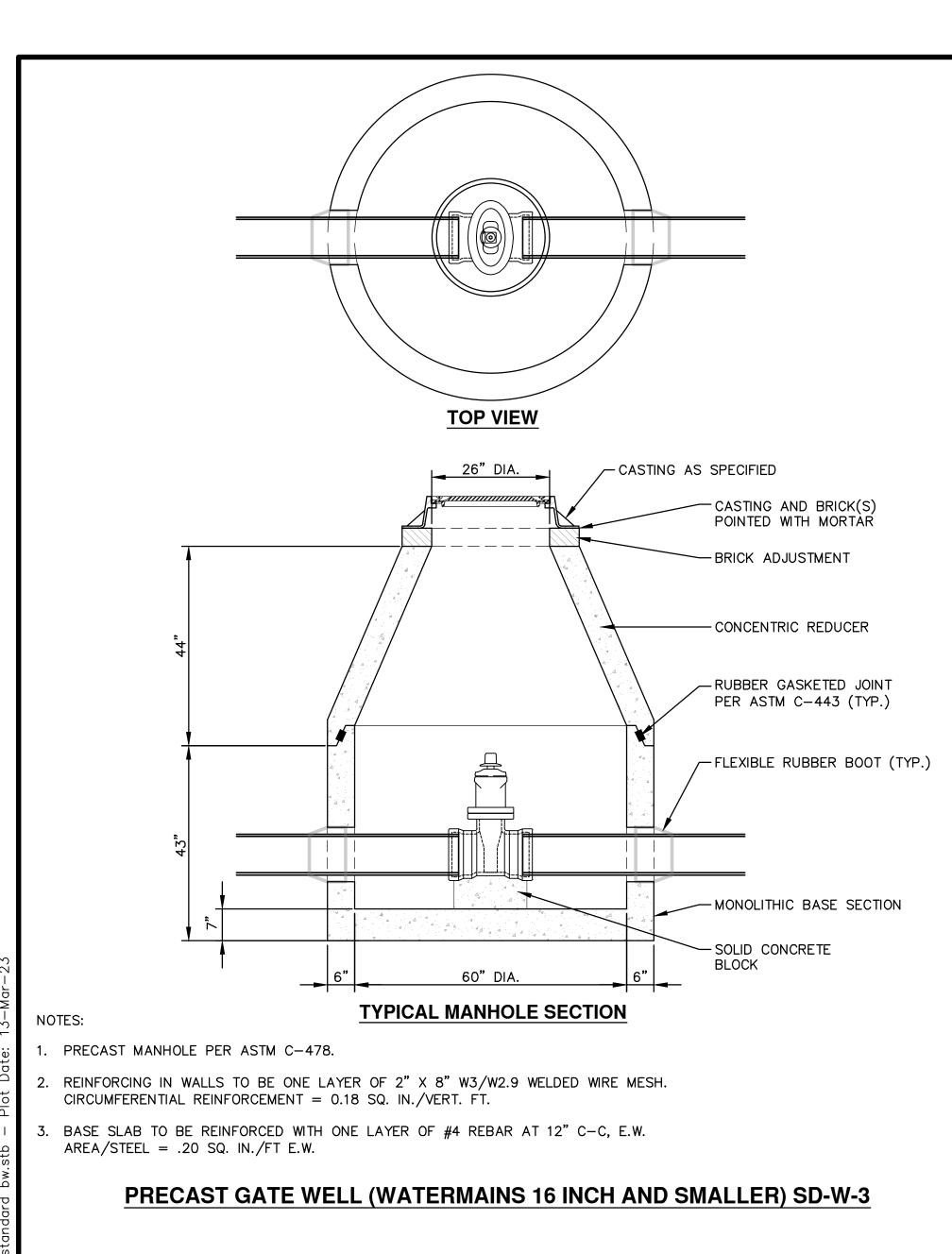
SHEET No.



PROPOSED LEGEND WATER MAIN →+ HYDRANT (PLAN) STORM SEWER SANITARY SEWER ▼ REDUCER WATER GATE VALVE WATER STOP BOX ELECTRICAL W WATER VAULT ----- CENTERLINE OF DITCH INLET DOUBLE INLET _____//_______________________FENCE INLET JUNCTION CHAMBER SILT FENCE ROUND CATCH BASIN STORM MANHOLE PROTECTIVE FENCE DRAIN ARROW • GUARDRAIL FLARED END SECTION LOT/UNIT SANITARY MANHOLE ---- --- TEMPORARY GRADING PERMIT BARREL -800 — CONTOUR MAJOR → SIGN - 799 --- CONTOUR MINOR PUSH BUTTON — — WATER EASMENT HAND HOLE ---- STORM EASEMENT — — — SANITARY EASEMENT R.O.W. LIMITS OF CONSTRUCTION LIMIT OF GRADING CONDITIONS OF CONTRACT STONE WALL DETECTABLE WARNING ASPHALT CONCRETE SIDEWALK TREE (DECIDUOUS) TREE (CONIFEROUS) TREE TO BE REMOVED (DECIDUOUS) TREE TO BE REMOVED (CONIFEROUS)

CITY OF ANN ARBOR

SHEET No.



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.

F	FITTINGS	PL	UG				BEN	NDS					
	I.D.		EE DSS	9	0°	4:	5°	22	2 <u>1</u> ° -2	11	<u>1</u> °	HYDF	RANT
	INCHES	W	Τ	W	Η	W	Τ	W	Η	W	Τ	W	Н
	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

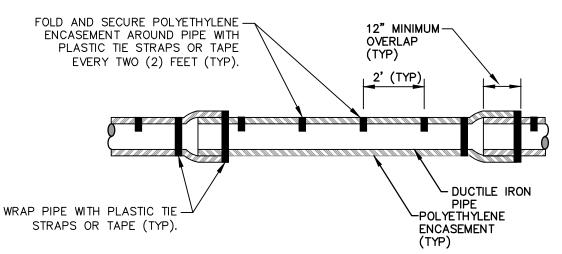
H = HEIGHT IN FEETUNDISTURBED SOLID GROUND

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

8"x6" REDUCER OR LARGER

AS SPECIFIED

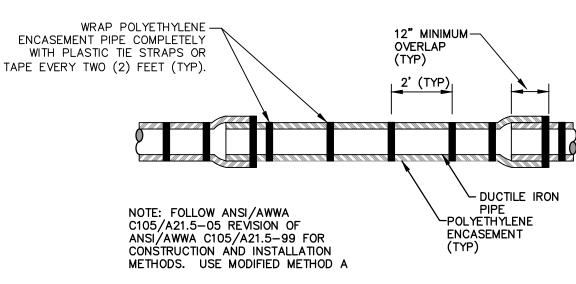
THRUST BLOCK SD-W-2



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

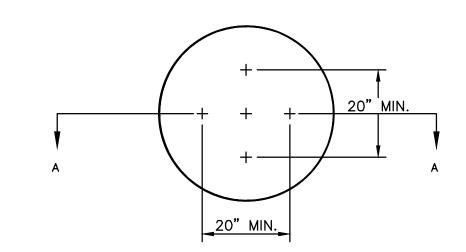
(DRY INSTALLATION)



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

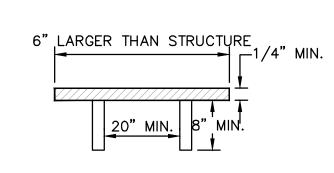
(WET INSTALLATION)

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



STREET IMPROVEM

SERVICES - ENGINEERING BROOKS

CITY OF ANN ARBOR - PUBLIC

SHEET No.

4 OF 57

ENCASE BOX WITH MIN. 6" CONC.——
PAD UNDER FLANGE (TO
UNDISTURBED SOIL). DO NOT
ALLOW CONCRETE TO EXTEND
AROUND IRON SO SEEPAGE INTO BOX MAY DRAIN.

MONUMENT BOX ADJUSTMENT

ROAD GRADE

SURVEY IRON -

NOTES:
1. GAS VALVE BOXES TO BE ADJUSTED BY THE GAS COMPANY. 2. PLACE CENTER OF [MONUMENT] BOX OVER SURVEY IRON.

WATER OR GAS VALVE BOX ADJUSTMENT

FINISH -ROAD

GRADE

PLACE CONCRETE TO -UNDISTURBED ROAD

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

— FINISH GRADE OF — PROPOSED WEARING

COURSE

LEVELING
COURSE
STREET BASE

PAVEMENT -

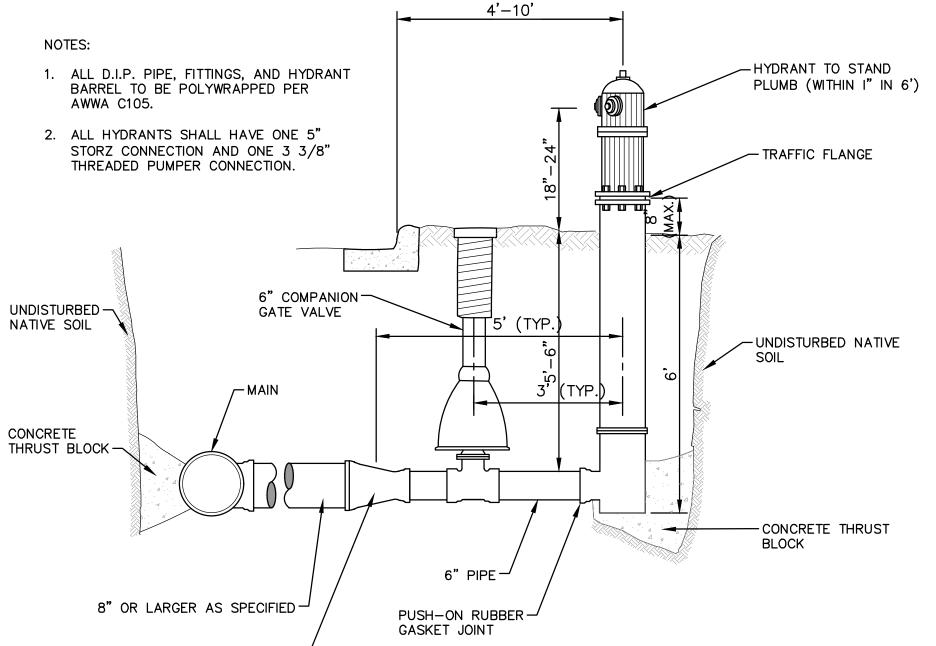
- GRADE 4500 -

MDOT 2020) CONCRETE

RAISE MANHOLE CASTING TO PROPOSED FINISHED STREET GRADE AFTER PLACEMENT OF LEVELING COURSE(S) AND PRIOR TO PLACING FINAL SURFACE COURSE.	POINTED SMOOTH OR GRADE 4500 (MDOT 2020) FINE BRUSH FINISH CONCRETE TO BE PLACED TO UNDISTURBED ROAD BASE.
MORTAR BED (TYP.)—	
	8"-12" MIN. PAVEMENT TOP COURSE
	PAVEMENT LEVELING COURSE PAVEMENT BASE COURSE
CAS RIN	CRETE BRICK OR 2" PRE— T CONCRETE ADJUSTMENT S SET IN MORTAR—— (1)—MAX.(3) COURSES

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



FIRE HYDRANT ASSEMBLY SD-W-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.

NOTES: 1. FRONT EDGE OF INLET CASTING SHALL BE FLUSH WITH FRONT EDGE OF GUTTER (EDGE-OF-METAL)

24" MIN..

CASTING AS SPECIFIED -

MORTAR BED & FILLET -

MIN.(1)-MAX.(3) BRICK

CASTING TO FINISH

GRADE OR PRECAST

ADJUSTMENT RINGS.

PRECAST MANHOLE -

RUBBER GASKETED JOINT -

PER ASTM C-443 (TYP.)

SECTIONS

6" WRAPPED -

EDGE DRAIN

MORTAR JOINT -

OUTLET PIPE -

AS SPECIFIED

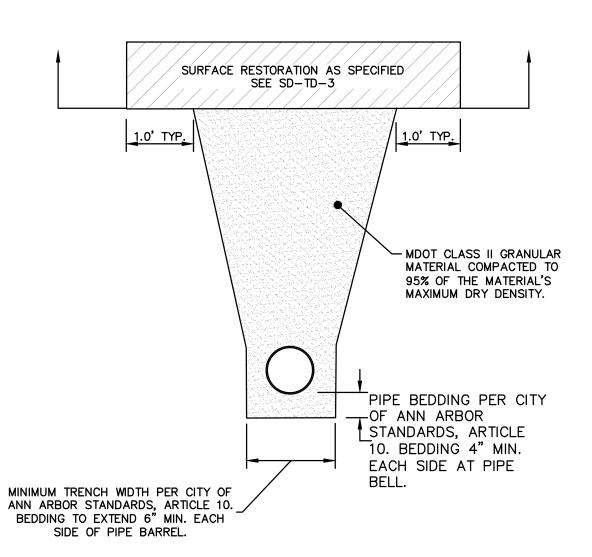
MORTAR JOINT -

PRECAST INTEGRAL -BASE SHALL BE MINIMUM 3000 PSI REINFORCED CONCRETE MIN. 4" 21AA STONE BEDDING AND BACKFILL UNDER BASE AND TO FIRST PIPE JOINT

COURSES FOR ADJUSTING

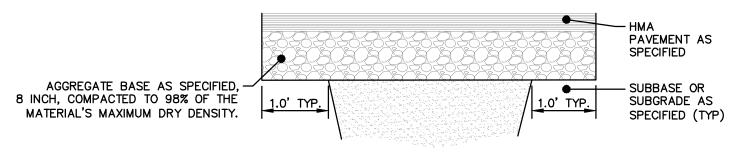
PRECAST LOW POINT INLET SD-ST-4

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



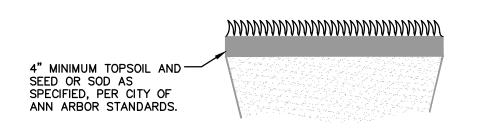
- 1. ALL TRENCH EXCAVATION, BEDDING, BACKFILLING, AND SURFACE RESTORATION SHALL COMPLY WITH CITY OF ANN ARBOR STANDARDS, ARTICLE 10.
- 2. TRENCH DETAILS SHOW TYPE OF BACKFILL AND TRENCHING REQUIREMENTS ONLY.
- 3. ALL TRENCHING TO CONFORM TO ALL APPLICABLE M.I.O.S.H.A. AND CITY STANDARDS.
- 4. PIPE BEDDING 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



1.0' MIN.

MORTAR JOINT -

OUTLET PIPE-

AS SPECIFIED

MORTAR JOINT -

(EDGE-OF-METAL)

_24" DIA.

2. FRONT EDGE OF INLET CASTING SHALL BE FLUSH WITH FRONT EDGE OF GUTTER

PRECAST SINGLE INLET SD-ST-3

- MDOT GRADE 3500 CONCRETE AS SPECIFIED.

THICKNESS AND WIDTH TO MATCH REQUIREMENTS OF CITY STANDARDS FOR SIDEWALKS OR DRIVE APPROACHES, WHICHEVER IS APPLICABLE.

1.0' MIN.

SUBBASE OR

SUBGRADE AS

SPECIFIED (TYP)

1. MAY BE USED WITH SINGLE OUTLET PIPE AND SINGLE INLET PIPE.

MIN. 4" 21AA STONE-

BEDDING AND BACKFILL

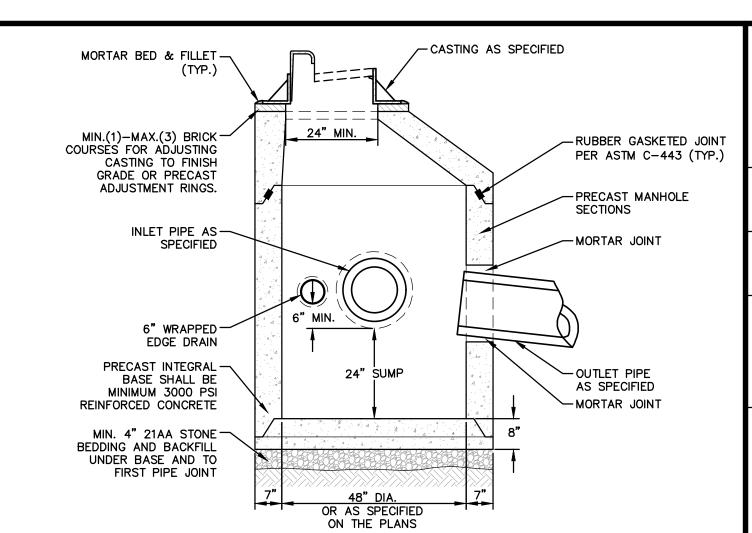
UNDER BASE AND TO

FIRST PIPE JOINT

TOP VIEW

UTILITY TRENCH SURFACE RESTORATION SD-TD-3B

SIDEWALK OR DRIVE APPROACH



NOTES:

- CASTING AS SPECIFIED

CASTING AND BRICK(S)

POINTED WITH MORTAR

PRECAST INTEGRAL BASE

REINFORCED CONCRETE

SHALL BE MINIMUM 3000 PSI

BRICK COURSES FOR ADJUSTING

CASTING TO FINISH GRADE OR

PRECAST ADJUSTMENT RINGS.

-MIN.(1)-MAX.(3)

-6" WRAPPED

EDGE DRAIN

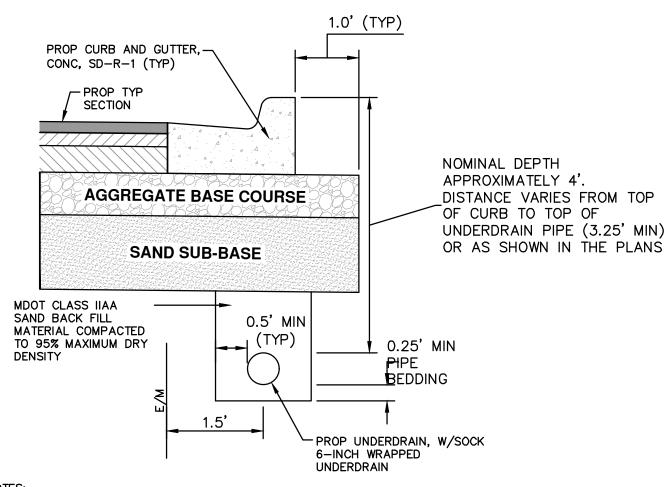
1. FRONT EDGE OF INLET CASTING SHALL BE FLUSH WITH FRONT EDGE OF GUTTER (EDGE-OF-METAL)

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	К	7045Z W/ TYPE M1 GRATE	R-3031-B W/ TYPE S GRATE
BARRIER CURB LOW POINT INLET FRAME AND COVER	К	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 NOTES:		8360	N/A

*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



- 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

IMPROVEMENT

- ENGINEERING

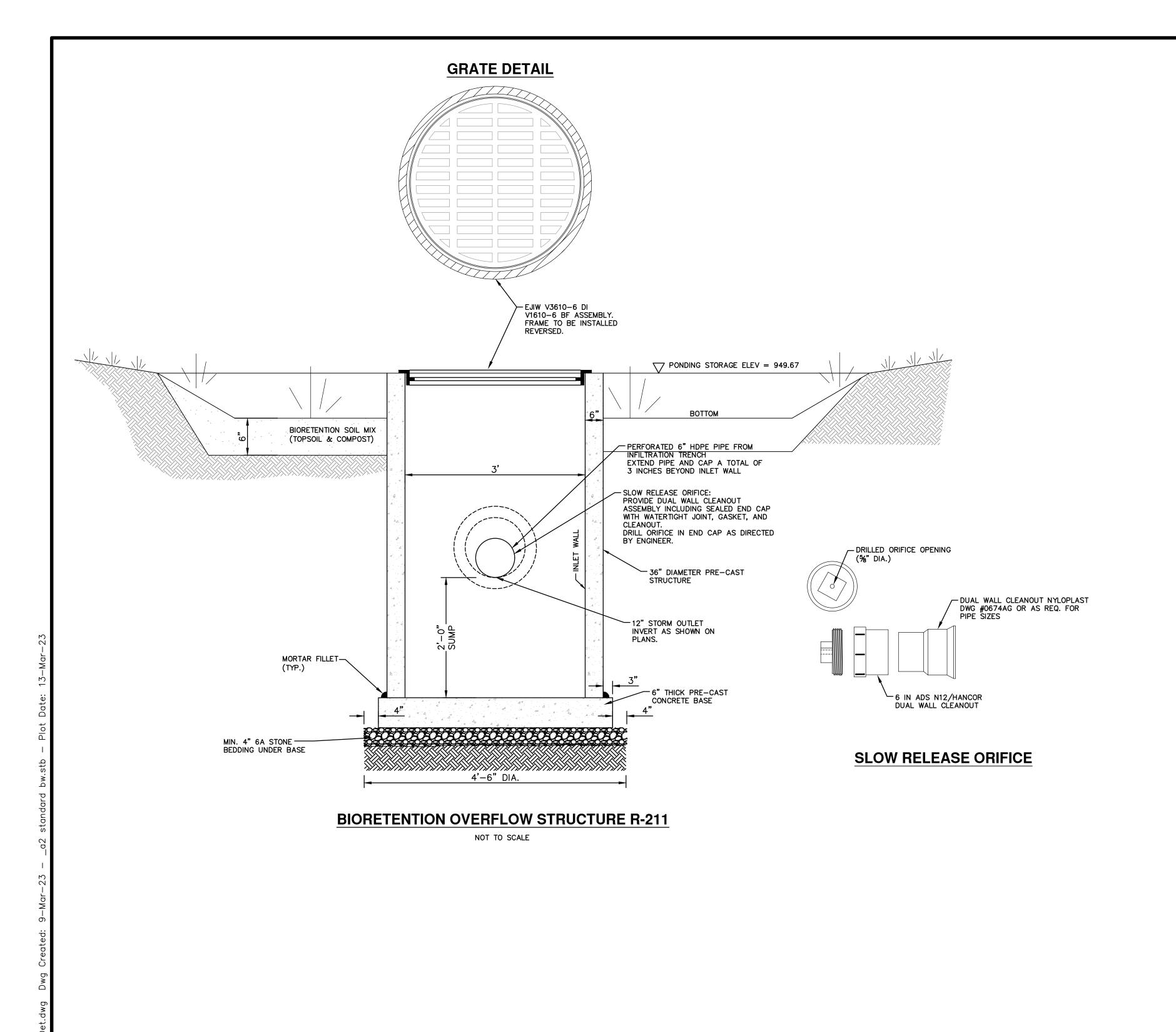
SERVICES

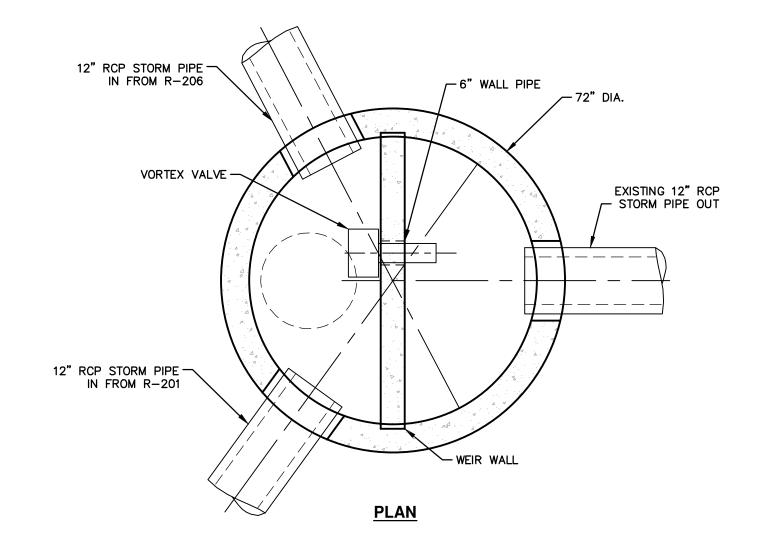
STREET BROOKS

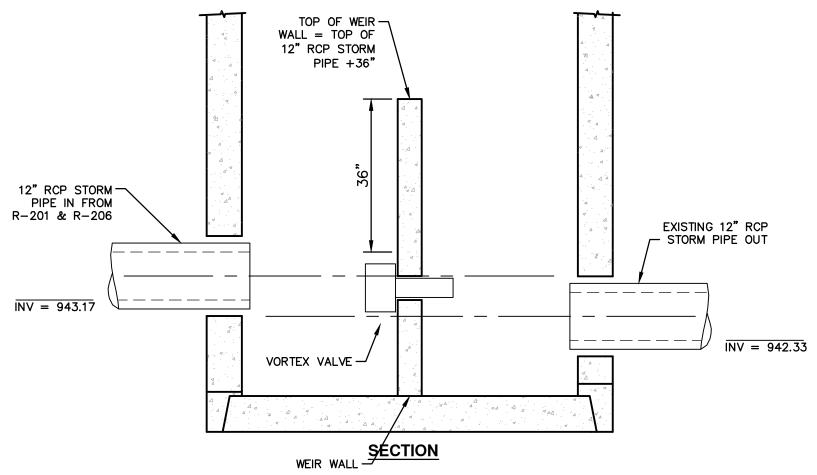
ARBOR ANN

CITY

SHEET No. 5 OF 57

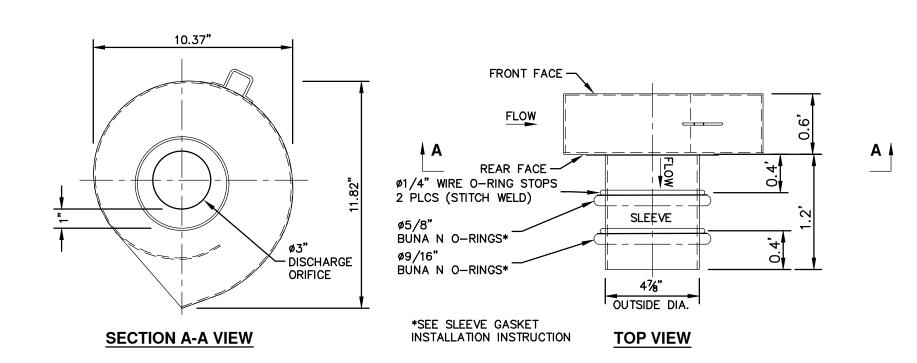






UNDERGROUND STORMWATER STORAGE **CONTROL STRUCTURE, R-200**

NOT TO SCALE



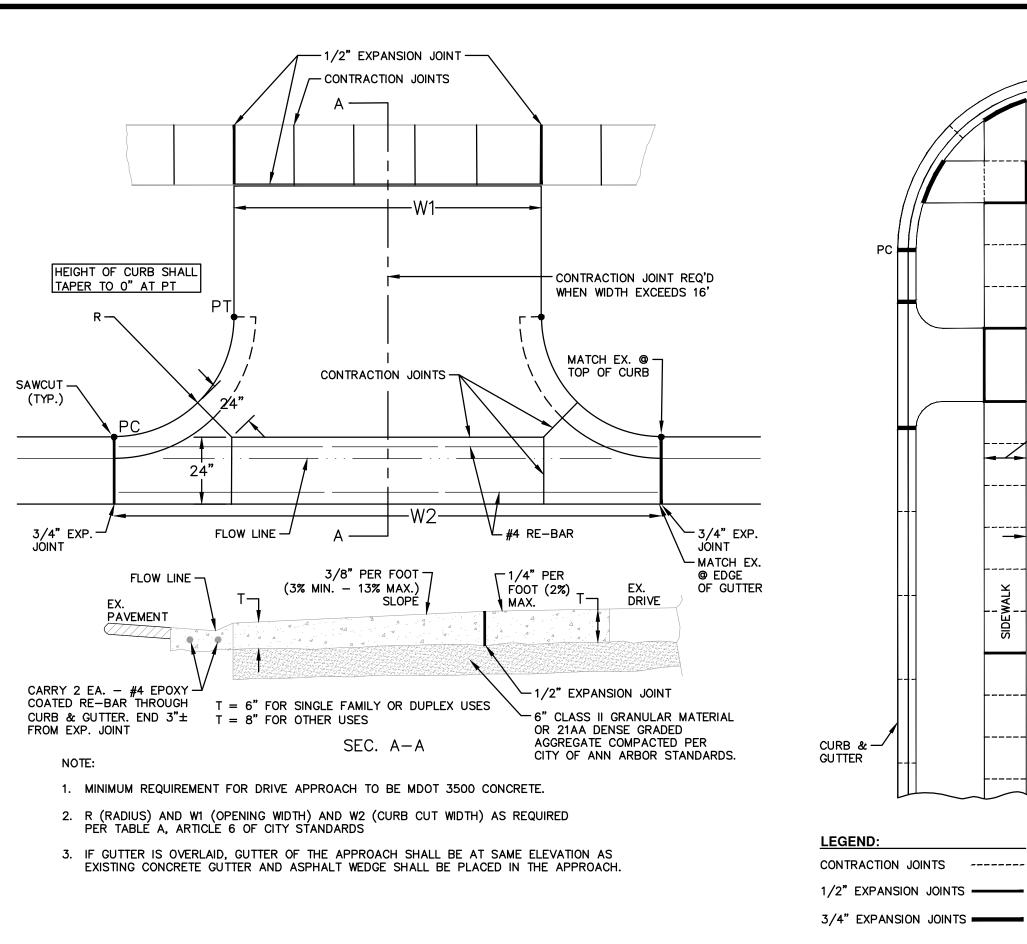
- ALL WELDS CONTINUOUS UNLESS NOTED OTHERWISE.
- 2. MATERIALS:
 12 GA. 304L STAINLESS STEEL
 (1) Ø5/8" AND (1) Ø9/16" BUNA N, 50 DUROMETER O-RINGS.
- MANUFACTURE HOUSING AND BYPASS DOOR AND ASSEMBLE PER DRAWING "2 mm FLUIDIC-AMP FABRICATION DETAILS FA1012-FA2023 HOUSING AND INLET"
- DISCHARGE ORIFICE 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**

	R - PUBLIC SERVICES - ENGINEERING BROOKS STREET IMPROVEMENTS BIORETENTION OVERFLOW STRUCTURE DETAIL	CITY OF ANN ARBOR PUBLIC SERVICES 301 EAST HURON STREET P.O. BOX 8647 ANN ARBOR, MI 48107-8647 734-794-6410 www.a2gov.org	00 1	00 OUT TO BID	3-13-23 CC/DF/KB	CC/DF/KB	C/DF/KB TB	Know what's below.
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CITY OF ANN ARBOR

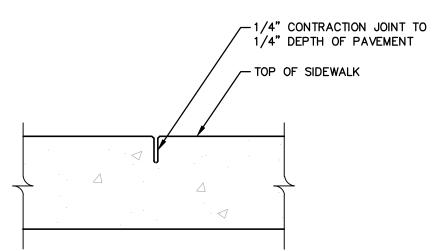
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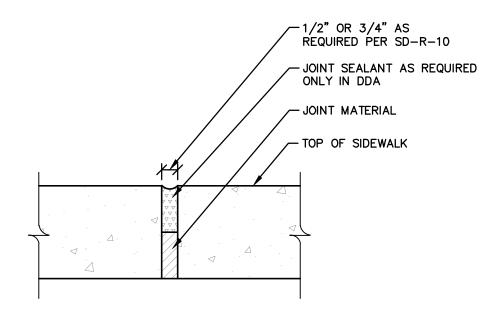


CONC. DRIVEWAY 5' OR AS SPECIFIED -**---**R.O.W. 1. MAXIMUM SPACING BETWEEN ALL EXPANSION JOINTS SHALL BE 300'. 2. EXPANSION JOINTS SHALL BE PLACED IN SIDEWALKS AT THE EXTENSION OF ALL PROPERTY LINES. CURB & -GUTTER 3. EXPANSION JOINTS SHALL BE PLACED AT DRIVE APPROACH EDGES PER STANDARD DRIVE APPROACH DETAILS SD-R-6 THROUGH SD-R-8. 4. EXPANSION JOINTS SHALL BE PLACED AT SIDEWALK INTERSECTIONS AS

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.





1. SIZE AND SHAPE OF INLET FILTER SHALL MATCH THE STRUCTURE.

REBAR FOR BAG —

REMOVAL FROM INLET

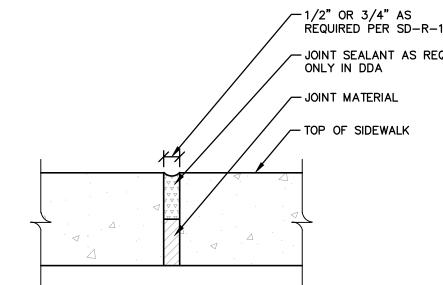
OVERFLOW OPENINGS -

INLET FILTER -

DUMP LOOPS -

2. WHERE CONDITIONS WARRANT, THE FILTER SHALL BE MADE WITH AN OIL-ABSORBENT FILTER WITH A WOVEN PILLOW INSERT.

CONTRACTION JOINT



TYPE M DRIVE APPROACH FOR ASPHALT STREETS WITH BARRIER CURB

7. CONTRACTION JOINTS FOR SIDEWALKS SHALL BE PLACED AT ALL SLAB 3/4" EXPANSION JOINTS -ENDS (5' TYPICAL, 3' MINIMUM TO 7' MAXIMUM).

5. EXPANSION JOINTS SHALL BE PLACED IN CURB AND GUTTER AT PC

6. CONTRACTION JOINT SPACING FOR CURB AND CURB SHALL BE 10'

AND PT OF INTERSECTION RADII.

STANDARD AND 8' MINIMUM.

SIDEWALK AND CURB & GUTTER JOINT SPACING

SIDEWALK CURB AND GUTTER JOINTS

EXPANSION JOINT

INLET PROTECTION

- CURB OPENING

- DEBRIS BARRIER

SIDE VIEW INSTALLED

INSTALLATION DETAIL

EXPANSION-

RESTRAINT

OBSTRUCT

OUTLET PIPE

─ 1%-2% EXTENSION CONCRETE - CLASS II GRANULAR MATERIAL OR 21AA DENSE GRADED AGGREGATE COMPACTED PER CITY OF ANN ARBOR STANDARDS.

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

NOTES:

1. STANDARD SIDEWALK WIDTH SHALL BE 5'.

4. MINIMUM SIDEWALK THICKNESS (T1) SHALL BE 4"

2. STANDARD SLAB LENGTH SHALL BE 5'.

FOR ALL OTHER USES.

3. MINIMUM SLAB LENGTH SHALL BE 3' AND MAXIMUM 7'.

5. SIDEWALK THICKNESS (T1) SHALL BE INCREASED AT DRIVE APPROACHES TO 6" FOR SINGLE OR DUPLEX USES AND TO 8"

6. MINIMUM BASE THICKNESS (T2) SHALL BE 4".

7. MINIMUM BASE THICKNESS (T2) SHALL BE INCREASED TO 6" AT

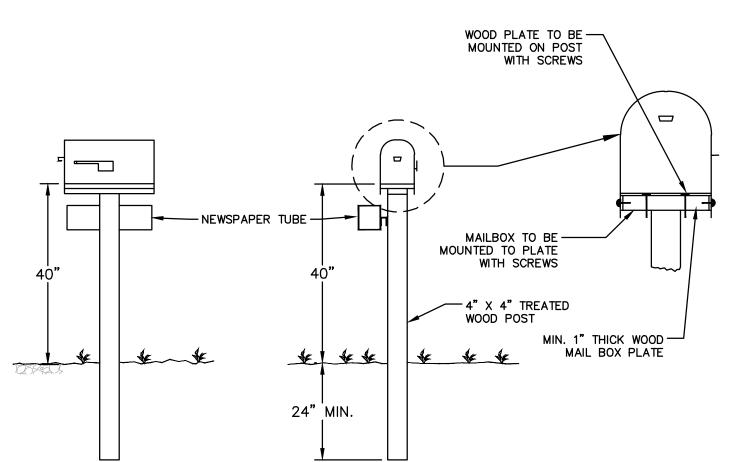
8. NATIVE MATERIAL IS ACCEPTABLE FOR SIDEWALK REPLACEMENT IF BASE IS STABLE AND FREE OF ORGANIC OR DELETERIOUS

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.

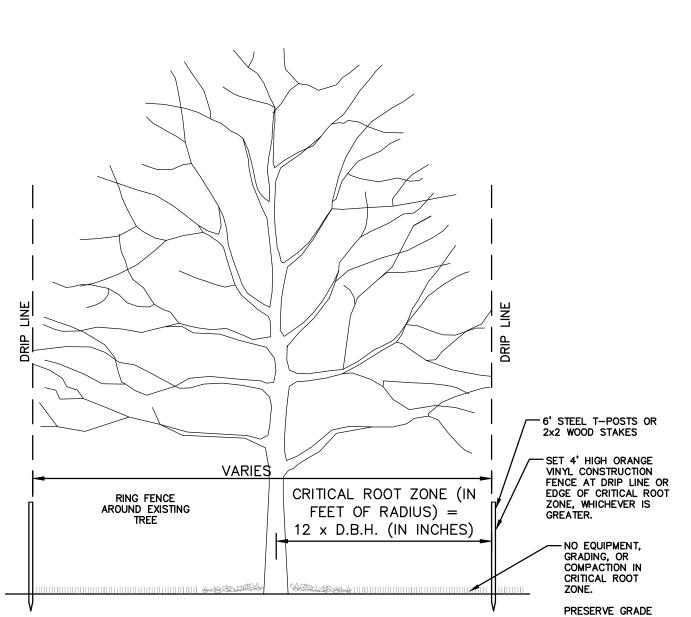
11. EXPANSION AND CONTRACTION JOINTS SHALL BE PROVIDED PER SIDEWALK AND CURB & GUTTER JOINT SPACING DETAIL SD-R-10.

SIDEWALK CROSS SECTION



- 1. 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.

INSTALLATION AND RELOCATION



TREE PROTECTION

PAVEMENT CÖATED BARS FT LAP ON 24" STANDARD

1. BARRIER CURB AND GUTTER ON ASPHALT STREETS SHALL CONFORM TO THIS DETAIL.

BARRIER CURB AND GUTTER

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

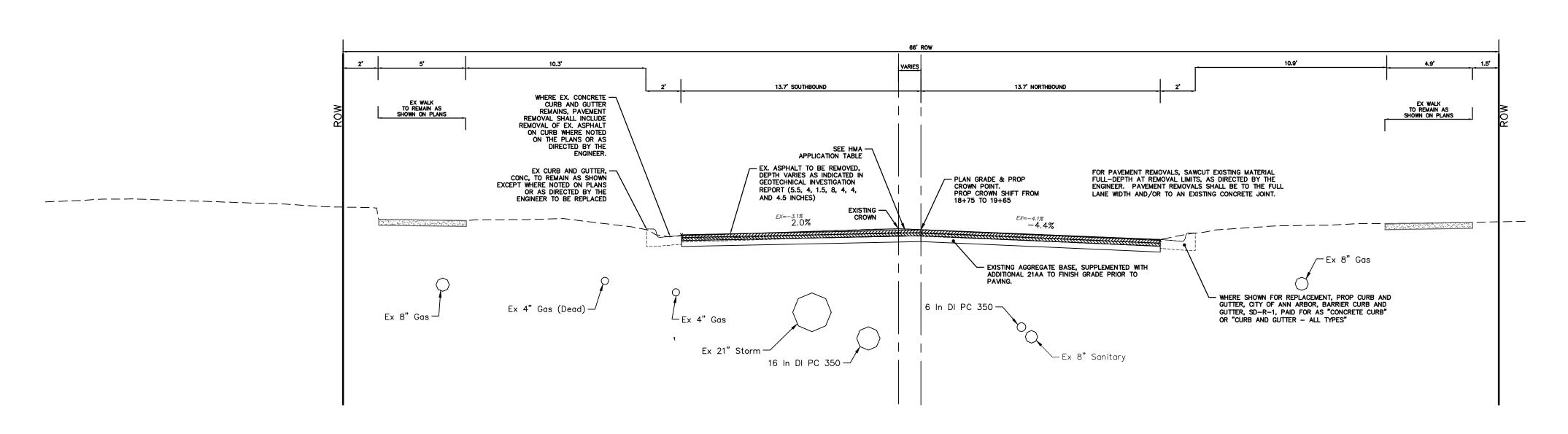
MAILBOX NEWSPAPER TUBE

CITY

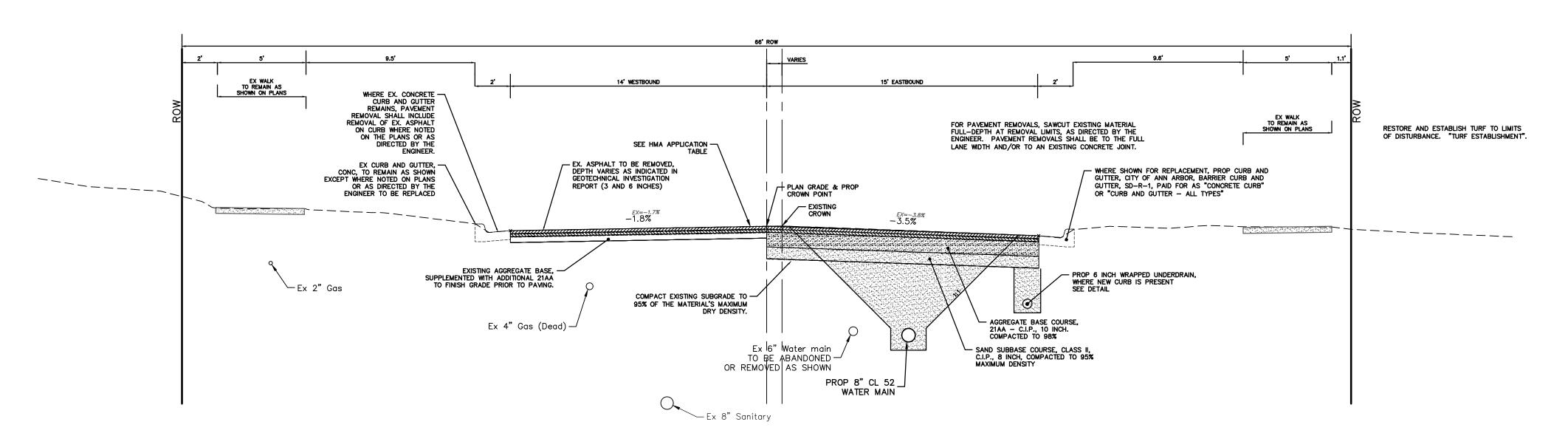
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SHEET No. 7 OF 57



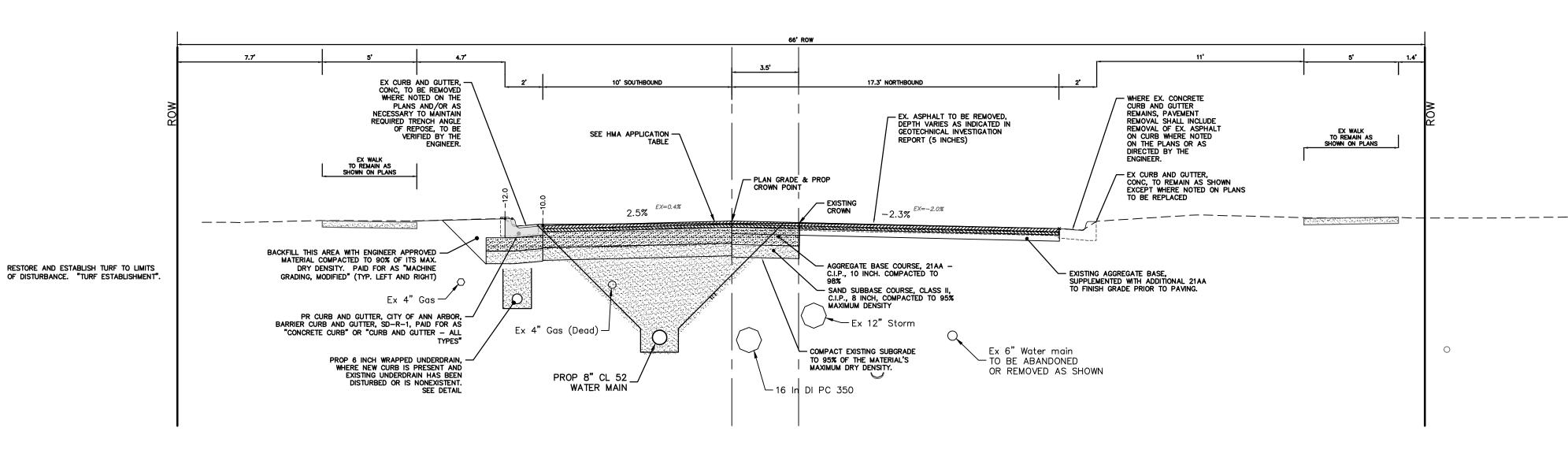
BROOKS STREET TYPICAL SECTION POB TO STA. 19+65 N.T.S.



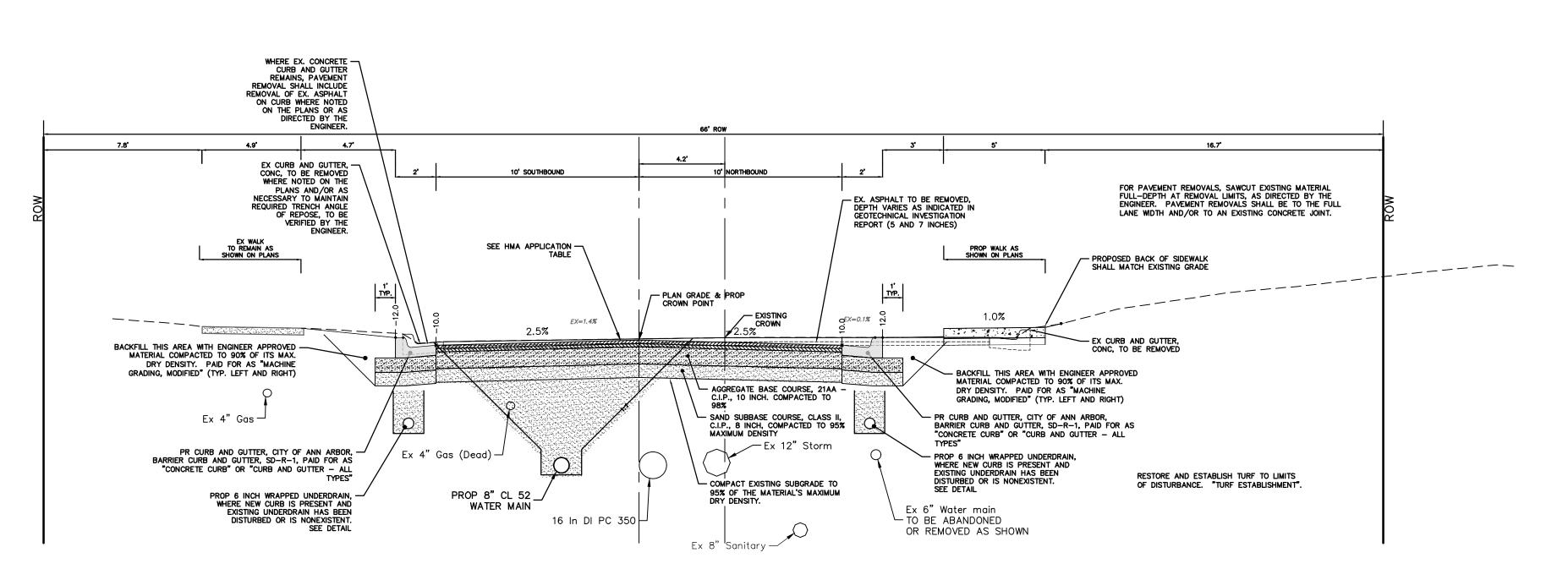
MIXTWOOD ROAD TYPICAL SECTION POB TO STA. 5+54 N.T.S.

		НМА А	PPLICATION ES	TIMATE		
IMA PAVEMENT	нма міх	RATE OF APPLICATION	THICKNESS (INCHES)	AWI (MIN.)	BINDER	LOCATION/NOTES
MA PAVEMENT OP	5EL	165 LB/SYD	1.5	220 (TOP)	PG 58-28	TOP COURSE
MA PAVEMENT EVELING	4EL	275 LB/SYD	2.5	-	PG 58-28	LEVELING COURSE
MA PPROACH TOP	4EL	220 LB/SYD	2	220 (TOP)	PG 58-28	TOP COURSE
MA .PPROACH EVELING	4EL	220 LB/SYD	2	-	PG 58-28	LEVELING COURSE
AND ATCHING	4EL	0 - 440 LB/SYD			PG 58-28	HAND PATCHING
SPHALT MULSION	SS-1h	0.05 - 0.15 GAL/SYD	-	-	-	INCLUDE IN COST OF HMA ITEM

		CC/DF/KB TB Know what's below.	DRAWN CHECKED Call before you dig.
		3-13-23	DATE
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IN ARBOR - PUBLIC SERVICES - ENGINEERING	BROOKS STREET IMPROVEMENT		MIXI WOOD RD & BROOKS STITPICAL SECTION



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

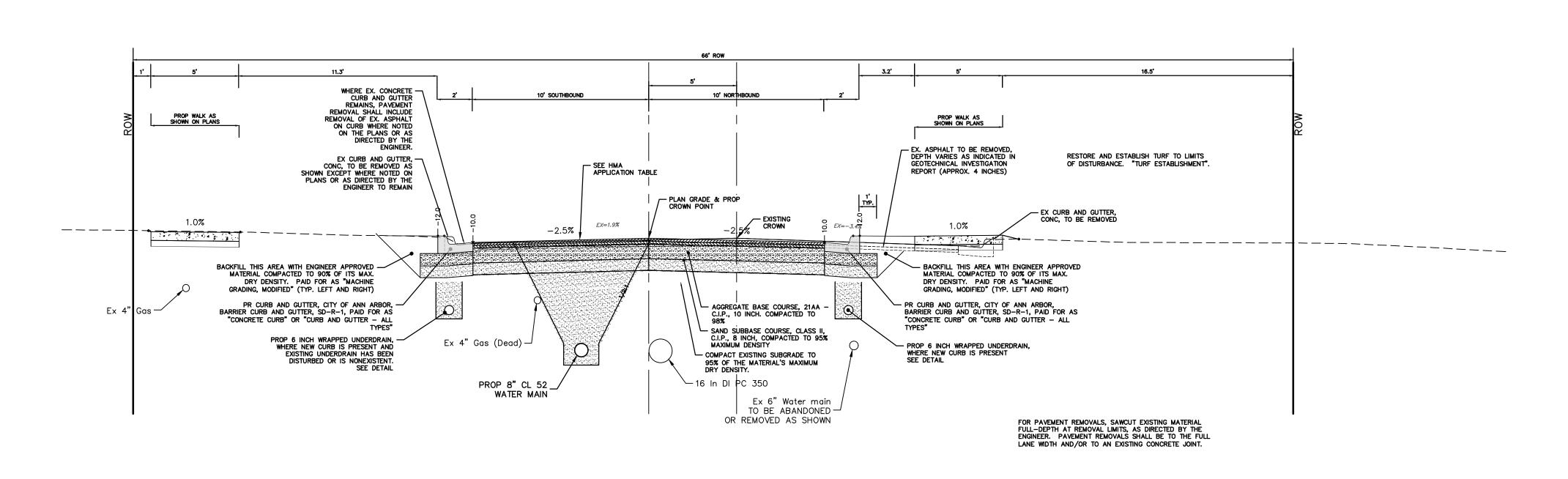


BROOKS STREET TYPICAL SECTION STA. 22+90 TO STA. 27+80 N.T.S.

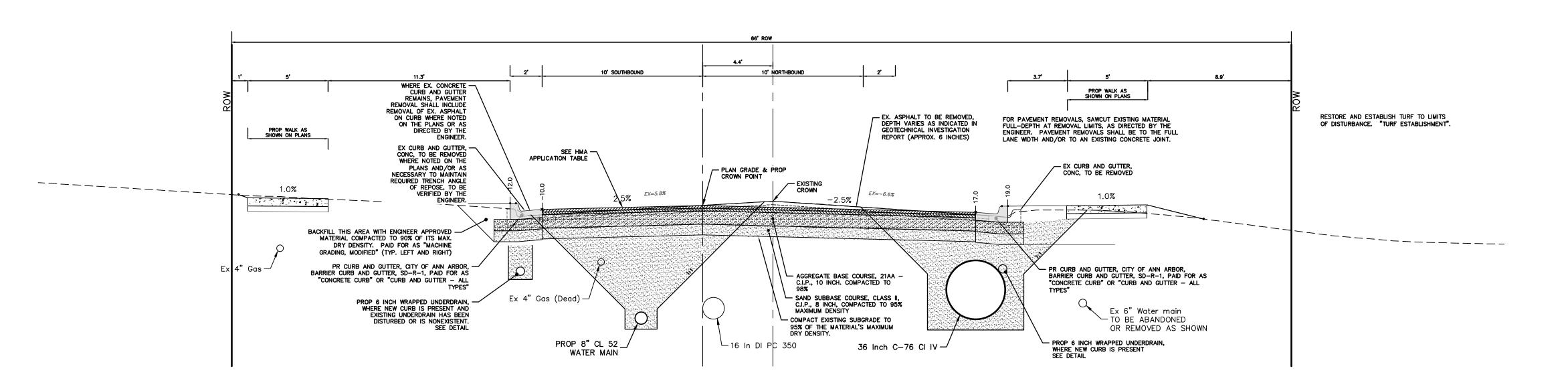
STREET IMPROVEMENTS SERVICES - ENGINEERING BROOKS

- PUBLIC CITY OF ANN ARBOR

SHEET No.



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

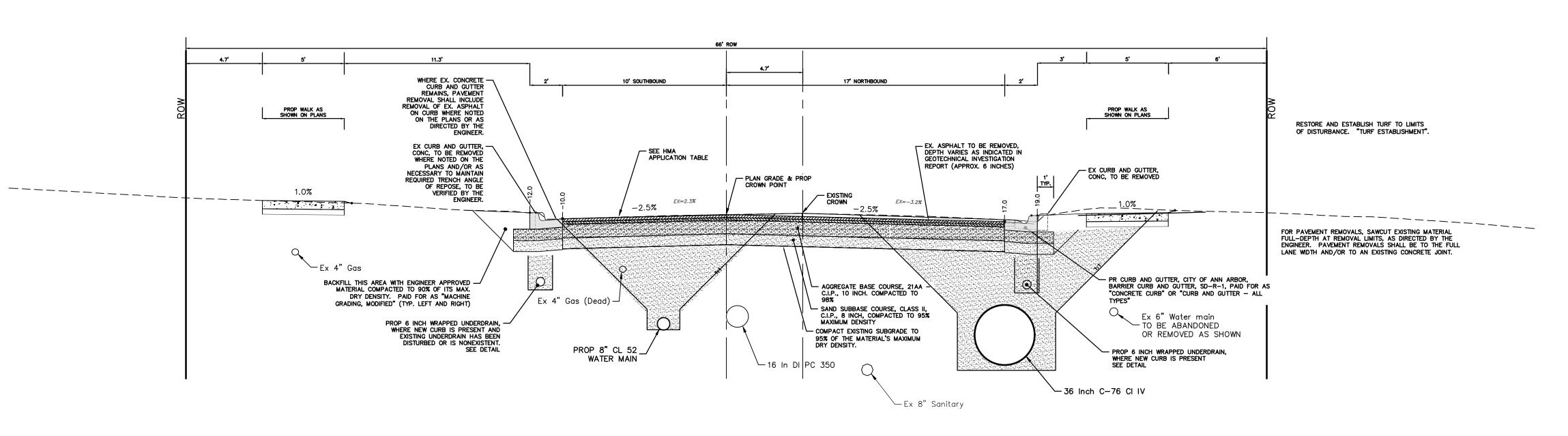


BROOKS STREET TYPICAL SECTION STA. 29+60 TO STA. 30+55 N.T.S.

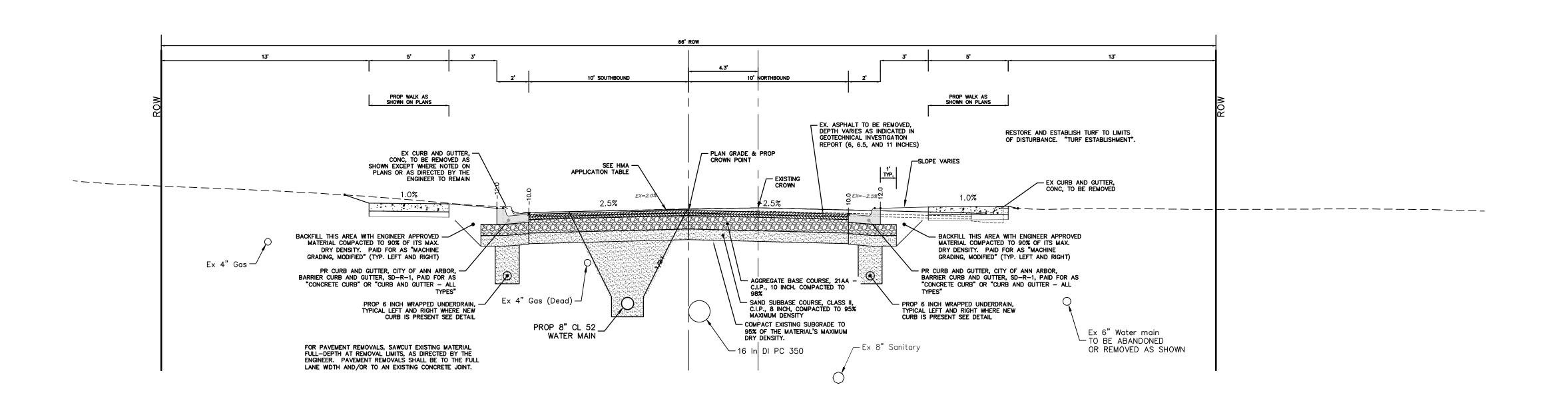
STREET IMPROVEMENTS SERVICES - ENGINEERING BROOKS CITY OF ANN ARBOR - PUBLIC SHEET No.

10 OF 57

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



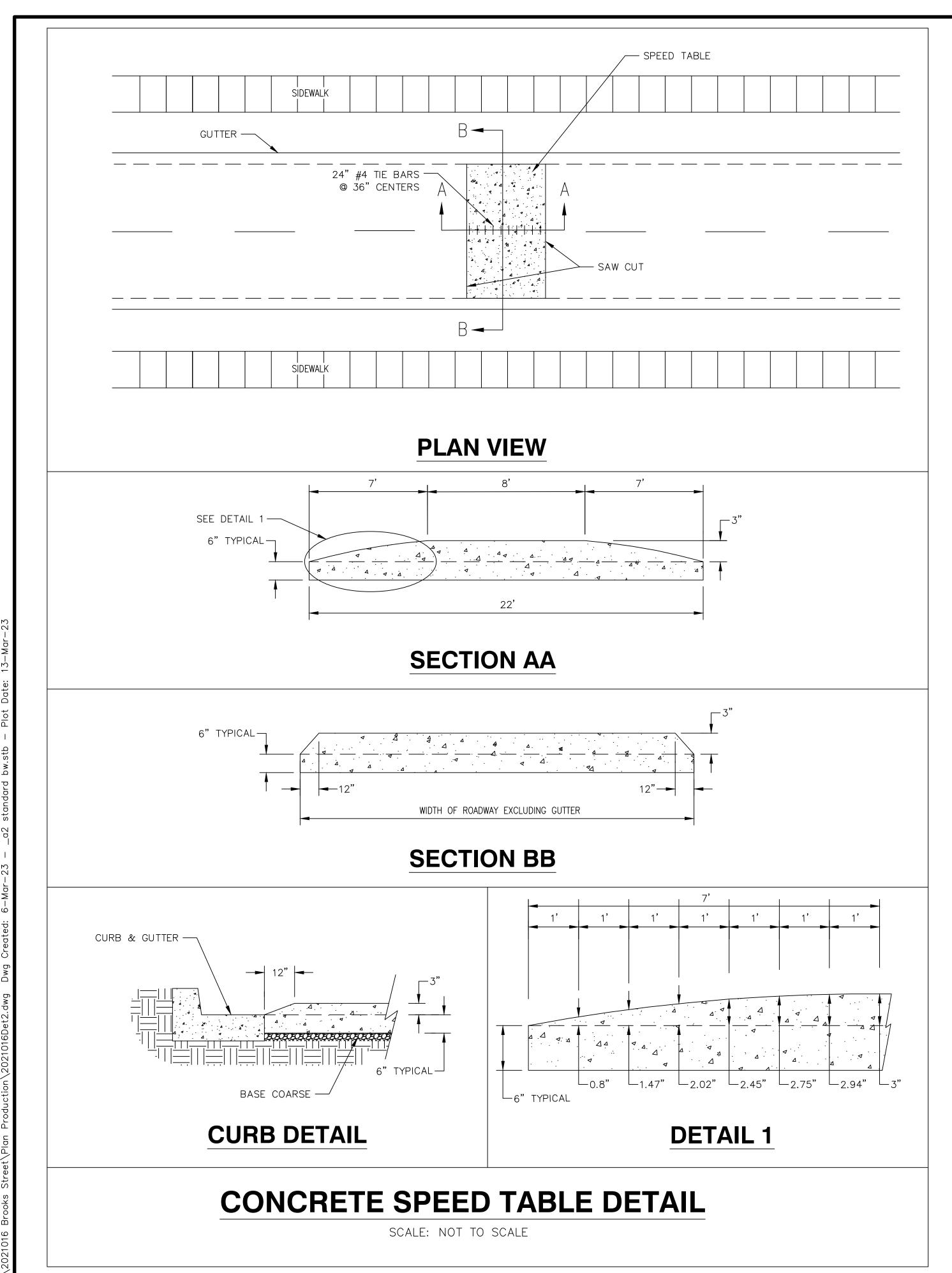
BROOKS STREET TYPICAL SECTION STA. 31+85 TO POE N.T.S.

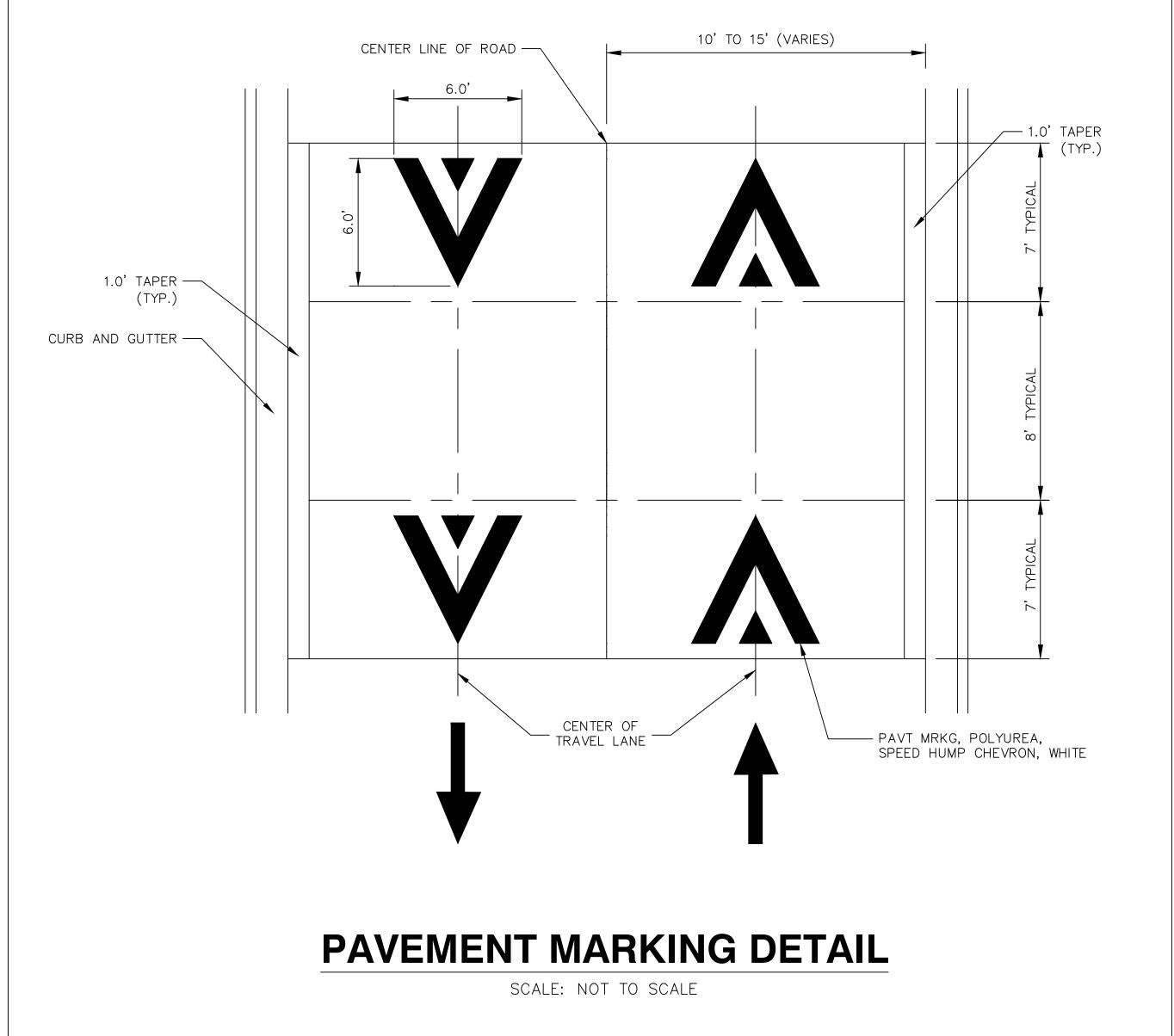
STREET IMPROVEMENTS BROOKS

SERVICES - ENGINEERING

CITY OF ANN ARBOR - PUBLIC

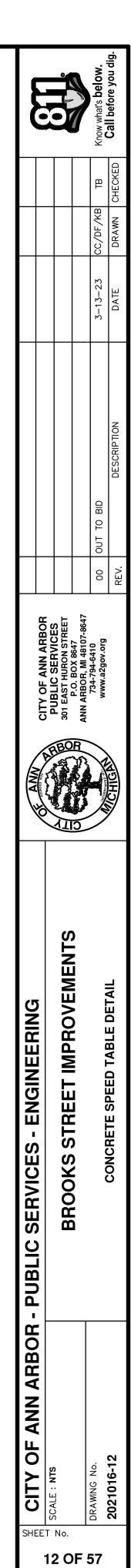
SHEET No. 11 OF 57

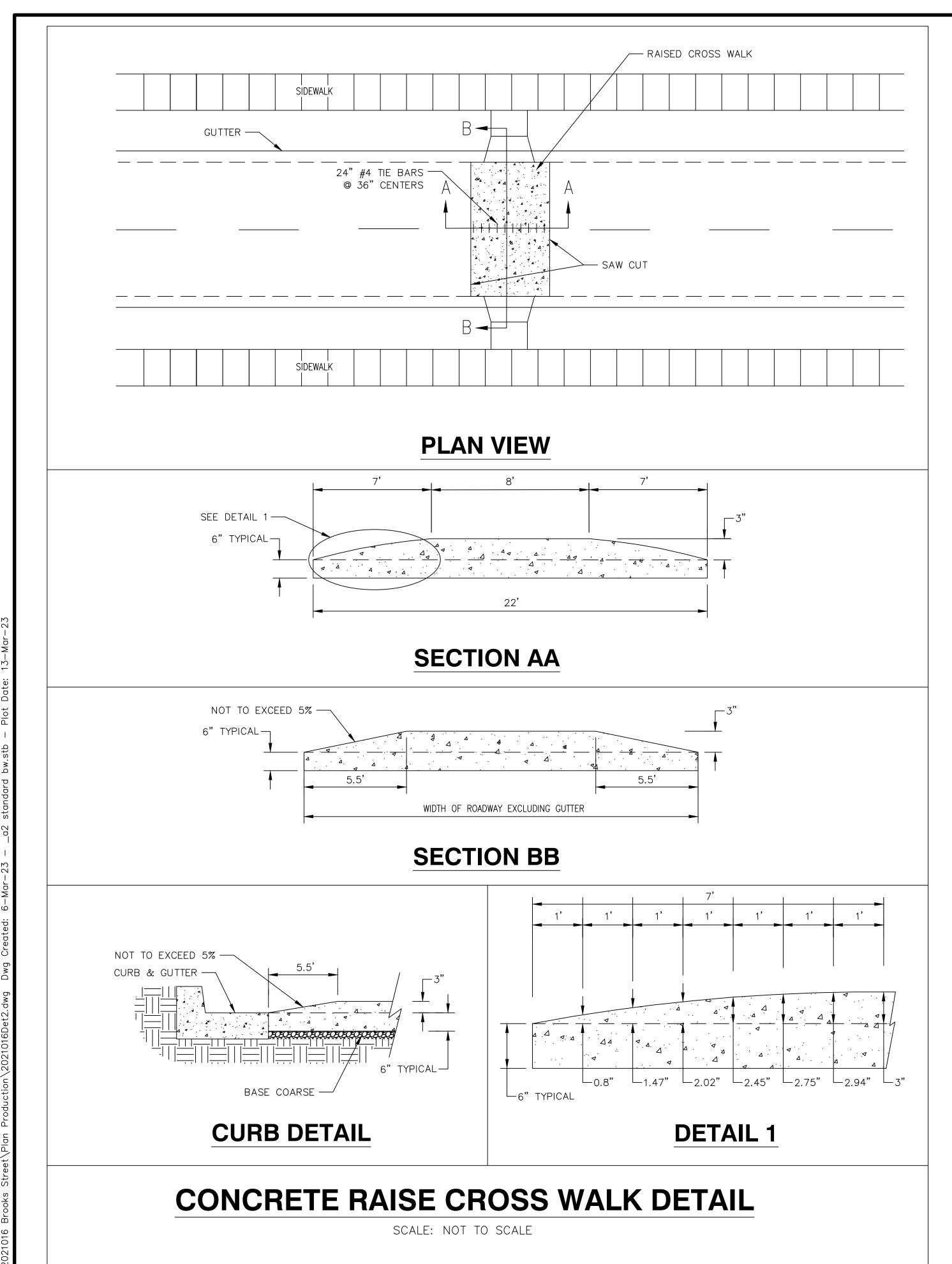


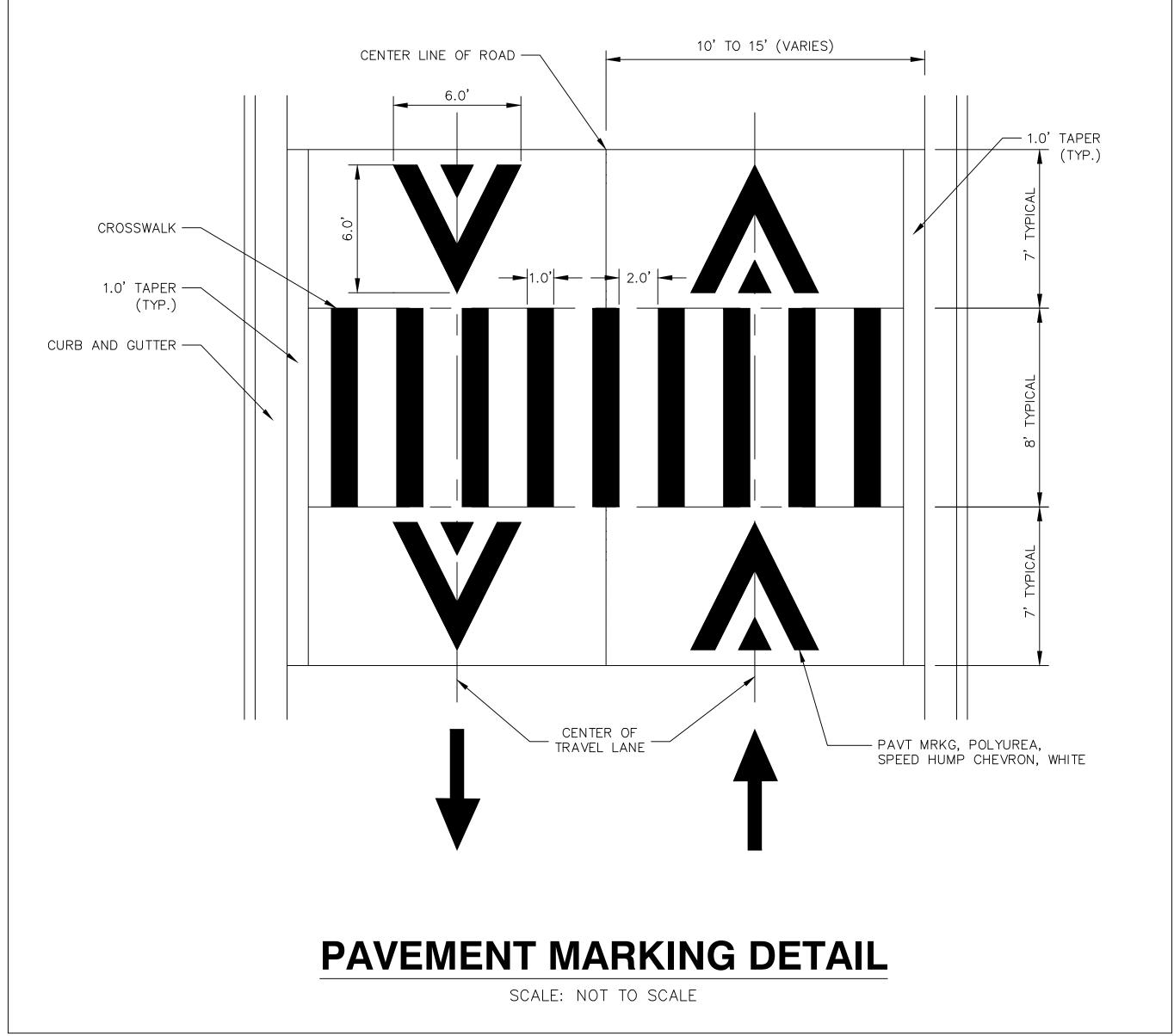


GENERAL NOTES

- 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.

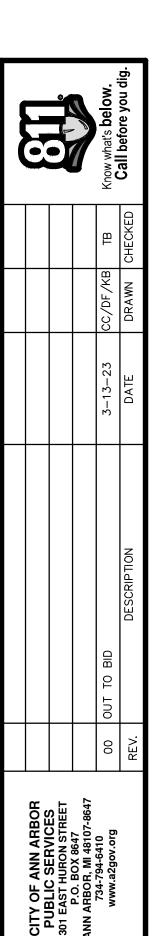






GENERAL NOTES

- 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.

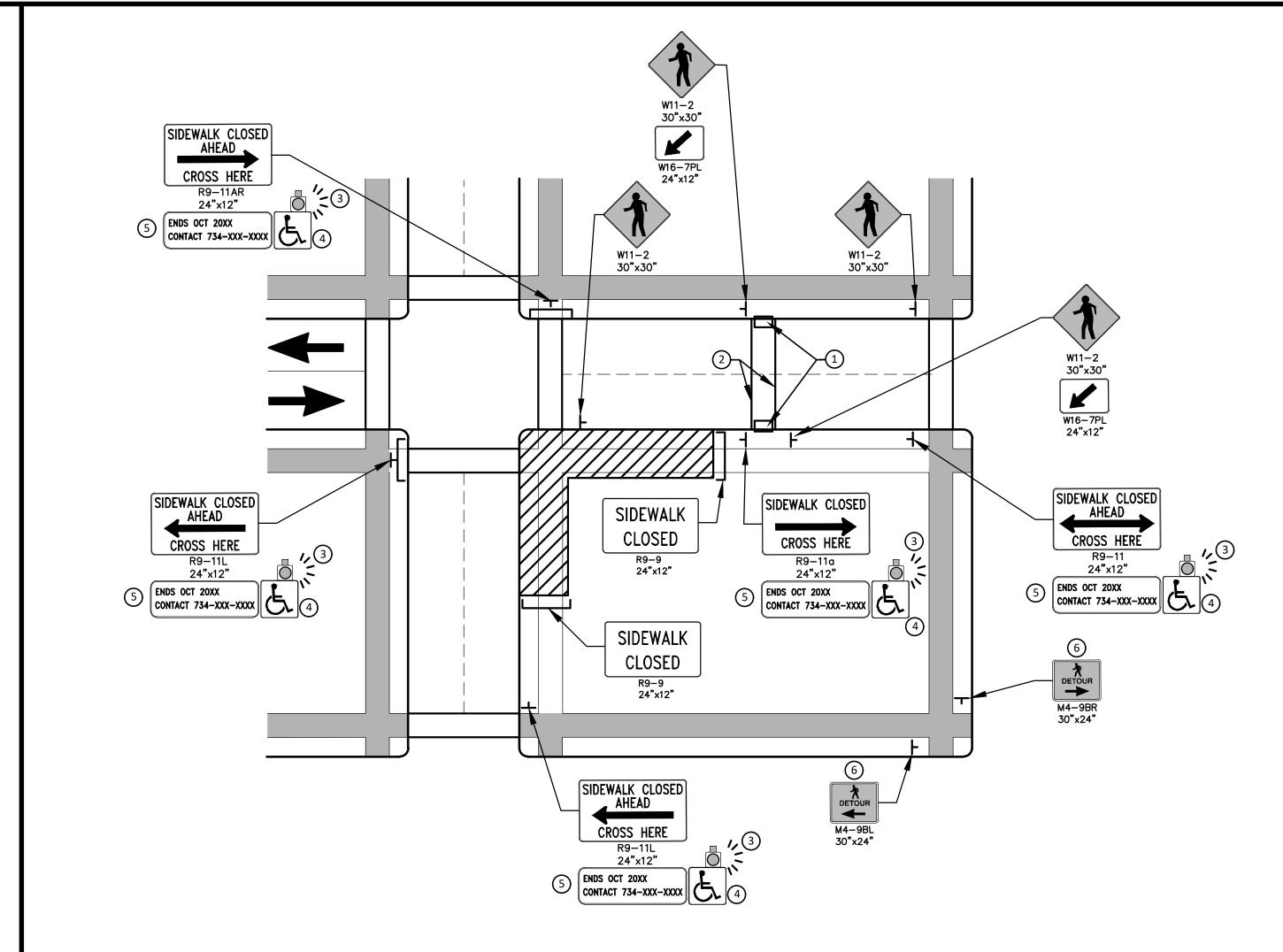


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SERVICES - ENGINEERING

CITY OF ANN ARBOR - PUBLIC

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:

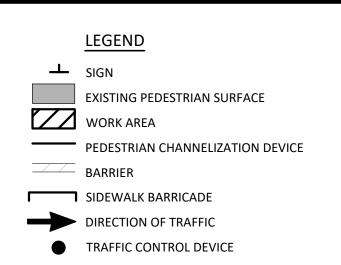
- 1. PROVIDE THE APR ON THE SAME SIDE OF THE STREET AS THE DISRUPTED ROUTE UTILIZING BYPASSES.
- 2. WHERE IT IS NOT FEASIBLE TO PROVIDE A SAME SIDE APR, PROVIDE A DETOUR ON THE OTHER SIDE OF THE STREET.
- 3. WHERE IT IS NOT FEASIBLE TO PROVIDE AN APR ON THE OTHER SIDE OF THE ROADWAY, PROVIDE AN APR DETOUR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

SPECIFIC NOTES

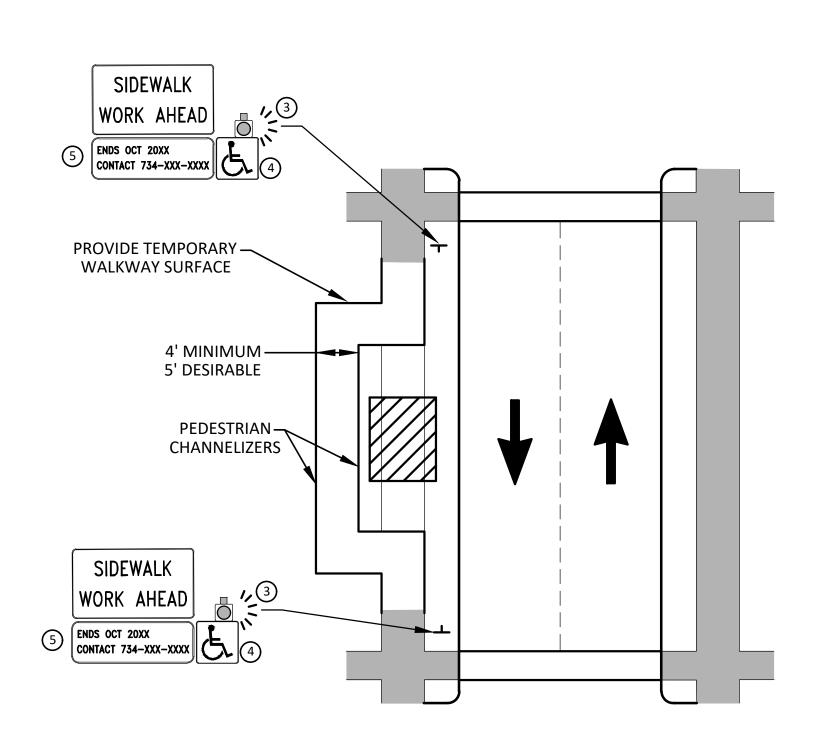
- 1 TEMPORARY CURB RAMPS WITH DETECTABLE WARNINGS.
- (2) TEMPORARY PAVEMENT MARKING FOR CROSSWALK LINES.
- 3 AN APPROVED AUDIBLE MESSAGE DEVICE OR TACTILE MESSAGE SHALL BE PROVIDED FOR SIGHT-IMPAIRED PEDESTRIANS.
- THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHOULD BE DISPLAYED WHEN ANY WALKWAY THROUGH 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

- 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."



IMPROVEMENT E STRE BROOKS ARB

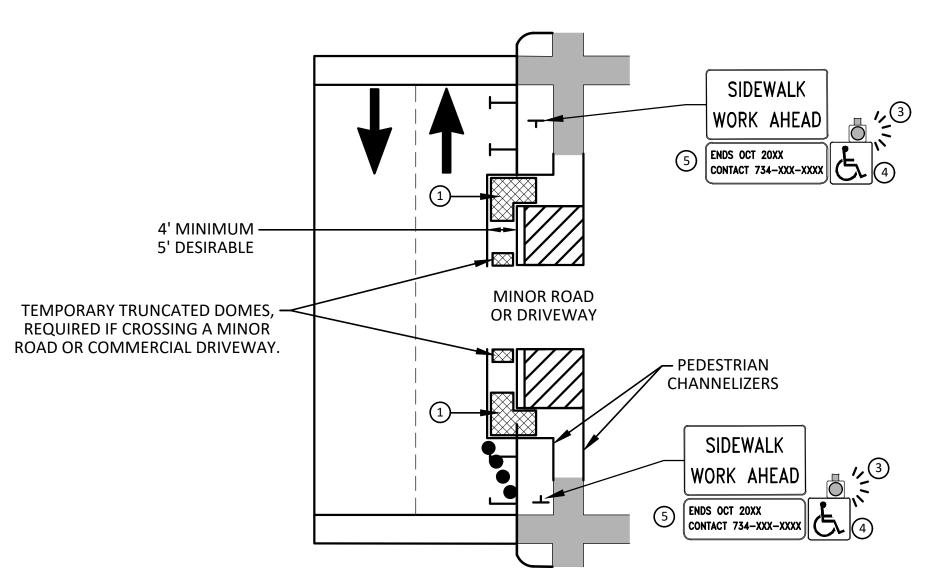


BYPASS ON ADJACENT AVAILABLE

RIGHT OF WAY

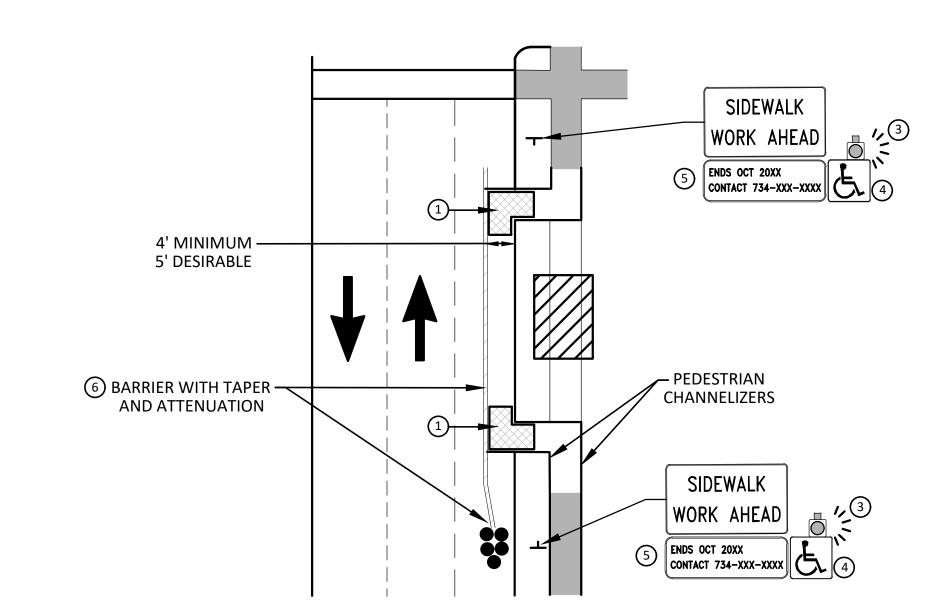
BYPASS TYPE A

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.

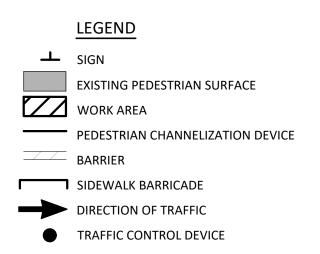
WHEN THE ENGINEER DETERMINES THAT THE CONTRACTOR'S OPERATIONS OR PLACEMENT OF TRAFFIC CONTROL DEVICES HAS CAUSED A SITUATION THAT THE VISIBILITY OF A TRAFFIC CONTROL DEVICE IS REDUCED ENOUGH TO CREATE A HAZARD, THE TRAFFIC CONTROL DEVICES SHALL BE DELINEATED WITH FLAGS OR OTHER ENGINEER-APPROVED DEVICES 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.

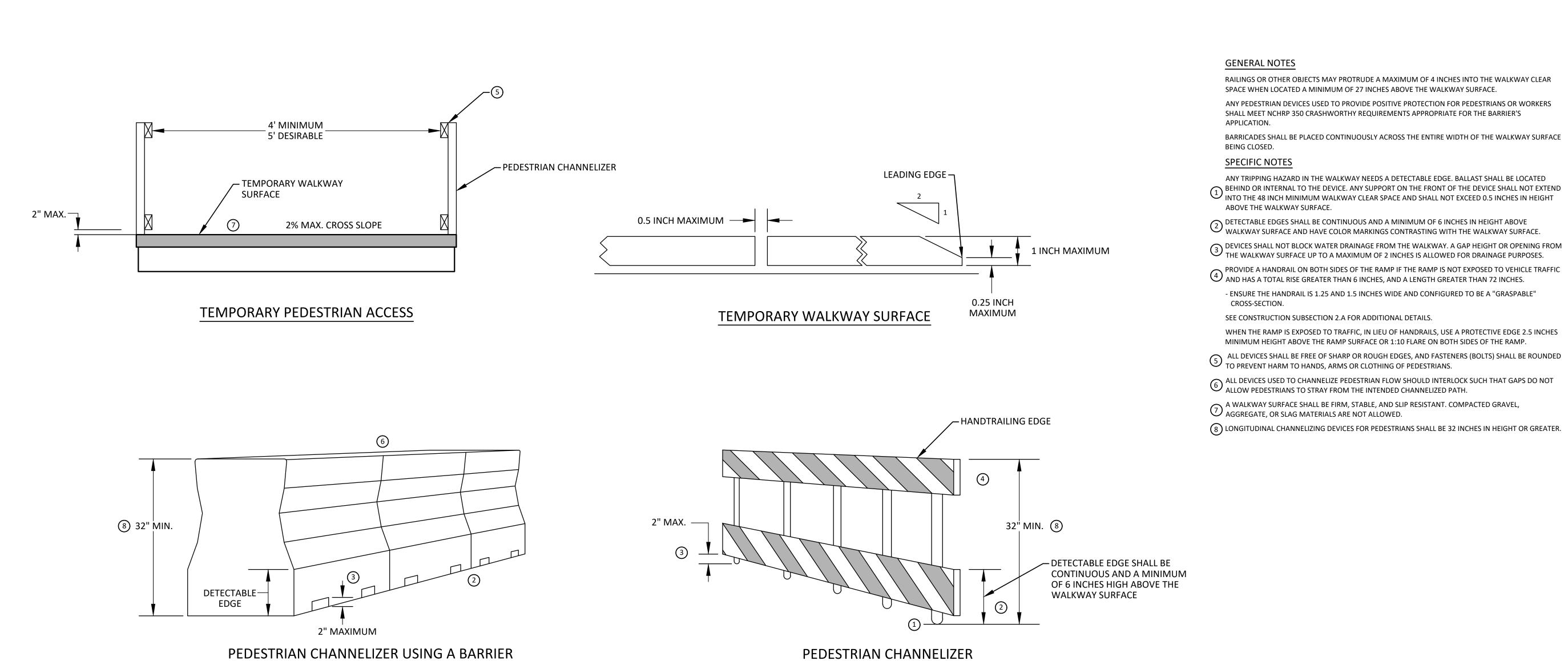
SPECIFIC NOTES

- 1 TEMPORARY CURB RAMPS WITH DETECTABLE WARNINGS.
- 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.
- 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.

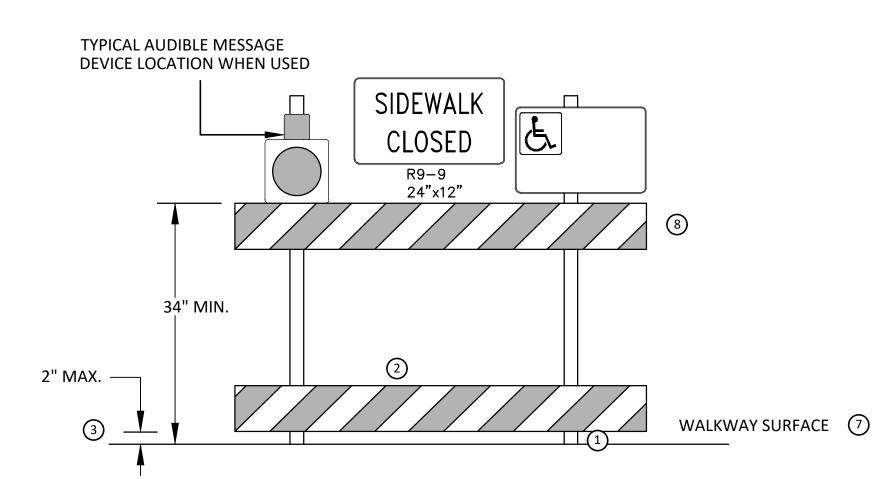


STREET IMPROVEMENT SERVICES BROOKS **ANN ARBOR**

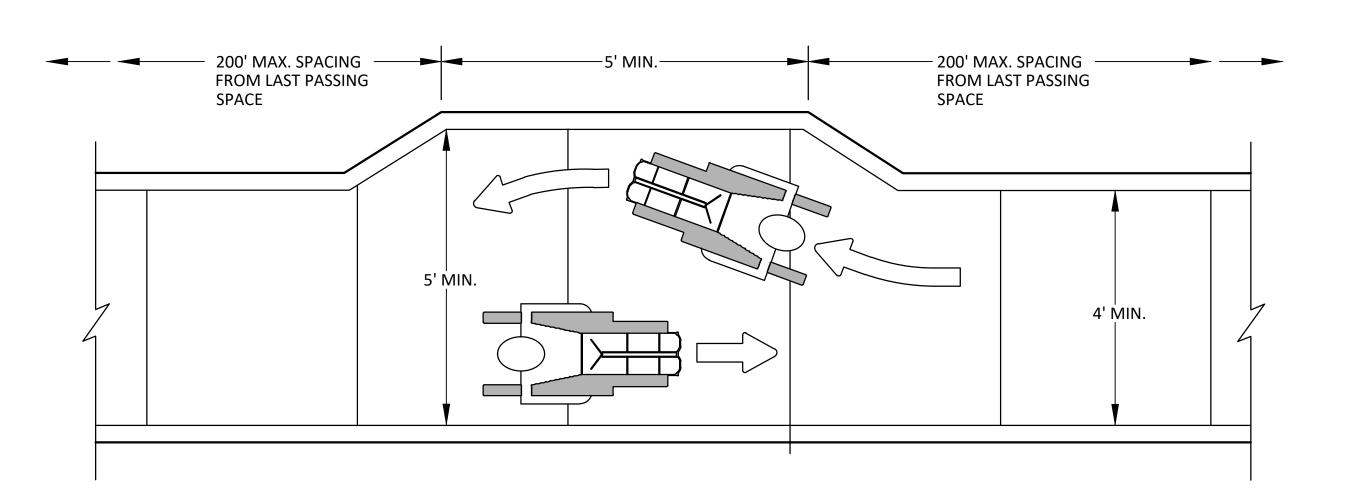
BROOKS STREET IMPROVEMENTS CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING



(MINIMUM REQUIREMENTS)



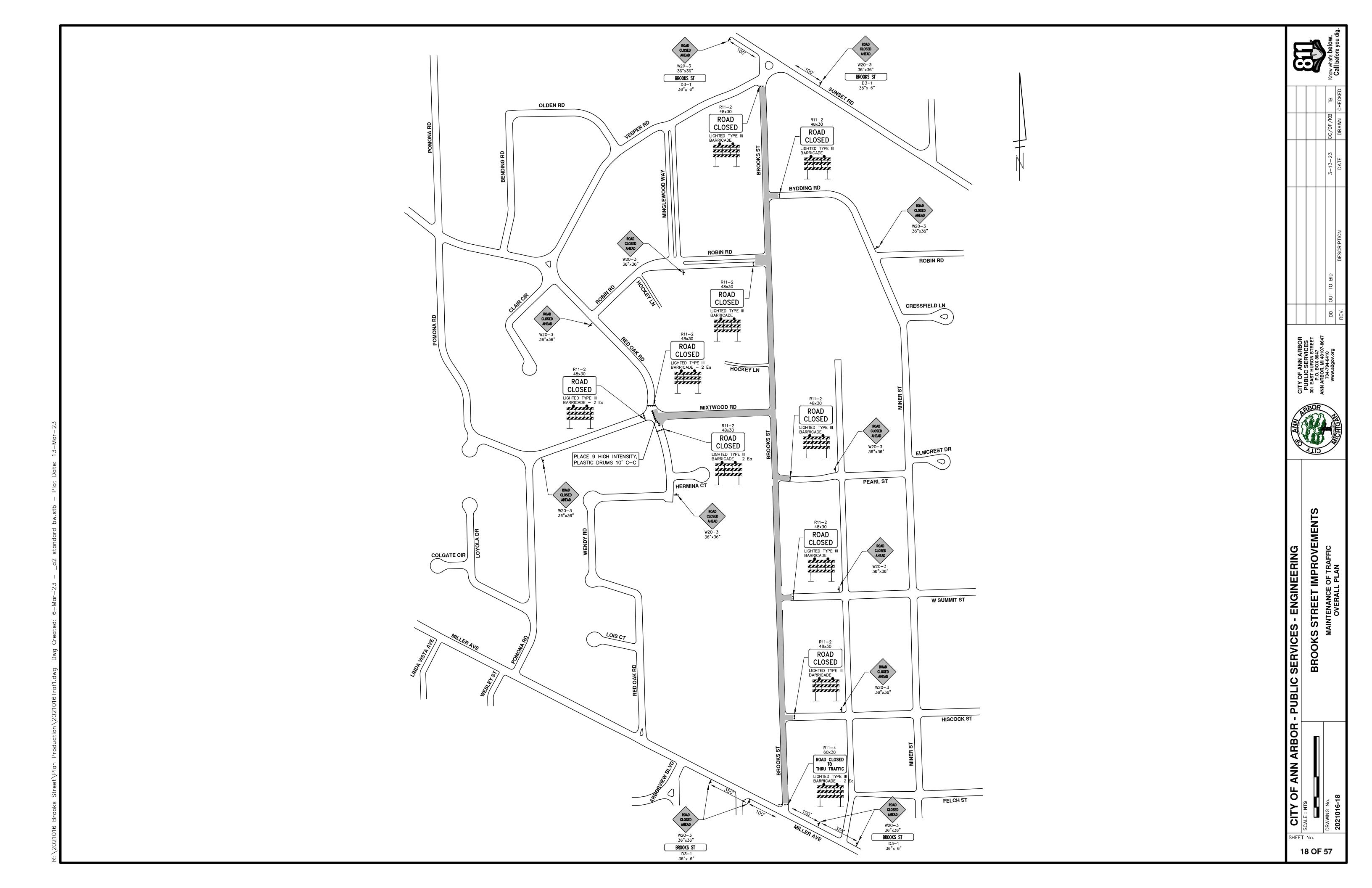
SIDEWALK BARRICADE

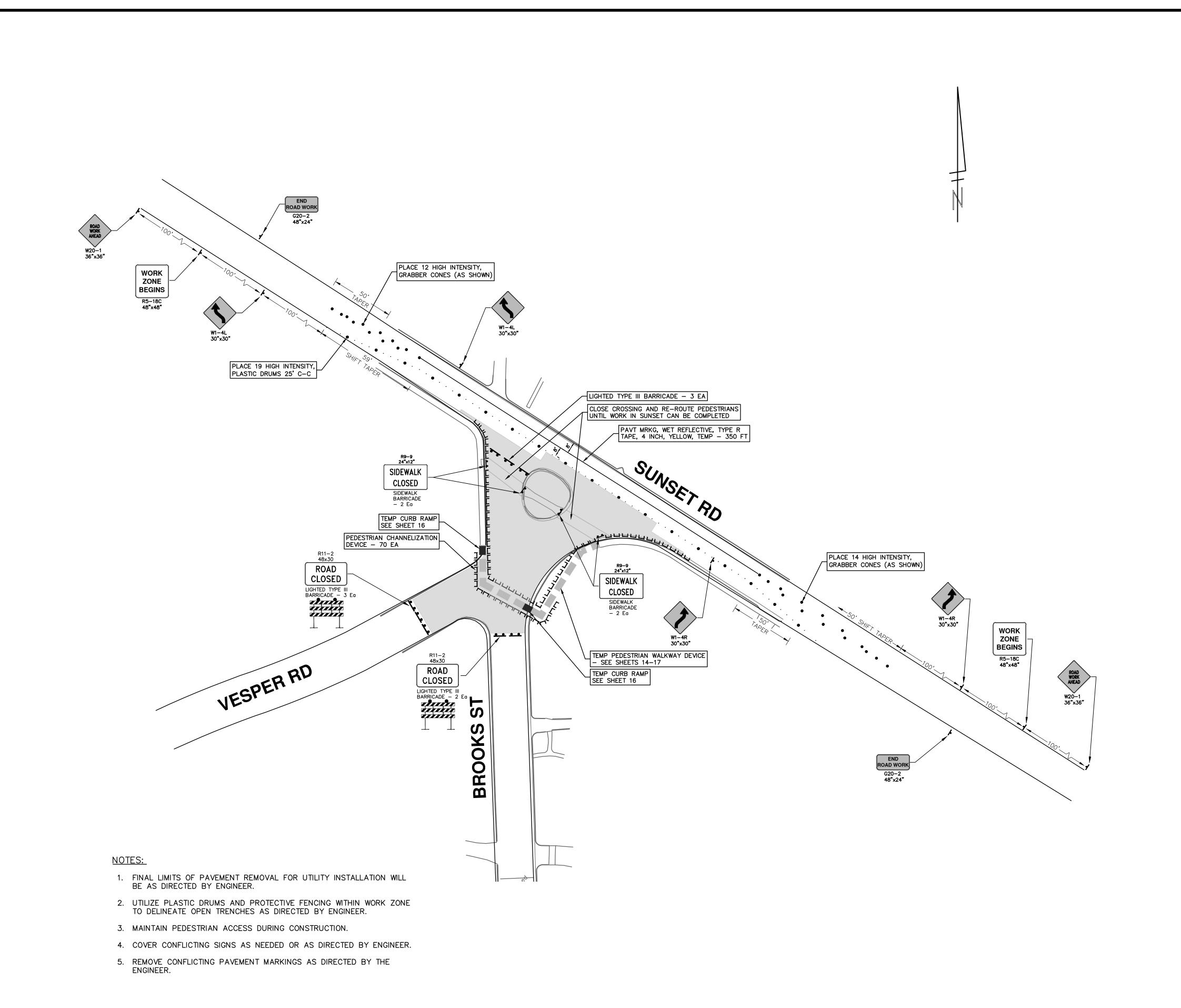


NARROW TEMPORARY PEDESTRIAN ACCESS ROUTE PASSING DETAIL

(MINIMUM REQUIREMENTS)

BROOKS STREET IMPROVEMENTS CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

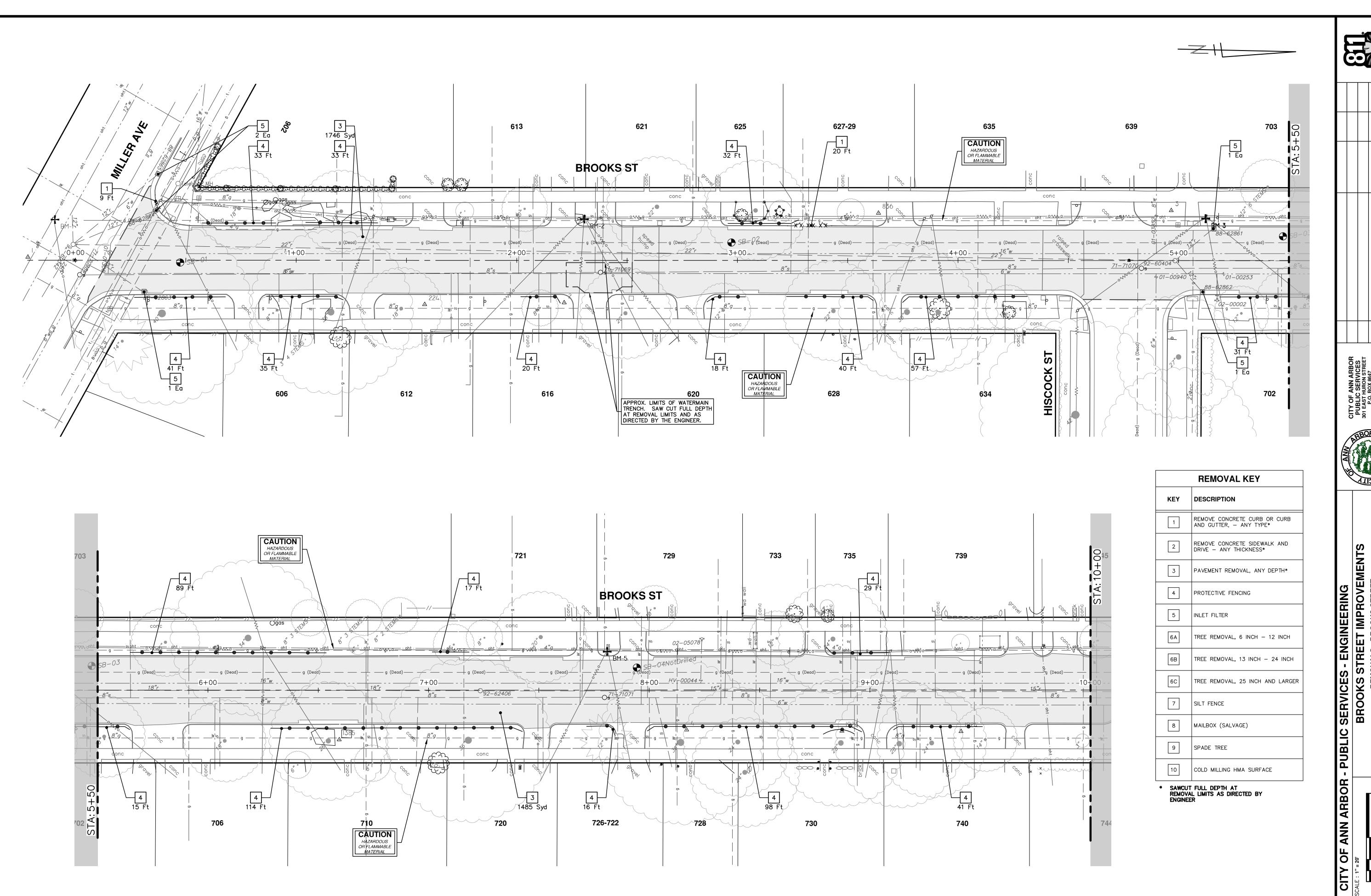




BROOKS STREET IMPROVEMENTS

MAINTENANCE OF TRAFFIC
SUNSET RD AND BROOKS ST INTERSECTION CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SHEET No.



SERVICES - ENGINEERING
BROOKS STREET IMPROVEMENT
REMOVALS - BROOKS STREET

SHEET No. 20 OF 57

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BROOKS ST 33 Ft

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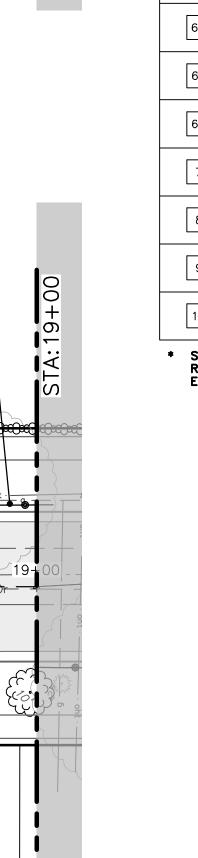
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CAUTION

HAZARDOUS OR FLAMMABLE MATERIAL

29 Ft

1005

1004-06

4 27 Ft

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		

 FULL DEPTH AT LIMITS AS DIRECTED BY R

14+50

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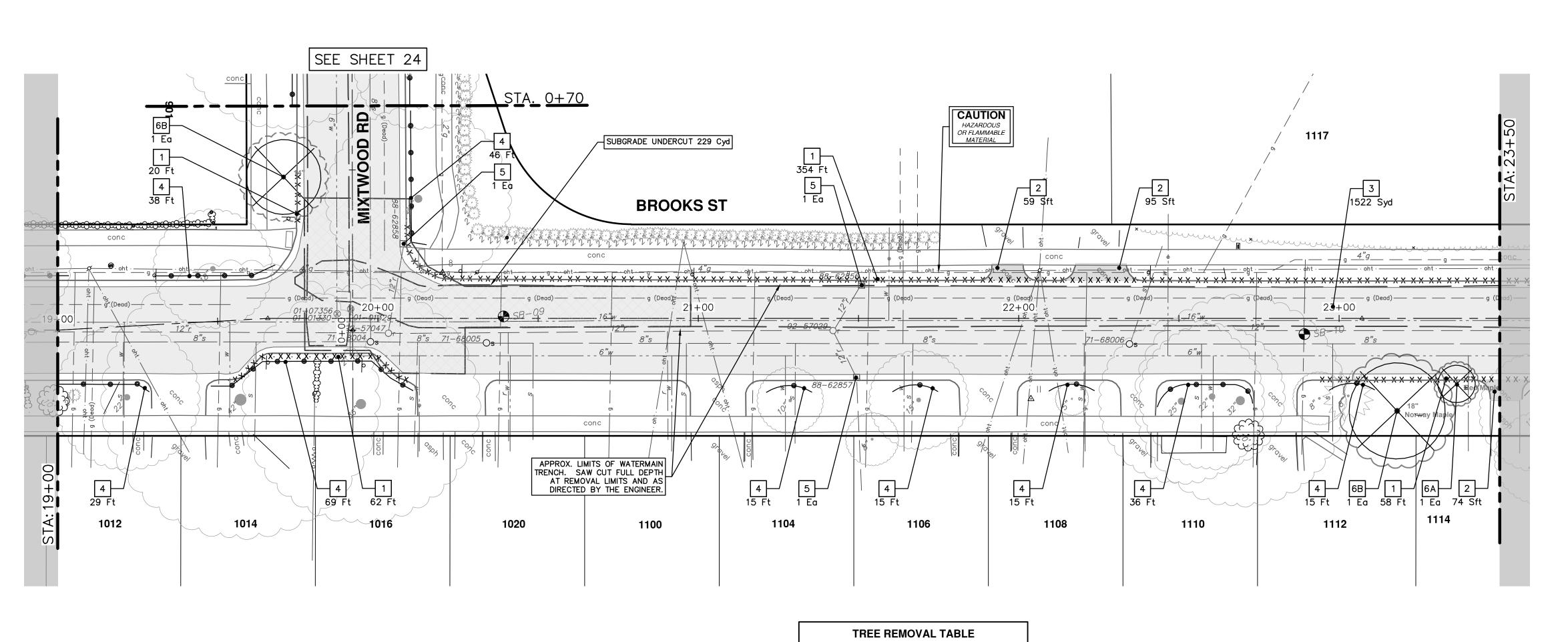
21 OF 57

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE: 1" = 20'

BROOKS STREET IMPROVEMENTS

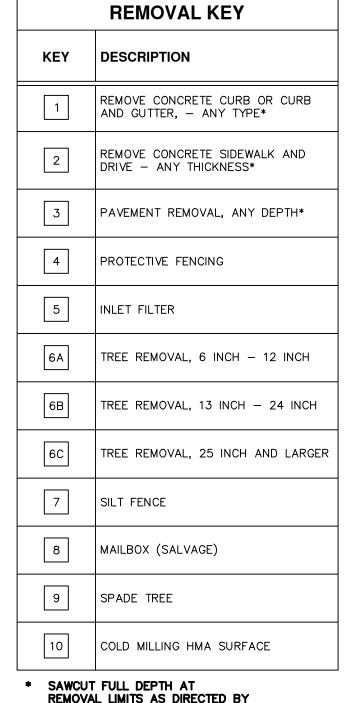
REMOVALS - BROOKS STREET

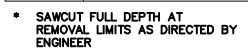


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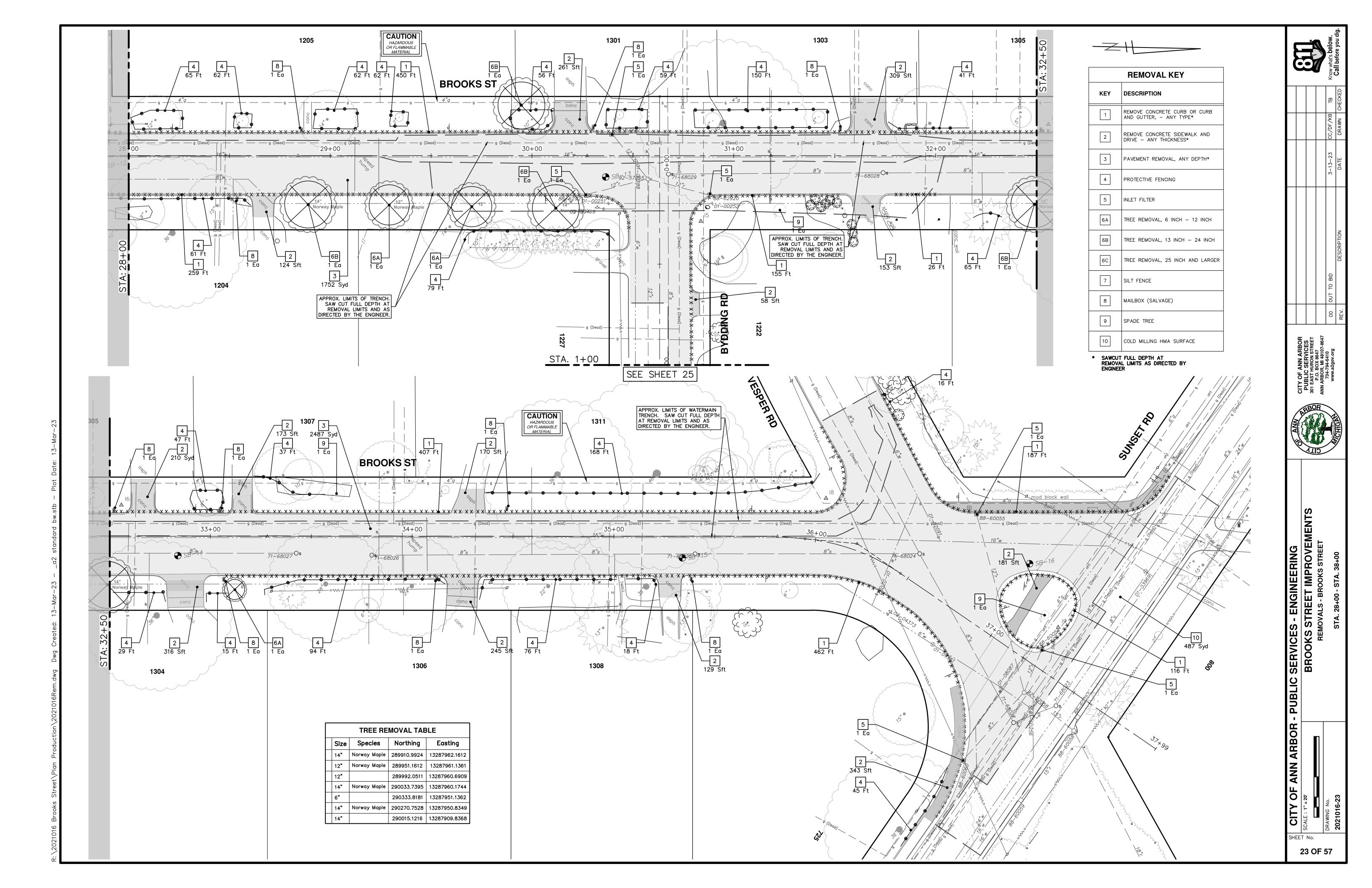
1127 5 1 Ea	1460 Syd 1460 Syd 1 355 Ft	CAUTION HAZARDOUS OR FLAMMABLE MATERIAL BROOKS ST	APPROX. LIMITS OF WATERMAIN RENCH. SAW CUT FULL DEPTH AT REMOVAL LIMITS AND AS DIRECTED BY THE ENGINEER.	ROBIN RD	STA: 28+00
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002 -00626 11116 1116	2 8 2 2 98 Sft 1120	4 137 Ft 1124	1 450 Ft 1128	8 4 8 1 Eq 72 Ft 1 Eq 1200	Conc.

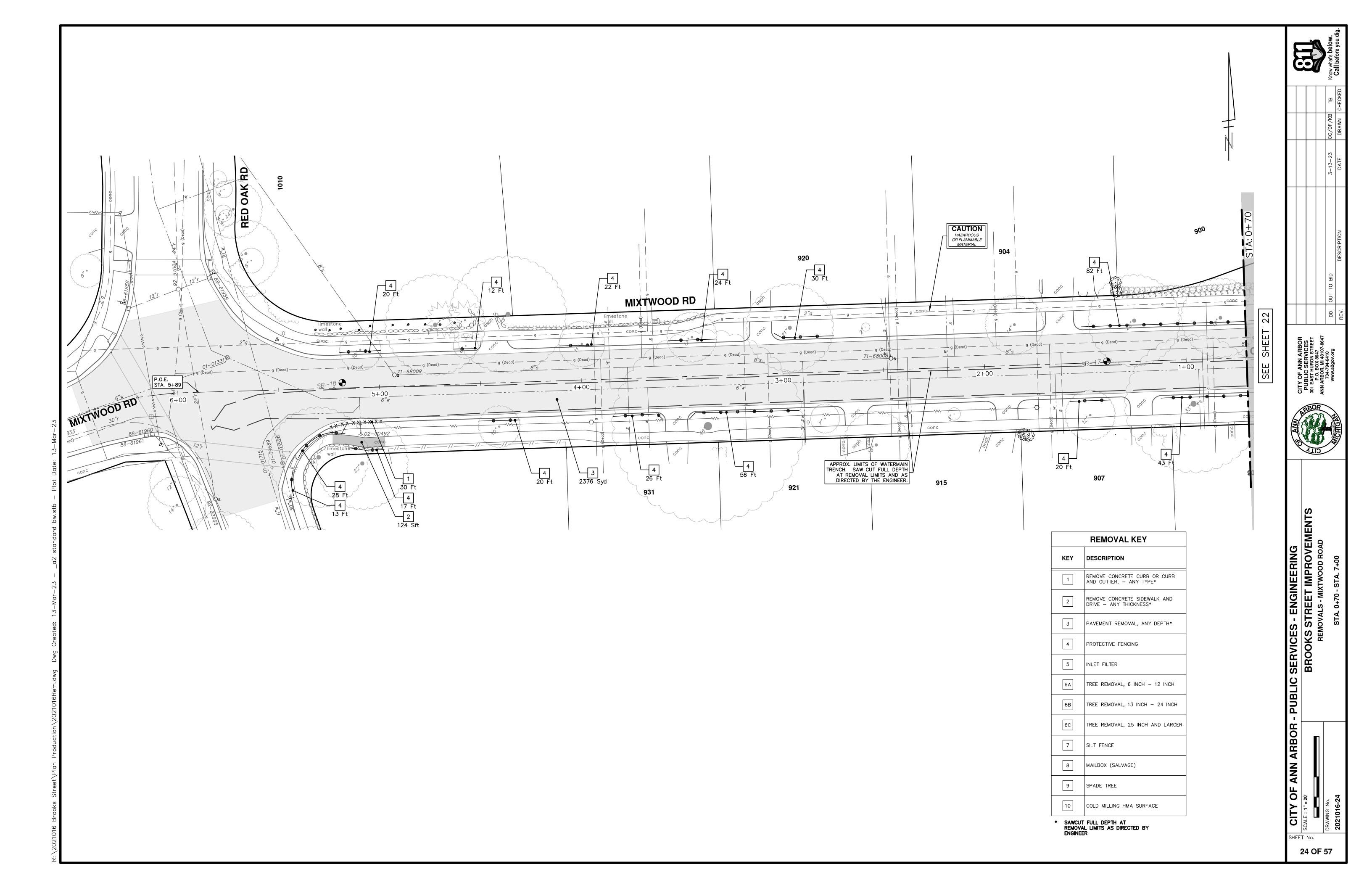
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

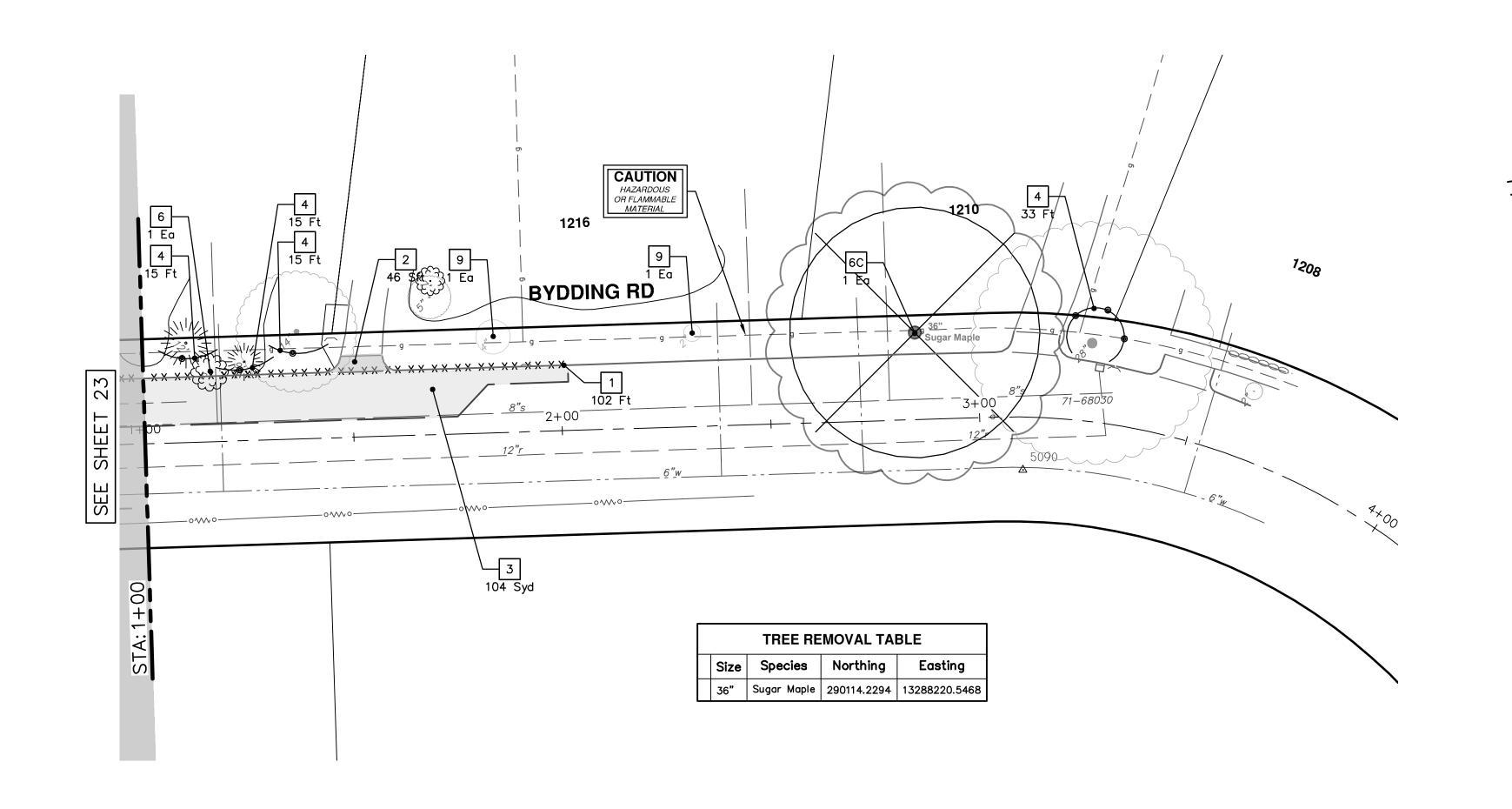
SCALE: 1" = 20

BROOKS STREET IMPROVEMENTS

REMOVALS - BROOKS STREET







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 CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

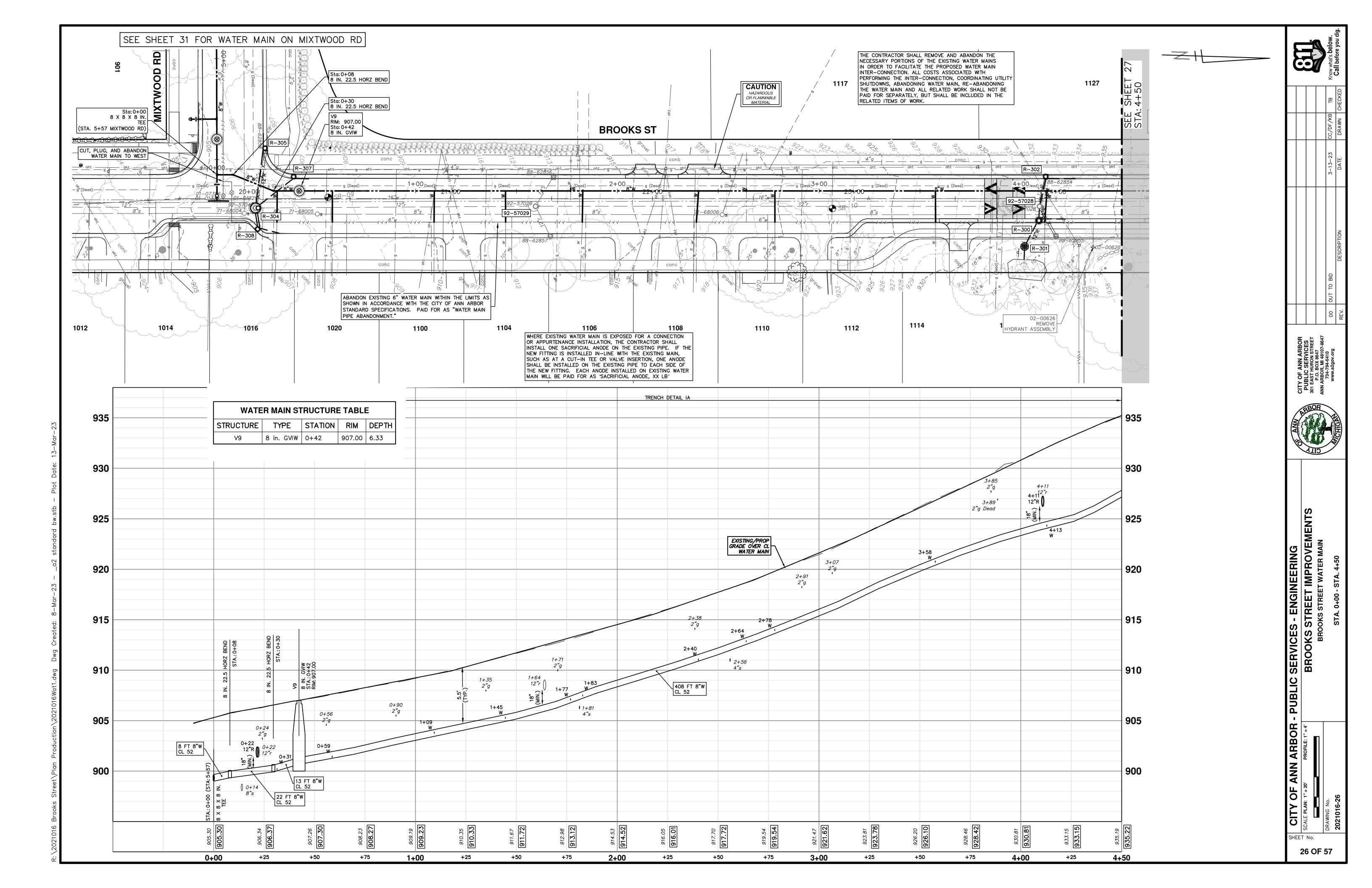
SCALE : 1" = 20*

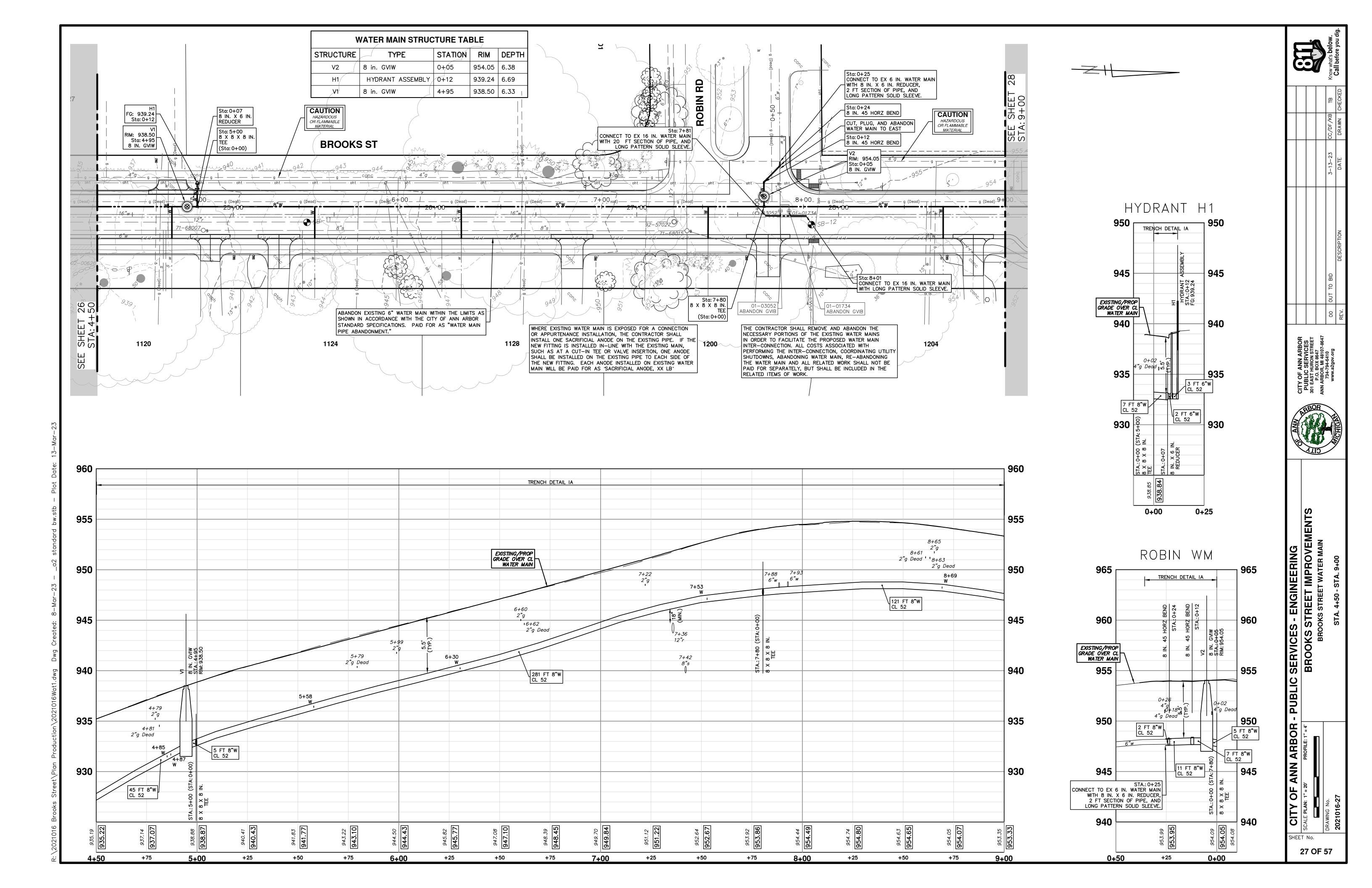
BROOKS STREET IMPROVEMENTS

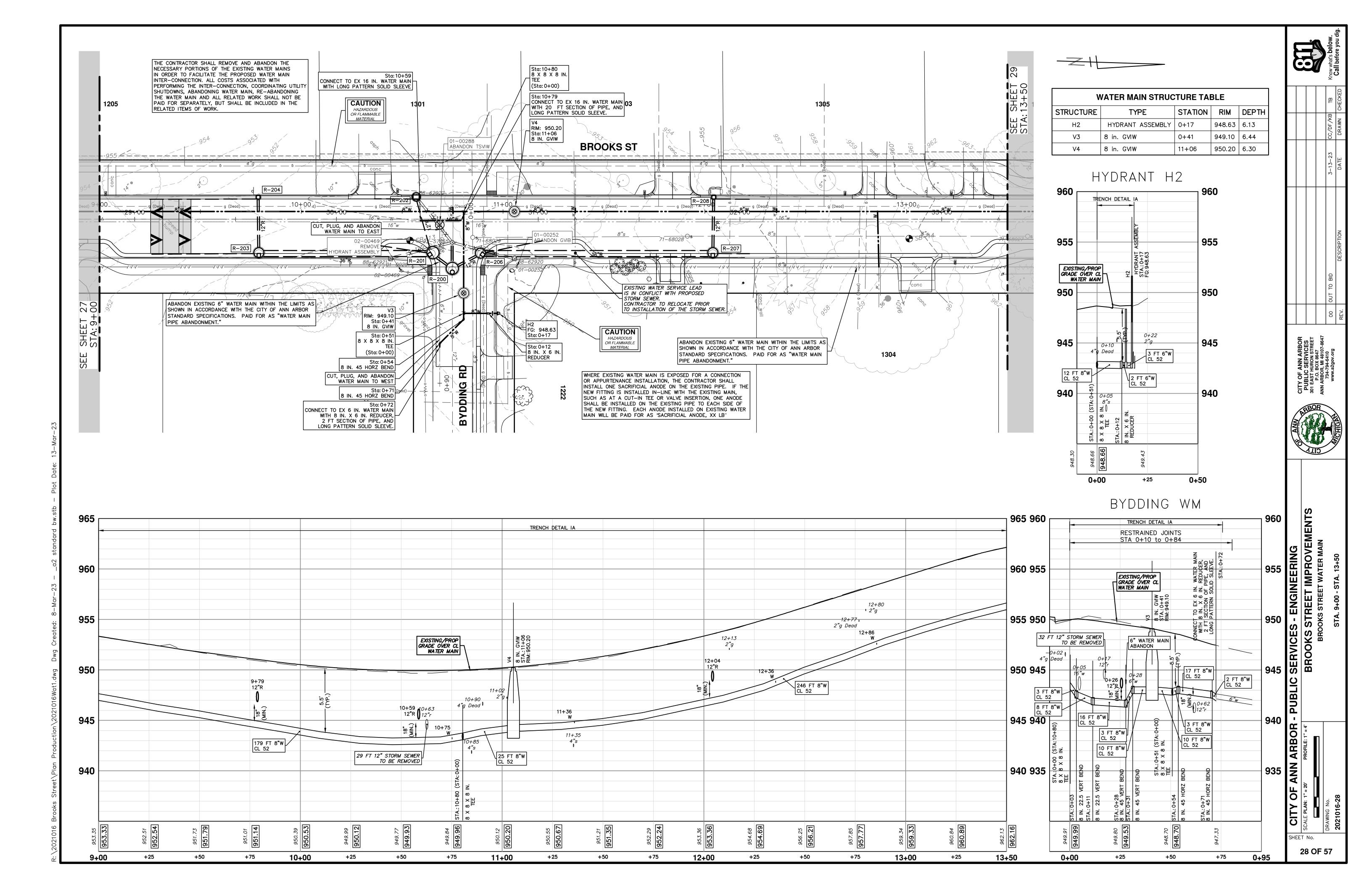
BROOKS STREET IMPROVEMENTS

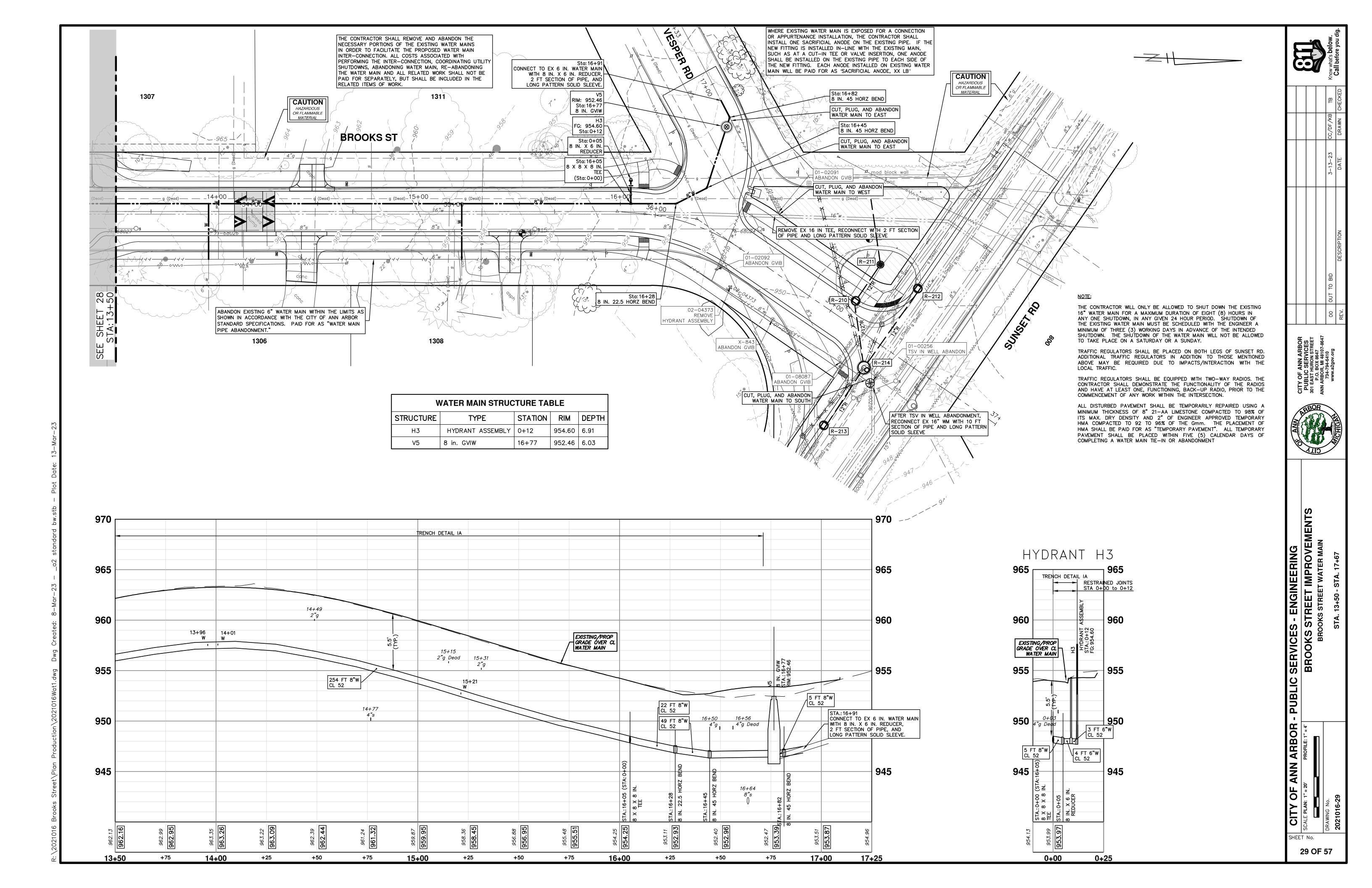
REMOVALS - BYDDING RD

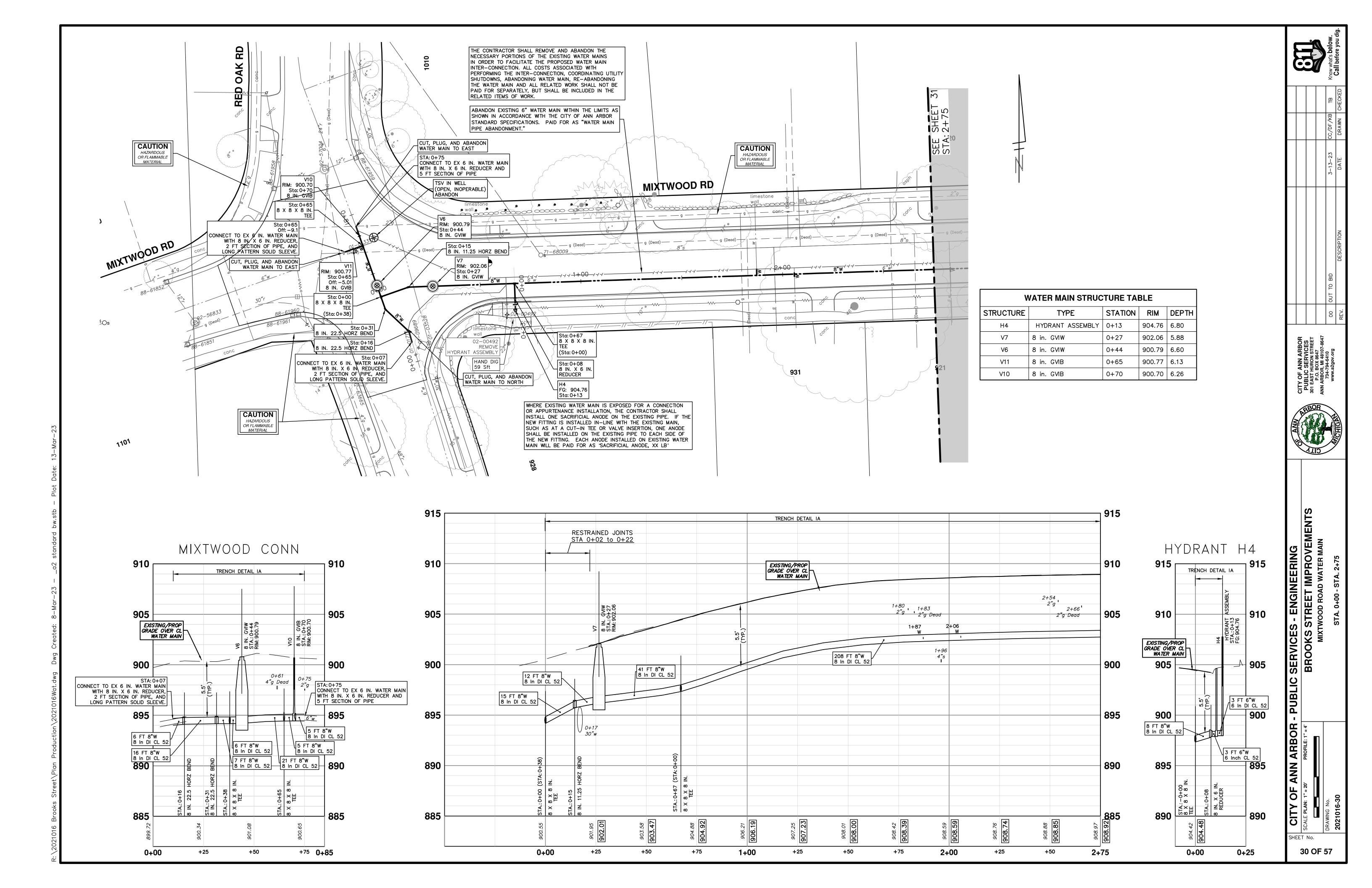
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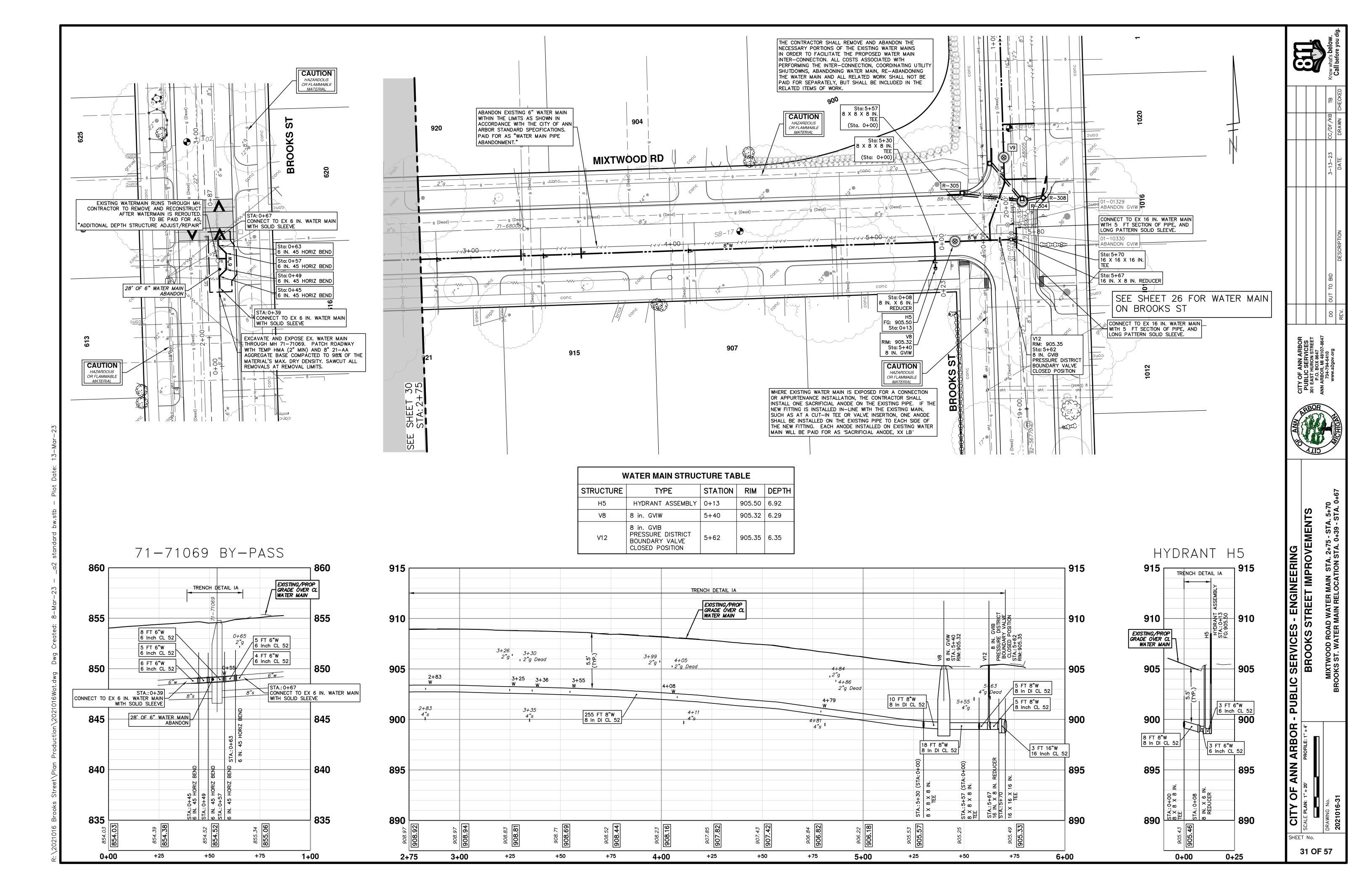


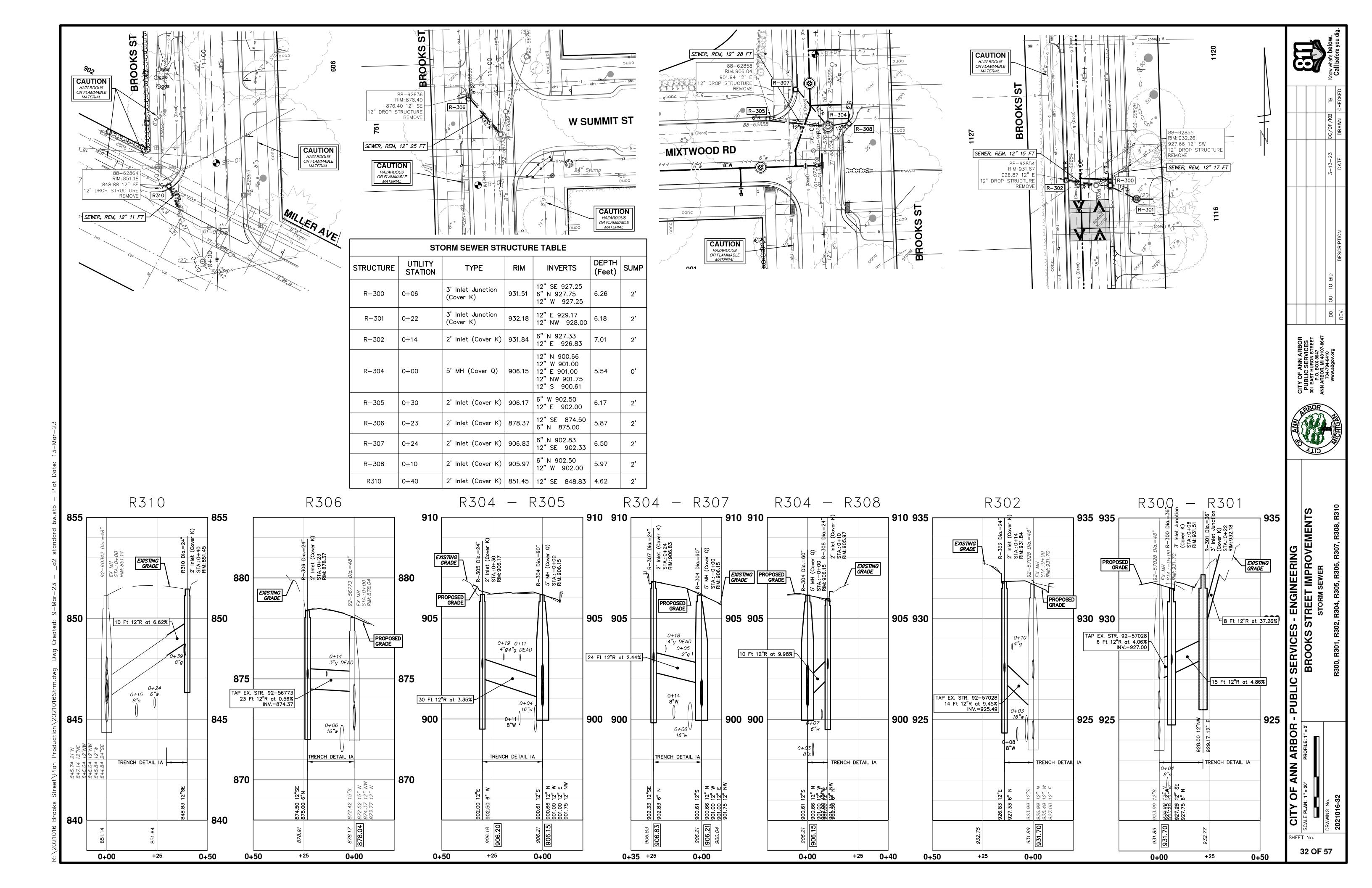


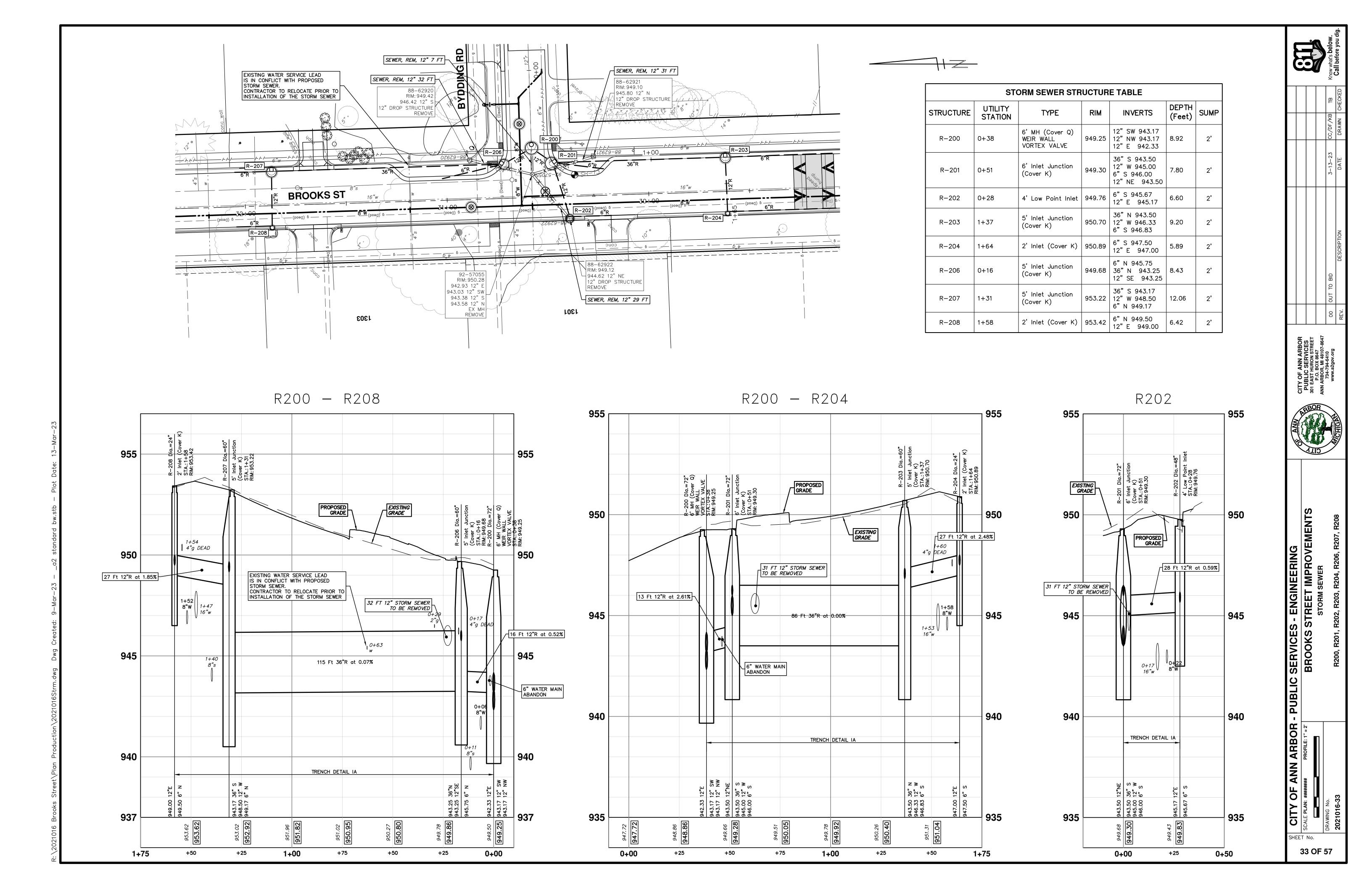


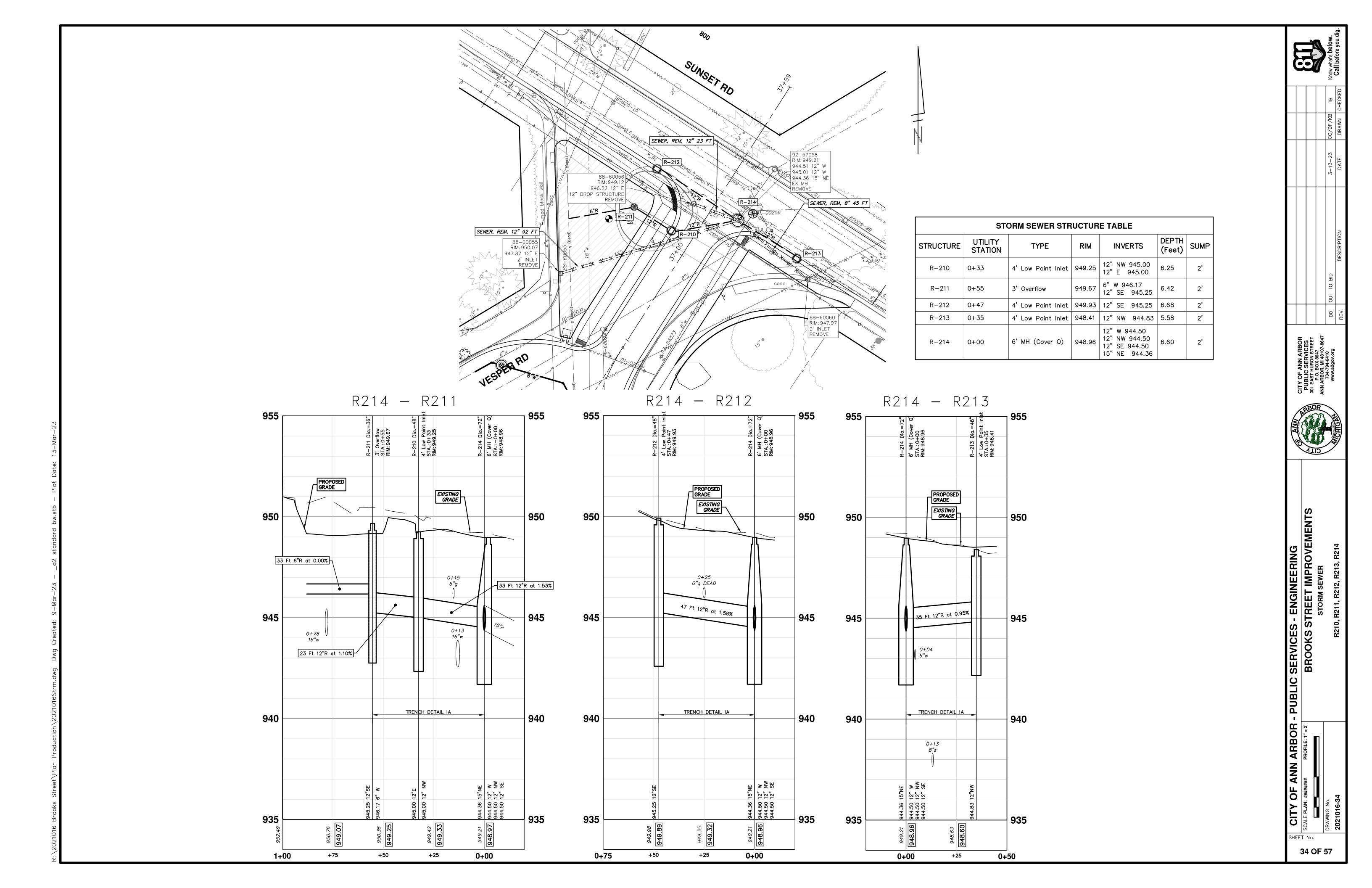


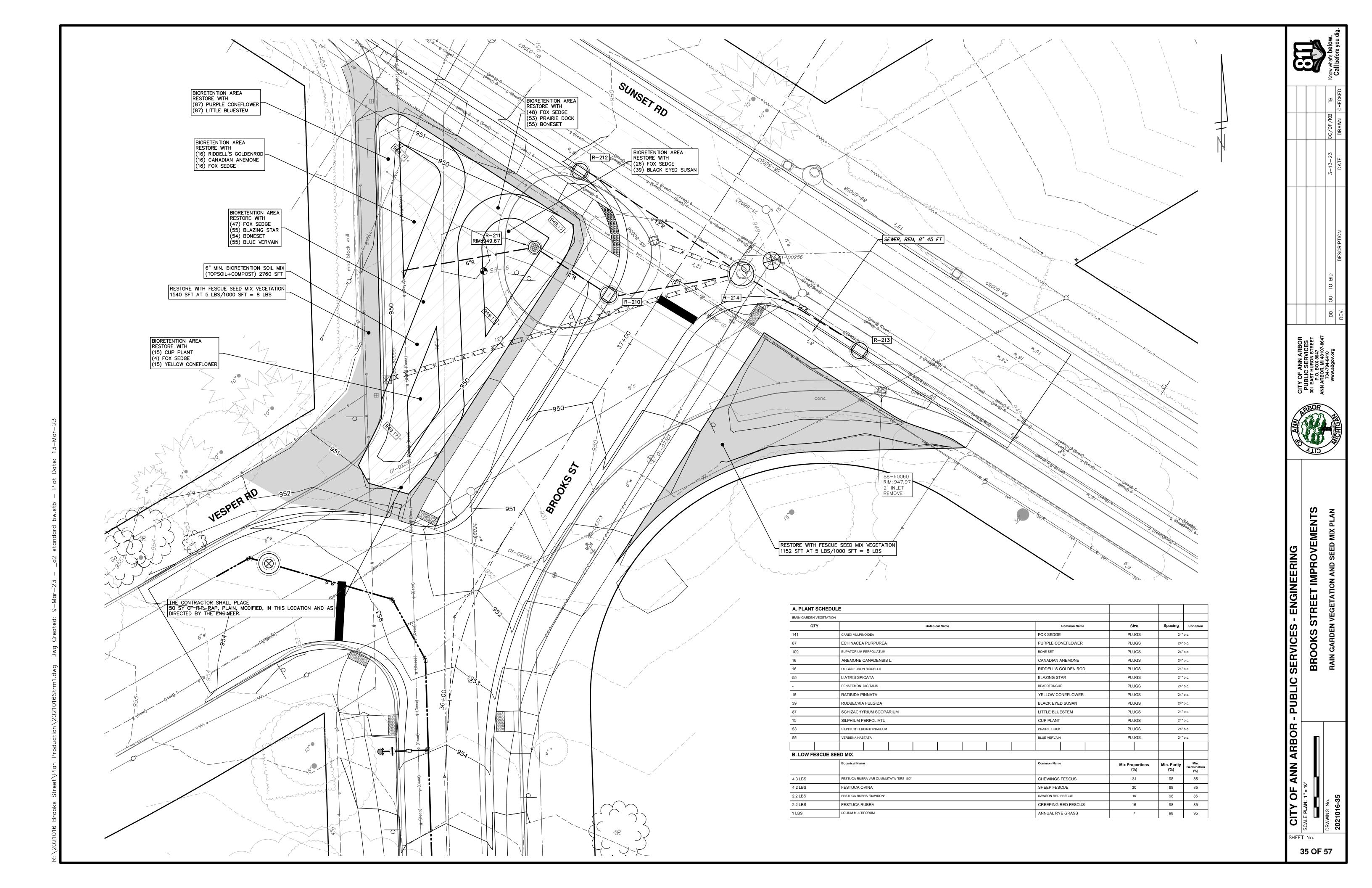






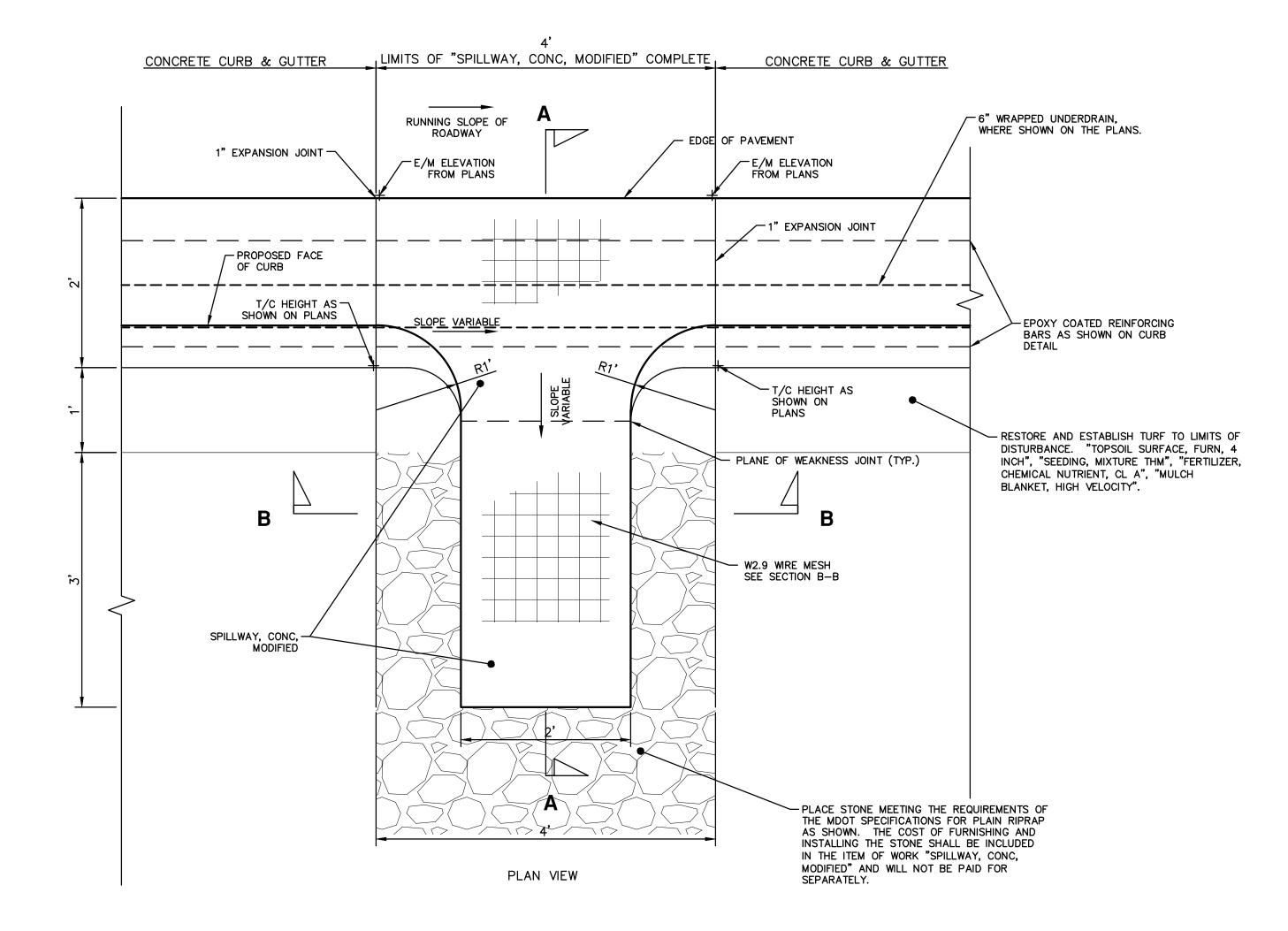


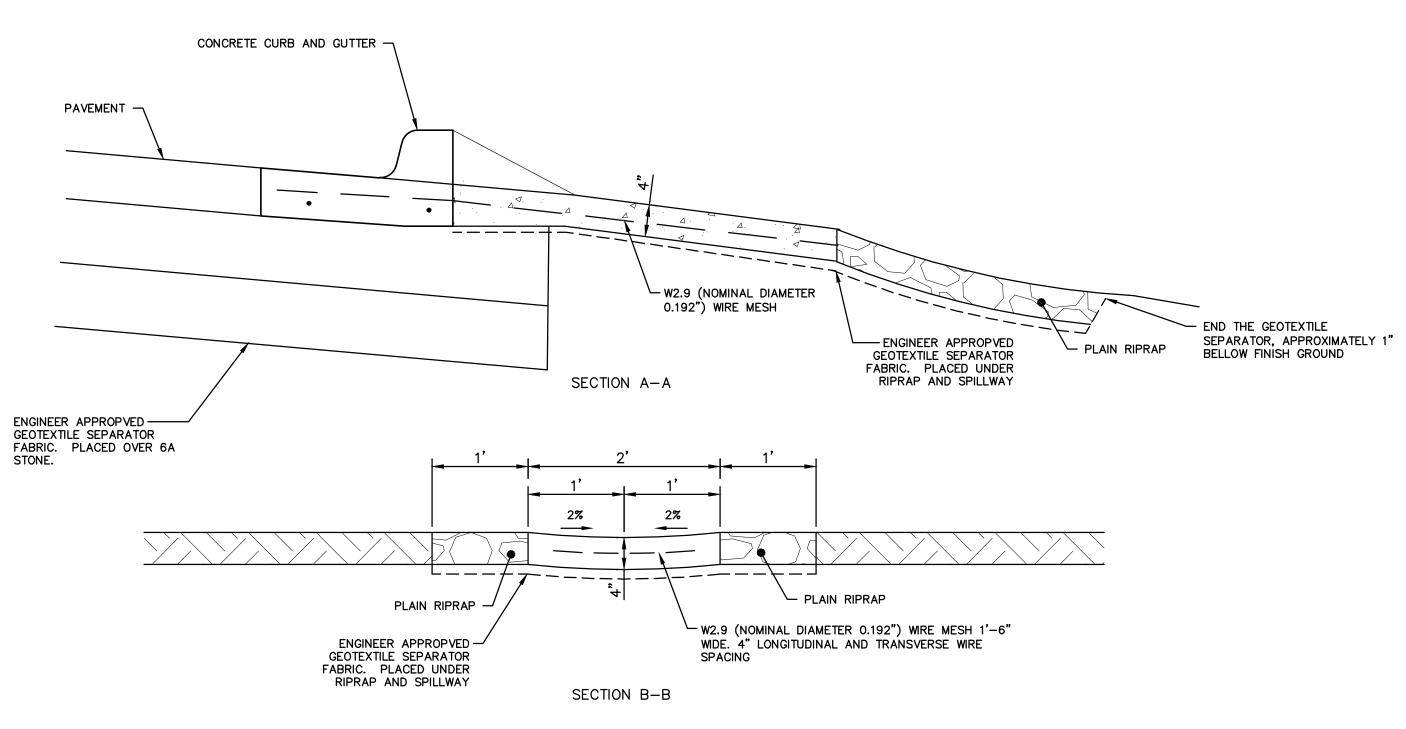




INFILTRATION TRENCH DETAIL

NOT TO SCALE





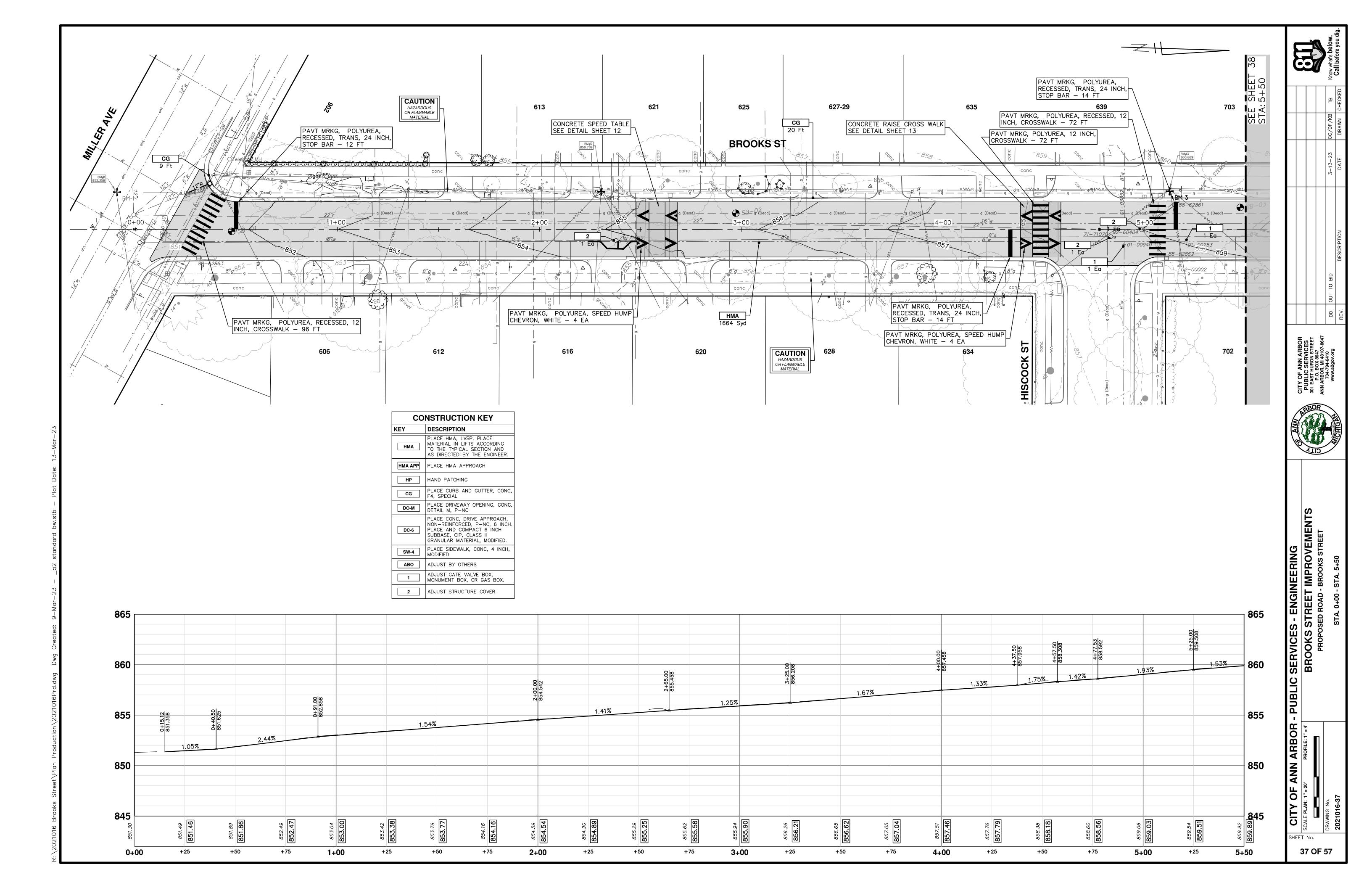
CONCRETE SPILLWAY DETAIL

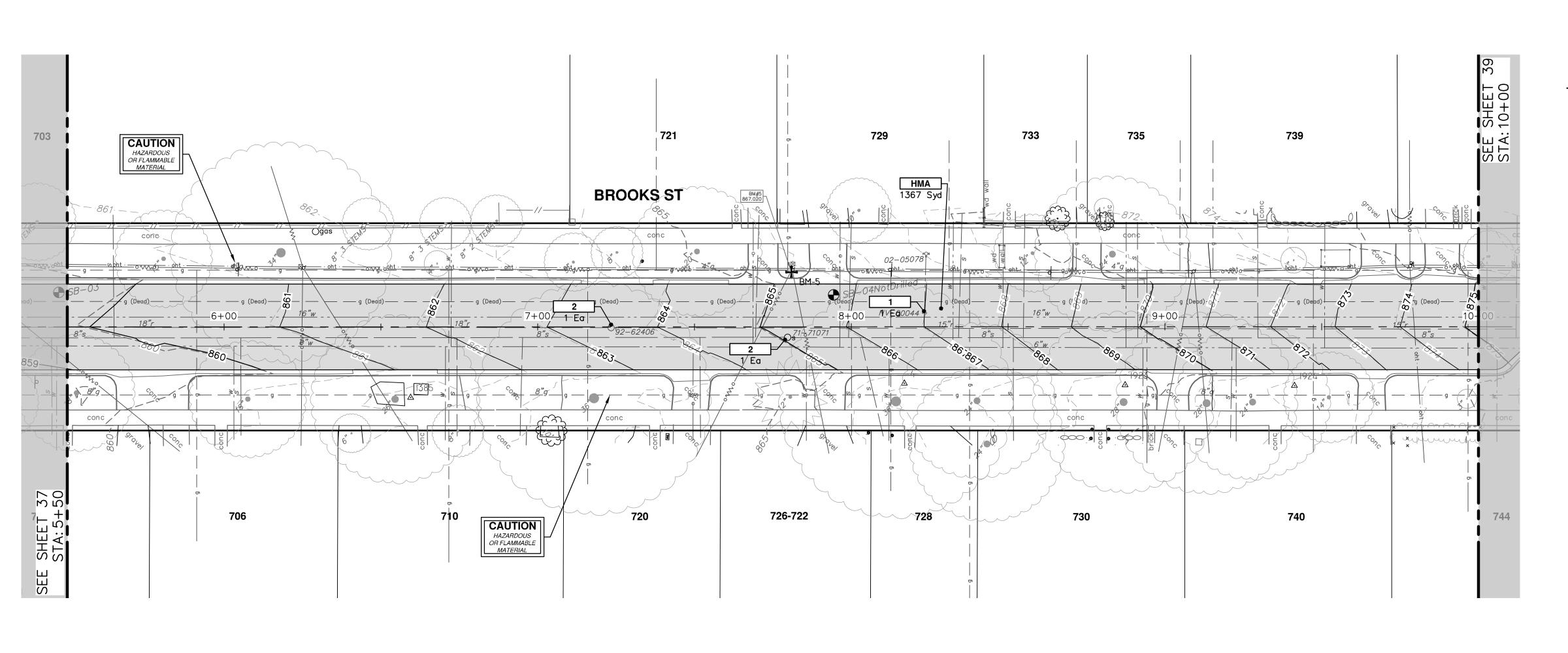
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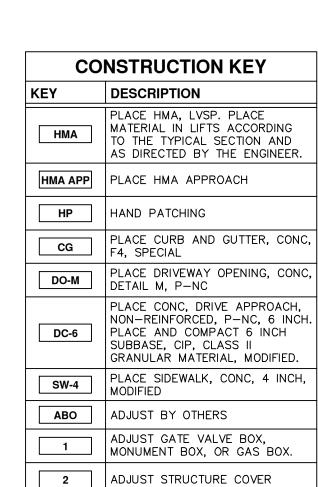
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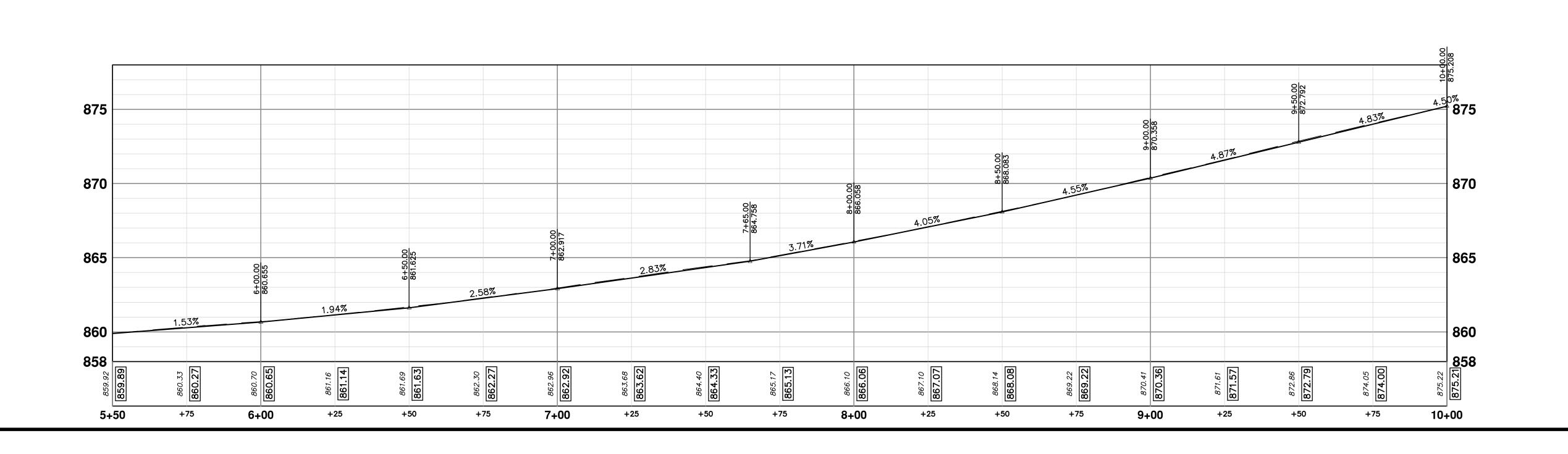
STREET IMPROVEMENTS CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING BROOKS

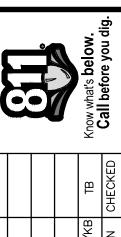
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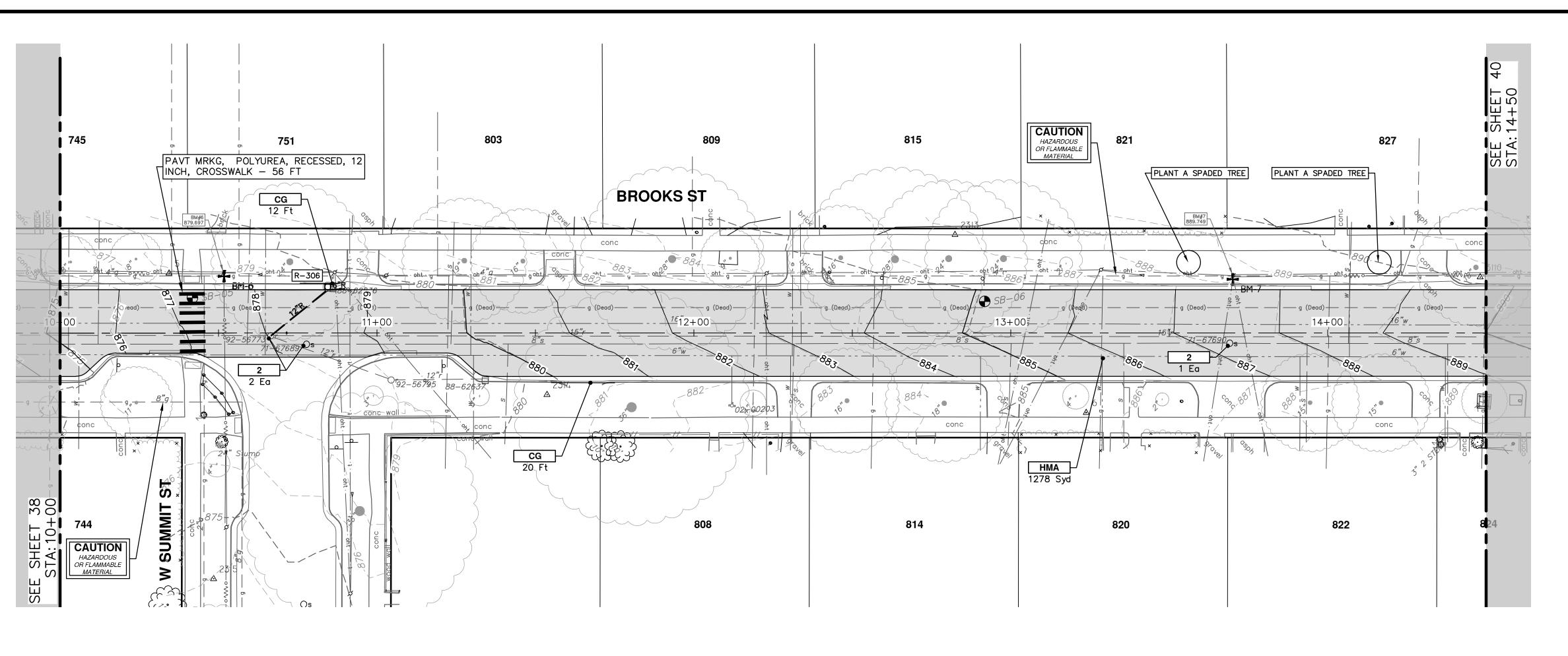
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE PLAN: 1" = 20" PROFILE: 1" = 4" BROOKS STREET IMPROVEMENTS

PROPOSED ROAD - BROOKS STREET

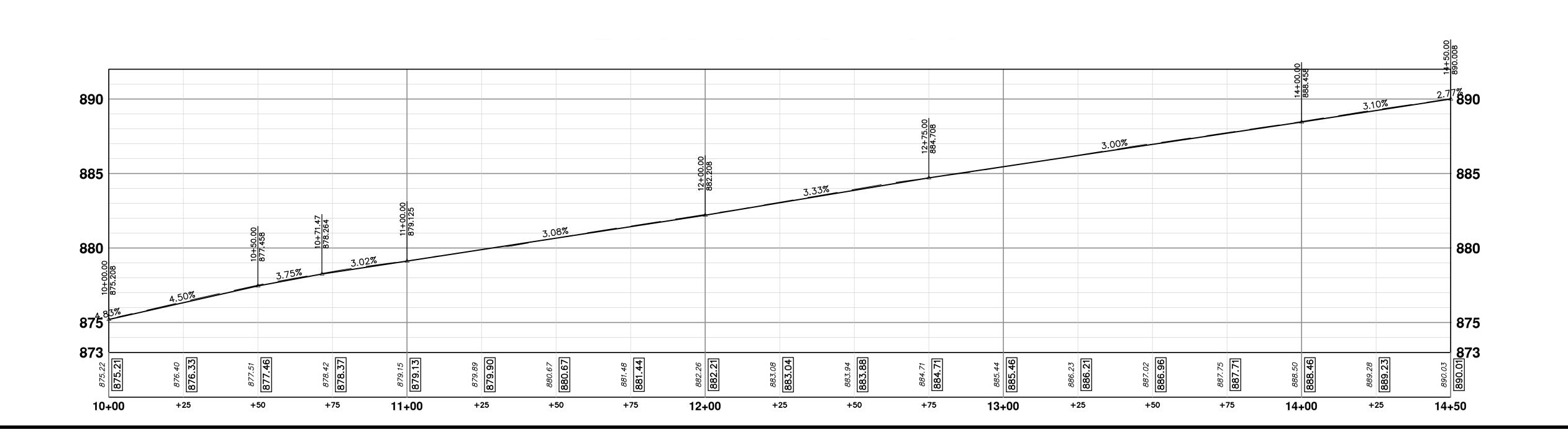
PROPOSED ROAD - BROOKS STREET

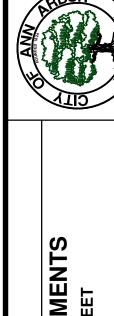
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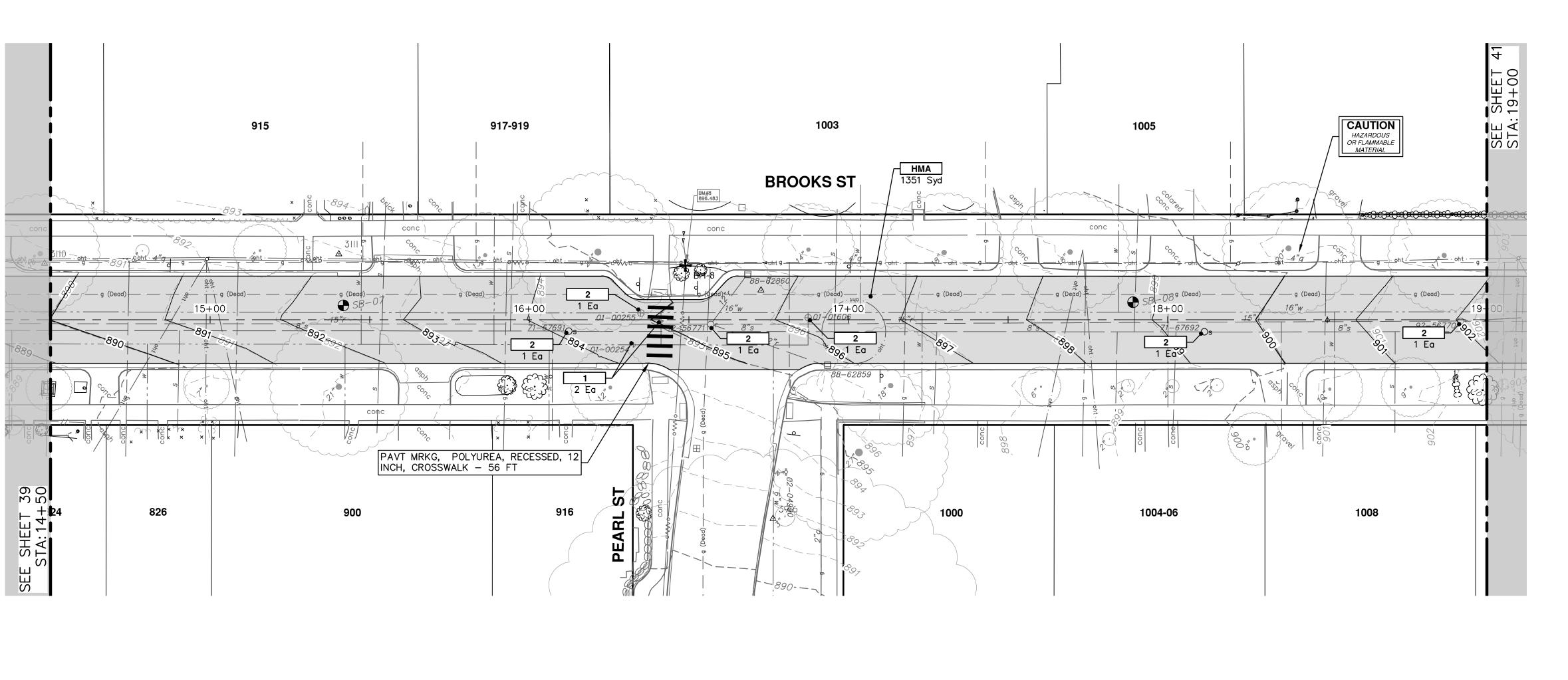
CONSTRUCTION KEY		
KEY	DESCRIPTION	
НМА	PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.	
HMA APP	PLACE HMA APPROACH	
НР	HAND PATCHING	
CG	PLACE CURB AND GUTTER, CONG F4, SPECIAL	
DO-M	PLACE DRIVEWAY OPENING, CONDETAIL M, P-NC	
DC-6	PLACE CONC,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

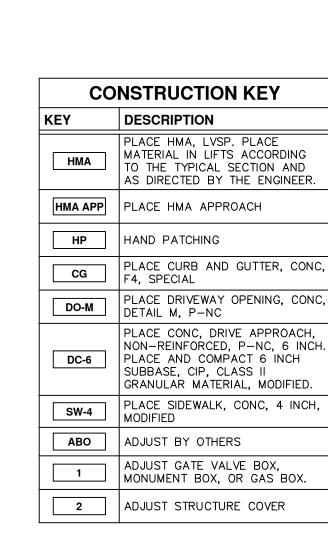


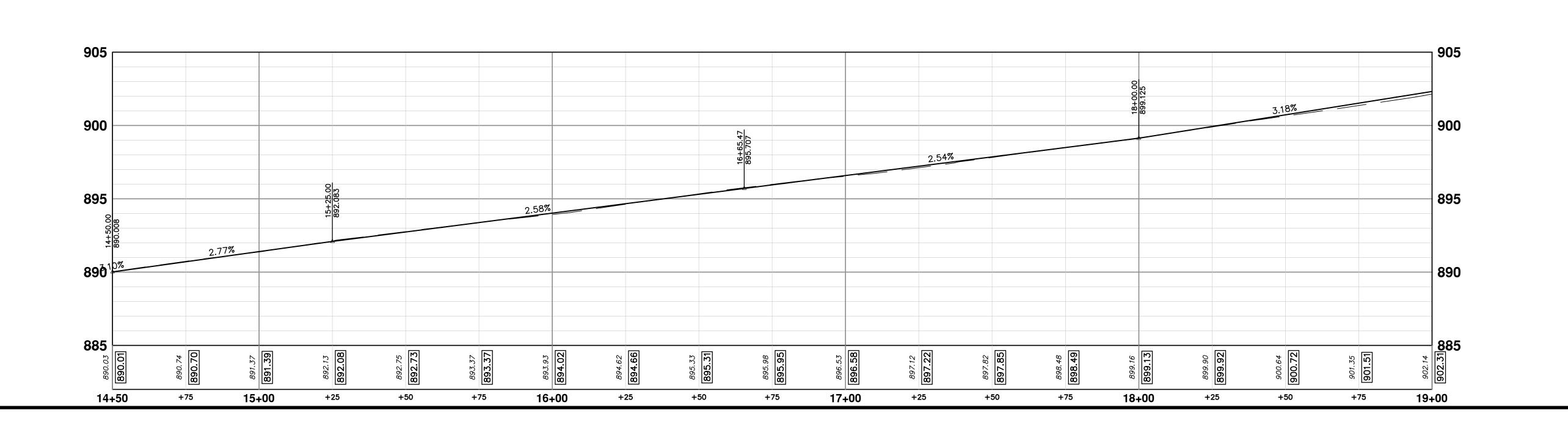


- PUBLIC SERVICES - ENGINEER	BROOKS STREET IMPR	PROPOSED ROAD - BROOK	
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CITY OF ANN ARBOR - PUBLIC SE	AN: 1" = 20' PROFILE: 1" = 4' BF	No.
CITYO	SCALE PLAN: 1" = 20'	DRAWING No.







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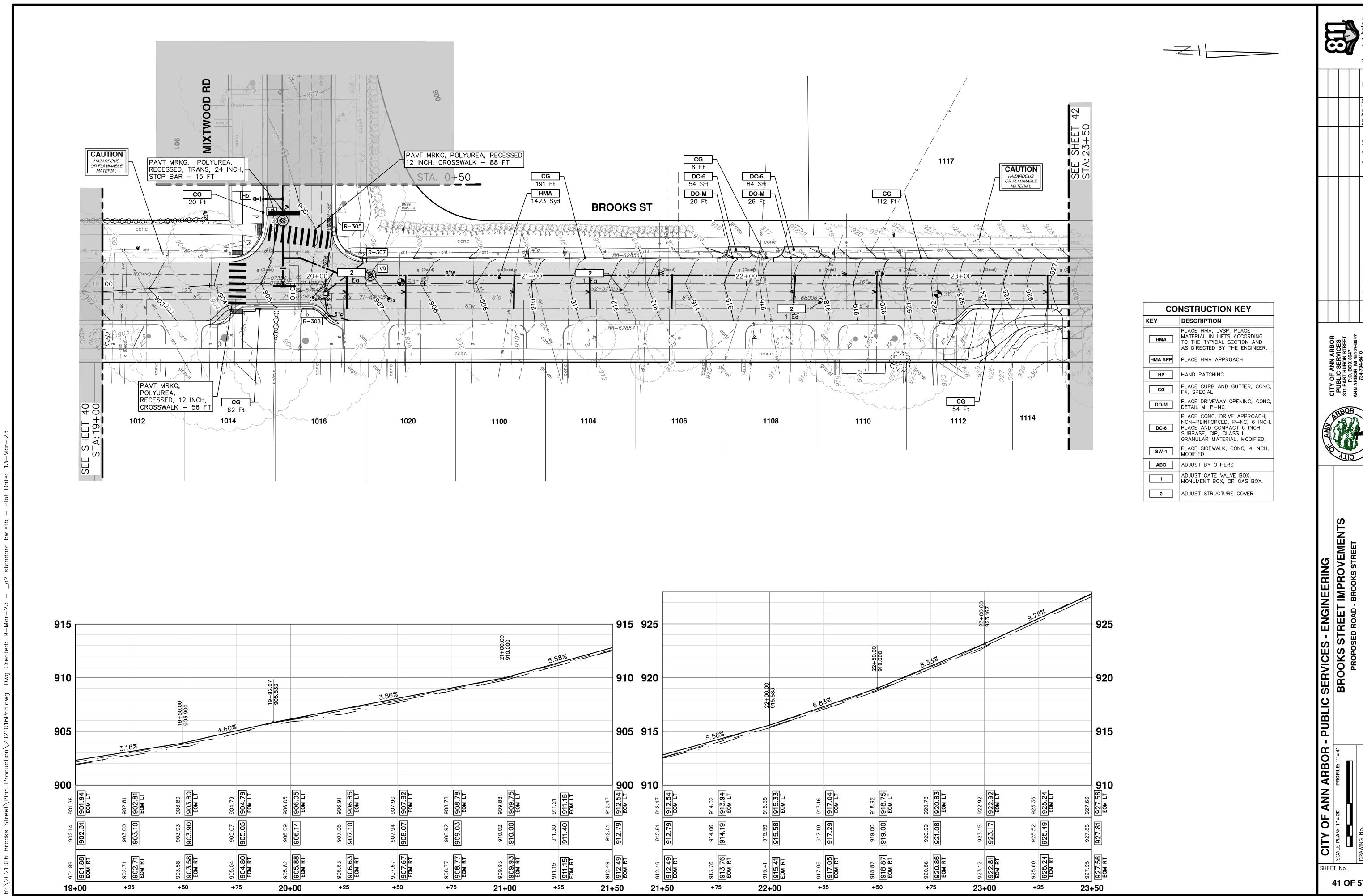
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE PLAN: 1" = 20' PROPILE: 1" = 4' BROOKS STREET IMPROVEMENTS

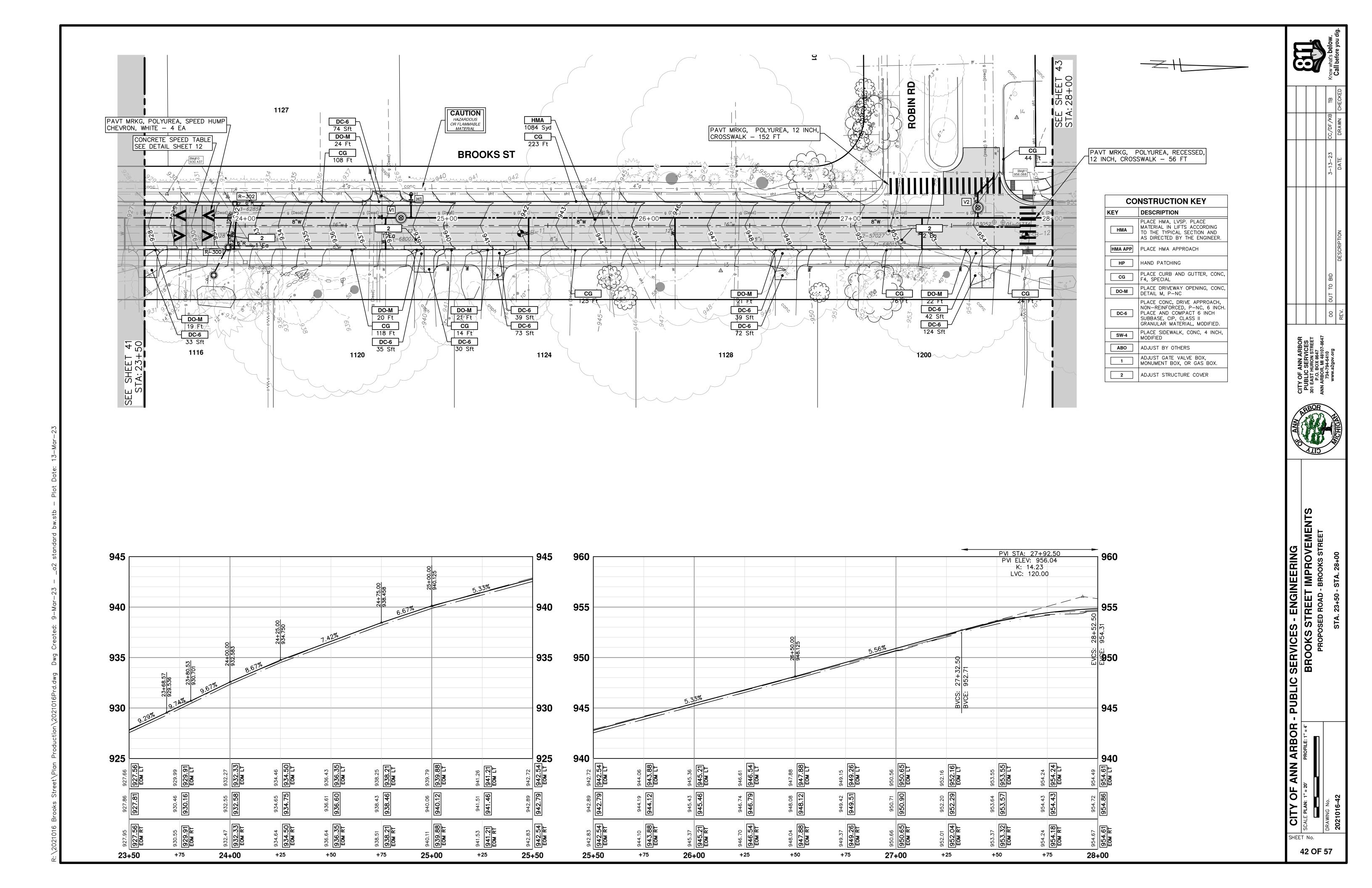
PROPOSED ROAD - BROOKS STREET

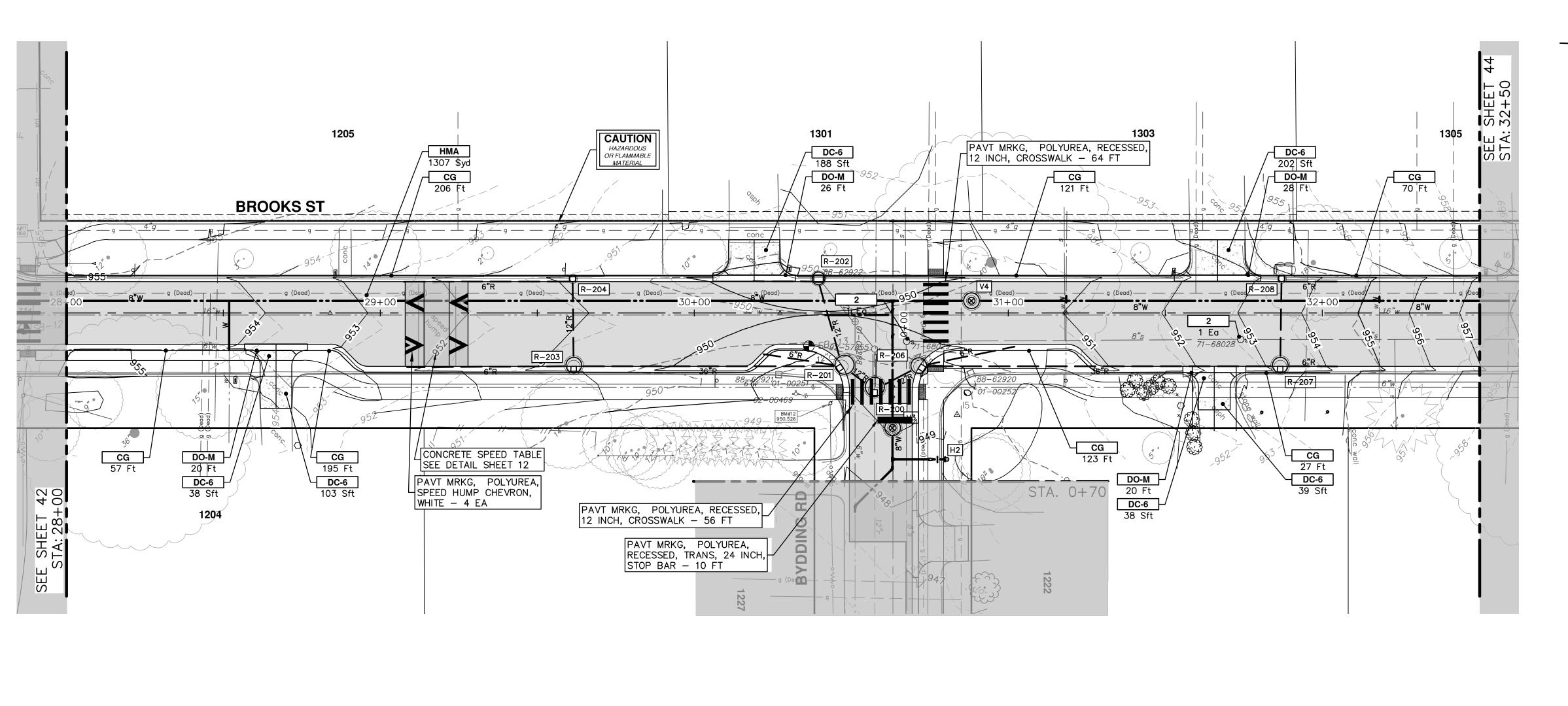
PROPOSED ROAD - BROOKS STREET

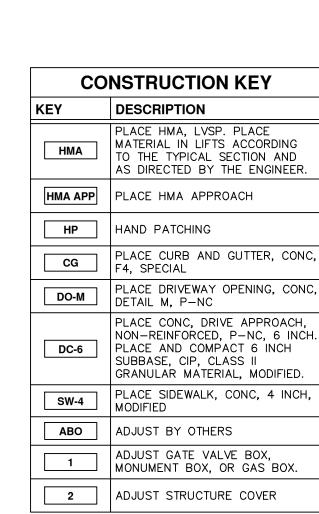
SHEET No. 40 OF 57

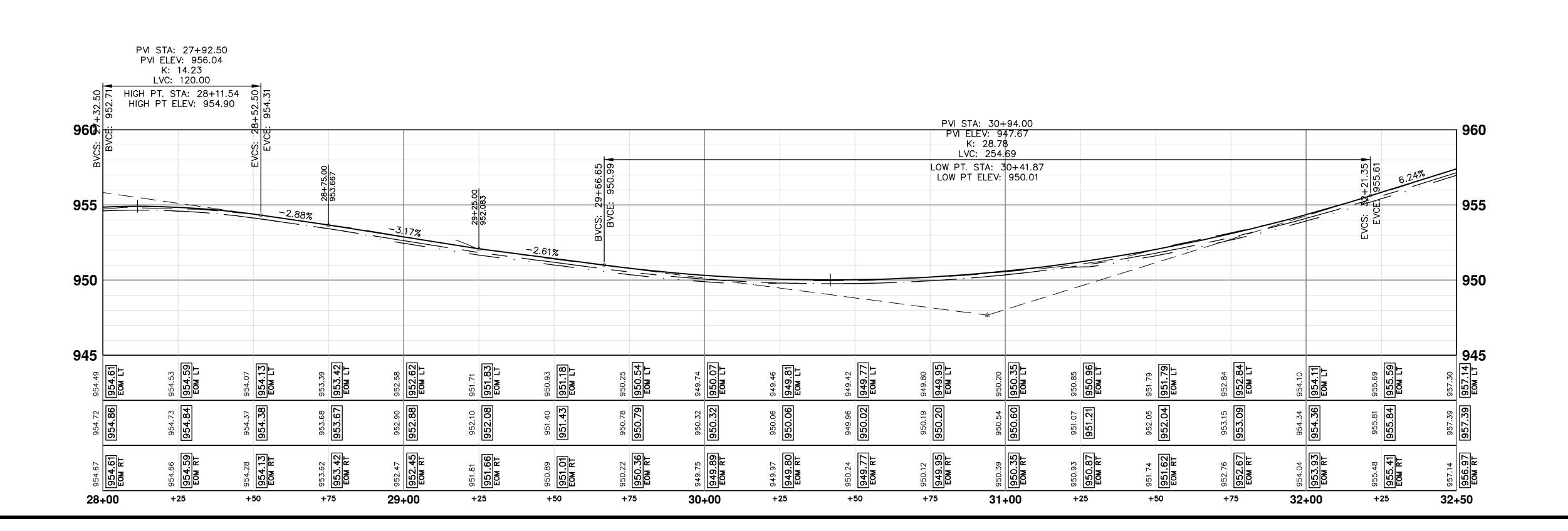








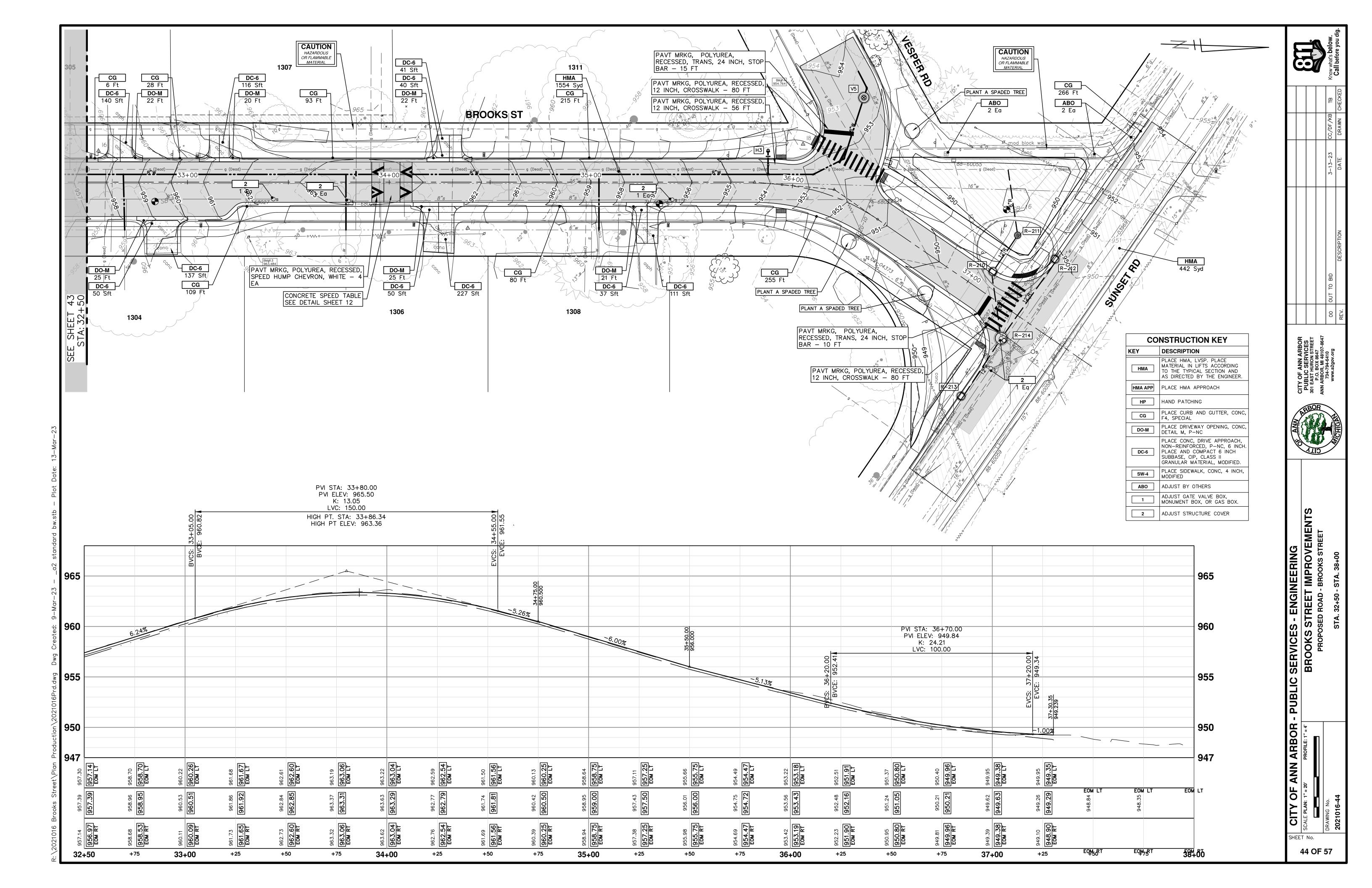


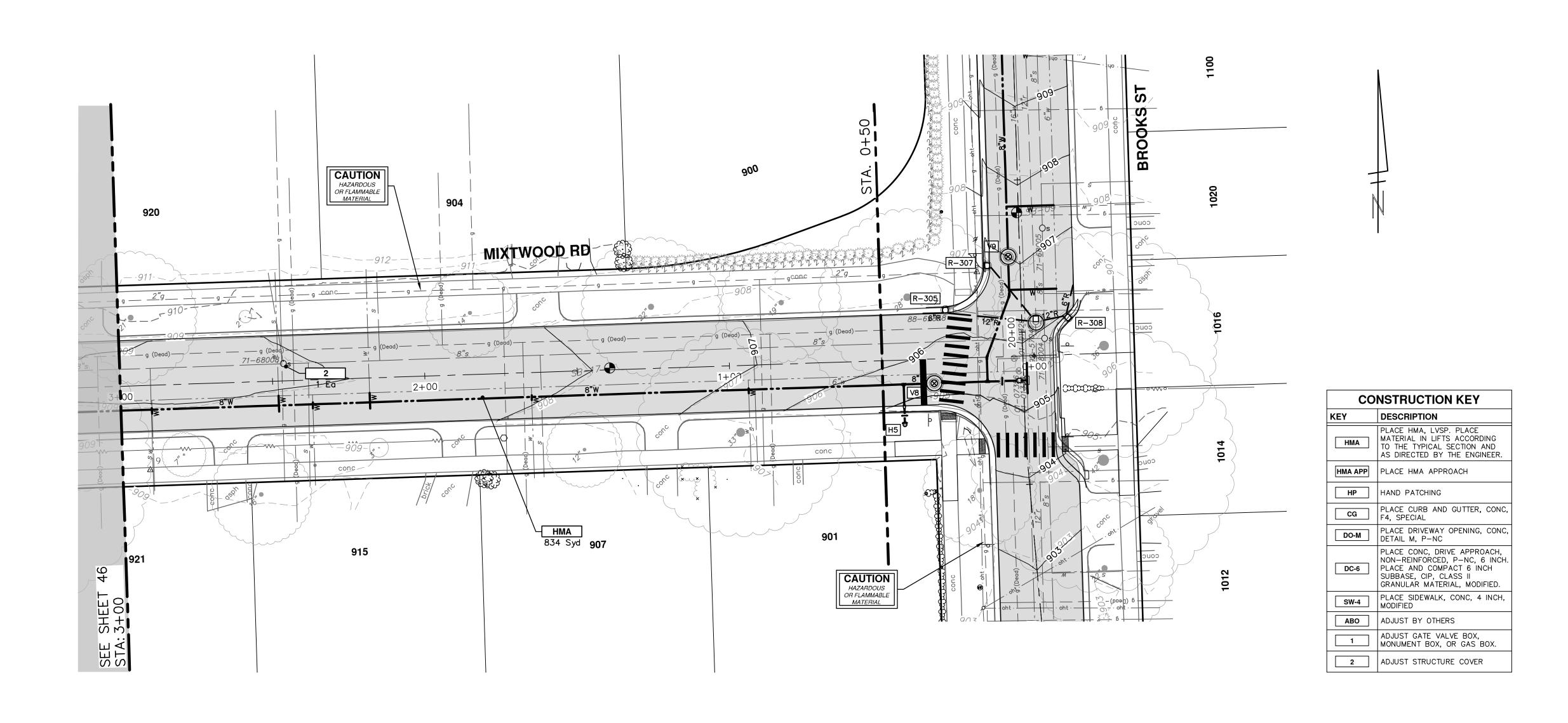


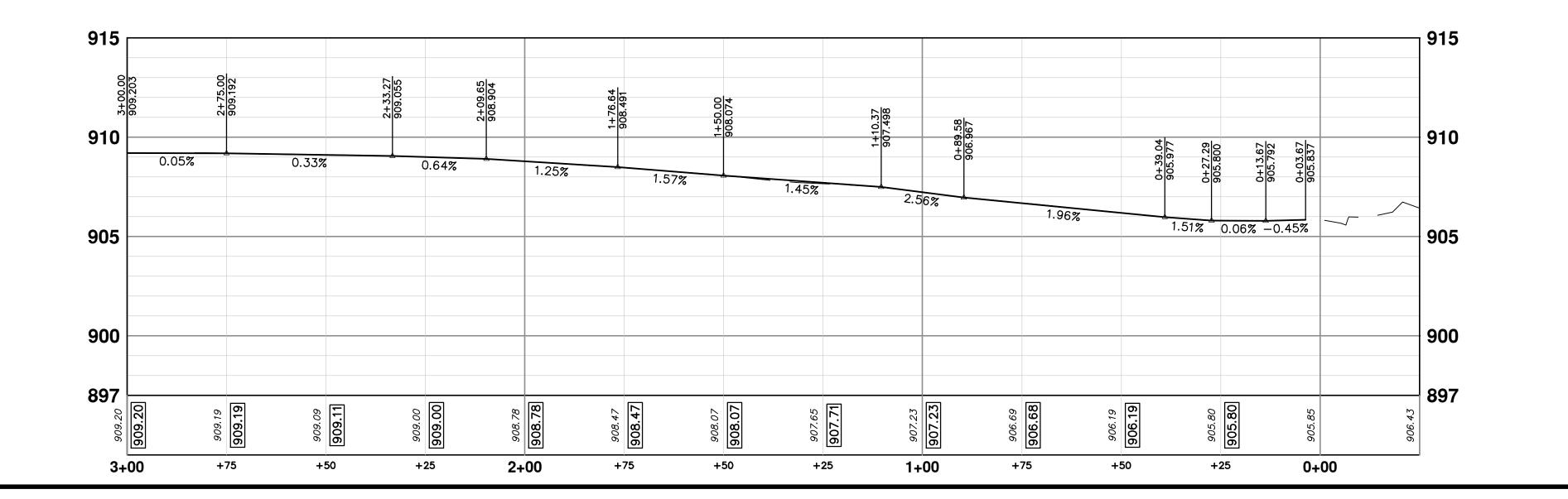
SERVICES - ENGINEERING
BROOKS STREET IMPROVEMEN
PROPOSED ROAD - BROOKS STREET

CITY OF ANN ARBOR - PUBLIC
SCALE PLAN: 1"= 20' PROFILE: 1"= 4'

SHEET No. 43 OF 57







CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

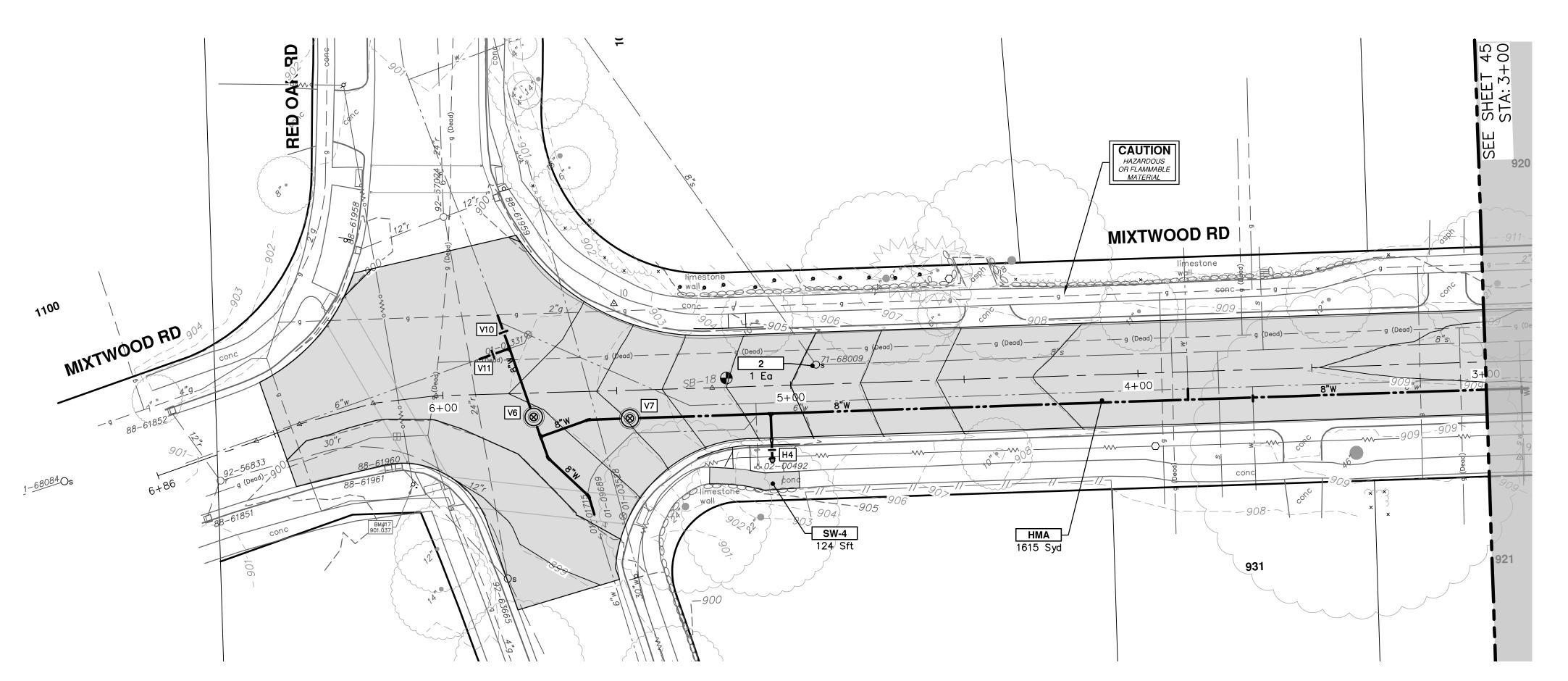
SCALE PLAN: 1" = 20' PROFILE: 1" = 4'

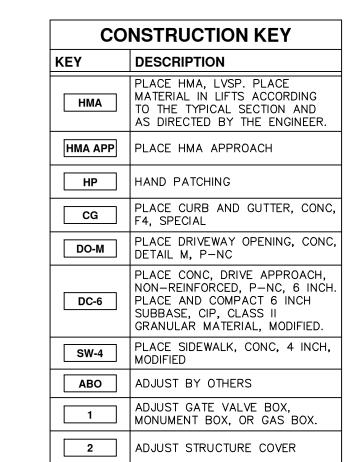
SCALE PLAN: 1" = 20' PROFILE: 1" = 4'

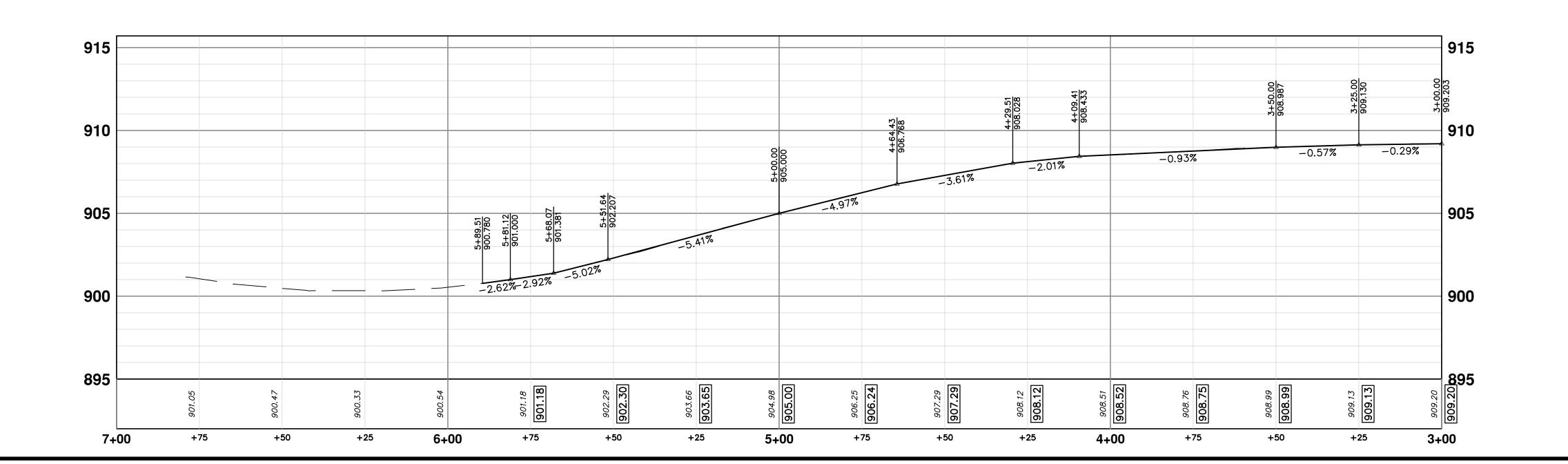
BROOKS STREET IMPROVEMENTS

PROPOSED ROAD - MIXTWOOD

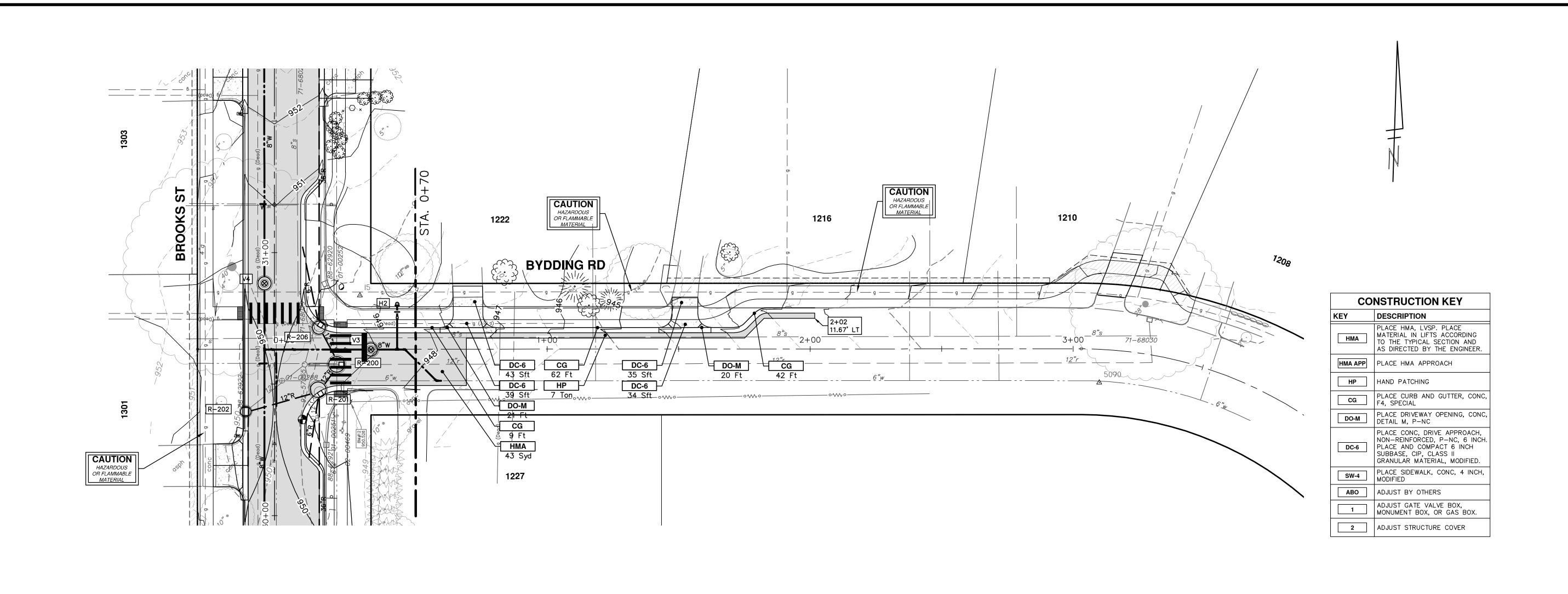
PRAWING NO.









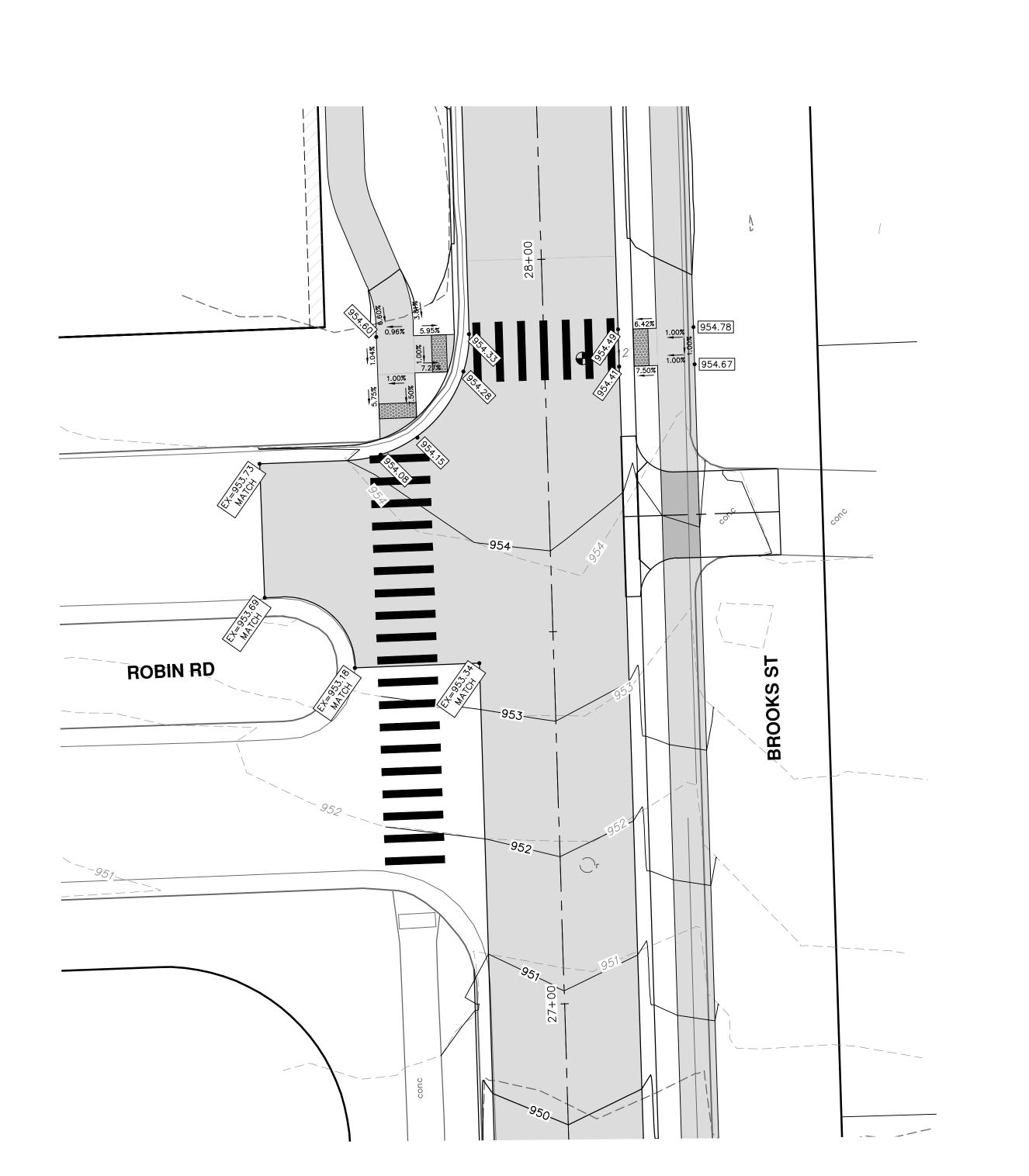


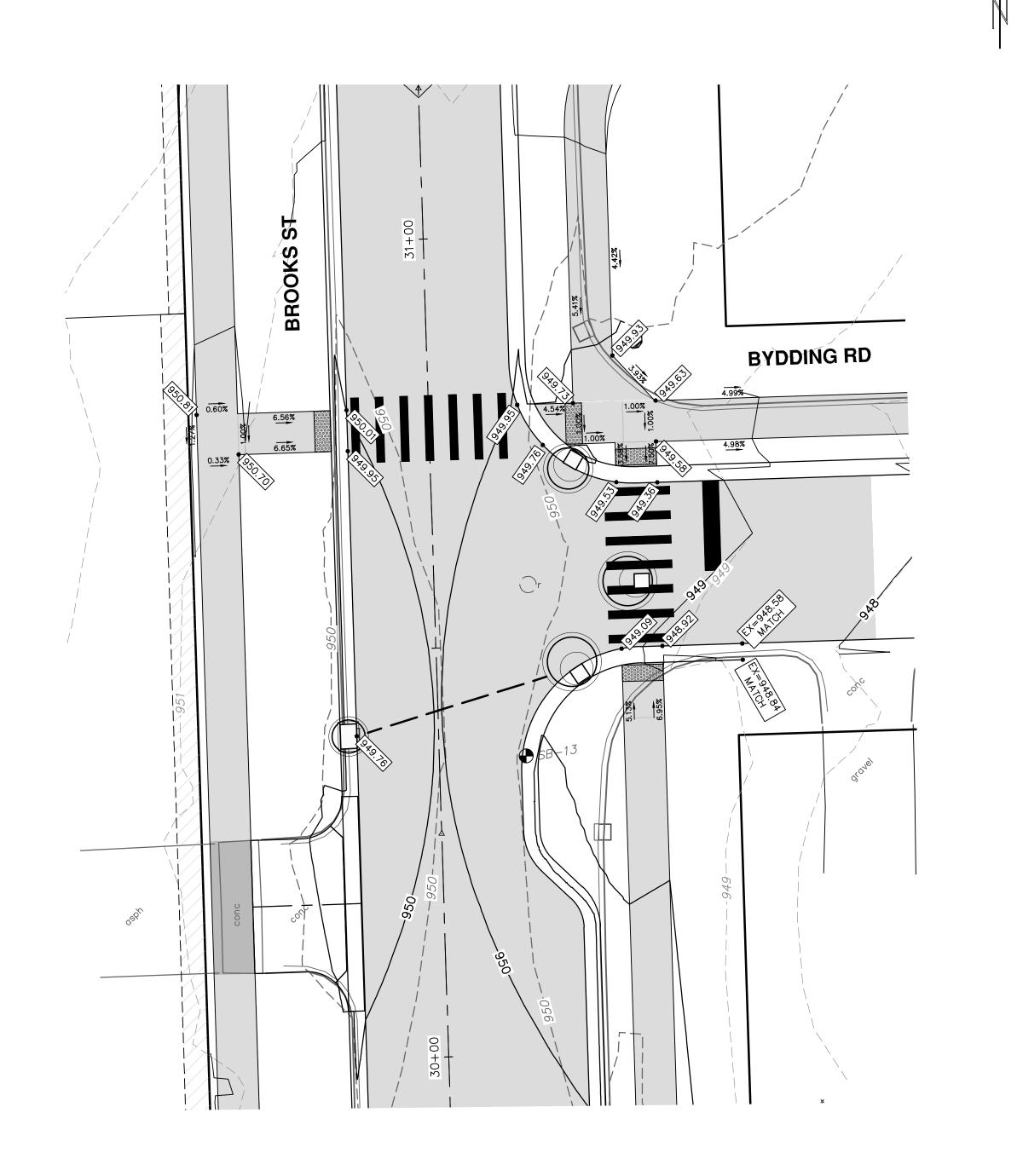
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE PLAN: 1" = 20'

BROOKS STREET IMPROVEMENTS

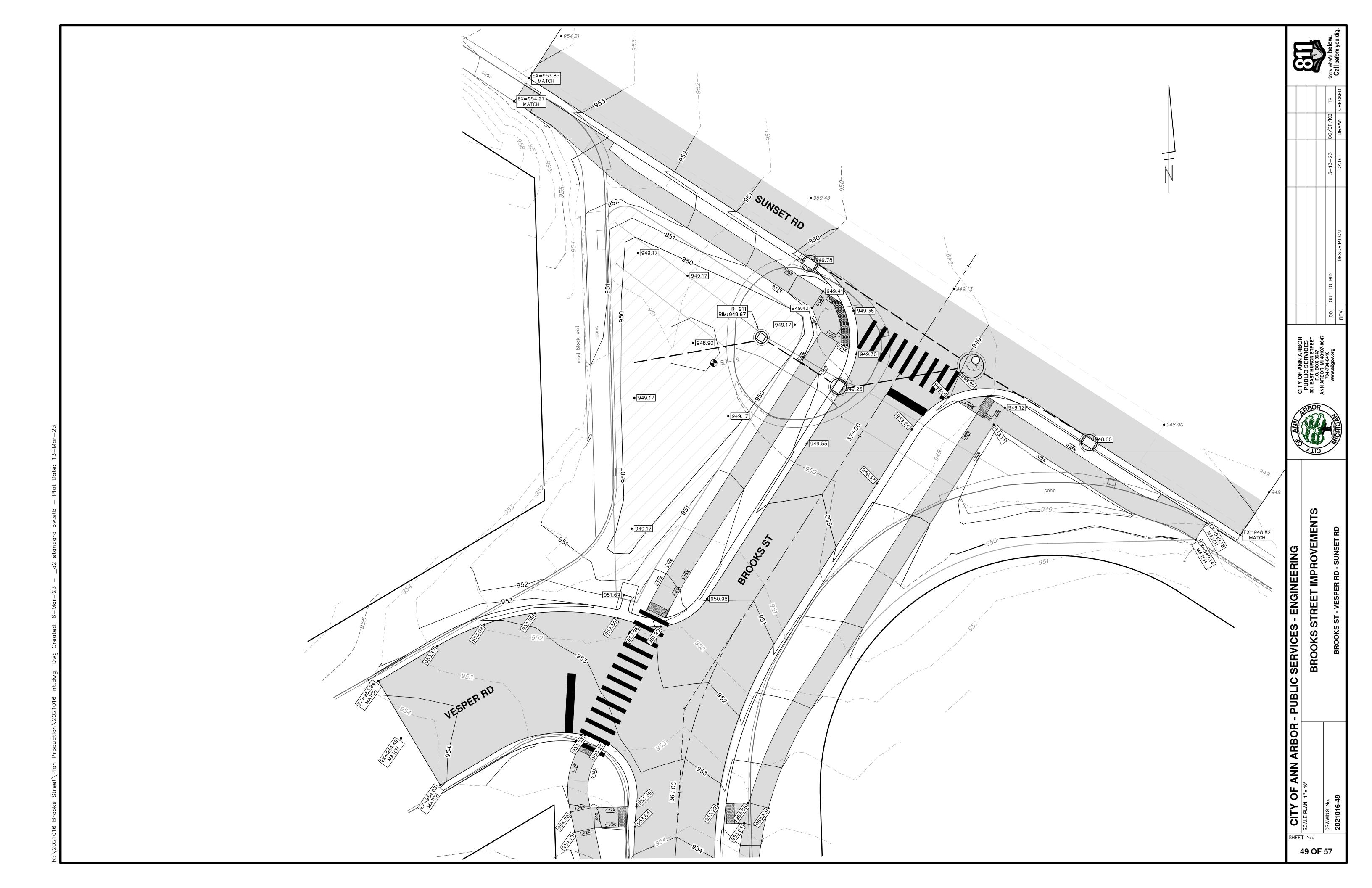
PROPOSED ROAD - BYDDING RD 47 OF 57

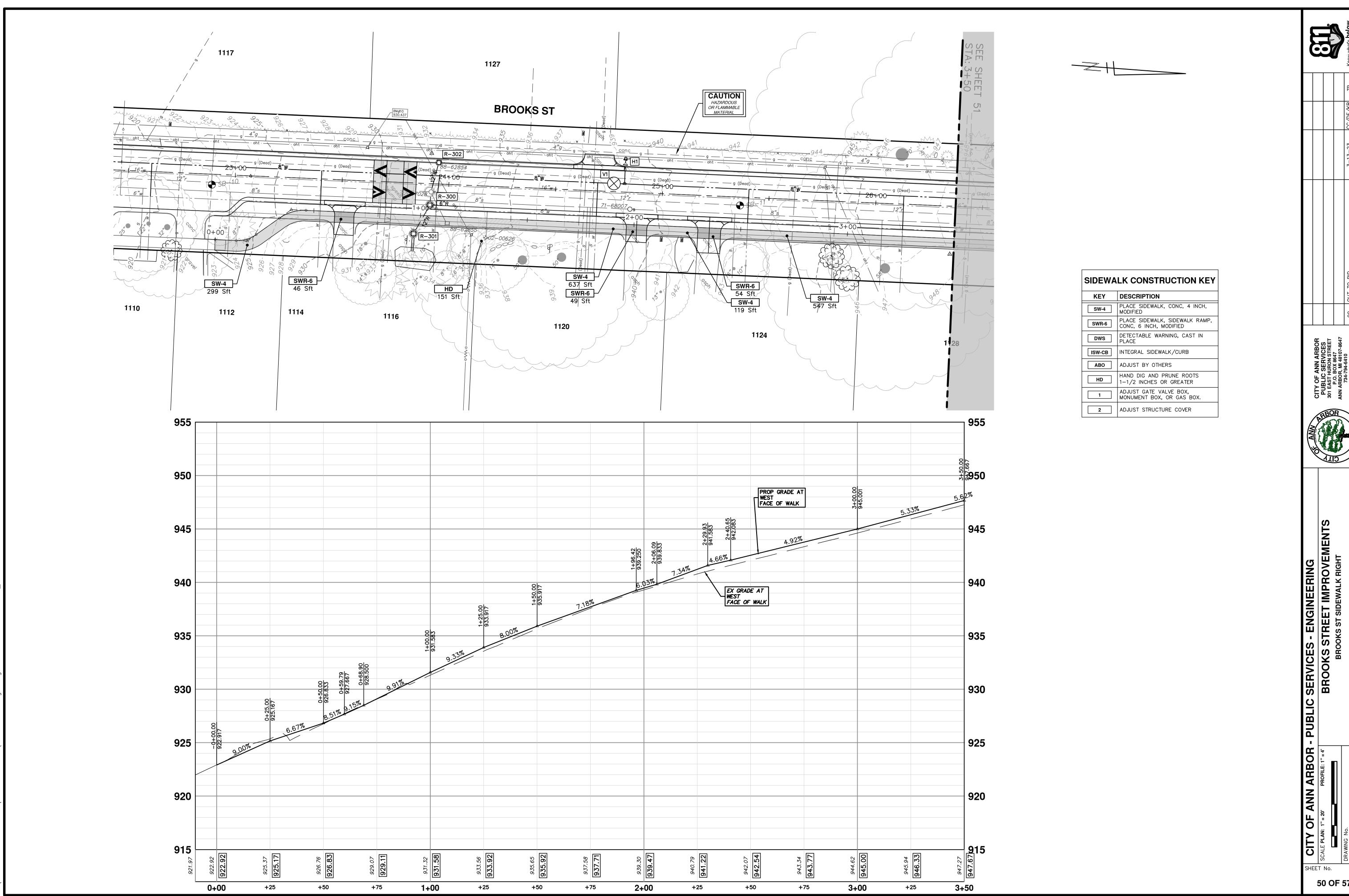




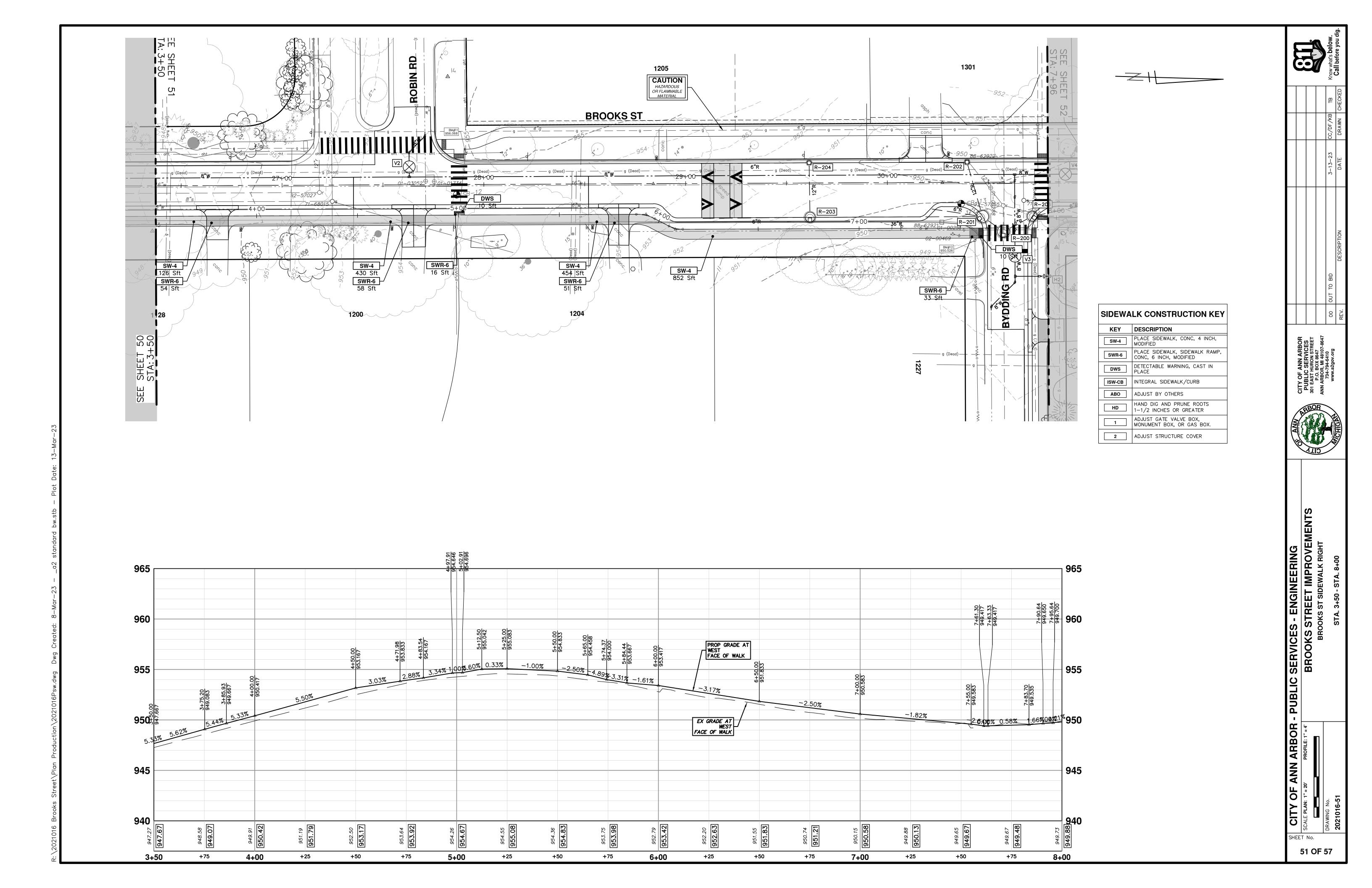
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

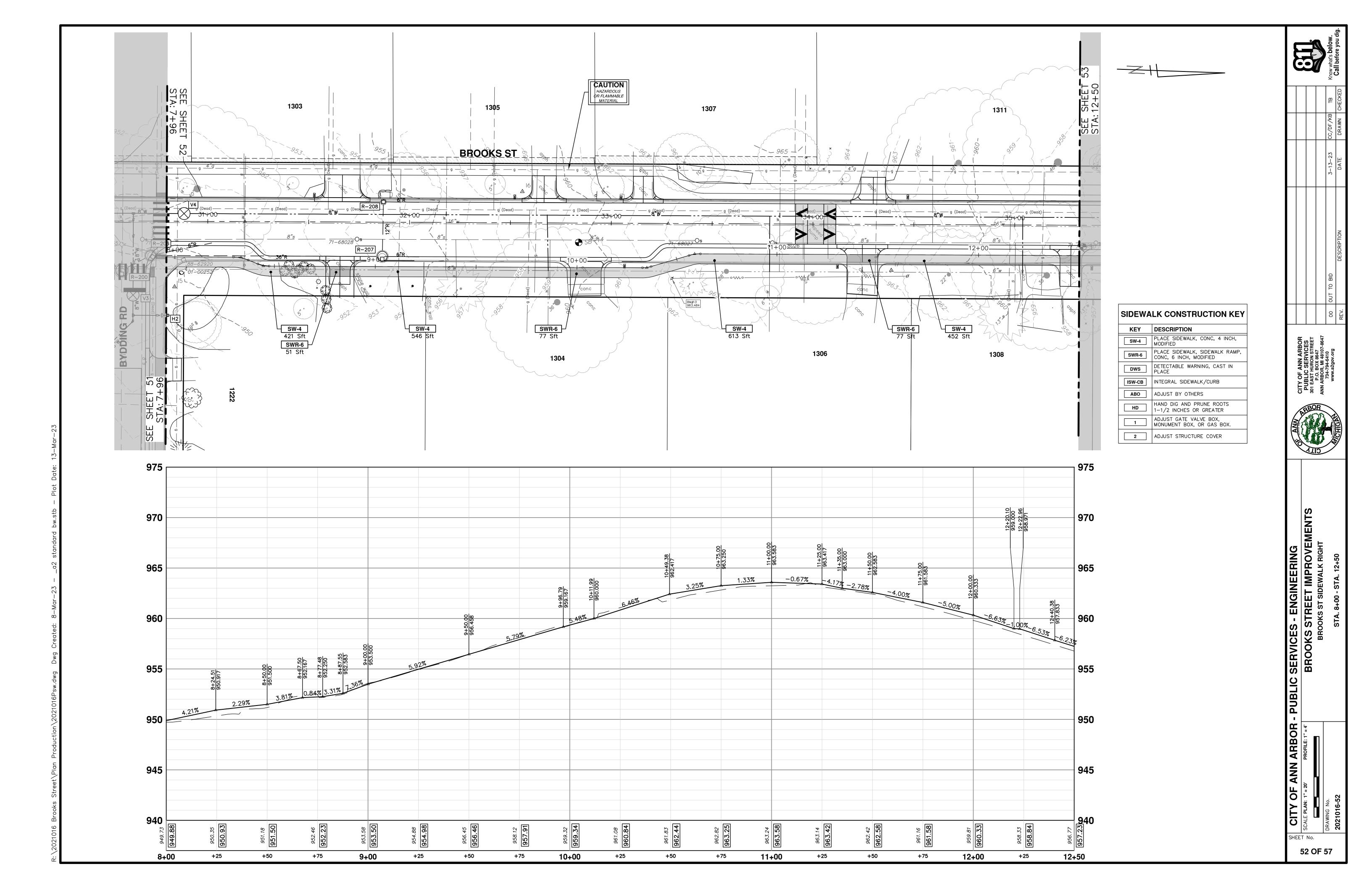
| SCALE PLAN: 1" = 10"
| BROOKS STREET IMPROVEMENTS

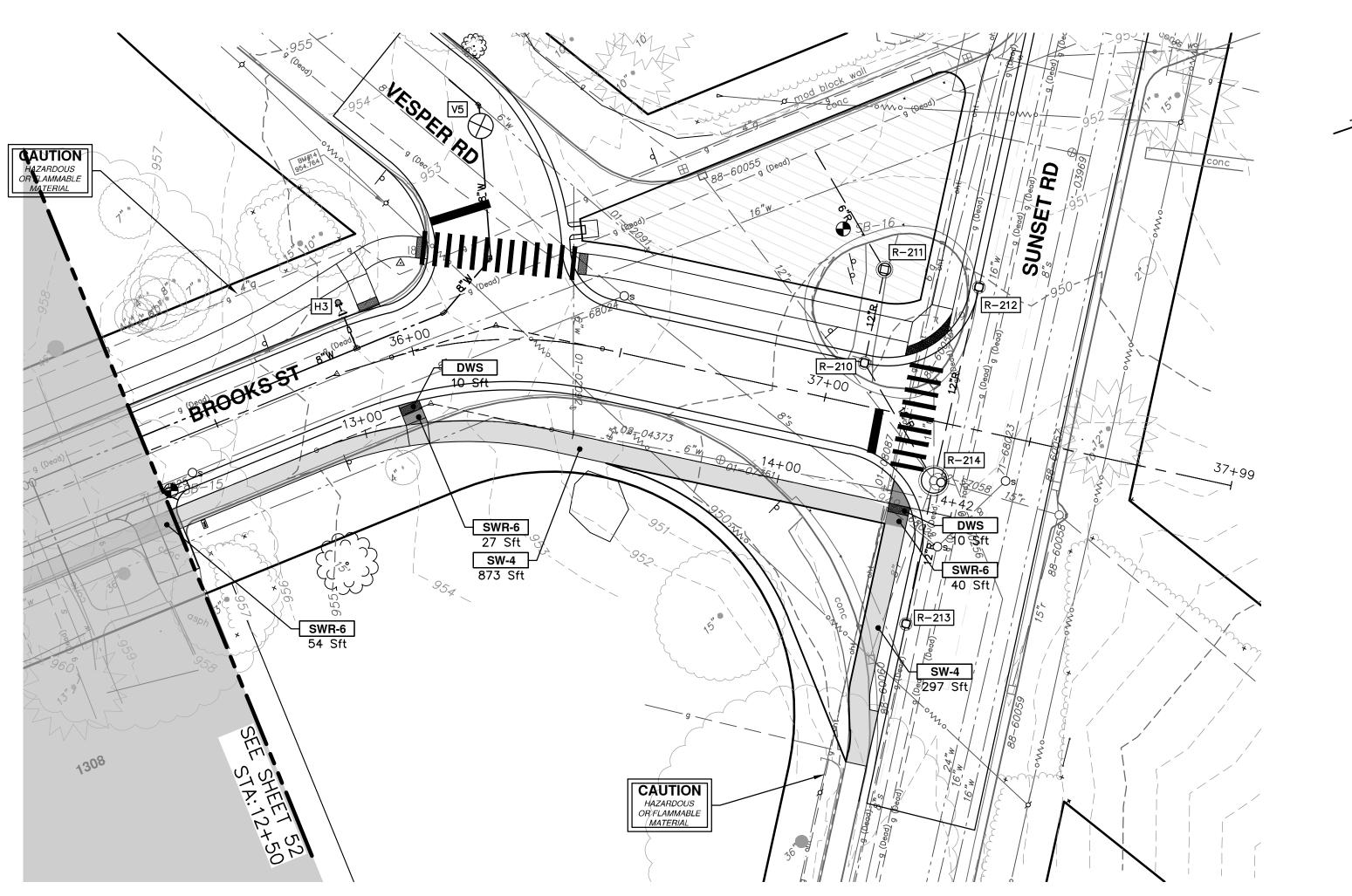


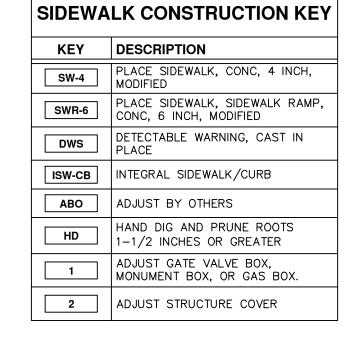


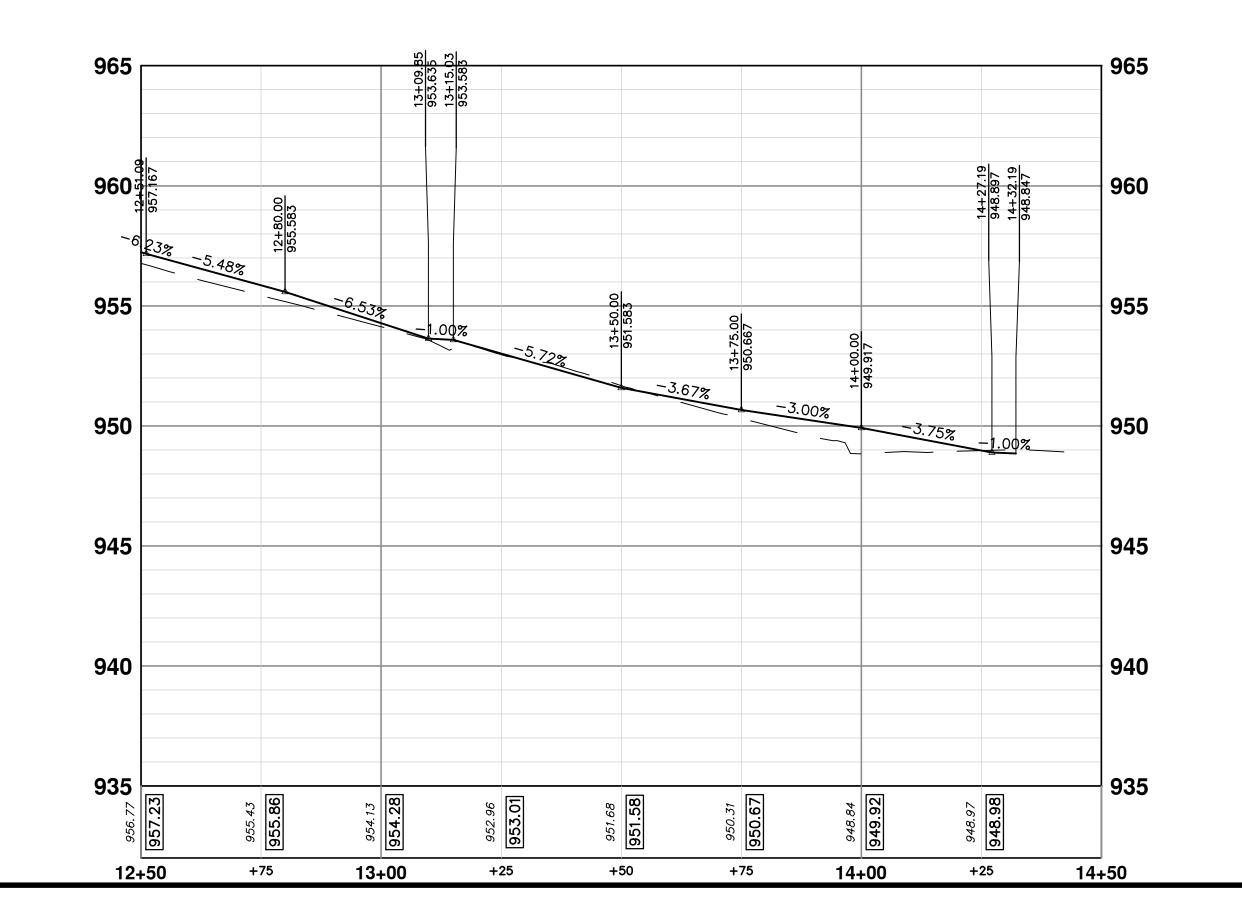




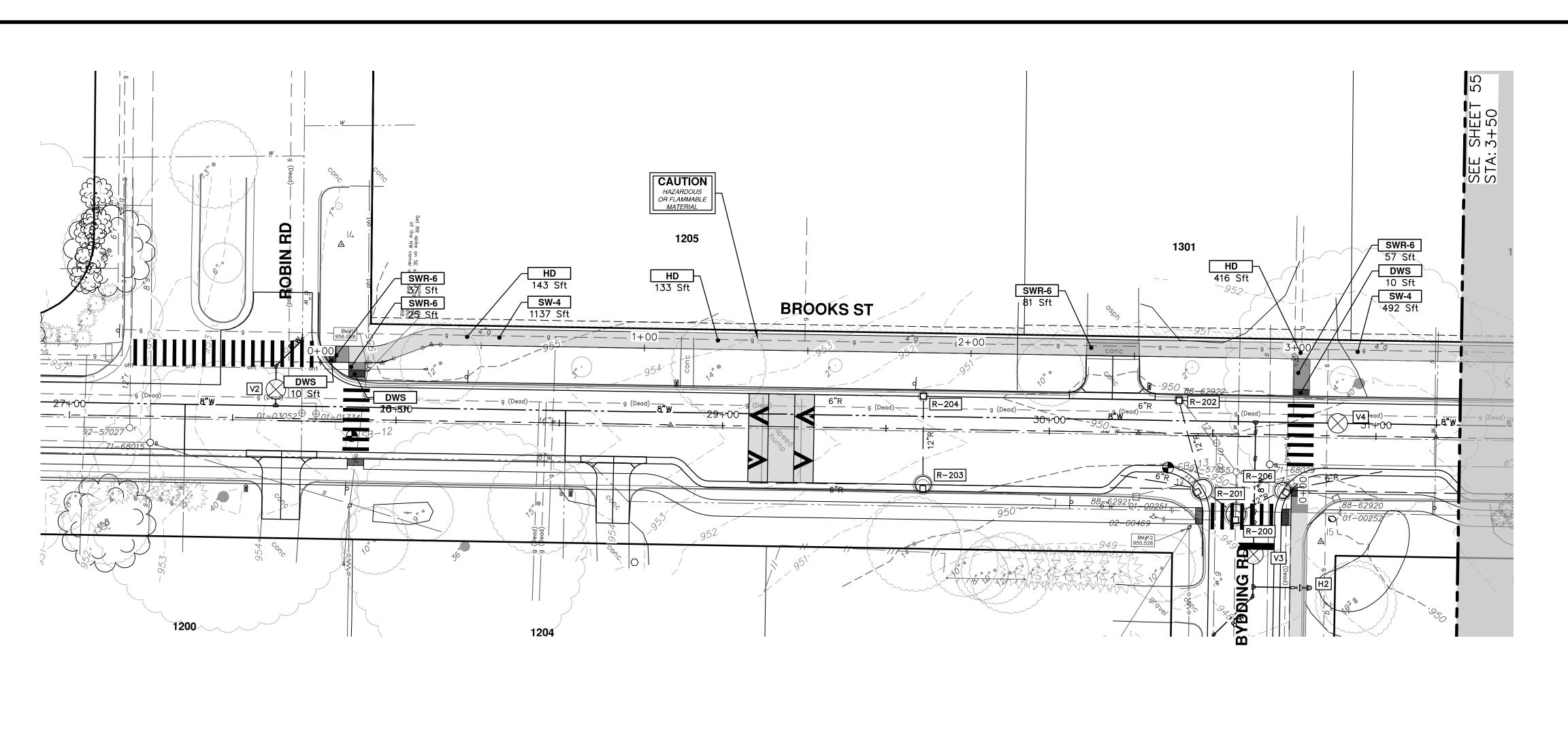


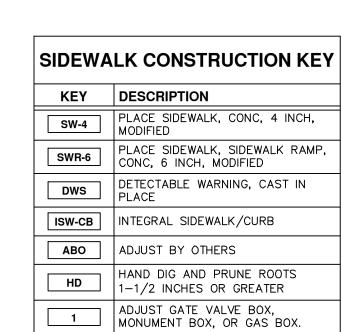




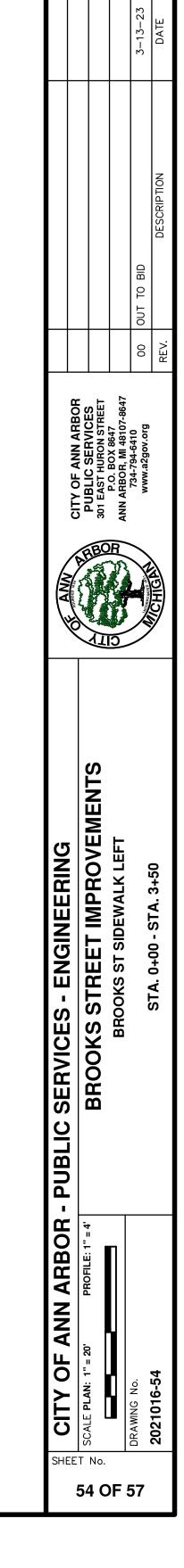


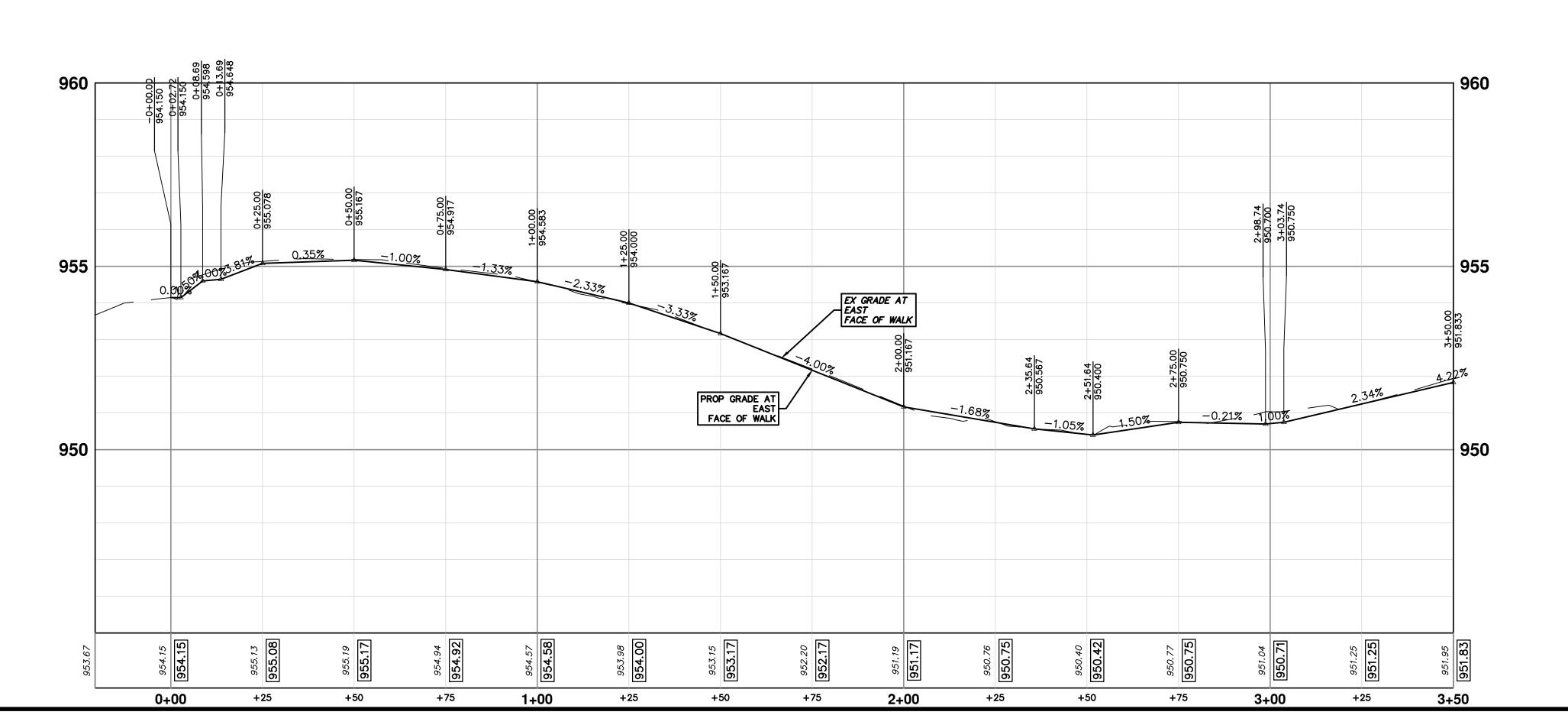
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			13	CHECKED
			CC/DF/KB	DRAWN CHECKED
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CILY OF ANN ARBOR PIIBLIC SERVICES	301 EAST HURON STREET	P.O. BOX 8647 ANN ARBOR, MI 48107-8647	734-794-6410 www.a2gov.org	REV
AP	四	R S		WCHIGA
	BROOKS SIREE IMPROVEMEN IS	BROOKS ST SIDEWALK RIGHT		STA. 12+50 - STA. 14+33.8
PROFILE: 1" = 4'				

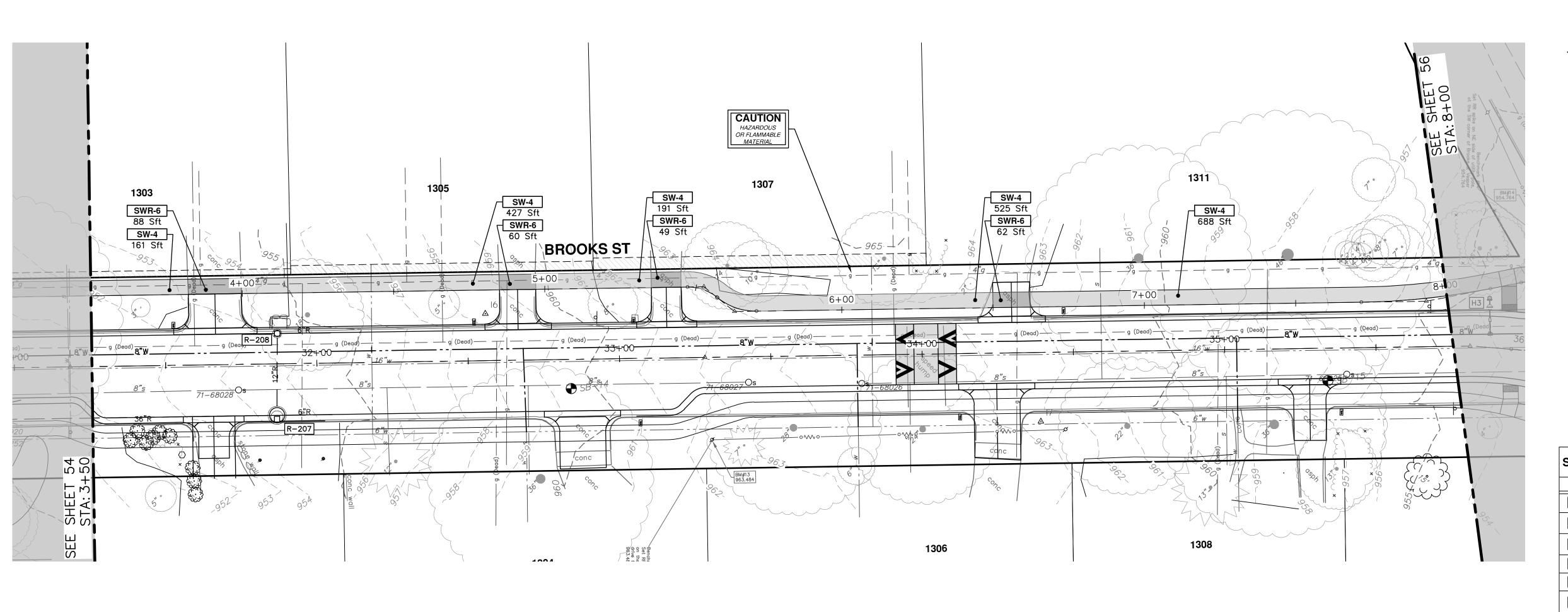


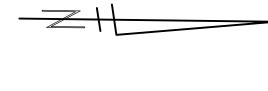


2 ADJUST STRUCTURE COVER

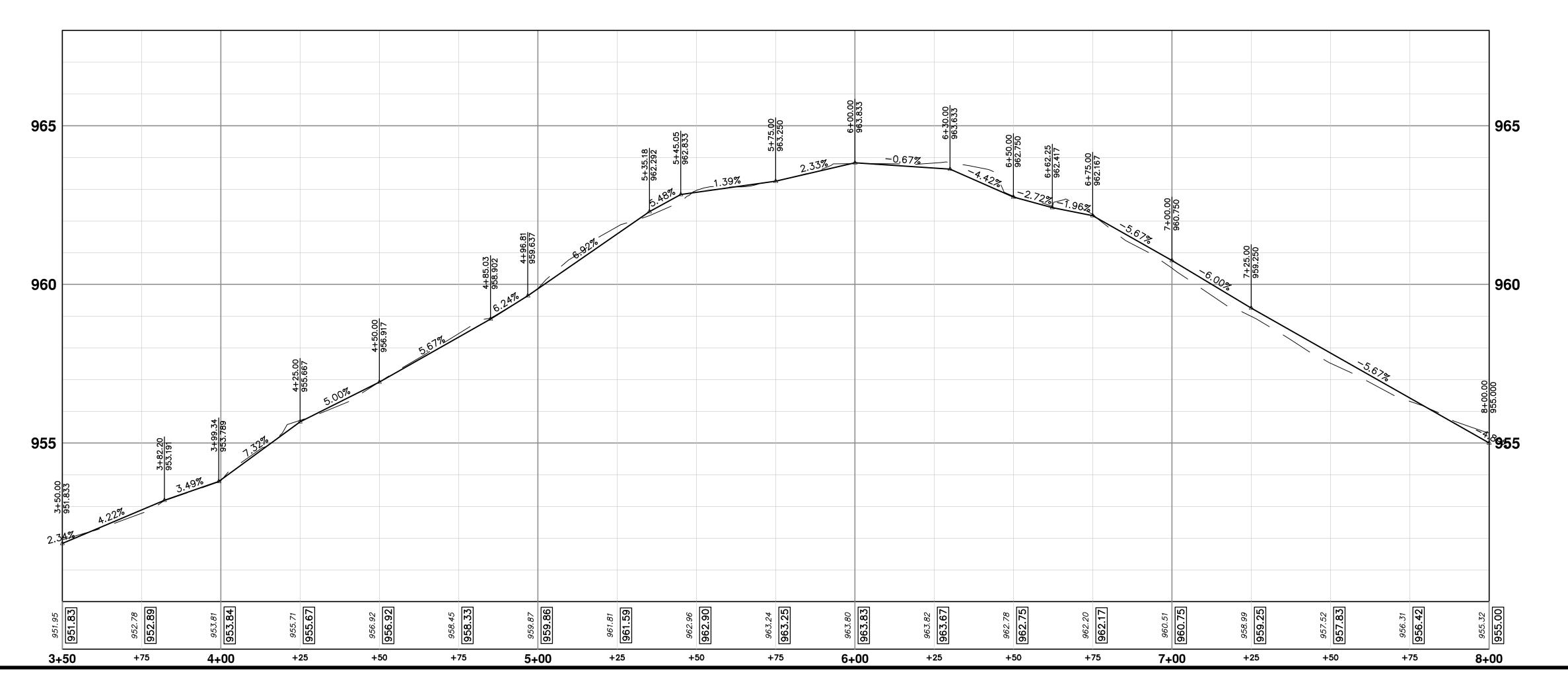


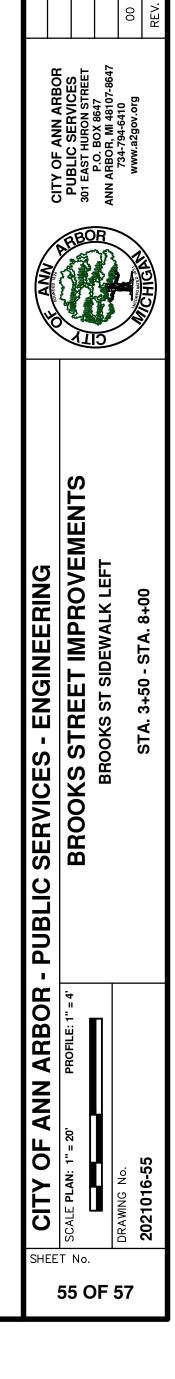


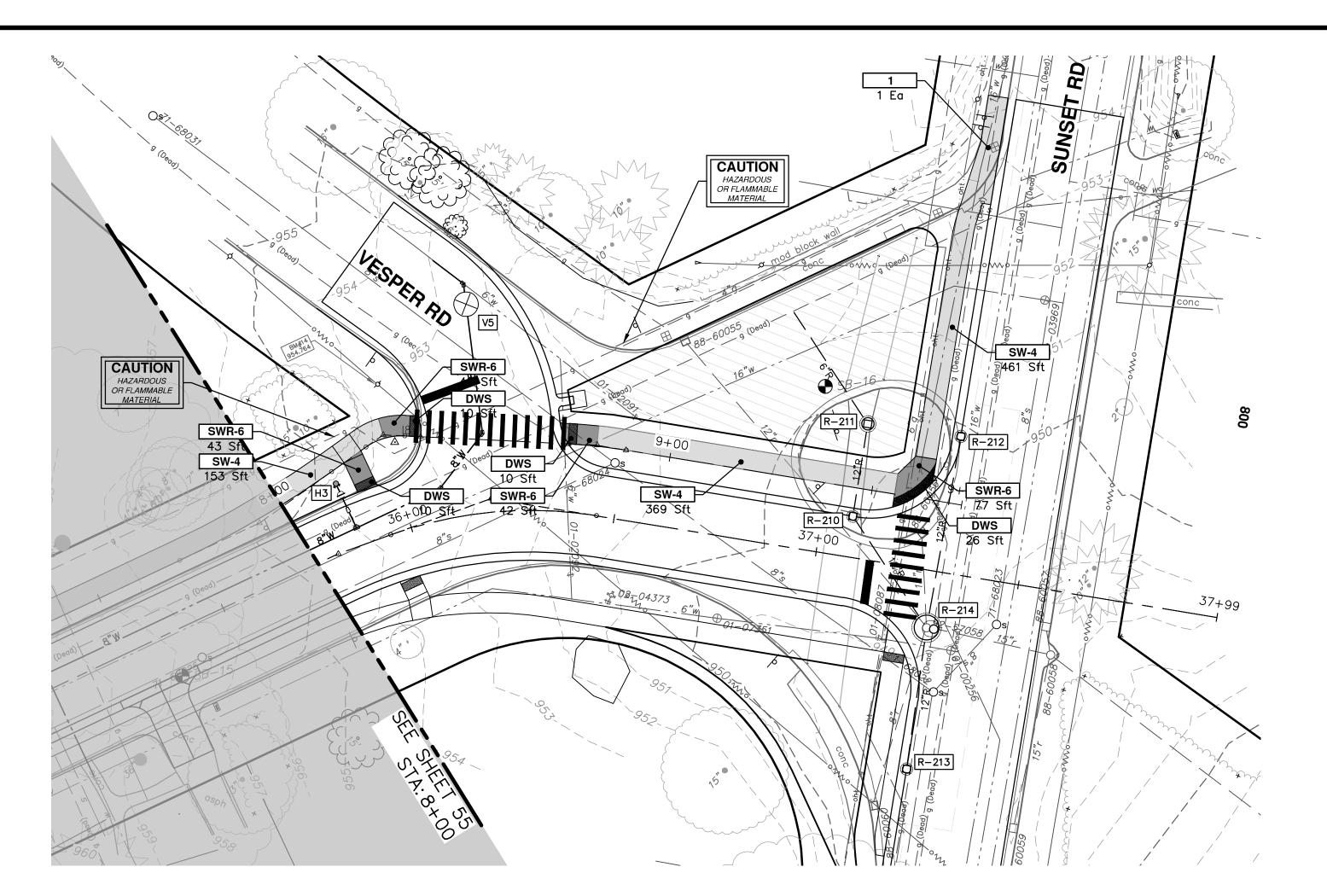


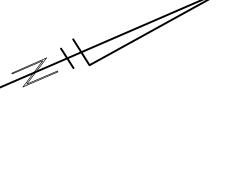


SIDEWALK CONSTRUCTION KEY				
KEY	DESCRIPTION			
SW-4	PLACE SIDEWALK, CONC, 4 INCH, MODIFIED			
SWR-6	PLACE SIDEWALK, SIDEWALK RAMP, CONC, 6 INCH, MODIFIED			
DWS	DETECTABLE WARNING, CAST IN PLACE			
ISW-CB	INTEGRAL SIDEWALK/CURB			
ABO	ADJUST BY OTHERS			
HD	HAND DIG AND PRUNE ROOTS 1-1/2 INCHES OR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









SIDEWALK CONSTRUCTION KEY				
KEY	DESCRIPTION			
SW-4	PLACE SIDEWALK, CONC, 4 INCH, MODIFIED			
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