



# CITY OF ANN ARBOR ENGINEERING

## 2021 MISC. UTILITIES PROJECT

BID No. 4669, FILE No. 2021005

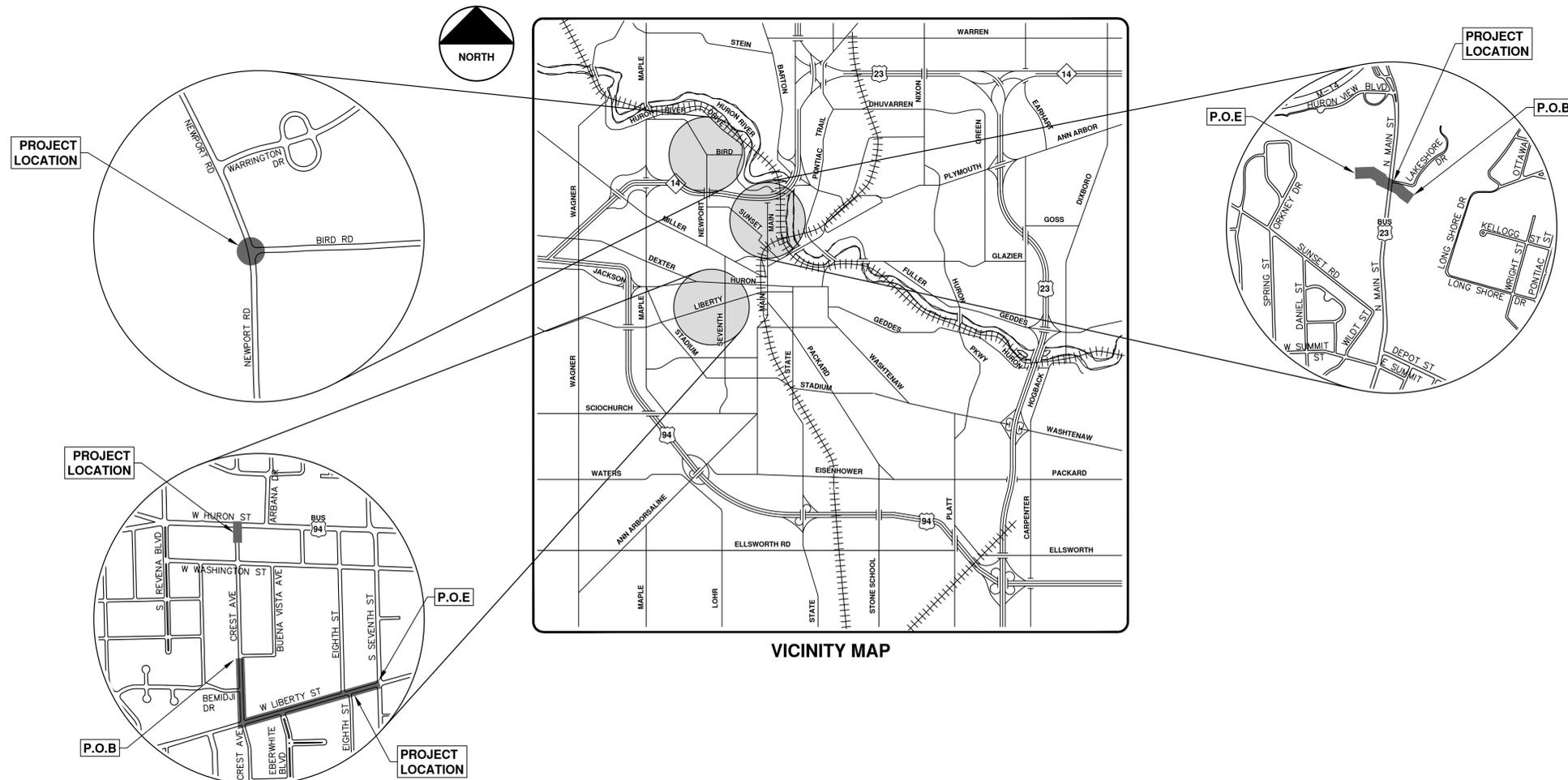
**NOTES**

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.

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PREPARED UNDER THE SUPERVISION OF  
  
 THERESA BRIDGES, P.E. - MI LICENSE No. 6201052180  
 PROJECT MANAGER  
 DATE 03/17/2021



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		DESCRIPTION					

CITY OF ANN ARBOR PUBLIC SERVICES 301 EAST HURON STREET P.O. BOX 8647 ANN ARBOR MI 48107-8647 www.a3gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE SHEET No. 1 OF 56

DRAWING No. 2021005-1

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**EXISTING LEGEND**

	FIRE HYDRANT		WATER MAIN
	GATE VALVE IN BOX		WATER MAIN ABANDONED
	GATE VALVE IN WELL		STORM SEWER
	STOP BOX		STORM SEWER ABANDONED
	WATER VAULT		SANITARY SEWER
	WELL		SANITARY SEWER ABANDONED
	CATCH BASIN (SQ)		GAS MAIN
	CATCH BASIN (RD)		GAS MAIN (DEAD)
	STORM MANHOLE		ELECTRICAL OVER HEAD
	NON-CURB CATCH BASIN (SQ)		ELECTRICAL UNDER GROUND
	END SECTION		ELECTRICAL DUCT BANK
	SANITARY MANHOLE		TELEPHONE OVER HEAD
	CLEAN-OUT		TELEPHONE UNDER GROUND
	POST		TELEPHONE DUCT BANK
	PEDESTRIAN SIGNAL		CABLE TV OVER HEAD
	SIGN		CABLE TV UNDER GROUND
	HAND HOLE		FIBER OPTIC
	ORNAMENTAL LIGHT		FIBER OPTIC DUCT BANK
	FLOOD LIGHT		BOUNDARY
	UNKNOWN MANHOLE		BUILDING
	TELEPHONE MANHOLE		CENTERLINE OF DITCH
	TELEPHONE RISER		CENTERLINE/CROWN OF ROAD
	GAS VALVE		CONTOUR MAJOR
	GAS VENT		CONTOUR MINOR
	GAS BOX		EDGE OF WATER
	ELECTRICAL RISER		FLOODPLAIN
	TRANSFORMER		FENCE
	UTILITY POLE		GRAVEL
	LAMP POLE		GUARDRAIL
	GUY ANCHOR		STONE WALL
	GUY POLE		R.O.W.
	MONITORING WELL		TREELINE
	MAILBOX		WETLAND
	SOIL BORING		EDGE OF BRUSH
	TRAVERSE POINT		HEDGE
	BENCH MARK		TREE (DECIDUOUS)
	IRON PIPE		TREE (CONIFEROUS)
	MON BOX		SHRUB (DECIDUOUS)
			STUMP
			TREE TO REMAIN & PROTECT (DECIDUOUS) CRITICAL ROOT ZONE (C.R.Z.) = DIAMETER BREST HEIGHT (INCHES) X 10
			TREE TO REMAIN & PROTECT (CONIFEROUS) CRITICAL ROOT ZONE (C.R.Z.) = DIAMETER BREST HEIGHT (INCHES) X 10

**PROPOSED LEGEND**

	HYDRANT (PLAN)		WATER MAIN
	WATER GATE WELL		STORM SEWER
	REDUCER		SANITARY SEWER
	WATER GATE VALVE		FIBER OPTIC
	WATER STOP BOX		ELECTRICAL
	WATER VAULT		CENTERLINE OF DITCH
	INLET		CENTERLINE OF ROAD
	DOUBLE INLET		FENCE
	INLET JUNCTION CHAMBER		GRAVEL
	ROUND CATCH BASIN		SILT FENCE
	STORM MANHOLE		PROTECTIVE FENCE
	DRAIN ARROW		GUARDRAIL
	FLARED END SECTION		LOT/UNIT
	SANITARY MANHOLE		CURB
	CLEAN-OUT		TEMPORARY GRADING PERMIT
	SIGN		CONTOUR MAJOR
	PUSH BUTTON		CONTOUR MINOR
	HAND HOLE		WATER EASEMENT
			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



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**2021 MISC. UTILITIES PROJECT**

SCALE: NTS

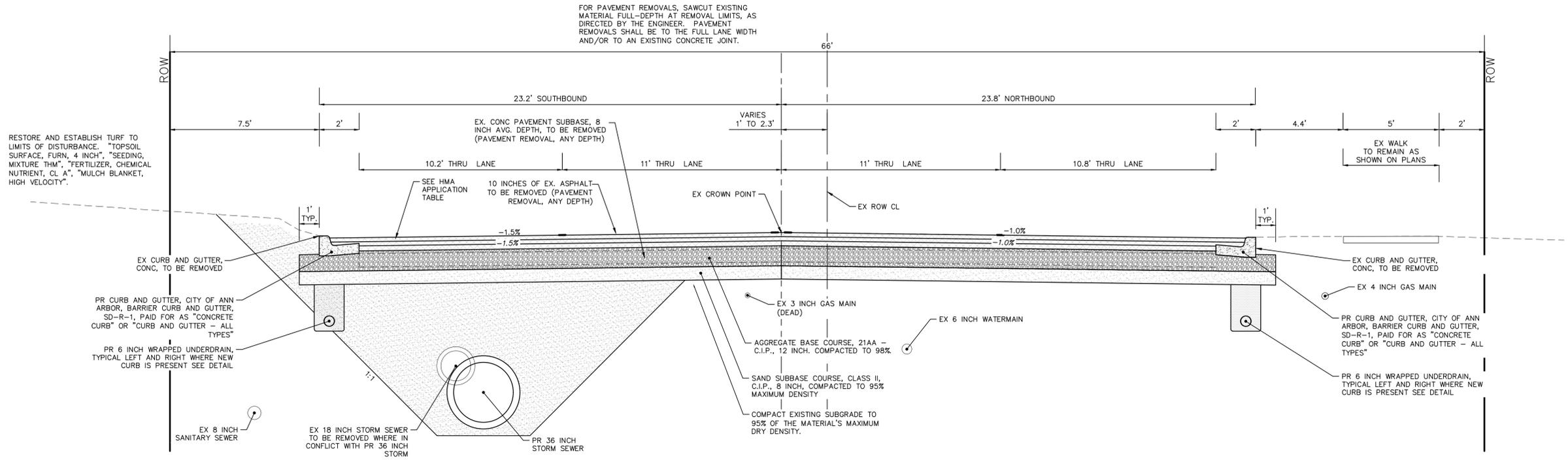
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SHEET No. 3 OF 56



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**NORTH MAIN STREET  
PROPOSED TYPICAL SECTION**  
LOOKING NORTH  
N.T.S.

HMA APPLICATION ESTIMATE						
HMA PAVEMENT	HMA MIX	RATE OF APPLICATION	THICKNESS (INCHES)	AWI (MIN.)	BINDER	LOCATION/NOTES
HMA PAVEMENT TOP	5E1 HS	220 LB/SYD	2	260 (TOP)	PG 70-28P*	TOP COURSE
HMA PAVEMENT LEVELING	4E1 HS	275 LB/SYD	2.5	-	PG 70-28P*	LEVELING COURSE
HMA PAVEMENT BASE	2C	385 LB/SYD	3.5	-	PG 64-28P	BASE COURSE
HMA APPROACH TOP	LVSP	220 LB/SYD	2	220 (TOP)	PG 58-28	TOP COURSE
HMA APPROACH LEVELING	LVSP	220 LB/SYD	2	-	PG 58-28	LEVELING COURSE
HAND PATCHING	4E1	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

NOTE:  
LAKE SHORE DRIVE AND THE PARKING AREA FOR 1250 N. MAIN, ARE TO BE RESTORED AND PAID FOR AS HMA APPROACH.  
N MAIN STREET ASPHALT MIXTURE TO BE HIGH STRESS HOT MIX



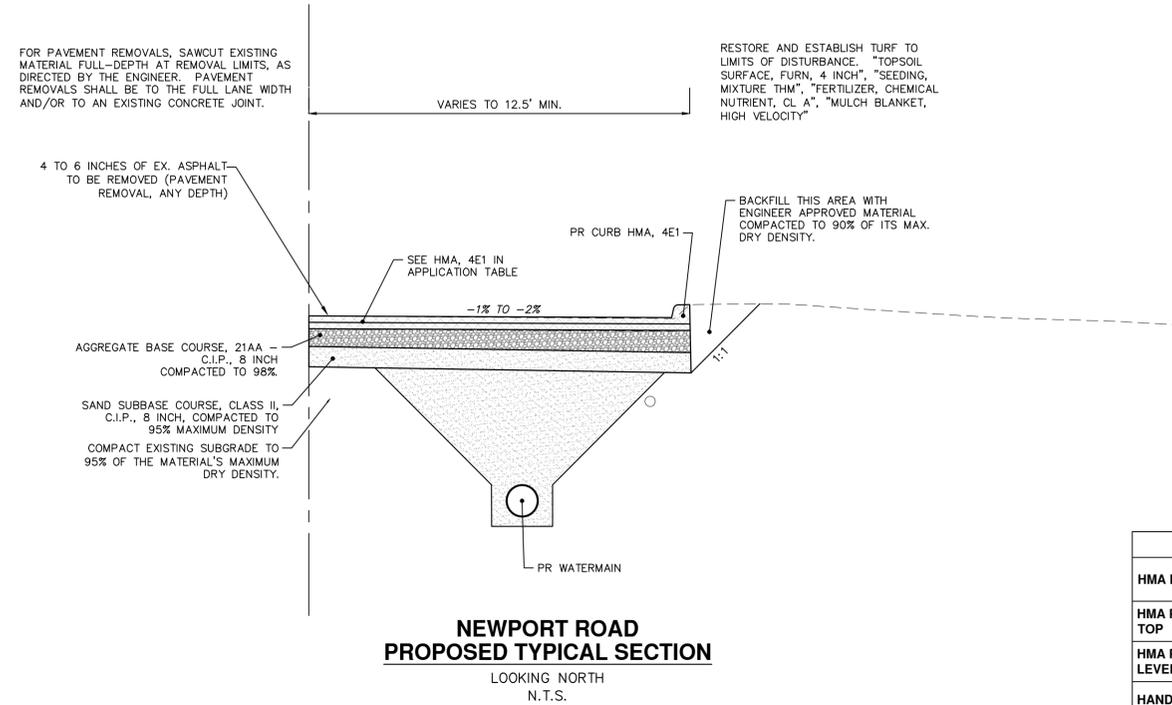
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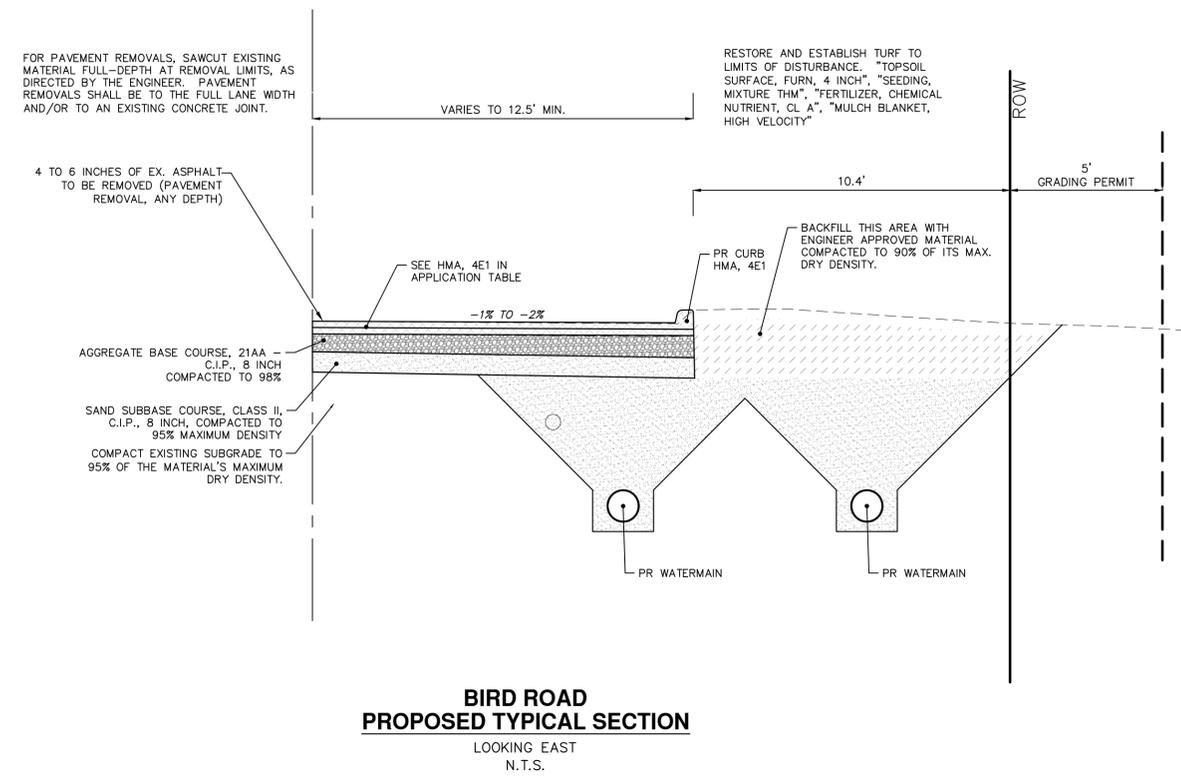
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N MAIN STREET TYPICAL SECTIONS

SCALE PLAN: NTS  
DRAWING No. 2021005-4



**NEWPORT ROAD  
PROPOSED TYPICAL SECTION**  
LOOKING NORTH  
N.T.S.

HMA APPLICATION ESTIMATE						
HMA PAVEMENT	HMA MIX	RATE OF APPLICATION	THICKNESS (INCHES)	AWI (MIN.)	BINDER	LOCATION/NOTES
HMA PAVEMENT TOP	4E1	275 LB/SYD	2.5	220 (TOP)	PG 64-28	TOP COURSE
HMA PAVEMENT LEVELING	4E1	275 LB/SYD	2.5	-	PG 64-28	LEVELING COURSE
HAND PATCHING	4E1	0 - 440 LB/SYD			PG 64-28	HAND PATCHING
ASPHALT EMULSION	SS-1h	0.05 - 0.15 GAL/SYD	-	-	-	INCLUDE IN COST OF HMA ITEM



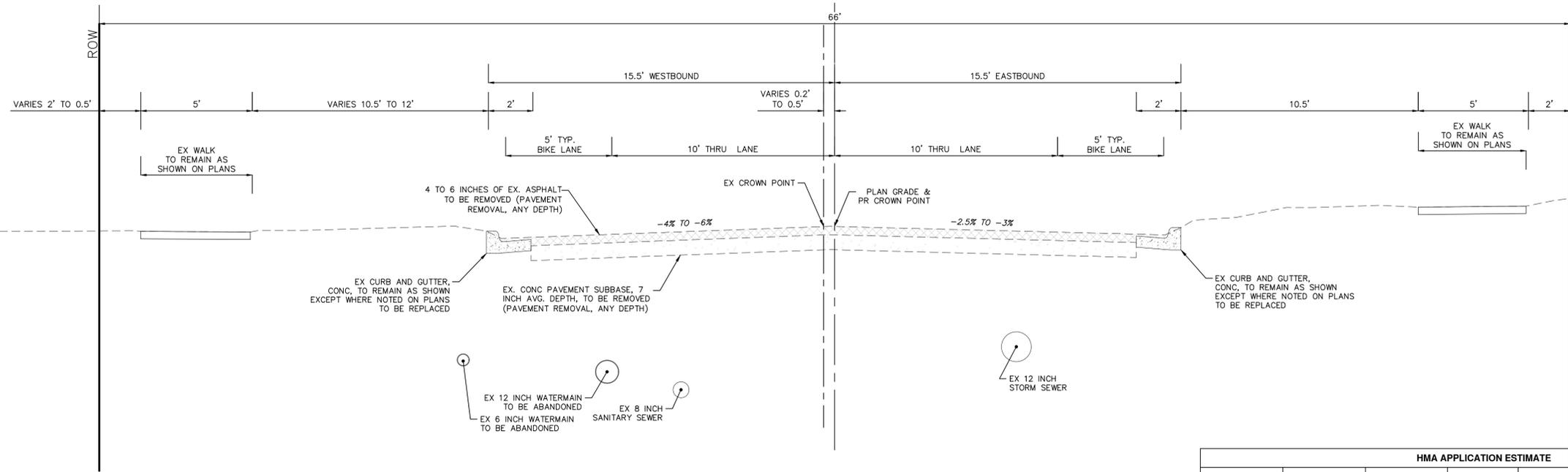
**BIRD ROAD  
PROPOSED TYPICAL SECTION**  
LOOKING EAST  
N.T.S.



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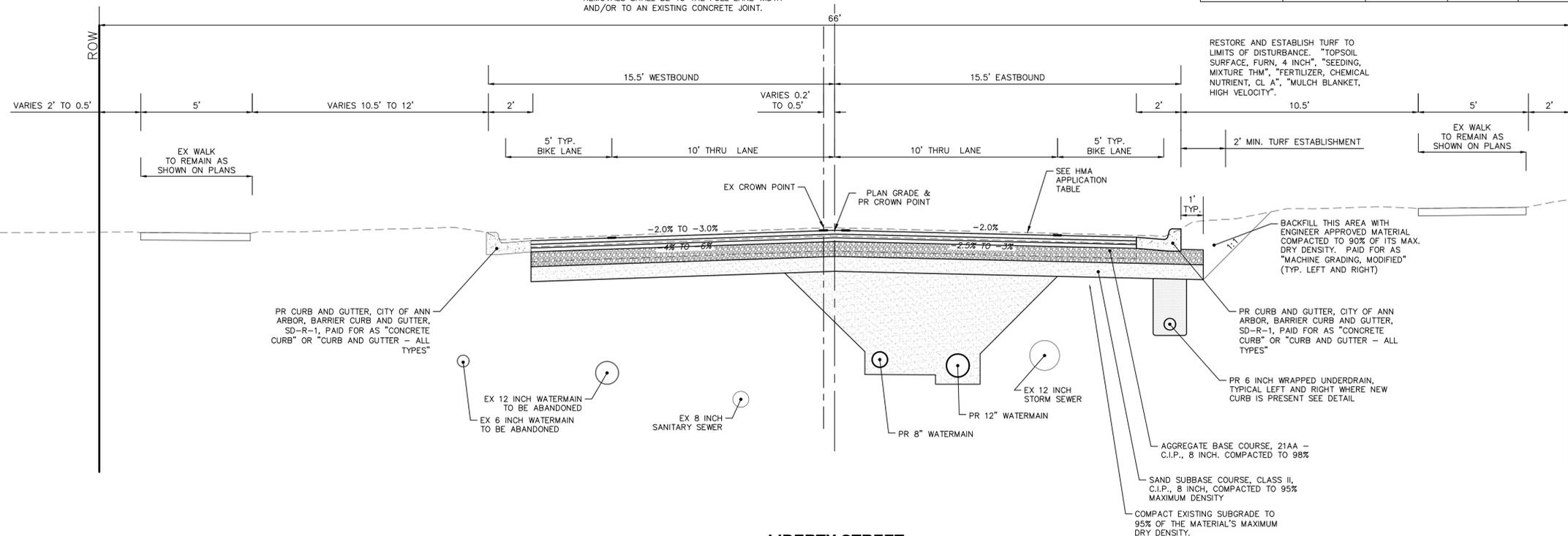
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**LIBERTY STREET  
EXISTING TYPICAL SECTION**  
STA. 4+80 TO STA. 16+90  
N.T.S.

FOR PAVEMENT REMOVALS, SAWCUT EXISTING MATERIAL FULL-DEPTH AT REMOVAL LIMITS, AS DIRECTED BY THE ENGINEER. PAVEMENT REMOVALS SHALL BE TO THE FULL LANE WIDTH AND/OR TO AN EXISTING CONCRETE JOINT.

HMA APPLICATION ESTIMATE						
HMA PAVEMENT	HMA MIX	RATE OF APPLICATION	THICKNESS (INCHES)	AWI (MIN.)	BINDER	LOCATION/NOTES
HMA PAVEMENT TOP	4E1	160 LB/SYD	1.5	260 (TOP)	PG 64-28	TOP COURSE
HMA PAVEMENT LEVELING	4E1	220 LB/SYD	2	-	PG 64-28	LEVELING COURSE
HMA PAVEMENT BASE	3C	220 LB/SYD	2	-	PG 64-28	BASE COURSE
HMA APPROACH TOP	4E1	220 LB/SYD	2	220 (TOP)	PG 58-28	TOP COURSE
HMA APPROACH LEVELING	4E1	220 LB/SYD	2	-	PG 58-28	LEVELING COURSE
HAND PATCHING	4E1	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



**LIBERTY STREET  
PROPOSED TYPICAL SECTION**  
STA. 4+80 TO STA. 16+90  
N.T.S.



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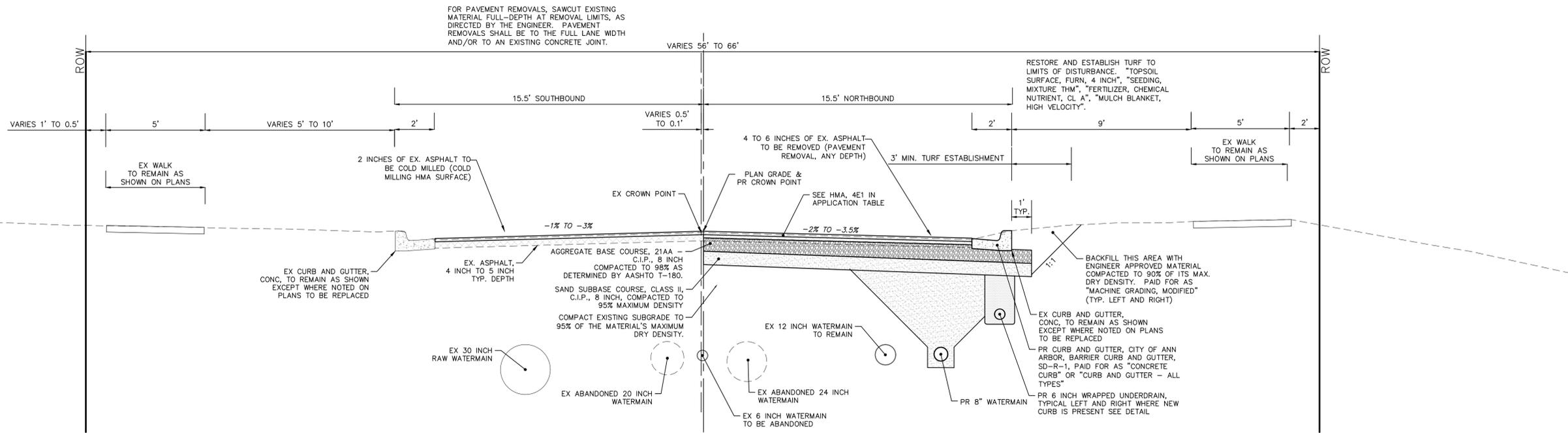
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**2021 MISC. UTILITIES PROJECT**  
LIBERTY STREET TYPICAL SECTIONS

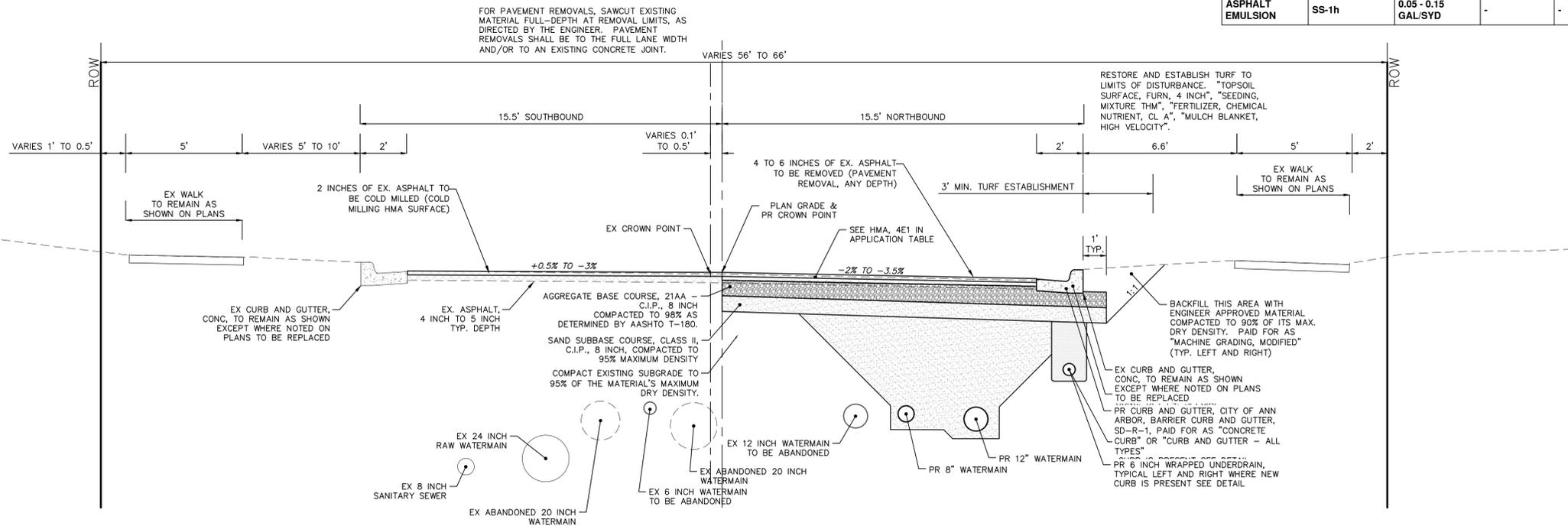
SCALE PLAN: NTS  
DRAWING No. 2021005-6

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**CREST AVENUE  
PROPOSED TYPICAL SECTION**  
STA. 4+00 TO STA. 7+30  
N.T.S.

HMA APPLICATION ESTIMATE						
HMA PAVEMENT	HMA MIX	RATE OF APPLICATION	THICKNESS (INCHES)	AWI (MIN.)	BINDER	LOCATION/NOTES
HMA PAVEMENT TOP	LVSP	220 LB/SYD	2	220 (TOP)	PG 58-28	TOP COURSE
HMA PAVEMENT LEVELING	LVSP	220 LB/SYD	2	-	PG 58-28	LEVELING COURSE
HMA APPROACH TOP	LVSP	220 LB/SYD	2	220 (TOP)	PG 58-28	TOP COURSE
HMA APPROACH LEVELING	LVSP	220 LB/SYD	2	-	PG 58-28	LEVELING COURSE
HAND PATCHING	LVSP	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



**CREST AVENUE  
PROPOSED TYPICAL SECTION**  
STA. 1+80 TO STA. 4+00  
N.T.S.



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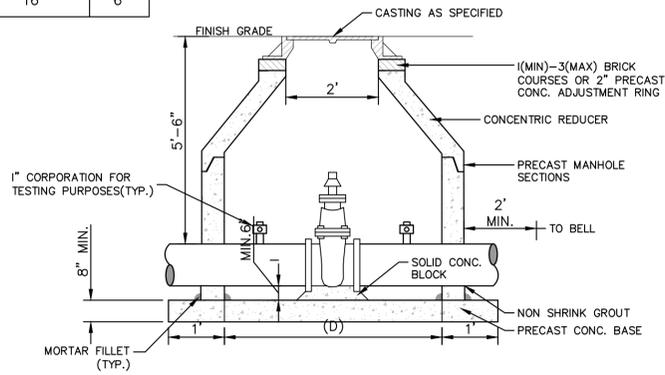
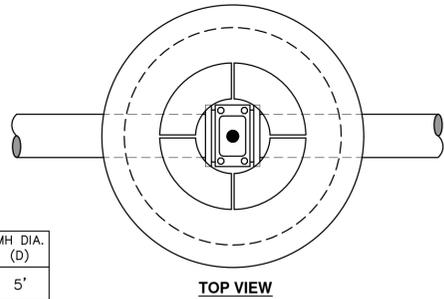
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CREST AVE TYPICAL SECTIONS

SCALE PLAN: NTS  
DRAWING No. 2021005-7

PIPE SIZE	MH DIA. (D)
12" OR LESS	5'
16"	6'



- NOTES:
1. ALL LIFT HOLES AND JOINTS SHALL BE MORTARED BOTH INSIDE AND OUTSIDE
  2. ALL JOINTS SHALL BE MADE WATER TIGHT WITH RUBBER GASKET JOINTS
  3. NO STEPS ARE PERMITTED
  4. MANHOLE SECTIONS SHALL MEET ASTM C-478

**GATE WELL FOR MAIN 16" & SMALLER SD-W-3**

**MINIMUM STANDARDS**

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

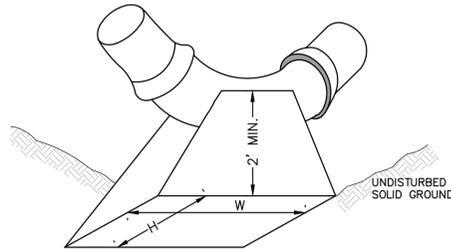
THE DIMENSIONS OF THE THRUST BLOCK AT THE FACE OF THE UNDISTURBED SOLID GROUND SHALL BE AS SHOWN IN THE TABLE BELOW.

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	
	W	H	90°	45°	22 1/2°	11 1/4°	W	H
4	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.5
6	2.0	1.5	2.0	2.0	2.0	1.0	1.0	2.5
8	2.5	2.0	3.5	2.0	2.0	2.0	1.0	2.0
12	3.5	3.0	5.5	3.0	3.5	2.5	2.0	1.0
16	6.0	3.5	6.0	4.0	5.0	3.0	3.5	2.0

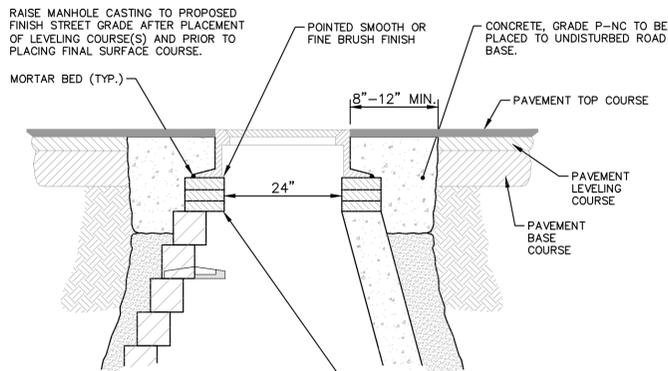
FOR FITTING SIZES LARGER THAN 16", THRUST BLOCK DIMENSIONS SHALL BE AS SPECIFIED BY ENGINEER.

W = WIDTH IN FEET  
H = HEIGHT IN FEET



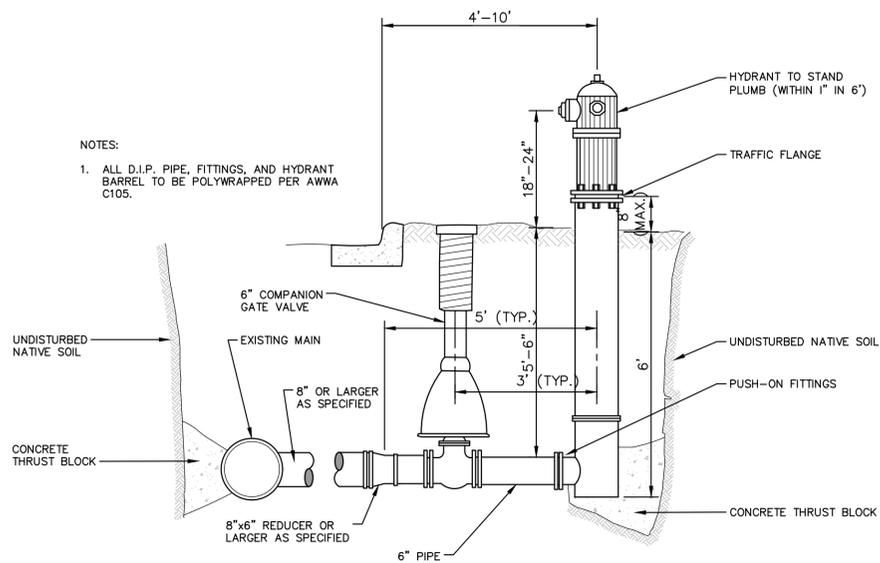
- NOTE:
- THESE ARE MINIMUM STANDARDS. WHERE SOIL CONDITIONS DICTATE, ADJUSTMENTS IN SIZE SHALL BE MADE AS DIRECTED BY THE PUBLIC SERVICES AREA ADMINISTRATOR.

**THRUST BLOCK SD-W-2**



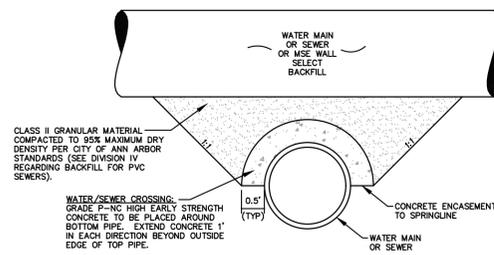
- NOTE:
- IF MANHOLE WILL BE PLACED IN GRAVEL ROAD, CASTING TO BE SET 6" TO 8" BELOW ROADWAY GRADE. ALL CONSTRUCTION METHODS SHALL REMAIN AS SHOWN ABOVE.
- ADDITIONAL REPAIRS NECESSARY BEYOND 15" BELOW GRADE TO BE PAID FOR AS "ADDITIONAL DEPTH STRUCTURE ADJUST/REPAIR"

**MANHOLE CASTING ADJUSTMENT SD-GU-6**



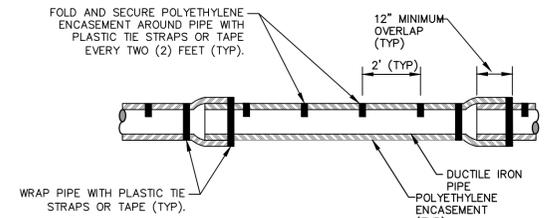
- NOTES:
1. ALL D.I.P. PIPE, FITTINGS, AND HYDRANT BARREL TO BE POLYWRAPPED PER AWWA C105.

**FIRE HYDRANT ASSEMBLY**



APPLIES TO: WATER AND/OR SEWER CROSSINGS WITH LESS THAN 1.5' OF VERTICAL CLEARANCE

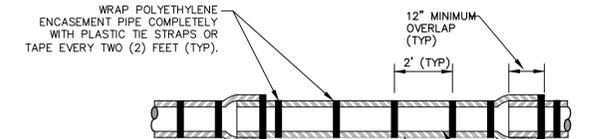
**CONCRETE UTILITY SADDLE**



- 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

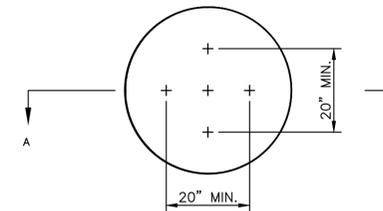
**POLYETHYLENE ENCASUREMENT (DRY INSTALLATION)**



- 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

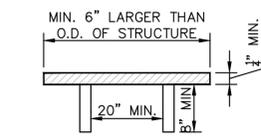
APPLIES TO: POLYETHYLENE WRAPPED D.I. WATERMAIN SEE PLANS FOR LOCATIONS

**POLYETHYLENE ENCASUREMENT (WET INSTALLATION)**



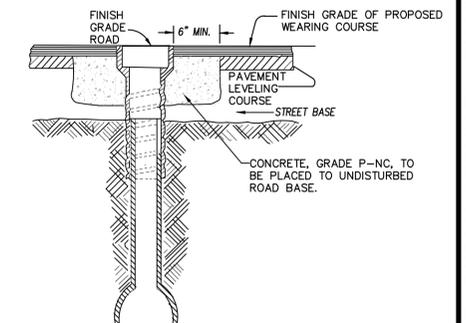
NOTE: PLATE MAY BE CIRCULAR, SQUARE OR RECTANGULAR

SECTION A - A



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

**STRUCTURE PLATE SD-GU-8**



- NOTE:
- RAISE CASTING TO PROPOSED FINISH STREET GRADE AFTER PLACEMENT OF LEVELING COURSE(S) AND PRIOR TO PLACING FINAL SURFACE COURSE

**WATER VALVE BOX ADJUSTMENT**



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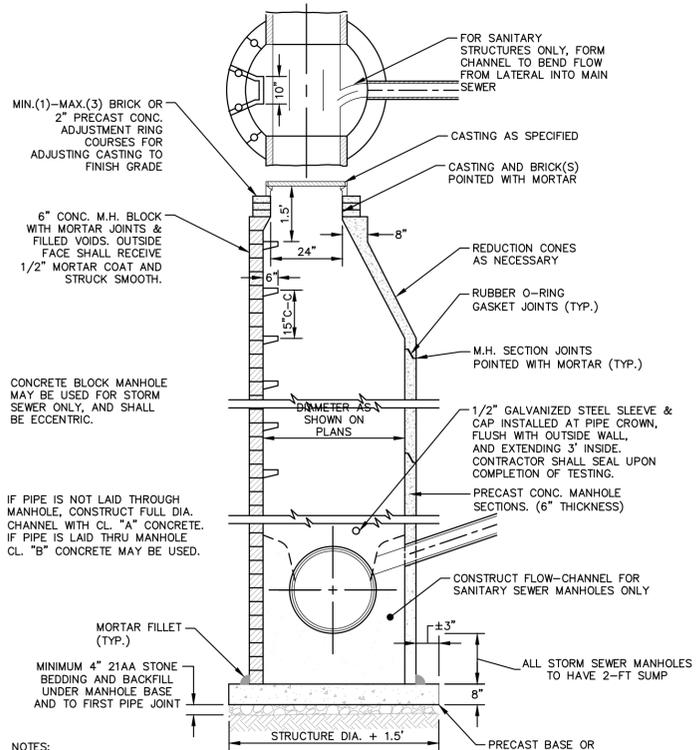


CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
2021 MISC. UTILITIES PROJECT  
WATER MAIN DETAILS

SCALE: NTS  
DRAWING No. 2021005-8  
SHEET No.

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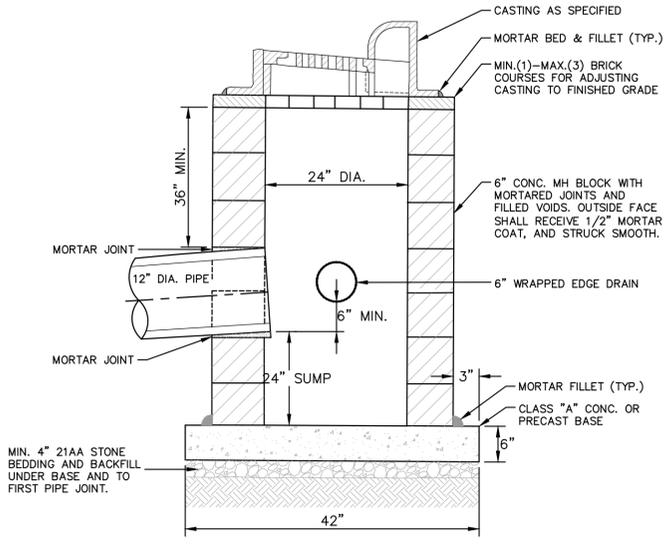
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**NOTES:**

1. ALL SANITARY MANHOLES SHALL BE PRECAST CONCRETE.
2. ALL MANHOLES MUST HAVE ECCENTRIC CONES - BOTH STORM AND SANITARY
3. ALL SANITARY SEWER OPENINGS SHALL BE PRECAST WITH RUBBER BOOT CONNECTIONS.
4. 2' SUMP REQUIRED ON ALL DRAINAGE STRUCTURES.

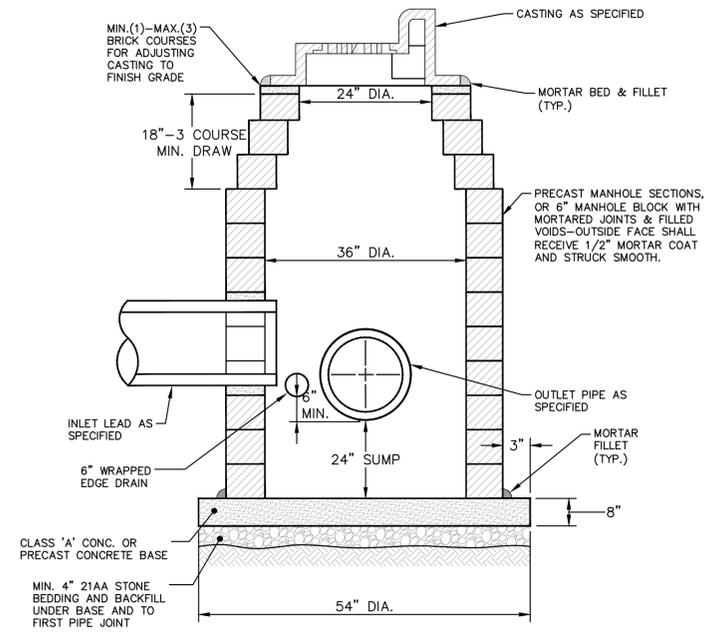
**STANDARD MANHOLE (TYPE I)**



**NOTES:**

1. MAY BE USED WITH ONLY SINGLE OUTLET PIPE, AND NO INLET PIPE
2. FRONT EDGE OF INLET CASTING SHALL BE FLUSH WITH FRONT EDGE OF GUTTER (EDGE-OF-METAL)

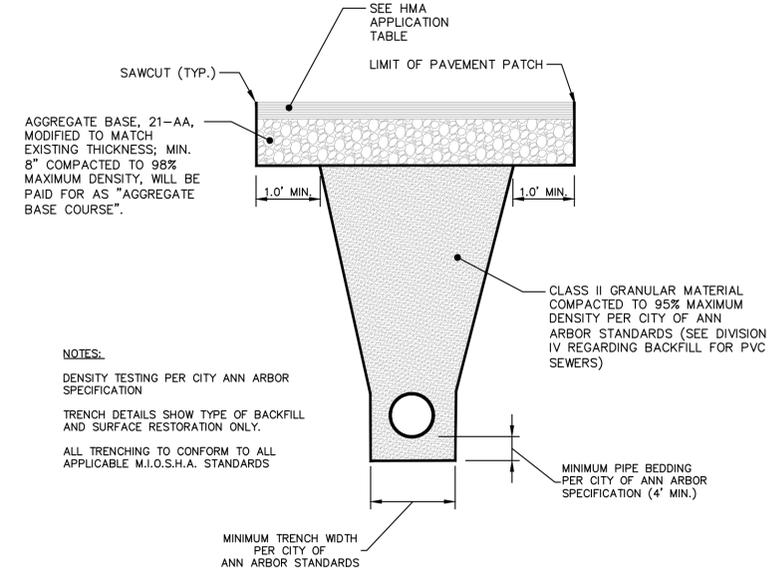
**SINGLE INLET STRUCTURE SD-S-10**



**NOTES:**

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

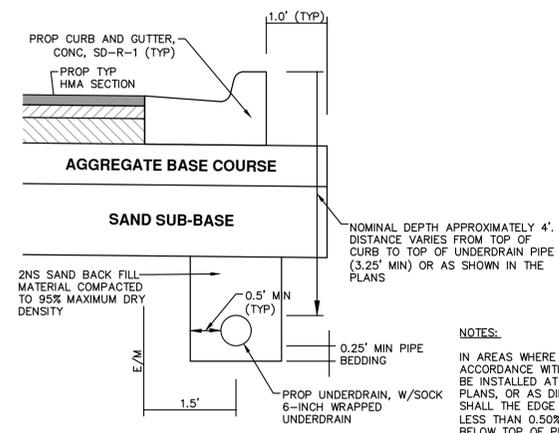
**INLET-JUNCTION CHAMBER SD-S-9**



**NOTES:**

- DENSITY TESTING PER CITY ANN ARBOR SPECIFICATION
- TRENCH DETAILS SHOW TYPE OF BACKFILL AND SURFACE RESTORATION ONLY.
- ALL TRENCHING TO CONFORM TO ALL APPLICABLE M.I.O.S.H.A. STANDARDS

**UTILITY TRENCH-TYPE I SD-TD-1 (MODIFIED)  
(UNDER HMA PAVEMENT)**



**NOTES:**

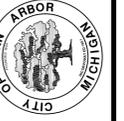
- IN AREAS WHERE EDGE DRAIN CANNOT BE INSTALLED IN ACCORDANCE WITH THE DETAIL, THE EDGE DRAIN SHALL BE INSTALLED AT THE DEPTH AS INDICATED ON THE PLANS, OR AS DIRECTED BY ENGINEER. IN NO CASE SHALL THE EDGE DRAIN BE INSTALLED AT A GRADE LESS THAN 0.50% OR AT A DEPTH OF LESS THAN 2' BELOW TOP OF PROPOSED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

**TRENCH DETAIL FOR UNDER DRAIN  
(UNDER HMA PAVEMENT)**



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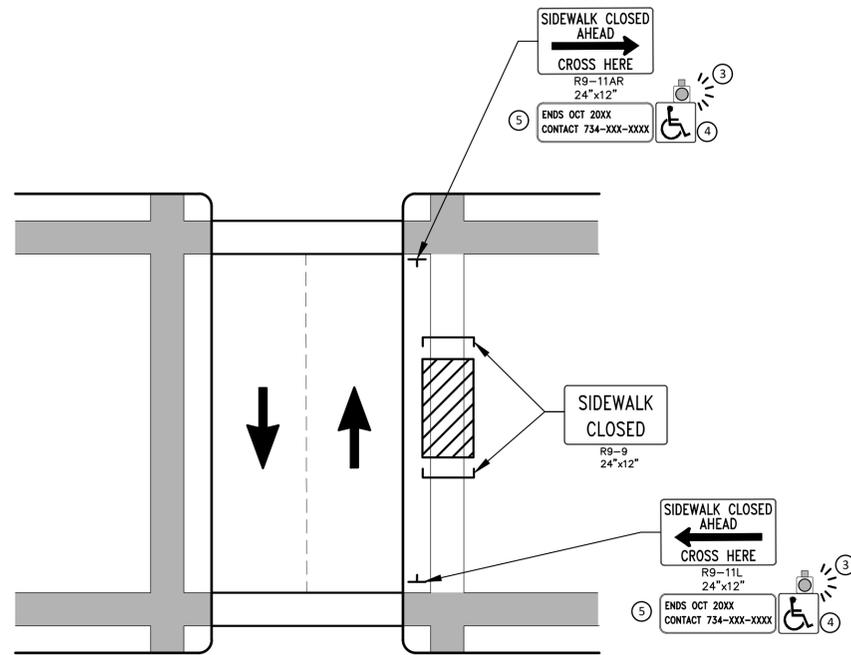
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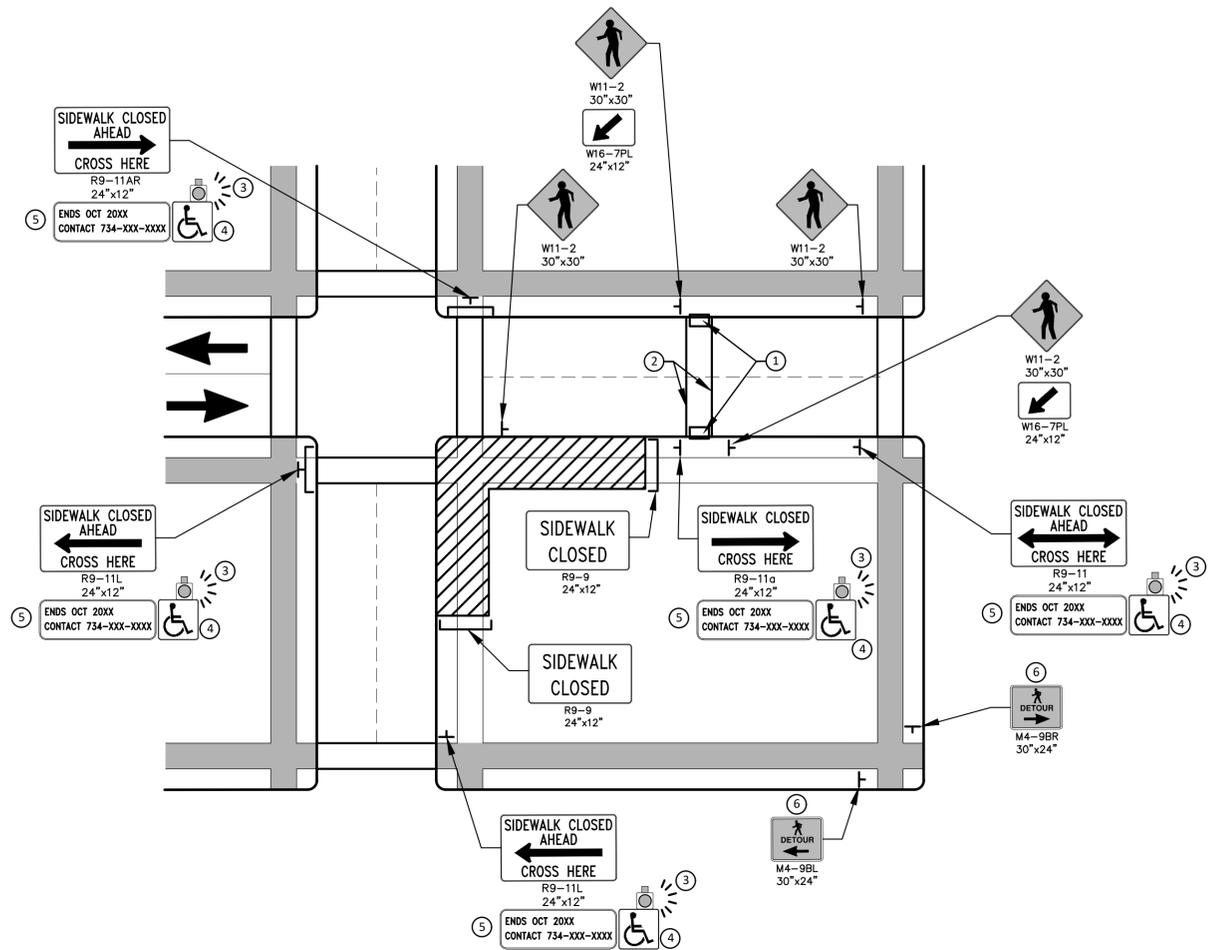
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
2021 MISC. UTILITIES PROJECT  
STORM SEWER AND TRENCH DETAILS

SCALE: NTS  
DRAWING No. 2021005-9





PEDESTRIAN DETOUR USING OPPOSITE SIDE OF STREET



OTHER SIDE OF STREET DETOUR OR DETOUR WITH TRAILBLAZING SIGNS  
(FOR CORNER SIDEWALK CLOSURE WITH OPTIONAL TEMPORARY CROSSWALK)

**GENERAL NOTES**

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

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

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

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

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

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

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

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

**SPECIFIC NOTES**

1. TEMPORARY CURB RAMPS WITH DETECTABLE WARNINGS.
2. TEMPORARY PAVEMENT MARKING FOR CROSSWALK LINES.
3. AN APPROVED AUDIBLE MESSAGE DEVICE OR TACTILE MESSAGE SHALL BE PROVIDED FOR SIGHT-IMPAIRED PEDESTRIANS.
4. THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHOULD BE DISPLAYED WHEN ANY WALKWAY THROUGH A WORK ZONE HAS BEEN DETERMINED TO BE TPAR COMPLIANT. THE SYMBOL OF ACCESSIBILITY SHALL NOT BE DISPLAYED IF PERSONS WITH DISABILITIES SHOULD NOT USE THE PRIMARY TEMPORARY PEDESTRIAN DETOUR. THE REASON FOR THE NON-COMPLIANCE SHALL BE POSTED AND AN ALTERNATE ROUTE SHALL BE POSTED WHEN THE PRIMARY TEMPORARY PEDESTRIAN DETOUR IS NON-COMPLIANT TO TPAR STANDARDS.
5. TYPICAL SIGN MESSAGE FOR A TEMPORARY PEDESTRIAN DETOUR SHALL INCLUDE INFORMATION SUCH AS THE DURATION OF THE WALKWAY RESTRICTIONS (BEGINNING AND/OR END DATES) AND A PROJECT CONTACT NUMBER FOR 24 / 7 QUESTIONS OR REPORTING HAZARDS.
6. PEDESTRIAN DETOUR TRAILBLAZING SIGNS SHALL BE USED IF THE PEDESTRIAN DETOUR IS IN A LOCATION OTHER THAN ACROSS THE STREET FROM THE SIDEWALK CLOSURE.

**PEDESTRIAN TEMPORARY TRAFFIC CONTROL NOTES**

1. THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN THROUGH MOVEMENTS FROM ONE END OF THE CONSTRUCTION AREA TO THE OTHER, ON AT LEAST ONE SIDE OF THE STREET DURING CONSTRUCTION. ANY SIDEWALK CLOSURES SHALL MEET THE REQUIREMENTS OF THE MMUTCD, PART 6.
2. PEDESTRIAN ACCESS SHALL BE PROVIDED TO ALL ADJACENT PROPERTIES, BUILDINGS, RESIDENCES AND COMMERCIAL PROPERTIES AT ALL TIMES. THIS MAY INCLUDE TEMPORARY WALKWAYS SPANNING THE CONSTRUCTION AREA.
3. IF SIDEWALKS ARE CLOSED, A TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) SHALL BE PROVIDED ON THE SAME SIDE OF THE ROAD AS THE CLOSED SIDEWALK, IF POSSIBLE. SIGNS AND BARRICADES SHALL BE USED TO PROVIDE ADVANCE NOTICE OF THE CLOSURE AND THE ROUTE OF ANY PEDESTRIAN DETOURS. THE TPAR SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4 FEET. IF THE TPAR IS LESS THAN 5 FEET IN WIDTH, A 5 FOOT BY 5 FOOT PASSING SPACE SHALL BE PROVIDED AT LEAST EVERY 200 FEET. THE SURFACE OF THE TPAR SHALL BE SMOOTH AND CONTINUOUS FOR THE LENGTH OF THE TPAR. THE TPAR SHALL MAINTAIN THE SAME LEVEL OF ACCESSIBILITY AND DETECTABILITY AS THE FACILITY THAT IS BEING CLOSED. THE TPAR SHALL NOT LEAD PEDESTRIANS INTO CONFLICTS WITH VEHICLES, EQUIPMENT, OR CONSTRUCTION OPERATIONS.
4. IF THE TPAR IS ADJACENT TO MOVING TRAFFIC, CONSTRUCTION OPERATIONS/EQUIPMENT, OR DROP-OFFS, THEN CRASH WORTHY CHANNELIZING DEVICES THAT MEET THE REQUIREMENTS OF NCHRP 350 AND THE MMUTCD SHALL BE USED.
5. THE CONTRACTOR SHALL NOT STORE OR PLACE ANY CONSTRUCTION MATERIALS, EQUIPMENT OR SIGNS IN THE PEDESTRIAN PATH OF TRAVEL.
6. THE CONTRACTOR'S OPERATIONS SHALL NOT OCCUPY SIDEWALKS EXCEPT WHERE PROPER PROTECTION AND A TPAR HAVE BEEN PROVIDED.
7. WHEN DIRECTED BY THE ENGINEER, OR STATED ON THE PLANS, THE CONTRACTOR SHALL PROVIDE A TEMPORARY PEDESTRIAN TRAFFIC CONTROL PLAN FOR REVIEW AND WRITTEN APPROVAL BY THE ENGINEER A MINIMUM OF THREE WEEKS BEFORE SUCH PLAN IS IMPLEMENTED. THIS PLAN SHALL DETAIL THE CONSTRUCTION PHASING AND SCHEDULE AND THE SPECIFIC METHODS OF MAINTAINING SAFE PEDESTRIAN ACCESS THROUGHOUT THE CONSTRUCTION AREA. THIS PLAN SHALL PROVIDE THE LOCATION AND DETAILS OF TEMPORARY CONSTRUCTION SIGNING, MARKINGS, BARRICADES, CHANNELIZING DEVICES, TPARS AND METHODS TO MAINTAIN ACCESS TO ADJACENT PROPERTIES, BUSINESSES, RESIDENCES, ETC. NO WORK SHALL BE ALLOWED TO BEGIN UNTIL THIS PLAN IS APPROVED BY THE ENGINEER IN WRITING.
8. PROVISION OF THE TPAR AND ALL OF ITS ELEMENTS, INCLUDING BUT NOT LIMITED TO, CREATION OF THE TEMPORARY PEDESTRIAN CONTROL PLAN, SIGNS, CHANNELIZING DEVICES, BARRICADES, TEMPORARY PAVEMENT MARKINGS AND OTHER TRAFFIC CONTROL DEVICES SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE ITEM OF WORK "MINOR TRAF DEVICES."

**LEGEND**

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



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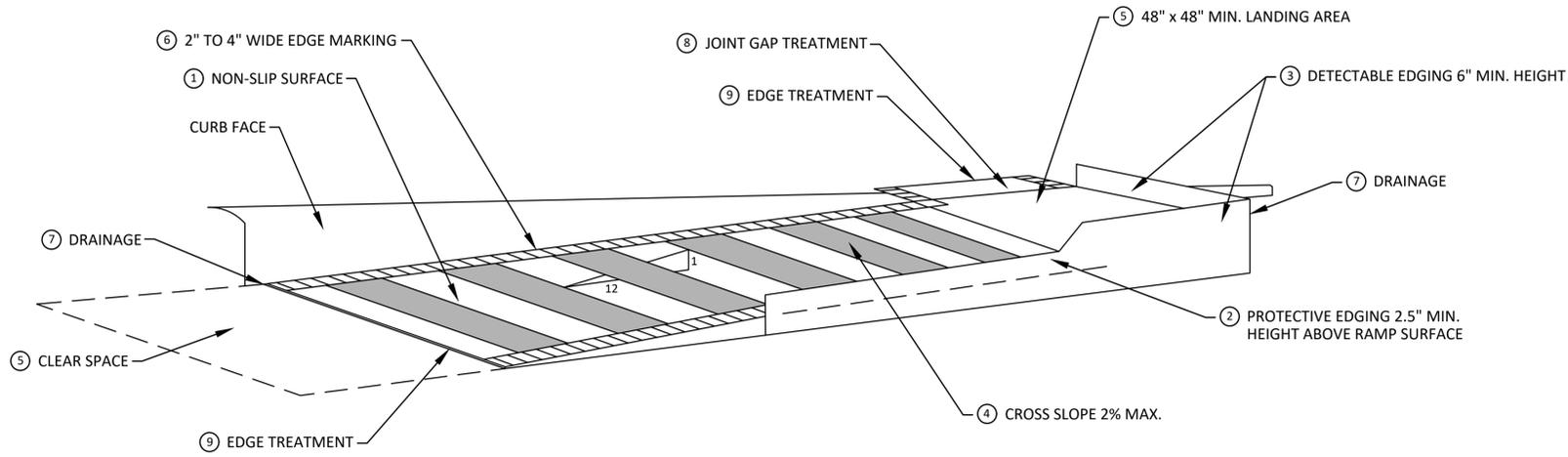


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2021 MISC. UTILITIES PROJECT  
ALTERNATE PEDESTRIAN ROUTE (APR) DETOUR

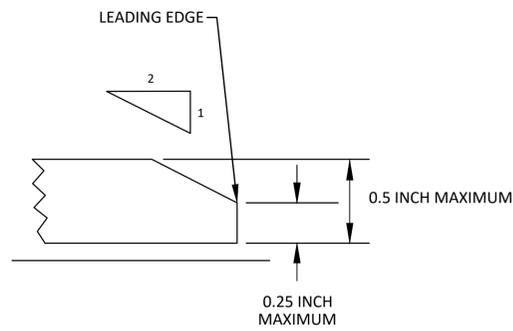
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DRAWING No. 2021005-11



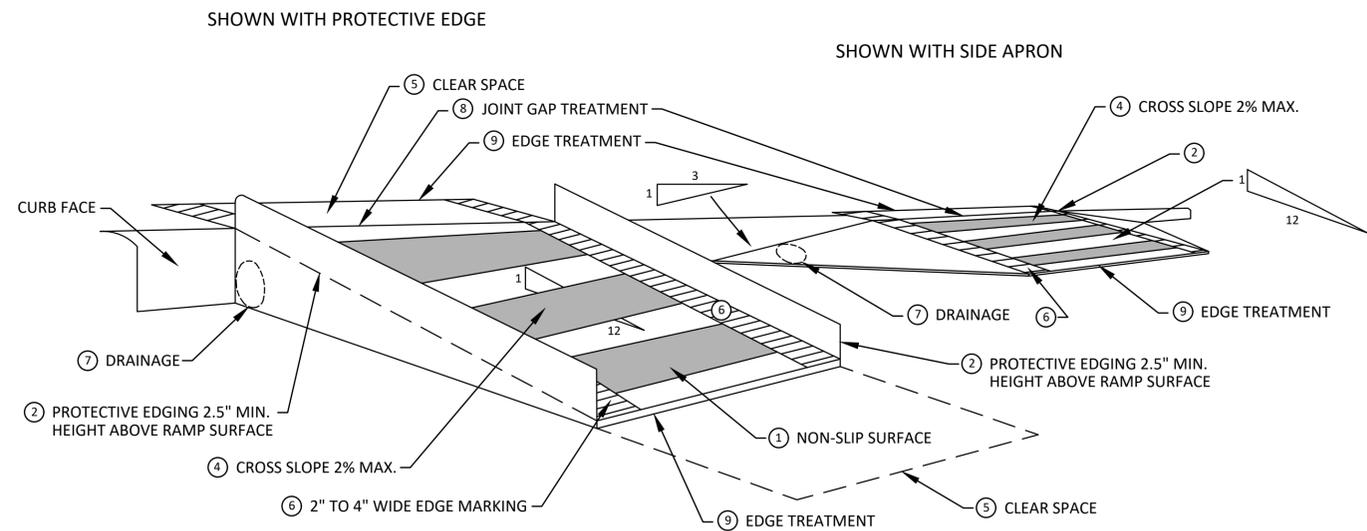
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**TEMPORARY CURB RAMP  
PARALLEL TO CURB**



**EDGE TREATMENT**



**TEMPORARY CURB RAMP  
PERPENDICULAR TO CURB**

**SPECIFIC NOTES**

- 1 CURB RAMP SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE. PROTECTIVE EDGING WITH A 2.5" MIN. HEIGHT ABOVE THE RAMP SHALL BE PLACED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3. PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMP OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
- 2 DETECTABLE EDGING ANYTIME A HANDRAIL IS REQUIRED, AND ANYTIME THE PATH CHANGES DIRECTION. THIS INCLUDES A TURN ONTO THE RAMP FROM THE PATH. DETECTABLE EDGING MUST BEGIN A MAXIMUM OF 2.5' ABOVE THE RAMP SURFACE, AND EXTEND AT LEAST 6" ABOVE THE RAMP SURFACE. CONTRASTING COLOR SHALL BE PLACED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
- 3 CURB 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.
- 4 WATER FLOW IN THE GUTTER SYSTEM SHALL NOT BE IMPEDED.
- 5 LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.
- 6 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.



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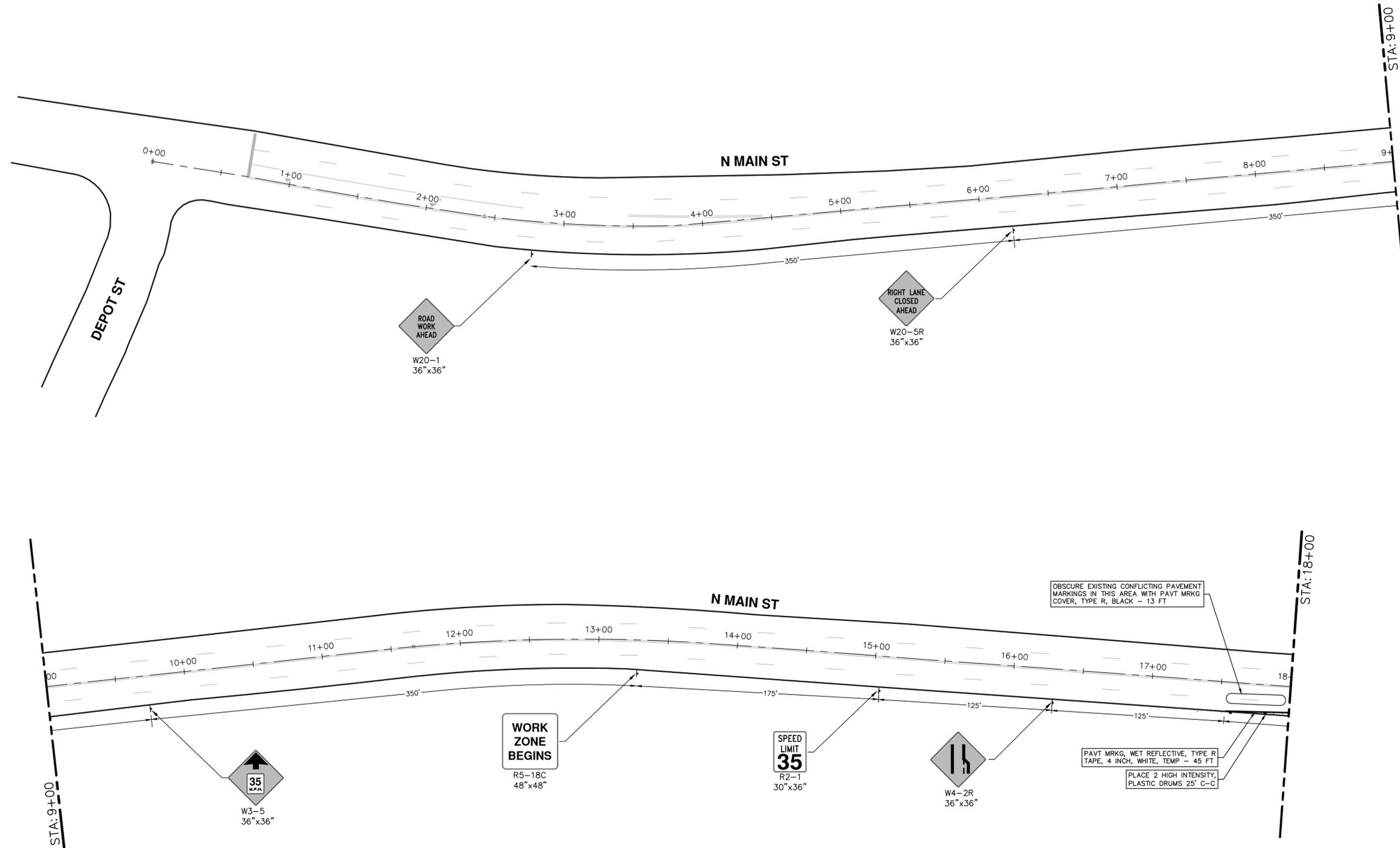


**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**  
**2021 MISC. UTILITIES PROJECT**  
TPAR RAMPS

SCALE: N.T.S.  
DRAWING No. 2021005-13



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**NOTES:**

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

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

2021 MISC. UTILITIES PROJECT

N MAIN ST TRAFFIC CONTROL - PH I

STA. 0+00 - STA. 18+00

SCALE: 1" = 40'

DRAWING No. 2021005-15

SHEET No. 15 OF 56



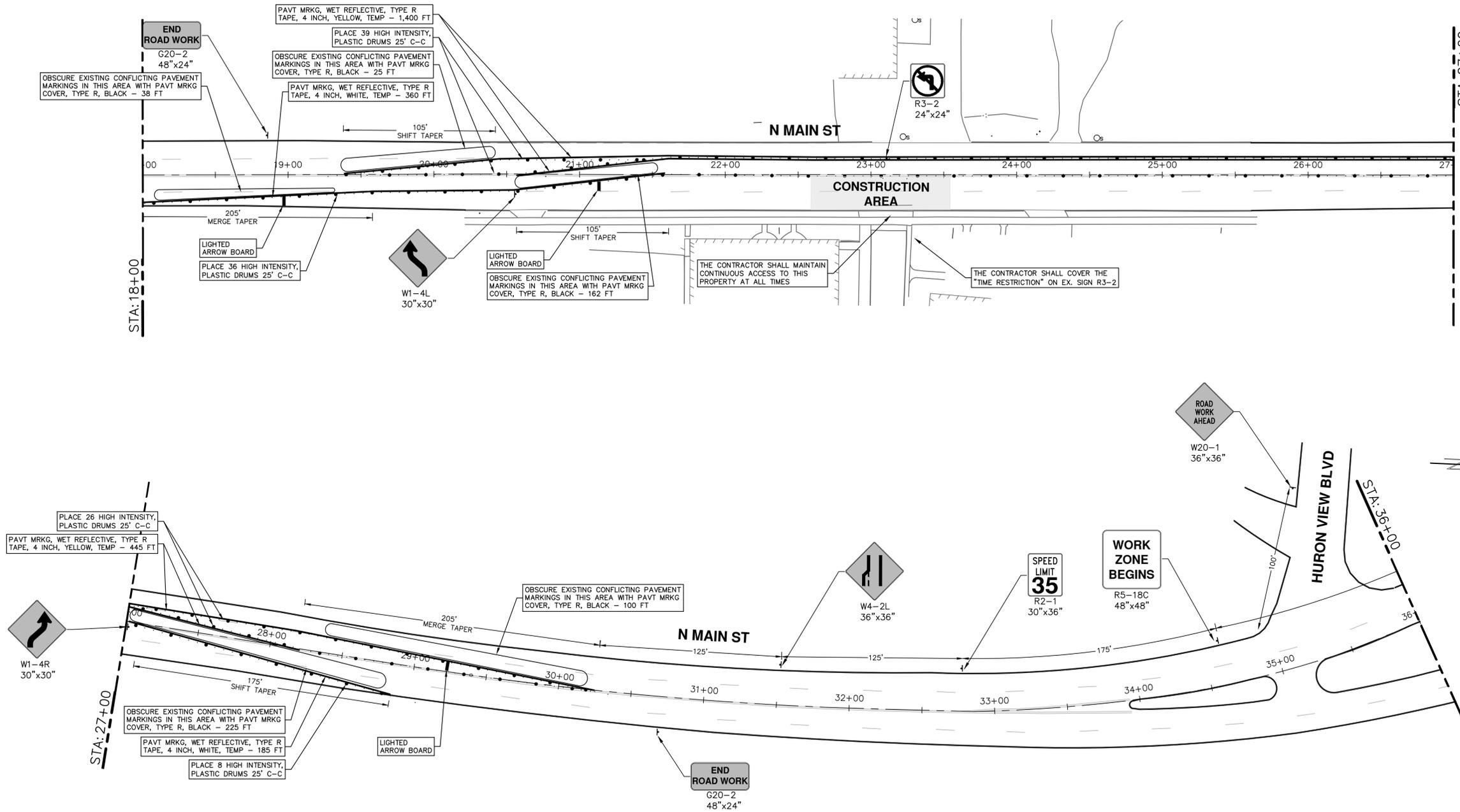
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- NOTES:**
1. FINAL LIMITS OF PAVEMENT REMOVAL FOR UTILITY INSTALLATION WILL BE AS DIRECTED BY ENGINEER.
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**2021 MISC. UTILITIES PROJECT**

N MAIN ST TRAFFIC CONTROL - PH I

STA. 18+00 - STA. 36+00

SCALE: 1" = 40'

DRAWING No. 2021005-16

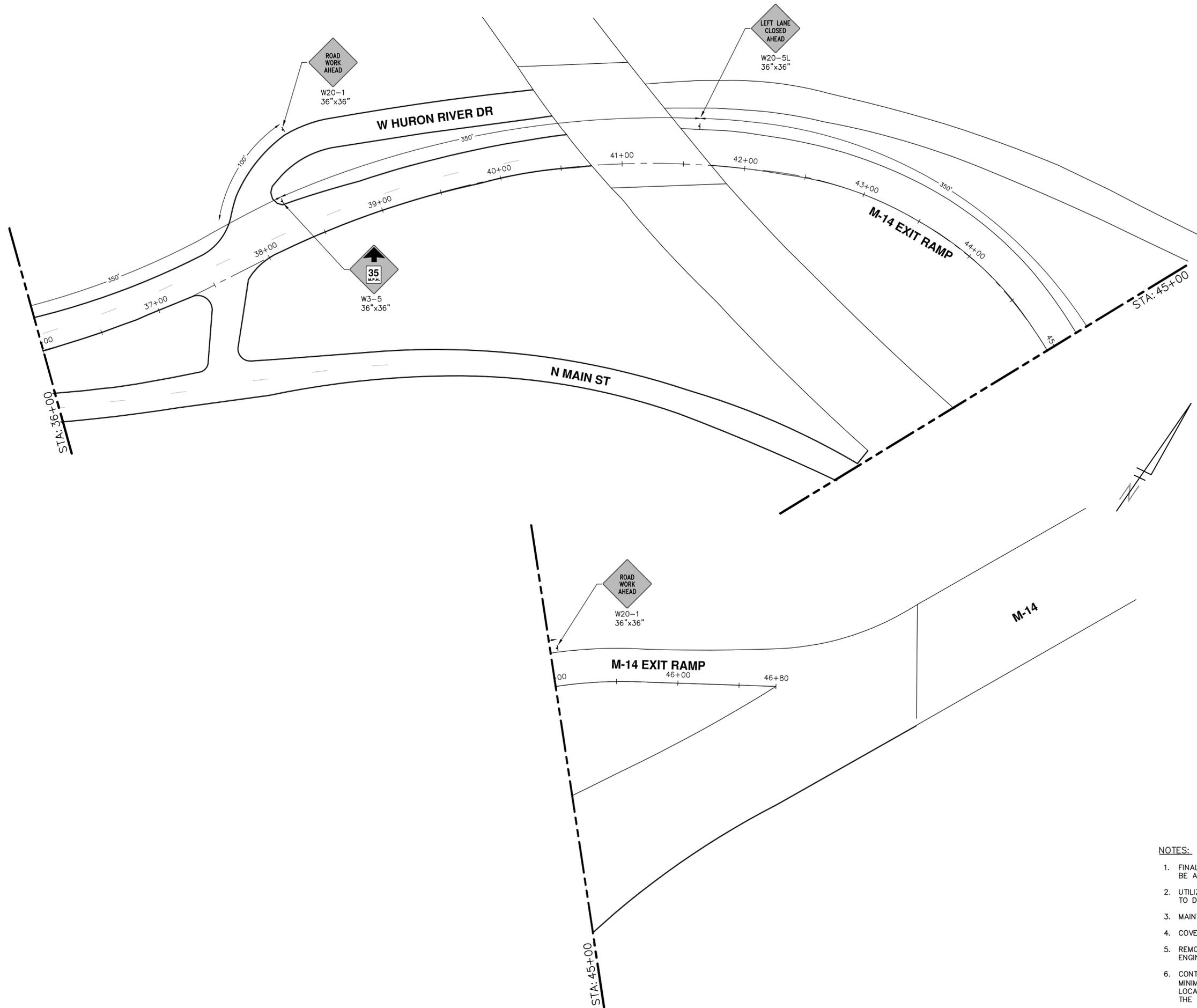
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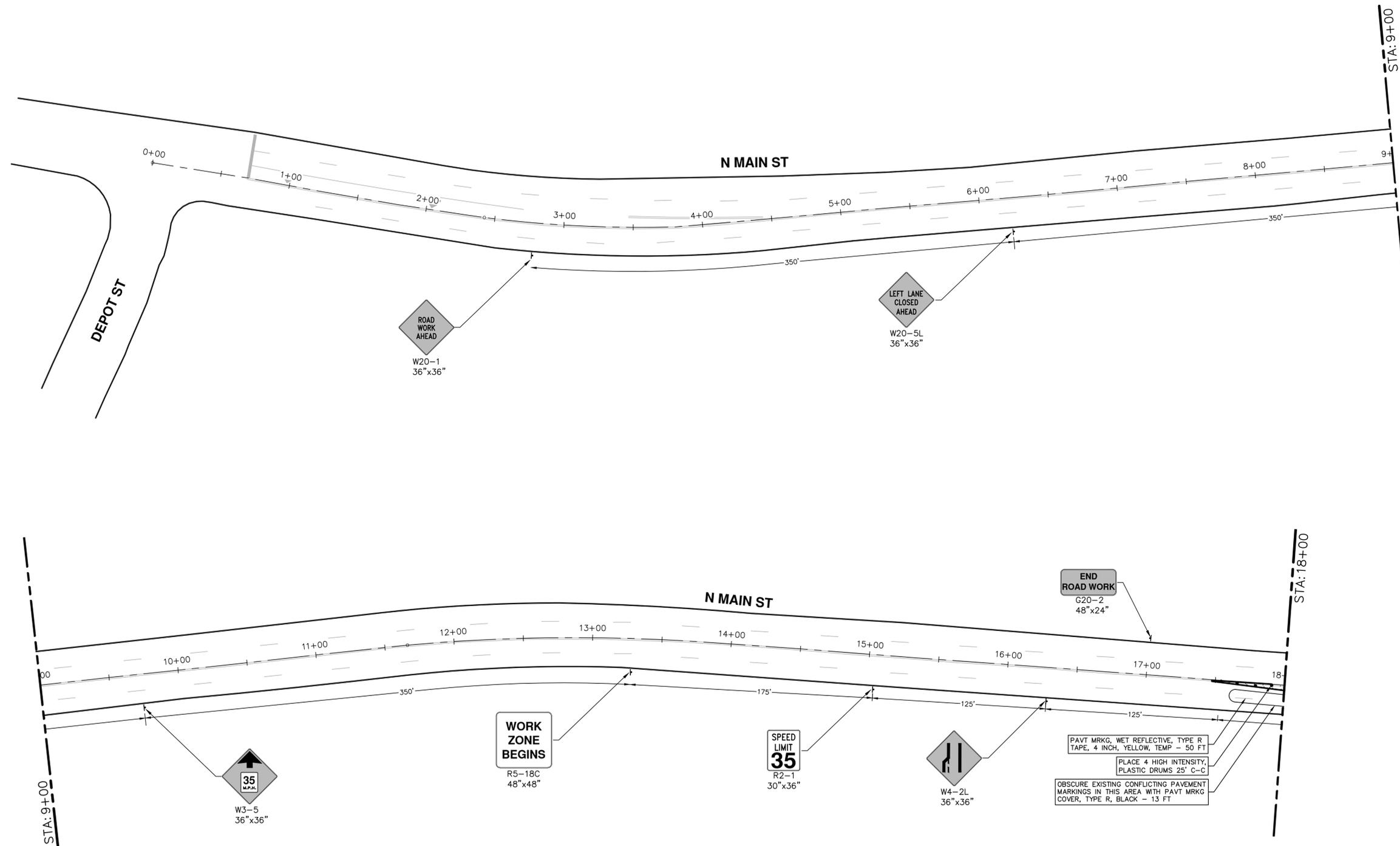


**NOTES:**

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SCALE: 1" = 40' DRAWING No. <b>2021005-17</b>	SHEET No. <b>17 OF 56</b>				

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**NOTES:**

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N MAIN ST TRAFFIC CONTROL - PH II

SCALE: 1" = 40'

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SHEET No. 18 OF 56

STA. 0+00 - STA. 18+00

STA: 9+00

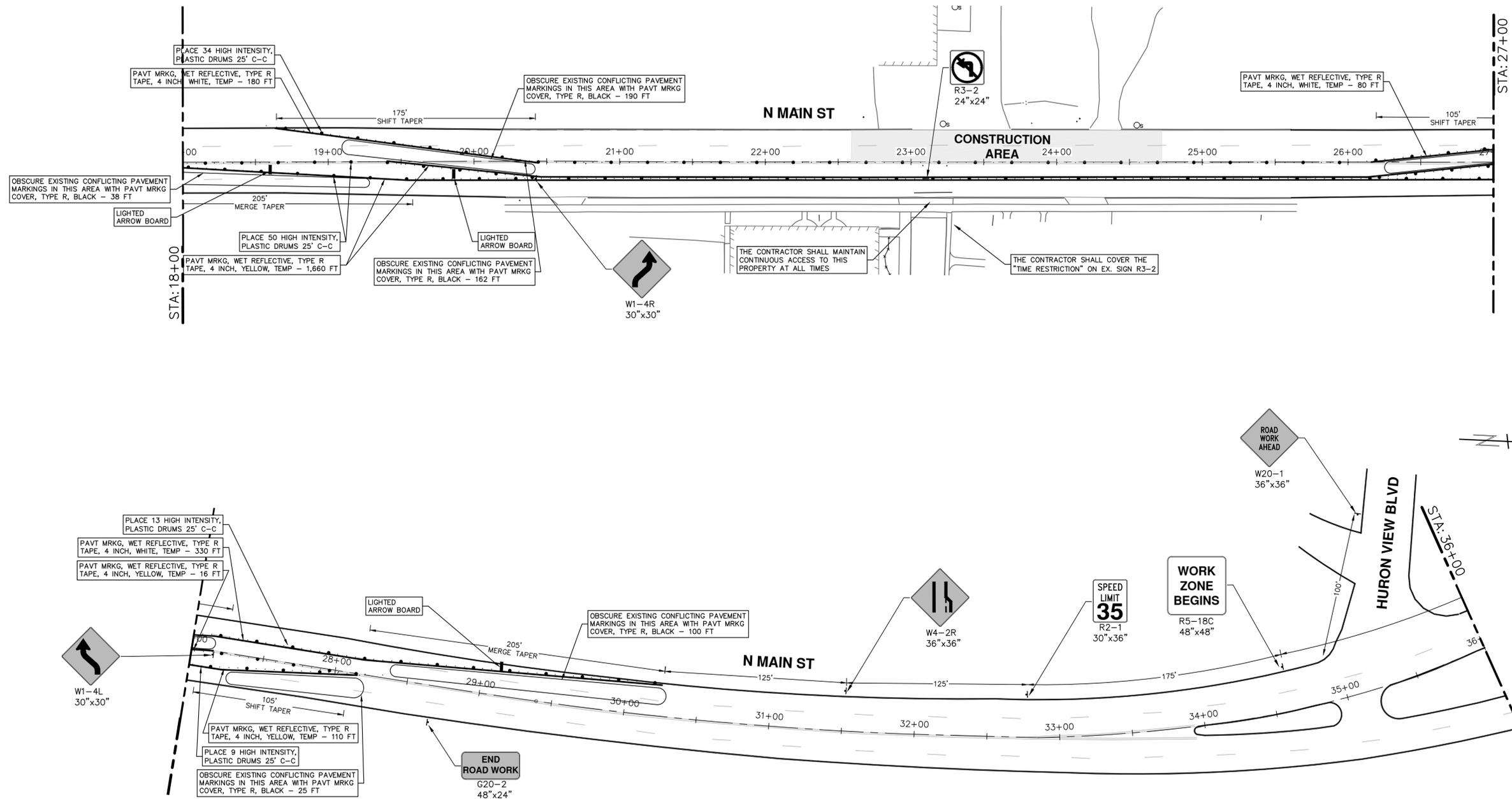
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**2021 MISC. UTILITIES PROJECT**

**N MAIN ST TRAFFIC CONTROL - PH II**

SCALE: 1" = 40'

DRAWING No. **2021005-19**

SHEET No. **19 OF 56**

STA. 18+00 - 36+00

STA. 27+00

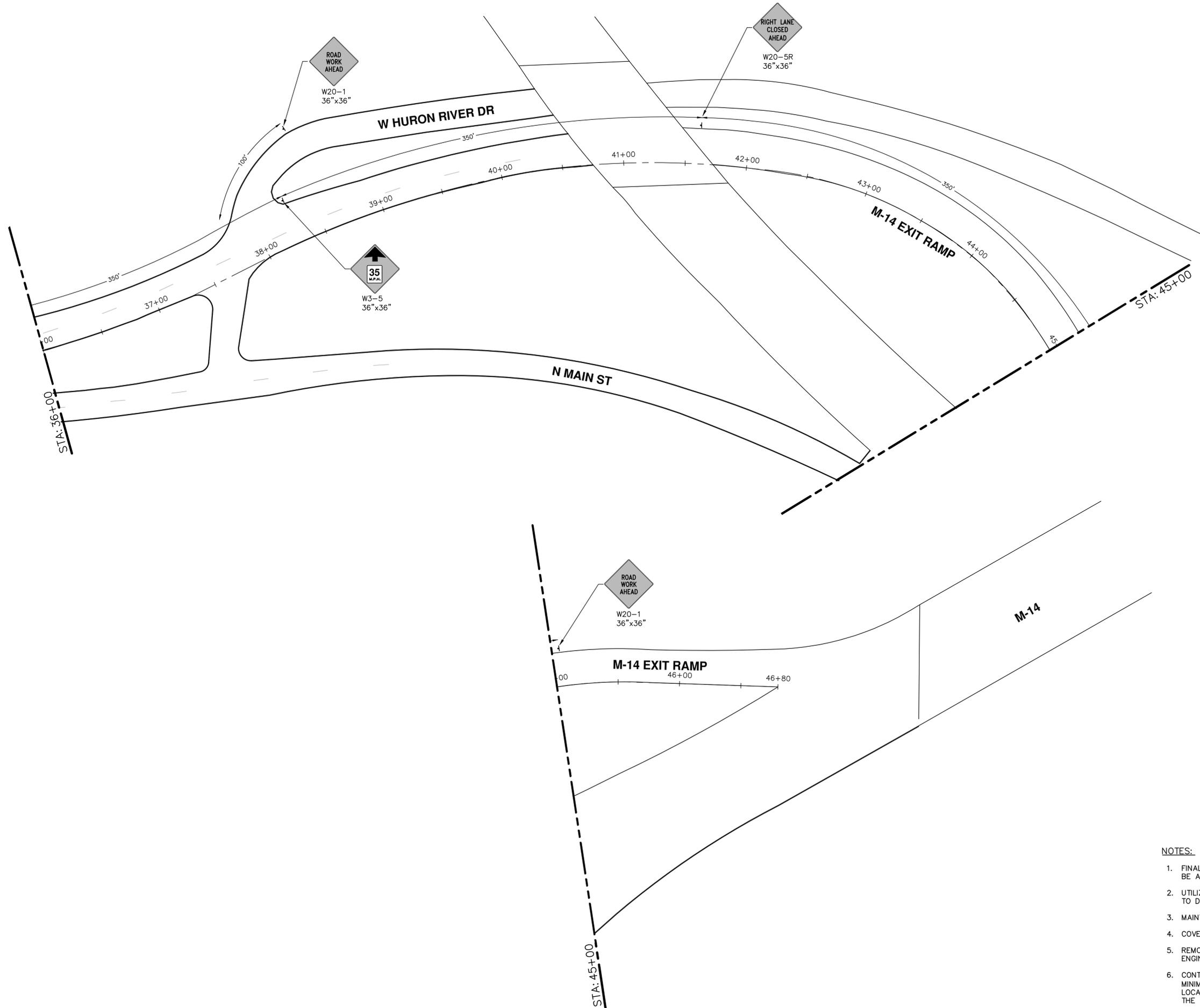
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**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**

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N MAIN ST TRAFFIC CONTROL - PH II

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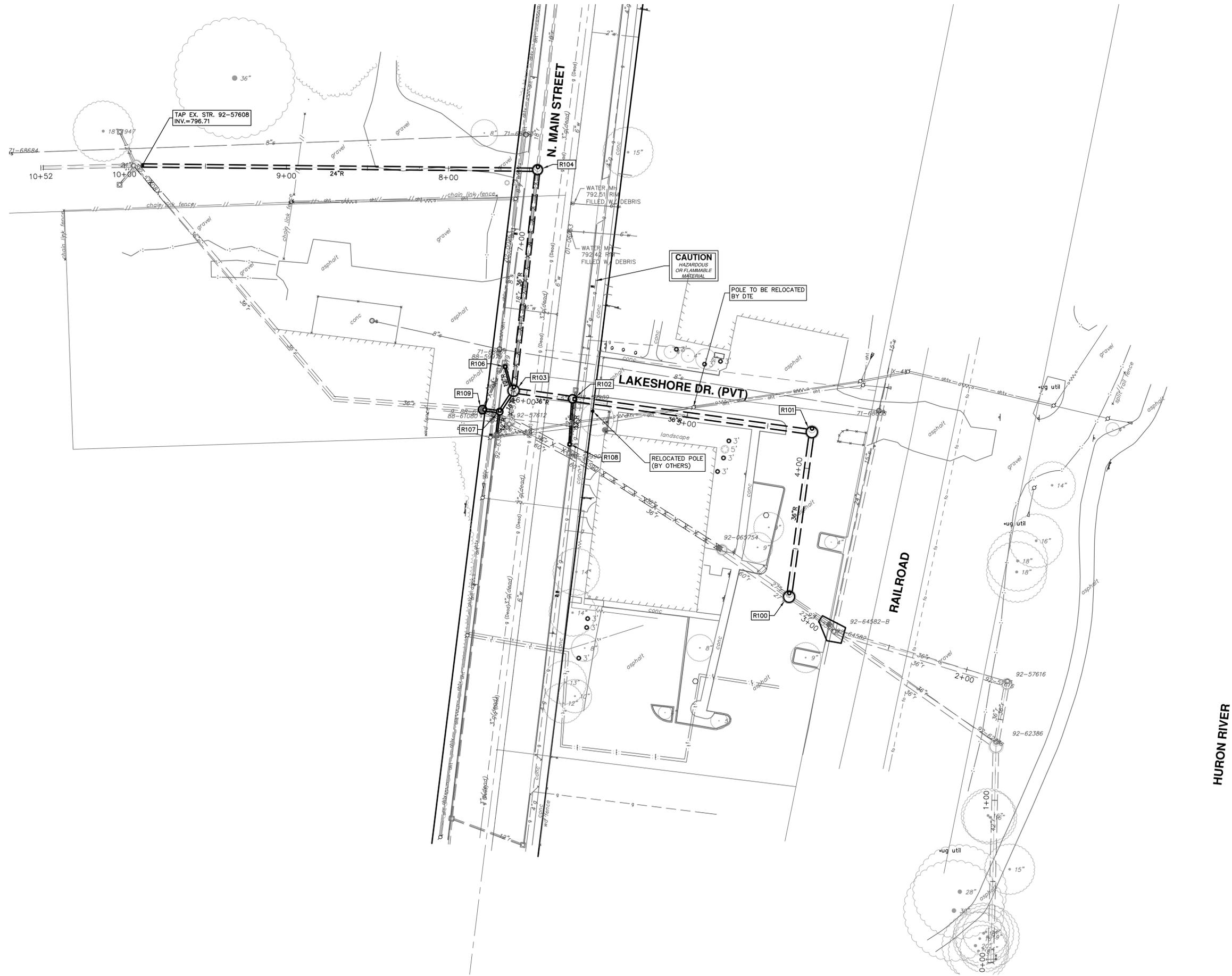
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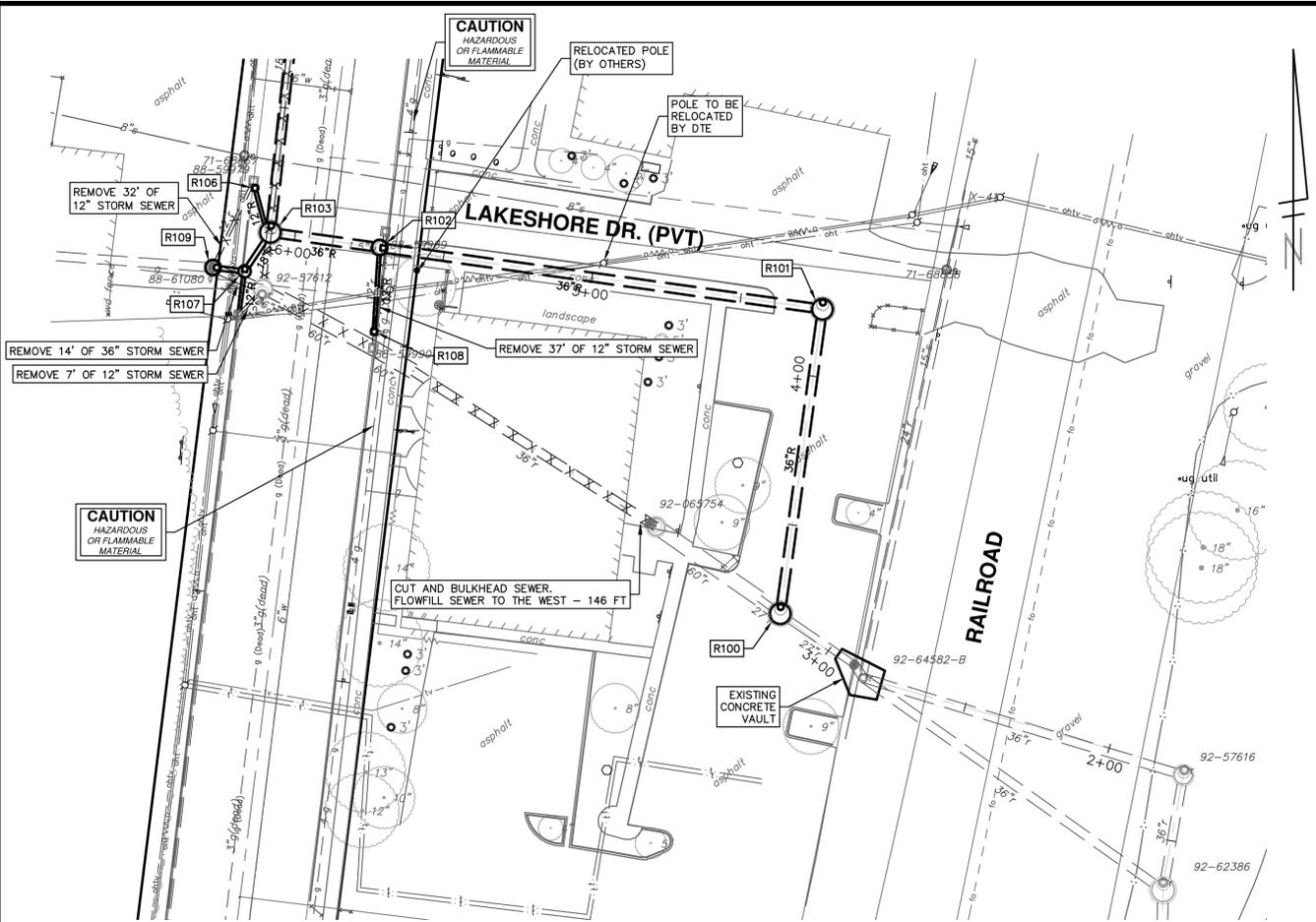




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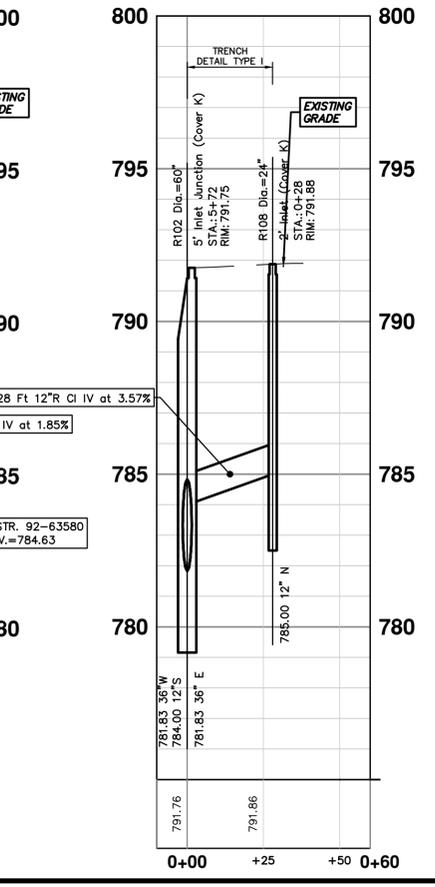
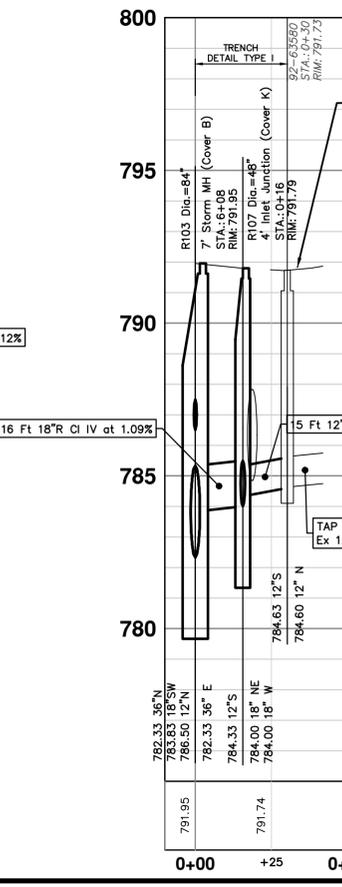
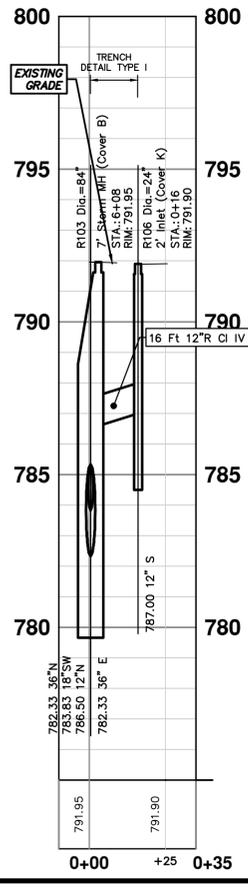
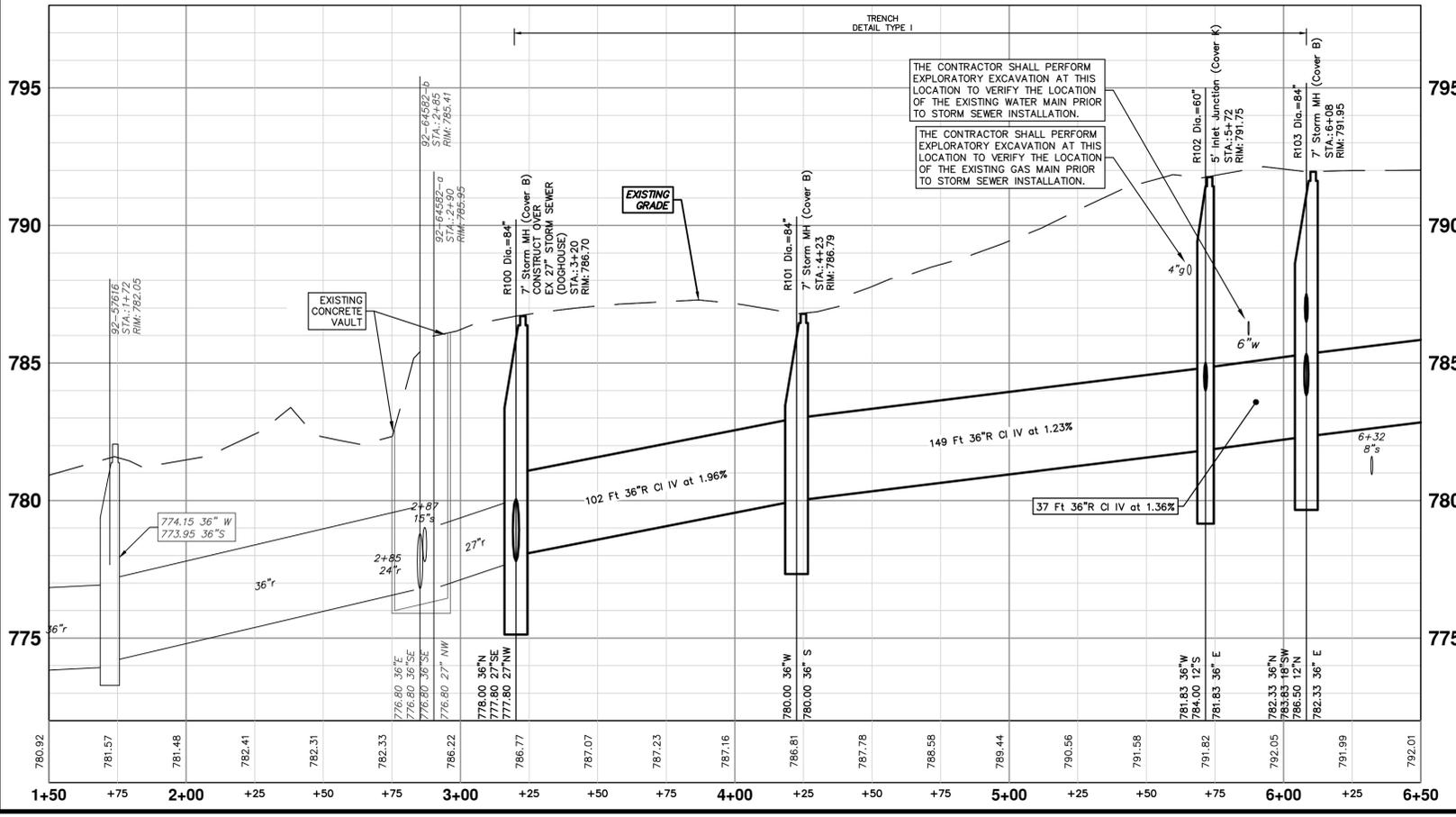
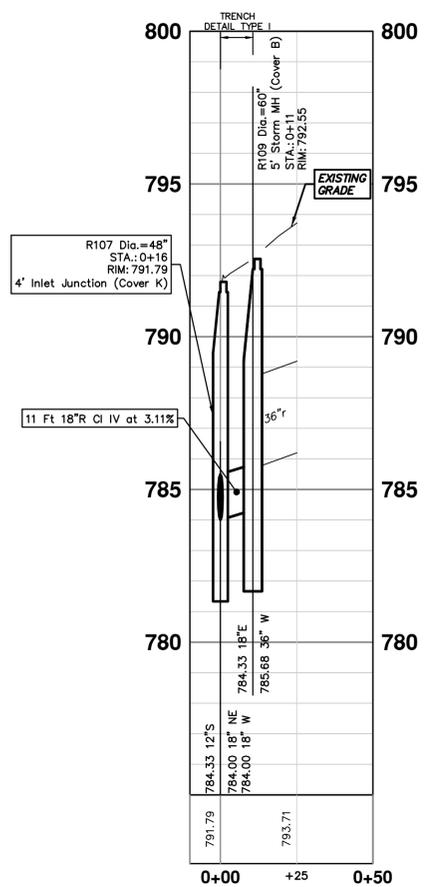
DATE	DF/CC	TB	CHECKED
3-17-21			





STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DEPTH (Feet)	SIZE	APPLICATION/CONSTRUCTION/ SUMP
R100	3+20	36" N 778.00 27" SE 777.80(EX) 27" NW 777.80(EX)	786.70	10.90	84" Dia.	7" Storm MH (Cover B) CONSTRUCT OVER EX 27" STORM SEWER (DOGHOUSE)
R101	4+23	36" S 780.00 36" W 780.00	786.79	8.79	84" Dia.	7" Storm MH (Cover B)
R102	5+72	36" E 781.83 36" W 781.83 12" S 784.00	791.75	11.92	60" Dia.	5' Inlet Junction (Cover K)
R103	6+08	36" E 782.33 36" N 782.33 18" SW 783.83 12" N 786.50	791.95	11.62	84" Dia.	7" Storm MH (Cover B)
R106	0+16	12" S 787.00	791.90	6.90	24" Dia.	2' Inlet (Cover K)
R107	0+16	18" NE 784.00 18" W 784.00 12" S 784.33	791.79	9.79	48" Dia.	4' Inlet Junction (Cover K)
R108	0+28	12" N 785.00	791.88	8.88	24" Dia.	2' Inlet (Cover K)
R109	0+11	36" W 785.68(EX) 18" E 784.33	792.55	10.22	60" Dia.	5' Storm MH (Cover B)

EXISTING STORM SEWER STRUCTURE REMOVAL TABLE		
STRUCTURE	DEPTH (Feet)	REMOVE
88-59989	2.19	2' INLET Cover K
88-59979	2.46	12" Drop Structure
88-61080	7.39	3' JUNCTION Cover K
88-59990	10.22	12" Drop Structure
92-57612	7.55	6' MH Cover B





Know what's below.  
Call before you dig.

REV.	DATE	DESCRIPTION	DD	OUT FOR BID	DF/CC	TB	CHECKED		
	3-17-21								



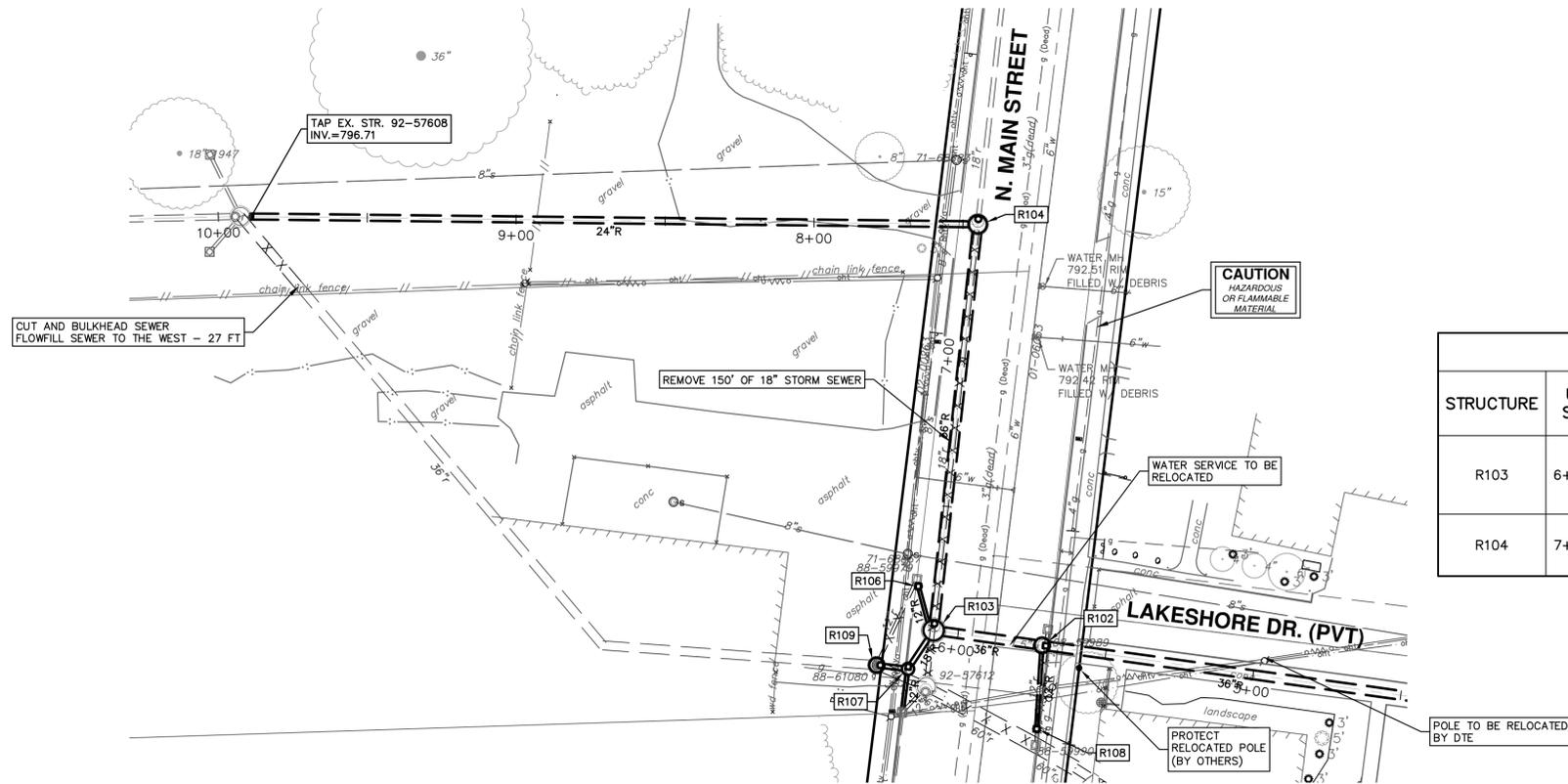
**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**  
**2021 MISC. UTILITIES PROJECT**  
 N MAIN ST PROPOSED STORM SEWER

R100 - R103

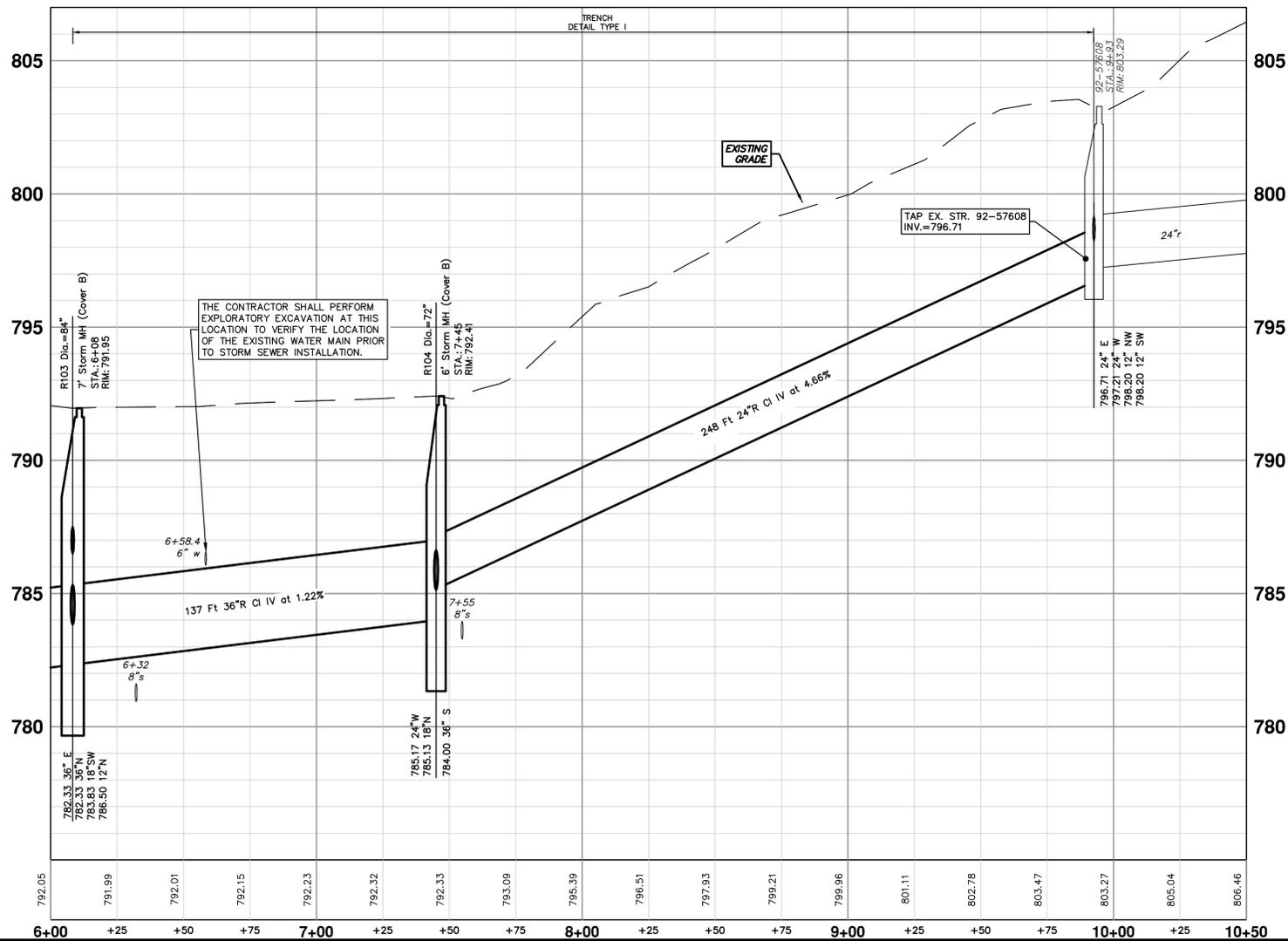
SCALE PLAN: 1" = 30'  
 PROFILE: 1" = 3'

DRAWING NO. **2021005-23**

SHEET NO. **23 OF 56**



STORM SEWER STRUCTURE TABLE							
STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DEPTH (Feet)	SIZE	APPLICATION / CONSTRUCTION	SUMP
R103	6+08	36" E 782.33 36" N 782.33 18" SW 783.83 12" N 786.50	791.95	11.62	84" Dia.	7' Storm MH (Cover B)	2 Ft
R104	7+45	36" S 784.00 24" W 785.17 18" N 785.13 (EX)	792.41	10.41	72" Dia.	6' Storm MH (Cover B)	2 Ft



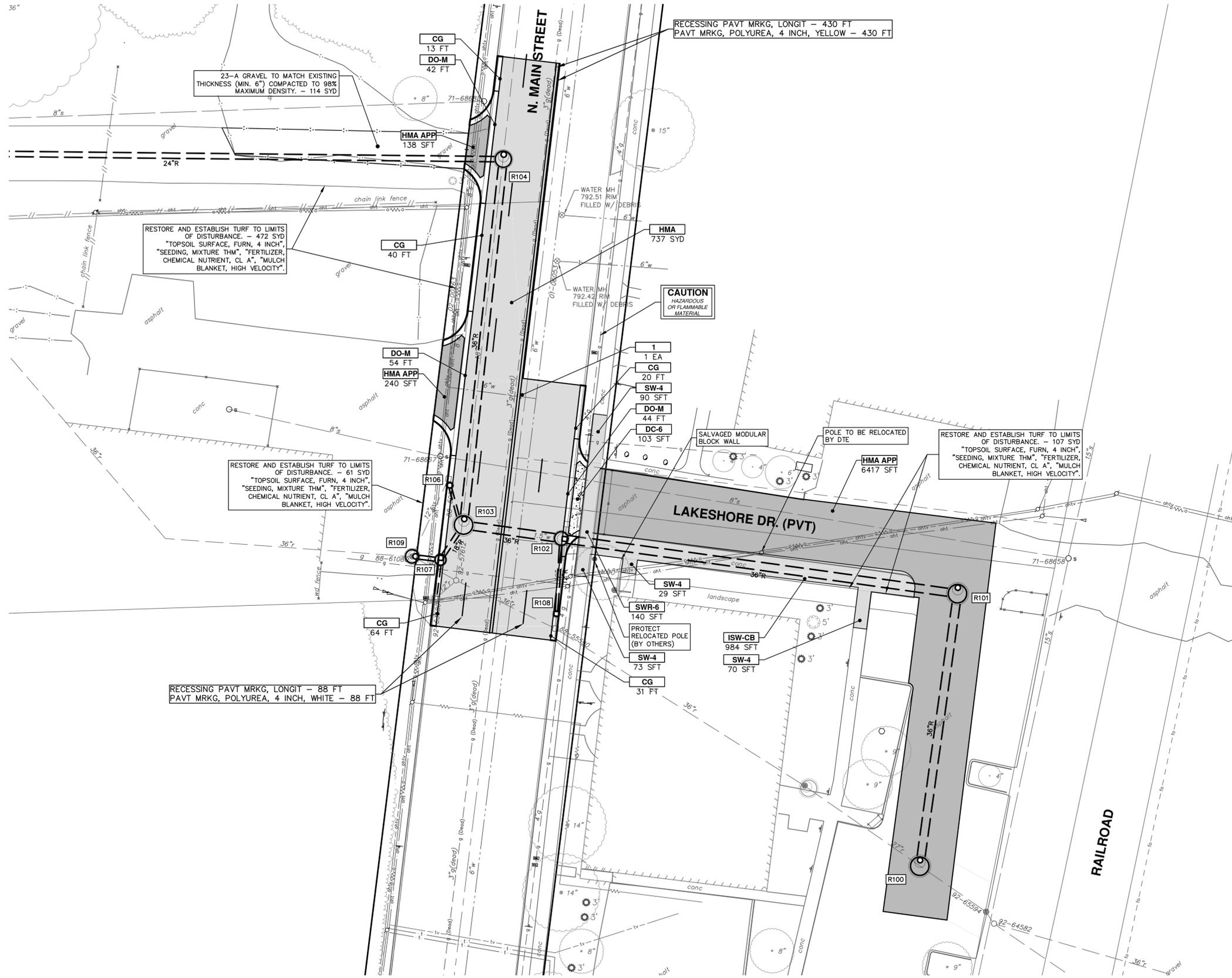
REV.	DATE	DESCRIPTION
00	3-17-21	OUT FOR BID
		DF/CC
		TB
		CHECKED

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2021 MISC. UTILITIES PROJECT  
N MAIN ST PROPOSED STORM SEWER

SHEET No. 24 OF 56  
SCALE PLAN: 1" = 30'  
PROFILE: 1" = 3'  
DRAWING No. 2021005-24



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
ISW-CB	INTEGRAL SIDEWALK/CURB
ABO	ADJUST BY OTHERS
1	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
2	ADJUST STRUCTURE COVER



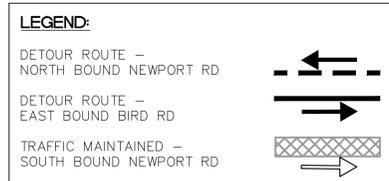
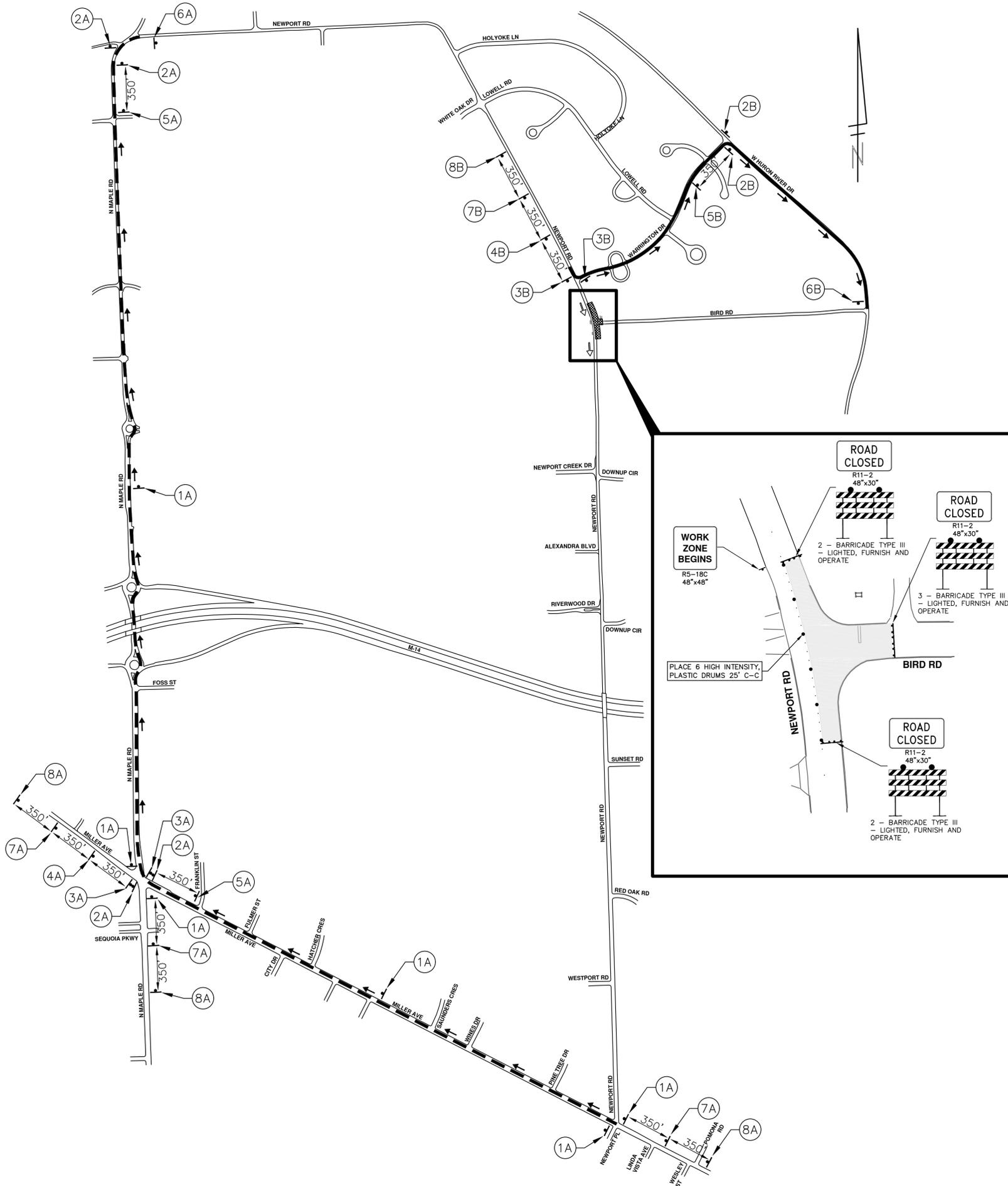
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
2021 MISC. UTILITIES PROJECT  
N MAIN ST PROPOSED ROAD AND PAVEMENT MARKINGS

SCALE PLAN: 1" = 20'  
DRAWING No. 2021005-25

REV.	DATE	DESCRIPTION
00	3-17-21	OUT FOR BID
		DF/CC
		TB
		CHECKED



NORTH BOUND NEWPORT ROAD		
SIGN	NUMBER	QUANTITY
1A	NB NEWPORT RD DETOUR ↑	D3-1 6 M4-9S 30"x24" 6
	NB NEWPORT RD DETOUR →	D3-1 4 M4-9R 30"x24" 4
2A	NB NEWPORT RD DETOUR ←	D3-1 2 M4-9L 30"x24" 2
	NB NEWPORT RD DETOUR ↶	D3-1 1 M4-9L (MOD) 30"x24" 1
3A	NB NEWPORT RD DETOUR ↷	D3-1 2 M4-9R (MOD) 30"x24" 2
	NB NEWPORT RD END DETOUR	D3-1 1 M4-8A 24"x18" 1
4A	NB NEWPORT RD DETOUR AHEAD	D3-1 3 W20-2 36"x36" 3
	NB NEWPORT RD ROAD WORK AHEAD	D3-1 3 W20-1 36"x36" 3

BARRICADE, TYPE III, LIGHTED, FURNISH AND OPERATE - 2 EACH

SIGN, PORTABLE CHANGEABLE MESSAGE, FURNISH AND OPERATE - 2 EACH

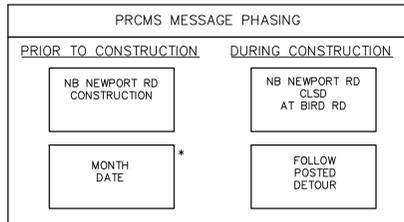
VERIFY EXACT QUANTITY AND LOCATION WITH ENGINEER PRIOR TO ORDERING

EAST BOUND BIRD ROAD		
SIGN	NUMBER	QUANTITY
1B	EB BIRD RD DETOUR ↑	D3-1 0 M4-9S 30"x24" 0
	EB BIRD RD DETOUR →	D3-1 2 M4-9R 30"x24" 2
2B	EB BIRD RD DETOUR ←	D3-1 2 M4-9L 30"x24" 2
	EB BIRD RD DETOUR ↶	D3-1 1 M4-9L (MOD) 30"x24" 1
3B	EB BIRD RD DETOUR ↷	D3-1 1 M4-9R (MOD) 30"x24" 1
	EB BIRD RD END DETOUR	D3-1 1 M4-8A 24"x18" 1
4B	EB BIRD RD DETOUR AHEAD	D3-1 1 W20-2 36"x36" 1
	EB BIRD RD ROAD WORK AHEAD	D3-1 1 W20-1 36"x36" 1

BARRICADE, TYPE III, LIGHTED, FURNISH AND OPERATE - 2 EACH

SIGN, PORTABLE CHANGEABLE MESSAGE, FURNISH AND OPERATE - 2 EACH

VERIFY EXACT QUANTITY AND LOCATION WITH ENGINEER PRIOR TO ORDERING



NOTE: PRCMS LOCATIONS AND MESSAGES WILL BE AS DIRECTED BY THE ENGINEER. TO BE PLACED ONE WEEK PRIOR TO CONSTRUCTION.

\*THE CONTRACTOR SHALL PLACE THE APPROPRIATE DATE AS APPROVED BY THE ENGINEER.

- DETOUR CONSTRUCTION NOTES:**
- DEPENDING ON THE DETOUR ROUTE THAT IS PUT IN PLACE, CONFLICTING SIGNS MAY BE PRESENT. PRIOR TO THE ORDERING OR PLACEMENT OF ANY SIGNS, MEET WITH THE ENGINEER TO VERIFY THE EXACT NUMBER AND LOCATION OF THE SIGNS TO BE PLACED. THE ENGINEER AND THE CONTRACTOR SHALL WORK TOGETHER TO ELIMINATE ALL CONFLICTS.
  - THE CITY RESERVES THE RIGHT TO ORDER ADDITIONAL SIGNS AND PLACE THEM INTO SERVICE IN ORDER TO SAFELY MAINTAIN TRAFFIC. ADJUSTMENTS IN THE UNIT PRICE FOR THESE ITEMS OF WORK SHALL NOT BE ALLOWED FOR THESE OCCURRENCES.
  - THE CONTRACTOR SHALL COORDINATE HIS OPERATIONS WITH THOSE OF THE CITY OF ANN ARBOR'S SIGNS AND SIGNALS UNIT DURING THE COURSE OF THE DETOUR ROUTE ESTABLISHMENT TO EFFECTIVELY AND SAFELY MAINTAIN TRAFFIC. DO NOT ERECT ANY SIGNS UNTIL ITS LOCATION AND PROPOSED DATE OF INSTALLATION IS APPROVED BY THE ENGINEER.
  - THE DETOUR IS TO BE IN PLACE DURING NEWPORT-BIRD WATER MAIN PROJECT AS DIRECTED BY THE ENGINEER. THE CONTRACTOR WILL CLOSE AND DETOUR NORTH BOUND NEWPORT RD TRAFFIC. SEE "SPECIAL PROVISION FOR MAINTAINING TRAFFIC AND CONSTRUCTION SEQUENCING" FOR DETAILS ON CONSTRUCTION STAGING, SEQUENCING, CLOSURE AND DETOUR LIMITATIONS, AND OTHER DETAILS.
  - REFERENCE THE "SPECIAL PROVISION FOR MAINTAINING TRAFFIC AND CONSTRUCTION SEQUENCING" FOR ADDITIONAL PROJECT REQUIREMENTS. THE CONTRACTOR'S ATTENTION IS SPECIFICALLY DIRECTED TO THE SECTION OF SAME SPECIAL PROVISION REGARDING COORDINATION WITH THE CITY SIGNS AND SIGNALS UNIT FOR MODIFICATIONS TO TRAFFIC SIGNALS FOR THE DETOUR.
  - THE CONTRACTOR SHALL FURNISH, ERECT, AND MAINTAIN SIGNS AS SHOWN ON THE PLANS OR OTHERWISE DIRECTED BY THE ENGINEER.
  - CONSTRUCTION WARNING SIGNS SHALL HAVE AN ORANGE, HIGH-INTENSITY, REFLECTORIZED BACKGROUND.
  - SIGNS SHALL CONFORM TO THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
  - THE CONTRACTOR SHALL DRIVE ALL SIGNS INTO EXPOSED GROUND OR INSERT INTO A BORED HOLE IN PAVEMENT AS NECESSARY TO PERMANENTLY SECURE. ALL HOLES IN PAVEMENT SHALL BE FILLED WITH ENGINEER-APPROVED MORTAR WHEN THE SIGN IS REMOVED AND NO LONGER NEEDED. COSTS FOR THIS WORK SHALL BE INCLUDED IN THE PAY ITEM "TEMPORARY SIGN, TYPE B, FURNISH AND OPERATE"
  - ADVANCE WARNING SIGNS SHALL BE PROVIDED WITH TWO (2) TYPE A FLASHING LIGHTS AND ONE (1) DAY-GLOW ORANGE FLAG.
  - CITY TO BE NOTIFIED A MINIMUM OF 7 DAYS PRIOR TO IMPLEMENTING NORTH BOUND NEWPORT RD DETOUR. MESSAGE BOARDS TO BE PLACED 7 DAYS PRIOR TO IMPLEMENTATION OF DETOUR.

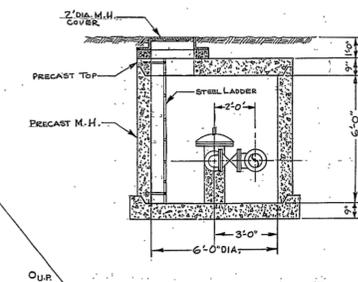
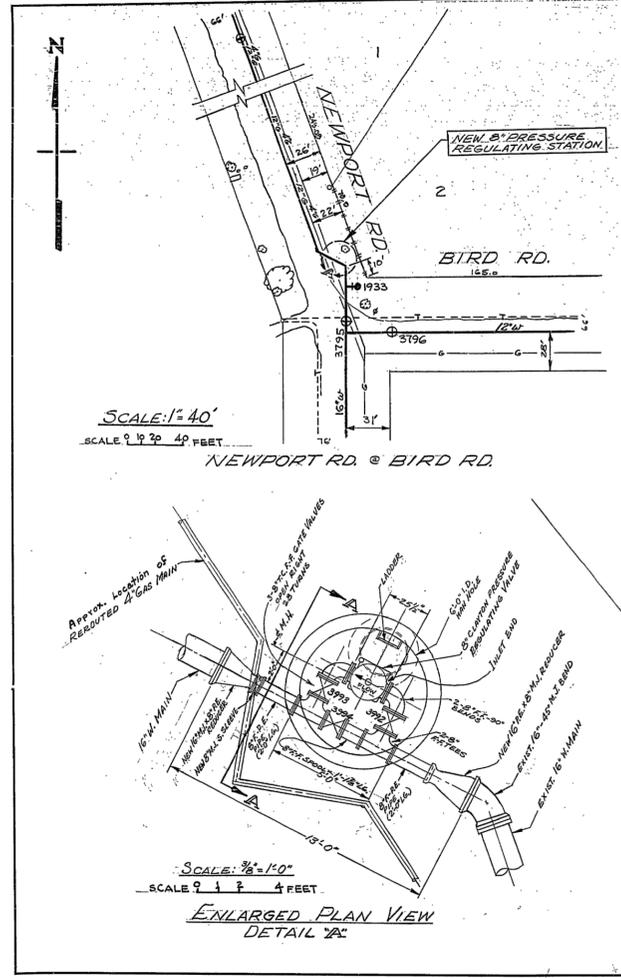
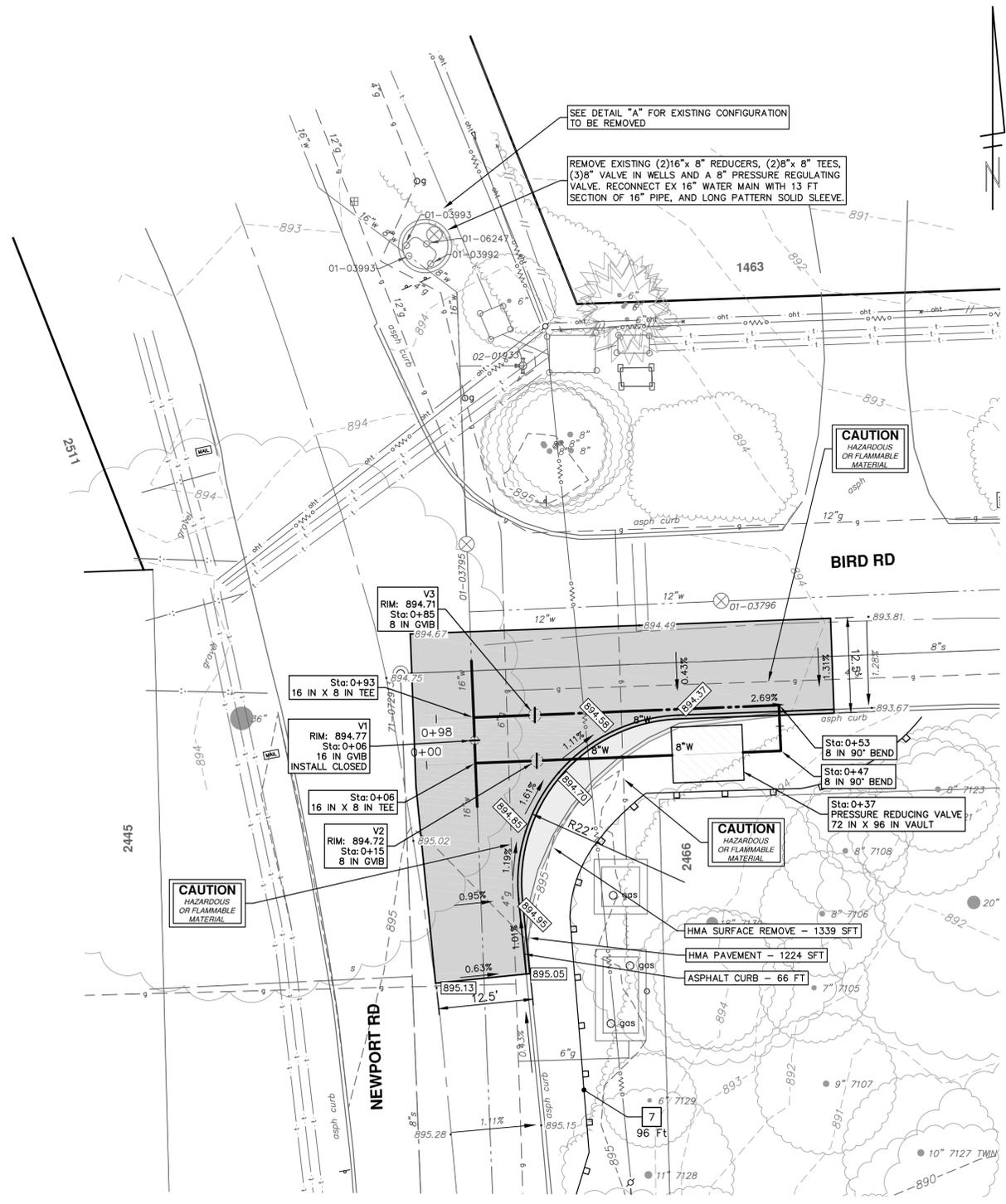
**811**  
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REV.	DATE	DESCRIPTION
00	3-17-21	OUT FOR BID
01		DF/CC
02		TB
03		CHECKED

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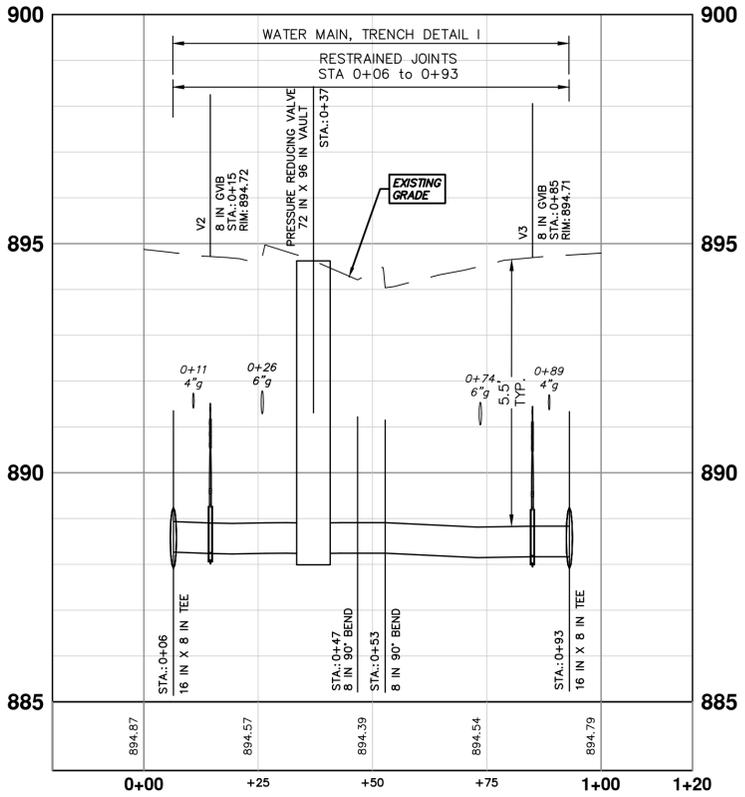
**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**  
2021 MISC. UTILITIES PROJECT  
NEWPORT RD - BIRD RD DETOUR

SCALE: 1" = 500'  
DRAWING No. 2021005-26  
SHEET No. 26 OF 56



CITY OF ANN ARBOR UTILITIES DEPARTMENT	
PROJECT #333	SITE DETAILS II
SCALE: 1/8\" = 1'-0\"	DATE: 11/17/21
DR-WY: 2/2/21	REV: 1/1/21
DR-UT: 1/1/21	A-556W-3

**AS BUILT DRAWING**  
 CORRECTED 11-22-21  
 MICH. DEPT. OF HEALTH PERMIT No. \_\_\_\_\_  
 CONSTRUCTION COMPLETED 9-7-21  
 BACTERIOLOGICAL TEST *None*  
 PRESSURE TEST *None*



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

3-17-21 DATE  
 DF/CC DRAWN  
 TB CHECKED

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
 2021 MISC. UTILITIES PROJECT

NEWPORT RD PRESSURE REDUCING VALVE

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ANN ARBOR MICHIGAN

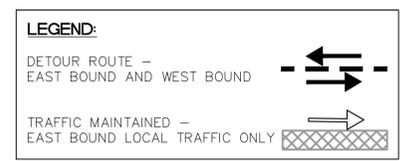
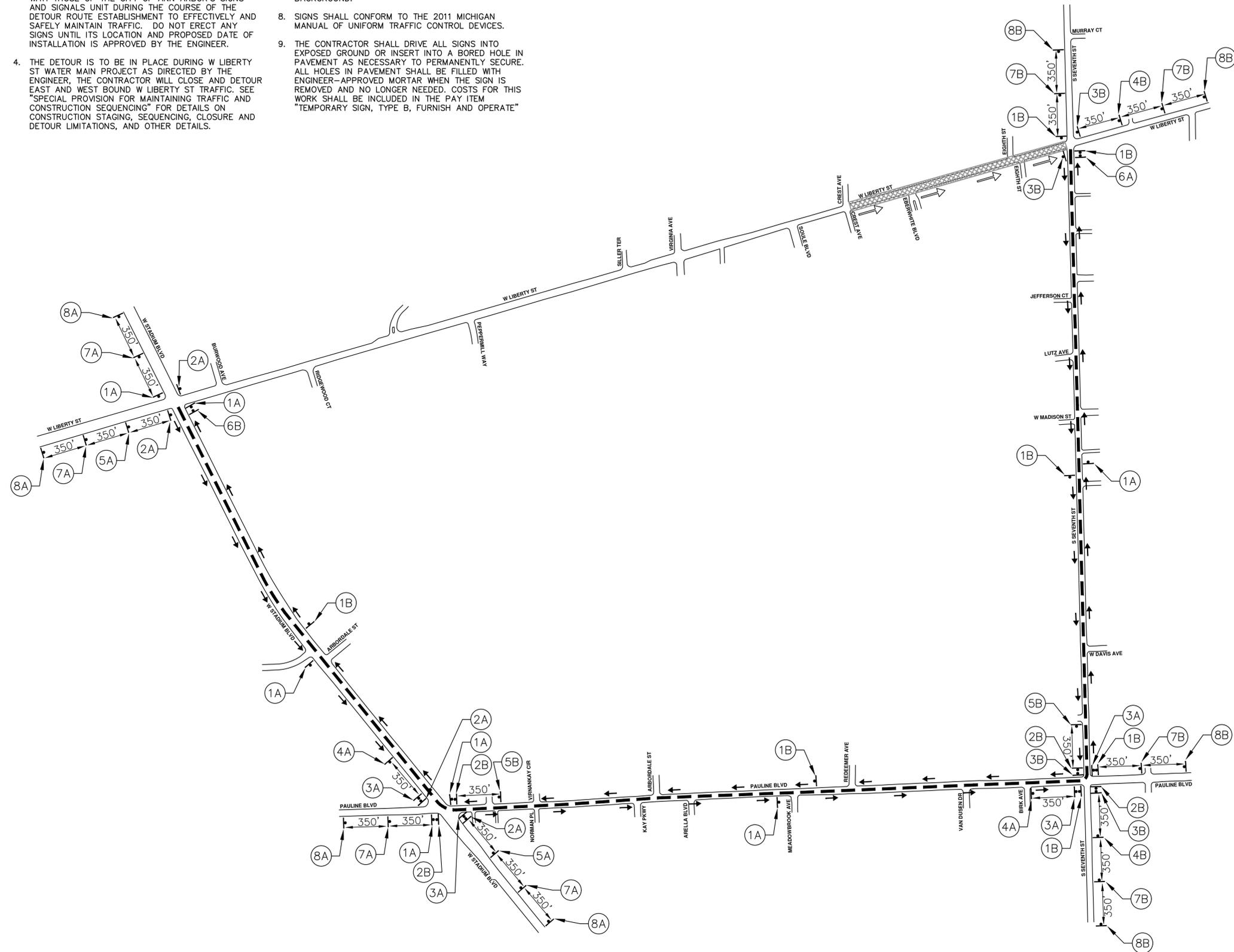
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SHEET No. 27 OF 56

DRAWING No. 2021005-27

**DETOUR CONSTRUCTION NOTES:**

1. DEPENDING ON THE DETOUR ROUTE THAT IS PUT IN PLACE, CONFLICTING SIGNS MAY BE PRESENT. PRIOR TO THE ORDERING OR PLACEMENT OF ANY SIGNS, MEET WITH THE ENGINEER TO VERIFY THE EXACT NUMBER AND LOCATION OF THE SIGNS TO BE PLACED. THE ENGINEER AND THE CONTRACTOR SHALL WORK TOGETHER TO ELIMINATE ALL CONFLICTS.
2. THE CITY RESERVES THE RIGHT TO ORDER ADDITIONAL SIGNS AND PLACE THEM INTO SERVICE IN ORDER TO SAFELY MAINTAIN TRAFFIC. ADJUSTMENTS IN THE UNIT PRICE FOR THESE ITEMS OF WORK SHALL NOT BE ALLOWED FOR THESE OCCURRENCES.
3. THE CONTRACTOR SHALL COORDINATE HIS OPERATIONS WITH THOSE OF THE CITY OF ANN ARBOR'S SIGNS AND SIGNALS UNIT DURING THE COURSE OF THE DETOUR ROUTE ESTABLISHMENT TO EFFECTIVELY AND SAFELY MAINTAIN TRAFFIC. DO NOT ERECT ANY SIGNS UNTIL ITS LOCATION AND PROPOSED DATE OF INSTALLATION IS APPROVED BY THE ENGINEER.
4. THE DETOUR IS TO BE IN PLACE DURING W LIBERTY ST WATER MAIN PROJECT AS DIRECTED BY THE ENGINEER. THE CONTRACTOR WILL CLOSE AND DETOUR EAST AND WEST BOUND W LIBERTY ST TRAFFIC. SEE "SPECIAL PROVISION FOR MAINTAINING TRAFFIC AND CONSTRUCTION SEQUENCING" FOR DETAILS ON CONSTRUCTION STAGING, SEQUENCING, CLOSURE AND DETOUR LIMITATIONS, AND OTHER DETAILS.
5. REFERENCE THE "SPECIAL PROVISION FOR MAINTAINING TRAFFIC AND CONSTRUCTION SEQUENCING" FOR ADDITIONAL PROJECT REQUIREMENTS. THE CONTRACTOR'S ATTENTION IS SPECIFICALLY DIRECTED TO THE SECTION OF SAME SPECIAL PROVISION REGARDING COORDINATION WITH THE CITY SIGNS AND SIGNALS UNIT FOR MODIFICATIONS TO TRAFFIC SIGNALS FOR THE DETOUR.
6. THE CONTRACTOR SHALL FURNISH, ERECT, AND MAINTAIN SIGNS AS SHOWN ON THE PLANS OR OTHERWISE DIRECTED BY THE ENGINEER.
7. CONSTRUCTION WARNING SIGNS SHALL HAVE AN ORANGE, HIGH-INTENSITY, REFLECTORIZED BACKGROUND.
8. SIGNS SHALL CONFORM TO THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
9. THE CONTRACTOR SHALL DRIVE ALL SIGNS INTO EXPOSED GROUND OR INSERT INTO A BORED HOLE IN PAVEMENT AS NECESSARY TO PERMANENTLY SECURE. ALL HOLES IN PAVEMENT SHALL BE FILLED WITH ENGINEER-APPROVED MORTAR WHEN THE SIGN IS REMOVED AND NO LONGER NEEDED. COSTS FOR THIS WORK SHALL BE INCLUDED IN THE PAY ITEM "TEMPORARY SIGN, TYPE B, FURNISH AND OPERATE"
10. ADVANCE WARNING SIGNS SHALL BE PROVIDED WITH TWO (2) TYPE A FLASHING LIGHTS AND ONE (1) DAY-GLOW ORANGE FLAG.
11. CITY TO BE NOTIFIED A MINIMUM OF 7 DAYS PRIOR TO IMPLEMENTING W LIBERTY ST DETOUR. MESSAGE BOARDS TO BE PLACED 7 DAYS PRIOR TO IMPLEMENTATION OF DETOUR.



EAST BOUND W LIBERTY ST			WEST BOUND W LIBERTY ST		
SIGN	NUMBER	QUANTITY	SIGN	NUMBER	QUANTITY
1A	EB W LIBERTY ST DETOUR ↑	D3-1: 7 M4-9S 30"x24": 7	1B	WB W LIBERTY ST DETOUR ↑	D3-1: 7 M4-9S 30"x24": 7
2A	EB W LIBERTY ST DETOUR →	D3-1: 4 M4-9R 30"x24": 4	2B	WB W LIBERTY ST DETOUR →	D3-1: 4 M4-9R 30"x24": 4
3A	EB W LIBERTY ST DETOUR ←	D3-1: 4 M4-9L 30"x24": 4	3B	WB W LIBERTY ST DETOUR ←	D3-1: 4 M4-9L 30"x24": 4
4A	EB W LIBERTY ST DETOUR ↶	D3-1: 2 M4-9L (MOD) 30"x24": 2	4B	WB W LIBERTY ST DETOUR ↷	D3-1: 2 M4-9L (MOD) 30"x24": 2
5A	EB W LIBERTY ST DETOUR ↷	D3-1: 2 M4-9R (MOD) 30"x24": 2	5B	WB W LIBERTY ST DETOUR ↶	D3-1: 2 M4-9R (MOD) 30"x24": 2
6A	EB W LIBERTY ST END DETOUR	D3-1: 1 M4-8A 24"x18": 1	6B	WB W LIBERTY ST END DETOUR	D3-1: 1 M4-8A 24"x18": 1
7A	EAST BOUND W LIBERTY ST CLOSED AT CREST AVE FOLLOW DETOUR	SPECIAL 48x66: 4	7B	WEST BOUND W LIBERTY ST CLOSED AT S SEVENTH ST FOLLOW DETOUR	SPECIAL 48x66: 4
8A	DETOUR AHEAD	W20-2 36"x36": 4	8B	DETOUR AHEAD	W20-2 36"x36": 4

SIGN, PORTABLE, CHANGEABLE MESSAGE - 2 EACH  
VERIFY EXACT QUANTITY AND LOCATION WITH ENGINEER PRIOR TO ORDERING

PRMS MESSAGE PHASING		
PRIOR TO CONSTRUCTION	DURING CONSTRUCTION	DURING CONSTRUCTION
W LIBERTY ST CONSTRUCTION	W LIBERTY ST CLSD AT CREST AVE	W LIBERTY ST CLSD AT S SEVENTH ST
MONTH DATE *	FOLLOW POSTED DETOUR	FOLLOW POSTED DETOUR

NOTE: PRMS LOCATIONS AND MESSAGES WILL BE AS DIRECTED BY THE ENGINEER. TO BE PLACED ONE WEEK PRIOR TO CONSTRUCTION.  
\* THE CONTRACTOR SHALL PLACE THE APPROPRIATE DATE AS APPROVED BY THE ENGINEER.

R:\2021005 Misc Utility 2021\Plan Production\2021005 Liberty Dtr.dwg Dwg Created: 26-Feb-21 - \_o2\_standard bw.stb - Plot Date: 17-Mar-21

DO	OUT FOR BID	DATE	DF/CC	TB	CHECKED				
REV.					DRAWN	DESCRIPTION			

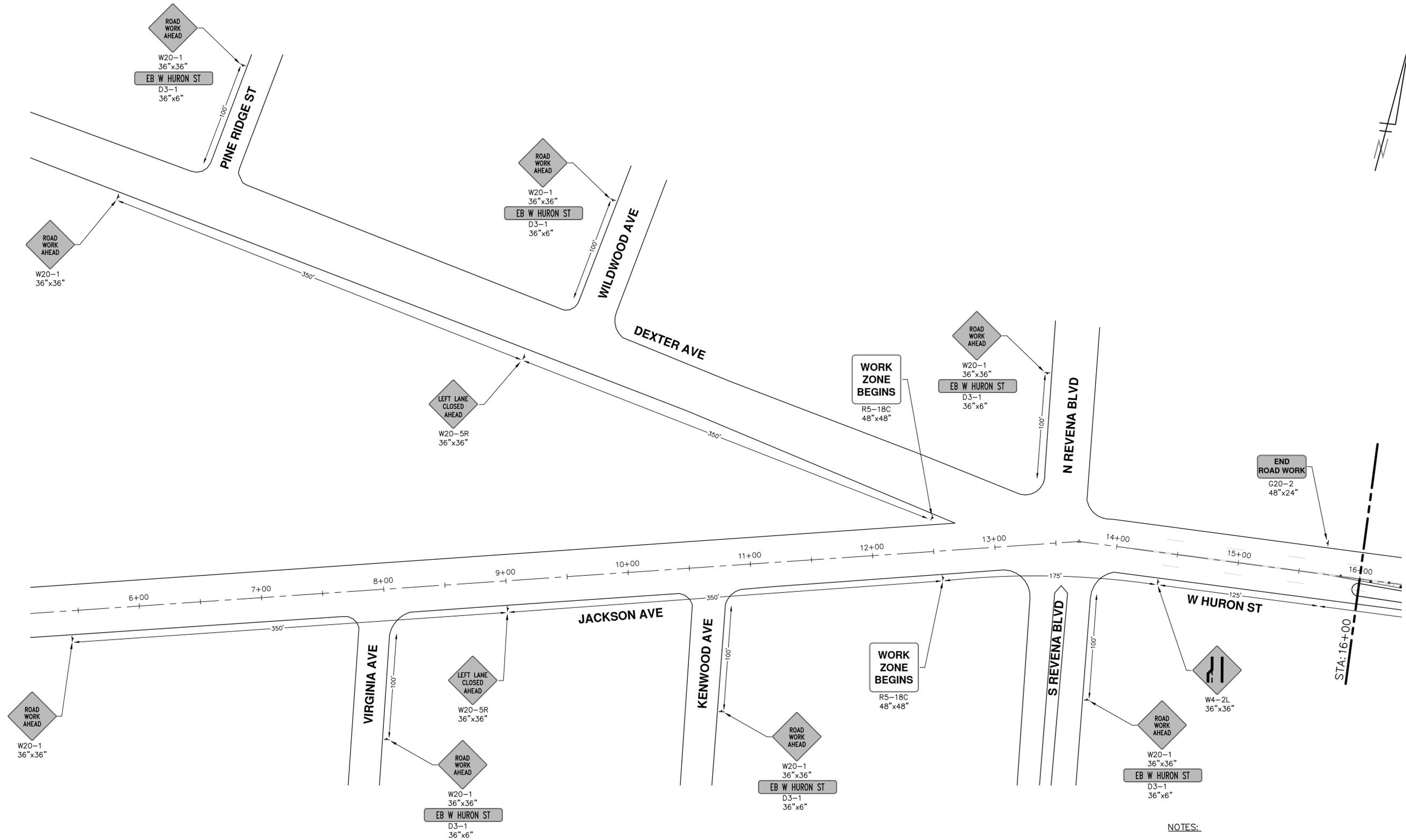
**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**

**2021 MISC. UTILITIES PROJECT**

**W LIBERTY ST DETOUR**

DRAWING No. 2021005-28  
SHEET No. 28 OF 56

R:\2021005 Misc Utility 2021\Plan Production\2021005 Liberty Mtrf2.dwg Dwg Created: 25-Feb-21 --\_o2\_standard bw.sib -- Plot Date: 17-Mar-21



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

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

**2021 MISC. UTILITIES PROJECT**

W HURON ST TRAFFIC CONTROL - PH I

SCALE: 1" = 40'

DRAWING No. 2021005-29

SHEET No. 29 OF 56

STA. 5+50 - STA. 16+00

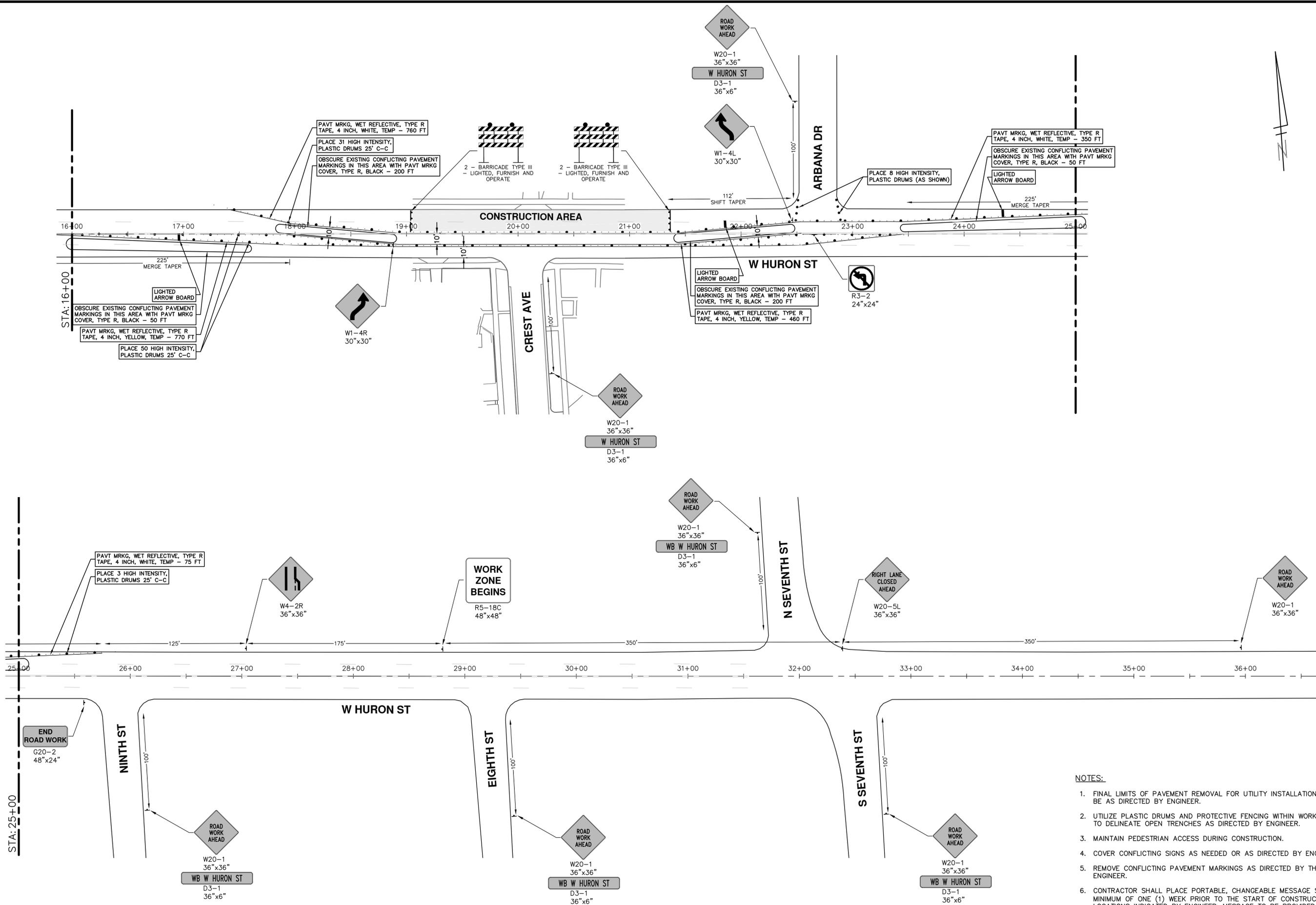
REV. NO. DESCRIPTION DATE DRAWN CHECKED

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

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

**2021 MISC. UTILITIES PROJECT**

W HURON ST TRAFFIC CONTROL - PH I

SCALE: 1" = 40'

DRAWING No. 2021005-30

SHEET No. 30 OF 56

STA. 16+00 - STA. 36+00

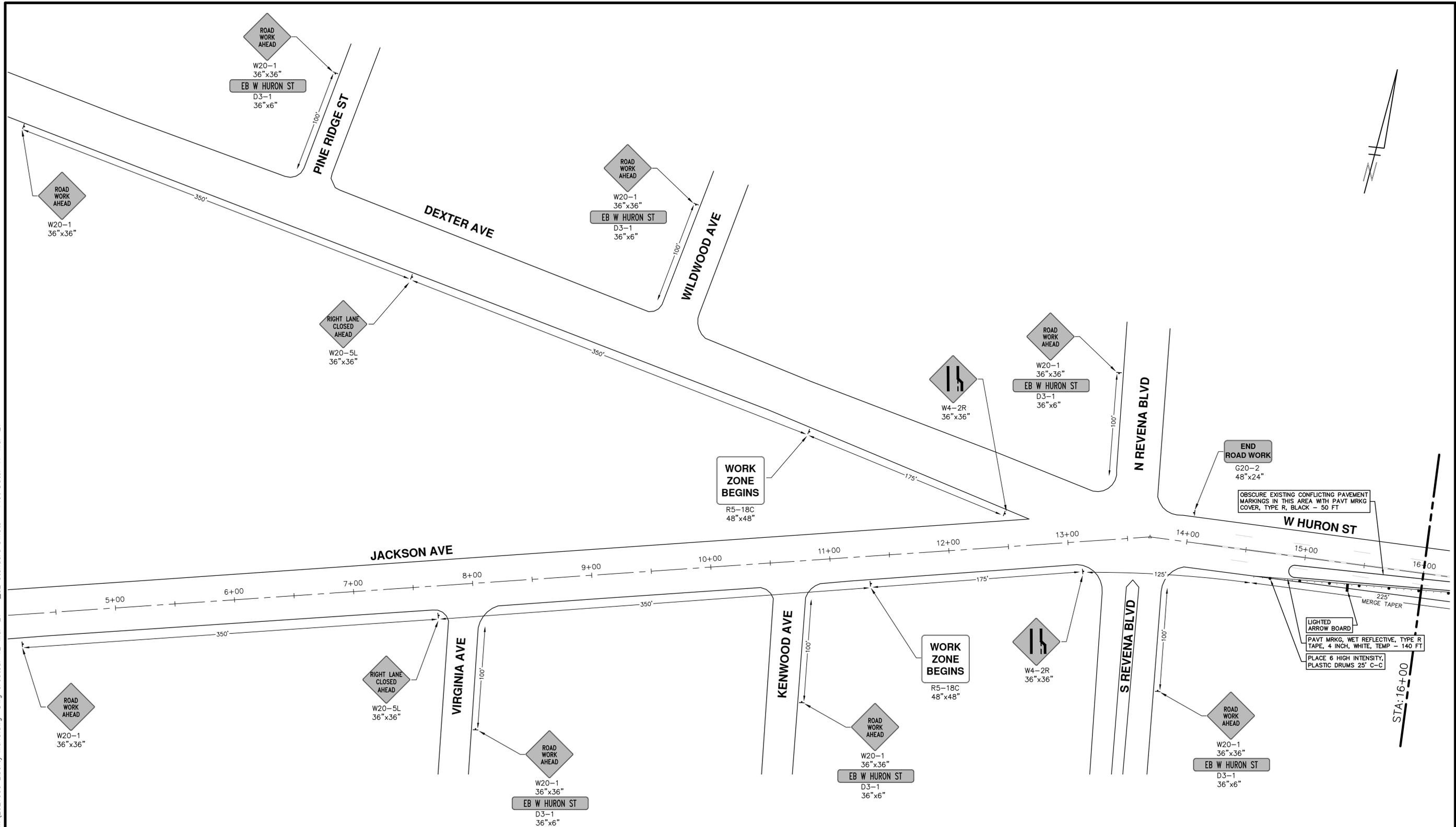
REV. DESCRIPTION DATE DRAWN CHECKED

00	OUT FOR BID	3-17-21	DF/CC	TB

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R:\2021005 Misc Utility 2021\Plan Production\2021005 Liberty Mtrf3.dwg Dwg Created: 12-Mar-21 --\_a2\_standard.bw.stb -- Plot Date: 17-Mar-21



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

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

REV.	DATE	DESCRIPTION
00	3-17-21	DF/CC
		DRAWN
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CITY OF ANN ARBOR  
PUBLIC SERVICES  
301 EAST HURON STREET  
ANN ARBOR, MI 48106-8647  
ANN ARBOR 734.794.4410  
www.a3gov.org

CITY OF ANN ARBOR  
MICHIGAN

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

**2021 MISC. UTILITIES PROJECT**

W HURON ST TRAFFIC CONTROL - PH II

SCALE: 1" = 40'

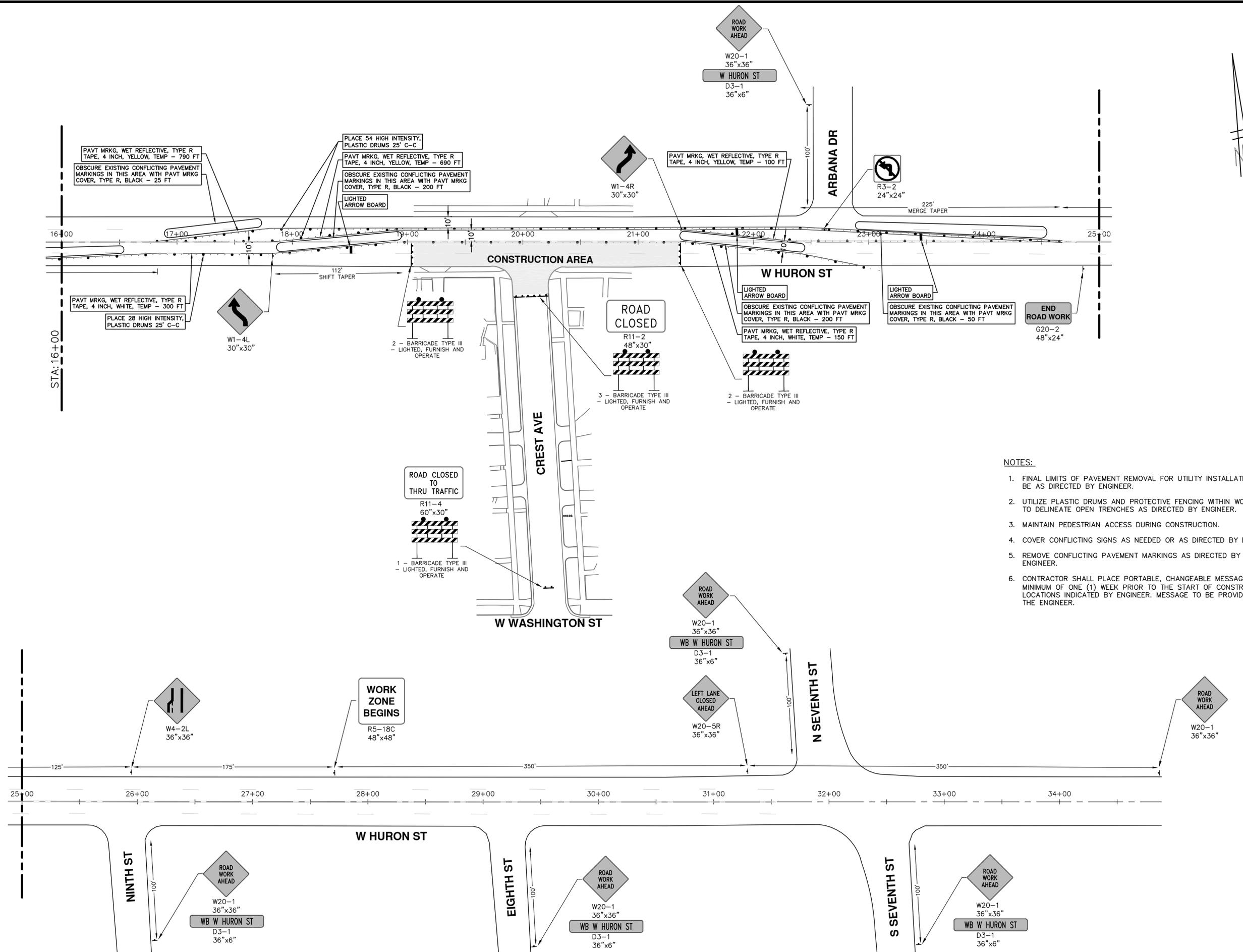
DRAWING No. **2021005-31**

SHEET No. **31 OF 56**

STA. 5+50 - STA. 16+00

STA. 16+00

R:\2021005 Misc Utility 2021\Plan Production\2021005 Liberty Mtrf3.dwg Dwg Created: 12-Mar-21 - Plot Date: 17-Mar-21



- 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.
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00	OUT FOR BID	3-17-21		

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

**2021 MISC. UTILITIES PROJECT**

W HURON ST TRAFFIC CONTROL - PH II

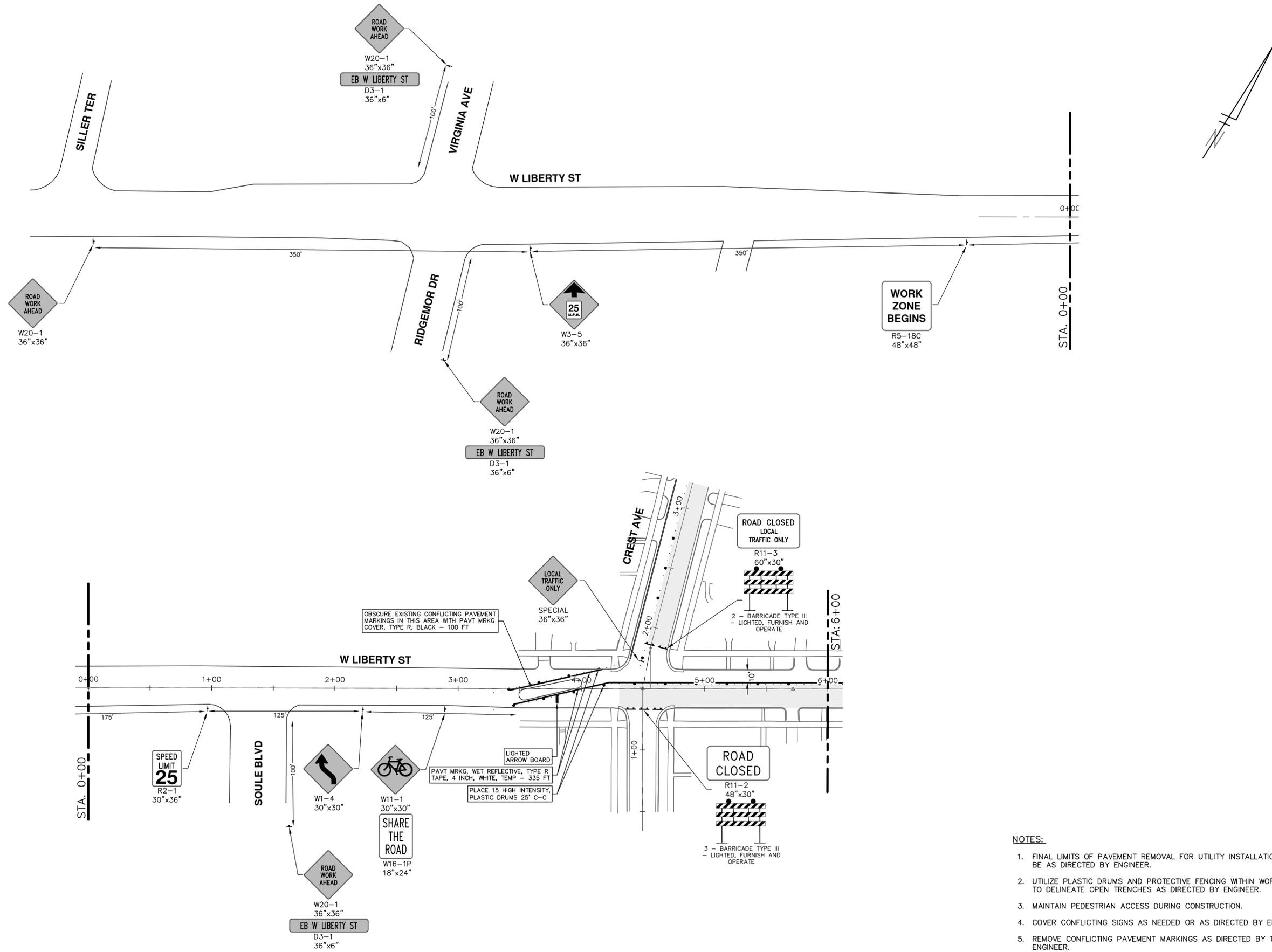
CITY OF ANN ARBOR  
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ANN ARBOR, MI 48106-1000  
734.794.4410  
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STA. 16+00 - STA. 36+00

DRAWING No. 2021005-32

SHEET No. 32 OF 56

R:\2021005 Misc Utility 2021\Plan Production\2021005 Liberty Mtrf.dwg Dwg Created: 12-Mar-21 - 9:2 standard bw.stb - Plot Date: 17-Mar-21



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

**2021 MISC. UTILITIES PROJECT**

W LIBERTY ST TRAFFIC CONTROL

P.O.E. - STA. 6+00

**811**  
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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT FOR BID	3-17-21	DF/CC	TB

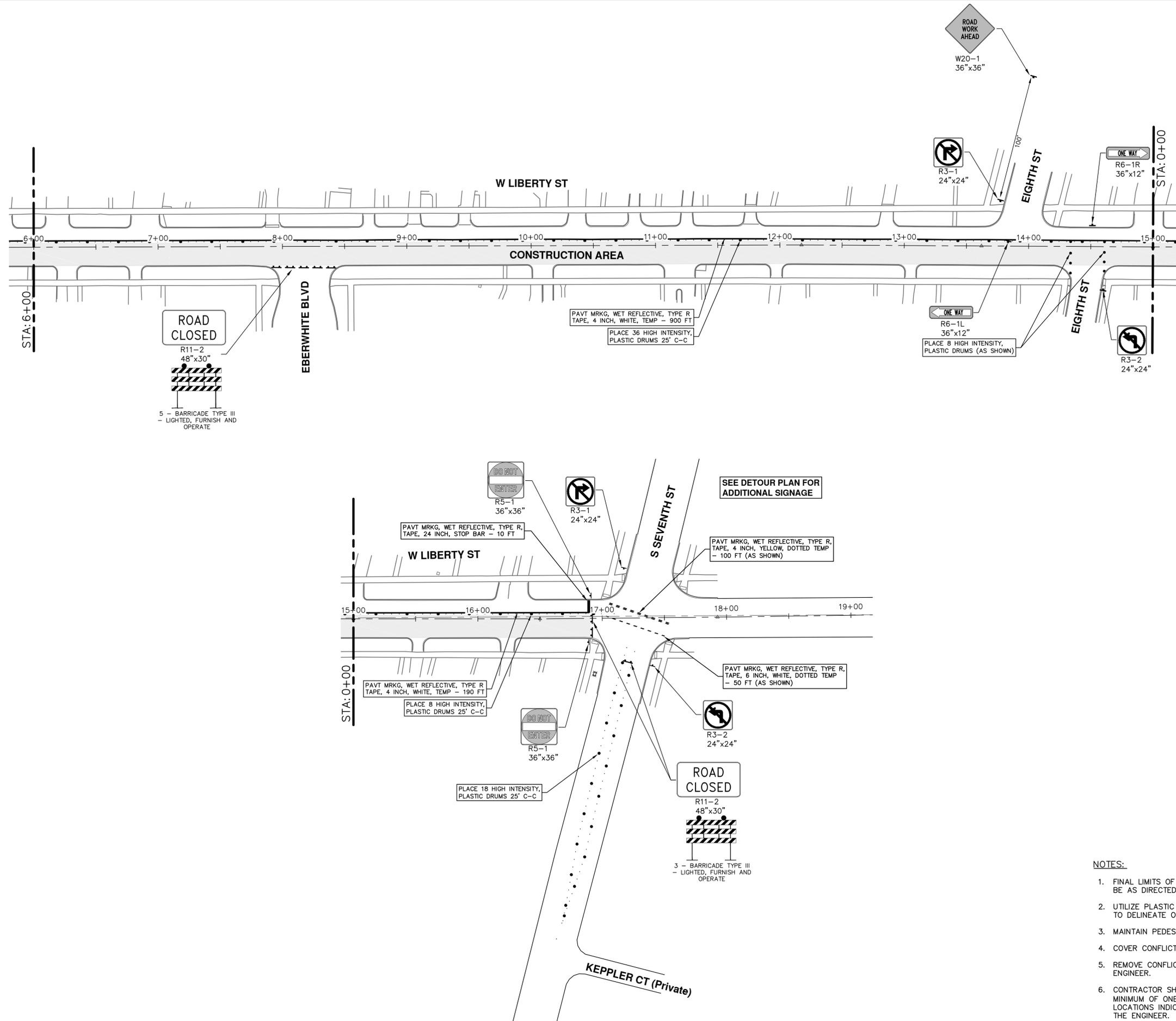
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SCALE: 1" = 40'

DRAWING No. **2021005-33**

SHEET No. **33 OF 56**

R:\2021005 Misc Utility 2021\Plan Production\2021005 Liberty Mtrf.dwg Dwg Created: 12-Mar-21 - 10:02 standard bw.stb - Plot Date: 17-Mar-21



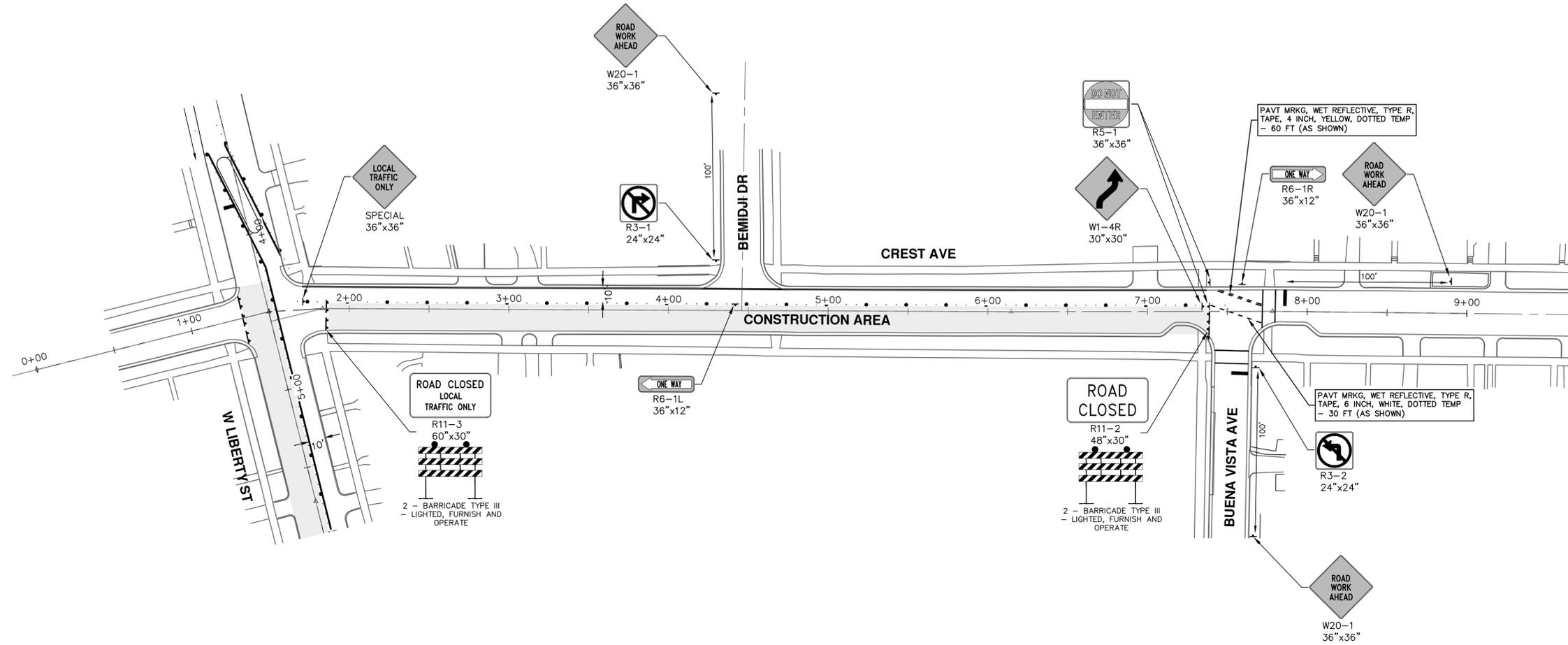
- NOTES:**
1. FINAL LIMITS OF PAVEMENT REMOVAL FOR UTILITY INSTALLATION WILL BE AS DIRECTED BY ENGINEER.
  2. UTILIZE PLASTIC DRUMS AND PROTECTIVE FENCING WITHIN WORK ZONE TO DELINEATE OPEN TRENCHES AS DIRECTED BY ENGINEER.
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  5. REMOVE CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
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 Know what's below. Call Before you dig.	
REV.	DESCRIPTION
00	OUT FOR BID
3-17-21	DATE
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TB	CHECKED

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
 2021 MISC. UTILITIES PROJECT  
 W LIBERTY ST TRAFFIC CONTROL  
 STA. 6+00 - STA. 19+00

CITY OF ANN ARBOR  
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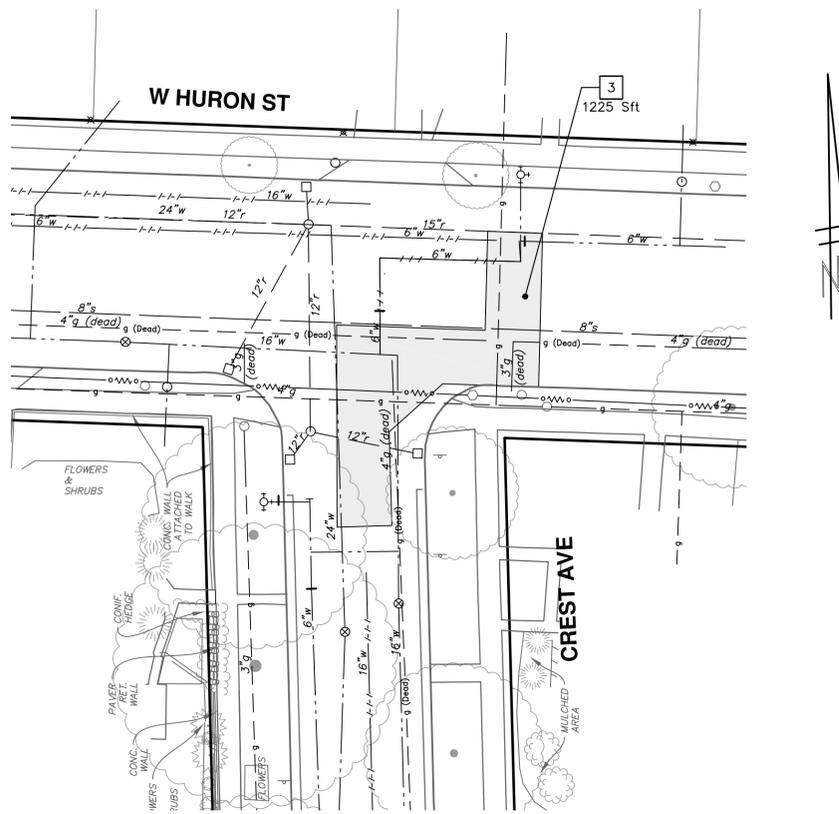
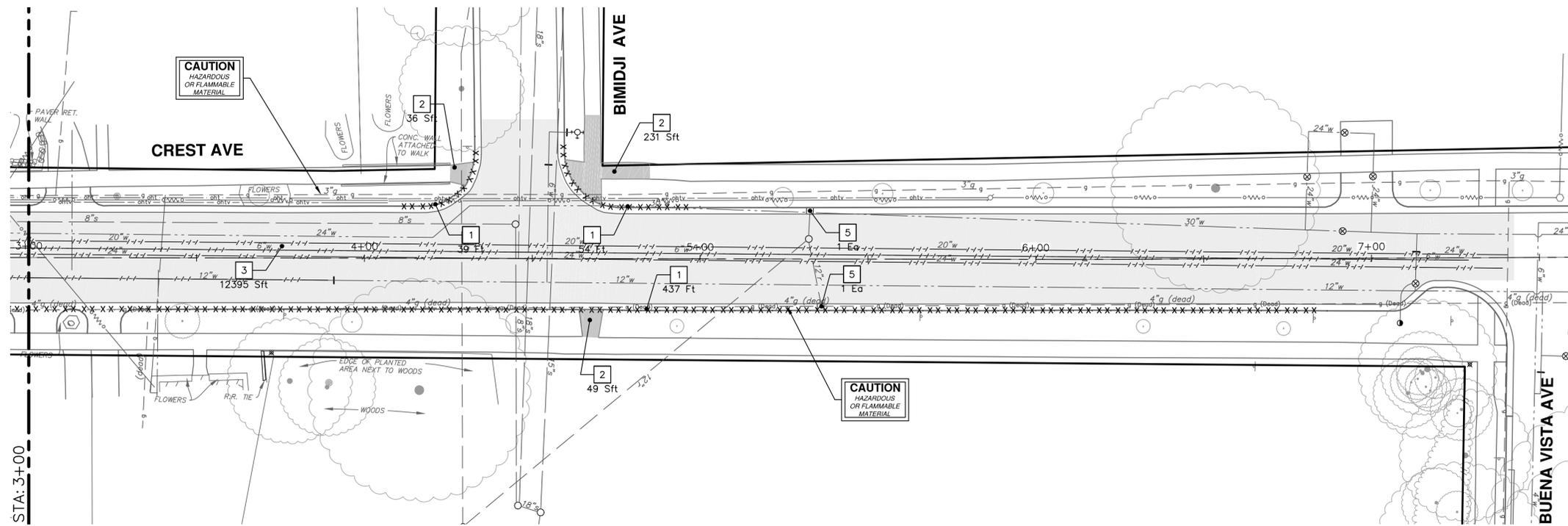
SCALE: 1" = 40'  
 DRAWING No. 2021005-34  
 SHEET No. 34 OF 56



**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.
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 Know what's below. Call Before you dig.					
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REV.	DESCRIPTION	DATE	DRAWN	CHECKED	TB
00	OUT FOR BID	3-17-21	DF/CC	DRAWN	CHECKED



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
6	SILT SACK
7	SILT FENCE
8	STONE FILTER
9	REMOVE FENCE
10	TRENCH DRAIN INLET FILTER

\* SAWCUT FULL DEPTH AT REMOVAL LIMITS

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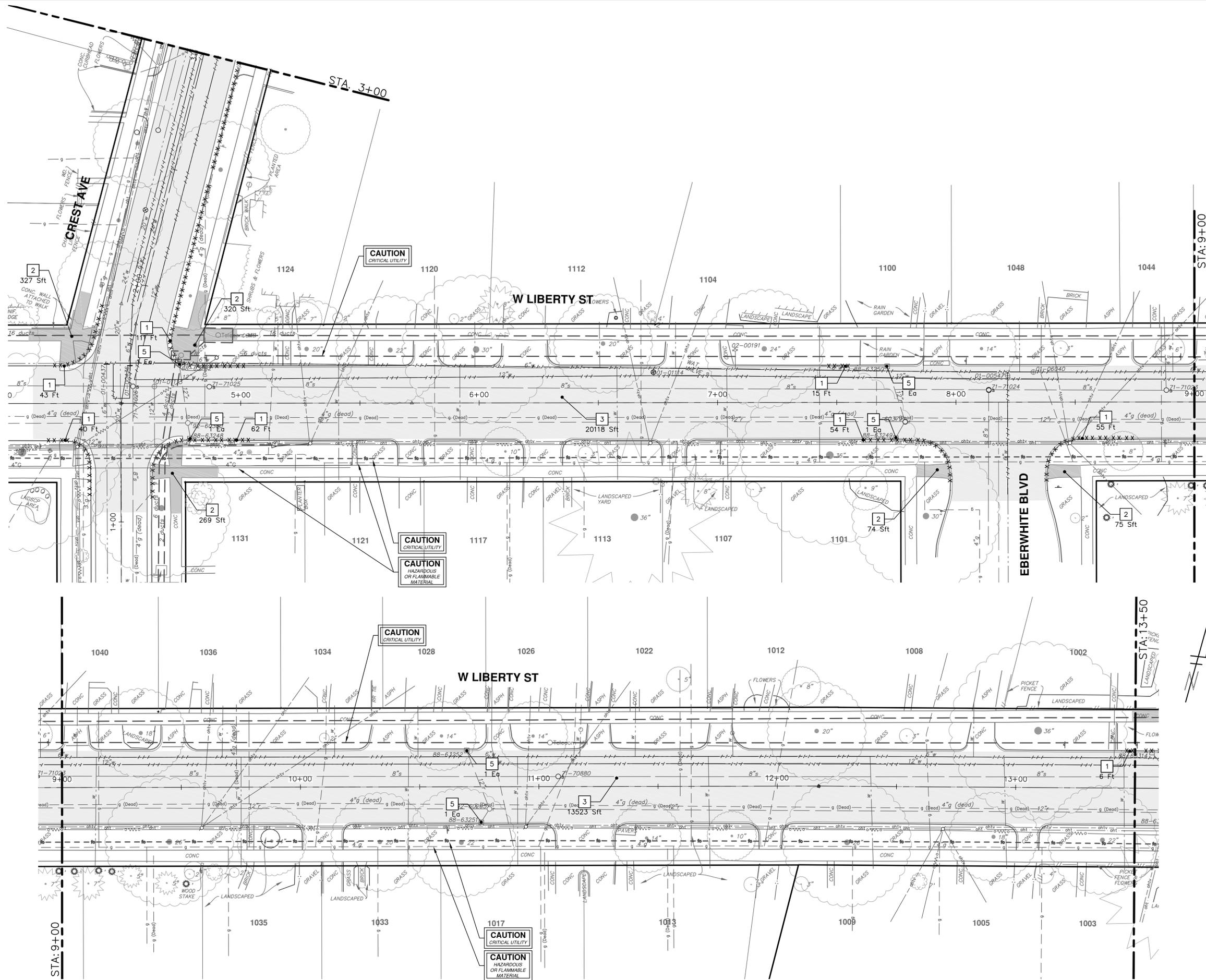
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
2021 MISC. UTILITIES PROJECT  
W LIBERTY ST - CREST AVE REMOVALS  
CREST AVE STA. 3+00 - P.O.E. & CREST - W HURON INTERSECTION

SCALE: #####  
DRAWING No. 2021005-36



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT FOR BID	3-17-21	DF/CC	TB

R:\2021005 Misc Utility 2021\Plan Production\2021005 Liberty Rem.dwg Dwg Created: 15-Mar-21 - \_a2 standard bw.stb - Plot Date: 17-Mar-21



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
6	SILT SACK
7	SILT FENCE
8	STONE FILTER
9	REMOVE FENCE
10	TRENCH DRAIN INLET FILTER

\* SAWCUT FULL DEPTH AT REMOVAL LIMITS



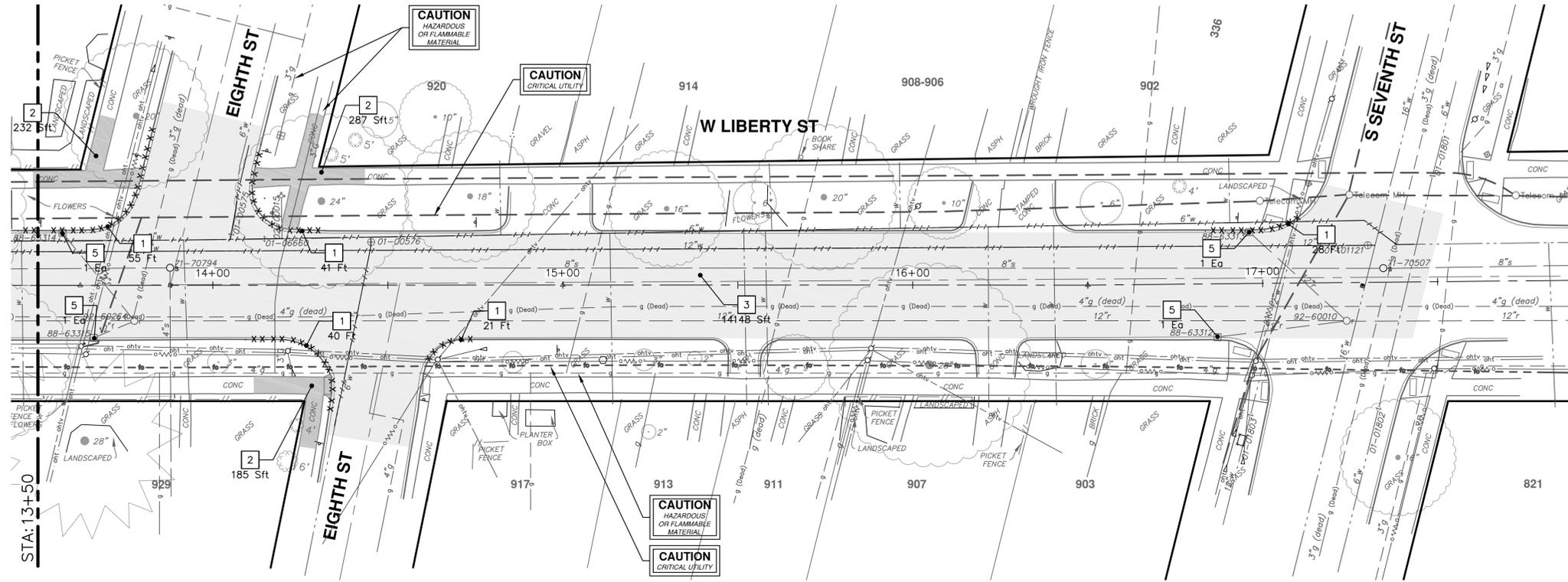
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
2021 MISC. UTILITIES PROJECT  
W LIBERTY ST - CREST AVE REMOVALS  
W LIBERTY ST STA. 4+00 - STA. 13+50

SCALE: 1" = 20'  
DRAWING No. 2021005-37

REV.	DESCRIPTION	DATE	BY	CHECKED
00	OUT FOR BID	3-17-21	DF/CC	



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
6	SILT SACK
7	SILT FENCE
8	STONE FILTER
9	REMOVE FENCE
10	TRENCH DRAIN INLET FILTER

\* SAWCUT FULL DEPTH AT REMOVAL LIMITS



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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
2021 MISC. UTILITIES PROJECT  
W LIBERTY ST - CREST AVE REMOVALS  
W LIBERTY ST STA. 13+50 - P.O.E.

SCALE: 1" = 20'  
DRAWING No. 2021005-38

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT FOR BID	3-17-21	DF/CC	TB

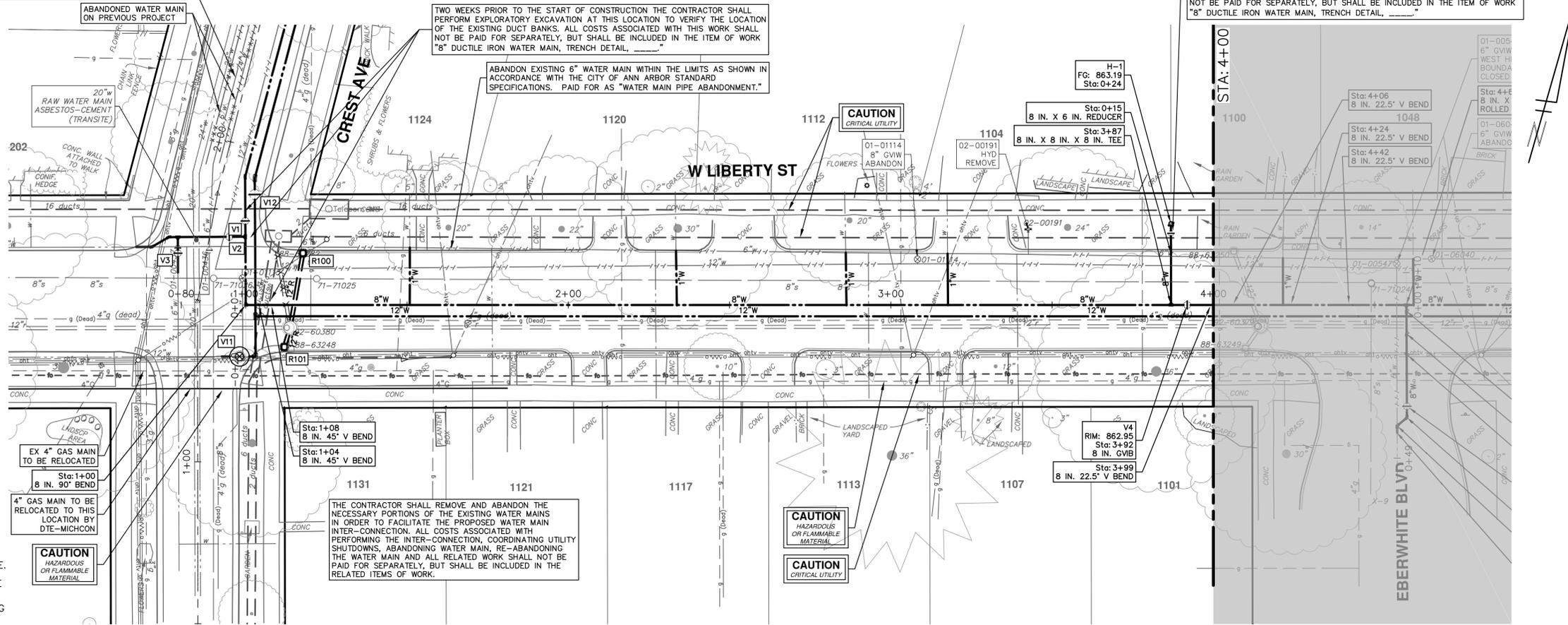
ABANDON EXISTING 6" WATER MAIN WITHIN THE LIMITS AS SHOWN IN ACCORDANCE WITH THE CITY OF ANN ARBOR STANDARD SPECIFICATIONS. PAID FOR AS "WATER MAIN PIPE ABANDONMENT."

ABANDONED WATER MAIN ON PREVIOUS PROJECT

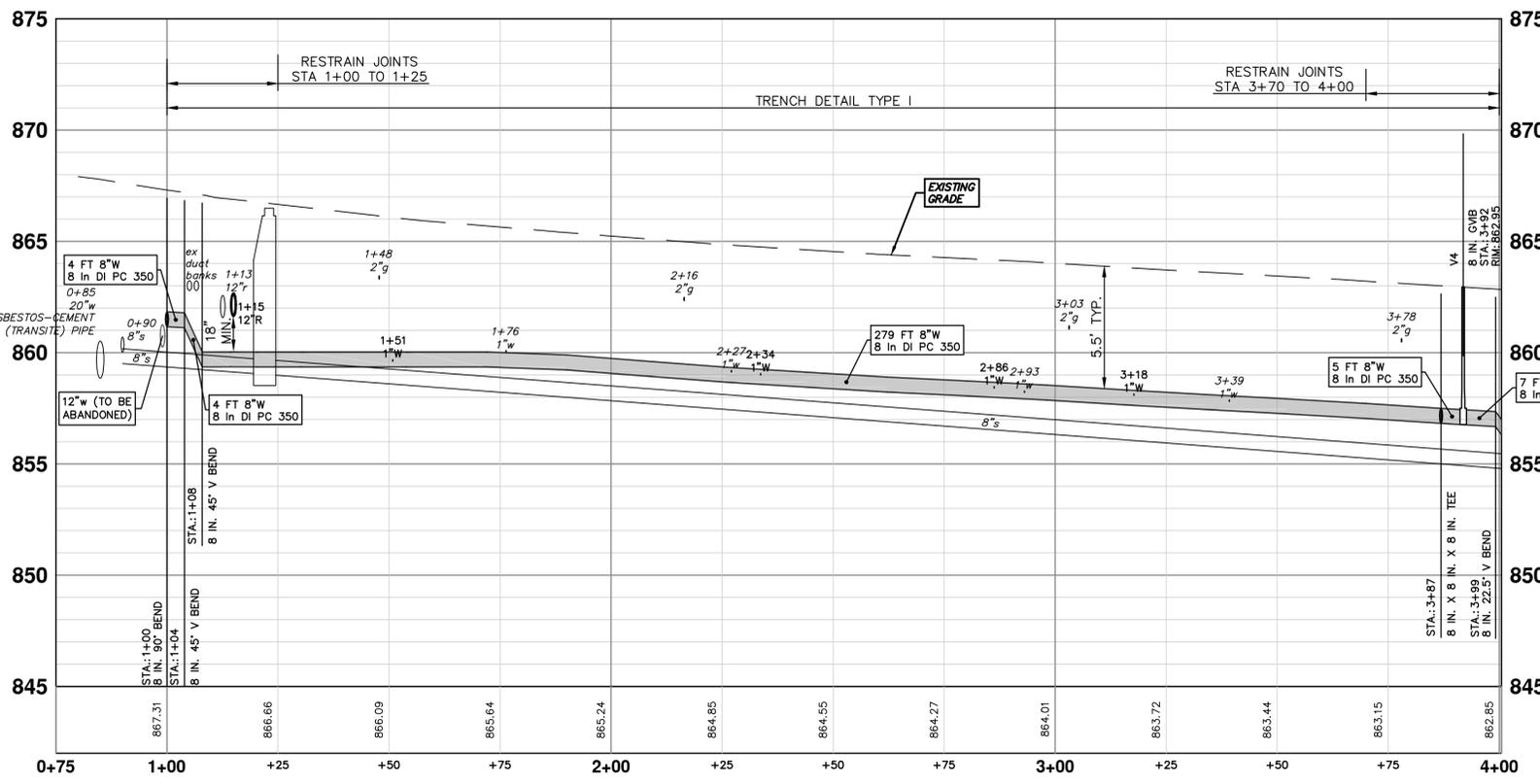
TWO WEEKS PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL PERFORM EXPLORATORY EXCAVATION AT THIS LOCATION TO VERIFY THE LOCATION OF THE EXISTING DUCT BANKS. ALL COSTS ASSOCIATED WITH THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE ITEM OF WORK "8" DUCTILE IRON WATER MAIN, TRENCH DETAIL, \_\_\_\_\_"

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."

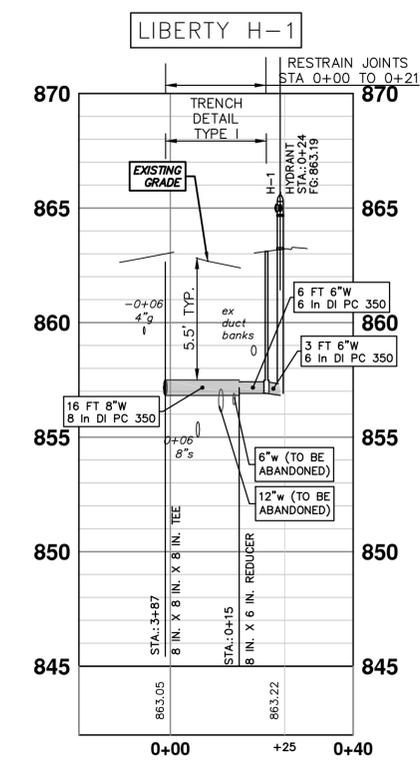
TWO WEEKS PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL PERFORM EXPLORATORY EXCAVATION AT THIS LOCATION TO VERIFY THE LOCATION OF THE EXISTING FIBER. ALL COSTS ASSOCIATED WITH THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE ITEM OF WORK "8" DUCTILE IRON WATER MAIN, TRENCH DETAIL, \_\_\_\_\_"



- NOTE:
- THE 20-INCH RAW WATER MAIN AT THE INTERSECTION OF LIBERTY STREET AND CREST AVENUE IS ASBESTOS-CEMENT (TRANSITE) PIPE. THE CONTRACTOR, PRIOR TO THE START OF CONSTRUCTION OF THE WATER MAIN IN INTERSECTION, SHALL PERFORM EXPLORATORY EXCAVATION TO VERIFY THE LOCATION AND DEPTH OF THE EXISTING 20-INCH RAW WATER MAIN.
  - ASBESTOS-CEMENT (TRANSITE) PIPE SHALL BE HANDLED IN A MANNER THAT WILL MINIMIZE THE RISK OF MAKING IT FRIABLE ACM OR RELEASING ASBESTOS DUST INTO THE ENVIRONMENT.
  - AT THE START OF WORK INVOLVING ASBESTOS-CEMENT PIPE, THE CONTRACTOR SHALL ENSURE THAT:
    - THE ASBESTOS-CEMENT PIPE SHALL BE EXPOSED WITH MINIMAL DISTURBANCE.
    - MECHANICAL EXCAVATION SHALL NOT BE USED WITHIN SIX INCHES OF THE ASBESTOS CEMENT PIPE.
    - THE SOIL WITHIN SIX INCHES OF THE ASBESTOS-CEMENT PIPE SHALL BE UNCOVERED BY HAND OR WITH A SHOVEL.
    - ONCE THE PIPE HAS BEEN EXPOSED, AN ASSESSMENT BY THE ENGINEER AND CONTRACTOR SHALL BE MADE BEFORE PROCEEDING TO DETERMINE WHETHER THE ASBESTOS-CEMENT PIPE IS DAMAGED, CRACKED OR BROKEN.
- ALL COSTS ASSOCIATED WITH THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE ITEM OF WORK "8" DUCTILE IRON WATER MAIN, TRENCH DETAIL, \_\_\_\_\_"



WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	DEPTH
H-1	HYDRANT	0+24	863.19	6.37
V4	8 in. GVB	3+92	862.95	6.18



**811**  
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3-17-21  
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3-17-21  
DATE

OUT FOR BID  
REV.

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

**2021 MISC. UTILITIES PROJECT**

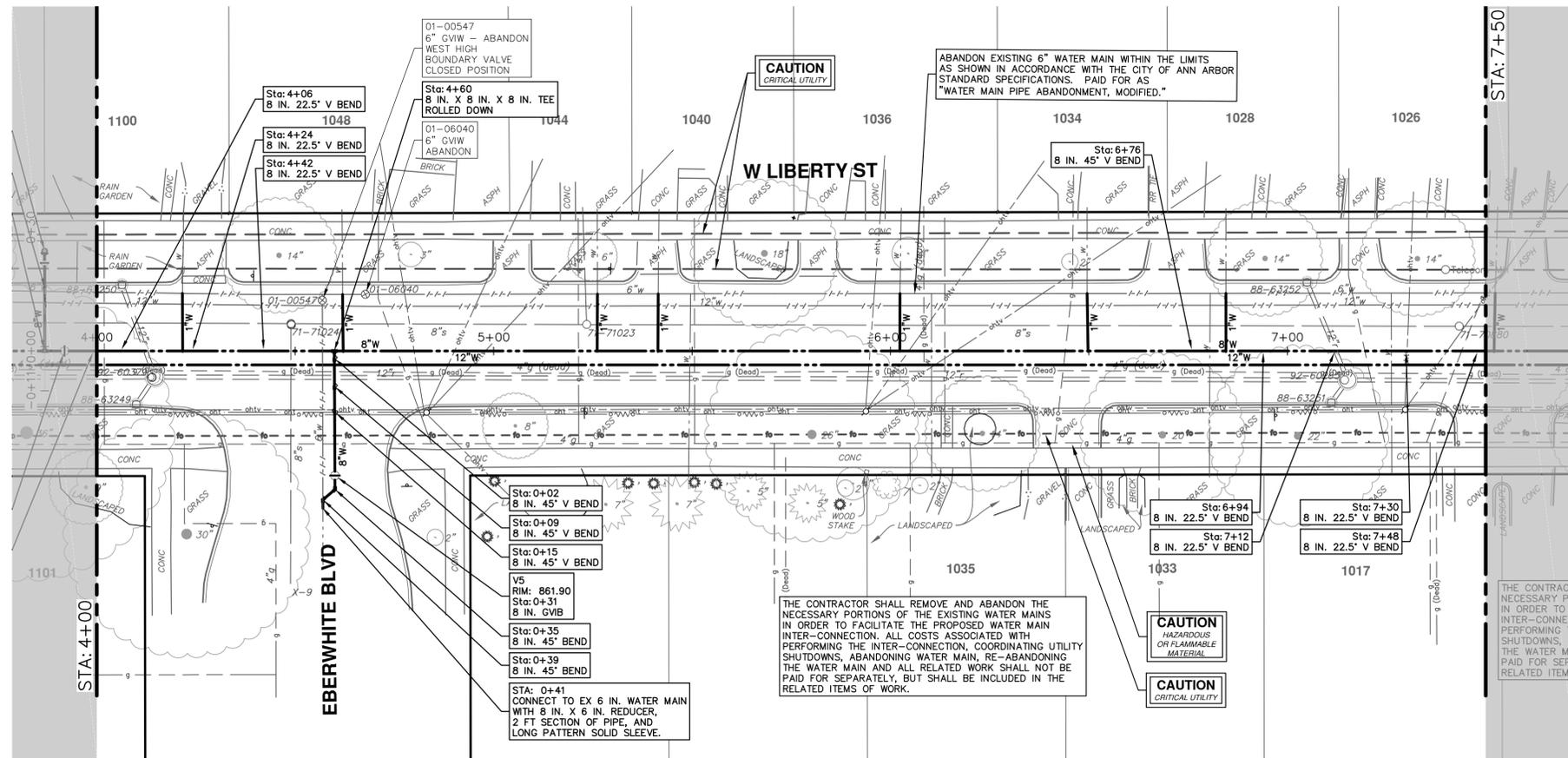
W LIBERTY ST 8-IN WATER MAIN

STA. 1+50 - STA. 4+00

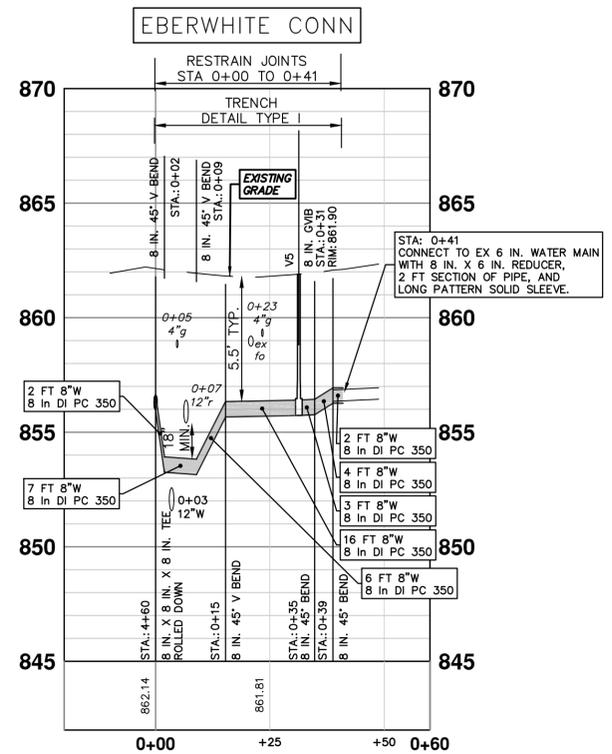
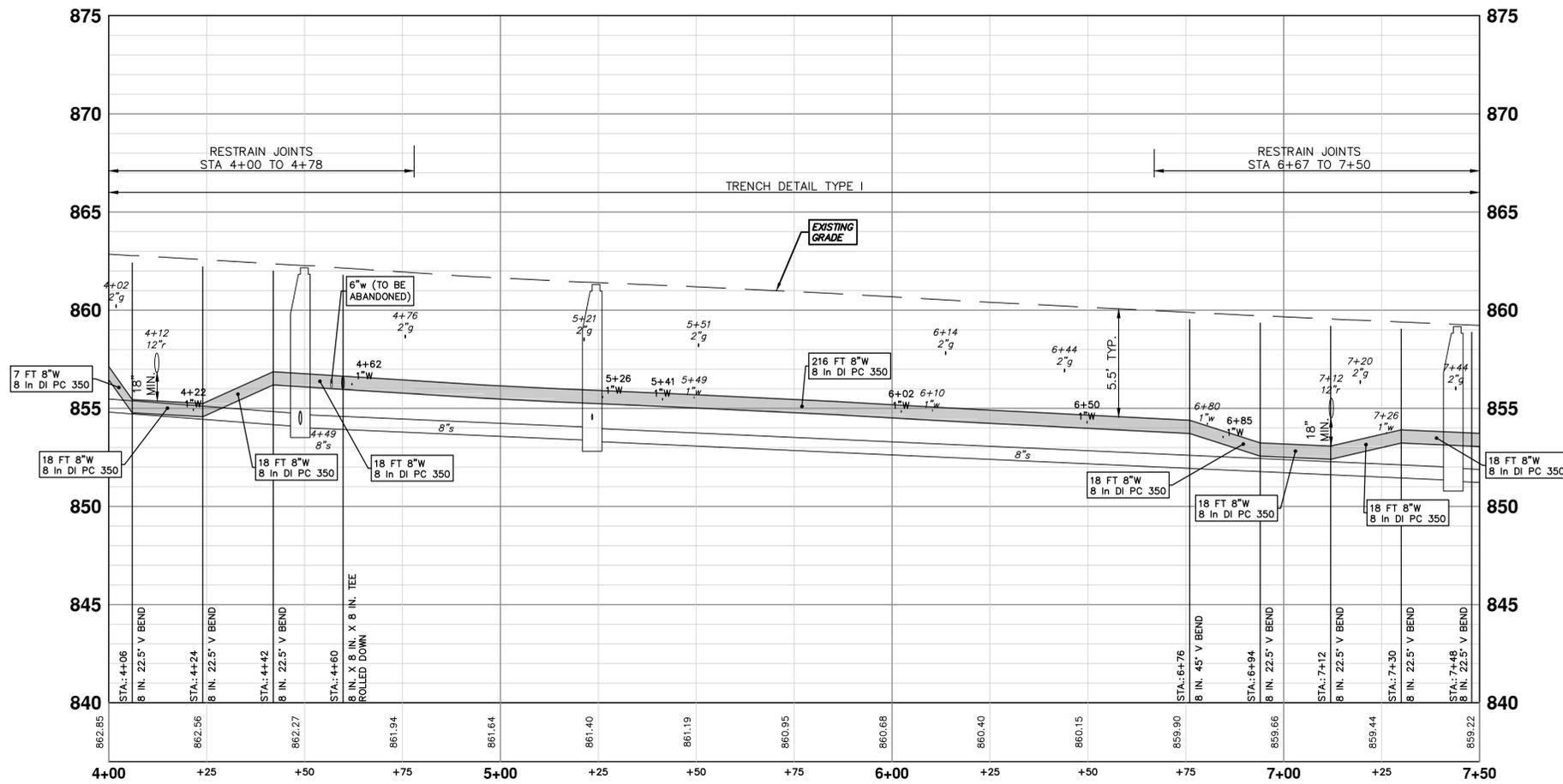
SCALE PLAN: 1" = 20'  
PROFILE: 1" = 4'

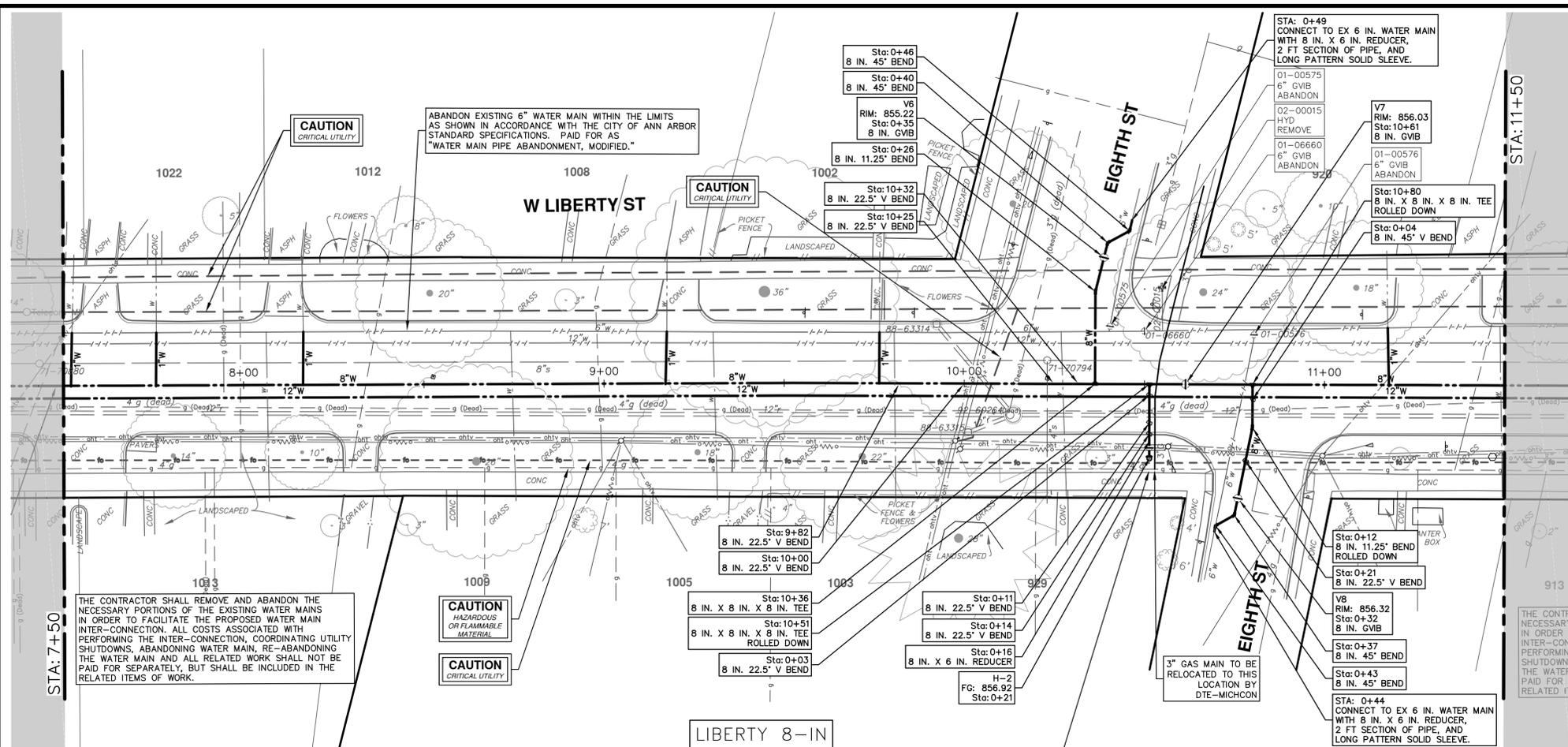
DRAWING NO. 2021005-39

SHEET NO. 39 OF 56

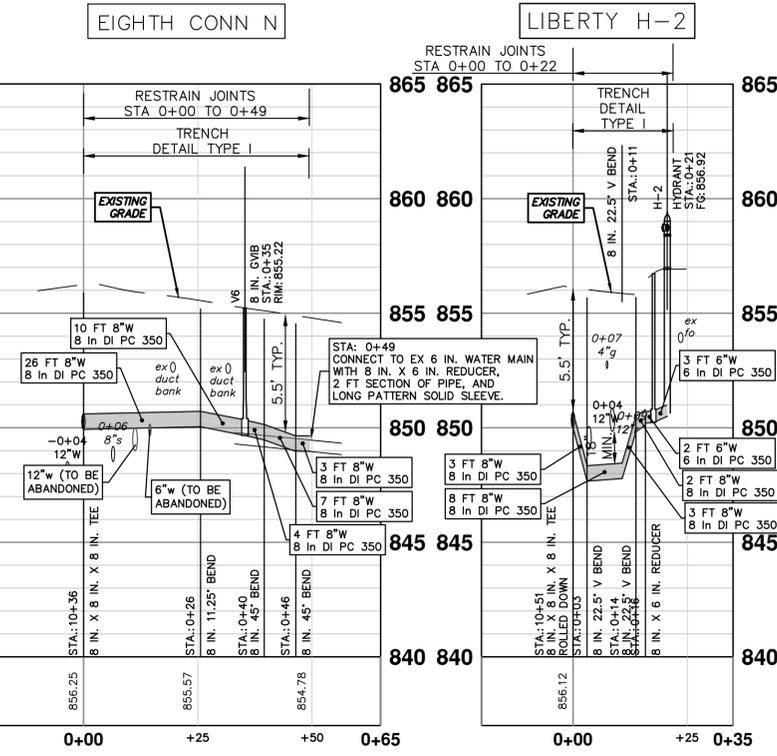
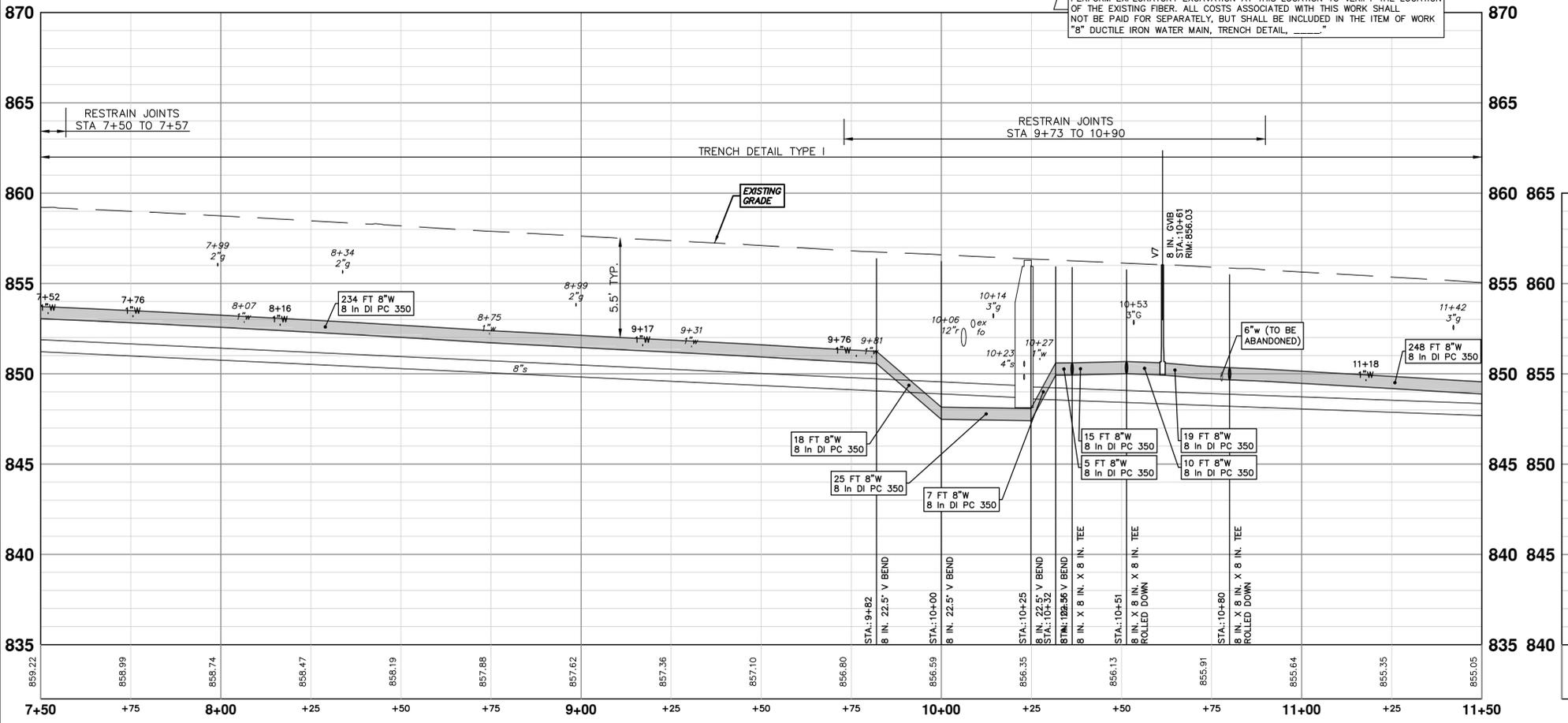
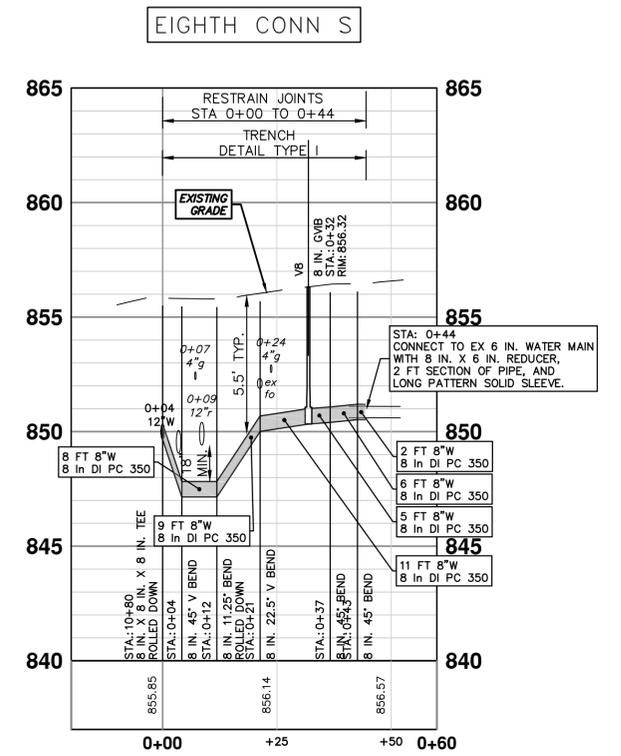


STRUCTURE	TYPE	STATION	RIM	DEPTH
V5	8 in. GVB	0+31	861.90	6.16





WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	DEPTH
H-2	HYDRANT	0+21	856.92	6.42
V8	8 in. GVIB	0+32	856.32	5.98
V6	8 in. GVIB	0+35	855.22	5.56
V7	8 in. GVIB	10+61	856.03	6.10





Know what's below.  
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REV.	DATE	DESCRIPTION
00	3-17-21	OUT FOR BID
01		DF/CC
02		TB
03		CHECKED



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ANN ARBOR 734.794.6410  
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**2021 MISC. UTILITIES PROJECT**  
W LIBERTY ST 8-IN WATER MAIN

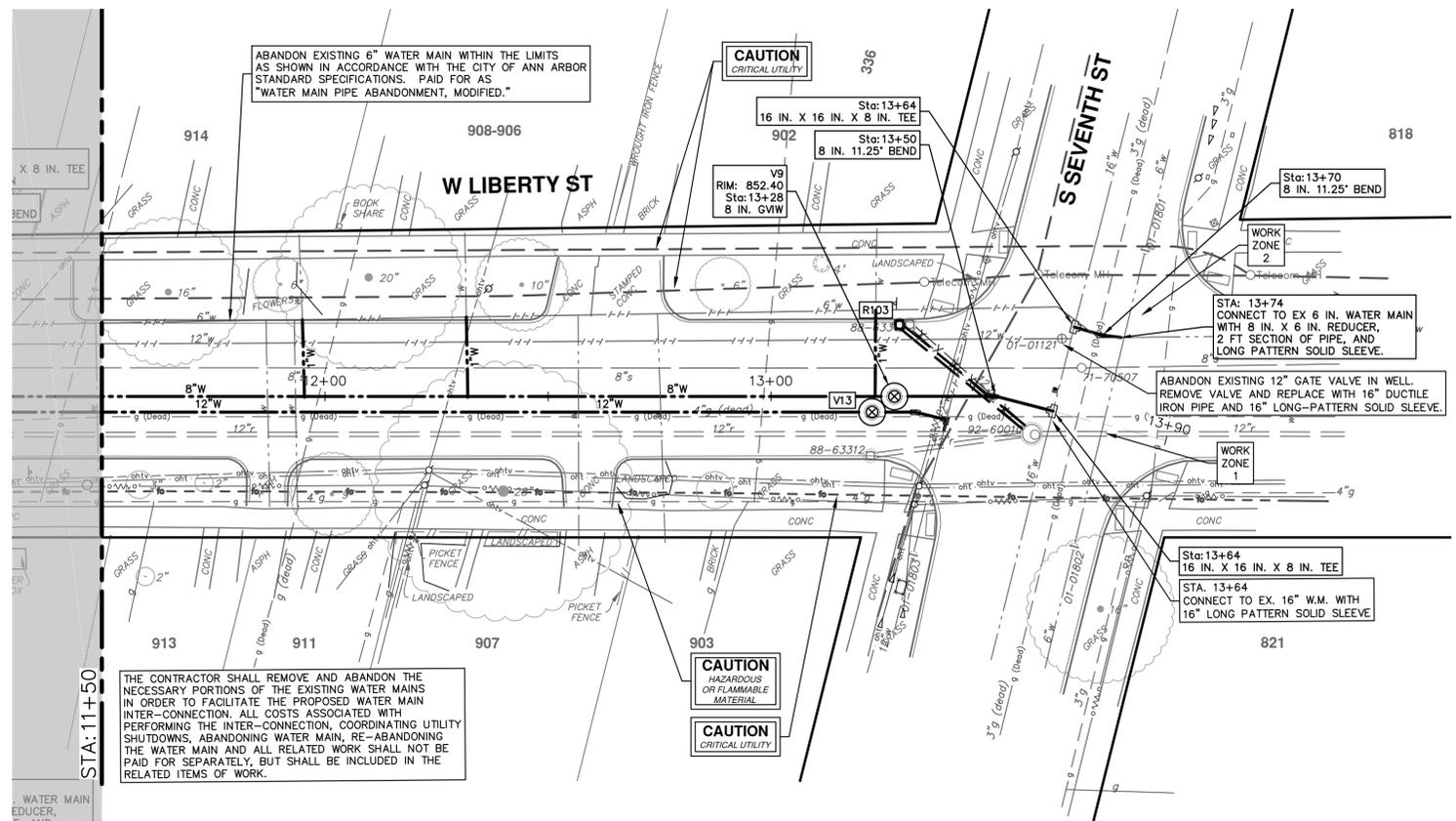
STA. 7+50 - STA. 11+50

PROFILE: 1" = 4'

SCALE PLAN: 1" = 20'

DRAWING NO. 2021005-41

SHEET NO. 41 OF 56



**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.

THE CONTRACTOR SHALL COORDINATE ALL WORK WITHIN THE S. SEVENTH/LIBERTY STREET INTERSECTION WITH THE ENGINEER AND THE CITY OF ANN ARBOR SIGNS AND SIGNAL UNIT.

THE TRAFFIC SIGNAL AT S. SEVENTH/LIBERTY STREET SHALL BE SET TO FLASH RED ON ALL FOUR LEGS DURING THE WORK OF THIS CLOSURE.

TRAFFIC REGULATORS SHALL BE PLACED ON BOTH LEGS OF S. SEVENTH STREET AND ON LIBERTY STREET SOUTH OF S. SEVENTH. 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.

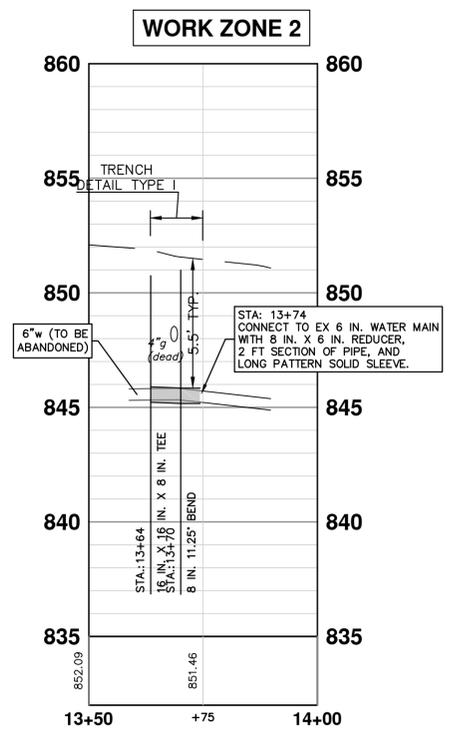
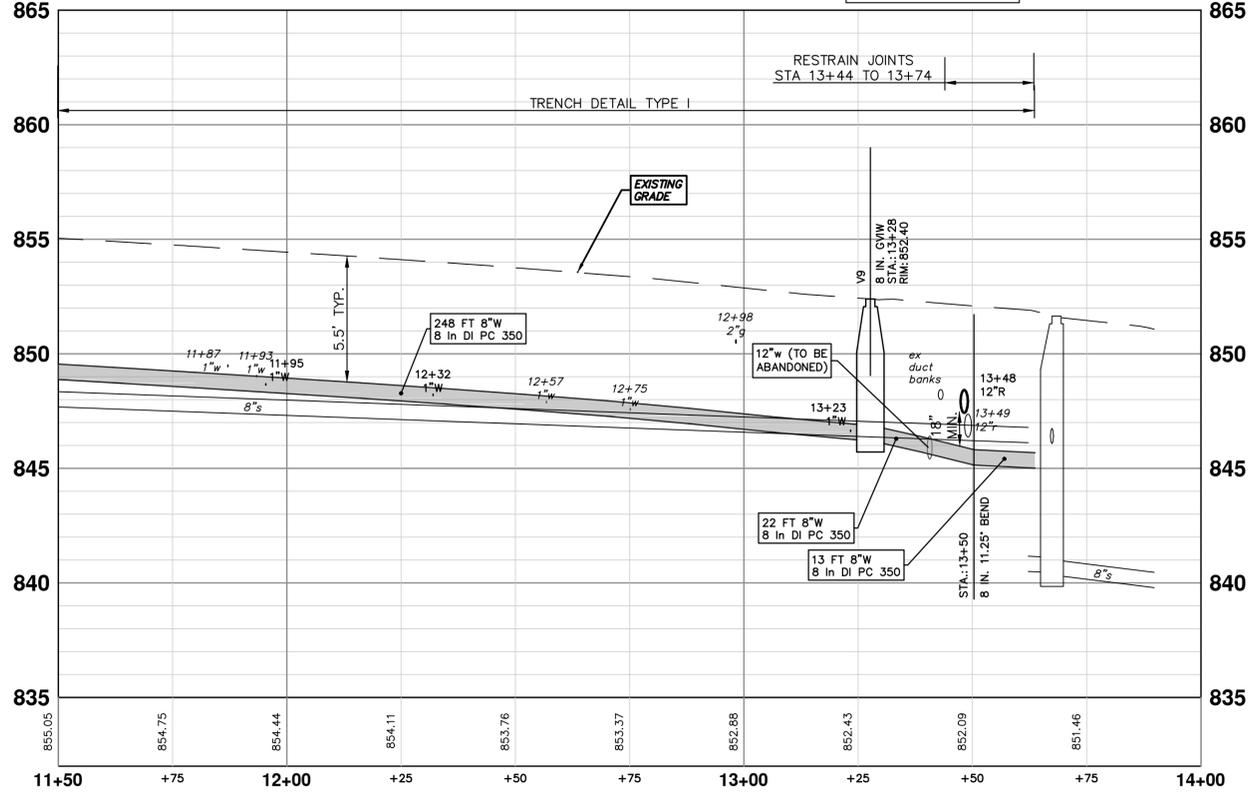
ALL DISTURBED PAVEMENT SHALL BE TEMPORARILY REPAIRED USING A MINIMUM THICKNESS OF 8" 21-AA LIMESTONE COMPACTED TO 98% OF ITS MAX. DRY DENSITY AND 4" OF ENGINEER APPROVED LVSP HMA COMPACTED TO 92 TO 96% OF THE Gmm. THE PLACEMENT OF HMA SHALL BE PAID FOR AS "TEMPORARY PAVEMENT". ALL TEMPORARY PAVEMENT SHALL BE PLACED WITHIN FIVE (5) CALENDAR DAYS OF COMPLETING A WATER MAIN TIE-IN OR ABANDONMENT.

THE CONTRACTOR SHALL SCHEDULE AND COORDINATE THE CONSTRUCTION TO BE PERFORMED IN "WORK ZONE 1" AND "WORK ZONE 2" SO THAT ALL APPROPRIATE SIGNS ARE IN PLACE, THAT TRAFFIC IS MAINTAINED IN AN ORDERLY MANNER, AND THAT TRAFFIC IS NOT FORCED TO DRIVE UPON GRAVEL OR "UNFINISHED" SURFACES. THE ENGINEER SHALL APPROVE ALL WORK SCHEDULES, DURATIONS AND OTHER RELEVANT ASPECTS OF THE WORK PRIOR TO ITS COMMENCEMENT.

TEMPORARY PAVEMENT ESTIMATED QUANTITIES  
 WORK ZONE 1 ~ XXX SYD  
 WORK ZONE 2 ~ XXX SYD  
 AGGREGATE BASE COURSE, 8 INCH, 21-AA, MODIFIED ~ XXX SYD

LIBERTY 8-IN  
 WORK ZONE 1

WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	DEPTH
V9	8 in. GVW	13+28	852.40	6.18



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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT FOR BID	3-17-21	DF/CC	TB

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
 2021 MISC. UTILITIES PROJECT  
 W LIBERTY ST 8-IN WATER MAIN  
 STA. 11+50 - STA. 13+97

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

DRAWING No. 2021005-42  
 SHEET No. 42 OF 56

CITY OF ANN ARBOR  
 PUBLIC SERVICES  
 301 EAST HURON STREET  
 P.O. BOX 8647  
 ANN ARBOR, MI 48107-8647  
 WWW.A2gov.ORG

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."

ABANDONED WATER MAIN ON PREVIOUS PROJECT

ABANDON EXISTING 12" WATER MAIN WITHIN THE LIMITS AS SHOWN IN ACCORDANCE WITH THE CITY OF ANN ARBOR STANDARD SPECIFICATIONS. PAID FOR AS "WATER MAIN PIPE ABANDONMENT."

**NOTE:**

THE 20-INCH RAW WATER MAIN AT THE INTERSECTION OF LIBERTY STREET AND CREST AVENUE IS ASBESTOS-CEMENT (TRANSITE) PIPE. THE CONTRACTOR, PRIOR TO THE START OF CONSTRUCTION OF THE WATER MAIN IN INTERSECTION, SHALL PERFORM EXPLORATORY EXCAVATION TO VERIFY THE LOCATION AND DEPTH OF THE EXISTING 20-INCH RAW WATER MAIN.

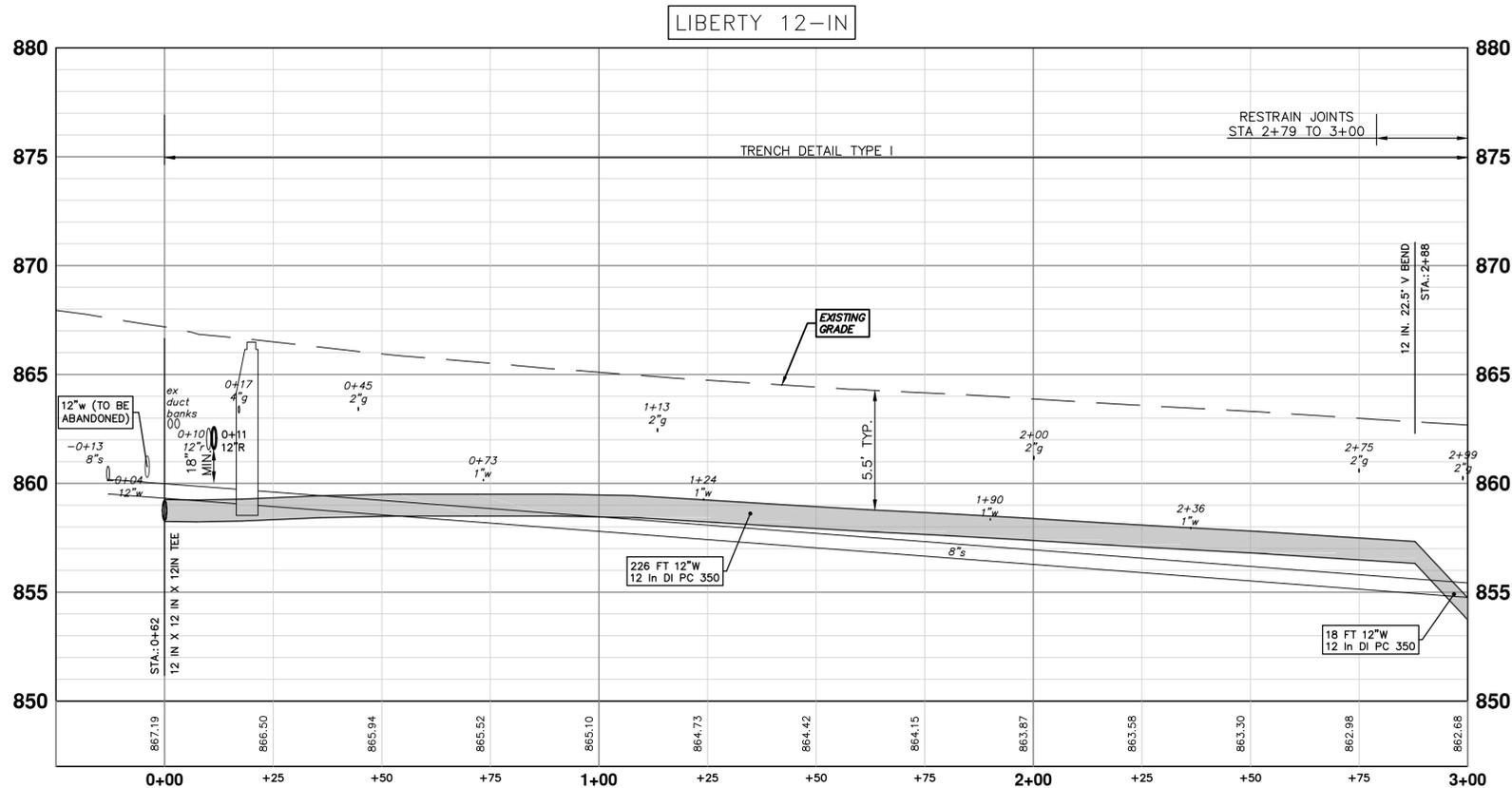
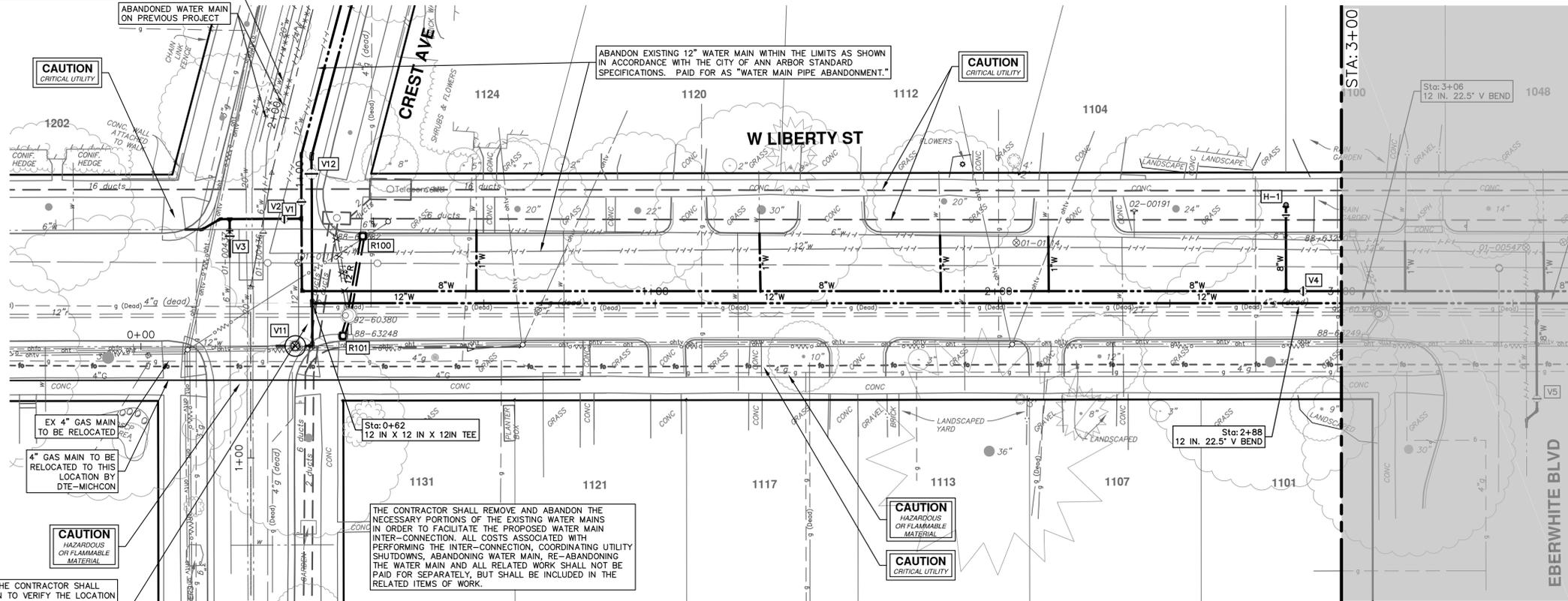
ASBESTOS-CEMENT (TRANSITE) PIPE SHALL BE HANDLED IN A MANNER THAT WILL MINIMIZE THE RISK OF MAKING IT FRIABLE ACM OR RELEASING ASBESTOS DUST INTO THE ENVIRONMENT.

AT THE START OF WORK INVOLVING ASBESTOS-CEMENT PIPE, THE CONTRACTOR SHALL ENSURE THAT:

1. THE ASBESTOS-CEMENT PIPE SHALL BE EXPOSED WITH MINIMAL DISTURBANCE.
2. MECHANICAL EXCAVATION SHALL NOT BE USED WITHIN SIX INCHES OF THE ASBESTOS CEMENT PIPE.
3. THE SOIL WITHIN SIX INCHES OF THE ASBESTOS-CEMENT PIPE SHALL BE UNCOVERED BY HAND OR WITH A SHOVEL.
4. ONCE THE PIPE HAS BEEN EXPOSED, AN ASSESSMENT BY THE ENGINEER AND CONTRACTOR SHALL BE MADE BEFORE PROCEEDING TO DETERMINE WHETHER THE ASBESTOS-CEMENT PIPE IS DAMAGED, CRACKED OR BROKEN.

ALL COSTS ASSOCIATED WITH THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE ITEM OF WORK "8" DUCTILE IRON WATER MAIN, TRENCH DETAIL, \_\_\_\_\_"

TWO WEEKS PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL PERFORM EXPLORATORY EXCAVATION AT THIS LOCATION TO VERIFY THE LOCATION OF THE EXISTING DUCT BANKS. ALL COSTS ASSOCIATED WITH THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE ITEM OF WORK "12" DUCTILE IRON WATER MAIN, TRENCH DETAIL, \_\_\_\_\_"

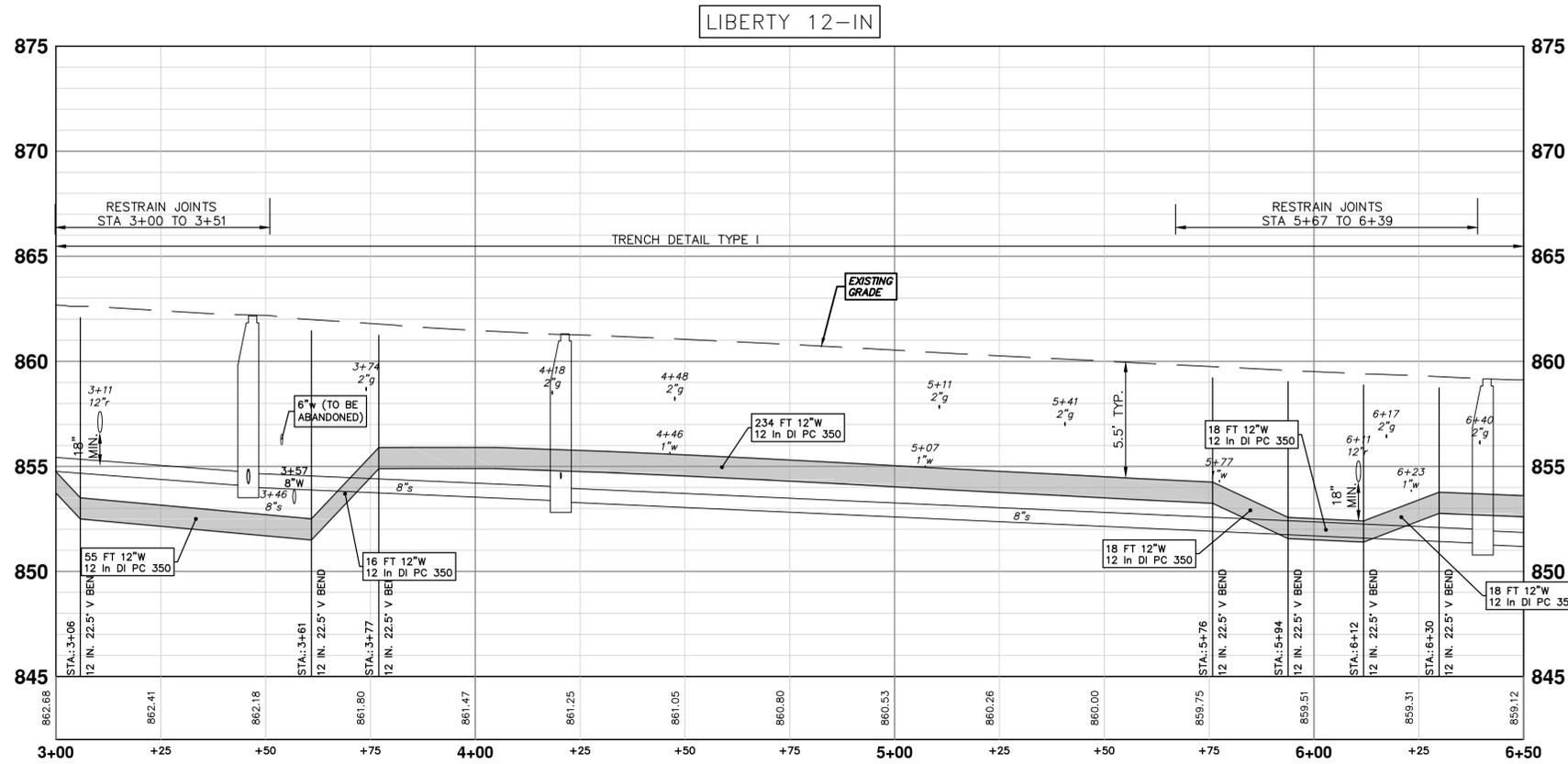
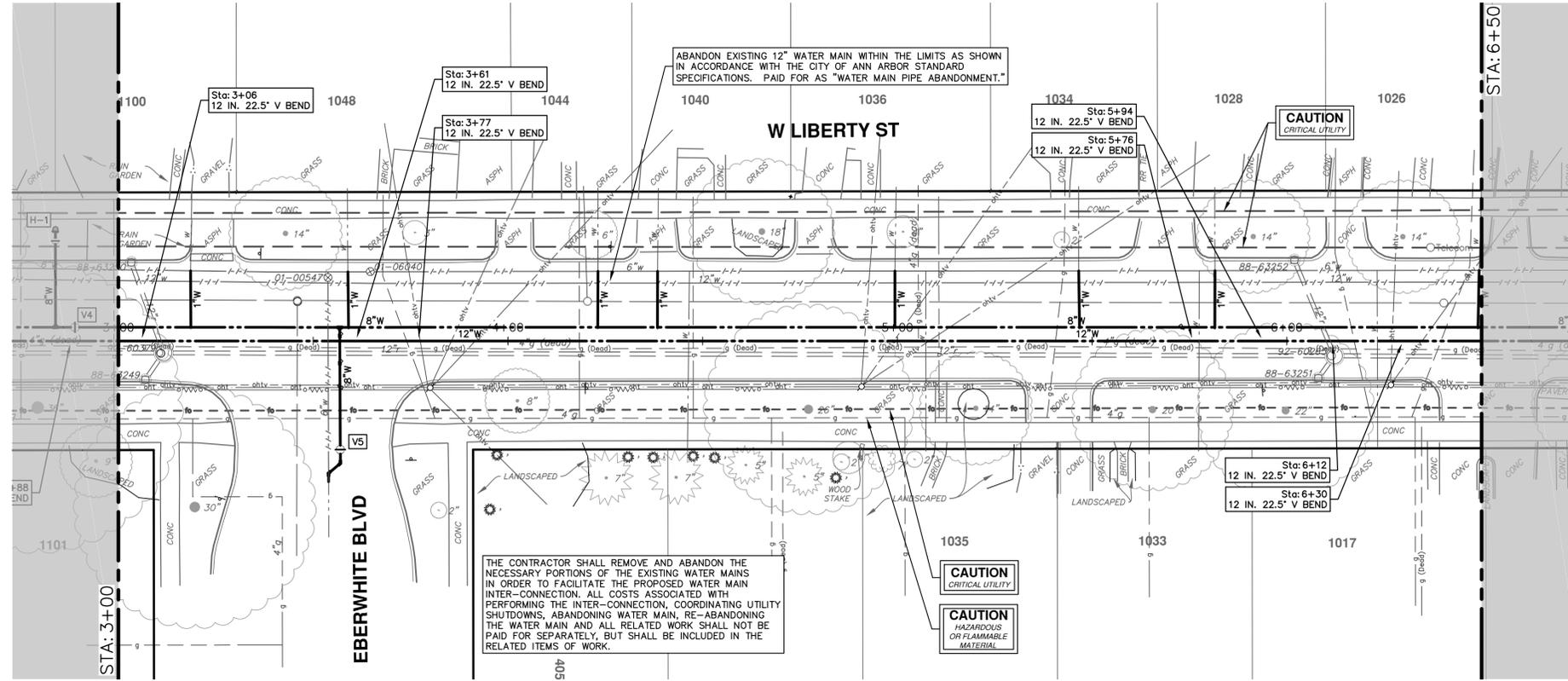


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2021 MISC. UTILITIES PROJECT  
W LIBERTY ST 12-IN WATER MAIN  
STA. -0+12.50 - STA. 3+00

SCALE PLAN: 1" = 20'  
PROFILE: 1" = 4'  
DRAWING No. 2021005-43



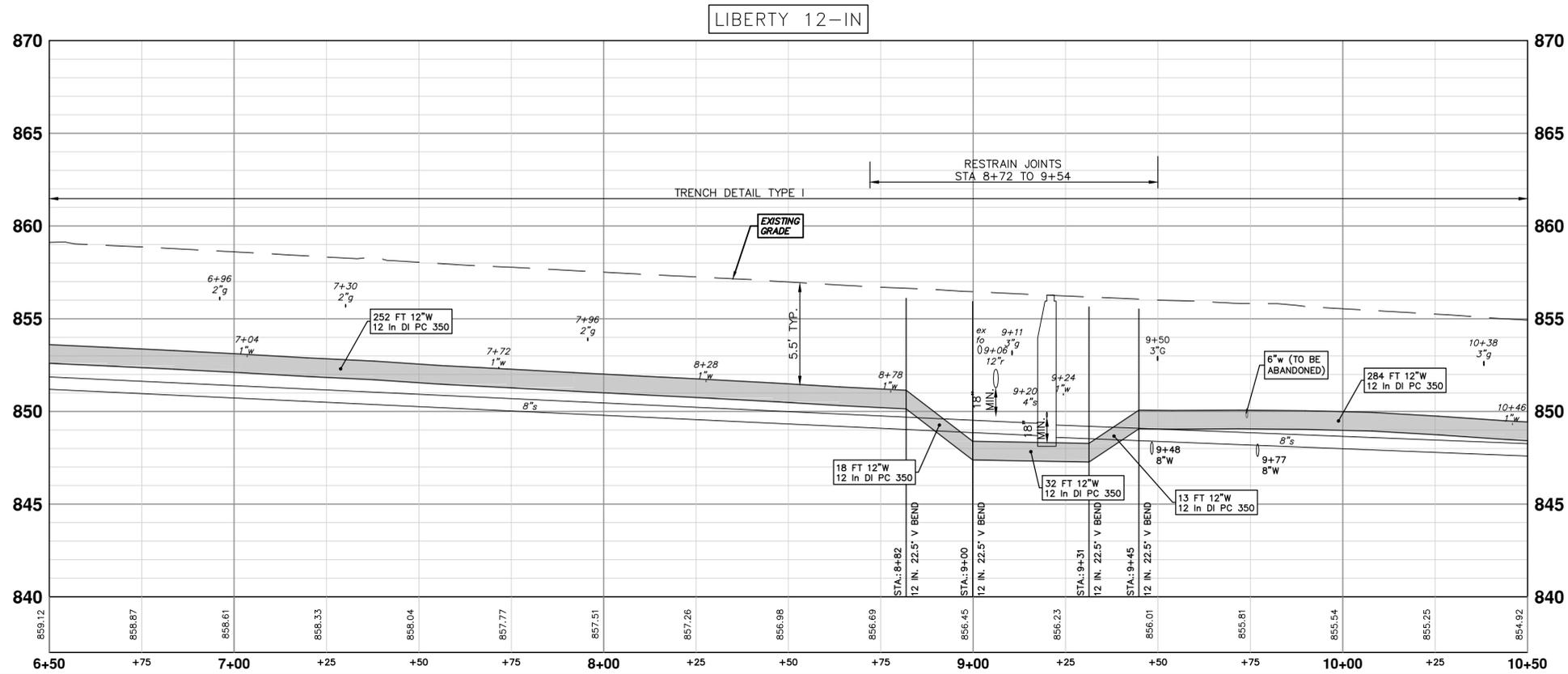
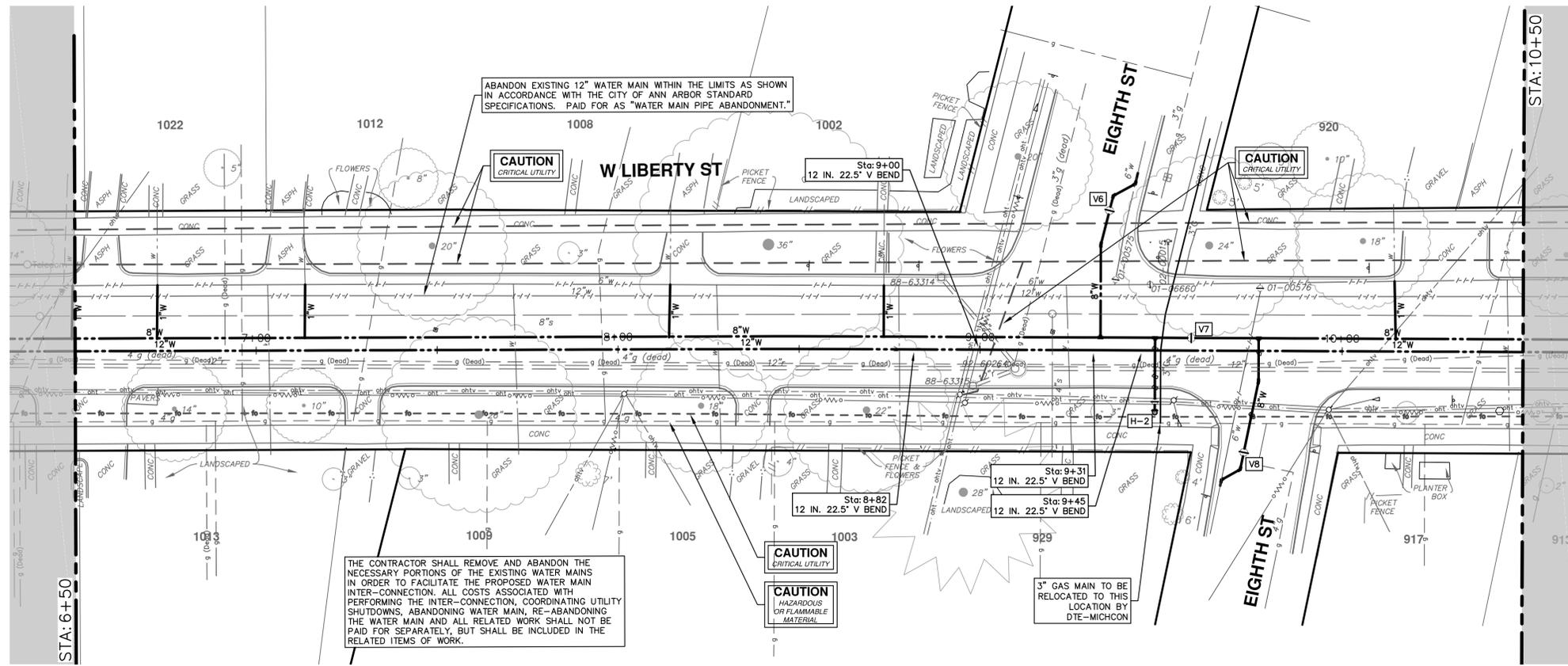
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00	OUT FOR BID	3-17-21	DF/CC	TB

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2021 MISC. UTILITIES PROJECT  
W LIBERTY ST 12-IN WATER MAIN  
STA. 3+00 - STA. 6+50



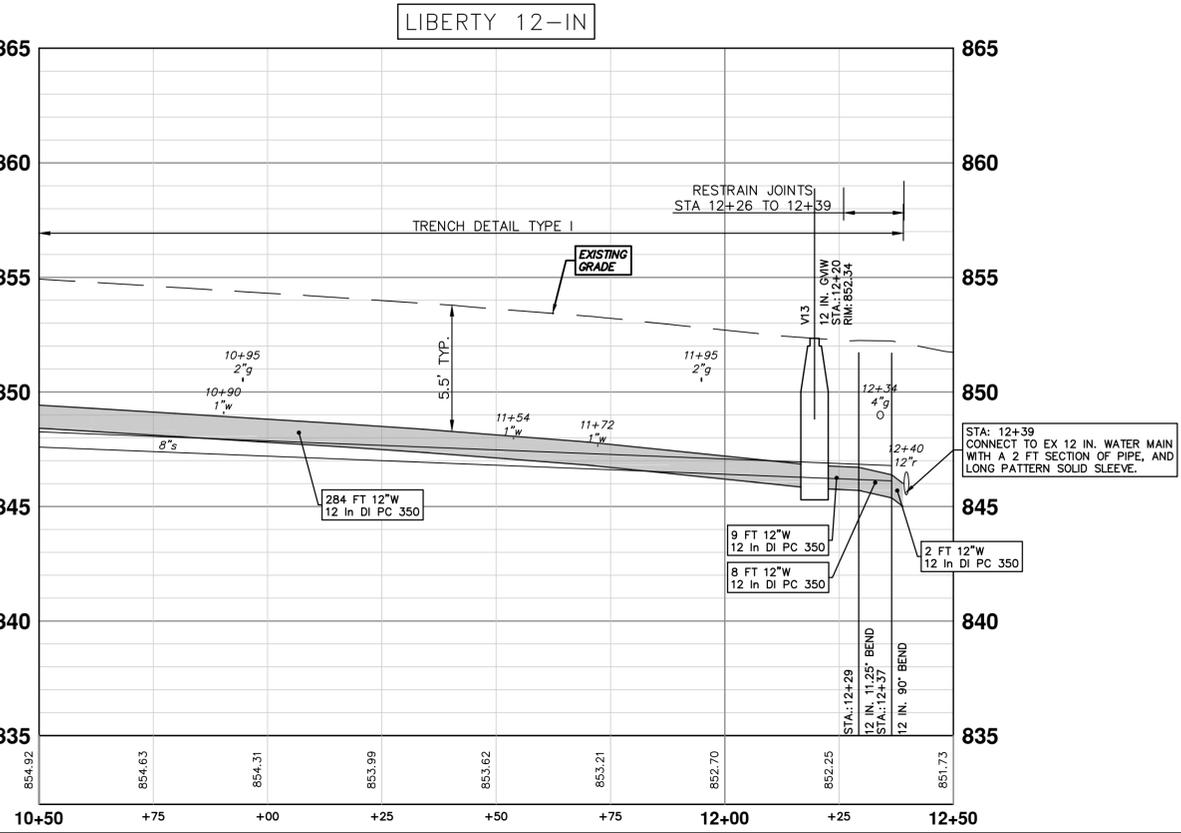
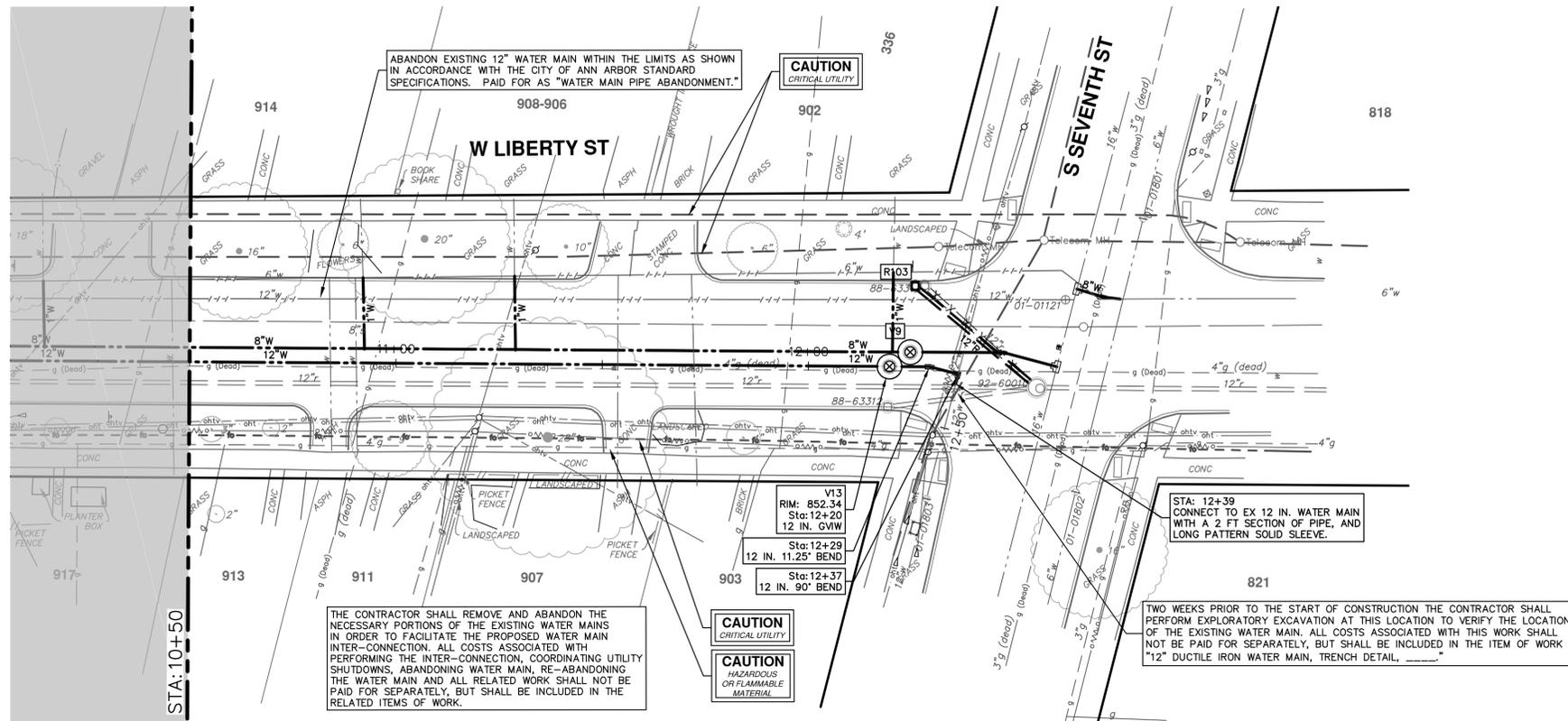
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
2021 MISC. UTILITIES PROJECT  
W LIBERTY ST 12-IN WATER MAIN  
STA. 6+50 - STA. 10+50

SCALE PLAN: 1" = 20'  
PROFILE: 1" = 4'  
DRAWING No. 2021005-45

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT FOR BID	3-17-21	DF/CC	TB



WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	DEPTH
V13	12 in. GVIW	12+20	852.34	6.55



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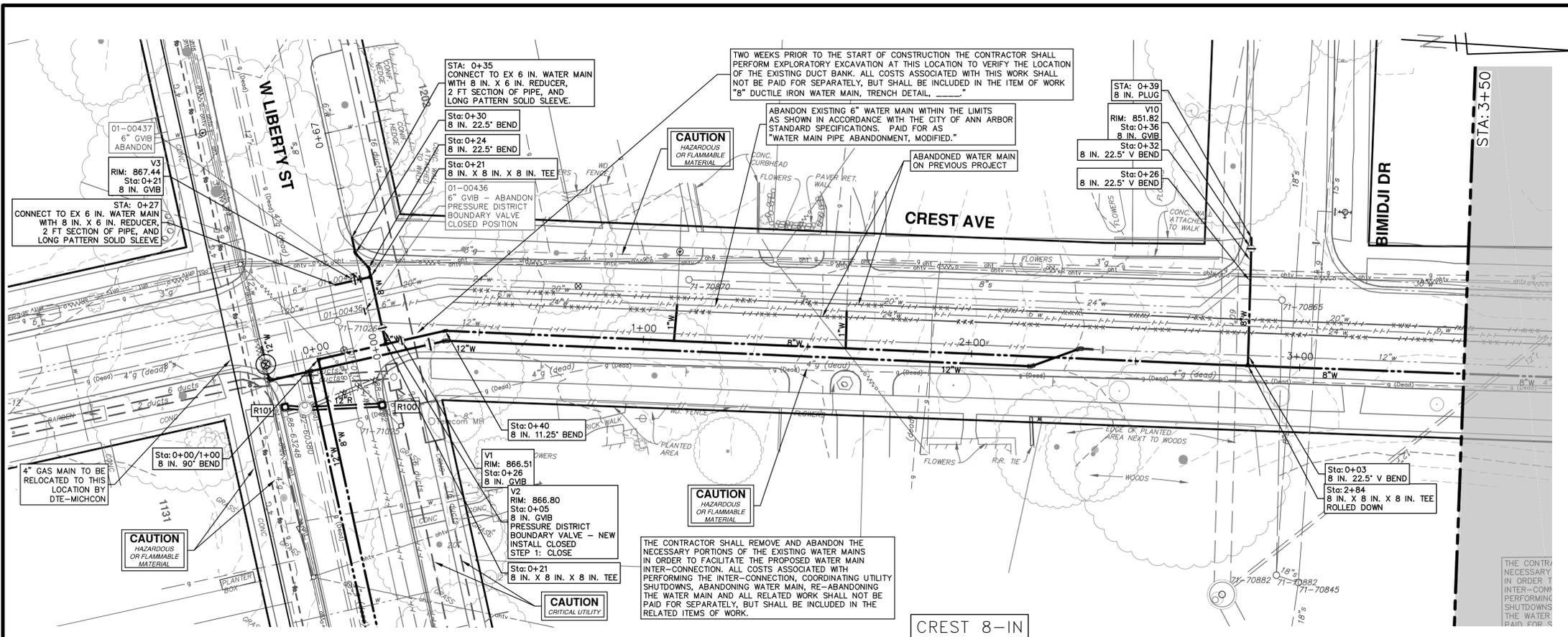


CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
2021 MISC. UTILITIES PROJECT  
W LIBERTY ST 12-IN WATER MAIN

SCALE PLAN: 1" = 20'  
PROFILE: 1" = 4'  
DRAWING No. 2021005-46

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	OUT FOR BID	3-17-21	DF/CC	TB

R:\2021005 Misc Utility 2021\Plan Production\2021005 Liberty Water2.dwg Dwg Created: 17-Mar-21 - c02 standard bw.sbt - Plot Date: 17-Mar-21



WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	DEPTH
V1	8 in. GVB	0+26	866.51	6.08
V2	8 in. GVB PRESSURE DISTRICT BOUNDARY VALVE - NEW INSTALL CLOSED STEP 1: CLOSE	0+05	866.80	5.63
V3	8 in. GVB	0+21	867.44	6.28
V10	8 in. GVB	0+36	851.82	6.35

**NOTE:**

THE 20-INCH RAW WATER MAIN AT THE INTERSECTION OF LIBERTY STREET AND CREST AVENUE IS ASBESTOS-CEMENT (TRANSITE) PIPE.

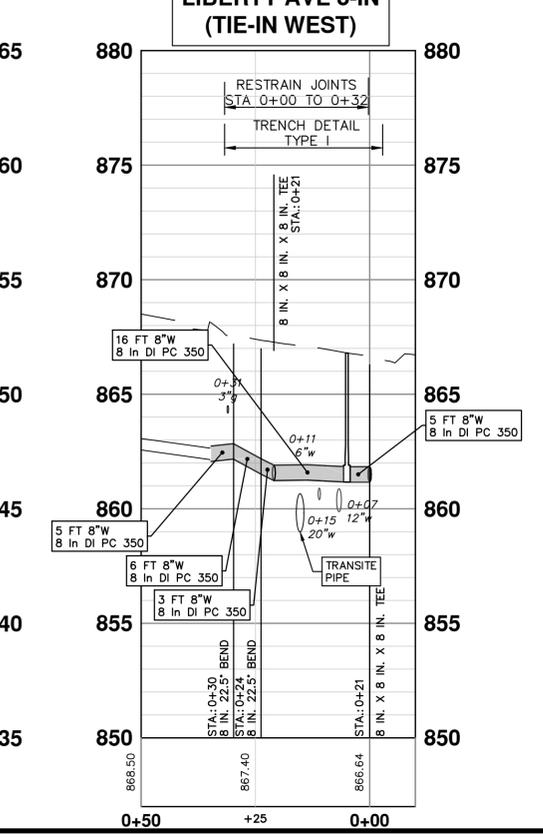
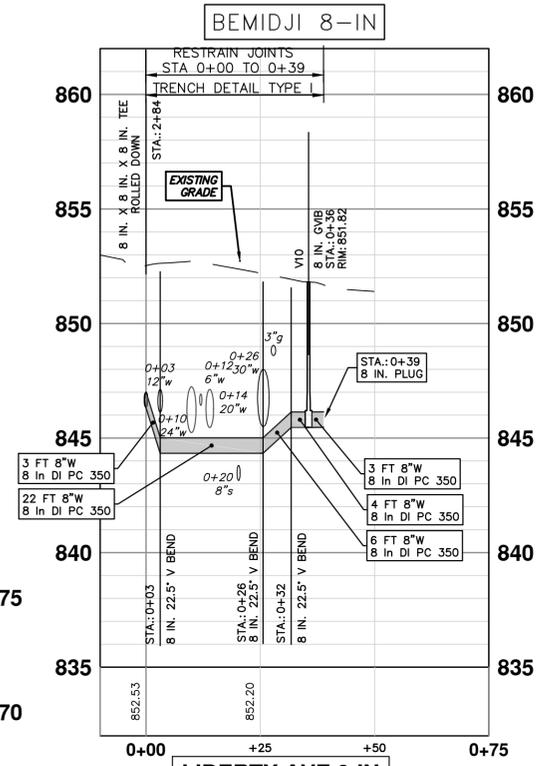
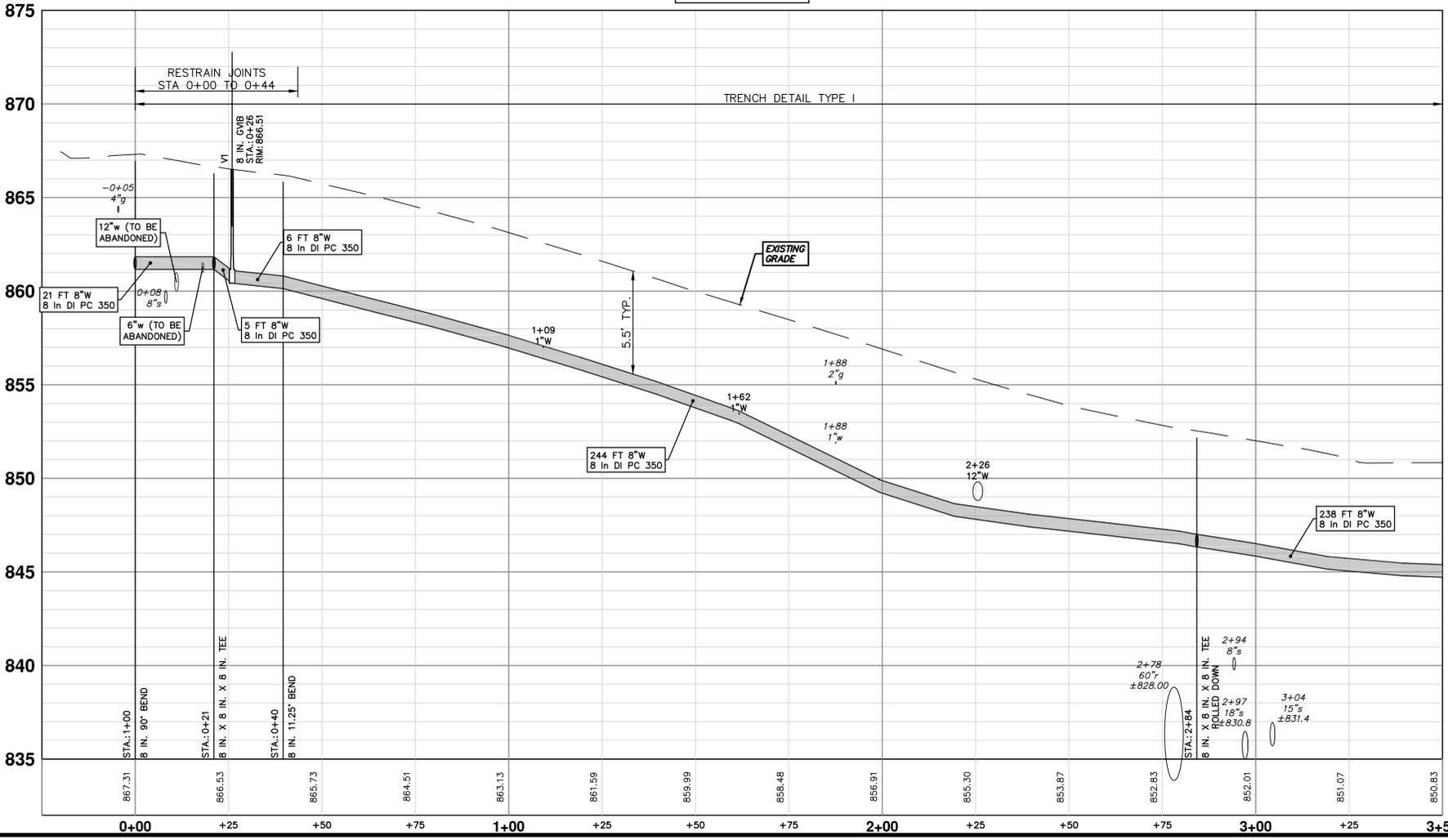
THE CONTRACTOR, PRIOR TO THE START OF CONSTRUCTION OF THE WATER MAIN AT INTERSECTION, SHALL PERFORM EXPLORATORY EXCAVATION TO VERIFY THE LOCATION AND DEPTH OF THE EXISTING 20-INCH RAW WATER MAIN.

ASBESTOS-CEMENT (TRANSITE) PIPE SHALL BE HANDLED IN A MANNER THAT WILL MINIMIZE THE RISK OF MAKING IT FRIABLE ACM OR RELEASING ASBESTOS DUST INTO THE ENVIRONMENT.

AT THE START OF WORK INVOLVING ASBESTOS-CEMENT PIPE, THE CONTRACTOR SHALL ENSURE THAT:

- THE ASBESTOS-CEMENT PIPE SHALL BE EXPOSED WITH MINIMAL DISTURBANCE.
- MECHANICAL EXCAVATION SHALL NOT BE USED WITHIN SIX INCHES OF THE ASBESTOS CEMENT PIPE.
- THE SOIL WITHIN SIX INCHES OF THE ASBESTOS-CEMENT PIPE SHALL BE UNCOVERED BY HAND OR WITH A SHOVEL.
- ONCE THE PIPE HAS BEEN EXPOSED, AN ASSESSMENT BY THE ENGINEER AND CONTRACTOR SHALL BE MADE BEFORE PROCEEDING TO DETERMINE WHETHER THE ASBESTOS-CEMENT PIPE IS DAMAGED, CRACKED OR BROKEN.

ALL COSTS ASSOCIATED WITH THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE ITEM OF WORK "8" DUCTILE IRON WATER MAIN, TRENCH DETAIL, \_\_\_\_\_."



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

2021 MISC. UTILITIES PROJECT

CREST AVE 8-IN WATER MAIN

STA. 0+20 - STA. 3+50

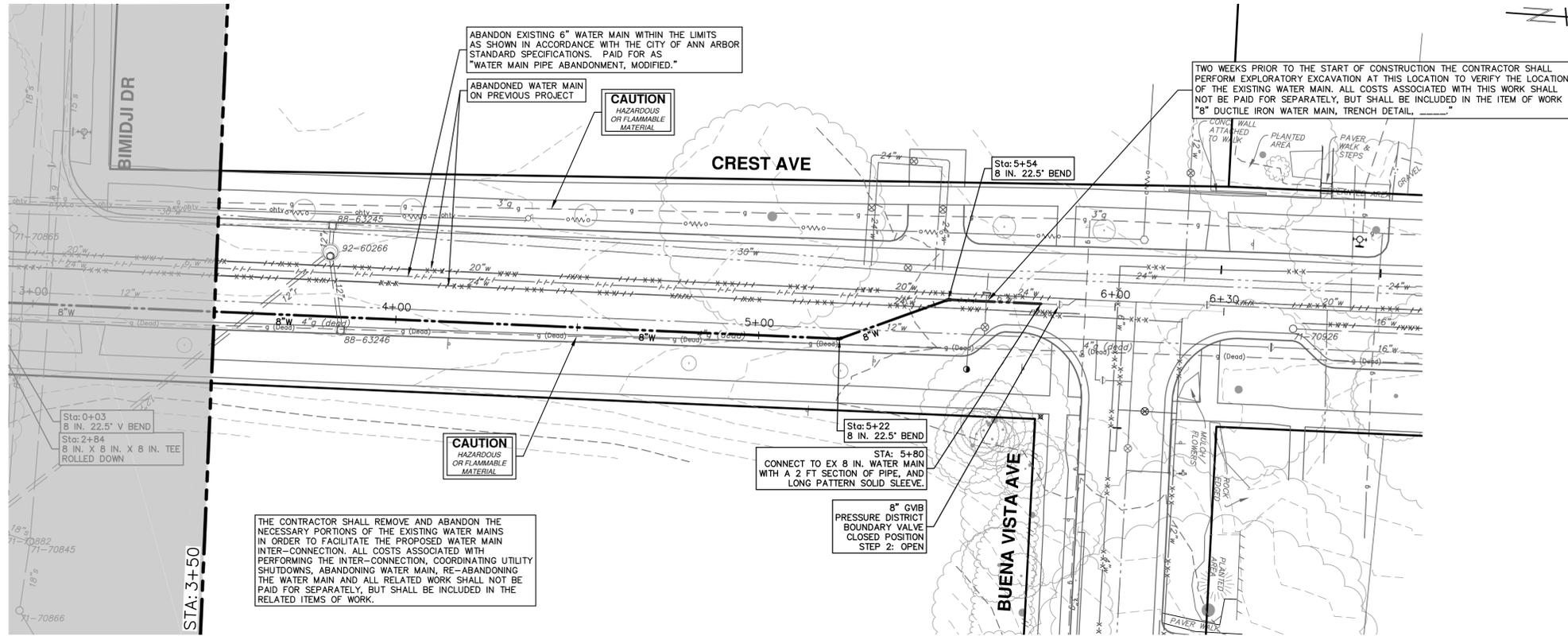
SCALE PLAN: 1" = 20'

PROFILE: 1" = 4'

DRAWING NO. 2021005-47

SHEET NO. 47 OF 56

R:\2021005 Misc Utility 2021\Plan Production\2021005 Liberty Watr2.dwg Dwg Created: 17-Mar-21 - \_o2 standard bw.stb - Plot Date: 17-Mar-21



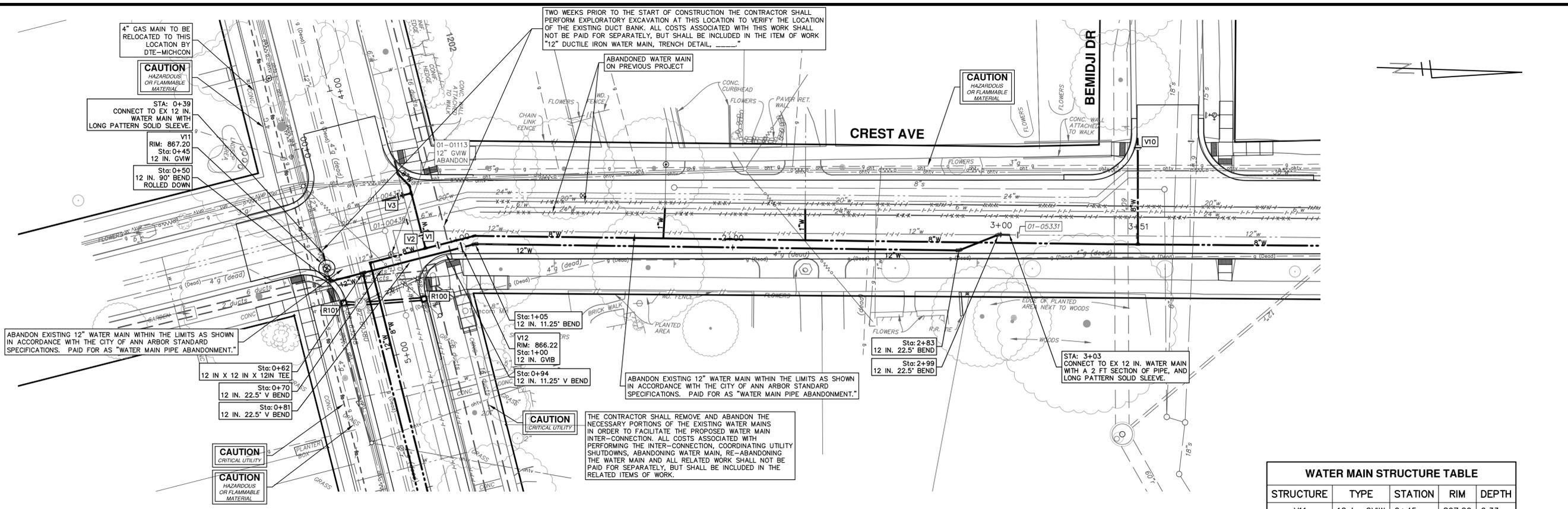
REV.	DESCRIPTION	DATE	BY	CHECKED
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2021 MISC. UTILITIES PROJECT  
CREST AVE 8-IN WATER MAIN  
STA. 3+50 - STA. 6+30

R:\2021005 Misc Utility 2021\Plan Production\2021005 Liberty Water3.dwg Dwg Created: 17-Mar-21 - \_o2 standard bw.stb - Plot Date: 17-Mar-21



TWO WEEKS PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL PERFORM EXPLORATORY EXCAVATION AT THIS LOCATION TO VERIFY THE LOCATION OF THE EXISTING DUCT BANK. ALL COSTS ASSOCIATED WITH THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE ITEM OF WORK "12" DUCTILE IRON WATER MAIN, TRENCH DETAIL, \_\_\_\_\_"

ABANDONED WATER MAIN ON PREVIOUS PROJECT

CAUTION HAZARDOUS OR FLAMMABLE MATERIAL

CAUTION HAZARDOUS OR FLAMMABLE MATERIAL

STA: 0+39  
CONNECT TO EX 12 IN.  
WATER MAIN WITH  
LONG PATTERN SOLID SLEEVE.

V11  
RIM: 867.20  
Sta: 0+45  
12 IN. G.V.W.

Sta: 0+50  
12 IN. 90° BEND  
ROLLED DOWN

ABANDON EXISTING 12" WATER MAIN WITHIN THE LIMITS AS SHOWN IN ACCORDANCE WITH THE CITY OF ANN ARBOR STANDARD SPECIFICATIONS. PAID FOR AS "WATER MAIN PIPE ABANDONMENT."

Sta: 0+62  
12 IN X 12 IN X 12 IN TEE

Sta: 0+70  
12 IN. 22.5° V BEND

Sta: 0+81  
12 IN. 22.5° V BEND

Sta: 1+05  
12 IN. 11.25° BEND

V12  
RIM: 866.22  
Sta: 1+00  
12 IN. G.V.B.

Sta: 0+94  
12 IN. 11.25° V BEND

ABANDON EXISTING 12" WATER MAIN WITHIN THE LIMITS AS SHOWN IN ACCORDANCE WITH THE CITY OF ANN ARBOR STANDARD SPECIFICATIONS. PAID FOR AS "WATER MAIN PIPE ABANDONMENT."

Sta: 2+83  
12 IN. 22.5° BEND

Sta: 2+99  
12 IN. 22.5° BEND

STA: 3+03  
CONNECT TO EX 12 IN. WATER MAIN  
WITH A 2 FT SECTION OF PIPE, AND  
LONG PATTERN SOLID SLEEVE.

CAUTION CRITICAL UTILITY

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.

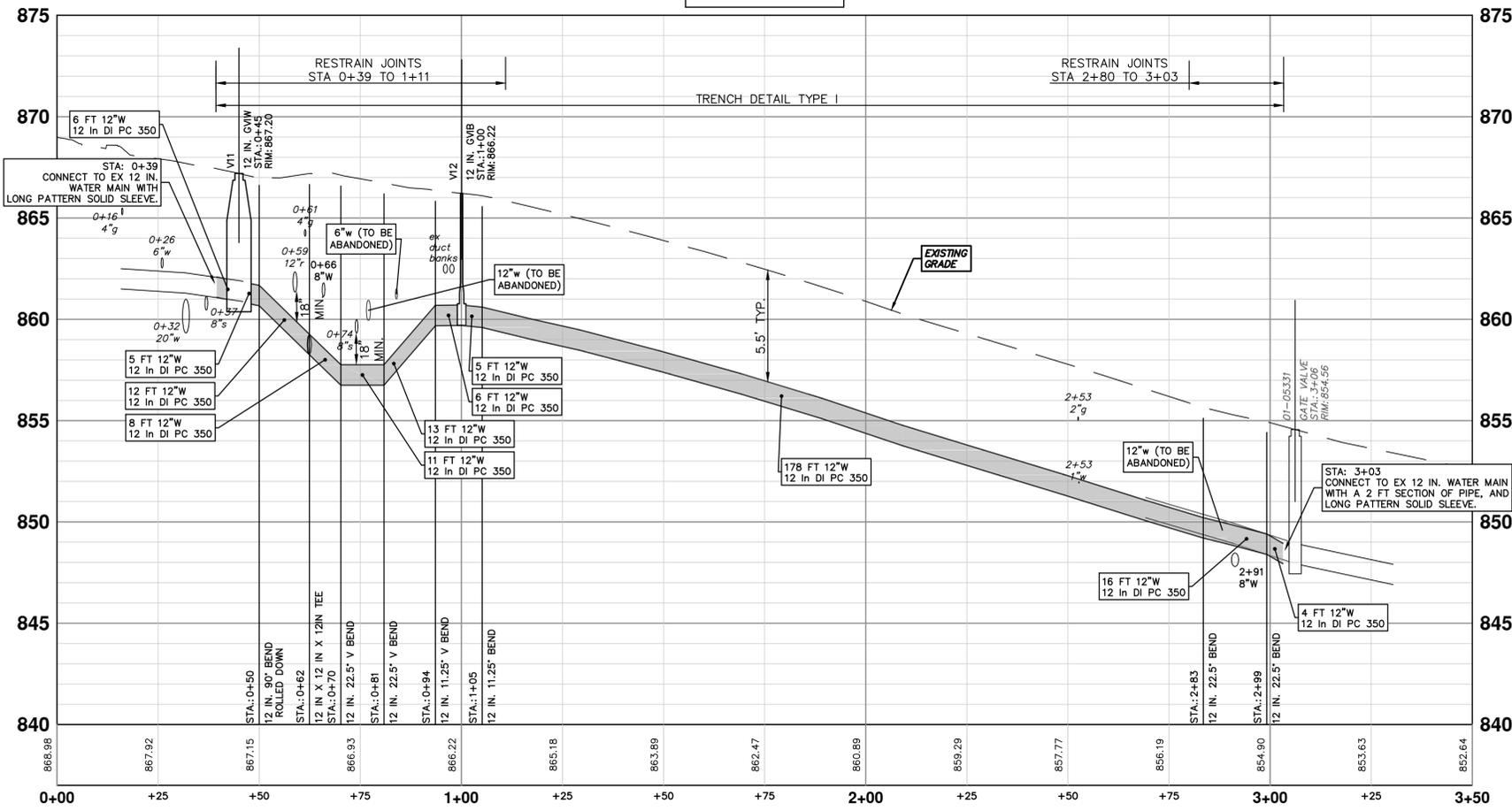
CAUTION CRITICAL UTILITY

CAUTION HAZARDOUS OR FLAMMABLE MATERIAL

WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	DEPTH
V11	12 in. G.V.W	0+45	867.20	6.33
V12	12 in. G.V.B	1+00	866.22	6.52

- NOTE:
- THE 20-INCH RAW WATER MAIN AT THE INTERSECTION OF LIBERTY STREET AND CREST AVENUE IS ASBESTOS-CEMENT (TRANSITE) PIPE. THE CONTRACTOR, PRIOR TO THE START OF CONSTRUCTION OF THE WATER MAIN IN INTERSECTION, SHALL PERFORM EXPLORATORY EXCAVATION TO VERIFY THE LOCATION AND DEPTH OF THE EXISTING 20-INCH RAW WATER MAIN.
- ASBESTOS-CEMENT (TRANSITE) PIPE SHALL BE HANDLED IN A MANNER THAT WILL MINIMIZE THE RISK OF MAKING IT FRIABLE ACM OR RELEASING ASBESTOS DUST INTO THE ENVIRONMENT.
- AT THE START OF WORK INVOLVING ASBESTOS-CEMENT PIPE, THE CONTRACTOR SHALL ENSURE THAT:
1. THE ASBESTOS-CEMENT PIPE SHALL BE EXPOSED WITH MINIMAL DISTURBANCE.
  2. MECHANICAL EXCAVATION SHALL NOT BE USED WITHIN SIX INCHES OF THE ASBESTOS CEMENT PIPE.
  3. THE SOIL WITHIN SIX INCHES OF THE ASBESTOS-CEMENT PIPE SHALL BE UNCOVERED BY HAND OR WITH A SHOVEL.
  4. ONCE THE PIPE HAS BEEN EXPOSED, AN ASSESSMENT BY THE ENGINEER AND CONTRACTOR SHALL BE MADE BEFORE PROCEEDING TO DETERMINE WHETHER THE ASBESTOS-CEMENT PIPE IS DAMAGED, CRACKED OR BROKEN.
- ALL COSTS ASSOCIATED WITH THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE ITEM OF WORK "8" DUCTILE IRON WATER MAIN, TRENCH DETAIL, \_\_\_\_\_"

CREST 12-IN





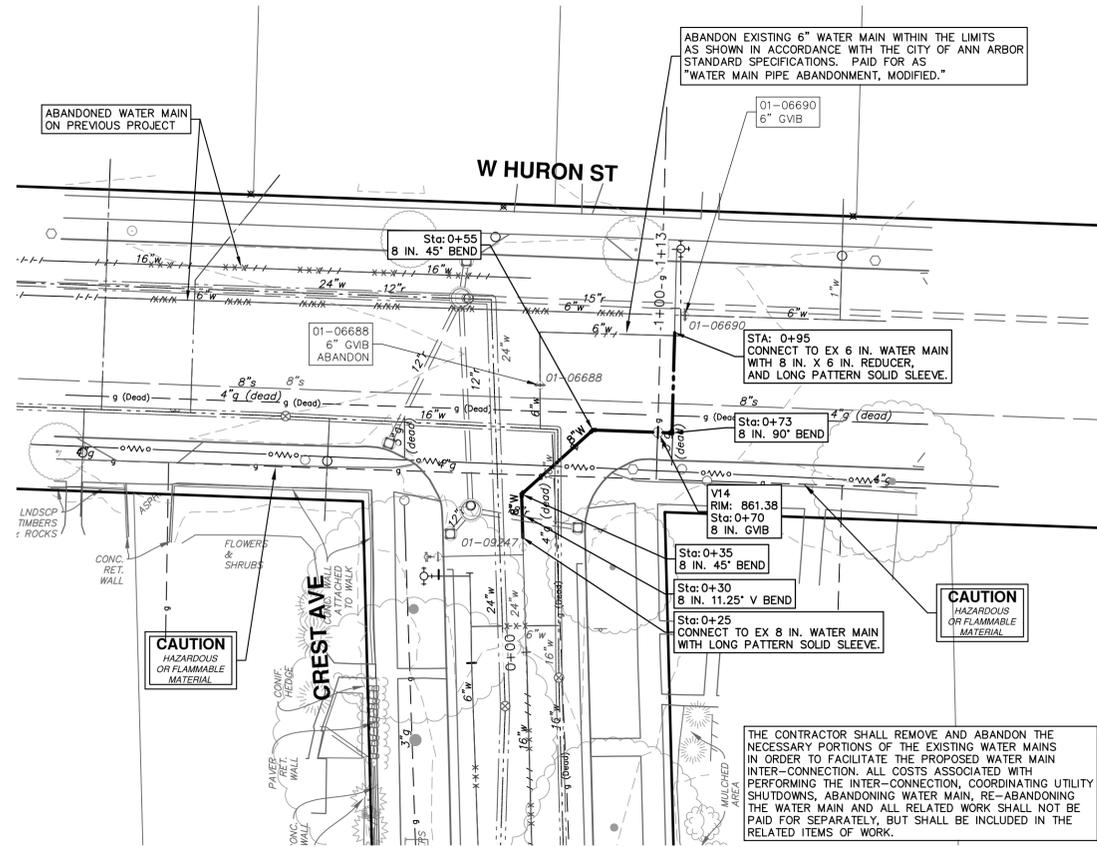
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02		TB
03		CHECKED

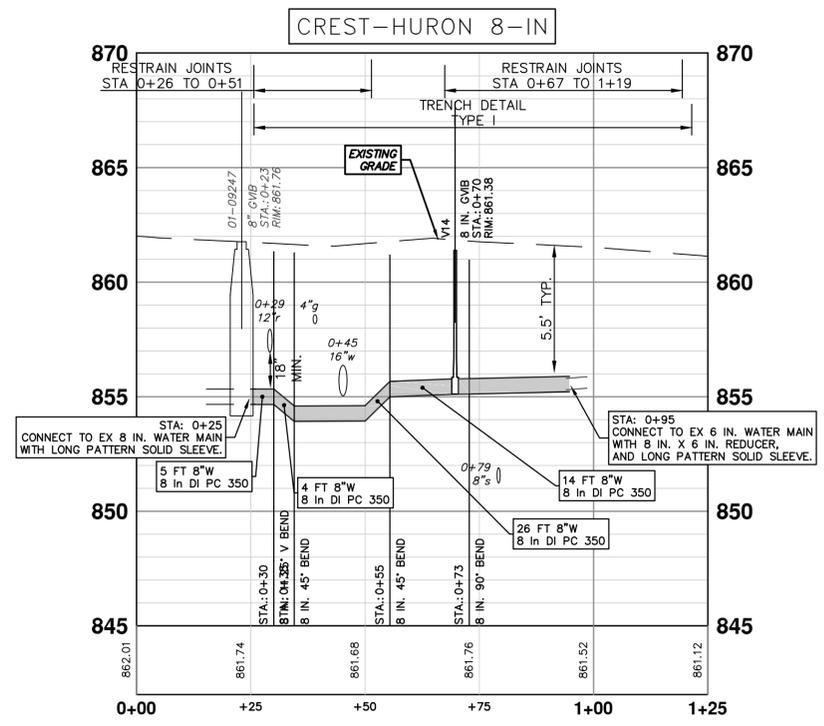


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2021 MISC. UTILITIES PROJECT  
CREST AVE 12-IN WATER MAIN  
STA. 0+00 - STA. 3+50

SHEET No. 49 OF 56  
DRAWING No. 2021005-49  
SCALE PLAN: 1" = 20'  
PROFILE: 1" = 4'



WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	DEPTH
V14	8 in. GVB	0+70	861.38	6.27



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

**2021 MISC. UTILITIES PROJECT**

CREST AVE - W HURON ST 8-IN WATER MAIN CONNECTION

STA. 0+26 - STA. 1+14

**811**  
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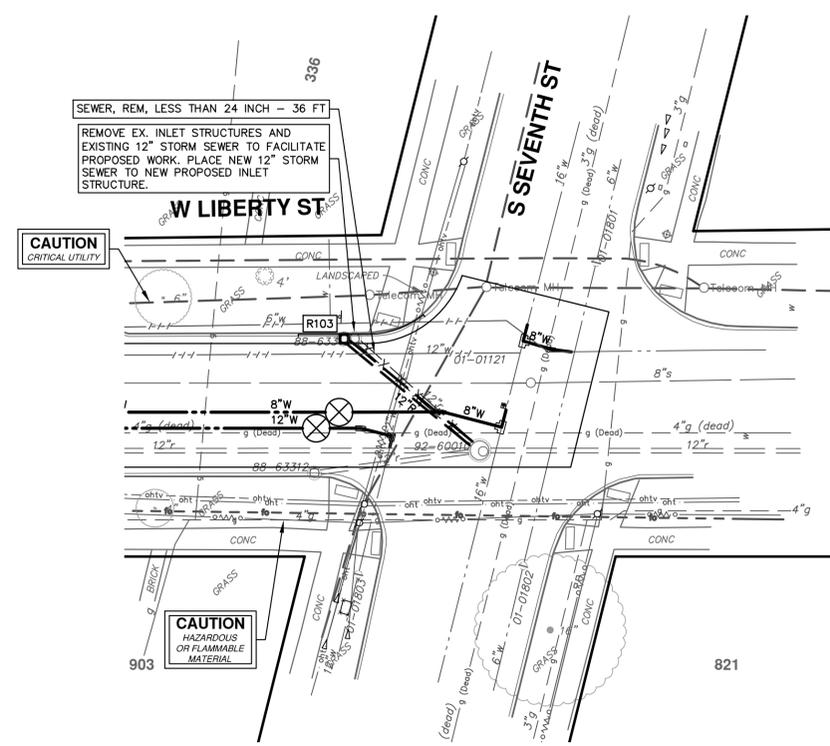
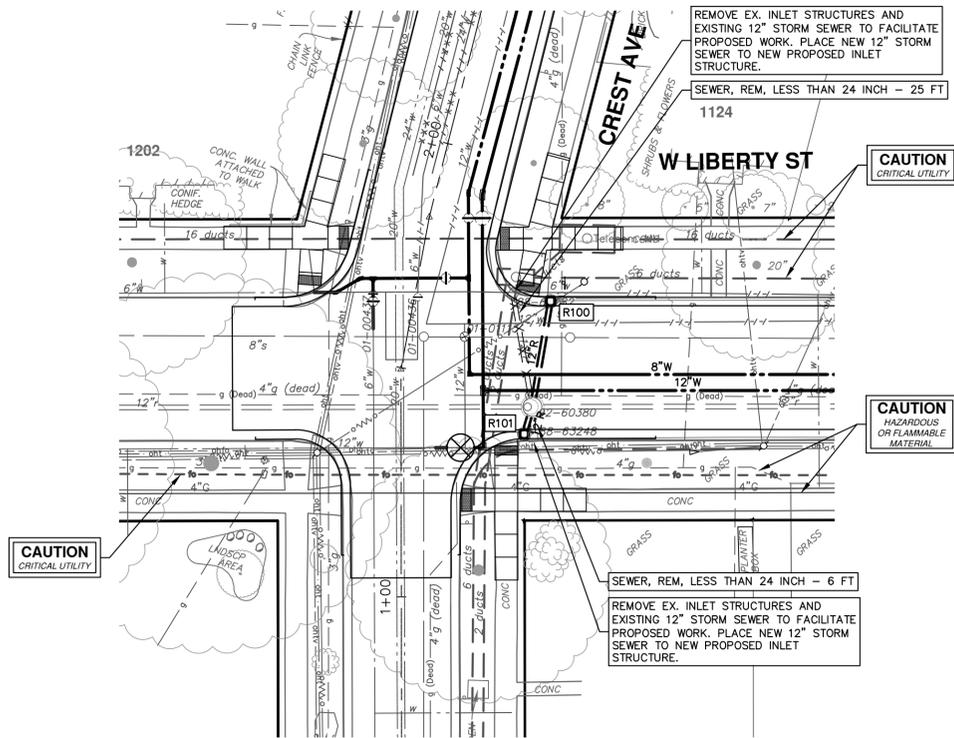
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SCALE PLAN: 1" = 20'  
PROFILE: 1" = 4'

DRAWING No. **2021005-50**

SHEET No. **50 OF 56**

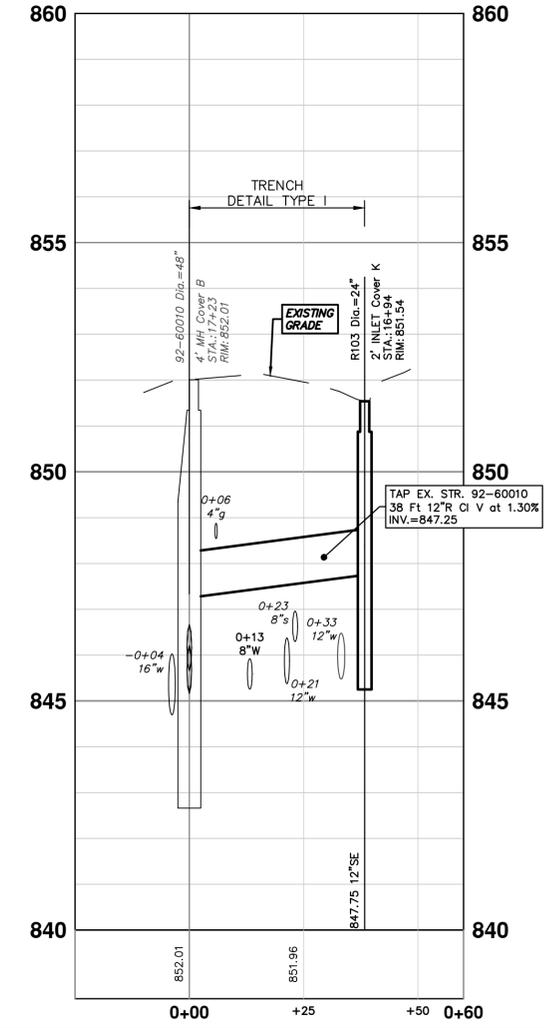
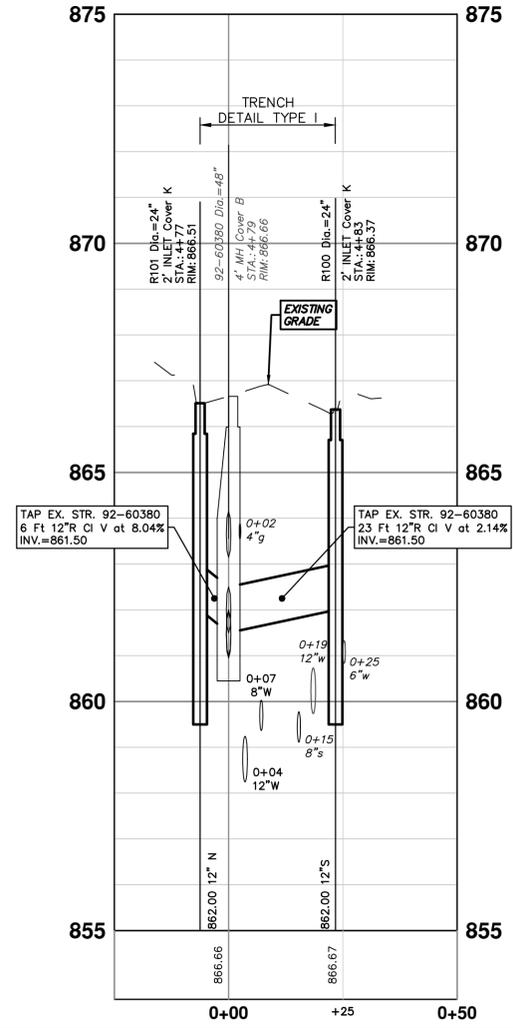


**PROPOSED STORM STRUCTURE TABLE**

STRUCTURE	STATION	TYPE	RIM	INVERTS	PIPE	SUMP
R100	4+83	2' INLET Cover K	866.37	12"S 862.00	23 LF OF 12" @ 2.14%	2'
R101	4+77	2' INLET Cover K	866.51	12"N 862.00	6 LF OF 12" @ 8.04%	2'
R103	16+94	2' INLET Cover K	851.54	12"SE 847.75	38 LF OF 12" @ 1.30%	2'

**EXISTING STORM SEWER STRUCTURE REMOVAL TABLE**

STRUCTURE	DEPTH (Feet)	REMOVE
88-63313	5.79	2' INLET Cover K
88-63248	3.31	12" Drop Structure
88-63282	4.77	12" Drop Structure



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

2021 MISC. UTILITIES PROJECT

W LIBERTY ST STORM SEWER

SHEET No. 51 OF 56

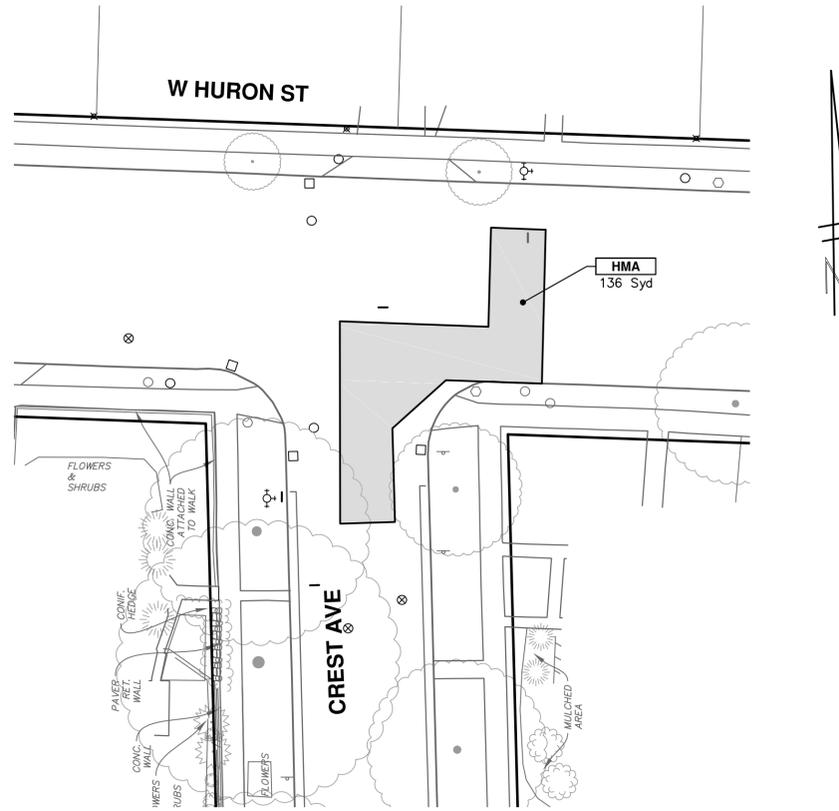
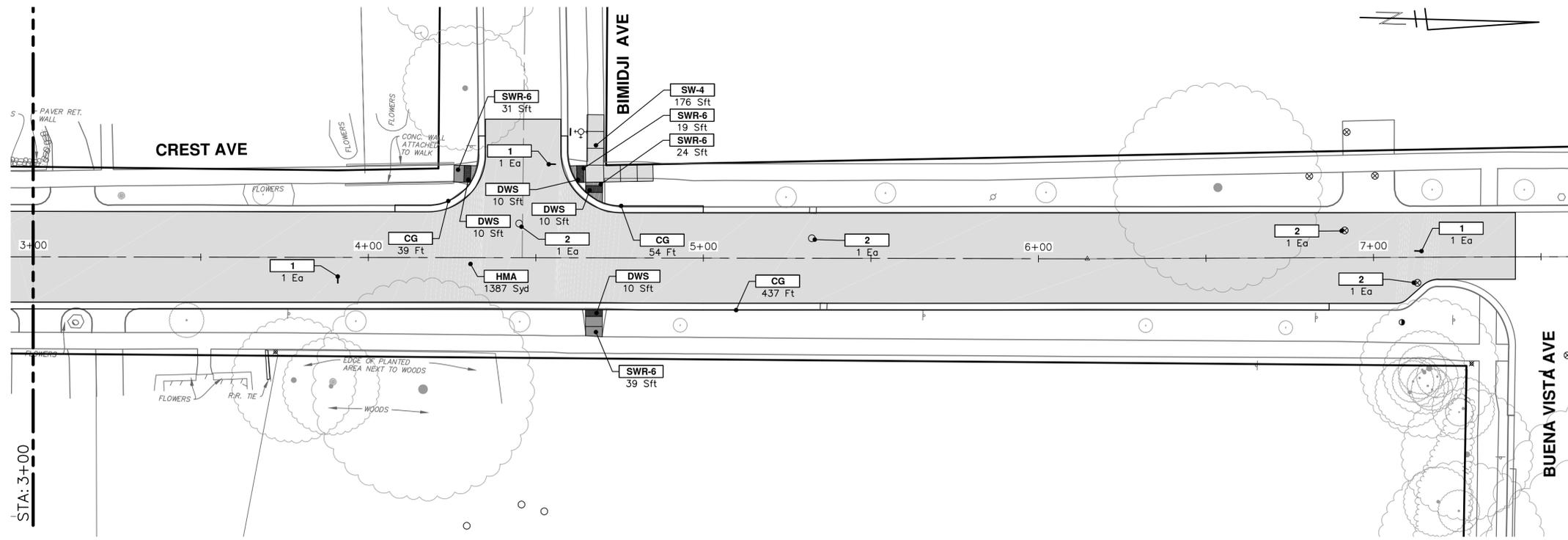
SCALE PLAN: 1" = 20'  
PROFILE: 1" = 2'

DRAWING No. 2021005-51

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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
ISW-CB	INTEGRAL SIDEWALK/CURB
ABO	ADJUST BY OTHERS
1	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
2	ADJUST STRUCTURE COVER



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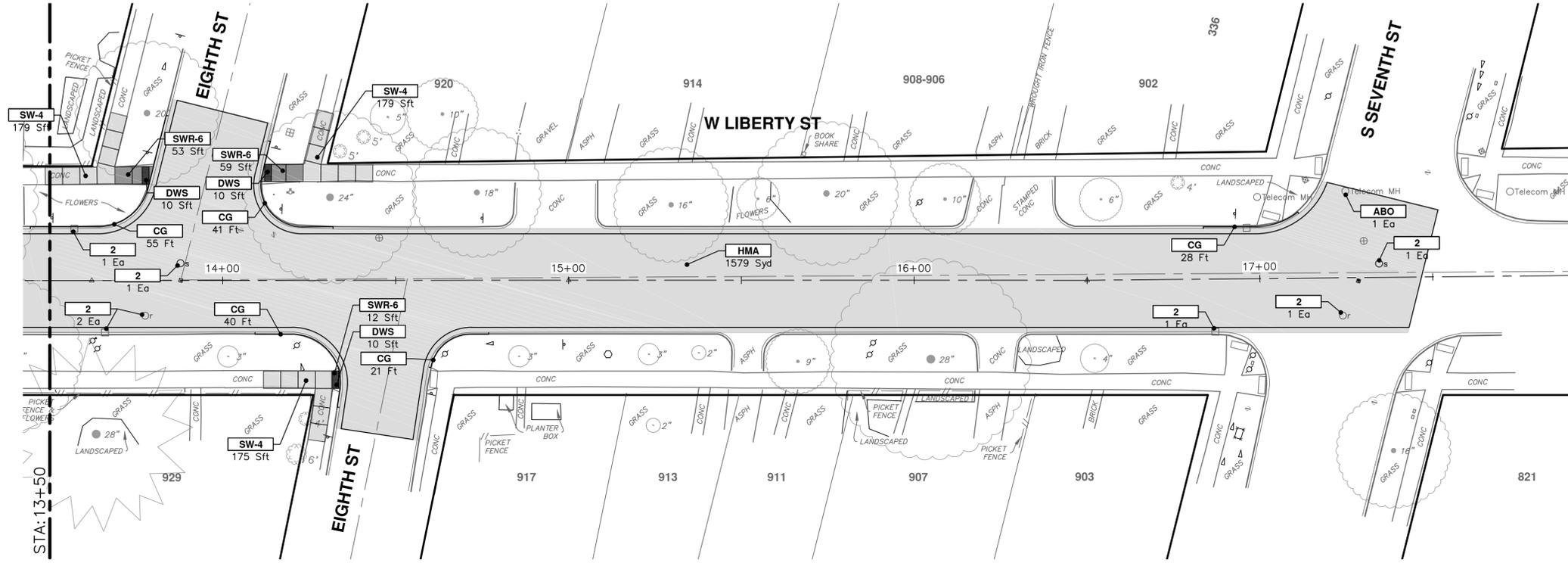


CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
2021 MISC. UTILITIES PROJECT  
W LIBERTY ST - CREST AVE PROPOSED ROAD  
CREST AVE STA. 3+00 - P.O.E. & CREST - W. HURON INTERSECTION

SCALE: #####  
DRAWING No. 2021005-52

REV.	DESCRIPTION	DATE	BY	CHECKED
00	OUT FOR BID	3-17-21	DF/CC	TB





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, GIP, 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
ISW-CB	INTEGRAL SIDEWALK/CURB
ABO	ADJUST BY OTHERS
1	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
2	ADJUST STRUCTURE COVER



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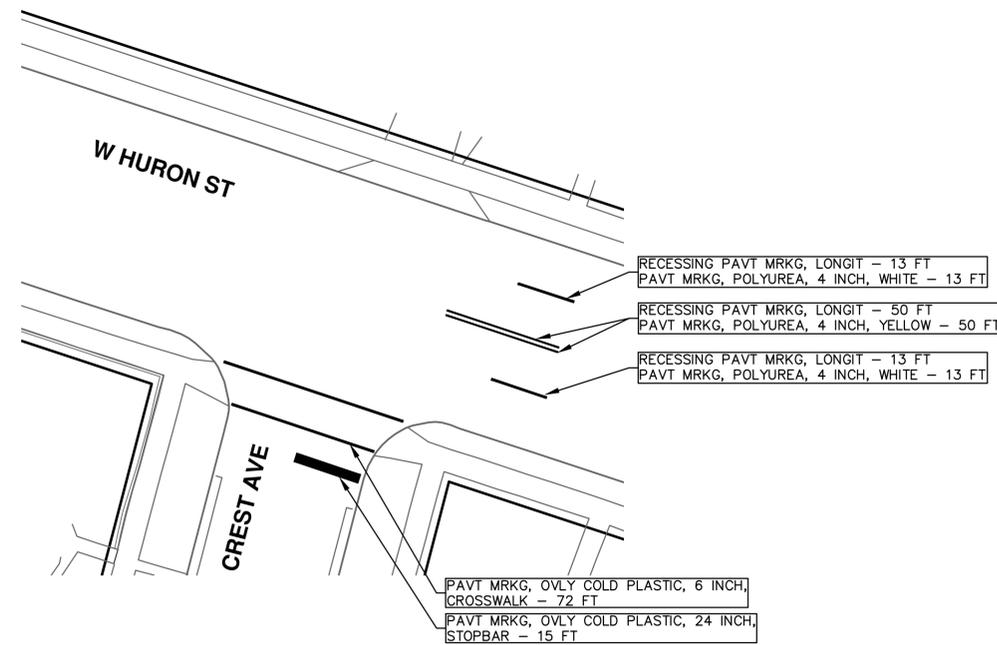
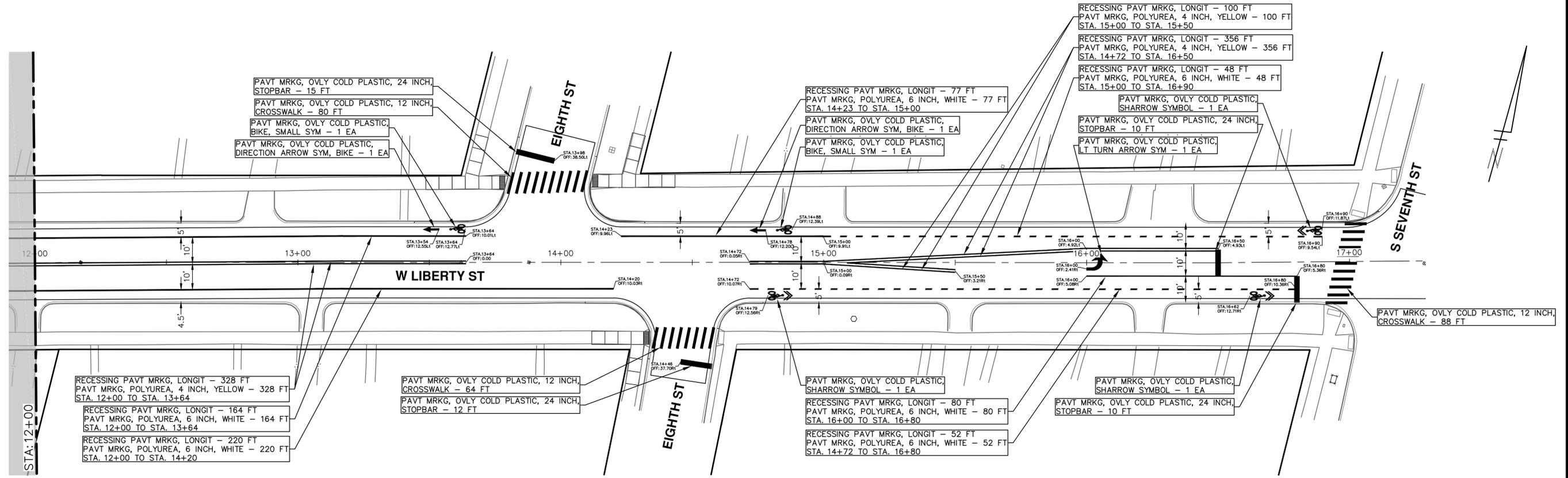


CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
2021 MISC. UTILITIES PROJECT  
W LIBERTY ST - CREST AVE PROPOSED ROAD  
W LIBERTY ST STA. 13+50 - P.O.E.

SCALE: 1" = 20'  
DRAWING No. 2021005-54

NO	OUT FOR BID	REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00				3-17-21	DF/CC	TB





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REV	DESCRIPTION	DATE	DRAWN	CHECKED
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 2021 MISC. UTILITIES PROJECT  
 W LIBERTY ST PAVEMENT MARKINGS

SCALE: 1" = 20'

DRAWING No. 2021005-56

SHEET No. 56 OF 56

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