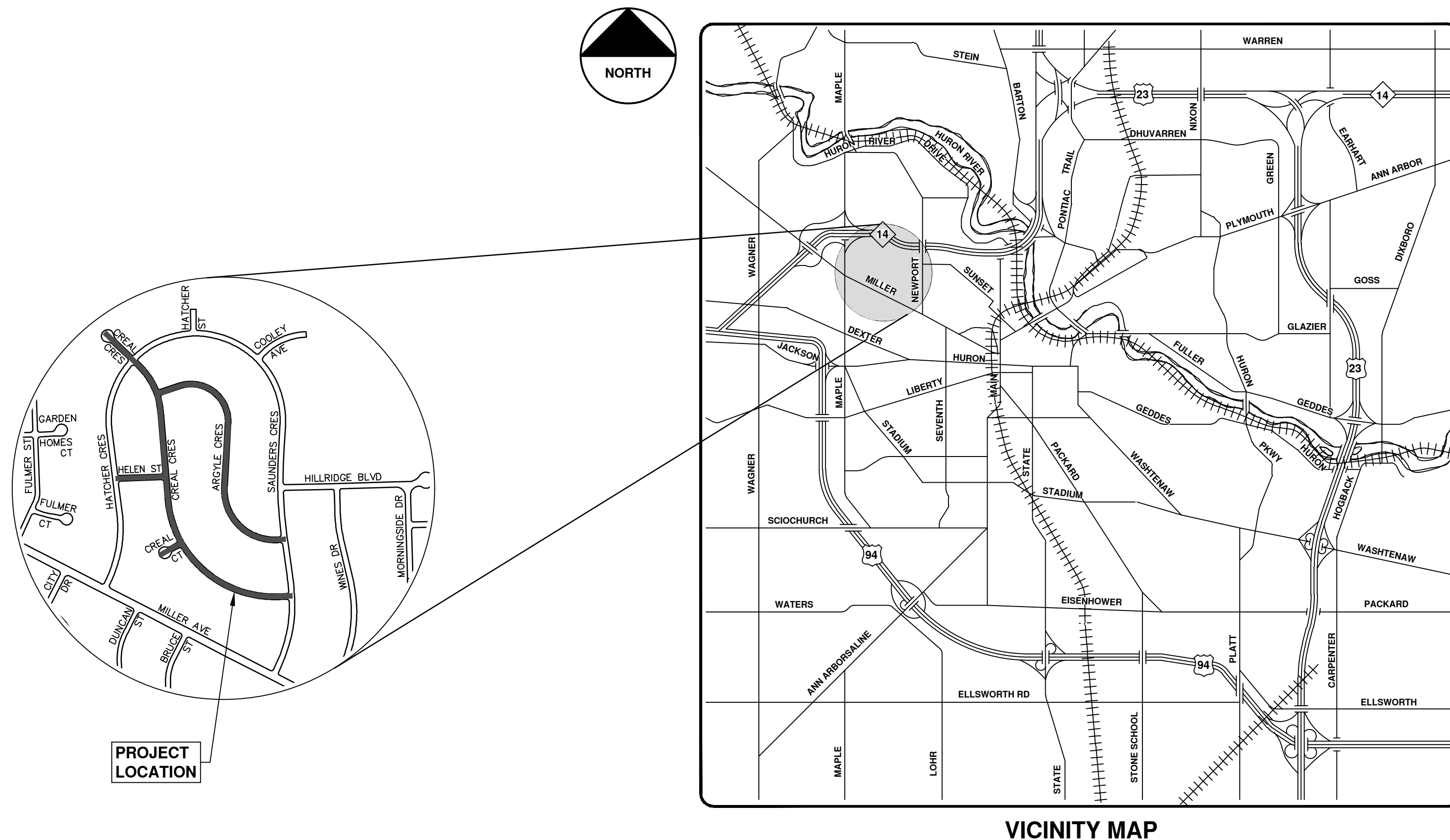




CITY OF ANN ARBOR ENGINEERING

CRESCENTS WATER MAIN REPLACEMENT PROJECT - PHASE I

RFP No. 23-19, FILE No. 2022012



VICINITY MAP

NOTES:

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

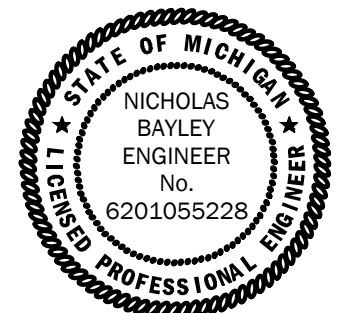
THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS, TELEPHONE, ELECTRICAL POWER, CABLE TV AND FIBER OPTIC LINES ARE APPROXIMATE. THE CITY OF ANN ARBOR ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. MISS DIG MUST BE CONTACTED PRIOR TO CONSTRUCTION TO LOCATE THESE UTILITIES.

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

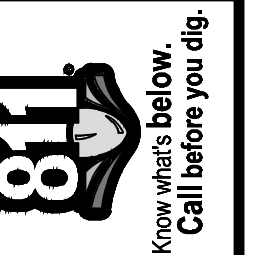
Sheet List Table	
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1	Cover Sheet
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3	Legend
4	Alternate Pedestrian Route (APR) Detour
5	Alternate Pedestrian Route (APR) Bypass
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7	TPAR Walkway Devices
8	Water Main Details
9	Storm Sewer and Trench Details
10	Misc. Details
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12	Creal Crescent
13	Creal Crescent & Helen Street
14	Traffic Control
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16	Sta. 39+00 - Sta. 48+00
17	Sta. 48+00 - Sta. 52+79
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19	Sta. 20+00 - Sta. 29+00
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Creal Crescent Water Main	
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27	Sta. 0+00 - Sta. 4+00
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PREPARED UNDER THE SUPERVISION OF

Nicholas Bayley
NICHOLAS BAYLEY, P.E. - MI LICENSE No. 6201055228
PROJECT ENGINEER



03 / 15 / 2023
DATE



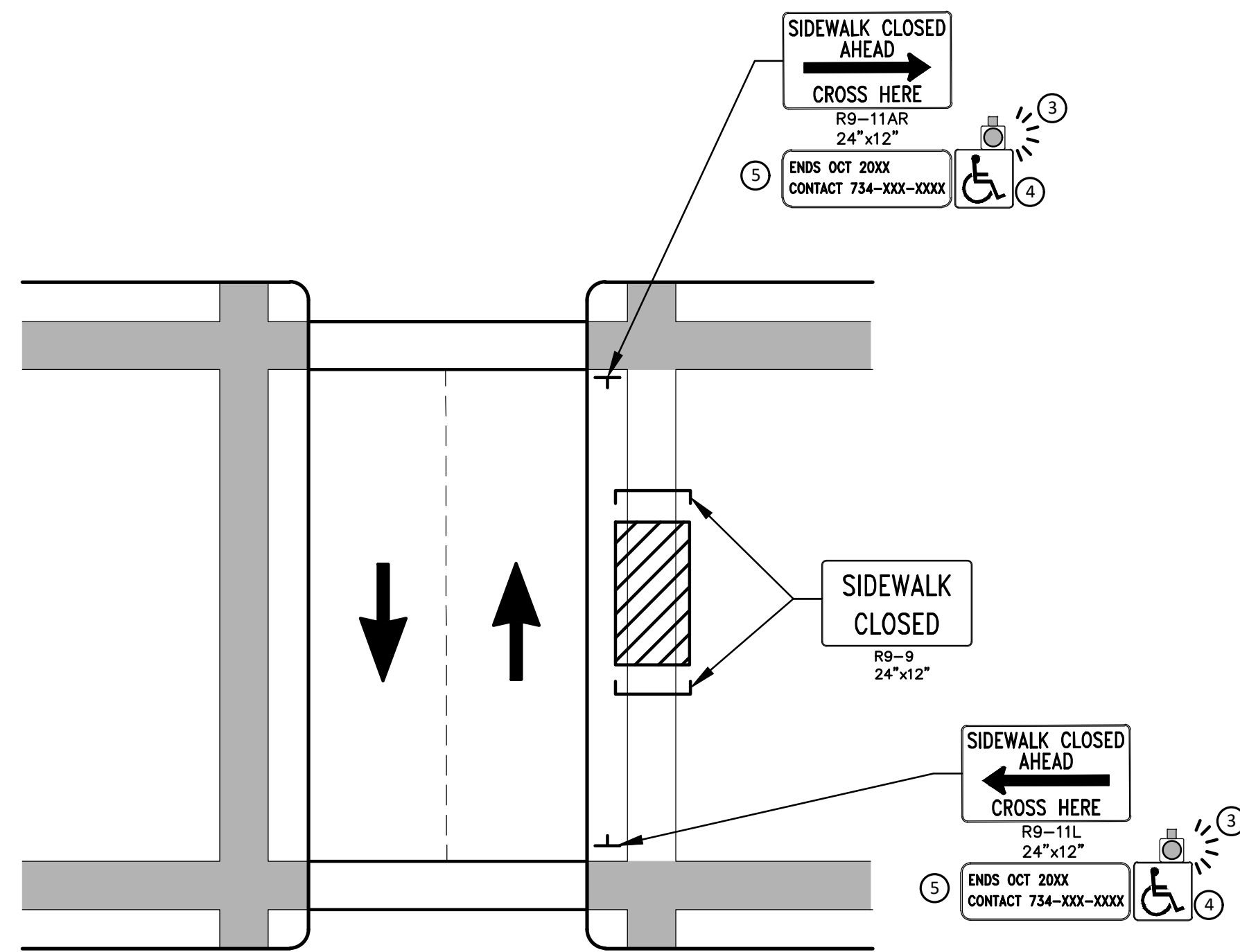
REV.	DATE	DESCRIPTION
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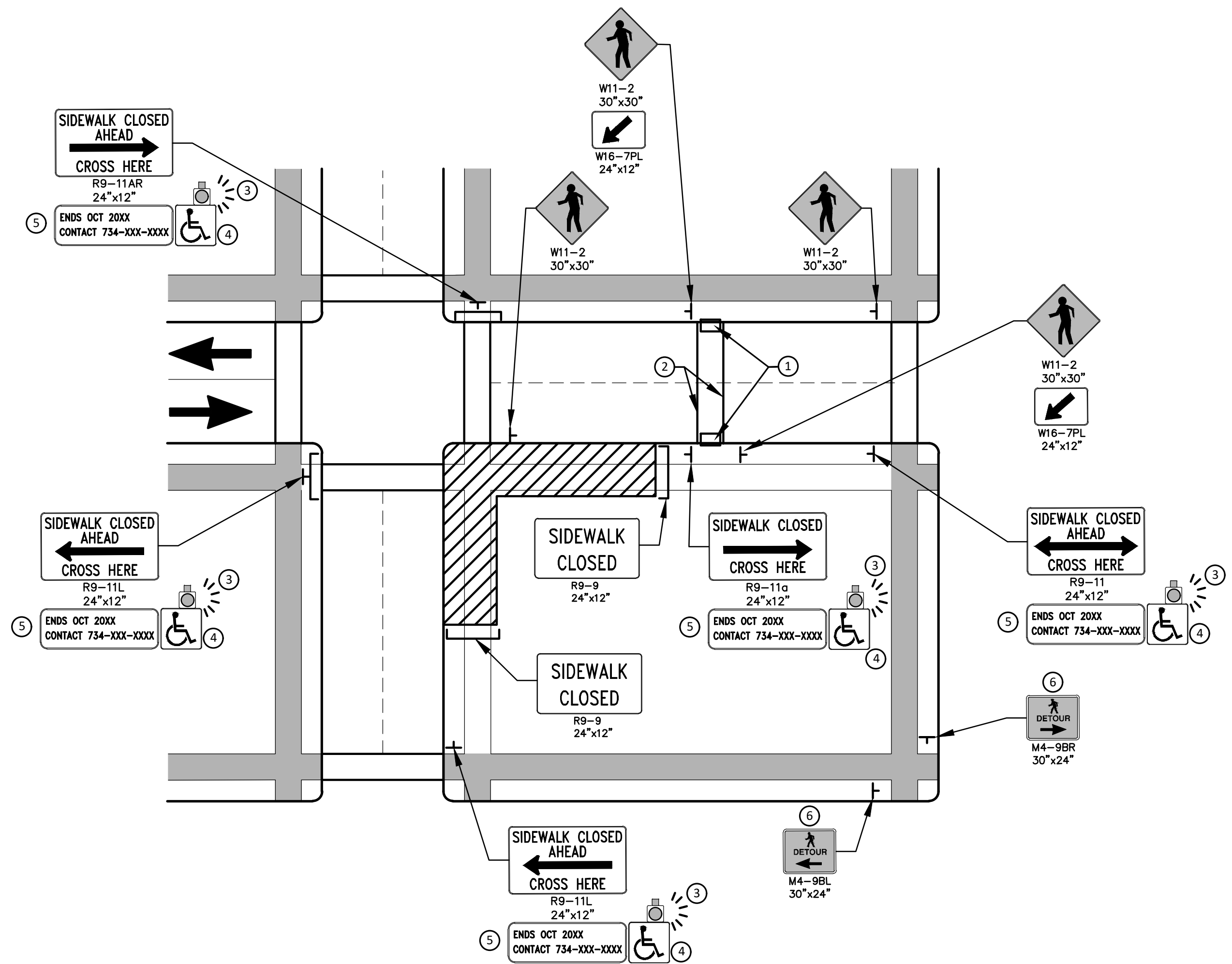
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
PROJECT DESCRIPTION AND LIMITS

SCALE
DRAWING No.
2022012-1
SHEET No.
1 OF 43

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PEDESTRIAN DETOUR USING OPPOSITE SIDE OF STREET



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

GENERAL NOTES

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

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

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

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

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

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

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

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

SPECIFIC NOTES

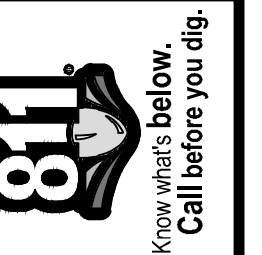
1. TEMPORARY CURB RAMPS WITH DETECTABLE WARNINGS.
2. TEMPORARY PAVEMENT MARKING FOR CROSSWALK LINES.
3. AN APPROVED AUDIBLE MESSAGE DEVICE OR TACTILE MESSAGE SHALL BE PROVIDED FOR SIGHT-IMPAIRED PEDESTRIANS.
4. THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHOULD BE DISPLAYED WHEN ANY WALKWAY THROUGH A WORK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

PEDESTRIAN TEMPORARY TRAFFIC CONTROL NOTES

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

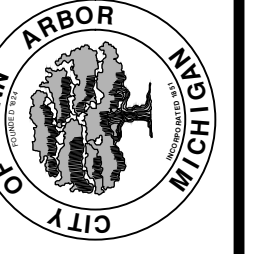
LEGEND

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



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01	3-29-2023	OUT FOR BID	DF/CC	NB
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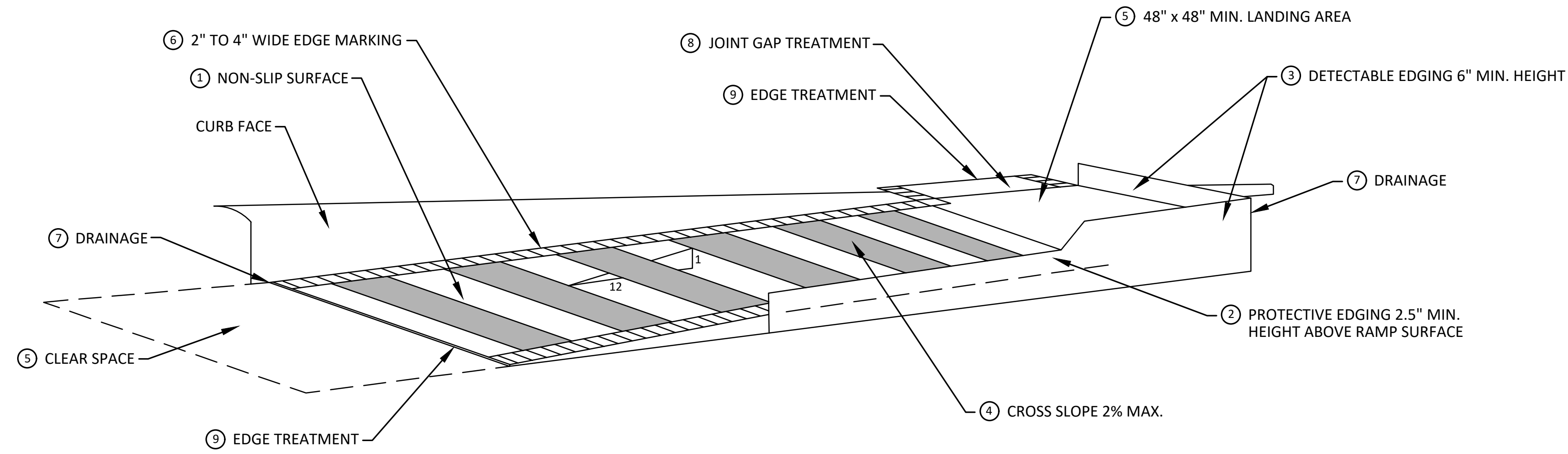
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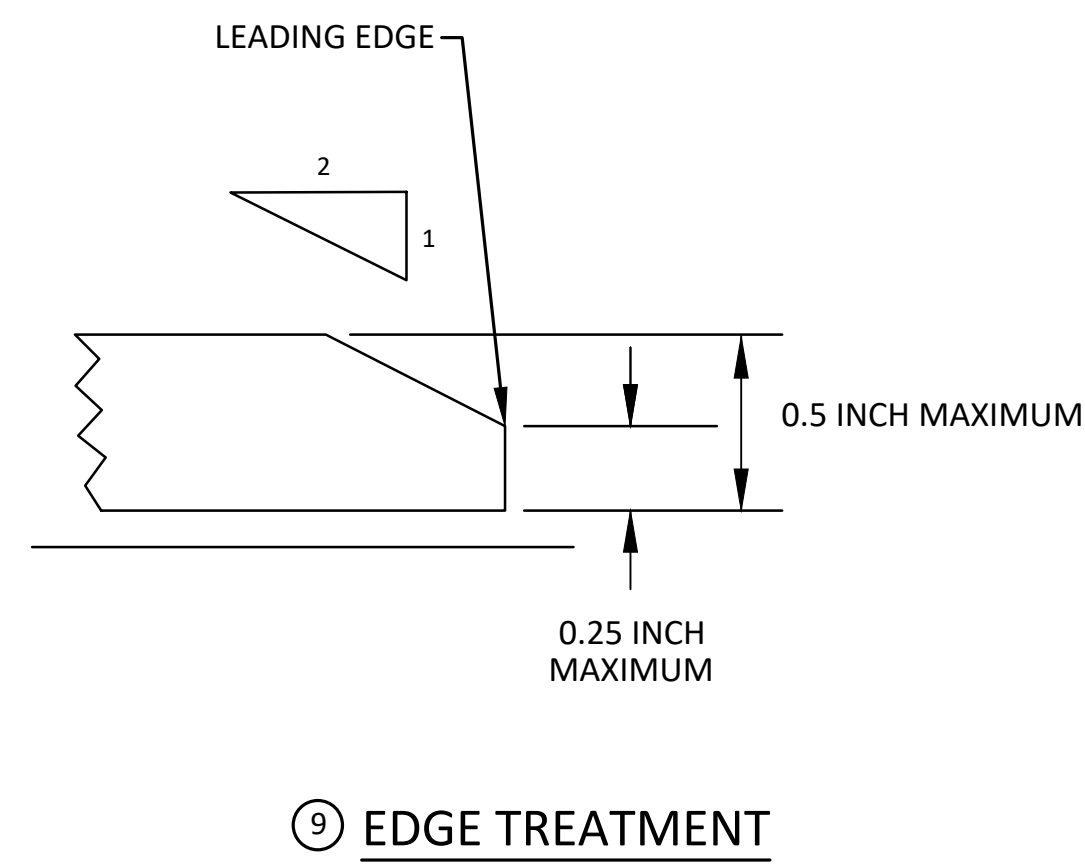
CITY OF ANN ARBOR - ENGINEERING
CRESCENTS WATER MAIN REPLACEMENT
PROJECT - PHASE I
ALTERNATE PEDESTRIAN ROUTE (APR) DETOUR

SCALE: N.T.S.
DRAWING No. 2022012-4

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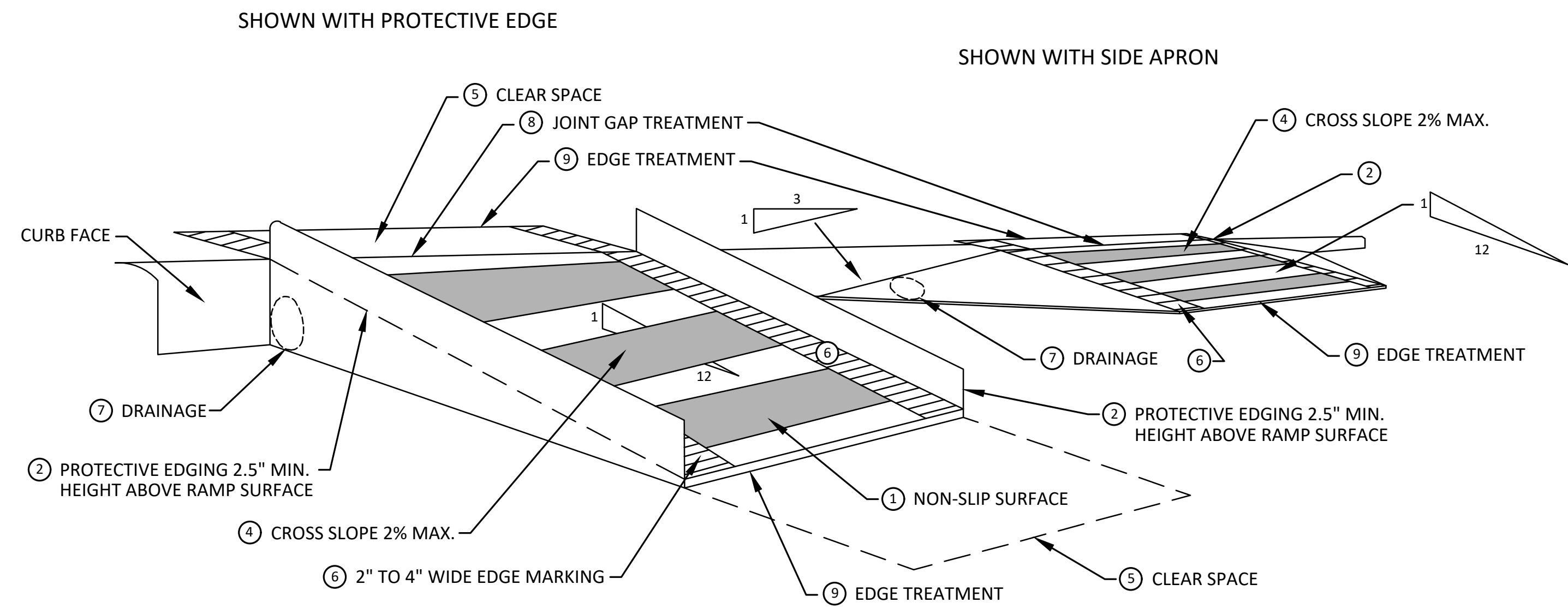
**TEMPORARY CURB RAMP
PARALLEL TO CURB**



EDGE TREATMENT

SPECIFIC NOTES

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



**TEMPORARY CURB RAMP
PERPENDICULAR TO CURB**



REV.	DATE	DESCRIPTION
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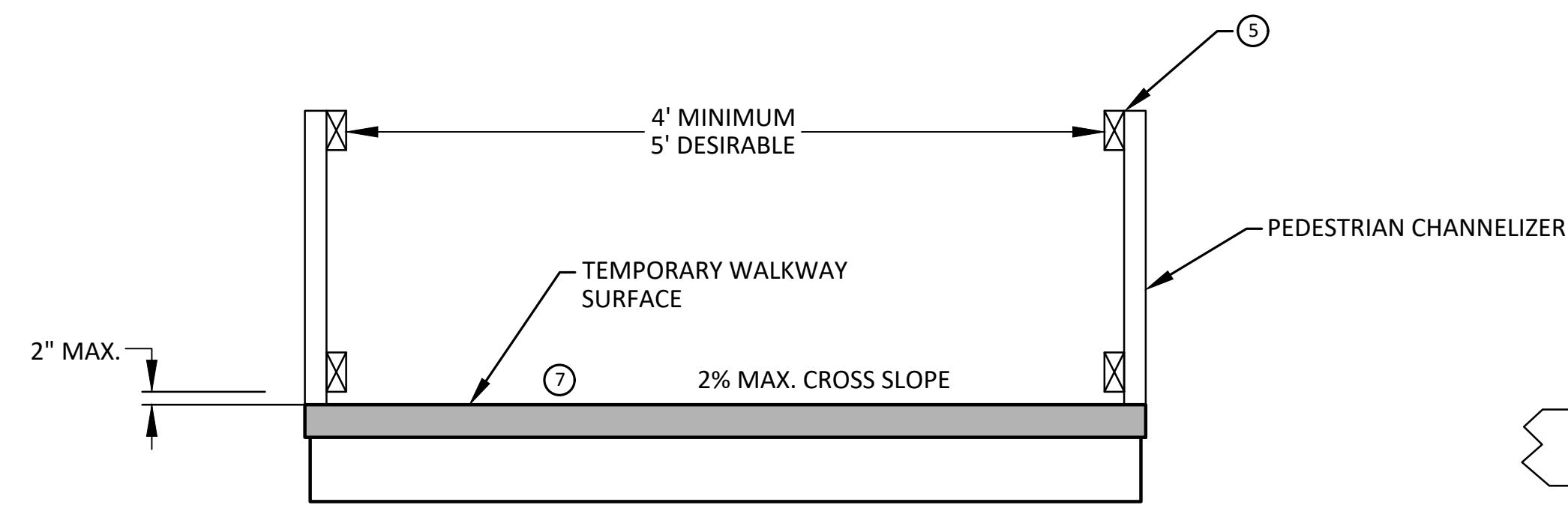
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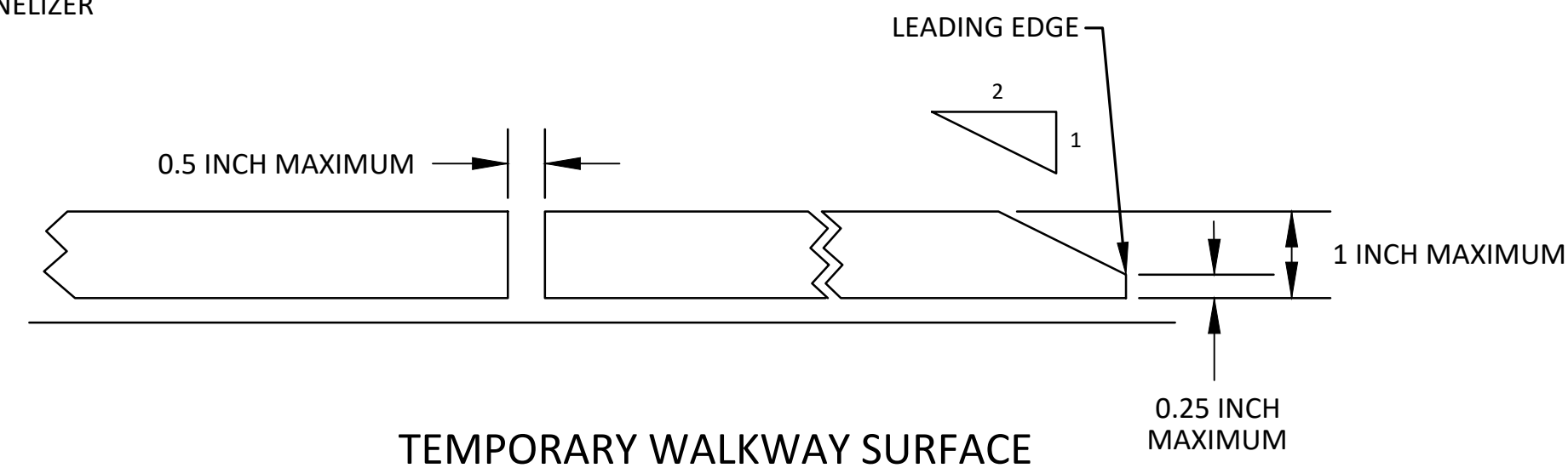
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN REPLACEMENT
PROJECT - PHASE I
TPAR RAMPS

SCALE : N.T.S.
DRAWING No. 2022012-6

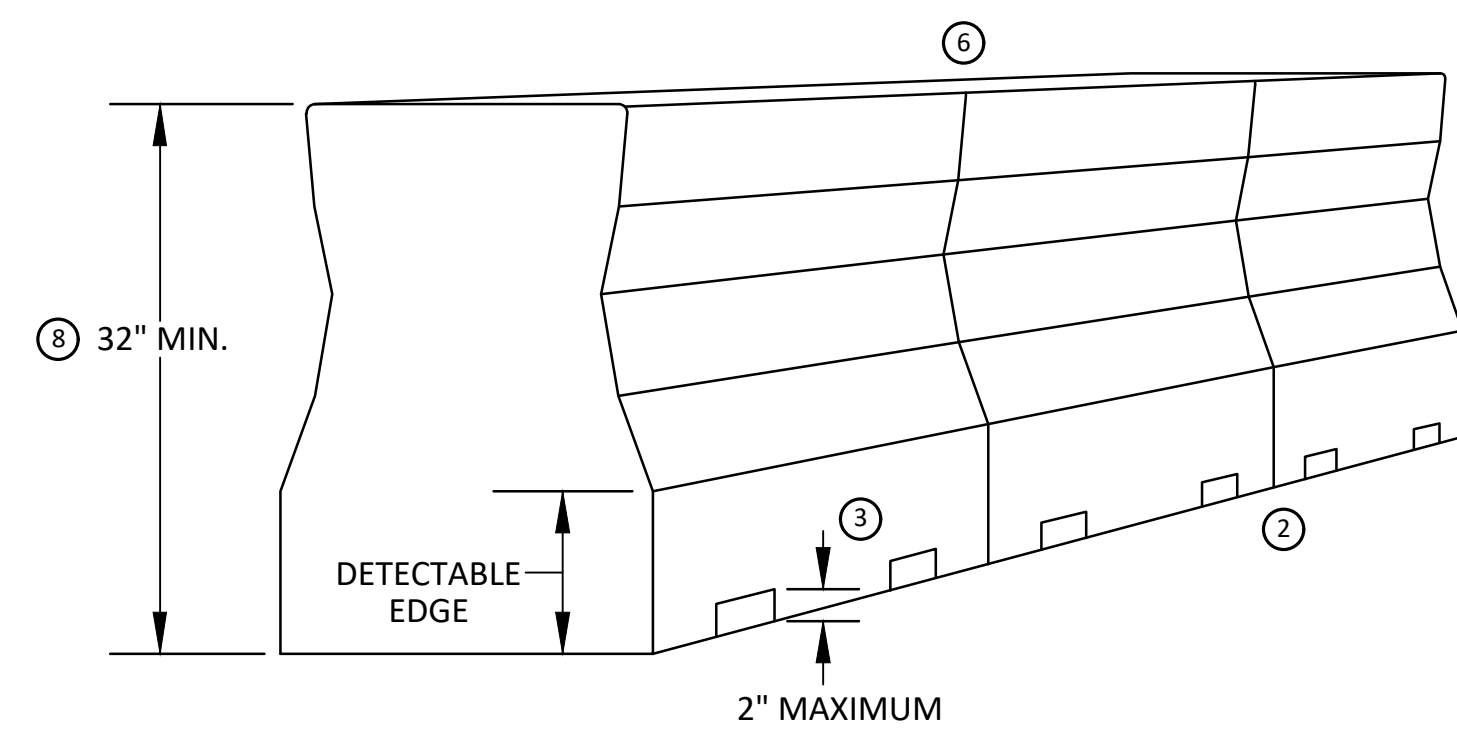
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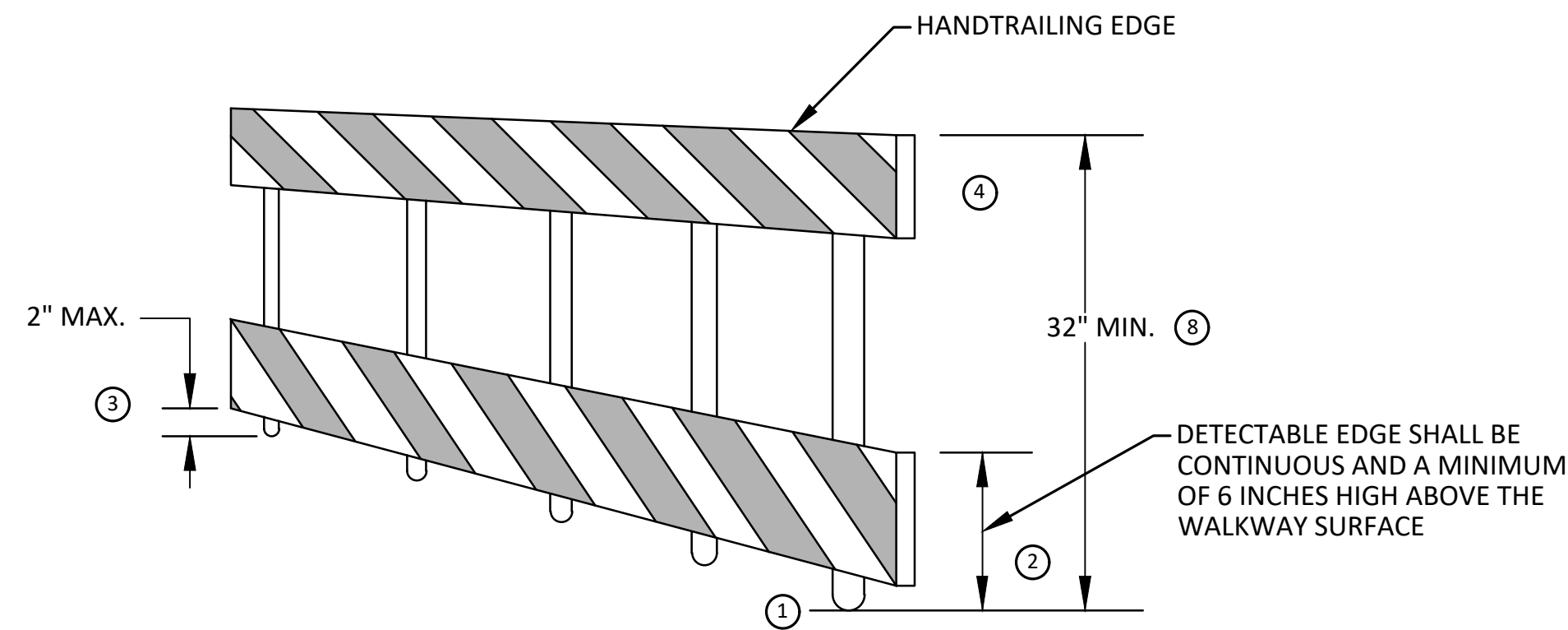
TEMPORARY PEDESTRIAN ACCESS



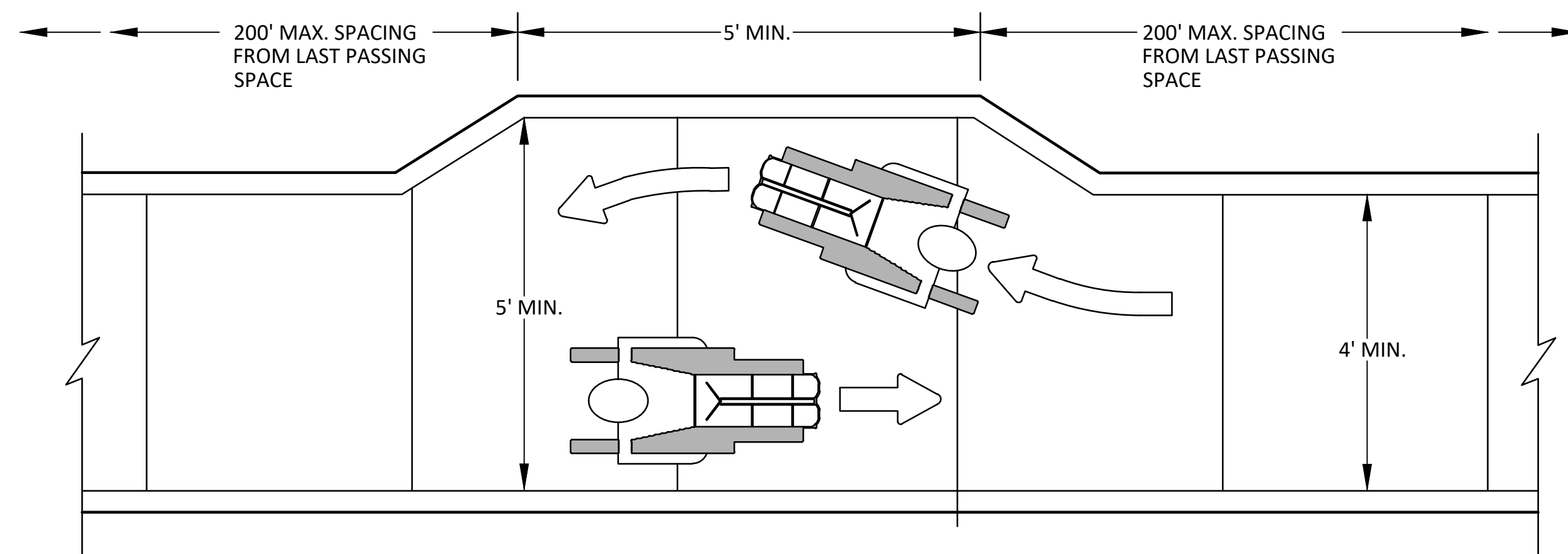
TEMPORARY WALKWAY SURFACE



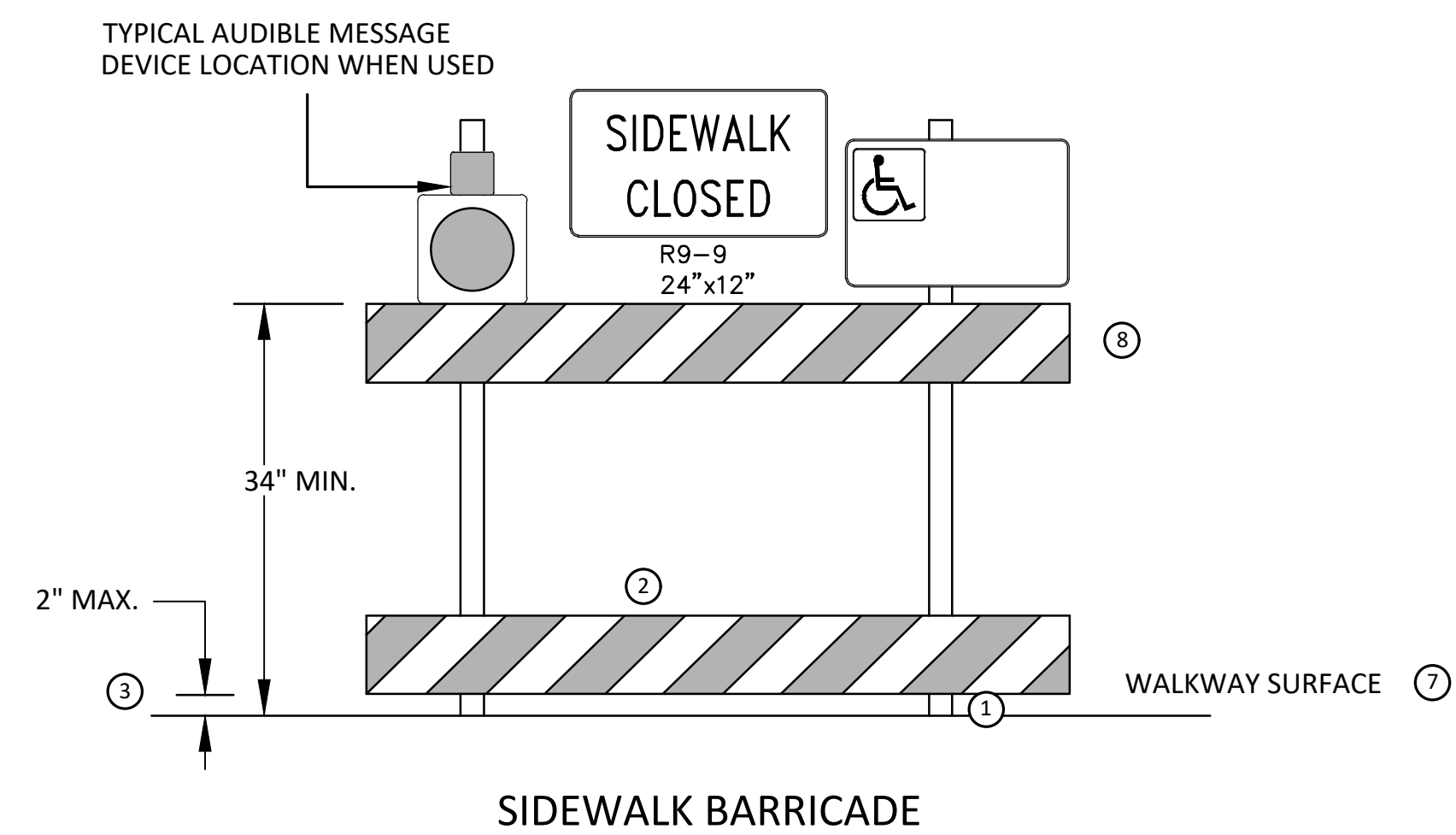
PEDESTRIAN CHANNELIZER USING A BARRIER (MINIMUM REQUIREMENTS)



PEDESTRIAN CHANNELIZER (MINIMUM REQUIREMENTS)



NARROW TEMPORARY PEDESTRIAN ACCESS ROUTE PASSING DETAIL



SIDEWALK BARRICADE

GENERAL NOTES

RAILINGS OR OTHER OBJECTS MAY PROTRUDE A MAXIMUM OF 4 INCHES INTO THE WALKWAY CLEAR SPACE WHEN LOCATED A MINIMUM OF 27 INCHES ABOVE THE WALKWAY SURFACE.

ANY PEDESTRIAN DEVICES USED TO PROVIDE POSITIVE PROTECTION FOR PEDESTRIANS OR WORKERS SHALL MEET NCHRP 350 CRASHWORTHY REQUIREMENTS APPROPRIATE FOR THE BARRIER'S APPLICATION.

BARRICADES SHALL BE PLACED CONTINUOUSLY ACROSS THE ENTIRE WIDTH OF THE WALKWAY SURFACE BEING CLOSED.

SPECIFIC NOTES

- 1 ANY TRIPPING HAZARD IN THE WALKWAY NEEDS A DETECTABLE EDGE. BALLAST SHALL BE LOCATED BEHIND OR INTERNAL TO THE DEVICE. ANY SUPPORT ON THE FRONT OF THE DEVICE SHALL NOT EXTEND INTO THE 48 INCH MINIMUM WALKWAY CLEAR SPACE AND SHALL NOT EXCEED 0.5 INCHES IN HEIGHT ABOVE THE WALKWAY SURFACE.
 - 2 DETECTABLE EDGES SHALL BE CONTINUOUS AND A MINIMUM OF 6 INCHES IN HEIGHT ABOVE WALKWAY SURFACE AND HAVE COLOR MARKINGS CONTRASTING WITH THE WALKWAY SURFACE.
 - 3 DEVICES SHALL NOT BLOCK WATER DRAINAGE FROM THE WALKWAY. A GAP HEIGHT OR OPENING FROM THE WALKWAY SURFACE UP TO A MAXIMUM OF 2 INCHES IS ALLOWED FOR DRAINAGE PURPOSES.
 - 4 PROVIDE A HANDRAIL ON BOTH SIDES OF THE RAMP IF THE RAMP IS NOT EXPOSED TO VEHICLE TRAFFIC AND HAS A TOTAL RISE GREATER THAN 6 INCHES, AND A LENGTH GREATER THAN 72 INCHES.
 - ENSURE THE HANDRAIL IS 1.25 AND 1.5 INCHES WIDE AND CONFIGURED TO BE A "GRASPABLE" CROSS-SECTION.
- SEE CONSTRUCTION SUBSECTION 2.A FOR ADDITIONAL DETAILS.
- WHEN THE RAMP IS EXPOSED TO TRAFFIC, IN LIEU OF HANDRAILS, USE A PROTECTIVE EDGE 2.5 INCHES MINIMUM HEIGHT ABOVE THE RAMP SURFACE OR 1:10 FLARE ON BOTH SIDES OF THE RAMP.
- 5 ALL DEVICES SHALL BE FREE OF SHARP OR ROUGH EDGES, AND FASTENERS (BOLTS) SHALL BE ROUNDED TO PREVENT HARM TO HANDS, ARMS OR CLOTHING OF PEDESTRIANS.
 - 6 ALL DEVICES USED TO CHANNELIZE PEDESTRIAN FLOW SHOULD INTERLOCK SUCH THAT GAPS DO NOT ALLOW PEDESTRIANS TO STRAY FROM THE INTENDED CHANNELIZED PATH.
 - 7 A WALKWAY SURFACE SHALL BE FIRM, STABLE, AND SLIP RESISTANT. COMPACTED GRAVEL, AGGREGATE, OR SLAG MATERIALS ARE NOT ALLOWED.
 - 8 LONGITUDINAL CHANNELIZING DEVICES FOR PEDESTRIANS SHALL BE 32 INCHES IN HEIGHT OR GREATER.

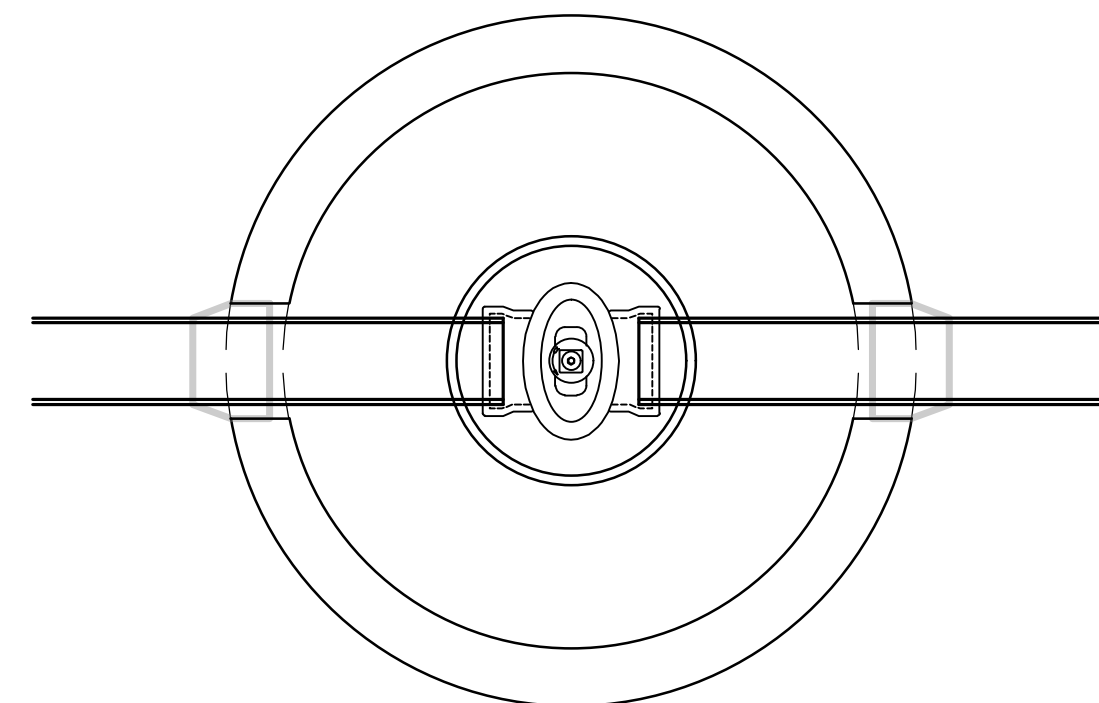


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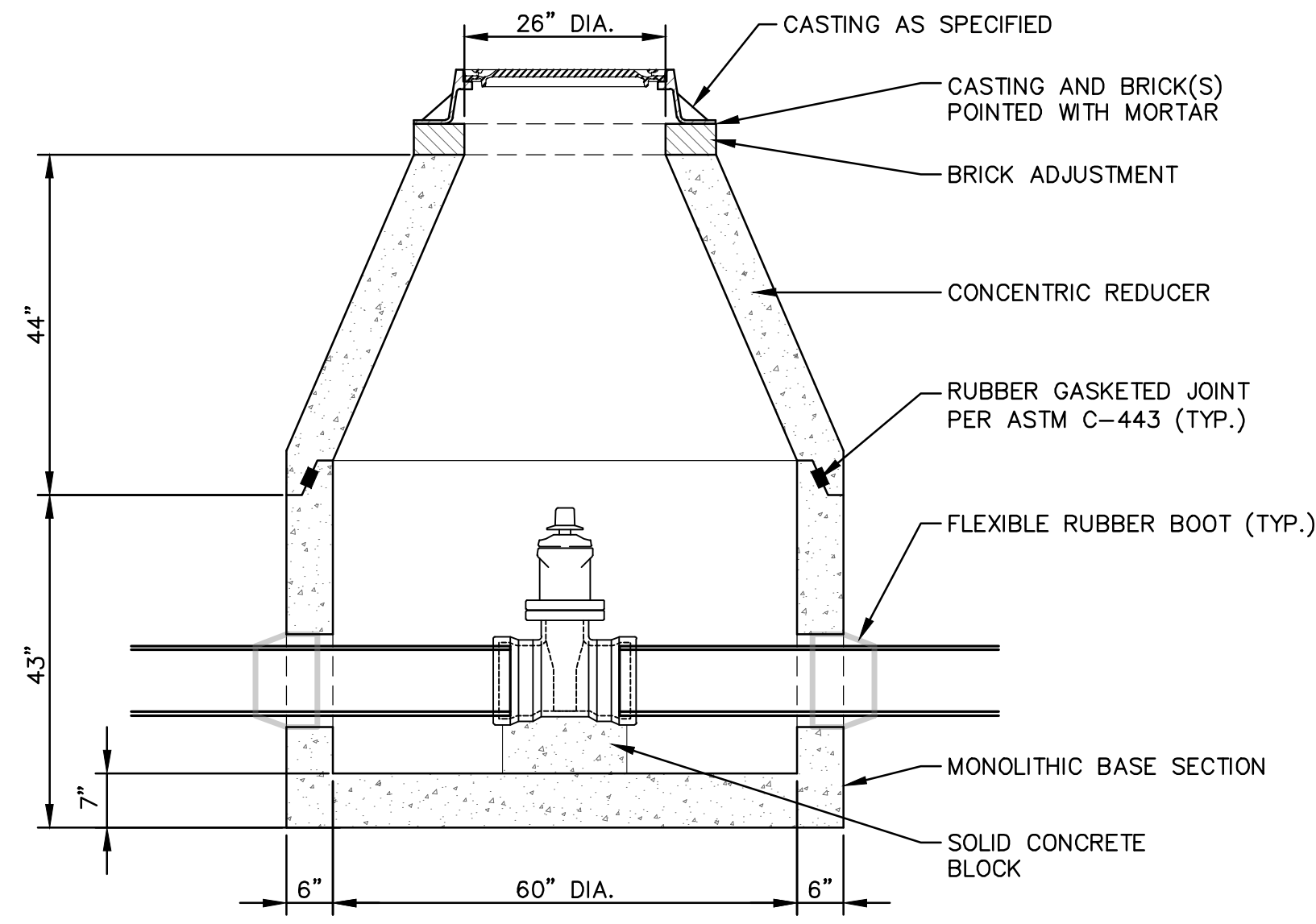


CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN REPLACEMENT
PROJECT - PHASE I
TPAR WALKWAY DEVICES

SCALE: N.T.S.
DRAWING No. 2022012-7



TOP VIEW

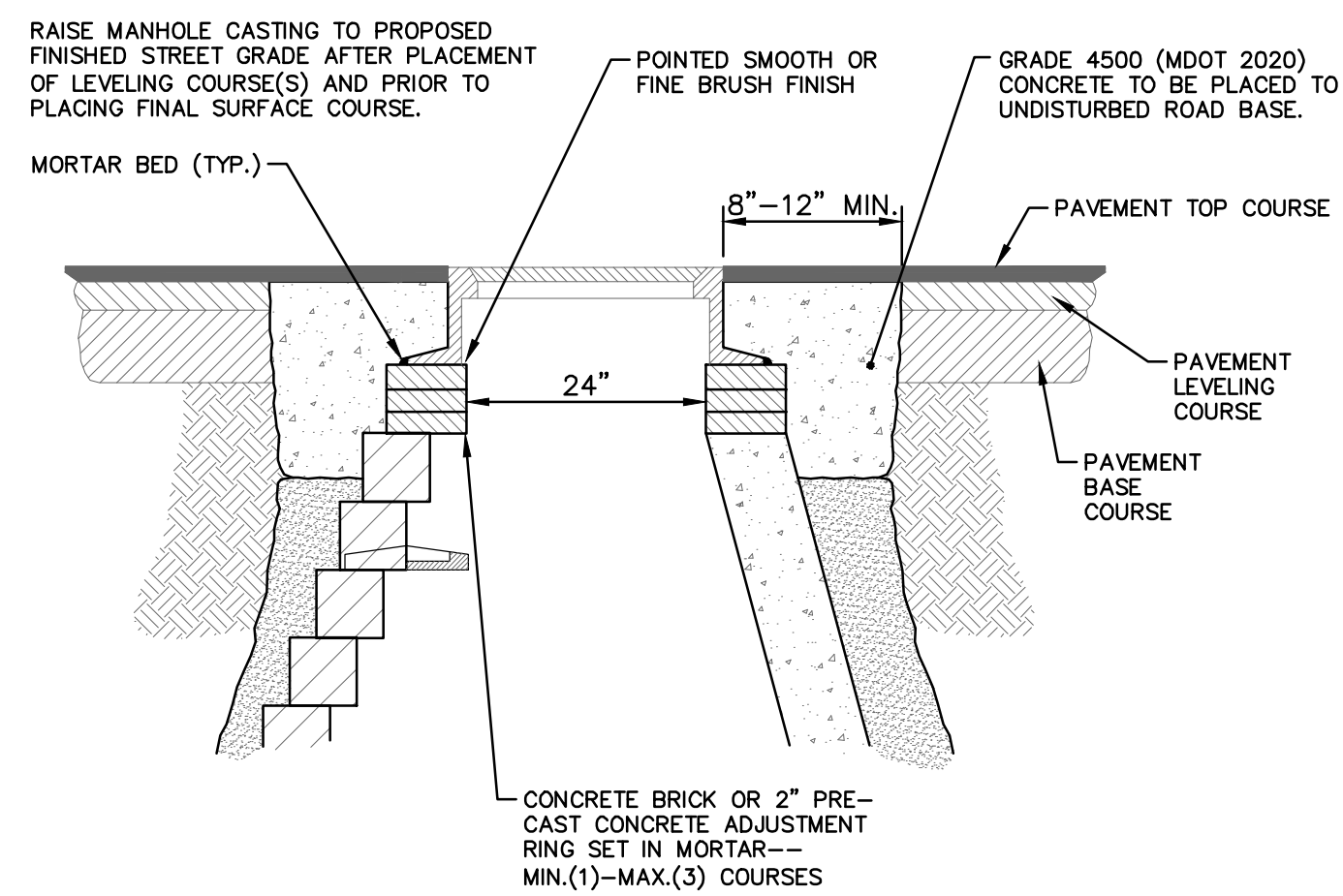


TYPICAL MANHOLE SECTION

NOTES:

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

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



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

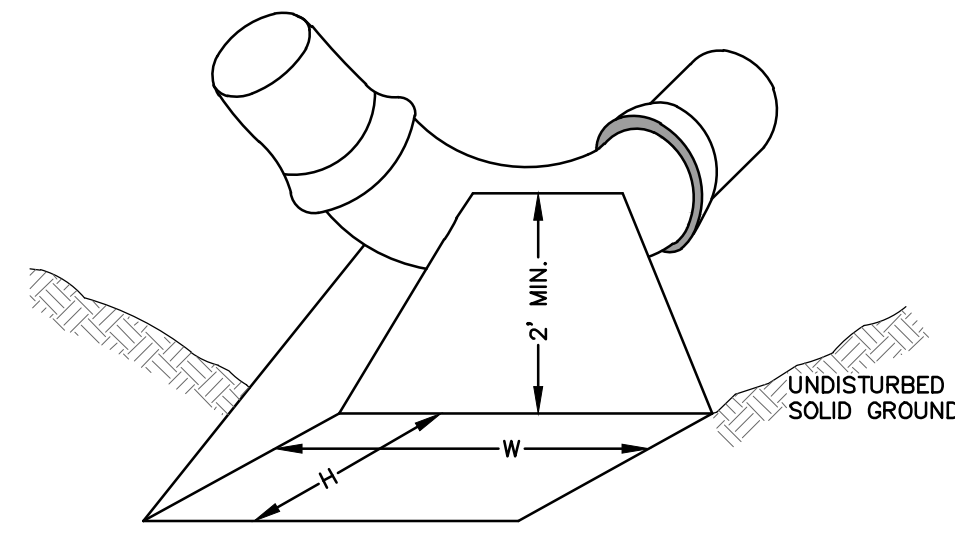
MANHOLE CASTING ADJUSTMENT SD-GU-5

MINIMUM STANDARDS
 THE MDOT GRADE 3500 OR P-NC CONCRETE AT THE FITTING FACE SHALL EXTEND TO WITHIN 2" OF THE BELL AND SHALL EXTEND FROM THE FITTING FACE A MINIMUM OF 2' TO THE UNDISTURBED SOLID GROUND.
 THE DIMENSIONS OF THE THRUST BLOCK AT THE FACE OF THE UNDISTURBED SOLID GROUND SHALL BE AS SHOWN IN THE TABLE BELOW.
 IF THERE ISN'T SUFFICIENT SPACE FOR THE INSTALLATION OF THE THRUST BLOCK WITHOUT INTERFERENCE WITH OTHER SERVICES, ANOTHER ARRANGEMENT SATISFACTORY TO THE ENGINEER SHALL BE USED.

FITTINGS I.D. INCHES	PLUG TEE CROSS	BENDS								HYDRANT	
		90°		45°		22½°		11½°		W	H
4	1.0 1.0	1.0 1.0	1.0 1.0	1.0 1.0	1.0 1.0	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 2.0	2.0 2.0	2.0 2.0	2.0 2.0	2.0 2.0	2.0 2.0	2.5	2.0	
8	2.5 2.0	3.5 2.0	2.0 2.0	2.0 2.0	2.0 2.0	2.0 2.0	2.0 2.0	2.0 2.0	2.5	2.0	
12	3.5 3.0	5.5 3.0	3.0 3.5	2.5 2.0	2.0 2.0	2.0 2.0	2.0 2.0	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	2.0 2.0	2.0 2.0	2.0 2.0			

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

W = WIDTH IN FEET
 H = HEIGHT IN FEET

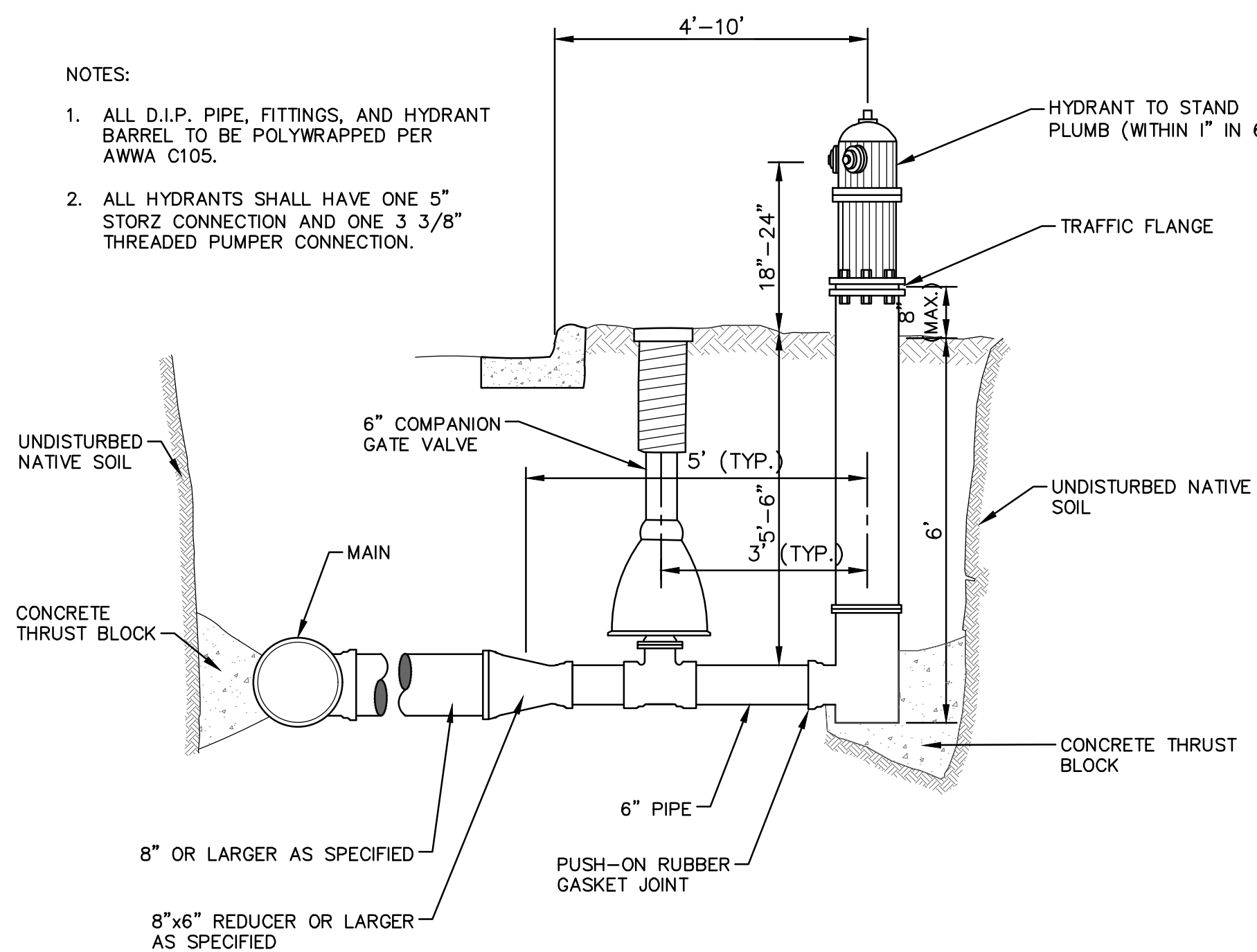


NOTE:
 THESE ARE MINIMUM STANDARDS. WHERE SOIL CONDITIONS DICTATE, ADJUSTMENTS IN SIZE SHALL BE MADE AS DIRECTED BY THE PUBLIC SERVICES AREA ADMINISTRATOR.

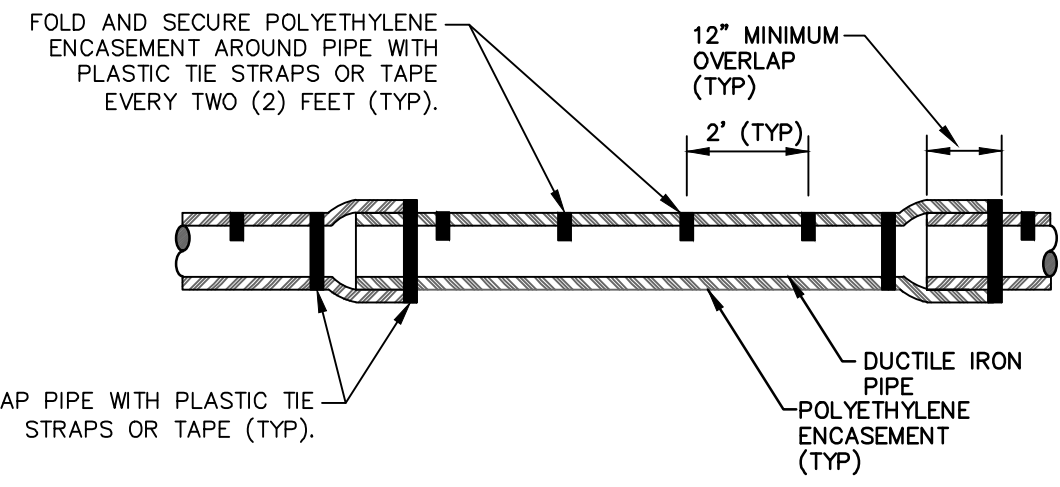
THRUST BLOCK SD-W-2

NOTES:

1. ALL D.I.P. PIPE, FITTINGS, AND HYDRANT BARREL TO BE POLYWRAPPED PER AWWA C105.
2. ALL HYDRANTS SHALL HAVE ONE 5" STORZ CONNECTION AND ONE 3 3/8" THREADED PUMPER CONNECTION.



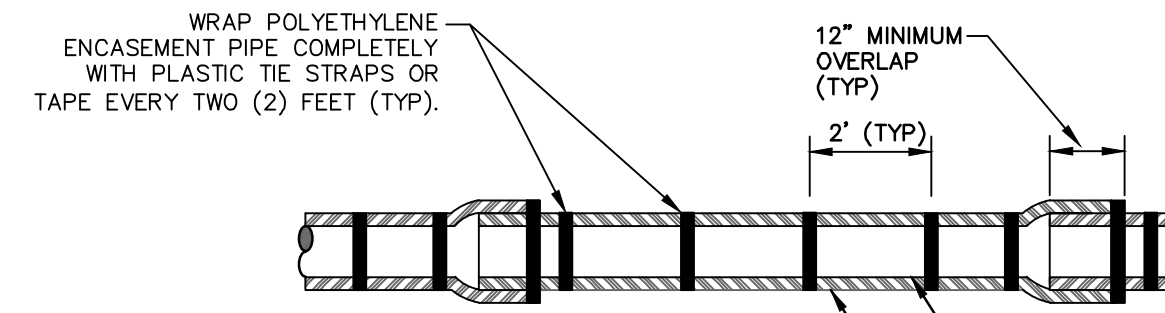
FIRE HYDRANT ASSEMBLY SD-W-1



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

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

(DRY INSTALLATION)

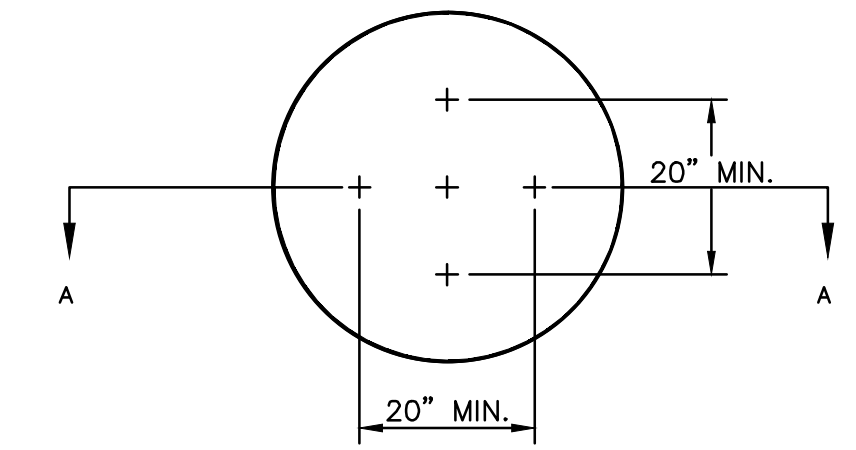


NOTE: FOLLOW ANSI/AWWA C105/A21.5-05 REVISION OF ANSI/AWWA C105/A21.5-99 FOR CONSTRUCTION AND INSTALLATION METHODS. USE MODIFIED METHOD A

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

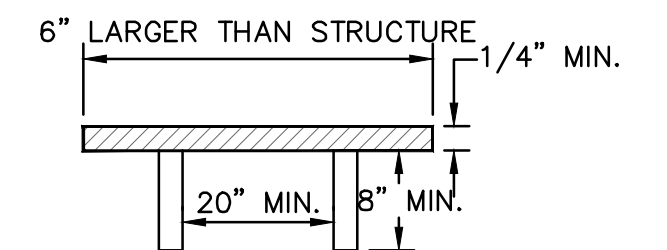
(WET INSTALLATION)

POLYETHYLENE ENCASUREMENT SD-W-7



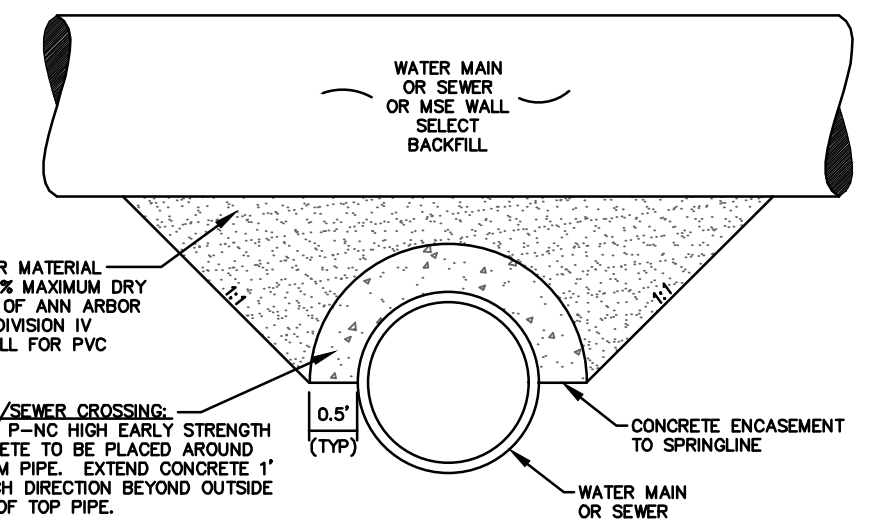
NOTE: PLATE MAY BE CIRCULAR, SQUARE OR RECTANGULAR

SECTION A - A



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

STRUCTURE PLATE SD-GU-8

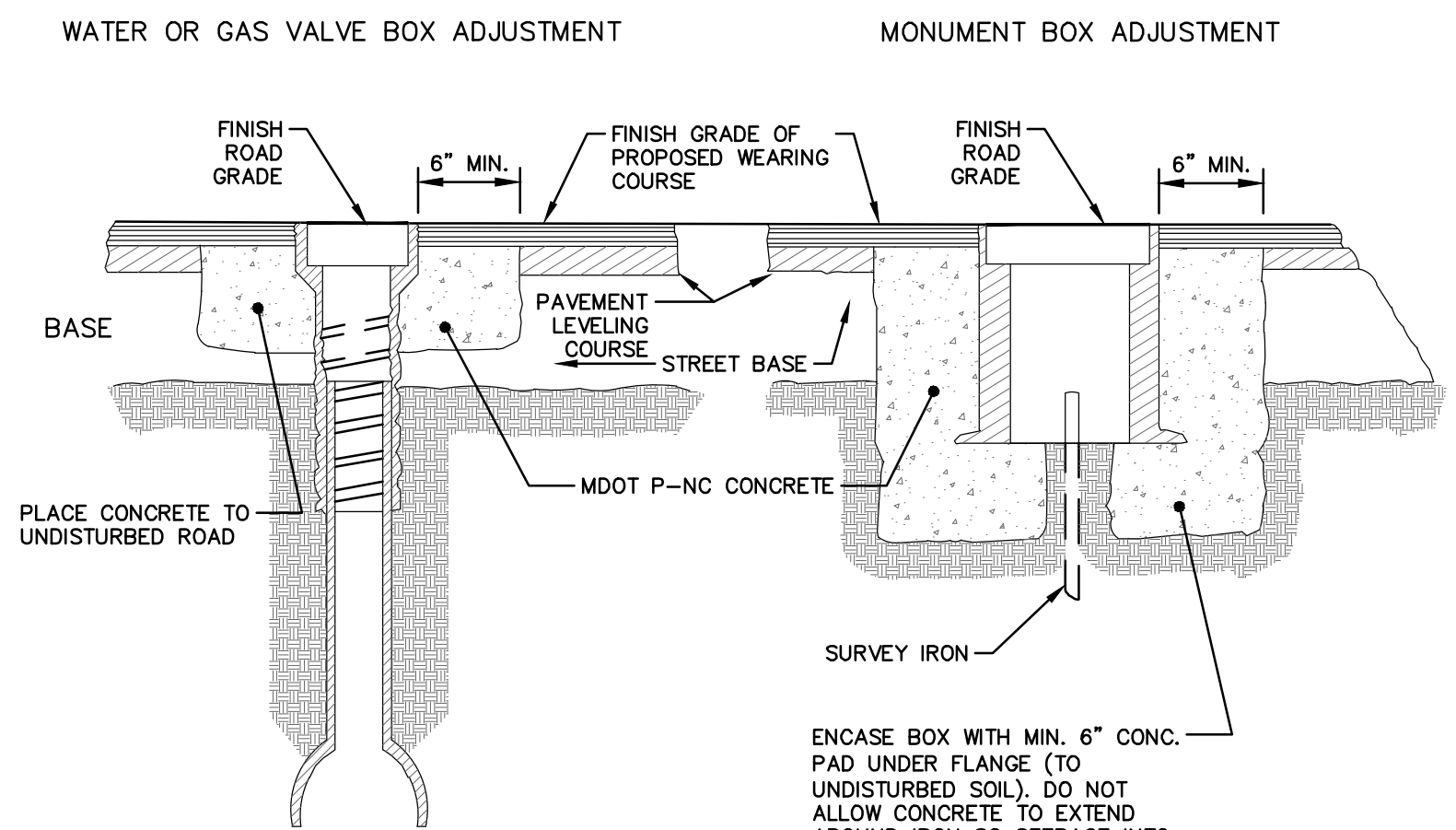


CLASS II GRANULAR MATERIAL COMPACTED TO 98% MAXIMUM DRY DENSITY PER CITY OF ANN ARBOR STANDARDS (SEE DIVISION IV REGARDING BACKFILL FOR PWD SEWERS).

WATER/SEWER CROSSING: GRADE P-NC HIGH EARLY STRENGTH CONCRETE TO BE PLACED AROUND BOTTOM PIPE. EXTEND CONCRETE 1' IN EACH DIRECTION BEYOND OUTSIDE EDGE OF TOP PIPE.

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

CONCRETE UTILITY SADDLE



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

VALVE AND MONUMENT BOX ADJUSTMENT SD-GU-6



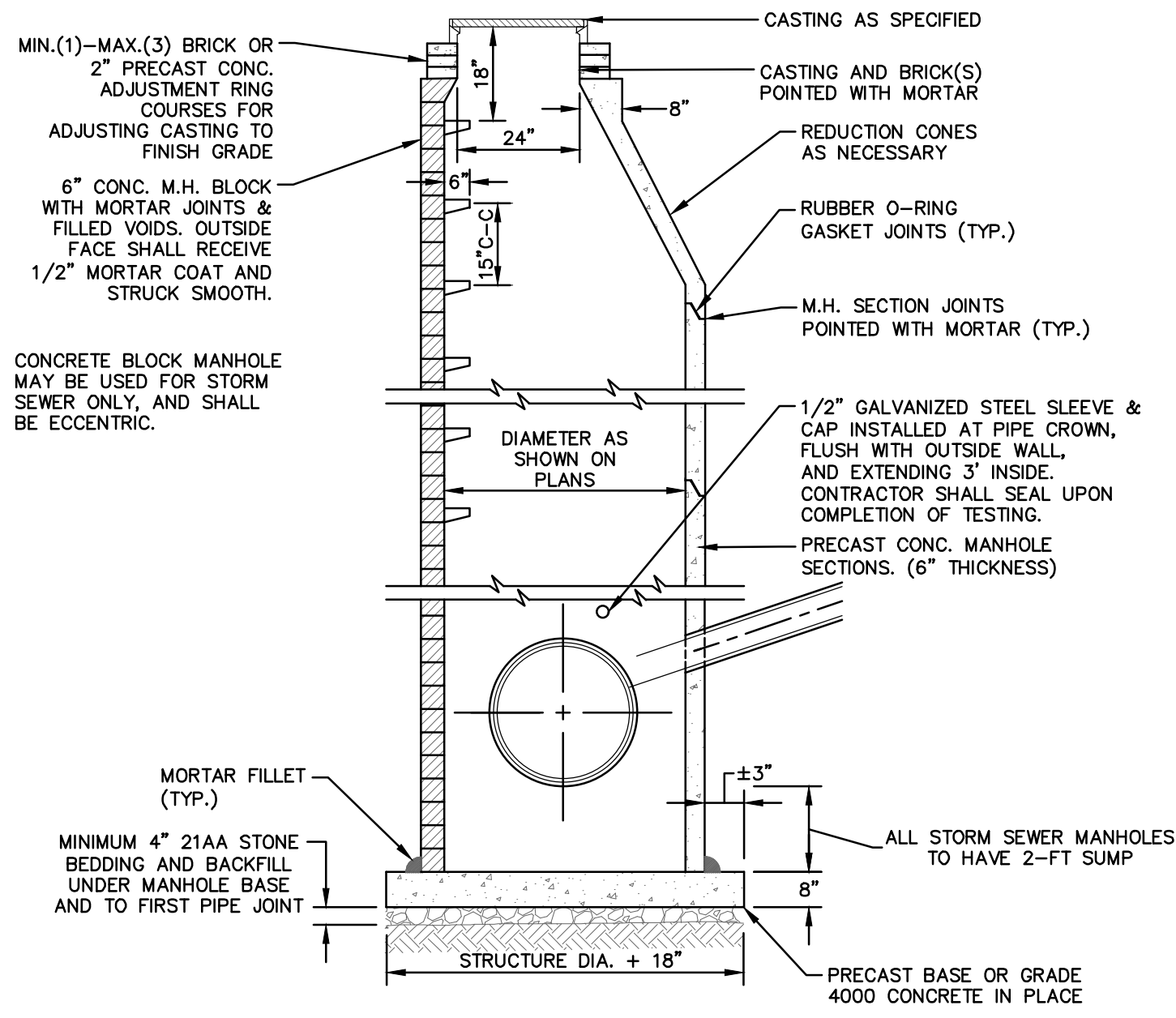
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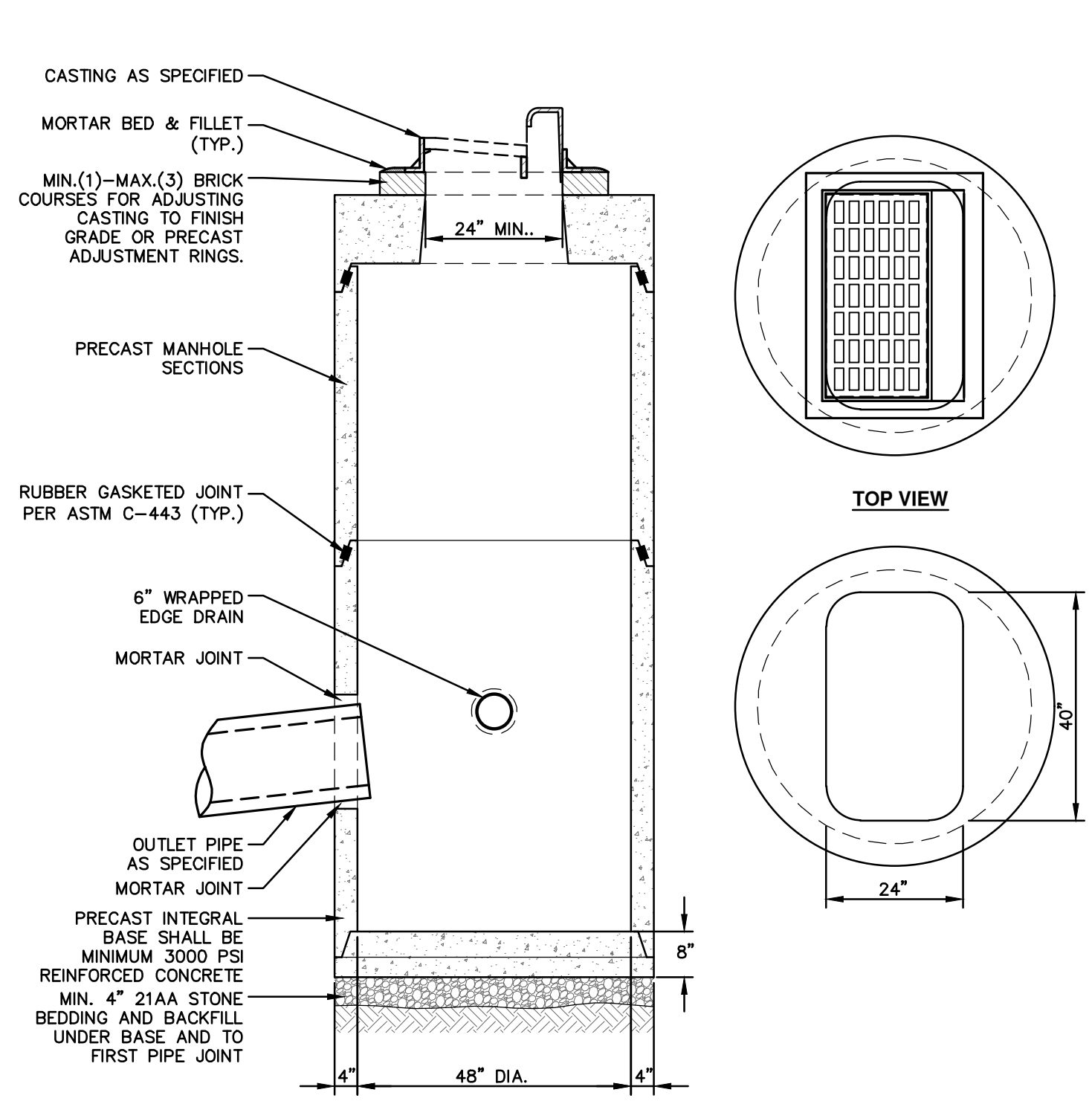
**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
 CRESCENTS WATER MAIN
 REPLACEMENT PROJECT - PHASE I
 WATER MAIN DETAILS**

SCALE: NTS
 DRAWING No. 2022012-8
 SHEET No.



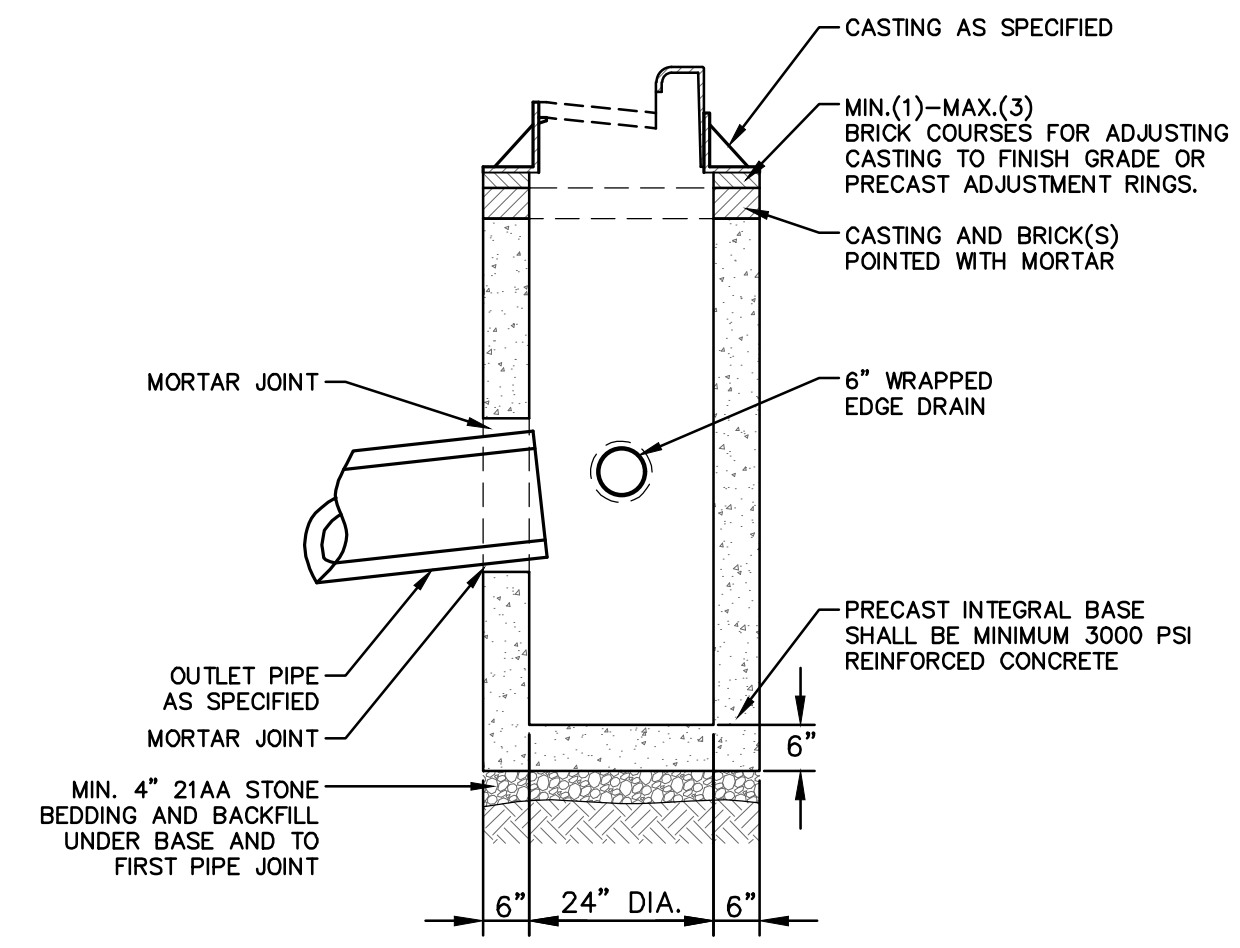
- NOTES:
1. ALL STORM MANHOLES MAY BE PRECAST CONCRETE OR MANHOLE BLOCK.
 2. ALL MANHOLES MUST HAVE ECCENTRIC CONES.
 3. ALL MANHOLE SECTIONS SHALL BE REINFORCED PER ASTM-185.
 4. ALL STORM SEWER OPENINGS SHALL BE PRECAST WITH RUBBER BOOT CONNECTIONS PER ASTM C-923.
 5. 2' SUMP REQUIRED ON ALL DRAINAGE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

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



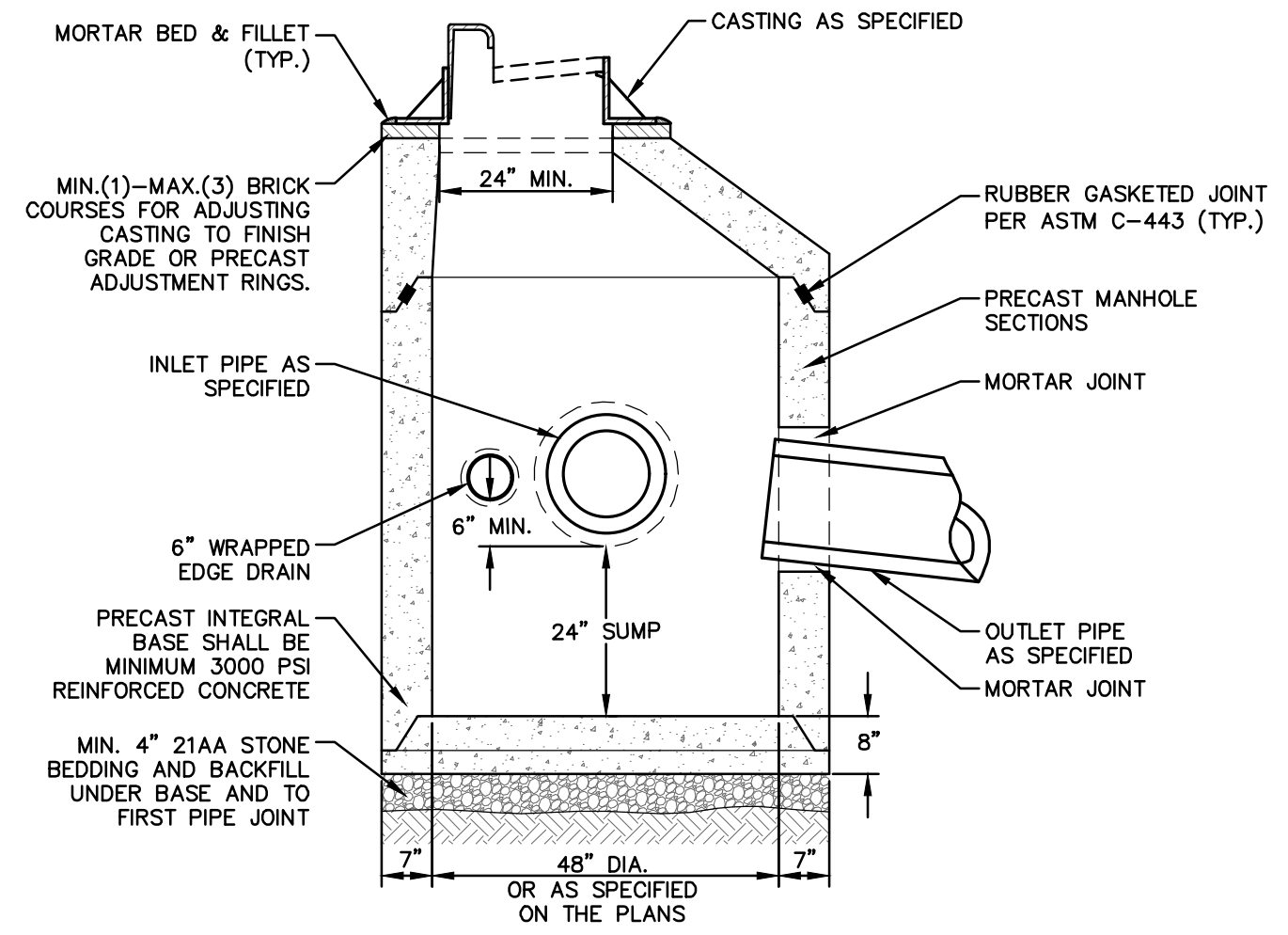
- NOTES:
1. FRONT EDGE OF INLET CASTING SHALL BE FLUSH WITH FRONT EDGE OF GUTTER (EDGE-OF-METAL)

PRECAST LOW POINT INLET SD-ST-4



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

PRECAST SINGLE INLET SD-ST-3



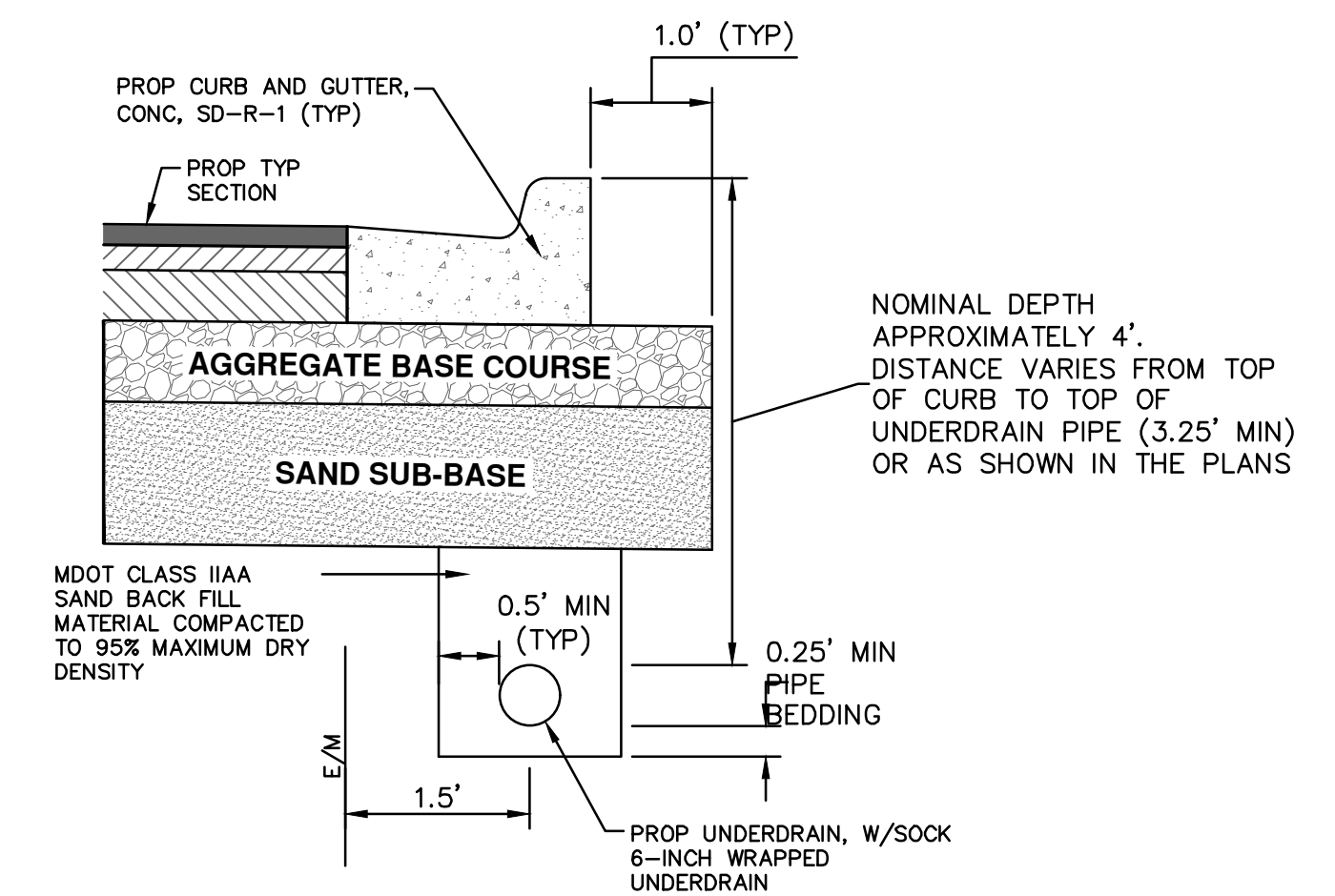
- NOTES:
1. FRONT EDGE OF INLET CASTING SHALL BE FLUSH WITH FRONT EDGE OF GUTTER (EDGE-OF-METAL)

PRECAST JUNCTION INLET SD-ST-2

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

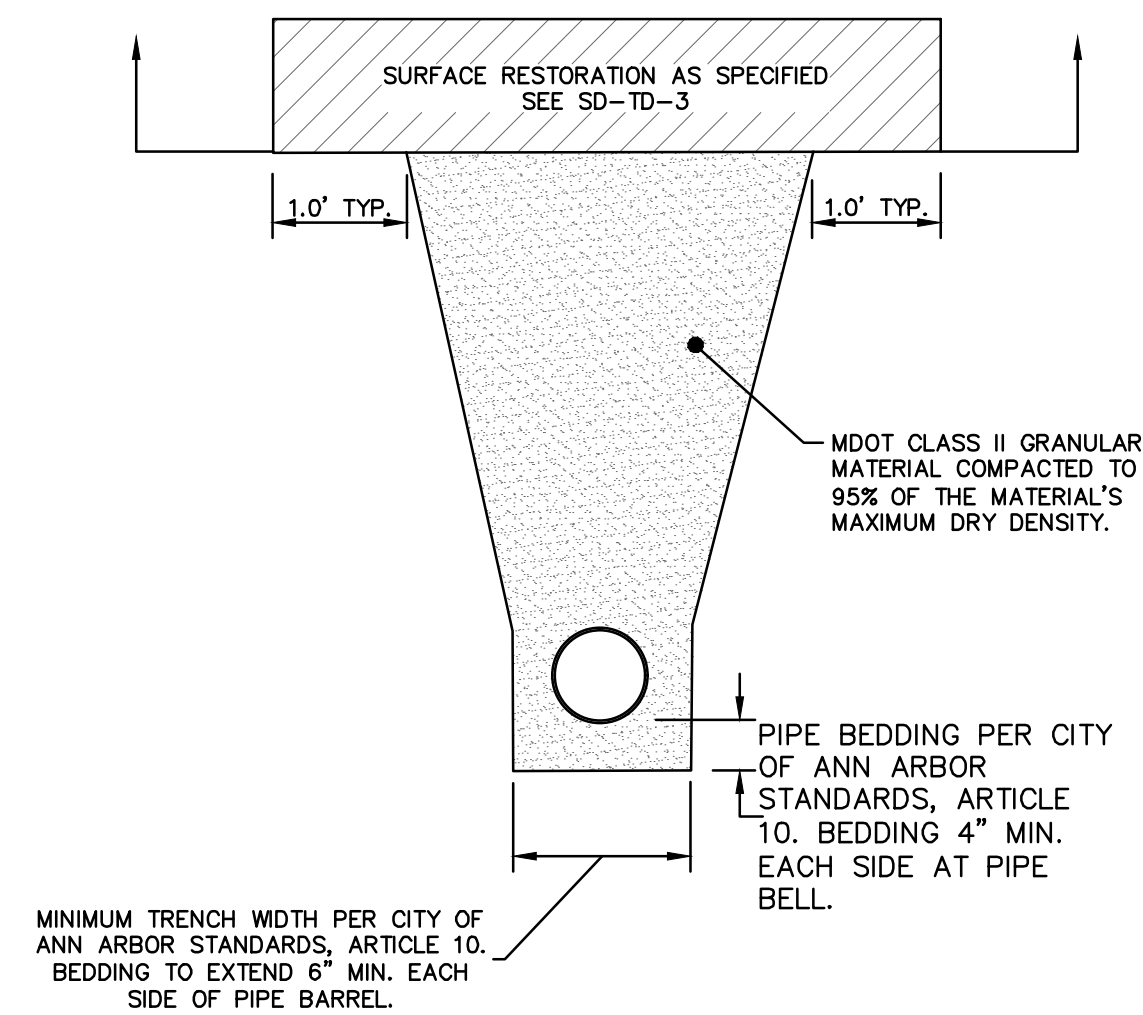
NOTES:
 *EACH COVER SHALL HAVE "SANITARY", "STORM", OR "WATER" CAST IN THE SURFACE, WHICHEVER IS APPLICABLE. SANITARY SEWER COVERS SHALL BE GASKETED IN FLOOD PRONE AREAS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE PSAA. FRAMES AND COVERS MUST HAVE MACHINED BEARING SURFACES.

STANDARD CASTING SCHEDULE SD-GU-1



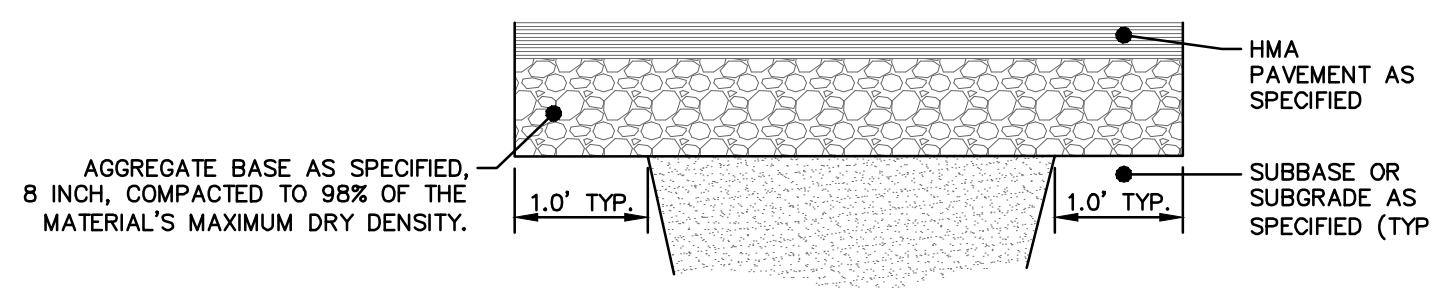
- NOTES:
1. IN AREAS WHERE EDGE DRAIN CANNOT BE INSTALLED IN ACCORDANCE WITH THE DETAIL, THE EDGE DRAIN SHALL BE INSTALLED AT THE DEPTH AS INDICATED ON THE PLANS, OR AS DIRECTED BY ENGINEER. IN NO CASE SHALL THE EDGE DRAIN BE INSTALLED AT A GRADE LESS THAN 0.50% OR AT A DEPTH OF LESS THAN 2' BELOW TOP 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

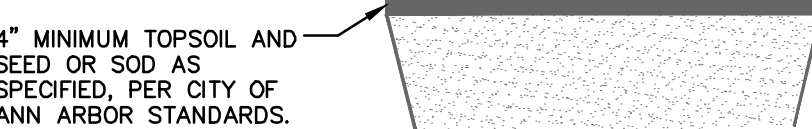
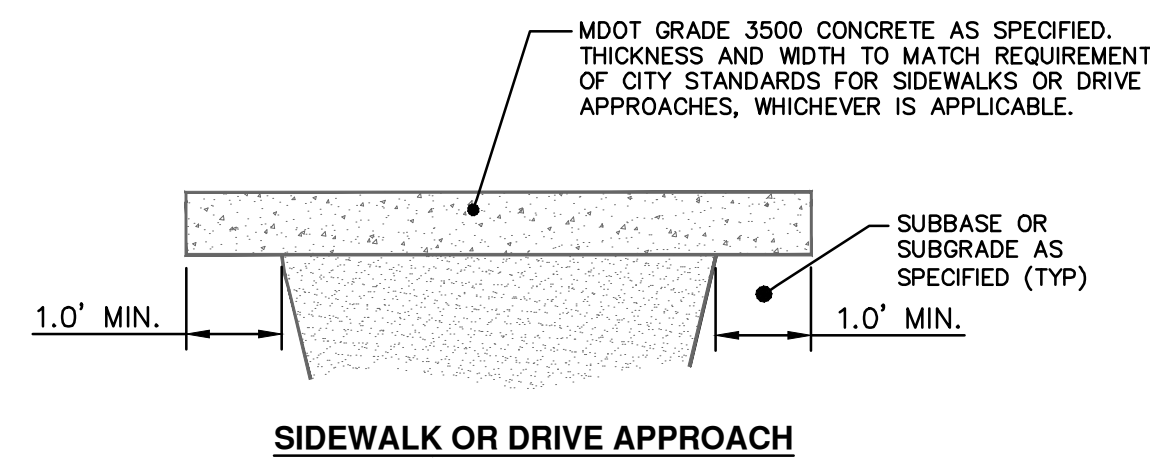


- NOTES:
1. ALL TRENCH EXCAVATION, BEDDING, BACKFILLING, AND SURFACE RESTORATION SHALL COMPLY WITH CITY OF ANN ARBOR STANDARDS, ARTICLE 10.
 2. TRENCH DETAILS SHOW TYPE OF BACKFILL AND TRENCHING REQUIREMENTS ONLY.
 3. ALL TRENCHING TO CONFORM TO ALL APPLICABLE M.I.O.S.H.A. AND CITY STANDARDS.
 4. PIPE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

UTILITY TRENCH - TYPE IA EXCLUDING SANITARY SEWER AND EDGE DRAIN



UTILITY TRENCH SURFACE RESTORATION SD-TD-3A




UTILITY TRENCH SURFACE RESTORATION SD-TD-3B

BITUMINOUS PAVEMENT RESTORATION


TURF

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			DATE						
									DESCRIPTION



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STORM SEWER AND TRENCH DETAILS

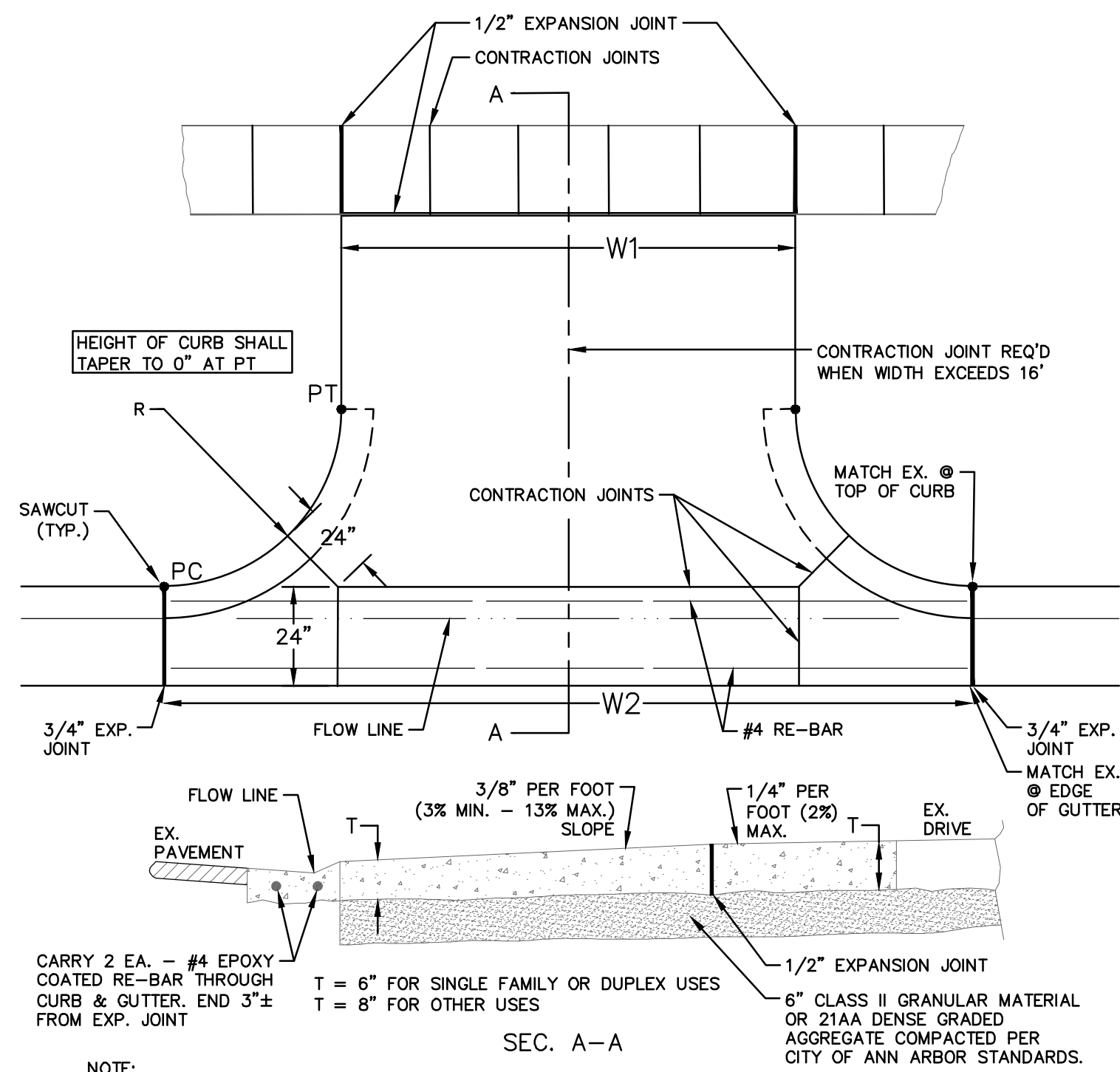
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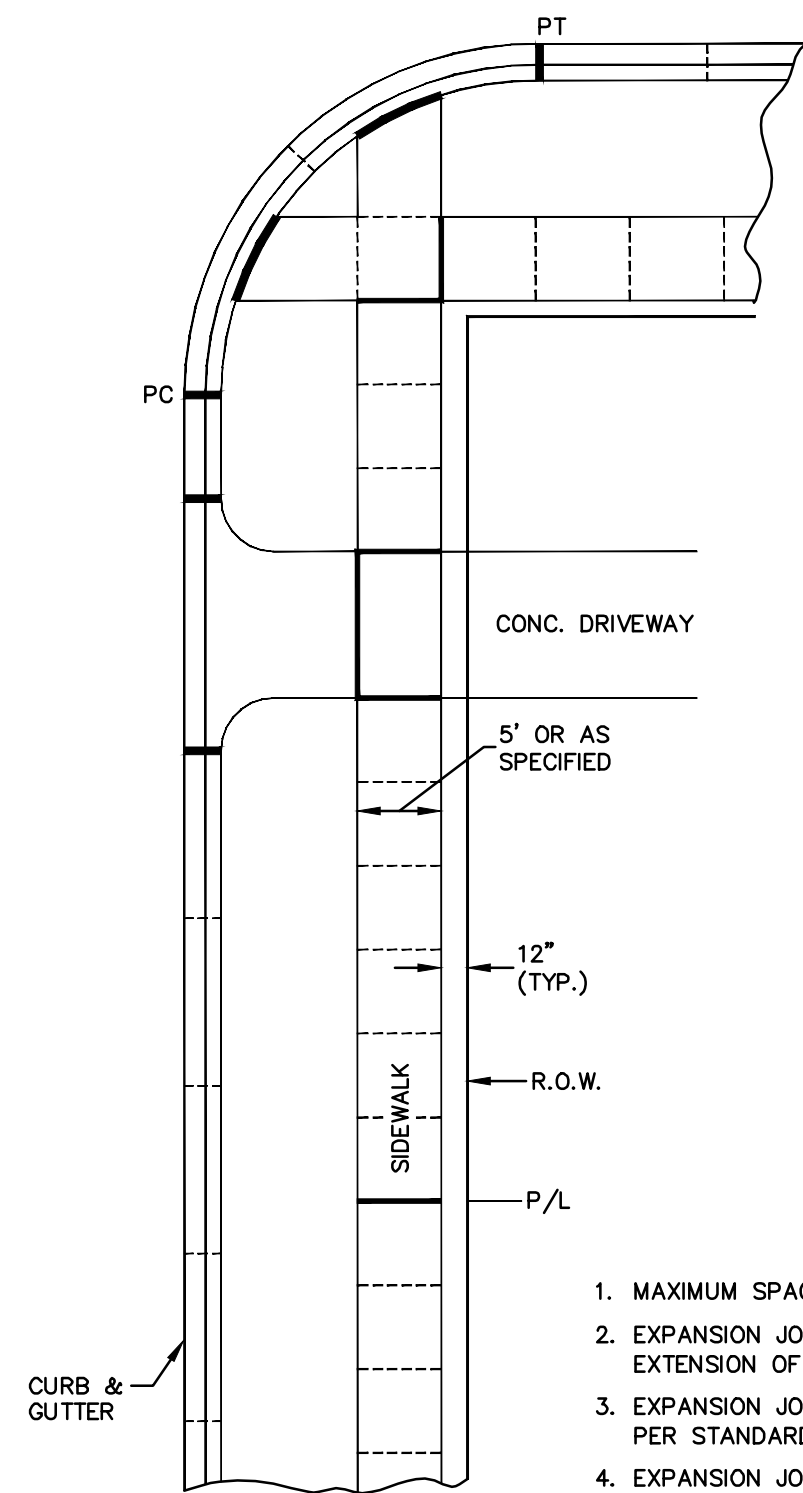
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9 OF 43

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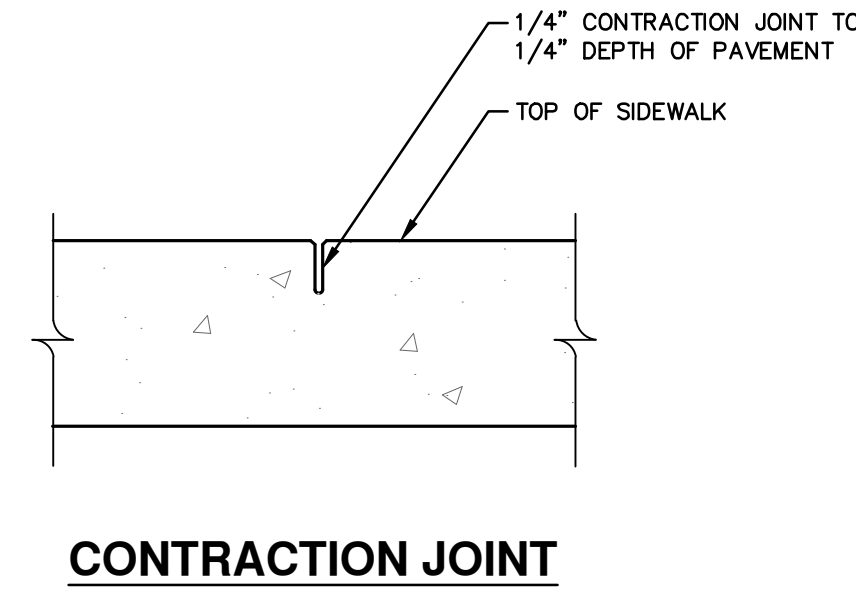


TYPE M DRIVE APPROACH FOR ASPHALT STREETS WITH BARRIER CURB

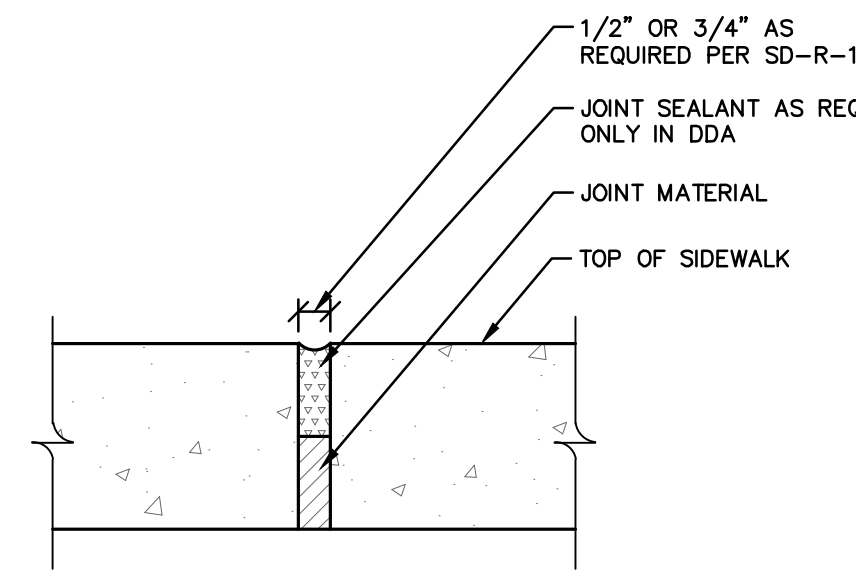


SIDEWALK AND CURB & GUTTER JOINT SPACING

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



CONTRACTION JOINT

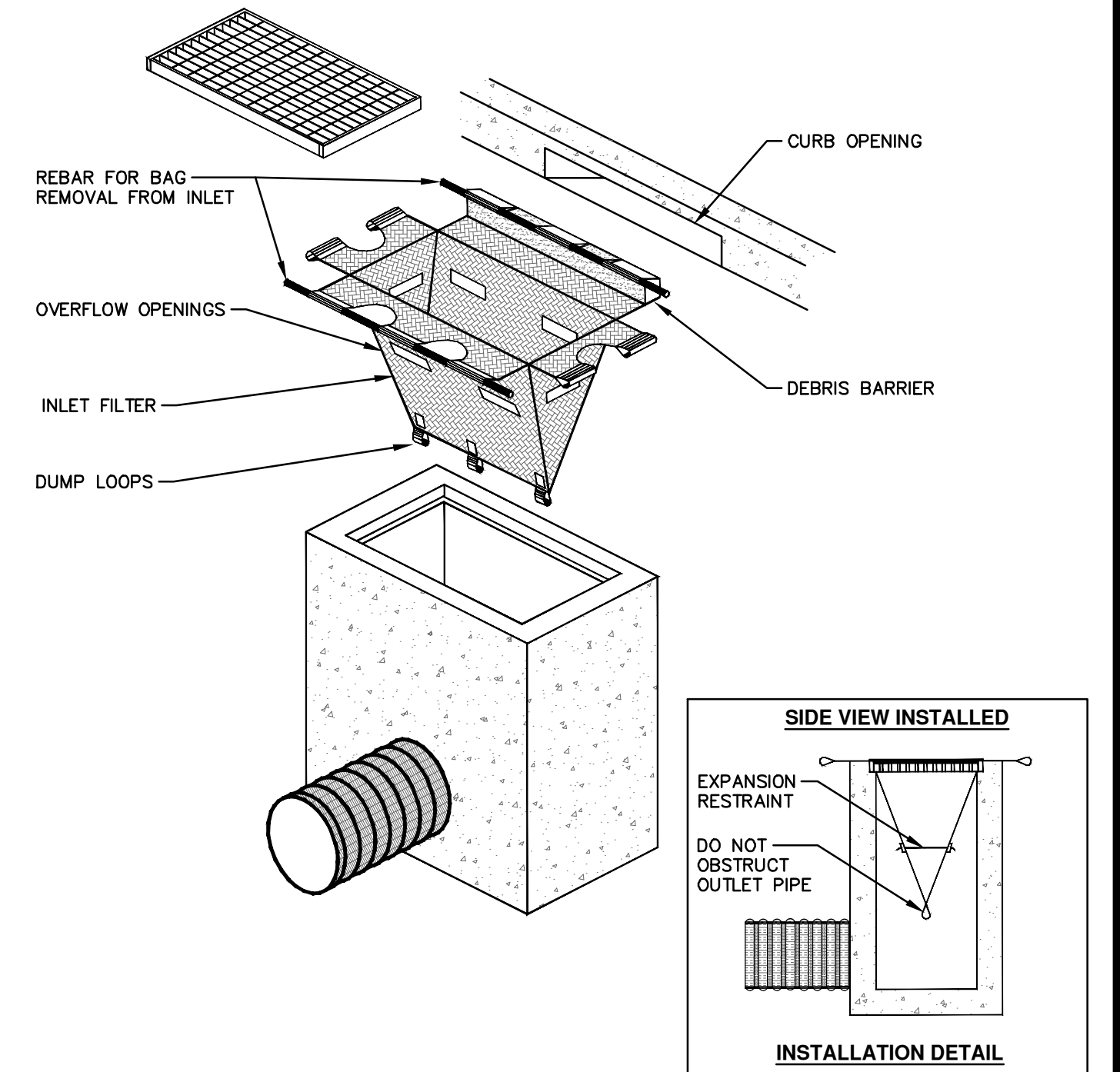


EXPANSION JOINT

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

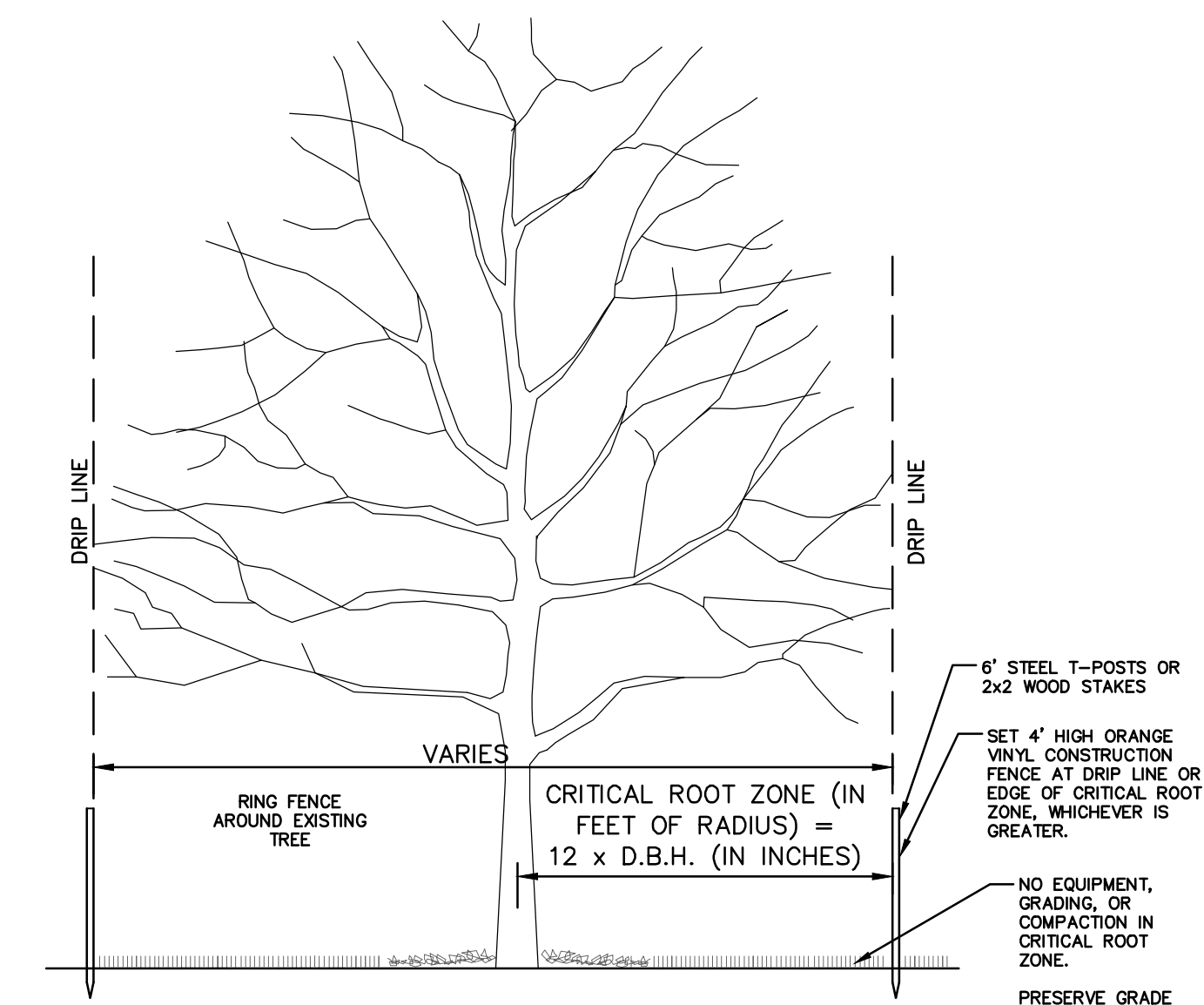
LEGEND:

- CONTRACTION JOINTS - - - - -
- 1/2" EXPANSION JOINTS - - - - -
- 3/4" EXPANSION JOINTS - - - - -

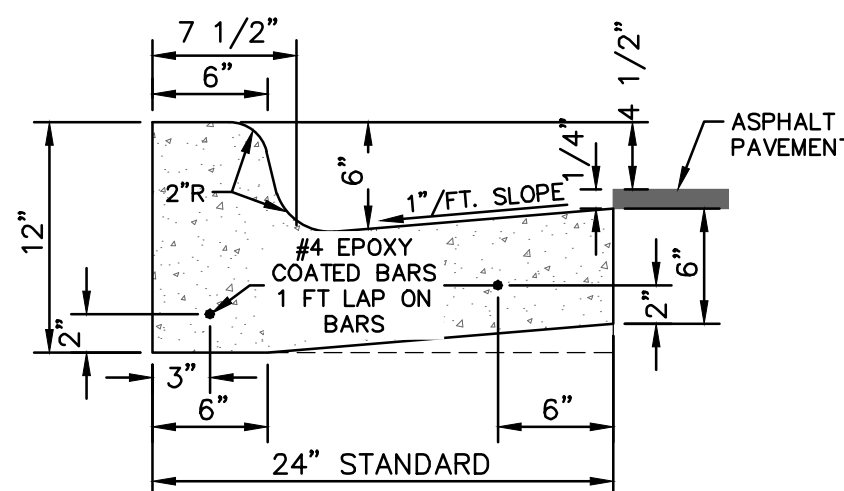


1. SIZE AND SHAPE OF INLET FILTER SHALL MATCH THE STRUCTURE.
2. WHERE CONDITIONS WARRANT, THE FILTER SHALL BE MADE WITH AN OIL-ABSORBENT FILTER WITH A WOVEN PILLLOW INSERT.

INLET PROTECTION

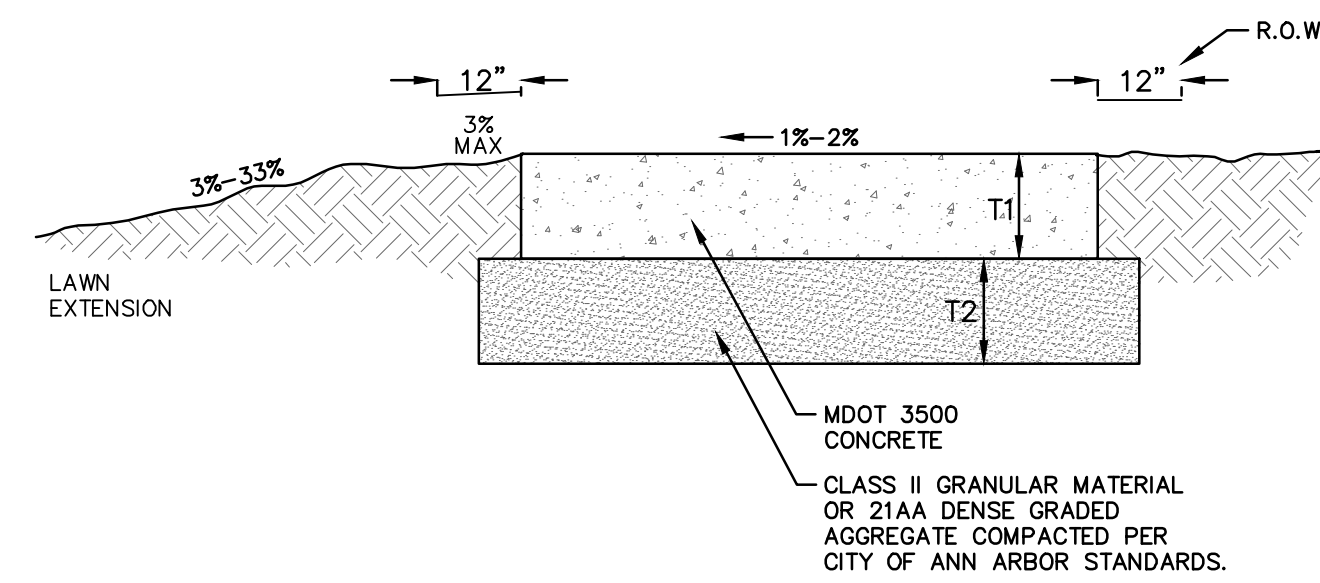


TREE PROTECTION



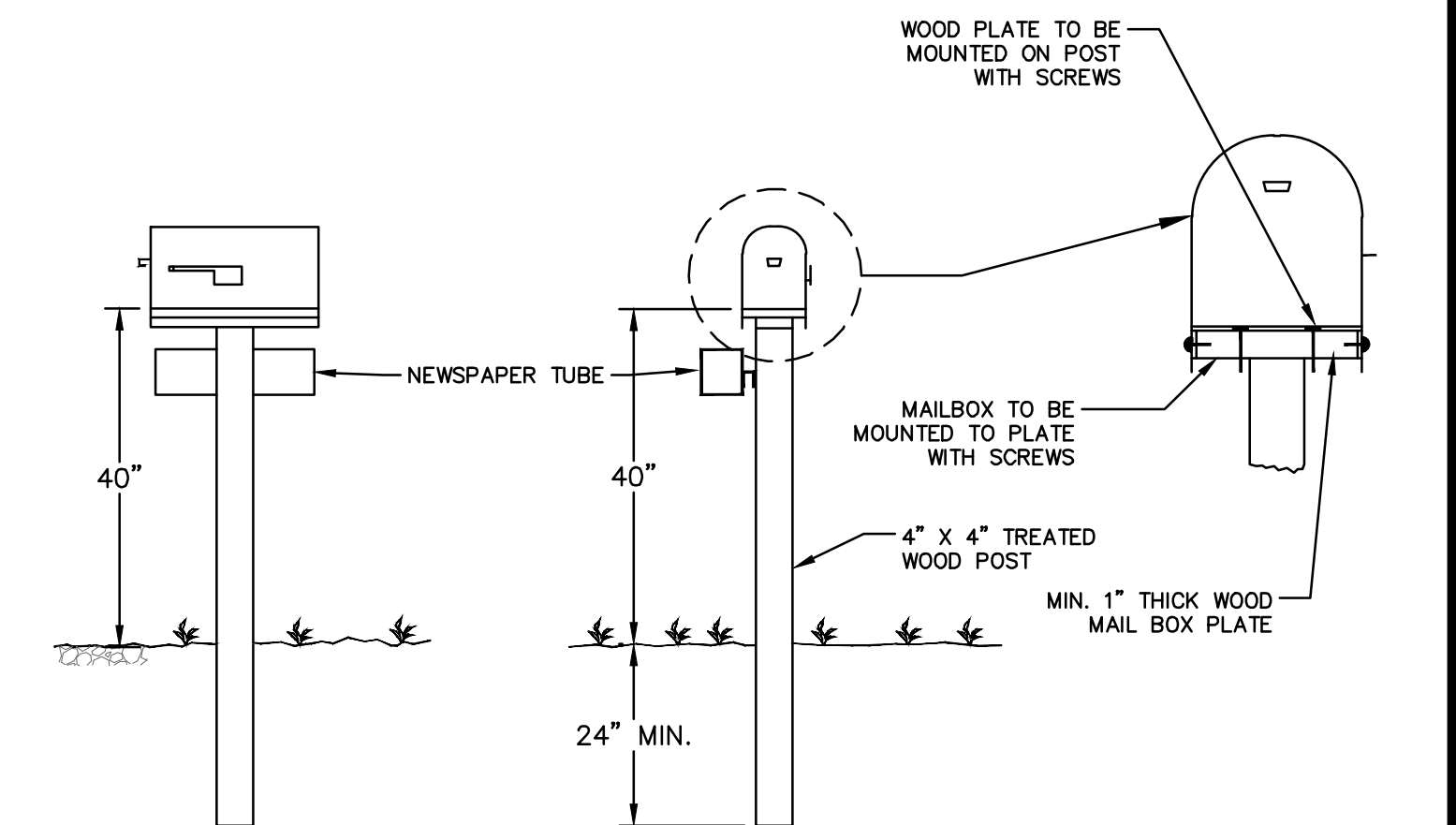
BARRIER CURB AND GUTTER

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



SIDEWALK CROSS SECTION

- GENERAL NOTE:
SIDEWALKS IN THE DDA SHALL BE CONSTRUCTED PER DETAILS SD-DDA-1 THROUGH SD-DDA-7.
- NOTES:
1. STANDARD SIDEWALK WIDTH SHALL BE 5'.
 2. STANDARD SLAB LENGTH SHALL BE 5'.
 3. MINIMUM SLAB LENGTH SHALL BE 3' AND MAXIMUM 7'.
 4. MINIMUM SIDEWALK THICKNESS (T1) SHALL BE 4'.
 5. SIDEWALK THICKNESS (T1) SHALL BE INCREASED AT DRIVE APPROACHES TO 6' FOR SINGLE OR DUPLEX USES AND TO 8' FOR ALL OTHER USES.
 6. MINIMUM BASE THICKNESS (T2) SHALL BE 4'.
 7. MINIMUM BASE THICKNESS (T2) SHALL BE INCREASED TO 6' AT DRIVE APPROACHES.
 8. NATIVE MATERIAL IS ACCEPTABLE FOR SIDEWALK REPLACEMENT IF BASE IS STABLE AND FREE OF ORGANIC OR DELETERIOUS MATERIALS.
 9. SIDEWALK RAMP 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.



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

MAILBOX NEWSPAPER TUBE INSTALLATION AND RELOCATION



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		REV.	CHECKED

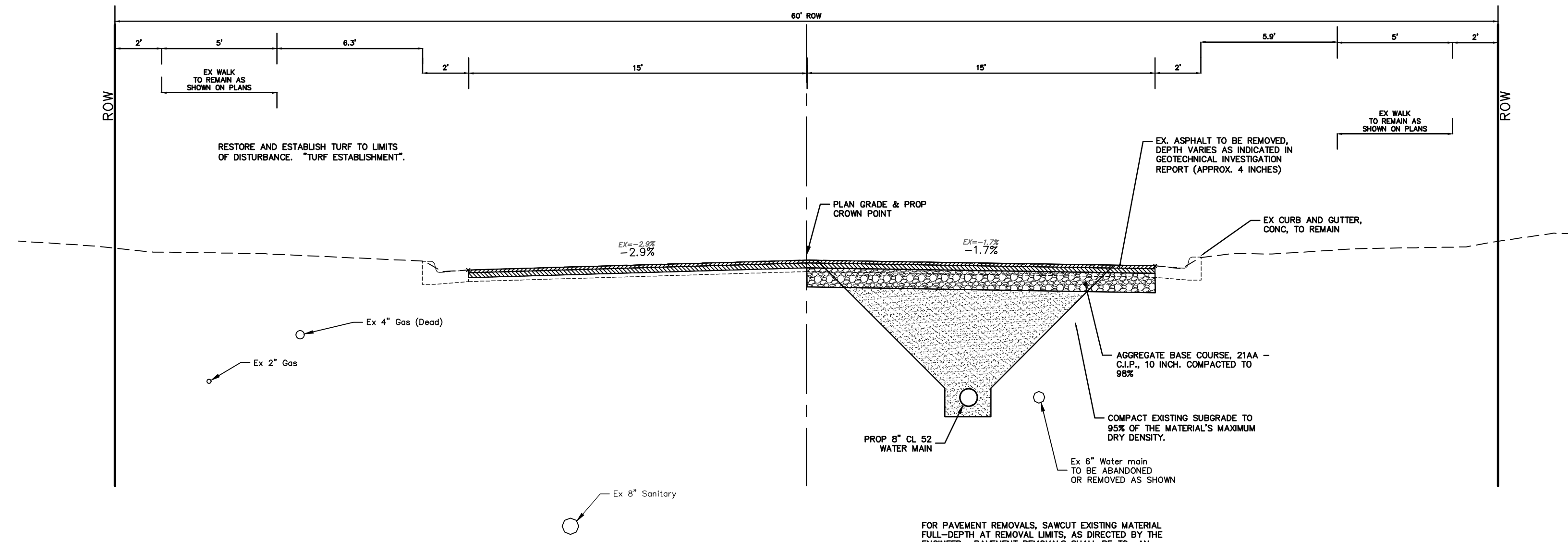
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MISC. DETAILS

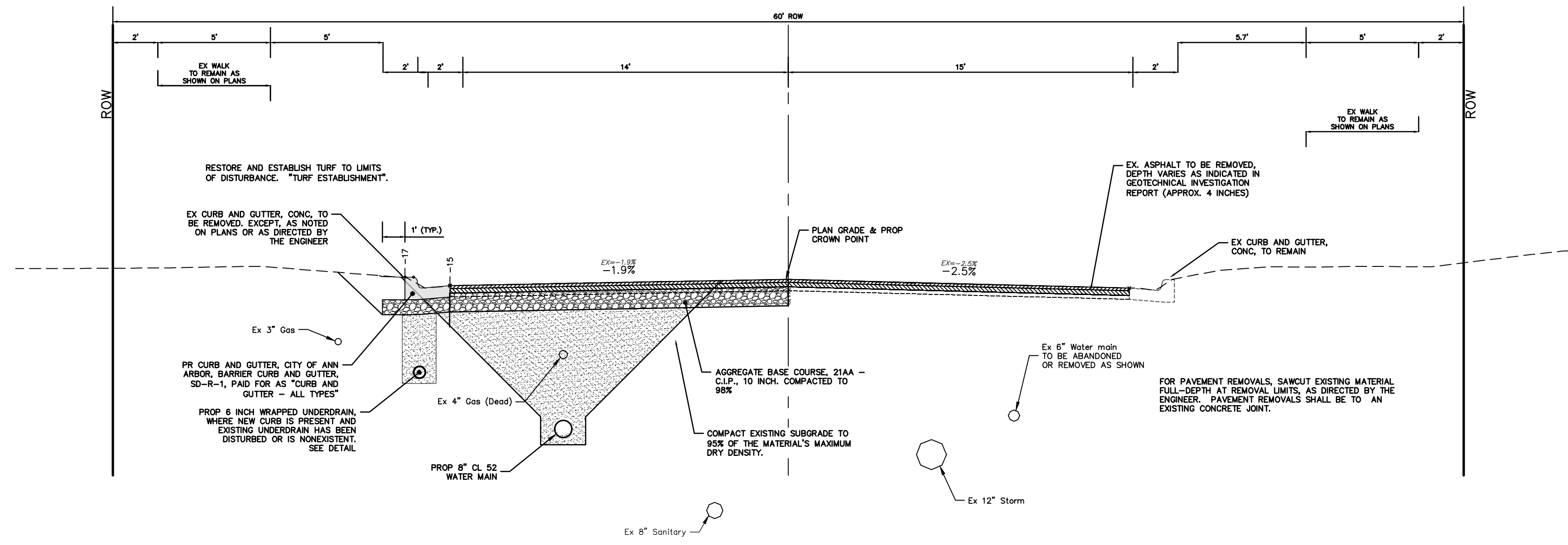
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SHEET No.

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**ARGYLE CRESCENT
TYPICAL SECTION**
POB TO 29+50

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



**ARGYLE CRESCENT
TYPICAL SECTION**
29+50 TO POE



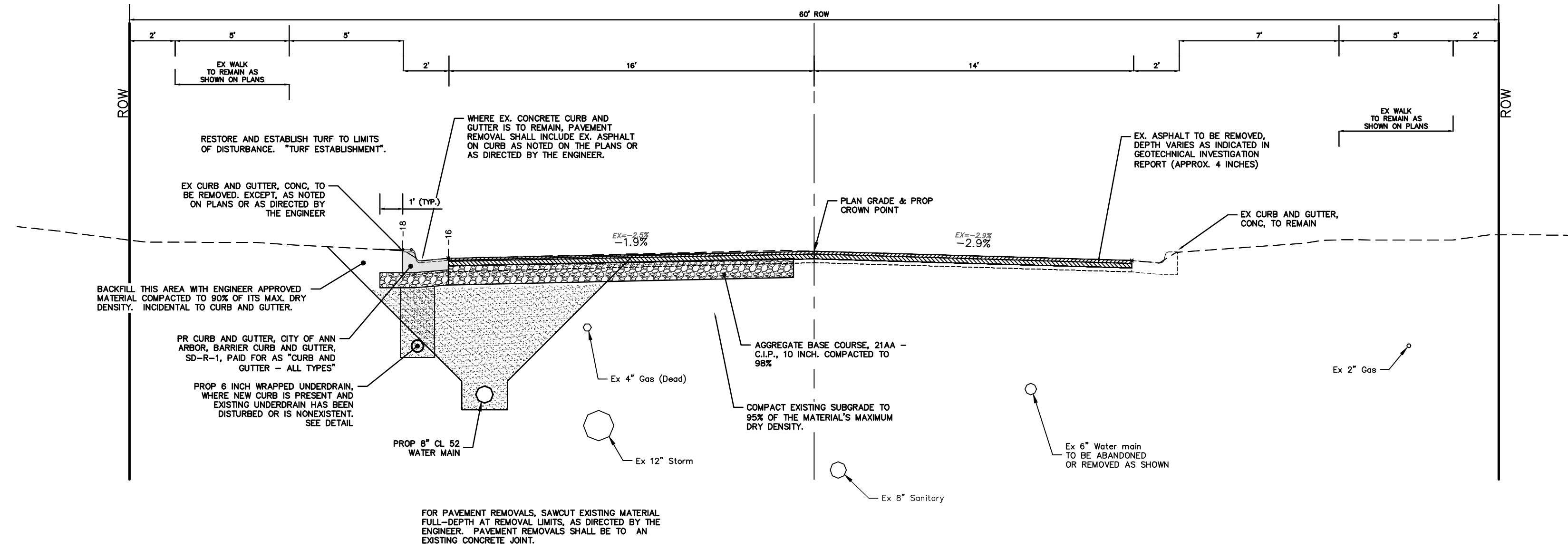
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TYPICAL SECTIONS
ARGYLE CRESCENT

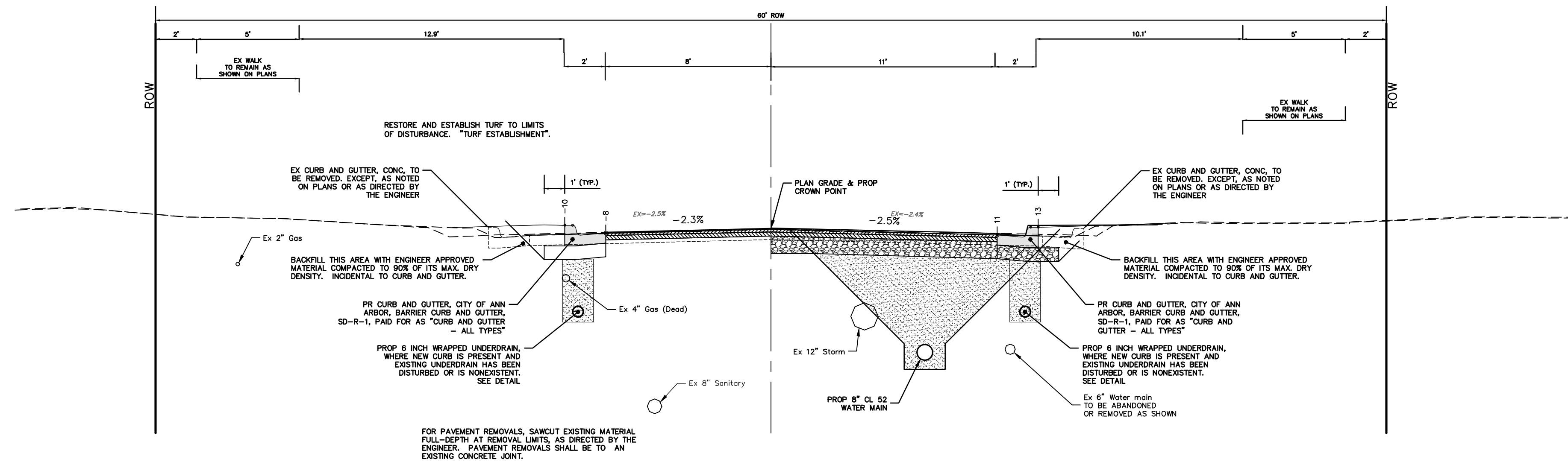
SCALE PLAN: 1" = 4'
DRAWING No. 2022012-11

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**CREAL CRESCENT
TYPICAL SECTION**

WATERMAIN TRENCH LEFT



**CREAL CRESCENT
TYPICAL SECTION**

STA.: 40+05 TO 41+00



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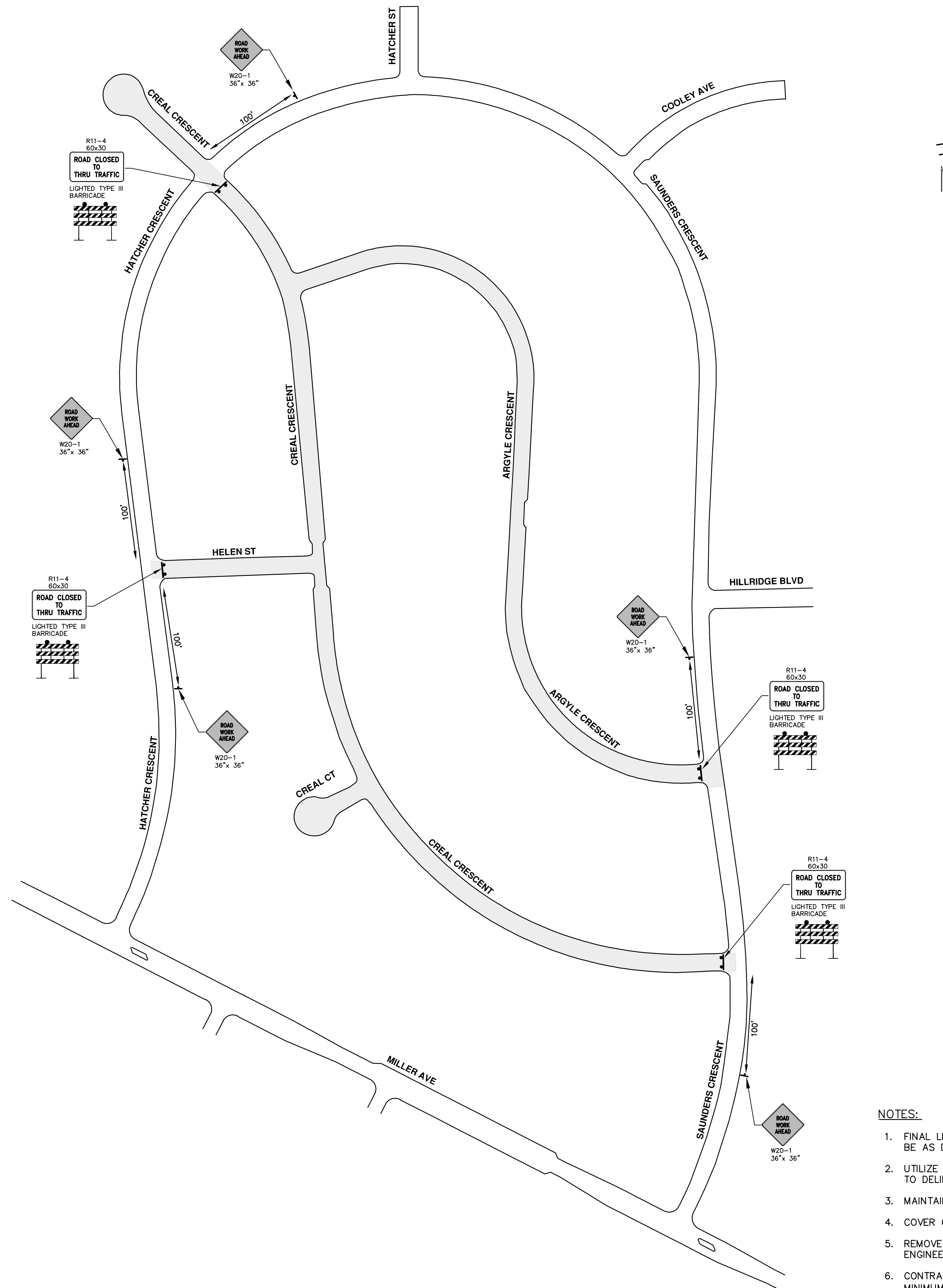
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REPLACEMENT PROJECT - PHASE I
TYPICAL SECTIONS
CREAL CRESCENT

SCALE PLAN: 1" = 4'
DRAWING No. 2022012-12



ADDITIONAL SIGNAGE FOR WATER MAIN TIE-INS AT STREET INTERSECTIONS		
SIGN	NUMBER	QUANTITY
ROAD CLOSED	R11-2 48" x 30"	4
BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED - 8 EACH		

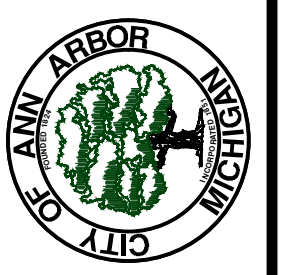
NOTES:

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



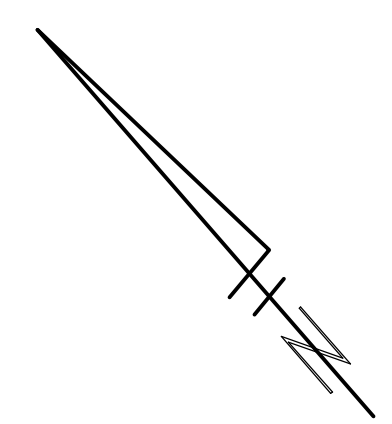
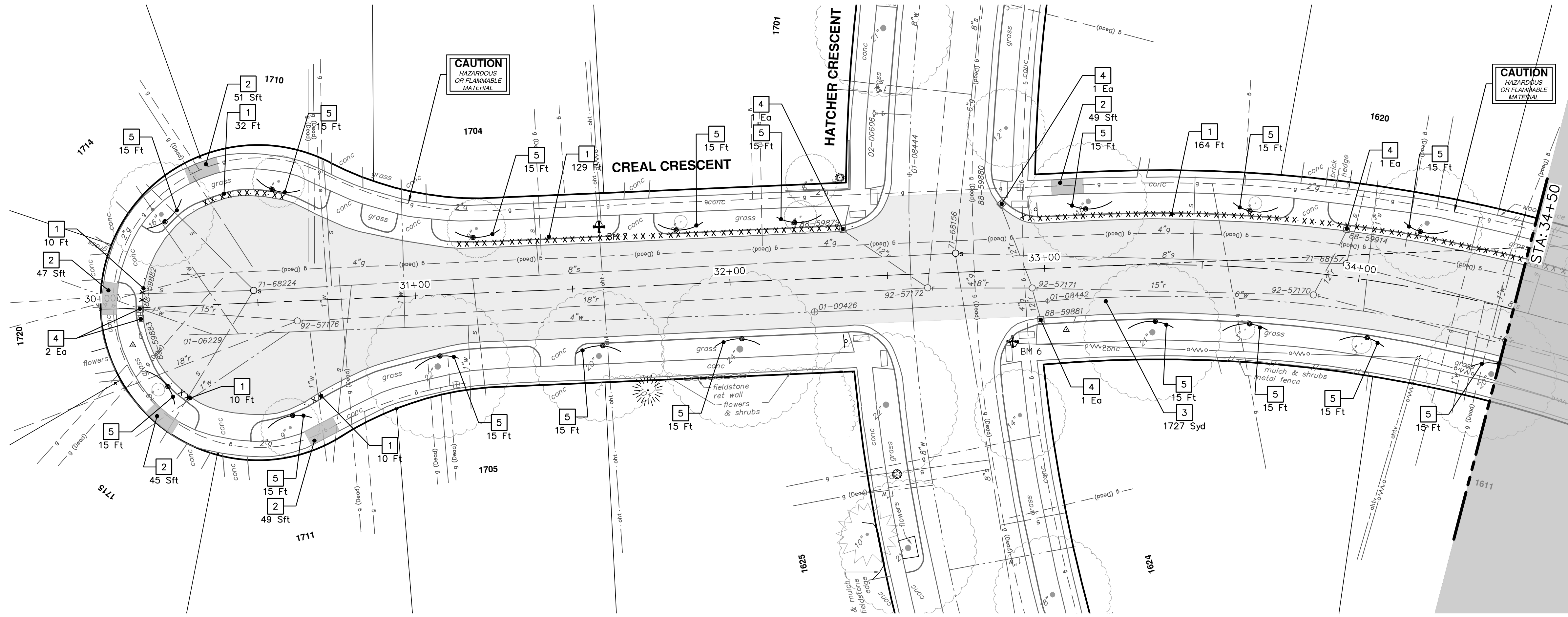
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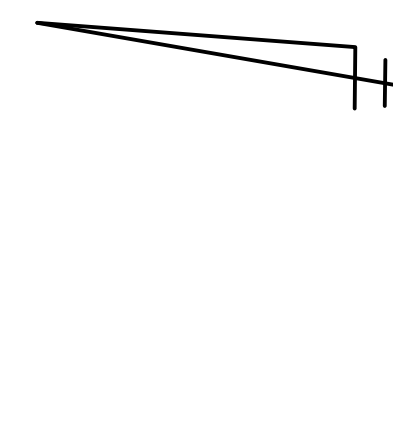
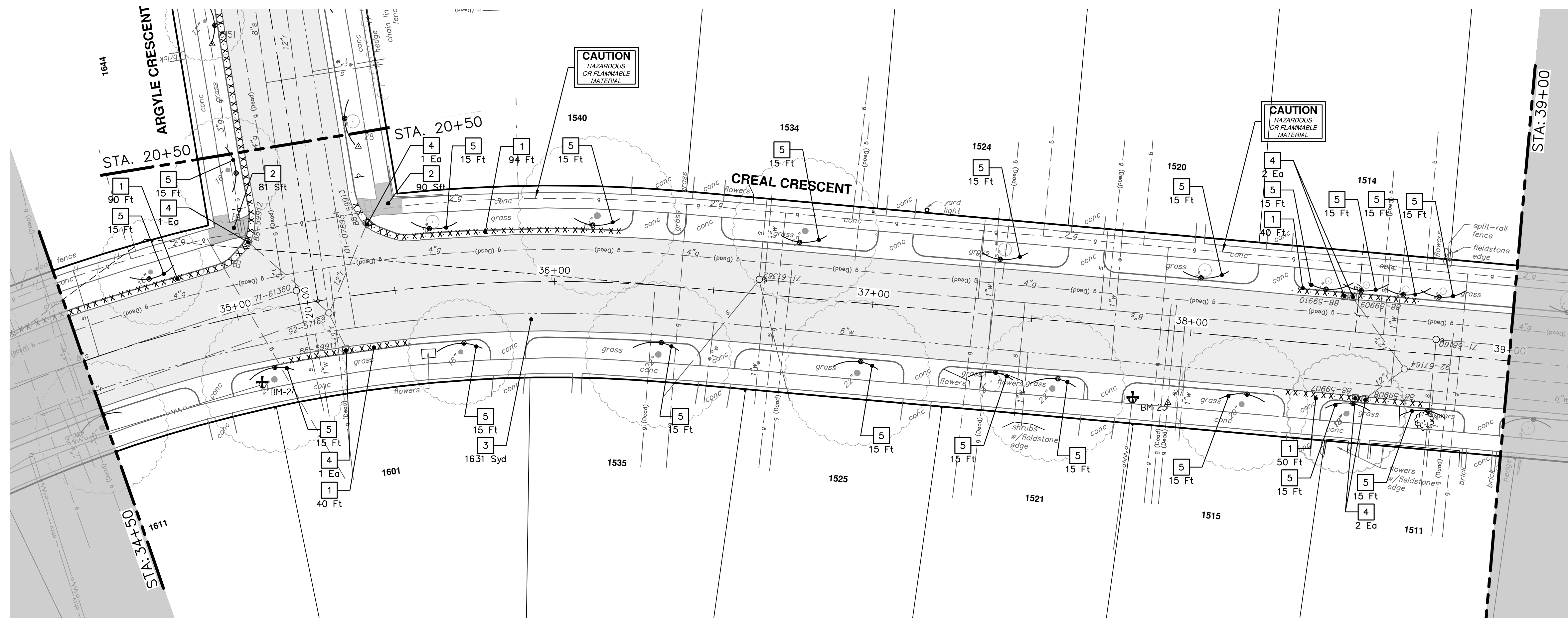
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REPLACEMENT PROJECT - PHASE I
TRAFFIC CONTROL

SCALE : NTS
DRAWING No. 2022012-14



REMOVAL KEY	
KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB & GUTTER, ANY TYPE
2	REMOVE CONCRETE SIDEWALK, RAMP AND DRIVES, ANY THICKNESS
3	HMA PAVEMENT REMOVAL, ANY DEPTH*
4	INLET FILTER
5	PROTECTIVE FENCING
6	SILT FENCE
7	TREE REMOVAL, 8" AND LARGER
8	DR STRUCTURE, REM

*SAWCUT FULL DEPTH AT REMOVAL LIMITS

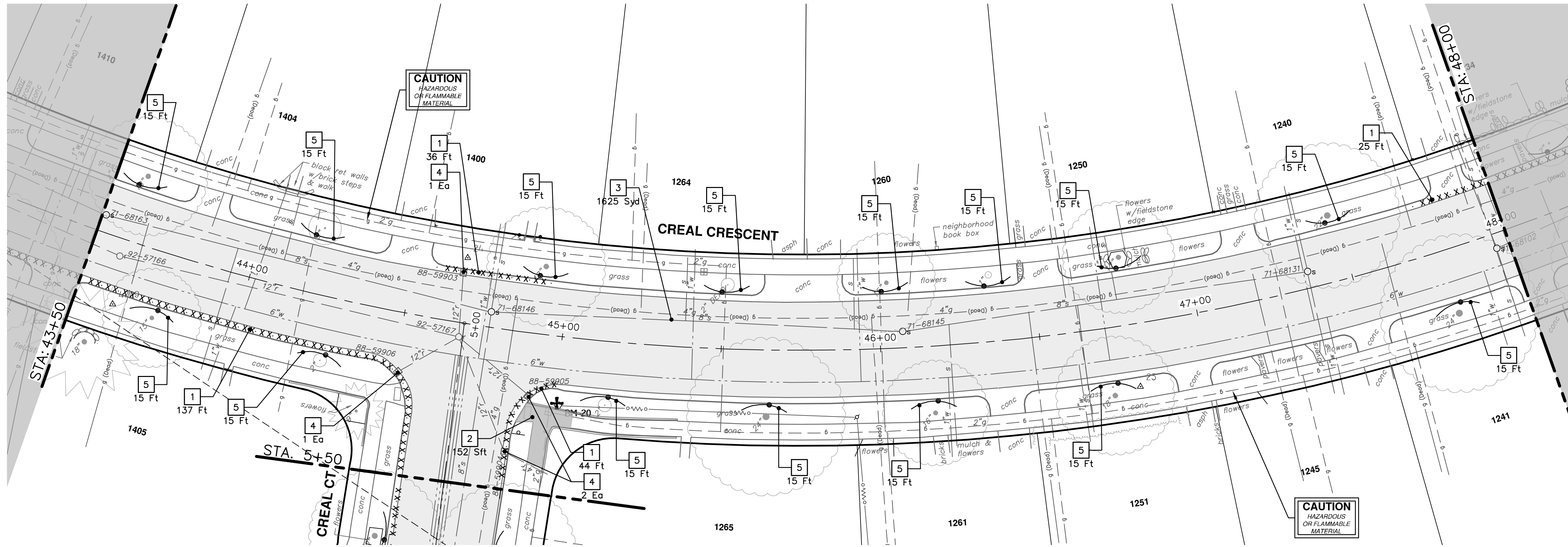
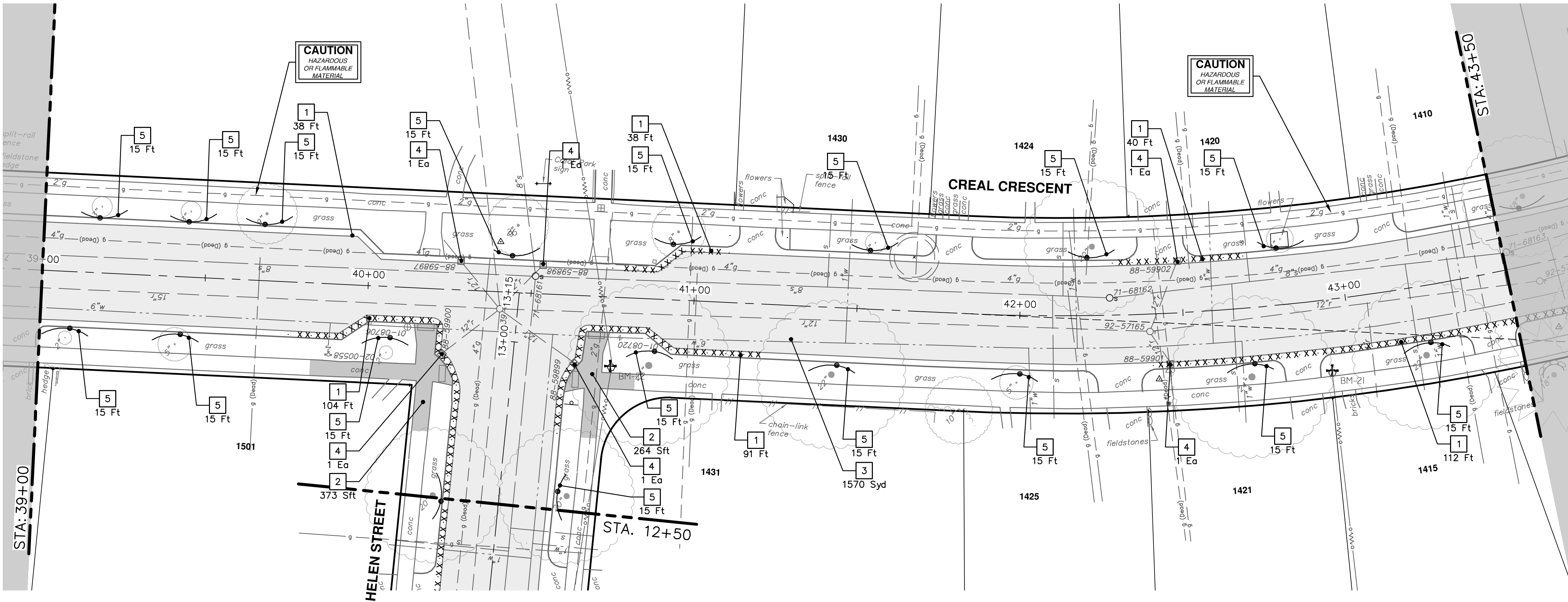


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01	3-29-2023	DF/CC	NB	OUT FOR BID
00	3-15-2023	DF/CC	NB	EFILE PERMIT

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR, MI 48106-8647
ANN ARBOR: 734-794-4410
WWW.A2GOV.GOV

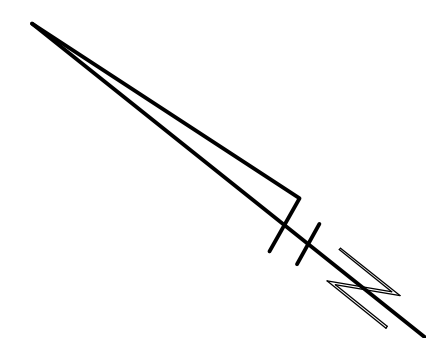
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN
REPLACEMENT PROJECT - PHASE I
CREAL CRESCENT REMOVALS
STA. 30+00 - STA. 39+00

SCALE: 1" = 20'
DRAWING No. 2022012-15
SHEET No. 15 OF 43



REMOVAL KEY	
KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB & GUTTER, ANY TYPE
2	REMOVE CONCRETE SIDEWALK, RAMP AND DRIVES, ANY THICKNESS
3	HMA PAVEMENT REMOVAL, ANY DEPTH*
4	INLET FILTER
5	PROTECTIVE FENCING
6	SILT FENCE
7	TREE REMOVAL, 8" AND LARGER
8	DR STRUCTURE, REM

*SAWCUT FULL DEPTH AT REMOVAL LIMITS



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

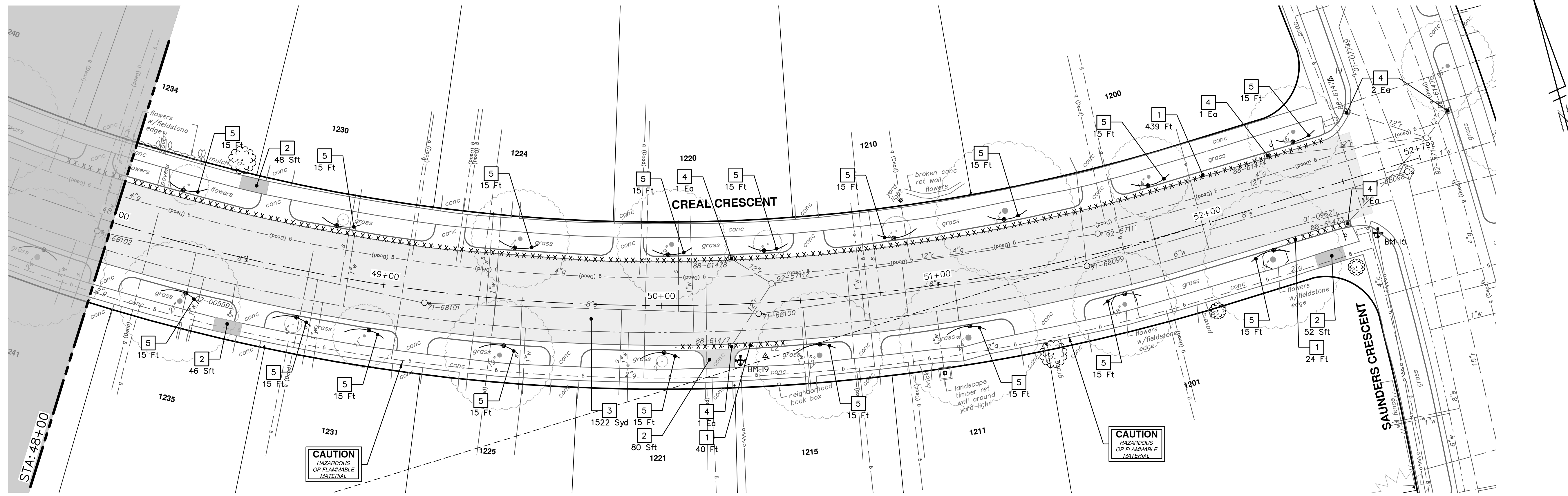
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DESCRIPTION	EGLE PERMIT	REV.	01
DATE	3-15-2023	REV.	00
DESCRIPTION	OUT FOR BID	REV.	01
DATE	3-29-2023	REV.	00
DESCRIPTION	DF/CC	REV.	00
DATE	3-15-2023	REV.	00
DESCRIPTION	DF/CC	REV.	00
DATE	3-15-2023	REV.	00
DESCRIPTION	DF/CC	REV.	00

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN
REPLACEMENT PROJECT - PHASE I
CREAL CRESCENT REMOVALS
 STA. 39+00 - STA. 48+00

SHEET No. 16 OF 43

SCALE: 1" = 20'

DRAWING No. 2022012-16



CAUTION
HAZARDOUS
OR FLAMMABLE
MATERIAL

CAUTION
HAZARDOUS
OR FLAMMABLE
MATERIAL

REMOVAL KEY	
KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB & GUTTER, ANY TYPE
2	REMOVE CONCRETE SIDEWALK, RAMP AND DRIVES, ANY THICKNESS
3	HMA PAVEMENT REMOVAL, ANY DEPTH*
4	INLET FILTER
5	PROTECTIVE FENCING
6	SILT FENCE
7	TREE REMOVAL, 8" AND LARGER
8	DR STRUCTURE, REM

*SAWCUT FULL DEPTH AT REMOVAL LIMITS



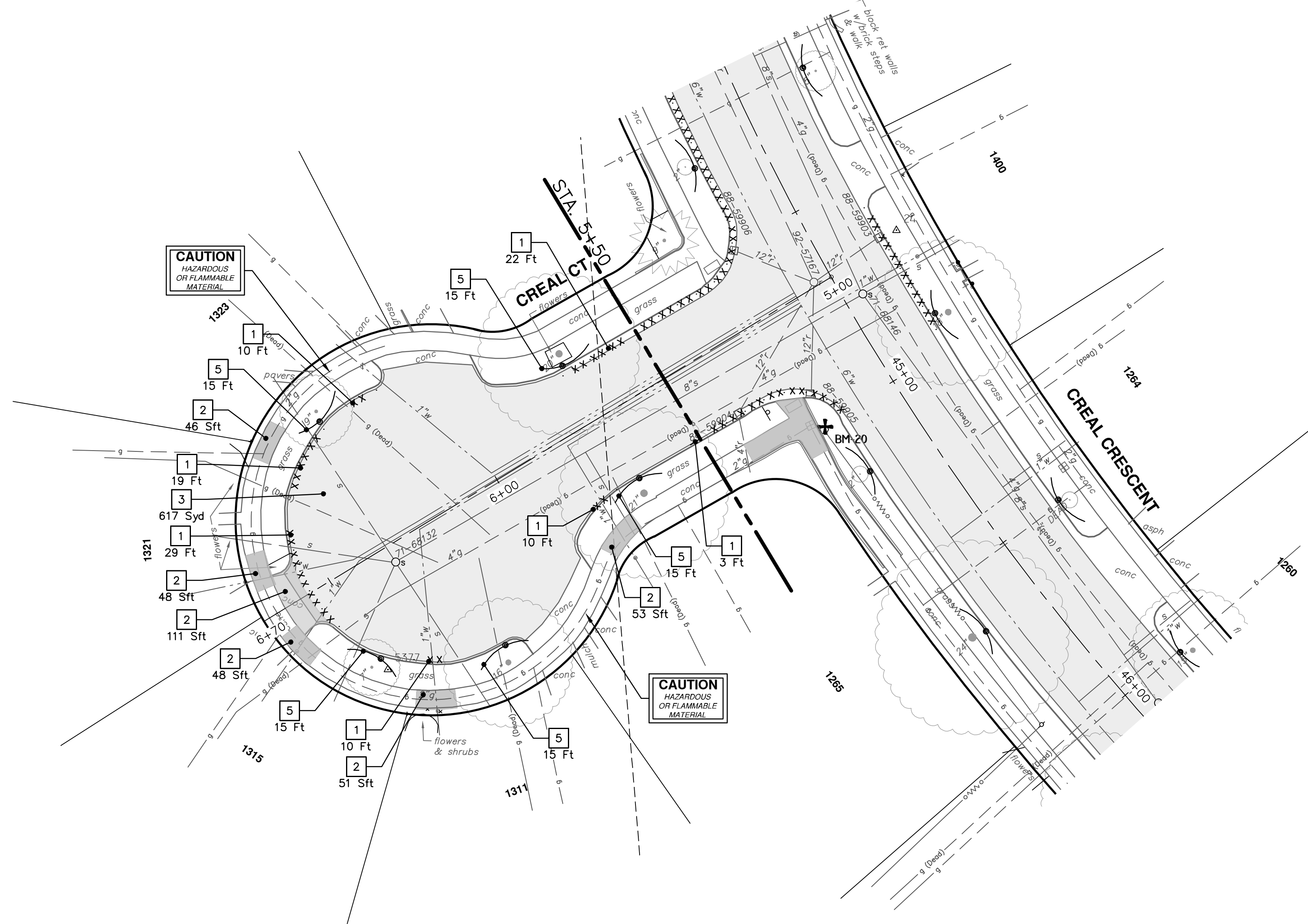
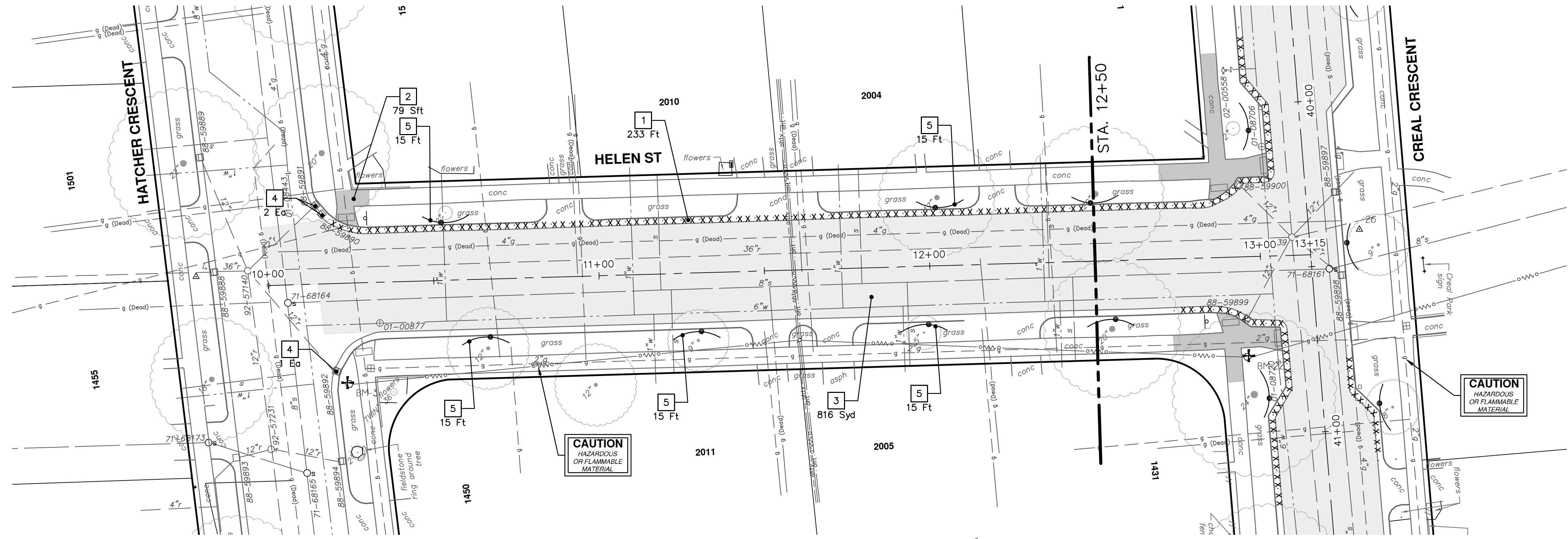
CITY OF ANN ARBOR
PUBLIC SERVICES
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ANN ARBOR, MI 48106-1647
ANN ARBOR
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CRESCENTS WATER MAIN
REPLACEMENT PROJECT - PHASE I
CREAL CRESCENT REMOVALS
STA. 48+00 - STA. 52+79

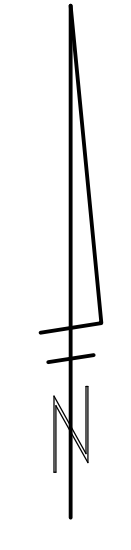
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DRAWING No.
2022012-17

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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00	EFILE PERMIT	3-15-2023	DF/CC	NB



REMOVAL KEY	
KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB & GUTTER, ANY TYPE
2	REMOVE CONCRETE SIDEWALK, RAMP AND DRIVES, ANY THICKNESS
3	HMA PAVEMENT REMOVAL, ANY DEPTH*
4	INLET FILTER
5	PROTECTIVE FENCING
6	SILT FENCE
7	TREE REMOVAL, 8" AND LARGER
8	DR STRUCTURE, REM

*SAWCUT FULL DEPTH AT REMOVAL LIMITS



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN
REPLACEMENT PROJECT - PHASE I
HELEN STREET & CREAL COURT
REMOVALS

SCALE: 1" = 20'

DRAWING No. 2022012-18

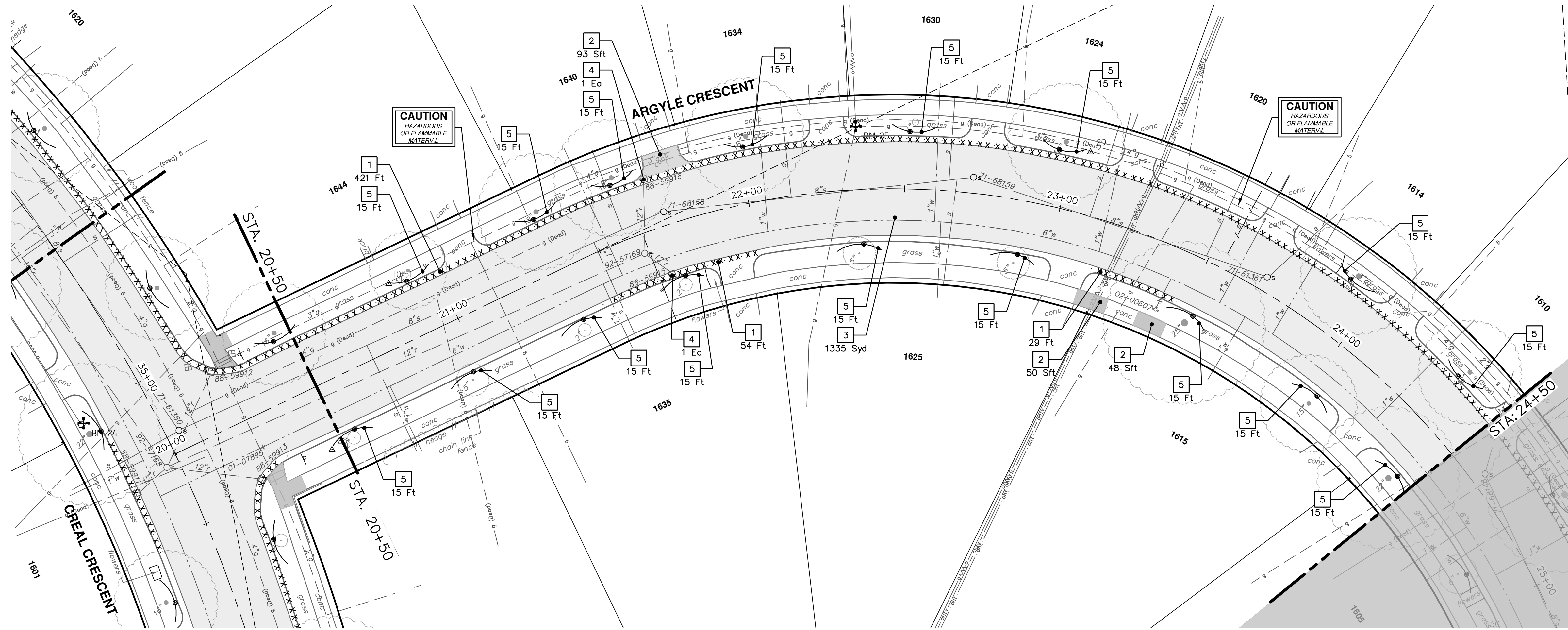
SHEET No. 18 OF 43

811
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 PUBLIC SERVICES
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 ANN ARBOR, MI 48106-0647
 ANN ARBOR: 734-794-4410
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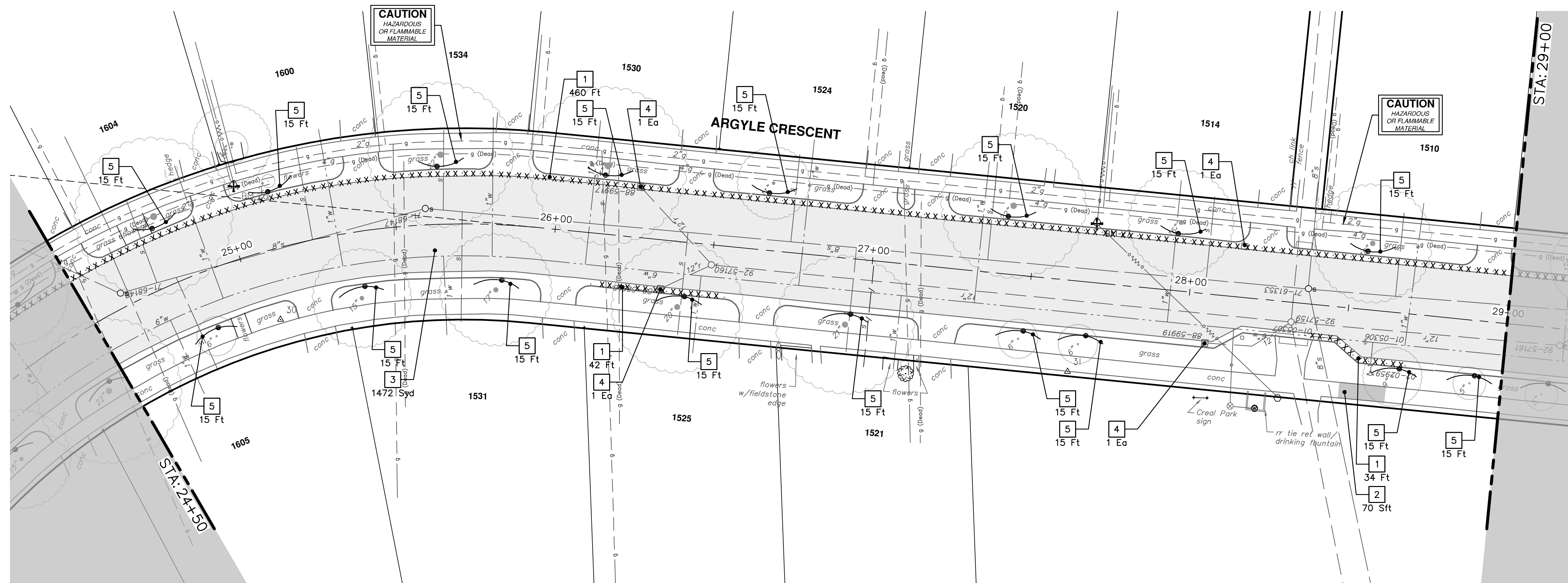
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00	EFILE PERMIT	3-15-2023	DF/CC	NB

R:\2022012 Crescents WM Replacement\Plan Production\2022012Rem1.dwg Dwg Created: 28-Mar-23 - _a2_standard bw.stb - Plot Date: 29-Mar-23



REMOVAL KEY	
KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB & GUTTER, ANY TYPE
2	REMOVE CONCRETE SIDEWALK, RAMP AND DRIVES, ANY THICKNESS
3	HMA PAVEMENT REMOVAL, ANY DEPTH*
4	INLET FILTER
5	PROTECTIVE FENCING
6	SILT FENCE
7	TREE REMOVAL, 8" AND LARGER
8	DR STRUCTURE, REM

*SAWCUT FULL DEPTH AT REMOVAL LIMITS



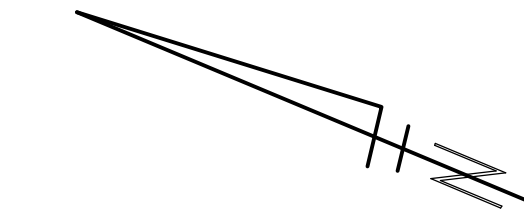
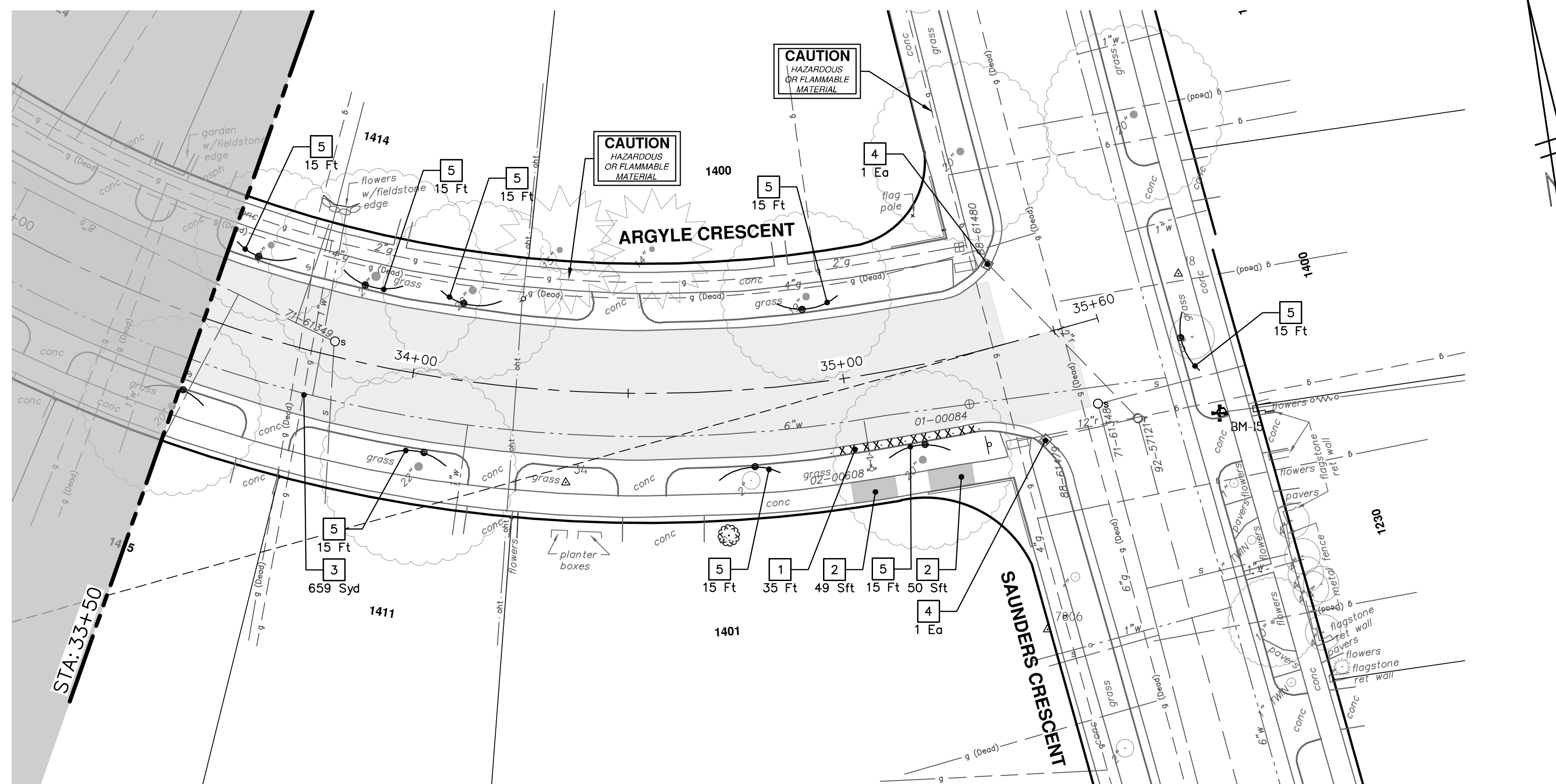
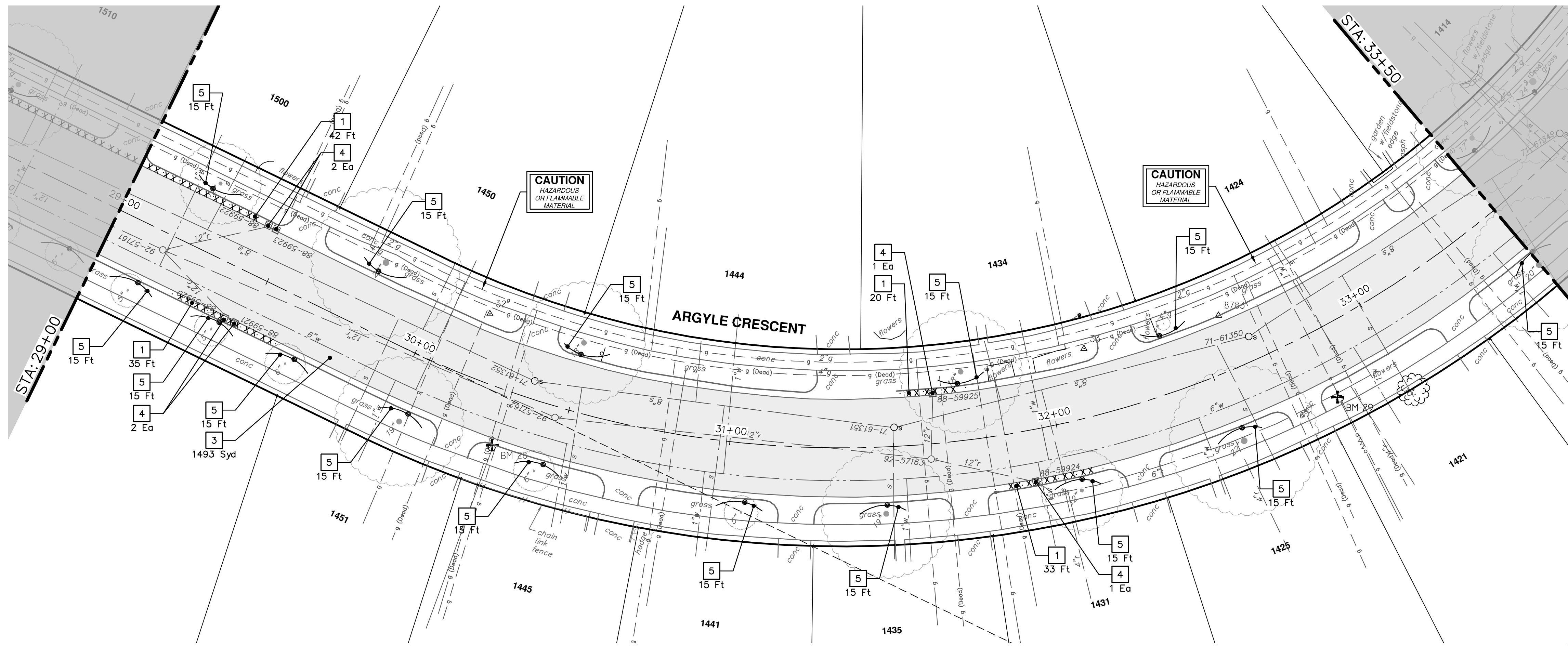
811
Know what's below. Call before you dig.

REV.	DATE	DRAWN	CHECKED	DESCRIPTION
01	3-29-2023	DF/CC	NB	OUT FOR BID
00	3-15-2023	DF/CC	NB	EFILE PERMIT

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN
REPLACEMENT PROJECT - PHASE I
ARGYLE CRESCENT REMOVALS
 STA. 20+00 - STA. 29+00

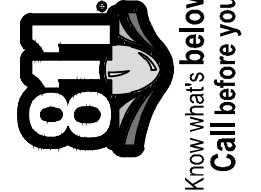
SCALE: 1" = 20'
 DRAWING NO. 2022012-19
 SHEET NO. 19 OF 43

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 ANN ARBOR, MI 48106-8647
 ANN ARBOR: 734.794.4410
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REMOVAL KEY	
KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB & GUTTER, ANY TYPE
2	REMOVE CONCRETE SIDEWALK, RAMP AND DRIVES, ANY THICKNESS
3	HMA PAVEMENT REMOVAL, ANY DEPTH*
4	INLET FILTER
5	PROTECTIVE FENCING
6	SILT FENCE
7	TREE REMOVAL, 8" AND LARGER
8	DR STRUCTURE, REM

*SAWCUT FULL DEPTH AT REMOVAL LIMITS



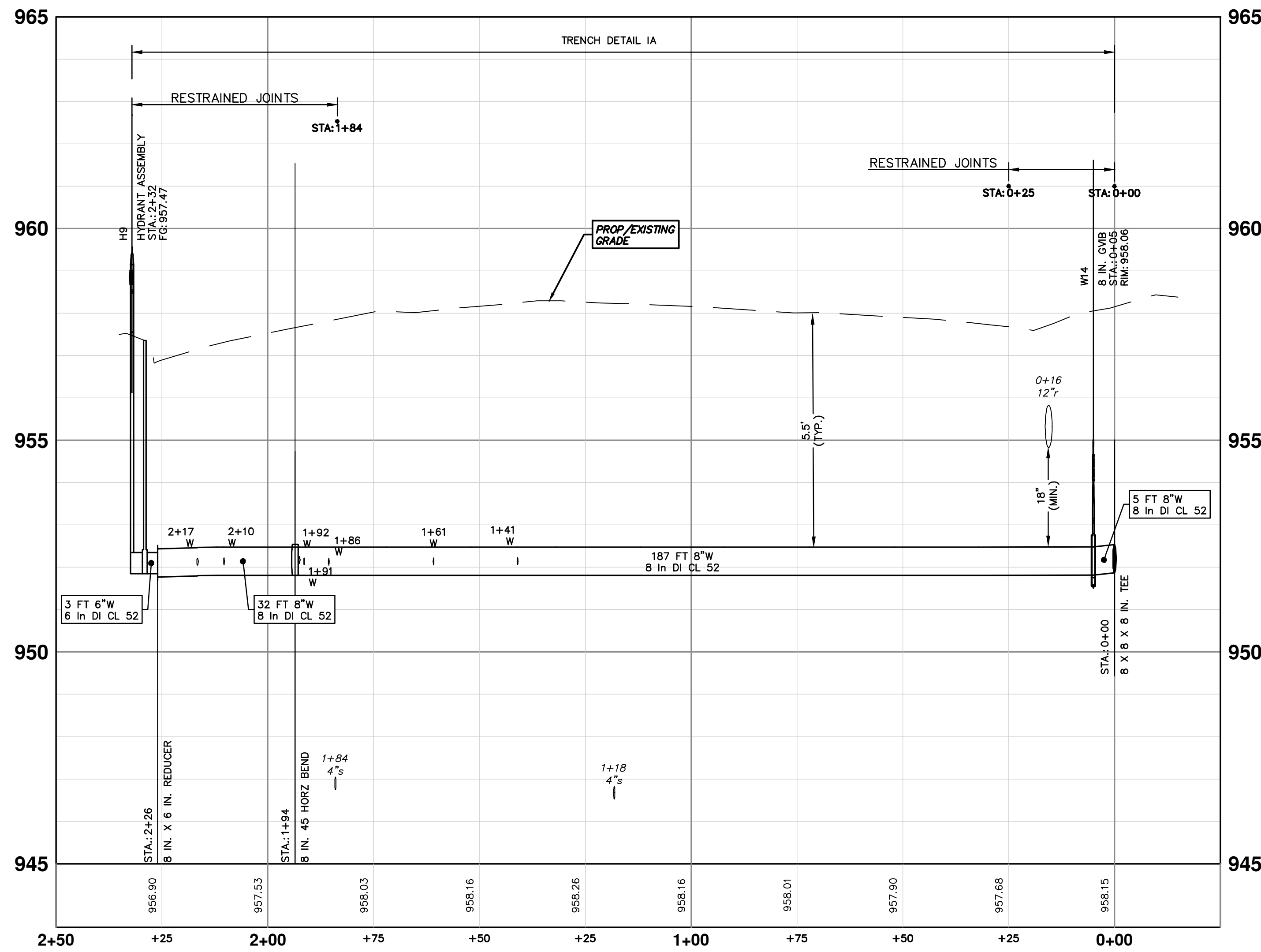
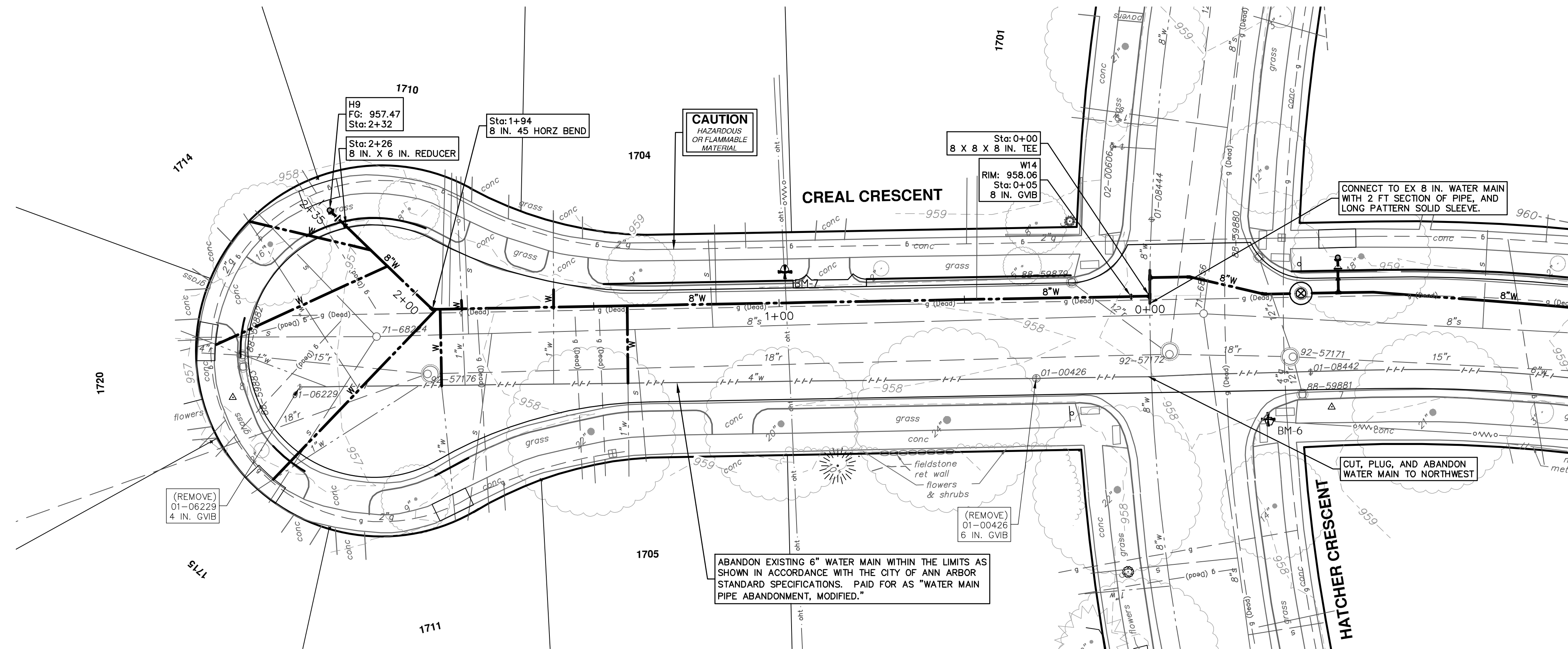
REV.	DATE	DESCRIPTION
01	3-29-2023	OUT FOR BID
00	3-15-2023	EGL PERMIT

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR MI 48106-8647
ANN ARBOR 734.754.4410
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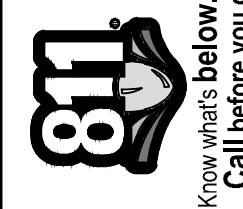


CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN
REPLACEMENT PROJECT - PHASE I
ARGYLE CRESCENT REMOVALS
STA. 29+00 - STA. 35+60

SCALE: 1" = 20'
DRAWING No. 2022012-20



WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	DEPTH
W14	8 in. GVB	0+05	958.06	6.46
H9	HYDRANT ASSEMBLY	2+32	957.47	5.62



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	OUT FOR BID	3-29-2023	DF/CC	NB
00	EGL PERMIT	3-15-2023	DF/CC	NB

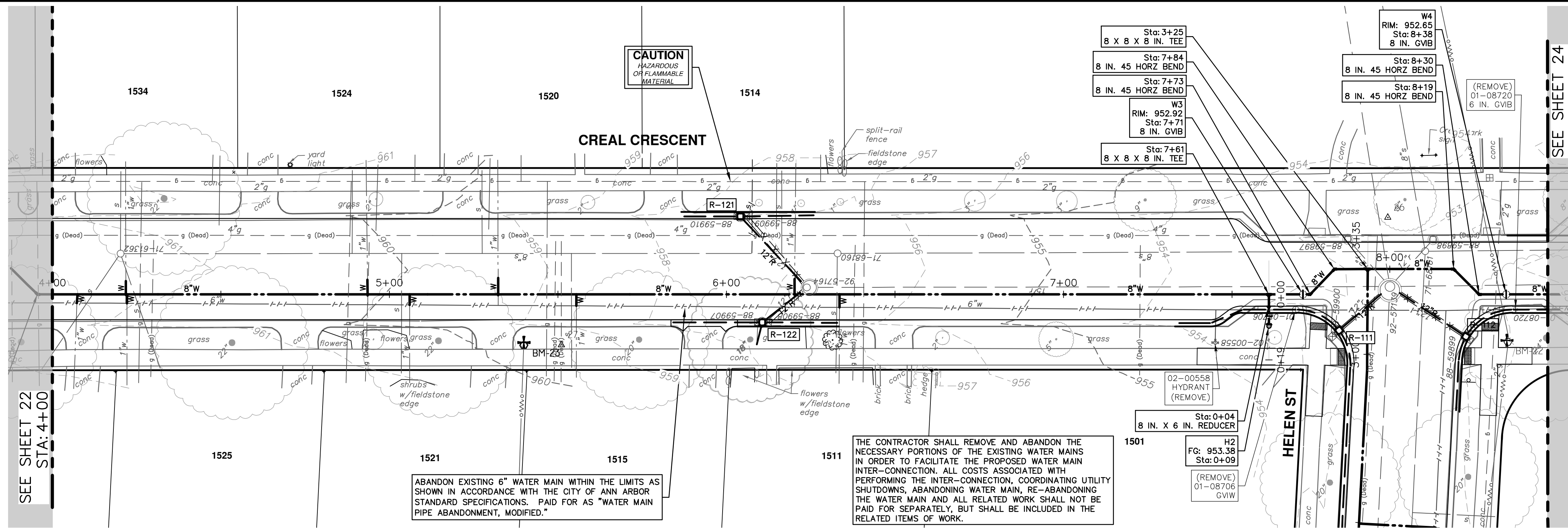
CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR, MI 48106-8647
ANN ARBOR 734-794-4410
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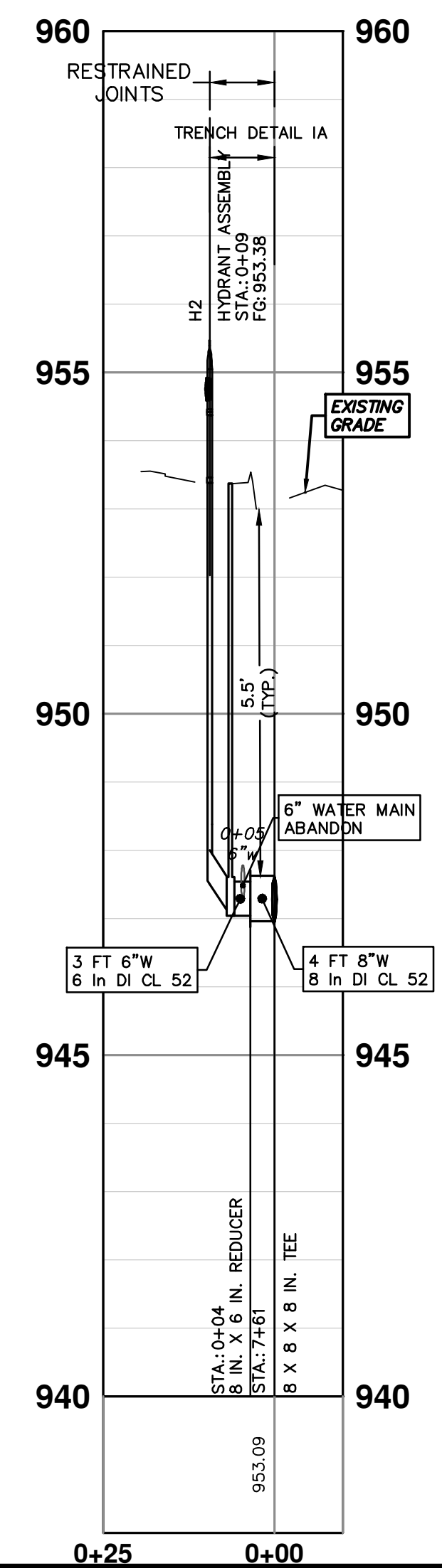
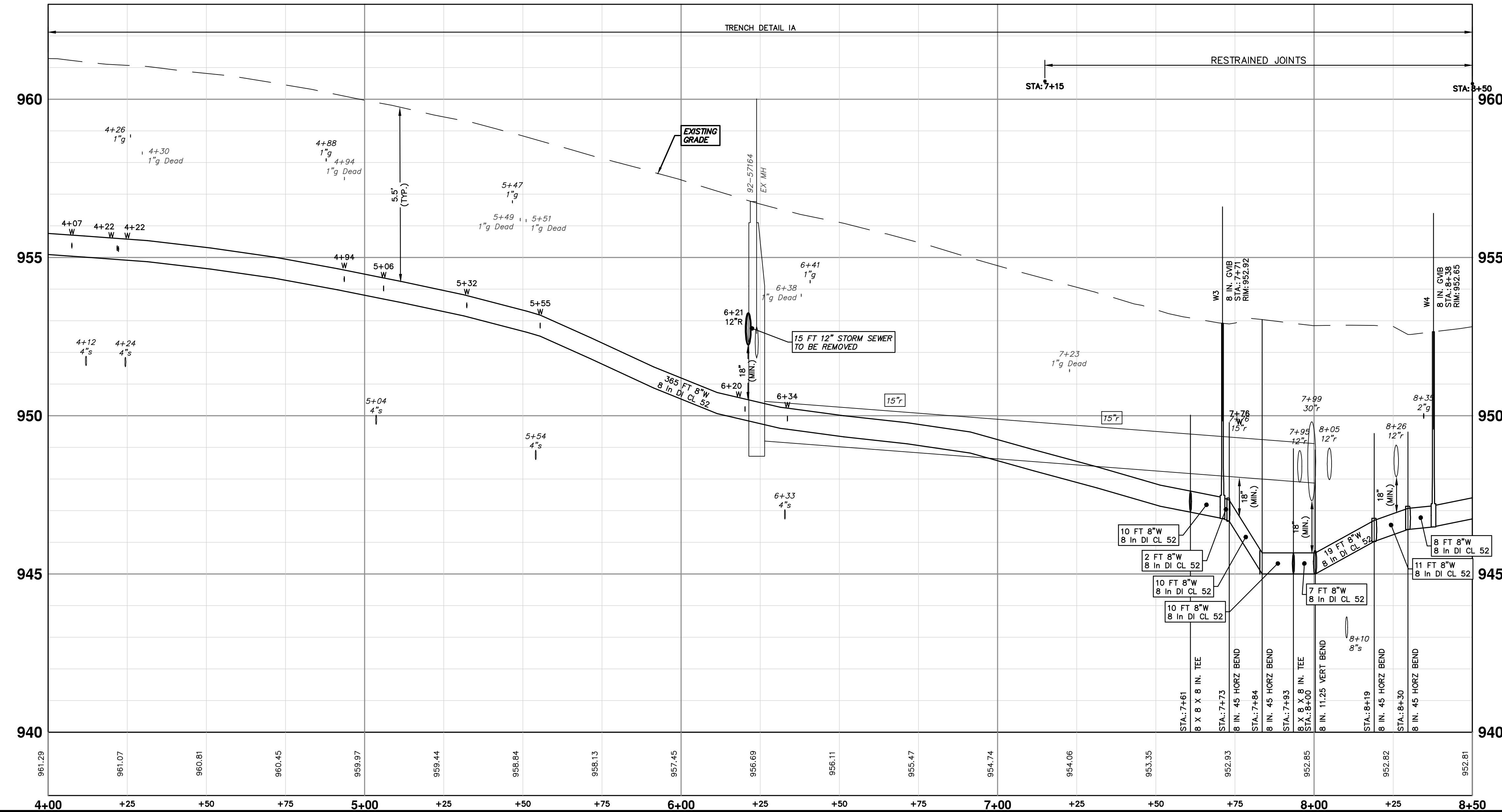
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN
REPLACEMENT PROJECT - PHASE I
CREAL CRESCENT NORTH WATER MAIN
STA. 0+00 - STA. 2+32

SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'
DRAWING No. 2022012-21

R:\2022012 Crescents WM Replacement\Plan Production\2022012Wri.dwg Dwg Created: 17-Mar-23 -- g2 standard bw.stb - Plot Date: 29-Mar-23



WATER MAIN STRUCTURE TABLE			
STRUCTURE	TYPE	STATION	RIM
H2	HYDRANT ASSEMBLY	0+09	953.38
W3	8 in. GVB	7+71	952.92
W4	8 in. GVB	8+38	952.65



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CRESCENTS WATER MAIN REPLACEMENT PROJECT - PHASE I

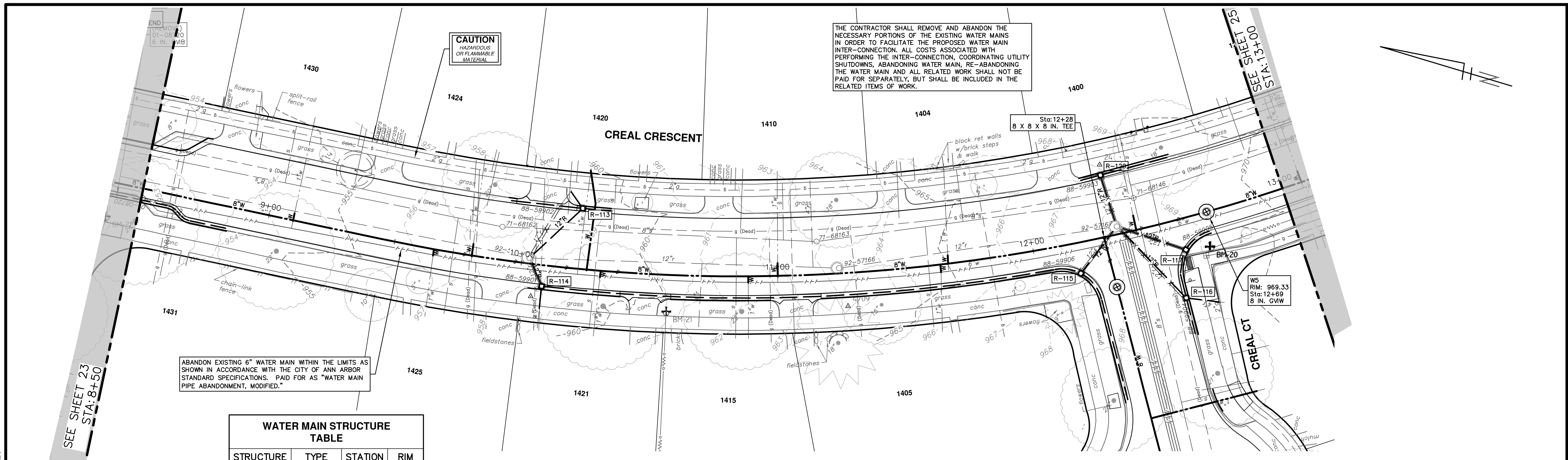
CREAL CRESCENT WATER MAIN
STA. 4+00 - STA. 8+50

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

DRAWING NO. 2022012-23

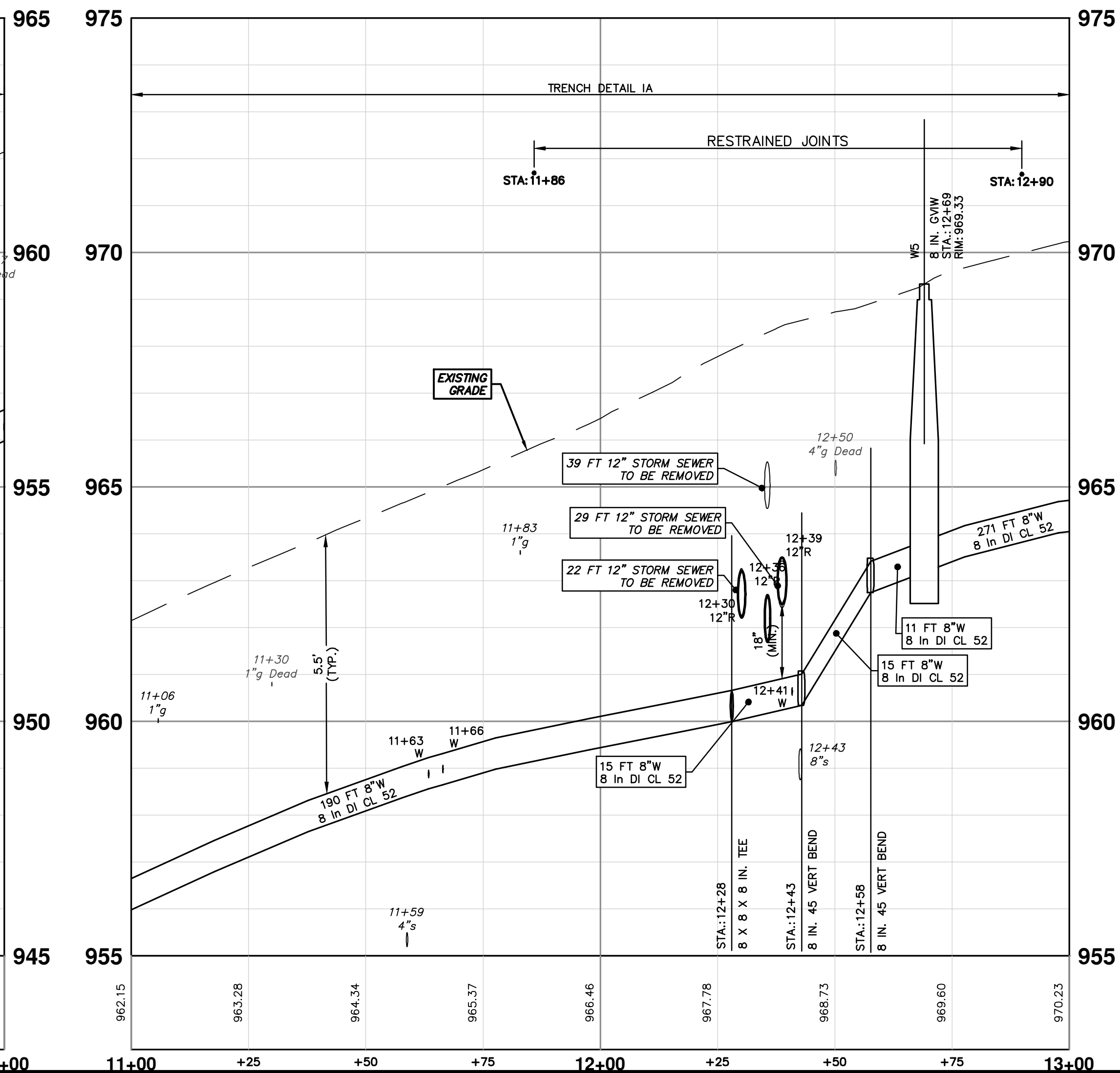
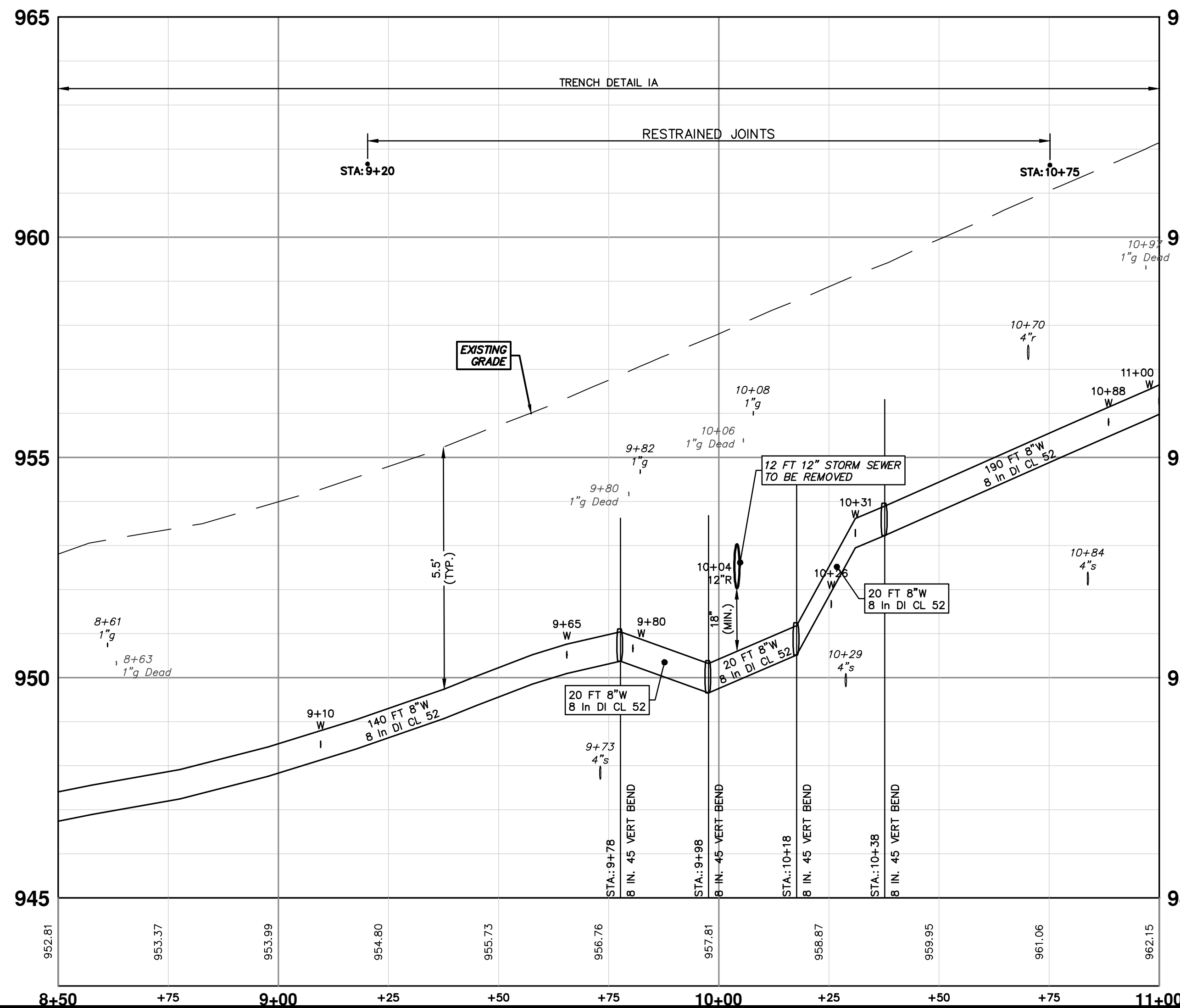
SHEET NO. 23 OF 43

R:\2022012 Crescents WM Replacement\Plan Production\2022012Wri.dwg Dwg Created: 17-Mar-23 - _a2 standard bw.stb - Plot Date: 29-Mar-23



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, MODIFIED."

WATER MAIN STRUCTURE TABLE			
STRUCTURE	TYPE	STATION	RIM
W5	8 in. GVIW	12+69	969.33



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ANN ARBOR, MI 48106-0647
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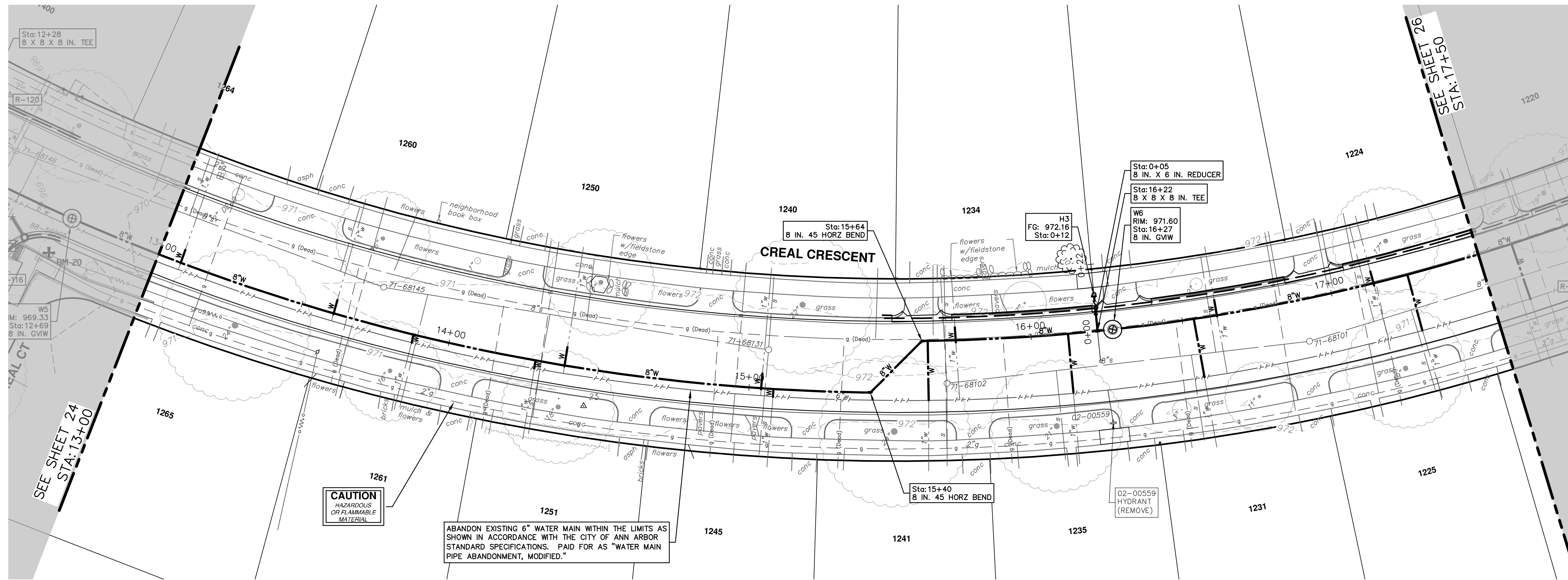


CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN
REPLACEMENT PROJECT - PHASE I
CREAL CRESCENT WATER MAIN
STA. 8+50 - STA. 13+00

SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'
DRAWING NO.
2022012-24

REV.	DATE	DESCRIPTION
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00	3-15-2023	EFILE PERMIT

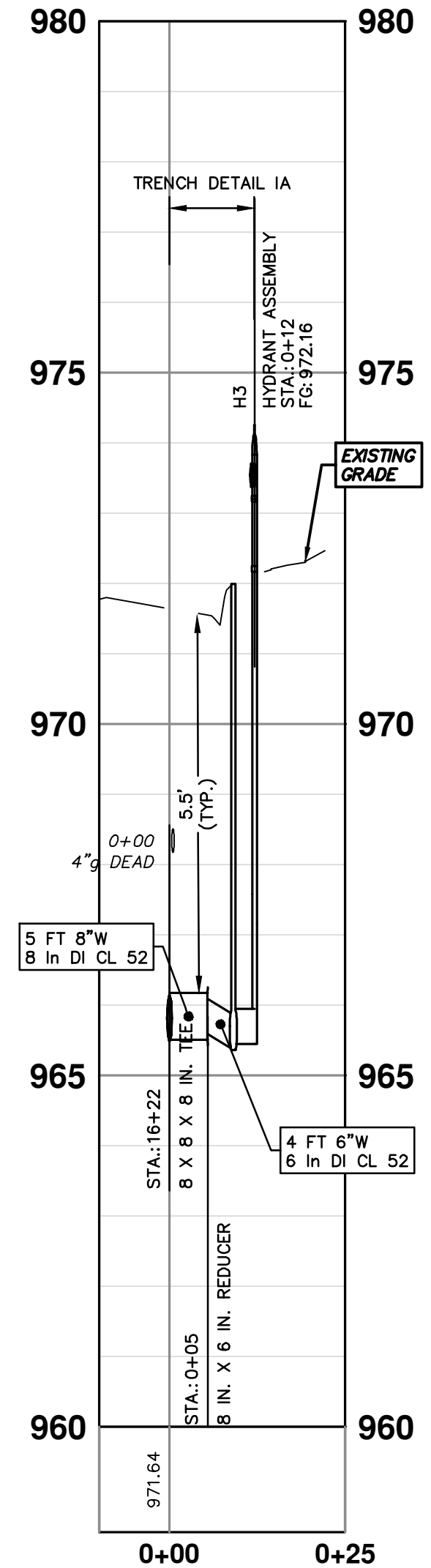
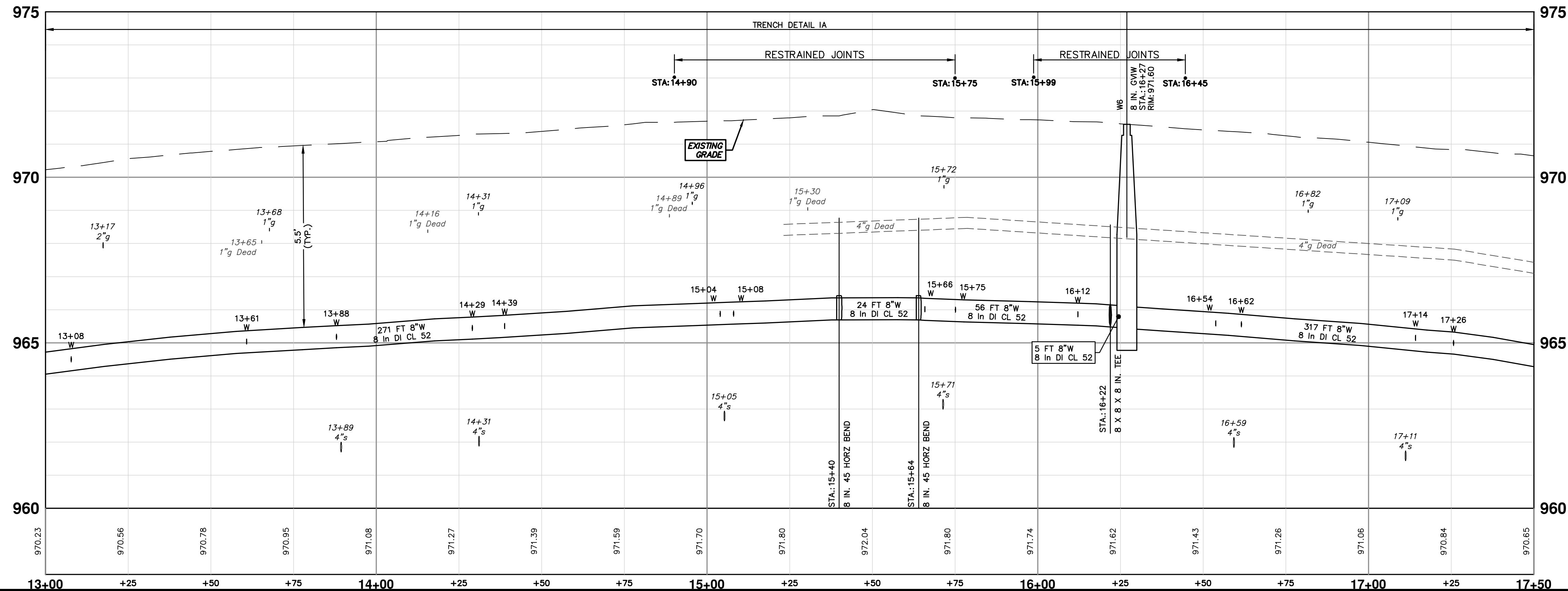
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CAUTION
HAZARDOUS
OR FLAMMABLE
MATERIAL

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

STRUCTURE	TYPE	STATION	RIM
H3	HYDRANT ASSEMBLY	0+12	972.16
W6	8 in. GVW	16+27	971.60



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CRESCENTS WATER MAIN REPLACEMENT PROJECT - PHASE I

CREAL CRESCENT WATER MAIN
STA. 13+00 - STA. 17+50

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

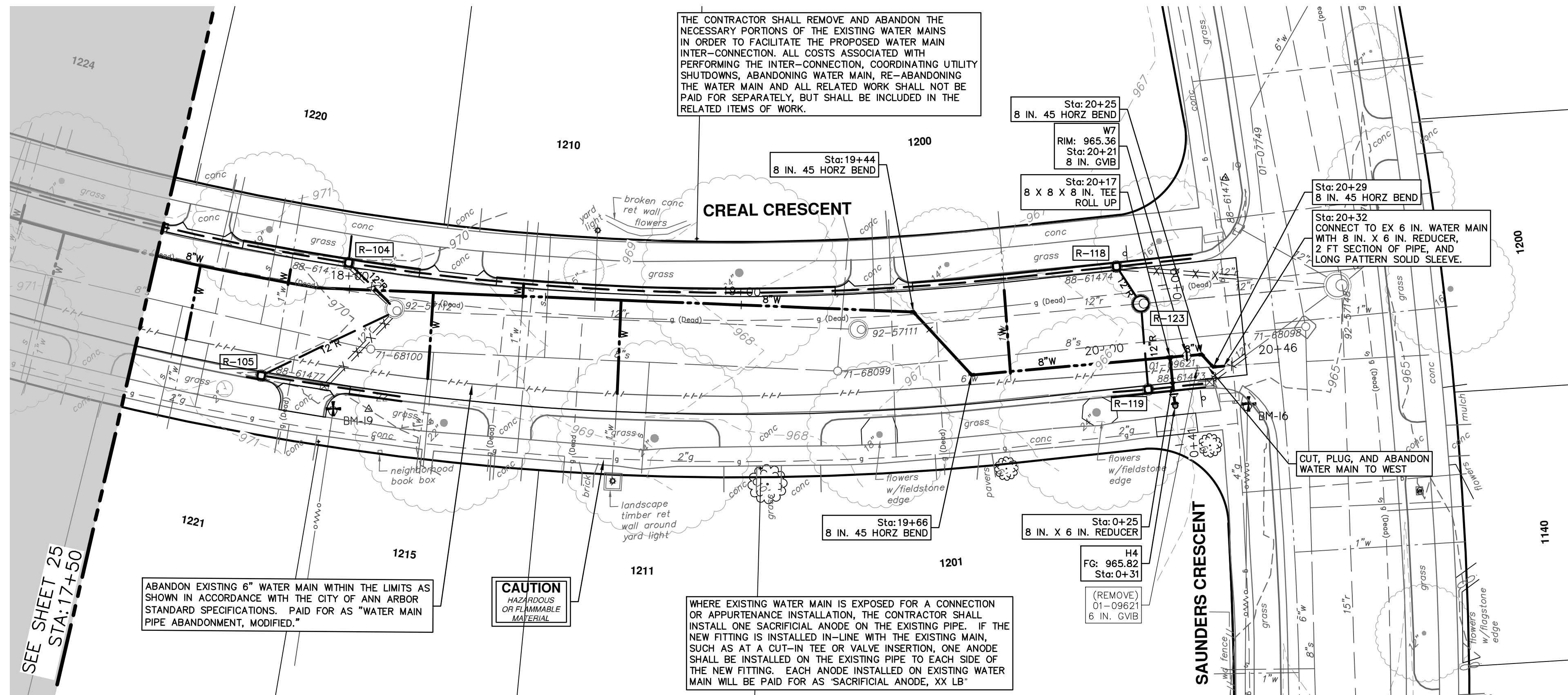
DRAWING NO. 2022012-25

SHEET NO. 25 OF 43

CITY OF ANN ARBOR
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301 EAST HURON STREET
ANN ARBOR, MI 48106-6647
ANN ARBOR: 734-794-4410
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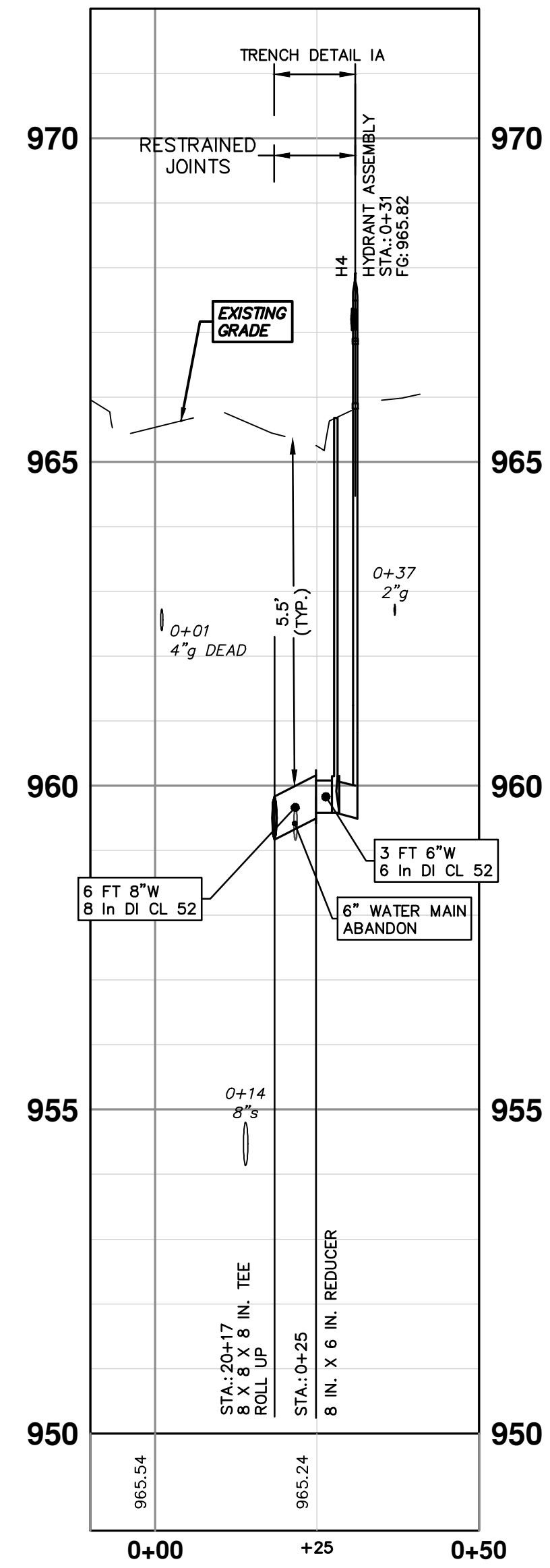
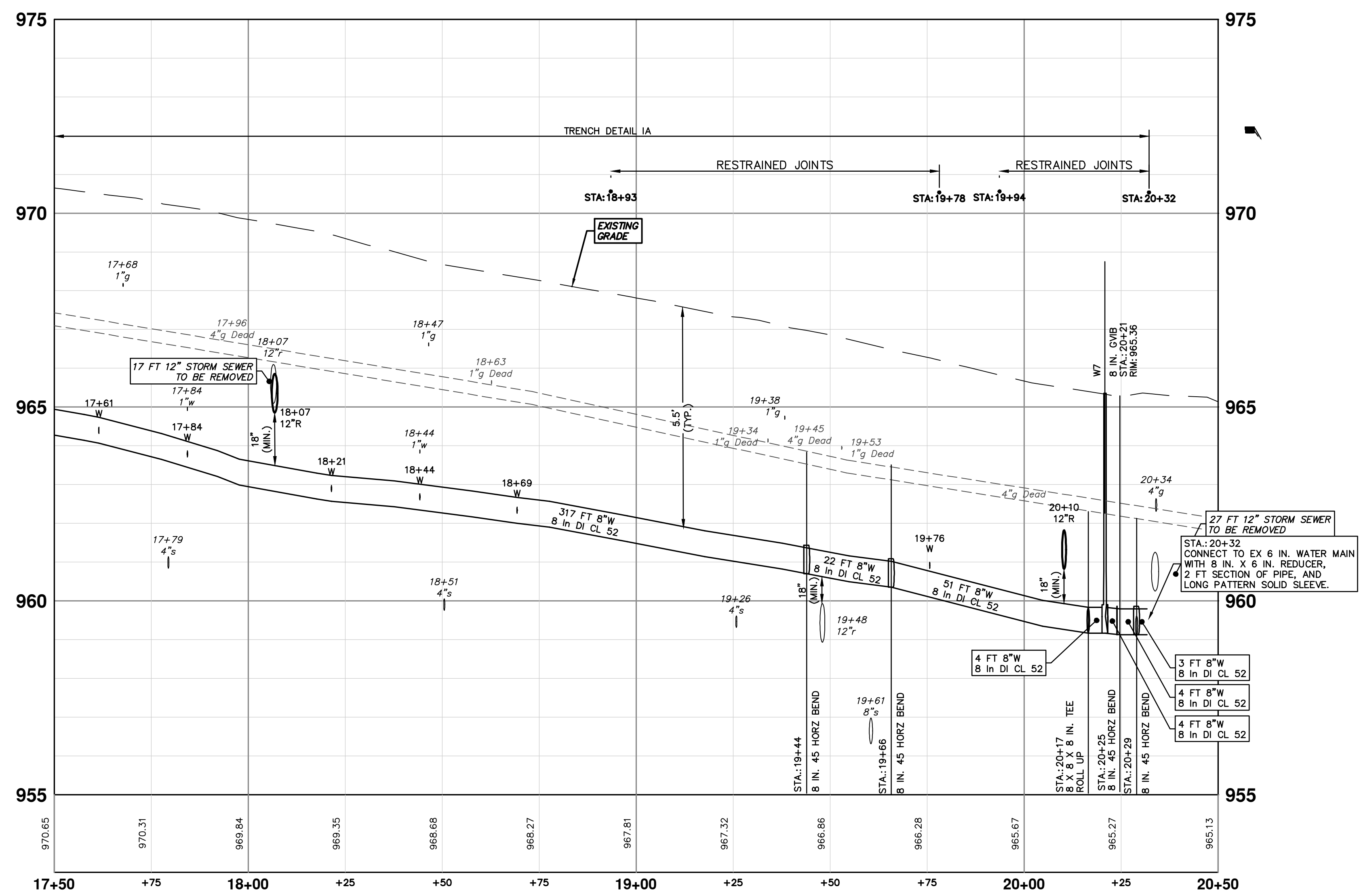
REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	OUT FOR BID	3-29-2023	DF/CC	NB
00	FILE PERMIT	3-15-2023	DF/CC	NB

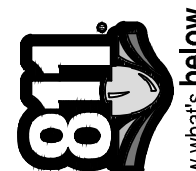
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WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	RIM
H4	HYDRANT ASSEMBLY	0+31	965.82
W7	8 in. GVB	20+21	965.36





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REV.	DATE	DESCRIPTION
01	3-29-2023	OUT FOR BID
00	3-15-2023	EGL PERMIT


CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CRESCENTS WATER MAIN REPLACEMENT

PROJECT - PHASE I

CREAL CRESCENT WATER MAIN

STA. 17+50 - STA. 20+35



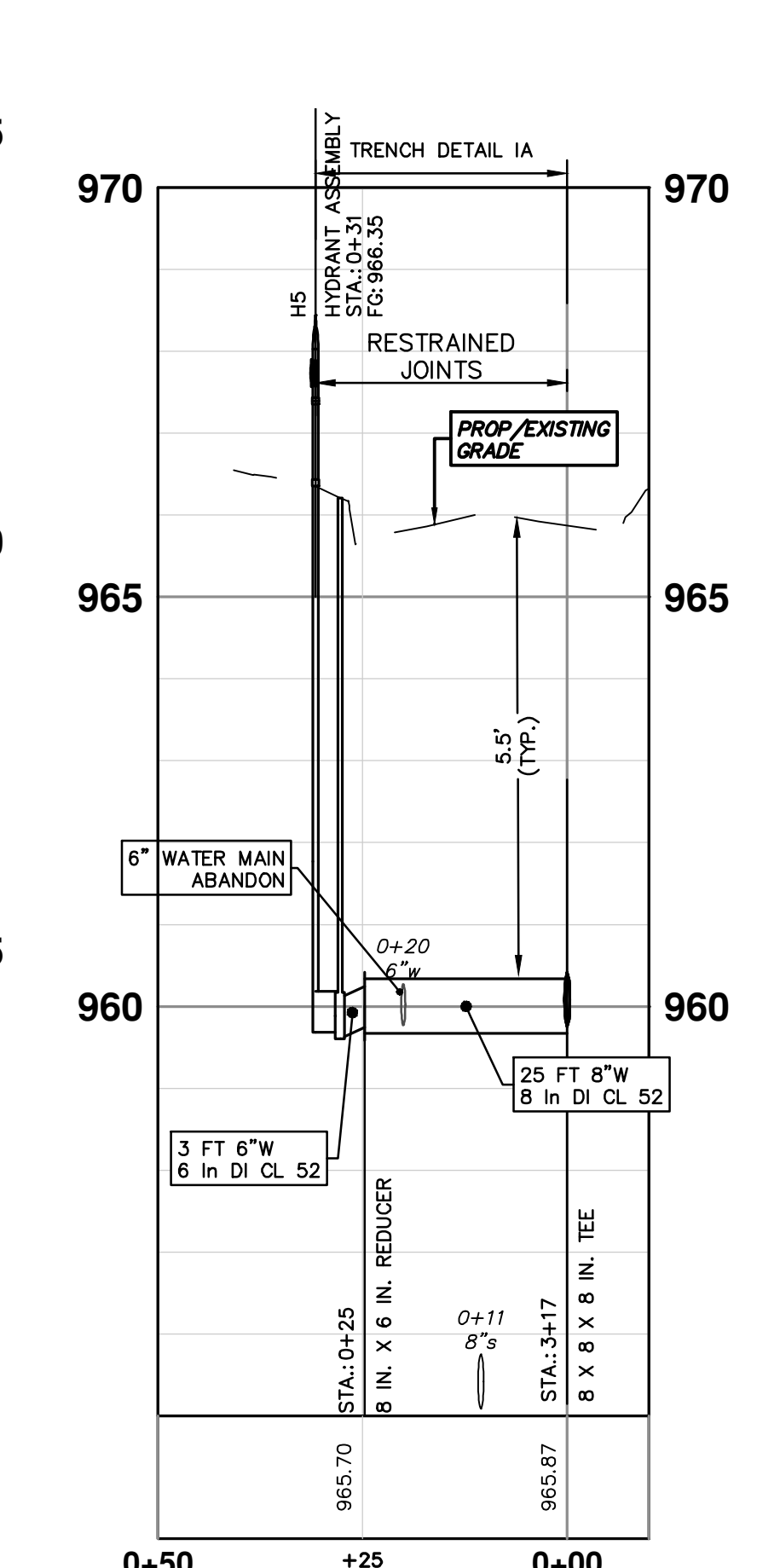
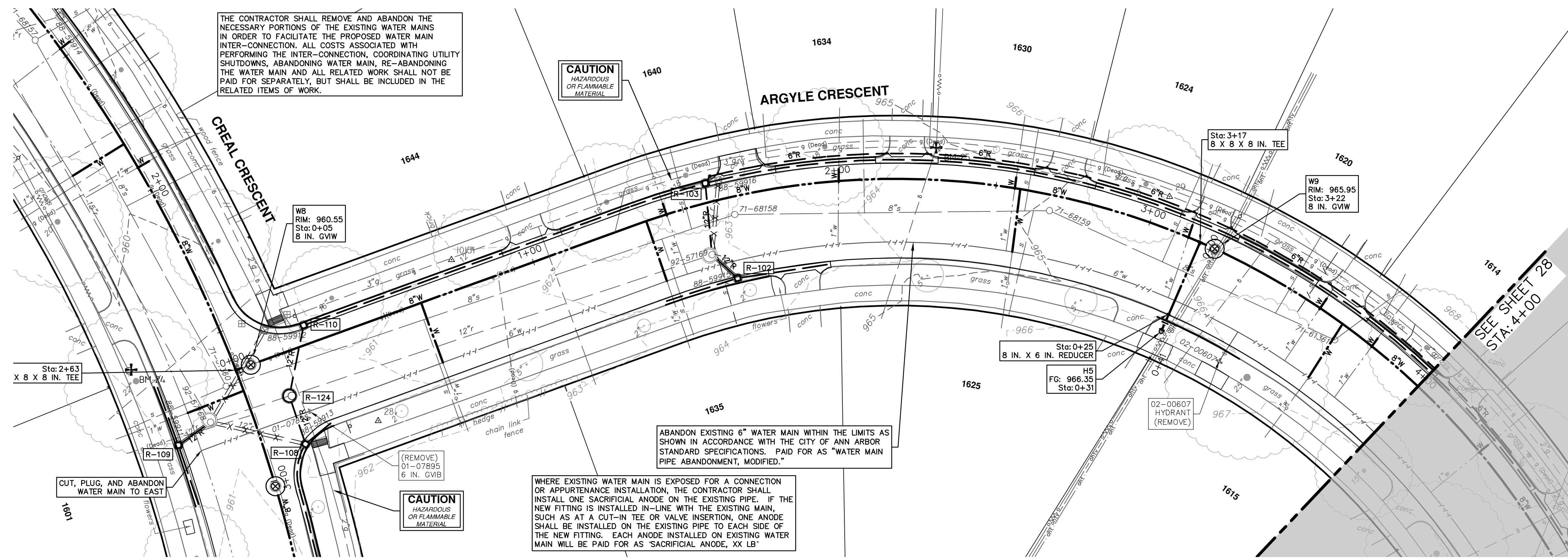
SCALE PLAN: 1" = 20'

PROFILE: 1" = 2'

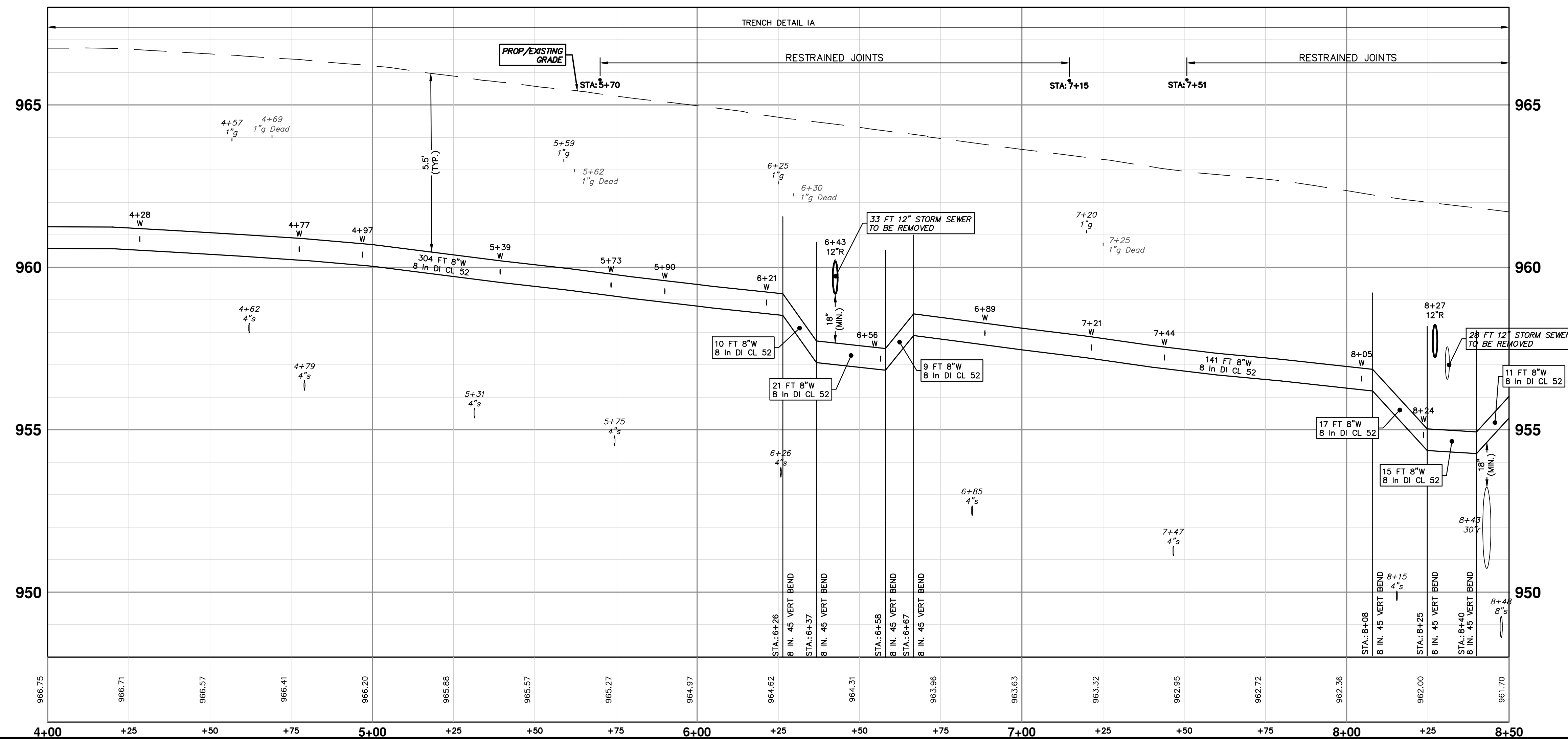
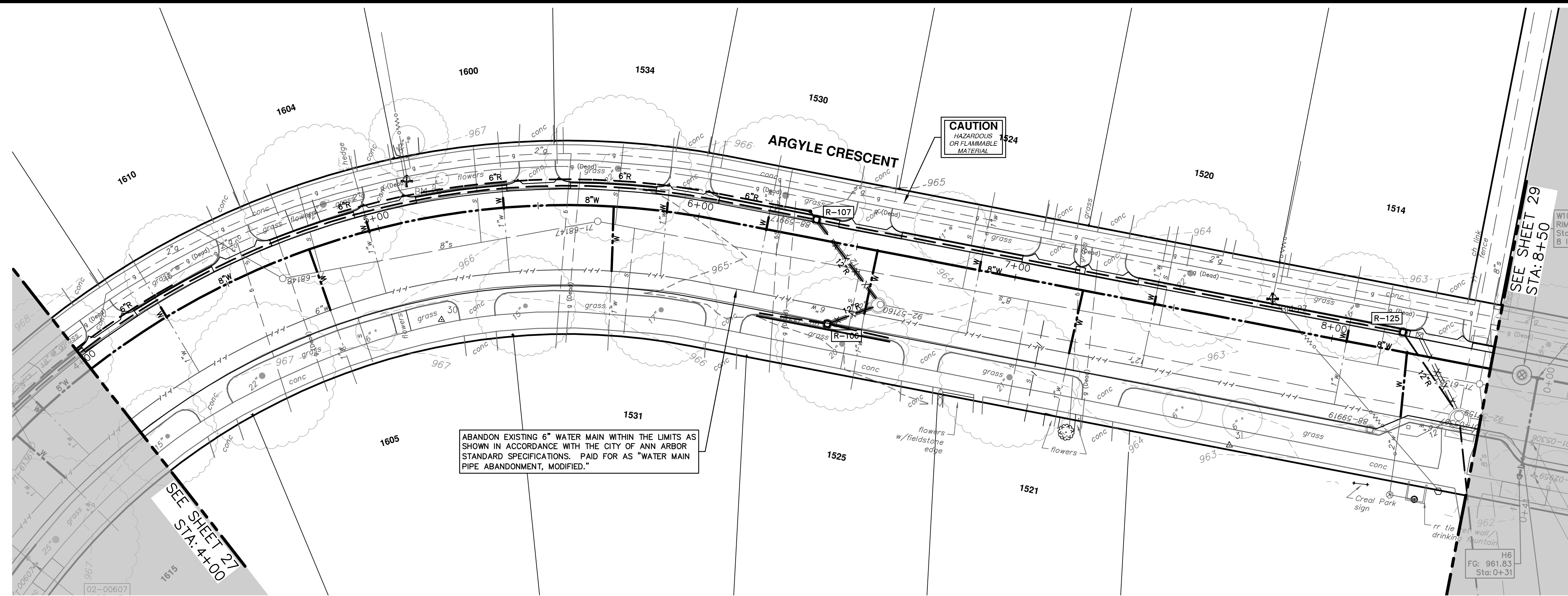
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SHEET No. 26 OF 43

R:\2022\2012 Crescents WM Replacement\Plan Production\2022012Wtr2.dwg Dwg Created: 28-Mar-23 - Plot Date: 29-Mar-23



R:\2022012 Crescents WM Replacement\Plan Production\2022012Wtr2.dwg Dwg Created: 28-Mar-23 - Plot Date: 29-Mar-23



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Know what's below.
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W/O
R/M: Sta: 8
Sta: 8 IN.

REV.	DATE	DESCRIPTION
01	3-29-2023	OUT FOR BID
00	3-15-2023	EGL PERMIT

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PUBLIC SERVICES
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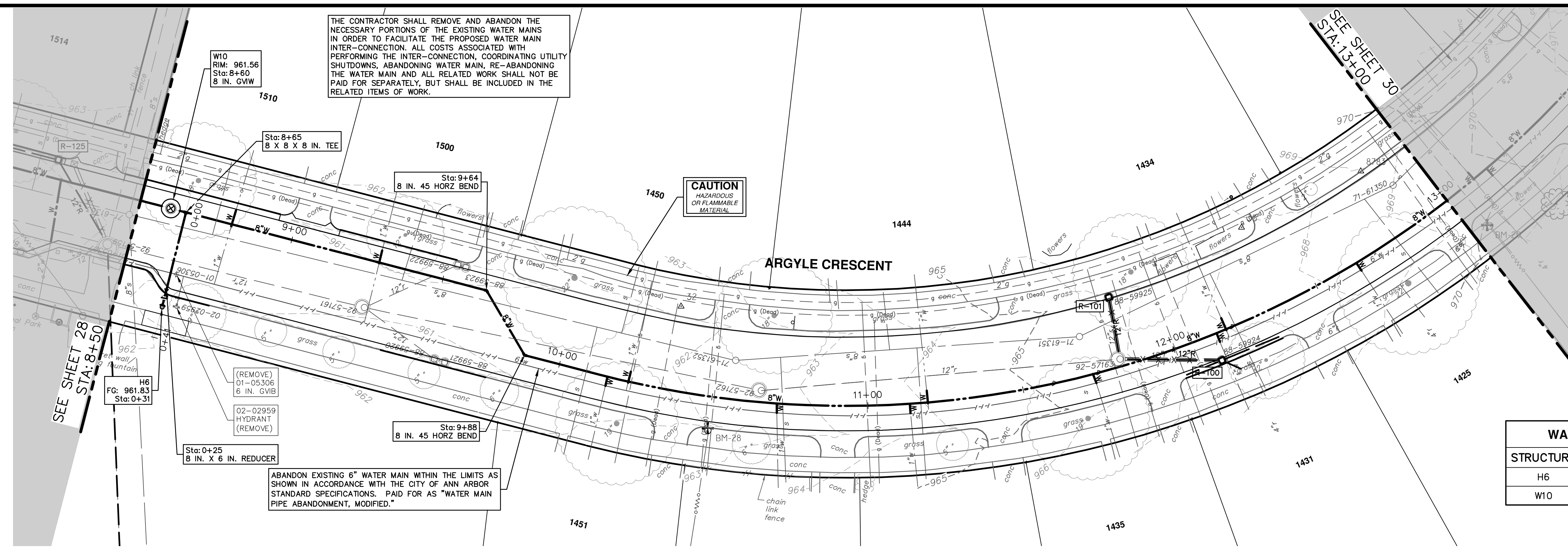
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN
REPLACEMENT PROJECT - PHASE I
ARGYLE CRESCENT WATER MAIN
STA. 4+00 - STA. 8+50

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

DRAWING NO.
2022012-28

SHEET No.

28 OF 43

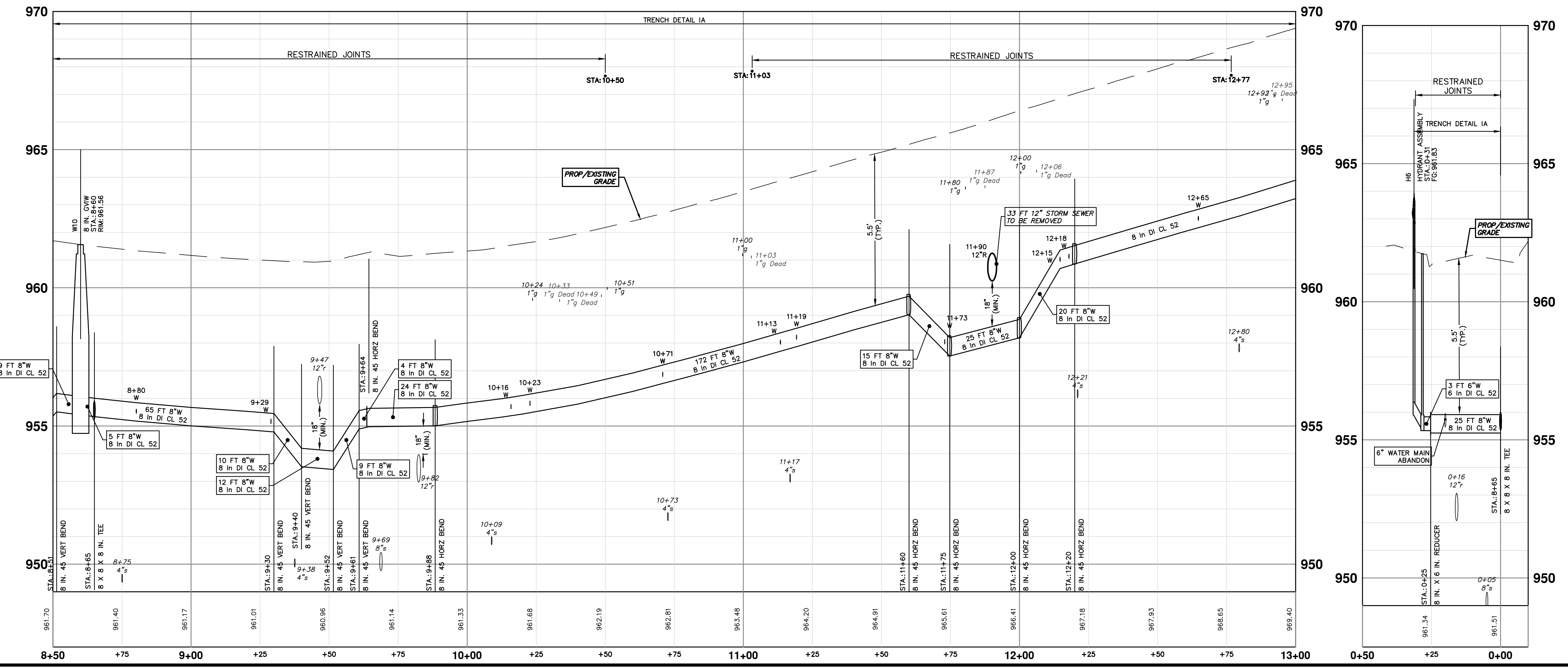



THE CONTRACTOR SHALL REMOVE AND ABANDON THE NECESSARY PORTIONS OF THE EXISTING WATER MAINS IN ORDER TO FACILITATE THE PROPOSED WATER MAIN INTER-CONNECTION. ALL COSTS ASSOCIATED WITH PERFORMING THE INTER-CONNECTION, COORDINATING UTILITY SHUTDOWNS, ABANDONING WATER MAIN, RE-ABANDONING THE WATER MAIN AND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

CAUTION
HAZARDOUS
OR FLAMMABLE
MATERIAL


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

STRUCTURE	TYPE	STATION	RIM
H6	HYDRANT ASSEMBLY	0+31	961.83
W10	8 in. GVIW	8+60	961.56





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REV.	DATE	DESCRIPTION
01	3-29-2023	OUT FOR BID
00	3-15-2023	EFILE PERMIT

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CRESCENTS WATER MAIN REPLACEMENT PROJECT - PHASE I

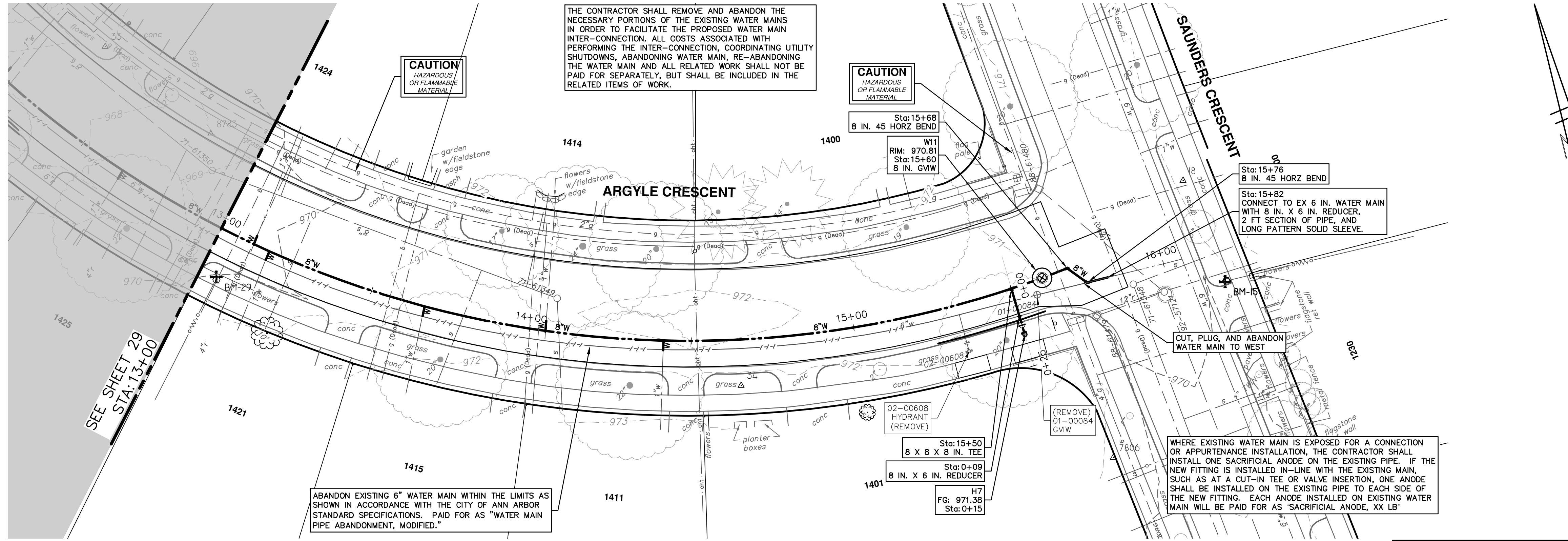
ARGYLE CRESCENT WATER MAIN
STA. 8+50 - STA. 13+00

SHEET No. **29 OF 43**

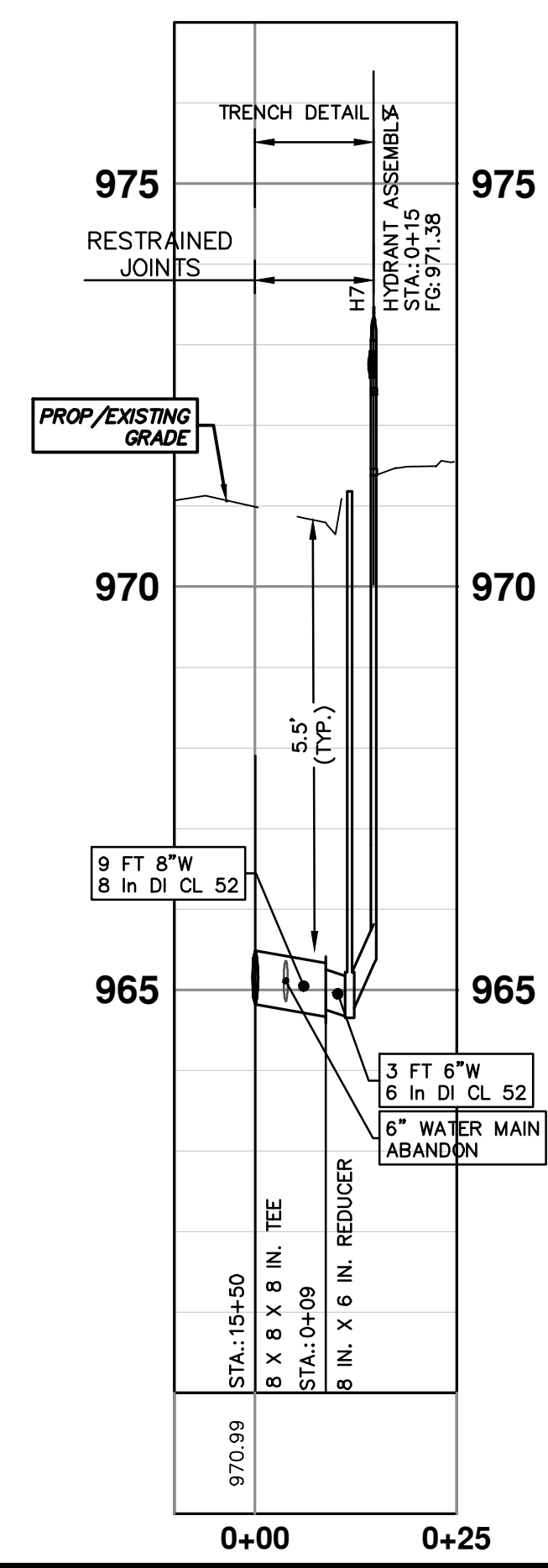
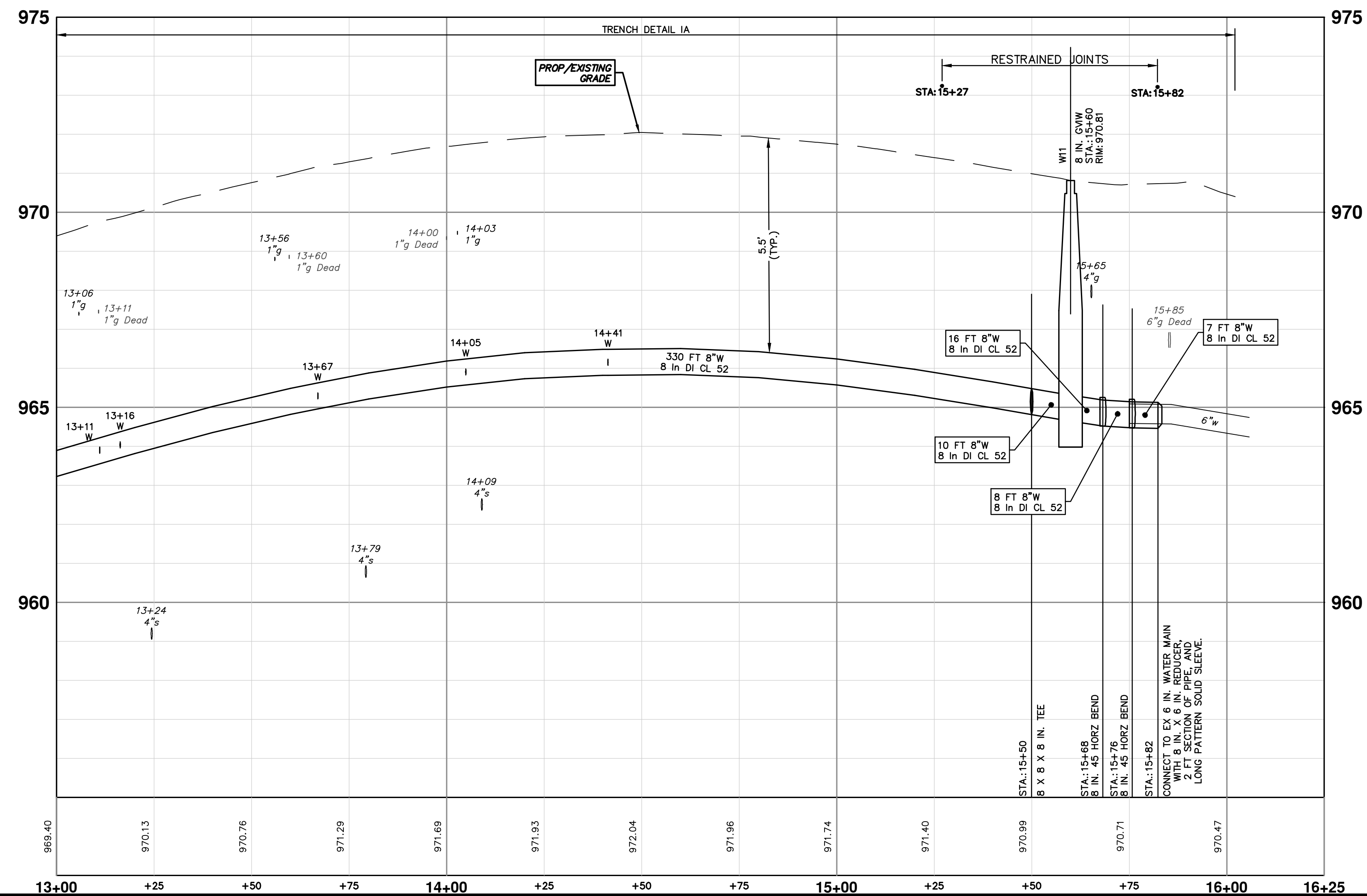
SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'

DRAWING No. **2022012-29**

R:\2022012 Crescents WM Replacement\Plan Production\2022012Wtr2.dwg Dwg Created: 28-Mar-23 - Plot Date: 29-Mar-23



STRUCTURE	TYPE	STATION	RIM
H7	HYDRANT ASSEMBLY	0+15	971.38
W11	8 in. G.V.I.W	15+60	970.81



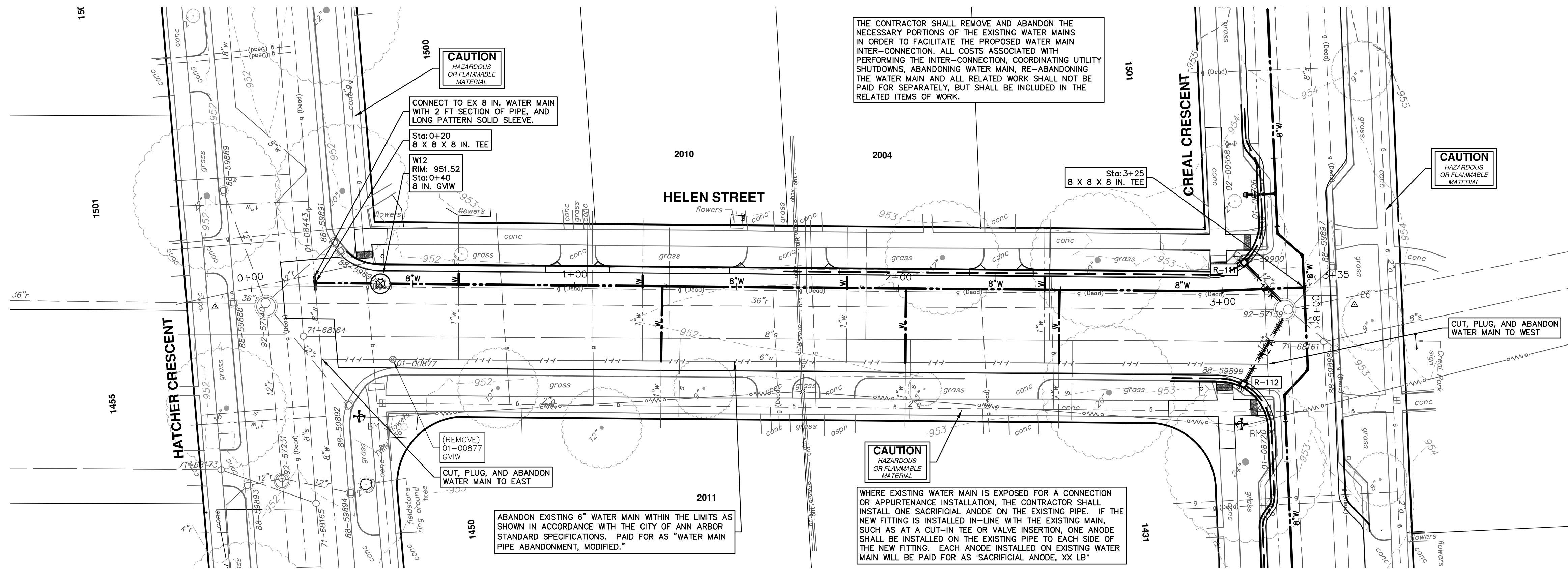
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REV.	DATE	DESCRIPTION
01	3-29-2023	OUT FOR BID
00	3-15-2023	EGL PERMIT

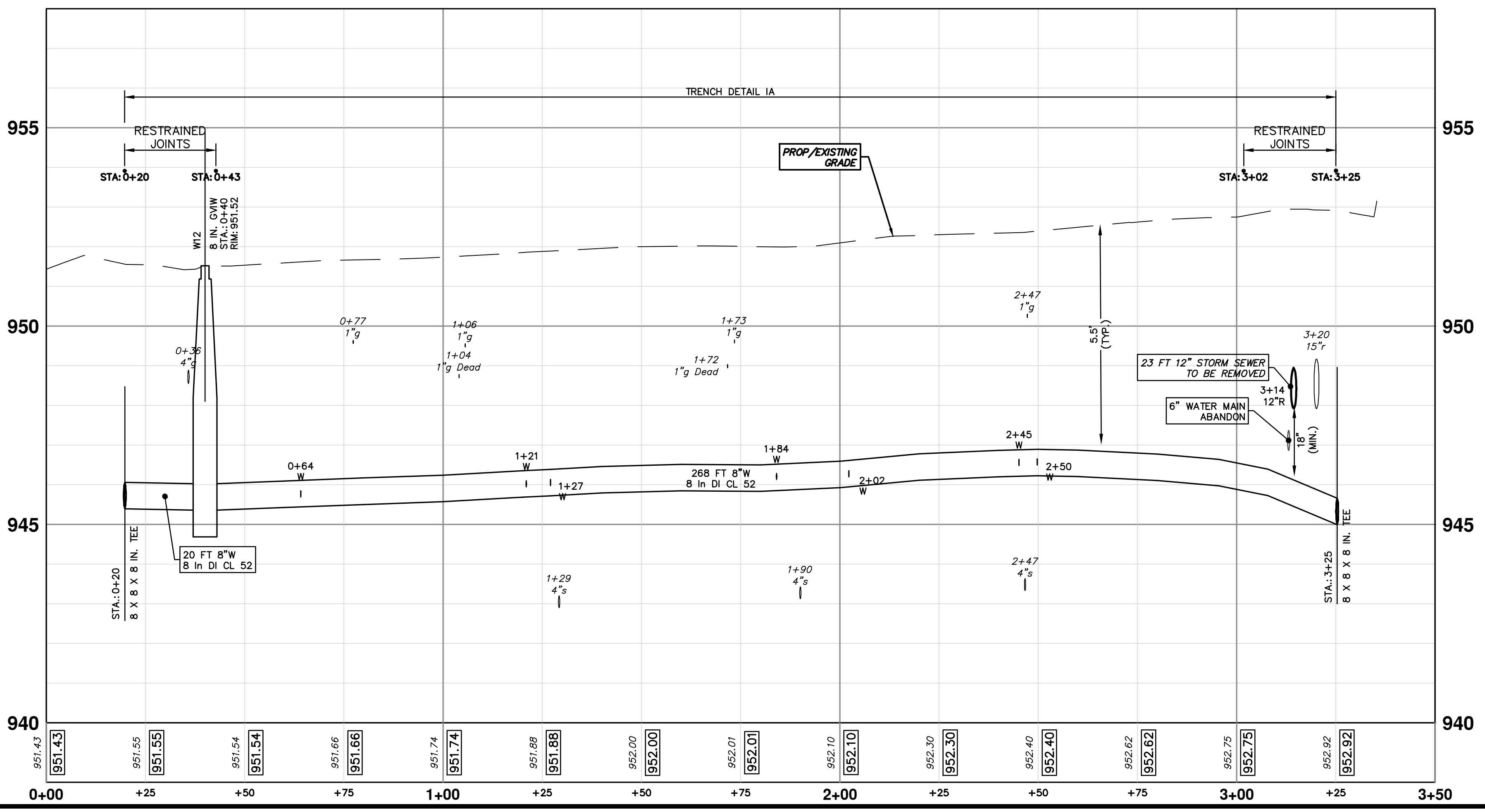
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN
REPLACEMENT PROJECT - PHASE I
ARGYLE CRESCENT WATER MAIN
 STA. 13+00 - STA. 16+02

SHEET No. **30 OF 43**

SCALE PLAN: 1" = 20'
 PROFILE: 1" = 2'
 DRAWING No. **2022012-30**



WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	DEPTH
W12	8 in. GVW	0+40	951.52	6.17



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01 OUT FOR BID
00 EFILE PERMIT

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3-15-2023

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DATE
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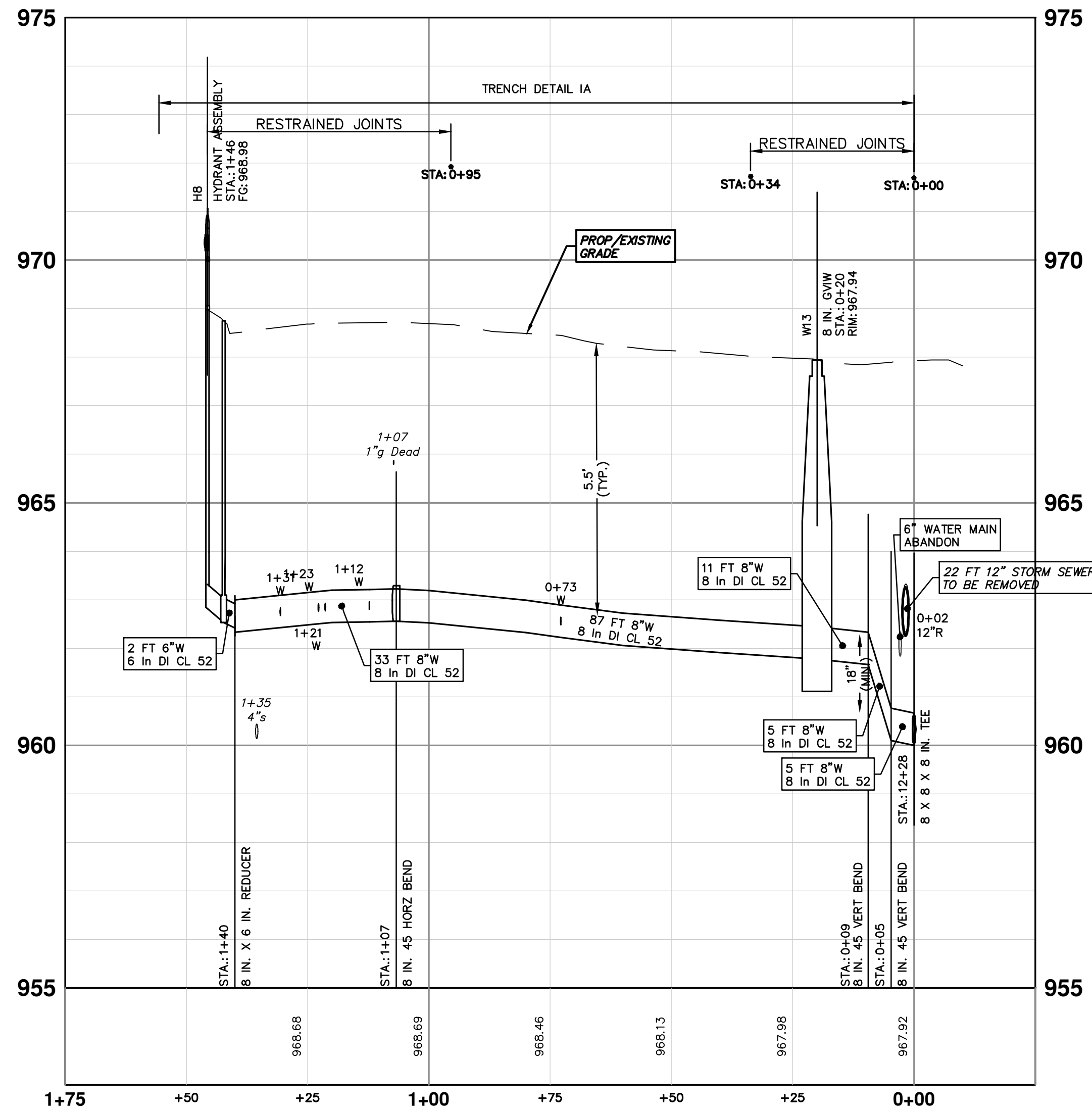
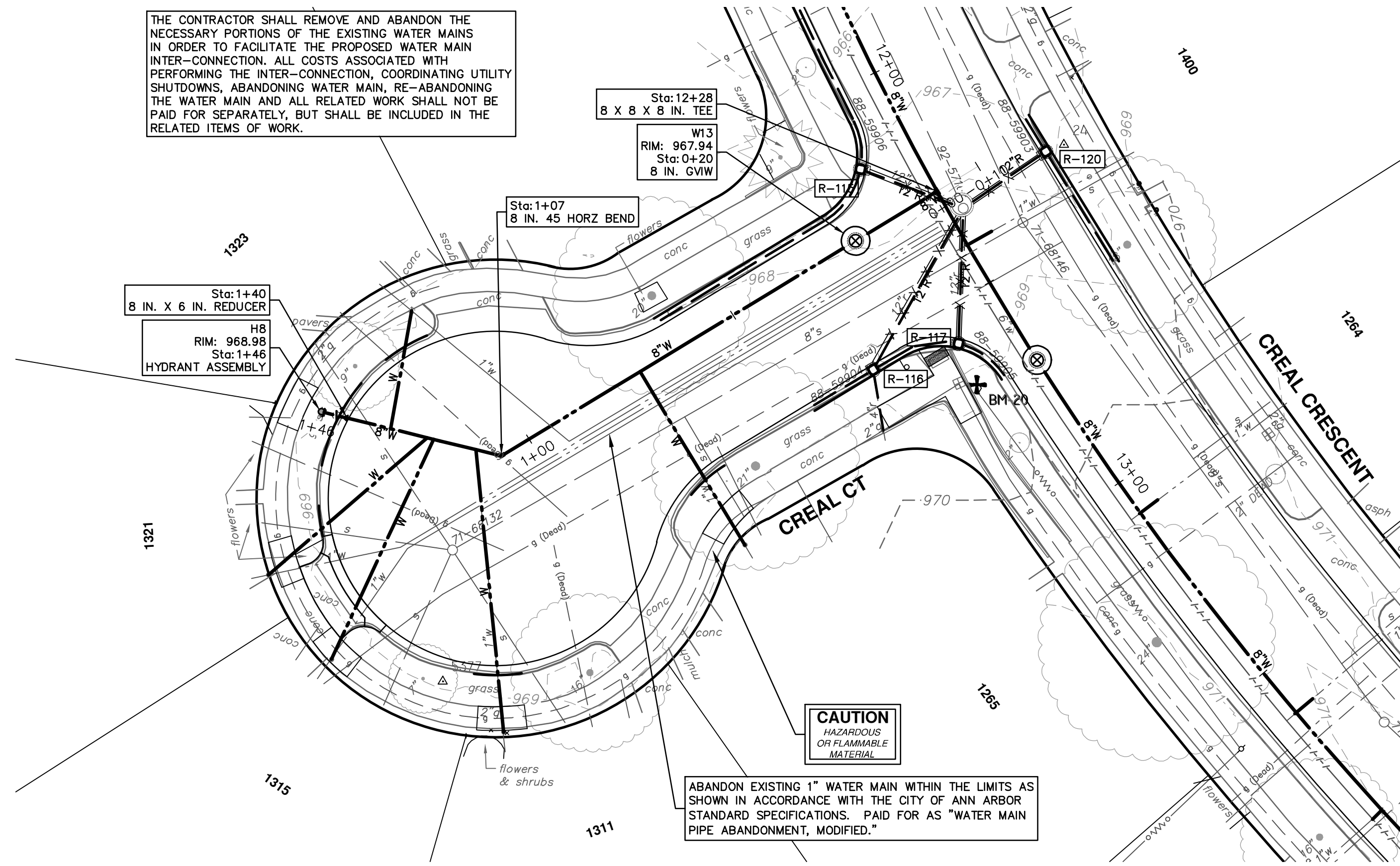
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN
REPLACEMENT PROJECT - PHASE I
HELEN STREET WATER MAIN
STA. 0+00 - STA. 3+25

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SHEET No.
31 OF 43

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

DRAWING No.
2022012-31



WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	DEPTH
W13	8 in. GVIW	0+20	967.94	6.17
H8	HYDRANT ASSEMBLY	1+46	968.98	6.17

811
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DATE: 3-15-2023
DRAWN: [REDACTED]
CHECKED: [REDACTED]

REV. 00 EGLE PERMIT
01 OUT FOR BID

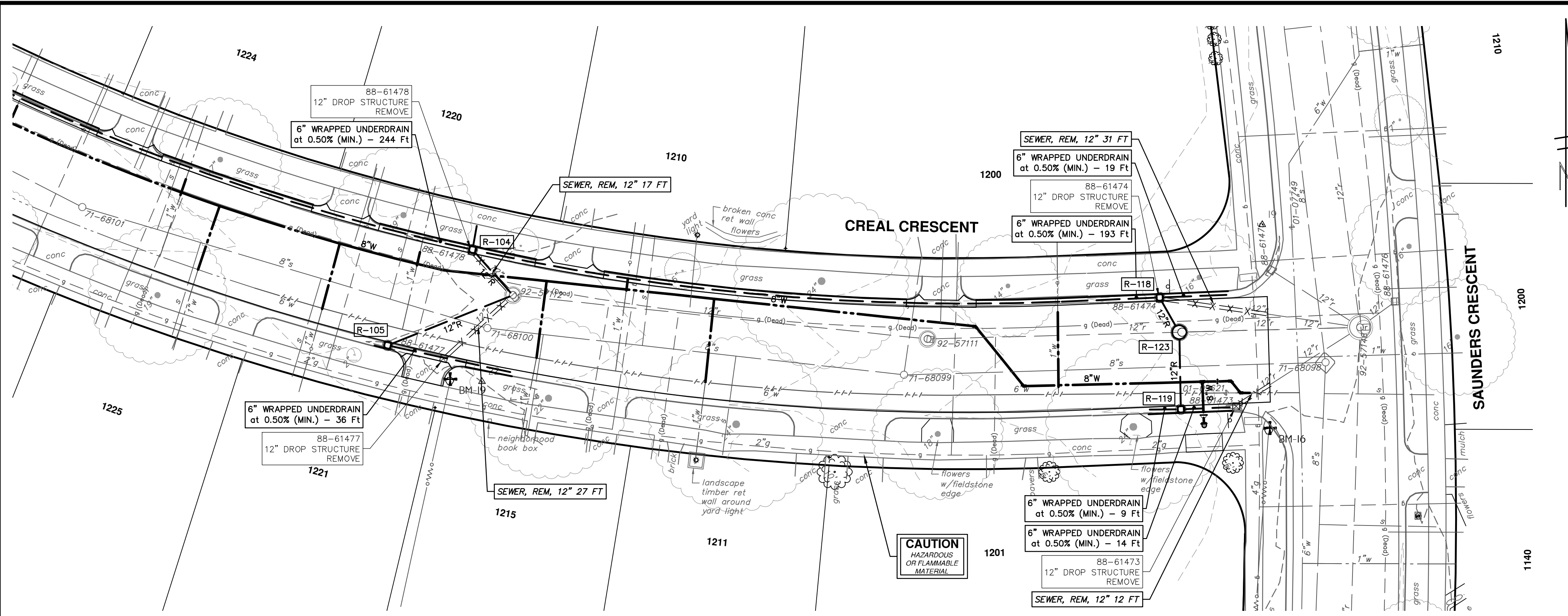
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN
REPLACEMENT PROJECT - PHASE I
CREAL COURT WATER MAIN
STA. 0+00 - STA. 1+46

SHEET No. 32 OF 43

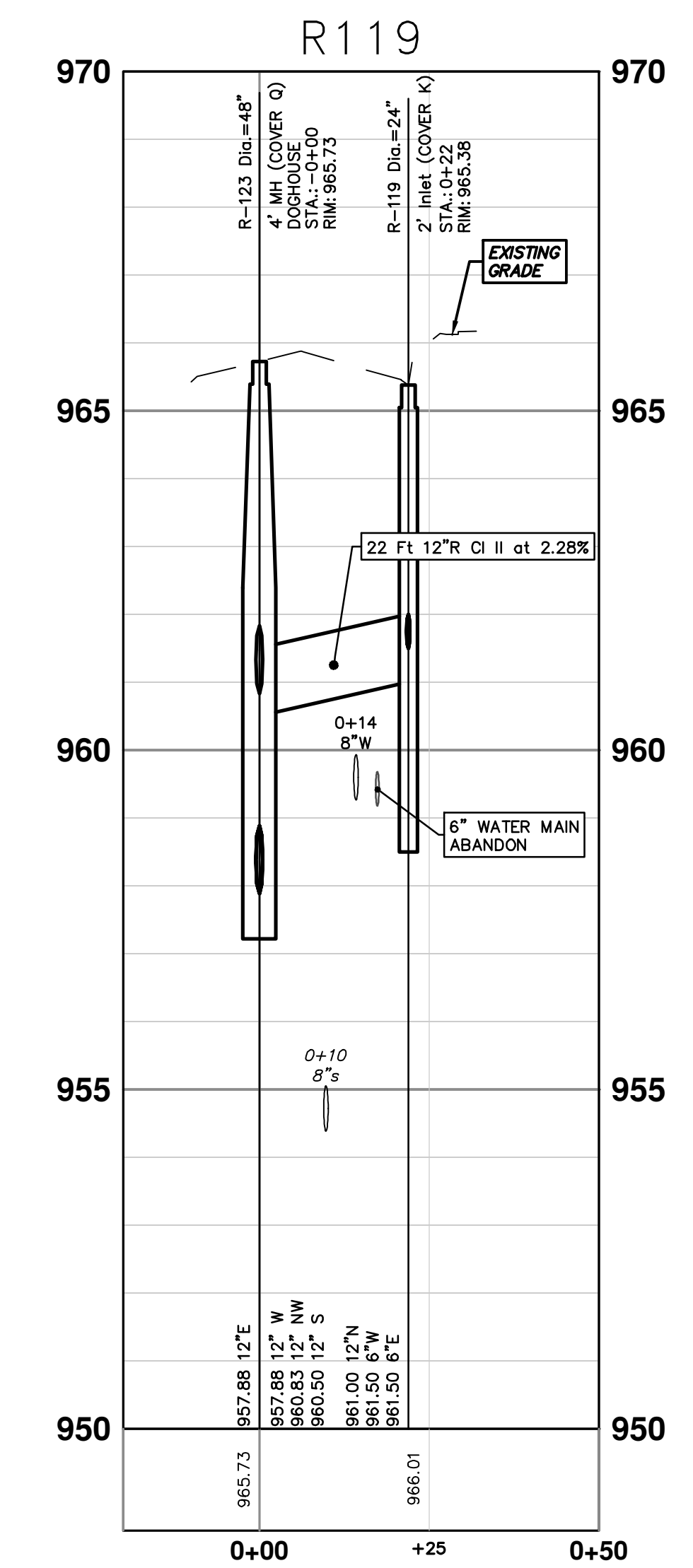
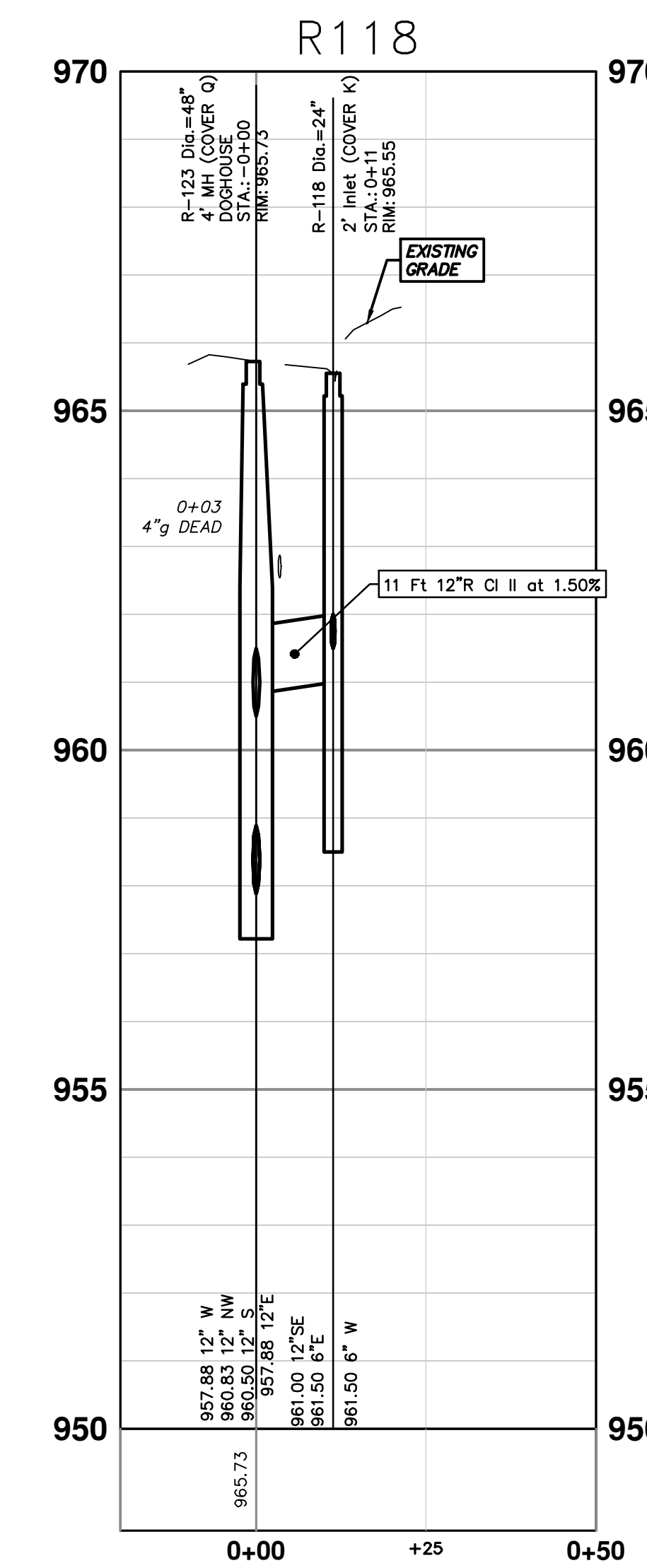
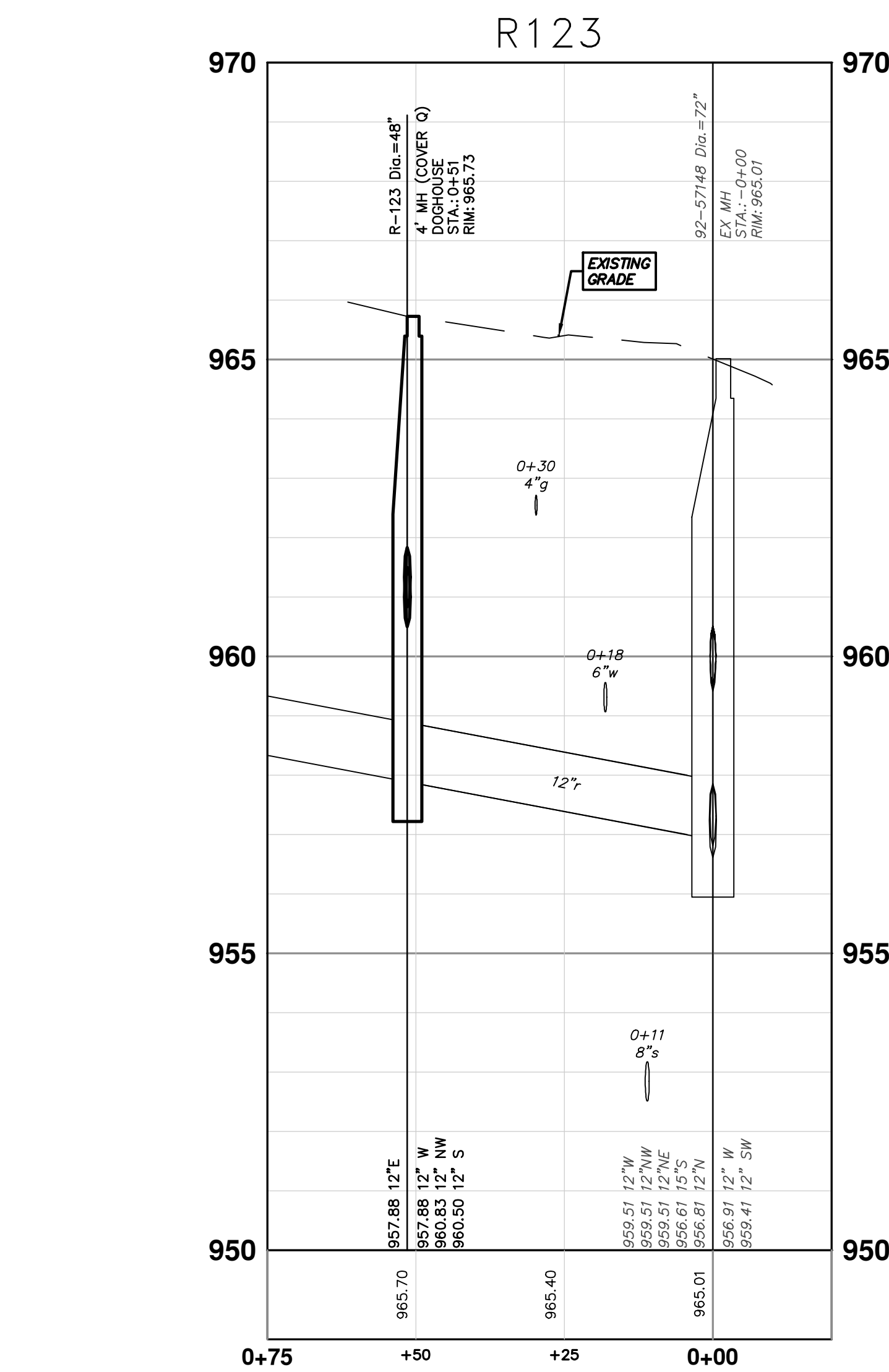
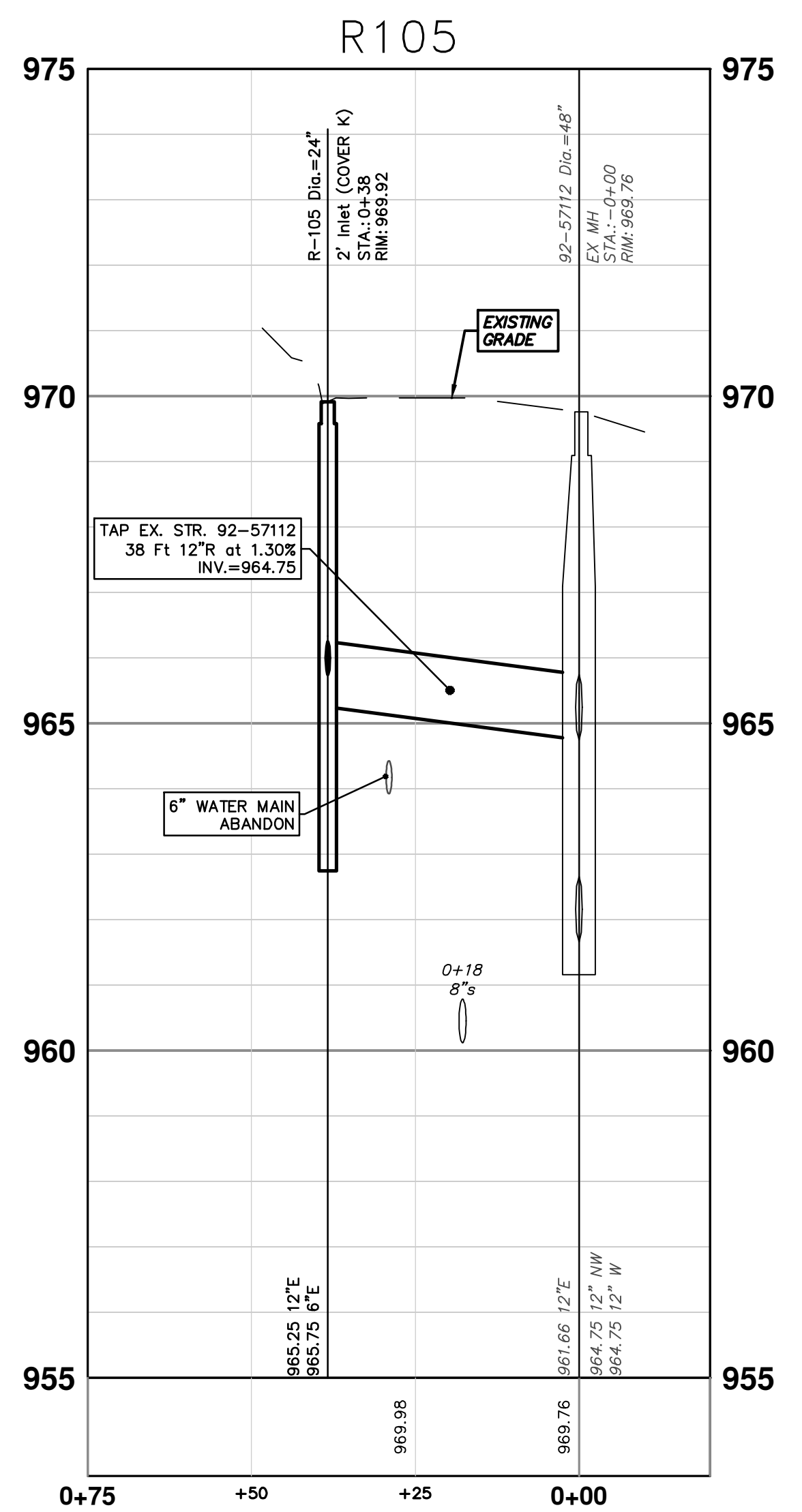
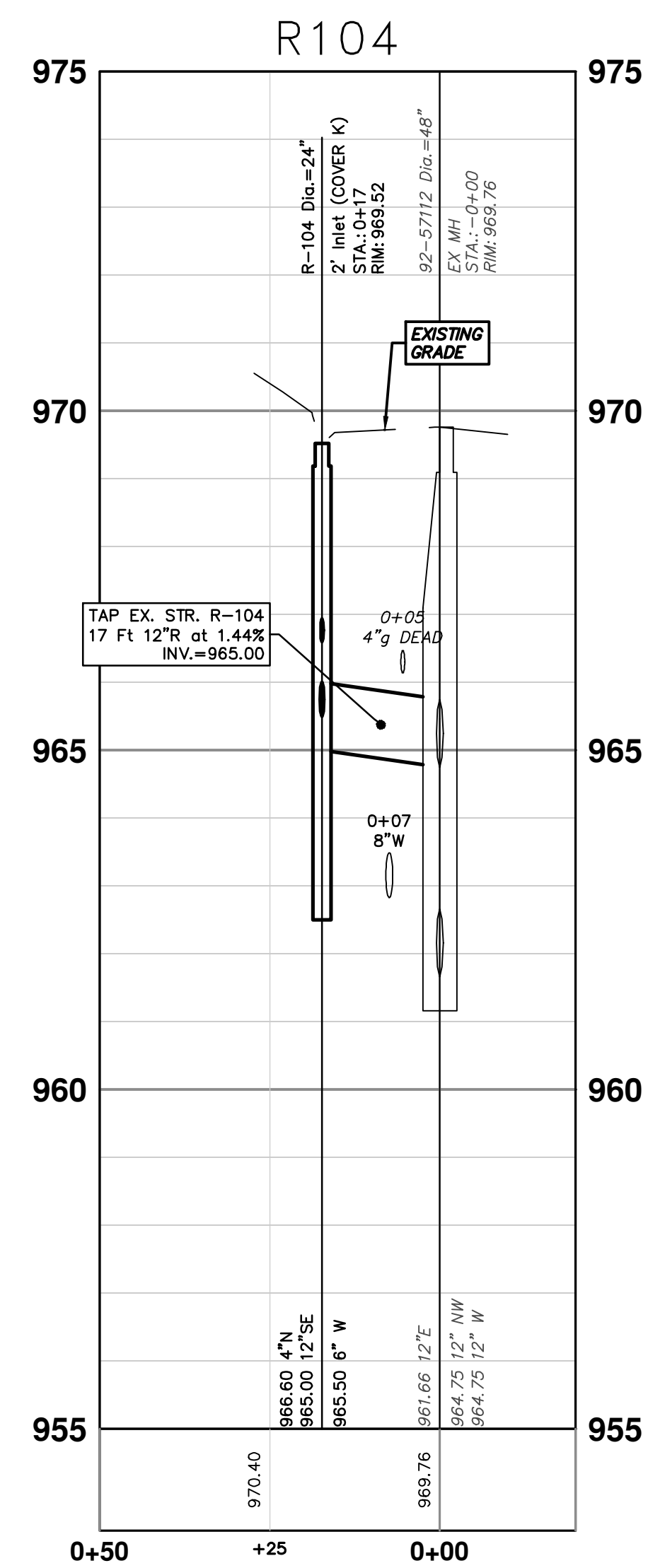
SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'

DRAWING No. 2022012-32

R:\2022012 Crescents WM Replacement\Plan Production\20220125trm1.dwg Dwg Created: 29-Mar-23 - _a2 standard bw.stb - Plot Date: 29-Mar-23



STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	TYPE	RIM	INVERTS	DEPTH (Feet)	SUMP
R-119	0+22	2' Inlet (COVER K)	965.38	12" N 961.00 6" W 961.50 6" E 961.50	6.38	2'
R-118	0+11	2' Inlet (COVER K)	965.55	6" W 961.50 12" SE 961.00 6" E 961.50	6.55	2'
R-123	0+51	4' MH (COVER Q) DOGHOUSE	965.73	12" W 957.88 12" NW 960.83 12" S 960.50 12" E 957.88	7.84	0'
R-104	0+17	2' Inlet (COVER K)	969.52	6" W 965.50 4" N 966.60 12" SE 965.00	6.52	2'
R-105	0+38	2' Inlet (COVER K)	969.92	12" E 965.25 6" E 965.75	6.67	2'
92-57112	0+00	EX MH	969.76	12" NW 964.75 12" W 964.75 12" E 961.66	8.10	0'
92-57148	0+00	EX MH	965.01	12" W 956.91 12" SW 959.41 12" W 959.51 12" NW 959.51 12" NE 959.51 15" S 956.61 12" N 956.81	8.40	0'



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ANN ARBOR: 734.754.4410
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CRESCENTS WATER MAIN REPLACEMENT

PROJECT - PHASE I

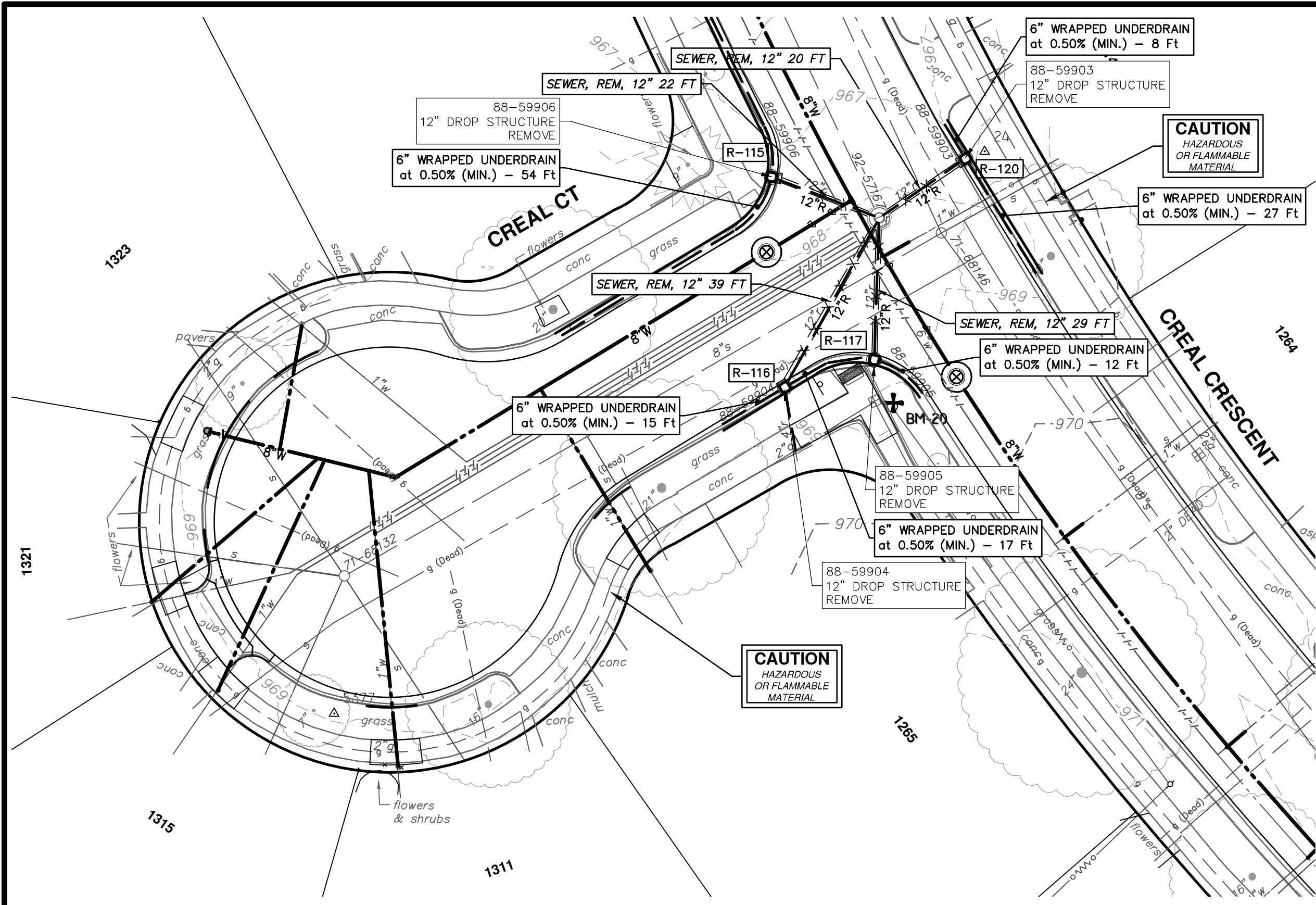
STORM SEWER
R104, R105, R123, R118, R119

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

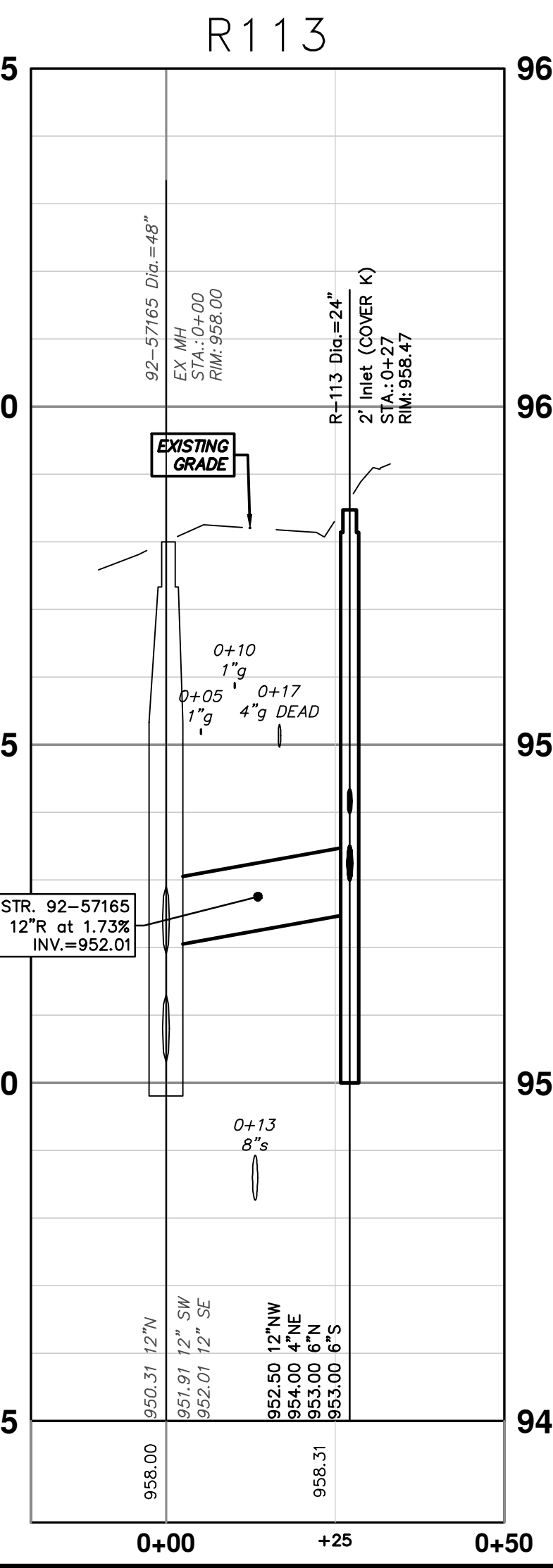
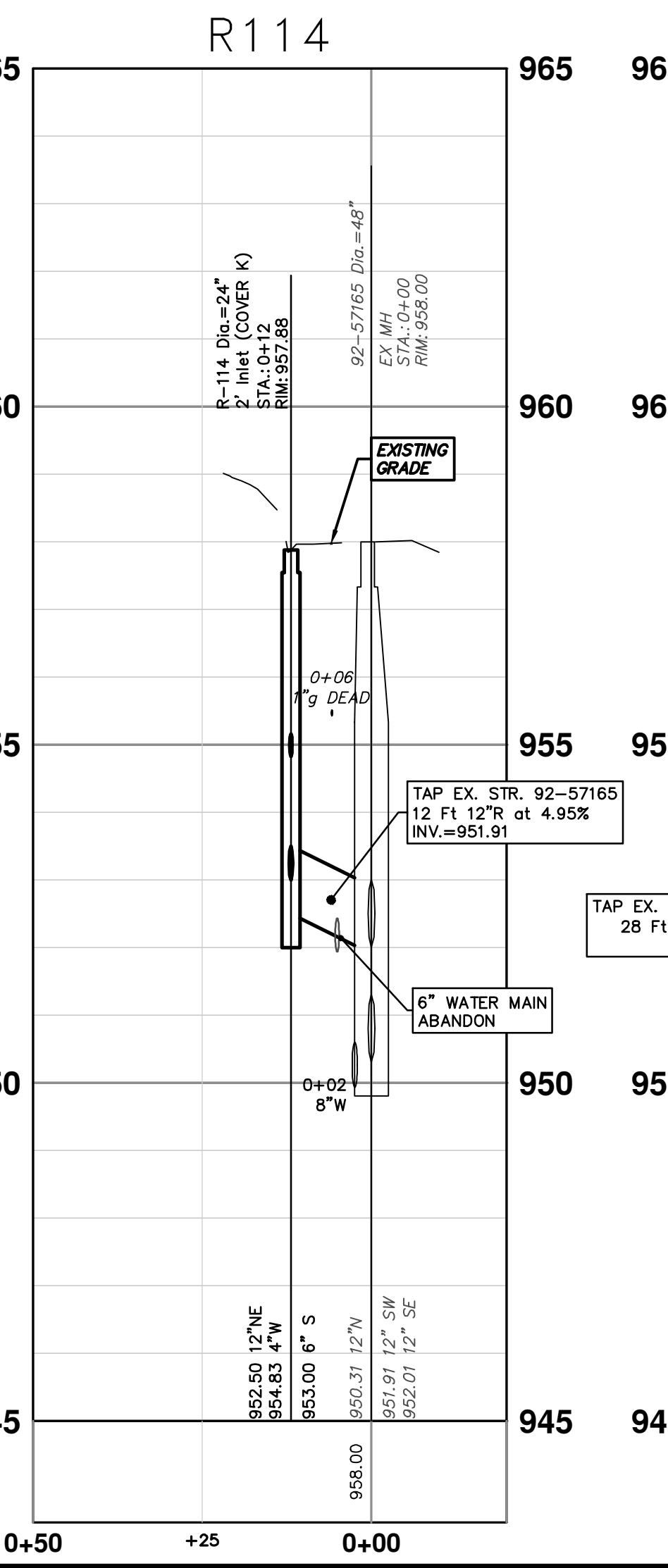
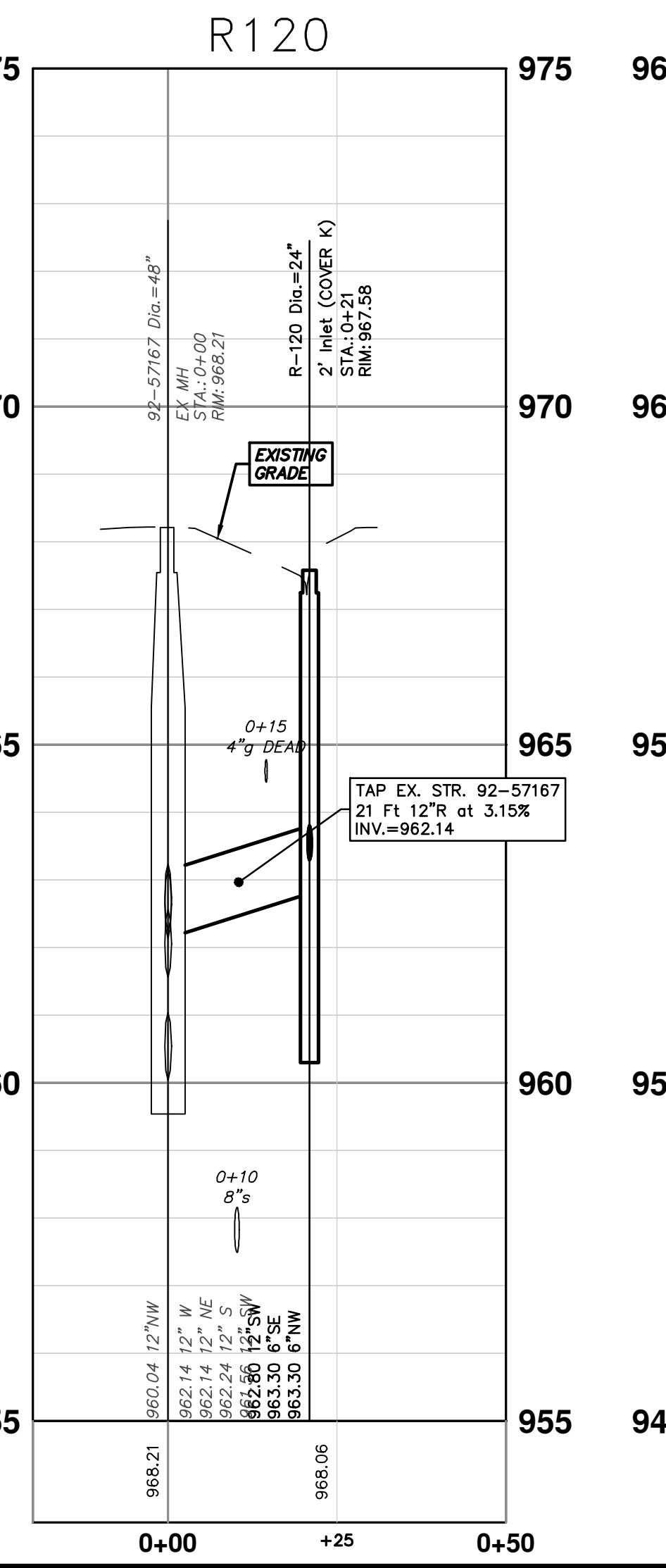
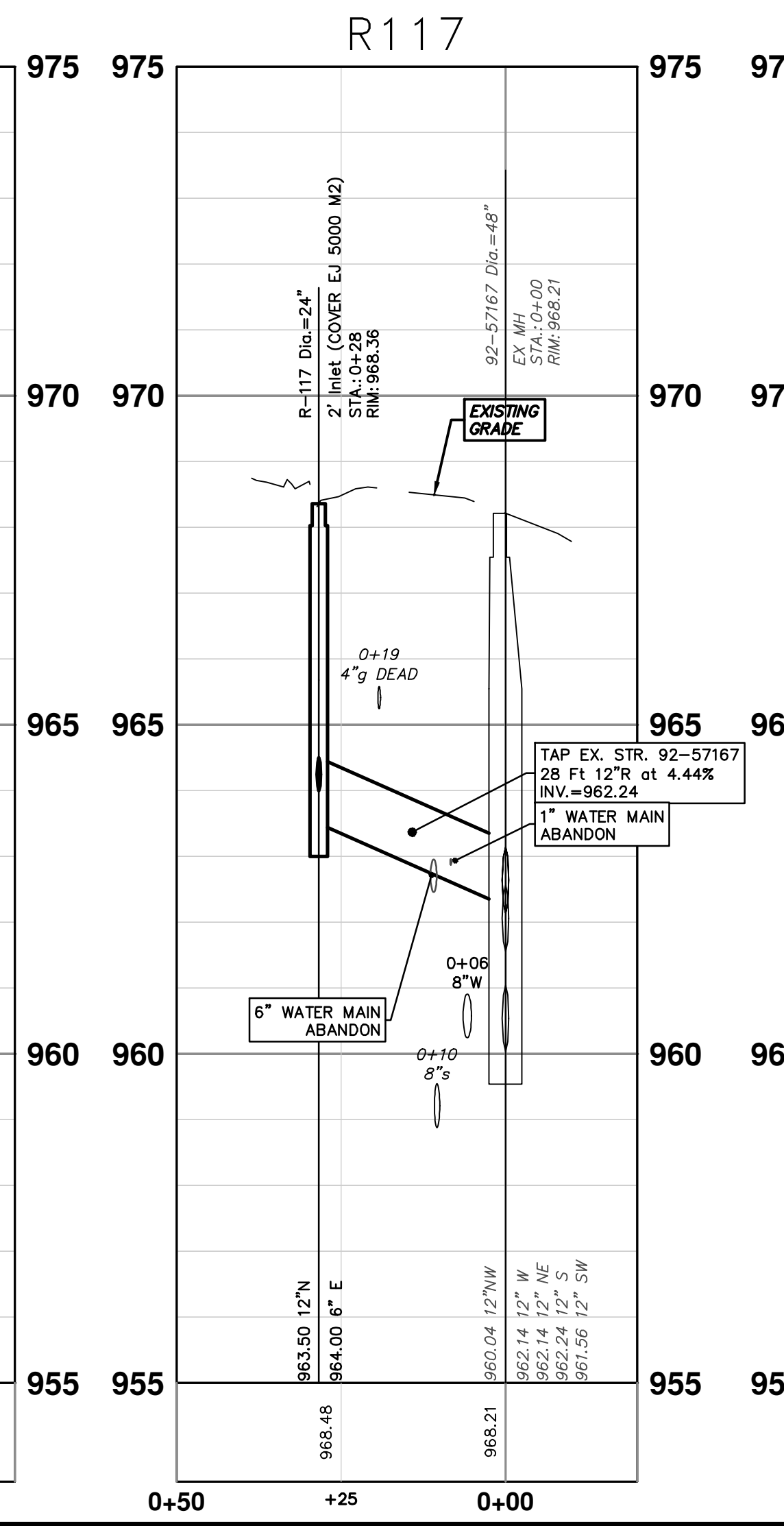
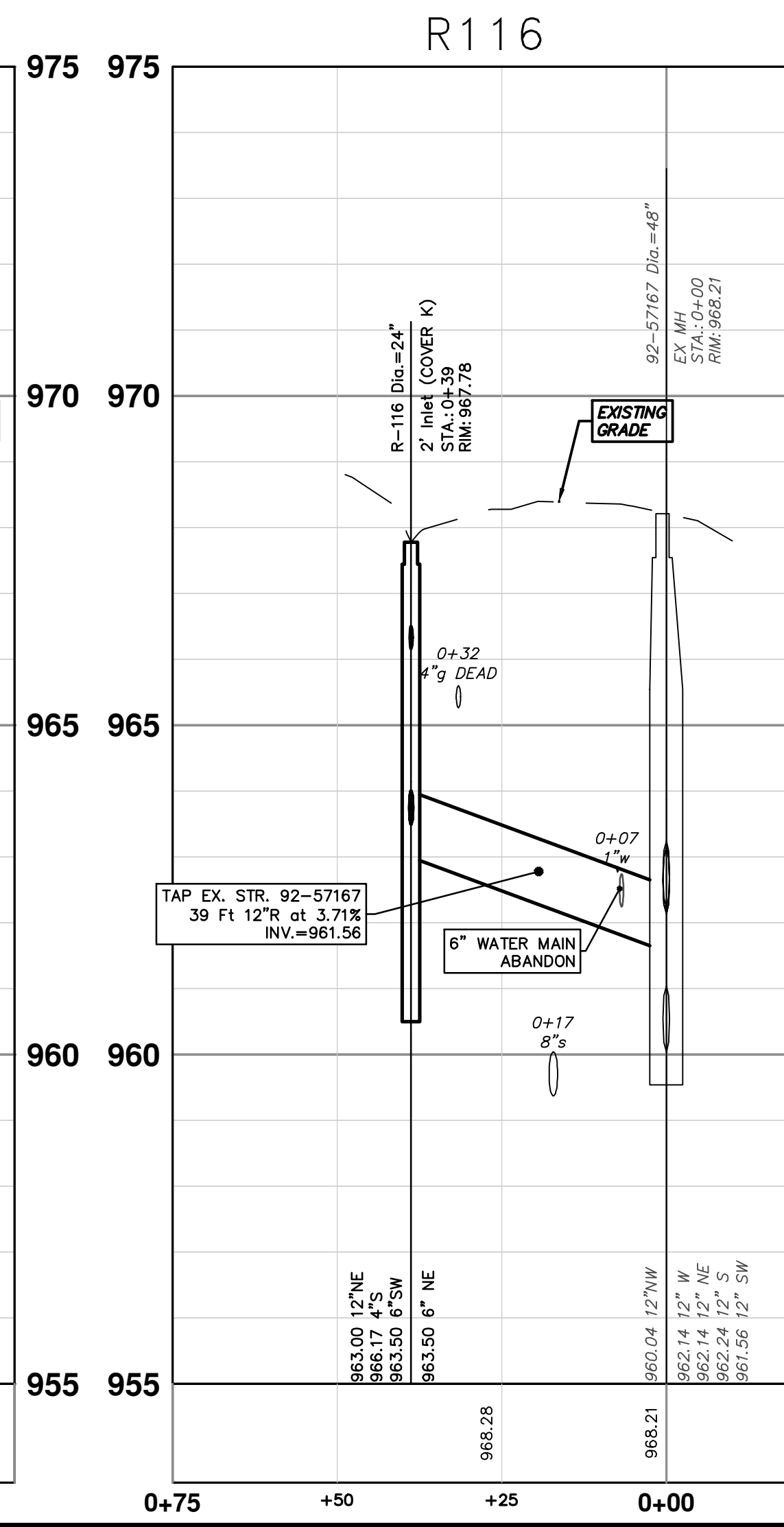
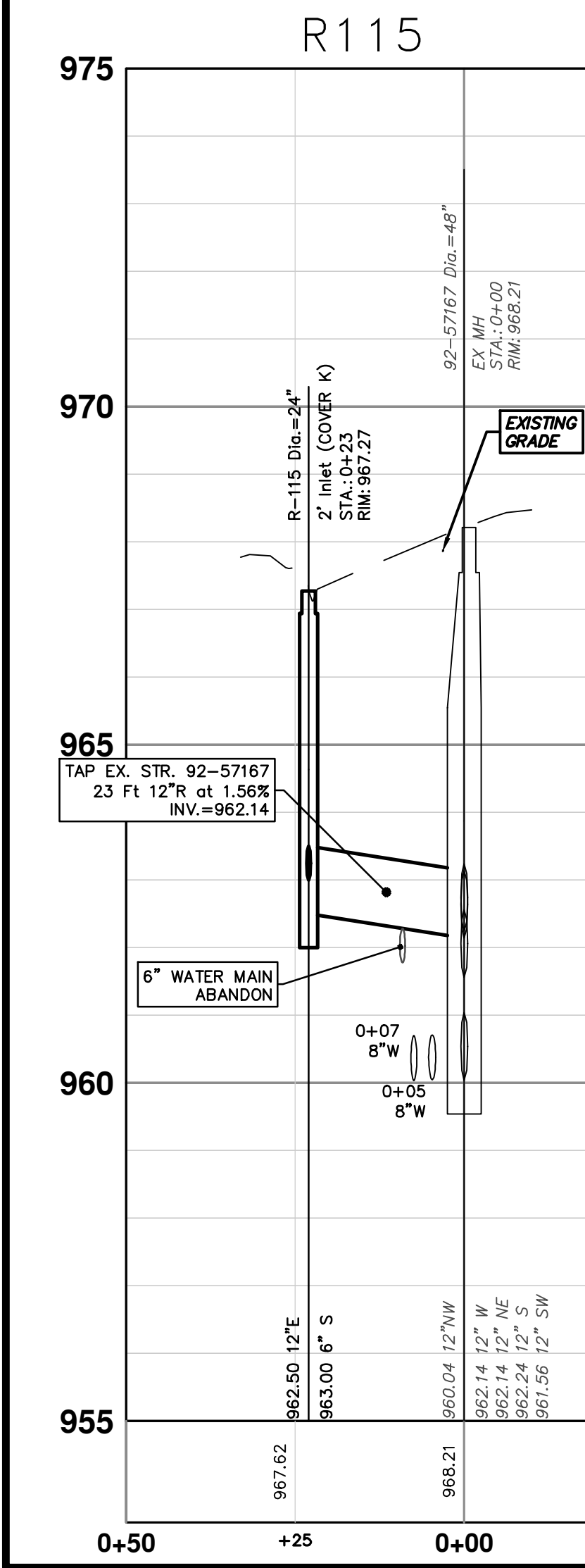
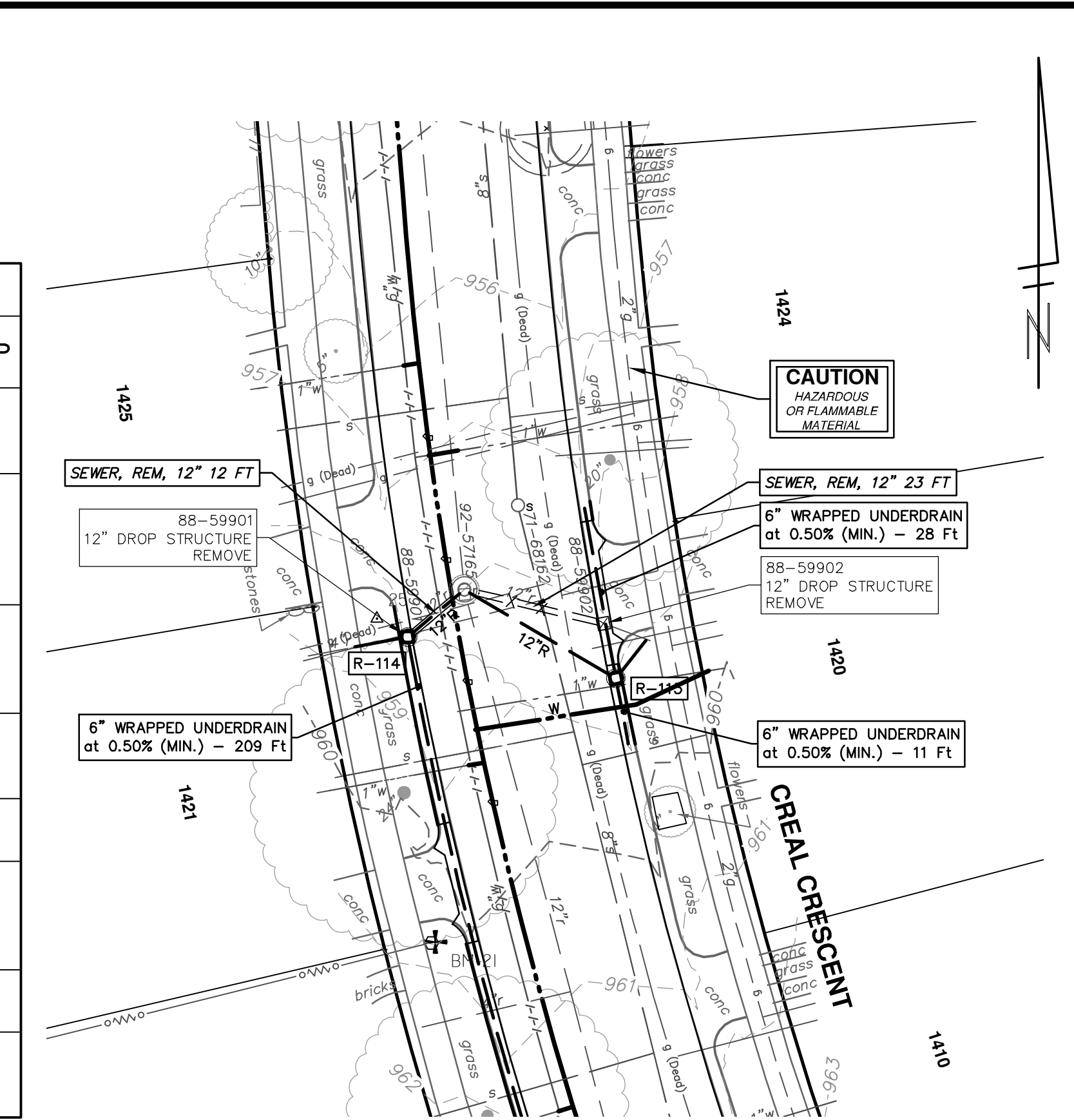
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SHEET NO. 33 OF 43

R:\2022\12 Crescents WM Replacement\Plan Production\20220125trm1.dwg Dwg Created: 29-Mar-23 - _a2 standard bw.stb - Plot Date: 29-Mar-23



STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	TYPE	RIM	INVERTS	DEPTH (Feet)	SUMP
92-57165	0+00	EX MH	958.00	12" SW 951.91 12" SE 952.01 12" N 950.31	7.69	0'
92-57167	0+00	EX MH	968.21	12" W 962.14 12" NE 962.14 12" S 962.24 12" SW 961.56 12" NW 960.04	8.17	0'
R-113	0+27	2' Inlet (COVER K)	958.47	12" NW 952.50 4" NE 954.00 6" N 953.00 6" S 953.00	7.97	2'
R-114	0+12	2' Inlet (COVER K)	957.88	6" S 953.00 12" NE 952.50 4" W 954.83	5.38	0'
R-115	0+23	2' Inlet (COVER K)	967.27	6" S 963.00 12" E 962.50	4.77	0'
R-116	0+39	2' Inlet (COVER K)	967.78	6" NE 963.50 12" NE 963.00 4" S 966.17 6" SW 963.50	6.78	2'
R-117	0+28	2' Inlet (COVER EJ 5000 M2)	968.36	6" E 964.00 12" N 963.50	4.86	0'
R-120	0+21	2' Inlet (COVER K)	967.58	12" SW 962.80 6" SE 963.30 6" NW 963.30	6.78	2'



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DATE: 3-15-2023
DRAWN: [blank]
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REV. 00 EFILE PERMIT
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CRESCENTS WATER MAIN REPLACEMENT PROJECT - PHASE I
STORM SEWER
R115, R116, R117, R120, R114, R113

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

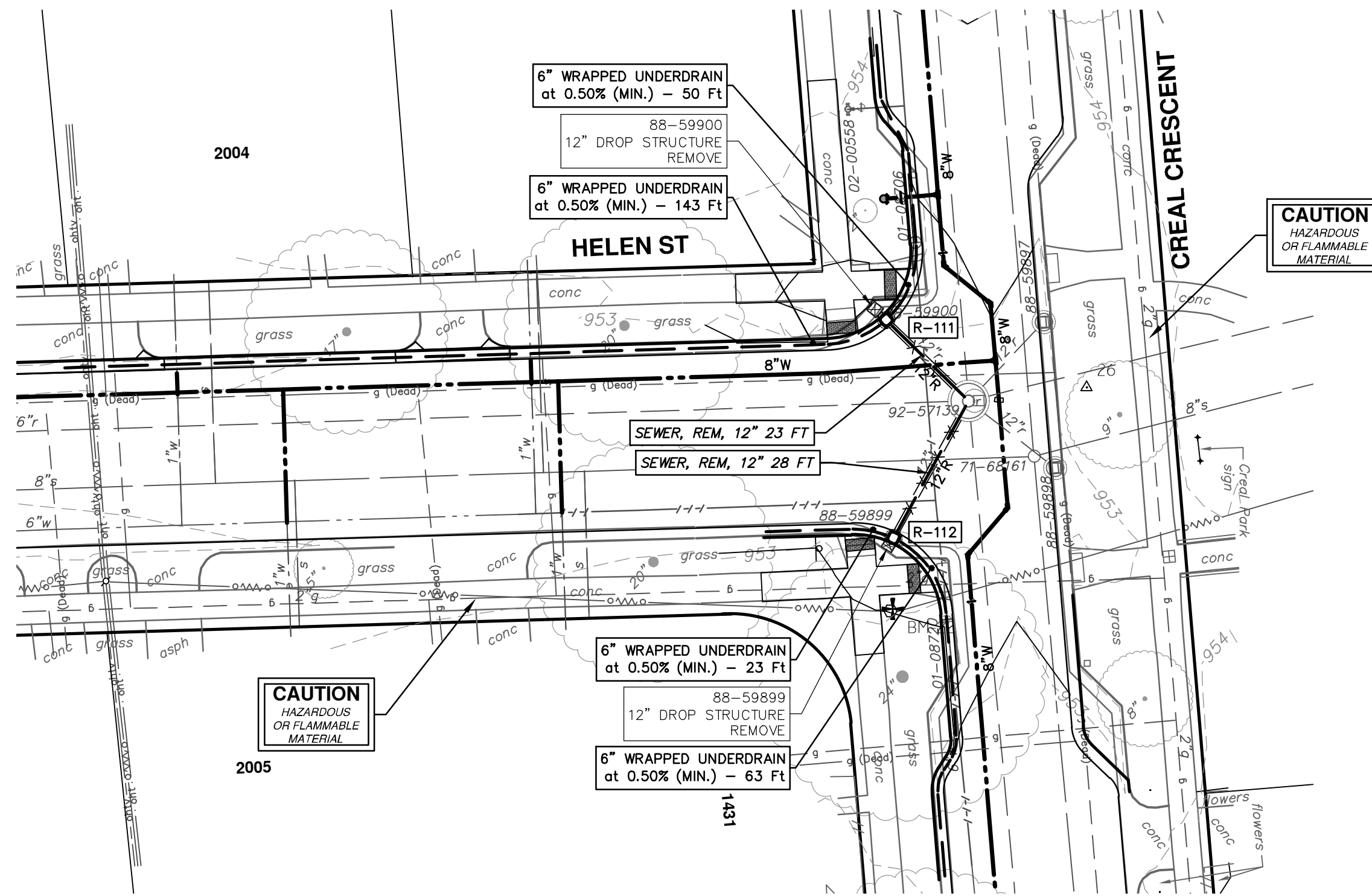
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SHEET NO. 34 OF 43

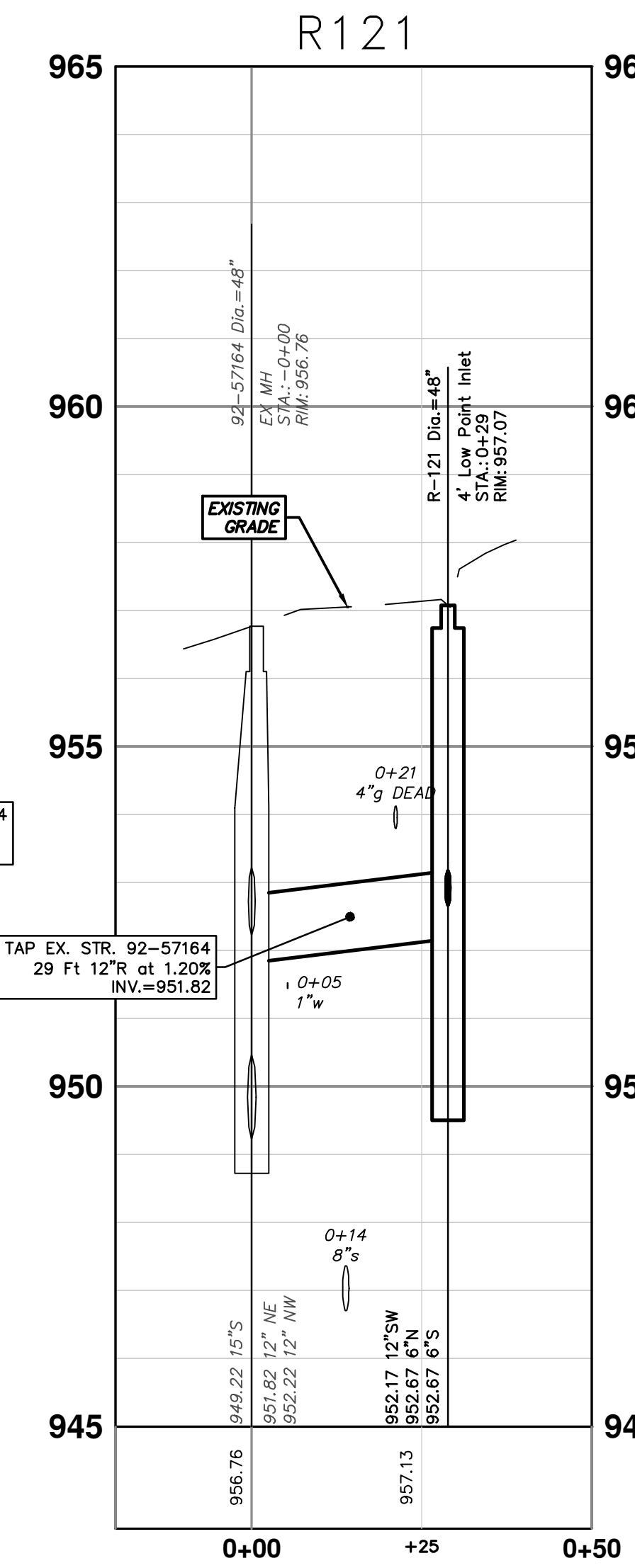
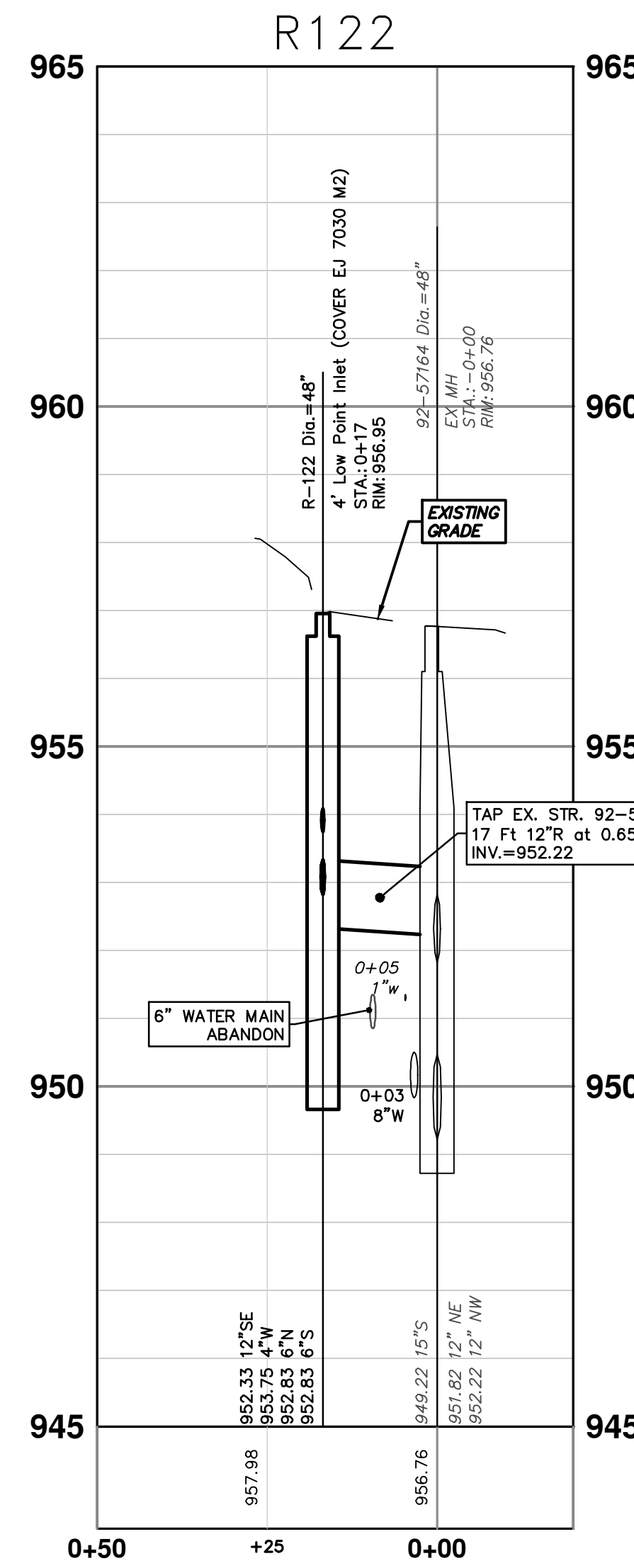
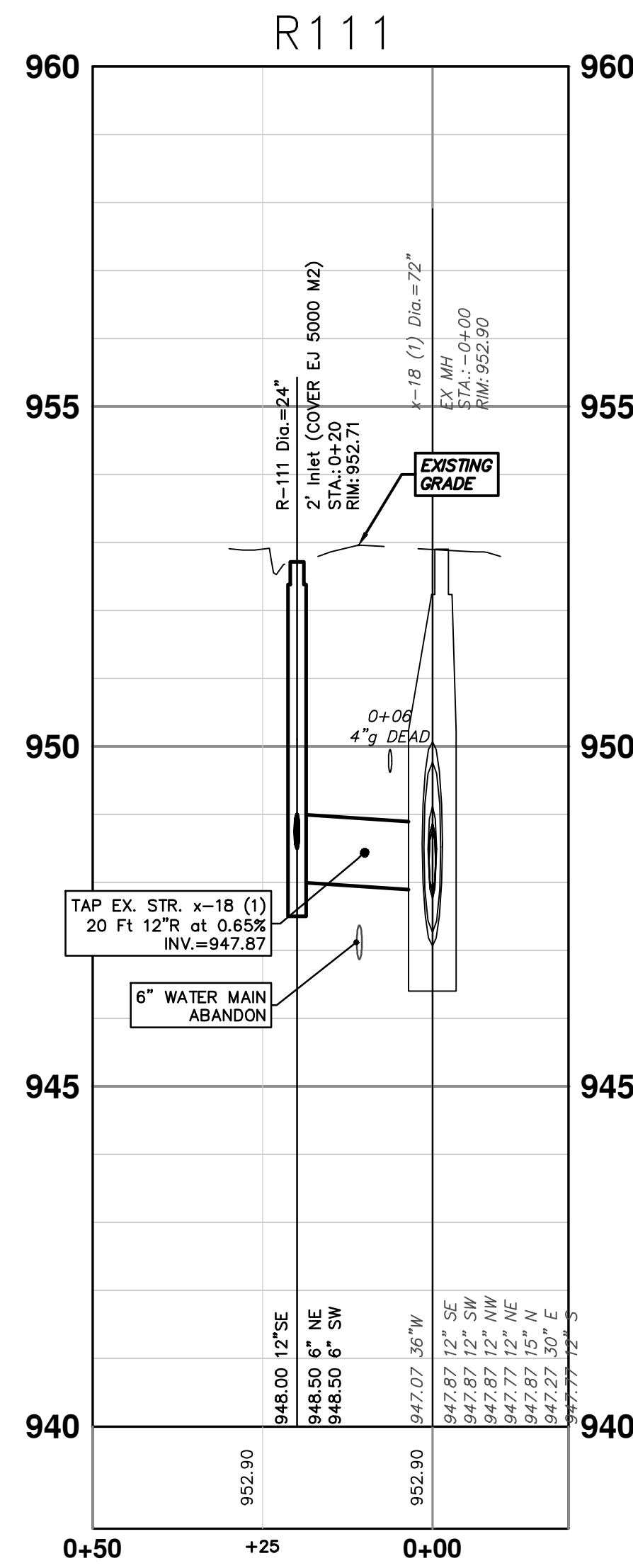
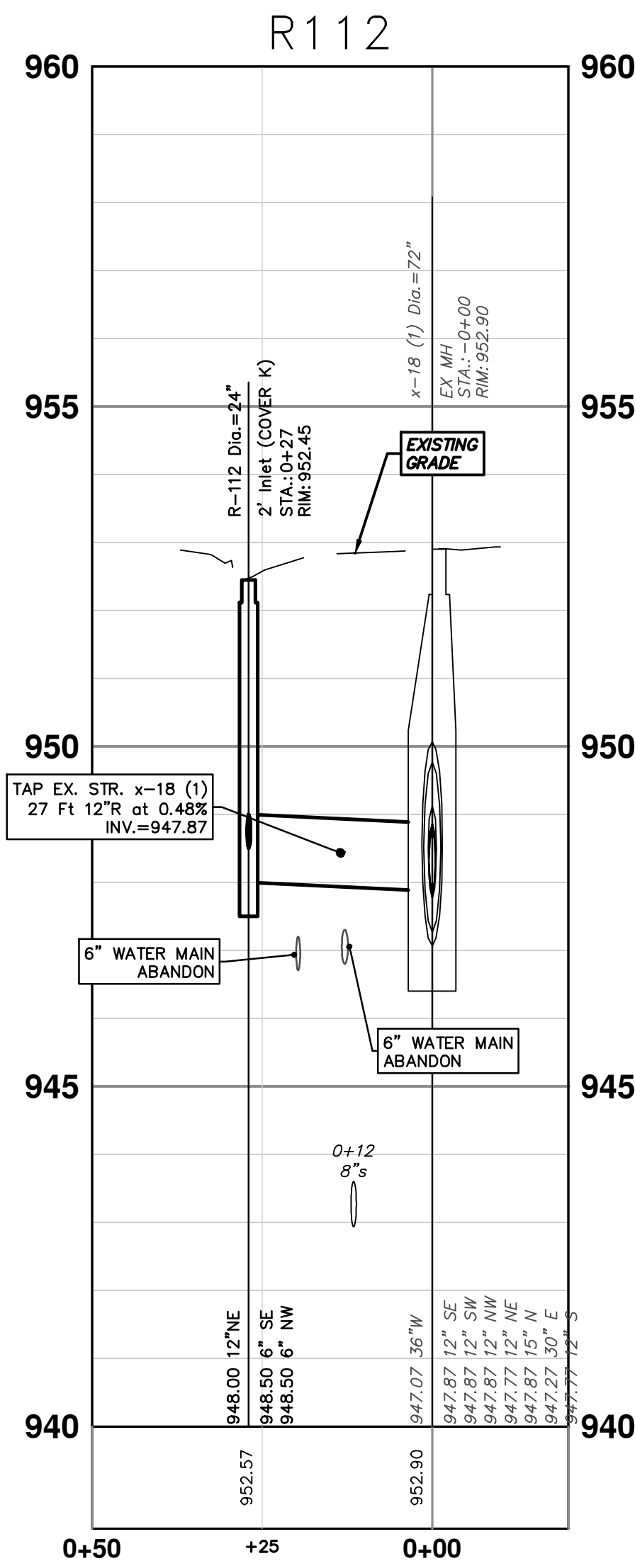
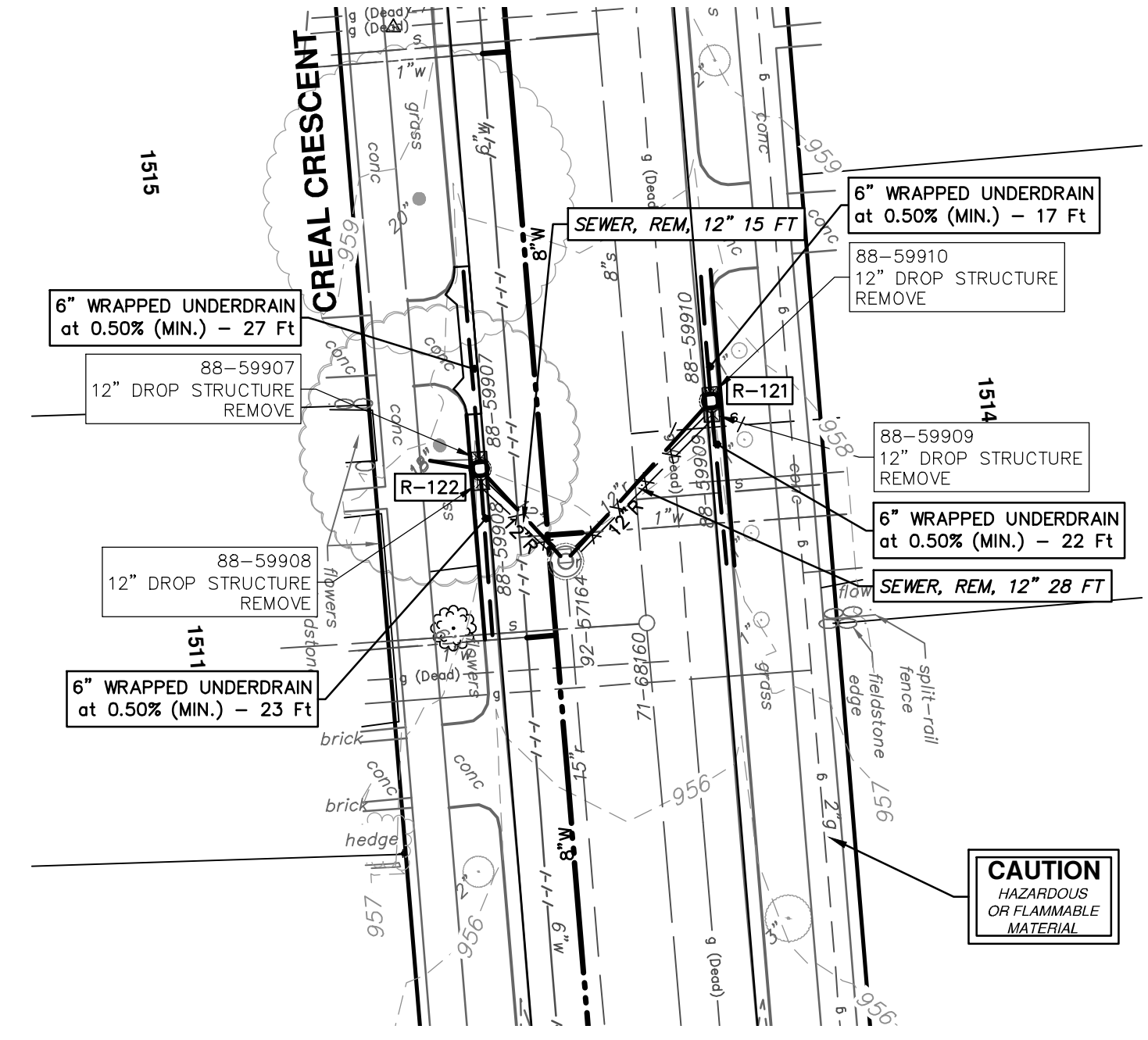
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REV. 00 EFILE PERMIT
01 OUT FOR BID

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STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	TYPE	RIM	INVERTS	DEPTH (Feet)	SUMP
92-57164	0+00	EX MH	956.76	12" NE 951.82 12" NW 952.22 15" S 949.22	7.54	0'
R-111	0+20	2' Inlet (COVER EJ 5000 M2)	952.71	6" NE 948.50 6" SW 948.50 12" SE 948.00	4.71	0'
R-112	0+27	2' Inlet (COVER K)	952.45	6" SE 948.50 6" NW 948.50 12" NE 948.00	4.45	0'
R-121	0+29	4' Low Point Inlet	957.07	12" SW 952.17 6" N 952.67 6" S 952.67	6.90	2'
R-122	0+17	4' Low Point Inlet (COVER EJ 7030 M2)	956.95	12" SE 952.33 4" W 953.75 6" N 952.83 6" S 952.83	6.62	2'
x-18 (1)	0+00	EX MH	952.90	12" SE 947.87 12" SW 947.87 12" NW 947.87 12" NE 947.77 15" N 947.87 30" E 947.27 12" S 947.77 36" W 947.07	5.83	0'



REV.	DATE	DESCRIPTION
01	3-29-2023	OUT FOR BID
00	3-15-2023	EFILE PERMIT

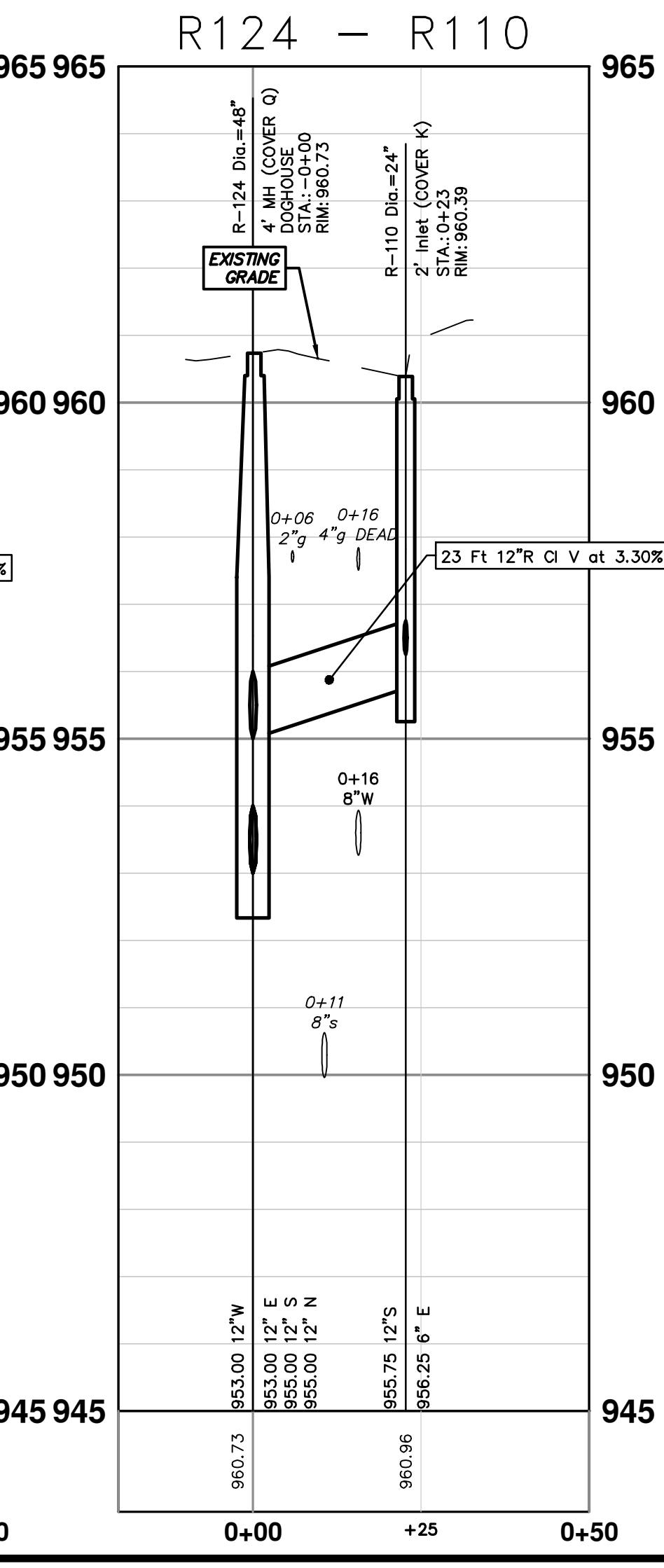
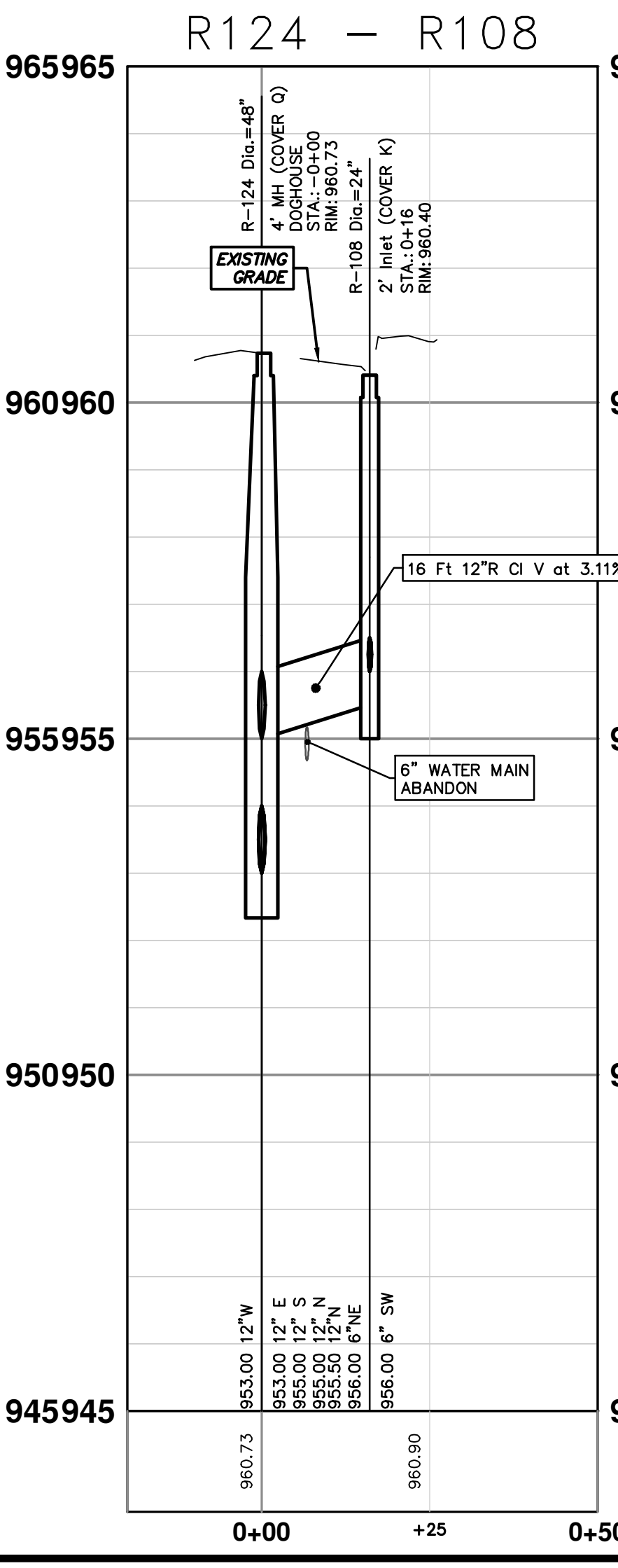
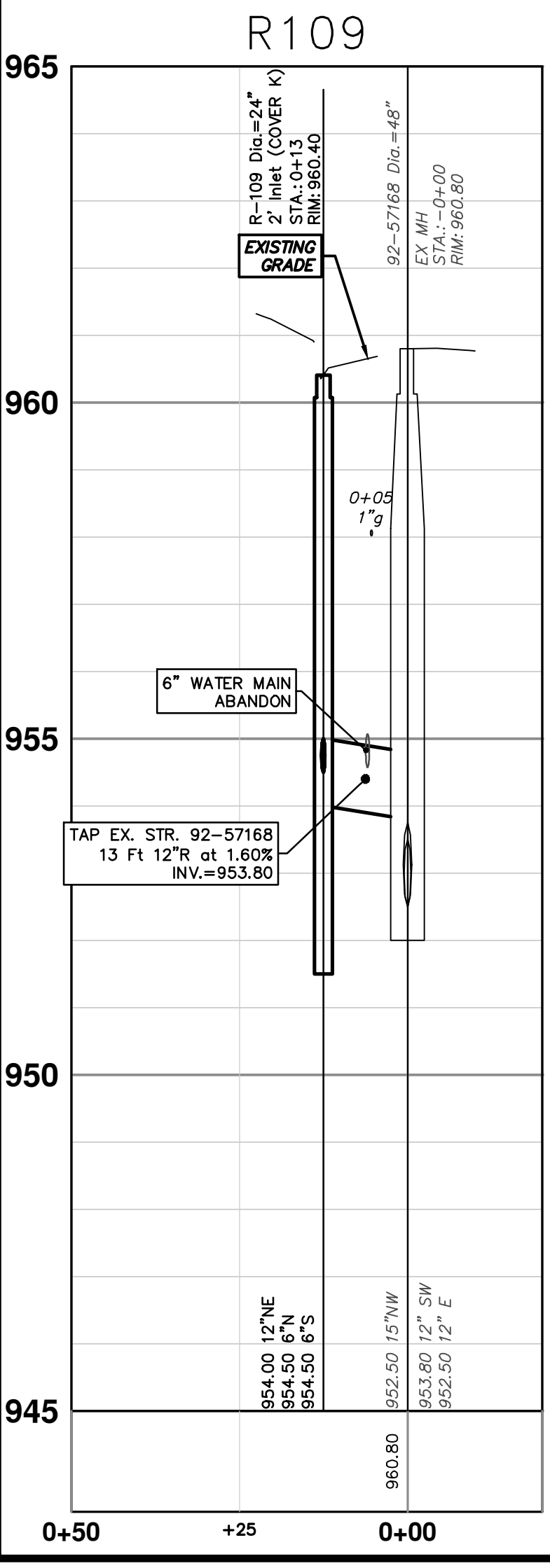
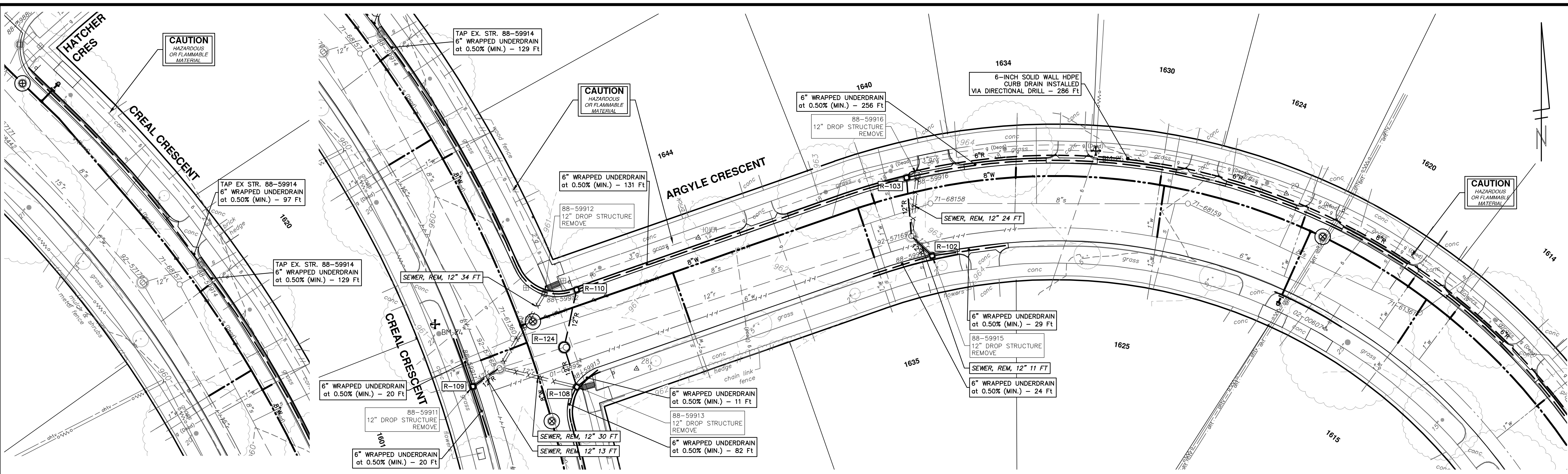
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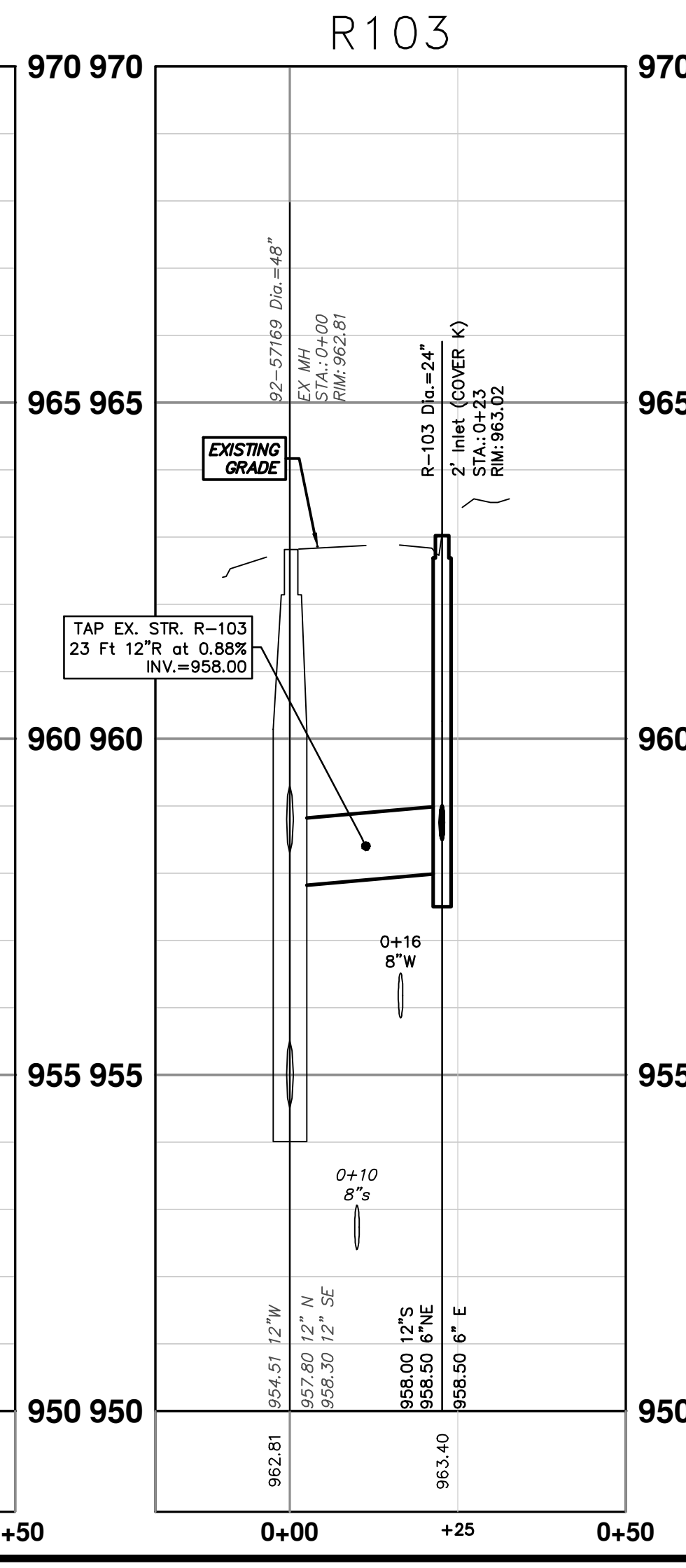
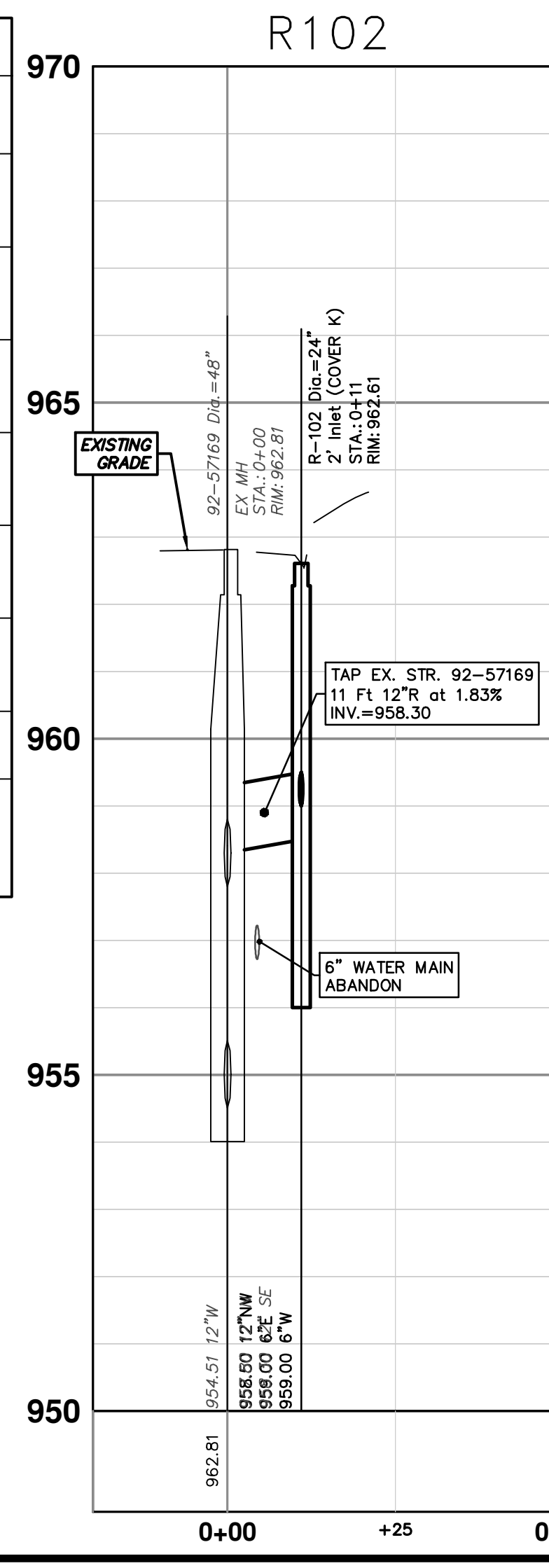
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN
REPLACEMENT PROJECT - PHASE I
STORM SEWER
R112, R111, R122, R121


SHEET No. 35 OF 43
SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'
DRAWING No. 2022012-35

R:\2022012 Crescents WM Replacement\Plan Production\20220125trm1.dwg Dwg Created: 29-Mar-23 - Plot Date: 29-Mar-23




STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	TYPE	RIM	INVERTS	DEPTH (Feet)	SUMP
92-57168	0+00	EX MH	960.80	12" SW 953.80 12" E 952.50 15" NW 952.50	8.30	0'
92-57169	0+00	EX MH	962.81	12" N 957.80 12" SE 958.30 12" W 954.51	8.30	0'
R-102	0+11	2' Inlet (COVER K)	962.61	12" NW 958.50 6" E 959.00 6" W 959.00	6.11	2'
R-103	0+23	2' Inlet (COVER K)	963.02	12" S 958.00 6" NE 958.50	5.02	0'
R-108	0+16	2' Inlet (COVER K)	960.40	6" SW 956.00 12" N 955.50 6" NE 956.00	4.90	0'
R-109	0+13	2' Inlet (COVER K)	960.40	12" NE 954.00 6" N 954.50 6" S 954.50	8.40	2'
R-110	0+23	2' Inlet (COVER K)	960.39	6" E 956.25 12" S 955.75	4.64	0'
R-124	0+00	4' MH (COVER Q) DOGHOUSE	960.73	12" E 953.00 12" S 955.00 12" N 955.00 12" W 953.00	7.73	0'





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REV.	DATE	DESCRIPTION
01	3-29-2023	OUT FOR BID
00	3-15-2023	EGL PERMIT



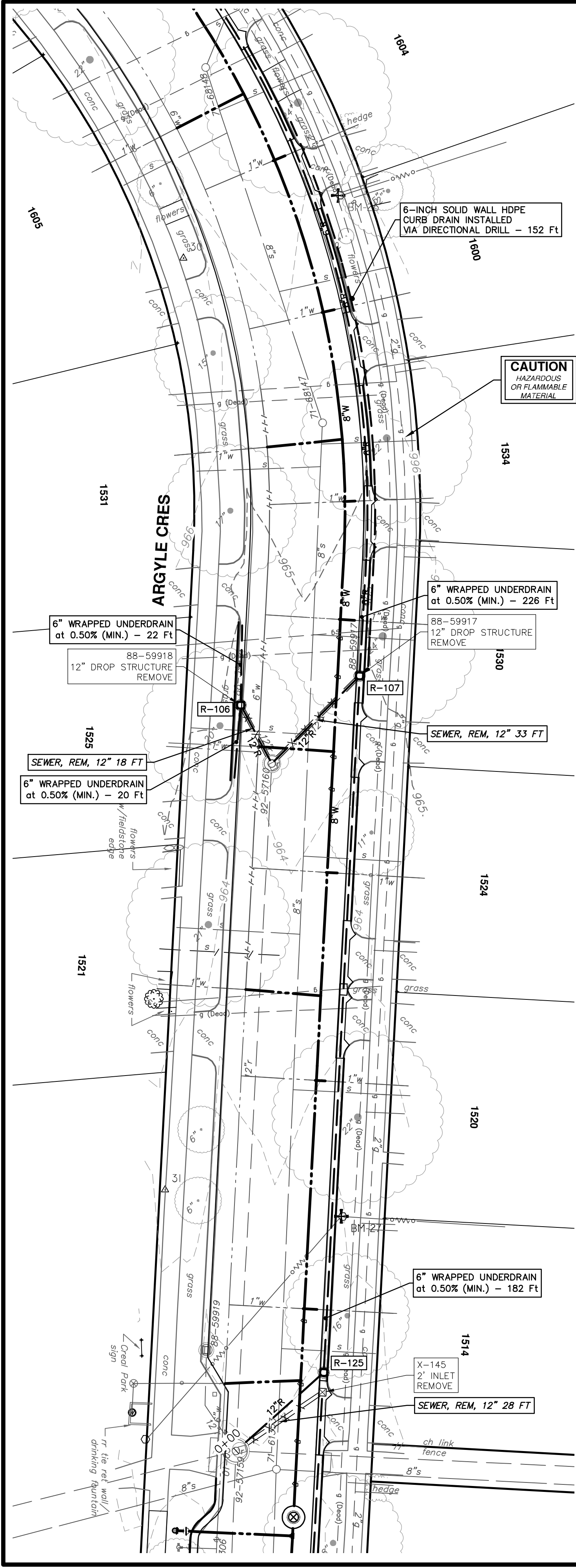
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN REPLACEMENT PROJECT - PHASE I
 STORM SEWER
 R109, R108, R124, R110, R102, R103

SCALE PLAN: 1" = 20'

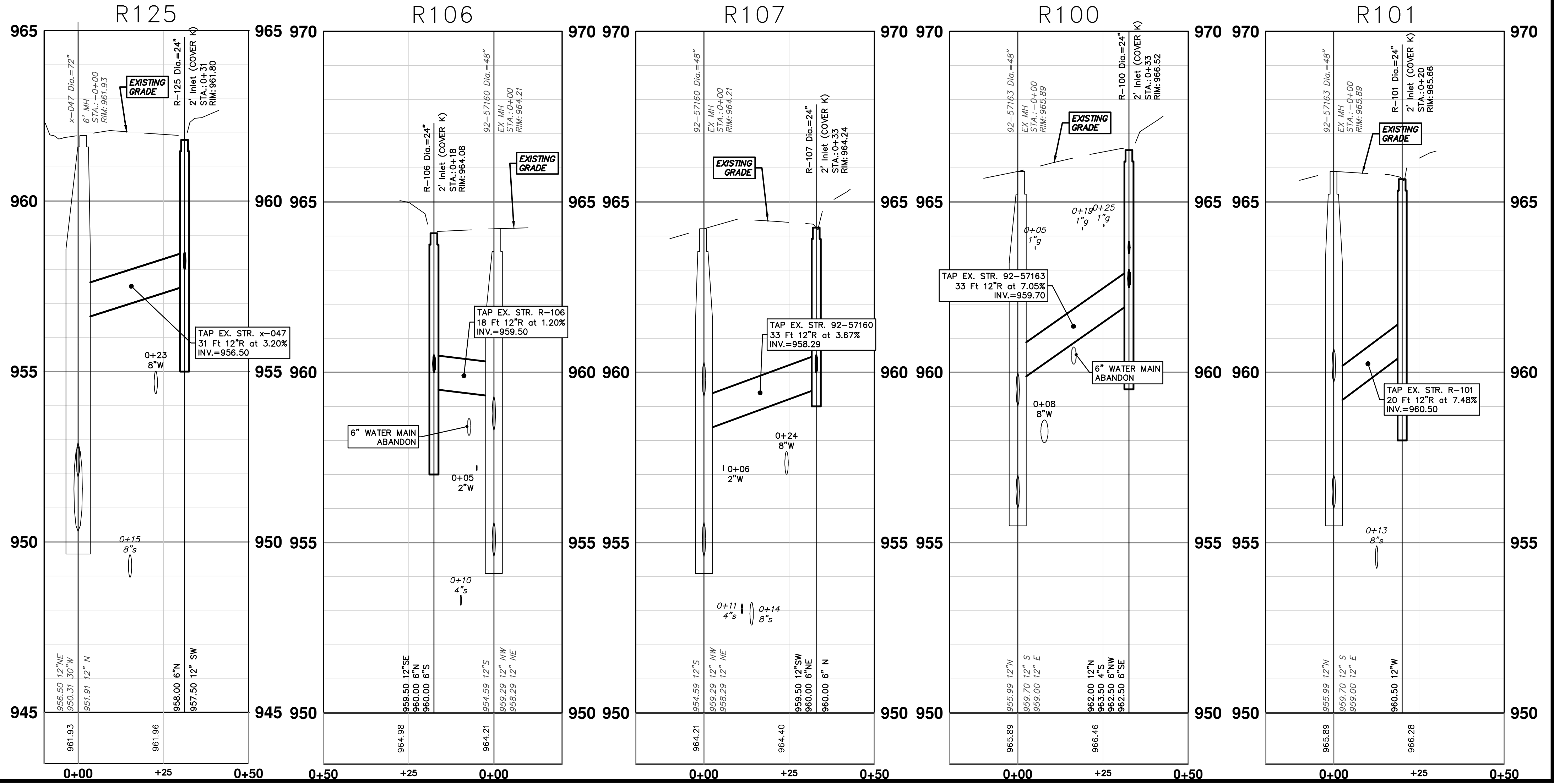
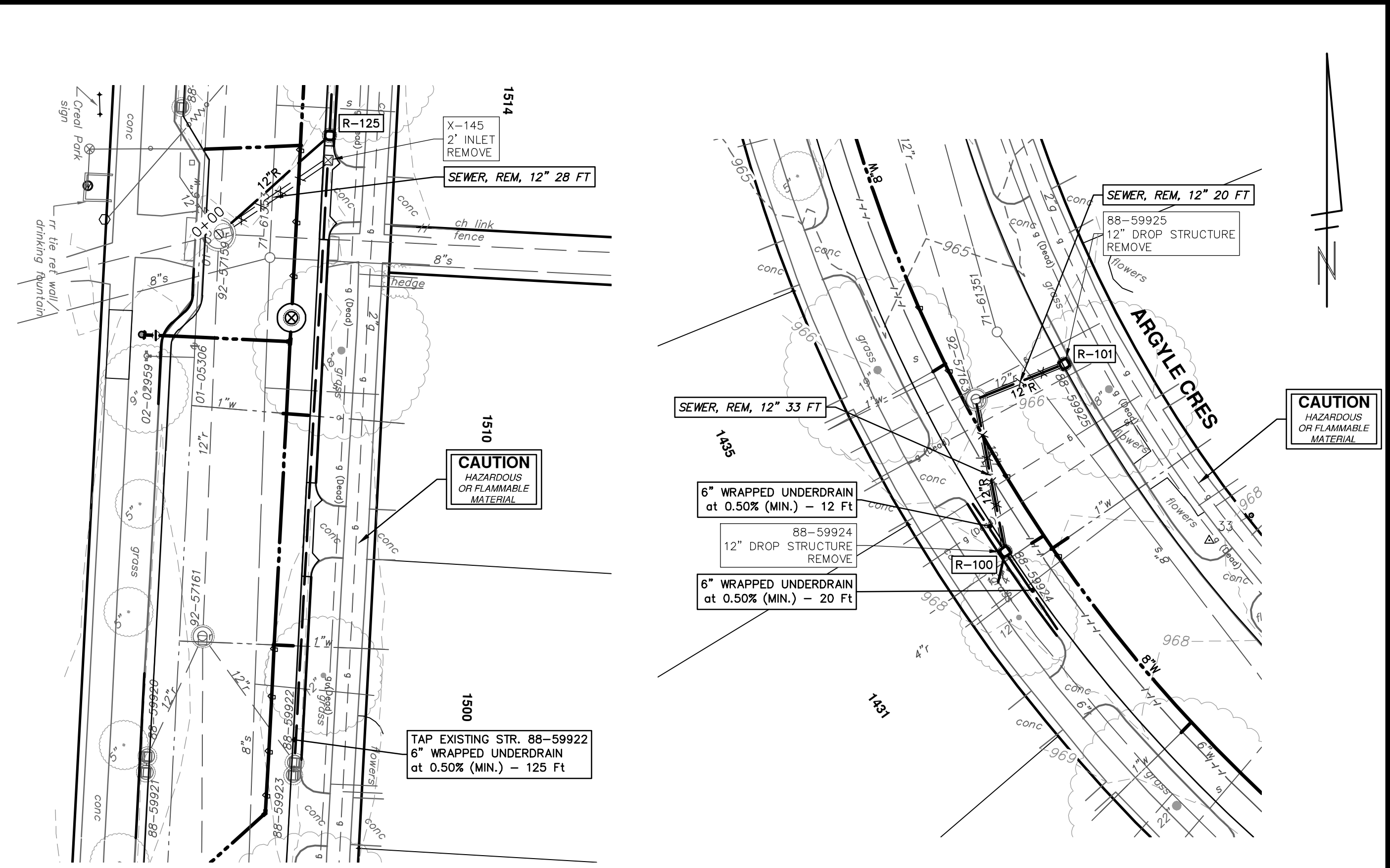
PROFILE: 1" = 2'

DRAWING No. 2022012-36

SHEET No. 36 OF 43



STRUCTURE	UTILITY STATION	TYPE	RIM	INVERTS	DEPTH (Feet)	SUMP
92-57160	0+00	EX MH	964.21	12" NW 959.29 12" NE 958.29 12" S 954.59	9.62	0'
92-57163	0+00	EX MH	965.89	12" S 959.70 12" E 959.00 12" N 955.99	9.90	0'
R-100	0+33	2' Inlet (COVER K)	966.52	12" N 962.00 4" S 963.50 6" NW 962.50 6" SE 962.50	6.52	2'
R-101	0+20	2' Inlet (COVER K)	965.66	12" W 960.50	7.16	2'
R-106	0+18	2' Inlet (COVER K)	964.08	12" SE 959.50 6" N 960.00 6" S 960.00	6.58	2'
R-107	0+33	2' Inlet (COVER K)	964.24	6" N 960.00 12" SW 959.50 6" NE 960.00	4.74	0'
R-125	0+31	2' Inlet (COVER K)	961.80	12" SW 957.50 6" N 958.00	6.30	2'



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CRESCENTS WATER MAIN REPLACEMENT PROJECT - PHASE I

STORM SEWER
R125, R106, R107, R100, R101

SHEET No. **37 OF 43**

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

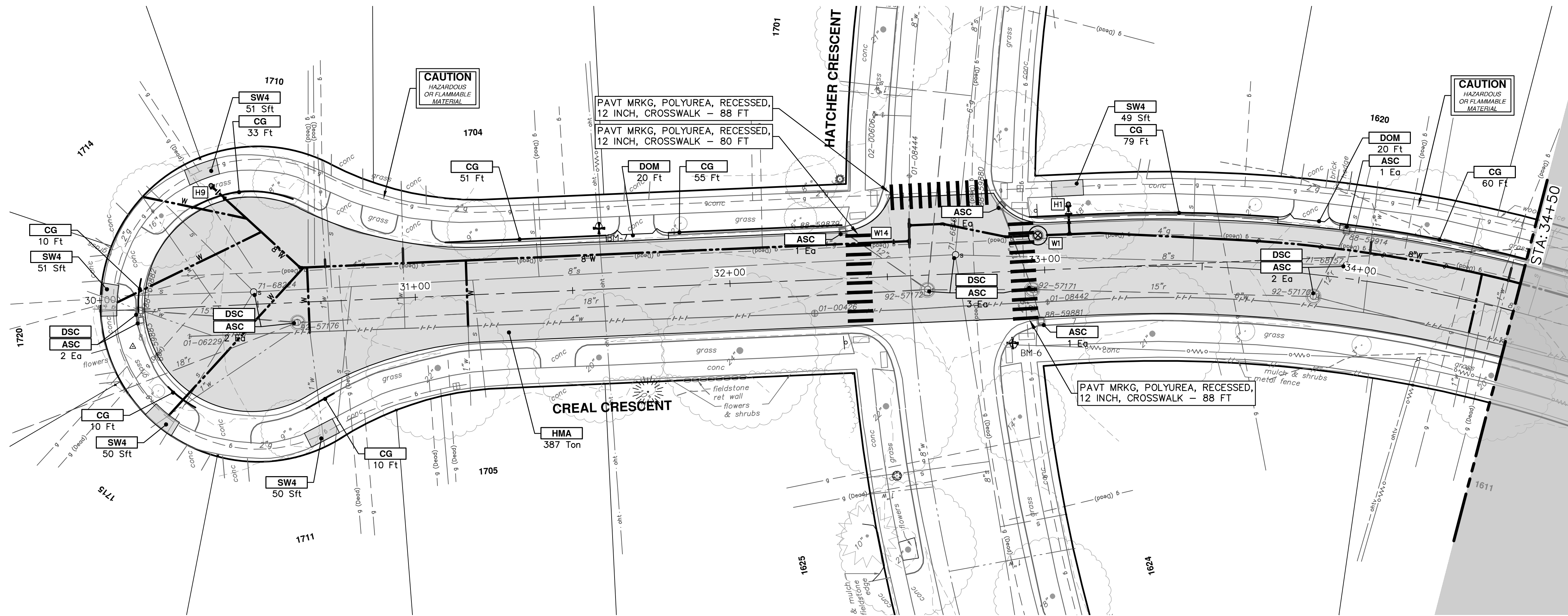
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REV.	DATE	DESCRIPTION
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00	3-15-2023	EGLE PERMIT

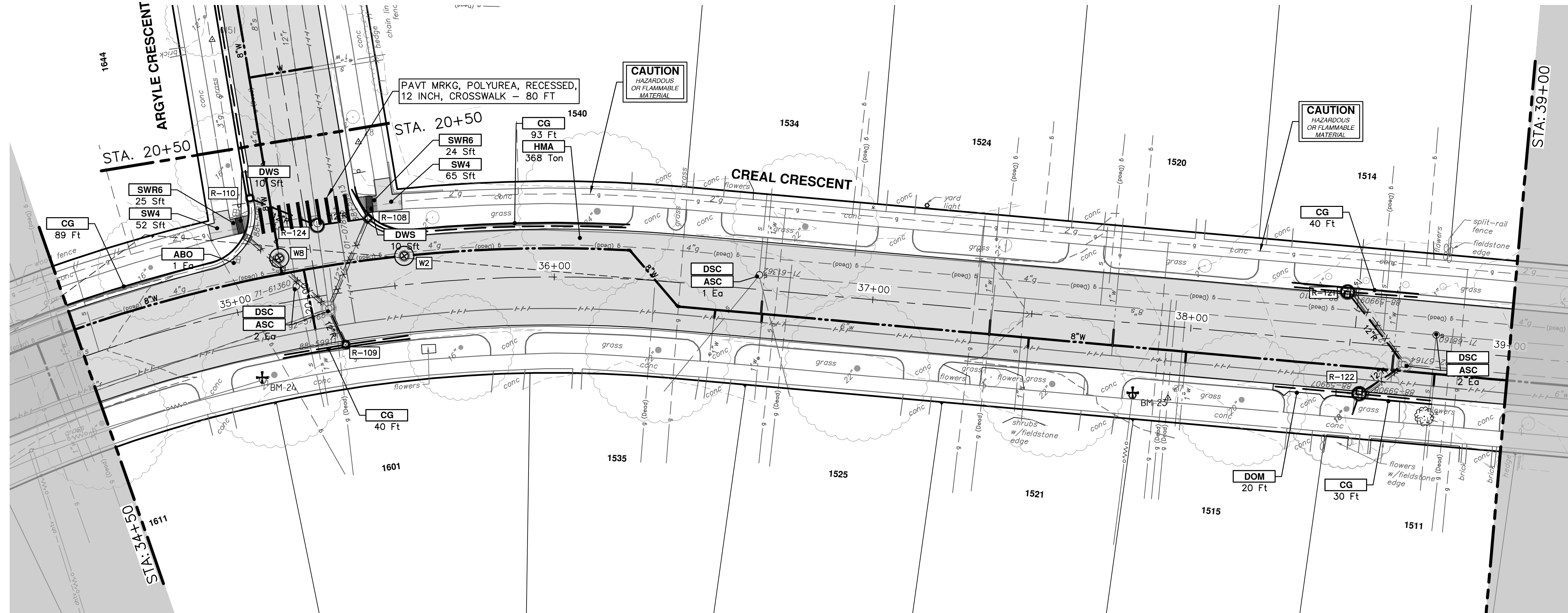
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R:\2022012 Crescents WM Replacement\Plan Production\2022012Prd1.dwg Dwg Created: 28-Mar-23 - _a2 standard bw.stb - Plot Date: 29-Mar-23



CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONCRETE CURB OR CURB & GUTTER, ANY TYPE
SW4	4" CONCRETE SIDEWALK
SW6	6" CONCRETE SIDEWALK
SW6-HE	6" CONCRETE SIDEWALK - HIGH EARLY
SWR6	6" CONCRETE RAMP
SWR6-HE	6" CONCRETE RAMP, DRIVE APPROACH- HIGH EARLY
SW-RW1	INTEGRAL SIDEWALK RETAINING WALL, 6" TO 18"
DOM	CONCRETE TYPE M DRIVE OPENING- HIGH EARLY
DOL	CONCRETE TYPE L DRIVE OPENING- HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ASC	ADJUST STRUCTURE COVER
ABM	ADJUST MONUMENT BOX OR GATE VALVE BOX
ABO	ADJUST BY OTHERS
DSC	STRUCTURE COVER



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

DATE: 3-15-2023
DRAWN: [blank]
CHECKED: [blank]

OUT FOR BID: 3-29-2023
DF/CC: [blank]

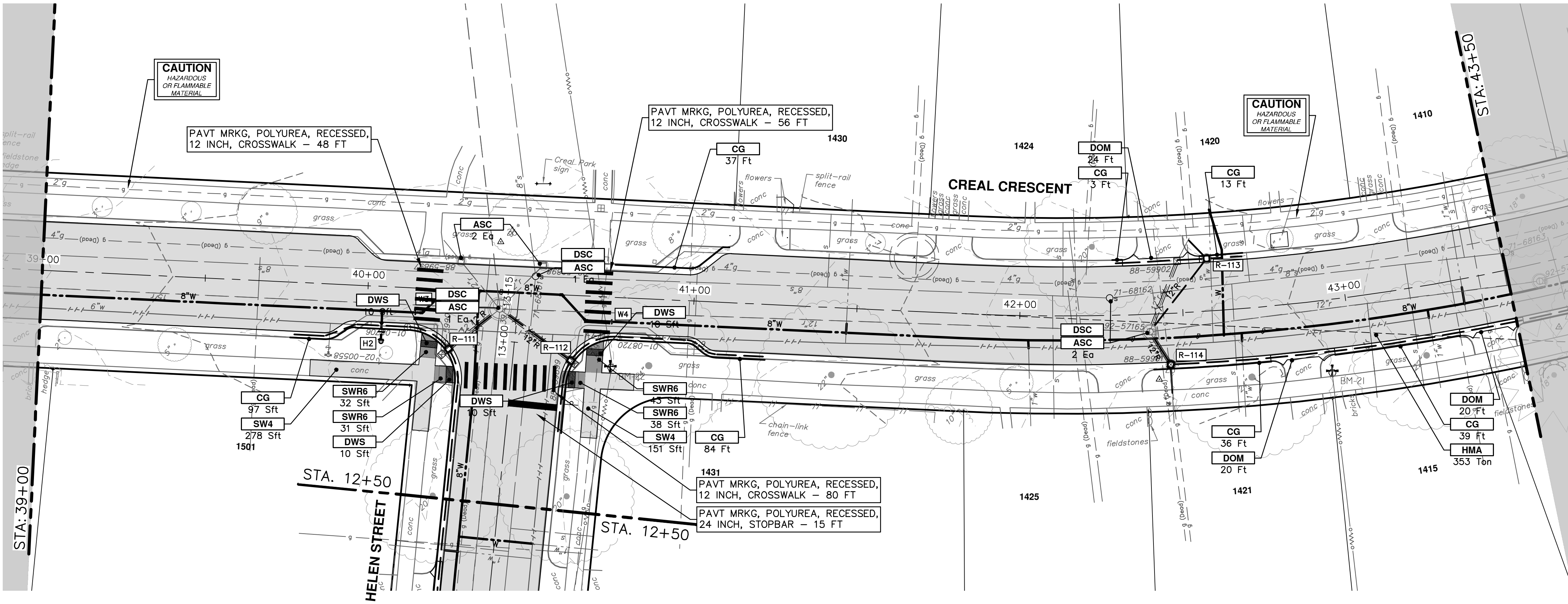
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN REPLACEMENT PROJECT - PHASE I
CREAL CRESCENT ROAD PLANS
STA. 30+00 - STA. 39+00

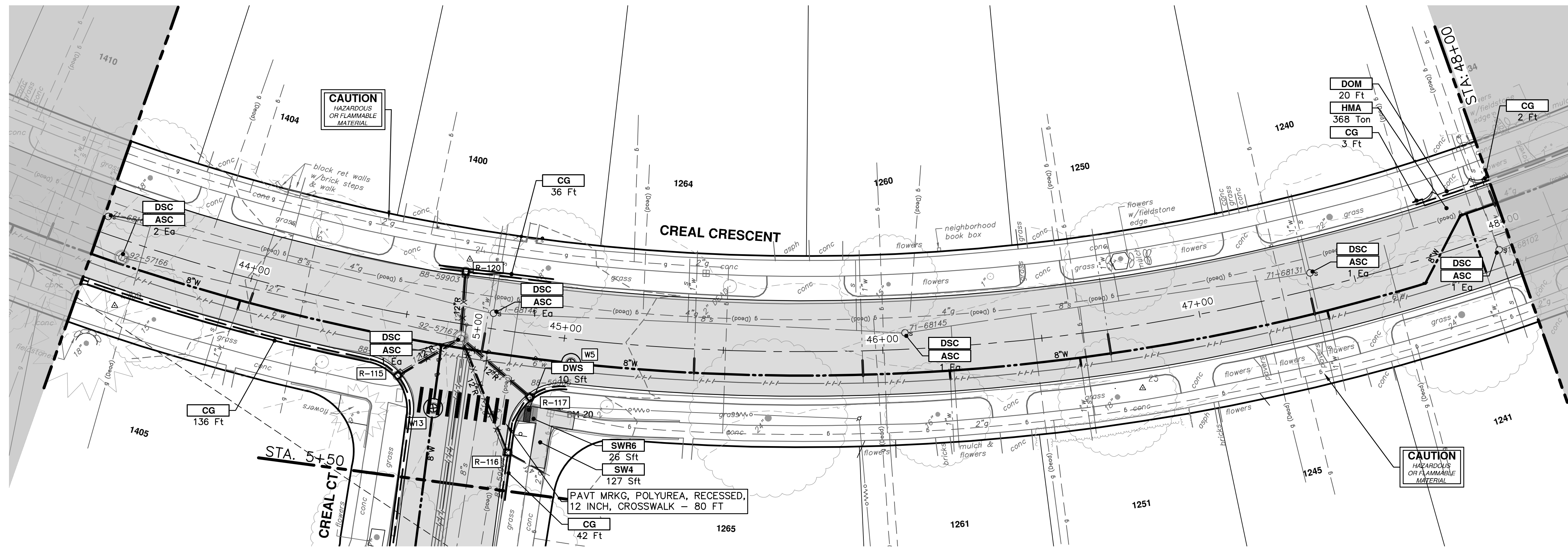
SHEET No. 38 OF 43

DRAWING No. 2022012-38

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CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONCRETE CURB OR CURB & GUTTER, ANY TYPE
SW4	4" CONCRETE SIDEWALK
SW6	6" CONCRETE SIDEWALK
SW6-HE	6" CONCRETE SIDEWALK - HIGH EARLY
SWR6	6" CONCRETE RAMP
SWR6-HE	6" CONCRETE RAMP, DRIVE APPROACH- HIGH EARLY
SW-RW1	INTEGRAL SIDEWALK RETAINING WALL, 6" TO 18"
DOM	CONCRETE TYPE M DRIVE OPENING- HIGH EARLY
DOL	CONCRETE TYPE L DRIVE OPENING- HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ASC	ADJUST STRUCTURE COVER
ABM	ADJUST MONUMENT BOX OR GATE VALVE BOX
ABO	ADJUST BY OTHERS
DSC	STRUCTURE COVER



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CRESCENTS WATER MAIN REPLACEMENT PROJECT - PHASE I

CREAL CRESCENT ROAD PLANS
STA. 39+00 - STA. 48+00

SCALE: 1" = 20'

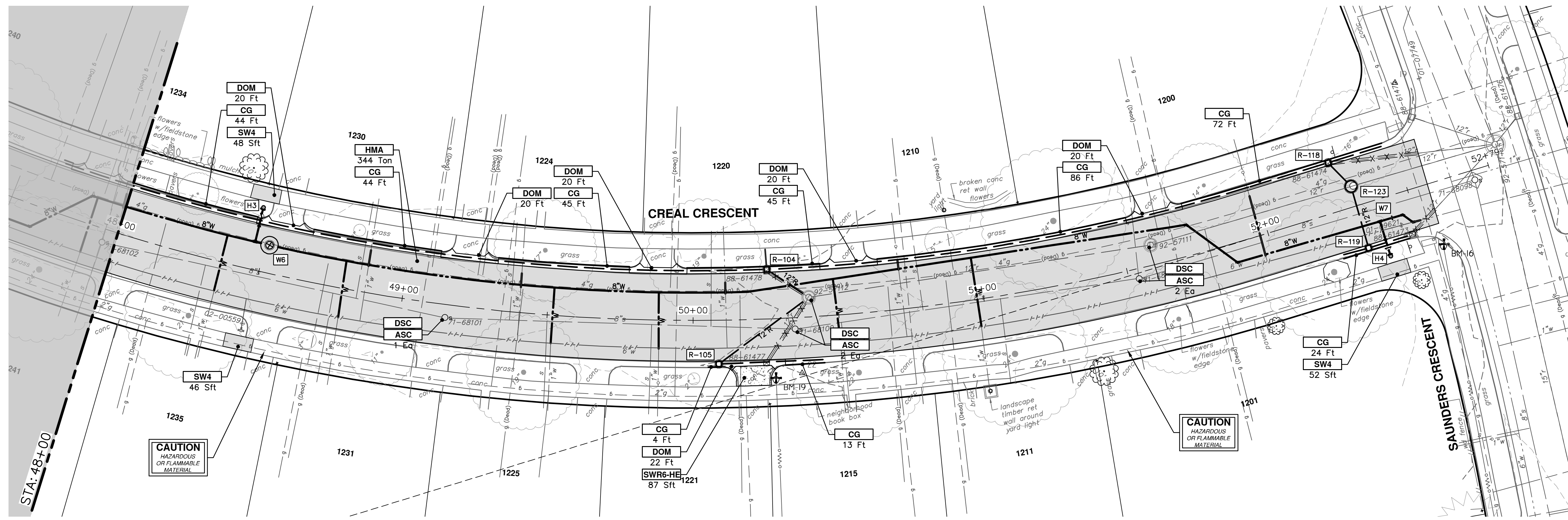
DRAWING No. 2022012-39

SHEET No. 39 OF 43

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

DATE	DESCRIPTION	REV.
3-15-2023	DRAWN	CHECKED
3-29-2023	DF/CC	NB
01	OUT FOR BID	00
00	EFILE PERMIT	00

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CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONCRETE CURB OR CURB & GUTTER, ANY TYPE
SW4	4" CONCRETE SIDEWALK
SW6	6" CONCRETE SIDEWALK
SW6-HE	6" CONCRETE SIDEWALK - HIGH EARLY
SWR6	6" CONCRETE RAMP
SWR6-HE	6" CONCRETE RAMP DRIVE APPROACH- HIGH EARLY
SW-RW1	INTEGRAL SIDEWALK RETAINING WALL, 6" TO 18"
DOM	CONCRETE TYPE M DRIVE OPENING- HIGH EARLY
DOL	CONCRETE TYPE L DRIVE OPENING- HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ASC	ADJUST STRUCTURE COVER
ABM	ADJUST MONUMENT BOX OR GATE VALVE BOX
ABO	ADJUST BY OTHERS
DSC	STRUCTURE COVER



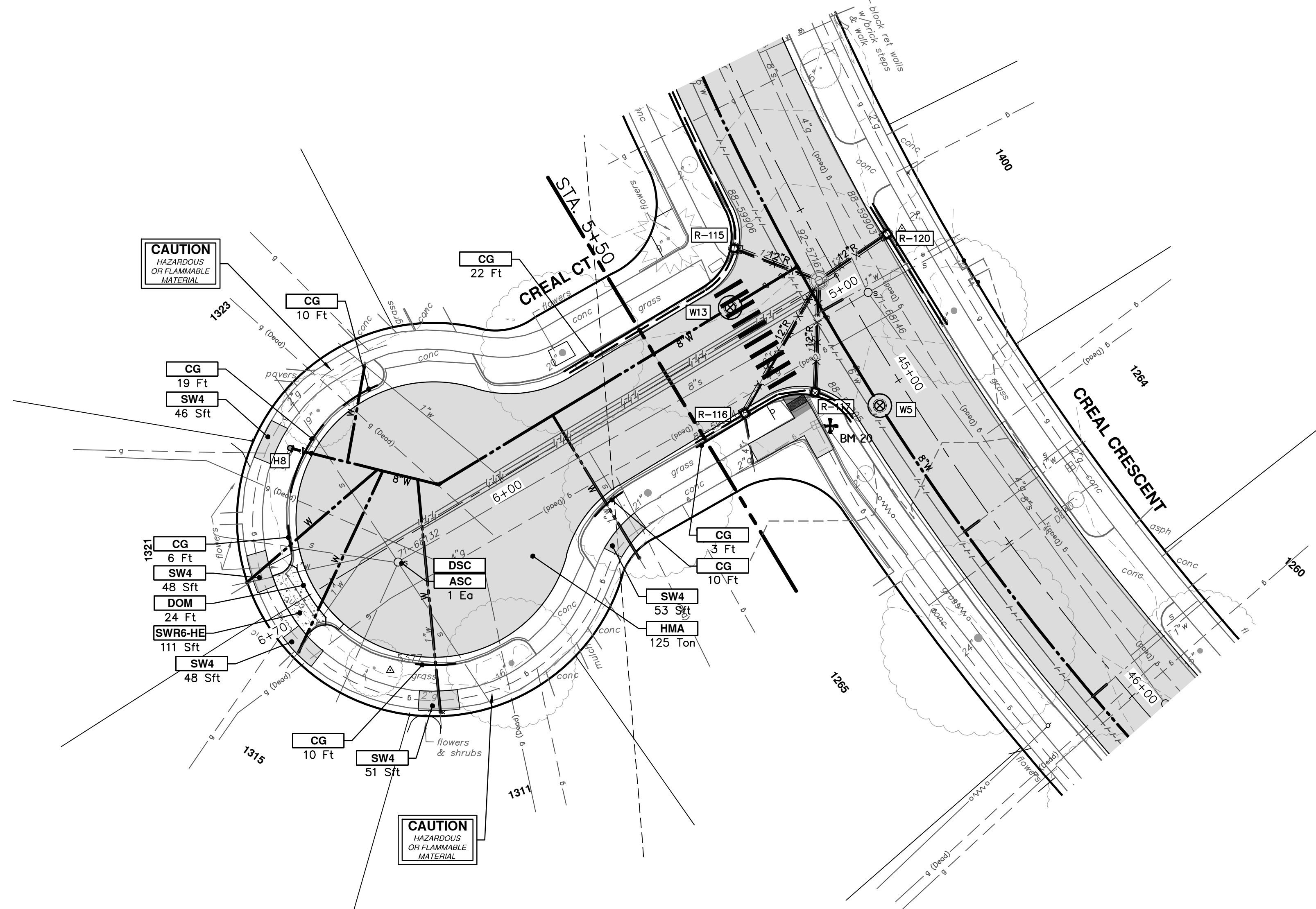
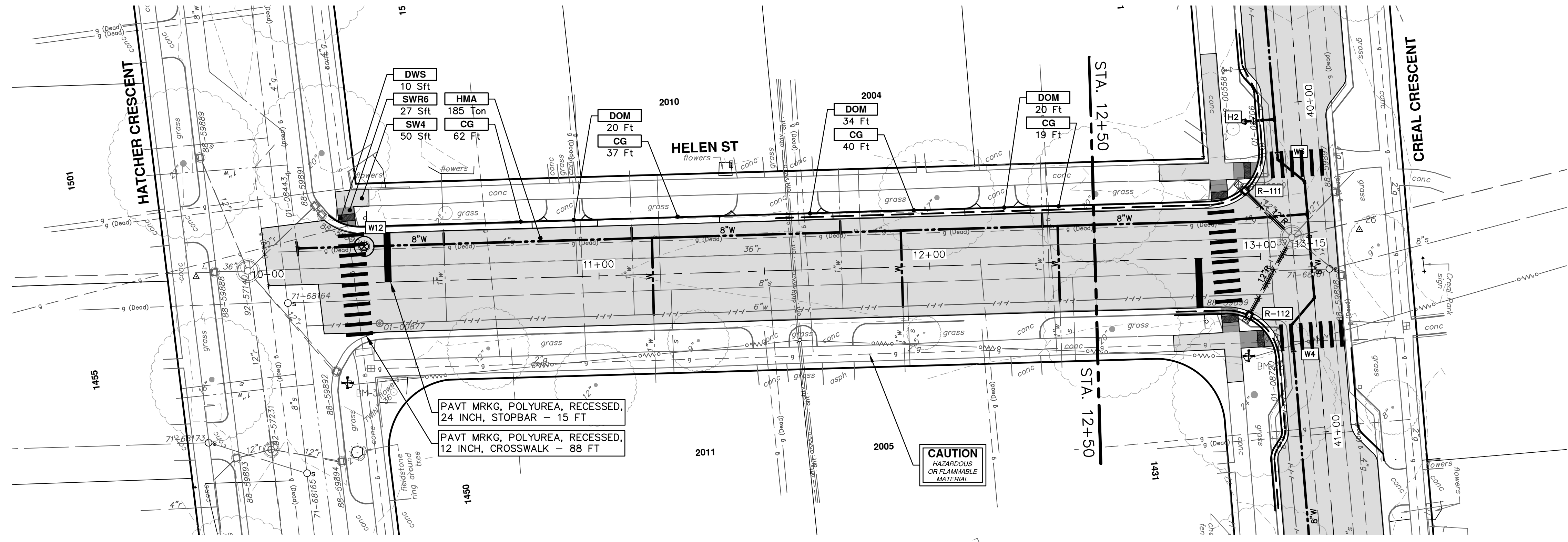
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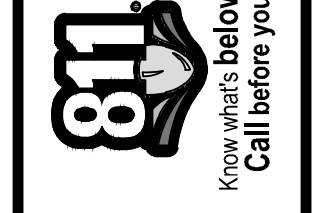
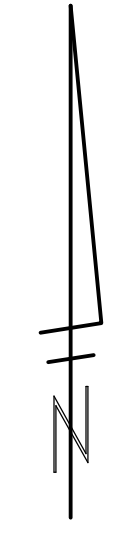
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CRESCENTS WATER MAIN
REPLACEMENT PROJECT - PHASE I
CREAL CRESCENT ROAD PLANS
STA. 48+00 - STA. 52+79

SCALE: 1" = 20'
DRAWING No.
2022012-40

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	OUT FOR BID	3-29-2023	DF/CC	NB
00	EGLE PERMIT	3-15-2023	DF/CC	NB



CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONCRETE CURB OR CURB & GUTTER, ANY TYPE
SW4	4" CONCRETE SIDEWALK
SW6	6" CONCRETE SIDEWALK
SW6-HE	6" CONCRETE SIDEWALK - HIGH EARLY
SWR6	6" CONCRETE RAMP
SWR6-HE	6" CONCRETE RAMP, DRIVE APPROACH - HIGH EARLY
SW-RW1	INTEGRAL SIDEWALK RETAINING WALL, 6" TO 18"
DOM	CONCRETE TYPE M DRIVE OPENING - HIGH EARLY
DOL	CONCRETE TYPE L DRIVE OPENING - HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ASC	ADJUST STRUCTURE COVER
ABM	ADJUST MONUMENT BOX OR GATE VALVE BOX
ABO	ADJUST BY OTHERS
DSC	STRUCTURE COVER



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	OUT FOR BID	3-29-2023	DF/CC	NB
00	EGL PERMIT	3-15-2023	DF/CC	NB

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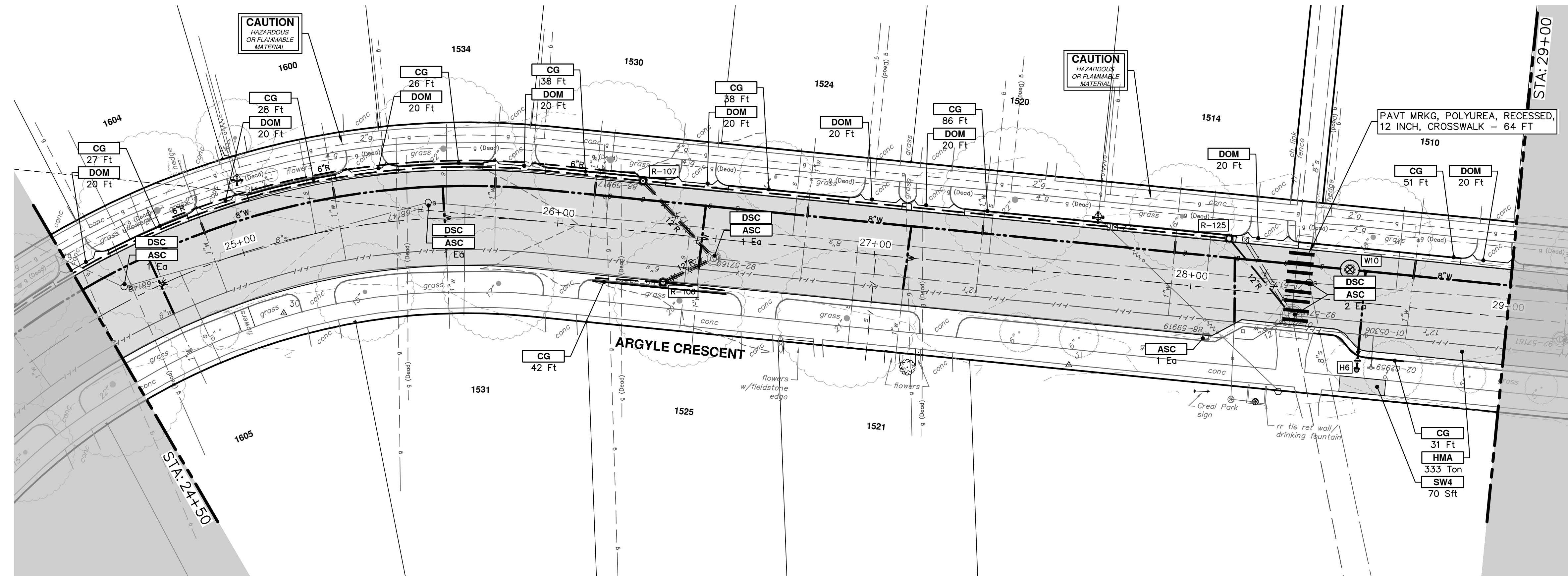
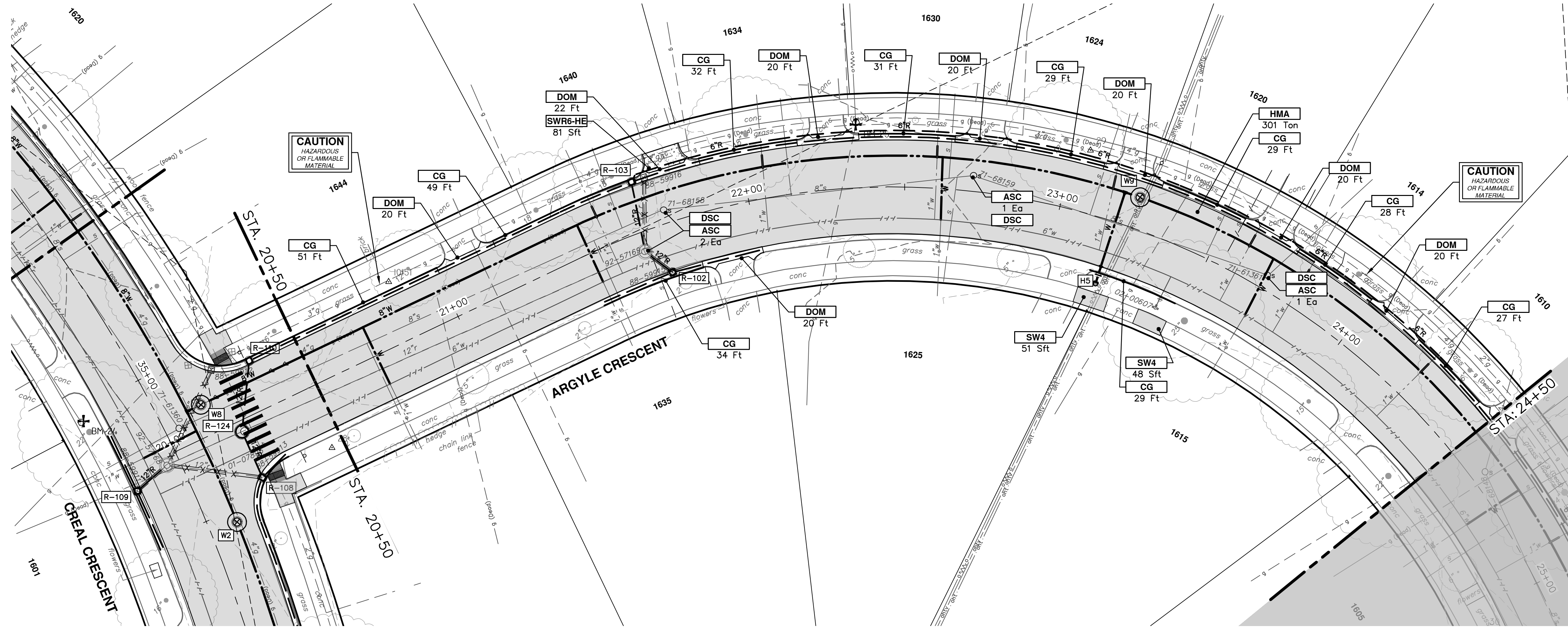


CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CRESCENTS WATER MAIN
REPLACEMENT PROJECT - PHASE I

HELEN STREET &
CREAL COURT ROAD
PLANS

SCALE: 1" = 20'
DRAWING No.
2022012-41

R:\2022\2012 Crescents WM Replacement\Plan Production\2022012Prd1.dwg Dwg Created: 28-Mar-23 - _c2 standard bw.stb - Plot Date: 29-Mar-23



CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONCRETE CURB OR CURB & GUTTER, ANY TYPE
SW4	4" CONCRETE SIDEWALK
SW6	6" CONCRETE SIDEWALK
SW6-HE	6" CONCRETE SIDEWALK - HIGH EARLY
SW6R	6" CONCRETE RAMP
SWR6-HE	6" CONCRETE RAMP, DRIVE APPROACH- HIGH EARLY
SW-RW1	INTEGRAL SIDEWALK RETAINING WALL, 6" TO 18"
DOM	CONCRETE TYPE M DRIVE OPENING- HIGH EARLY
DOL	CONCRETE TYPE L DRIVE OPENING- HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ASC	ADJUST STRUCTURE COVER
ABM	ADJUST MONUMENT BOX OR GATE VALVE BOX
ABO	ADJUST BY OTHERS
DSC	STRUCTURE COVER



REV.	DATE	DESCRIPTION
01	3-29-2023	OUT FOR BID
00	3-15-2023	EGLE PERMIT

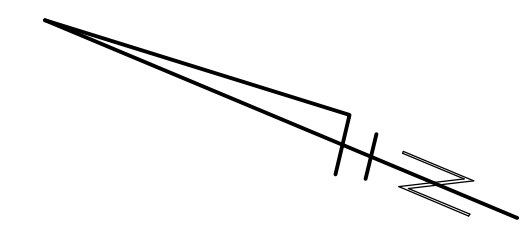
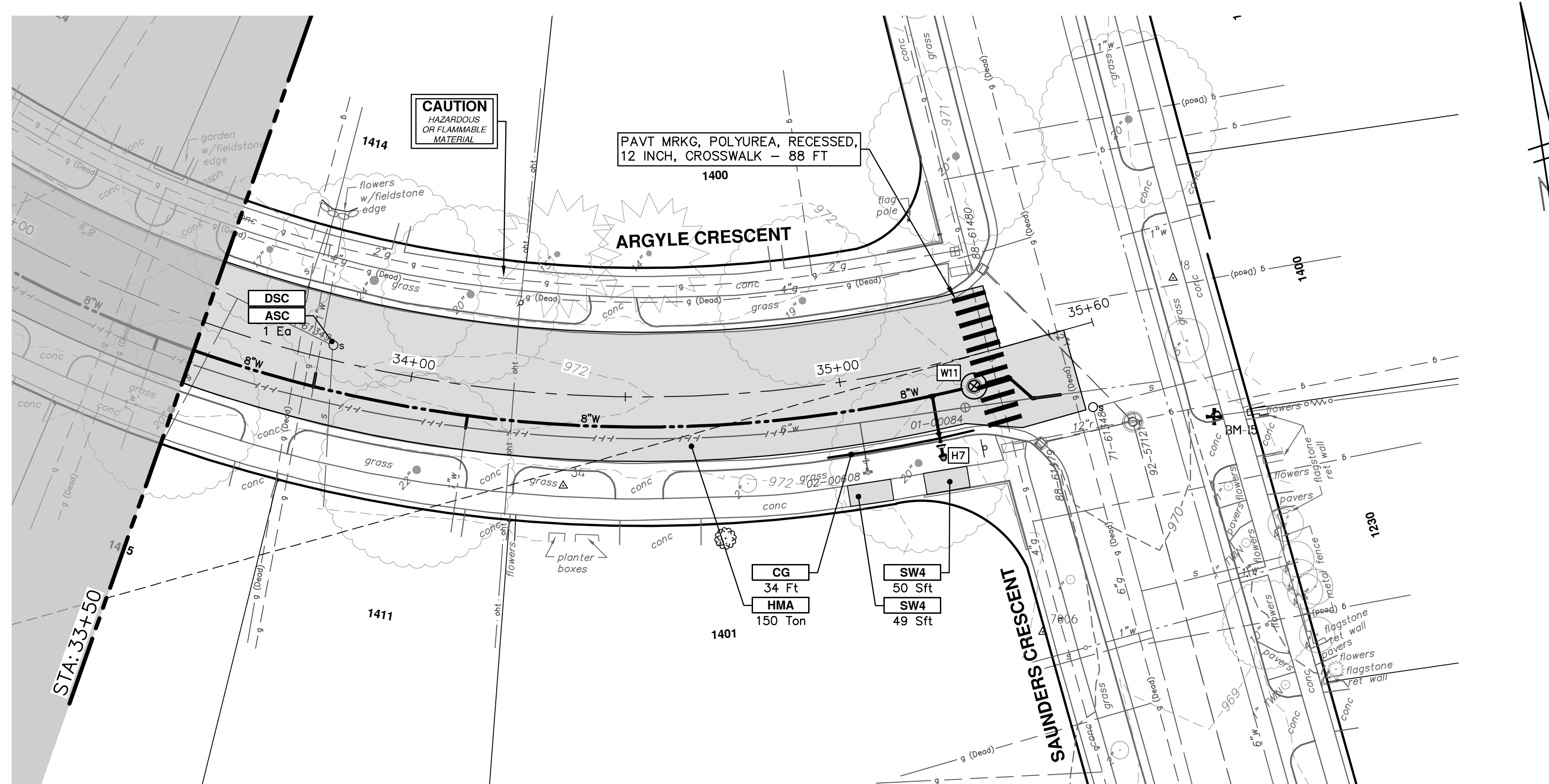
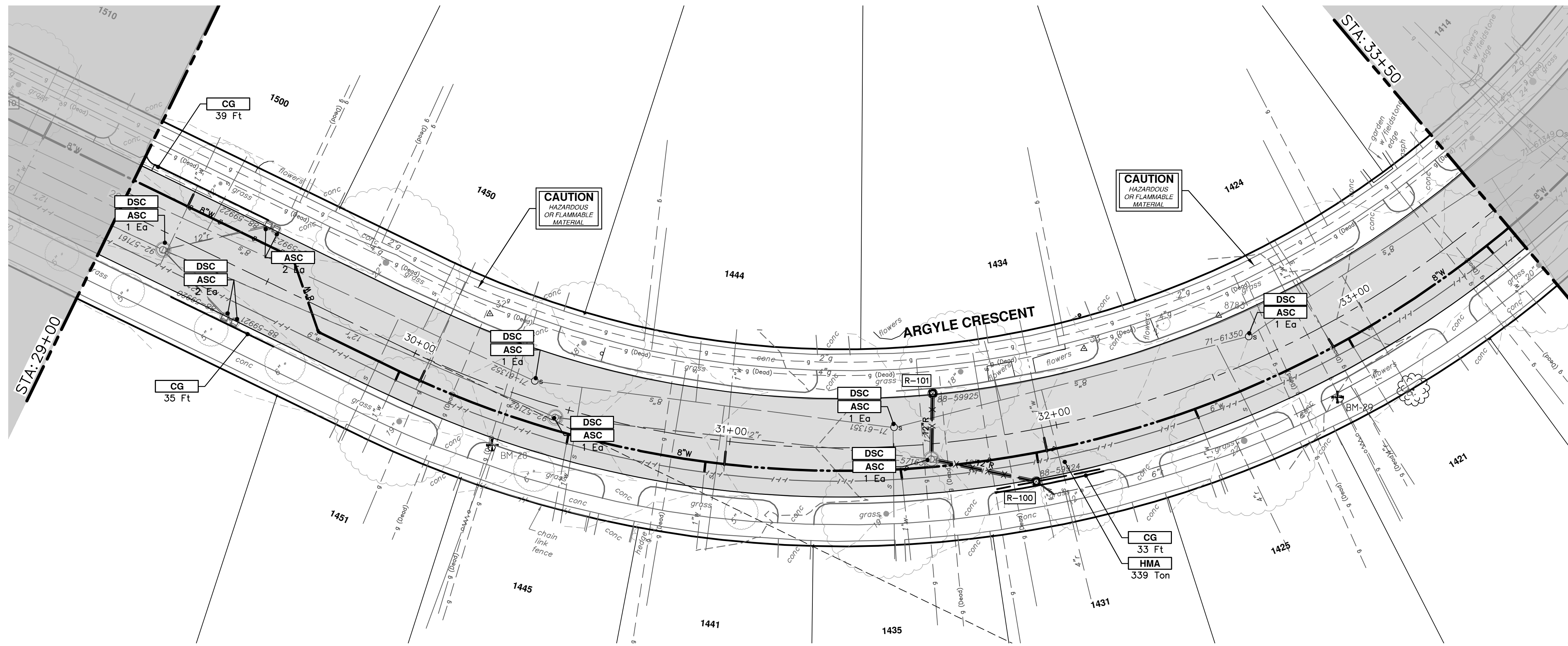
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CRESCENTS WATER MAIN
REPLACEMENT PROJECT - PHASE I
ARGYLE CRESCENT ROAD PLANS
STA. 20+00 - STA. 29+00

SCALE: 1" = 20'
DRAWING NO. 2022012-42
SHEET NO. 42 OF 43

R:\2022\2012 Crescents WM Replacement\Plan Production\2022012Prd1.dwg Dwg Created: 28-Mar-23 - _a2 standard bw.stb - Plot Date: 29-Mar-23



CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CONCRETE CURB OR CURB & GUTTER, ANY TYPE
SW4	4" CONCRETE SIDEWALK
SW6	6" CONCRETE SIDEWALK
SW6-HE	6" CONCRETE SIDEWALK - HIGH EARLY
SWR6	6" CONCRETE RAMP
SWR6-HE	6" CONCRETE RAMP, DRIVE APPROACH- HIGH EARLY
SW-RW1	INTEGRAL SIDEWALK RETAINING WALL, 6" TO 18"
DOM	CONCRETE TYPE M DRIVE OPENING- HIGH EARLY
DOL	CONCRETE TYPE L DRIVE OPENING- HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ASC	ADJUST STRUCTURE COVER
ABM	ADJUST MONUMENT BOX OR GATE VALVE BOX
ABO	ADJUST BY OTHERS
DSC	STRUCTURE COVER

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CRESCENTS WATER MAIN REPLACEMENT PROJECT - PHASE I

ARGYLE CRESCENT ROAD PLANS
STA. 29+00 - STA. 35+60

SHEET No. **43 OF 43**

SCALE: 1" = 20'

DRAWING No. **2022012-43**

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

01	OUT FOR BID	3-29-2023	DF/CC	NB	CHECKED
00	EGLE PERMIT	3-15-2023	DF/CC	NB	CHECKED

REV. DESCRIPTION DATE

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