

NOTES:

EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS, OR IN THE CONTRACT DOCUMENTS AND DETAILED SPECIFICATIONS CONTAINED HEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE ACCORDING TO THE LATEST REVISIONS OF THE CITY OF ANN ARBOR PUBLIC SERVICE DEPARTMENT STANDARD SPECIFICATIONS AND THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION 2020 EDITION AS APPLICABLE.

THE PROPOSED IMPROVEMENTS COVERED BY THESE PLANS ARE DESIGNED IN ACCORDANCE WITH THE 2018 AASHTO "POLICY ON THE GEOMETRIC DESIGN OF HIGHWAYS AND STREETS", THE 2012 AASHTO "GUIDE FOR THE PLANNING, DESIGN, AND OPERATION OF BICYCLE FACILITIES", AND THE 2011 "MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".

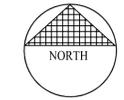
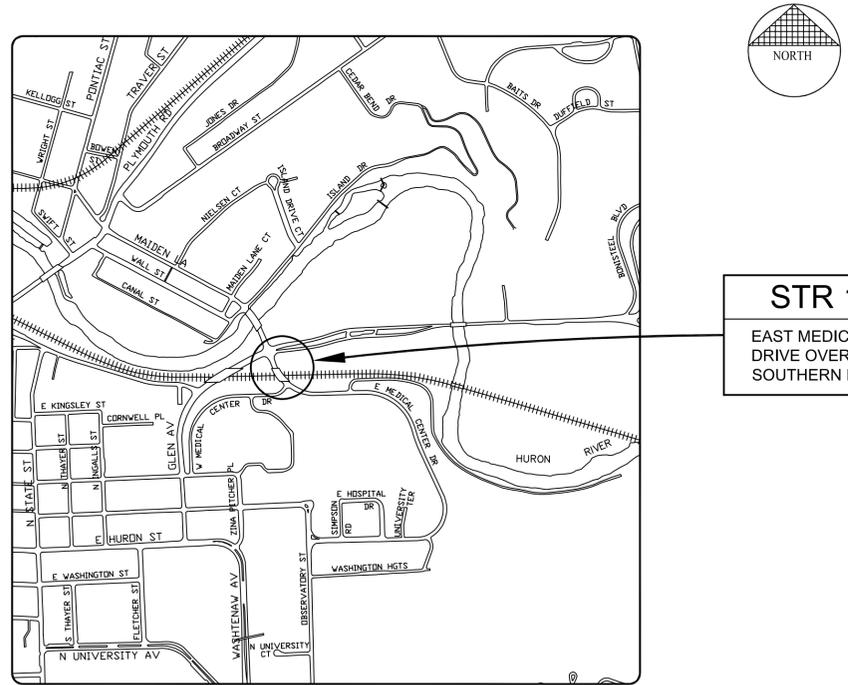
CITY OF ANN ARBOR ENGINEERING

IN COOPERATION WITH THE
UNIVERSITY OF MICHIGAN

2022 E. MEDICAL CENTER DRIVE BRIDGE REHABILITATION AND WIDENING

TRAFFIC DATA	
PRESENT ADT	18,500 (2021)
FUTURE ADT	20,000 (2041)
% COMMERCIAL	2.0%
POSTED SPEED	25 MPH
DESIGN SPEED	30 MPH

PERMITS REQUIRED TO BE OBTAINED BY THE CONTRACTOR PRIOR TO THE BEGINNING OF CONSTRUCTION AT NO COST TO CONTRACTOR.	
PERMIT	ISSUING AUTHORITY
LANE CLOSURE PERMIT	CITY OF ANN ARBOR ENGINEERING UNIT
"NO PARKING" SIGNS PERMIT	CITY OF ANN ARBOR ENGINEERING UNIT
GRADING/ SOIL EROSION & SEDIMENTATION CONTROL PERMIT	CITY OF ANN ARBOR PLANNING AND DEVELOPMENT SERVICES UNIT
ACCESS AGREEMENT	UNIVERSITY OF MICHIGAN



STR 11065
EAST MEDICAL CENTER DRIVE OVER NORFOLK SOUTHERN RAILROAD

CITY FILE NO. 2021-008

CONTRACT FOR: DECK REPLACEMENT AND WIDENING, STRUCTURAL STEEL REPAIRS, BEAM GALVANIZATION, PIER CAP REPLACEMENT, SUBSTRUCTURE PATCHING, SUBSTRUCTURE WIDENING.

PREPARED UNDER THE SUPERVISION OF
CARRIE HAMEL, P.E., MICHIGAN LICENSE NO. _____ DATE _____

CONTRACT FOR: APPROACH WORK, ROADWAY WIDENING, SIDEWALK REPLACEMENT, HMA RESURFACING AND RECONSTRUCTION, SIGNAL WORK AND MAINTENANCE OF TRAFFIC.

PREPARED UNDER THE SUPERVISION OF
LEIGH MERRILL P.E., MICHIGAN LICENSE NO. _____ DATE _____

SEAL
DRAWING NO.
2021-008-C1
SHEET 1 OF 153

3 WORKING DAYS!
**BEFORE YOU DIG
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800-482-7171
(TOLL FREE)**

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 53, THE CONTRACTOR SHALL DIAL 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 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.

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PUBLIC UTILITY CONTACT INFORMATION

WATER	CITY OF ANN ARBOR FIELD OPERATIONS SERVICE UNIT W.R. WHEELER SERVICE CENTER 4251 STONE SCHOOL ROAD ANN ARBOR, MI 48108	DAN WOODEN (734) 794-6350
SANITARY		TRAVIS CONLEY (734) 794-3304
STORM		KEVIN SCHNEIDER (734) 794-6350
SIGNS SIGNALS STREET LIGHTS		MARC MORENO (734) 794-6350

PRIVATE UTILITY CONTACT INFORMATION

GAS	DTE ENERGY 3150 E. MICHIGAN AVE YPSILANTE TOWNSHIP, MI 48198	ROBERT CZAPIEWSKI (734) 544-7818
ELECTRIC	DTE ELECTRIC	RAFAEL RAMIREZ-INCIARTE (313) 597-4411 rafael.ramirezinciart2@ dteenergy.com
CABLE	COMCAST 25626 TELEGRAPH ROAD SOUTHFIELD, MI 48034	JEFF DOBIES (734) 359-1669
PHONE	AT&T 550 S. MAPLE ROAD ANN ARBOR, MI 48103	MICHAEL ZAREMA (734) 277-4855
FIBER OPTIC	VERIZON BUSINESS/MCI 3 PARKLANE BOULEVARD DEARBORN, MI 48126	MARLON REDD (313) 588-0849 marlon.redd@verizon.com
FIBER OPTIC	FIBER LINK, INC.	JOEL JARVIS Missdigdsg@ fiberlink.com
FIBER OPTIC	WINDSTREAM COMMUNICATIONS	JEFF WEBB (734) 790-6556 jeff.webb@windstream.com
FIBER OPTIC	LUMEN/CENTURYLINK 19675 WEST 10 MILE ROAD SOUTHFIELD, MI 48075	DAVE HUCKFELDT (517) 812-2592 dave.huckfeldt@lumen.com
ITS/FIBER OPTIC	UNIVERSITY OF MICHIGAN	KEVIN MCLAUGHLIN (734) 615-5699 mckevin@umich.edu

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STANDARD PLANS

WHERE THE FOLLOWING ITEMS ARE CALLED FOR ON PLANS, THEY ARE TO BE CONSTRUCTED ACCORDING TO THE STANDARD PLAN GIVEN BELOW OPPOSITE EACH ITEM UNLESS OTHERWISE INDICATED.

STD. PLAN NO.	ITEM OF WORK
ANN ARBOR STANDARD PLANS	
SD-SESC-1 SC-SESC-3 SD-GU-5 SD-GU-5 SD-GU-8 SD-M-1 SD-R-1 SD-R-4 SD-R-10 SD-R-15 SD-SL-1 SD-TD-1A SD-TD-6 SD-TD-7 SD-TD-9	INLET PROTECTION SILT FENCE STANDARD CASTING SCHEDULE MANHOLE CASTING ADJUSTMENT MANHOLE & VALVE/MOMUMENT BOX LOWERING TREE PROTECTION BARRIER CURB & GUTTER SPILL-OUT BARRIER CURB & GUTTER SIDEWALK & CURB & GUTTER JOINTS URBAN GUARDRAIL LOCATION STREETLIGHT FOUNDATION UTILITY TRENCH - TYPE I UTILITY TRENCH - TYPE VI UTILITY TRENCH - TYPE VII UTILITY TRENCH - TYPE IX
UNIVERSITY OF MICHIGAN STANDARD PLANS	
	EXPANSION JOINT REPLACEMENT PAVEMENT EXPANSION JOINT (E.J.) 18" CURB & GUTTER, SPILLOUT 18" CURB & GUTTER (U OF M STANDARD) SIDEWALK CONTROL JOINT LAYOUT MILLED EDGE MANHOLE COVER ADJUSTMENT & STRUCTURE REBUILD SIGN MOUNT - TURF SIGN MOUNT - CONCRETE SURFACE BICYCLE HOOP - CONCRETE BICYCLE HOOP - MULCH BICYCLE HOOP - CORED BICYCLE HOOP - PAVERS BICYCLE HOOP - SURFACE MOUNT MULCH BLANKET INSTALLATION SILT FENCE INLET FILTER SACK SEEDED AREA
M.D.O.T. STANDARD PLANS	
R-28-J R-53-A* B-25-K B-102-C B-103-E MOT TYPICAL A 163-INT-LD-OUT	SIDEWALK RAMP & DETECTABLE WARNING DETAILS TEMPORARY CONCRETE BARRIER LIMITED DEFLECTION BRIDGE RAILING, AESTHETIC PARAPET TUBE STANDARD SLOPE PAVING DETAILS MOLDING, BEVEL, LIGHT STANDARD ANCHOR BOLT ASSEMBLY AND NAME PLATE DETAILS SIGNAL WORK AT INTERSECTION LONGER THAN 1 HOUR ON E. MEDICAL CENTER DR. AT W. MEDICAL CENTER DR. OR CANCER CENTER SIGNAL WORK AT INTERSECTION OUTSIDE ROADWAY LONGER THAN 1 HOUR ON A 4-LANE UNDIVIDED ROADWAY
* DENOTES SPECIAL DETAIL	

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REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10-9-22	DAF	CLH

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
EAST MEDICAL CENTER DRIVE	
PROJECT INFORMATION SHEET	
SCALE NONE	INCH 0 1
DRAWING NO. 2021-008-C2	
SHEET NO. <u>2</u> OF <u>153</u>	
APPROVED BY _____	

NOTES:

GENERAL

THE UNDERGROUND LOCATIONS AND DEPTH SHOWN FOR ALL PUBLIC AND PRIVATE UTILITIES ARE APPROXIMATE. THE CITY OF ANN ARBOR, THE UNIVERSITY OF MICHIGAN, AND DLZ ASSUME NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. THE CONTRACTOR SHALL CONTACT MISS-DIG TO LOCATE ALL MARKED AND UNMARKED UTILITIES PRIOR TO STARTING WORK AND SHALL CONDUCT HIS OPERATIONS IN SUCH A MANNER AS TO ENSURE THAT THOSE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ANY DELAYS, DAMAGES, COSTS AND/OR CHARGES INCURRED DUE TO AND/OR BY REASON OF ANY UTILITY, STRUCTURE, FEATURES AND/OR SITE CONDITION, WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL REPAIR AND/OR REPLACE, AT ITS SOLE EXPENSE, TO AS GOOD OR BETTER CONDITION, ANY AND ALL UTILITIES, STRUCTURES, FEATURES AND/OR SITE CONDITIONS WHICH ARE IMPACTED BY REASON OF THE WORK, OR INJURED BY ITS OPERATIONS, OR DURING THE OPERATIONS OF ITS SUBCONTRACTORS OR SUPPLIERS.

DRIVEWAYS AND ENTRANCES TO BUILDINGS, REAL PROPERTY, AND THE LIKE SHALL NOT BE BLOCKED EXCEPT FOR SHORT DURATIONS AND ONLY WHEN APPROVED BY THE ENGINEER. VEHICULAR AND PEDESTRIAN ACCESS SHALL BE MAINTAINED AT ALL TIMES AS SPECIFIED IN MAINTAINING TRAFFIC PLANS AND SPECIFICATIONS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUOUS MAINTENANCE OF THE TEMPORARY TRAFFIC CONTROL DEVICES AND SOIL EROSION CONTROL MEASURES WITHIN THE CONSTRUCTION AREA AND APPROACHES TO PROJECT SITE, UNTIL THE FINAL COMPLETION OF THE PROJECT. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE RELATED ITEMS OF WORK.

THE LOCATION OF MATERIAL STOCK PILES AND ON-SITE STAGING AREAS ARE TO BE APPROVED BY THE ENGINEER IN ADVANCE. ANY MATERIALS STOCKPILED OR STORED SHALL NOT CREATE AN EROSION PROBLEM, INTERFERE WITH DRAINAGE, OR CREATE INSUFFICIENT SIGHT DISTANCE.

EXISTING STREET NAME, GUIDE, REGULATORY SIGNS, BRIDGE LIGHTING, ETC, WHICH CONFLICT WITH THE PROPOSED CONSTRUCTION SHALL BE REMOVED PRIOR TO CONSTRUCTION, STORED IN A MANNER WHICH WILL PREVENT DAMAGE, AND RE-SET IN LOCATIONS AS DIRECTED BY THE ENGINEER OR THE UNIVERSITY OF MICHIGAN. THE WORK TO COMPLY WITH THESE REQUIREMENTS WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE OTHER BID ITEMS OF WORK.

A RAILROAD PERMIT IS REQUIRED TO ACCESS THE TRACK SIDE OF THE PIERS TO PERFORM THE SUBSTRUCTURE REPAIRS.

THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES AND SERVICE LEADS ARE TO BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

DURING NON-WORKING HOURS NO MORE THAN TEN(10) FEET OF TRENCH SHALL REMAIN OPEN. ANY OPEN TRENCH SHALL BE PROPERLY SECURED WITH PROTECTIVE FENCING. THIS WORK SHALL BE INCLUDED IN THE ITEMS OF WORK BEING UNDERTAKEN AND WILL NOT BE PAID FOR SEPARATELY.

FOR MAINLINE HMA PAVING, THE WIDTH OF THE MAT FOR EACH PASS OF THE PAVER SHALL BE NOT LESS THAN 10.5', NOR GREATER THAN 16', EXPECT AS NOTED IN THE PLANS AND AS DIRECTED BY THE ENGINEER. THE ENGINEER WILL DIRECT THE LAYOUT OF ALL HMA LONGITUDINAL JOINTS DURING CONSTRUCTION.

ALL EXCAVATION REQUIRED FOR PROJECT GRADING WITHIN THE PROJECT LIMITS, INCLUDING PROPOSED PAVEMENT, BIOSWALES, SIDEWALK, AND SIDEWALK RAMPS SHALL BE INCLUDED IN "MACHINE GRADING, MODIFIED,_____".

EXCAVATION AND BACKFILL BEHIND CURB AND GUTTER SHALL BE INCLUDED IN "MACHINE GRADING, MODIFIED,_____". ALL BACKFILL UNDER PROPOSED CONCRETE PAVEMENTS SUCH AS DRIVE APPROACHES, RAMPS, SIDEWALK, ETC., SHALL BE MDOT CLASS II GRANULAR MATERIAL, COMPACTED TO 95% OF ITS MAX. DRY DENSITY AND WILL BE PAID FOR AS "SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED." BACKFILL FOR OTHER AREAS MUST BE APPROVED BY THE ENGINEER AND COMPACTED TO 95% OF ITS MAX. DRY DENSITY. NO PAYMENT WILL BE MADE FOR SUB-BASE OR AGGREGATE BASE THAT EXTENDS BEYOND 12" BEHIND THE BACK OF CURB. REFERENCE THE TYPICAL CROSS-SECTIONS.

SOME STORM SEWER MAY UNAVOIDABLY BECOME DAMAGED DURING CONSTRUCTION, OR IT MAY BE DETERMINED BY THE ENGINEER THAT EXISTING STORM SEWER NEEDS TO BE REPLACED. IN EITHER CASE THE ENGINEER MAY DIRECT THE SEWER TO BE REMOVED AND REPLACED. THE REMOVAL OF THE EXISTING SEWER AND/OR DRAINAGE STRUCTURES SHALL BE INCLUDED IN THE CONTRACT WORK ITEMS "SEWER, ANY SIZE OR DEPTH, REM" OR "DR STRUCTURE, ANY SIZE OR DEPTH, REM", AND THE REPLACEMENT SEWER SHALL BE INSTALLED AND PAID FOR AT THE CORRESPONDING CONTRACT UNIT PRICE, IF CONTAINED WITHIN THE CONTRACT, FOR THE VARIOUS TYPES AND SIZES OF SEWER TO BE REPLACED.

ALL STRUCTURES SHALL RECEIVE NEW CASTINGS, EITHER TYPE B, TYPE K, TYPE Q, OR TYPE R AS SPECIFIED ON THE STANDARD CASTING SCHEDULE. THE EXISTING CASTINGS SHALL BE NEATLY STACKED ON-SITE IN A SINGLE LOCATION SO THAT CITY OF ANN ARBOR FORCES CAN RETRIEVE THEM AT A LATER DATE. THE CONTRACTOR SHALL ASSIST CITY FORCES BY LOADING THEM INTO CITY TRUCKS. ALL COSTS ASSOCIATED WITH STORING, STOCKPILING, AND LOADING CASTINGS INTO CITY VEHICLES SHALL BE INCLUDED IN THE ITEM OF WORK "GENERAL CONDITIONS, MAX \$650,000" AND WILL NOT BE PAID FOR SEPARATELY.

ALL FITTINGS, HYDRANTS, VALVES AND CASTINGS REMOVED DURING CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CITY OF ANN ARBOR. THE CONTRACTOR SHALL COORDINATE PICK UP BY THE CITY OF ANN ARBOR FIELD OPERATIONS UNIT AT W.R. WHEELER SERVICE CENTER YARD.

PAYMENT FOR DRAINAGE STRUCTURE SUMPS WHERE SPECIFIED SHALL BE INCLUDED IN THE PAYMENT FOR THE VARIOUS DRAINAGE STRUCTURES SIZES AND/OR TYPES.

WHERE PIPES OF DIFFERENT SIZES OR MATERIALS ARE JOINED OR SAWED SEWER PIPE CONNECTIONS ARE MADE, FRENCO FLEXIBLE COUPLINGS WITH STAINLESS STEEL SHEAR RINGS SHALL BE USED. THE CONTRACTOR'S PURCHASE PRICE FOR THE DEVICES, INCLUDING SHIPPING, SHALL BE PAID AS AN EXTRA. PRIOR TO PAYMENT FOR THIS ITEM, THE CONTRACTOR SHALL SUBMIT RECEIPTS FOR THE ENGINEER'S REVIEW AND APPROVAL. ALL OTHERS COSTS ASSOCIATED WITH THE INSTALLATION OF THESE DEVICES SHALL BE INCLUDED IN THE PAYMENT FOR THE SEWER.

WHERE STORM SEWER IS TO BE REMOVED AND REPLACED OR ADDED, ALL PIPE SHALL BE INSTALLED USING THE UTILITY TRENCH DETAILS SHOWN ELSEWHERE IN THE PLAN SHEETS AND/OR DETAILED IN THE SPECIFICATIONS. TRENCH DETAILS I AND V REQUIRE THE USE OF MDOT CLASS II GRANULAR MATERIAL.

IF THE CONTRACTOR ENCOUNTERS EXISTING EDGE DRAIN(S) DURING CONSTRUCTION OF THE PROPOSED EDGE DRAINS, INLET LEADS, OR CATCH BASINS, IT SHALL BE CAPPED AT EACH END TO PREVENT MATERIAL FROM ENTERING THE PIPE. THE COST OF THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE PARTICULAR ITEM OF WORK BEING PERFORMED WHEN EXISTING EDGE DRAIN(S) ARE ENCOUNTERED.

IN AREAS WHERE EDGE DRAIN CANNOT BE INSTALLED IN ACCORDANCE WITH THE DETAILS, THE EDGE DRAIN SHALL BE INSTALLED AT THE DEPTH AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. IN NO CASE SHALL THE EDGE DRAIN BE INSTALLED AT A GRADE LESS THAN 0.50% OR AT A DEPTH LESS THAN 3.25' BELOW THE TOP OF PAVEMENT.

ALL CURB, SIDEWALK, DRIVEWAY APPROACH REMOVALS SHALL BE APPROVED BY THE ENGINEER BEFORE THE WORK IS PERFORMED. ALL CONCRETE AND BITUMINOUS MATERIALS SHALL BE SAW-CUT FULL-DEPTH AT THEIR REMOVAL LIMITS PRIOR TO REMOVAL. SAW-CUTTING WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE ITEM OF WORK "MACHINE GRADING, MODIFIED,_____".

PLACE 4" (MINIMUM) OR 6" (MINIMUM) THICKNESS CLASS II GRANULAR MATERIAL COMPACTED TO 95% OF ITS MAX. DRY DENSITY UNDER CONCRETE SIDEWALK AS SHOWN ON THE DETAILS. THIS WORK SHALL BE INCLUDED IN THE CONTRACT ITEMS "SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED."

PLACE 6" (MINIMUM) CLASS II GRANULAR MATERIAL COMPACTED TO 95% OF ITS MAX. DRY DENSITY UNDER DRIVE APPROACHES. THIS WORK SHALL BE INCLUDED IN THE CONTRACT ITEM "SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED."

BRIDGE

THE RECONSTRUCTION DESIGN OF THE SUPERSTRUCTURE, PIER CAPS, AND WIDENED SUBSTRUCTURE UNITS IS BASED ON 1.2 TIMES THE CURRENT AASHTO LRFD BRIDGE DESIGN SPECIFICATION HL-93 LOADING WITH THE EXCEPTION THAT THE DESIGN TANDEM PORTION OF THE HL-93 LOAD DEFINITION IS REPLACED BY A SINGLE 60 KIP AXLE LOAD BEFORE APPLICATION OF THIS 1.2 FACTOR. THE RESULTING LOAD IS DESIGNATED HL-93 MOD. LIVE LOAD PLUS IMPACT DEFLECTION DOES NOT EXCEED 1/1000 OF SPAN LENGTH. THE ORIGINAL STRUCTURE WAS DESIGNED FOR HS25 LOADING.

THE DESIGN OF THE STRUCTURAL MEMBERS IS BASED ON MATERIAL OF THE FOLLOWING GRADES AND STRESSES: CONCRETE:

GRADE 3500	f _c = 3,000 psi
GRADE 4500	f _c = 4,000 psi
STEEL REINFORCEMENT:	f _y = 60,000 psi

STRUCTURAL STEEL:	F _y = 50,000 psi
AASHTO M270, GRADE 50 OR 50W	F _y = 36,000 psi
AASHTO M270, GRADE 36	

BEVEL ALL EXPOSED CONCRETE CORNERS SHOWN SQUARE ON THE PLANS WITH 1/2" TRIANGULAR MOLDINGS EXCEPT AS OTHERWISE NOTED.

UNLESS OTHERWISE SHOWN ON THE PLANS PROVIDE MINIMUM CONCRETE CLEAR COVER FOR REINFORCEMENT ACCORDING TO THE FOLLOWING:
 CONCRETE CAST AGAINST EARTH: 3 IN.
 ALL OTHER UNLESS SHOWN ON PLANS: 2 IN.

REMOVAL OF EXISTING HMA PATCHES AS A RESULT OF REMOVAL OF OTHER SUPERSTRUCTURE ITEMS SHALL BE INCLUDED IN THE REMOVAL OF THOSE ITEMS AND SHALL NOT BE PAID FOR SEPARATELY.

NO PORTION OF THE FORMWORK OR FALSEWORK SHALL ENCROACH ON THE EXISTING UNDERCLEARANCE.

THIS PROJECT HAS BEEN EVALUATED USING THE FAA NOTICE CRITERIA TOOL FOR A TEMPORARY STRUCTURE HEIGHT OF 232 FEET ABOVE A GROUND LEVEL ELEVATION OF 771 FEET AND NO PERMITS ARE REQUIRED.

UM CONDUIT

PULL A SOLID MANDREL AND A STIFF BRISTLED BRUSH THROUGH EACH DUCT TO CLEAN THEM AND ENSURE THE ABSENCE OF KINKS AND FLAT SPOTS. A MINIMUM 3-1/4" DIAMETER BY 5" MINIMUM LONG MANDREL SHALL BE USED FOR 4" CONDUIT AND A MINIMUM 4" DIAMETER BY 6" MINIMUM LONG MANDREL SHALL BE USED FOR 5" DIAMETER CONDUIT. THE MADREL PULL SHALL BE WITNESSED BY THE ENGINEER. ALL COSTS ASSOCIATED WITH THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE CONDUIT PAY ITEMS.

LIGHTING

THE CONTRACTOR SHALL FURNISH ALL MATERIALS AND LABOR AS INDICATED ON PLANS AND AS REQUIRED FOR A COMPLETE ELECTRICAL SYSTEM.

THE CONTRACTOR SHALL VISIT THE JOB SITE, THOROUGHLY CHECK THE EXISTING FIELD CONDITIONS AND EXISTING ELECTRICAL INSTALLATIONS AND CLARIFY ALL DISCREPANCIES WITH THE ENGINEER BEFORE SUBMITTING A BID AS NO EXTRAS WILL BE ALLOWED FOR OMITTED WORK DUE TO FAILURE TO INSPECT THE SITE.

ALL ELECTRICAL WORK SHALL COMPLY WITH N.E.C., LOCAL CODES, ORDINANCES AND REGULATIONS INCLUDING THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT.

ALL MATERIALS SHALL BE NEW AND BEAR THE UL LABEL.

ELECTRICAL ENCLOSURES, SUPPORT RACKS, CONDUIT SYSTEMS, ETC., SHALL BE THOROUGHLY GROUNDED IN ACCORDANCE WITH THE N.E.C. AND ALL LOCAL CODES. INCLUDED IN THE PAY ITEM "DB CABLE IN CONDUIT, 600V, 1/C#6".

COORDINATE ALL ELECTRICAL UNDERGROUND WORK WITH NEW AND EXISTING UNDERGROUND UTILITIES BEFORE INSTALLATION.

HAND DIG WHERE REQUIRED TO LOCATE EXISTING UTILITIES PRIOR TO INSTALLATION OF THE PROPOSED ROADWAY LIGHTING CONDUIT. INCLUDED IN THE PAY ITEM "EXPLORATORY EXCAVATION, VERTICAL".

ALL LIGHT POLES SHALL BE STORED WITH WOOD BLOCKING SEPARATION AND CARE SHALL BE TAKEN SO AS NOT TO DAMAGE THE FACTORY FINISH OF POLES AND LUMINAIRES. ALL DAMAGE SHALL BE TOUCHED UP WITH FACTORY APPROVED TOUCH-UP PAINT.

CARE SHALL BE EXERCISED DURING POLE BASE & POLE PLACEMENT, SO THAT ANCHOR BOLTS ARE CORRECTLY ALIGNED, POLES ARE PLUMB, LUMINAIRES ARE POSITIONED AND ORIENTED PROPERLY.

FINAL LOCATIONS OF LIGHT STANDARDS, CONDUIT AND HANDHOLES SHALL BE FIELD ADJUSTED AS DIRECTED BY THE ENGINEER PRIOR TO CONSTRUCTION TO AVOID CONFLICTS THAT MAY BE ENCOUNTERED.

PROVIDE A COMPLETE UNDERGROUND SYSTEM AS SHOWN INCLUDING ALL EXCAVATION AND BACKFILL. ALL CONDUIT JOINTS SHALL BE MADE WATERTIGHT.

ALL THREADED ELECTRICAL EQUIPMENT (CONDUIT, COUPLINGS, JUNCTION BOXES, ETC.) INSTALLED OUTDOORS SHALL BE COATED WITH ANTI-SEIZE COMPOUND PRIOR TO INSTALLATION.

ELECTRICAL SERVICE SHALL BE 120 VOLT, SINGLE PHASE, 2 WIRE, WITH GROUND.

STREET LIGHTING LUMINAIRES SHALL BE LED TYPE II DISTRIBUTION, 58 WATT, 120/277 VOLT, 8,201 DELIVERED LUMENS, 3000K CCT, LUMECON WORKMEN SERIES LWS-LSL-60-GR-1-T2-OW-7P.

STREET LIGHTING POLES SHALL BE ROUND TAPERED COMPOSITE, ANCHOR BASE POLE, 30' MOUNTING HEIGHT, VALMONT SHAKESPEARE AS SERIES, AS30-01S1DB01/OPAR6-BK-H, SMOOTH FINISH, BLACK IN COLOR. POLE SHALL HAVE 4"X12" HANDHOLE AND ONE-PIECE BASE COVER, POWDER COATED BLACK. POLE TO BE DRILLED FOR 6' ALUMINUM MAST ARM AND SUPPLIED WITH 1" DIAMETER ANCHOR BOLTS.

LUMINAIRE MAST ARM SHALL BE ALUMINUM WITH 6' LENGTH.

SMOOTH SURFACE PVC, SCHEDULE 40 OR SCHEDULE 80, CONDUIT ONLY IS ALLOWED ON THIS JOB.

ALL WIRE AND CABLE SHALL BE INSTALLED IN CONTINUOUS UN-CUT LENGTH BETWEEN HANDHOLES OR LIGHT STANDARDS.

ALL WORK ASSOCIATED WITH COMPLYING WITH THE ABOVE REQUIREMENTS SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE RESPECTIVE ITEMS BID FOR INSTALLING AND MAKING THE LIGHTING SYSTEM READY FOR OPERATION.

RAILROAD

ALL UNDERGROUND UTILITIES, CABLE, AND FACILITIES LOCATED WITHIN THE MDOT/AMTRAK ROW MUST BE LOCATED AND PROTECTED BEFORE ANY EXCAVATING, DRILLING, BORING/DIRECTIONAL DRILLING, GROUND PENETRATING ACTIVITIES, OR CONSTRUCTION TAKES PLACE. THIS INCLUDES RAILROAD AND COMMERCIAL UTILITIES, CABLES, DUCT LINES, AND FACILITIES. THESE ACTIVITIES WILL NOT BE PERFORMED IN CLOSE PROXIMITY TO THE AMTRAK DUCT LINES UNLESS MONITORED BY ON-SITE AMTRAK COMMUNICATIONS AND SIGNAL (C&S) DEPARTMENT PERSONNEL. HAND DIGGING MAY BE REQUIRED, AS DIRECTED BY AMTRAK THROUGH THE ON-SITE AMTRAK C&S SUPPORT PERSONNEL. AMTRAK MAINTAINS THE RIGHT TO ACCESS ALL EXISTING CABLES AND CONDUITS THROUGHOUT CONSTRUCTION. AMTRAK ALSO RESERVES THE RIGHT TO UPGRADE AND INSTALL NEW CABLES AND CONDUITS IN THE AFFECTED AREA. THE CALL BEFORE YOU DIG 811 "ONE-CALL" PROCESS MUST BE FOLLOWED. PLEASE NOTE THAT AMTRAK IS NOT A PART OF THE "ONE-CALL" PROCESS; CONTACT AMTRAK ENGINEERING TO HAVE ALL AMTRAK UNDERGROUND UTILITIES AND ASSETS LOCATED. IF REQUESTED BY AMTRAK, EXISTING DEPTHS OF UTILITIES BEING CROSSED MUST BE VERIFIED THROUGH TEST PITS PERFORMED BY THE CONTRACTOR PERSONNEL. HAND DIGGING MAY BE REQUIRED. PRECAUTIONS MUST BE TAKEN TO PREVENT ANY INTERRUPTION TO AMTRAK'S OPERATION.

AMTRAK C&S PERSONNEL MUST FIELD-VERIFY THAT THERE IS NO SIGNAL EQUIPMENT IN THE WAY OF THE PROJECT AND THAT SIGNAL REVIEW IS NOT BEING OBSTRUCTED.

ALL WORK MUST BE COMPLETED IN ACCORDANCE WITH AMTRAK EP3014 "MAINTENANCE AND PROTECTION OF RAILROAD TRAFFIC DURING CONTRACTOR OPERATIONS", INCLUDING BUT NOT LIMITED TO, DESIGN REQUIREMENTS FOR TEMPORARY SHIELDING, SHORING AND BARRIERS.

SEQUENCE OF EROSION CONTROL MEASURES:

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

SOIL EROSION AND SEDIMENTATION CONTROL INSTALLATION MINIMUM REQUIREMENTS:

- INSTALL SILT FENCE, TREE PROTECTION FENCING, MUD MATS, INLET FILTERS ON EXISTING DRAINAGE FEATURES, AND ALL OTHER TEMPORARY SOIL EROSION CONTROLS, PRIOR TO ANY CLEARING OR EARTH MOVING OPERATION.
- STRIP AND STOCKPILE TOPSOIL. STABILIZE STOCKPILE AS REQUIRED.
- CONTINUALLY MAINTAIN EROSION AND SEDIMENTATION CONTROL MEASURES, AS REQUIRED TO ALLOW DRAINAGE AND SEDIMENT REMOVAL. REMOVE ANY ACCUMULATED SEDIMENT IMMEDIATELY.
- COMPLETE ALL FINE GRADING.
- TEMPORARY SEED AND INSTALL EROSION CONTROL BLANKET IN ALL DISTURBED AREAS.
- REFER TO LANDSCAPE PLANTING PLANS FOR PERMANENT SITE STABILIZATION.
- REMEDY ANY NOTED DEFECTS TO THE SATISFACTION OF THE CITY OF ANN ARBOR'S SOIL EROSION AND SEDIMENTATION CONTROL OFFICIAL.
- ALL TEMP. SOIL EROSION CONTROL MEASURES MUST BE REMOVED, WITH ENGINEERS APPROVAL, PRIOR TO FINAL INSPECTION

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

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

- BnB - Boyer Loamy Sand.

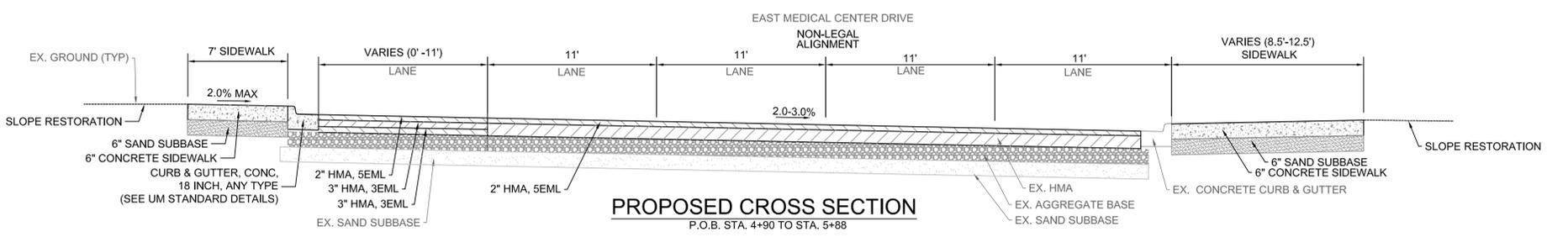
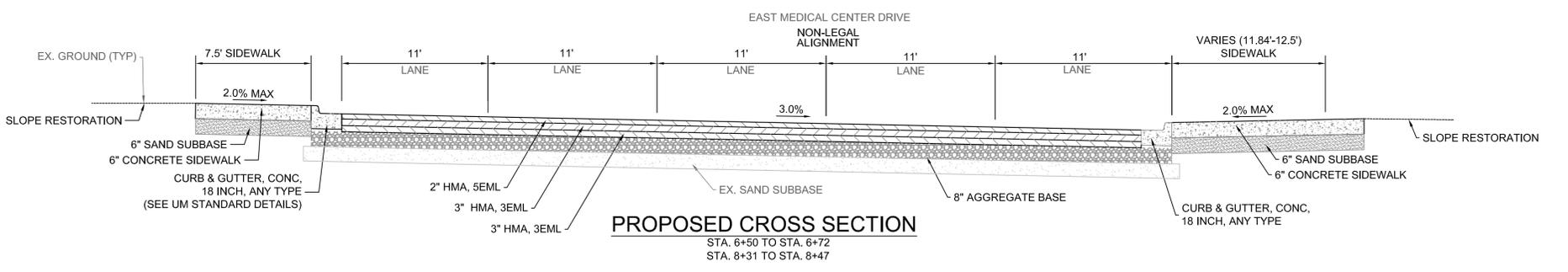
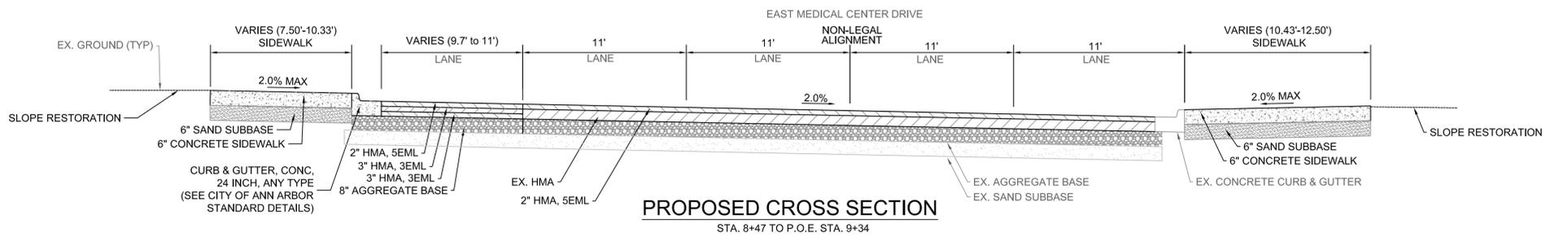
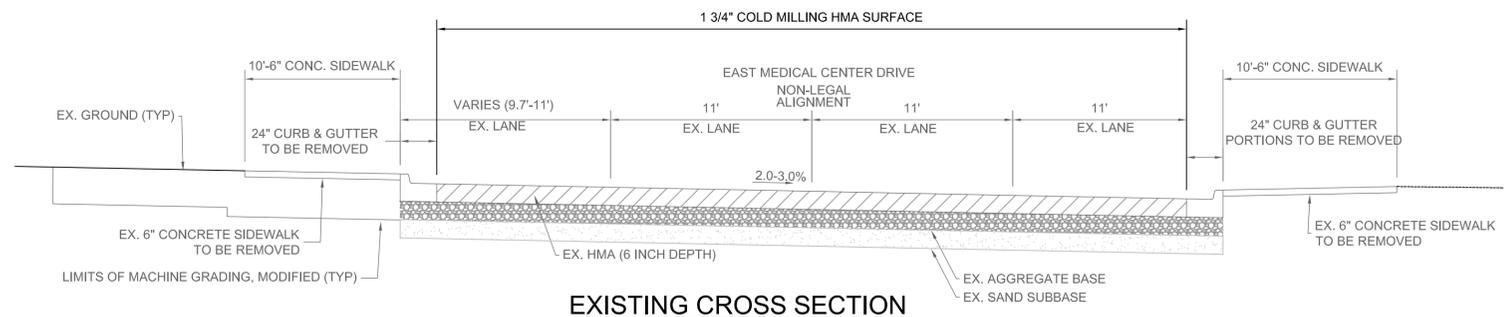
3 WORKING DAYS!
BEFORE YOU DIG
CALL MISS DIG
 800-482-7171
 (TOLL FREE)



					PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR				
					EAST MEDICAL CENTER DRIVE				
					PROJECT NOTE SHEET				
					SCALE NONE		INCH 0 1		
					DRAWING NO. 2021-008-C3				
					SHEET NO. <u> 3 </u> OF <u> 153 </u>				
REV. NO.					APPROVED BY _____				
DESCRIPTION									
DATE									
DR.BY									
CH.BY									

PROJECT: 2022 E. MEDICAL CENTER DRIVE BRIDGE REHABILITATION AND WIDENING QUANTITY SHEET

ROADWAY/MOT ITEMS							ROADWAY/MOT ITEMS							STRUCTURE ITEMS						
CODE NO.	WORK ITEM	UNITS	CONTRACT			AS-BUILT	CODE NO.	WORK ITEM	UNITS	CONTRACT			AS-BUILT	CODE NO.	WORK ITEM	UNITS	CONTRACT			AS-BUILT
			CATG 0001	CATG 0002	CATG 0003					TOTAL	CATG 0001	CATG 0002					CATG 0003	TOTAL	CATG 0001		CATG 0002	CATG 0003	TOTAL
1047051	Certified Payroll & Compliance	LSUM	1			1	8120330	Sign, Portable, Changeable Message, Furn	Ea	1			1	1077060	Relocation and Site Cleanup	Dir			15,000	15,000
1047051	Project Supervision	LSUM	1			1	8120331	Sign, Portable, Changeable Message, Furn	Ea	1			1	2040061	Structures, Rem Portions (STR 11065)	LSUM	0.9	0.1		1
2010001	Clearing	Acre	0.2			0.2	8120340	Sign, Type A, Temp, Prismatic, Furn	Sft	27			27	2060002	Backfill, Structure, CIP	Cyd	300	300	340	940
2040035	Guardrail, Rem	Ft	176			176	8120341	Sign, Type A, Temp, Prismatic, Oper	Sft	27			27	2060010	Excavation, Fdn	Cyd	300	300	400	1,000
2040050	Pavt, Rem	Syd	192			192	8120350	Sign, Type B, Temp, Prismatic, Furn	Sft	926			926	2067050	Dewatering System, Excavation	Ea		2		2
2040080	Exploratory Investigation, Vertical	Ft	50	150		200	8120351	Sign, Type B, Temp, Prismatic, Oper	Sft	926			926	3027021	Sand Subbase Course, Class II, CIP	Cyd			34	34
2047001	Curb and Gutter, Any Type or Size, Rem	Ft	70	311		381	8120352	Sign, Type B, Temp, Prismatic, Spec, Furn	Sft	315			315	7040001	Steel Sheet Piling, Permanent	Sft			6,690	6,690
2047011	Sidewalk and Drive, Any Type or Thickness, Rem	Syd	70	575		645	8120353	Sign, Type B, Temp, Prismatic, Spec, Oper	Sft	315			315	7040002	Steel Sheet Piling, Temp	Sft	360			360
2057011	Machine Grading, Modified	Syd		2.3		2.3	8120370	Traf Regulator Control	LSUM	1			1	7040003	Steel Sheet Piling, Temp, Left in Place	Sft		360		360
2057021	Non-Hazardous Contaminated Material Handling and Disposal, LM	Cyd	200		200	400	8121000	Conc Barrier, Temp, Limited Deflection, Det 1, Furn	Ft	160			160	7057050	Micropile, Type B, Furn and Install, LRFD	Ea		18		18
2087036	Erosion Control, Silt Fence	Ft	1,289			1,289	8121001	Conc Barrier, Temp, Limited Deflection, Det 1, Oper	Ft	160			160	7057050	Micropile, Load Test, Proof, LRFD	Ea		4		4
2087050	Erosion Control, Inlet Protection	Ea	5	2		7	8121100	Conc Barrier, Temp, Limited Deflection, Det 2, Furn	Ft	75			75	7057050	Micropile, Load Test, Verification, LRFD	Ea		1		1
2090001	Project Cleanup	LSUM	1			1	8121101	Conc Barrier, Temp, Limited Deflection, Det 2, Oper	Ft	75			75	7057051	Micropile Mobilization, LRFD (STR 11065)	LSUM		1		1
3027021	Aggregate Base Course, 21AA, Modified	Cyd	43	56		99	8121102	Conc Barrier, Temp, Limited Deflection, Det 2, Adj	Ft	75			75	7060001	Bridge Ltg, Furn and Rem (STR 11065)	LSUM	0.9	0.1		1
3027021	Sand Subbase Course, Class II, CIP	Cyd	16	91		107	8121200	Conc Barrier, Temp, Limited Deflection, Det 3A, Furn	Ft	160			160	7060002	Bridge Ltg, Oper and Maintain	Cyd	375	54		429
4030005	Dr Structure Cover, Adj, Case 1	Ea		2		2	8121201	Conc Barrier, Temp, Limited Deflection, Det 3A, Oper	Ft	160			160	7060050	Expansion Joint Device	Ft	162	29		191
4030050	Dr Structure Cover, Type K	Ea	2	2		4	8122012	Pavt Mrkg, Wet Reflective, Type R, Tape, 12 Inch, White, Temp	Ft	86			86	7060060	False Decking	Sft	19,840			19,840
4030390	Dr Structure, Temp Lowering	Ea	2	2		4	8122111	Pavt Mrkg, Wet Reflective, Type R, Tape, Only	Ea	4			4	7060092	Reinforcement, Steel, Epoxy Coated	Lb	135,940	33,985	1,423	171,348
4037050	Dr Structure Cover, Adj	Ea	2			2	8122145	Pavt Mrkg, Wet Reflective, Type R, Tape, Rt & Lt Turn Arrow Sym	Ea	2			2	7060100	Substructure Conc	Cyd	160	129		289
5012013	HMA, 3EML	Ton	64	82		146	8122148	Pavt Mrkg, Wet Reflective, Type R, Tape, Thru & Rt Turn Arrow Sym	Ea	11			11	7060110	Superstructure Conc	Cyd	101			101
5012037	HMA, 5EML	Ton	222	22		244	8127050	Pedestrian Type II Barricade, Temp	Ea	2			2	7060111	Superstructure Conc, Form, Finish, and Cure (STR 11065)	LSUM	1			1
5017011	Hand Patching, Modified	Ton	35	35		70	8167011	Slope Restoration	Syd	40	210		250	7060112	Superstructure Conc, Form, Finish, and Cure, Night Casting (STR 11065)	LSUM	0.9	0.1		1
5017011	Cold Milling, HMA Surface, Modified	Syd	1,527			1,527	8182000	Conduit, Rem	Ft	498	12		510	7060113	Superstructure Conc, Night Casting	Cyd	375	54		429
8027001	Curb and Gutter, Conc, 18 Inch, Any Type	Ft	50	227		277	8182016	Conduit, Encased, 1, 4 Inch	Ft			204	204	7060140	Water Repellent Treatment, Penetrating	Syd	51			51
8027001	Curb and Gutter, Conc, 24 Inch, Any Type	Ft	34	77		111	8182021	Conduit, Encased, 6, 4 Inch	Ft		126		126	7062003	Conc, Grade 4500	Cyd			33	33
8037001	Detectable Warning Surface	Sft		64		64	8182034	Conduit, Directional Bore, 1, 1 1/2 Inch	Ft	60			60	7067001	Expansion Joint Device, Cover Plate, Modified	Ft	50			50
8037010	Concrete Sidewalk, 6 Inch	Sft	819	5,077		5,896	8182035	Conduit, Directional Bore, 1, 3 Inch	Ft	365			365	7070019	Bearing, Elastomeric, 2 3/4 inch	Sin	5,796	900		6,696
8037010	Sidewalk Ramp, Concrete, 8 Inch	Sft		229		229	8182048	Conduit, DB, 1, 1 1/2 Inch	Ft	90			90	7070021	Bearing, Elastomeric, 3 1/4 inch	Sin	5,310	880		6,190
8070004	Guardrail, Type MGS-8	Ft	144			144	8182133	Conduit, Schedule 40, 2 Inch	Ft		233		233	7070040	Shear Developers (STR 11065)	LSUM		0.7	0.3	1
8070044	Guardrail Approach Terminal, Type 2M	Ea	2			2	8182135	Conduit, Schedule 40, 3 Inch	Ft			740	740	7070050	Structural Steel, Mixed, Erect	Lb	51,984	14,162		66,146
8077050	Guardrail Departing Terminal, Type MGS	Ea	2			2	8182187	DB Cable, In Conduit, 600V, 1/C#6	Ft	2,220	699		2,919	7070051	Structural Steel, Mixed, Furn and Fab	Lb	51,984	14,162		66,146
8087001	Fence, Temp	Ft	774			774	8182309	Hh, Polymer Conc	Ea	2			2	7070070	Structural Steel, Rolled Shape, Erect	Lb		40,000		40,000
8087001	Post and Chain Fence, Salvage	Ft		84		84	8182330	Hh, Rem	Ea	2			2	7070071	Structural Steel, Rolled Shape, Furn and Fab	Lb		40,000		40,000
8087001	Tree Fence, Protective	Ft	47			47	8182349	Wood Pole, Cl 4, 30 Foot	Ea	5			5	7077051	Structural Steel, Galvanizing (STR 11065)	LSUM	1			1
8087050	Gate, Temp	Ea	2			2	8182363	Wood Pole, Rem	Ea	5			5	7100001	Joint Waterproofing	Sft	740			740
8100398	Sign, Type IIA	Sft	20			20	8182387	Wood Pole, Fit Up, TS Cable Pole	Ea	3			3	7100003	Joint Waterproofing, Expansion	Sft	10			10
8100399	Sign, Type IIB	Sft	20			20	8187001	Conduit, DB, 1, 2 Inch	Ft		8		8	7100030	Substructure Horizontal Surface Sealer (STR 11065)	Syd	90			90
8100402	Sign, Type III, Erect Salv	Ea	4			4	8187050	Handhole, Assembly, 17 inch x 30 inch	Ea	2	3	7	12	7110005	Bridge Railing, Aesthetic Parapet Tube	Ft	321			321
8107050	Hospital Sign and Foundation, Relocate	Ea		2		2	8187050	Handhole, Adjust, Any Size	Ea		1		1	7120007	Hand Chipping, Other Than Deck	Cft	112			112
8110091	Pavt Mrkg, Polyurea, 4 Inch, White	Ft	675			675	8187050	Hh, Tap, 4 Inch	Ea			2	2	7120017	Patch, Forming	Sft	447			447
8110092	Pavt Mrkg, Polyurea, 4 Inch, Yellow	Ft	504			504	8197050	Luminaire Installation	Ea	5			5	7120020	Epoxy Olvly	Syd	1,050			1,050
8110110	Pavt Mrkg, Polyurea, 12 Inch, Crosswalk	Ft	55			55	8197050	Pole Fit-Up	Ea	5			5	7120028	Adhesive Anchoring of Horizontal Bar, 3/4 inch	Ea		68		68
8110114	Pavt Mrkg, Polyurea, 24 Inch, Stop Bar	Ft	69			69	8197050	Pole Installation	Ea	5			5	7120034	Adhesive Anchoring of Vertical Bar, 3/4 inch	Ea		8		8
8110153	Pavt Mrkg, Sprayable Thermopl, 4 Inch, White	Ft	396			396	8197050	Streetlight, Rem	Ea	5			5	7120084	Reinforcement, Mechanical Splice	Ea	794			794
8110154	Pavt Mrkg, Sprayable Thermopl, 4 Inch, Yellow	Ft	602			602	8200100	Pedestal, Alum	Ea	2	1		3	7120098	Flushing Cracks, Water	Ft	124			124
8110307	Rem Curing Compound, for Longit Mrkg, 4 Inch	Ft	791			791	8200101	Pedestal, Alum, Salvage	Ea	1			1	7120099	Structural Crack, Repr	Ft	124			124
8110321	Rem Curing Compound, for Spec Mrkg	Sft	211			211	8200105	Pedestal, Fdn	Ea	2	1		3	7120112	Patching Conc, C-L	Cyd	5			5
8110343	Rem Spec Mrkg	Sft	1,000			1,000	8200106	Pedestal Fdn, Rem	Ea	3	1		4	7120120	Embedded Galvanic Anode	Ea	555			555
8110405	Pavt Mrkg, Polyurea, LT Turn Arrow Sym	Ea	7			7	8200110	Pedestal, Rem	Ea	3	1		4	7130010	Beam Plate, Seal Perimeter	Ft	1,660			1,660
8110410	Pavt Mrkg, Polyurea, Only	Ea	12			12	8200121	Pushbutton and Sign	Ea	2	1		3	8037010	Concrete Sidewalk, 6 Inch	Sft			1,830	1,830
8110412	Pavt Mrkg, Polyurea, RT Turn Arrow Sym	Ea	5			5	8200122	Pushbutton, Rem	Ea	3	1		4	8127060	Railroad Inspection and Flagging	Dir	180,000	20,000		200,000
8110418	Pavt Mrkg, Polyurea, Thru Arrow Sym	Ea	3			3	8200126	Pushbutton and Sign, Salvage	Ea	1			1	8130015	Slope Paving Header	Ft		100	131	231
8117001	Recessing Pavt Mrkg, Longitudinal	Ft	2,219			2,219	8200140	Span Wire	Ea	4			4	8130020	Slope Paving, Conc	Syd		55	30	85
8117001	Recessing Pavt Mrkg, Transverse	Ft	119			119	8200141	Span Wire, Rem	Ea	4			4	8182097	Conduit, Schedule 80, 4 inch, Structure	Ft	2920			2920
8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Ea	4			4	8200168	Strut Guy	Ea	2			2	8182133	Conduit, Schedule 40, 2 inch	Ft		170		170
8120013	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Ea	4			4	8200177	TS, Mast Arm Mtd, Rem	Ea	1			1	8182135	Conduit, Schedule 40, 3 inch	Ft			330	330
8120027	Pedestrian Type II Channelizer, Temp	Ft	60			60	8200251	TS, One Way Mast Arm Mtd, Salv	Ea	1			1	8507010	Soil Nails for Slope Stabilization	Sft		2,723		2,723
8120035	Channelizing Device, 42 Inch, Fluorescent, Furn	Ea	50			50	8200376	Bracket, Truss, With 12 Foot Arm	Ea	1			1							
8120036	Channelizing Device, 42 Inch, Fluorescent, Oper	Ea	50			50	8200444	Hemispherical Video Detection Camera	Ea	1		2	3							
8120040	Conc Barrier Ending, Temp, Det 2, Adj	Ea	2			2	8200445	Hemispherical Video Detection System	Ea			1	1							
8120041	Conc Barrier Ending, Temp, Det 2, Furn	Ea	2			2	8200446	Hemispherical Video Detection Camera, Rem	Ea	1			1							
8120042	Conc Barrier Ending, Temp, Det 2, Oper	Ea	2			2	8200452	TS Head, Adj												



HMA APPLICATION ESTIMATE			
PAY ITEM	RATE (LBS/SYD)	PERFORMANCE GRADE	REMARKS
HMA, 5EML	220	64-22	HMA, 5EML TOP COURSE AWI=260.
HMA, 3EML	330	64-22	HMA, 3EML LEVELING COURSE
HMA, 3EML	330	58-22	HMA, 3EML BASE COURSE
BOND COAT	0.10 GAL/SYD		FOR INFORMATION ONLY. SHALL NOT BE PAID SEPARATELY BUT IS INCLUDED IN PAY ITEM OF HMA COURSE BEING APPLIED

3 WORKING DAYS | BEFORE YOU DIG CALL MISS DIG 800-482-7171 (TOLL FREE)

DLZ				
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10/12/22	INB	LCM

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

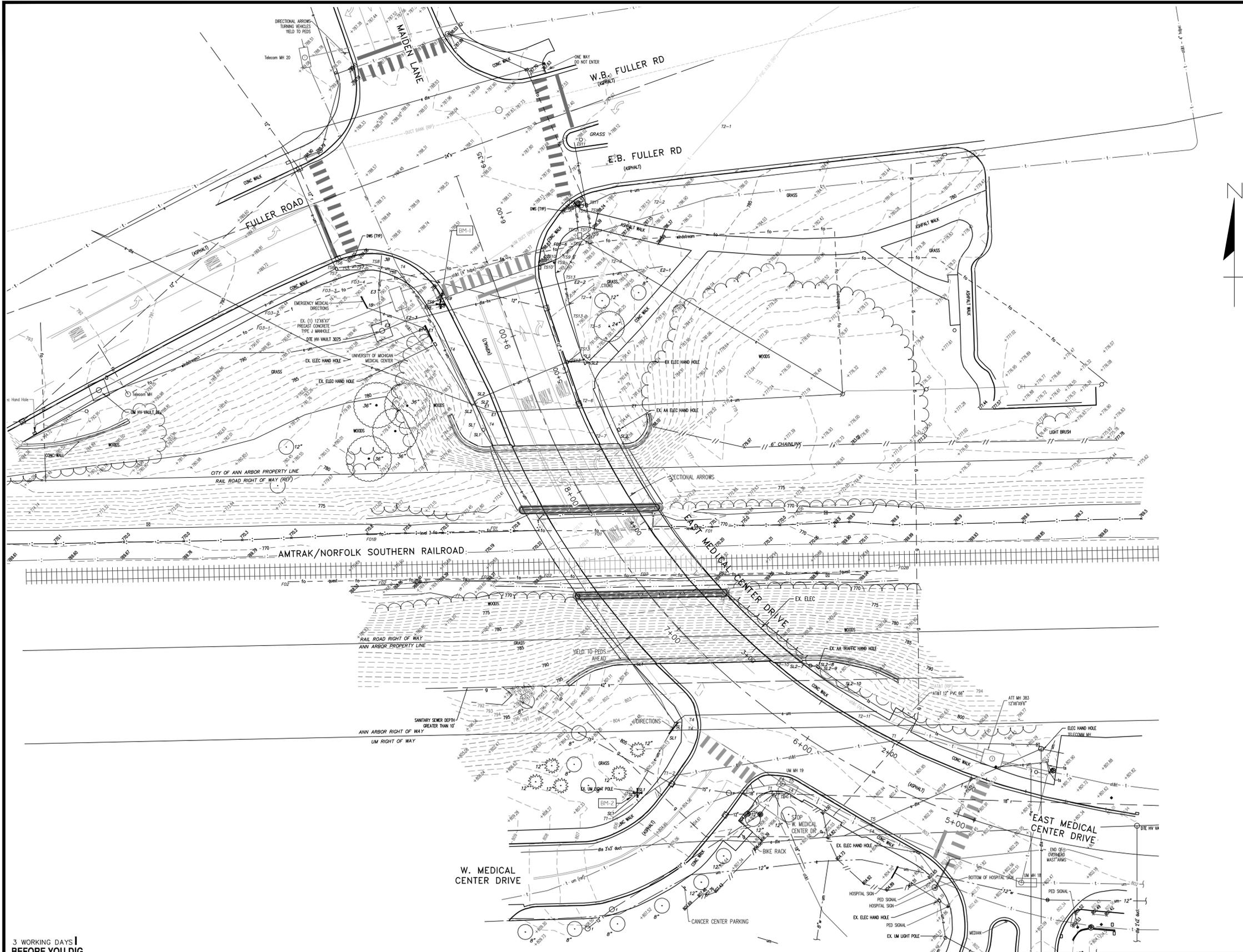
E. MEDICAL CENTER DRIVE ROADWAY CROSS SECTIONS

SCALE: 0 INCH = 1 NTS

DRAWING NO. **2021-008-TSCS**

SHEET NO. 5 OF 153

APPROVED BY: _____



BENCHMARKS

BM#1
ELEV=790.619'
TOP OF SW TRAFFIC SIGNAL BASE BOLT AT THE SW CORNER OF THE INTERSECTION OF FULLER AVE AND MAIDEN AVENUE/E. MEDICAL CENTER DRIVE

BM#2
ELEV=806.437'
TOP OF NE LIGHT POLE BASE BOLT ON NORTH SIDE OF W MEDICAL CENTER DRIVE +/- 40' FROM THE INTERSECTION OF E. MEDICAL CENTER DRIVE

NOTE

FOR UTILITY STRUCTURE INFORMATION, SEE STRUCTURE TABLE - SHEET 59

NOTES

VERTICAL DATUM: NAVD 1988, BASED ON NGS CONCRETE MONUMENT DESIGNATED AS 0014A AND HAVING A PID OF AAS177.

HORIZONTAL DATUM: MICHIGAN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE 2113, INTERNATIONAL FEET, NAD 83, 2011 ADJUSTMENT YEAR

UTILITIES SHOWN ARE BASED OFF MARKED LOCATIONS PROVIDED BY T2 UTILITY ENGINEERS AND PLAN INFORMATION RECEIVED FROM UTILITY OWNERS IN RESPONSE TO A MISS DIG TICKET. UTILITY INFORMATION SHOULD BE CONSIDERED APPROXIMATE AND WILL NEED TO BE VERIFIED PRIOR TO ANY CONSTRUCTION.

MISS DIG TICKET #: B13010469

3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	EXISTING HAND HOLE	DECIDUOUS TREE
- CONTOUR	- UTILITY POLE & GUY	- GAS LINE	- LEFT EDGE/RD. GRADE	- EXISTING PEDESTRIAN SIGNAL	(Symbol)
- STORM SEWER & CAT. BAS.	- FIRE HYDRANT ASSEMBLY	- CABLE T.V.	- RIGHT EDGE/RD. GRADE	- BENCHMARK	CONIFEROUS TREE
- WATER MAIN & VALVE-IN-WELL	- LIGHT POLE	- ELECTRIC	- CURB & GUTTER	- TREE/BRUSH LINE	(Symbol)
- WATER MAIN & VALVE-IN-BOX	- END SECTION	- SIGN	- EDGE/GRAVEL		



PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

**E. MEDICAL CENTER DRIVE
EXISTING CONDITIONS (E MED CNTR DR)**

SCALE	1"=30'
DRAWING NO.	2021-008-TS1
SHEET NO.	6 OF 153

SEE ABOVE				
BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE
			ORIGINAL ISSUE	10/12/22
			DR.BY	INB
			CH.BY	LCM

APPROVED BY _____

Coordinate System: State Plane Grid
 Zone: Michigan Southern 2113
 Ellipsoid: GRS 80
 Horizontal Datum: NAD 83 (NRS 2011)
 Vertical Datum: Geoid 128
 Units: International Feet

Control

CONTROL POINT # 1

Set a 5/8" Diameter by 24" long rebar flush with the existing ground on the north side of the Amtrak tracks.

COORDINATES: N=287044.0144 E=1324949.5600 EL=770.64'

COMBINED FACTOR: 0.99992963

WITNESSES:

1. N7844°E 50.75 TO WEST SIDE OF NORTHERN PIER OF E MEDICAL CENTER DRIVE BRIDGE.
2. S545°E 22.51' TO THE NORTHERN AMTRAK RAIL
3. S8646°W 93.43' TO REBAR CONTROL POINT 8
4. N22202°W 34.24' TO REBAR CONTROL POINT 3

CONTROL POINT # 2

Set a 5/8" Diameter by 24" long rebar flush with the existing ground on the north side of the Amtrak tracks, EAST OF THE EAST MEDICAL CENTER DRIVE BRIDGE.

COORDINATES: N=287046.5865 E=13295189.4300 EL=769.97'

COMBINED FACTOR: 0.99992966

WITNESSES:

1. N01043°W 45.47' TO 6' HIGH CHAINLINK FENCE
2. N830 05°E 93.12' TO UTILITY POLE
3. S01009°E TO NORTHERN AMTRAK RAIL
4. N85020°W 105.09 FEET TO THE EAST SIDE OF THE NORTHERN PIER FOR THE E MEDICAL CENTER DRIVE BRIDGE OVER AMTRAK.

CONTROL POINT # 3

Set a 5/8" Diameter by 24" long rebar flush with the existing ground on the north side of the Amtrak tracks, WEST OF THE EAST MEDICAL CENTER DRIVE BRIDGE.

COORDINATES: N=287075.7543 E=13294936.7100 EL=779.11'

COMBINED FACTOR: 0.99992921

WITNESSES:

1. N0441°W 39.31' TO 36" TREE
2. S20028°E 66.70' TO THE WEST SIDE OF THE NORTHERN PIER TO THE EAST MEDICAL CENTER BRIDGE OVER AMTRAK
3. S22022°E 34.24' TO CONTROL POINT 1 (REBAR)
4. N72053°W 27.10' TO 36" TREE.

CONTROL POINT # 4

Set a 5/8" Diameter by 24" long rebar flush with the existing ground at the SW CORNER OF THE INTERSECTION OF EAST MEDICAL CENTER DRIVE AND FULLER AVENUE.

COORDINATES: 287188.4723 E=13294921.5700 EL=790.30'

COMBINED FACTOR: 0.99992819

WITNESSES:

1. S79009°E 27.63' TO THE SW CORNER OF DETECTABLE WARNING SURFACE
2. S40039°E 34.41' TO NORTH CORNER OF UNIVERSITY OF MICHIGAN MEDICAL SIGN
3. S59031°W 17.89 FEET TO THE NORTH CORNER OF UNIVERSITY OF MICHIGAN MEDICAL SIGN
4. N48020°W 20.58' TO THE SE CORNER OF DETECTABLE WARNING SURFACE

CONTROL POINT # 5

MAG NAIL SET IN CONCRETE BRIDGE EXPANSION JOINT ON THE EAST SIDE OF THE BRIDGE OVER THE NORTH PIER.

COORDINATES: N=287055.2003 E=13295078.6000 EL=797.58'

COMBINED FACTOR: 0.99992838

WITNESSES:

1. N56024°E 1.79' TO BOTTOM OF PARAPET WALL
2. S29024°E 57.80' TO BRIDGE EXPANSION JOINT AT EDGE OF SIDEWALK
3. S88021°W 9.97 FEET TO BRIDGE EXPANSION JOINT AT EDGE OF SIDEWALK
4. N57044°W 14.52' TO DIRECTIONAL ARROWS SIGN

CONTROL POINT # 6

SET MAG IN CONCRETE SIDEWALK JOINT AT SOUTHERN CORNER OF EAST MEDICAL CENTER DRIVE AND WEST MEDICAL CENTER DRIVE

COORDINATES: N=286890.9640 E=13295149.6300 EL=804.56'

COMBINED FACTOR: 0.99992806

WITNESSES:

1. N76005°E 5.59' TO CENTER OF TELEPHONE MANHOLE
2. S59041°W 32.80' TO CENTER OF CATCH BASIN
3. S74054°W 17.52' TO STOP SIGN
4. S81014°W 26.42' TO CENTER OF SANITARY MANHOLE.

CONTROL POINT # 7

Set a 5/8" Diameter by 24" long rebar flush with the existing ground on the SOUTHWEST CORNER OF THE EAST MEDICAL CENTER DRIVE BRIDGE.

COORDINATES: N=286959.8056 E=13295063.1500 EL=802.00'

COMBINED FACTOR: 0.999928174

WITNESSES:

1. S42016°E 43.83 FEET TO A DIRECTION SIGN
2. S7038°E 48.10' TO A 12" TREE
3. S28052°W TO A 8" TREE
4. S72054°W 35.50 TO SW CORNER OF RETAINING WALL

CONTROL POINT # 8

Set a 5/8" Diameter by 24" long rebar flush with the existing ground on the north side of the Amtrak tracks, WEST OF THE EAST MEDICAL CENTER DRIVE BRIDGE.

COORDINATES: N=287038.7366 E=13294856.2800 EL=770.34'

COMBINED FACTOR: 0.999929648

WITNESSES:

1. N86046°E 93.43' TO CONTROL POINT 1
3. S01006°E TO NORTH AMTRAK RAIL
3. N62021°W 86.12' TO CONTROL POINT 11
4. N01019°E 29.05' TO A 12" TREE

CONTROL POINT # 9

Set a 5/8" Diameter by 24" long rebar flush with the existing ground on the south side of the Amtrak tracks, EAST OF THE EAST MEDICAL CENTER DRIVE BRIDGE.

COORDINATES: N=287006.6709 E=13295259.7600 EL=769.98'

COMBINED FACTOR: 0.999929683

WITNESSES:

1. N01012°W 16.30' TO THE SOUTHERN AMTRAK RAIL
2. N83051°W 78.32' TO A TELEPHONE HAND HOLE
3. S35003°W 62.92' TO THE NE CORNER OF RETAINING WALL

CONTROL POINT # 10

Set a 5/8" Diameter by 24" long rebar flush with the existing ground on the south side of the Amtrak tracks, WEST OF THE EAST MEDICAL CENTER DRIVE BRIDGE.

COORDINATES: N=287005.0369 E=13295024.8000 EL=769.98'

COMBINED FACTOR: 0.999929683

WITNESSES:

1. N01009°W 13.09' TO THE SOUTHERN AMTRAK RAIL
2. S70038°E 7.08' TO THE WEST EDGE OF THE SOUTHERN PIER OF THE EAST MEDICAL CENTER BRIDGE OVER AMTRAK
3. S02045°E 53.30' TO THE NE CORNER OF RETAINING WALL.

CONTROL POINT # 11

Set a 5/8" Diameter by 24" long rebar flush with the existing ground on the south side of the Amtrak tracks, WEST OF THE EAST MEDICAL CENTER DRIVE BRIDGE.

COORDINATES: N=287078.6776 E=13294780.0000 EL=781.27'

COMBINED FACTOR: 0.999929105

WITNESSES:

1. N21030°W 28.36' TO THE SE CORNER OF RETAINING WALL
2. N14056°W 44.52' TO THE CENTER OF TELEPHONE MANHOLE
3. S62021°E 86.12' TO CONTROL POINT 8.
4. S0048°E 33.68' TO CENTER OF TELEPHONE HAND HOLE.

CONTROL POINT # 12

Set a 5/8" Diameter by 24" long rebar flush with the existing ground on the south side of FULLER AVENUE APPROXIMATELY 225' EAST OF EAST MEDICAL CENTER DRIVE.

COORDINATES: N=287233.2356 E=13295233.0800 EL=780.90'

COMBINED FACTOR: 0.999929048

WITNESSES:

1. N06013°W 30.95' TO THE SOUTHERN EDGE OF FULLER AVENUE.
2. N78020°E 43.39' TO THE INTERSECTION OF THE CURB AND SIDEWALK.
3. S19002°E TO THE NORTHERN EDGE OF SIDEWALK
4. S730 55°W 49.55 TO THE CENTER OF TELEPHONE HAND HOLE.

CONTROL POINT # 13

Set a 5/8" Diameter by 24" long rebar flush with the existing ground on the EAST/SOUTHEAST SIDE OF PARKING LOT ALONG THE SOUTH SIDE OF FULLER AVENUE.

COORDINATES: N=287133.8876 E=13295231.2700 EL=776.44'

COMBINED FACTOR: 0.99992931

WITNESSES:

1. N45009°E 36.14' TO LAMP POST
2. S62059°E TO SW CORNER OF PARKING LOT
3. S44005°E 12.92' TO UTILITY POLE
4. S73021°W TO UTILITY POLE

BENCHMARKS:

BENCHMARK # 1

DESCRIPTION: TOP OF THE SW TRAFFIC SIGNAL BASE BOLT AT THE SW CORNER OF THE INTERSECTION OF FULLER AVENUE AND MAIDEN AVENUE/EAST MEDICAL CENTER DRIVE.

COORDINATES: N=287174.7856 E=13294953.2000 EL=806.619'

BENCHMARK # 2

DESCRIPTION: TOP OF NE LIGHT POLE BASE BOLT ON NORTH SIDE OF WEST MEDICAL CENTER DRIVE +/- 40' FROM THE INTERSECTION OF EAST MEDICAL CENTER DRIVE.

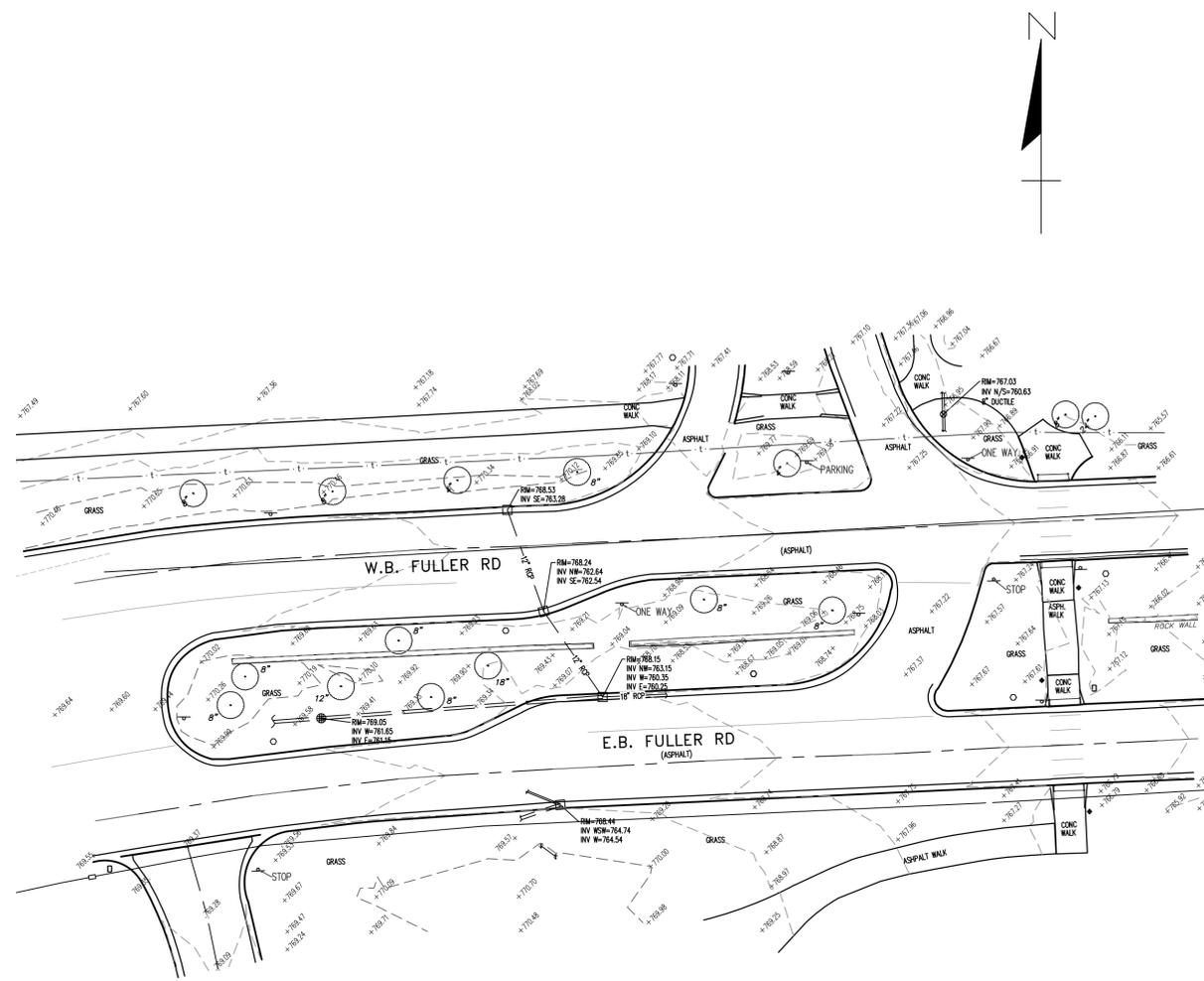
COORDINATES: N=286886.7248 E=13295069.5700 EL=806.437'

GOVERNMENT CORNERS:

DESIGNATION: 0014A

PROJ: A45137

DESCRIPTION: STATION 0014A IS LOCATED ON THE EASTERLY SIDE OF MAIDEN LANE APPROXIMATELY 140 FT (42.7 M) NORTHERLY OF THE NORTHERLY BACK OF CURB OF FULLER ROAD, SAID STATION BEING IN THE SOUTHWEST 1/4 OF SECTION 21, ANN ARBOR TOWNSHIP IN THE CITY OF ANN ARBOR, MICHIGAN. THE STATION IS LOCATED 5 FT (1.5 M) EASTERLY OF THE EASTERLY EDGE OF THE STONE WALL AND 71 FT (21.6 M) SOUTHEASTERLY OF THE SOUTHERLY MOST POINT OF THE CONCRETE BRIDGE ABUTMENT ON THE EASTERLY SIDE OF MAIDEN LANE. SAID STATION IS A PRIMARY CONTROL MONUMENT AND IS DESCRIBED AS THE 1993 EDITION OF THE CITY OF ANN ARBOR BRASS DISC, SET IN CONCRETE PER DETAIL AND IS FLUSH WITH THE GROUND. THIS POINT WAS SET BY THE CITY OF ANN ARBOR IN 1993 AND IS PAIRED WITH POINT 0014B.



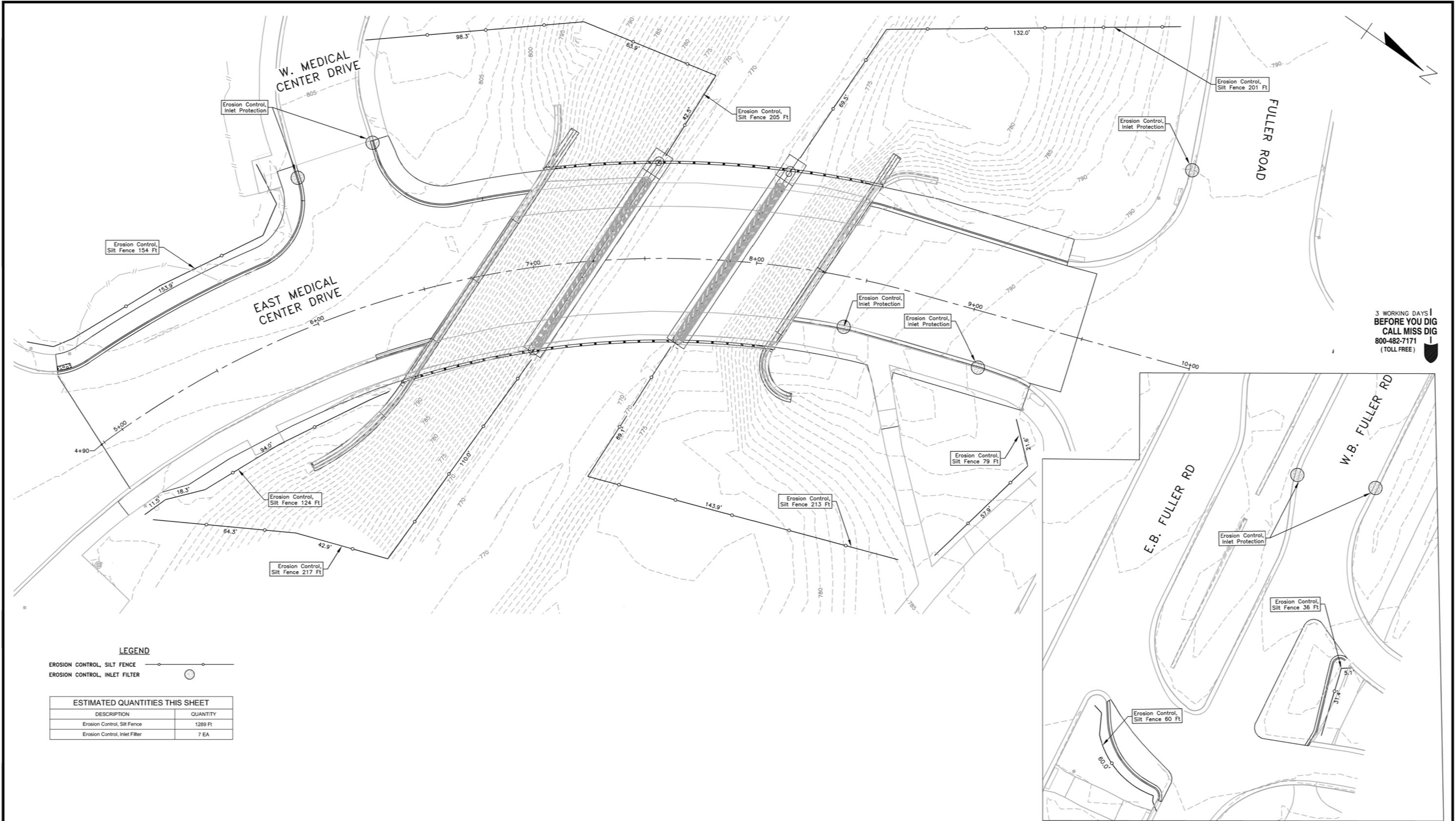
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LEGEND

EXISTING FENCE - - - - - - CONTOUR - STORM SEWER & CAT. BAS. - WATER MAIN & VALVE-IN-WELL - WATER MAIN & VALVE-IN-BOX	EXISTING SANITARY SEWER & MANHOLE - UTILITY POLE & GUY - FIRE HYDRANT ASSEMBLY - LIGHT POLE - END SECTION	EXISTING TELEPHONE - GAS LINE - CABLE T.V. - ELECTRIC - SIGN	EXISTING RD. & GRADE - LEFT EDGE/RD. GRADE - RIGHT EDGE/RD. GRADE - CURB & GUTTER - EDGE/GRAVEL	EXISTING HAND HOLE EXISTING PEDESTRIAN SIGNAL BENCHMARK TREE/BRUSH LINE	DECIDUOUS TREE CONIFEROUS TREE
--	---	--	---	--	-----------------------------------

SEE ABOVE					
BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE	DR.BY
			ORIGINAL ISSUE	10/12/22	INB
					LCM

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR					
E. MEDICAL CENTER DRIVE EXISTING CONDITIONS (FULLER RD.)					
SCALE 1"=30'		INCH 0 1			
DRAWING NO. 2021-008-TS2					
SHEET NO. <u>7</u> OF <u>139</u>					
APPROVED BY _____					



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LEGEND

- EROSION CONTROL, SILT FENCE
- EROSION CONTROL, INLET FILTER

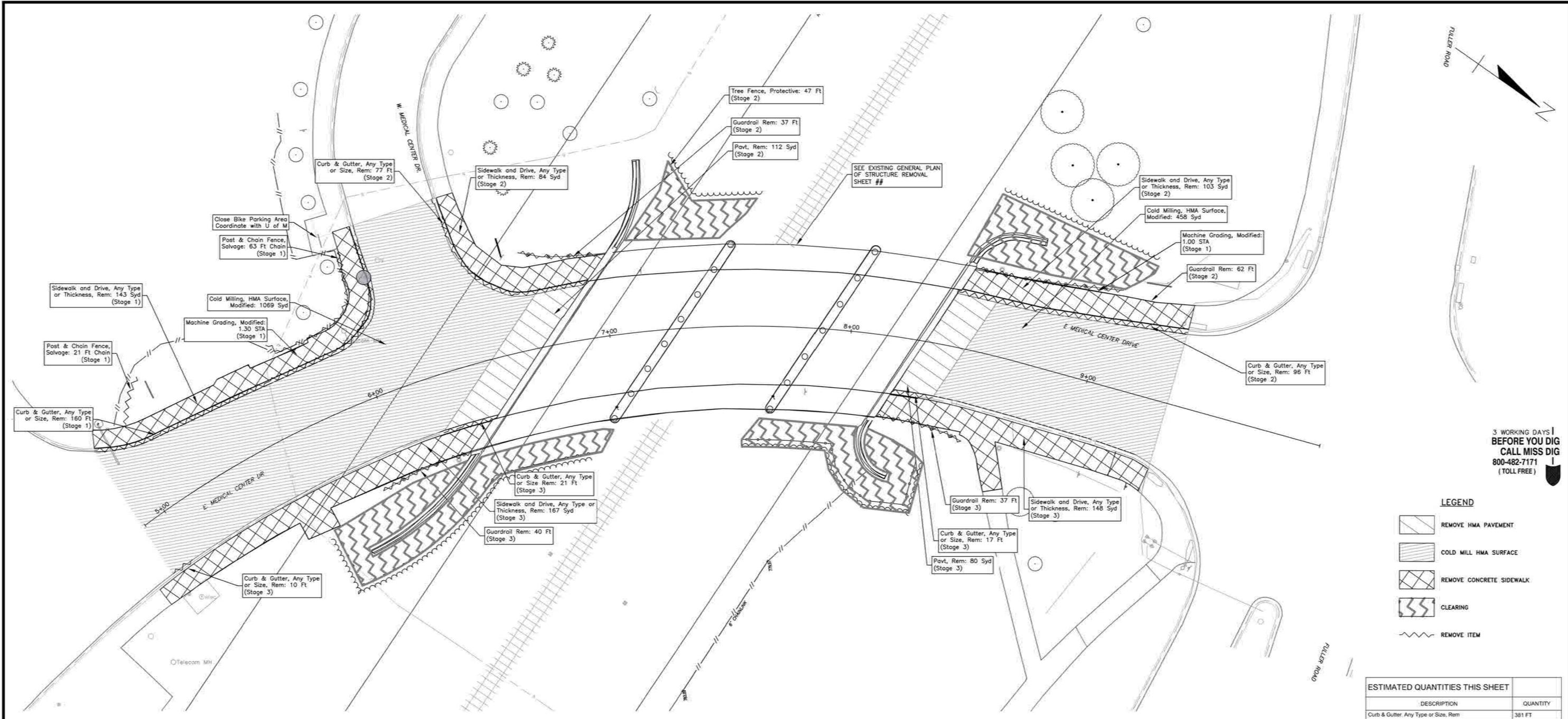
ESTIMATED QUANTITIES THIS SHEET	
DESCRIPTION	QUANTITY
Erosion Control, Silt Fence	1289 Ft
Erosion Control, Inlet Filter	7 EA

LEGEND

- | | | | | | |
|---|---|--|---|---|---|
| <ul style="list-style-type: none"> EXISTING FENCE CONTOUR STORM SEWER & CAT. BAS. WATER MAIN & VALVE-IN-WELL WATER MAIN & VALVE-IN-BOX | <ul style="list-style-type: none"> EXISTING SANITARY SEWER & MANHOLE UTILITY POLE & GUY FIRE HYDRANT ASSEMBLY LIGHT POLE END SECTION | <ul style="list-style-type: none"> EXISTING TELEPHONE GAS LINE CABLE T.V. ELECTRIC SIGN | <ul style="list-style-type: none"> EXISTING RD. & GRADE LEFT EDGE/RD. GRADE RIGHT EDGE/RD. GRADE CURB & GUTTER EDGE/GRAVEL | <ul style="list-style-type: none"> PROPOSED SANITARY SEWER & MANHOLE STORM SEWER & CAT. BAS. WATER MAIN W/F.H. ASSEM. CONTOUR ROAD & GRADE | <ul style="list-style-type: none"> PROPOSED CURB & GUTTER PROPOSED SILT FENCE |
|---|---|--|---|---|---|

DLZ					
SEE ABOVE	BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE
				ORIGINAL ISSUE	10/12/22
				DR.BY	INB
				CH.BY	LCM

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR			
E. MEDICAL CENTER DRIVE SOIL EROSION CONTROL MEASURES			
SCALE	1"=20'	INCH	
DRAWING NO.	2021-008-SECM		
SHEET NO.	8	OF	153
APPROVED BY: _____			



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LEGEND

	REMOVE HMA PAVEMENT
	COLD MILL HMA SURFACE
	REMOVE CONCRETE SIDEWALK
	CLEARING
	REMOVE ITEM

ESTIMATED QUANTITIES THIS SHEET

DESCRIPTION	QUANTITY
Curb & Gutter Any Type or Size, Rem	381 FT
Sidewalk and Drive, Any Type or Thickness, Rem	645 SYD
Pavt, Rem	192 SYD
Guardrail, Rem	176 FT
Cold Milling, HMA Surface, Modified	1527 SYD
Tree Fence, Protective	47 FT
Post and Chain Fence, Salvage	84 FT
Machine Grading, Modified	2.3 STA
Clearing	0.20 ACRE

NOTE:
THE CONTRACTOR SHALL NOTE THAT THIS WORK IS TO BE DONE IN STAGES IN ACCORDANCE WITH THE MAINTENANCE OF TRAFFIC PLANS AND CONSTRUCTION SEQUENCE DEFINED ELSEWHERE IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL ONLY REMOVE THOSE ITEMS THAT ARE COMPATIBLE WITH THE PHASE OF WORK CURRENTLY BEING UNDERTAKEN WITH NO ADJUSTMENT IN THE UNIT PRICE AS BID FOR THE WORK. ALL REMOVALS PERFORMED SHALL PROVIDE FOR THE SAFE AND ORDERLY MAINTENANCE OF TRAFFIC.

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
CONTOUR	UTILITY POLE & GUY	GAS LINE	LEFT EDGE/RD. GRADE	STORM SEWER & CAT. BAS.	SEE ABOVE
STORM SEWER & CAT. BAS.	FIRE HYDRANT ASSEMBLY	CABLE T.V.	RIGHT EDGE/RD. GRADE	WATER MAIN W/F.H. ASSEM.	BENCH MARK
WATER MAIN & VALVE-IN-WELL	LIGHT POLE	ELECTRIC	CURB & GUTTER	CONTOUR	SURVEY BOOK
WATER MAIN & VALVE-IN-BOX	END SECTION	SIGN	EDGE/GRAVEL	ROAD & GRADE	REV. NO.

DLZ

REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

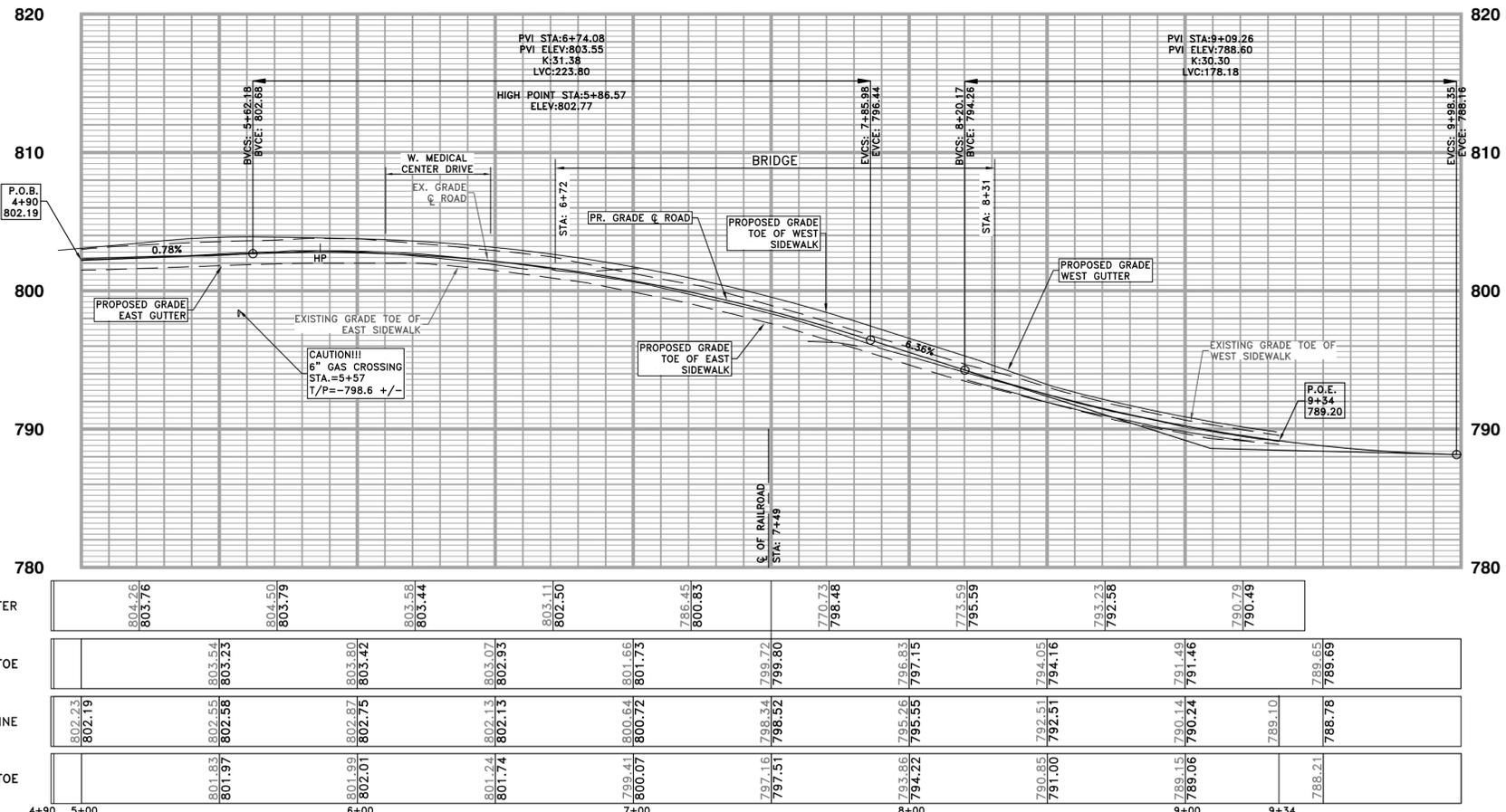
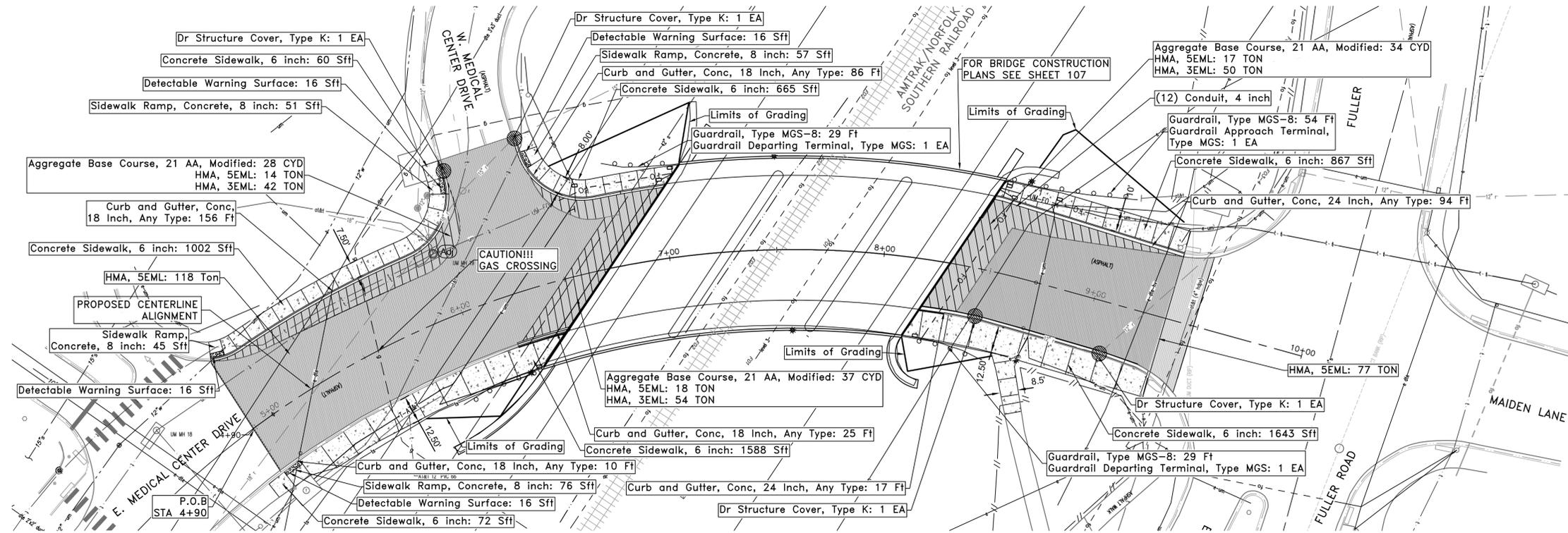
E. MEDICAL CENTER DRIVE ROADWAY REMOVAL PLAN

SCALE: 1"=20'

DRAWING NO. 2021-008-R1

SHEET NO. 9 OF 153

APPROVED BY: _____



PROFILE ALONG ROAD CENTERLINE
STATIONING PER ROAD CENTERLINE

NOTE:
CONTRACTOR TO SAW-CUT ALL CONCRETE AT THE REMOVAL LIMITS. CONTRACTOR TO SEAL CONCRETE JOINTS IN ACCORDANCE WITH UM STANDARD SIDEWALK DETAIL. INCLUDED IN "Concrete Sidewalk, 6 inch" AND "Sidewalk Ramp, Concrete, 8 inch" SEE SHEETS 52-53 FOR SIDEWALK DETAILED GRADES.

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① HORIZONTAL CURVE DATA (ROAD CENTERLINE)

L	71°58'59.16"
D	N44°46'59.86"W
R	422.00'
T	306.51
L	530.18'
P.C.	-1+58.25 (286848.74 N, 1329541.37 E)
P.I.	1+06.84
P.T.	3+71.93
P.C. TO P.I.	N73°31'19"W

LEGEND

[Hatched]	HMA Reconstruction
[Solid Grey]	HMA & Resurfacing
(Adj)	Adjust Structure
(Circle with dot)	Inlet Protection, Fabric Drop

ESTIMATED QUANTITIES THIS SHEET

DESCRIPTION	QUANTITY
HMA, 3EML	146 TON
HMA, 5EML	244 TON
Curb and Gutter, Conc, 18 Inch, Any Type	277 FT
Curb and Gutter, Conc, 24 Inch, Any Type	111 FT
Concrete, Sidewalk, 6 Inch	5896 SFT
Aggregate Base Course, 21AA, Modified	99 CYD
Curb Ramp Opening, Conc, 6 Inch	40 FT
Detectable Warning Surface	64 SFT
Sidewalk Ramp, Concrete, 8 Inch	229 SFT
Guardrail, Type MGS-8	144 FT
Guardrail Departing Terminal, Type MGS	2 EA
Guardrail Approach Terminal, Type 2M	2 EA
Dr Structure, Temp Lowering	4 EA
Dr Structure Cover, Adj	2 EA
Dr Structure Cover, Type K	4 EA
Dr Structure Cover, Adj, Case 1	2 EA
Sand Subbase Course, Class II, CIP	110 CYD
Slope Restoration	250 SYD

LEGEND

EXISTING FENCE	---|---|---|
CONTOUR	847
STORM SEWER & CAT. BAS.	---|---
WATER MAIN & VALVE-IN-WELL	W
WATER MAIN & VALVE-IN-BOX	W
EXISTING SANITARY SEWER & MANHOLE	S
UTILITY POLE & GUY	---|---
FIRE HYDRANT ASSEMBLY	---|---
LIGHT POLE	○
END SECTION)
EXISTING TELEPHONE	t
GAS LINE	G
CABLE T.V.	t
ELECTRIC	e
SIGN	⊥
EXISTING RD. & GRADE	---
LEFT EDGE/RD. GRADE	---
RIGHT EDGE/RD. GRADE	---
CURB & GUTTER	---
EDGE/GRAVEL	---
PROPOSED SANITARY SEWER & MANHOLE	S
STORM SEWER & CAT. BAS.	---|---
WATER MAIN W/F.H. ASSEM.	W
CONTOUR	847
ROAD & GRADE	---
PROPOSED CURB & GUTTER	---

DLZ

SEE ABOVE	REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
BENCH MARK	SURVEY BOOK	ORIGINAL ISSUE	10/12/22	INB	LCM

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

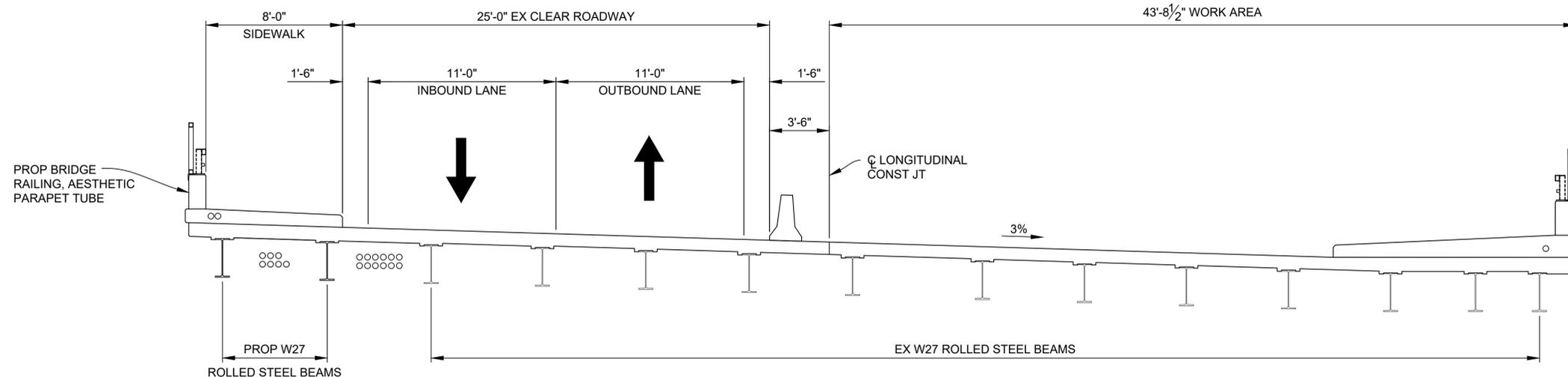
E. MEDICAL CENTER DRIVE ROADWAY CONSTRUCTION

SCALE
HOR. 1"=40'
VERT. 1"=4'

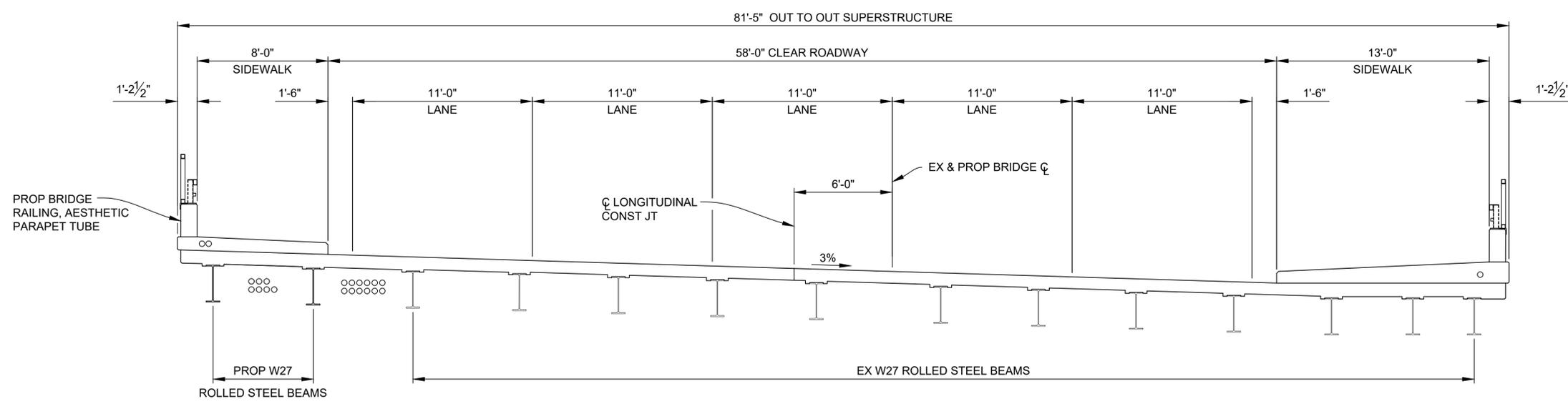
DRAWING NO.
2021-008-R2

SHEET NO. 10 OF 153

APPROVED BY: _____



STAGE 3
(LOOKING UPSTATION)

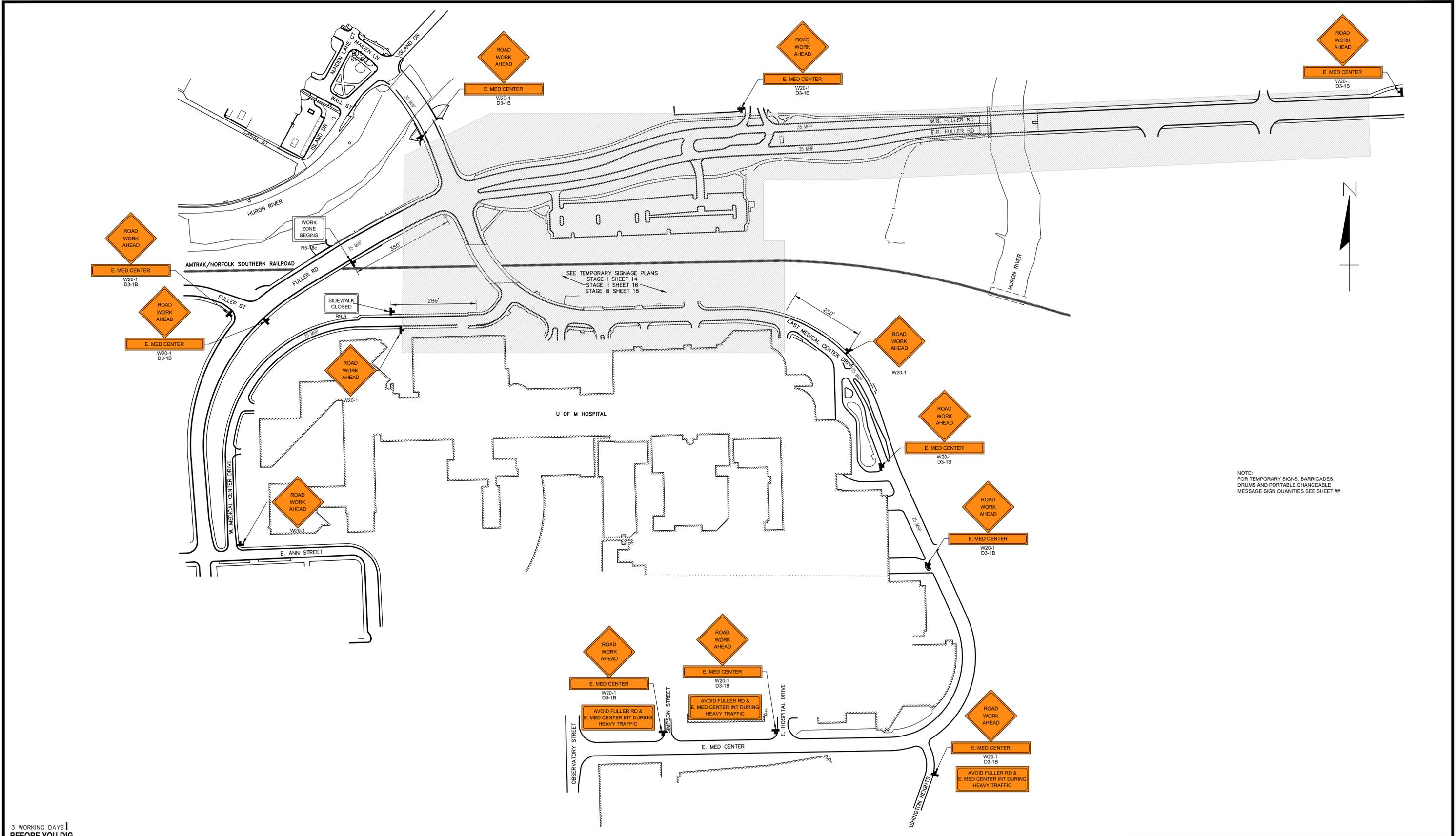


PROPOSED SECTION
(LOOKING UPSTATION)

NOTES:
PLACE LIMITED DEFLECTION TEMPORARY BARRIER ACCORDING TO STANDARD PLAN R-53 SERIES.

X:\Projects\2021\2141\736500_AA - EMCD Bridge\01_Constr\Docs\CAD\EMCD_rmt_002

DLZ					PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
					EAST MEDICAL CENTER DRIVE	
					BRIDGE CONSTRUCTION STAGING DETAILS	
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY	APPROVED BY	
	ORIGINAL ISSUE	10/12/22	INB	LCM		
					SCALE	INCH
					HOR. 1/4"=1'-0"	0 1
					DRAWING NO.	2021-008-
					SHEET NO.	12 OF 139

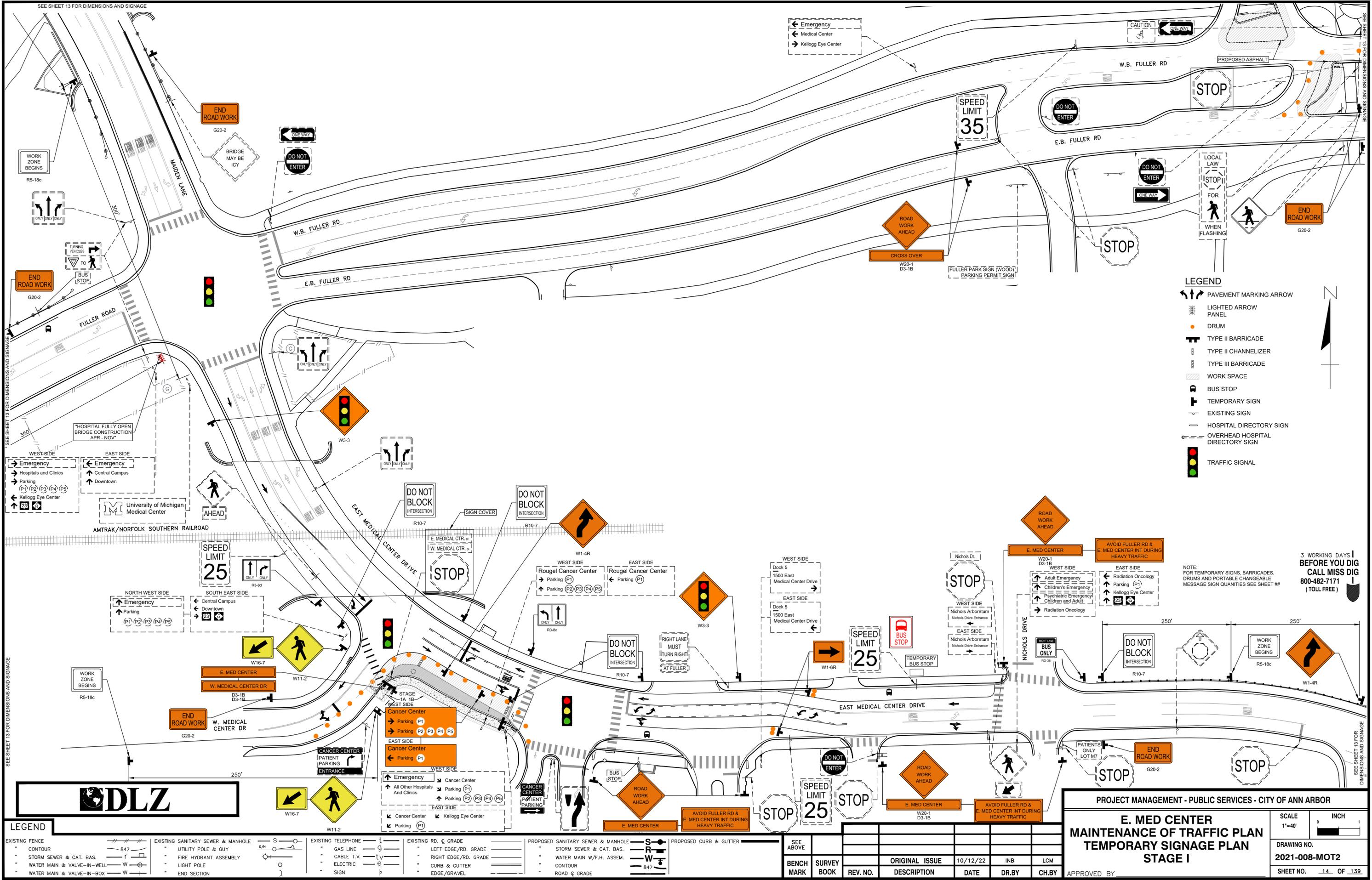


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LEGEND

EXISTING FENCE	--- --- ---	EXISTING SANITARY SEWER & MANHOLE	S	EXISTING TELEPHONE	t	EXISTING RD. & GRADE	---	PROPOSED SANITARY SEWER & MANHOLE	S	PROPOSED CURB & GUTTER	---
CONTOUR	---|---|---|	UTILITY POLE & GUY	U/G	GAS LINE	g	LEFT EDGE/RD. GRADE	---	STORM SEWER & CAT. BAS.	S	SEE ABOVE	XXX
STORM SEWER & CAT. BAS.	---|---|---|	FIRE HYDRANT ASSEMBLY	F	CABLE T.V.	t	RIGHT EDGE/RD. GRADE	---	WATER MAIN W/F.H. ASSEM.	W	BENCH MARK	XXX
WATER MAIN & VALVE-IN-WELL	W	LIGHT POLE	O	ELECTRIC	e	CURB & GUTTER	---	CONTOUR	---|---|---|	REV. NO.	DESCRIPTION
WATER MAIN & VALVE-IN-BOX	W	END SECTION	]	SIGN	h	EDGE/GRAVEL	---	ROAD & GRADE	---	DATE	DR. BY
										CH. BY	APPROVED BY

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR					
E. MED CENTER MAINTENANCE OF TRAFFIC PLAN ADVANCED WARNING SIGNAGE PLAN					
SCALE	1"=150'	INCH	DRAWING NO.		
			2021-008-MOT1		
			SHEET NO. 13 OF 139		



- LEGEND**
- PAVEMENT MARKING ARROW
 - LIGHTED ARROW PANEL
 - DRUM
 - TYPE II BARRICADE
 - TYPE II CHANNELIZER
 - TYPE III BARRICADE
 - WORK SPACE
 - BUS STOP
 - TEMPORARY SIGN
 - EXISTING SIGN
 - HOSPITAL DIRECTORY SIGN
 - OVERHEAD HOSPITAL DIRECTORY SIGN
 - TRAFFIC SIGNAL

3 WORKING DAYS!
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NOTE:
FOR TEMPORARY SIGNS, BARRICADES,
DRUMS AND PORTABLE CHANGEABLE
MESSAGE SIGN QUANTITIES SEE SHEET ##

- LEGEND**
- EXISTING FENCE
 - CONTOUR
 - STORM SEWER & CAT. BAS.
 - WATER MAIN & VALVE-IN-WELL
 - WATER MAIN & VALVE-IN-BOX

- EXISTING SANITARY SEWER & MANHOLE
- UTILITY POLE & GUY
- FIRE HYDRANT ASSEMBLY
- LIGHT POLE
- END SECTION

- EXISTING TELEPHONE
- GAS LINE
- CABLE T.V.
- ELECTRIC
- SIGN

- EXISTING RD. & GRADE
- LEFT EDGE/RD. GRADE
- RIGHT EDGE/RD. GRADE
- CURB & GUTTER
- EDGE/GRAVEL

- PROPOSED SANITARY SEWER & MANHOLE
- STORM SEWER & CAT. BAS.
- WATER MAIN W/F.H. ASSEM.
- CONTOUR
- ROAD & GRADE

- PROPOSED CURB & GUTTER

SEE ABOVE					
BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE	DR. BY

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

**E. MED CENTER
MAINTENANCE OF TRAFFIC PLAN
TEMPORARY SIGNAGE PLAN
STAGE I**

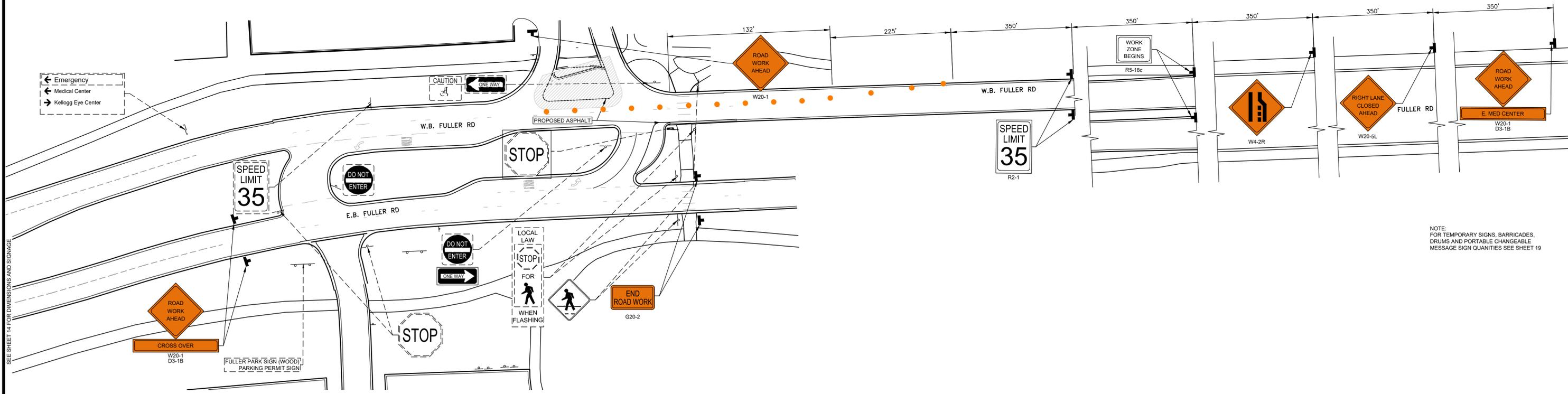
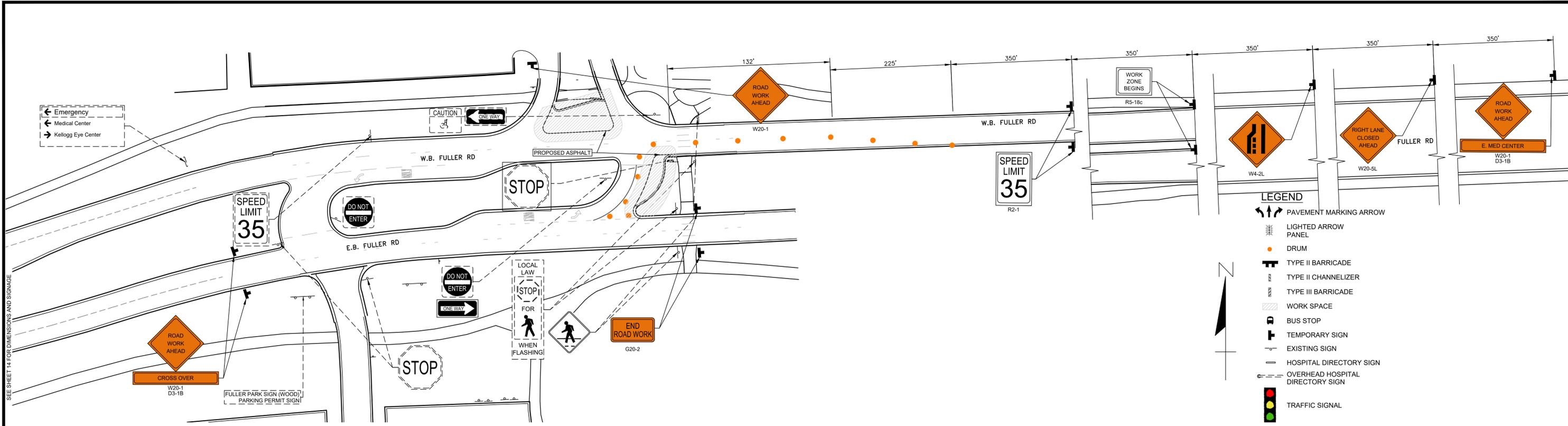
SCALE 1"=40'

DRAWING NO. 2021-008-MOT2

SHEET NO. 14 OF 139

APPROVED BY: _____

LEIGH C. MERRILL P.E., MICHIGAN NO. 6201061025



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LEGEND	
EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE
- CONTOUR	- UTILITY POLE & GUY
- STORM SEWER & CAT. BAS.	- FIRE HYDRANT ASSEMBLY
- WATER MAIN & VALVE-IN-WELL	- LIGHT POLE
- WATER MAIN & VALVE-IN-BOX	- END SECTION
EXISTING TELEPHONE	EXISTING RD. & GRADE
- GAS LINE	- LEFT EDGE/RD. GRADE
- CABLE T.V.	- RIGHT EDGE/RD. GRADE
- ELECTRIC	- CURB & GUTTER
- SIGN	- EDGE/GRAVEL
PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
- STORM SEWER & CAT. BAS.	- SEE ABOVE
- WATER MAIN W/F.H. ASSEM.	BENCH MARK
- CONTOUR	SURVEY BOOK
- ROAD & GRADE	REV. NO.

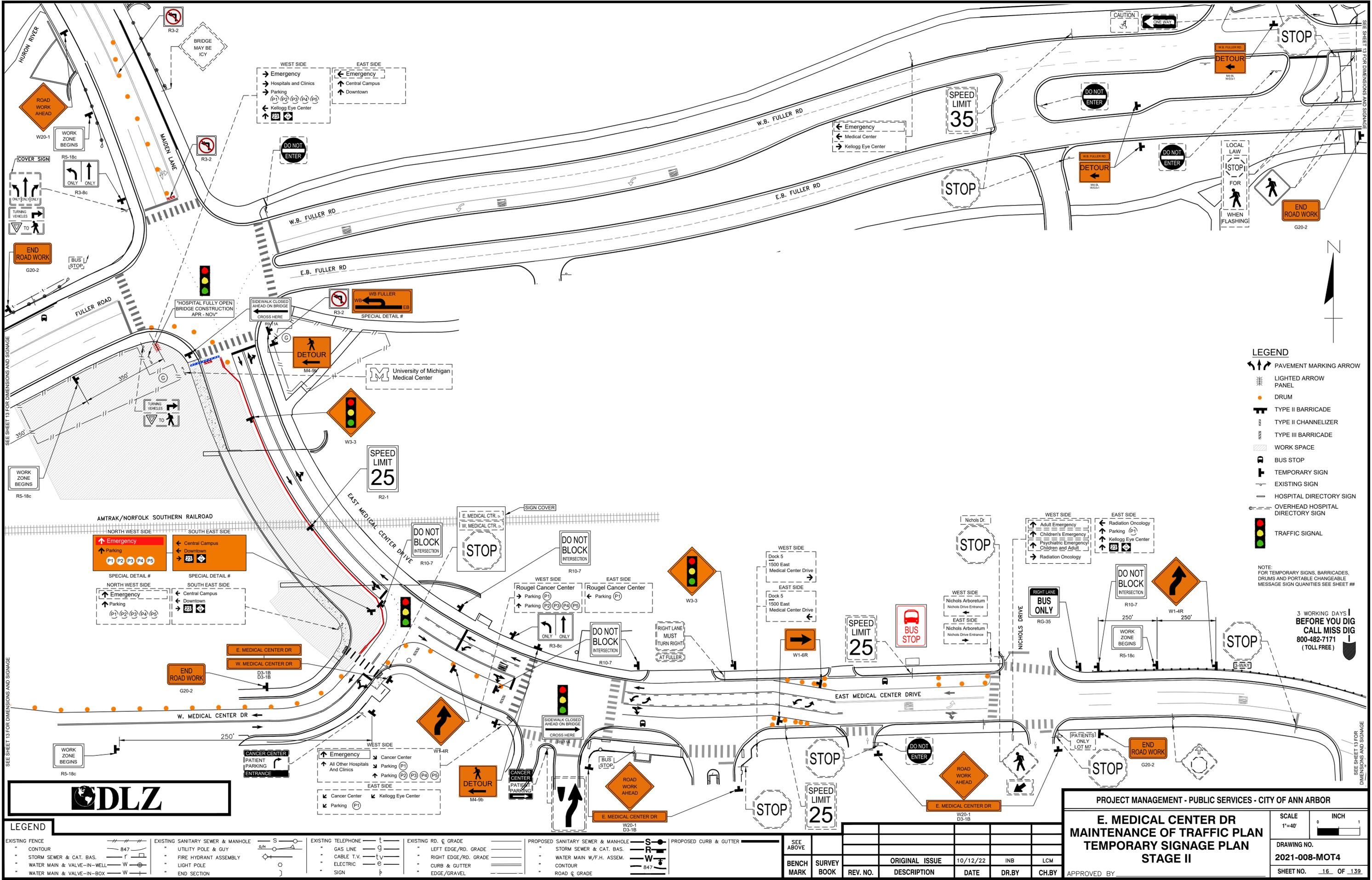
DLZ					

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

**E. MED CENTER
MAINTENANCE OF TRAFFIC PLAN
TEMPORARY SIGNAGE (FULLER)
STAGE I**

SCALE 1"=40'	INCH 0 1
DRAWING NO. 2021-008-MOT3	
SHEET NO. <u>15</u> OF <u>139</u>	

APPROVED BY: _____



SEE SHEET 13 FOR DIMENSIONS AND SIGNAGE

- LEGEND**
- PAVEMENT MARKING ARROW
 - LIGHTED ARROW PANEL
 - DRUM
 - TYPE II BARRICADE
 - TYPE II CHANNELIZER
 - TYPE III BARRICADE
 - WORK SPACE
 - BUS STOP
 - TEMPORARY SIGN
 - EXISTING SIGN
 - HOSPITAL DIRECTORY SIGN
 - OVERHEAD HOSPITAL DIRECTORY SIGN
 - TRAFFIC SIGNAL

NOTE: FOR TEMPORARY SIGNS, BARRICADES, DRUMS AND PORTABLE CHANGEABLE MESSAGE SIGN QUANTITIES SEE SHEET ##

**3 WORKING DAYS BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)**

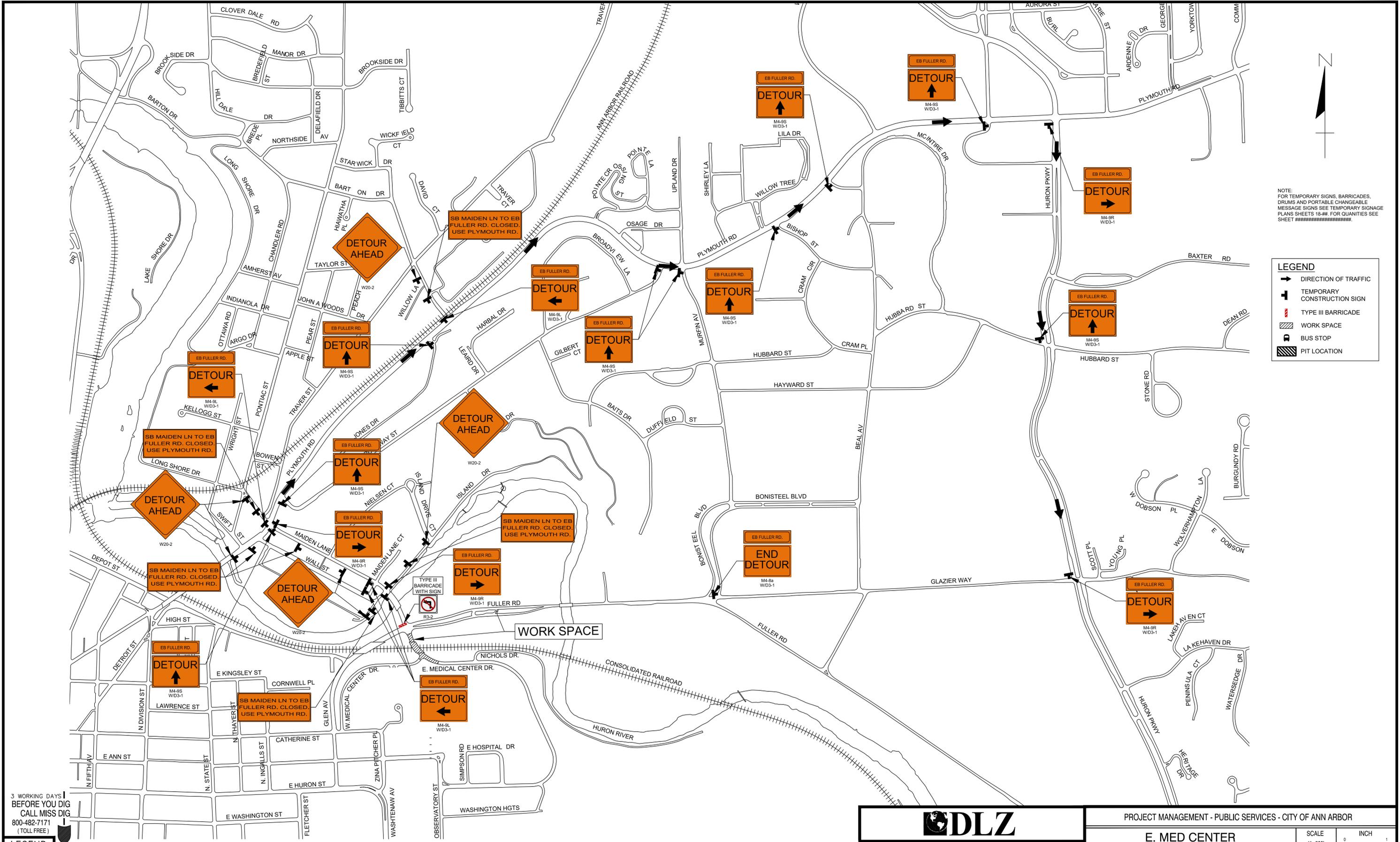


LEGEND		EXISTING FENCE		EXISTING SANITARY SEWER & MANHOLE		EXISTING TELEPHONE		EXISTING RD. & GRADE		PROPOSED SANITARY SEWER & MANHOLE		PROPOSED CURB & GUTTER		SEE ABOVE	
-	CONTOUR	-	CONTOUR	-	UTILITY POLE & GUY	-	GAS LINE	-	LEFT EDGE/RD. GRADE	-	STORM SEWER & CAT. BAS.	-	LEFT EDGE/RD. GRADE	-	BENCH MARK
-	STORM SEWER & CAT. BAS.	-	WATER MAIN & VALVE-IN-WELL	-	FIRE HYDRANT ASSEMBLY	-	CABLE T.V.	-	RIGHT EDGE/RD. GRADE	-	WATER MAIN W/F.H. ASSEM.	-	RIGHT EDGE/RD. GRADE	-	SURVEY BOOK
-	WATER MAIN & VALVE-IN-BOX	-	END SECTION	-	END SECTION	-	ELECTRIC	-	CURB & GUTTER	-	CONTOUR	-	CURB & GUTTER	-	REV. NO.
-		-		-		-	SIGN	-	EDGE/GRAVEL	-	ROAD & GRADE	-	EDGE/GRAVEL	-	DESCRIPTION
-		-		-		-		-		-		-		-	DATE
-		-		-		-		-		-		-		-	10/12/22
-		-		-		-		-		-		-		-	INB
-		-		-		-		-		-		-		-	LCM
-		-		-		-		-		-		-		-	APPROVED BY
-		-		-		-		-		-		-		-	

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

**E. MEDICAL CENTER DR
MAINTENANCE OF TRAFFIC PLAN
TEMPORARY SIGNAGE PLAN
STAGE II**

SCALE 1"=40'	INCH
DRAWING NO. 2021-008-MOT4	
SHEET NO. 16 OF 139	



NOTE:
FOR TEMPORARY SIGNS, BARRICADES,
DRUMS AND PORTABLE CHANGEABLE
MESSAGE SIGNS SEE TEMPORARY SIGNAGE
PLANS SHEETS 10-##. FOR QUANTITIES SEE
SHEET #####.

LEGEND

- ➔ DIRECTION OF TRAFFIC
- ⊥ TEMPORARY CONSTRUCTION SIGN
- ▬ TYPE III BARRICADE
- ▨ WORK SPACE
- ⊞ BUS STOP
- ⊞ PIT LOCATION

3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

LEGEND

- EXISTING FENCE
- CONTOUR
- STORM SEWER & CAT. BAS.
- WATER MAIN & VALVE-IN-WELL
- WATER MAIN & VALVE-IN-BOX
- EXISTING SANITARY SEWER & MANHOLE
- UTILITY POLE & GUY
- FIRE HYDRANT ASSEMBLY
- LIGHT POLE
- END SECTION
- EXISTING TELEPHONE
- GAS LINE
- CABLE T.V.
- ELECTRIC
- SIGN
- EXISTING RD. & GRADE
- LEFT EDGE/RD. GRADE
- RIGHT EDGE/RD. GRADE
- CURB & GUTTER
- EDGE/GRAVEL
- PROPOSED SANITARY SEWER & MANHOLE
- STORM SEWER & CAT. BAS.
- WATER MAIN W/F.H. ASSEM.
- CONTOUR
- ROAD & GRADE
- PROPOSED CURB & GUTTER

DLZ		SEE ABOVE	
BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

**E. MED CENTER
MAINTENANCE OF TRAFFIC PLAN
DETOUR PLAN**

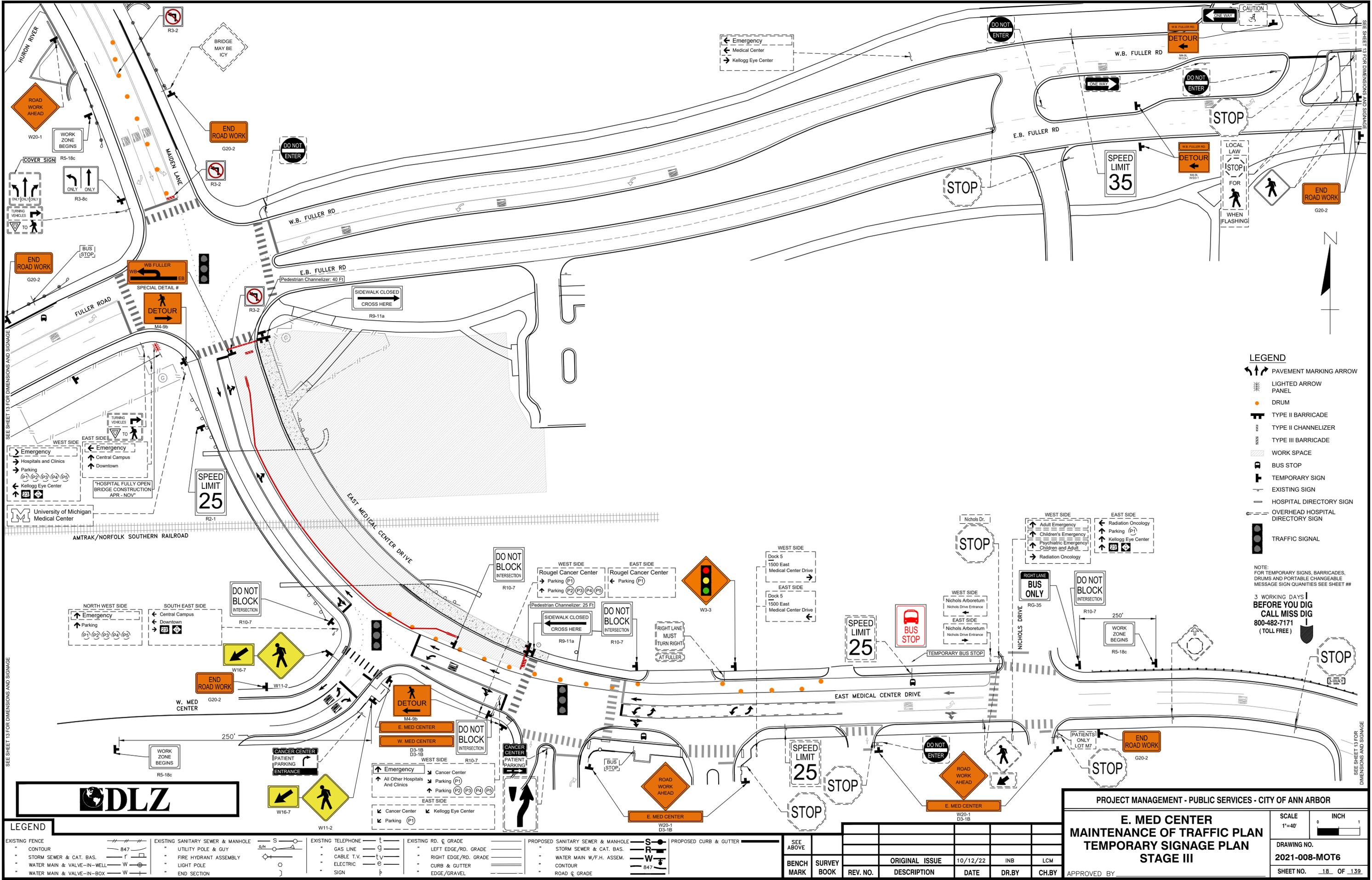
SCALE 1"=500'

DRAWING NO. 2021-008-MOT5

SHEET NO. 17 OF 139

APPROVED BY: _____

ORIGINAL ISSUE	10/12/22	INB	LCM
DATE	DR.BY	CH.BY	



SEE SHEET 13 FOR DIMENSIONS AND SIGNAGE

SEE SHEET 13 FOR DIMENSIONS AND SIGNAGE

- LEGEND**
- PAVEMENT MARKING ARROW
 - LIGHTED ARROW PANEL
 - DRUM
 - TYPE II BARRICADE
 - TYPE II CHANNELIZER
 - TYPE III BARRICADE
 - WORK SPACE
 - BUS STOP
 - TEMPORARY SIGN
 - EXISTING SIGN
 - HOSPITAL DIRECTORY SIGN
 - OVERHEAD HOSPITAL DIRECTORY SIGN
 - TRAFFIC SIGNAL

NOTE:
FOR TEMPORARY SIGNS, BARRICADES,
DRUMS AND PORTABLE CHANGEABLE
MESSAGE SIGN QUANTITIES SEE SHEET ##

**3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)**



LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	PROPOSED SANITARY SEWER & MANHOLE
- CONTOUR	- UTILITY POLE & GUY	- GAS LINE	- STORM SEWER & CAT. BAS.
- STORM SEWER & CAT. BAS.	- FIRE HYDRANT ASSEMBLY	- CABLE T.V.	- WATER MAIN W/F.H. ASSEM.
- WATER MAIN & VALVE-IN-WELL	- LIGHT POLE	- ELECTRIC	- CONTOUR
- WATER MAIN & VALVE-IN-BOX	- END SECTION	- SIGN	- ROAD & GRADE
			PROPOSED CURB & GUTTER
			- SEE ABOVE
			- BENCH MARK
			- SURVEY BOOK
			- REV. NO.
			- DESCRIPTION
			- DATE
			- DR. BY
			- CH. BY

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

**E. MED CENTER
MAINTENANCE OF TRAFFIC PLAN
TEMPORARY SIGNAGE PLAN
STAGE III**

SCALE	1"=40'	INCH		
DRAWING NO.	2021-008-MOT6			
SHEET NO.	18 OF 139			

APPROVED BY: _____

ITEM NUMBER	ITEM DESCRIPTION	QUANTITY	UNIT	PHASE	BRIDGE				MAX COUNT	QUANTITY	NOTES	
					ADV	1	2	3				4
JN												
LENGTH												
LENGTH/AREA/NUMBER PER STAGE(Ft/Sft/Ea)												
8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn - \$Ea	4	Ea			3	4	2		4	4	
8120013	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper - \$Ea	4	Ea							4	4	
8120026	Pedestrian Type II Barricade, Temp - \$Ea	2	Ea			2	2	2		2	2	
8120027	Pedestrian Type II Channelizer, Temp - \$Ft	60	Ft			30	60	60		60	60	
8120252	Plastic Drum, Fluorescent, Furn - \$Ea	50	Ea			39	50	23		50	50	
8120253	Plastic Drum, Fluorescent, Oper - \$Ea	50	Ea							50	50	
SIGNS												
				SIGN NUMBER	SIGN DESCRIPTION		Sign Area (Sft)	NUMBER PER STAGE (Ea)				
8120340	Sign, Type A, Temp, Prismatic, Furn - \$Sft	27	Sft								27	
8120341	Sign, Type A, Temp, Prismatic, Oper - \$Sft	27	Sft								27	
				R1-1	Stop	36 x 36	9	1		1	1	9
				R3-2	No Left Turn	36 x 36	9		2	1	2	18
8120350	Sign, Type B, Temp, Prismatic, Furn - \$Sft	926	Sft								926	
8120351	Sign, Type B, Temp, Prismatic, Oper - \$Sft	926	Sft								926	
				G20-2	End Road Work	48 x 24	8	6			6	48
				W20-1	Road Work Ahead	48 x 48	16	15	6	4	4	336
				R5-18c	Work Zone Begins	48 x 48	16	6			6	96
				W20-2	Detour Ahead	48 x 48	16		4	4	4	64
				W3-3	Signal Ahead	48 x 48	16	1	1	1	1	16
				M4-8	Detour	24 x 12	2				0	0
				M4-8a	End Detour	24 x 18	3		1		1	3
				M4-9b	Pedestrian Detour	30 x 24	5		2	2	2	10
				M4-9R	Detour R	30 x 24	5		4	4	4	20
				M4-9L	Detour L	30 x 24	5		8	8	8	40
				M4-9S	Detour Straight	30 x 24	5		8	8	8	40
				M5-1L	Ahead-Left Arrow	21 x 15	2.2				0	0
				M5-1R	Ahead-Right Arrow	21 x 15	2.2				0	0
				M5-2R	Ahead-Angle-Right Arrow	21 x 15	2.2				0	0
				M6-2R	Angle-Right Arrow	21 x 15	2.2				0	0
				M6-1L	Left	21 x 15	2.2				0	0
				M6-1R	Right	21 x 15	2.2				0	0
				M6-3b	Straight	21 x 25	3.6				0	0
				R2-1	Speed Limit (35)	30 x 36	7.5	2			2	15
				R3-8d	Thru-Right Only	36 x 30	7.5	1			1	8
				R3-8c	Thru-Left Only	36 x 30	7.5	2	1	1	2	15
				R9-11a	Sidewalk Closed	48 x 24	8		1	2	2	16
				R9-11	Sidewalk Closed Ahead	48 x 24	8				0	0
				R10-7	Do Not Block Intersection	24 x 24	4	5	5	5	5	20
				RG-35	Right Lane Bus Only	24 x 24	4	1	1	1	1	4
				W1-4R	Shift Right	48 x 48	16	1	2		2	32
				W1-6L	One-Direction Large Arrow Left	60 x 30	12.5				0	0
				W1-6R	One-Direction Large Arrow Right	60 x 30	12.5	2	2		2	25
				W4-2L	Left Lane Ends	48 x 48	16	1			1	16
				W4-2R	Right Lane Ends	48 x 48	16	1			1	16
				W11-2	Pedestrian Crossing	48 x 48	16	2	3	3	3	48
				W16-7P	Diagonal Arrow	24 x 12	2	2		2	2	4
				W16-9P	Ahead	24 x 12	2		1	1	1	2
				W20-5L	Left Lane Closed Ahead	48 x 48	16	1			1	16
				W20-5R	Right Lane Closed Ahead	48 x 48	16	1			1	16
				MISC	Engineer's Discretion		1				0	0
8120352	Sign, Type B, Temp, Prismatic, Spec, Furn - \$Sft	315	Sft								315	
8120353	Sign, Type B, Temp, Prismatic, Spec, Oper - \$Sft	315	Sft								315	
				D3-1B	E. MEDICAL CENTER DR	48 x 12	4	11	4		1	60
				D3-1B	W. MEDICAL CENTER DR	48 x 12	4			1	1	4
					Cancer Center Information	60 x 48	20		1		1	20
					Sidewalk Closed Ahead on Bridge	48 x 24	8			1	1	8
				R3-2	Fuller Left Turn	60 x 36	15			1	1	15
					EB Fuller Rd	48 x 12	4			19	19	76
					WB Fuller Rd	48 x 12	4			3	3	12
					Alternate Route	60 x 36	15	3			3	45
					SB Maiden Lane to EB Fuller Closed	60 x 36	15			5	5	75

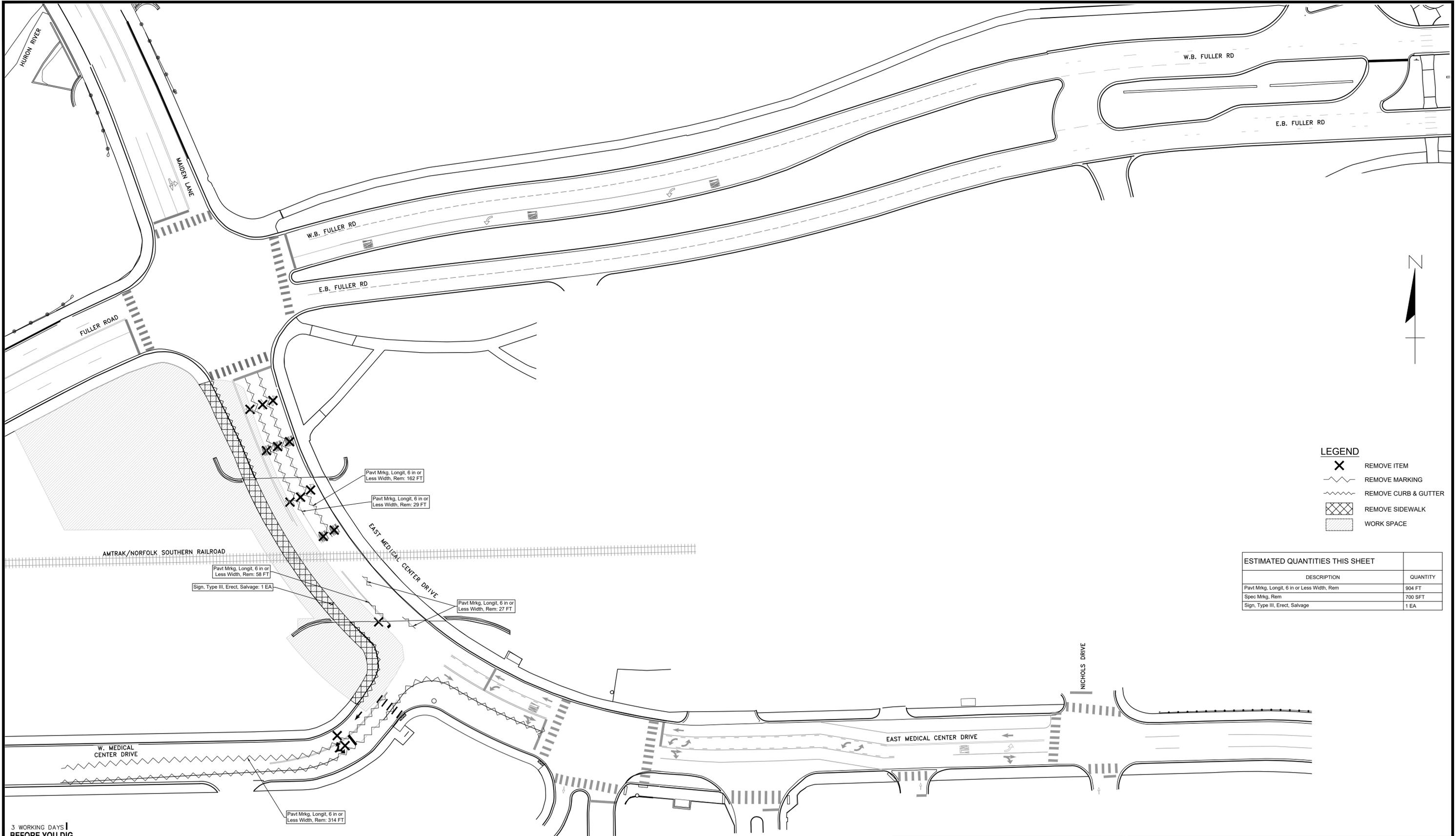
3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

LEGEND

EXISTING FENCE - - - - -	EXISTING SANITARY SEWER & MANHOLE S - - - - -	EXISTING TELEPHONE t - - - - -	EXISTING RD. & GRADE - - - - -	PROPOSED SANITARY SEWER & MANHOLE S - - - - -	PROPOSED CURB & GUTTER - - - - -
- CONTOUR - - - - -	- UTILITY POLE & GUY - - - - -	- GAS LINE - - - - -	- LEFT EDGE/RD. GRADE - - - - -	- STORM SEWER & CAT. BAS. - - - - -	SEE ABOVE
- STORM SEWER & CAT. BAS. - - - - -	- FIRE HYDRANT ASSEMBLY - - - - -	- CABLE T.V. - - - - -	- RIGHT EDGE/RD. GRADE - - - - -	- WATER MAIN W/F.H. ASSEM. - - - - -	BENCH MARK
- WATER MAIN & VALVE-IN-WELL - - - - -	- LIGHT POLE - - - - -	- ELECTRIC - - - - -	- CURB & GUTTER - - - - -	- CONTOUR - - - - -	SURVEY BOOK
- WATER MAIN & VALVE-IN-BOX - - - - -	- END SECTION - - - - -	- SIGN - - - - -	- EDGE/GRAVEL - - - - -	- ROAD & GRADE - - - - -	REV. NO.

DLZ				
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10/12/22	INB	LCM

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
E. MEDICAL CENTER DRIVE MAINTENANCE OF TRAFFIC PLAN M.O.T. QUANTITIES	
SCALE NTS	INCH 0 1
DRAWING NO. 2021-008-MOT7	
SHEET NO. <u>19</u> OF <u>139</u>	
APPROVED BY _____	



LEGEND

- REMOVE ITEM
- REMOVE MARKING
- REMOVE CURB & GUTTER
- REMOVE SIDEWALK
- WORK SPACE

ESTIMATED QUANTITIES THIS SHEET	
DESCRIPTION	QUANTITY
Pavt Mrkg, Longit, 6 in or Less Width, Rem	904 FT
Spec Mrkg, Rem	700 SFT
Sign, Type III, Erect, Salvage	1 EA

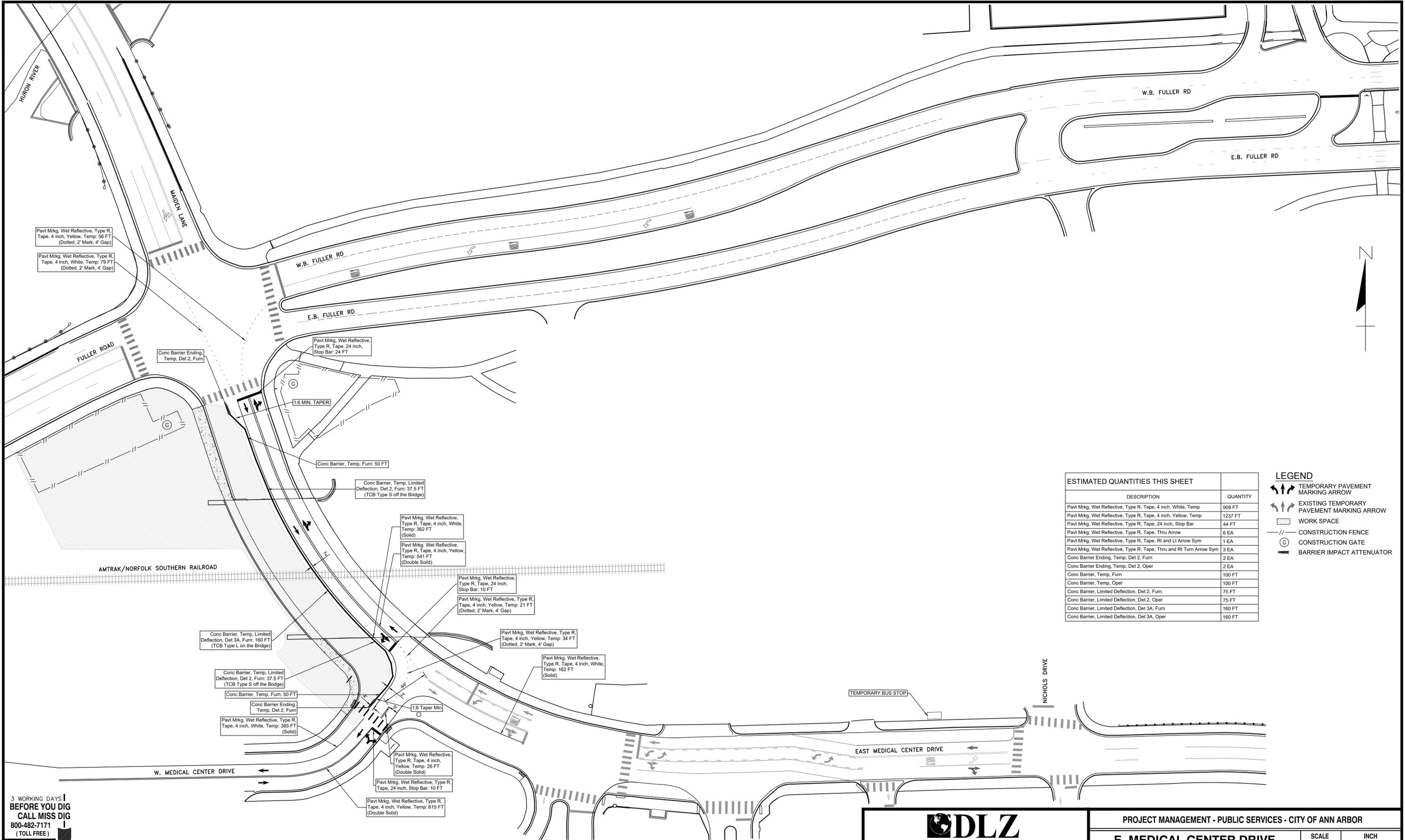
3 WORKING DAYS!
BEFORE YOU DIG
 CALL MISS DIG
 800-482-7171
 (TOLL FREE)

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. C GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
- - - - -	- S -	- t -	- - - - -	- S -	- - - - -
- - - - -	- U/G -	- g -	- - - - -	- R -	- - - - -
- - - - -	- F/A -	- c -	- - - - -	- W -	- - - - -
- - - - -	- L/P -	- e -	- - - - -	- 847 -	- - - - -
- - - - -	- E/S -	- s -	- - - - -	- - - - -	- - - - -
- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -

DLZ					
SEE ABOVE					
BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE	DR. BY
			ORIGINAL ISSUE	10/12/22	INB
					LCM
					CH. BY

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
E. MEDICAL CENTER DRIVE MAINTENANCE OF TRAFFIC PLAN PAVEMENT MARKING REMOVAL PLAN STAGE II	
SCALE 1"=40'	INCH 0 1
DRAWING NO. 2021-008-MOT11	
SHEET NO. <u>23</u> OF <u>139</u>	
APPROVED BY _____	



ESTIMATED QUANTITIES THIS SHEET	
DESCRIPTION	QUANTITY
Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, White, Temp	909 FT
Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, Yellow, Temp	1237 FT
Pavt Mrkg, Wet Reflective, Type R, Tape, 24 inch, Stop Bar	44 FT
Pavt Mrkg, Wet Reflective, Type R, Tape, Thru Arrow	6 EA
Pavt Mrkg, Wet Reflective, Type R, Tape, Rt and Lt Arrow Sym	1 EA
Pavt Mrkg, Wet Reflective, Type R, Tape, Thru and Rt Turn Arrow Sym	3 EA
Conc Barrier Ending, Temp, Det 2, Furn	2 EA
Conc Barrier, Temp, Furn	100 FT
Conc Barrier, Temp, Oper	100 FT
Conc Barrier, Limited Deflection, Det 2, Furn	75 FT
Conc Barrier, Limited Deflection, Det 2, Oper	75 FT
Conc Barrier, Limited Deflection, Det 3A, Furn	160 FT
Conc Barrier, Limited Deflection, Det 3A, Oper	160 FT

LEGEND	
	TEMPORARY PAVEMENT MARKING ARROW
	EXISTING TEMPORARY PAVEMENT MARKING ARROW
	WORK SPACE
	CONSTRUCTION FENCE
	CONSTRUCTION GATE
	BARRIER IMPACT ATTENUATOR

3 WORKING DAYS!
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

LEGEND	
EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE
CONTOUR	UTILITY POLE & GUY
STORM SEWER & CAT. BAS.	FIRE HYDRANT ASSEMBLY
WATER MAIN & VALVE-IN-WELL	LIGHT POLE
WATER MAIN & VALVE-IN-BOX	END SECTION

EXISTING TELEPHONE	EXISTING RD. C GRADE
GAS LINE	LEFT EDGE/RD. GRADE
CABLE T.V.	RIGHT EDGE/RD. GRADE
ELECTRIC	CURB & GUTTER
SIGN	EDGE/GRAVEL

PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
STORM SEWER & CAT. BAS.	
WATER MAIN W/F.H. ASSEM.	
CONTOUR	
ROAD C GRADE	

SEE ABOVE					
BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE	DR. BY

DLZ					
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY	APPROVED BY
	ORIGINAL ISSUE	10/12/22	INB	LCM	

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
E. MEDICAL CENTER DRIVE MAINTENANCE OF TRAFFIC PLAN PAVEMENT MARKINGS, BARRIER & FENCE STAGE II	
SCALE 1"=40'	INCH 0 1
DRAWING NO. 2021-008-MOT12	SHEET NO. 24 OF 139

SIGNALS

	ANTENNA		SIGNAL HEAD PEDESTRIAN - EXISTING
	CASE SIGN (1-WAY OR 2-WAY)		SIGNAL HEAD PEDESTRIAN 1-WAY
	CASE SIGN (4-WAY)		SIGNAL HEAD PEDESTRIAN 2-WAY
	DEDICATED SHORT RANGE COMMUNICATIONS		SIGNAL HEAD VEHICLE 1-WAY - EXISTING
	CONTROLLER CABINET - POLE MOUNTED		SIGNAL HEAD VEHICLE 2-WAY - EXISTING
	CONTROL EMERGENCY PREEMPTION OPTICOM		SIGNAL HEAD VEHICLE 3-WAY - EXISTING
	DILEMMA ZONE DETECTION		SIGNAL HEAD VEHICLE 4-WAY - EXISTING
	GLOBAL POSITIONING SYSTEM MODULE		SIGNAL HEAD VEHICLE 1-WAY
	GUY ANCHOR		SIGNAL HEAD VEHICLE 2-WAY
	PEDESTRIAN PEDESTAL		SIGNAL HEAD VEHICLE 3-WAY
	PEDESTRIAN PUSHBUTTON		SIGNAL HEAD VEHICLE 4-WAY
	POLE MAST ARM (LENGTH VARIES) - EXISTING		SIGNAL HEAD VEHICLE BAGGED
	POLE MAST ARM (LENGTH VARIES)		SIGNAL HEAD VEHICLE PROGRAMMABLE
	POLE STRAIN		VEHICLE DETECTION CAMERA
	ROAD SIGN W/ FLASHING SIGN OPTICAL (1-WAY)		VEHICLE DETECTION CAMERA - HEMISPHERICAL
	SIGNAL HANDHOLE - POLYMER CONCRETE		VEHICLE DETECTION LOOP
	SIGNAL HANDHOLE - 2 FOOT ROUND		VEHICLE DETECTION - RADAR
	SIGNAL HANDHOLE - 3 FOOT ROUND		WIRELESS VEHICLE DETECTION RADIO RECEIVER
	SIGNAL HANDHOLE - 2 FOOT SQUARE		WIRELESS VEHICLE DETECTION RADIO REPEATER
	SIGNAL HANDHOLE - 4 FOOT SQUARE		WIRELESS VEHICLE DETECTION SENSOR - EXISTING
			WIRELESS VEHICLE DETECTION SENSOR

CABLING / WIRING DIAGRAM

	CIRCUIT BREAKER
	COILED WIRE
	FUSE
	FUSE SWITCH
	GROUND
	ILLUMINATED CASE SIGN
	METER
	SERVICE DISCONNECT
	SIGNAL HEAD

NOTE:

EXISTING ITEMS ARE REPRESENTED BY THIN LINE WEIGHTS.
PROPOSED ITEMS ARE REPRESENTED BY HEAVIER LINE WEIGHTS.

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
" CONTOUR	" UTILITY POLE & GUY	" GAS LINE	" LEFT EDGE/RD. GRADE	" STORM SEWER & CAT. BAS.	" SEE ABOVE
" STORM SEWER & CAT. BAS.	" FIRE HYDRANT ASSEMBLY	" CABLE T.V.	" RIGHT EDGE/RD. GRADE	" WATER MAIN W/F.H. ASSEM.	" BENCH MARK
" WATER MAIN & VALVE-IN-WELL	" LIGHT POLE	" ELECTRIC	" CURB & GUTTER	" CONTOUR	" SURVEY BOOK
" WATER MAIN & VALVE-IN-BOX	" END SECTION	" SIGN	" EDGE/GRAVEL	" ROAD & GRADE	



PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

E. MEDICAL CENTER DRIVE TRAFFIC SIGNAL PLANS LEGEND

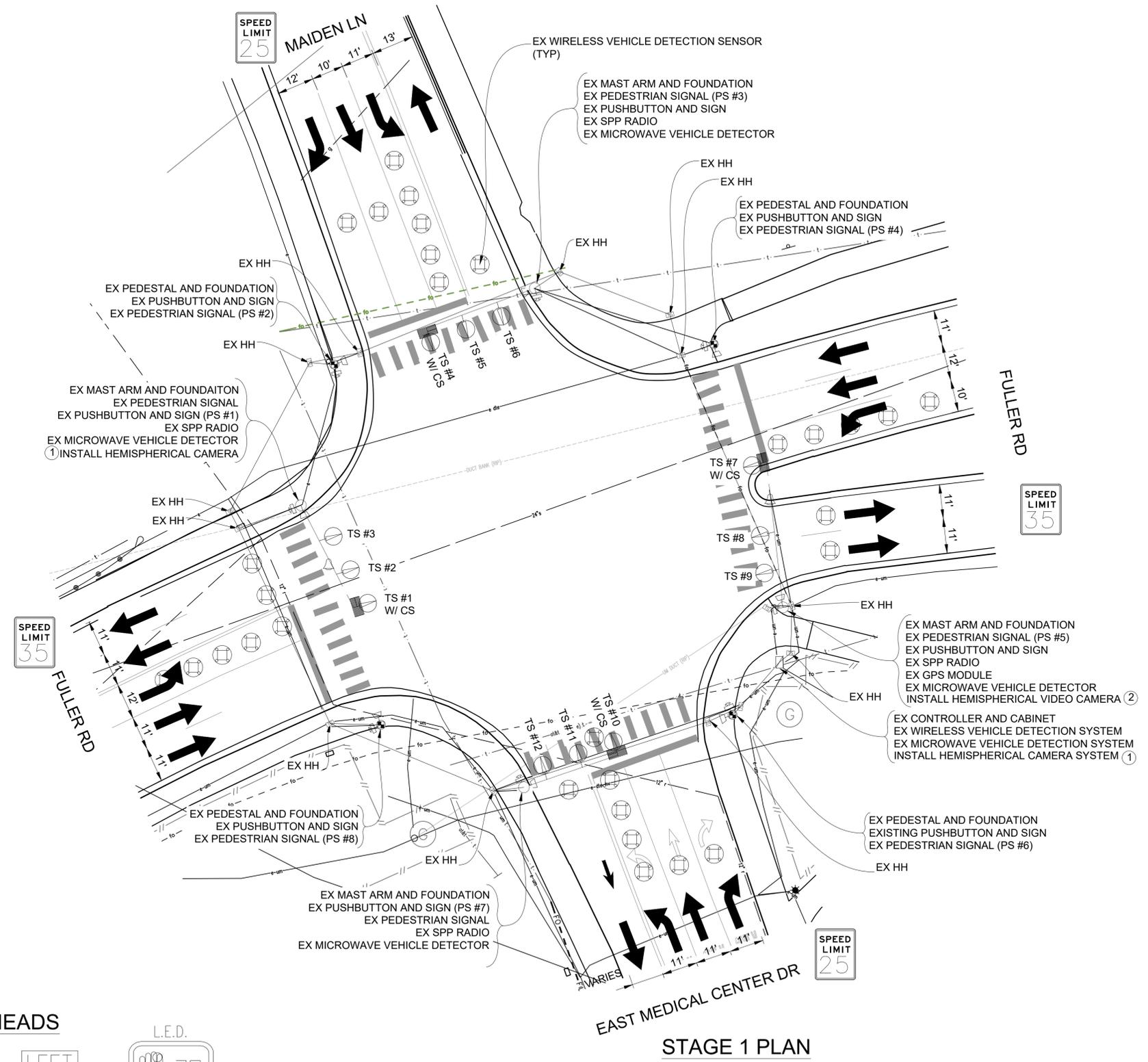
SCALE NO SCALE 0 INCH 1

DRAWING NO. 2021-008-MOT23

SHEET NO. 27 OF 153

REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10/12/22	INB	LCM

APPROVED BY

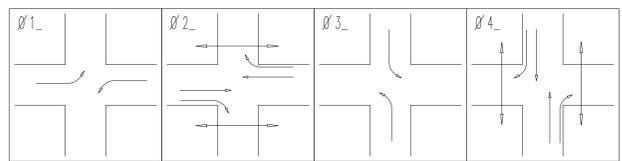


HEMISPHERICAL CAMERAS TO BE MOUNTED AT 25' OVER THE INTERSECTION

UTILIZE EXISTING CONDUIT & HANDHOLES WHERE POSSIBLE, OTHERWISE INSTALL NEW AS DIRECTED BY ENGINEER.

TIME OF BAGGING AND UNBAGGING OF TRAFFIC SIGNALS TO BE AS DIRECTED BY THE ENGINEER.

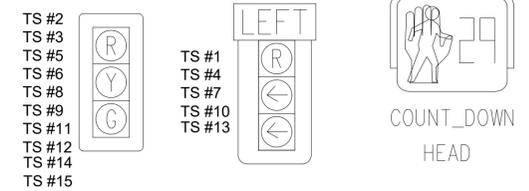
CONTRACTOR TO UTILIZE NOT TYPICAL 163-INT-LD-OUT FOR ALL SIGNAL WORK RELATED TO THIS INTERSECTION



PHASE DIAGRAM

LIST OF MATERIAL		
NO.	ITEM	QUANTITIES
①	Hemispherical Video Detection Camera	2 Ea.
②	Hemispherical Video Detection System	1 Ea.

SIGNAL HEADS



3 WORKING DAYS BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

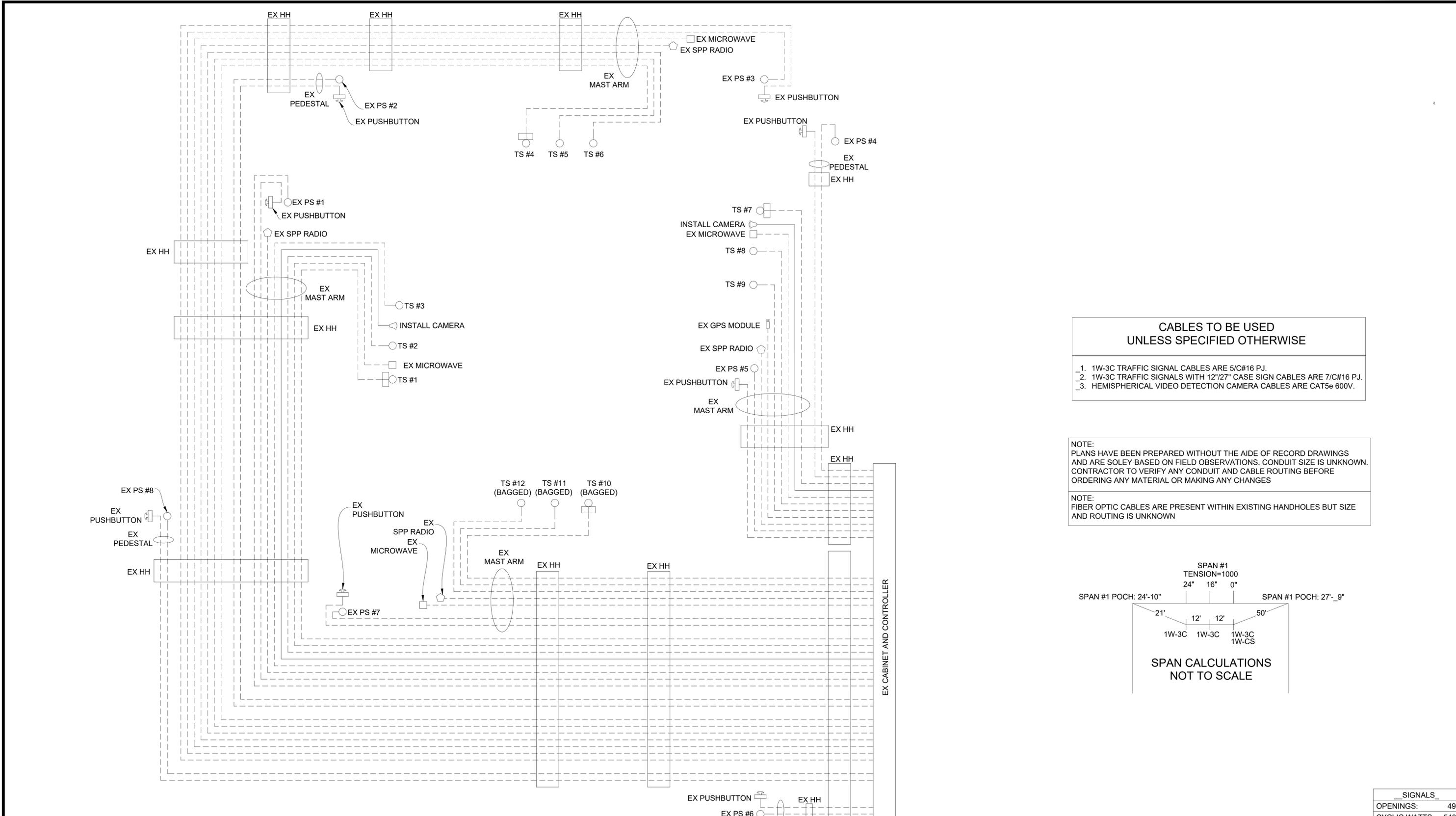
LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
CONTOUR	UTILITY POLE & GUY	GAS LINE	LEFT EDGE/RD. GRADE	STORM SEWER & CAT. BAS.	SEE ABOVE
STORM SEWER & CAT. BAS.	FIRE HYDRANT ASSEMBLY	CABLE T.V.	RIGHT EDGE/RD. GRADE	WATER MAIN W/F.H. ASSEM.	BENCH MARK
WATER MAIN & VALVE-IN-WELL	LIGHT POLE	ELECTRIC	CURB & GUTTER	CONTOUR	SURVEY BOOK
WATER MAIN & VALVE-IN-BOX	END SECTION	SIGN	EDGE/GRAVEL	ROAD & GRADE	REV. NO.

NOTE:
PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES

DLZ					
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY	APPROVED BY
	ORIGINAL ISSUE	10/12/22	INB	LCM	

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
E. MEDICAL CENTER DRIVE FULLER ED AT E. MED. CENTER RD STAGE 1	
SCALE 1"=20'	INCH 0 1
DRAWING NO. 2021-008-MOT24	
SHEET NO. 28 OF 153	



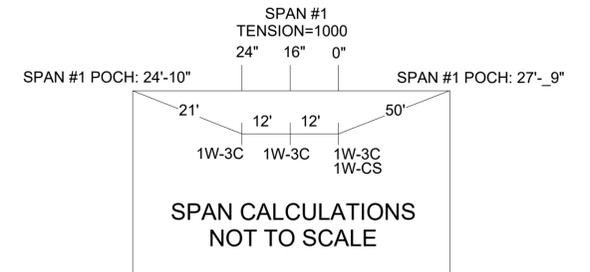
STAGE 1 CABLE DIAGRAM

**CABLES TO BE USED
UNLESS SPECIFIED OTHERWISE**

- 1W-3C TRAFFIC SIGNAL CABLES ARE 5/C#16 P.J.
- 1W-3C TRAFFIC SIGNALS WITH 12"/27" CASE SIGN CABLES ARE 7/C#16 P.J.
- HEMISPHERICAL VIDEO DETECTION CAMERA CABLES ARE CAT5e 600V.

NOTE:
PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES

NOTE:
FIBER OPTIC CABLES ARE PRESENT WITHIN EXISTING HANDHOLES BUT SIZE AND ROUTING IS UNKNOWN



LEGEND

EXISTING FENCE	847	EXISTING SANITARY SEWER & MANHOLE	S	EXISTING TELEPHONE	t	EXISTING RD. & GRADE	---	PROPOSED SANITARY SEWER & MANHOLE	S	PROPOSED CURB & GUTTER	---
CONTOUR	---	UTILITY POLE & GUY	U/G	GAS LINE	g	LEFT EDGE/RD. GRADE	---	STORM SEWER & CAT. BAS.	---	SEE ABOVE	
STORM SEWER & CAT. BAS.	---	FIRE HYDRANT ASSEMBLY	F	CABLE T.V.	t	RIGHT EDGE/RD. GRADE	---	WATER MAIN W/F.H. ASSEM.	---	BENCH MARK	
WATER MAIN & VALVE-IN-WELL	W	LIGHT POLE	o	ELECTRIC	e	CURB & GUTTER	---	CONTOUR	---	SURVEY BOOK	
WATER MAIN & VALVE-IN-BOX	W	END SECTION	]	SIGN	β	EDGE/GRAVEL	---	ROAD & GRADE	---	REV. NO.	

REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10/12/22	INB	LCM

DLZ

SEE ABOVE				
BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE

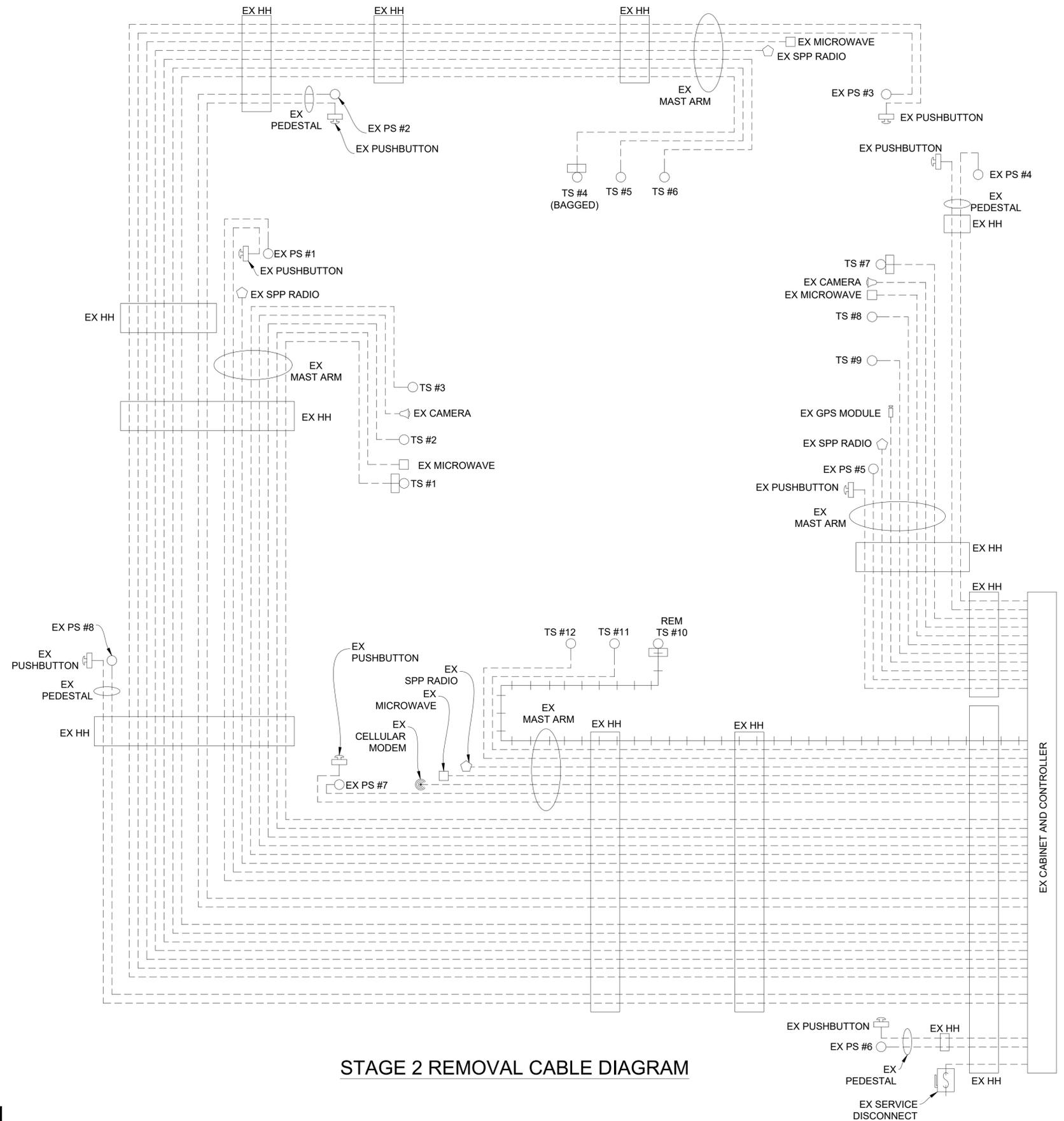
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

**E. MEDICAL CENTER DRIVE
TRAFFIC SIGNAL PLANS
FULLER ED AT E. MED. CENTER RD
STAGE 1**

SCALE	0 INCH 1
DRAWING NO.	2021-008-MOT25
SHEET NO.	29 OF 153

APPROVED BY: _____

SIGNALS	
OPENINGS:	49
CYCLIC WATTS:	540
STEADY WATTS:	60



STAGE 2 REMOVAL CABLE DIAGRAM

**CABLES TO BE USED
UNLESS SPECIFIED OTHERWISE**

- _1. 1W-3C TRAFFIC SIGNAL CABLES ARE 5/C#16 PJ.
- _2. 1W-3C TRAFFIC SIGNALS WITH 12"/27" CASE SIGN CABLES ARE 7/C#16 PJ.
- _3. HEMISPHERICAL VIDEO DETECTION CAMERA CABLES ARE CAT5e 600V.

NOTE:
PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES

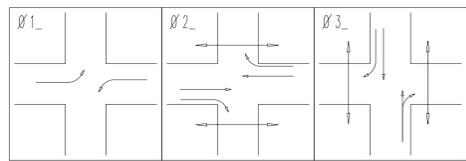
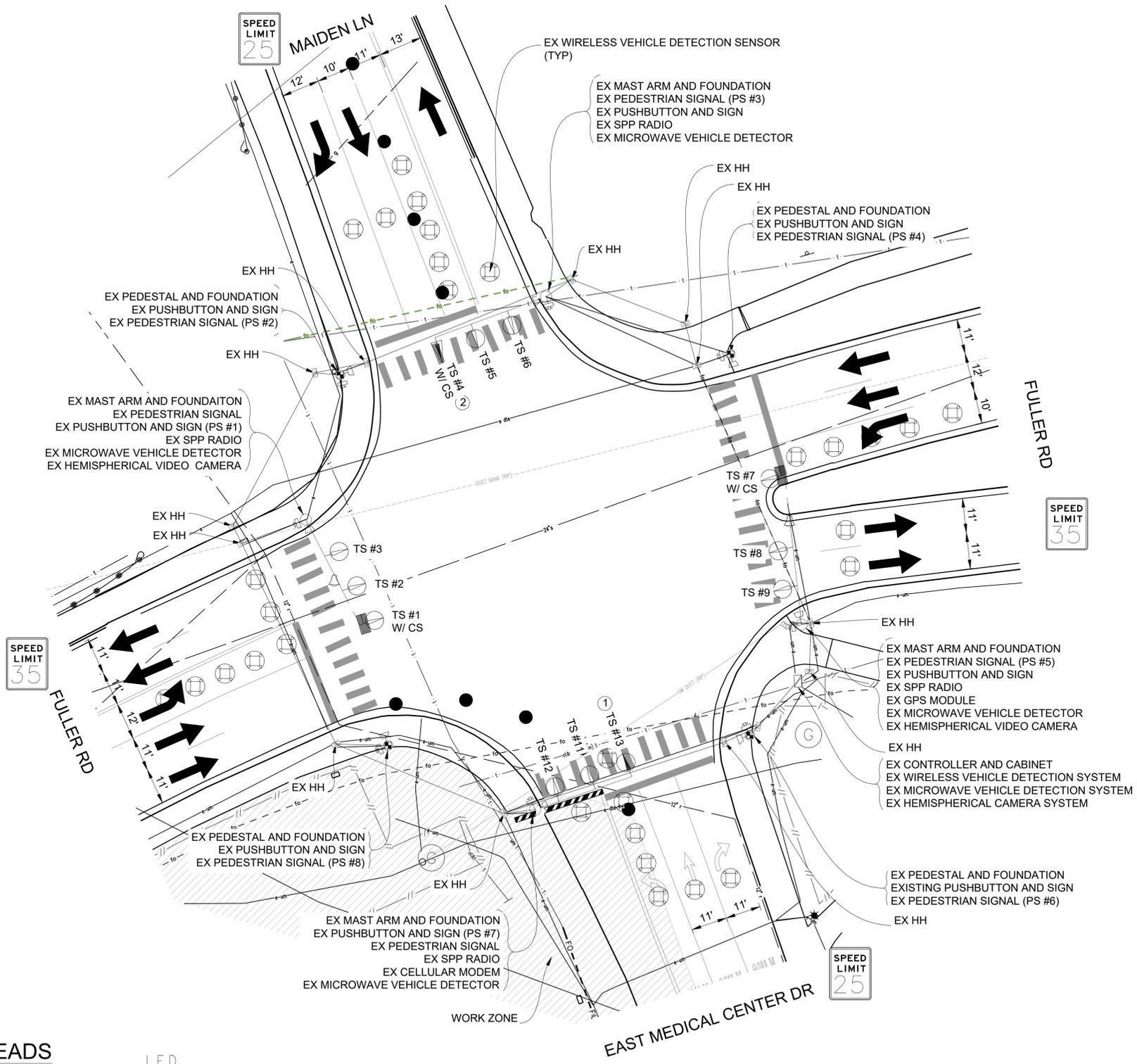
NOTE:
FIBER OPTIC CABLES ARE PRESENT WITHIN EXISTING HANDHOLES BUT SIZE AND ROUTING IS UNKNOWN

SIGNALS	
OPENINGS:	40
CYCLIC WATTS:	516
STEADY WATTS:	45

LEGEND	
EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE
CONTOUR	UTILITY POLE & GUY
STORM SEWER & CAT. BAS.	FIRE HYDRANT ASSEMBLY
WATER MAIN & VALVE-IN-WELL	LIGHT POLE
WATER MAIN & VALVE-IN-BOX	END SECTION
EXISTING TELEPHONE	EXISTING RD. & GRADE
GAS LINE	LEFT EDGE/RD. GRADE
CABLE T.V.	RIGHT EDGE/RD. GRADE
ELECTRIC	CURB & GUTTER
SIGN	EDGE/GRAVEL
PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
STORM SEWER & CAT. BAS.	SEE ABOVE
WATER MAIN W/F.H. ASSEM.	BENCH MARK
CONTOUR	SURVEY BOOK
ROAD & GRADE	REV. NO.

DLZ				
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR				
E. MEDICAL CENTER DRIVE TRAFFIC SIGNAL PLANS FULLER ED AT E. MED. CENTER RD STAGE 2				
SCALE	NTS		INCH	
DRAWING NO.	2021-008-MOT27			
SHEET NO.	31 OF 153			



PHASE DIAGRAM

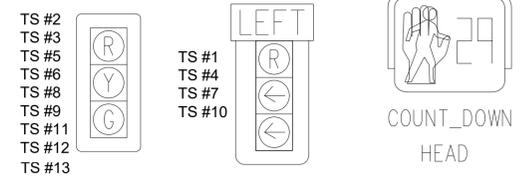
CONTRACTOR TO UTILIZE NOT TYPICAL 163-IN-TD-OUT FOR ALL SIGNAL WORK RELATED TO THIS INTERSECTION

ROW WAS NOT SURVEYED AND IS NOT MARKED ON PLANS

TIME OF REMOVAL OF TRAFFIC SIGNALS TO BE AS DIRECTED BY THE ENGINEER

LIST OF MATERIAL		
NO.	ITEM	QUANTITIES
①	TS Head, Temp	1 Ea.
②	TS Face, Bag	1 Ea.

SIGNAL HEADS



STAGE 2 INSTALLATION PLAN

NOTE:
PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES

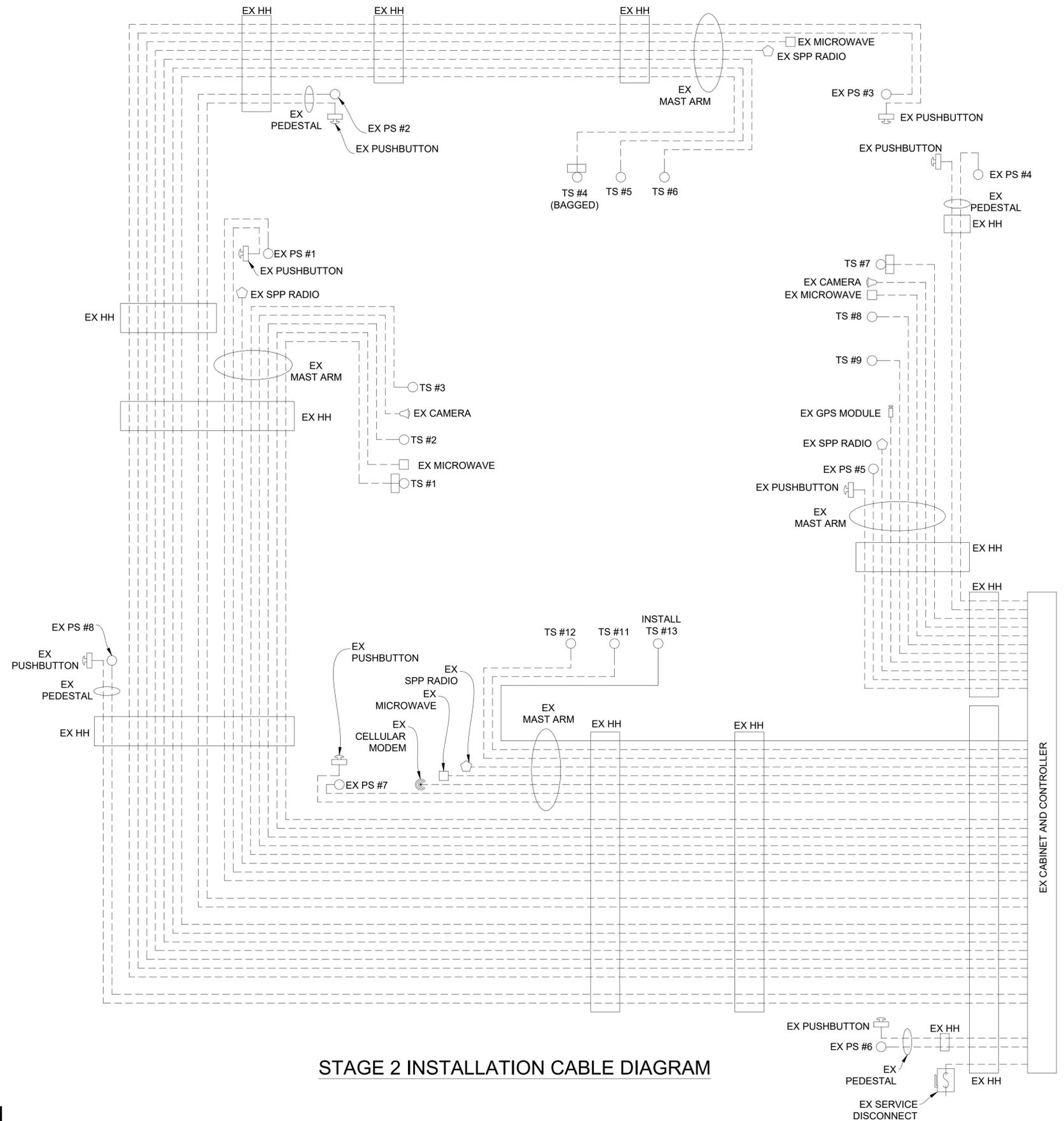
3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
CONTOUR	UTILITY POLE & GUY	GAS LINE	LEFT EDGE/RD. GRADE	STORM SEWER & CAT. BAS.	SEE ABOVE
STORM SEWER & CAT. BAS.	FIRE HYDRANT ASSEMBLY	CABLE T.V.	RIGHT EDGE/RD. GRADE	WATER MAIN W/F.H. ASSEM.	BENCH MARK
WATER MAIN & VALVE-IN-WELL	LIGHT POLE	ELECTRIC	CURB & GUTTER	CONTOUR	SURVEY BOOK
WATER MAIN & VALVE-IN-BOX	END SECTION	SIGN	EDGE/GRAVEL	ROAD & GRADE	REV. NO.

DLZ					
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY	APPROVED BY
	ORIGINAL ISSUE	10/12/22	INB	LCM	

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
E. MEDICAL CENTER DRIVE FULLER ED AT E. MED. CENTER RD STAGE 2	
SCALE 1"=20'	INCH 0 1
DRAWING NO. 2021-008-MOT28	
SHEET NO. 32 OF 153	



**CABLES TO BE USED
UNLESS SPECIFIED OTHERWISE**

- _1. 1W-3C TRAFFIC SIGNAL CABLES ARE 5/C#16 PJ.
- _2. 1W-3C TRAFFIC SIGNALS WITH 12"/27" CASE SIGN CABLES ARE 7/C#16 PJ.
- _3. HEMISPHERICAL VIDEO DETECTION CAMERA CABLES ARE CAT5e 600V.

NOTE:
PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES

NOTE:
FIBER OPTIC CABLES ARE PRESENT WITHIN EXISTING HANDHOLES BUT SIZE AND ROUTING IS UNKNOWN

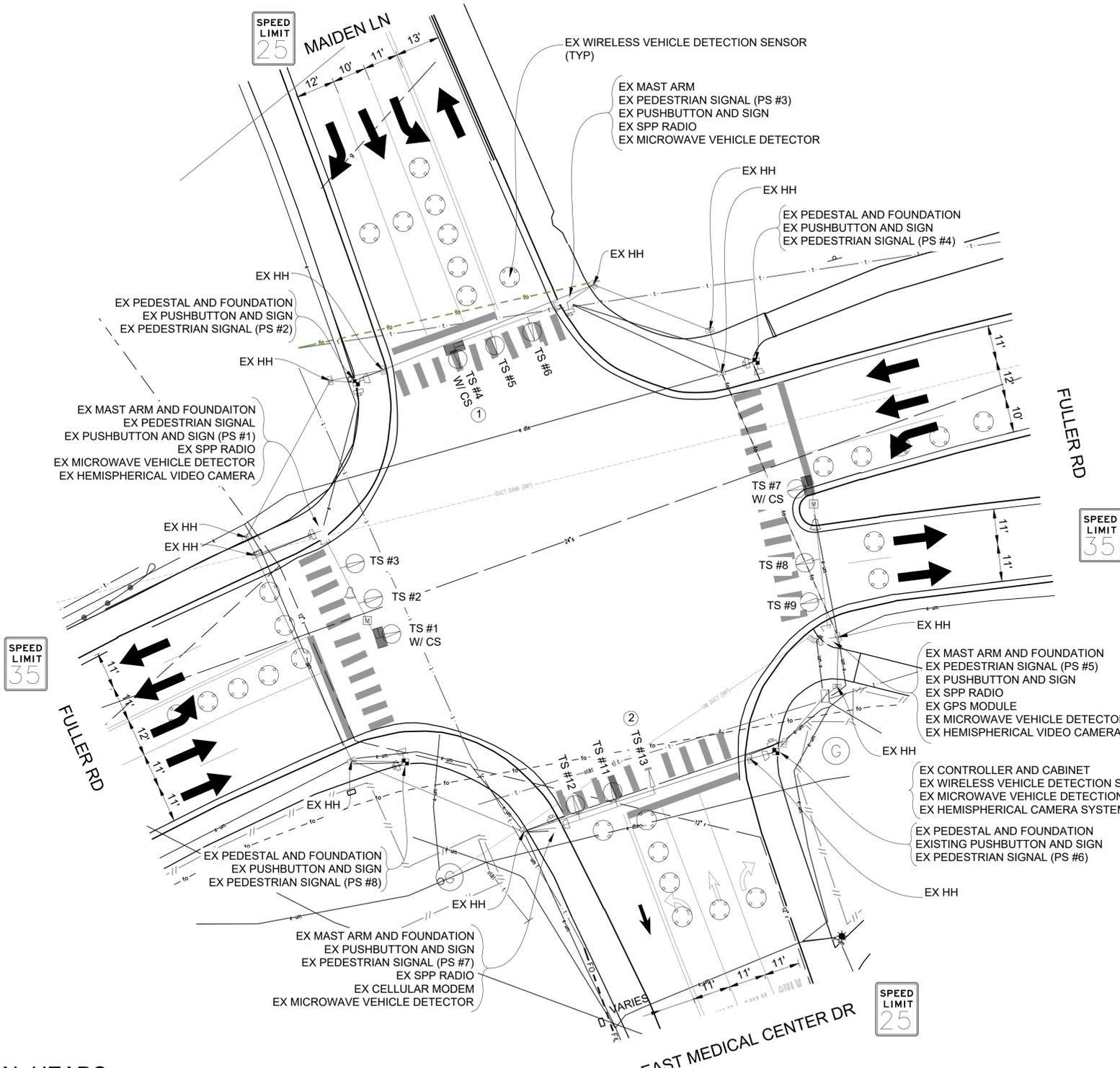
STAGE 2 INSTALLATION CABLE DIAGRAM

LEGEND		EXISTING TELEPHONE		EXISTING RD. & GRADE		PROPOSED SANITARY SEWER & MANHOLE		PROPOSED CURB & GUTTER	
EXISTING FENCE	---|---|---	EXISTING TELEPHONE	t	EXISTING RD. & GRADE	---	PROPOSED SANITARY SEWER & MANHOLE	S	PROPOSED CURB & GUTTER	---
CONTOUR	---|---|---	GAS LINE	g	LEFT EDGE/RD. GRADE	---	STORM SEWER & CAT. BAS.	S	SEE ABOVE	---
STORM SEWER & CAT. BAS.	---|---|---	CABLE T.V.	t	RIGHT EDGE/RD. GRADE	---	WATER MAIN W/F.H. ASSEM.	W	BENCH MARK	---
WATER MAIN & VALVE-IN-WELL	---|---|---	ELECTRIC	e	CURB & GUTTER	---	CONTOUR	---	SURVEY BOOK	---
WATER MAIN & VALVE-IN-BOX	---|---|---	SIGN	β	EDGE/GRAVEL	---	ROAD & GRADE	---	REV. NO.	---
								DESCRIPTION	---
								DATE	---
								DR. BY	---
								CH. BY	---

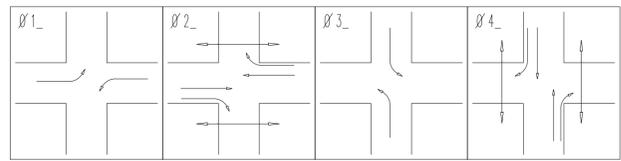
DLZ				
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10/12/22	INB	LCM

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
E. MEDICAL CENTER DRIVE TRAFFIC SIGNAL PLANS FULLER ED AT E. MED. CENTER RD STAGE 2	
SCALE NTS	0 INCH 1
DRAWING NO.	2021-008-MOT29
SHEET NO.	33 OF 153

SIGNALS	
OPENINGS:	40
CYCLIC WATTS:	516
STEADY WATTS:	45

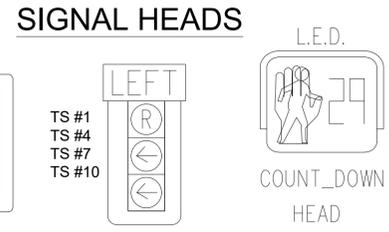


CONTRACTOR TO UTILIZE MOT TYPICAL 163-INT-LD-OUT FOR ALL SIGNAL WORK RELATED TO THIS INTERSECTION



PHASE DIAGRAM

LIST OF MATERIAL		
NO.	ITEM	QUANTITIES
①	TS Face, Bag, Rem	1 Ea
②	Remove Traffic Signal (Paid for Under "TS Head, Temp")	1 Ea



SIGNAL HEADS

STAGE 4 REMOVAL PLAN

NOTE:
PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES

SIGNALS	
OPENINGS:	40
CYCLIC WATTS:	432
STEADY WATTS:	60

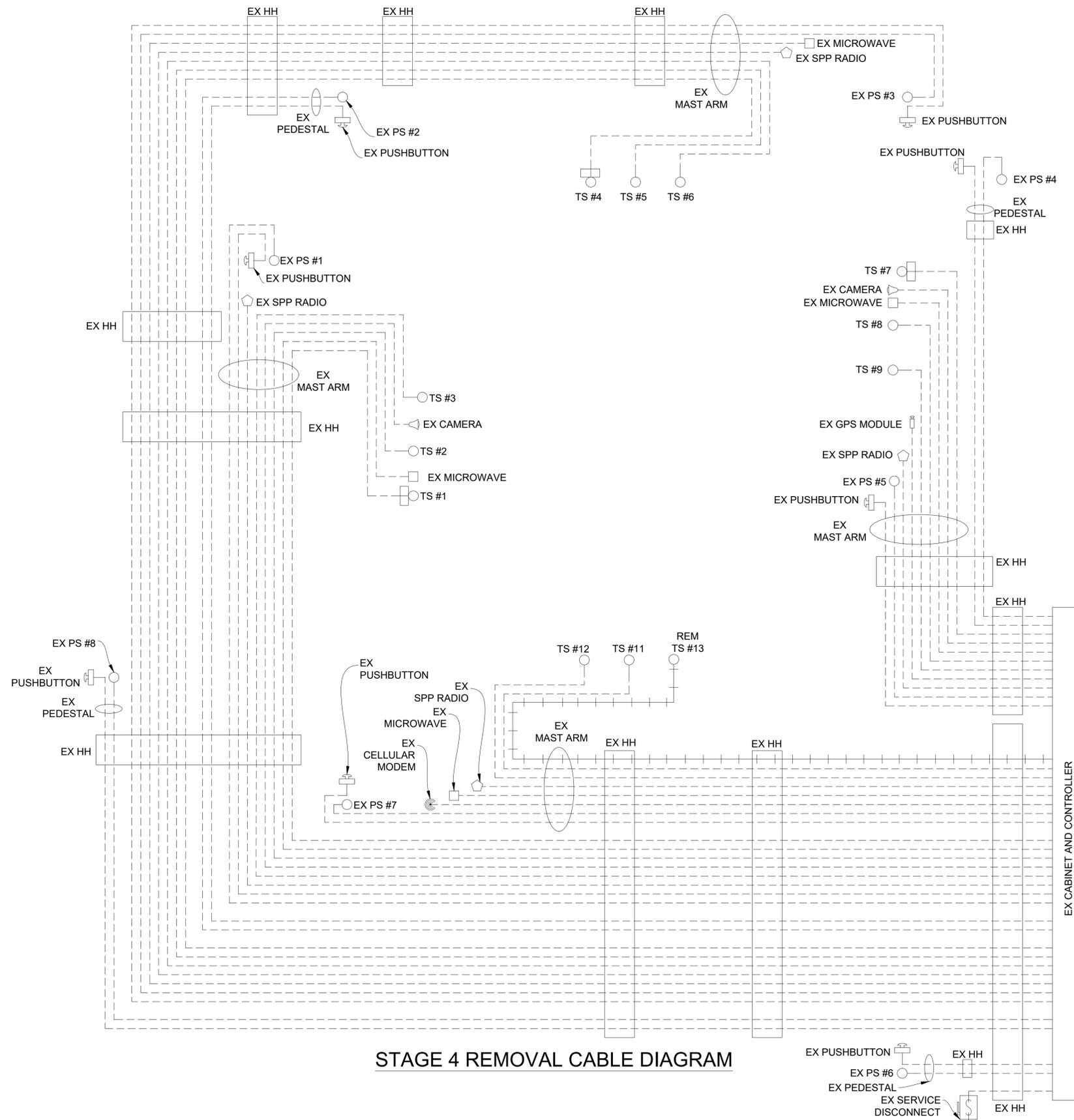
3 WORKING DAYS!
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
CONTOUR	UTILITY POLE & GUY	GAS LINE	LEFT EDGE/RD. GRADE	STORM SEWER & CAT. BAS.	SEE ABOVE
STORM SEWER & CAT. BAS.	FIRE HYDRANT ASSEMBLY	CABLE T.V.	RIGHT EDGE/RD. GRADE	WATER MAIN W/F.H. ASSEM.	BENCH MARK
WATER MAIN & VALVE-IN-WELL	LIGHT POLE	ELECTRIC	CURB & GUTTER	CONTOUR	SURVEY BOOK
WATER MAIN & VALVE-IN-BOX	END SECTION	SIGN	EDGE/GRAVEL	ROAD & GRADE	REV. NO.

DLZ					
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY	APPROVED BY
	ORIGINAL ISSUE	10/12/22	INB	LCM	

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
E. MEDICAL CENTER DRIVE FULLER ED AT E. MED. CENTER RD STAGE 4	
SCALE 1"=20'	INCH 0 1
DRAWING NO. 2021-008-MOT30	SHEET NO. 34 OF 153



STAGE 4 REMOVAL CABLE DIAGRAM

**CABLES TO BE USED
UNLESS SPECIFIED OTHERWISE**

1. 1W-3C TRAFFIC SIGNAL CABLES ARE 5/C#16 P.J.
2. 1W-3C TRAFFIC SIGNALS WITH 12"/27" CASE SIGN CABLES ARE 7/C#16 P.J.
3. HEMISPHERICAL VIDEO DETECTION CAMERA CABLES ARE CAT5e 600V.

NOTE:
PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES

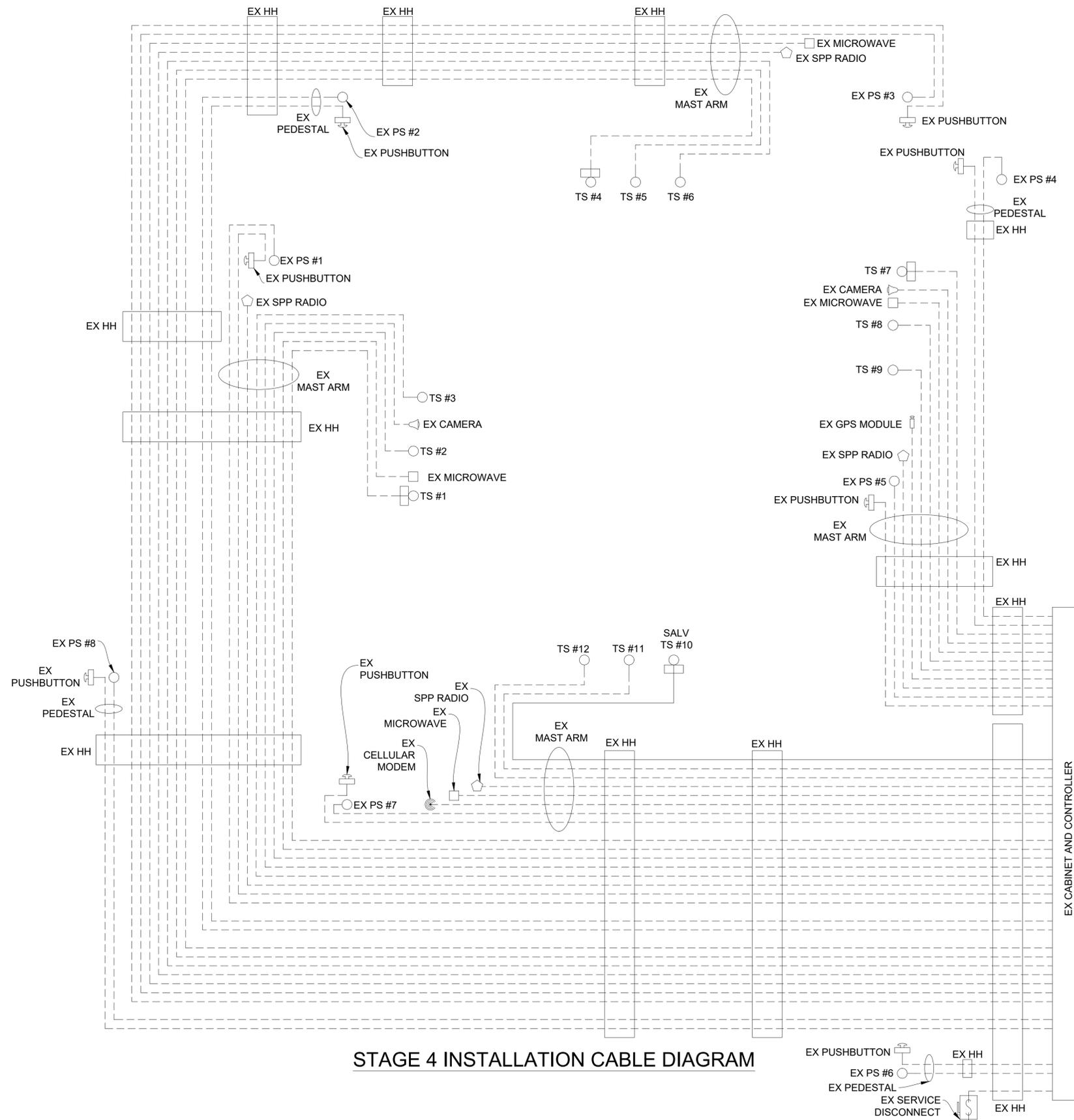
NOTE:
FIBER OPTIC CABLES ARE PRESENT WITHIN EXISTING HANDHOLES BUT SIZE AND ROUTING IS UNKNOWN

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
CONTOUR	UTILITY POLE & GUY	GAS LINE	LEFT EDGE/RD. GRADE	STORM SEWER & CAT. BAS.	SEE ABOVE
STORM SEWER & CAT. BAS.	FIRE HYDRANT ASSEMBLY	CABLE T.V.	RIGHT EDGE/RD. GRADE	WATER MAIN W/F.H. ASSEM.	BENCH MARK
WATER MAIN & VALVE-IN-WELL	LIGHT POLE	ELECTRIC	CURB & GUTTER	CONTOUR	SURVEY BOOK
WATER MAIN & VALVE-IN-BOX	END SECTION	SIGN	EDGE/GRAVEL	ROAD & GRADE	REV. NO.

DLZ					
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY	APPROVED BY
	ORIGINAL ISSUE	10/12/22	INB	LCM	

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
E. MEDICAL CENTER DRIVE TRAFFIC SIGNAL PLANS FULLER ED AT E. MED. CENTER RD STAGE 4	
SCALE NTS	INCH 0 1
DRAWING NO. 2021-008-MOT31	
SHEET NO. 35 OF 153	



STAGE 4 INSTALLATION CABLE DIAGRAM

- CABLES TO BE USED
UNLESS SPECIFIED OTHERWISE**
1. 1W-3C TRAFFIC SIGNAL CABLES ARE 5/C#16 P.J.
 2. 1W-3C TRAFFIC SIGNALS WITH 12"/27" CASE SIGN CABLES ARE 7/C#16 P.J.
 3. HEMISPHERICAL VIDEO DETECTION CAMERA CABLES ARE CAT5e 600V.

NOTE:
PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES

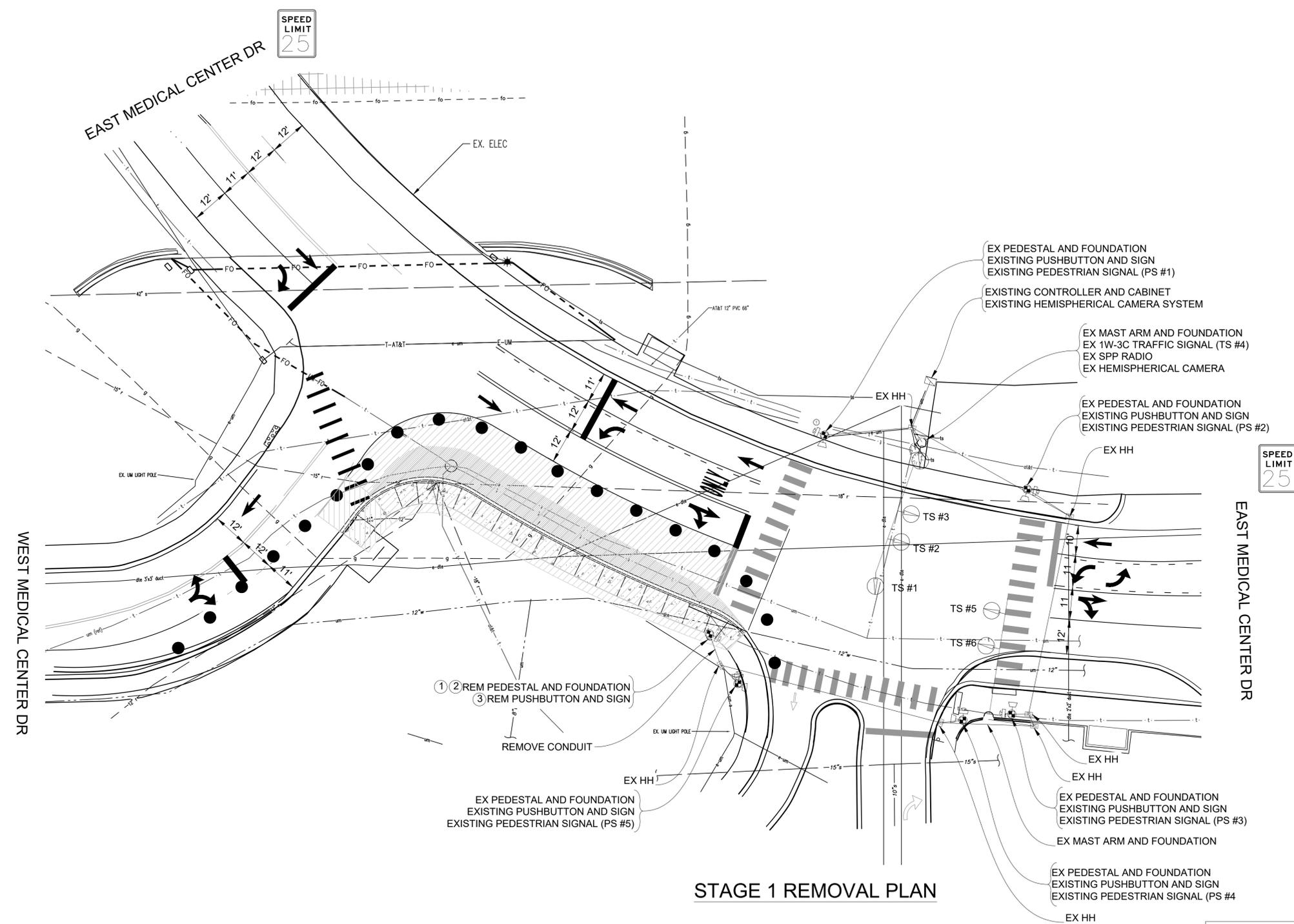
NOTE:
FIBER OPTIC CABLES ARE PRESENT WITHIN EXISTING HANDHOLES BUT SIZE AND ROUTING IS UNKNOWN

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
CONTOUR	UTILITY POLE & GUY	GAS LINE	LEFT EDGE/RD. GRADE	STORM SEWER & CAT. BAS.	SEE ABOVE
STORM SEWER & CAT. BAS.	FIRE HYDRANT ASSEMBLY	CABLE T.V.	RIGHT EDGE/RD. GRADE	WATER MAIN W/F.H. ASSEM.	BENCH MARK
WATER MAIN & VALVE-IN-WELL	LIGHT POLE	ELECTRIC	CURB & GUTTER	CONTOUR	SURVEY BOOK
WATER MAIN & VALVE-IN-BOX	END SECTION	SIGN	EDGE/GRAVEL	ROAD & GRADE	REV. NO.

DLZ				
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10/12/22	INB	LCM

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
E. MEDICAL CENTER DRIVE TRAFFIC SIGNAL PLANS FULLER ED AT E. MED. CENTER RD STAGE 4	
SCALE NTS	INCH 0 1
DRAWING NO. 2021-008-MOT33	
SHEET NO. 37 OF 153	



SPEED LIMIT 25

SPEED LIMIT 25

STAGE 1 REMOVAL PLAN

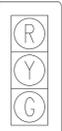
CONTRACTOR TO UTILIZE MOT TYPICAL A FOR INSTALLATION OF TEMPORARY SIGNALS PRIOR TO STAGE 1

TIME OF BAGGING AND UNBAGGING OF TRAFFIC SIGNALS TO BE AS DIRECTED BY THE ENGINEER.

NOTE:
PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES

SIGNAL HEADS

- TS #1
- TS #2
- TS #3
- TS #4
- TS #5
- TS #6



LIST OF MATERIAL

NO.	ITEM	QUANTITIES
①	Pedestal Fdn, Rem	1 Ea
②	Pedestal, Rem	1 Ea
③	Pushbutton, Rem	1 Ea
	Conduit, Rem	12 Ft

SIGNALS	
OPENINGS:	55
CYCLIC WATTS:	733
STEADY WATTS:	45

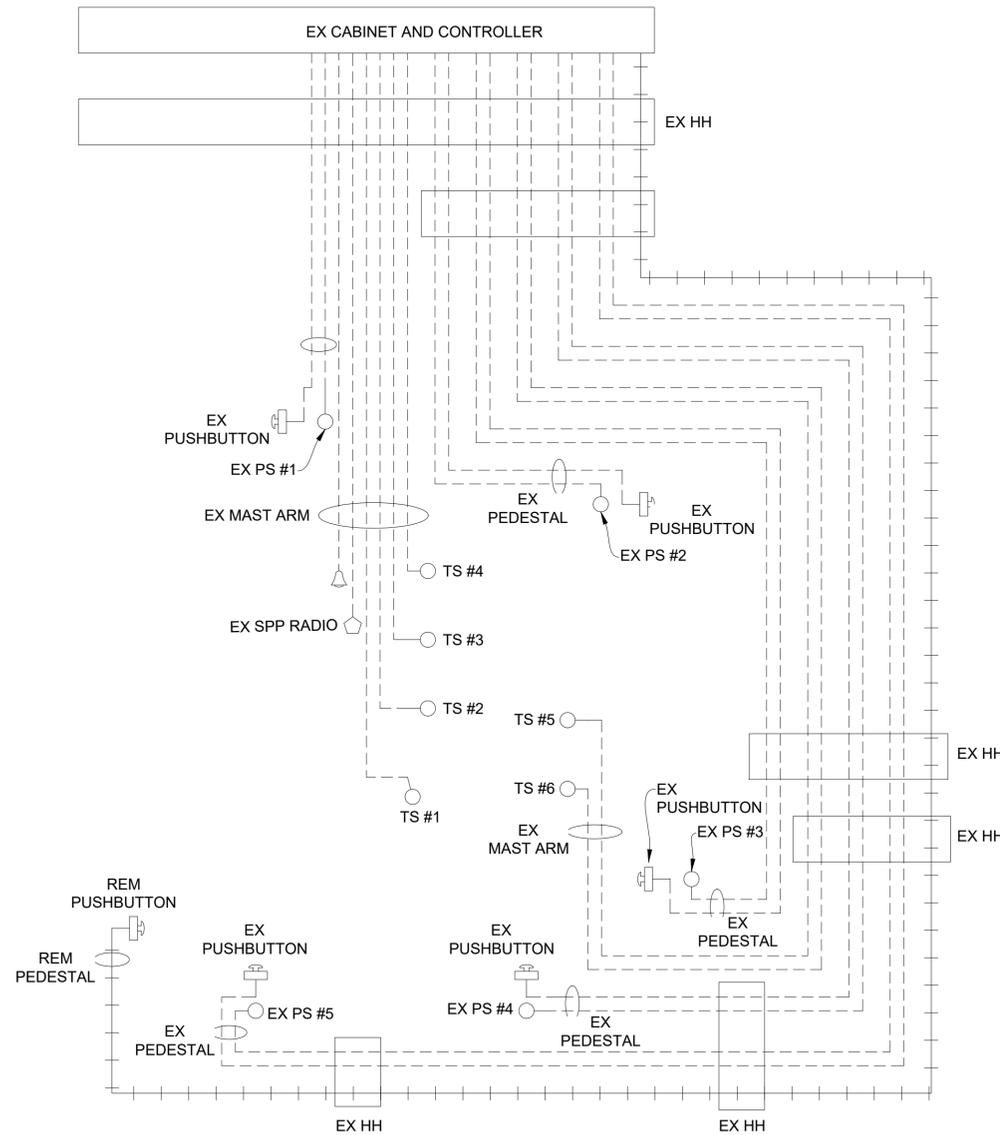
3 WORKING DAYS BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
CONTOUR	UTILITY POLE & GUY	GAS LINE	LEFT EDGE/RD. GRADE	STORM SEWER & CAT. BAS.	SEE ABOVE
STORM SEWER & CAT. BAS.	FIRE HYDRANT ASSEMBLY	CABLE T.V.	RIGHT EDGE/RD. GRADE	WATER MAIN W/F.H. ASSEM.	BENCH MARK
WATER MAIN & VALVE-IN-WELL	LIGHT POLE	ELECTRIC	CURB & GUTTER	CONTOUR	SURVEY BOOK
WATER MAIN & VALVE-IN-BOX	END SECTION	SIGN	EDGE/GRAVEL	ROAD & GRADE	REV. NO.

DLZ					
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY	APPROVED BY
	ORIGINAL ISSUE	10/12/22	INB	LCM	

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
E. MEDICAL CENTER DRIVE TRAFFIC SIGNAL PLANS	
FULLER ED AT E. MED. CENTER RD	
STAGE 1	
SCALE	INCH
1"=20'	0 1
DRAWING NO.	2021-008-MOT34
SHEET NO.	38 OF 153



NOTE:
 PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS
 AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN.
 CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE
 ORDERING ANY MATERIAL OR MAKING ANY CHANGES

_ SIGNALS _	
OPENINGS:	55
CYCLIC WATTS:	733
STEADY WATTS:	45

STAGE 1 REMOVAL CABLE DIAGRAM

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
CONTOUR	UTILITY POLE & GUY	GAS LINE	LEFT EDGE/RD. GRADE	STORM SEWER & CAT. BAS.	SEE ABOVE
STORM SEWER & CAT. BAS.	FIRE HYDRANT ASSEMBLY	CABLE T.V.	RIGHT EDGE/RD. GRADE	WATER MAIN W/F.H. ASSEM.	BENCH MARK
WATER MAIN & VALVE-IN-WELL	LIGHT POLE	ELECTRIC	CURB & GUTTER	CONTOUR	SURVEY BOOK
WATER MAIN & VALVE-IN-BOX	END SECTION	SIGN	EDGE/GRAVEL	ROAD & GRADE	REV. NO.



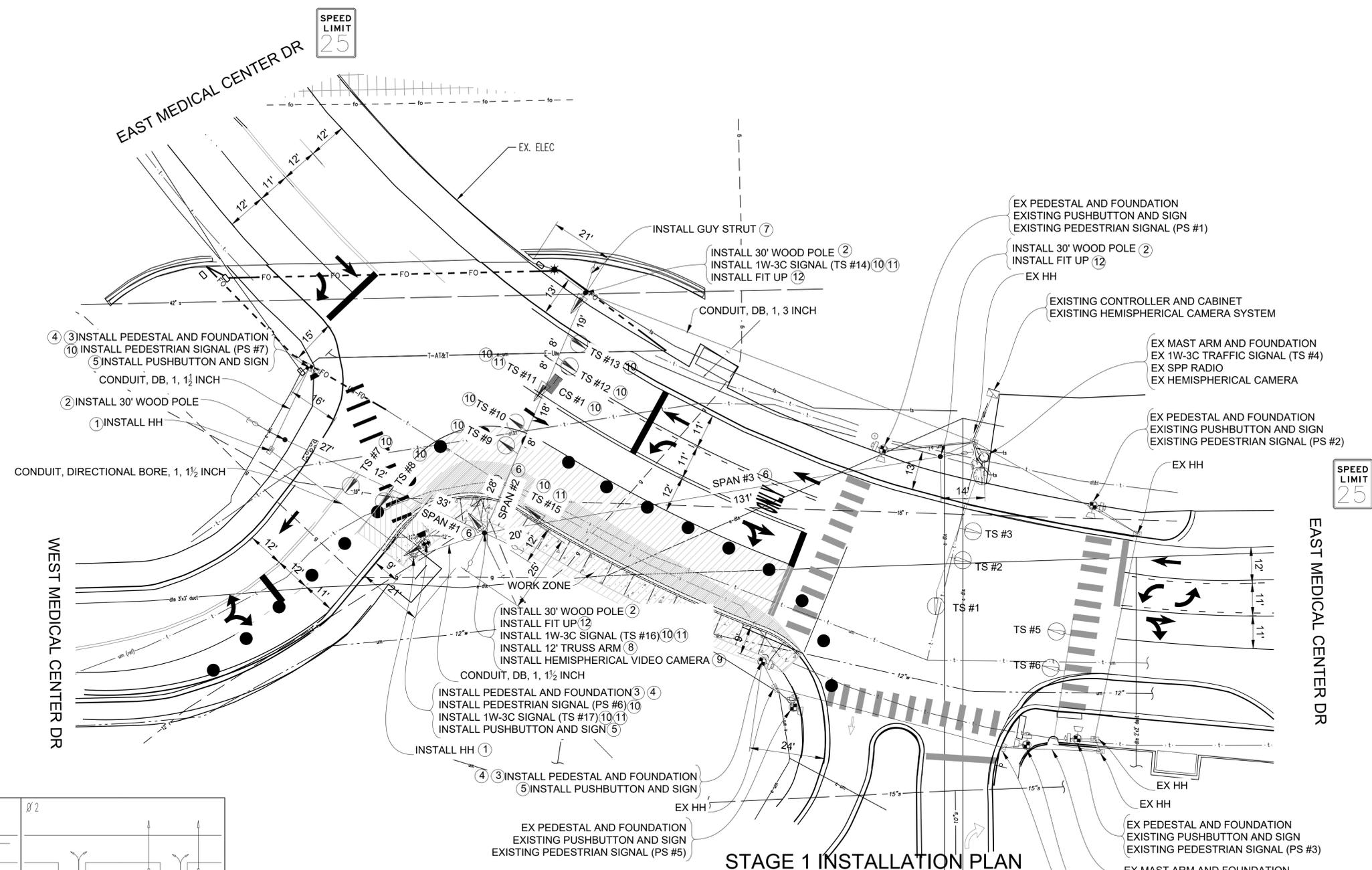
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

**E. MEDICAL CENTER DRIVE
 TRAFFIC SIGNAL PLANS
 FULLER ED AT E. MED. CENTER RD
 STAGE 1**

SCALE	0	INCH	1
DRAWING NO.	2021-008-MOT35		
SHEET NO.	39	OF	153

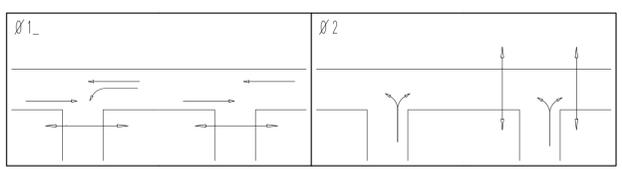
ORIGINAL ISSUE	10/12/22	INB	LCM
DATE	DR.BY	CH.BY	APPROVED BY

APPROVED BY

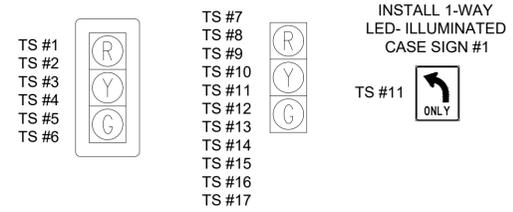


STAGE 1 INSTALLATION PLAN

PHASE DIAGRAM



SIGNAL HEADS



LIST OF MATERIAL

NO.	ITEM	QUANTITIES
1	HH, Polymer Conc	2 Ea
2	Wood Pole, C14, 30 foot	4 Ea
3	Pedestal, Alum	3 Ea
4	Pedestal, Fdn	3 Ea
5	Pushbutton and Sign	3 Ea
6	Span Wire	3 Ea
7	Strut Guy	1 Ea
8	Bracket, Truss, With 12 Foot Arm	1 Ea
9	Hemispherical Video Detection Camera	1 Ea
10	TS Head, Temp	13 Ea
11	TS Face, Bag	5 Ea
12	Wood Pole, Fit Up, TS Cable Pole	3 Ea
	Conduit, Directional Bore, 1, 1 1/2 inch	60 Ft
	Conduit, DB, 1, 1 1/2 inch	80 Ft
	Conduit, DB, 1, 3 inch	150 Ft

CONTRACTOR TO UTILIZE MOT TYPICAL A FOR INSTALLATION OF TEMPORARY SIGNALS PRIOR TO STAGE 1

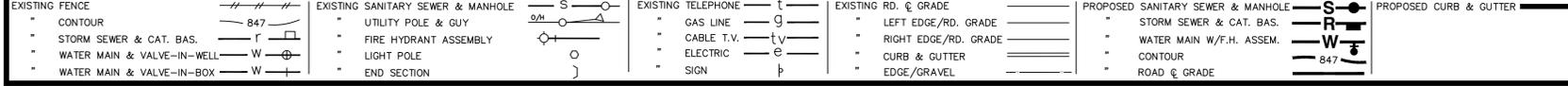
TIME OF BAGGING AND UNBAGGING OF TRAFFIC SIGNALS TO BE AS DIRECTED BY THE ENGINEER.

NOTE:
PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES

SIGNALS	
OPENINGS:	55
CYCLIC WATTS:	733
STEADY WATTS:	45

3 WORKING DAYS BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

LEGEND



DLZ

SEE ABOVE				
BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

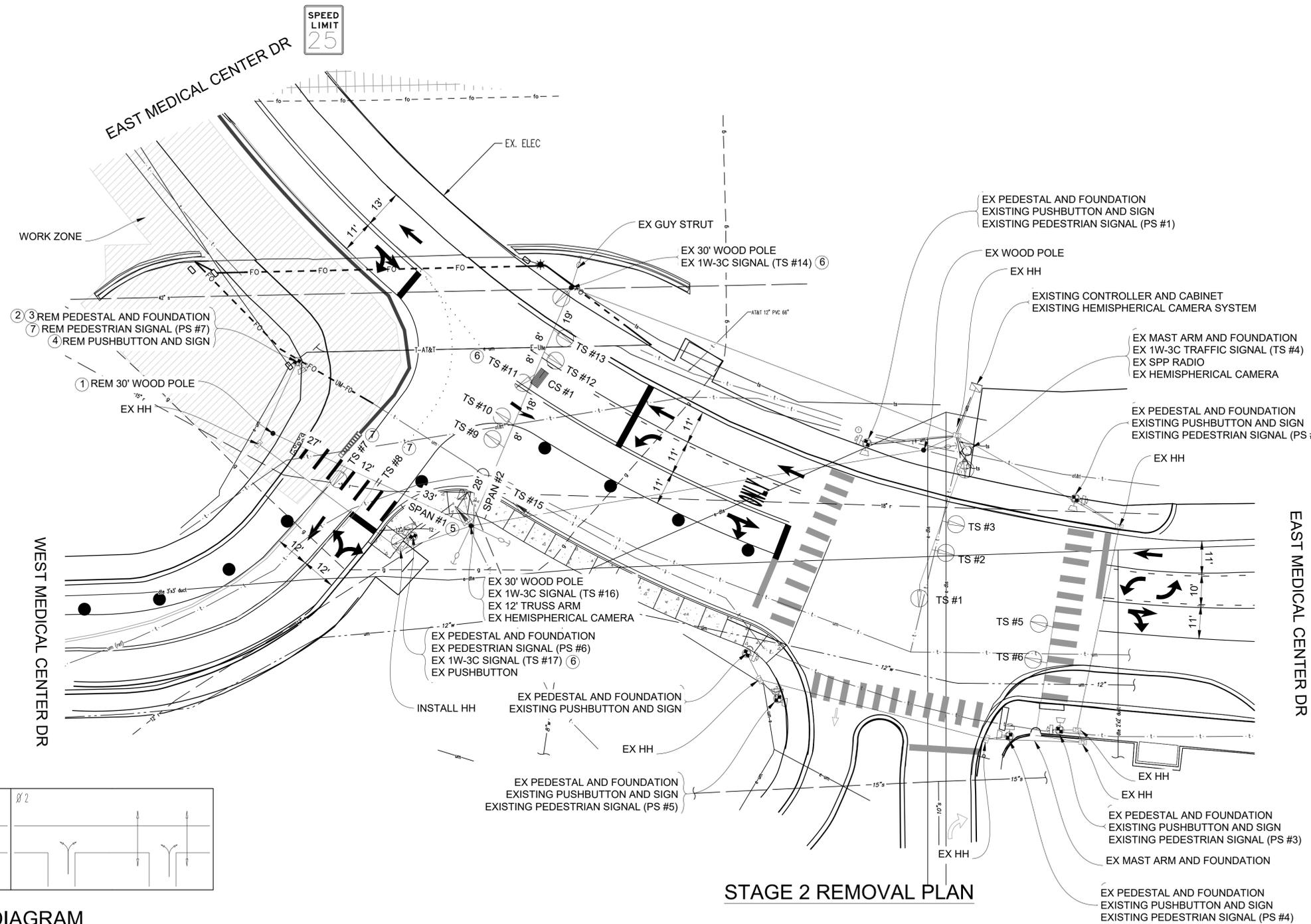
E. MEDICAL CENTER DRIVE TRAFFIC SIGNAL PLANS
FULLER ED AT E. MED. CENTER RD
STAGE 1

SCALE 1"=20'

DRAWING NO. 2021-008-MOT36

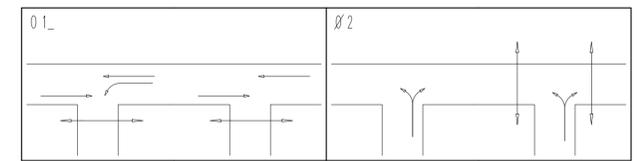
SHEET NO. 40 OF 153

APPROVED BY: _____



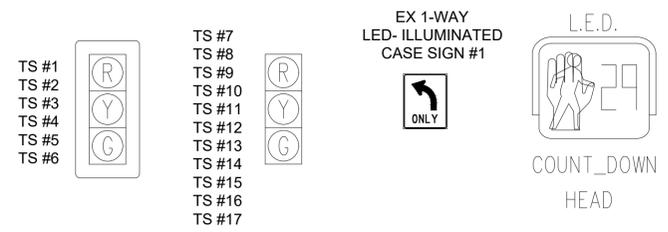
SPEED LIMIT 25

SPEED LIMIT 25



PHASE DIAGRAM

SIGNAL HEADS



STAGE 2 REMOVAL PLAN

LIST OF MATERIAL		
NO.	ITEM	QUANTITIES
1	Wood Pole, Rem	1 Ea
2	Pedestal Fdn, Rem	1 Ea
3	Pedestal, Rem	1 Ea
4	Pushbutton, Rem	1 Ea
5	Span Wire, Rem	1 Ea
6	TS Face, Bag, Rem	3 Ea
7	Remove Traffic Signal (Paid for Under "TS Head, Temp")	3 Ea
	Conduit, Rem	30 Ft

CONTRACTOR TO UTILIZE WORK ZONES AND LANE CLOSURES FOR INSTALLATION OF TRAFFIC SIGNALS PRIOR TO STAGE 2
 TIME OF REMOVAL OR ADJUSTMENT OF TRAFFIC SIGNALS TO BE AS DIRECTED BY THE ENGINEER
 TIME OF BAGGING AND UNBAGGING OF TRAFFIC SIGNALS TO BE AS DIRECTED BY THE ENGINEER.

NOTE:
 PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLELY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES

SIGNALS	
OPENINGS:	52
CYCLIC WATTS:	690
STEADY WATTS:	15



PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

E. MEDICAL CENTER DRIVE TRAFFIC SIGNAL PLANS FULLER ED AT E. MED. CENTER RD STAGE 2

SCALE 1"=20'

DRAWING NO. 2022-008-MOT38

SHEET NO. 42 OF 153

APPROVED BY: _____

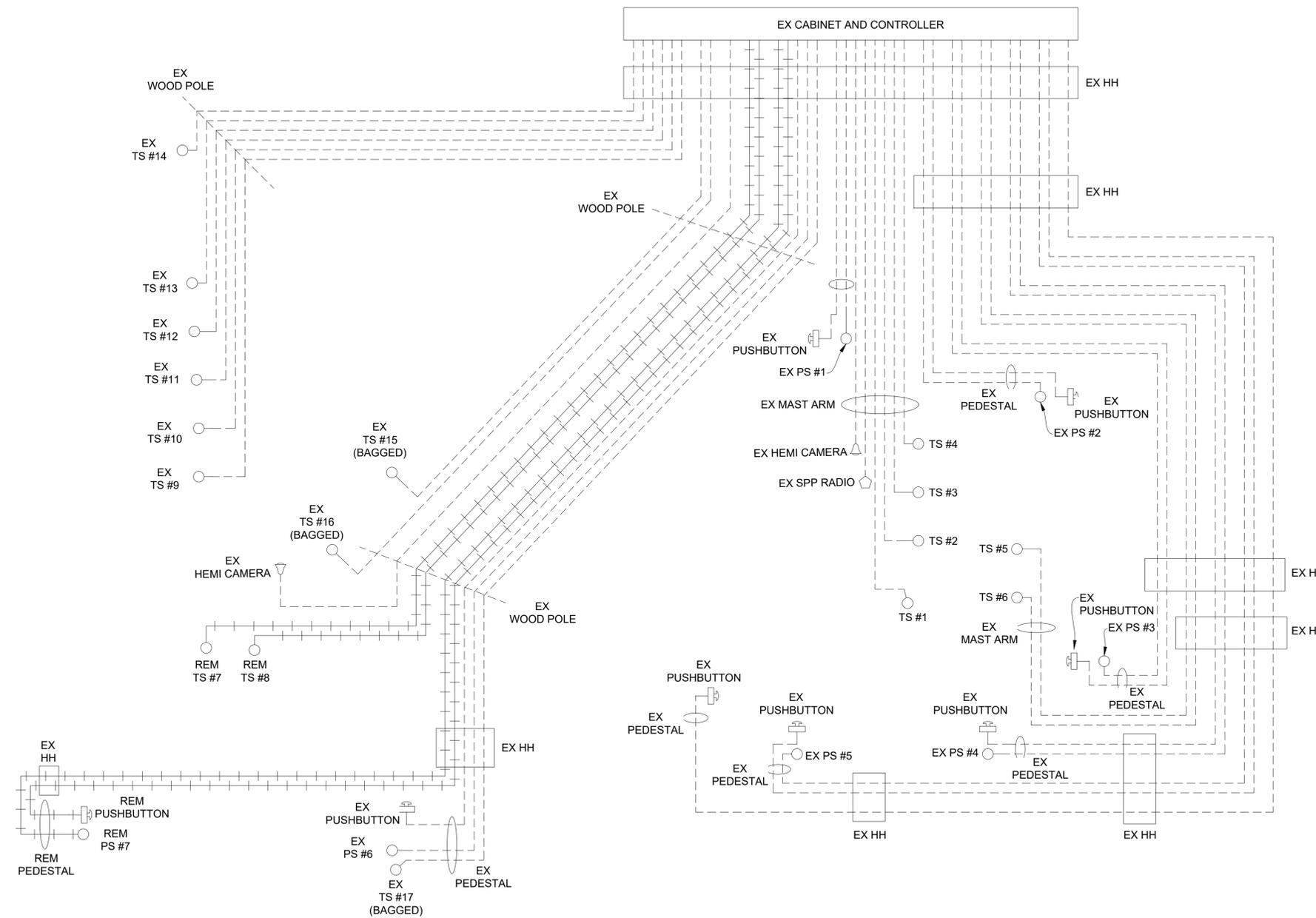
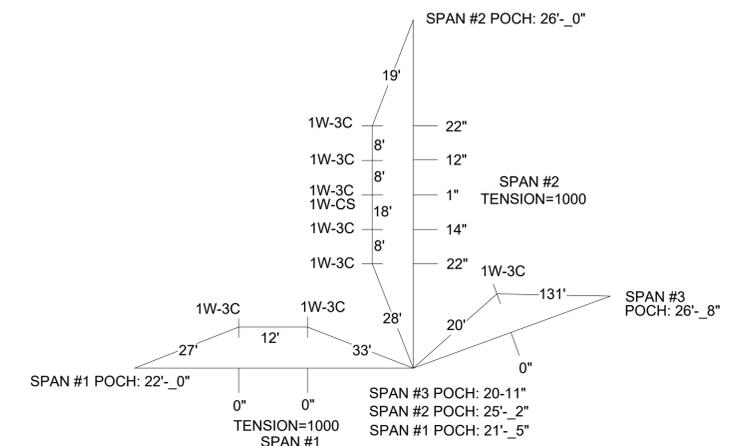
3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 800-482-7171 (TOLL FREE)

LEGEND	
EXISTING FENCE	EXISTING TELEPHONE
CONTOUR	GAS LINE
STORM SEWER & CAT. BAS.	CABLE T.V.
WATER MAIN & VALVE-IN-WELL	ELECTRIC
WATER MAIN & VALVE-IN-BOX	SIGN
EXISTING SANITARY SEWER & MANHOLE	EXISTING RD. & GRADE
UTILITY POLE & GUY	LEFT EDGE/RD. GRADE
FIRE HYDRANT ASSEMBLY	RIGHT EDGE/RD. GRADE
LIGHT POLE	CURB & GUTTER
END SECTION	EDGE/GRAVEL
PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
STORM SEWER & CAT. BAS.	SEE ABOVE
WATER MAIN W/F.H. ASSEM.	BENCH MARK
CONTOUR	SURVEY BOOK
ROAD & GRADE	REV. NO.
	DESCRIPTION
	DATE
	DR. BY
	CH. BY

**CABLES TO BE USED
UNLESS SPECIFIED OTHERWISE**

1. TRAFFIC SIGNAL CABLES ARE 5/C#16 PJ.
2. 24" X 30" L.E.D. CASE SIGNS ARE 4/C#16 PJ.
3. PEDESTRIAN SIGNALS CABLES ARE 7/C#16 PJ.
4. PUSHBUTTON CABLES ARE 2/C#16 SHIELDED PJ.

**SPAN CALCULATIONS
NOT TO SCALE**



STAGE 2 REMOVAL CABLE DIAGRAM

NOTE:
PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS
AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN.
CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE
ORDERING ANY MATERIAL OR MAKING ANY CHANGES

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
CONTOUR	UTILITY POLE & GUY	GAS LINE	LEFT EDGE/RD. GRADE	STORM SEWER & CAT. BAS.	SEE ABOVE
STORM SEWER & CAT. BAS.	FIRE HYDRANT ASSEMBLY	CABLE T.V.	RIGHT EDGE/RD. GRADE	WATER MAIN W/F.H. ASSEM.	BENCH MARK
WATER MAIN & VALVE-IN-WELL	LIGHT POLE	ELECTRIC	CURB & GUTTER	CONTOUR	SURVEY BOOK
WATER MAIN & VALVE-IN-BOX	END SECTION	SIGN	EDGE/GRAVEL	ROAD & GRADE	REV. NO.



PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

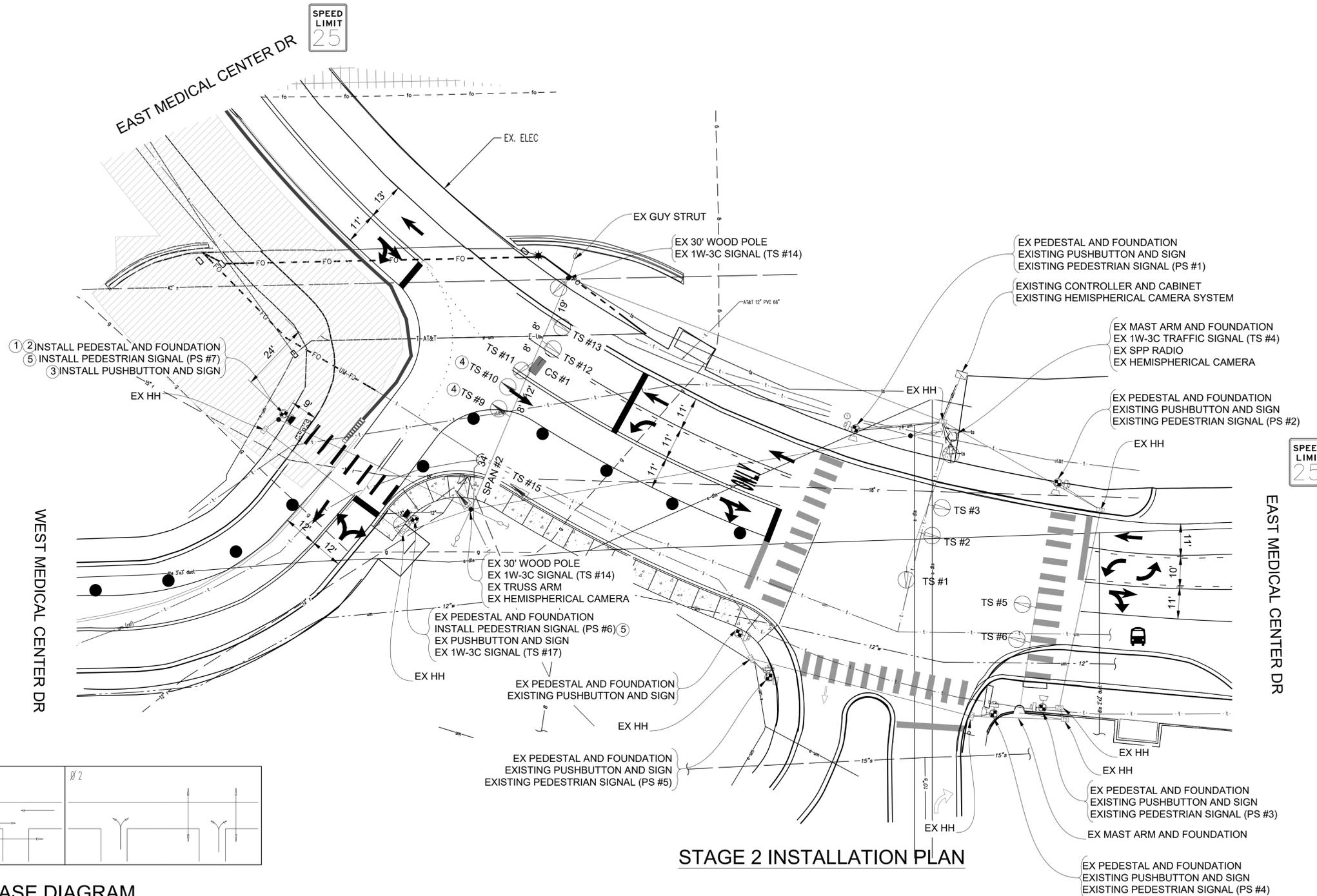
**E. MEDICAL CENTER DRIVE
TRAFFIC SIGNAL PLANS
FULLER ED AT E. MED. CENTER RD
STAGE 2**

SIGNALS	
OPENINGS:	55
CYCLIC WATTS:	733
STEADY WATTS:	45

SCALE	0 INCH 1
DRAWING NO.	2021-008-MOT39
SHEET NO.	43 OF 153

REV. NO.	DESCRIPTION	DATE	DR.BY	CH.BY

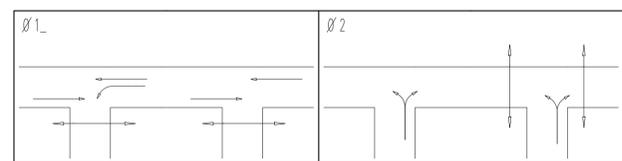
APPROVED BY: _____



- 1 INSTALL PEDESTAL AND FOUNDATION
- 2 INSTALL PEDESTRIAN SIGNAL (PS #7)
- 3 INSTALL PUSHBUTTON AND SIGN

SPEED LIMIT 25

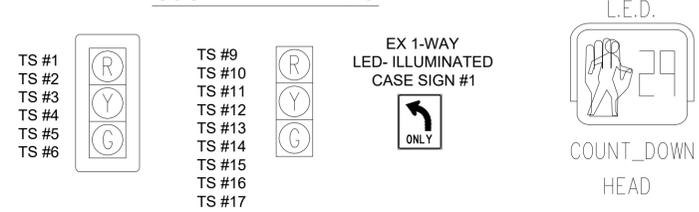
SPEED LIMIT 25



PHASE DIAGRAM

STAGE 2 INSTALLATION PLAN

SIGNAL HEADS



LIST OF MATERIAL

NO.	ITEM	QUANTITIES
1	Pedestal, Alum, Salv	1 Ea
2	Pedestal, Fdn	1 Ea
3	Pushbutton and Sign, Salv	1 Ea
4	TS Head, Adj	2 Ea
5	TS Head, Temp	2 Ea
	Conduit, DB, 1, 1 1/2 inch	10 Ft

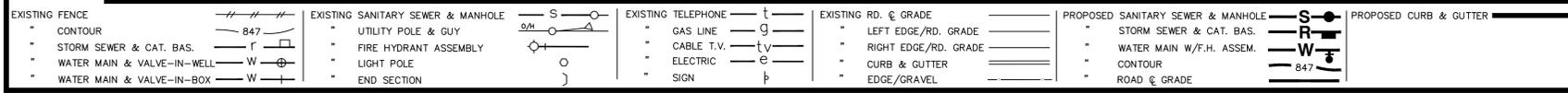
CONTRACTOR TO UTILIZE WORK ZONES AND LANE CLOSURES FOR INSTALLATION OF TRAFFIC SIGNALS PRIOR TO STAGE 2
 TIME OF REMOVAL OR ADJUSTMENT OF TRAFFIC SIGNALS TO BE AS DIRECTED BY THE ENGINEER

NOTE:
 PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES

SIGNALS	
OPENINGS:	49
CYCLIC WATTS:	647
STEADY WATTS:	45

3 WORKING DAYS BEFORE YOU DIG
 CALL MISS DIG
 800-482-7171
 (TOLL FREE)

LEGEND



PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

**E. MEDICAL CENTER DRIVE
 FULLER ED AT E. MED. CENTER RD
 STAGE 2**

SCALE: 1"=20'

DRAWING NO. 2021-008-MOT40

SHEET NO. 44 OF 153

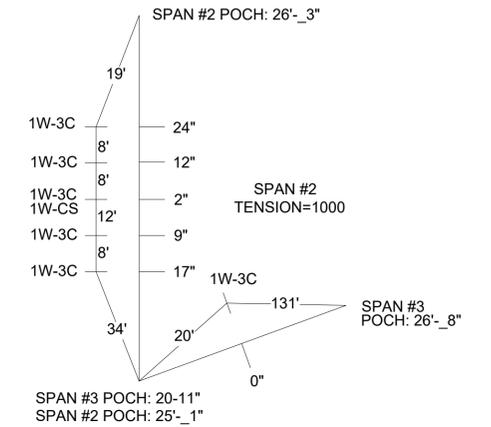
APPROVED BY: _____

REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
ORIGINAL ISSUE		10/12/22	INB	LCM

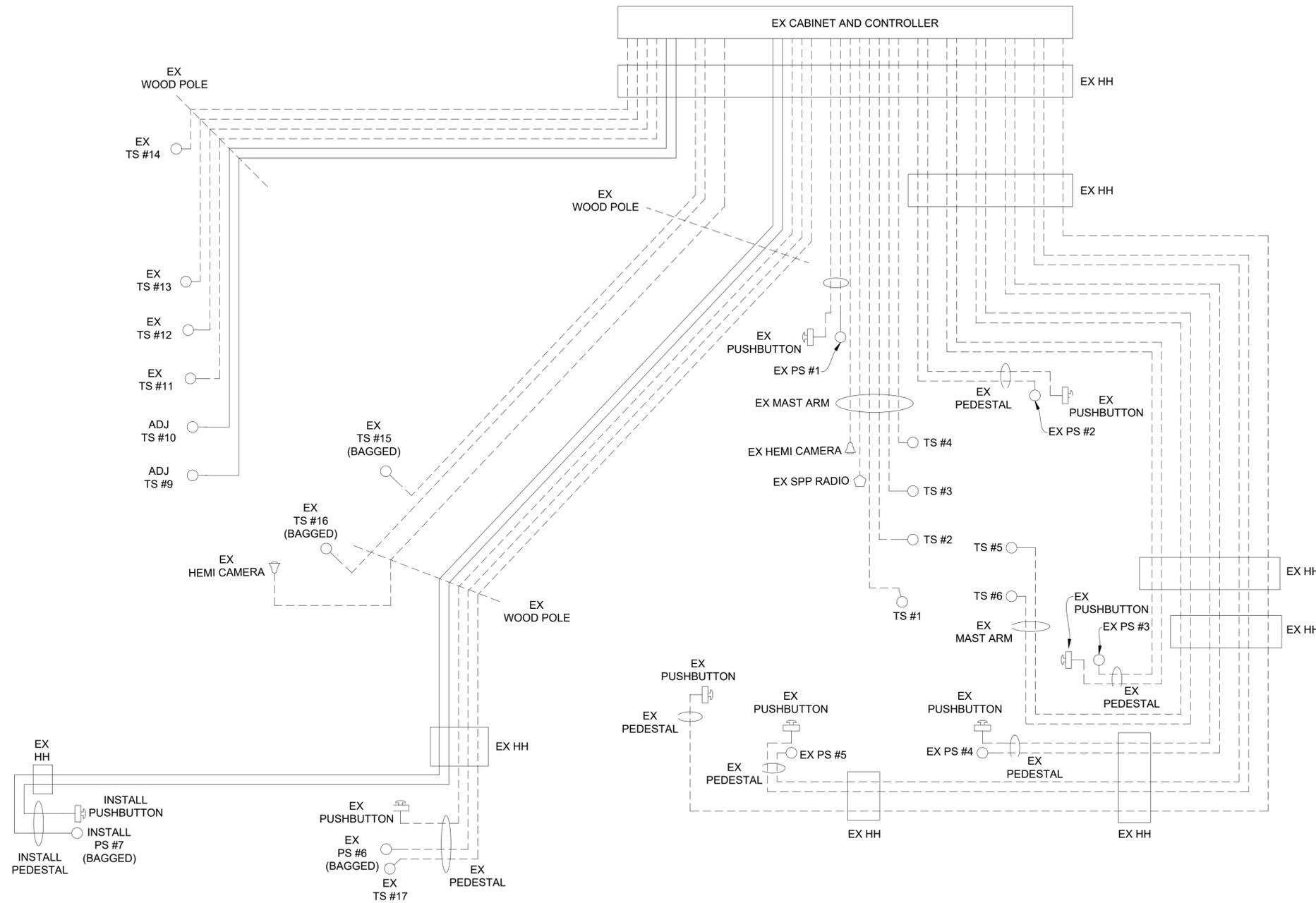
**CABLES TO BE USED
UNLESS SPECIFIED OTHERWISE**

1. TRAFFIC SIGNAL CABLES ARE 5/C#16 PJ.
2. 24" X 30" L.E.D. CASE SIGNS ARE 4/C#16 PJ.
3. PEDESTRIAN SIGNALS CABLES ARE 7/C#16 PJ.
4. PUSHBUTTON CABLES ARE 2/C#16 SHIELDED PJ.

**SPAN CALCULATIONS
NOT TO SCALE**



SHOWN STEMS LENGTH ARE SUGGESTED ONLY



STAGE 3 CABLE DIAGRAM

NOTE:
PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS
AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN.
CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE
ORDERING ANY MATERIAL OR MAKING ANY CHANGES

SIGNALS	
OPENINGS:	49
CYCLIC WATTS:	647
STEADY WATTS:	45

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
CONTOUR	UTILITY POLE & GUY	GAS LINE	LEFT EDGE/RD. GRADE	STORM SEWER & CAT. BAS.	SEE ABOVE
STORM SEWER & CAT. BAS.	FIRE HYDRANT ASSEMBLY	CABLE T.V.	RIGHT EDGE/RD. GRADE	WATER MAIN W/F.H. ASSEM.	BENCH MARK
WATER MAIN & VALVE-IN-WELL	LIGHT POLE	ELECTRIC	CURB & GUTTER	CONTOUR	SURVEY BOOK
WATER MAIN & VALVE-IN-BOX	END SECTION	SIGN	EDGE/GRAVEL	ROAD & GRADE	REV. NO.

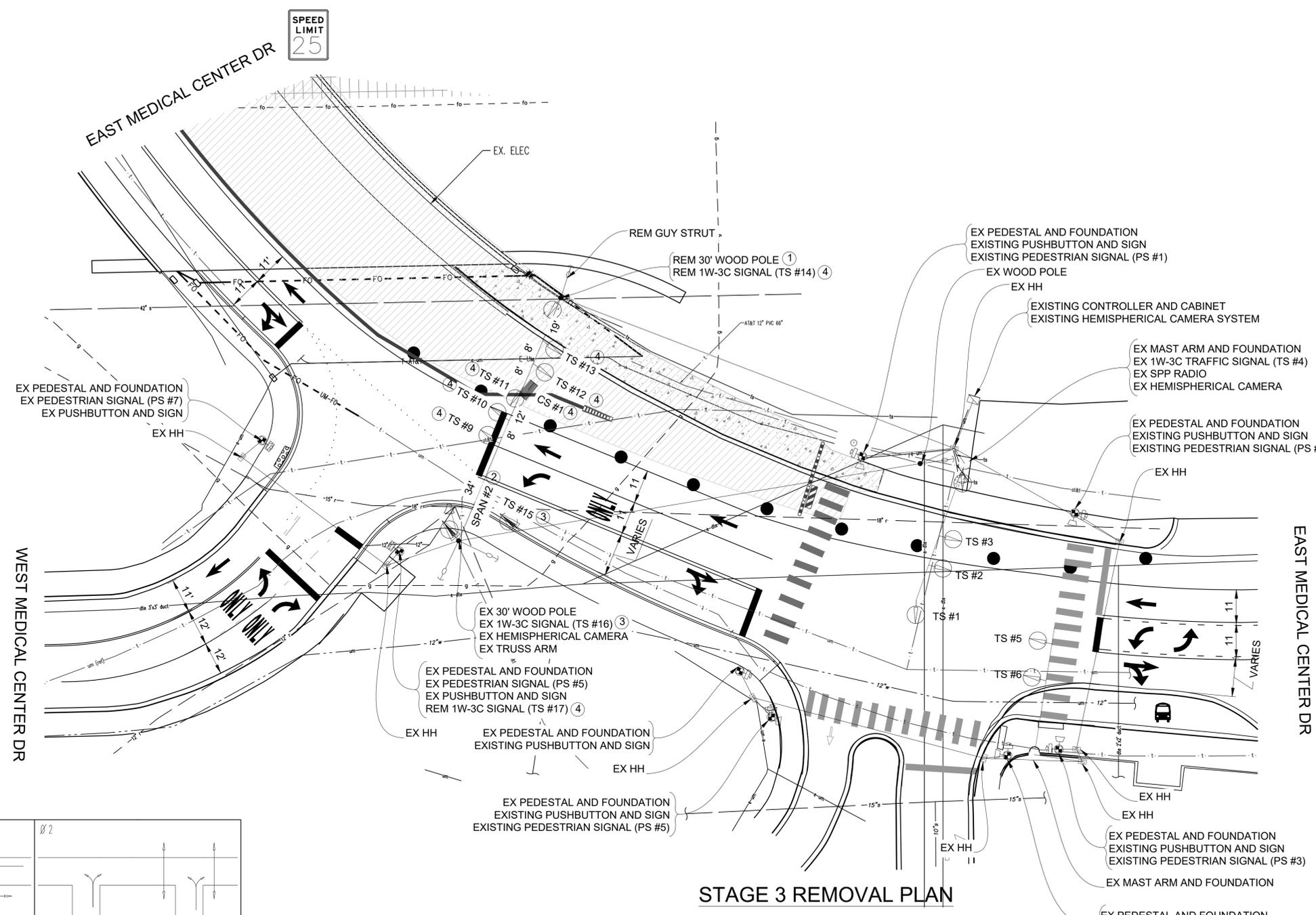


PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

**E. MEDICAL CENTER DRIVE
TRAFFIC SIGNAL PLANS
FULLER ED AT E. MED. CENTER RD
STAGE 3**

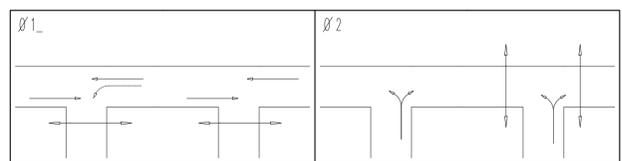
SCALE	0 INCH 1
DRAWING NO.	2021-008-MOT41
SHEET NO.	45 OF 153

REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY



SPEED LIMIT 25

SPEED LIMIT 25



PHASE DIAGRAM

STAGE 3 REMOVAL PLAN

LIST OF MATERIAL		
NO.	ITEM	QUANTITIES
①	Wood Pole, Rem	1 Ea
②	Span Wire, Rem	1 Ea
③	TS Face, Bag, Rem	2 Ea
④	Remove Traffic Signal (Paid for Under "TS Head, Temp")	8 Ea
	Conduit, Rem	160 Ft

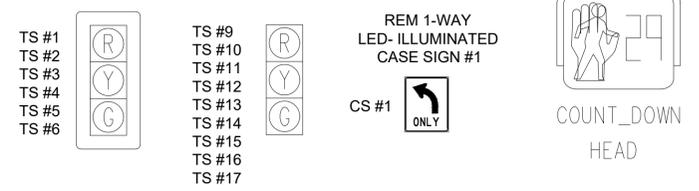
CONTRACTOR TO UTILIZE WORK ZONES AND MOT TYPICAL 163-INT-LD-OUT FOR INSTALLATION OF TRAFFIC SIGNALS PRIOR TO STAGE 3

TIME OF REMOVAL OR ADJUSTMENT OF TRAFFIC SIGNALS TO BE AS DIRECTED BY THE ENGINEER

NOTE: PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES

_ SIGNALS _	
OPENINGS:	46
CYCLIC WATTS:	604
STEADY WATTS:	15

SIGNAL HEADS



3 WORKING DAYS BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
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- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -

DLZ

REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

E. MEDICAL CENTER DRIVE TRAFFIC SIGNAL PLANS FULLER ED AT E. MED. CENTER RD STAGE 3

SCALE 1"=20'

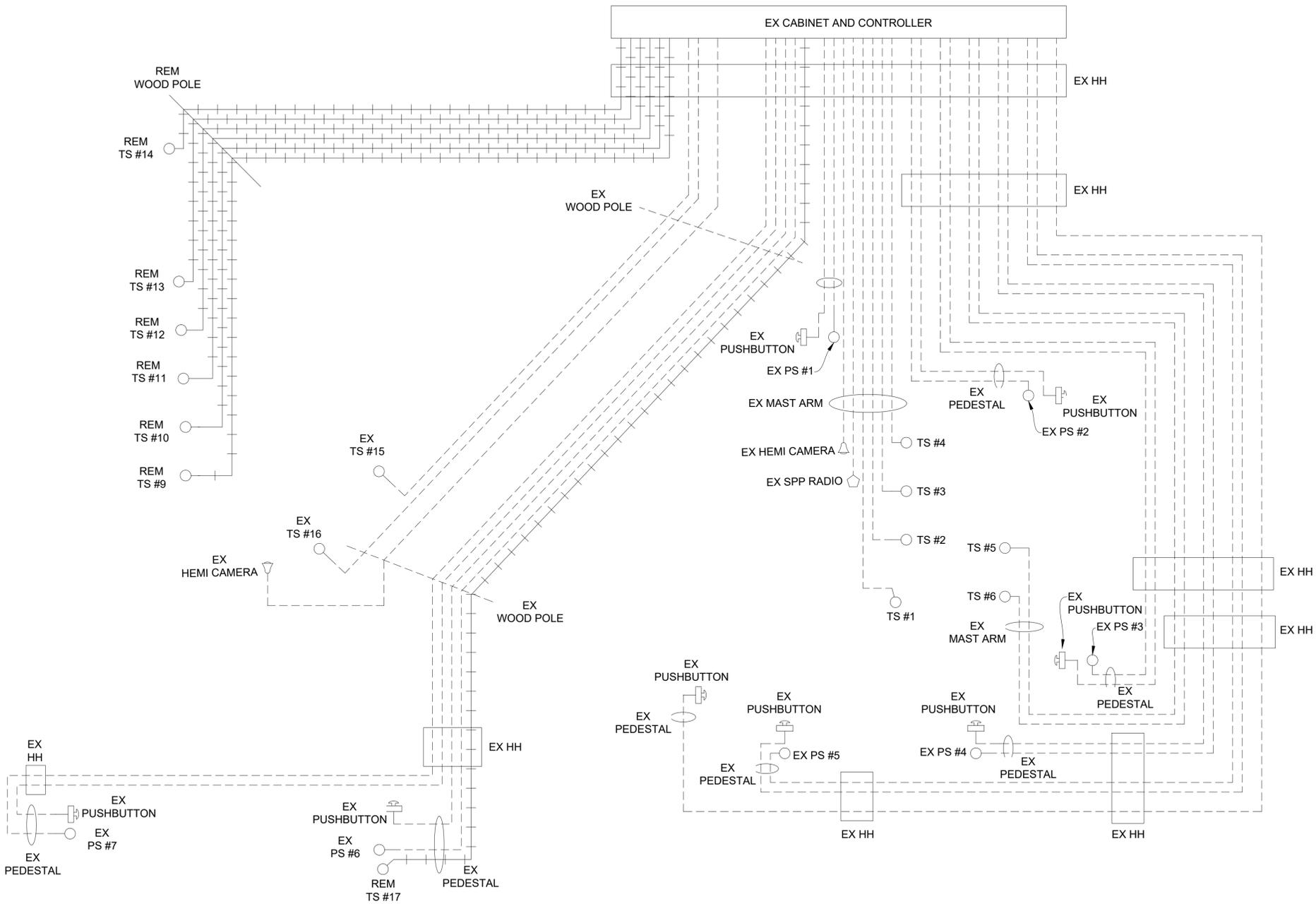
DRAWING NO. 2022-008-MOT42

SHEET NO. 46 OF 153

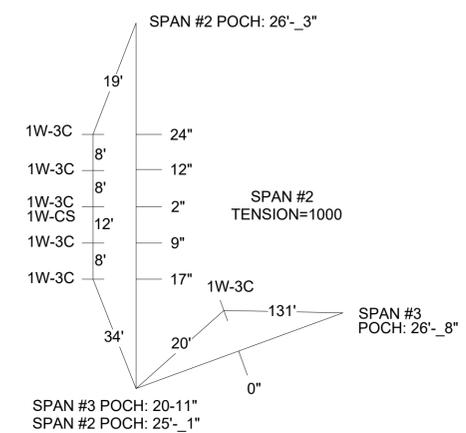
APPROVED BY: _____

**CABLES TO BE USED
UNLESS SPECIFIED OTHERWISE**

1. TRAFFIC SIGNAL CABLES ARE 5/C#16 PJ.
2. 24" X 30" L.E.D. CASE SIGNS ARE 4/C#16 PJ.
3. PEDESTRIAN SIGNALS CABLES ARE 7/C#16 PJ.
4. PUSHBUTTON CABLES ARE 2/C#16 SHIELDED PJ.



**SPAN CALCULATIONS
NOT TO SCALE**



SHOWN STEMS LENGTH ARE SUGGESTED ONLY

STAGE 3 REMOVAL CABLE DIAGRAM

NOTE:
PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES

_ SIGNALS _
OPENINGS: 49
CYCLIC WATTS: 647
STEADY WATTS: 45

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
CONTOUR	UTILITY POLE & GUY	GAS LINE	LEFT EDGE/RD. GRADE	STORM SEWER & CAT. BAS.	SEE ABOVE
STORM SEWER & CAT. BAS.	FIRE HYDRANT ASSEMBLY	CABLE T.V.	RIGHT EDGE/RD. GRADE	WATER MAIN W/F.H. ASSEM.	BENCH MARK
WATER MAIN & VALVE-IN-WELL	LIGHT POLE	ELECTRIC	CURB & GUTTER	CONTOUR	SURVEY BOOK
WATER MAIN & VALVE-IN-BOX	END SECTION	SIGN	EDGE/GRAVEL	ROAD & GRADE	REV. NO.



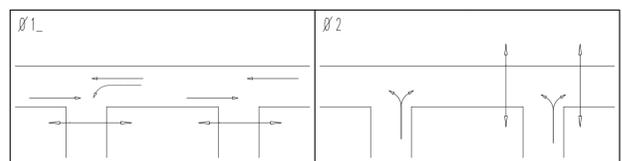
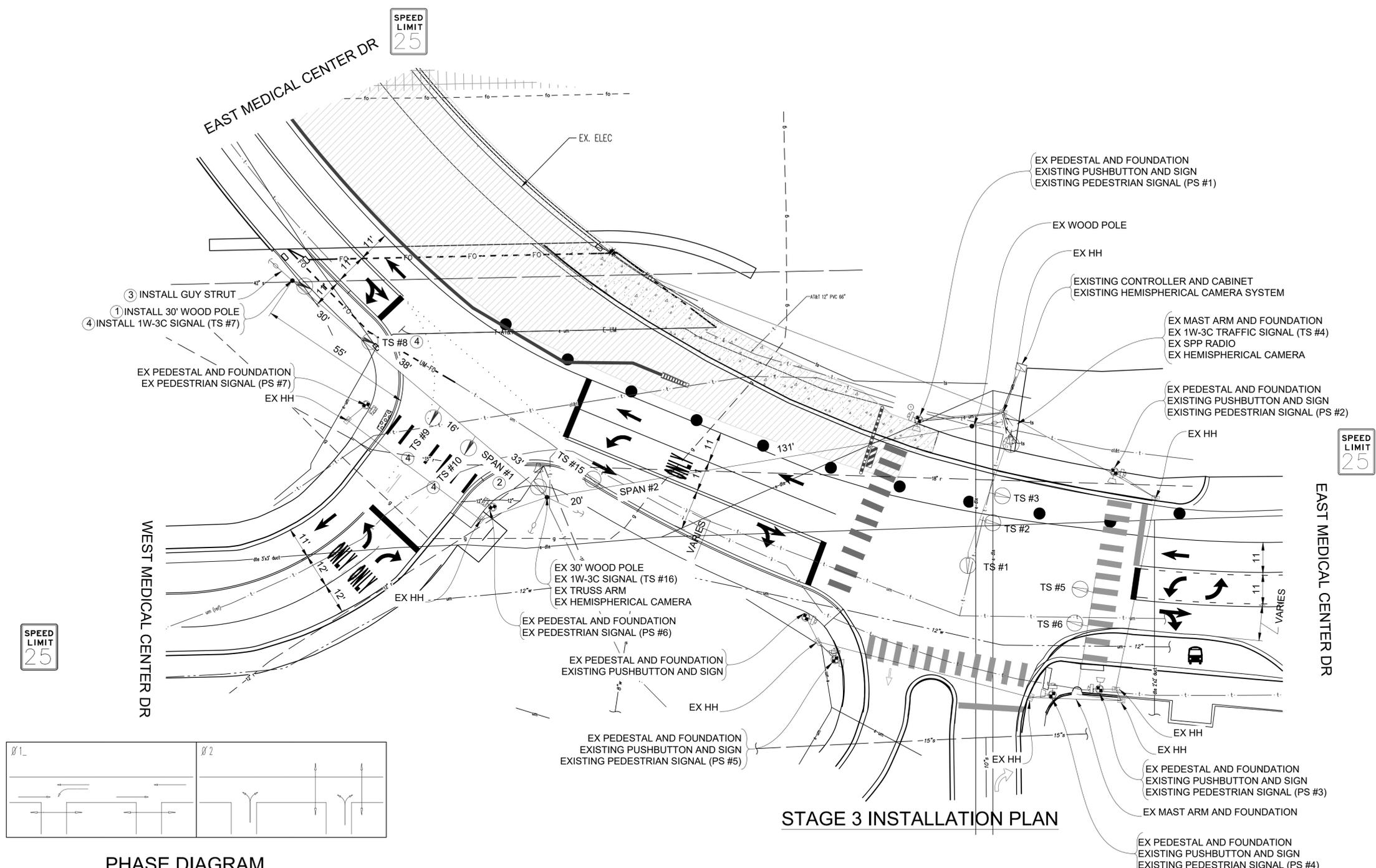
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

**E. MEDICAL CENTER DRIVE
TRAFFIC SIGNAL PLANS
FULLER ED AT E. MED. CENTER RD
STAGE 3**

SCALE NTS	0	INCH	1
DRAWING NO.	2021-008-MOT43		
SHEET NO.	47	OF	153

REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10/12/22	INB	LCM

APPROVED BY:



PHASE DIAGRAM

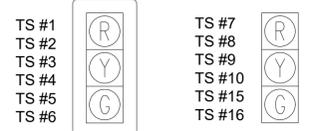
STAGE 3 INSTALLATION PLAN

LIST OF MATERIAL		
NO.	ITEM	QUANTITIES
①	Wood Pole, C14, 30 foot	1 Ea_
②	Span Wire	1 Ea_
③	Strut Guy	1 Ea_
④	TS Head, Temp	4 Ea_

NOTE:
PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES

_ SIGNALS _	
OPENINGS:	49
CYCLIC WATTS:	647
STEADY WATTS:	45

SIGNAL HEADS



3 WORKING DAYS!
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
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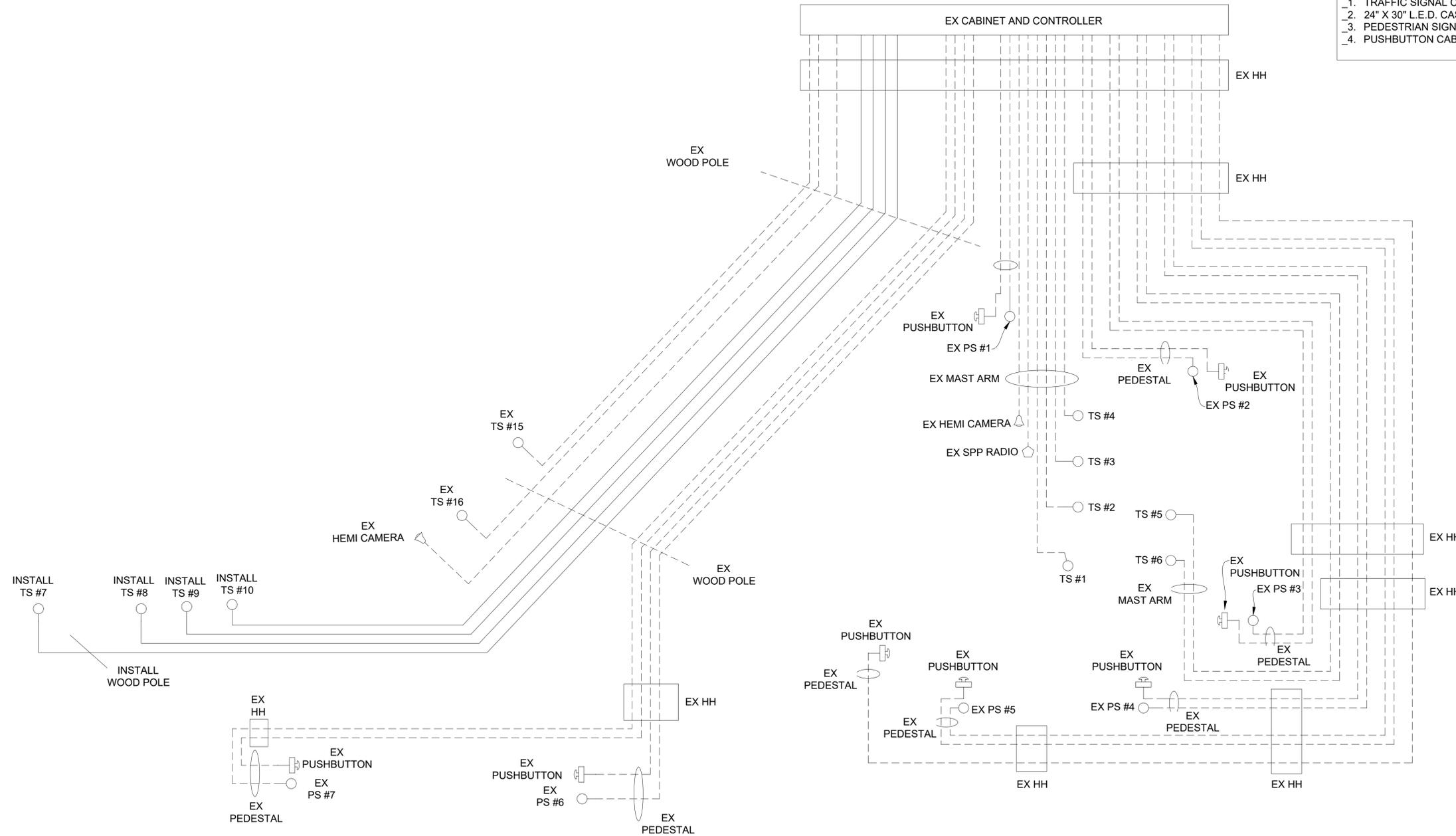
CONTRACTOR TO UTILIZE WORK ZONES AND MOT TYPICAL 163-INT-LD-OUT FOR INSTALLATION OF TRAFFIC SIGNAL S PRIOR TO STAGE 3

DLZ	
SEE ABOVE	
BENCH MARK	
SURVEY BOOK	
REV. NO.	
DESCRIPTION	
DATE	
DR. BY	
CH. BY	

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR			
E. MEDICAL CENTER DRIVE TRAFFIC SIGNAL PLANS FULLER ED AT E. MED. CENTER RD STAGE 3			
SCALE	1"=20'	INCH	
DRAWING NO.	2022-008-MOT44		
SHEET NO.	48 OF 153		
APPROVED BY			

**CABLES TO BE USED
UNLESS SPECIFIED OTHERWISE**

1. TRAFFIC SIGNAL CABLES ARE 5/C#16 P.J.
2. 24" X 30" L.E.D. CASE SIGNS ARE 4/C#16 P.J.
3. PEDESTRIAN SIGNALS CABLES ARE 7/C#16 P.J.
4. PUSHBUTTON CABLES ARE 2/C#16 SHIELDED P.J.

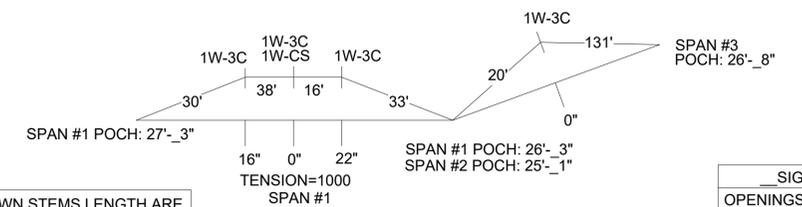


STAGE 3 INSTALLATION CABLE DIAGRAM

NOTE:
PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS
AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN.
CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE
ORDERING ANY MATERIAL OR MAKING ANY CHANGES

SHOWN STEMS LENGTH ARE
SUGGESTED ONLY

**SPAN CALCULATIONS
NOT TO SCALE**



LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
CONTOUR	UTILITY POLE & GUY	GAS LINE	LEFT EDGE/RD. GRADE	STORM SEWER & CAT. BAS.	SEE ABOVE
STORM SEWER & CAT. BAS.	FIRE HYDRANT ASSEMBLY	CABLE T.V.	RIGHT EDGE/RD. GRADE	WATER MAIN W/F.H. ASSEM.	BENCH MARK
WATER MAIN & VALVE-IN-WELL	LIGHT POLE	ELECTRIC	CURB & GUTTER	CONTOUR	SURVEY BOOK
WATER MAIN & VALVE-IN-BOX	END SECTION	SIGN	EDGE/GRAVEL	ROAD & GRADE	REV. NO.



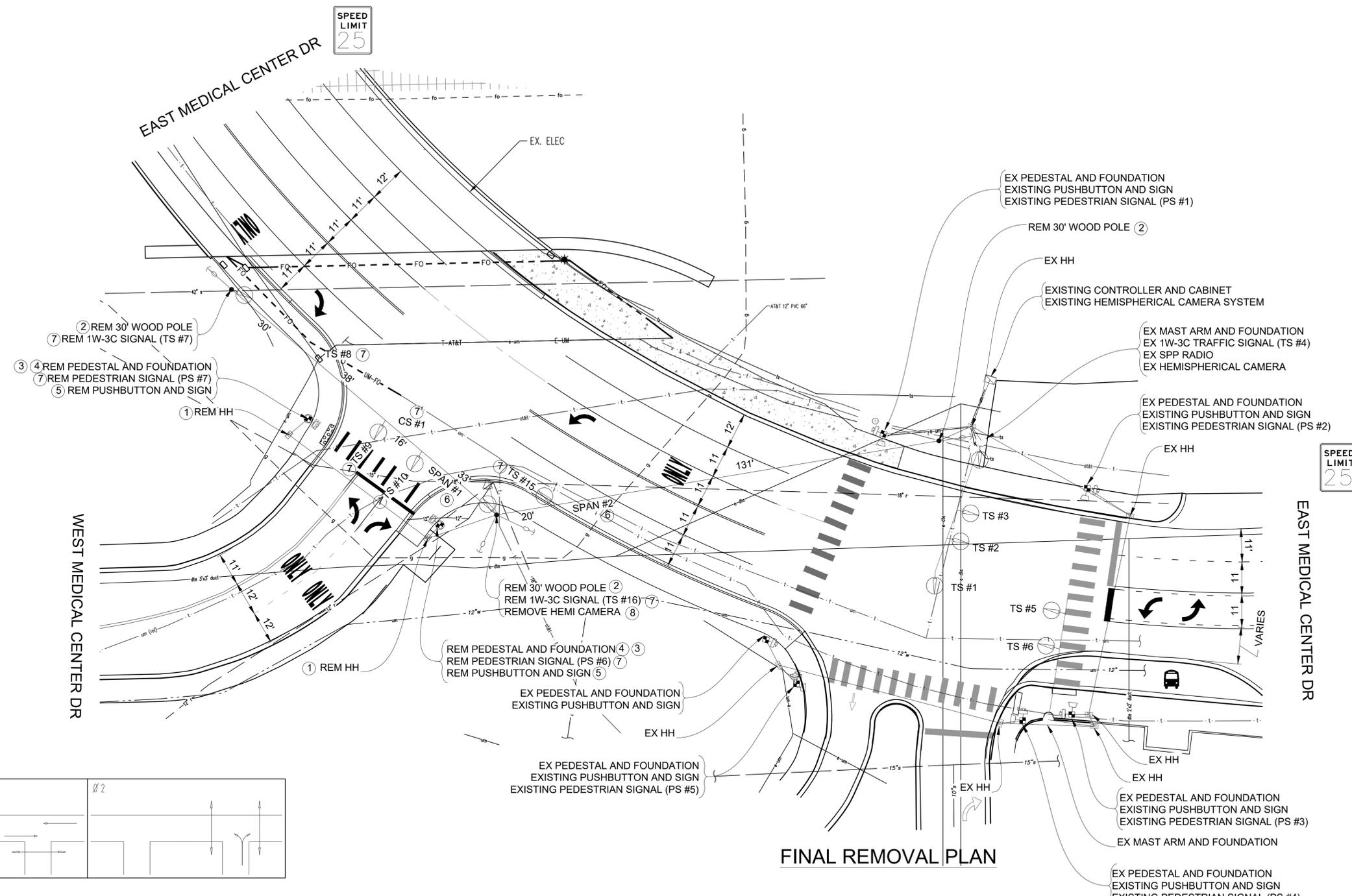
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

**E. MEDICAL CENTER DRIVE
TRAFFIC SIGNAL PLANS
FULLER ED AT E. MED. CENTER RD
STAGE 3**

SIGNALS	
OPENINGS:	49
CYCLIC WATTS:	647
STEADY WATTS:	45

SCALE	0 INCH 1
DRAWING NO.	2021-008-MOT45
SHEET NO.	49 OF 153

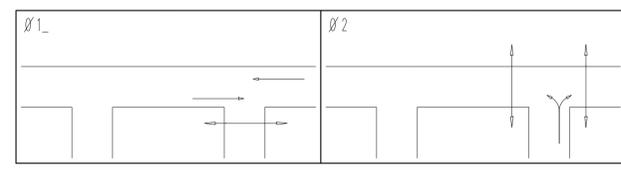
APPROVED BY: _____



FINAL REMOVAL PLAN

CONTRACTOR TO UTILIZE MOT TYPICAL 163-INT-LD-OUT FOR REMOVAL OF TRAFFIC SIGNALS AFTER COMPLETION OF STAGE 3
 TIME OF REMOVAL OR ADJUSTMENT OF TRAFFIC SIGNALS TO BE AS DIRECTED BY THE ENGINEER

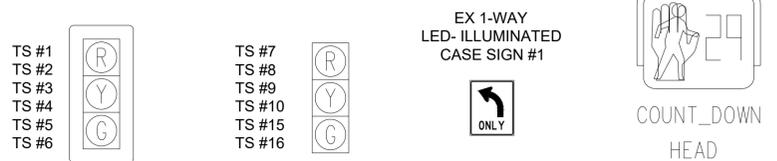
NOTE:
 PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN. CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE ORDERING ANY MATERIAL OR MAKING ANY CHANGES



PHASE DIAGRAM

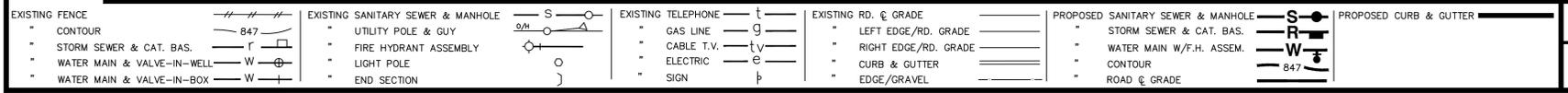
LIST OF MATERIAL		
NO.	ITEM	QUANTITIES
①	HH, Rem	2 Ea
②	Wood Pole, Rem	3 Ea
③	Pedestal Fdn, Rem	2 Ea
④	Pedestal, Rem	2 Ea
⑤	Pushbutton, Rem	2 Ea
⑥	Span Wire, Rem	2 Ea
⑦	Rem Traffic Signal (Included in "TS Head, Temp")	9 Ea
⑧	Hemispherical Video Detection Camera, Rem	1 Ea
	Conduit, Rem	80 Ft

SIGNAL HEADS



3 WORKING DAYS
BEFORE YOU DIG
 CALL MISS DIG
 800-482-7171
 (TOLL FREE)

LEGEND



PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

E. MED CENTER TRAFFIC SIGNAL PLANS FULLER RD. AT E. MED. CENTER RD FINAL REMOVAL

SCALE: 1"=20'

DRAWING NO. 2022-008-MOT46

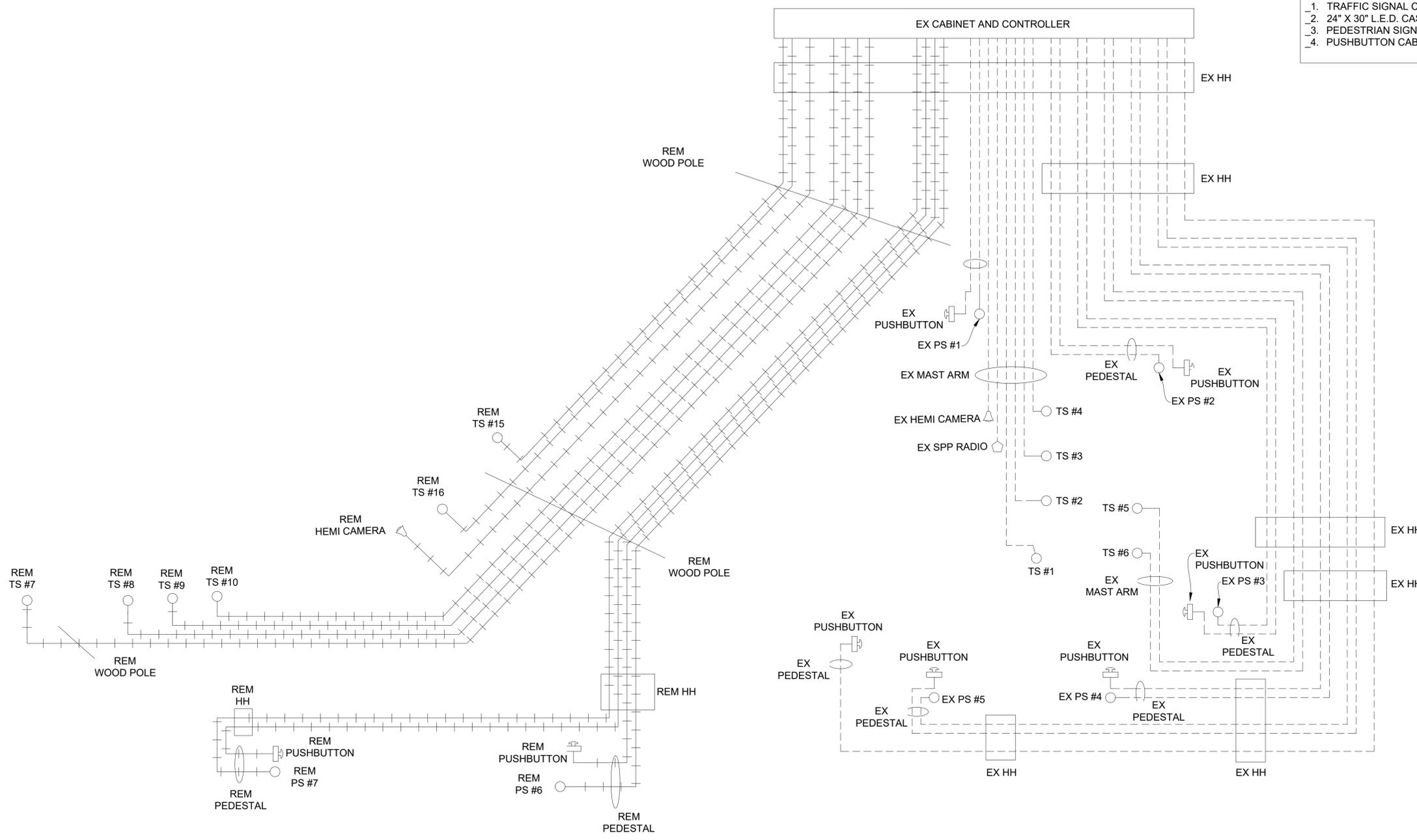
SHEET NO. 50 OF 153

APPROVED BY: _____

REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY

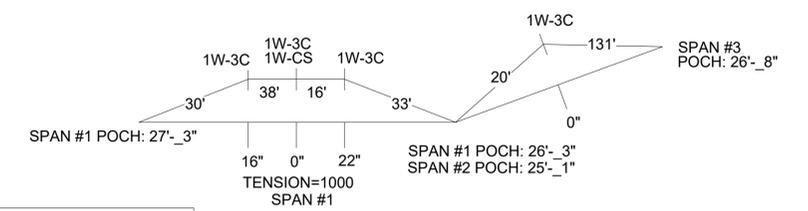
CABLES TO BE USED
UNLESS SPECIFIED OTHERWISE

1. TRAFFIC SIGNAL CABLES ARE 5/C#16 PJ.
2. 24" X 30" L.E.D. CASE SIGNS ARE 4/C#16 PJ.
3. PEDESTRIAN SIGNALS CABLES ARE 7/C#16 PJ.
4. PUSHBUTTON CABLES ARE 2/C#16 SHIELDED PJ.



FINAL REMOVAL CABLE DIAGRAM

SPAN CALCULATIONS
NOT TO SCALE



SHOWN STEMS LENGTH ARE
SUGGESTED ONLY

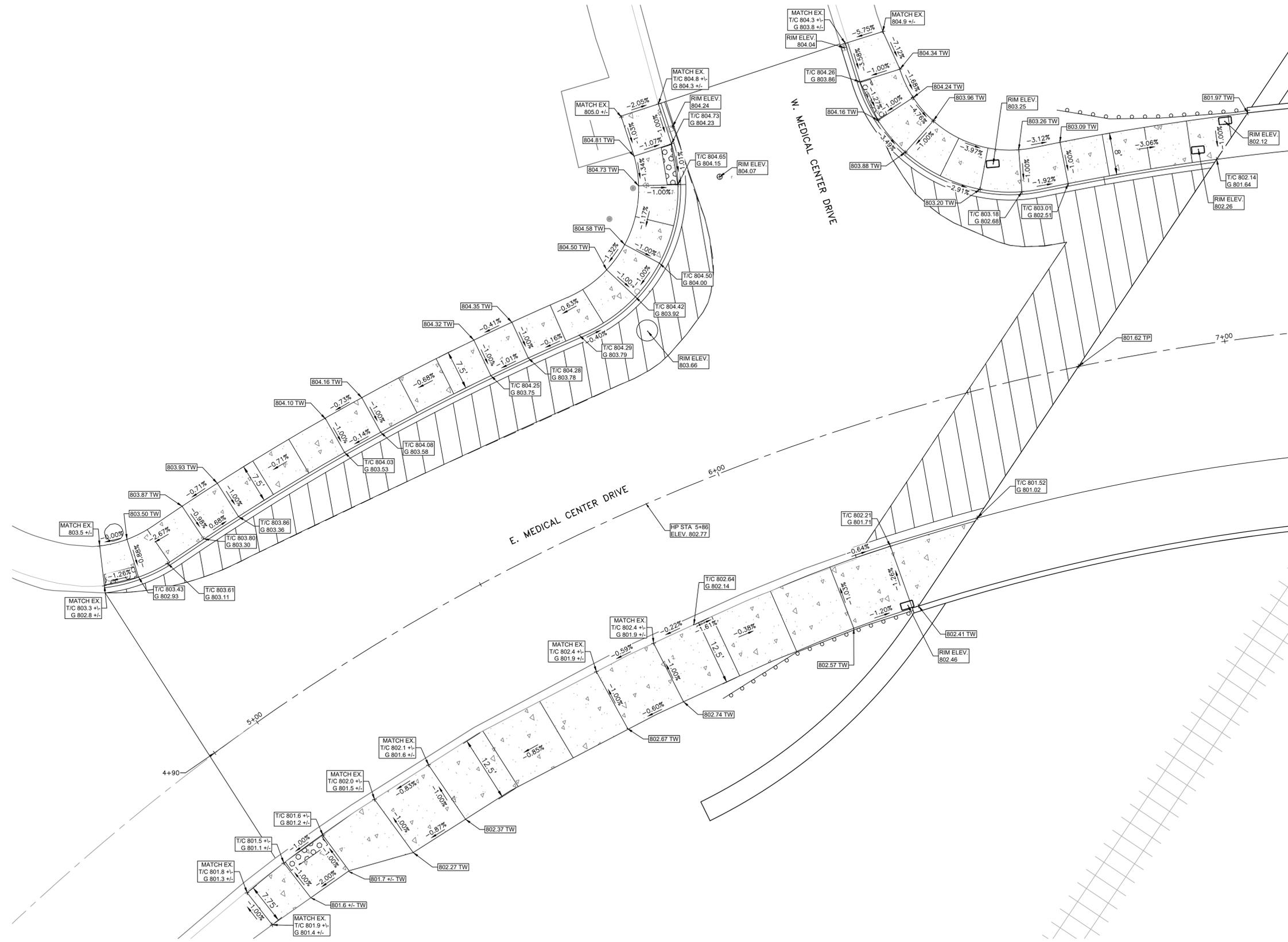
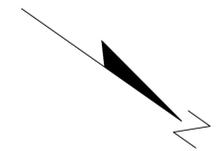
NOTE:
PLANS HAVE BEEN PREPARED WITHOUT THE AIDE OF RECORD DRAWINGS
AND ARE SOLEY BASED ON FIELD OBSERVATIONS. CONDUIT SIZE IS UNKNOWN.
CONTRACTOR TO VERIFY ANY CONDUIT AND CABLE ROUTING BEFORE
ORDERING ANY MATERIAL OR MAKING ANY CHANGES

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
CONTOUR	UTILITY POLE & GUY	GAS LINE	LEFT EDGE/RD. GRADE	STORM SEWER & CAT. BAS.	SEE ABOVE
STORM SEWER & CAT. BAS.	FIRE HYDRANT ASSEMBLY	CABLE T.V.	RIGHT EDGE/RD. GRADE	WATER MAIN W/F.H. ASSEM.	BENCH MARK
WATER MAIN & VALVE-IN-WELL	LIGHT POLE	ELECTRIC	CURB & GUTTER	CONTOUR	SURVEY BOOK
WATER MAIN & VALVE-IN-BOX	END SECTION	SIGN	EDGE/GRAVEL	ROAD & GRADE	REV. NO.

DLZ				
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10/12/22	INB	LCM

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
E. MED CENTER TRAFFIC SIGNAL PLANS FULLER RD AT E. MED. CENTER RD FINAL REMOVAL	
SCALE NTS	INCH 0 1
DRAWING NO. 2021-008-MOT47	
SHEET NO. 51 OF 153	



3 WORKING DAYS
BEFORE YOU DIG
 CALL MISS DIG
 800-482-7171
 (TOLL FREE)

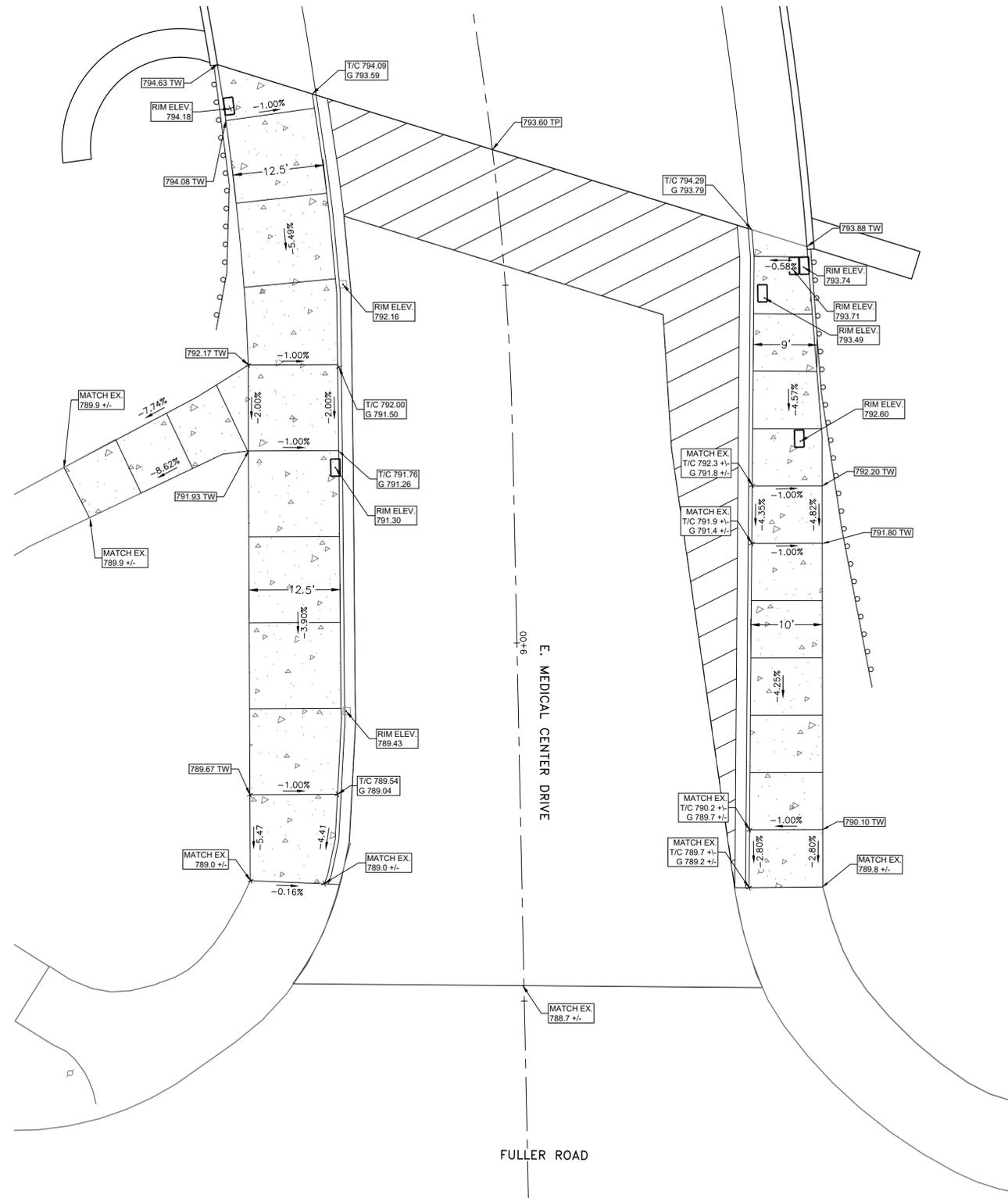
LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	PROPOSED SANITARY SEWER & MANHOLE
- CONTOUR	- UTILITY POLE & GUY	- GAS LINE	- STORM SEWER & CAT. BAS.
- STORM SEWER & CAT. BAS.	- FIRE HYDRANT ASSEMBLY	- CABLE T.V.	- WATER MAIN W/F.H. ASSEM.
- WATER MAIN & VALVE-IN-WELL	- LIGHT POLE	- ELECTRIC	- CURB & GUTTER
- WATER MAIN & VALVE-IN-BOX	- END SECTION	- SIGN	- PROPOSED CURB & GUTTER

**E. MEDICAL CENTER DRIVE
 W. MEDICAL CENTER DRIVE**
 SCALE: 1"=10'

DLZ				
SEE ABOVE				
BENCH MARK	SURVEY BOOK	ORIGINAL ISSUE	10/12/22	INB
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR				
E. MEDICAL CENTER DRIVE DETAIL GRADES				
SCALE	1"=10'	INCH	0	1
DRAWING NO.	2021-008-GD1			
SHEET NO.	52	OF	153	
APPROVED BY	LEIGH C. MERRILL P.E., MICHIGAN NO. 6201061025			



FULLER ROAD & E. MEDICAL CENTER DRIVE

SCALE: 1"=10'

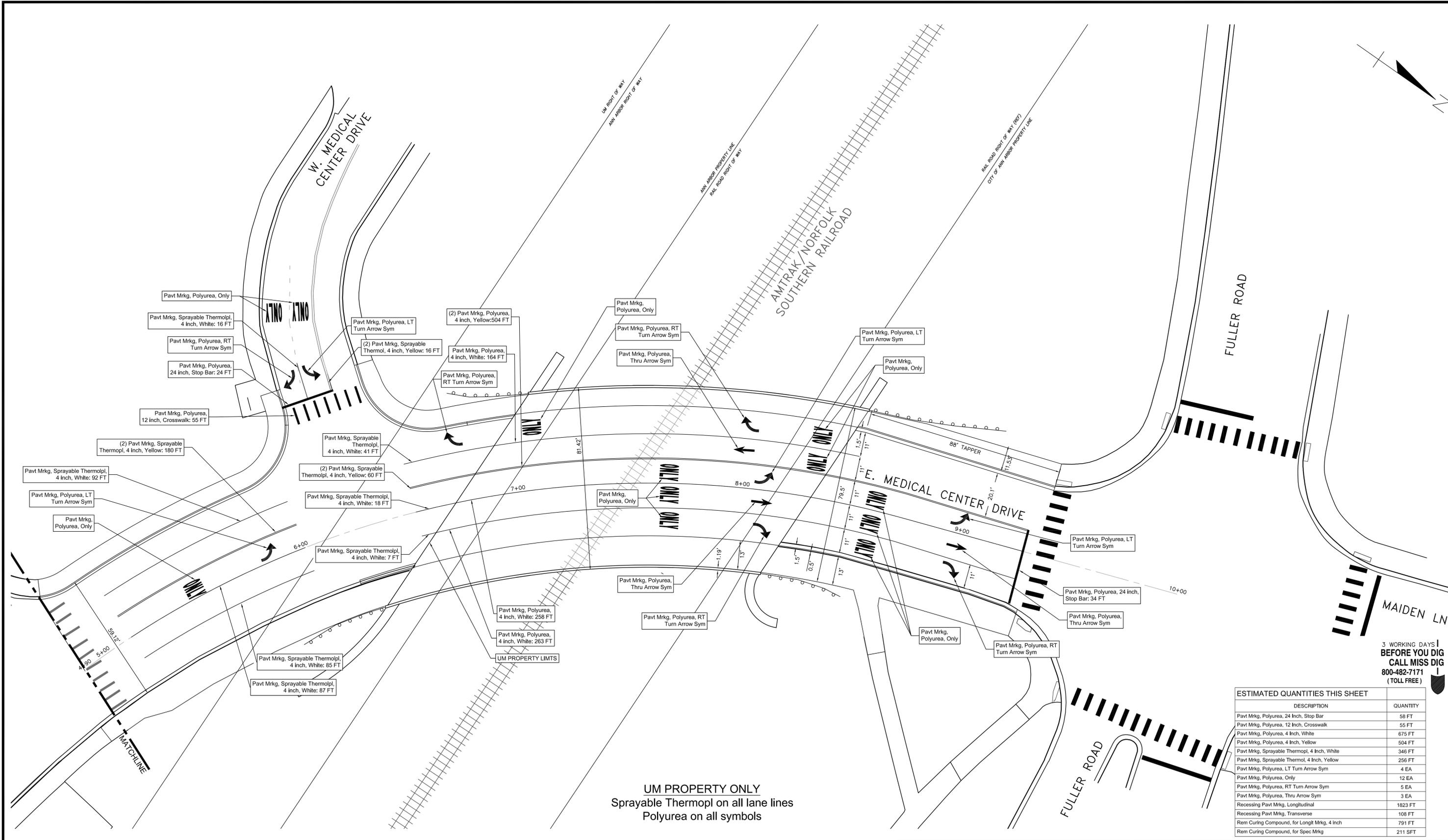
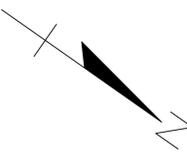
3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. @ GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
- CONTOUR	- UTILITY POLE & GUY	- GAS LINE	- LEFT EDGE/RD. GRADE	- STORM SEWER & CAT. BAS.	- SEE ABOVE
- STORM SEWER & CAT. BAS.	- FIRE HYDRANT ASSEMBLY	- CABLE T.V.	- RIGHT EDGE/RD. GRADE	- WATER MAIN W/F.H. ASSEM.	- BENCH MARK
- WATER MAIN & VALVE-IN-WELL	- LIGHT POLE	- ELECTRIC	- CURB & GUTTER	- CONTOUR	- SURVEY BOOK
- WATER MAIN & VALVE-IN-BOX	- END SECTION	- SIGN	- EDGE/GRAVEL	- ROAD @ GRADE	- REV. NO.

DLZ				

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR				
E. MEDICAL CENTER DRIVE DETAIL GRADES				
SCALE	0	INCH	1	
1"=10'				
DRAWING NO.				
2021-008-GD2				
SHEET NO.	53	OF	139	
APPROVED BY				



UM PROPERTY ONLY
 Sprayable Thermopl on all lane lines
 Polyurea on all symbols

3 WORKING DAYS
BEFORE YOU DIG
 CALL MISS DIG
 800-482-7171
 (TOLL FREE)

ESTIMATED QUANTITIES THIS SHEET	
DESCRIPTION	QUANTITY
Pavt Mrkg, Polyurea, 24 Inch, Stop Bar	58 FT
Pavt Mrkg, Polyurea, 12 Inch, Crosswalk	55 FT
Pavt Mrkg, Polyurea, 4 Inch, White	675 FT
Pavt Mrkg, Polyurea, 4 Inch, Yellow	504 FT
Pavt Mrkg, Sprayable Thermopl, 4 Inch, White	346 FT
Pavt Mrkg, Sprayable Thermopl, 4 Inch, Yellow	256 FT
Pavt Mrkg, Polyurea, LT Turn Arrow Sym	4 EA
Pavt Mrkg, Polyurea, Only	12 EA
Pavt Mrkg, Polyurea, RT Turn Arrow Sym	5 EA
Pavt Mrkg, Polyurea, Thru Arrow Sym	3 EA
Recessing Pavt Mrkg, Longitudinal	1823 FT
Recessing Pavt Mrkg, Transverse	108 FT
Rem Curing Compound, for Longt Mrkg, 4 inch	791 FT
Rem Curing Compound, for Spec Mrkg	211 SFT

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
CONTOUR	UTILITY POLE & GUY	GAS LINE	LEFT EDGE/RD. GRADE	STORM SEWER & CAT. BAS.	SEE ABOVE
STORM SEWER & CAT. BAS.	FIRE HYDRANT ASSEMBLY	CABLE T.V.	RIGHT EDGE/RD. GRADE	WATER MAIN W/F.H. ASSEM.	BENCH MARK
WATER MAIN & VALVE-IN-WELL	LIGHT POLE	ELECTRIC	CURB & GUTTER	CONTOUR	SURVEY BOOK
WATER MAIN & VALVE-IN-BOX	END SECTION	SIGN	EDGE/GRAVEL	ROAD & GRADE	REV. NO.

DLZ					
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY	APPROVED BY

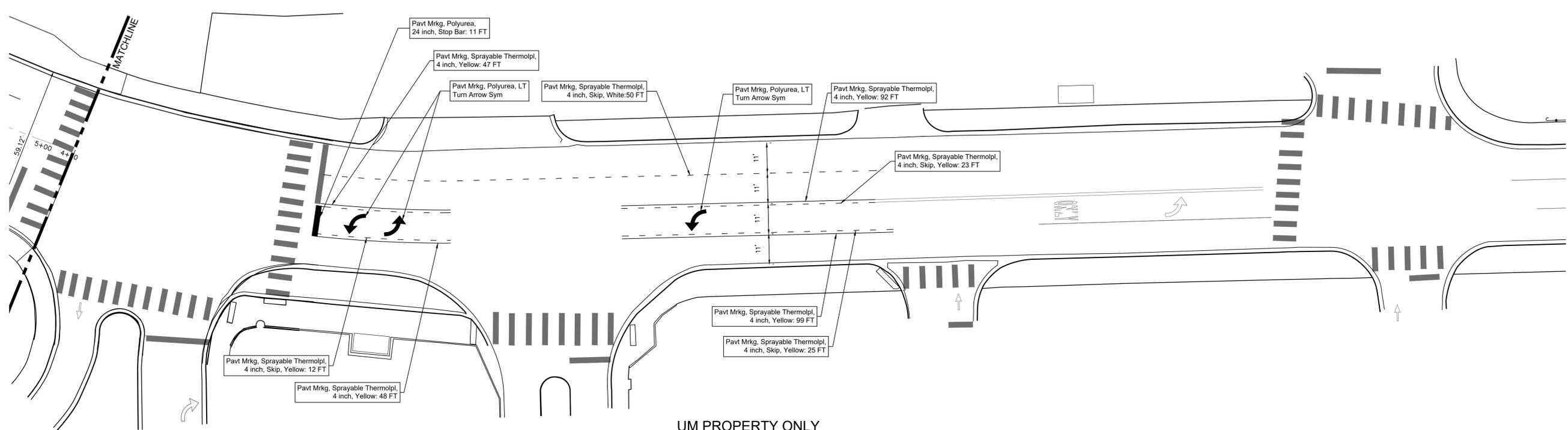
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

**E. MEDICAL CENTER DRIVE
 PERMANENT PAVEMENT
 PAVEMENT MARKING PLAN**

SCALE: 1"=20'

DRAWING NO. **2021-008-PM1**

SHEET NO. **55** OF **153**



UM PROPERTY ONLY
 Sprayable Thermopl on all lane lines
 Polyurea on all symbols

3 WORKING DAYS
 BEFORE YOU DIG
 CALL MISS DIG
 800-482-7171
 (TOLL FREE)

ESTIMATED QUANTITIES THIS SHEET	
DESCRIPTION	QUANTITY
Pavt Mrkg, Polyurea, 24 Inch, Stop Bar	11 FT
Pavt Mrkg, Sprayable Thermopl, 4 Inch, White	50 FT
Pavt Mrkg, Sprayable Thermopl, 4 Inch, Yellow	346 FT
Pavt Mrkg, Polyurea, LT Turn Arrow Sym	3 EA
Recessing Pavt Mrkg, Longitudinal	396 FT
Recessing Pavt Mrkg, Transverse	11 FT

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. @ GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
CONTOUR	UTILITY POLE & GUY	GAS LINE	LEFT EDGE/RD. GRADE	STORM SEWER & CAT. BAS.	SEE ABOVE
STORM SEWER & CAT. BAS.	FIRE HYDRANT ASSEMBLY	CABLE T.V.	RIGHT EDGE/RD. GRADE	WATER MAIN W/F.H. ASSEM.	BENCH MARK
WATER MAIN & VALVE-IN-WELL	LIGHT POLE	ELECTRIC	CURB & GUTTER	CONTOUR	SURVEY BOOK
WATER MAIN & VALVE-IN-BOX	END SECTION	SIGN	EDGE/GRAVEL	ROAD @ GRADE	REV. NO.

EXISTING TELEPHONE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
t	S	R
g	W	847
v	847	
e		
β		

EXISTING RD. @ GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
—	S	R
—	W	847
—	847	
—		
—		

EXISTING RD. @ GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
—	S	R
—	W	847
—	847	
—		
—		

REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY



PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

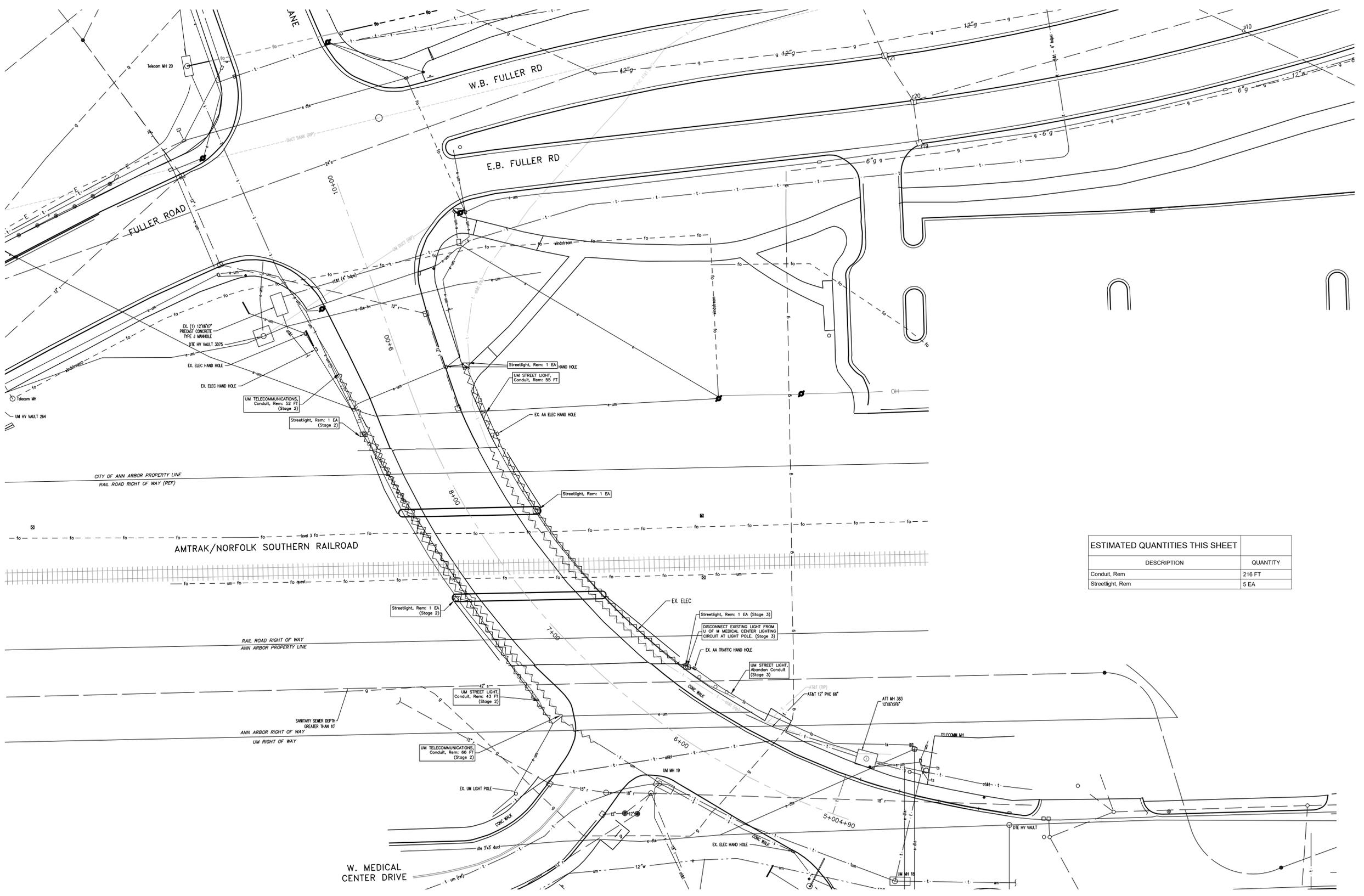
**E. MEDICAL CENTER DRIVE
 PERMANENT PAVEMENT
 PAVEMENT MARKING PLAN**

SCALE: 1"=20' INCH

DRAWING NO. **2021-008-PM2**

SHEET NO. 56 OF 139

APPROVED BY: LEIGH C. MERRILL P.E., MICHIGAN NO. 6201061025



ESTIMATED QUANTITIES THIS SHEET	
DESCRIPTION	QUANTITY
Conduit, Rem	216 FT
Streetlight, Rem	5 EA

3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

LEGEND

EXISTING FENCE	---|---|---|---|	EXISTING SANITARY SEWER & MANHOLE	S --- O	EXISTING TELEPHONE	t ---	EXISTING RD. & GRADE	=====	PROPOSED SANITARY SEWER & MANHOLE	S --- O	PROPOSED CURB & GUTTER	=====
CONTOUR	- - - - -	UTILITY POLE & GUY	U --- G	GAS LINE	g ---	LEFT EDGE/RD. GRADE	=====	STORM SEWER & CAT. BAS.	S ---	REMOVE ITEM	=====
STORM SEWER & CAT. BAS.	- - - - -	FIRE HYDRANT ASSEMBLY	F ---	CABLE T.V.	t ---	RIGHT EDGE/RD. GRADE	=====	WATER MAIN W/F.H. ASSEM.	W ---		
WATER MAIN & VALVE-IN-WELL	W ---	LIGHT POLE	L ---	ELECTRIC	e ---	CURB & GUTTER	=====	CONTOUR	- - - - -		
WATER MAIN & VALVE-IN-BOX	W ---	END SECTION	)} ---	SIGN	⊥ ---	EDGE/GRAVEL	=====	ROAD & GRADE	=====		

DLZ

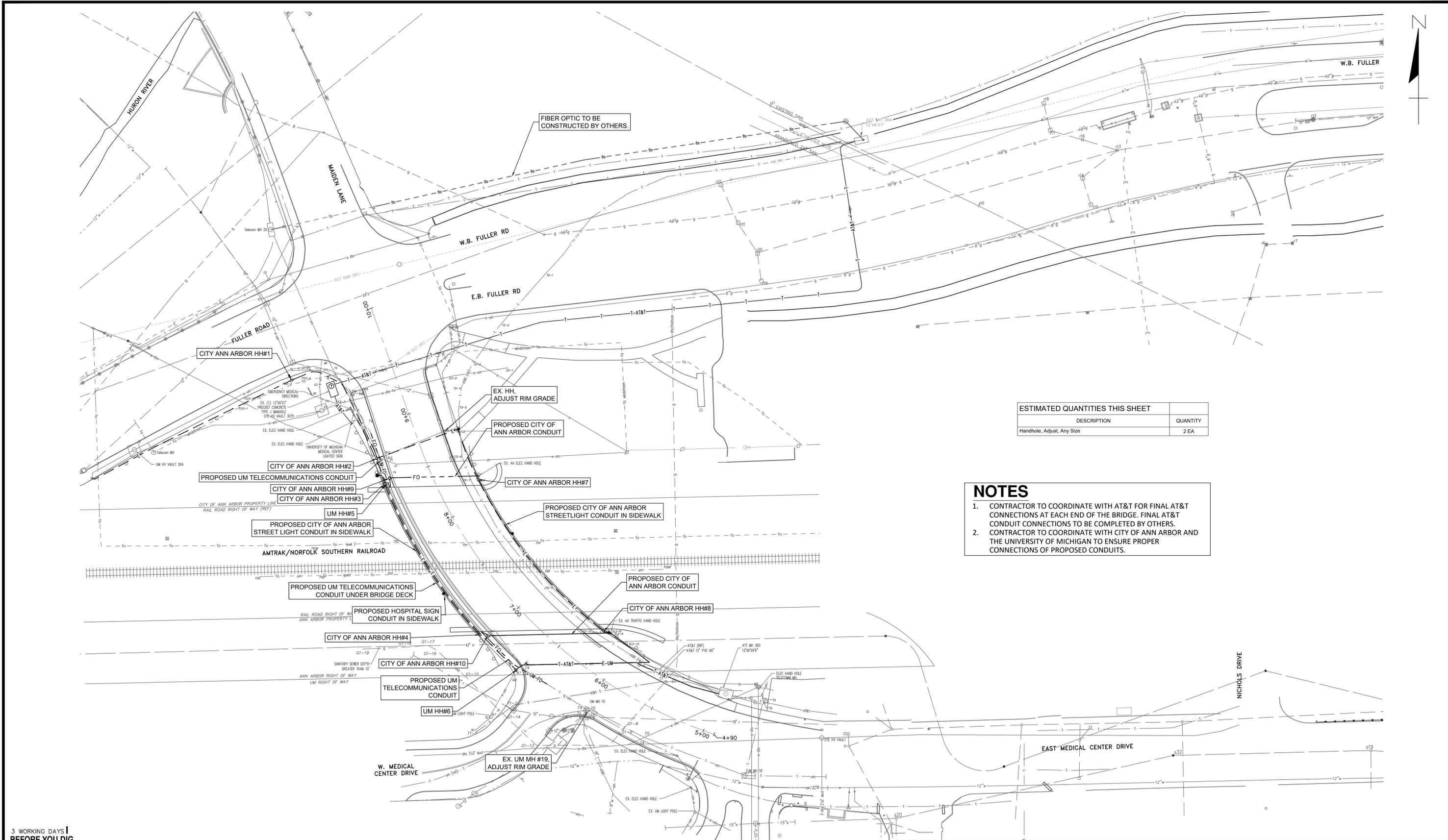
SEE ABOVE				
BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

**E. MEDICAL CENTER DRIVE
UTILITY REMOVAL PLAN**

SCALE	1"=30'	INCH	0 1
DRAWING NO.	2021-008-UT1		
SHEET NO.	57	OF	153

APPROVED BY: _____



FIBER OPTIC TO BE CONSTRUCTED BY OTHERS.

ESTIMATED QUANTITIES THIS SHEET	
DESCRIPTION	QUANTITY
Handhole, Adjust, Any Size	2 EA

NOTES

1. CONTRACTOR TO COORDINATE WITH AT&T FOR FINAL AT&T CONNECTIONS AT EACH END OF THE BRIDGE. FINAL AT&T CONDUIT CONNECTIONS TO BE COMPLETED BY OTHERS.
2. CONTRACTOR TO COORDINATE WITH CITY OF ANN ARBOR AND THE UNIVERSITY OF MICHIGAN TO ENSURE PROPER CONNECTIONS OF PROPOSED CONDUITS.

3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
- - - - -	S	t	—	S	—
CONTOUR	UTILITY POLE & GUY	G	LEFT EDGE/RD. GRADE	STORM SEWER & CAT. BAS.	STREET LIGHT CONDUIT
—	—	—	—	—	—
STORM SEWER & CAT. BAS.	FIRE HYDRANT ASSEMBLY	C	RIGHT EDGE/RD. GRADE	WATER MAIN W/F.H. ASSEM.	TELECOM. CONDUIT
—	—	—	—	—	—
WATER MAIN & VALVE-IN-WELL	LIGHT POLE	E	CURB & GUTTER	CONTOUR	LIGHT POLE
—	—	—	—	—	—
WATER MAIN & VALVE-IN-BOX	END SECTION	—	EDGE/GRAVEL	ROAD & GRADE	HANDHOLE
—	—	—	—	—	—



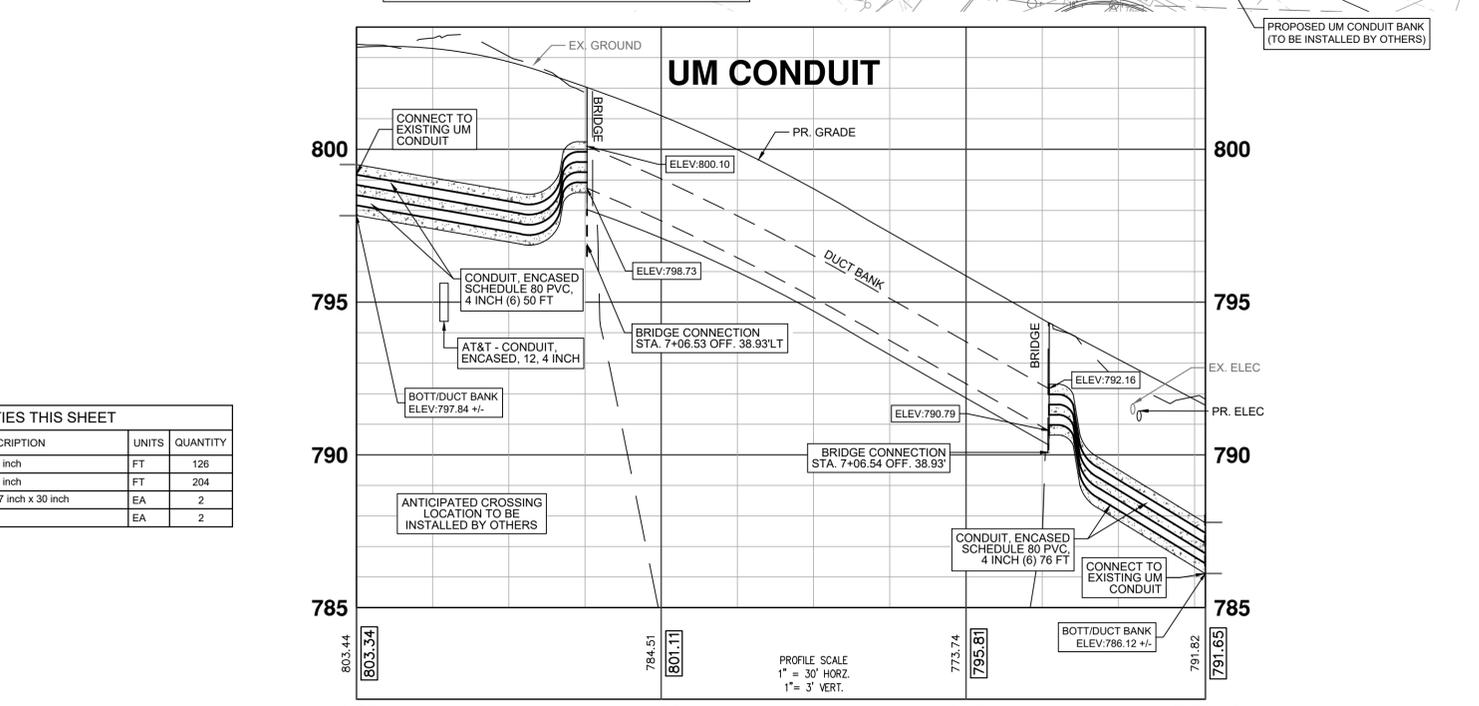
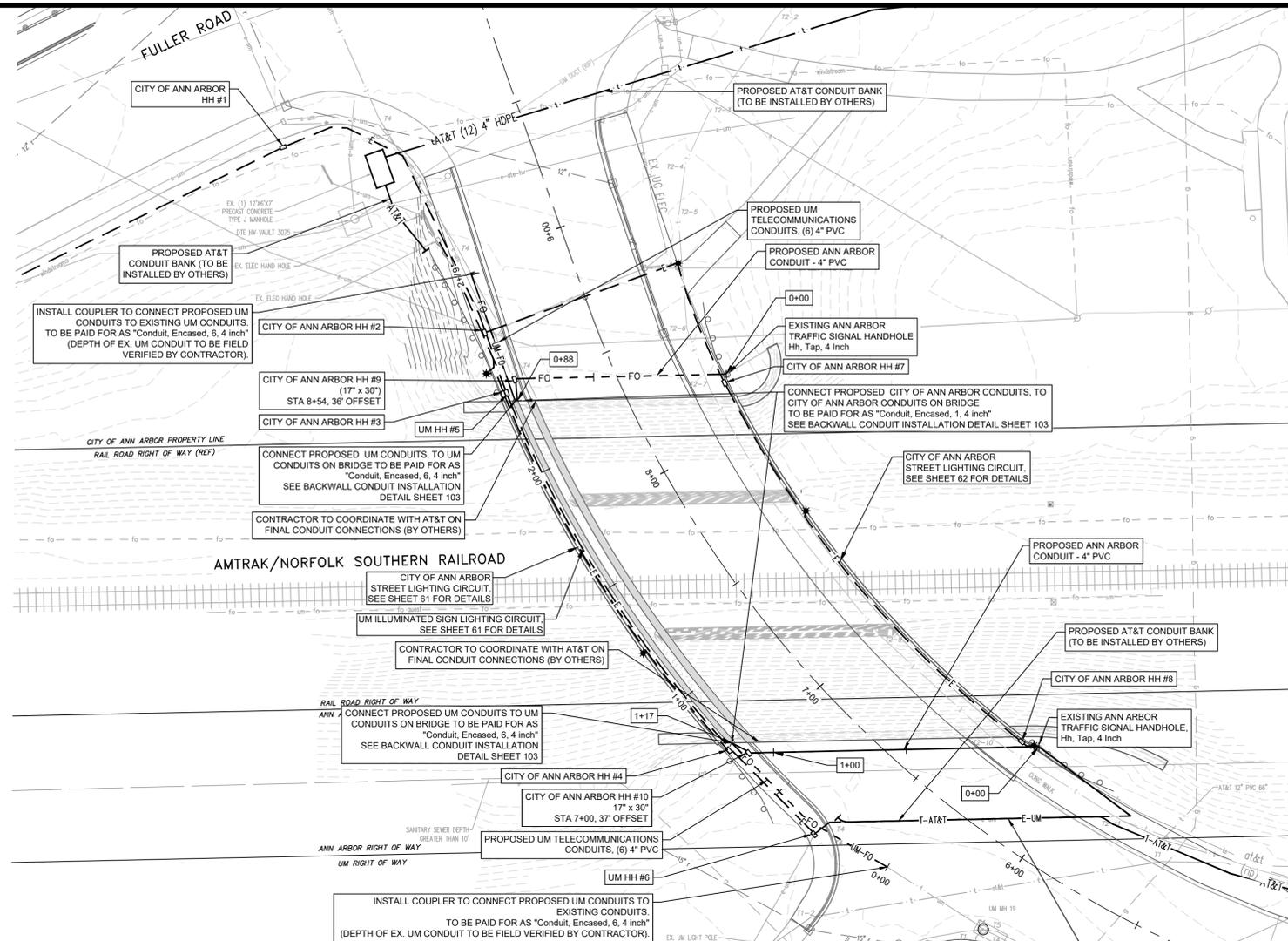
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

**E. MEDICAL CENTER DRIVE
OVERALL UTILITY PLAN**

SCALE	1"=40'
DRAWING NO.	2021-008-UT2
SHEET NO.	58 OF 153

SEE ABOVE	BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
				ORIGINAL ISSUE	10/12/22	INB	LCM

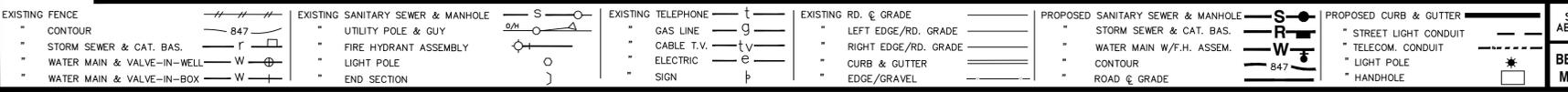
APPROVED BY _____



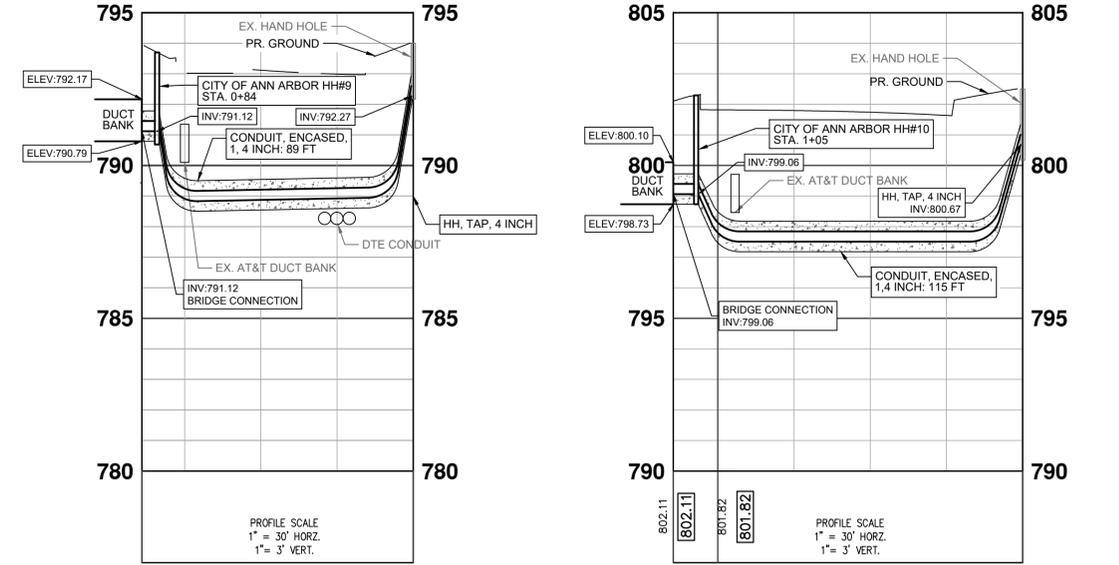
PAY ITEM	DESCRIPTION	UNITS	QUANTITY
8182021	Conduit, Encased, 6, 4 inch	FT	126
8182016	Conduit, Encased, 1, 4 inch	FT	204
8187050	Handhole Assembly, 17 inch x 30 inch	EA	2
8187050	Hh, Tap, 4 inch	EA	2

3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

LEGEND



ANN ARBOR CONDUIT (NORTH) ANN ARBOR CONDUIT (SOUTH)



NOTES

- UM TELECOMMUNICATIONS DUCT BANK SHALL CONSIST OF SIX 4" I.D. SCH. 80 PVC CONDUITS, CONCRETE ENCASED. A 3" THICK MINIMUM CONCRETE COVER SHALL PROTECT DUCTS OVER THE ENTIRE LENGTH AND WIDTH OF THE DUCT BANK. FIBER AND INSTALLATION OF FIBER BY OWNER.
- CITY OF ANN ARBOR TELECOMMUNICATIONS DUCT BANK SHALL CONSIST OF ONE 4" SCH. 80 PVC CONDUIT, CONCRETE ENCASED. A 3" THICK MINIMUM CONCRETE COVER SHALL PROTECT DUCTS OVER THE ENTIRE LENGTH AND WIDTH OF THE CONDUIT. FIBER AND INSTALLATION OF FIBER BY OWNER.
- CONTACT CITY OF ANN ARBOR REPRESENTATIVE MARC MARENO (734)794-6350 PRIOR TO ACCESSING CITY OF ANN ARBOR HANDHOLES. CONTACT UM-ITS REPRESENTATIVE KEVIN MCLAUGHLIN, PE, RCDD (734) 615-5699 PRIOR TO ACCESSING UM HANDHOLES. CITY OF ANN ARBOR AND/OR UM REPRESENTATIVE TO BE ON-SITE WHEN ACCESSING HANDHOLES.
- CONTACT UM-ITS REPRESENTATIVE KEVIN MCLAUGHLIN, PE, RCDD (734) 615-5699 FOR INSPECTIONS AND ACCEPTANCE OF DUCT BANK CONSTRUCTION. THE CITY OF ANN ARBOR WILL INSPECT RESTORATION OF DISTURBANCES WITHIN THE PUBLIC RIGHT OF WAY.
- 17 INCH X 30 INCH HANDHOLE ASSEMBLIES SHALL CONSIST OF TWO, STACKED "QUAZITE" BOXES. THE COVER SHALL BE A LOCKING HEAVY-DUTY BOLT-DOWN TYPE WITH A LOGO THAT READS "TRAFFIC SIGNAL" OR "STREET LIGHTING", BASED ON THEIR INTENDED USE. THE TOTAL DEPTH OF THE HANDHOLE SHALL BE 18 INCHES.
- DUCT BANKS SHALL BE SUPPORTED ON UNDISTURBED SOIL OR ON PIERS EXTENDING DOWN TO UNDISTURBED SOIL.
- CHANGES IN DUCT BANK DIRECTION SHALL BE MADE WITH 10' MINIMUM RADIUS WITH MANUFACTURED SWEEPS.
- DUCT BANKS SHALL BE SLOPED DOWNWARD TOWARD MANHOLES AND AWAY FROM BUILDINGS A MINIMUM OF 6" PER 100'. DUCT BANKS SHALL NOT CONTAIN TRAPS WHERE WATER MAY ACCUMULATE.
- PULL A SOLID MANDREL AND A STIFF BRISTLED BRUSH THROUGH EACH DUCT TO CLEAN THEM AND INSURE THE ABSENCE OF KINKS AND FLAT SPOTS. A MINIMUM 3-1/4" DIAMETER BY 5' MINIMUM LONG MANDREL SHALL BE USED FOR 4" CONDUIT. THE MANDREL PULL SHALL BE WITNESSED BY THE OWNER'S REPRESENTATIVE. WHEN MANDREL PULLS DETECT CRUSHED, FLATTENED, KINKED, OR OBSTRUCTED DUCTS OR CONDUITS, ADDITIONAL DUCTS OR CONDUITS SHALL BE PROVIDED. TO BE PAID FOR IN "Conduit, Encased, 6, 4 inch" AND "Conduit, Encased, 1, 4 inch".
- DUCT BANKS SHALL BE MARKED WITH A 6" WIDE RED PLASTIC MARKER STRIP PLACED IN THE BACKFILL APPROXIMATELY 12" ABOVE THE ENTIRE LENGTH OF THE DUCT BANK. TO BE PAID FOR IN "Conduit, Encased, 6, 4 inch" AND "Conduit, Encased, 1, 4 inch".
- CONDUIT EXPANSION COUPLINGS SHALL BE INSTALLED ON ALL CONDUITS AT EACH END OF THE BRIDGE.
- COPPERHEAD™ COPPER COATED STEEL LOCATING WIRE, (#12 CCS EXTRA HIGH STRENGTH HARD DRAWN 1150# (SOLOSHOT)), OR EQUIVALENT, SHALL BE PLACED OUTSIDE THE DUCT AND INSTALLED WHEN DUCT PULLBACK/ PLACEMENT IS PERFORMED. TRACER WIRE IS NOT TO BE PLACED INSIDE THE DUCT. WHERE MULTIPLE DUCTS ARE PLACED, ONLY 1 TRACER WIRE SHALL BE REQUIRED PER PACKAGE. A MINIMUM OF 60" OF TRACER WIRE SHALL EXTEND FROM THE ENDPOINT OF THE DUCT AND BE NEATLY COILED AT THE DUCT PATHWAY TERMINATION ENDPOINT. TO BE PAID FOR IN "Conduit, Encased, 6, 4 inch" AND "Conduit, Encased, 1, 4 inch".
- #1250 LB. MULE TAPE WITH FOOTAGE MARKINGS OR EQUIVALENT SHALL BE PLACED IN ALL NEW DUCT. A MINIMUM OF 60" OF MULE TAPE SHALL EXTEND FROM THE ENDS OF THE DUCT, COILED AND SECURED TO THE END OF THE DUCT WITH TAPE OR SOME OTHER MEANS. TO BE PAID FOR IN "Conduit, Encased, 6, 4 inch" AND "Conduit, Encased, 1, 4 inch".
- OPEN DUCTS IN MAN HOLES SHALL BE PLUGGED WITH REMOVABLE PLUGS AFTER MANDREL PROOFING TO PREVENT DIRT AND MOISTURE FROM ENTERING THE DUCTS. TO BE PAID FOR IN "Conduit, Encased, 6, 4 inch" AND "Conduit, Encased, 1, 4 inch".
- CONTRACTOR TO PROVIDE SCH. 80 PVC EXPANSION JOINT EVERY 100' UNDER THE BRIDGE DECK, AS WELL AS AT EACH END OF THE BRIDGE. SEE SHEET 103 FOR DETAIL. TO BE PAID FOR IN "Conduit, Encased, 6, 4 inch" AND "Conduit, Encased, 1, 4 inch".
- SWEEP ACCESS ROADS TO ELIMINATE DEBRIS CAUSED BY EQUIPMENT AND CONSTRUCTION ACTIVITIES.

TELECOMMUNICATIONS PHASING PLAN

- PHASE 2:
- CONTRACTOR TO INSTALL CITY OF ANN ARBOR HH#9 AND HH#10.
 - CONTRACTOR TO INSTALL (1) 4" SCH. 80 PVC CONDUIT FROM HH#9 TO NORTH END OF THE BRIDGE AND FROM HH#10 TO SOUTH END OF THE BRIDGE. CONTRACTOR TO INSTALL (1) 4" SCH. 80 PVC CONDUIT FROM HH#9 TO HH#10 TO THE EAST EDGE OF PHASE 2 CONSTRUCTION. CONDUITS TO BE ENCASED IN CONCRETE PER DETAIL.
 - CONTRACTOR TO INSTALL (6) 4" I.D. SCH. 80 PVC UM CONDUITS FROM COUPLERS AT EXISTING UM CONDUITS TO END OF BRIDGE ON NORTH AND SOUTH SIDES OF THE BRIDGE. CONDUITS TO BE ENCASED IN CONCRETE PER DETAIL.
 - CONTRACTOR TO COORDINATE WITH AT&T CONTRACTOR FOR THE CONSTRUCTION OF THE AT&T CONDUIT CONNECTIONS AT EACH END OF THE BRIDGE.
- PHASE 3:
- CONTRACTOR TO INSTALL (1) 4" SCH. 80 PVC CONDUIT FROM THE EAST EDGE OF PHASE 2 CONSTRUCTION TO THE EXISTING CITY OF ANN ARBOR TRAFFIC SIGNAL HANDHOLES NORTH AND SOUTH OF THE BRIDGE.



PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

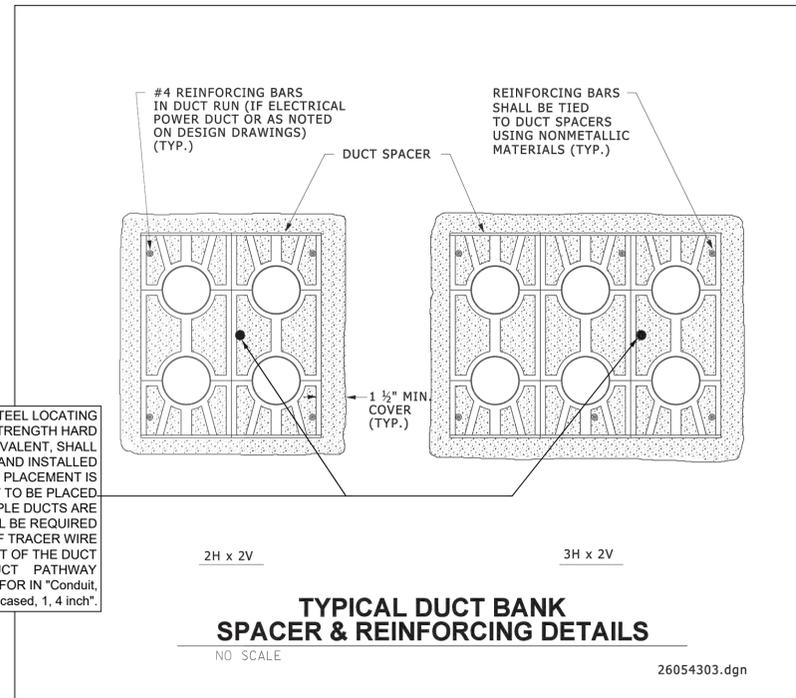
E. MEDICAL CENTER DRIVE
TELECOMMUNICATIONS CONDUIT PLAN



DRAWING NO.
2021-008-UT4
SHEET NO. **60** OF **153**

REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10/12/22	INB	LCM

APPROVED BY _____

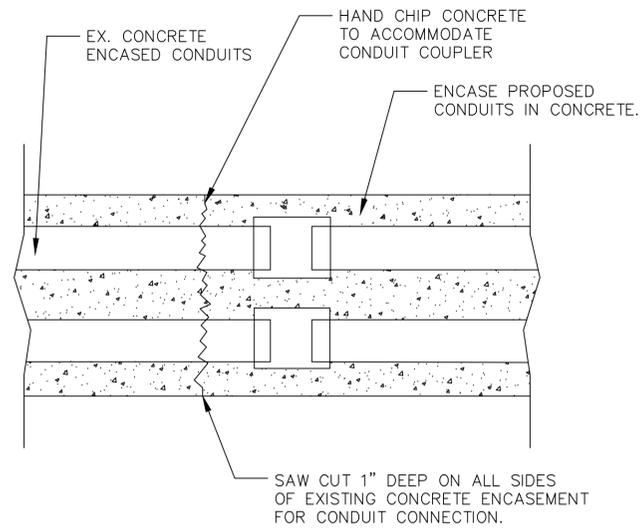


COPPERHEAD™ COPPER COATED STEEL LOCATING WIRE, (#12 CCS EXTRA HIGH STRENGTH HARD DRAWN 1150# (SOLOSHOT), OR EQUIVALENT, SHALL BE PLACED OUTSIDE THE DUCT AND INSTALLED WHEN DUCT PULLBACK/ PLACEMENT IS PERFORMED. TRACER WIRE IS NOT TO BE PLACED INSIDE THE DUCT. WHERE MULTIPLE DUCTS ARE PLACED, ONLY 1 TRACER WIRE SHALL BE REQUIRED PER PACKAGE. A MINIMUM OF 60" OF TRACER WIRE SHALL EXTEND FROM THE ENDPOINT OF THE DUCT AND BE NEATLY COILED AT THE DUCT PATHWAY TERMINATION ENDPOINT. TO BE PAID FOR IN "Conduit, Encased, 6, 4 inch" AND "Conduit, Encased, 1, 4 inch".

TYPICAL DUCT BANK SPACER & REINFORCING DETAILS

NO SCALE

26054303.dgn



CONDUIT CONNECTION ENCASEMENT DETAIL

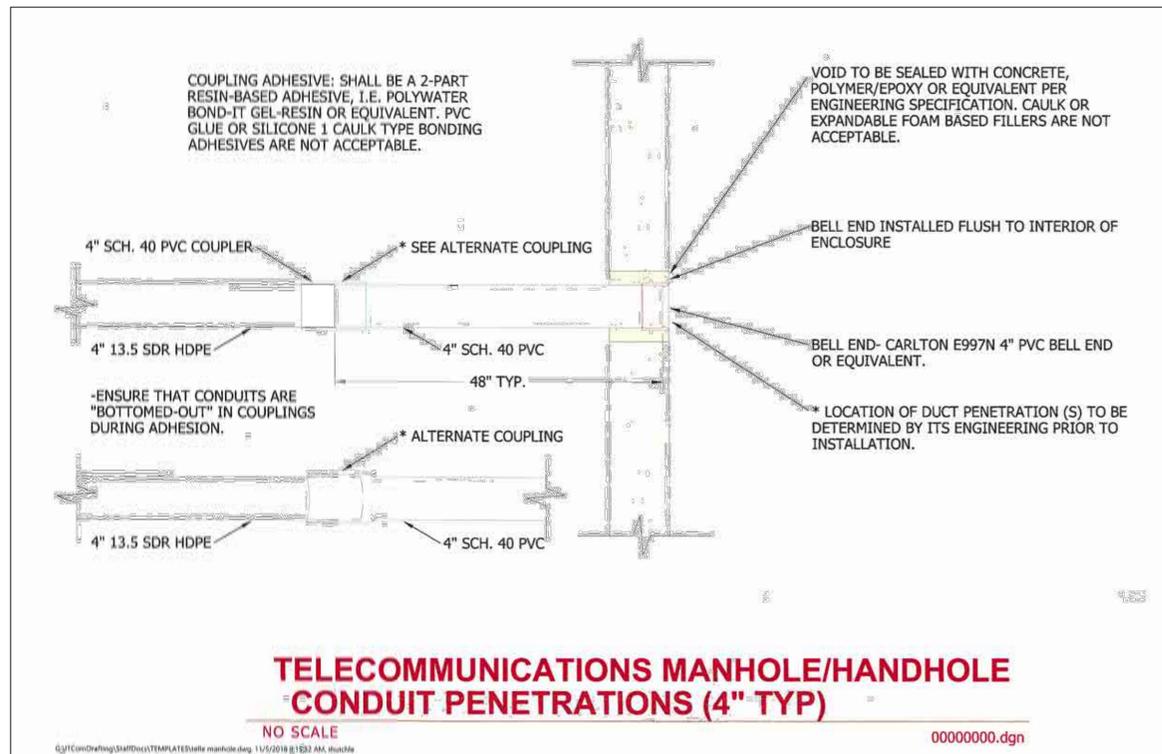
REV	CHANGE	DATE
B	IMAGE ENHANCEMENT	09/02/15

REMOVABLE CAP SEAL
O-RING
ROTATING COMPRESSION WING NUT
WASHER
5.946
O-RING & HOLLOW STEM
EXPANSION RANGE 3.940 - 4.330

UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES		HUIZAR	06/02/14
TOLERANCES:		CHECKED	F.GRO
FRACTIONAL ± 1/64		ENG APPR.	06/02/14
ANGULAR ± 0.125°		MFG APPR.	
TWO PLACE DECIMAL ±0.010		Q.A.	
THREE PLACE DECIMAL ±0.005		COMMENTS:	
INTERPRET GEOMETRIC TOLERANCING PER:			
MATERIAL:			
SEE BOM			
NEXT ASSY	USED ON	FINISH	
APPLICATION		DO NOT SCALE DRAWING	

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF CALAM MFG. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF CALAM MFG. IS PROHIBITED.

CALAM MANUFACTURING
TITLE: 4" KWIKIE HOLLOW STEM
SIZE A DWG. NO. 5120-40 REV B
SCALE: WEIGHT: SHEET 1 OF 1



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(TOLL FREE)

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
CONTOUR	UTILITY POLE & GUY	GAS LINE	LEFT EDGE/RD. GRADE	STORM SEWER & CAT. BAS.	SEE ABOVE
STORM SEWER & CAT. BAS.	FIRE HYDRANT ASSEMBLY	CABLE T.V.	RIGHT EDGE/RD. GRADE	WATER MAIN W/F.H. ASSEM.	BENCH MARK
WATER MAIN & VALVE-IN-WELL	LIGHT POLE	ELECTRIC	CURB & GUTTER	CONTOUR	SURVEY BOOK
WATER MAIN & VALVE-IN-BOX	END SECTION	SIGN	EDGE/GRAVEL	ROAD & GRADE	REV. NO.

DLZ	
REV. NO.	DESCRIPTION
DATE	DR. BY
CH. BY	LCM
10/12/22	INB
ORIGINAL ISSUE	INB

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
E. MEDICAL CENTER DRIVE	
TELECOMMUNICATIONS CONDUIT DETAILS	
SCALE	INCH
1"=30'	0 1
DRAWING NO.	2021-008-UT5
SHEET NO.	61 OF 153
APPROVED BY	



NOTES

- SEE SHEET 107 FOR CONDUIT DETAILS AT BRIDGE APPROACHES.
- CONDUIT SHALL BE 2 INCH OR 3 INCH SCH. 80 PVC. CONDUITS SHALL BE FITTED WITH EXPANSION JOINTS AT EACH END OF THE BRIDGE, TO BE PAID FOR IN "CONDUIT, SCHEDULE 40 PVC, 2 INCH" AND "CONDUIT, SCHEDULE 40 PVC, 3 INCH".
- ALL STREET LIGHT AND ILLUMINATED SIGN WIRING IN CONDUIT TO BE THREE (3) 6 AWG XLP/USE-2/RHH/RHW-2, IN BLACK, WHITE AND GREEN.
- CONTACT CITY OF ANN ARBOR REPRESENTATIVE MARC MARENO (734)794-6350 PRIOR TO ACCESSING CITY OF ANN ARBOR HANDHOLES. CONTACT UM-ITS REPRESENTATIVE KEVIN MCLAUGHLIN, PE, RCDD (734) 615-5699 PRIOR TO ACCESSING UM HANDHOLES. CITY OF ANN ARBOR AND/OR UM REPRESENTATIVE TO BE ON-SITE WHEN ACCESSING HANDHOLES.
- 17 INCH X 30 INCH HANDHOLE ASSEMBLIES SHALL CONSIST OF TWO, STACKED "QUAZITE" BOXES. THE COVER SHALL BE A LOCKING HEAVY-DUTY BOLT-DOWN TYPE WITH A LOGO THAT READS "TRAFFIC SIGNAL" OR "STREET LIGHTING", BASED ON THEIR INTENDED USE. THE TOTAL DEPTH OF THE HANDHOLE SHALL BE 18 INCHES.
- EXISTING UNIVERSITY OF MICHIGAN MEDICAL CENTER STREET LIGHTS AT PROPOSED LIGHT LOCATIONS L1 THROUGH L5 ARE TO BE REMOVED AND REPLACED WITH CITY OF ANN ARBOR LIGHT POLES, LUMINAIRES AND FOUNDATIONS. THE PROPOSED LIGHTS SHALL BE CONNECTED TO THE CITY OF ANN ARBOR'S EXISTING LIGHTING CIRCUIT.
- CONDUIT FOR BOTH THE ANN ARBOR STREET LIGHT CIRCUIT AND THE UNIVERSITY OF MICHIGAN MEDICAL CENTER ILLUMINATED SIGNS CIRCUIT TO BE INSTALLED IN THE NEW BRIDGE SIDEWALK AS SHOWN. CONTRACTOR SHALL INSTALL NEW WIRES BETWEEN HANDHOLE #5 AND #6 AND RECONNECT THE ILLUMINATED SIGNS CIRCUIT, TO BE PAID FOR IN "CONDUIT, SCHEDULE 40 PVC, 2 INCH" TO BE PAID FOR IN "Conduit, Schedule 80 PVC, 2 inch".
- LOCATE PROPOSED AND EXISTING UNDERGROUND PIPES AND UTILITIES AND PROPOSED GUARDRAIL POSTS PRIOR TO INSTALLING LIGHTING. FIELD ADJUSTMENTS MAY BE NECESSARY AS DIRECTED BY THE ENGINEER.
- COPPERHEAD COPPER COATED STEEL LOCATING WIRE, (#12 CCS EXTRA HIGH STRENGTH HARD DRAWN 1150# (SOLOSHOT)), OR EQUIVALENT, SHALL BE PLACED OUTSIDE THE DUCT OR CONDUIT AND INSTALLED WHEN DUCT/CONDUIT PULLBACK/PLACEMENT IS PERFORMED. TRACER WIRE IS NOT TO BE PLACED INSIDE THE DUCT OR CONDUIT. WHERE MULTIPLE DUCTS ARE PLACED, ONLY 1 TRACER WIRE SHALL BE REQUIRED PER PACKAGE. A MINIMUM OF 60" OF TRACER WIRE SHALL EXTEND FROM THE ENDPOINT OF THE DUCT AND BE NEARLY COILED AT THE DUCT OR CONDUIT PATHWAY TERMINATION ENDPOINT.
- STREET LIGHT POLES SHALL BE SHAKESPEARE AS30-10S1DB01/OPAR6-BK-H WITH THE FOLLOWING SPECIFICATIONS: 30' SMOOTH FINISH, ANCHOR BASE POLE WITH 4"X 12" HANDHOLE, POLE TO BE DRILLED FOR 6" ALUMINUM MAST ARM AND BASE COVER, BASE COVER TO BE 1-PIECE POWDERED COATED BLACK, AND ANCHOR BOLTS TO BE 1" DIAMETER.
- LUMINAIRE TO BE LUMICON LWS-LSL-60-GR-1-T2-OW-7P WITH THE FOLLOWING SPECIFICATIONS: 58 WATT LED STREET LUMINAIRE, 8,201 DELIVERED LUMENS, TYPE II DISTRIBUTION, 120 VOLT-277 VOLT, 3000K COLOR TEMPERATURE, 7-PIN RECEPTACLE, 20K-AMP SURGE SUPPRESSION.

MISCELLANEOUS QUANTITIES THIS SHEET			
PAY ITEM	DESCRIPTION	UNITS	QUANTITY
8182133	Conduit, Schedule 40 PVC, 2 inch	Ft	233
8182135	Conduit, Schedule 40 PVC, 3 inch	Ft	740
8190211	DB Cable, in Conduit, 600V, 1/1C#6	Ft	2958
8187050	Handhole Assembly, 17 inch x 30 inch	Ea	8
8197050	Pole Installation	Ea	5
8197050	Luminaire Installation	Ea	5
8197050	Pole Fill-Up	Ea	5

STREET LIGHT PHASING PLAN

PRIOR TO PHASE 1:

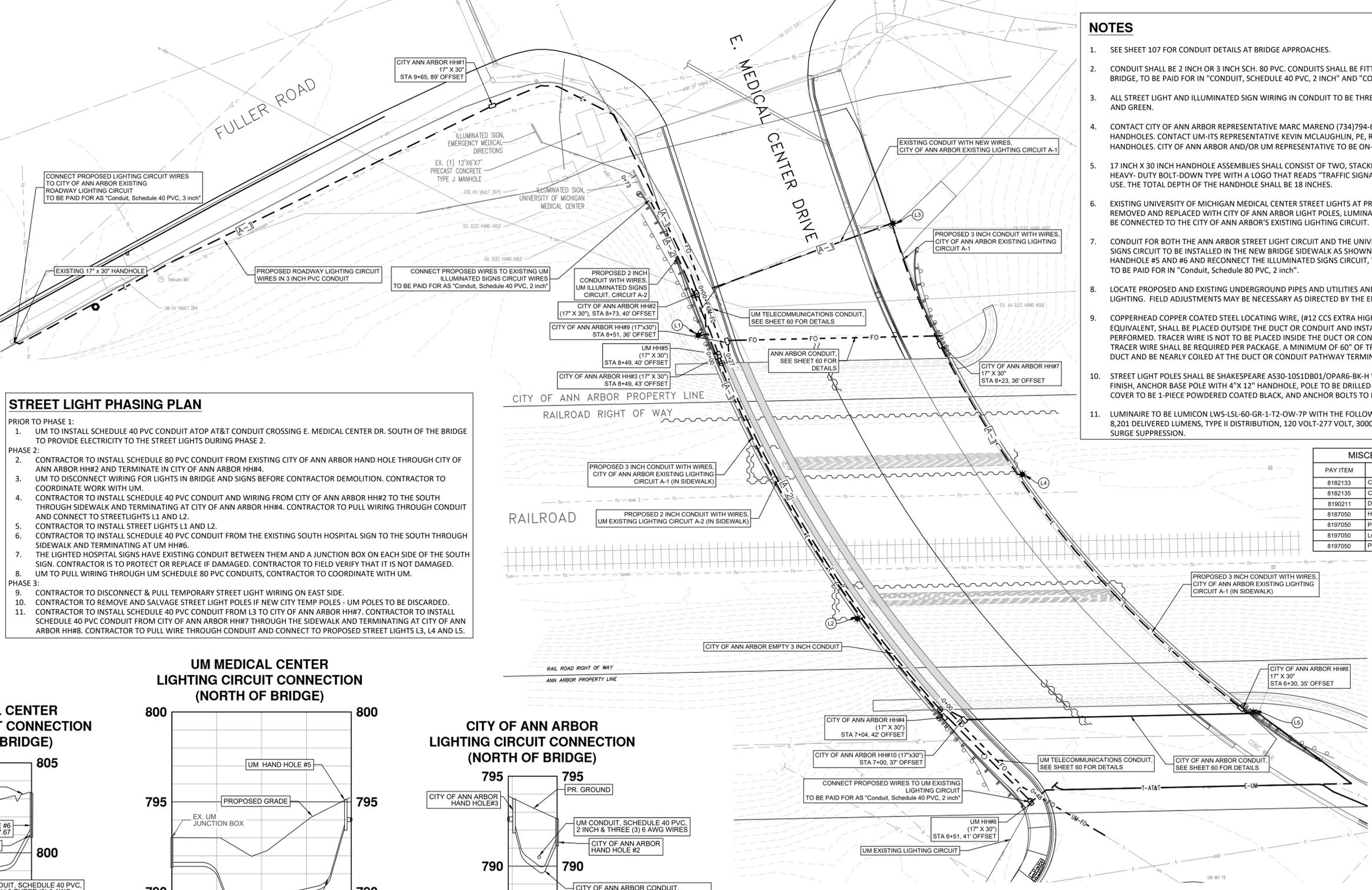
- UM TO INSTALL SCHEDULE 40 PVC CONDUIT ATOP AT&T CONDUIT CROSSING E. MEDICAL CENTER DR. SOUTH OF THE BRIDGE TO PROVIDE ELECTRICITY TO THE STREET LIGHTS DURING PHASE 2.

PHASE 2:

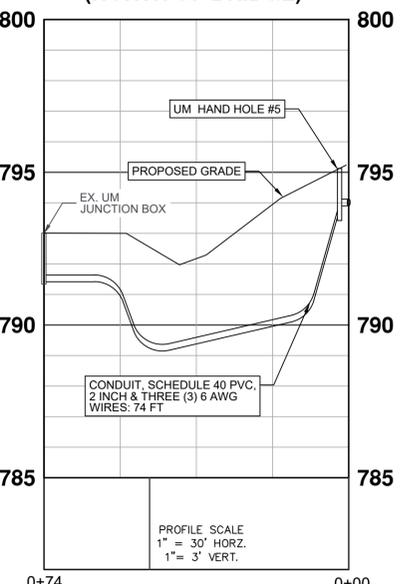
- CONTRACTOR TO INSTALL SCHEDULE 80 PVC CONDUIT FROM EXISTING CITY OF ANN ARBOR HAND HOLE THROUGH CITY OF ANN ARBOR HH#2 AND TERMINATE IN CITY OF ANN ARBOR HH#4.
- UM TO DISCONNECT WIRING FOR LIGHTS IN BRIDGE AND SIGNS BEFORE CONTRACTOR DEMOLITION. CONTRACTOR TO COORDINATE WORK WITH UM.
- CONTRACTOR TO INSTALL SCHEDULE 40 PVC CONDUIT AND WIRING FROM CITY OF ANN ARBOR HH#2 TO THE SOUTH THROUGH SIDEWALK AND TERMINATING AT CITY OF ANN ARBOR HH#4. CONTRACTOR TO PULL WIRING THROUGH CONDUIT AND CONNECT TO STREETLIGHTS L1 AND L2.
- CONTRACTOR TO INSTALL STREET LIGHTS L1 AND L2.
- CONTRACTOR TO INSTALL SCHEDULE 40 PVC CONDUIT FROM THE EXISTING SOUTH HOSPITAL SIGN TO THE SOUTH THROUGH SIDEWALK AND TERMINATING AT UM HH#6.
- THE LIGHTED HOSPITAL SIGNS HAVE EXISTING CONDUIT BETWEEN THEM AND A JUNCTION BOX ON EACH SIDE OF THE SOUTH SIGN. CONTRACTOR IS TO PROTECT OR REPLACE IF DAMAGED. CONTRACTOR TO FIELD VERIFY THAT IT IS NOT DAMAGED.
- UM TO PULL WIRING THROUGH UM SCHEDULE 80 PVC CONDUITS, CONTRACTOR TO COORDINATE WITH UM.

PHASE 3:

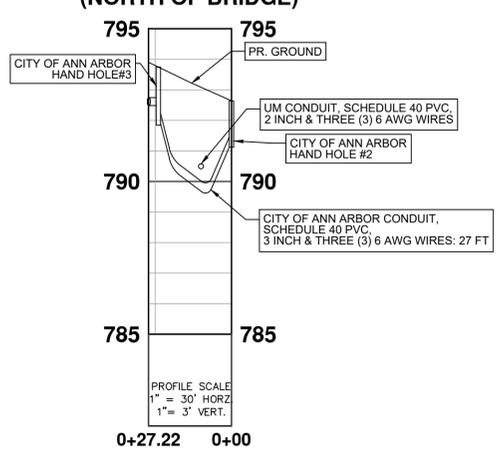
- CONTRACTOR TO DISCONNECT & PULL TEMPORARY STREET LIGHT WIRING ON EAST SIDE.
- CONTRACTOR TO REMOVE AND SALVAGE STREET LIGHT POLES IF NEW CITY TEMP POLES - UM POLES TO BE DISCARDED.
- CONTRACTOR TO INSTALL SCHEDULE 40 PVC CONDUIT FROM L3 TO CITY OF ANN ARBOR HH#7. CONTRACTOR TO INSTALL SCHEDULE 40 PVC CONDUIT FROM CITY OF ANN ARBOR HH#7 THROUGH THE SIDEWALK AND TERMINATING AT CITY OF ANN ARBOR HH#8. CONTRACTOR TO PULL WIRE THROUGH CONDUIT AND CONNECT TO PROPOSED STREET LIGHTS L3, L4 AND L5.



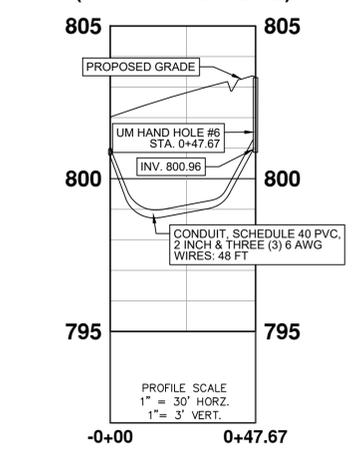
UM MEDICAL CENTER LIGHTING CIRCUIT CONNECTION (NORTH OF BRIDGE)



CITY OF ANN ARBOR LIGHTING CIRCUIT CONNECTION (NORTH OF BRIDGE)



UM MEDICAL CENTER LIGHTING CIRCUIT CONNECTION (SOUTH OF BRIDGE)



LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
CONTOUR	UTILITY POLE & GUY	GAS LINE	LEFT EDGE/RD. GRADE	STORM SEWER & CAT. BAS.	STREET LIGHT CONDUIT
STORM SEWER & CAT. BAS.	FIRE HYDRANT ASSEMBLY	CABLE T.V.	RIGHT EDGE/RD. GRADE	WATER MAIN W/F.H. ASSEM.	TELECOM. CONDUIT
WATER MAIN & VALVE-IN-WELL	END SECTION	ELECTRIC	CURB & GUTTER	CONTOUR	LIGHT POLE
WATER MAIN & VALVE-IN-BOX		SIGN	EDGE/GRAVEL		HANDHOLE

DLZ		PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
SEE ABOVE	BENCH MARK	SURVEY BOOK	APPROVED BY:
REV. NO.	DESCRIPTION	DATE	DR.BY
		10/12/22	INB
			LCM

EAST MEDICAL CENTER DRIVE

STREET LIGHT ELECTRICAL PLAN

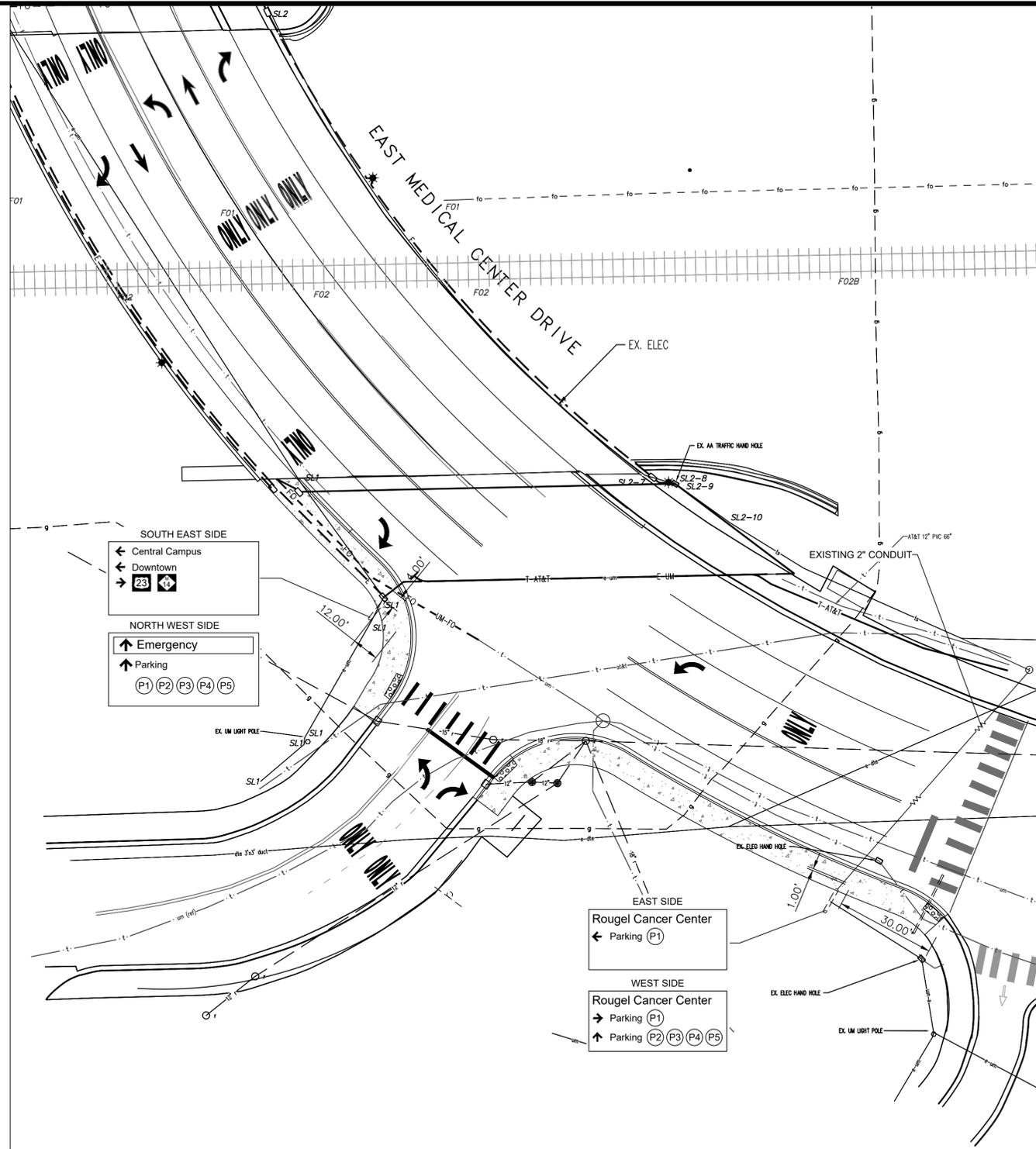
SCALE 1"=20'

DRAWING NO. 2021-008-UT6

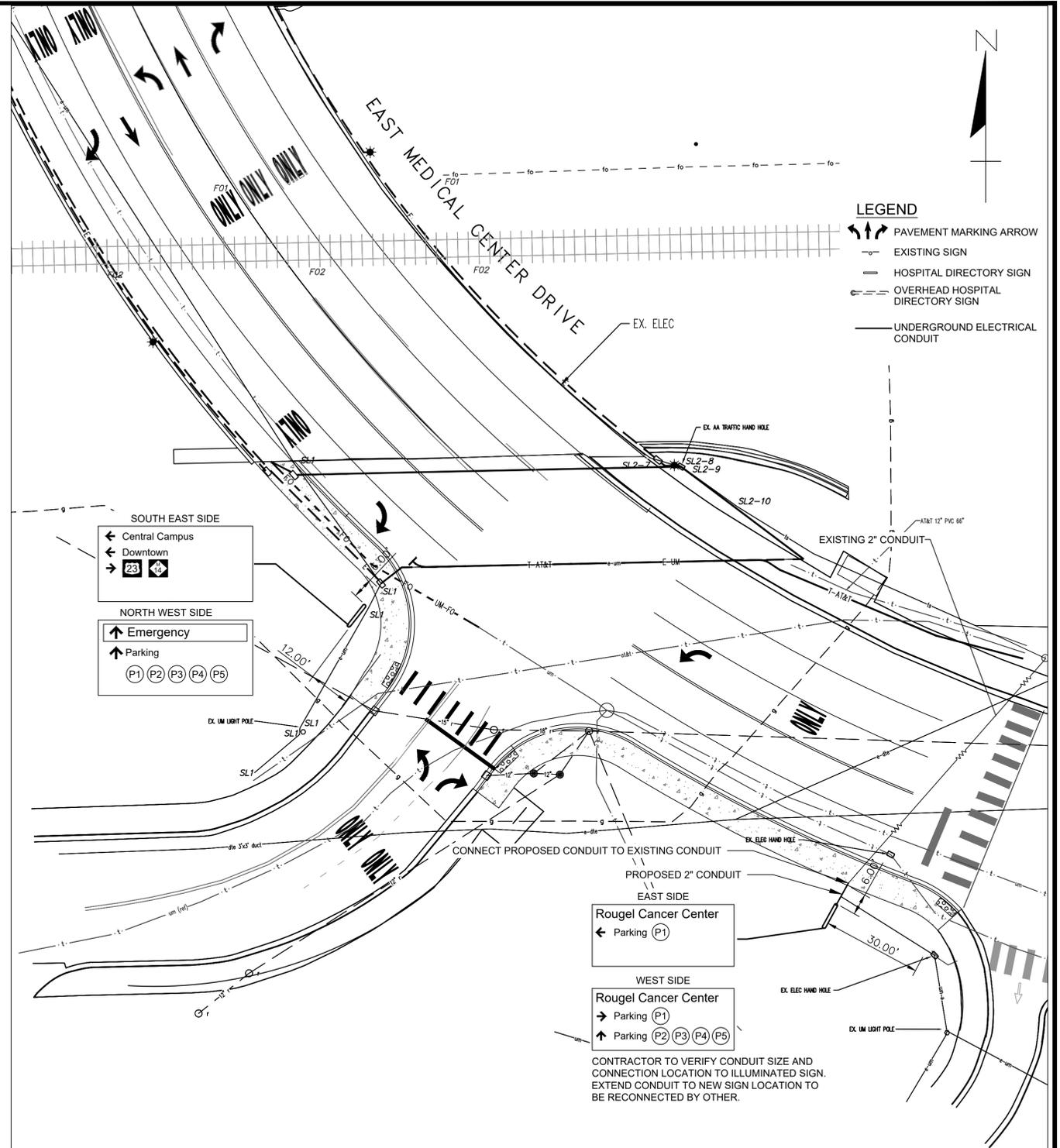
SHEET NO. 62 OF 153

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EXISTING SIGN LOCATION



PROPOSED SIGN LOCATION

- LEGEND**
- PAVEMENT MARKING ARROW
 - EXISTING SIGN
 - HOSPITAL DIRECTORY SIGN
 - OVERHEAD HOSPITAL DIRECTORY SIGN
 - UNDERGROUND ELECTRICAL CONDUIT

ESTIMATED QUANTITIES THIS SHEET	
DESCRIPTION	QUANTITY
Conduit, DB, 1, 2 Inch	8 FT
Hospital Sign and Foundation, Relocate	2 Ea

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(TOLL FREE)

- LEGEND**
- | | | | | | |
|----------------|-----------------------------------|--------------------|----------------------|-----------------------------------|------------------------|
| EXISTING FENCE | EXISTING SANITARY SEWER & MANHOLE | EXISTING TELEPHONE | EXISTING RD. & GRADE | PROPOSED SANITARY SEWER & MANHOLE | PROPOSED CURB & GUTTER |
| - - - - - | - - - - - | - - - - - | - - - - - | - - - - - | - - - - - |
| - - - - - | - - - - - | - - - - - | - - - - - | - - - - - | - - - - - |
| - - - - - | - - - - - | - - - - - | - - - - - | - - - - - | - - - - - |
| - - - - - | - - - - - | - - - - - | - - - - - | - - - - - | - - - - - |
| - - - - - | - - - - - | - - - - - | - - - - - | - - - - - | - - - - - |

DLZ					
SEE ABOVE					
BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE	DR. BY
			ORIGINAL ISSUE	10/12/22	INB
					LCM
					CH. BY

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

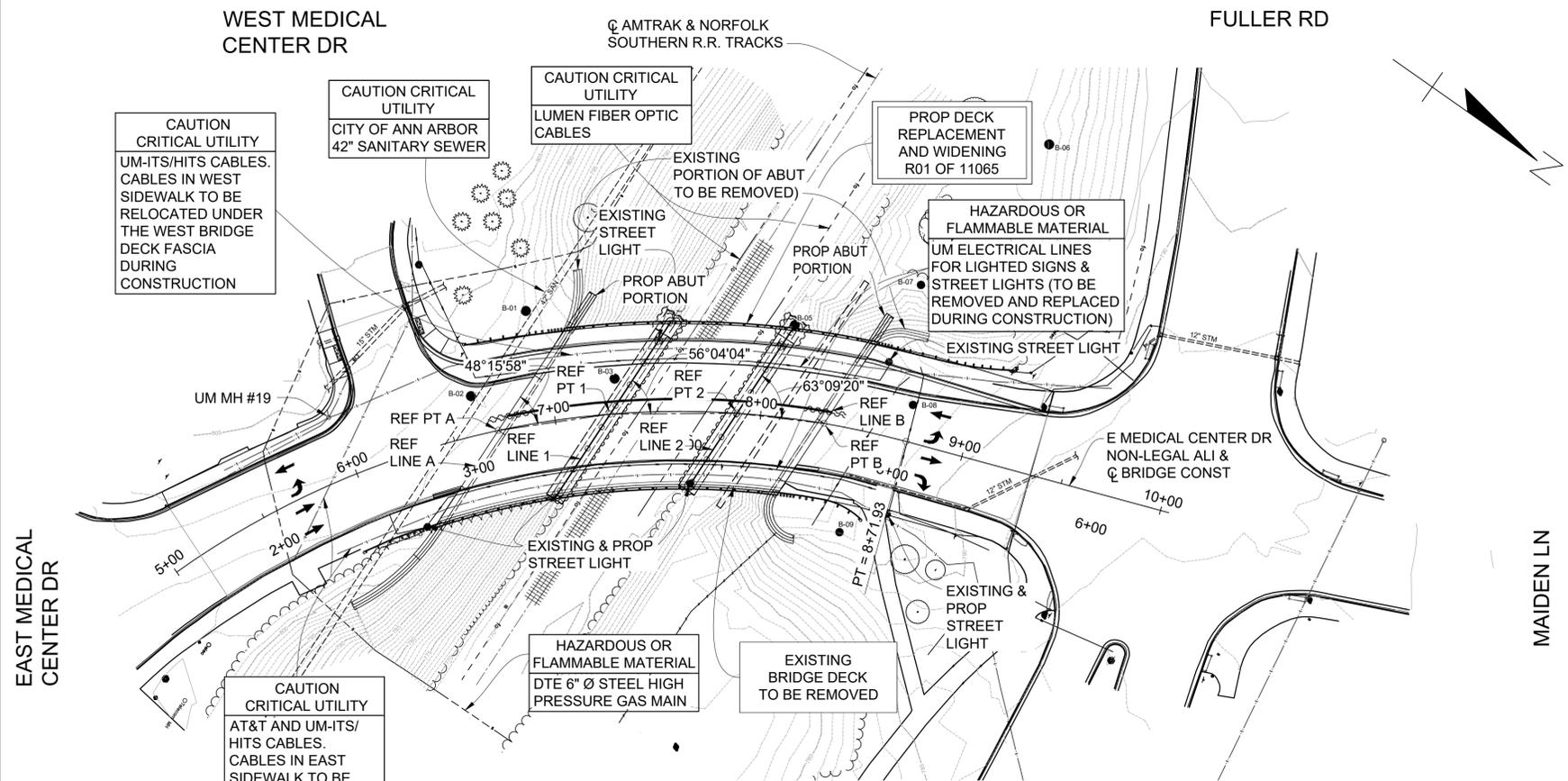
**E. MEDICAL CENTER DR
HOSPITAL SIGN
RELOCATION PLAN**

SCALE: 1"=20'

DRAWING NO. 2021-008-UT7

SHEET NO. 63 OF 153

APPROVED BY: _____



SITUATION PLAN

SURVEY CONTROL AND BENCH MARKS

SEE SURVEY INFORMATION SHEET FOR SURVEY CONTROL AND BENCHMARKS

UTILITIES

SEE ROAD PLANS AND PROJECT INFORMATION AND NOTE SHEET FOR ADDITIONAL UTILITY INFORMATION

COORDINATES

REF PT	NORTH	EAST	ELEV
A	286,963.50	13,295,113.75	801.54
1	287,003.70	13,295,076.30	799.47
2	287,054.16	13,295,040.91	795.96
B	287,091.74	13,295,020.96	793.32

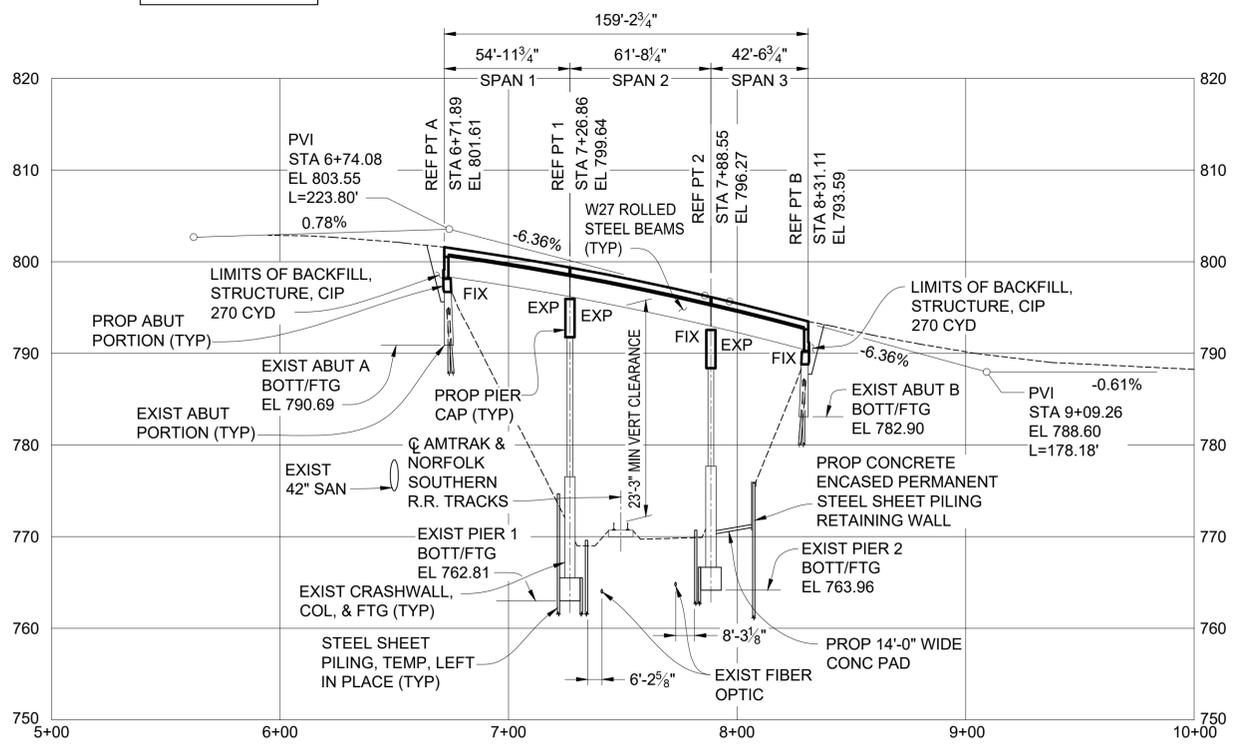
COORDINATES PROVIDED ARE TO ESTABLISH THE GEOGRAPHIC LOCATION OF THE STRUCTURE. HOWEVER SHALL NOT TAKE PRECEDENCE OVER STRUCTURAL DIMENSIONS.

EXISTING STRUCTURE

THE EXISTING STRUCTURE IS A THREE SPAN STEEL MULTI-STRINGER STRUCTURE WITH A CLEAR ROADWAY WIDTH OF 47'-0", AN OUT-TO-OUT WIDTH OF 70'-11 1/4", AND AN OVERALL LENGTH OF 130'-2 1/2". THE STRUCTURE WAS ORIGINALLY BUILT IN 1982 AND DESIGNED FOR HS25 LOADING.

EAST MEDICAL CENTER DRIVE CURVE DATA

Δ	= 71°58'59" (RT)		
D	= 44°46'59.86"		
T	= 306.51'		
L	= 530.18'		
R	= 422.00'		
E	= 99.565'		
PC	= 3+41.75	N = 286,848.74	E = 13,295,414.37
PI	= 6+06.84	N = 286,840.62	E = 13,295,107.97
PT	= 8+71.93	N = 287,129.46	E = 13,295,005.49
EXIST SUPER	= 3%		
PROP SUPER	= 3%		



PROFILE ALONG BRIDGE CENTERLINE

NOTES:

THE WORK COVERED BY THESE PLANS INCLUDES REMOVAL OF THE EXISTING BRIDGE DECK, REMOVAL AND SALVAGING OF THE EXISTING BEAMS, REMOVAL OF PORTIONS OF THE SUBSTRUCTURE UNITS, CONSTRUCTION OF THE PROPOSED WIDENED BRIDGE AND PLACING SLOPE PROTECTION TO THE LIMITS SHOWN.

LOCATE ALL ACTIVE UNDERGROUND UTILITIES PRIOR TO STARTING WORK AND CONDUCT OPERATIONS IN SUCH A MANNER AS TO ENSURE THAT THOSE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.

MAINTAIN EAST MEDICAL CENTER DRIVE TRAFFIC OVER THE BRIDGE BY PART-WIDTH CONSTRUCTION.

PLAN ELEVATIONS REFER TO NAVD88 DATUM.

THE TRAIN MOVEMENT AND SPEED INFORMATION SHOWN IN THE PROPOSAL DOES NOT REPRESENT A COMMITMENT BY AMTRAK AND IS SUBJECT TO CHANGE WITHOUT NOTICE.

IMPLEMENT MEASURES TO PREVENT DEBRIS FROM FALLING FROM THE STRUCTURE. ALL MEASURES IMPLEMENTED BY THE CONTRACTOR MUST BE EFFECTIVE. THE CONTRACTOR SHALL IMMEDIATELY REMOVE ANY DEBRIS THAT FALLS WITHIN 15 FEET OF THE RAILROAD TRACKS. REMOVAL AND DISPOSAL OF ALL DEBRIS OFF-SITE SHALL NOT BE PAID FOR SEPARATELY, BUT IS INCLUDED IN OTHER ITEMS OF WORK.

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DLZ

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

EAST MEDICAL CENTER DRIVE

GENERAL PLAN OF SITE

SCALE
HOR. 1"=40'-0"
VER. 1"=4'-0"

DRAWING NO.
2021-008-BR1

SHEET NO. 64 OF 153

APPROVED BY
CARRIE L. HAMEL, P.E. MICHIGAN NO. 6201056734

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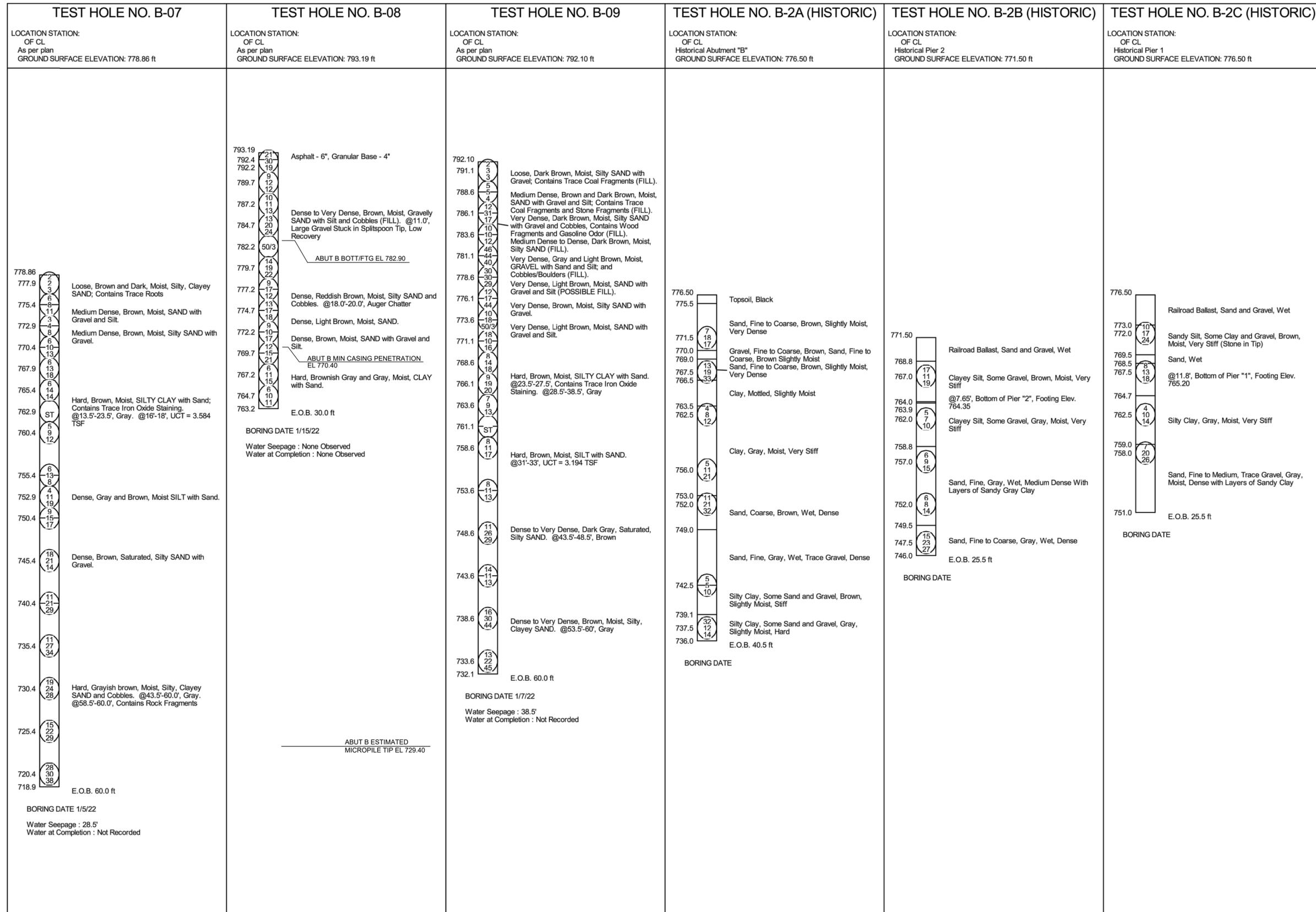
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TEST HOLE NO. B-01	TEST HOLE NO. B-02	TEST HOLE NO. B-03	TEST HOLE NO. B-04	TEST HOLE NO. B-05	TEST HOLE NO. B-06
<p>LOCATION STATION: OF CL As per plan GROUND SURFACE ELEVATION: 802.31 ft</p> <p>BORING DATE 1/16/22 Water Seepage : 43.5' Water at Completion : 46.1'</p> <p>ABUT A ESTIMATED MICROPILE TIP EL 733.69</p>	<p>LOCATION STATION: OF CL As per plan GROUND SURFACE ELEVATION: 801.69 ft</p> <p>BORING DATE 1/15/22 Water Seepage : 33.5' Water at Completion : 33.2'</p> <p>ABUT A ESTIMATED MICROPILE TIP EL 733.69</p>	<p>LOCATION STATION: OF CL As per plan GROUND SURFACE ELEVATION: 774.70 ft</p> <p>BORING DATE 1/29/22 Water Seepage : 8.5' Water at Completion : 13.9' (11.0' Prior to Adding Water) Notes: Concrete Deck = 9", Top of Ground at Boring = 25.0' Below Top of Deck</p>	<p>LOCATION STATION: OF CL As per plan GROUND SURFACE ELEVATION: 776.71 ft</p> <p>BORING DATE 1/6/22 Water Seepage : 6' Water at Completion : None Observed</p>	<p>LOCATION STATION: OF CL As per plan GROUND SURFACE ELEVATION: 772.02 ft</p> <p>BORING DATE 1/4/22 Water Seepage : 6' Water at Completion : 30'</p>	<p>LOCATION STATION: OF CL As per plan GROUND SURFACE ELEVATION: 782.04 ft</p> <p>BORING DATE 1/3/22 Water Seepage : None Observed Water at Completion : None Observed</p>

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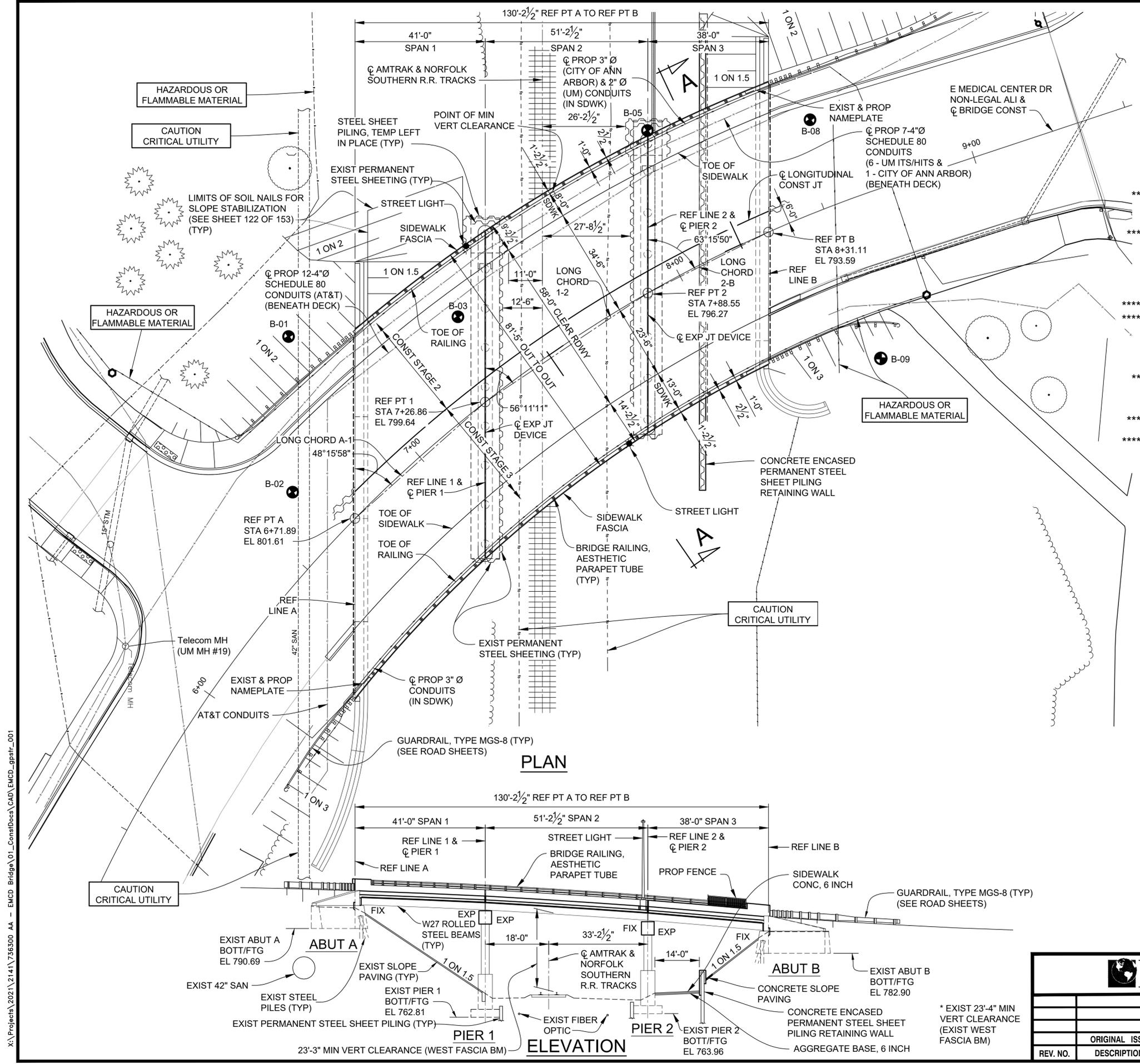
DLZ				PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR			
				EAST MEDICAL CENTER DRIVE			
				SOIL BORINGS			
SCALE NONE		INCH 0 1		DRAWING NO. 2021-008-BR3			
REV. NO.		DESCRIPTION		DATE		DR.BY CLH	
				10-9-22		DAF	
						CH.BY	
APPROVED BY				SHEET NO. 66 OF 153			

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		PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
EAST MEDICAL CENTER DRIVE		SCALE NONE 0 INCH 1	
SOIL BORINGS		DRAWING NO. 2021-008-BR4	
REV. NO.	DESCRIPTION	DATE	CH.BY
1	ORIGINAL ISSUE	10-9-22	DAF CLH
APPROVED BY		SHEET NO. 67 OF 153	



ESTIMATED QUANTITIES THIS SHEET					
DESCRIPTION	UNITS	CATG 0001	CATG 0002	CATG 0003	TOTAL
Relocation and Site Cleanup	Dir			15,000	15,000
Structures, Rem Portions (STR 11065)	LSUM	0.9	0.1		1
Backfill, Structure, CIP	Cyd	300	300	340	940
Excavation, Fdn	Cyd	300	300	400	1,000
Dewatering System, Excavation	Ea		2		2
Steel Sheet Piling, Temp	Sft	360			360
Steel Sheet Piling, Temp, Left in Place	Sft		360		360
False Decking	Sft	19,840			19,840
Road Inspection and Flagging	Dir	180,000	20,000		200,000
Slope Paving Heave	Ft		100	131	231
Slope Paving, Conc	Syd		55	30	85
Concrt, Schedule 80, 4 inch, Structure	Ft	2,920			2,920
Concrt, Schedule 40, 2 inch	Ft		170		170
Concrt, Schedule 40, 3 inch	Ft			330	330

- ** INCLUDES REMOVAL OF EXISTING RAILINGS, SIDEWALKS, DECK, PIER CAPS, PORTIONS OF CRASHWALLS AND ABUTMENTS, PORTIONS OF SLOPE PAVING BEHIND PIER 2, AND THE EXIST 10'-0" WIDE CONCRETE PAD BEHIND PIER 2.
- *** FOR DEWATERING OF PERMANENT STEEL SHEET PILING ENCLOSURES FOR PROPOSED PIER WIDENING.
- **** CATG 0002 QUANTITY IS FOR WIDENED PORTIONS OF SLOPE PAVING ON WEST SIDE OF BRIDGE. CATG 0003 QUANTITY IS FOR REPAIRS TO SLOPE PAVING BEHIND PIER 2 AFTER CONSTRUCTION OF CONCRETE ENCASED STEEL SHEET PILING RETAINING WALL.

NOTES:

THE RECONSTRUCTION DESIGN OF THE SUPERSTRUCTURE, PIER CAPS, AND WIDENED SUBSTRUCTURE UNITS IS BASED ON 1.2 TIMES THE CURRENT AASHTO LRFD BRIDGE DESIGN SPECIFICATION HL-93 LOADING WITH THE EXCEPTION THAT THE DESIGN TANDEM PORTION OF THE HL-93 LOAD DEFINITION IS REPLACED BY A SINGLE 60 KIP AXLE LOAD BEFORE APPLICATION OF THIS 1.2 FACTOR. THE RESULTING LOAD IS DESIGNATED HL-93 MOD. LIVE LOAD PLUS IMPACT DEFLECTION DOES NOT EXCEED 1/1000 OF SPAN LENGTH. THE ORIGINAL STRUCTURE WAS DESIGNED FOR HS25 LOADING.

FOR DETAILS OF CONCRETE SLOPE PAVING PROTECTION, SEE MDOT STANDARD PLAN B-102-SERIES.

FALSE DECKING INCLUDES THE AREA BOUNDED BY REFERENCE LINES A & B AND OUTSIDE FLANGE FASCIA'S OF FASCIA BEAMS. THE ESTIMATED AREA IS 9237 SFT DURING REMOVAL AND 10,602 SFT DURING CONSTRUCTION.

INSTALL SHEET PILING USING EITHER AN IMPACT HAMMER OR A VARIABLE MOMENT DRIVER/EXTRACTOR OPERATED TO MINIMIZE VIBRATIONS. DO NOT USE VIBRATORY HAMMERS THAT ARE NOT VARIABLE MOMENT.

SHOES SHALL BE REQUIRED FOR PROP SHEET PILING DUE TO THE ANTICIPATED PRESENCE OF COBBLES/BOULDERS DURING DRIVING.

GROUNDWATER MAY BE PRESENT WITHIN THE PROPOSED STEEL SHEETING ENCLOSURES FOR THE PIER WIDENING. THE COST OF DEWATERING IS INCLUDED IN THE PAY ITEM "DEWATERING SYSTEM, EXCAVATION"

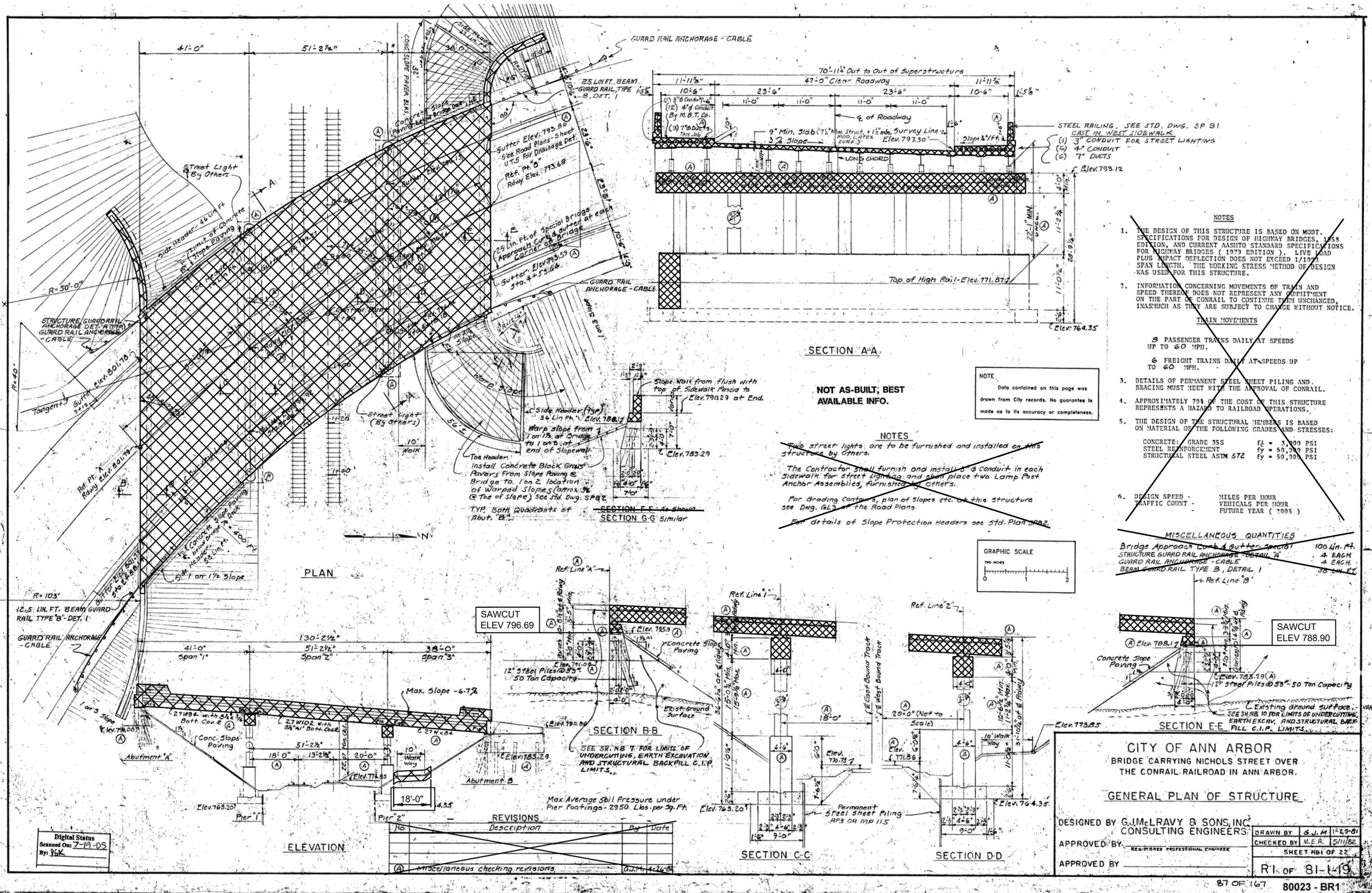
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	ORIGINAL ISSUE	10-9-22	DAF	CLH

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
EAST MEDICAL CENTER DRIVE	
GENERAL PLAN OF STRUCTURE	
SCALE HOR. 1/16"=1'-0"	INCH 0 1
DRAWING NO. 2021-008-BR6	
SHEET NO. <u>69</u> OF <u>153</u>	

X:\Projects\2021\2141\356300 AA - EMCD Bridge\01_ConstrDocs\CAD\EMCD_sprtr_001

X:\Projects\2021\2141\736500_AA - E.M.C.D. Bridge\01_Constr\Docs\CAD\EMCD_rem_001



NOTES:

REMOVE EXISTING RAILINGS, SIDEWALKS, STRUCTURE LIGHTING, AND DECK. CARE SHALL BE TAKEN TO SALVAGE EXISTING SHEAR DEVELOPERS. WHERE EXISTING SHEAR DEVELOPERS ARE DAMAGED THEY SHALL BE REPLACED IN KIND. INCLUDED IN THE BID ITEM "STRUCTURES, REHABILITATION, REM PORTIONS (STR 11065)".

SAW-CUT THE DECK ON BOTH THE TOP AND BOTTOM SURFACE PRIOR TO DECK REMOVAL PROCEDURES.

EXISTING STRUCTURE NAME PLATES AND TRAFFIC SIGNS SHALL BE SALVAGED, CLEANED AND REINSTALLED ON PROPOSED STRUCTURE. INCLUDED IN THE BID ITEM "STRUCTURES, REHABILITATION, REM PORTIONS (STR 11065)".

REMOVE EXISTING PIER CAPS AND PORTIONS OF THE CRASH WALL. SALVAGE BLAST CLEAN, AND STRAIGHTEN EXISTING VERTICAL REINFORCEMENT IN PIER COLUMNS AND EMBED IN PROPOSED PIER CAP. SALVAGE BLAST CLEAN, AND STRAIGHTEN EXISTING HORIZONTAL REINFORCEMENT IN THE CRASH WALL. INCLUDED IN THE BID ITEM "STRUCTURES, REHABILITATION, REM PORTIONS (STR 11065)".

REMOVE PORTIONS OF EXISTING ABUTMENTS. EXISTING REINFORCING STEEL SHALL BE BLAST CLEANED, STRAIGHTENED AND EMBEDDED IN PROPOSED ABUTMENTS. INCLUDED IN THE BID ITEM "STRUCTURES, REHABILITATION, REM PORTIONS (STR 11065)".

EXISTING BEAMS SHALL BE REMOVED AND PLACED ASIDE FOR REHABILITATION AND GALVANIZING. EXISTING DIAPHRAGMS AND CONNECTION PLATES SHALL BE REMOVED. INCLUDED IN THE BID ITEM "STRUCTURES, REHABILITATION, REM PORTIONS (STR 11065)".

PLAN ELEVATIONS REFER TO NAVD88 DATUM.
 ELEVATION EQUATION:
 PROP ELEV. = EXIST. PLAN ELEV. - 0.39 FT

THE ONLY ITEMS OF WORK TO BE DONE FROM THIS SHEET ARE IDENTIFIED BY USING THE LEGEND BELOW.

PROPOSED WORK
 DENOTES REMOVAL PORTIONS

CITY OF ANN ARBOR
 BRIDGE CARRYING NICHOLS STREET OVER THE CONRAIL RAILROAD IN ANN ARBOR.

GENERAL PLAN OF STRUCTURE

DESIGNED BY G.J. McLAVY & SONS, INC.
 CONSULTING ENGINEERS

APPROVED BY: _____
 REGISTERED PROFESSIONAL ENGINEER

APPROVED BY: _____
 REGISTERED PROFESSIONAL ENGINEER

DRAWN BY: G.J.M. 11-29-81
 CHECKED BY: M.E.R. 5/11/82
 SHEET NO. 1 OF 23

R1 of 81-1-19

87 OF 167 80023 - BR1

3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 800-482-7171 (TOLL FREE)

REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10-9-22	DAF	CLH

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

EAST MEDICAL CENTER DRIVE
 EXISTING GENERAL PLAN OF STRUCTURE
 REMOVAL

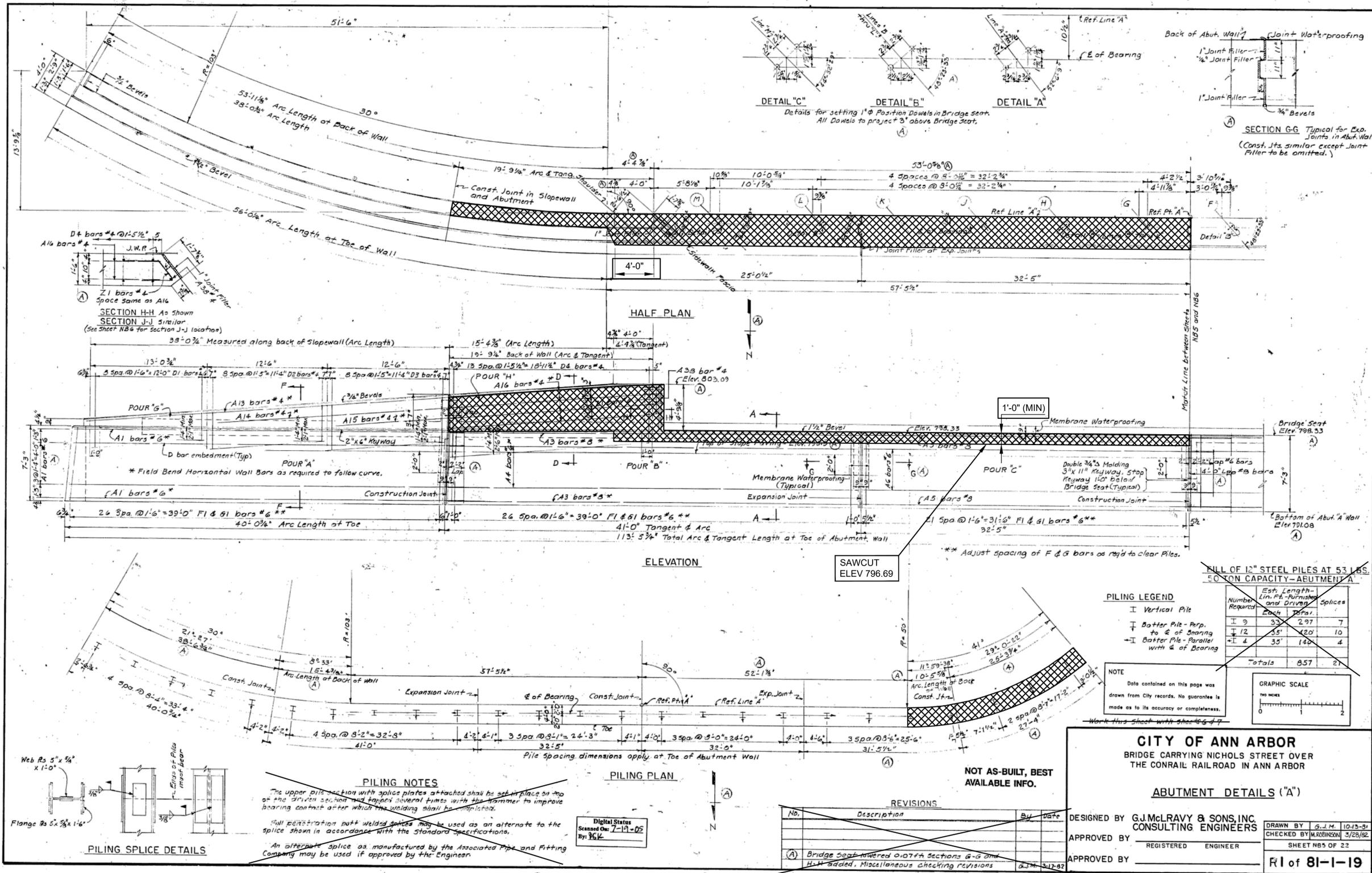
SCALE: NONE 0 INCH 1

DRAWING NO. 2021-008-BR9

SHEET NO. 72 OF 153

APPROVED BY: _____
 CARRIE L. HAMEL, P.E. MICHIGAN NO. 6201056734

X:\Projects\2021\2141\736300_AA - EMCD Bridge\01_Constr\Docs\CAD\EMCD_rem_002



NOTES:

REMOVE PORTIONS OF EXISTING ABUTMENTS. EXISTING REINFORCING STEEL SHALL BE BLAST CLEANED, STRAIGHTENED AND EMBEDDED IN PROPOSED ABUTMENTS. INCLUDED IN THE BID ITEM "STRUCTURES, REHABILITATION, REM PORTIONS (STR 11065)".

PLAN ELEVATIONS REFER TO NAVD88 DATUM. ELEVATION EQUATION: PROP ELEV. = EXIST. PLAN ELEV. -0.39 FT

THE ONLY ITEMS OF WORK TO BE DONE FROM THIS SHEET ARE IDENTIFIED BY USING THE LEGEND BELOW.

PROPOSED WORK
 DENOTES REMOVAL PORTIONS

CITY OF ANN ARBOR
BRIDGE CARRYING NICHOLS STREET OVER THE CONRAIL RAILROAD IN ANN ARBOR

ABUTMENT DETAILS ("A")

DESIGNED BY G.J. McRAVY & SONS, INC. CONSULTING ENGINEERS
 APPROVED BY REGISTERED ENGINEER
 APPROVED BY

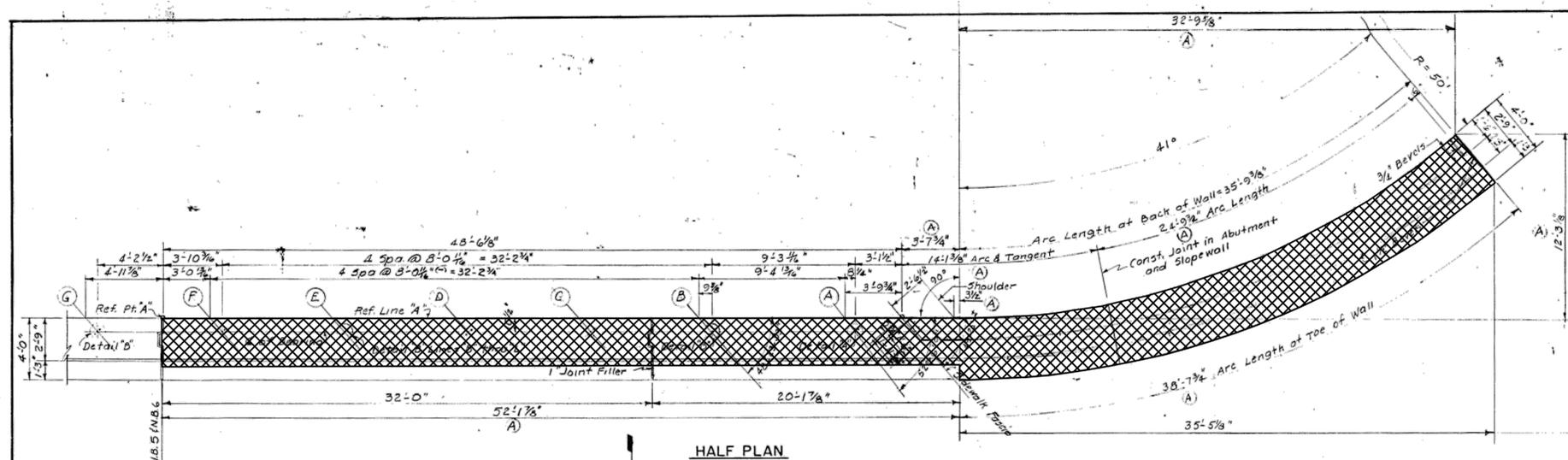
DRAWN BY G.J.M. 10/13-01
 CHECKED BY M. ROBINSON 3/25/02
 SHEET NBS OF 22
FL of 81-1-19

80023 - BR5

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800-482-7171
(TOLL FREE)

DLZ				
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10-9-22	DAF	CLH

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
EAST MEDICAL CENTER DRIVE	
EXISTING ABUTMENT A DETAILS REMOVAL	
SCALE NONE	INCH 0 1
DRAWING NO. 2021-008-BR10	
SHEET NO. <u>73</u> OF <u>153</u>	

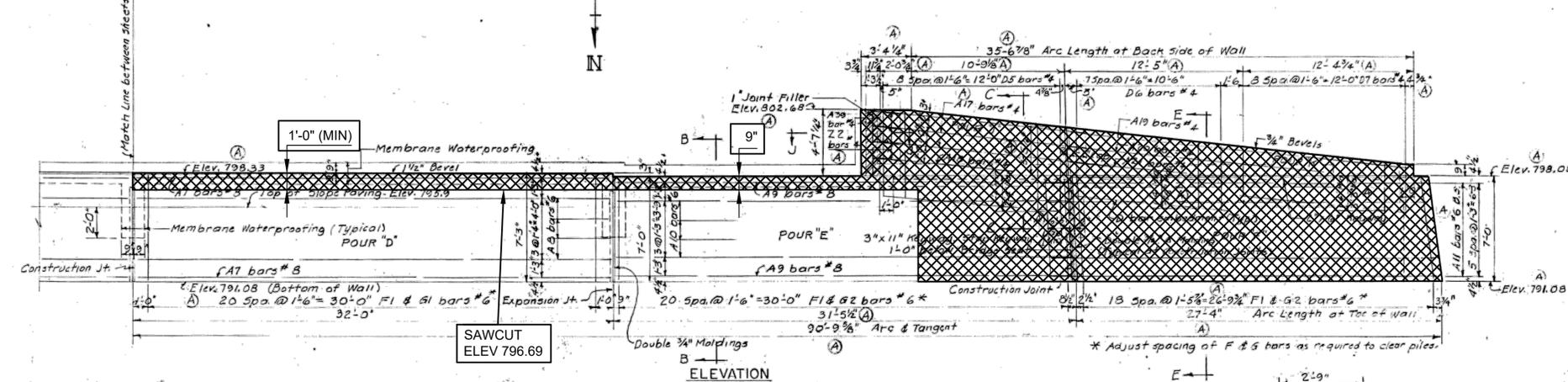


SUBSTRUCTURE CONCRETE ABUTMENT "A"		
POUR	LOCATION	CU YDS
A	Wall	35.6
B	Wall	36.9
C	Wall	29.4
D	Wall	29.0
E	Wall	27.1
F	Wall	23.0
G	Sloped Wall	4.6
H	Sloped Wall	4.9
J	Sloped Wall	3.1
K	Sloped Wall	2.9
Total		196.5

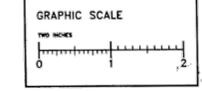
MISCELLANEOUS QUANTITIES	
Membrane Waterproofing	320 Sq. Ft.
Concrete Slope Forming - 4" Thick	502 Sq. Yds.
Headers - Slope Protection	132 Lin. Ft.
Low Temperature Protection	148 Cu. Yds.

INCIDENTAL QUANTITIES	
1/2" Joint Filler	152 Sq. Ft.
1" Joint Filler	62 Sq. Ft.

NOTES:
 REMOVE PORTIONS OF EXISTING ABUTMENTS. EXISTING REINFORCING STEEL SHALL BE BLAST CLEANED, STRAIGHTENED AND EMBEDDED IN PROPOSED ABUTMENTS. INCLUDED IN THE BID ITEM "STRUCTURES, REHABILITATION, REM PORTIONS (STR 11065)".
 PLAN ELEVATIONS REFER TO NAVD88 DATUM. ELEVATION EQUATION: PROP ELEV. = EXIST. PLAN ELEV. -0.39 FT

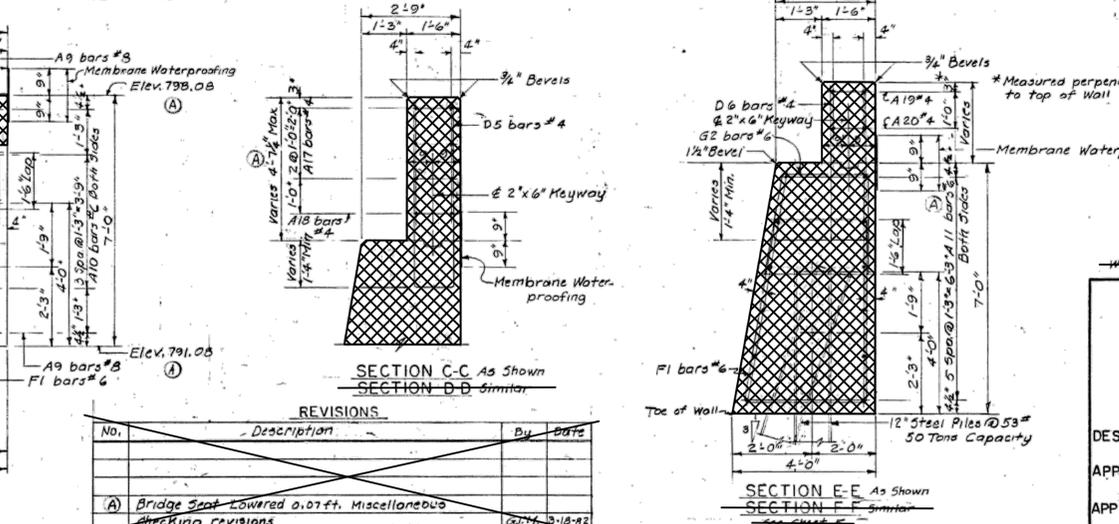
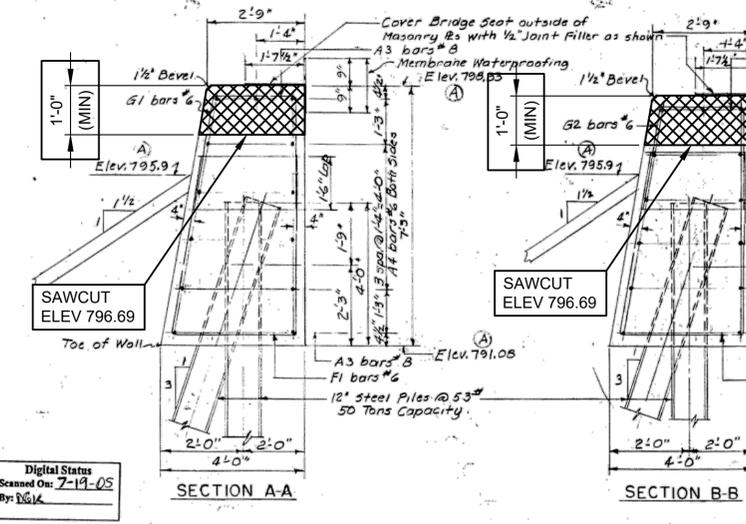


NOTES:
 Bridge Seats shall be finished to provide true planes at the elevations shown and shall not vary more than 1/8" under a 10' straight edge nor more than 1/16" under any bearing.
 Sloped walls shall not be cast until the superstructure is complete to the tops of the railing bases.
 For molding and bevel details see Std. Dwg. R11.
 After the steel piles are driven and cut off the portions to be embedded in concrete shall be thoroughly cleaned of all loose paint, scale and dirt to ensure that a satisfactory bond between the steel and concrete will be obtained.
 Pile driving equipment shall be in accordance with Art. 5.03 of the Standard Specifications.
 Piles shall be driven with such accuracy that the ends of the piles to be embedded in concrete are within 3 inches of the locations shown on the Plans.
 Joint Filler shall be incidental to Substructure Concrete and will not be paid for separately.



NOTE:
 Data contained on this page was drawn from City records. No guarantee is made as to its accuracy or completeness.

NOT AS-BUILT, BEST AVAILABLE INFO.



REVISIONS		
No.	Description	By Date
(A)	Bridge Seat Lowered 0.07ft. Miscellaneous checking revisions	cd/ta 3-18-82

Work this Sheet with Sheets 5 & 6

CITY OF ANN ARBOR
 BRIDGE CARRYING NICHOLS STREET OVER THE CONRAIL RAILROAD IN ANN ARBOR

ABUTMENT "A" DETAILS

DESIGNED BY G.J. McLAVY & SONS, INC. CONSULTING ENGINEERS
 APPROVED BY [Signature] REGISTERED PROFESSIONAL ENGINEER
 APPROVED BY [Signature]

DRAWN BY [Signature] 10/14/91
 CHECKED BY [Signature] 3/26/82
 SHEET NO. 6 OF 22
 R1 of 81-1-19

92 OF 167 80023 - BR6

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3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 800-482-7171 (TOLL FREE)

DLZ				
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10-9-22	DAF	CLH

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

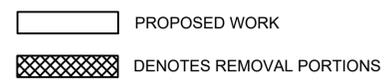
EAST MEDICAL CENTER DRIVE
 EXISTING ABUTMENT A DETAILS
 REMOVAL

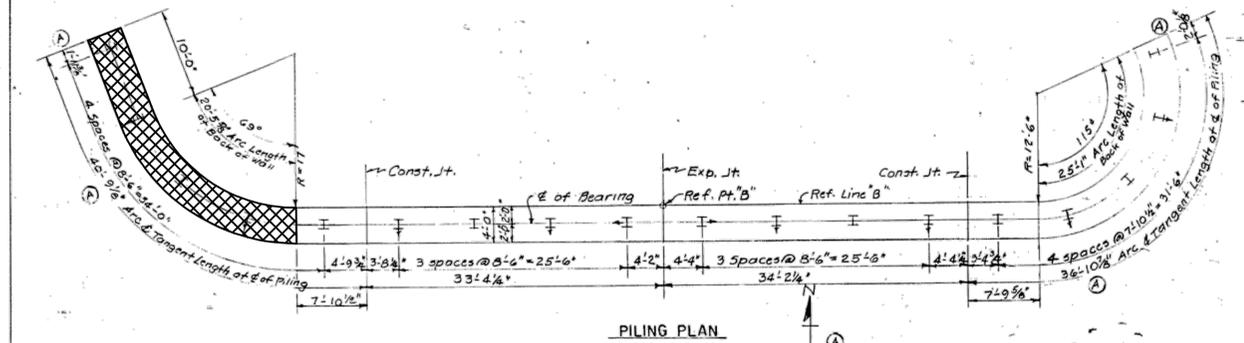
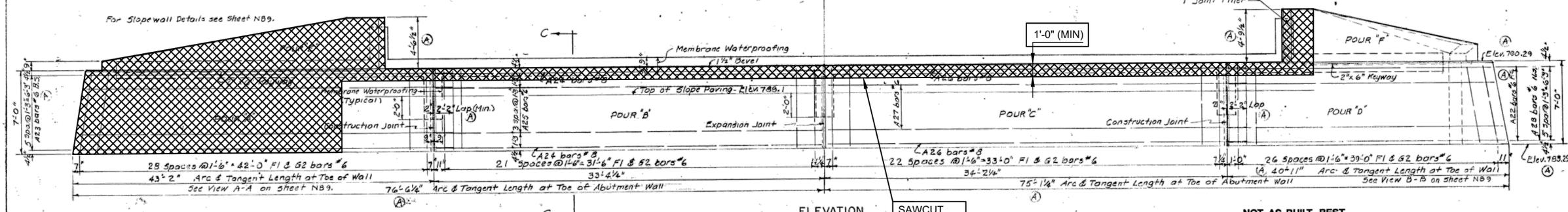
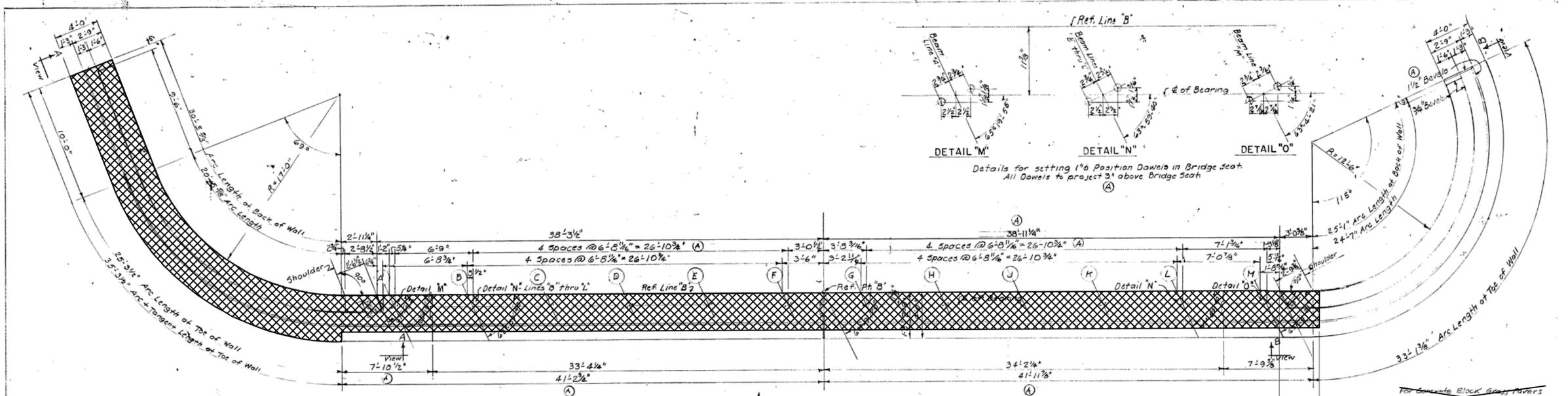
SCALE NONE 0 INCH 1

DRAWING NO. 2021-008-BR11
 SHEET NO. 74 OF 153

APPROVED BY [Signature] CARRIE L. HAMEL, P.E. MICHIGAN NO. 6201056734

NOTES:
 REMOVE PORTIONS OF EXISTING ABUTMENTS. EXISTING REINFORCING STEEL SHALL BE BLAST CLEANED, STRAIGHTENED AND EMBEDDED IN PROPOSED ABUTMENTS. INCLUDED IN THE BID ITEM "STRUCTURES, REHABILITATION, REM PORTIONS (STR 11065)".
 PLAN ELEVATIONS REFER TO NAVD88 DATUM. ELEVATION EQUATION: PROP ELEV. = EXIST. PLAN ELEV. -0.39 FT

THE ONLY ITEMS OF WORK TO BE DONE FROM THIS SHEET ARE IDENTIFIED BY USING THE LEGEND BELOW.




BILL OF 12" STEEL PILES AT 53 LBS. 55 TON CAPACITY-ABUTMENT "B"

PILING LEGEND	Number Required	Est. Length - Lin. Ft. - Furnished and Driven		Splices
		Each	Total	
Vertical Pile	1	22	22	5
Batter Pile - Perp. to E of Bearing	8	25	200	5
Batter Pile - Parallel with E of Bearing	2	25	50	1
Totals			442	11

MISCELLANEOUS QUANTITIES

Item	Quantity
Membrane Waterproofing	220 Sq. Ft.
Concrete Slope Paving - 1" Min. Thickness	358 Sq. Yds.
Headers - Slope Paving - 2" x 4" x 1/2"	274 Lin. Ft.
Low Temperature Protection - Subst. Concrete 126 Cu. Yds.	126 Cu. Yds.
3/4" Thick Concrete Black Grass Pavers	270 Sq. Yds.

INCIDENTAL QUANTITIES

Item	Quantity
1/2" Joint Filler	113 Sq. Ft.
1" Joint Filler	57 Sq. Ft.

SUBSTRUCTURE CONCRETE ABUTMENT "B"

POUR	LOCATION	Cu. Yds.
A	Wall	25.7
B	Wall	29.2
C	Wall	29.9
D	Wall	32.3
E	Sloped Wall	5.3
F	Subwall	4.6
Total		137.0

CITY OF ANN ARBOR
 BRIDGE CARRYING NICHOLS STREET OVER THE CONRAIL RAILROAD IN ANN ARBOR

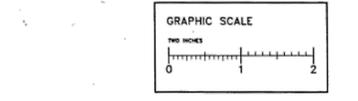
ABUTMENT "B" DETAILS

DESIGNED BY GJM LRAVY & SONS, INC. CONSULTING ENGINEERS
 APPROVED BY: [Signature] REGISTERED PROFESSIONAL ENGINEER
 APPROVED BY: [Signature] REGISTERED PROFESSIONAL ENGINEER

DRAWN BY: G.J.M. 10-21-81
 CHECKED BY: M.ROBINSON 3/23/82
 SHEET NBB OF 22
 R1 OF 81-1-19

34 OF 167
 80023 - BR8

Digital Status
 Scanned On: 7-10-05
 By: D.K.



NOTE
 Data contained on this page was drawn from City records. No guarantee is made as to its accuracy or completeness.

REVISIONS

No.	Description	By	Date
(A)	Bridge seat elev. changed. Also miscellaneous stacking. Revisions in Dimensions and Quantities	GJM	3-12-82

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REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10-9-22	DAF	CLH

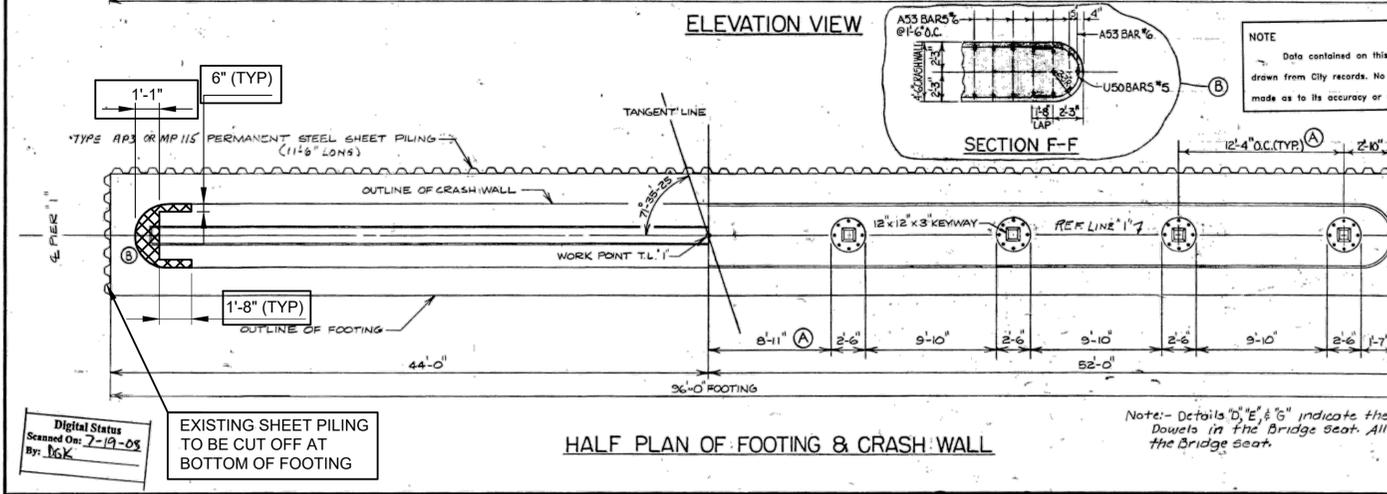
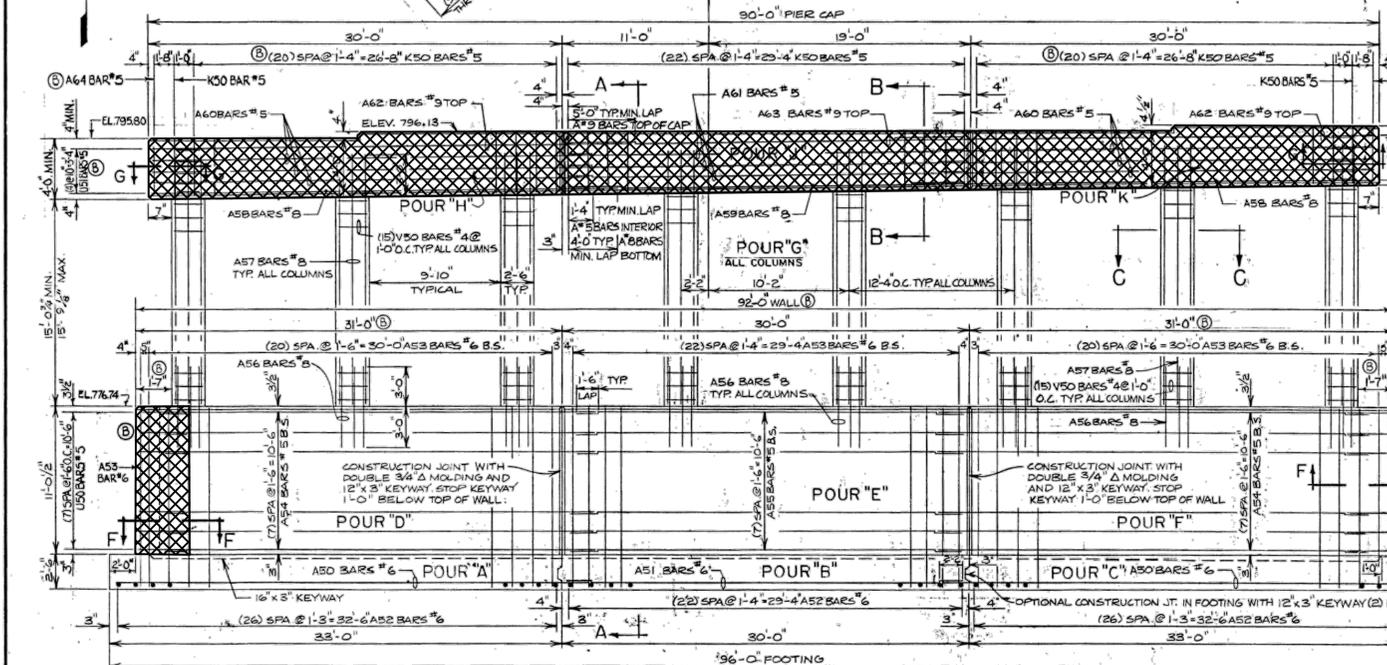
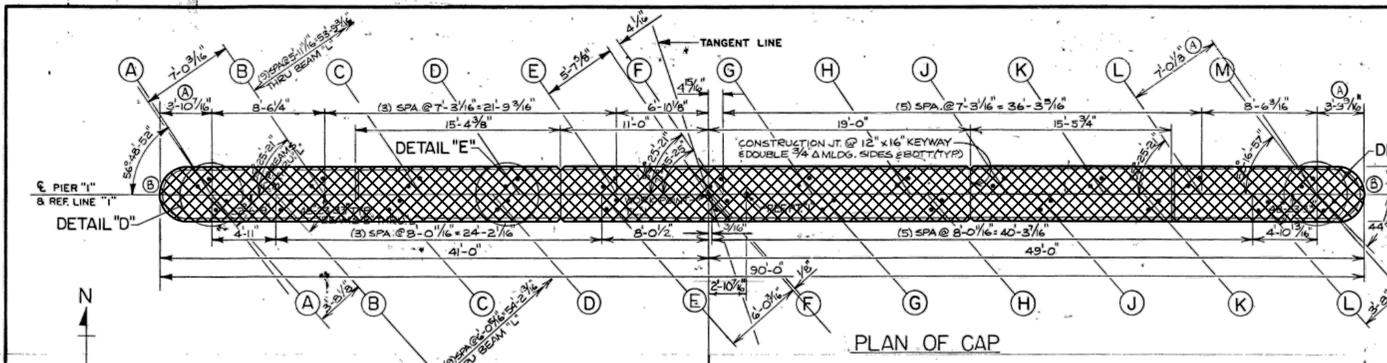
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

EAST MEDICAL CENTER DRIVE
 EXISTING ABUTMENT B DETAILS
 REMOVAL

SCALE: NONE INCH

DRAWING NO. 2021-008-BR12
 SHEET NO. 75 OF 153

APPROVED BY: [Signature]



Digital Status
Scanned On: 7-19-08
By: JGK

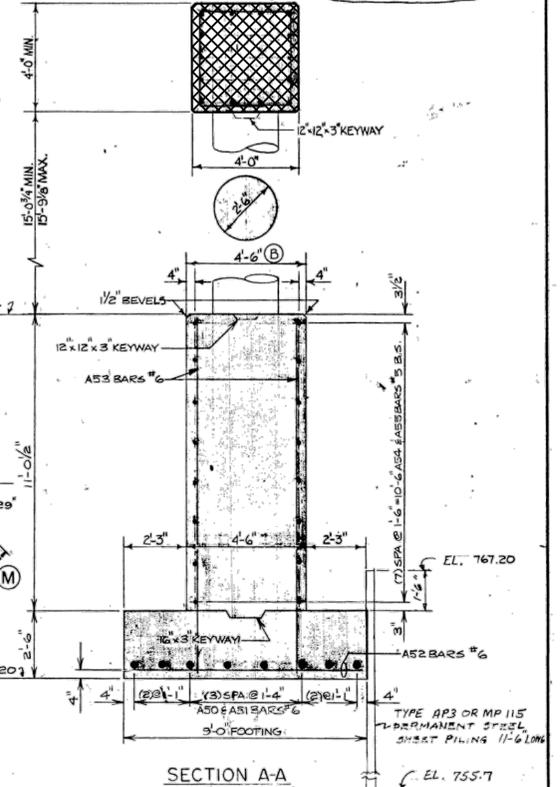
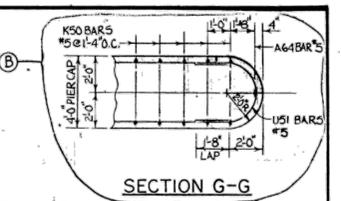
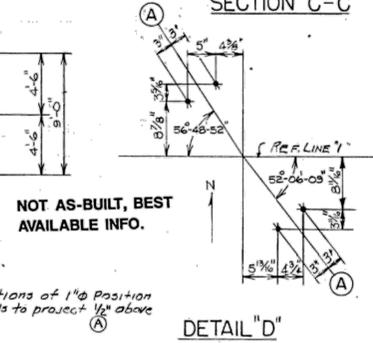
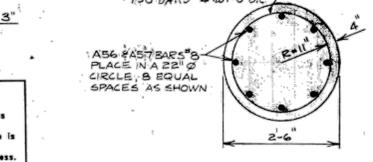
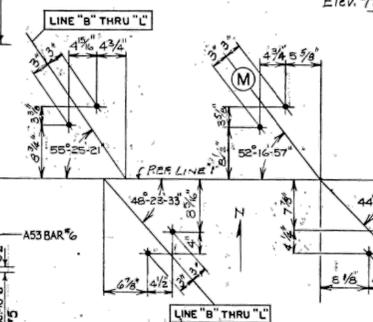
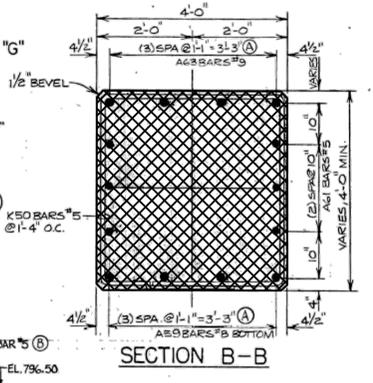
EXISTING SHEET PILING
TO BE CUT OFF AT
BOTTOM OF FOOTING

HALF PLAN OF FOOTING & CRASH WALL

Note: Details "D", "E", & "G" indicate the locations of 1/2\"/>

NOT AS-BUILT, BEST
AVAILABLE INFO.

DETAIL "D"



POUR	LOCATION	CU. YDS.
A	Footings	27.5
B	Footings	25.0
C	Footings	27.5
D	Wall	57.0
E	Wall	55.2
F	Wall	57.0
G	Columns	22.2
H	Cap	18.0
J	Cap	18.5
K	Cap	18.0
Total		325.9

MISCELLANEOUS QUANTITIES	
Permanently Steel Sheet Piling	131 sq. Ft.
Protective Sealant Coatings for Concrete	360 sq. Ft.
Low Temperature Protection Substructure Concrete	316.7 cu. Yds.

REVISIONS		
NO.	DESCRIPTION	BY DATE
1	CRASH WALL & PIER CAP ENDS ROUNDED	MER 4/8/02
2	CHECKING REVISIONS	6MC 7/5/02

CITY OF ANN ARBOR
BRIDGE CARRYING NICHOLS STREET OVER
THE CONRAIL RAILROAD IN ANN ARBOR

PIER "I" DETAILS

DESIGNED BY G.J. McLRAY & SONS, INC.
CONSULTING ENGINEERS

APPROVED BY M. ROBINSON
REGISTERED PROFESSIONAL ENGINEER

APPROVED BY RI

DRAWN BY GMC 4/01
CHECKED BY M. ROBINSON 3/26/02
SHEET NB11 OF 22

97 OF 167 80023 - BR11

NOTES:

REMOVE EXISTING PIER CAPS AND PORTIONS OF THE CRASH WALL. SALVAGE BLAST CLEAN, AND STRAIGHTEN EXISTING VERTICAL REINFORCEMENT IN PIER COLUMNS AND EMBED IN PROPOSED PIER CAP. SALVAGE BLAST CLEAN, AND STRAIGHTEN EXISTING HORIZONTAL REINFORCEMENT IN THE CRASH WALL. INCLUDED IN THE BID ITEM "STRUCTURES, REHABILITATION, REM PORTIONS (STR 11065)".

PLAN ELEVATIONS REFER TO NAVD88 DATUM.
ELEVATION EQUATION:
PROP ELEV. = EXIST. PLAN ELEV. -0.39 FT

THE ONLY ITEMS OF WORK TO BE DONE FROM THIS SHEET ARE IDENTIFIED BY USING THE LEGEND BELOW.

PROPOSED WORK

DENOTES REMOVAL PORTIONS

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PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

EAST MEDICAL CENTER DRIVE

EXISTING PIER 1 DETAILS
REMOVAL

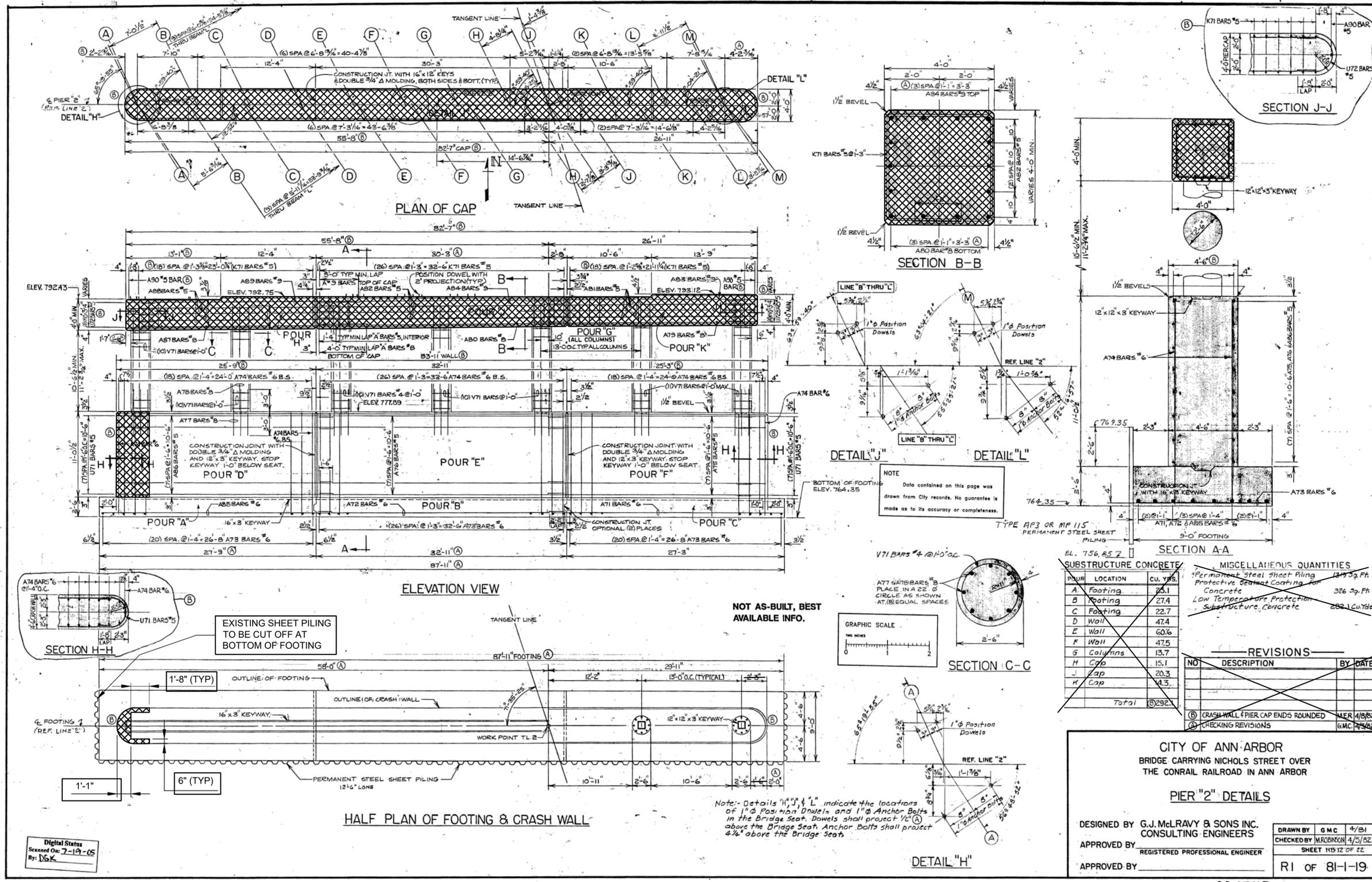
SCALE NONE 0 INCH 1

DRAWING NO. 2021-008-BR14

SHEET NO. 77 OF 153

APPROVED BY CARRIE L. HAMEL, P.E. MICHIGAN NO. 6201056734

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NOTES:

REMOVE EXISTING PIER CAPS AND PORTIONS OF THE CRASH WALL. SALVAGE BLAST CLEAN, AND STRAIGHTEN EXISTING VERTICAL REINFORCEMENT IN PIER COLUMNS AND EMBED IN PROPOSED PIER CAP. SALVAGE BLAST CLEAN, AND STRAIGHTEN EXISTING HORIZONTAL REINFORCEMENT IN THE CRASH WALL. INCLUDED IN THE BID ITEM "STRUCTURES, REHABILITATION, REM PORTIONS (STR 11065)".

PLAN ELEVATIONS REFER TO NAVD88 DATUM.
ELEVATION EQUATION:
PROP ELEV. = EXIST. PLAN ELEV. -0.39 FT

THE ONLY ITEMS OF WORK TO BE DONE FROM THIS SHEET ARE IDENTIFIED BY USING THE LEGEND BELOW.

EL. 756.857

SUBSTRUCTURE CONCRETE		MISCELLANEOUS QUANTITIES	
POUR	LOCATION	CU. YDS.	
A	Footing	23.1	Permanent Steel Sheet Piling 137.39 Ft
B	Footing	27.4	Protective Seamat Coating For Concrete 386 Sq. Ft
C	Footing	22.7	Low Temperature Protection - Substructure Concrete 682.1 Cu Yds
D	Wall	47.4	
E	Wall	60.6	
F	Wall	47.5	
G	Columns	13.7	
H	Cap	15.1	
J	Cap	20.3	
K	Cap	4.3	
Total		292.2	

REVISIONS		
NO	DESCRIPTION	BY DATE
1	CRASH WALL & PIER CAP ENDS ROUNDED	NER 4/18/22
2	CHECKING REVISIONS	GMC 7/2/22

CITY OF ANN ARBOR
BRIDGE CARRYING NICHOLS STREET OVER
THE CONRAIL RAILROAD IN ANN ARBOR

PIER "2" DETAILS

DESIGNED BY G.J. McLAVY & SONS INC.
CONSULTING ENGINEERS

APPROVED BY _____
REGISTERED PROFESSIONAL ENGINEER

APPROVED BY _____

DRAWN BY GMC 4/21
CHECKED BY M.ROBINSON 4/21/22
SHEET 119 OF 22

RI OF 81-19

Digital Stamp
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By: [Signature]

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PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

EAST MEDICAL CENTER DRIVE

EXISTING PIER 2 DETAILS
REMOVAL

SCALE NONE 0 INCH 1

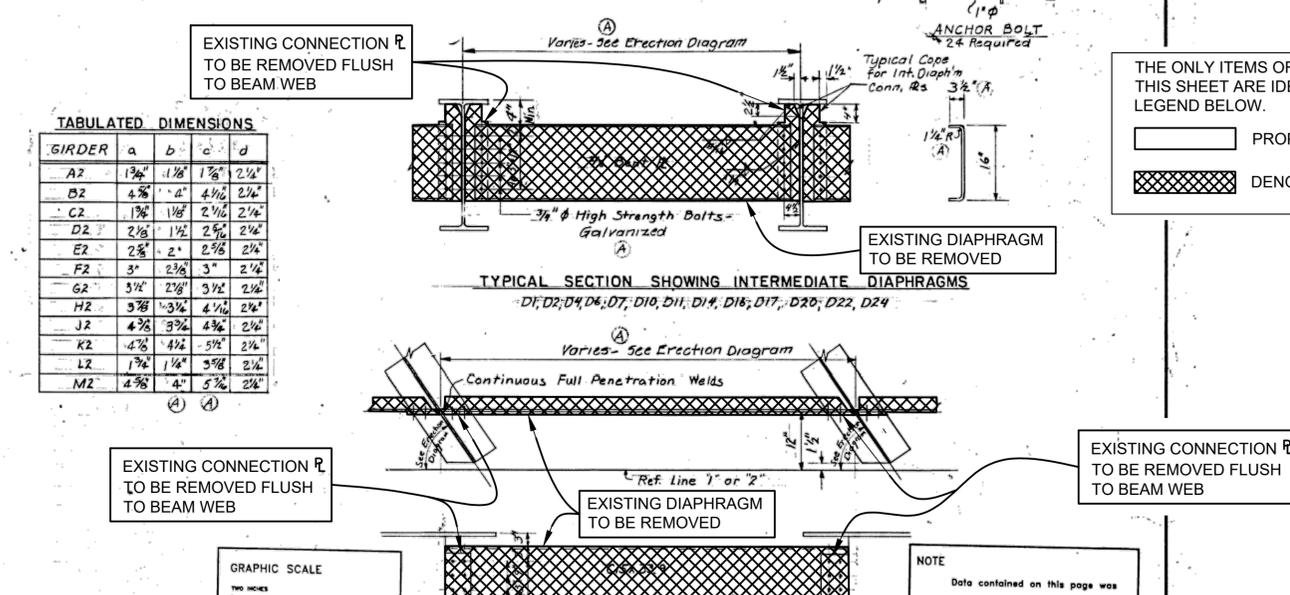
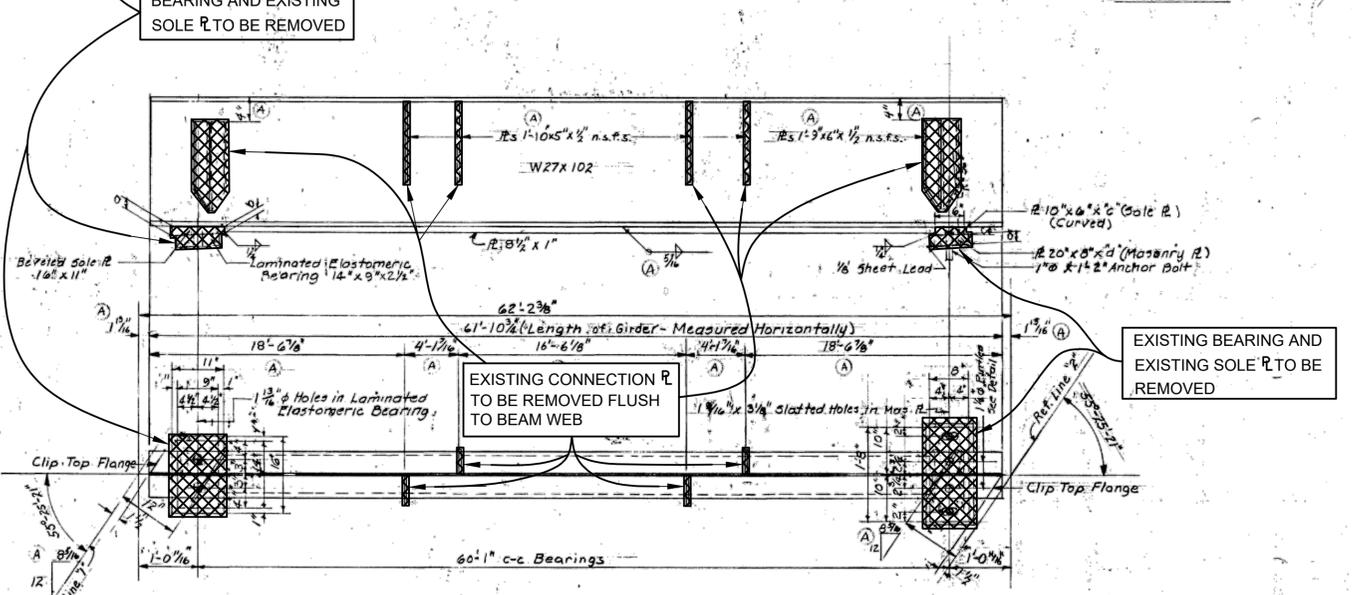
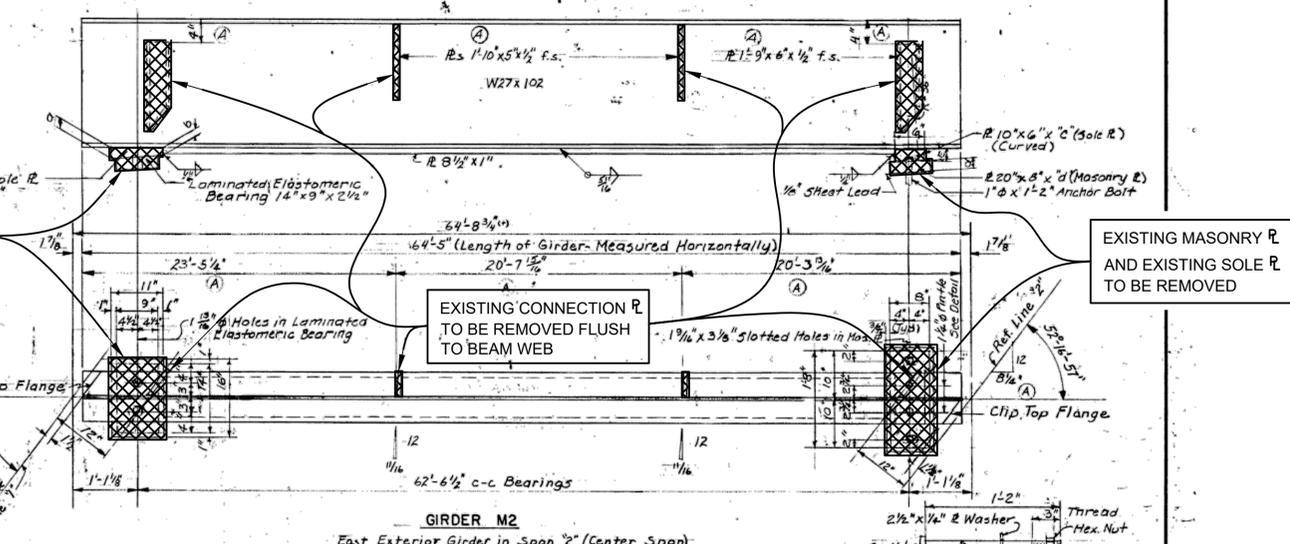
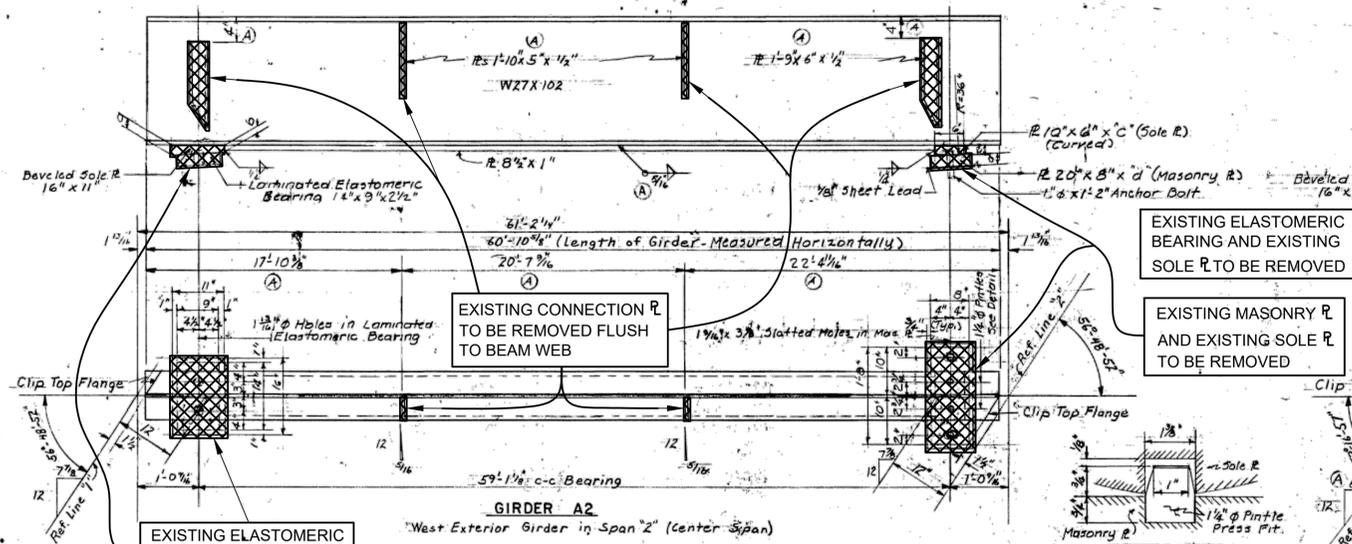
DRAWING NO. 2021-008-BR15

SHEET NO. 78 OF 153

APPROVED BY _____

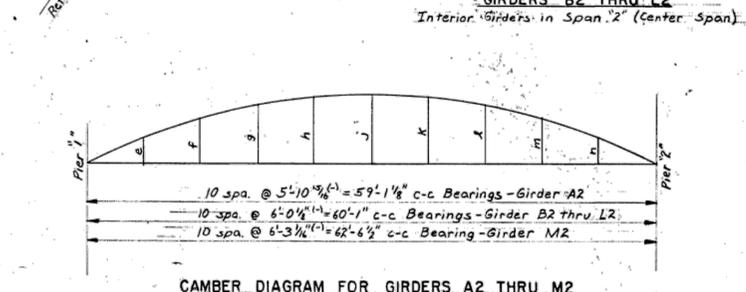
CARRIE L. HAMEL, P.E. MICHIGAN NO. 6201056734

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TABULATED DIMENSIONS

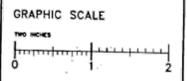
GIRDER	a	b	c	d
A2	13'	11'	1 1/2'	2 1/4'
B2	4 5/8'	1'	4 1/2'	2 1/4'
C2	1 7/8'	1 7/8'	2 1/2'	2 1/4'
D2	2 1/8'	1 1/2'	2 1/2'	2 1/4'
E2	2 3/8'	2'	2 3/8'	2 1/4'
F2	3'	2 3/8'	3'	2 1/4'
G2	3 1/4'	2 3/8'	3 1/4'	2 1/4'
H2	3 7/8'	3 3/4'	4 1/8'	2 1/4'
J2	4 3/8'	3 3/4'	4 3/8'	2 1/4'
K2	4 7/8'	4 1/2'	5 1/4'	2 1/4'
L2	1 3/4'	1 1/4'	3 3/8'	2 1/4'
M2	4 3/8'	4'	5 3/8'	2 1/4'



TABULATED DIMENSIONS FOR CAMBER DIAGRAMS

GIRDER	a	b	c	d	e	f	g	h	i	j	k	l	m	n
A2	1'	1 1/4'	2 1/4'	2 1/2'	2 3/4'	2 3/4'	1 1/4'	1 3/4'	3 1/4'	3 1/4'	2 1/4'	1 3/4'	1 3/4'	3 1/4'
B2	1'	1 1/4'	2 1/4'	2 1/2'	2 3/4'	2 3/4'	1 1/4'	1 3/4'	3 1/4'	3 1/4'	2 1/4'	1 3/4'	1 3/4'	3 1/4'
C2	1'	1 1/4'	2 1/4'	2 1/2'	2 3/4'	2 3/4'	1 1/4'	1 3/4'	3 1/4'	3 1/4'	2 1/4'	1 3/4'	1 3/4'	3 1/4'
D2	1'	1 1/4'	2 1/4'	2 1/2'	2 3/4'	2 3/4'	1 1/4'	1 3/4'	3 1/4'	3 1/4'	2 1/4'	1 3/4'	1 3/4'	3 1/4'
E2	1 1/4'	1 1/4'	2 1/4'	2 1/2'	2 3/4'	2 3/4'	1 1/4'	1 3/4'	3 1/4'	3 1/4'	2 1/4'	1 3/4'	1 3/4'	3 1/4'
F2	1 1/4'	1 1/4'	2 1/4'	2 1/2'	2 3/4'	2 3/4'	1 1/4'	1 3/4'	3 1/4'	3 1/4'	2 1/4'	1 3/4'	1 3/4'	3 1/4'
G2	1 1/4'	1 1/4'	2 1/4'	2 1/2'	2 3/4'	2 3/4'	1 1/4'	1 3/4'	3 1/4'	3 1/4'	2 1/4'	1 3/4'	1 3/4'	3 1/4'
H2	1 1/4'	1 1/4'	2 1/4'	2 1/2'	2 3/4'	2 3/4'	1 1/4'	1 3/4'	3 1/4'	3 1/4'	2 1/4'	1 3/4'	1 3/4'	3 1/4'
J2	1 1/4'	1 1/4'	2 1/4'	2 1/2'	2 3/4'	2 3/4'	1 1/4'	1 3/4'	3 1/4'	3 1/4'	2 1/4'	1 3/4'	1 3/4'	3 1/4'
K2	1 1/4'	1 1/4'	2 1/4'	2 1/2'	2 3/4'	2 3/4'	1 1/4'	1 3/4'	3 1/4'	3 1/4'	2 1/4'	1 3/4'	1 3/4'	3 1/4'
L2	1 1/4'	1 1/4'	2 1/4'	2 1/2'	2 3/4'	2 3/4'	1 1/4'	1 3/4'	3 1/4'	3 1/4'	2 1/4'	1 3/4'	1 3/4'	3 1/4'
M2	1 1/4'	1 1/4'	2 1/4'	2 1/2'	2 3/4'	2 3/4'	1 1/4'	1 3/4'	3 1/4'	3 1/4'	2 1/4'	1 3/4'	1 3/4'	3 1/4'

Digital Status
Scanned On: 7-19-05
By: LBS



NOT AS-BUILT, BEST AVAILABLE INFO.

Note: The Intermediate Diaphragm locations shown are suggested locations only.

REVISIONS

No.	Description	By	Date
(A)	Miscellaneous checking revisions	B.J.H.	4-2-82

CITY OF ANN ARBOR
BRIDGE CARRYING NICHOLS STREET OVER THE CONRAIL RAILROAD IN ANN ARBOR

STRUCTURAL STEEL DETAILS
SPAN "2"

DESIGNED BY: G.J. McLAVY & SONS, INC. CONSULTING ENGINEERS
APPROVED BY: REGISTERED ENGINEER

DRAWN BY: G.J.M. 7-20-81
TRACED BY: TLD 8-13-81
CHECKED BY: M.E.R. 4/20/82
SHEET NO. 19 OF 22

APPROVED BY: R1 OF 81-1-19

DLZ

REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10-9-22	DAF	CLH

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

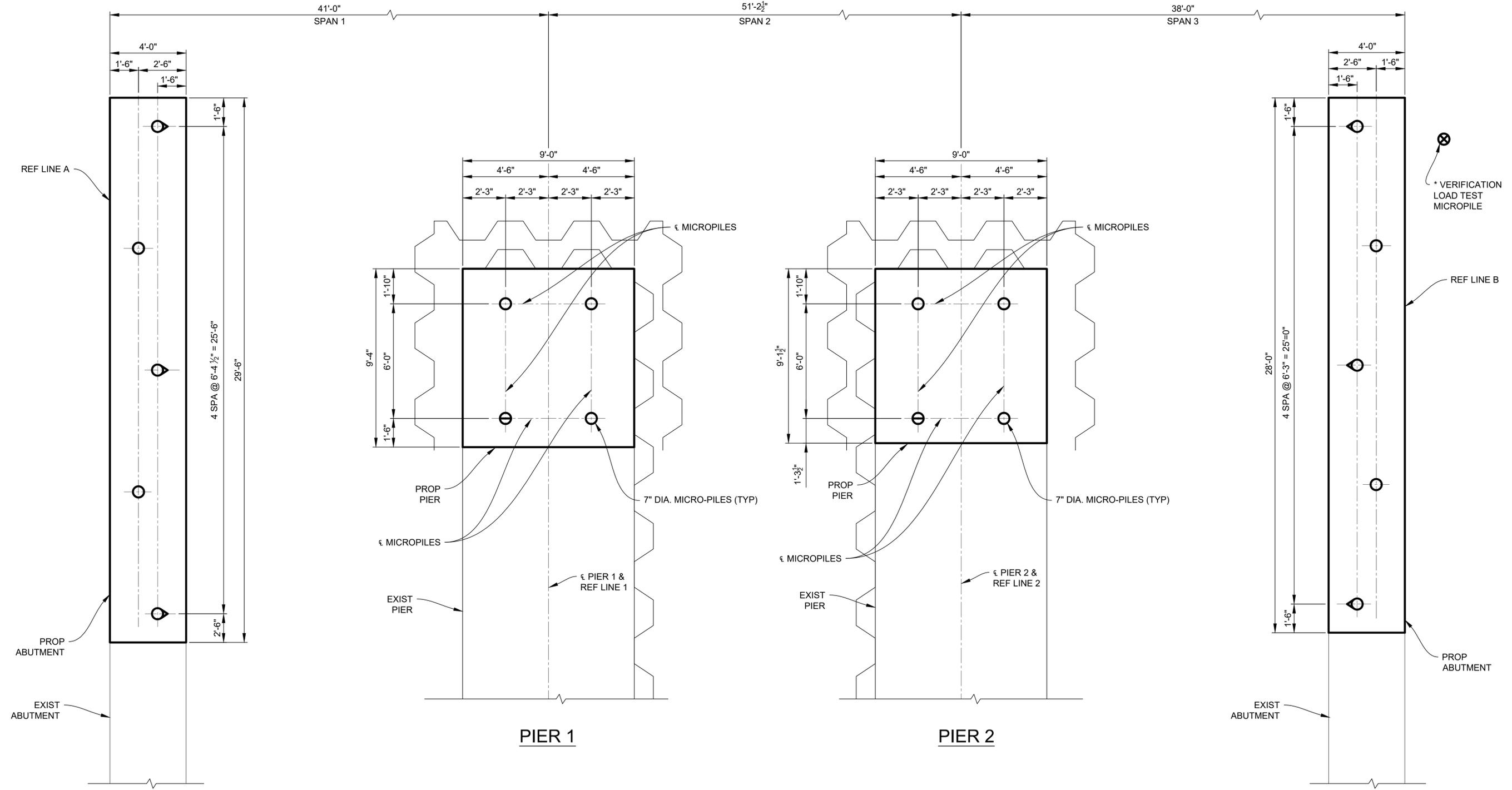
EAST MEDICAL CENTER DRIVE
EXISTING STRUCTURAL STEEL DETAILS
REMOVAL

SCALE: NONE 0 INCH 1

DRAWING NO. 2021-008-BR16
SHEET NO. 79 OF 153

APPROVED BY: CARRIE L. HAMEL, P.E. MICHIGAN NO. 6201056734

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ESTIMATED QUANTITIES THIS SHEET					
DESCRIPTION	UNITS	CATG 0001	CATG 0002	CATG 0003	TOTAL
Micropile, Type B, Furn and Install, LRFD	Ea		18		18
Micropile, Load Test, Proof, LRFD	Ea		4		4
Micropile, Load Test, Verification, LRFD	Ea		1		1
Micropile Mobilization, LRFD (STR 11065)	LSUM		1		1

* LOCATION OF VERIFICATION LOAD TEST MICROPILE SHALL BE NEAR, EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.

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REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10-9-22	DAF	CLH

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

EAST MEDICAL CENTER DRIVE

MICROPILE PLAN

DRAWING NO. **2021-008-BR17**

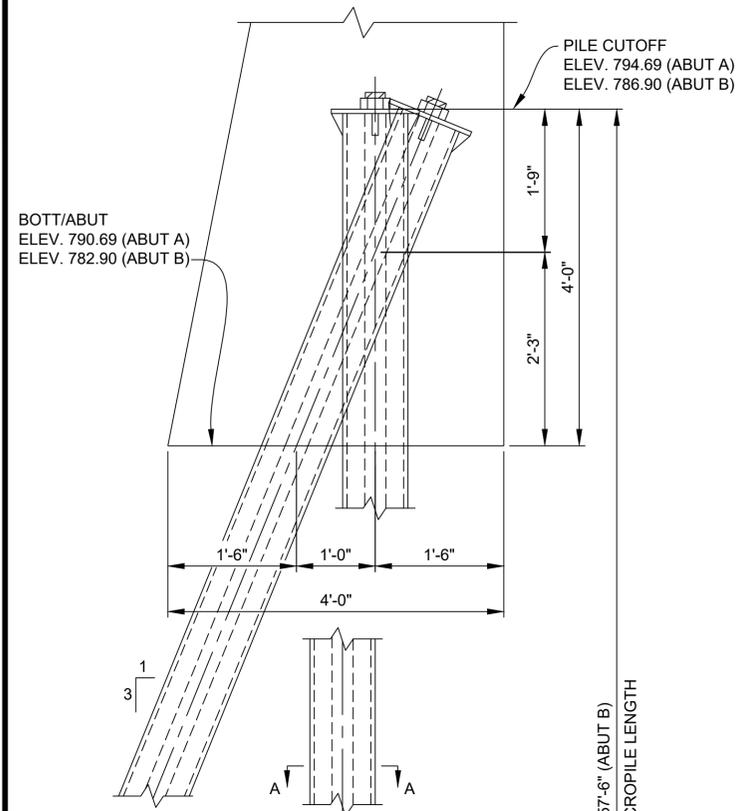
SHEET NO. 80 OF 153

APPROVED BY: _____

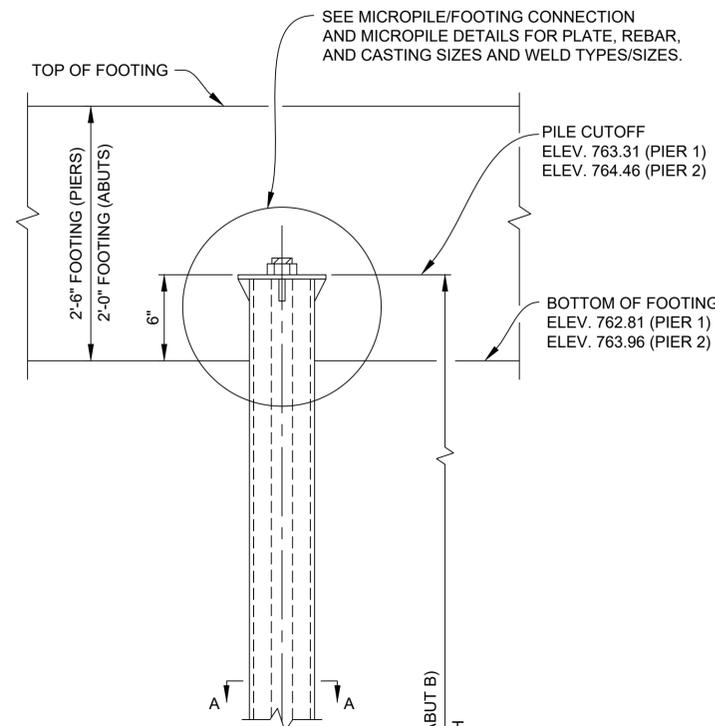
SCALE
HOR. 3/8"=1'-0"

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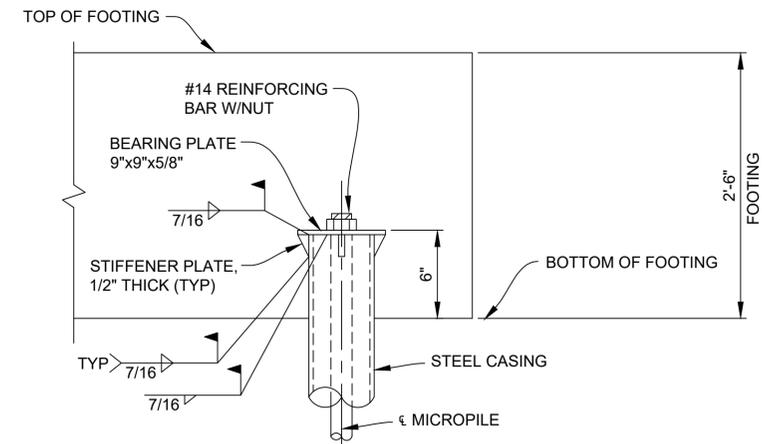
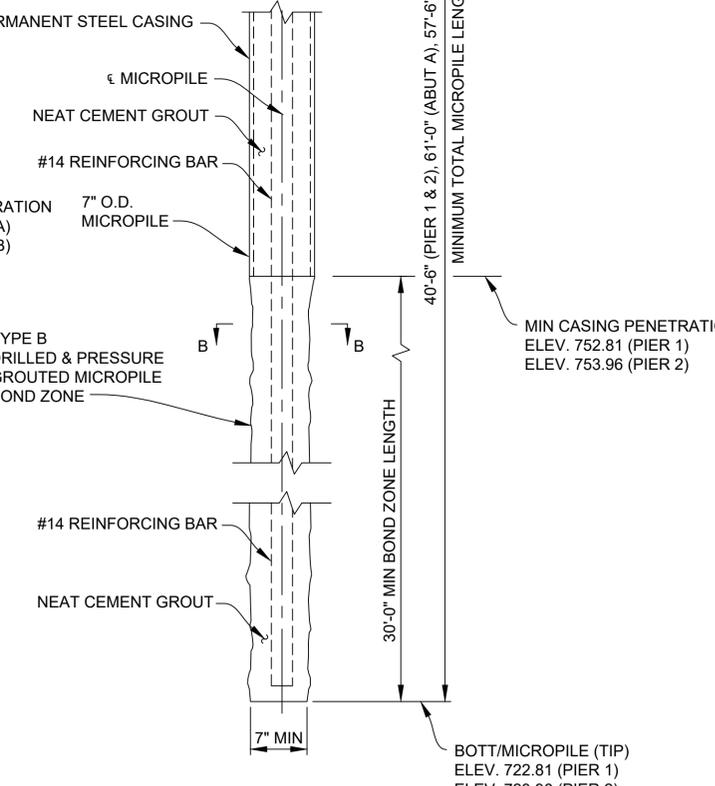
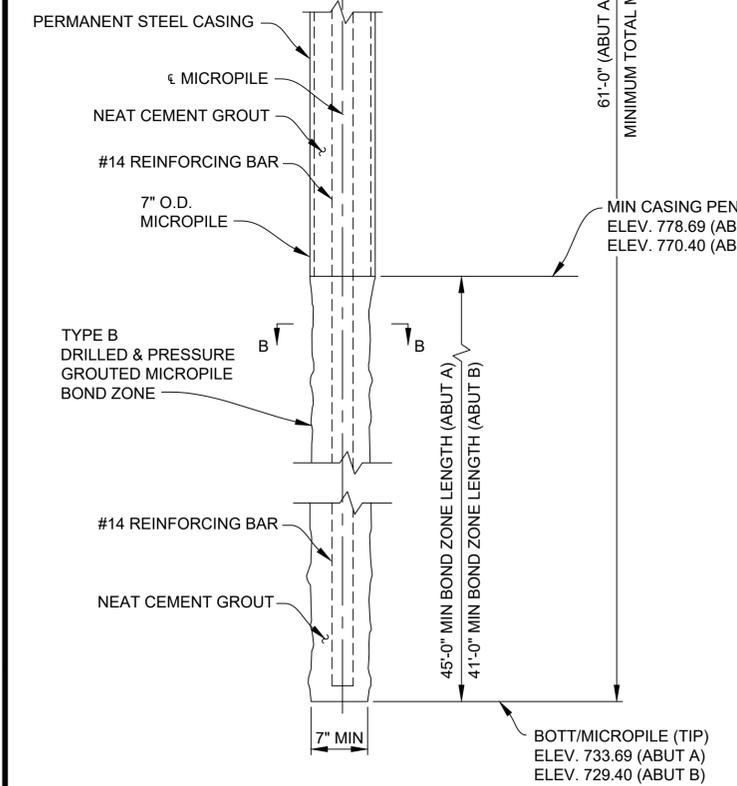
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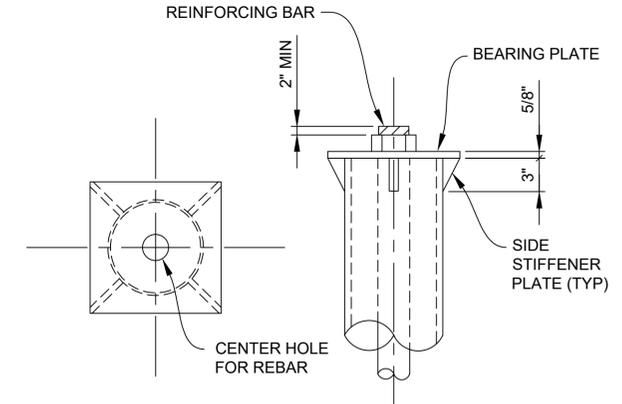
MICROPILE ELEVATION
(ABUTMENTS A & B)



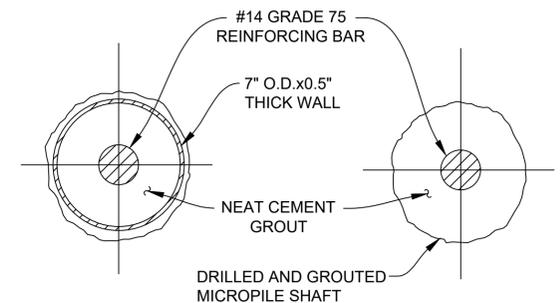
MICROPILE ELEVATION
(PIERS 1 & 2)



MICROPILE/FOOTING/TREMIE CONNECTION DETAIL
(PIER SHOWN, ABUTMENT SIMILAR)



MICROPILE DETAILS



SECTION A-A **SECTION B-B**

EMCD 150 KIP(AT ABUT'S) OR 91 KIP(AT PIER'S) TYPE B 7" O.D. MICROPILE (SEE MICROPILE ELEVATION)					
LOCATION	PILE TYPE	NUMBER OF PILES	ESTIMATED LENGTH FURNISHED, DRILLED & GROUTED		CUT-OFF ELEV.
			EACH LFT	TOTAL LFT	
ABUT A	VERTICAL	2	61	122	794.69
	BATTERED 3V:1H	3	65	195	794.69
PIER 1	VERTICAL	4	41	164	763.31
PIER 2	VERTICAL	4	41	164	764.46
ABUT B	VERTICAL	2	58	116	786.90
	BATTERED 3V:1H	3	61	183	786.90
TOTAL		18		944	

NOTES:

- DENOTES BATTERED MICROPILE.
 - DENOTES VERTICAL MICROPILE.
 - ⊕ DENOTES PROOF LOAD TEST MICROPILE, LRFD.
 - ⊗ DENOTES VERIFICATION LOAD TEST MICROPILE, LRFD.
- FACTORED NOMINAL RESISTANCE OF MICROPILE SHALL BE 150 KIP (ABUT A & B) & 91 KIP (PIER 1 & 2).
- INSTALL ALL PILES TO THE PILE TIP ELEVATION SHOWN.
- PILES DESIGNED USING AASHTO LRFD WITH RESISTANCE FACTOR OF 0.7.
- INSTALL PILES TO MEET CONSTRUCTION TOLERANCES ESTABLISHED IN SPECIAL PROVISION.
- ENGINEER TO OBSERVE PILE INSTALLATION TO ENSURE ADEQUATE STRUCTURAL INTEGRITY. REPLACE ANY PILES DEEMED DAMAGED, AS DIRECTED BY THE ENGINEER.
- FURNISH 7" O.D. STEEL CASING (NP-80) WITH A MINIMUM 0.5" WALL THICKNESS WITH A MINIMUM YIELD STRENGTH OF 80 KSI.
- FURNISH #14 WILLIAMS ASTM A-615 GRADE 75 ALL-THREAD BAR (OR EQUIVALENT). DETERMINE LENGTH OF COUPLE BAR SECTIONS BASED ON OVERHEAD CLEARANCES. FINISH COUPLERS AND NUTS MANUFACTURED SPECIFICALLY FOR THE THREADED BAR USED.
- FURNISH ASTM A572 GRADE 50 STEEL BEARING PLATES AND SIDE STIFFENERS.
- SEE SPECIAL PROVISION FOR FURTHER REQUIREMENTS.
- MICROPILES SHALL BE TYPE B. AFTER THE PRIMARY GROUT HAS BEEN TREMIED, PRESSUREGROUT THROUGH THE CASING TO A MINIMUM PRESSURE OF 40 PSI.
- COBBLES AND BOULDERS SHOULD BE ANTICIPATED DURING MICROPILE INSTALLATION. NO MICROPILE SHOULD BE TERMINATED ON A COBBLE OR BOULDER.

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	ORIGINAL ISSUE	10-9-22	DAF	CLH

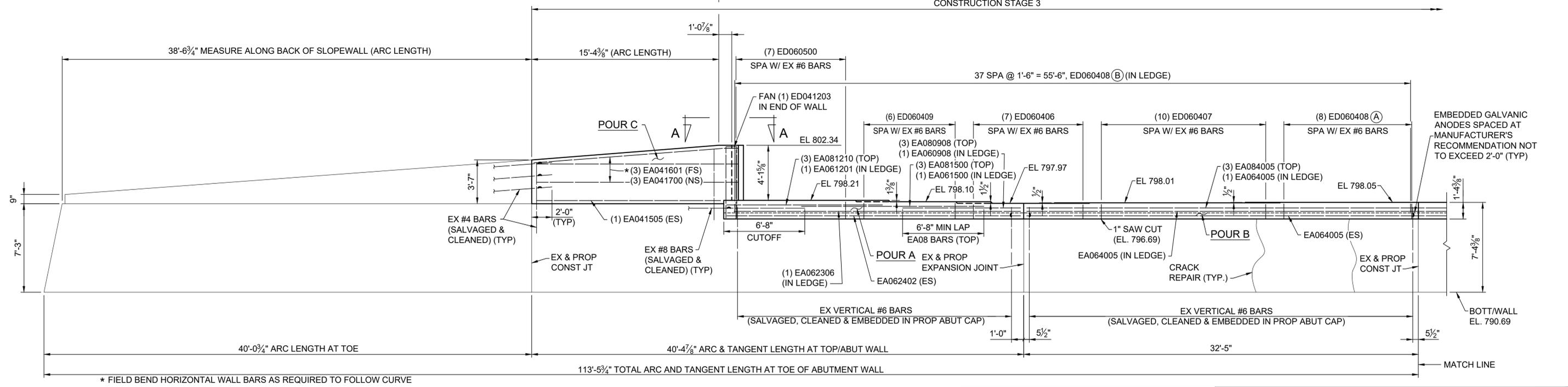
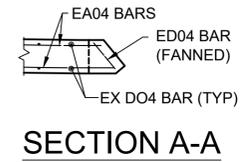
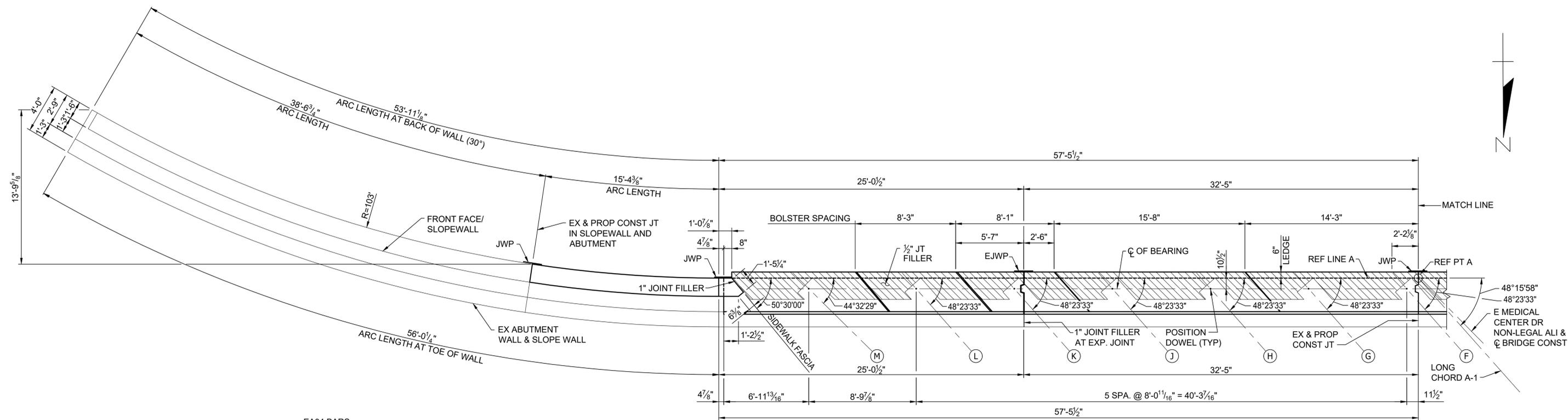
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

EAST MEDICAL CENTER DRIVE

MICROPILE DETAILS

APPROVED BY:
CARRIE L. HAMEL, P.E. MICHIGAN NO. 6201056734

SCALE HOR. 1/2"=1'-0"	INCH 0 1
DRAWING NO. 2021-008-BR18	
SHEET NO. <u>81</u> OF <u>153</u>	



ELEVATION

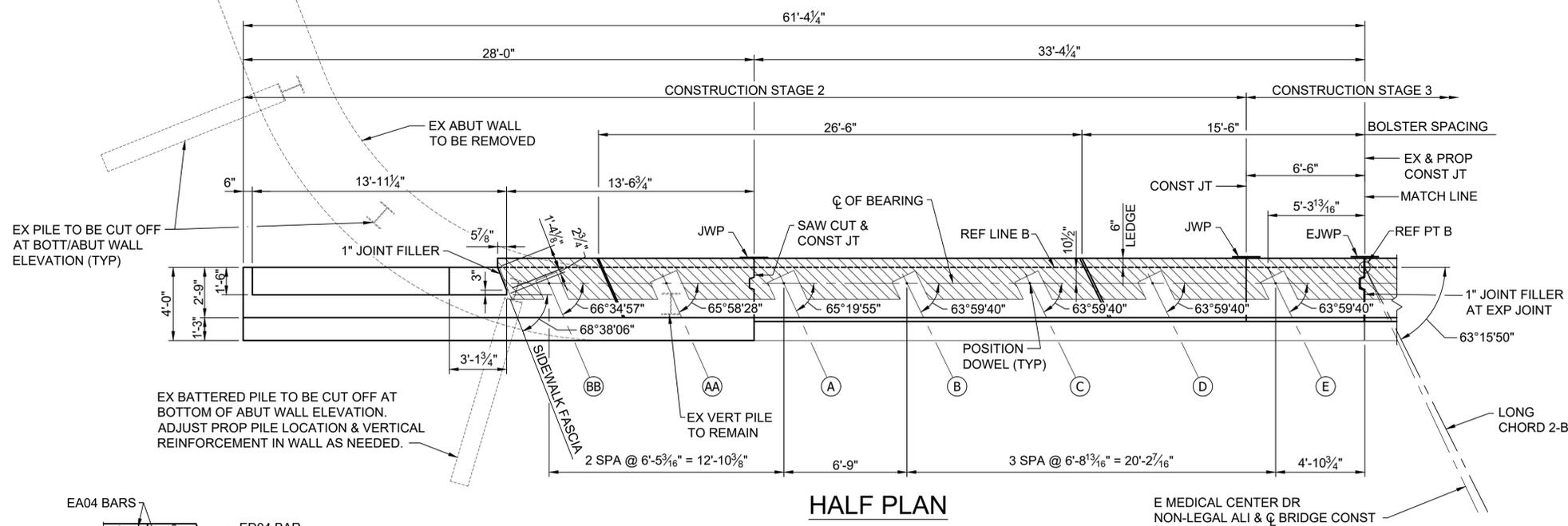
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REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
EAST MEDICAL CENTER DRIVE	
ABUTMENT A DETAILS	
SCALE HOR. 1/4"=1'-0"	INCH 0 1
DRAWING NO. 2021-008-BR19	
SHEET NO. <u>82</u> OF <u>153</u>	

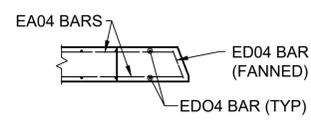
APPROVED BY: CARRIE L. HAMEL, P.E. MICHIGAN NO. 6201056734

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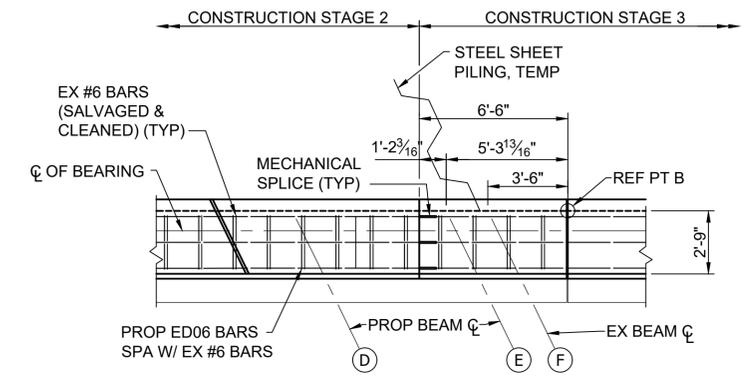


HALF PLAN

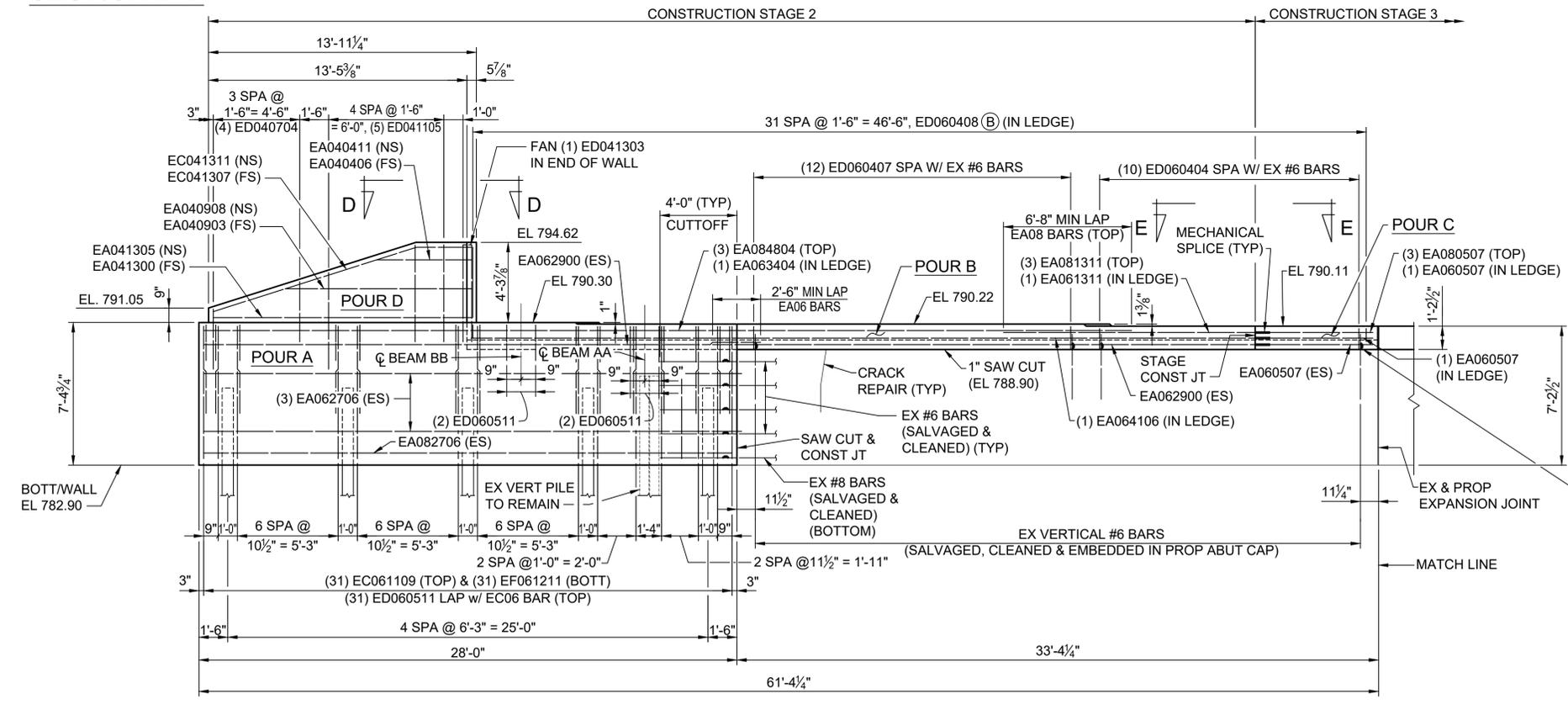
E MEDICAL CENTER DR
NON-LEGAL ALI & C BRIDGE CONST



SECTION D-D



SECTION E-E



ELEVATION

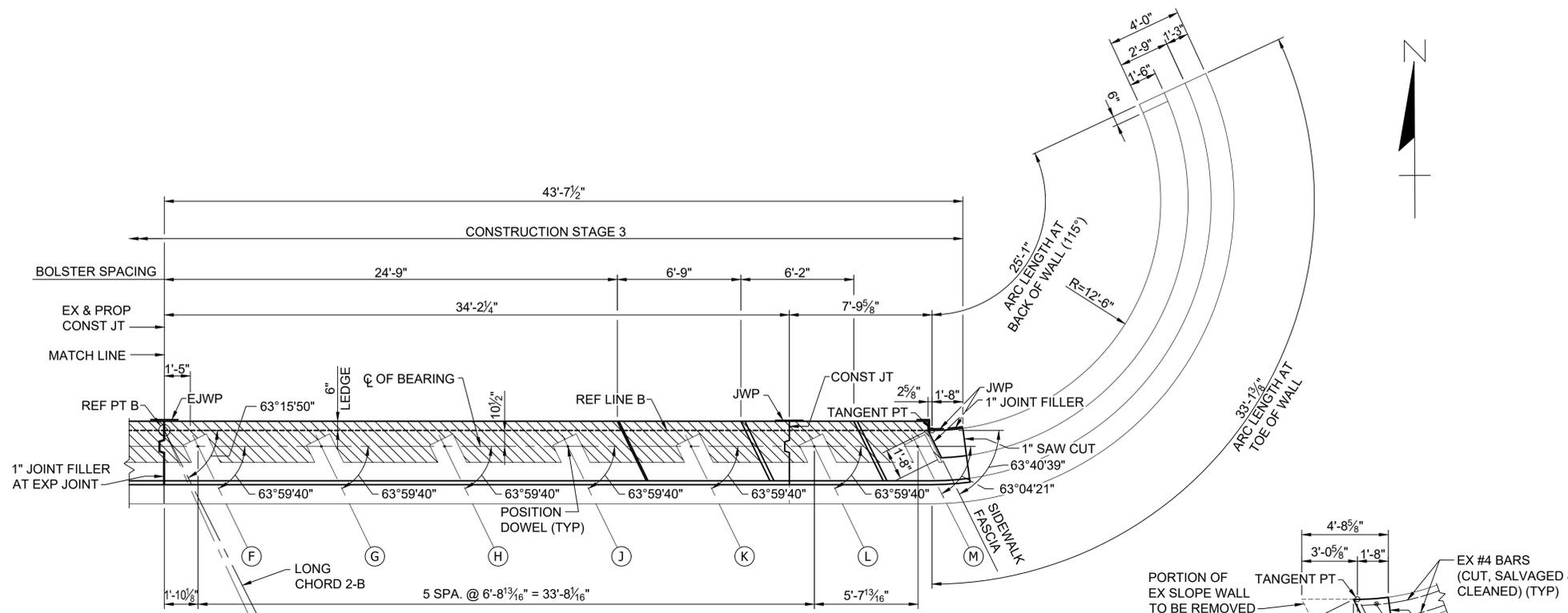
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	ORIGINAL ISSUE	10-9-22	DAF	CLH

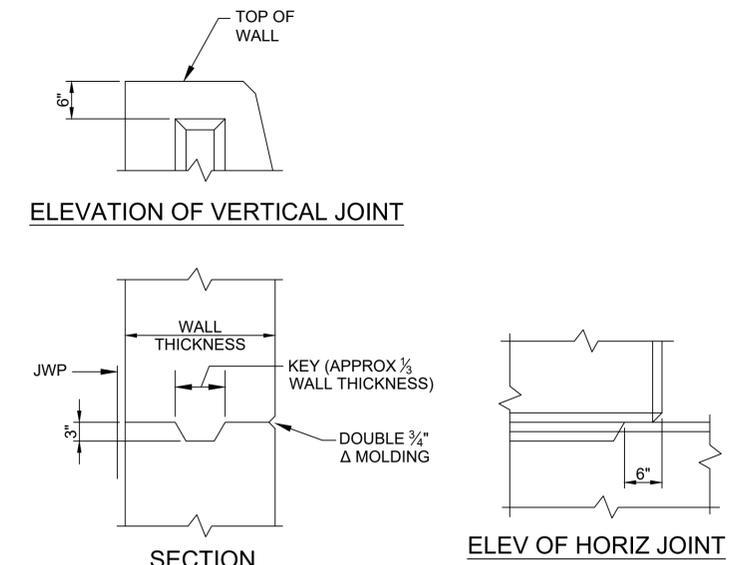
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
EAST MEDICAL CENTER DRIVE	
ABUTMENT B DETAILS	
SCALE HOR. 1/4"=1'-0"	INCH 0 1
DRAWING NO. 2021-008-BR21	
SHEET NO. <u>84</u> OF <u>153</u>	

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CARRIE L. HAMEL, P.E. MICHIGAN NO. 6201056734

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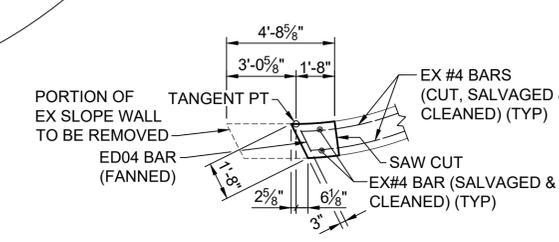
HALF PLAN



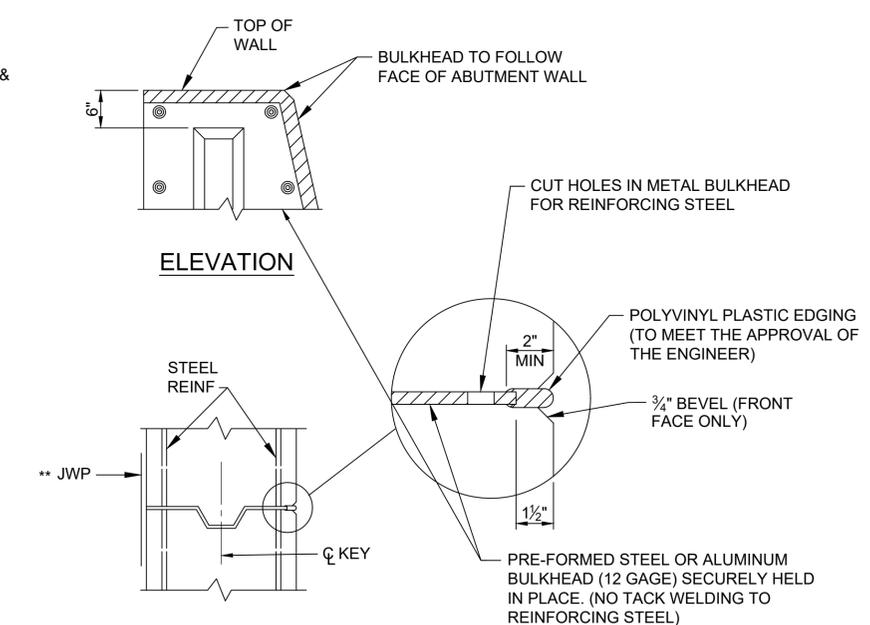
ELEVATION OF VERTICAL JOINT
SECTION
ELEV OF HORIZ JOINT

CONSTRUCTION JOINT DETAILS

NOTE: WHERE OPTIONAL CONSTRUCTION JOINTS ARE USED, THERE WILL BE NO PAYMENT FOR THE REQUIRED JOINT WATERPROOFING.



SECTION F-F



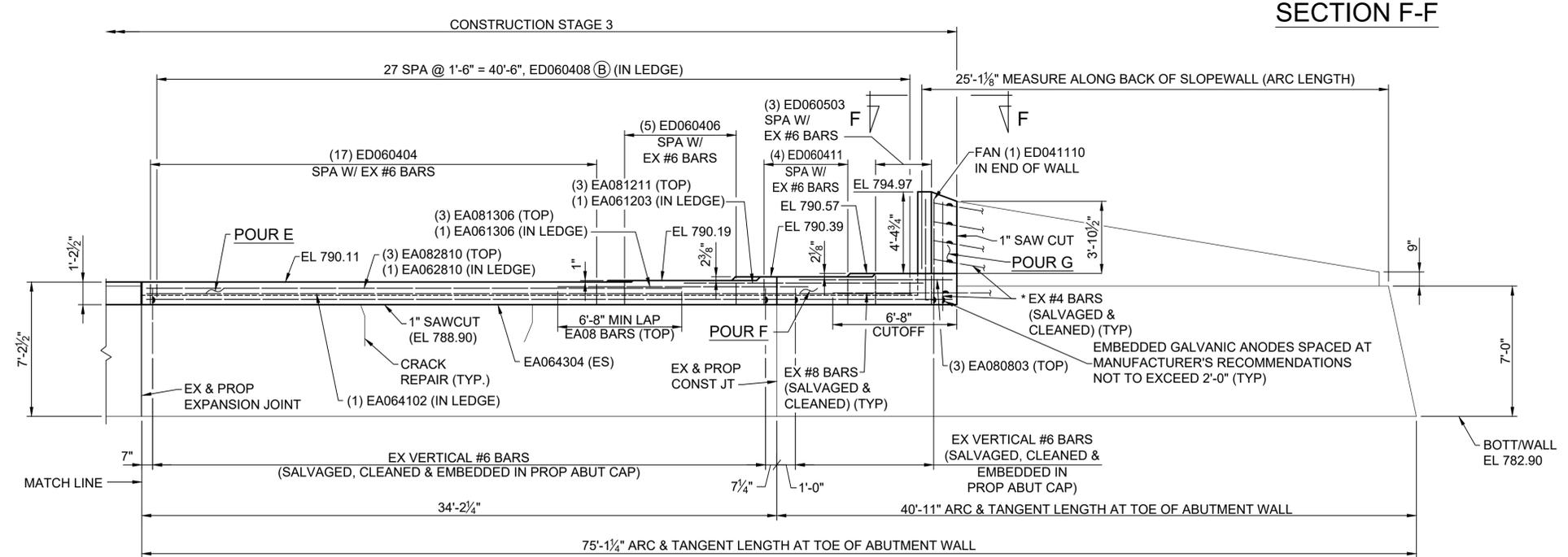
ELEVATION
SECTION

METAL BULKHEAD DETAILS

METAL BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT AT CONTRACTOR'S EXPENSE. CARE IS TO BE USED IN CASTING CONCRETE TO PREVENT DISLOCATION OR MISALIGNMENT OF BULKHEAD.

NOTES:

JOINT AND BULKHEAD DETAILS ARE FOR BOTH ABUTMENTS.



ELEVATION

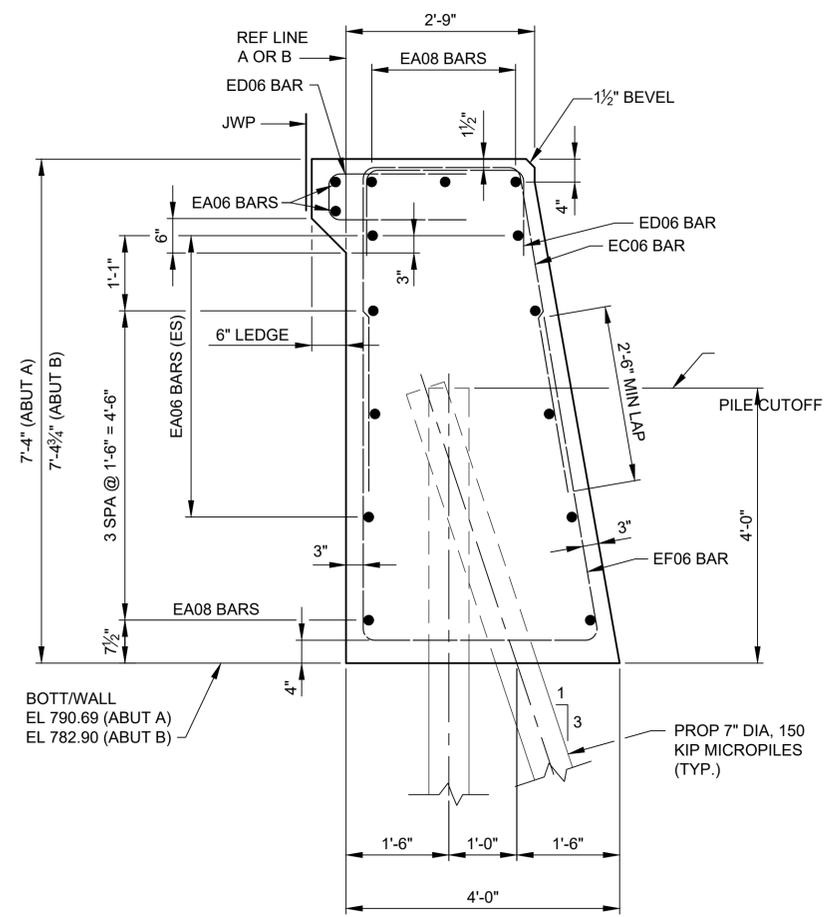
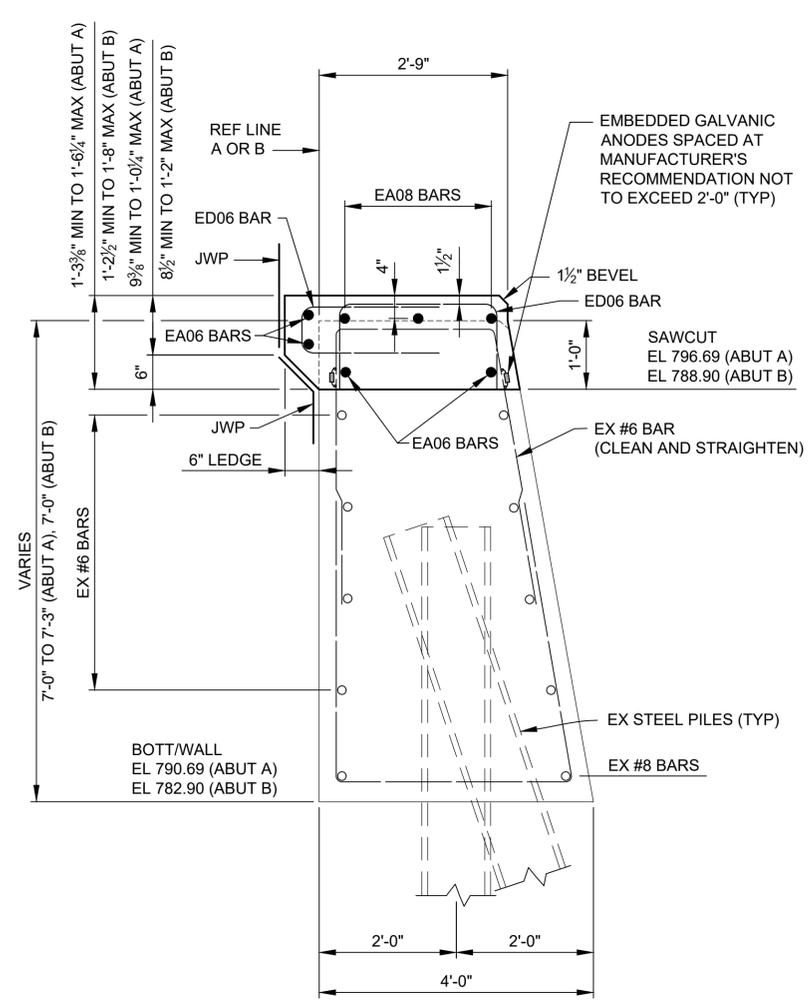
* TRIM BARS AS NEEDED TO ACHIEVE 2" COVER.

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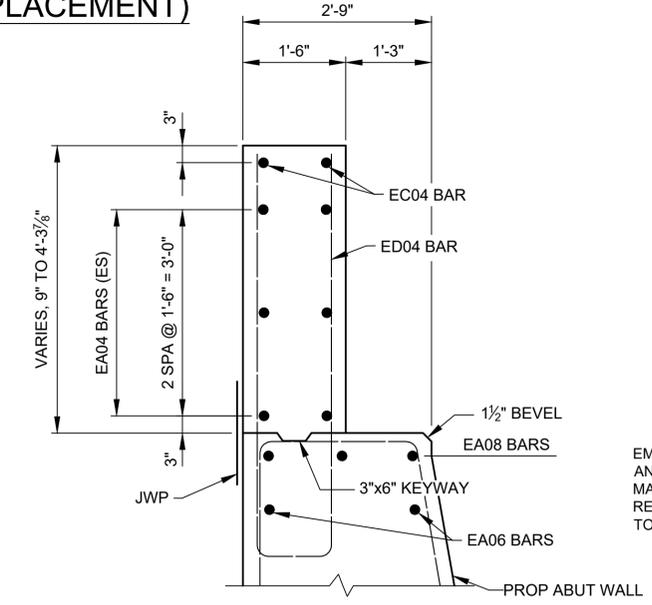
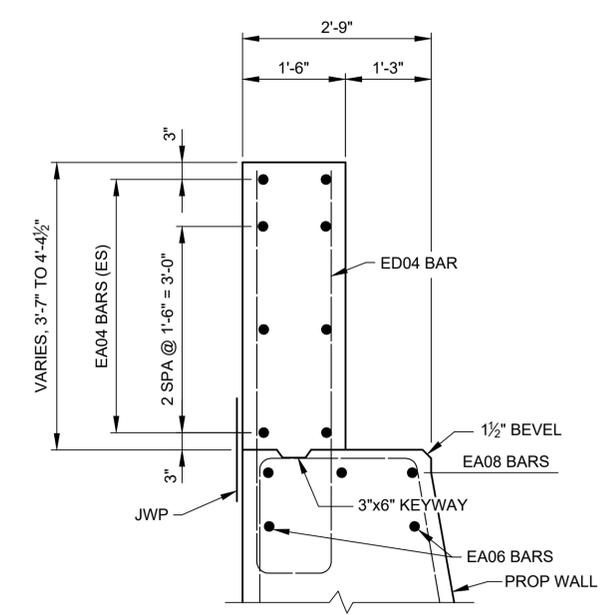
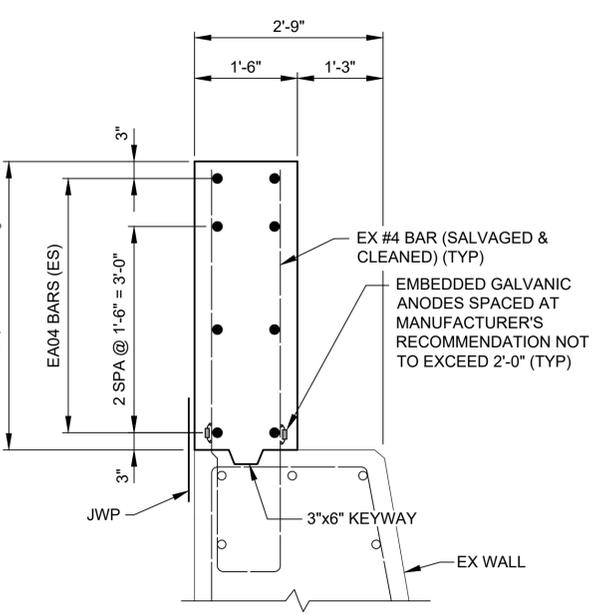
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PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
EAST MEDICAL CENTER DRIVE	
ABUTMENT B DETAILS	
SCALE HOR. 1/4"=1'-0"	INCH 0 1
DRAWING NO. 2021-008-BR22	
SHEET NO. <u>85</u> OF <u>153</u>	

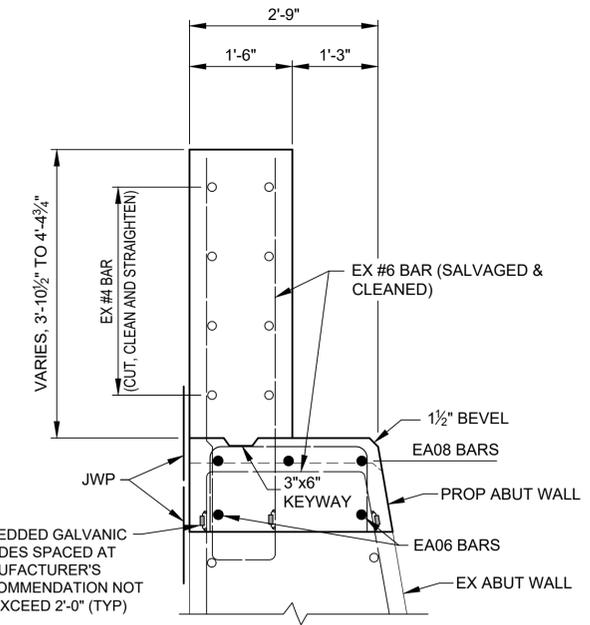


**TYPICAL ABUTMENT SECTION
(FULL REPLACEMENT)**

**TYPICAL ABUTMENT SECTION
(PARTIAL REPLACEMENT)**



**TYPICAL SLOPEWALL SECTION
ABUTMENT B (CONSTRUCTION STAGE 2)**



**TYPICAL SLOPEWALL SECTION
ABUTMENT B (CONSTRUCTION STAGE 3)**

ESTIMATED QUANTITIES THIS SHEET					
DESCRIPTION	UNITS	CATG 0001	CATG 0002	CATG 0003	TOTAL
Substructure Conc	Cyd	32	52		84
Water Repellent Treatment Penetrating	Syd	1			1
Joint Waterproofing	Sft	74C			74C
Joint Waterproofing Expansion	Sft	1C			1C
Hand Chipping Other Than Deck	CF	1			1
Patch Forming	Sft	5			5
Reinforcement Mechanical Splice	Ea	14			14
Flushing Cracks Water	Ft	84			84
Structural Crack Rep	Ft	84			84
Patching Conc. C&L	Cyd	3.4			3.4
Embedded Galvanic Anodes	Ea	275			275

NOTES

- NS DENOTES NEAR SIDE.
- FS DENOTES FAR SIDE.
- ES DENOTES EACH SIDE.
- JWP DENOTES JOINT WATERPROOFING.
- EJWP DENOTES EXPANSION JOINT WATERPROOFING.
- REPAIR AREAS/CRACKS SHOWN ARE APPROXIMATIONS BASED ON A BRIDGE INSPECTION THAT TOOK PLACE IN OCTOBER, 2021.
- ABUTMENTS SHALL BE SOUNDED PRIOR TO CONSTRUCTION AND ADDITIONAL AREAS SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER.
- PENETRATING WATER REPELLENT TREATMENT SHALL BE APPLIED TO THE ABUTMENT REPAIR AREAS AS DIRECTED BY THE ENGINEER.
- INSTALL GALVANIC ANODES ON EXPOSED REBAR ALONG PERIMETER OF REPAIR, SPACED PER MANUFACTURER'S RECOMMENDATIONS (24 INCH MAX).
- A CRACK THAT EXTENDS BELOW THE GROUND LINE SHALL, WITH PRIOR APPROVAL OF THE ENGINEER, BE REPAIRED. ALL EXCAVATION, BACKFILL, WORK, AND MATERIAL REQUIRED SHALL BE INCLUDED IN PAYMENT FOR "STRUCTURAL CRACK, REPR".
- FOR BEVEL AND MOLDING DETAILS, SEE MDOT STANDARD PLAN B-103-SERIES.
- FOR MICROPILE QUANTITIES, LAYOUT, AND NOTES, SEE SHEETS 80 & 81 OF 153.
- THE CONTRACTOR MAY ADHESIVE ANCHOR POSITION DOWELS IN HOLES DRILLED IN THE CONCRETE AT ABUTMENTS.
- LOW TEMPERATURE PROTECTION OF CONCRETE SHALL BE APPLIED ACCORDING TO SECTION 706.03J OF THE MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION. LOW TEMPERATURE PROTECTION OF CONCRETE WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE INCLUDED IN THE CONCRETE BID ITEMS.

SUBSTRUCTURE CONCRETE QUANTITIES (CYD)		
POUR	ABUT A	ABUT B
A	3.8	* 27.9
B	4.6	3.8
C	3.8	1.0
D	1.4	* 2.1
E	3.5	4.7
F	2.9	2.0
G	* 27.4	0.5
H	* 4.6	
TOTAL	52	42

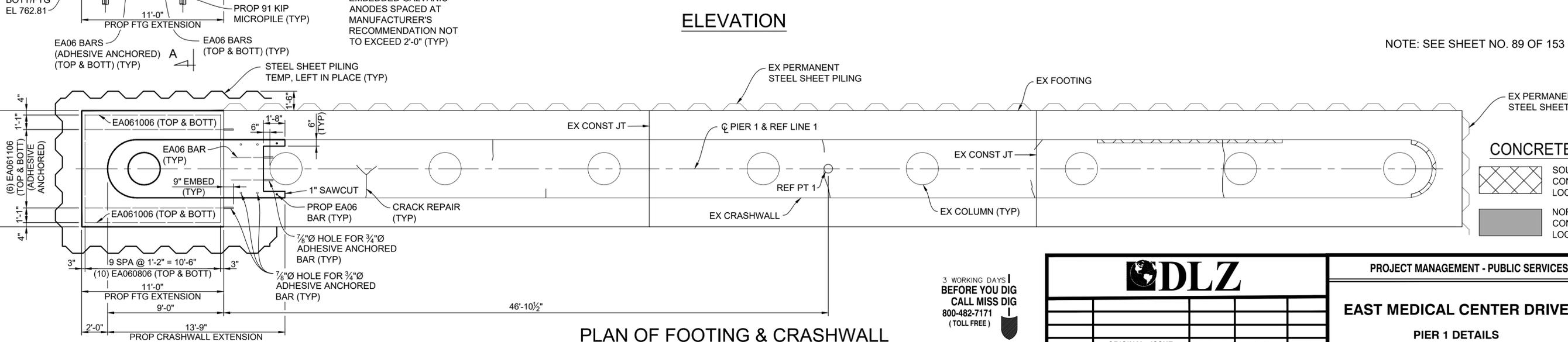
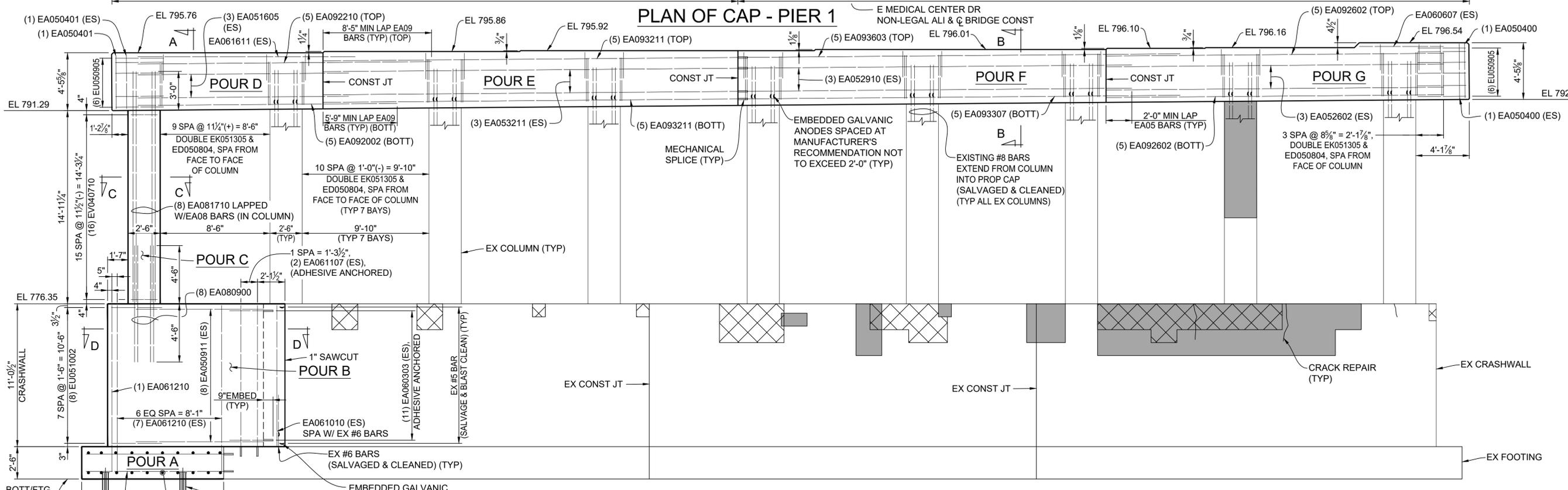
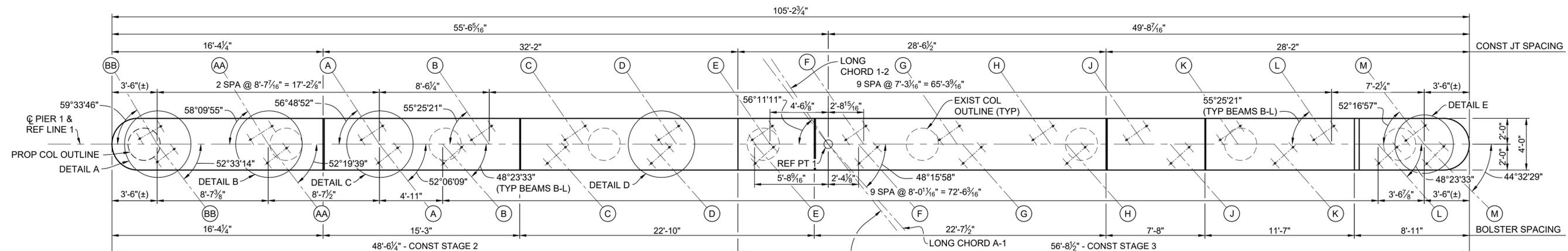
* DENOTES CATG 0002 (32 CYD @ ABUT A & 30 CYD @ ABUT B), ALL OTHER POURS INCLUDED IN CATG 001

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PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
EAST MEDICAL CENTER DRIVE	
ABUTMENT DETAILS	
SCALE HOR. 3/4"=1'-0"	INCH 0 1
DRAWING NO. 2021-008-BR23	
SHEET NO. <u>86</u> OF <u>153</u>	



CONCRETE REPAIR LEGEND:

- SOUTH FACE PIER DETERIORATED CONCRETE AREA (PROP PATCHING LOCATIONS)
- NORTH FACE PIER DETERIORATED CONCRETE AREA (PROP PATCHING LOCATIONS)

NOTE: SEE SHEET NO. 89 OF 153 FOR DETAILS A THRU E.

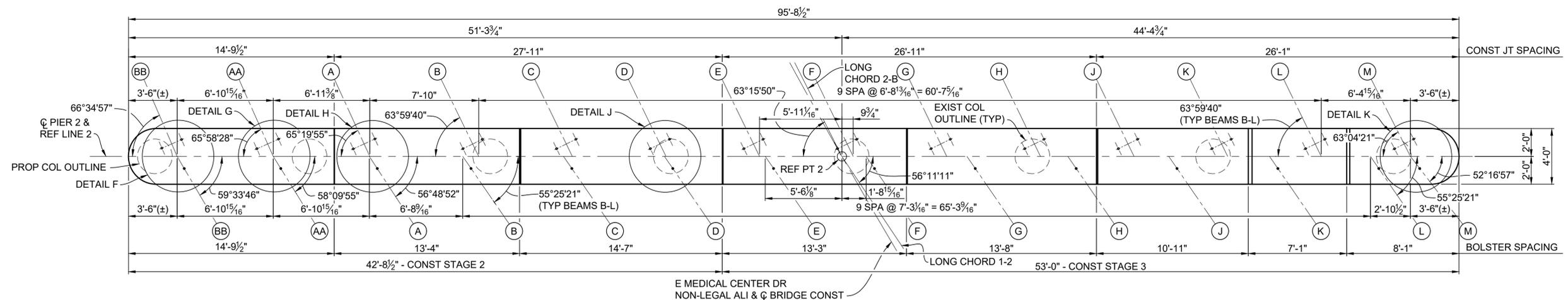
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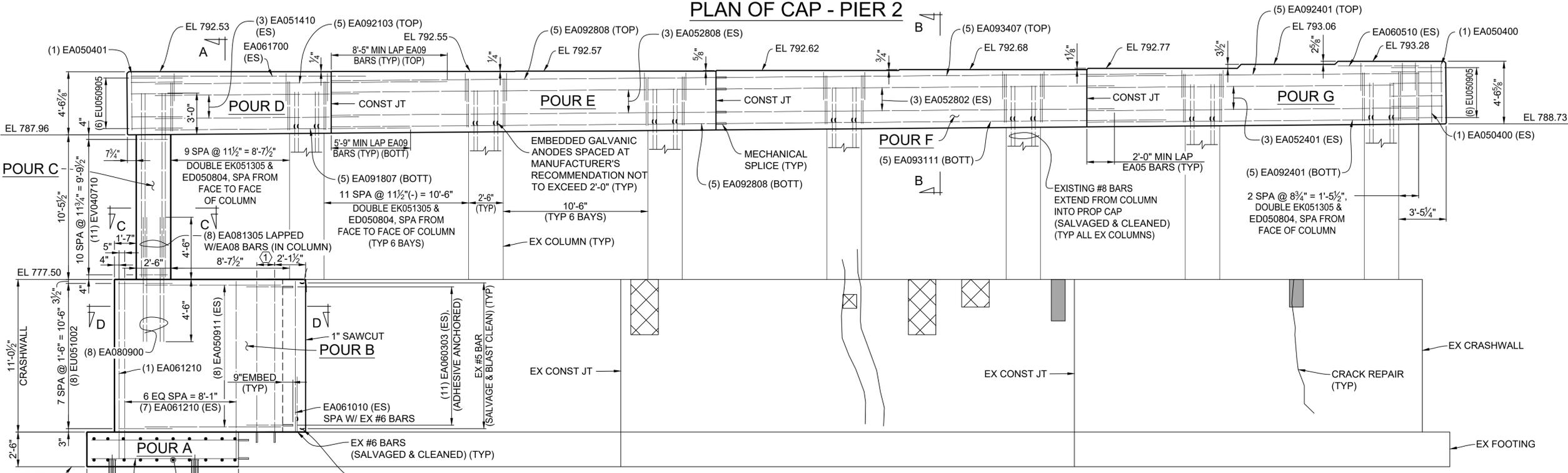
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
EAST MEDICAL CENTER DRIVE	
PIER 1 DETAILS	
SCALE NTS	INCH 0 1
DRAWING NO. 2021-008-BR24	
SHEET NO. <u>87</u> OF <u>153</u>	

APPROVED BY: CARRIE L. HAMEL, P.E. MICHIGAN NO. 6201056734

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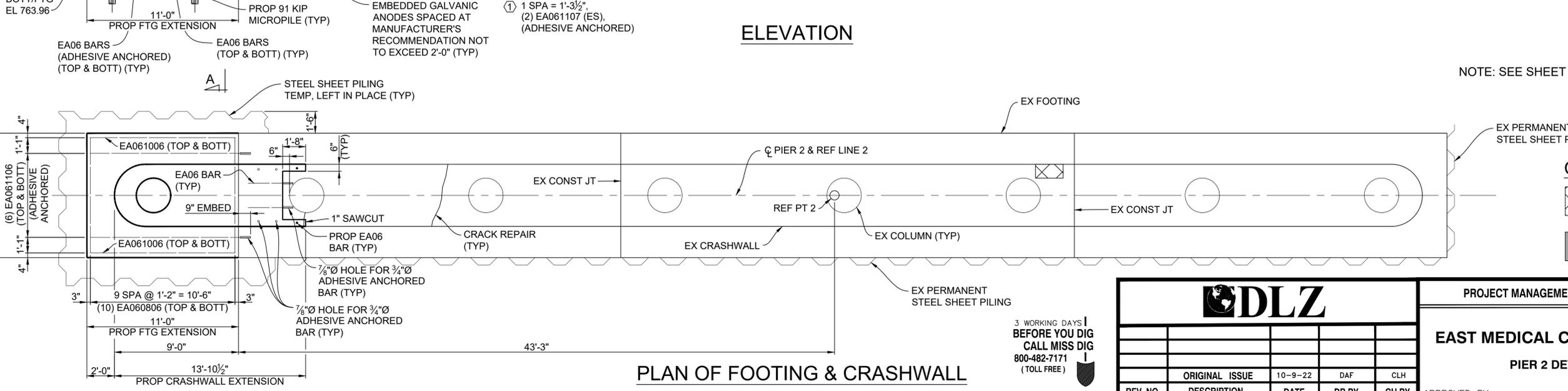


PLAN OF CAP - PIER 2



ELEVATION

NOTE: SEE SHEET NO. 89 OF 153 FOR DETAILS F THRU K.



PLAN OF FOOTING & CRASHWALL

CONCRETE REPAIR LEGEND:

- SOUTH FACE PIER DETERIORATED CONCRETE AREA (PROP PATCHING LOCATIONS)
- NORTH FACE PIER DETERIORATED CONCRETE AREA (PROP PATCHING LOCATIONS)

DLZ				
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10-9-22	DAF	CLH

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

EAST MEDICAL CENTER DRIVE

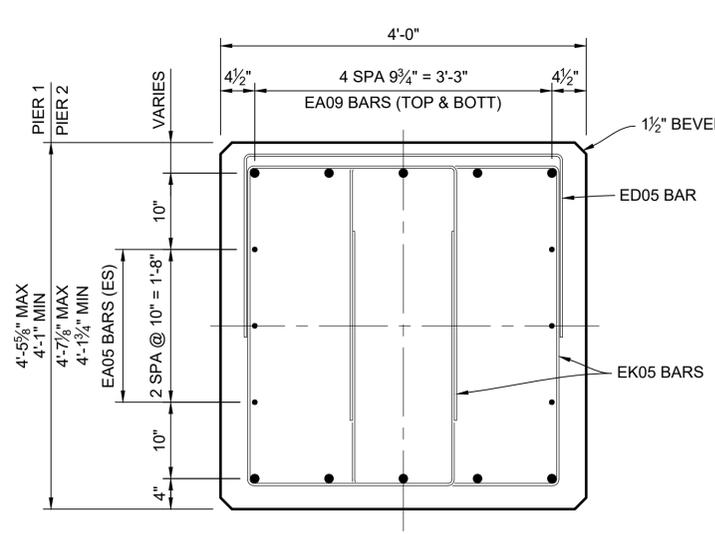
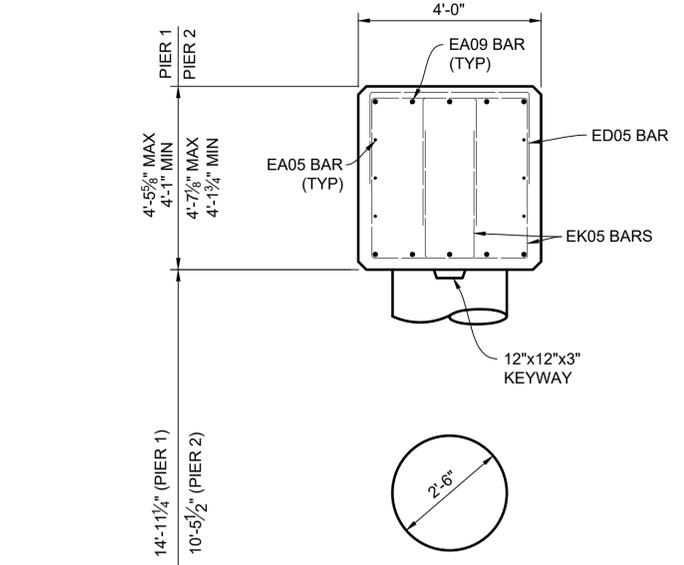
PIER 2 DETAILS

SCALE	NTS	INCH	0	1
DRAWING NO. 2021-008-BR25				
SHEET NO. <u>88</u> OF <u>153</u>				

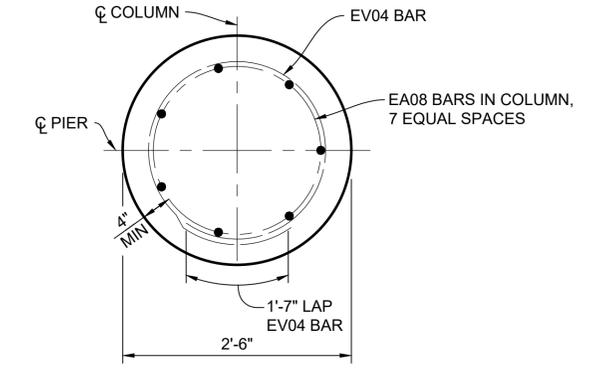
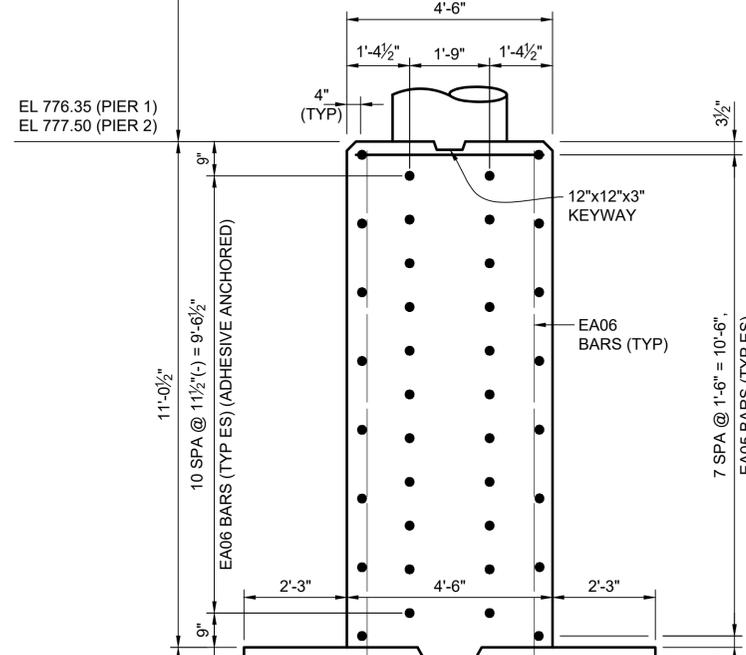
3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 800-482-7171 (TOLL FREE)

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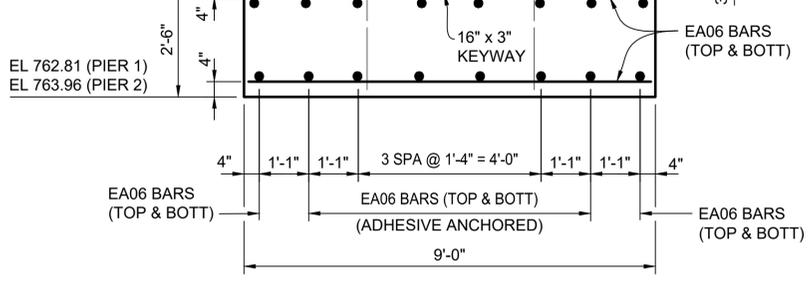
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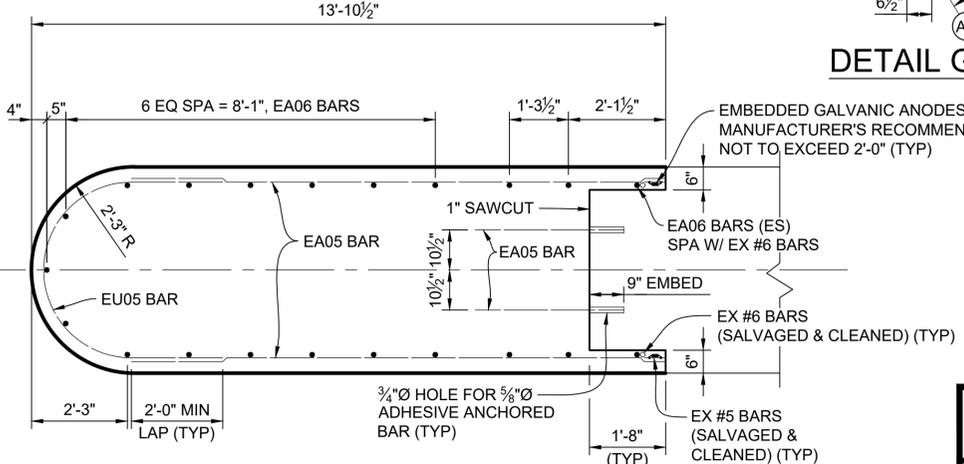
SECTION B-B



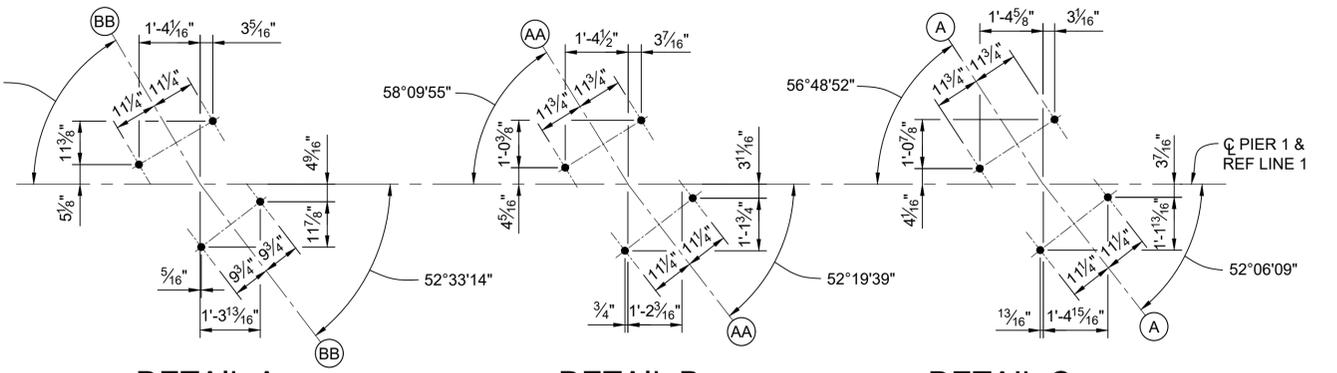
SECTION C-C



SECTION A-A



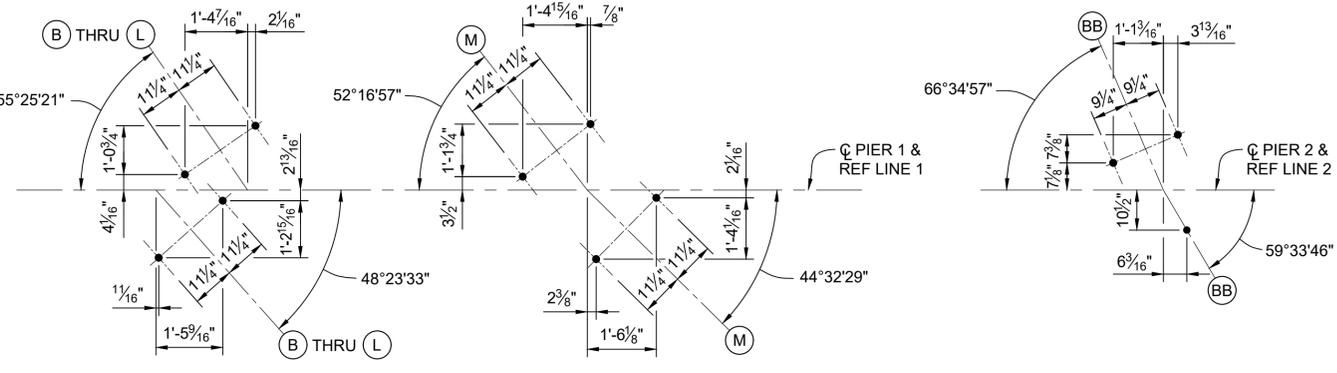
SECTION D-D



DETAIL A

DETAIL B

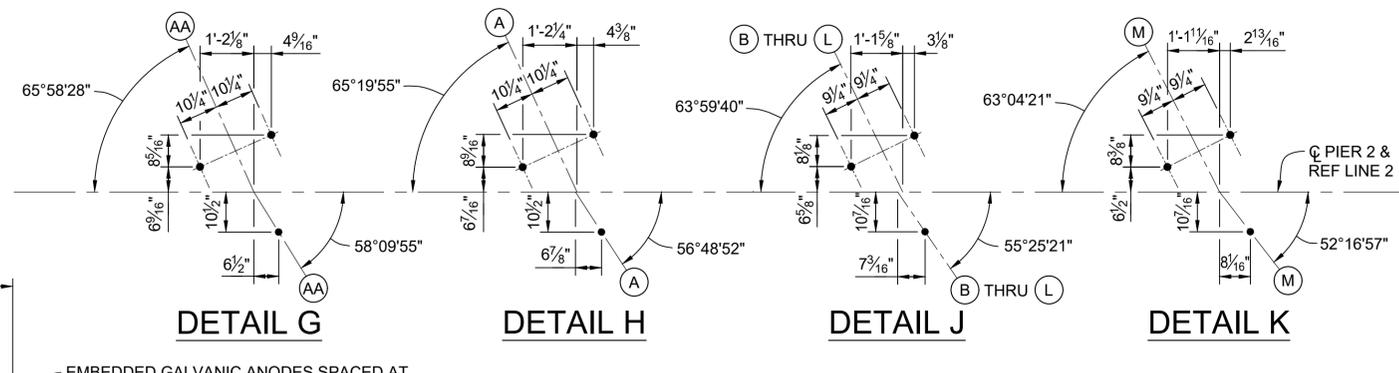
DETAIL C



DETAIL D

DETAIL E

DETAIL F



DETAIL G

DETAIL H

DETAIL J

DETAIL K

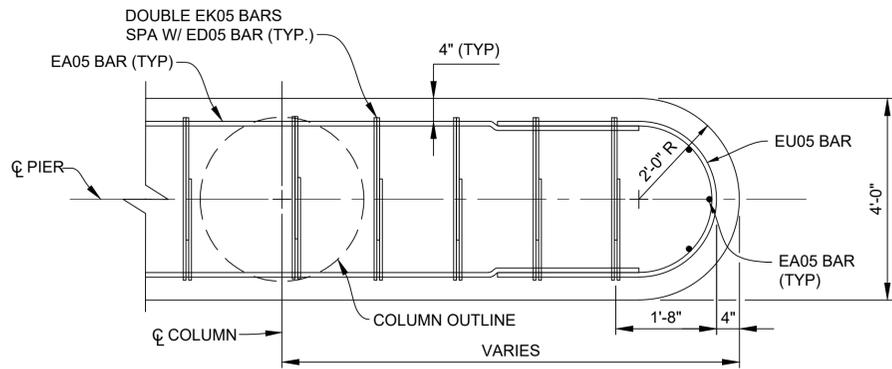
NOTE:
SEE PLAN OF PIER CAP FOR PIERS 1 & 2 FOR DETAIL LOCATIONS.

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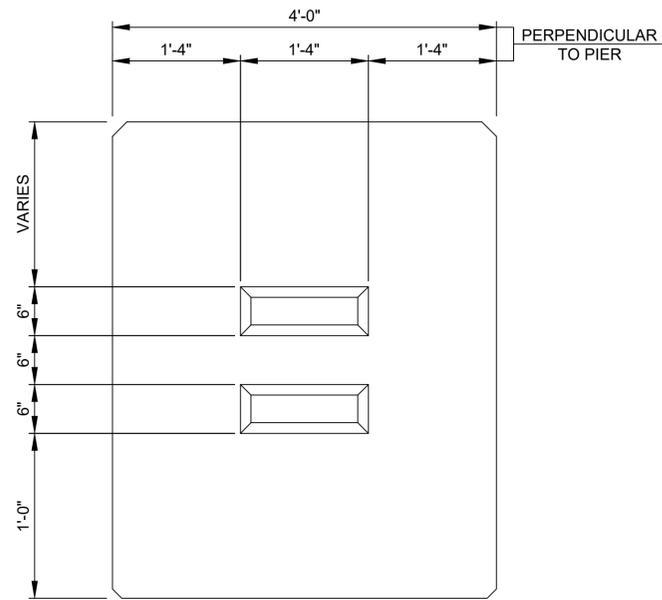
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REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10-9-22	DAF	CLH

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
EAST MEDICAL CENTER DRIVE	
PIER DETAILS	
SCALE NTS	INCH 0 1
DRAWING NO. 2021-008-BR26	
SHEET NO. <u>89</u> OF <u>153</u>	

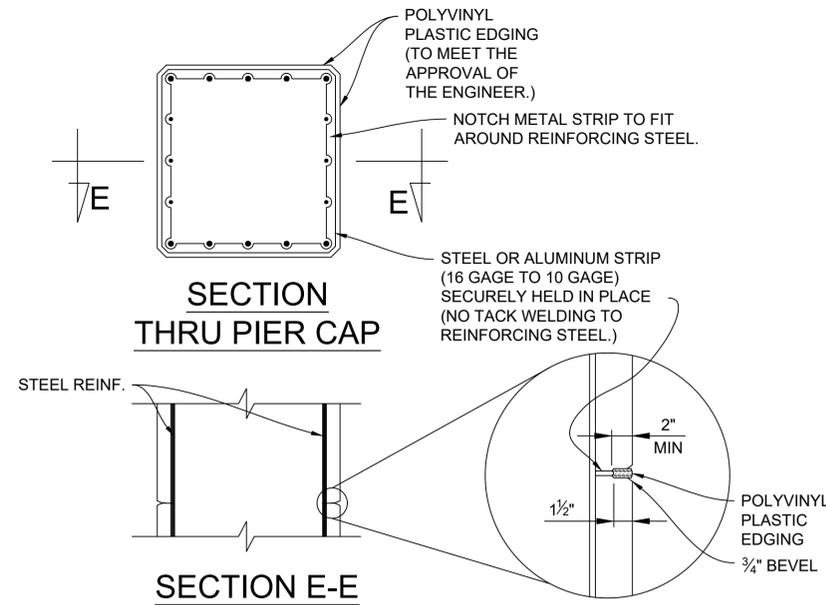
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TYPICAL CAP END-SECTION



SHEAR KEY DETAIL

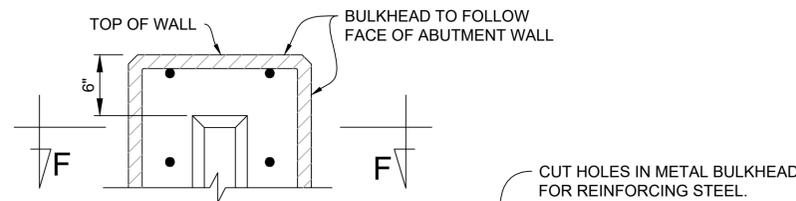


SECTION THRU PIER CAP

SECTION E-E

CAP PARTIAL METAL BULKHEAD DETAILS

NOTES: PARTIAL METAL BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT AT CONTRACTOR'S EXPENSE. CARE IS TO BE USED IN CASTING CONCRETE TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.



ELEVATION

SECTION F-F

CRASHWALL METAL BULKHEAD DETAILS

NOTES: METAL BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT AT CONTRACTOR'S EXPENSE. CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

** PERFORATED WATERPROOFING MEMBRANE MAY BE USED AS AN ALTERNATE.

SUBSTRUCTURE CONCRETE QUANTITIES (CYD)		
POUR	PIER 1	PIER 2
* A	9.5	9.5
* B	21.5	21.5
* C	3.0	2.0
D	10.4	9.4
E	21.0	18.2
F	18.1	17.0
G	17.5	16.4
TOTAL	101	94

* DENOTES CATG 0002 (34 CYD @ PIER 1 & 33 CYD @ PIER2), ALL OTHER POURS INCLUDED IN CATG 0001

NOTES:

REPAIR AREAS/CRACKS SHOWN ARE APPROXIMATIONS BASED ON A BRIDGE INSPECTION THAT TOOK PLACE IN OCTOBER, 2021.

ABUTMENTS SHALL BE SOUNDED PRIOR TO CONSTRUCTION AND ADDITIONAL AREAS SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER.

PENETRATING WATER REPELLENT TREATMENT SHALL BE APPLIED TO THE ABUTMENT REPAIR AREAS AS DIRECTED BY THE ENGINEER.

FORMS FOR LARGE PATCHES SHALL BE INSTALLED IN 2'-0" TO 4'-0" HIGH SECTIONS WITH THE TOP OF THE FORM NO MORE THAN 4'-0" ABOVE THE LEVEL OF CONCRETE AS THE POUR PROGRESSES.

INSTALL GALVANIC ANODES ON EXPOSED REBAR ALONG PERIMETER OF REPAIR, SPACED PER MANUFACTURER'S RECOMMENDATIONS (24 INCH MAX).

A CRACK THAT EXTENDS BELOW THE GROUND LINE SHALL, WITH PRIOR APPROVAL OF THE ENGINEER, BE REPAIRED. ALL EXCAVATION, BACKFILL, WORK, AND MATERIAL REQUIRED SHALL BE INCLUDED IN PAYMENT FOR "STRUCTURAL CRACK, REPR".

APPLY SUBSTRUCTURE HORIZONTAL SURFACE SEALER TO THE TOP HORIZONTAL SURFACE OF PIERS 1 & 2 AFTER THE ELASTOMERIC BEARINGS HAVE BEEN PLACED IN FINAL POSITION ON THE STRUCTURE. CLEAN ACCIDENTALLY COATED VERTICAL SURFACES AT THE CONTRACTOR'S EXPENSE.

APPLY LOW TEMPERATURE PROTECTION OF CONCRETE ACCORDING TO SECTION 706.03J OF THE MDOT 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION. LOW TEMPERATURE PROTECTION OF CONCRETE IS INCLUDED IN THE RELATED ITEMS OF WORK.

FOR MICROPILE QUANTITIES, LAYOUT AND NOTES, SEE SHEETS 80 AND 81 OF 153.

ESTIMATED QUANTITIES THIS SHEET					
DESCRIPTION	UNITS	CATG 0001	CATG 0002	CATG 0003	TOTAL
Substructure Conc	Cyd	228	67		295
Water Repellent Treatment, Penetrating	Syd	50			50
Substructure Horizontal Surface Sealer (STR 11065)	Syd	90			90
Hand Crapping Other Than Deck	Ct	111			111
Patch Forming	Sf	444			444
Adhesive Anchoring of Horizontal Bar, 3/4 inch	Ea		68		68
Adhesive Anchoring of Vertical Bar, 3/4 inch	Ea		8		8
Reinforcement, Mechanical Splice	Ea	32			32
Flushing Cracks, Water	Ft	40			40
Structural Crack Repair	Ft	40			40
Patching Conc, C-L	Cyd	4.6			4.6
Embedded Galvanic Anode	Ea	290			290

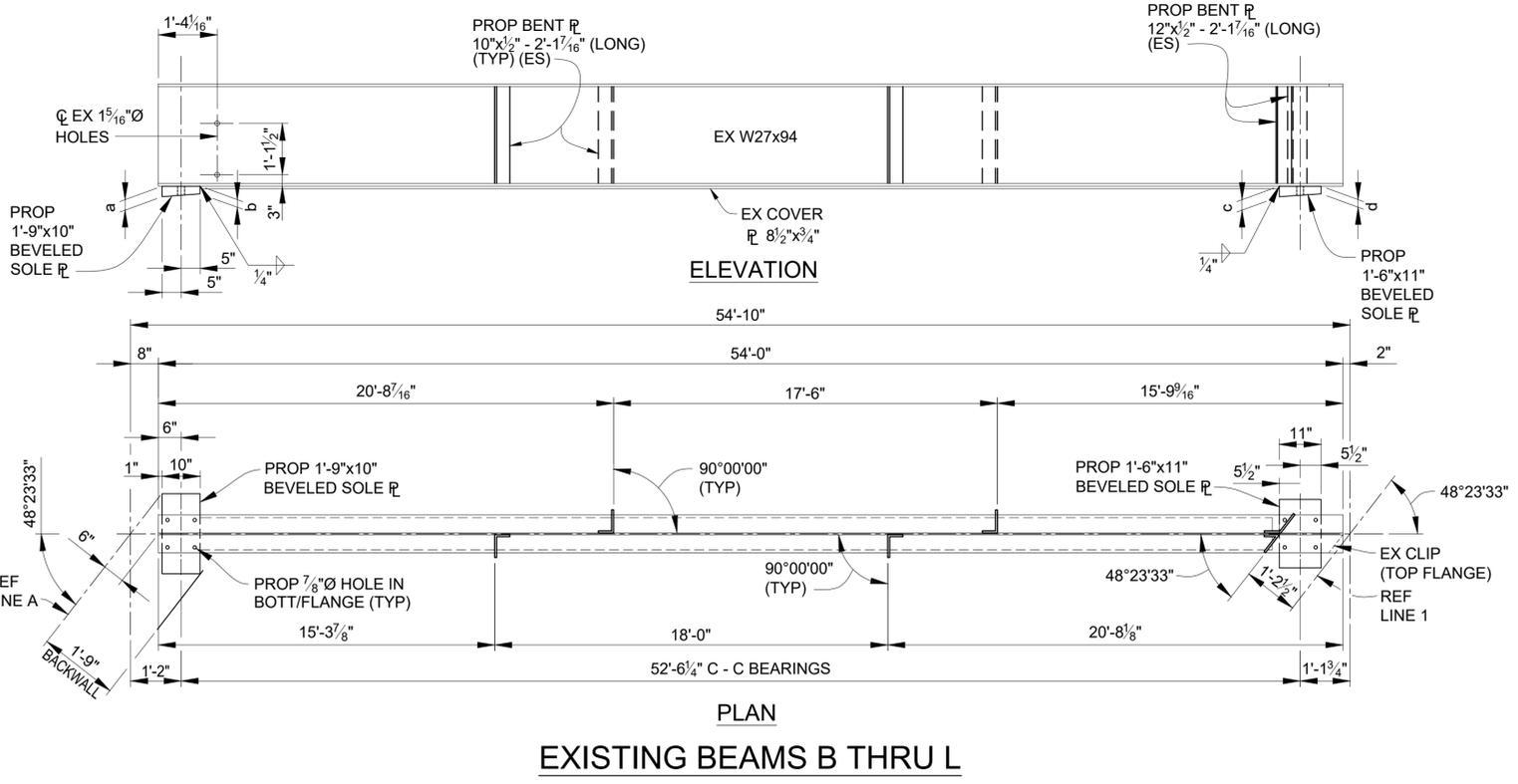
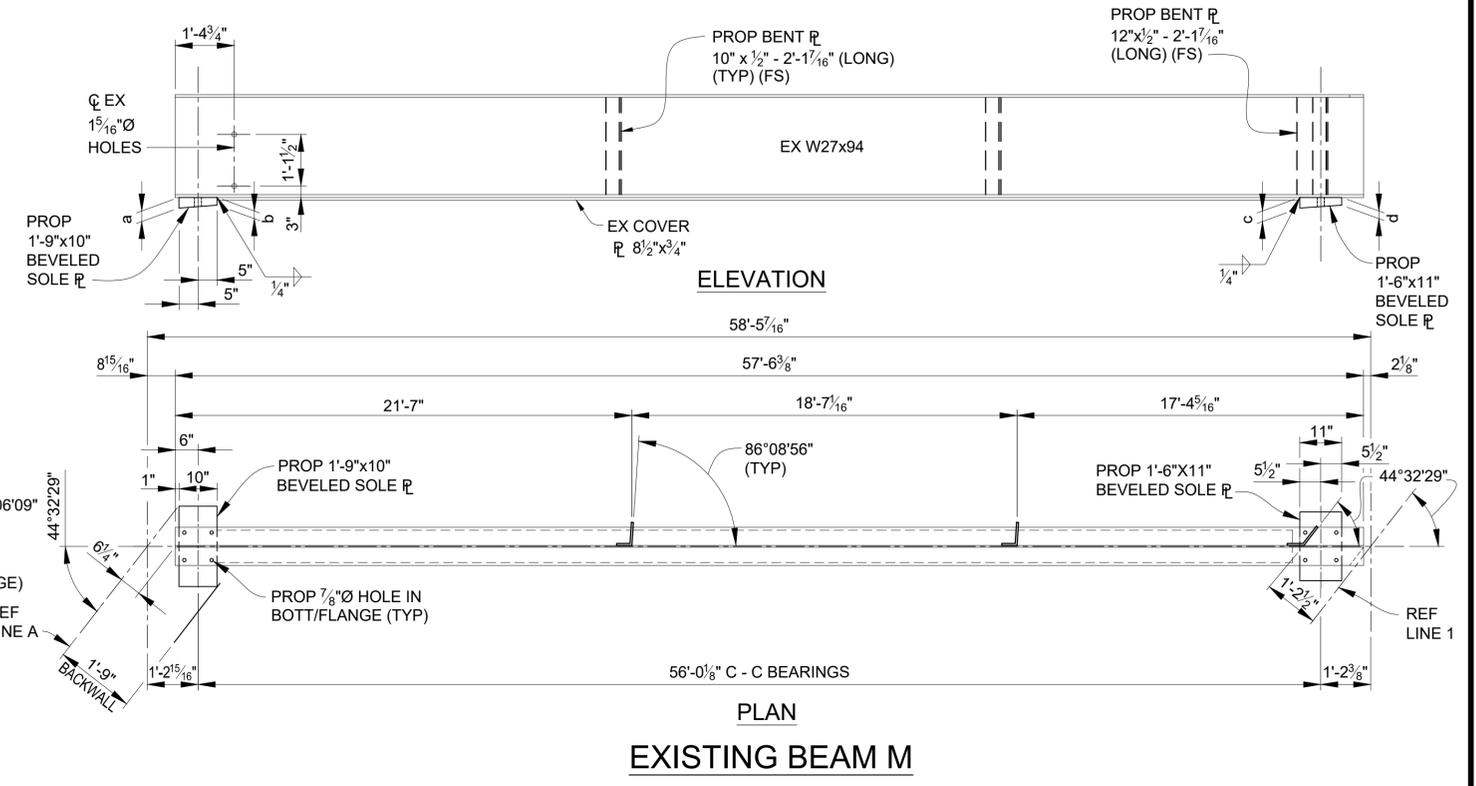
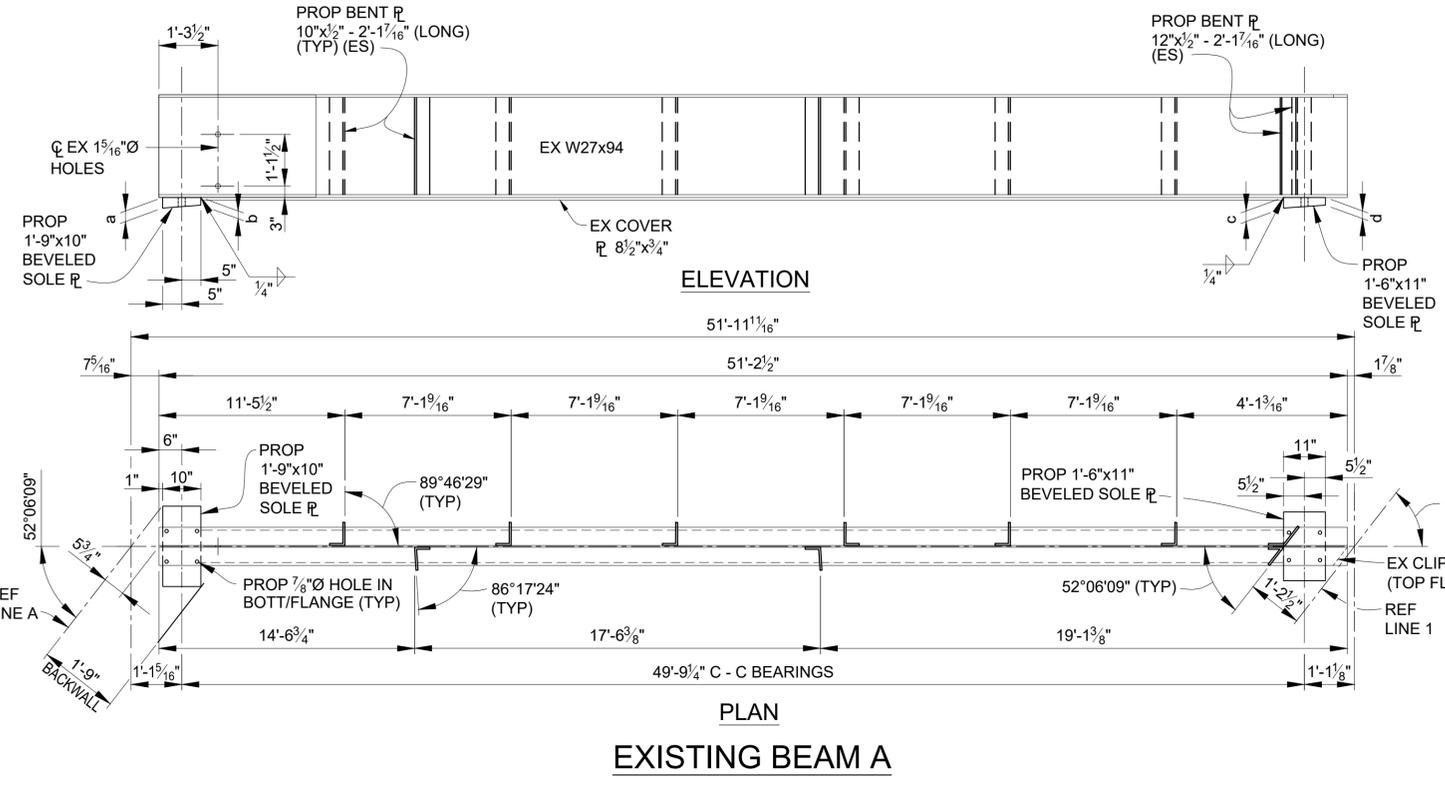
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REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10-9-22	DAF	CLH

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
EAST MEDICAL CENTER DRIVE	
PIER DETAILS	
SCALE NTS	INCH 0 1
DRAWING NO. 2021-008-BR27	
SHEET NO. 90 OF 153	

APPROVED BY: CARRIE L. HAMEL, P.E. MICHIGAN NO. 6201056734

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SPAN 1 - SOLE PLATE TABULATED DIMENSIONS

BEAM	REF LINE A		REF LINE 1	
	a	b	c	d
A	2 7/16"	2"	4 1/16"	3 9/16"
B	2 7/16"	2"	4 1/4"	3 13/16"
C	2 3/8"	2"	3 7/8"	3 7/16"
D	2 3/8"	2"	4 1/4"	3 13/16"
E	2 5/8"	2 1/4"	4 5/8"	4 3/16"
F	2 1/2"	2 1/8"	3 15/16"	3 9/16"
G	2 5/16"	2"	4 5/16"	3 15/16"
H	2 9/16"	2 1/4"	4 5/8"	4 1/4"
J	2 5/16"	2"	3 15/16"	3 9/16"
K	2 9/16"	2"	4 1 1/16"	4 3/8"
L	2 1/4"	2"	2 1 1/16"	2 3/8"
M	2 1/4"	2"	3 13/16"	3 9/16"

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REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

EAST MEDICAL CENTER DRIVE

STRUCTURAL STEEL DETAILS

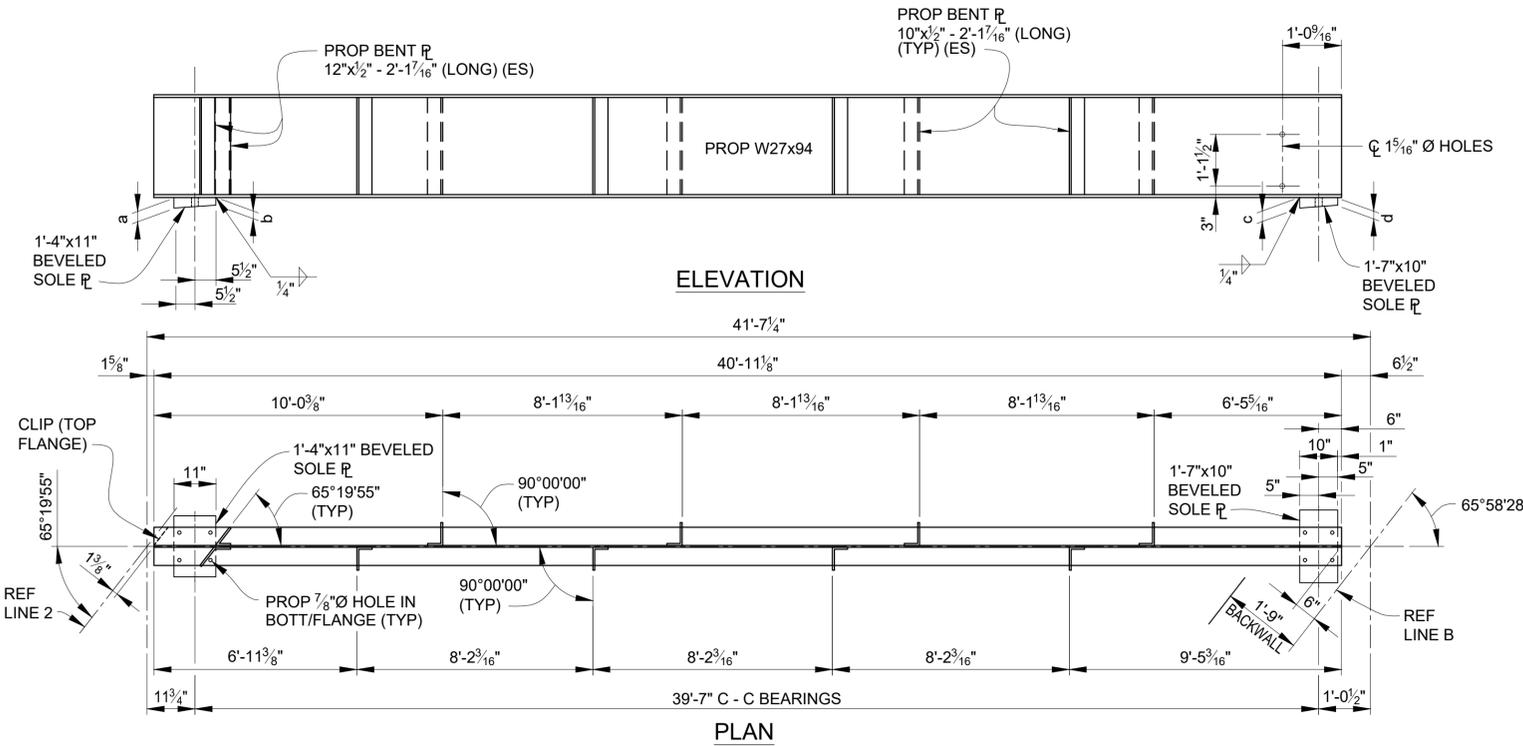
EXISTING BEAMS - SPAN 1

SCALE: HOR. 3/32" = 1'-0"

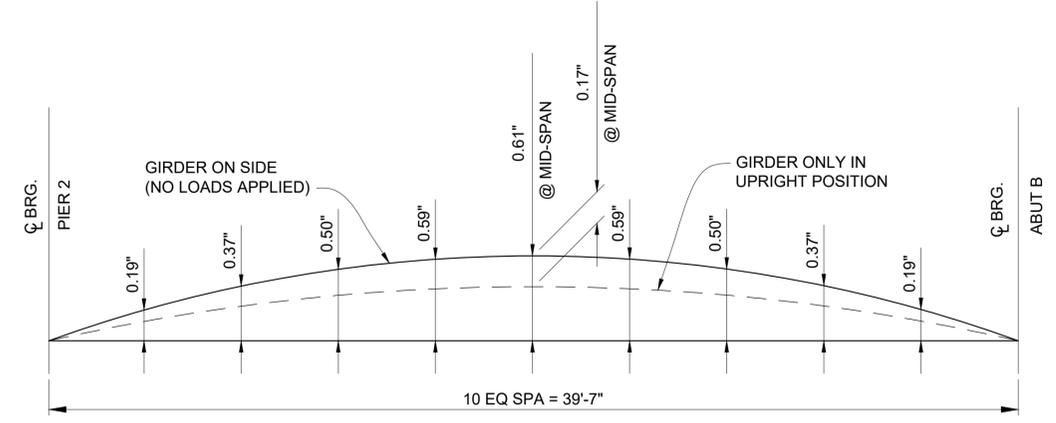
DRAWING NO. 2021-008-BR29

SHEET NO. 92 OF 153

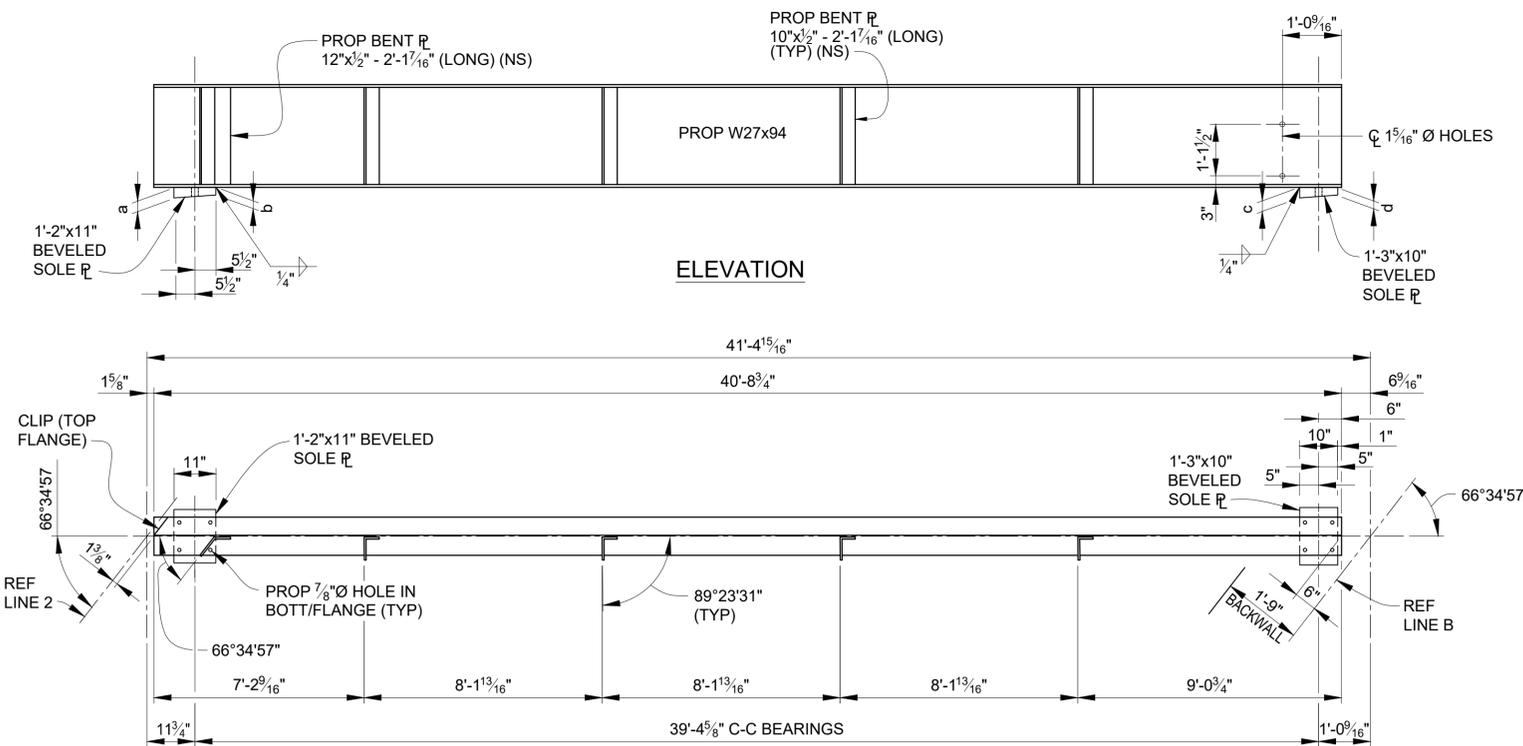
APPROVED BY: CARRIE L. HAMEL, P.E. MICHIGAN NO. 6201056734



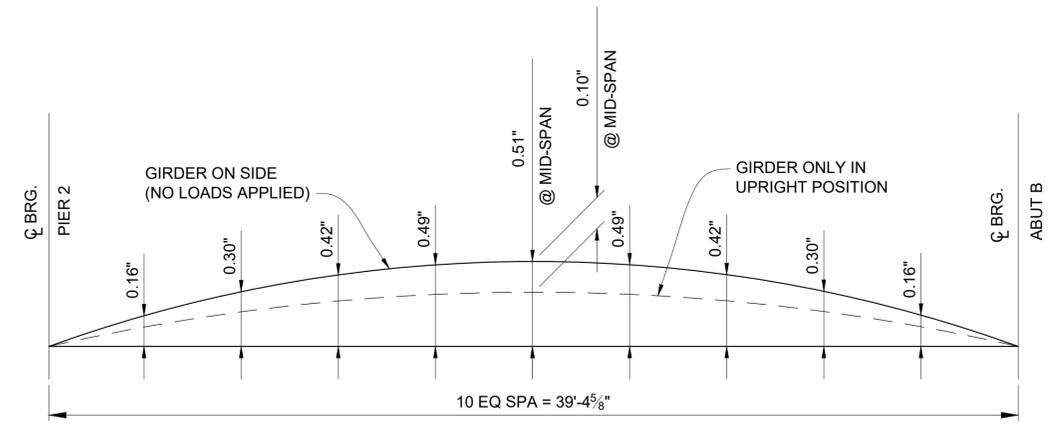
PROPOSED BEAM AA



CAMBER DIAGRAM - BEAM AA



PROPOSED BEAM BB



CAMBER DIAGRAM - BEAM BB

SPAN 3 - SOLE PLATE TABULATED DIMENSIONS

BEAM	REF LINE 2		REF LINE B	
	a	b	c	d
AA	2 1/16"	2"	3 3/16"	3 3/16"
BB	2 1/16"	2"	4 1/16"	3 7/16"

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3 WORKING DAYS
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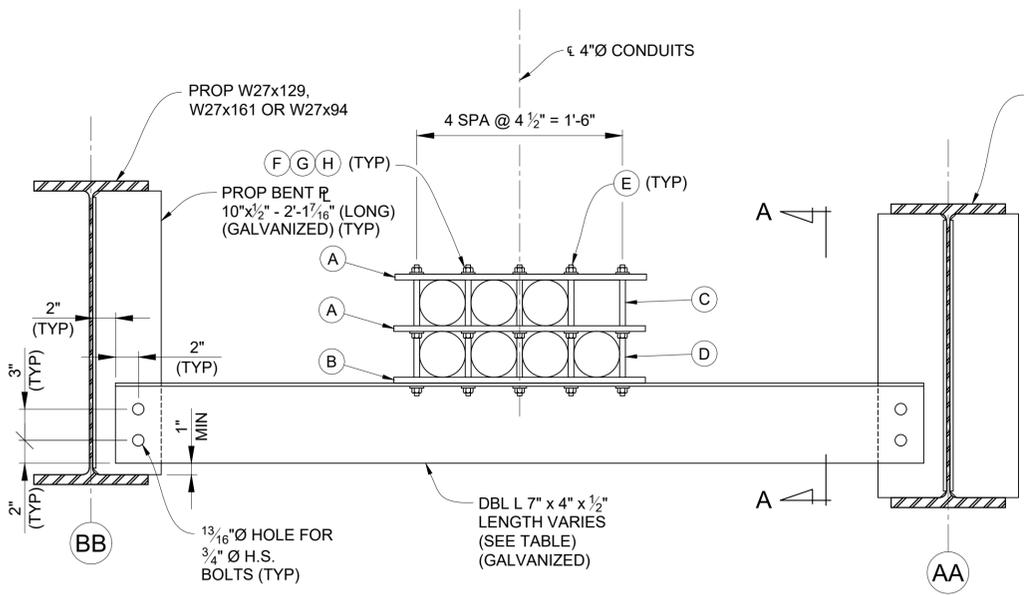
DLZ				
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

EAST MEDICAL CENTER DRIVE
STRUCTURAL STEEL DETAILS
PROPOSED BEAMS SPAN 3

SCALE	HOR. 3/32"=1'-0"	INCH
DRAWING NO.	2021-008-BR34	
SHEET NO.	97 OF 153	

APPROVED BY: _____
CARRIE L. HAMEL, P.E. MICHIGAN NO. 6201056734

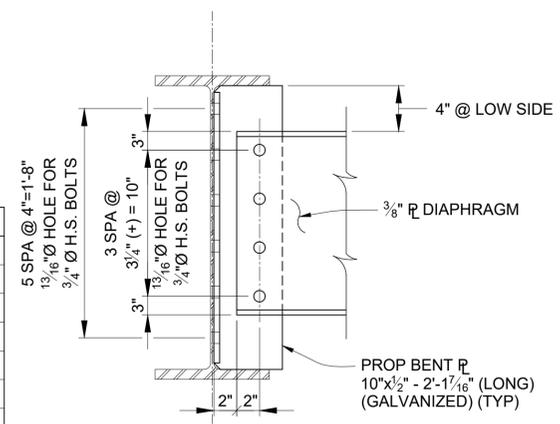


DIAPHRAGM D25 - D32, D40 - D47 & D56 - D60

(21 REQUIRED)

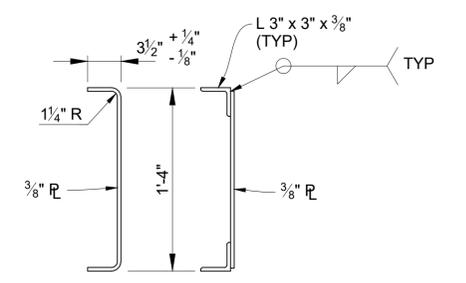
CONDUIT HANGAR ASSEMBLY BILL OF MATERIALS

A	1/2" x 2 1/2" x 1'-10" FIBERGLASS PLATE
B	1/2" x 10" x 1'-10" STEEL PLATE
C	1/2" x 5" FIBERGLASS SPACER TUBE
D	1/2" x 4 1/2" FIBERGLASS SPACER TUBE
E	1/2" x 1'-2" HOT DIP GALVANIZED THREADED ROD
F	1/2" HOT DIP GALVANIZED HEX NUT
G	1/2" HOT DIP GALVANIZED FLAT WASHER
H	1/2" HOT DIP GALVANIZED LOCK WASHER



BOLTED CONNECTION DETAIL

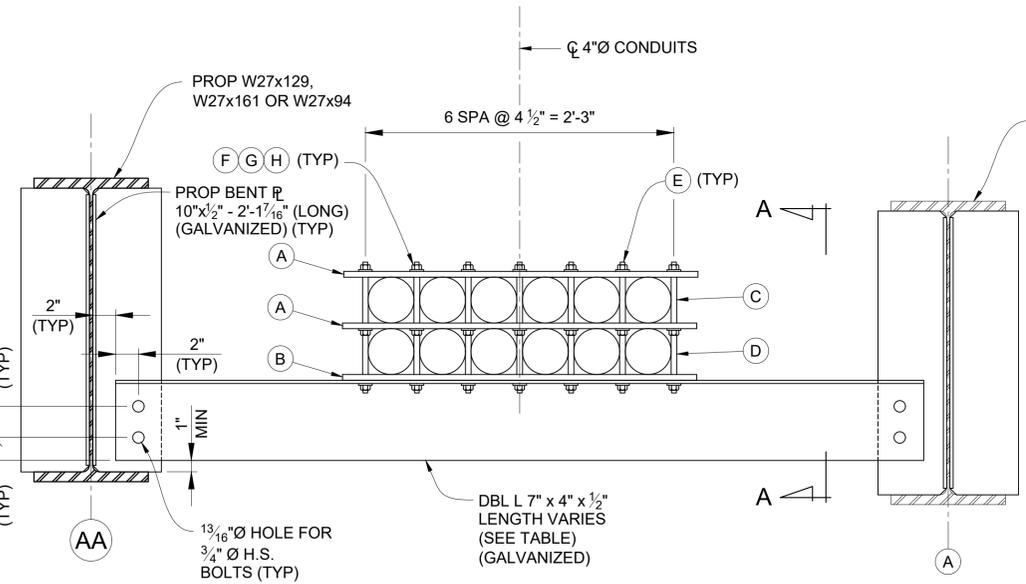
INTERMEDIATE DIAPHRAGMS
APPLIES TO: D1, D2, D4, D6, D7, D10, D11, D14, D16, D17, D20, D22, D24



ALTERNATE

TYPICAL INTERMEDIATE DIAPHRAGM

APPLIES TO: D1, D2, D4, D6, D7, D10, D11, D14, D16, D17, D20, D22, D24

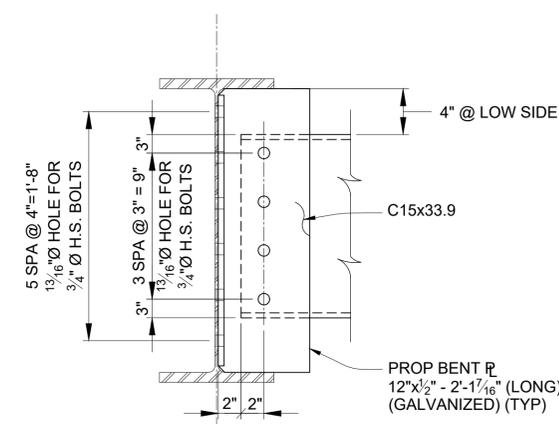


DIAPHRAGM D31, D33, D34 - D39, D48 - D55 & D61 - D65

(21 REQUIRED)

CONDUIT HANGAR ASSEMBLY BILL OF MATERIALS

A	1/2" x 2 1/2" x 2'-7" FIBERGLASS PLATE
B	1/2" x 10" x 2'-7" STEEL PLATE
C	1/2" x 5" FIBERGLASS SPACER TUBE
D	1/2" x 4 1/2" FIBERGLASS SPACER TUBE
E	1/2" x 1'-2" HOT DIP GALVANIZED THREADED ROD
F	1/2" HOT DIP GALVANIZED HEX NUT
G	1/2" HOT DIP GALVANIZED FLAT WASHER
H	1/2" HOT DIP GALVANIZED LOCK WASHER

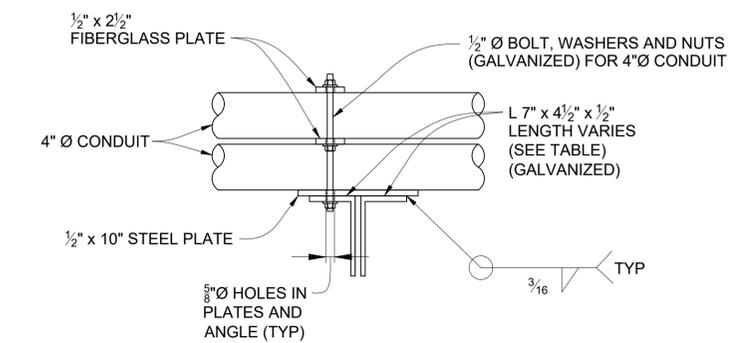


BOLTED CONNECTION DETAIL

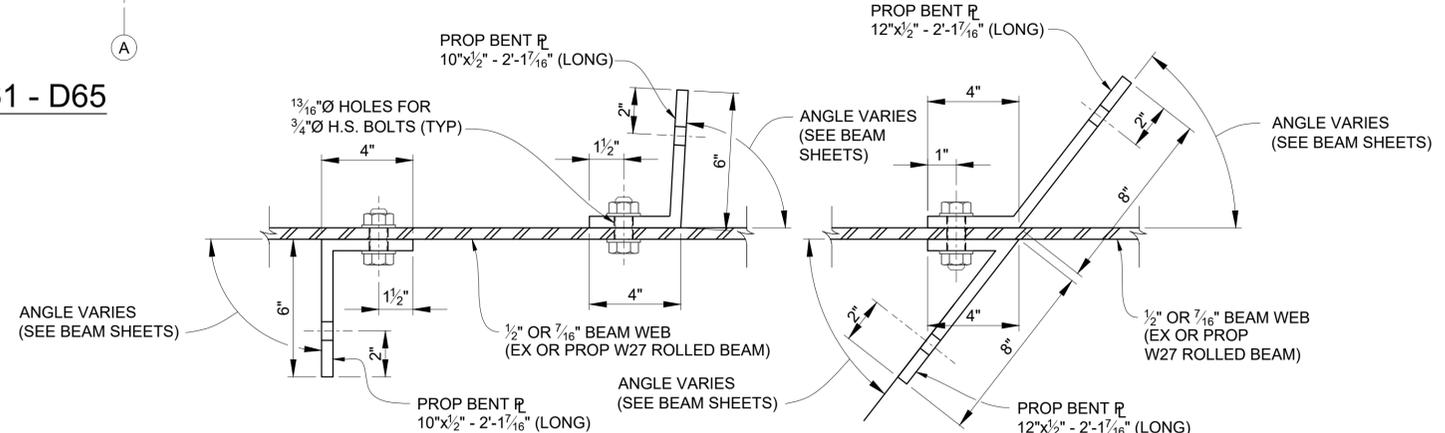
END DIAPHRAGMS
APPLIES TO: D3, D5, D8, D9, D12, D13, D15, D18, D19, D21, D23

DIAPHRAGM LENGTH TABLE

DIAPHRAGM	LENGTH	DIAPHRAGM	LENGTH
D1	5'-8 5/8"	D34	6'-7 13/16"
D2	4'-7"	D35	6'-7 7/16"
D3	4'-6 15/16"	D36	6'-7 1/8"
D4	5'-8 5/16"	D37	6'-6 3/4"
D5	7'-7 5/16"	D38	6'-6 1/16"
D6	4'-9 3/16"	D39	6'-6 1/8"
D7	3'-6 3/16"	D40	6'-9 7/8"
D8	3'-2 7/8"	D41	6'-7 13/16"
D9	8'-1"	D42	6'-5 3/4"
D10	6'-2 5/8"	D43	6'-3 5/8"
D11	5'-8 5/8"	D44	6'-1 9/16"
D12	6'-4 3/16"	D45	5'-11 1/16"
D13	6'-10 3/16"	D46	5'-9 3/8"
D14	5'-7 1/16"	D47	6'-6 1/16"
D15	6'-8 1/4"	D48	6'-8 5/8"
D16	4'-3 5/8"	D49	6'-6 5/8"
D17	3'-1 3/4"	D50	6'-4 9/16"
D18	2'-6 9/16"	D51	6'-2 1/2"
D19	7'-5 1/4"	D52	6'-0 1/16"
D20	6'-3 1/8"	D53	5'-10 7/16"
D21	6'-4 3/8"	D54	5'-8 3/8"
D22	5'-8 5/8"	D55	6'-6 5/8"
D23	6'-0 1/4"	D56	6'-6 7/16"
D24	5'-0 13/16"	D57	5'-10 13/16"
D25	6'-7 15/16"	D58	5'-9 13/16"
D26	6'-7 5/8"	D59	5'-8 3/4"
D27	6'-7 1/4"	D60	5'-7 3/4"
D28	6'-6 15/16"	D61	6'-6 13/16"
D29	6'-6 9/16"	D62	5'-10 13/16"
D30	6'-6 1/4"	D63	5'-9 1/16"
D31	8'-2 1/16"	D64	5'-8 9/16"
D32	8'-2 5/16"	D65	5'-7 1/2"
D33	8'-2 3/16"		



SECTION A-A



BENT PLATE DETAILS

INTERMEDIATE DIAPHRAGMS

END DIAPHRAGMS

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REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10-9-22	DAF	CLH

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

EAST MEDICAL CENTER DRIVE

STRUCTURAL STEEL DETAILS
DIAPHRAGM DETAILS

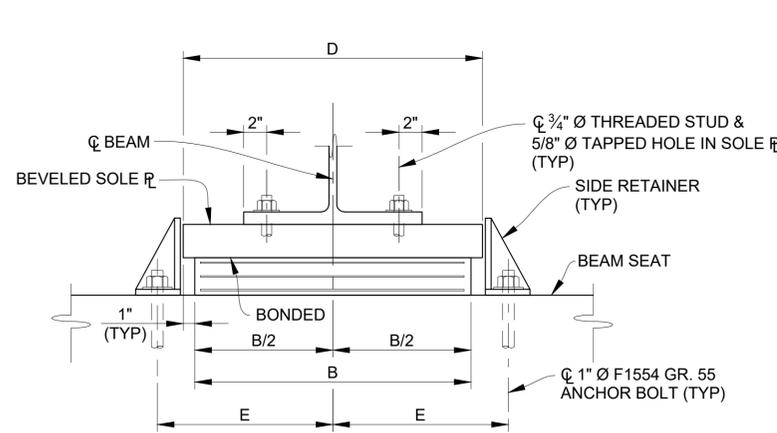
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DRAWING NO. 2021-008-BR35

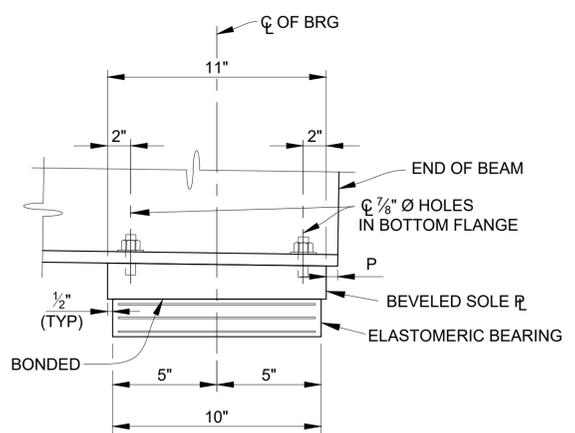
SHEET NO. 98 OF 153

APPROVED BY: CARRIE L. HAMEL, P.E. MICHIGAN NO. 6201056734

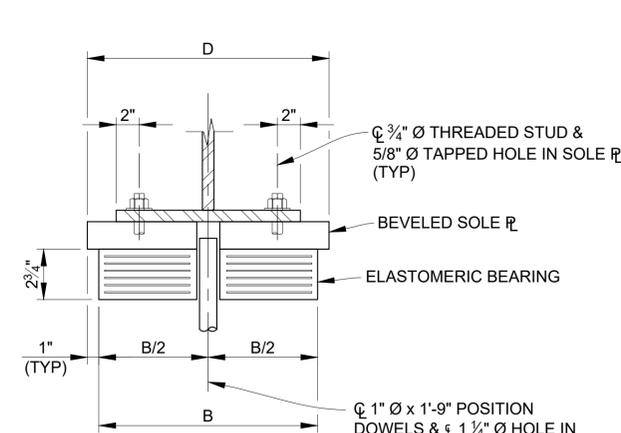
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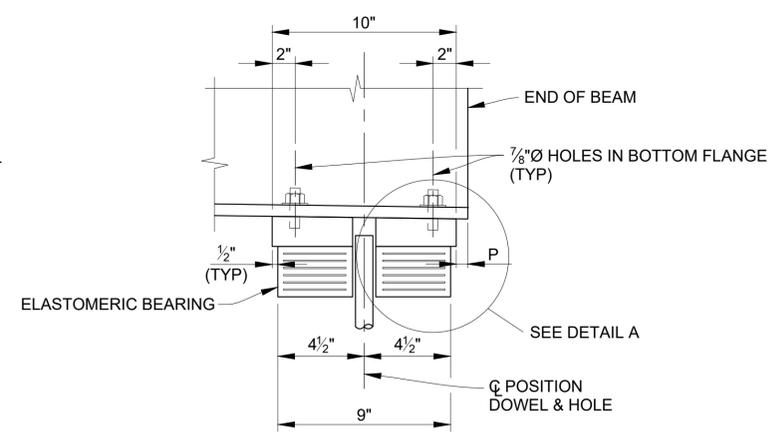
ELASTOMERIC EXPANSION BEARING
END VIEW



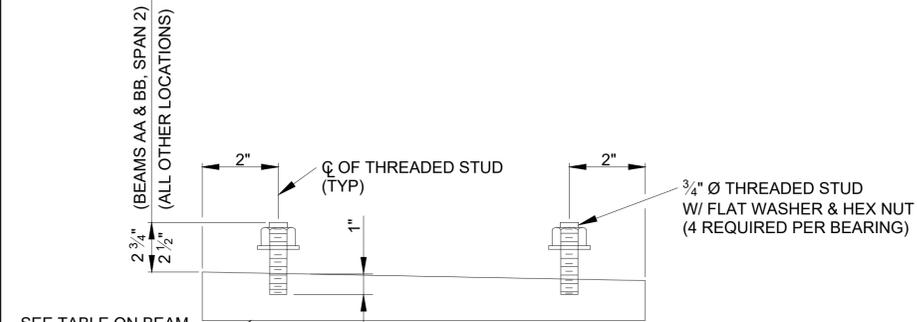
ELASTOMERIC EXPANSION BEARING
SIDE VIEW



ELASTOMERIC FIXED BEARING
END VIEW



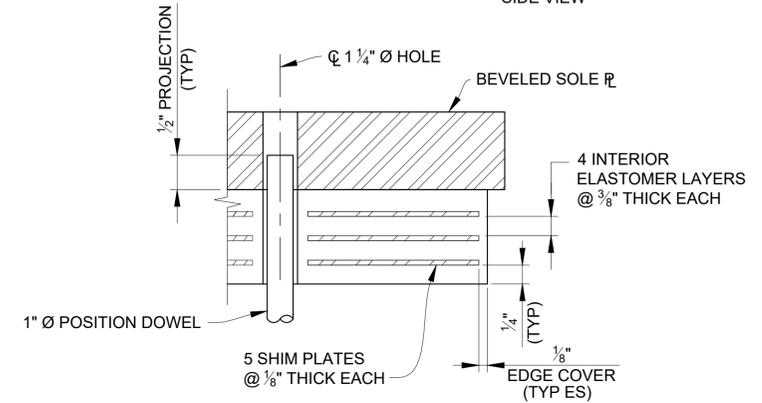
ELASTOMERIC FIXED BEARING
SIDE VIEW



BEVELED SOLE PLATE DETAILS

SIDE VIEW

BEARING ASSEMBLY DIMENSIONS									
ABUTMENT A (FIXED)					PIER 1 (EXPANSION)				
BEAM	B	D	E	P	B	D	E	P	
BB	15"	17"		1"	13"	15"	9 3/4"	5 7/8"	
AA	19"	21"		1"	16"	18"	11 1/4"	5 3/4"	
A	19"	21"		1"	16"	18"	11 1/4"	5 3/4"	
B-L	19"	21"		1"	16"	18"	11 1/4"	6 1/4"	
M	19"	21"		1"	16"	18"	11 1/4"	6 3/4"	
PIER 1 (EXPANSION)					PIER 2 (FIXED)				
BEAM	B	D	E	P	B	D	E	P	
BB	16"	18"	11 1/4"	5 1/8"	16"	18"		5 5/8"	
AA	17"	19"	11 3/4"	4 15/16"	20"	22"		5 7/16"	
A	17"	19"	11 3/4"	5 1/4"	20"	22"		5 3/4"	
B-L	16"	18"	11 1/4"	5 3/8"	20"	22"		5 7/8"	
M	16"	18"	11 1/4"	5 3/4"	16"	18"		6 1/4"	
PIER 2 (EXPANSION)					ABUTMENT B (FIXED)				
BEAM	B	D	E	P	B	D	E	P	
BB	12"	14"	9 1/4"	4 5/8"	13"	15"		1"	
AA	14"	16"	10 1/4"	4 5/8"	17"	19"		1"	
A	14"	16"	10 1/4"	4 11/16"	17"	19"		1"	
B-L	12"	14"	9 1/4"	4 11/16"	15"	17"		1"	
M	12"	14"	9 1/4"	4 13/16"	13"	15"		1"	

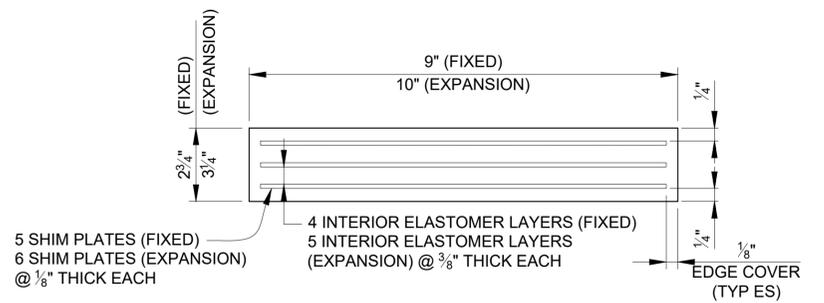


DETAIL A

ELASTOMERIC BEARING DETAILS - FIXED

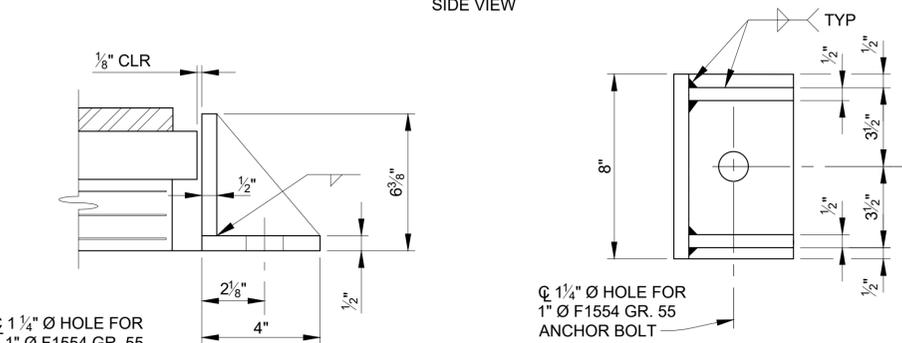
NOTES:

- ES DENOTES EACH SIDE.
- USE NON-DEFORMED STEEL RODS IN ACCORDANCE WITH AASHTO M 270 GRADE 36 AND HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M 111, AS POSITION DOWELS FOR PRECAST BEAMS.
- STEEL FOR SOLE PLATES AND OTHER BEARING COMPONENTS SHALL MEET THE REQUIREMENTS OF AASHTO M 270 GRADE 36.
- ANCHOR BOLT LENGTHS SHOWN ARE MINIMUM. BOLTS LONGER THAN THAT SHOWN MAY BE FURNISHED AT NO ADDITIONAL COST. ANCHOR BOLTS AND POSITION DOWELS SHALL BE GALVANIZED ACCORDING TO MDOT 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION SECTION 716.03.B.4.
- ANCHOR BOLTS SHALL CONFORM TO MDOT 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION SECTION 908.14.
- ANCHOR BOLTS SHALL BE INSTALLED AFTER BEAMS ARE ERECTED IN PLACE.



ELASTOMERIC BEARING DETAILS

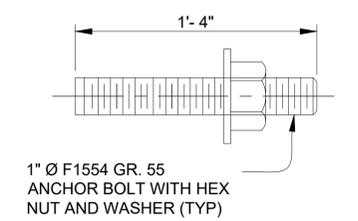
SIDE VIEW



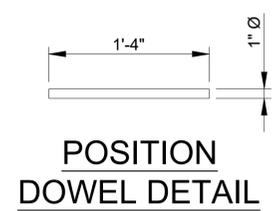
ELEVATION

PLAN

SIDE RETAINER



ANCHOR BOLT DETAIL



POSITION DOWEL DETAIL

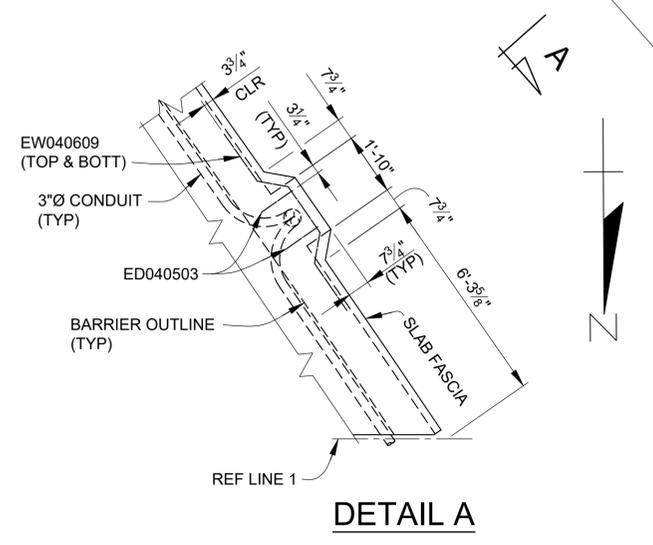
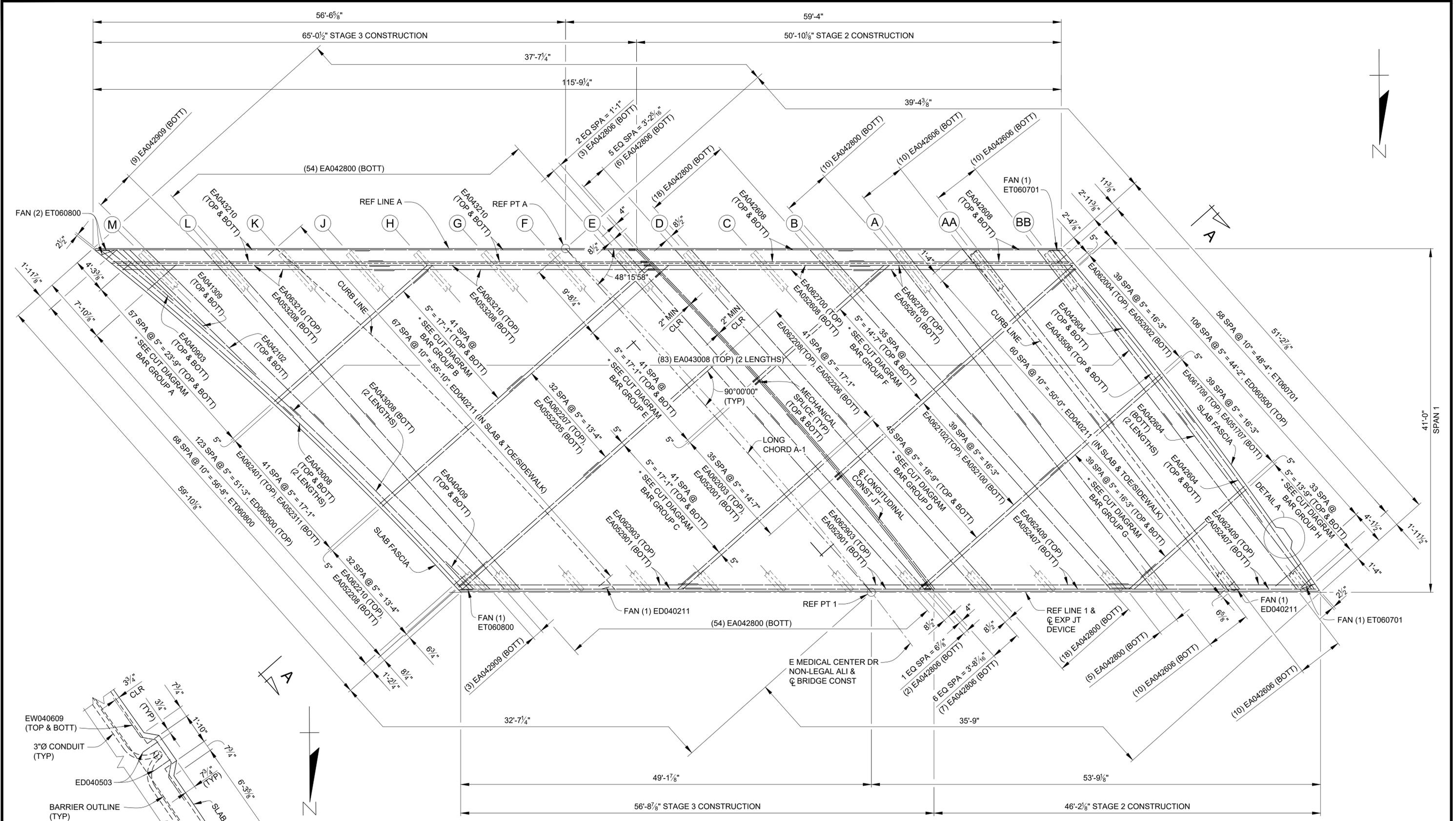
ESTIMATED QUANTITIES THIS SHEET					
DESCRIPTION	UNITS	CATG 0001	CATG 0002	CATG 0003	TOTAL
Bearing, Elastomeric, 2 3/4 inch	Sin	5,796	900		6,696
Bearing, Elastomeric, 3 1/4 inch	Sin	5,310	880		6,190

3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 800-482-7171 (TOLL FREE)

DLZ				
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10-9-22	JNJ	CLH

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
EAST MEDICAL CENTER DRIVE	
BEARING DETAILS	
SCALE HOR. 3/32" = 1'-0"	INCH
DRAWING NO. 2021-008-BR37	
SHEET NO. <u>100</u> OF <u>153</u>	

X:\Projects\2021\2141\736300_AA - EMCD Bridge\01_Constr\Docs\CAD\EMCD_desk_001



MIN LAP TABLE	
EA03 BARS	1'-2"
EA04 BARS	1'-7"
EA05 BARS	2'-0"
EA06 BARS	2'-4"

* SEE STEEL REINFORCEMENT SHEETS FOR BAR CUT DIAGRAM DETAILS.

PLAN - SPAN 1

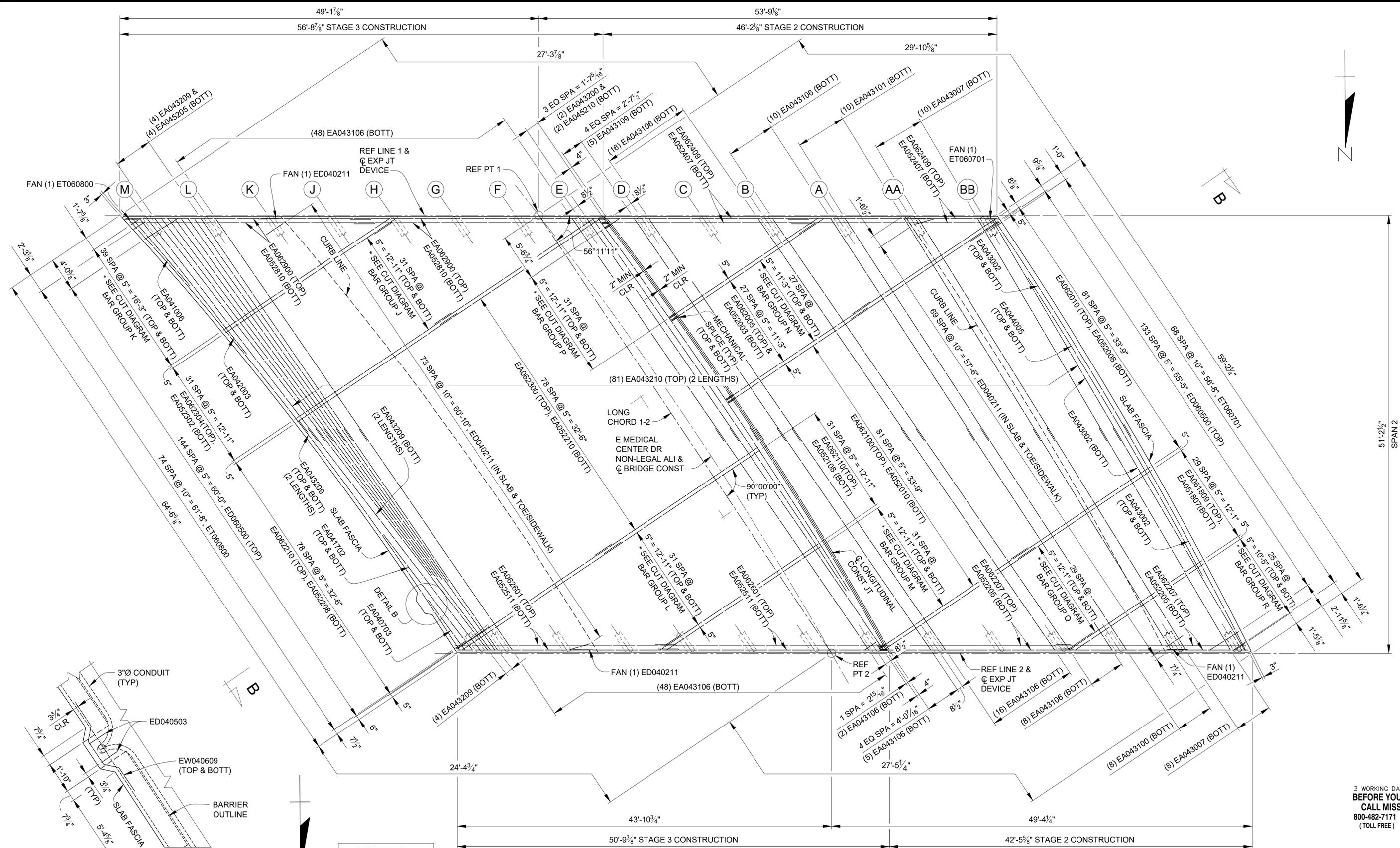
3 WORKING DAYS
BEFORE YOU DIG
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800-482-7171
(TOLL FREE)

DLZ				
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY

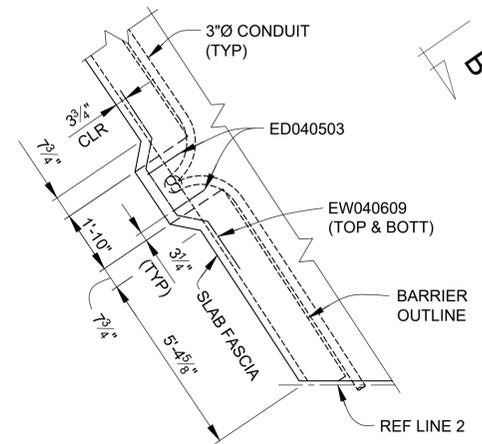
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
EAST MEDICAL CENTER DRIVE	
SUPERSTRUCTURE DETAILS	
SCALE HOR. 3/16"=1'-0"	INCH 0 1
DRAWING NO. 2021-008-BR38	
SHEET NO. <u>101</u> OF <u>153</u>	

APPROVED BY: CARRIE L. HAMEL, P.E. MICHIGAN NO. 6201056734

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SPAN 2



DETAIL B

MIN LAP TABLE

EA03 BARS	- 1'-2"
EA04 BARS	- 1'-7"
EA05 BARS	- 2'-0"
EA06 BARS	- 2'-4"

* SEE STEEL REINFORCEMENT SHEETS FOR BAR CUT DIAGRAM DETAILS.

PLAN - SPAN 2

DLZ				
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

EAST MEDICAL CENTER DRIVE

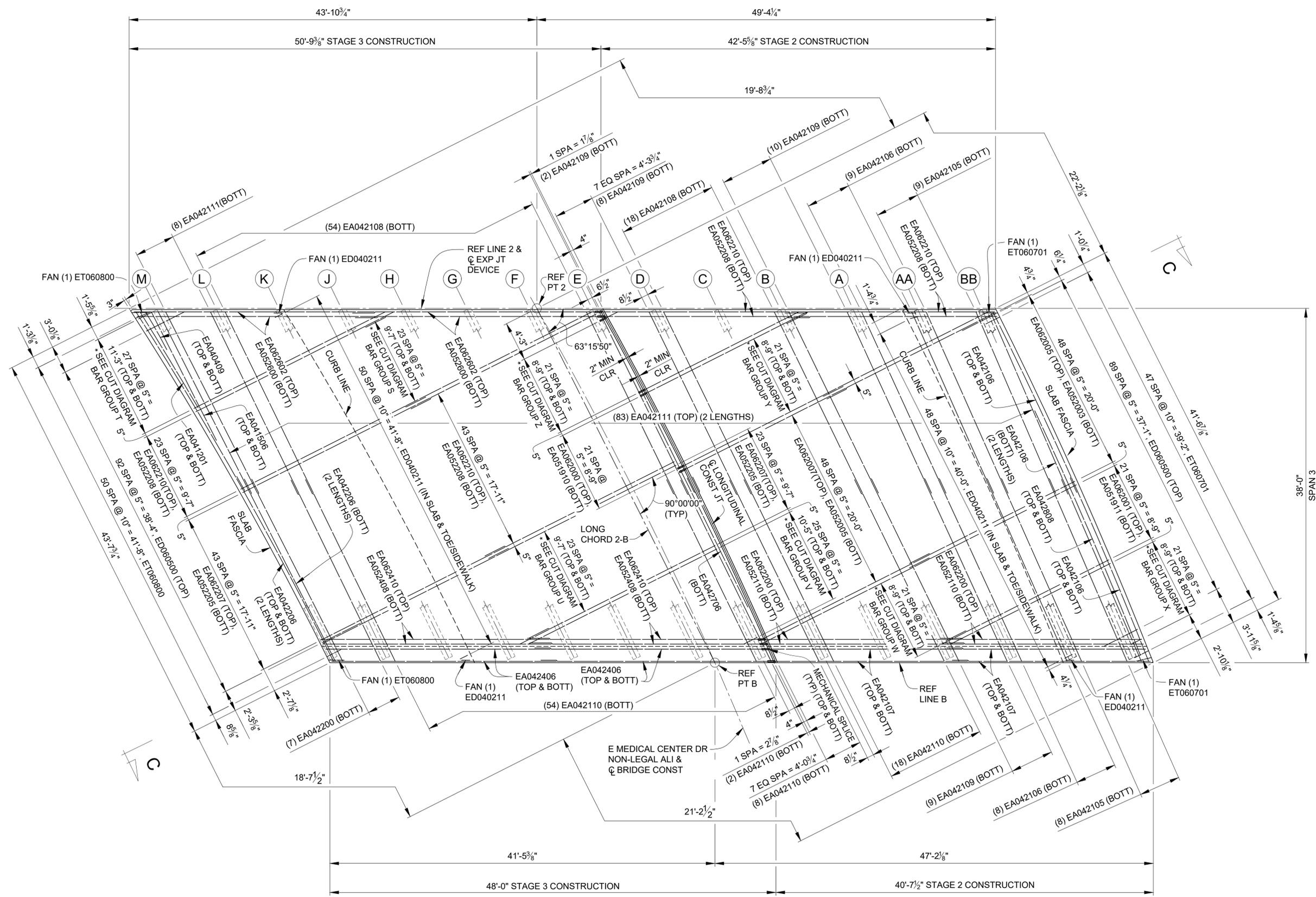
SUPERSTRUCTURE DETAILS

SCALE HOR. 3/16"=1'-0"	INCH 0 1
DRAWING NO. 2021-008-BR39	
SHEET NO. <u> 102 </u> OF <u> 153 </u>	

APPROVED BY: _____

CARRIE L. HAMEL, P.E. MICHIGAN NO. 6201056734

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(TOLL FREE)



MIN LAP TABLE

EA03 BARS	- 1'-2"
EA04 BARS	- 1'-7"
EA05 BARS	- 2'-0"
EA06 BARS	- 2'-4"

* SEE STEEL REINFORCEMENT SHEETS FOR BAR CUT DIAGRAM DETAILS.

PLAN - SPAN 3

DLZ				
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

EAST MEDICAL CENTER DRIVE

SUPERSTRUCTURE DETAILS

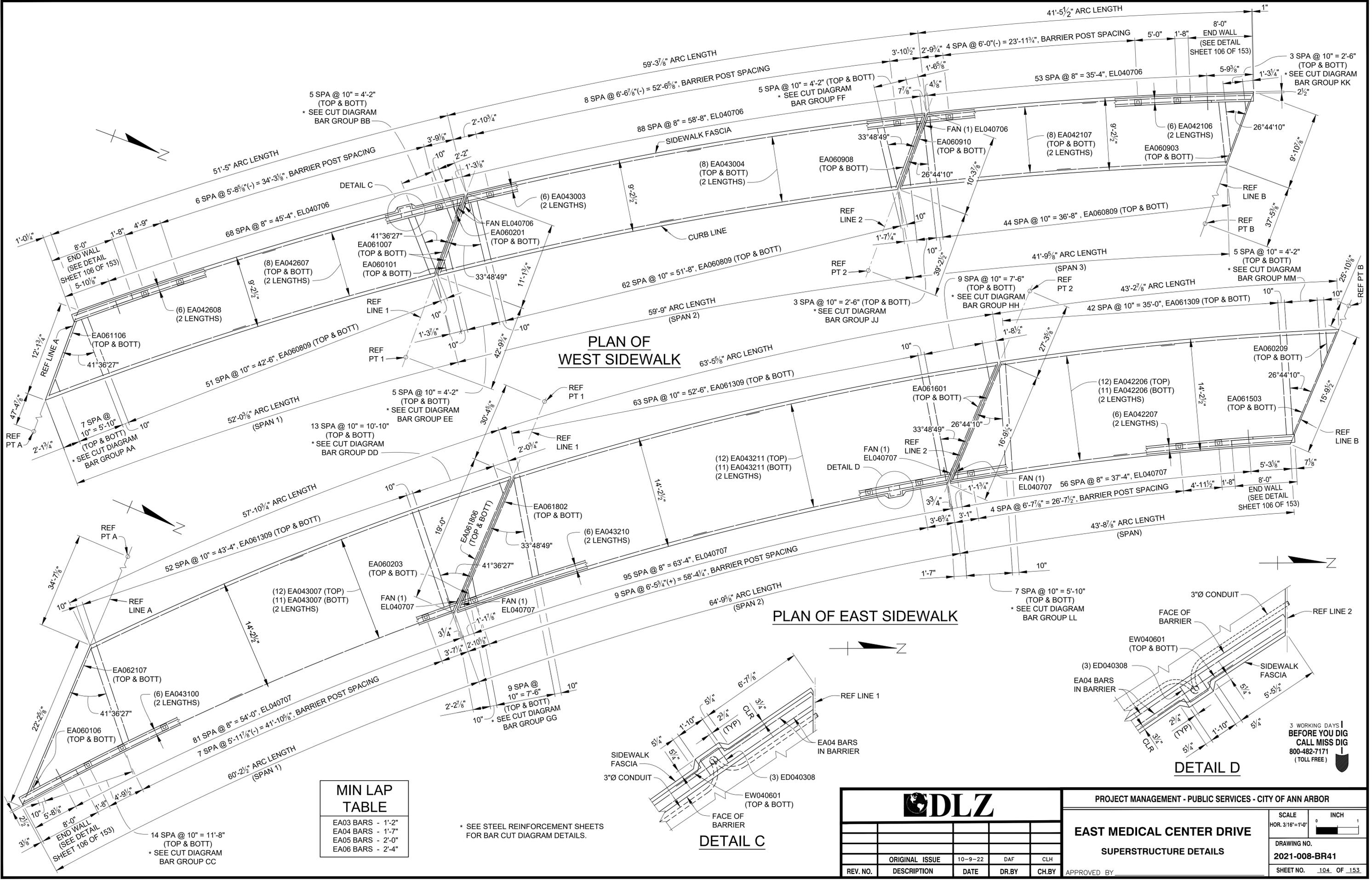
SCALE HOR. 3/16"=1'-0"	INCH 0 1
DRAWING NO. 2021-008-BR40	
SHEET NO. <u>103</u> OF <u>153</u>	

APPROVED BY: _____
CARRIE L. HAMEL, P.E. MICHIGAN NO. 6201056734

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PLAN OF WEST SIDEWALK

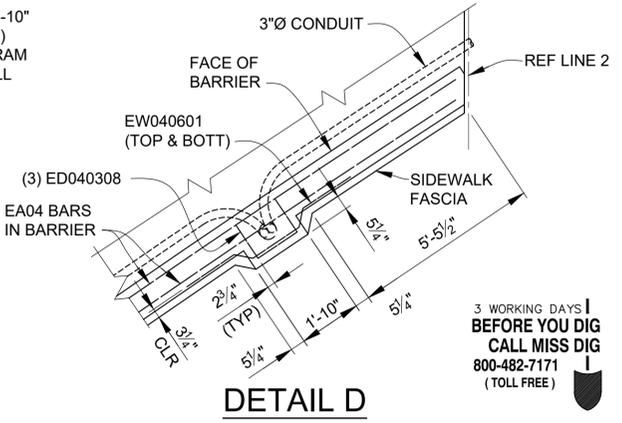
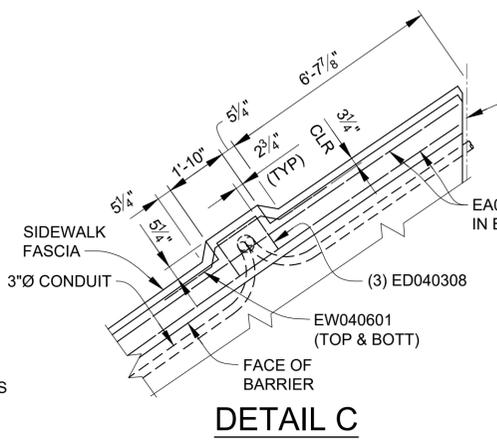
PLAN OF EAST SIDEWALK

DETAIL D

MIN LAP TABLE

EA03 BARS	- 1'-2"
EA04 BARS	- 1'-7"
EA05 BARS	- 2'-0"
EA06 BARS	- 2'-4"

* SEE STEEL REINFORCEMENT SHEETS FOR BAR CUT DIAGRAM DETAILS.

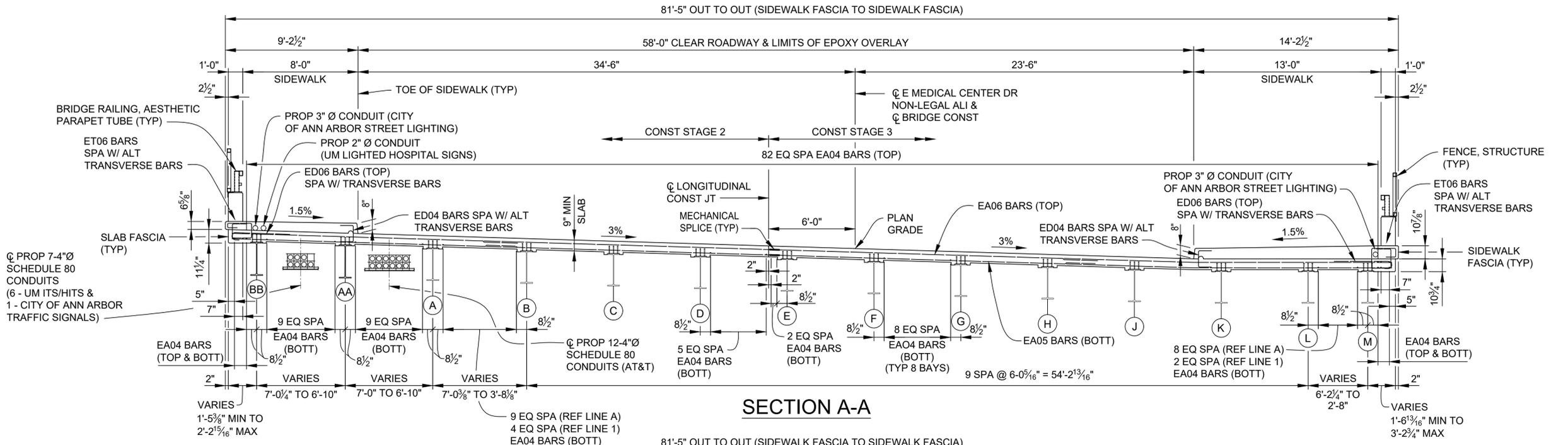


DLZ

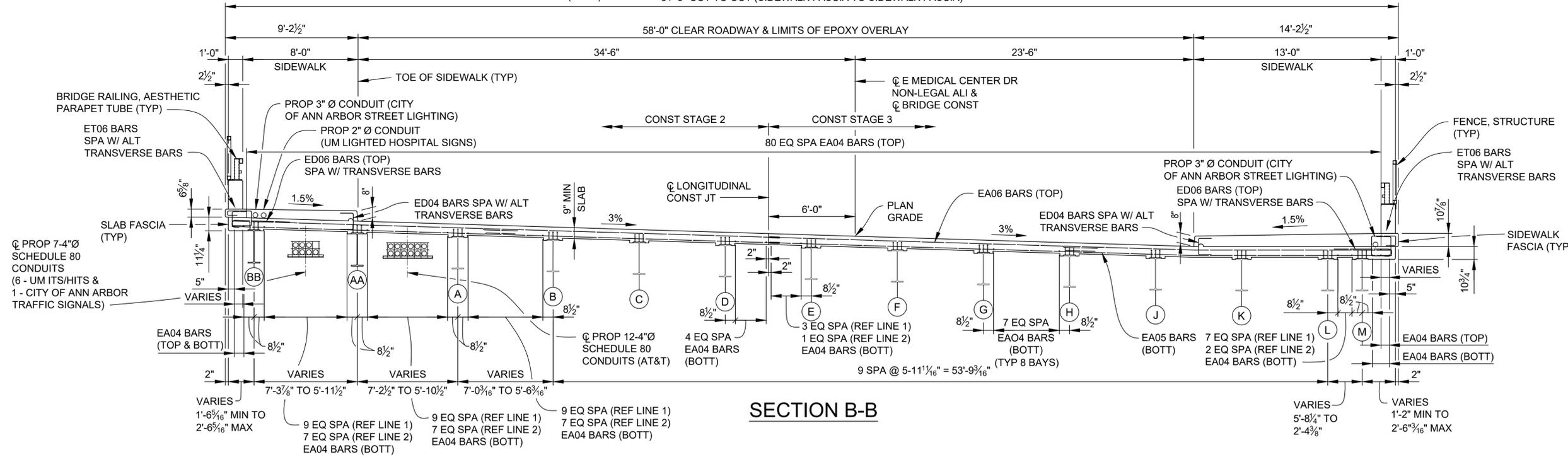
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
EAST MEDICAL CENTER DRIVE	
SUPERSTRUCTURE DETAILS	
SCALE HOR. 3/16"=1'-0"	INCH 0 1
DRAWING NO. 2021-008-BR41	
SHEET NO. <u>104</u> OF <u>153</u>	

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SECTION A-A



SECTION B-B

MIN LAP TABLE

EA03 BARS	- 1'-2"
EA04 BARS	- 1'-7"
EA05 BARS	- 2'-0"
EA06 BARS	- 2'-4"

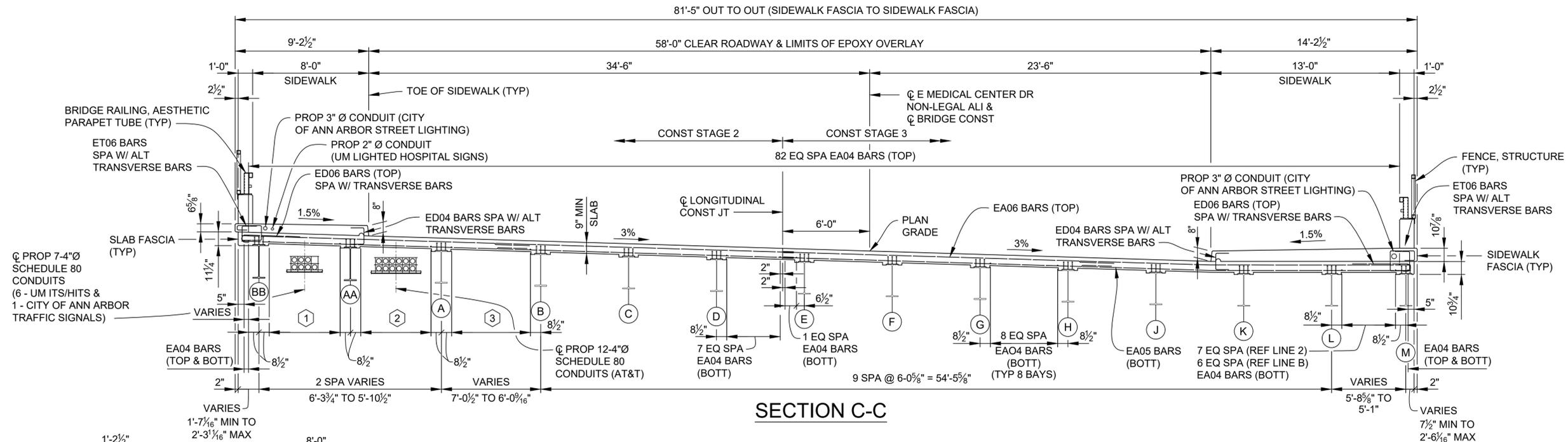
3 WORKING DAYS
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(TOLL FREE)

DLZ				
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY

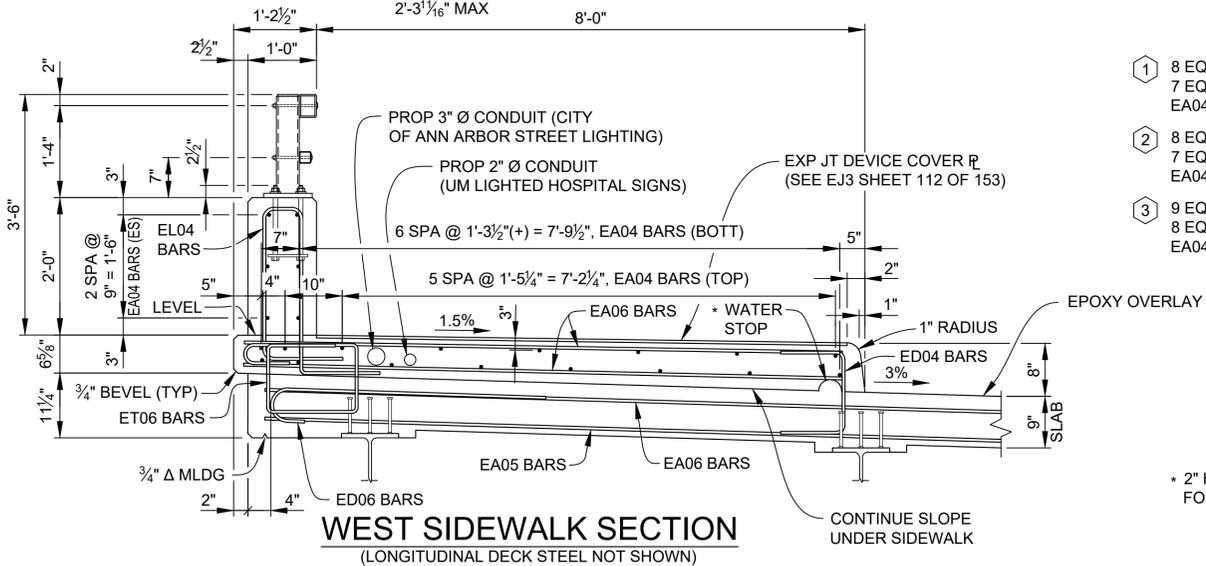
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
EAST MEDICAL CENTER DRIVE	
SUPERSTRUCTURE DETAILS	
SCALE HOR. 1/4" = 1'-0"	INCH 0 1
DRAWING NO. 2021-008-BR42	
SHEET NO. <u>105</u> OF <u>153</u>	

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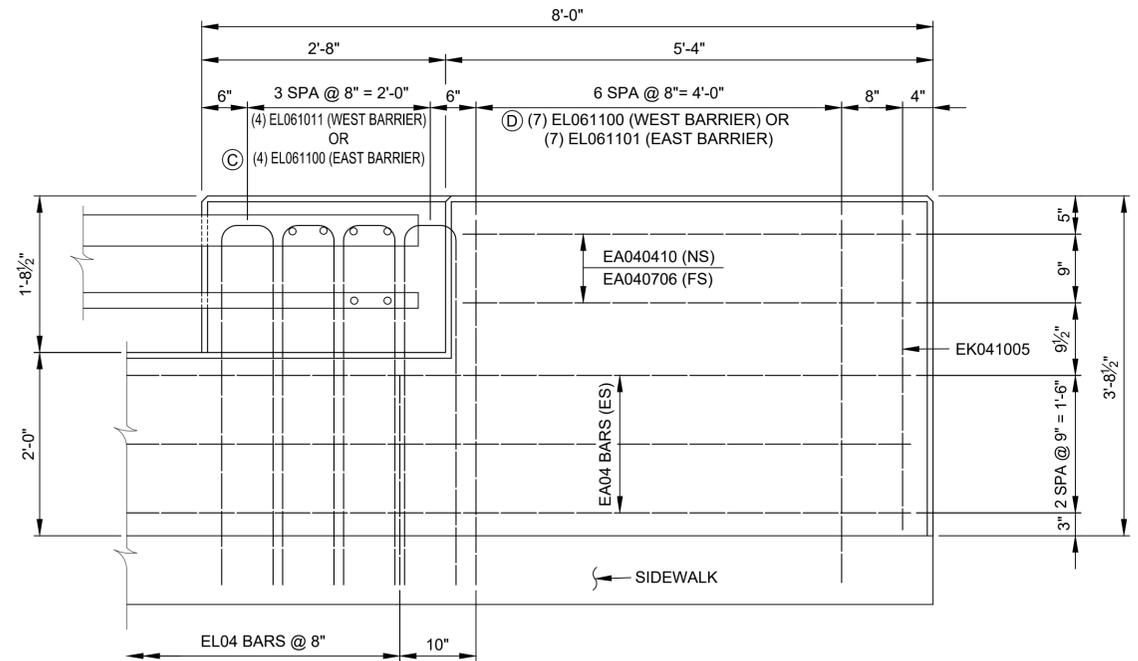


SECTION C-C



WEST SIDEWALK SECTION
(LONGITUDINAL DECK STEEL NOT SHOWN)

- ① 8 EQ SPA (REF LINE 2)
7 EQ SPA (REF LINE B)
EA04 BARS (BOTT)
- ② 8 EQ SPA (REF LINE 2)
7 EQ SPA (REF LINE B)
EA04 BARS (BOTT)
- ③ 9 EQ SPA (REF LINE 2)
8 EQ SPA (REF LINE B)
EA04 BARS (BOTT)

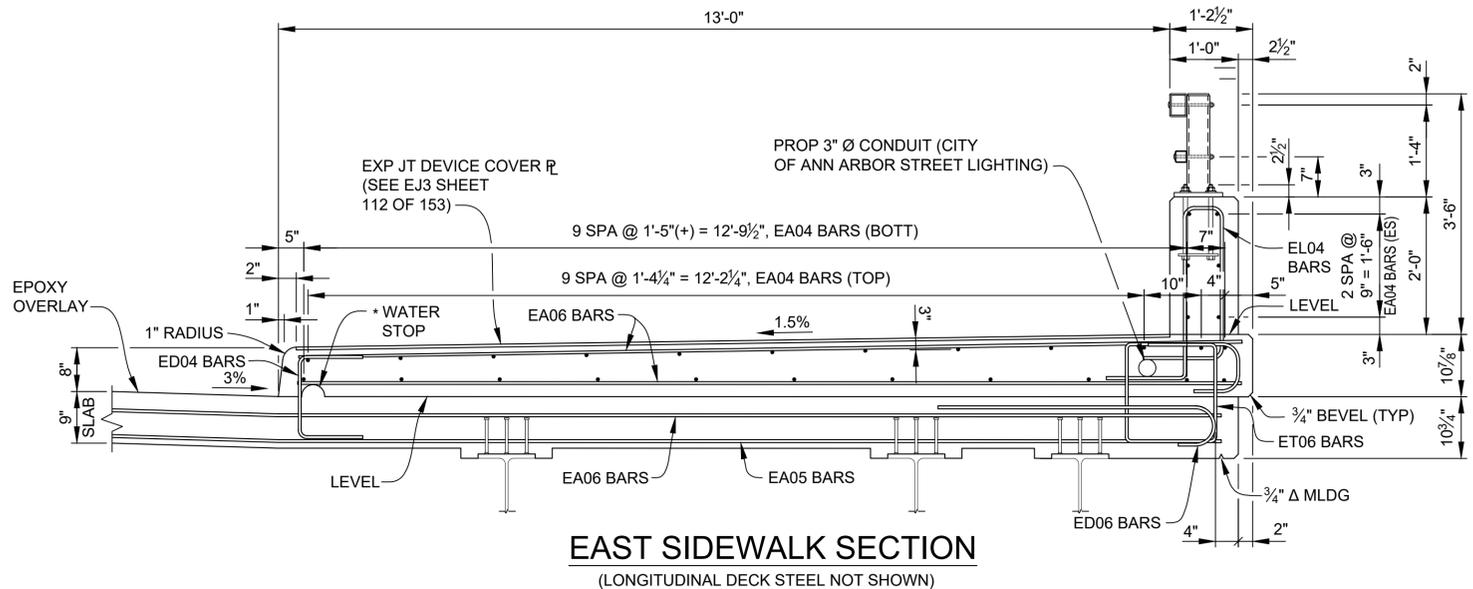


ELEVATION
END WALL DETAIL
(AESTHETIC PARAPET TUBE)

MIN LAP TABLE

EA03 BARS	- 1'-2"
EA04 BARS	- 1'-7"
EA05 BARS	- 2'-0"
EA06 BARS	- 2'-4"

NOTE:
FOR ADDITIONAL DETAILS OF RAILING, SEE MDOT
STANDARD PLAN B-25-K ON SHEETS 133 - 134 OF 153.



EAST SIDEWALK SECTION
(LONGITUDINAL DECK STEEL NOT SHOWN)

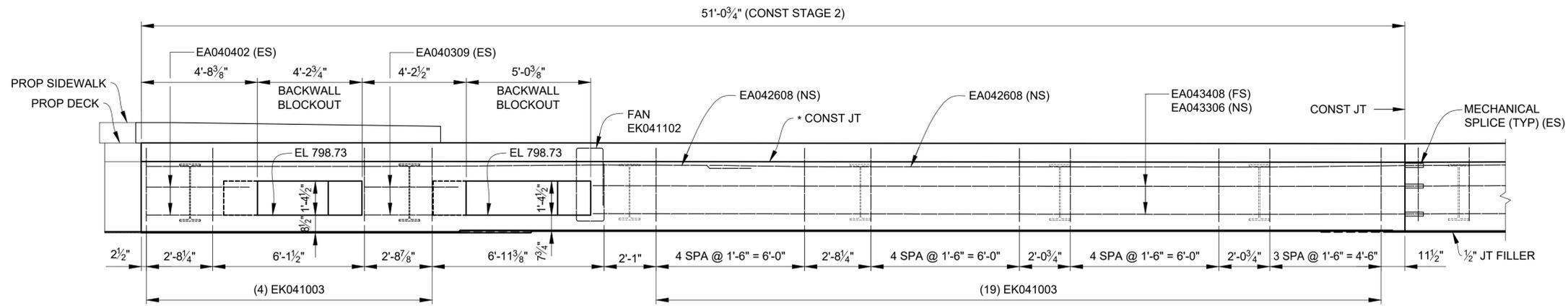
3 WORKING DAYS
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DLZ				
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10-9-22	DAF	CLH

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
EAST MEDICAL CENTER DRIVE	
SUPERSTRUCTURE DETAILS	
SCALE HOR. 1/4"=1'-0"	INCH 0 1
DRAWING NO. 2021-008-BR43	
SHEET NO. <u>106</u> OF <u>153</u>	

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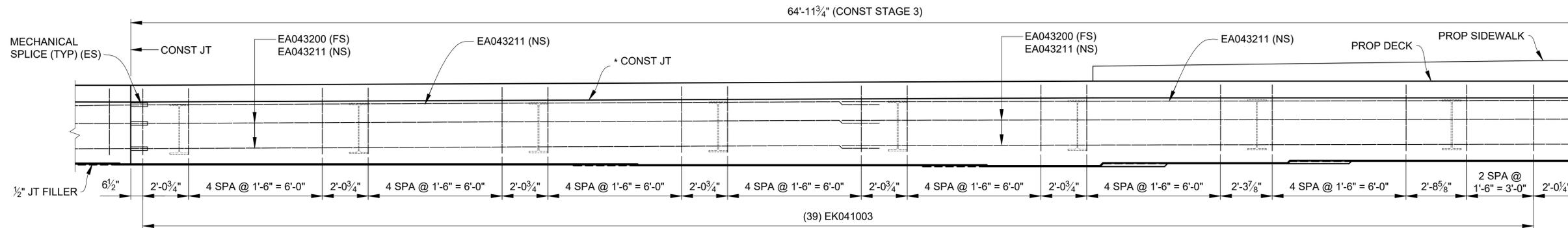
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BACKWALL ELEVATION ABUTMENT A - CONST STAGE 2

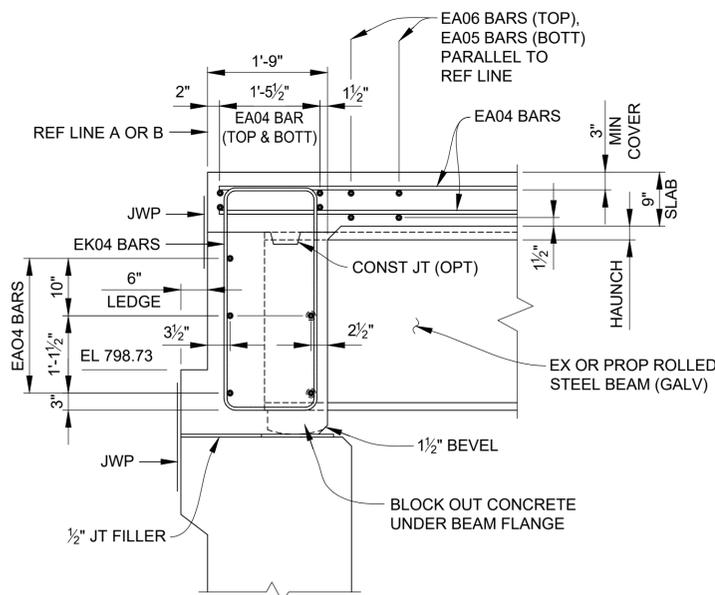
(LOOKING UP STATION)

* OPTIONAL CONSTRUCTION JOINT IF BACKWALL IS POURED WITH DECK.



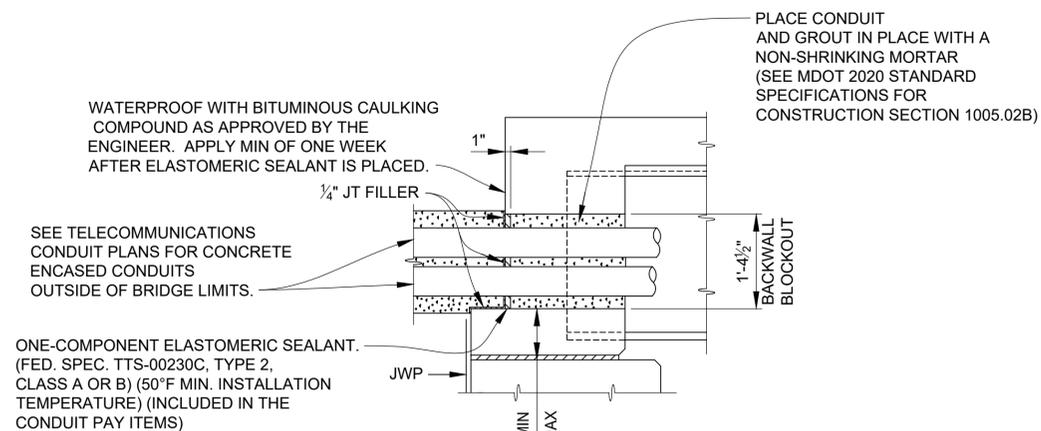
BACKWALL ELEVATION ABUTMENT A - CONST STAGE 3

(LOOKING UP STATION)



TYPICAL BACKWALL SECTION

IF A CONSTRUCTION JOINT IS USED, CAST THE LOWER PORTION OF THE BACKWALL PRIOR TO PLACING DECK REINFORCEMENT. THERE WILL BE NO PAYMENT FOR THE REQUIRED JOINT WATERPROOFING.



BACKWALL CONDUIT INSTALLATION

MIN LAP TABLE	
EA03 BARS	- 1'-2"
EA04 BARS	- 1'-7"
EA05 BARS	- 2'-0"
EA06 BARS	- 2'-4"

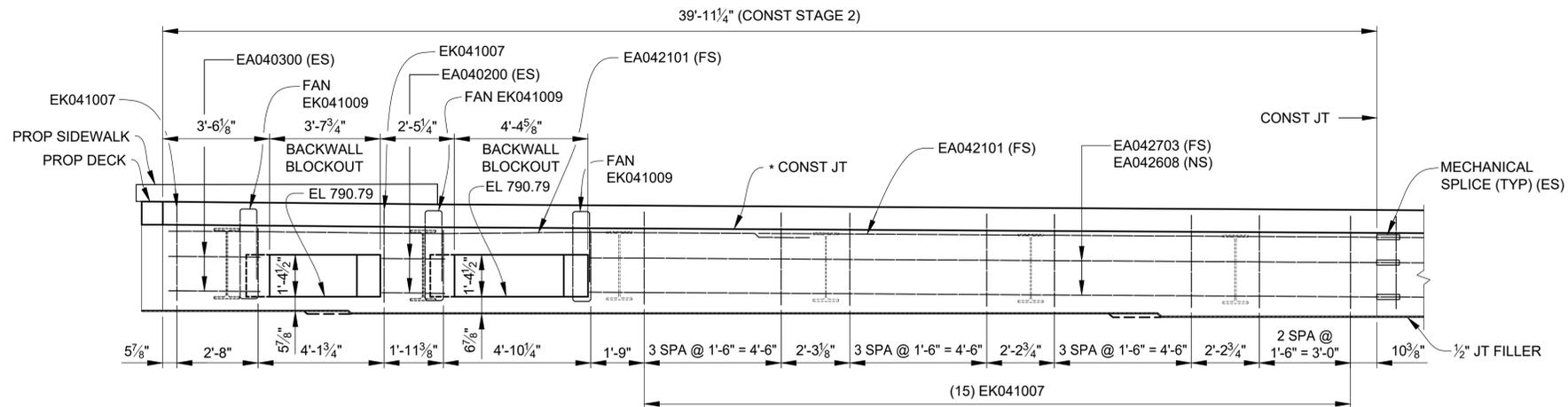
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	ORIGINAL ISSUE	10-9-22	DAF	CLH

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
EAST MEDICAL CENTER DRIVE	
SUPERSTRUCTURE DETAILS	
SCALE HOR. 3/16"=1'-0"	INCH 0 1
DRAWING NO. 2021-008-BR44	
SHEET NO. 107 OF 153	

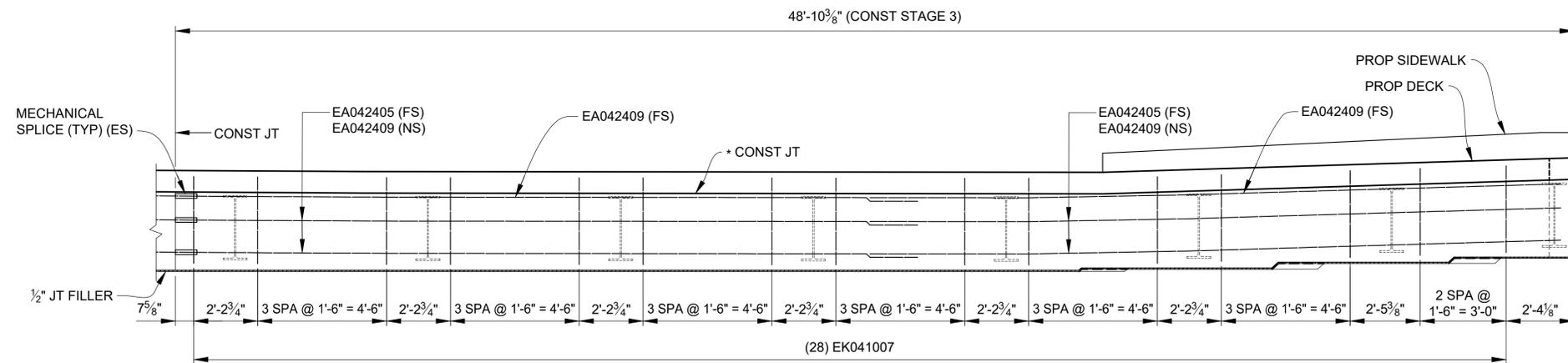
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BACKWALL ELEVATION ABUTMENT B - CONST STAGE 2

(LOOKING UP STATION)

* OPTIONAL CONSTRUCTION JOINT IF BACKWALL IS POURED WITH DECK.



BACKWALL ELEVATION ABUTMENT B - CONST STAGE 3

(LOOKING UP STATION)

MIN LAP TABLE

EA03 BARS	- 1'-2"
EA04 BARS	- 1'-7"
EA05 BARS	- 2'-0"
EA06 BARS	- 2'-4"

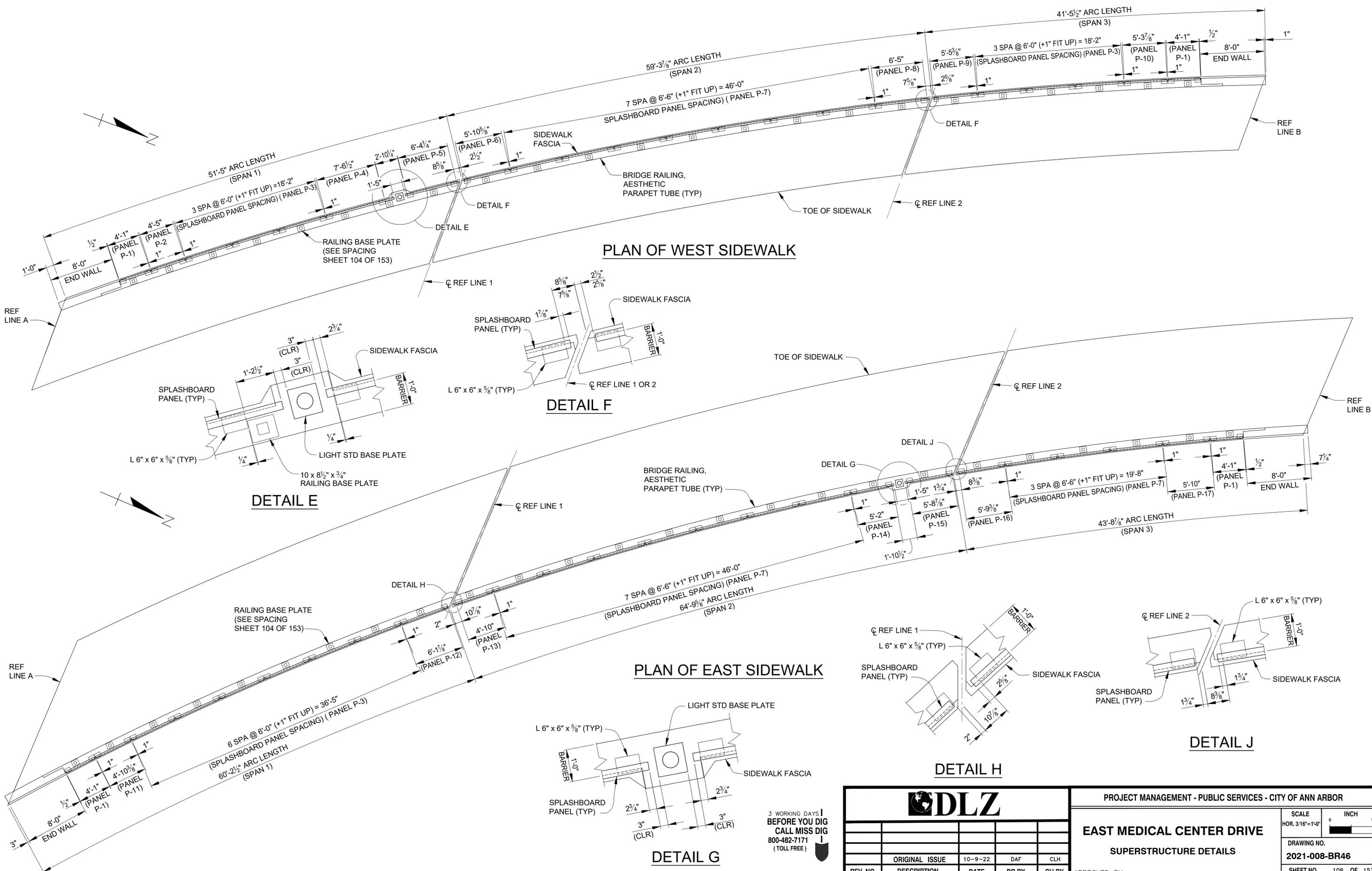
3 WORKING DAYS
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DLZ				
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10-9-22	DAF	CLH

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
EAST MEDICAL CENTER DRIVE	
SUPERSTRUCTURE DETAILS	
SCALE HOR. 3/16"=1'-0"	INCH 0 1
DRAWING NO. 2021-008-BR45	
SHEET NO. <u>108</u> OF <u>153</u>	

APPROVED BY: _____
CARRIE L. HAMEL, P.E. MICHIGAN NO. 6201056734

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PLAN OF WEST SIDEWALK

DETAIL F

PLAN OF EAST SIDEWALK

DETAIL G

DETAIL H

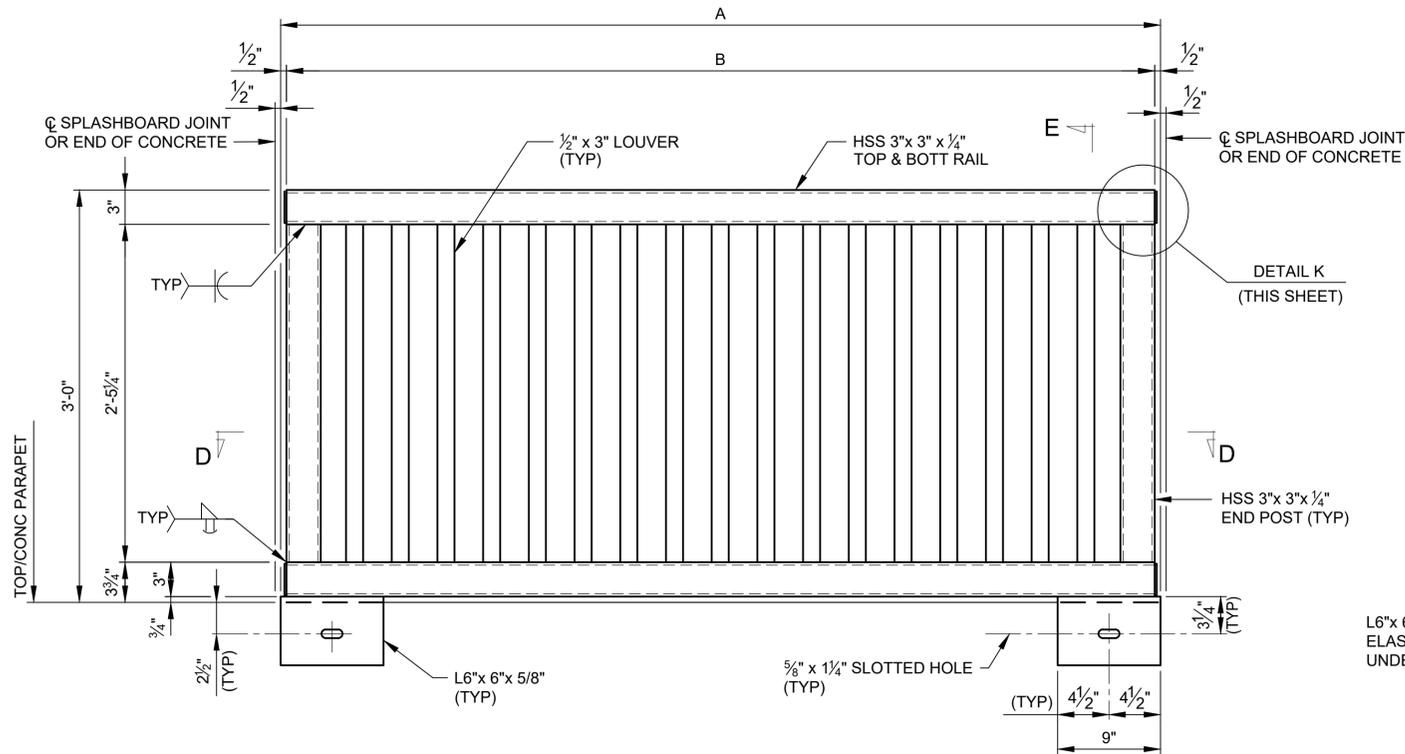
DETAIL J

3 WORKING DAYS
BEFORE YOU DIG
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(TOLL FREE)

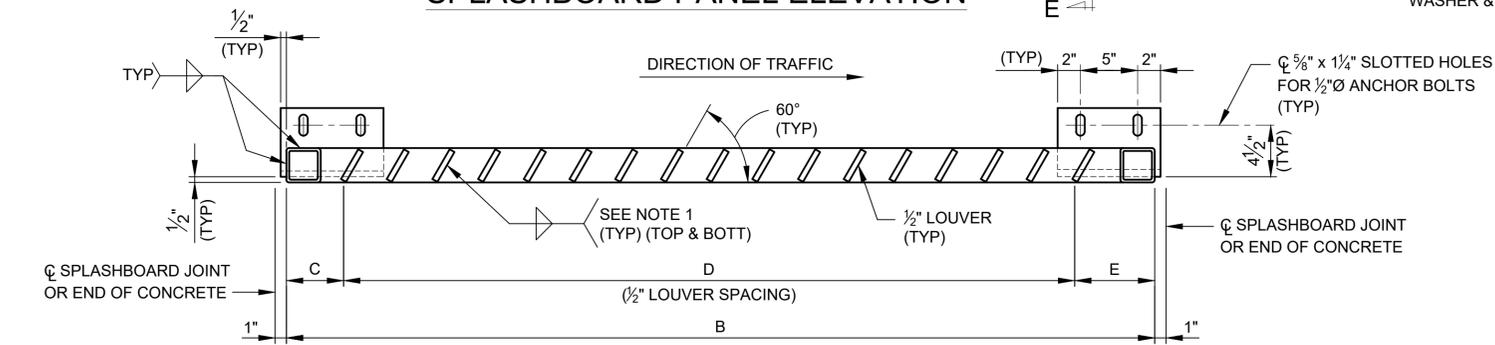
DLZ				
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
EAST MEDICAL CENTER DRIVE	
SUPERSTRUCTURE DETAILS	
SCALE HOR. 3/16"=1'-0"	INCH 0 1
DRAWING NO. 2021-008-BR46	
SHEET NO. <u>109</u> OF <u>153</u>	

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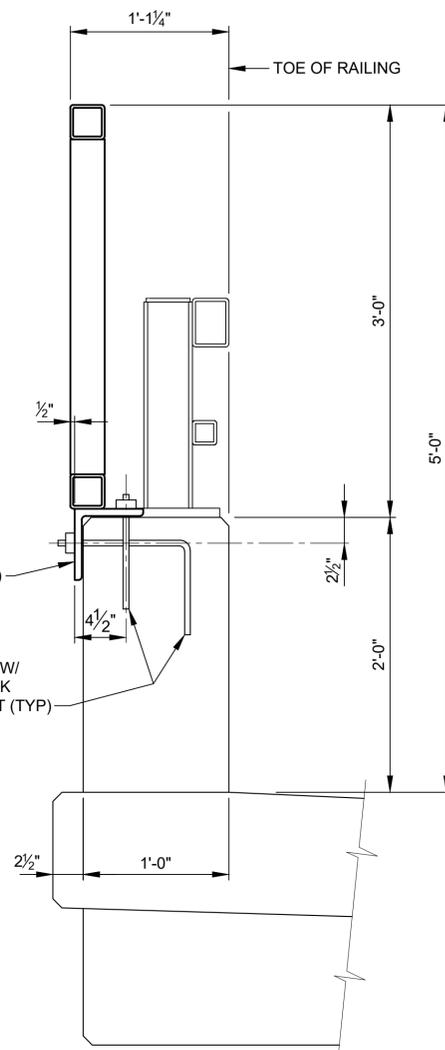


SPLASHBOARD PANEL ELEVATION

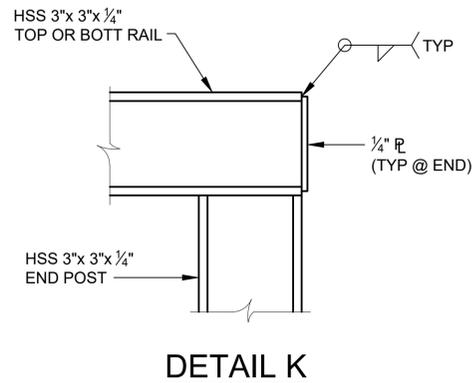


SECTION D-D
(VIEWED FROM INSIDE FACE)

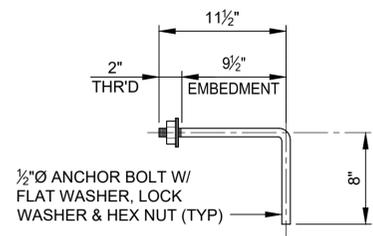
NOTE 1: WRAP WELD AROUND OUTSIDE EDGE



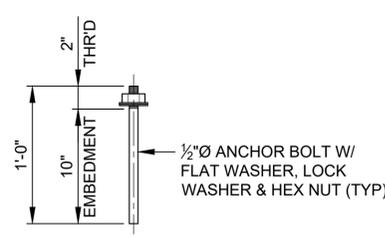
SECTION E-E



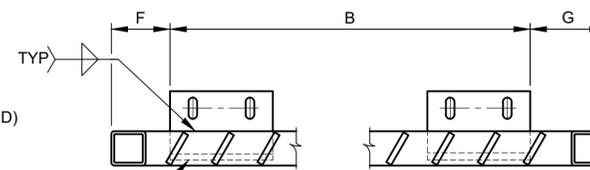
DETAIL K



ANCHOR BOLT DETAIL
(94 REQUIRED)



ANCHOR BOLT DETAIL
(188 REQUIRED)



OVERHANG DETAIL
(VIEWED FROM INSIDE FACE)

SPLASHBOARD PANEL DIMENSIONS								
PANEL	QUANTITY	A	B	C	D	E	F	G
P-1	4	4'-1"	4'-0"	5 1/2"	9 SPA @ 4"= 3'-0"	6 1/2"		
P-2	1	4'-5"	4'-4"	6"	10 SPA @ 4"= 3'-4"	6"		
P-3	12	6'-0"	5'-11"	5"	15 SPA @ 4"= 5'-0"	6"		
P-4	1	7'-6 1/2"	8'-8 1/2"	5 3/4"	23 SPA @ 4"= 7'-8"	6 3/4"		1'-2 1/2"
P-5	1	6'-4 1/4"	6'-8 7/8"	6"	17 SPA @ 4"= 5'-8"	6 7/8"	2 3/4"	1 1/8"
P-6	1	5'-10 5/8"	5'-9 5/8"	6 1/4"	14 SPA @ 4"= 4'-8"	7 3/8"		
P-7	17	6'-6"	6'-5"	6"	16 SPA @ 4"= 5'-4"	7"		
P-8	1	6'-5"	6'-6 3/8"	5"	17 SPA @ 4"= 5'-8"	5 3/8"		1 1/8"
P-9	1	5'-5 3/8"	5'-4 3/8"	6"	13 SPA @ 4"= 4'-4"	6 3/8"		
P-10	1	5'-3 3/8"	5'-2 7/8"	5"	13 SPA @ 4"= 4'-4"	5 7/8"		
P-11	1	4'-10 3/8"	4'-9 3/8"	6 1/4"	11 SPA @ 4"= 3'-8"	7 1/8"		
P-12	1	6'-1 1/8"	6'-0 7/8"	5 7/8"	15 SPA @ 4"= 5'-0"	7"		
P-13	1	4'-10"	5'-0 1/8"	5 1/2"	12 SPA @ 4"= 4'-0"	6 5/8"		2 5/8"
P-14	1	5'-2"	5'-4 1/4"	5 1/2"	13 SPA @ 4"= 4'-4"	6 3/4"	2 3/4"	
P-15	1	5'-8 7/8"	5'-11 1/8"	5 1/8"	15 SPA @ 4"= 5'-0"	6"		2 3/4"
P-16	1	5'-9 3/8"	5'-10 5/8"	4 7/8"	15 SPA @ 4"= 5'-0"	5 3/4"		1 3/4"
P-17	1	5'-10"	5'-9"	6"	14 SPA @ 4"= 4'-8"	7"		

NOTES:

PROPOSED SPLASHBOARD PANELS AND ANCHOR BOLTS ARE INCLUDED IN THE BID ITEMS "STRUCTURAL STEEL, MIXED, FURN AND FAB" AND "STRUCTURAL STEEL, MIXED, ERECT".

ELASTOMERIC BEARING PAD (1/8") USED UNDER THE ANGLES SHALL NOT BE PAID FOR SEPARATELY BUT INCLUDED IN THE QUANTITY FOR STRUCTURAL STEEL.

STRUCTURAL STEEL SHALL CONFORM TO AASHTO M270, GRADE 36.

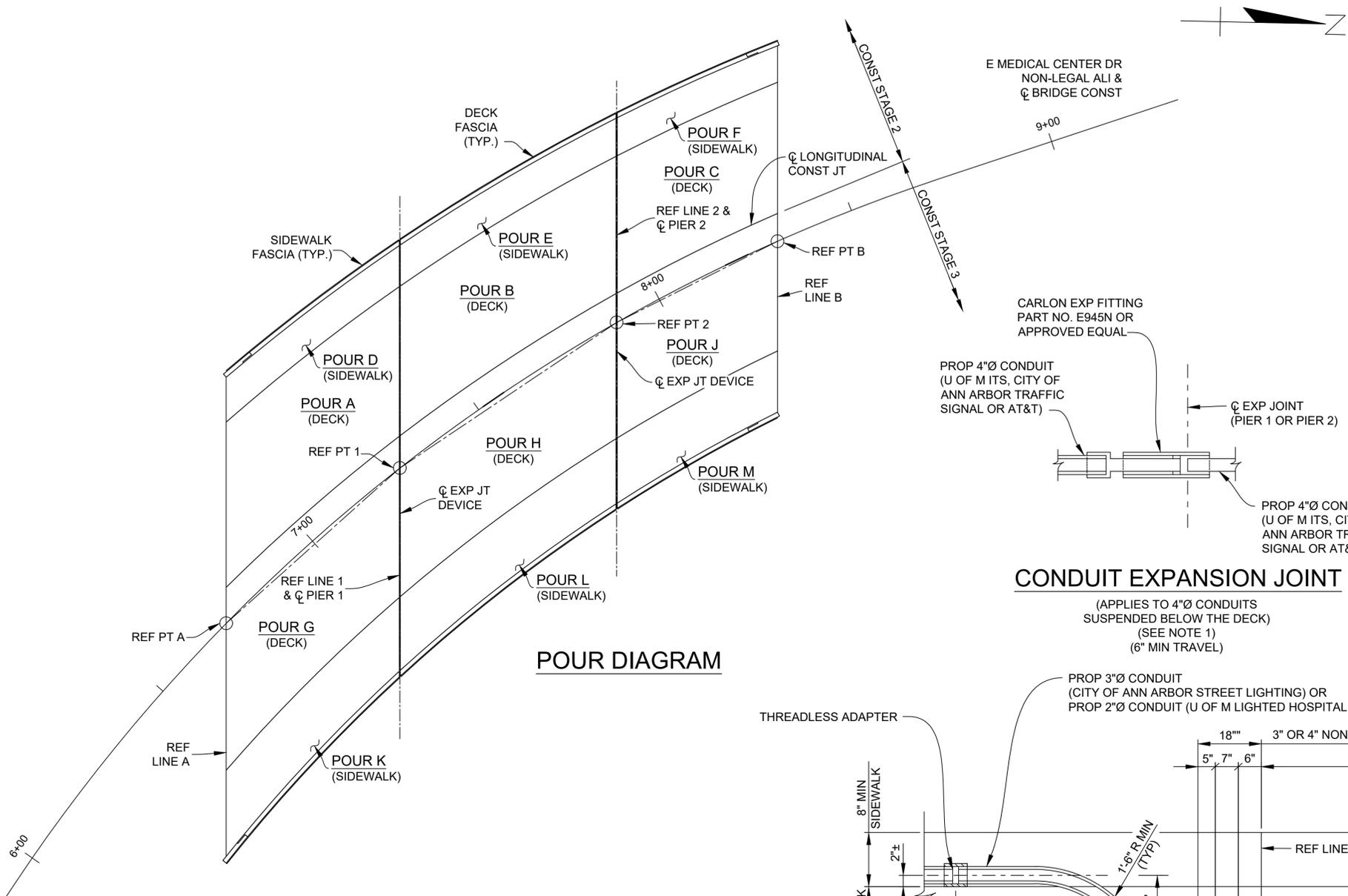
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PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
EAST MEDICAL CENTER DRIVE	
SUPERSTRUCTURE DETAIL	
SCALE HOR. 1/16"=1'-0"	INCH 0 1
DRAWING NO. 2021-008-BR47	
SHEET NO. 110 OF 153	

CARRIE L. HAMEL, P.E. MICHIGAN NO. 6201056734

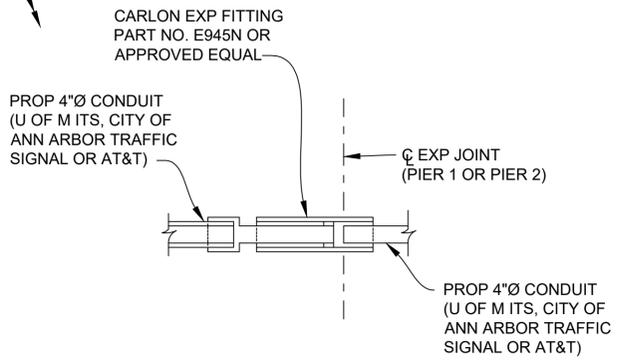


SUPERSTRUCTURE CONCRETE QUANTITIES	
POUR	QUANTITY (CYDS)(CATG 0001)
D	10.8
E	12.3
F	8.7
K	24.7
L	26.5
M	18.0
TOTAL	101

SUPERSTRUCTURE CONCRETE NIGHT CASTING QUANTITIES		
POUR	QUANTITY (CYDS)(CATG 0001)	QUANTITY (CYDS)(CATG 0002)
* A	50.2	19.3
B	48.8	19.2
* C	38.6	15.5
* G	89.1	
H	83.2	
* J	65.1	
TOTAL	375	54

* BACKWALL INCLUDED IN THE POUR.

ESTIMATED QUANTITIES THIS SHEET					
DESCRIPTION	UNITS	CATG 0001	CATG 0002	CATG 0003	TOTAL
Bridge Jct. Form and Rem. (STR 11065)	LS.Y	0.9	0.1		1
Bridge Jct. Clear and Maintain	Cyd	375	34		409
Superstructure Conc	Cyd	101			101
Superstructure Conc. Form, Finish, and Cure (STR 11065)	LS.Y	1			1
Superstructure Conc. Form, Finish, and Cure, Night Casting (STR 11065)	LS.Y	0.9	0.1		1
Superstructure Conc. Night Casting	Cyd	375	34		409
Structural Steel, Fabric, Erect	Ls	19,563			19,563
Structural Steel, Fabric, Paint and Pac	Ls	19,563			19,563
Bridge Railing, Aesthetic Parapet Tube	Ft	321			321
Elect. Work	Syd	1,050			1,050
Reinforcement, Mechanical, Erect	Ea	748			748

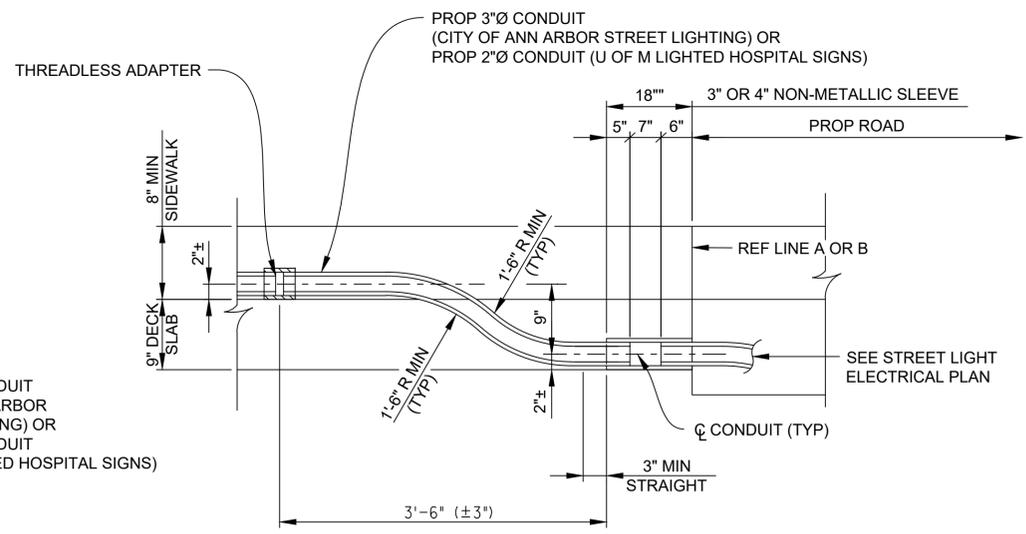


CONDUIT EXPANSION JOINT

(APPLIES TO 4" CONDUITS SUSPENDED BELOW THE DECK) (SEE NOTE 1) (6" MIN TRAVEL)

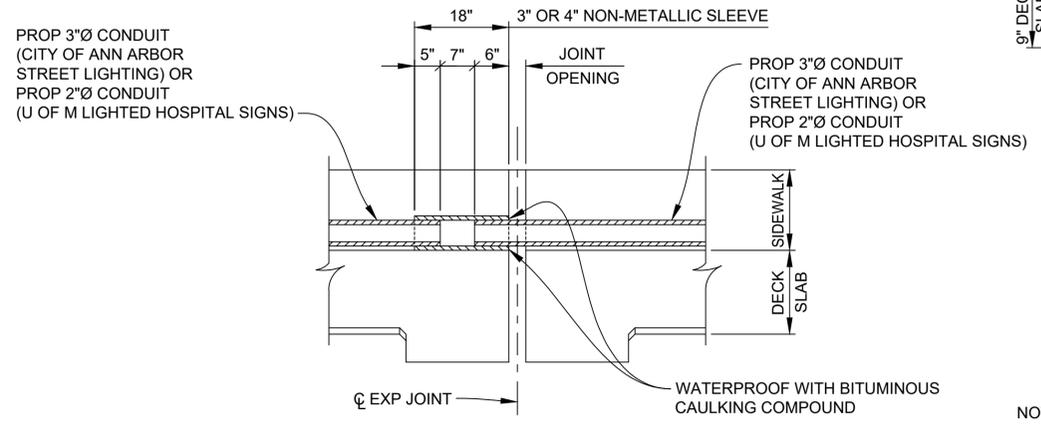
NOTES

- ES DENOTES EACH SIDE.
- NS DENOTES NEAR SIDE.
- FS DENOTES FAR SIDE.
- T&B DENOTES TOP AND BOTTOM.
- FOR DETAILS OF NAME PLATES, MOLDINGS, AND BEVELS, SEE MDOT STANDARD PLAN B-103-SERIES.
- FOR NAME PLATE LOCATION, SEE GENERAL PLAN OF STRUCTURE SHEET.
- ALPHABETICAL DESIGNATION OF DECK POURS IS NOT TO BE CONSTRUED AS A POUR SEQUENCE.
- APPLY LOW TEMPERATURE PROTECTION OF CONCRETE ACCORDING TO SECTION 706.03 J. OF THE 2020 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION. LOW TEMPERATURE PROTECTION OF CONCRETE WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE INCLUDED IN THE CONCRETE BID ITEMS.
- NO PORTION OF DECK FRAMEWORK SHALL ENCRoACH ON THE EXISTING UNDERCLEARANCE.
- THE CONTRACTOR MAY USE PERMANENT METAL DECK FORMS. IF USED, THE CORRUGATIONS MUST BE FILLED WITH POLYSTYRENE FOAM.
- SAWCUT THE DECK ON BOTH TOP AND BOTTOM SURFACE PRIOR TO DECK REMOVAL PROCEDURES.
- LIGHT STANDARD ANCHOR ASSEMBLY IS INCLUDED IN PAYMENT FOR "BRIDGE RAILING, AESTHETIC PARAPET TUBE".
- NOTIFY THE UTILITY OWNER ONE WEEK PRIOR TO BEGINNING INSTALLATION OF DUCTS IN THE SIDEWALK.
- SEE STANDARD PLAN B-25-K FOR ADDITIONAL RAILING DETAILS, INCLUDING BUMPOUT FOR LIGHT STANDARD.



CONDUIT DETAILS AT APPROACHES

(SEE NOTE 1)



LIGHTING CONDUIT AT TRANSVERSE EXPANSION JOINT

(SEE NOTE 1)

NOTE 1: SLEEVES, ADAPTERS, COUPLINGS, CONDUIT, PLUGS AND WATERPROOFING ARE INCLUDED IN THE BID ITEM "CONDUIT, SCHEDULE 40, 2 INCH", "CONDUIT, SCHEDULE 40, 3 INCH" OR "CONDUIT, SCHEDULE 80, 4 INCH, STRUCTURE"

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DLZ				
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10-9-22	DAF	CLH

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
EAST MEDICAL CENTER DRIVE	
SUPERSTRUCTURE DETAIL	
SCALE HOR. 1/16"=1'-0"	INCH 0 1
DRAWING NO. 2021-008-BR48	
SHEET NO. 111 OF 153	

APPROVED BY: CARRIE L. HAMEL, P.E. MICHIGAN NO. 6201056734

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BAR	DIMENSIONS												NO.	TOTAL
	A	B	C	D	E	F	G	H	J	K	M	P	REQ'D	WT.
EA050400	4'-0"												3	13
EA050401	4'-1"												3	13
EA050911	9'-11"												16	165
EA051605	16'-5"												6	103
EA052602	26'-2"												6	164
EA052910	29'-10"												6	187
EA053211	32'-11"												6	206
EA060303	3'-3"												22	107
EA060607	6'-7"												2	20
EA060806	8'-6"												20	255
EA061006	10'-6"												4	63
EA061010	10'-10"												2	33
EA061106	11'-6"												12	207
EA061107	11'-7"												4	70
EA061210	12'-10"												15	289
EA061611	16'-11"												2	51
EA080900	9'-0"												8	192
EA081710	17'-10"												8	381
EA092002	20'-2"												5	343
EA092210	22'-10"												5	388
EA092602	26'-2"												10	890
EA093211	32'-11"												10	1119
EA093307	33'-7"												5	571
EA093603	36'-3"												5	616
ED050804	2'-6"	3'-4"	2'-6"										91	791
EK051305	2'-2 1/2"	2'-9"	2'-9"	3'-6"									182	2547
EU050905	3'-5"	2'-0 1/4"	5'-4 1/2"	2'-0 1/4"	1'-8 1/2"								12	118
EU051002	3'-11"	2'-0 1/8"	6'-1 3/4"	2'-0 1/8"	1'-11 1/2"								8	85
EV040710	6'-3"	1'-7"	1'-11 1/4"	0'-0"	0'-0"								16	84

PER 2

BAR	DIMENSIONS												NO.	TOTAL
	A	B	C	D	E	F	G	H	J	K	M	P	REQ'D	WT.
EA050400	4'-0"												3	13
EA050401	4'-1"												1	4
EA050911	9'-11"												16	165
EA051410	14'-10"												6	93
EA052401	24'-1"												6	151
EA052802	28'-2"												6	176
EA052808	28'-8"												6	179
EA060303	3'-3"												22	107
EA060510	5'-10"												2	18
EA060806	8'-6"												20	255
EA061006	10'-6"												4	63
EA061010	10'-10"												2	33
EA061106	11'-6"												12	207
EA061107	11'-7"												4	70
EA061210	12'-10"												15	289
EA061700	17'-0"												2	51
EA080900	9'-0"												8	192
EA081305	13'-5"												8	287
EA091807	18'-7"												5	316
EA092103	21'-3"												5	361
EA092401	24'-1"												10	819
EA092808	28'-8"												10	975
EA093111	31'-11"												5	543
EA093407	34'-7"												5	588
ED050804	2'-6"	3'-4"	2'-6"										85	739
EK051305	2'-2 1/2"	2'-9"	2'-9"	3'-6"									170	2379
EU050905	3'-5"	2'-0 1/4"	5'-4 1/2"	2'-0 1/4"	1'-8 1/2"								12	118
EU051002	3'-11"	2'-0 1/8"	6'-1 3/4"	2'-0 1/8"	1'-11 1/2"								8	85
EV040710	6'-3"	1'-7"	1'-11 1/4"	0'-0"	0'-0"								11	58

*Threaded

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REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10-9-22	CLH	KJS

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
EAST MEDICAL CENTER DRIVE	
STEEL REINFORCEMENT DETAILS	
SCALE HOR. 1"=40' VERT. 1"=4'	INCH 0 1
DRAWING NO. 2021-008-BR53	
SHEET NO. 116 OF 153	

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DECK-SPAN 1

BAR	DIMENSIONS												NO. REQ'D	TOTAL WT.
	A	B	C	D	E	F	G	H	J	K	M	P		
EA040309	3'-9"												4	10
EA040402	4'-2"												4	11
EA040409	4'-9"												2	6
EA040410	4'-10"												4	13
EA040706	7'-6"												4	20
EA040903	9'-3"												2	12
EA041309	13'-9"												2	18
EA042102	21'-2"												2	28
EA042604	26'-4"												6	106
EA042606	26'-6"												40	708
EA042607	26'-7"												32	568
EA042608	26'-8"												22	393
EA042800	28'-0"												159	2974
EA042806	28'-6"												18	342
EA042909	29'-9"												12	239
EA043007	30'-7"												46	940
EA043008	30'-8"												172	3524
EA043100	31'-0"												12	248
EA043200	32'-0"												4	86
EA043210	32'-10"												8	175
EA043211	32'-11"												6	132
EA043306	33'-6"												2	45
EA043408	34'-8"												2	46
EA043506	35'-6"												2	47
EA051707	17'-7"												40	734
EA051810	18'-10"												17	334
EA052001	20'-1"												36	754
EA052002	20'-2"												40	841
EA052100	21'-0"												40	876
EA052205	22'-5"												33	772
EA052206	22'-6"												42	986
EA052208	22'-8"												33	780
EA052301	23'-1"												21	506
EA052309	23'-9"												18	446
EA052311	23'-11"												42	1048
EA052400	24'-0"												23	576
EA052407	24'-7"												4	103
EA052505	25'-5"												21	557
EA052507	25'-7"												29	774
EA052511	25'-11"												21	568
EA052610	26'-10"												4	112
EA052705	27'-5"												20	572
EA052901	29'-1"												4	121
EA053208	32'-8"												4	136

DECK-SPAN 1 (CONT.)

BAR	DIMENSIONS												NO. REQ'D	TOTAL WT.
	A	B	C	D	E	F	G	H	J	K	M	P		
EA060106	1'-6"												2	5
EA060201	2'-1"												2	6
EA060809	8'-9"												104	1367
EA061002	10'-2"												8	122
EA061007	10'-7"												2	32
EA061106	11'-6"												8	139
EA061309	13'-9"												106	2189
EA061504	15'-4"												30	690
EA061709	17'-9"												40	1066
EA061806	18'-6"												2	56
EA061810	18'-10"												17	481
EA062003	20'-3"												36	1095
EA062004	20'-4"												40	1222
EA062102	21'-2"												40	1272
EA062107	21'-7"												2	65
EA062207	22'-7"												33	1119
EA062208	22'-8"												42	1430
EA062210	22'-10"												33	1132
EA062301	23'-1"												21	728
EA062309	23'-9"												18	642
EA062400	24'-0"												23	829
EA062401	24'-1"												42	1519
EA062409	24'-9"												4	149
EA062505	25'-5"												21	802
EA062507	25'-7"												29	1114
EA062511	25'-11"												21	817
EA062700	27'-0"												4	162
EA062705	27'-5"												20	824
EA062903	29'-3"												4	176
EA063210	32'-10"												4	197
ED040211	0'-10 3/4"	1'-1 1/2"	0'-10 3/4"										131	255
ED040308	1'-1 3/4"	1'-4 1/2"	1'-1 3/4"										3	7
ED040503	1'-1 1/2"	3'-0"	1'-1 1/2"										2	7
ED060500	4'-0"	0'-6"	0'-6"										231	1735
EK041003	1'-4 1/2"	2'-3 1/2"	2'-3 1/2"	2'-11"									62	424
EK041005	0'-7 1/4"	2'-11 3/4"	2'-11 3/4"	3'-3"									2	14
EK041102	1'-10"	2'-3 1/2"	2'-3 1/2"	2'-11"									1	7
EL040706	2'-2"	0'-7"	2'-5"	1'-2"	1'-2"	0'-7"	0'-0"						70	351
EL040707	2'-2"	0'-7"	2'-6"	1'-2"	1'-2"	0'-7"	0'-0"						83	420
EL061011	3'-10 1/2"	0'-6 3/4"	4'-1 1/2"	1'-2 1/8"	1'-2 1/8"	0'-0"	0'-6 3/4"						4	66
EL061100	3'-10 1/2"	0'-6 3/4"	4'-2 1/2"	1'-2 1/8"	1'-2 1/8"	0'-0"	0'-6 3/4"						4	66
EL061100	4'-1 1/2"	0'-7 1/4"	3'-10 1/2"	1'-2 3/8"	1'-2 3/8"	0'-7 1/4"	0'-0"						7	116
EL061101	4'-2 1/2"	0'-7 1/4"	3'-10 1/2"	1'-2 3/8"	1'-2 3/8"	0'-7 1/4"	0'-0"						7	117
ET060701	1'-0"	1'-4"	1'-0"	1'-8"	0'-4"	0'-9"							61	649
ET060800	1'-0"	1'-4"	1'-4 1/2"	1'-8"	0'-7"	0'-8"							72	865
EW040601	1'-8"	0'-4 3/4"	1'-7 1/2"	0'-4 3/4"	1'-8"	0'-4 3/4"	0'-6 3/4"	0'-6 3/4"	0'-4 3/4"				2	8
EW040609	1'-8"	0'-7 3/4"	1'-7"	0'-7 3/4"	1'-8"	0'-7 7/8"	0'-11"	0'-11"	0'-7 7/8"				2	9

*Threaded

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				PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR			
EAST MEDICAL CENTER DRIVE				SCALE HOR. 1"=40' VERT. 1"=4'			
STEEL REINFORCEMENT DETAILS				DRAWING NO. 2021-008-BR54			
REV. NO. DESCRIPTION DATE DR. BY CH. BY				APPROVED BY			
ORIGINAL ISSUE 10-9-22 CLH KJS				SHEET NO. 117 OF 153			

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DECK-SPAN2

BAR	DIMENSIONS												NO. REQ'D	TOTAL WT.	
	A	B	C	D	E	F	G	H	J	K	M	P			
EA040703	7'-3"													2	10
EA041006	10'-6"													2	14
EA041702	17'-2"													2	23
EA042003	20'-3"													2	27
EA043002	30'-2"													6	121
EA043003	30'-3"													12	242
EA043004	30'-4"													32	648
EA043007	30'-7"													18	367
EA043100	31'-0"													8	166
EA043101	31'-1"													10	208
EA043106	31'-6"													153	3219
EA043109	31'-9"													5	106
EA043200	32'-0"													2	43
EA043209	32'-9"													14	307
EA043210	32'-10"													174	3816
EA043211	32'-11"													46	1011
EA044005	40'-5"													2	54
EA045205	52'-5"													4	140
EA045210	52'-10"													2	71
EA051807	18'-7"													30	581
EA051906	19'-6"													13	264
EA052003	20'-3"													28	591
EA052008	20'-8"													82	1768
EA052010	20'-10"													82	1782
EA052205	22'-5"													4	94
EA052208	22'-8"													79	1868
EA052210	22'-10"													79	1881
EA052211	22'-11"													16	382
EA052302	23'-2"													32	773
EA052307	23'-7"													14	344
EA052401	24'-1"													16	402
EA052407	24'-7"													4	103
EA052409	24'-9"													20	516
EA052410	24'-10"													15	389
EA052506	25'-6"													16	426
EA052508	25'-8"													16	428
EA052511	25'-11"													4	108
EA052810	28'-10"													4	120
EA060101	1'-1"													2	3
EA060203	2'-3"													2	7
EA060809	8'-9"													126	1656

DECK-SPAN 2 (CONT.)

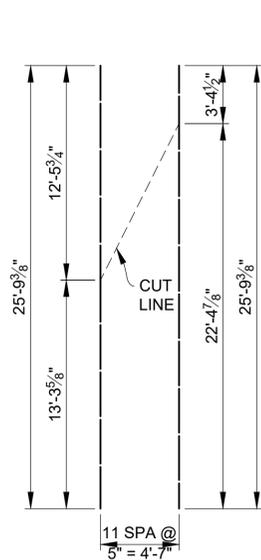
BAR	DIMENSIONS												NO. REQ'D	TOTAL WT.	
	A	B	C	D	E	F	G	H	J	K	M	P			
EA060908	9'-8"													2	29
EA061001	10'-1"													6	91
EA061007	10'-7"													2	32
EA061009	10'-9"													6	97
EA061309	13'-9"													128	2644
EA061501	15'-1"													10	227
EA061601	16'-1"													2	48
EA061700	17'-0"													10	255
EA061802	18'-2"													2	55
EA061809	18'-9"													30	845
EA061906	19'-6"													13	381
EA062005	20'-5"													28	859
EA062010	20'-10"													82	2566
EA062100	21'-0"													82	2586
EA062108	21'-8"													32	1041
EA062110	21'-10"													32	1049
EA062207	22'-7"													4	136
EA062210	22'-10"													79	2709
EA062211	22'-11"													16	551
EA062300	23'-0"													79	2729
EA062304	23'-4"													32	1121
EA062307	23'-7"													14	496
EA062401	24'-1"													16	579
EA062409	24'-9"													24	892
EA062410	24'-10"													15	559
EA062506	25'-6"													16	613
EA062508	25'-8"													16	617
EA062601	26'-1"													4	157
EA062900	29'-0"													4	174
ED040211	0'-10 3/4"	1'-1 1/2"	0'-10 3/4"											147	286
ED040308	1'-1 3/4"	1'-4 1/2"	1'-1 3/4"											3	7
ED040503	1'-1 1/2"	3'-0"	1'-1 1/2"											2	7
ED060500	4'-0"	0'-6"	0'-6"											279	2095
EL040706	2'-2"	0'-7"	2'-5"	1'-2"	1'-2"	0'-7"	0'-0"							90	451
EL040707	2'-2"	0'-7"	2'-6"	1'-2"	1'-2"	0'-7"	0'-0"							98	496
ET060701	1'-0"	1'-4"	1'-0"	1'-8"	0'-4"	0'-9"								70	745
ET060800	1'-0"	1'-4"	1'-4 1/2"	1'-8"	0'-7"	0'-8"								76	913
EW040601	1'-8"	0'-4 3/4"	1'-7 1/2"	0'-4 3/4"	1'-8"	0'-4 3/4"	0'-6 3/4"	0'-6 3/4"	0'-4 3/4"					2	8
EW040609	1'-8"	0'-7 3/4"	1'-7"	0'-7 3/4"	1'-8"	0'-7 7/8"	0'-11"	0'-11"	0'-7 7/8"					2	9

*Threaded

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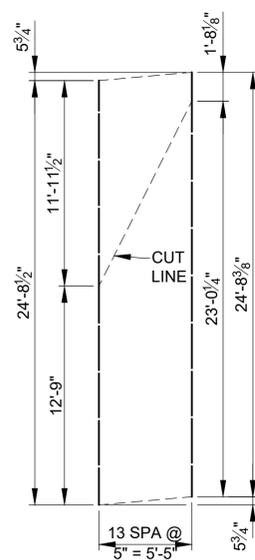
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
EAST MEDICAL CENTER DRIVE	
STEEL REINFORCEMENT DETAILS	
SCALE HOR. 1"=40' VERT. 1"=4'	INCH 0 1
DRAWING NO. 2021-008-BR55	
SHEET NO. <u>118</u> OF <u>153</u>	



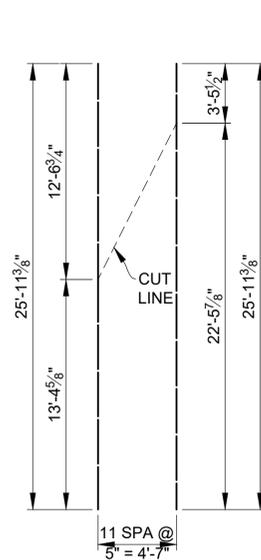
BAR GROUP S

EA052510 (TOTAL 12 BARS) (BOTT)
EA062510 (TOTAL 12 BARS) (TOP)
(QUANTIFIED IN DECK,
SPAN 3, STAGE 3 CONSTRUCTION)



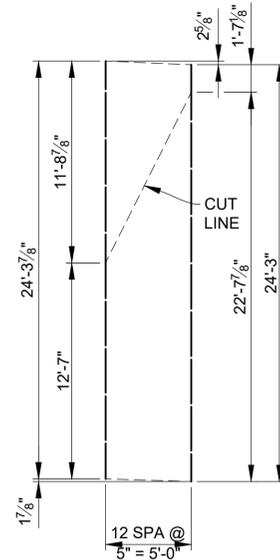
BAR GROUP T

EA052409 (TOTAL 14 BARS) (BOTT)
EA062409 (TOTAL 14 BARS) (TOP)
(QUANTIFIED IN DECK,
SPAN 3, STAGE 3 CONSTRUCTION)



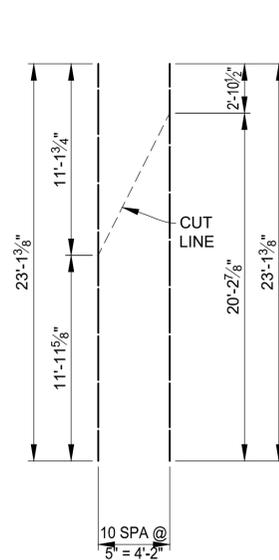
BAR GROUP U

EA052600 (TOTAL 12 BARS) (BOTT)
EA062600 (TOTAL 12 BARS) (TOP)
(QUANTIFIED IN DECK,
SPAN 3, STAGE 3 CONSTRUCTION)



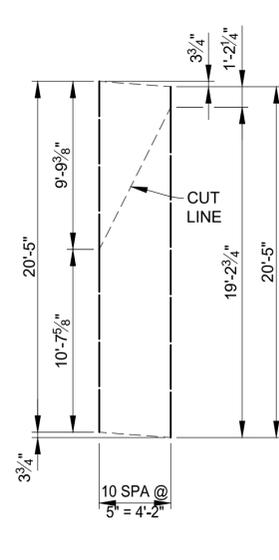
BAR GROUP V

EA052404 (TOTAL 13 BARS) (BOTT)
EA062404 (TOTAL 13 BARS) (TOP)
(QUANTIFIED IN DECK,
SPAN 3, STAGE 3 CONSTRUCTION)



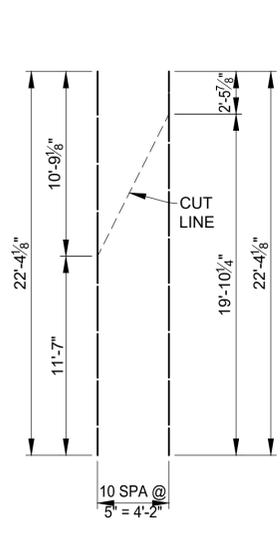
BAR GROUP W

EA052302 (TOTAL 11 BARS) (BOTT)
EA062302 (TOTAL 11 BARS) (TOP)
(QUANTIFIED IN DECK,
SPAN 3, STAGE 2 CONSTRUCTION)



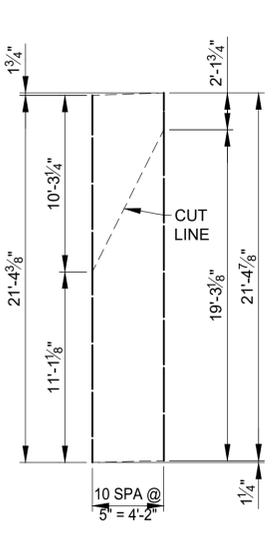
BAR GROUP X

EA052005 (TOTAL 11 BARS) (BOTT)
EA062005 (TOTAL 11 BARS) (TOP)
(QUANTIFIED IN DECK,
SPAN 3, STAGE 2 CONSTRUCTION)



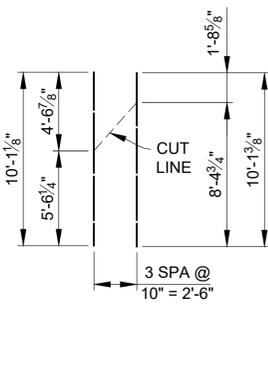
BAR GROUP Y

EA052204 (TOTAL 11 BARS) (BOTT)
EA062204 (TOTAL 11 BARS) (TOP)
(QUANTIFIED IN DECK,
SPAN 3, STAGE 2 CONSTRUCTION)



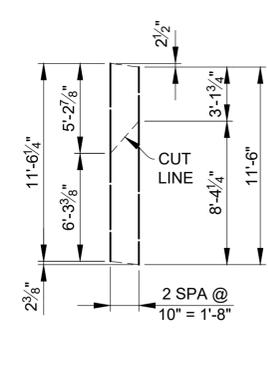
BAR GROUP Z

EA052105 (TOTAL 11 BARS) (BOTT)
EA062105 (TOTAL 11 BARS) (TOP)
(QUANTIFIED IN DECK,
SPAN 3, STAGE 2 CONSTRUCTION)



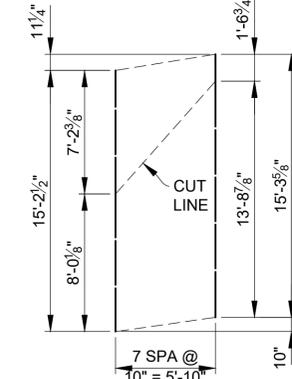
BAR GROUP AA

EA061002 (TOTAL 4 BARS) (TOP & BOTT)
(QUANTIFIED IN SIDEWALK,
SPAN 1, STAGE 2 CONSTRUCTION)



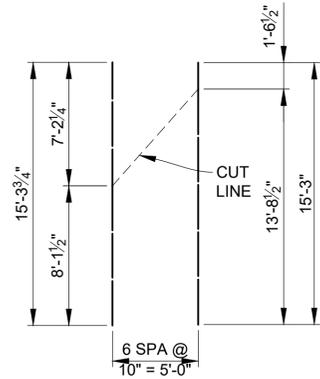
BAR GROUP BB

EA061106 (TOTAL 3 BARS) (TOP & BOTT)
(QUANTIFIED IN SIDEWALK,
SPAN 1, STAGE 2 CONSTRUCTION)



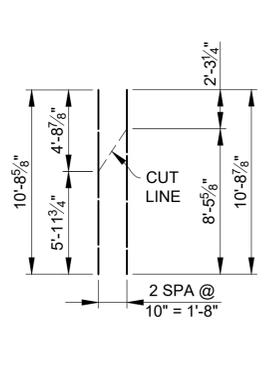
BAR GROUP CC

EA061504 (TOTAL 8 BARS) (TOP & BOTT)
(QUANTIFIED IN SIDEWALK,
SPAN 1, STAGE 3 CONSTRUCTION)



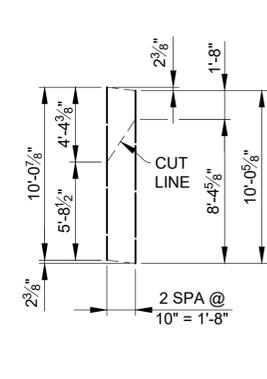
BAR GROUP DD

EA061504 (TOTAL 7 BARS) (TOP & BOTT)
(QUANTIFIED IN SIDEWALK,
SPAN 1, STAGE 3 CONSTRUCTION)



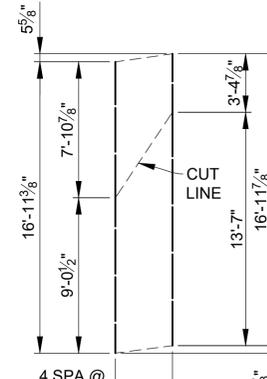
BAR GROUP EE

EA061009 (TOTAL 3 BARS) (TOP & BOTT)
(QUANTIFIED IN SIDEWALK,
SPAN 2, STAGE 2 CONSTRUCTION)



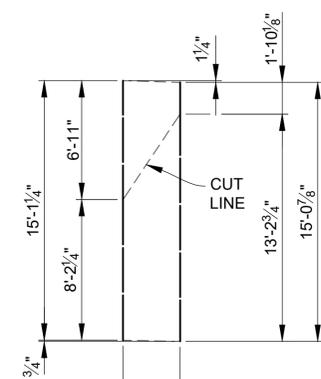
BAR GROUP FF

EA061001 (TOTAL 3 BARS) (TOP & BOTT)
(QUANTIFIED IN SIDEWALK,
SPAN 2, STAGE 2 CONSTRUCTION)



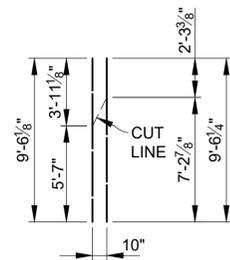
BAR GROUP GG

EA061700 (TOTAL 5 BARS) (TOP & BOTT)
(QUANTIFIED IN SIDEWALK,
SPAN 2, STAGE 3 CONSTRUCTION)



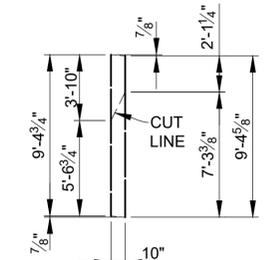
BAR GROUP HH

EA061501 (TOTAL 5 BARS) (TOP & BOTT)
(QUANTIFIED IN SIDEWALK,
SPAN 2, STAGE 3 CONSTRUCTION)



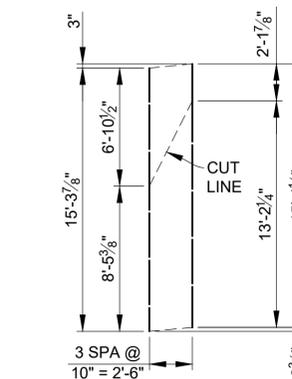
BAR GROUP JJ

EA060906 (TOTAL 2 BARS) (TOP & BOTT)
(QUANTIFIED IN SIDEWALK,
SPAN 3, STAGE 2 CONSTRUCTION)



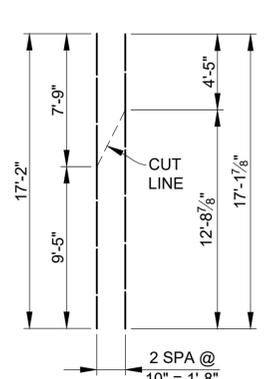
BAR GROUP KK

EA060905 (TOTAL 2 BARS) (TOP & BOTT)
(QUANTIFIED IN SIDEWALK,
SPAN 3, STAGE 2 CONSTRUCTION)



BAR GROUP LL

EA061504 (TOTAL 4 BARS) (TOP & BOTT)
(QUANTIFIED IN SIDEWALK,
SPAN 3, STAGE 3 CONSTRUCTION)



BAR GROUP MM

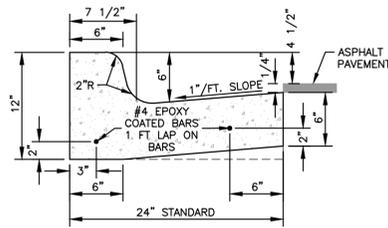
EA061702 (TOTAL 3 BARS) (TOP & BOTT)
(QUANTIFIED IN SIDEWALK,
SPAN 3, STAGE 3 CONSTRUCTION)

NOTE:

REINFORCEMENT IS TO BE SHOP CUT AS SHOWN. THE EPOXY COATING SHALL BE REPAIRED ACCORDING TO SECTION 706.03E.8 OF THE MDOT 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION.

3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

DLZ				PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR			
EAST MEDICAL CENTER DRIVE				SCALE HOR. 1"=40' VERT. 1"=4'		INCH 0 1	
STEEL REINFORCEMENT DETAILS				DRAWING NO. 2021-008-BR58			
REV. NO. DESCRIPTION DATE DR. BY CH. BY				APPROVED BY			
ORIGINAL ISSUE 10-9-22 DAF CLH				SHEET NO. 121 OF 153			



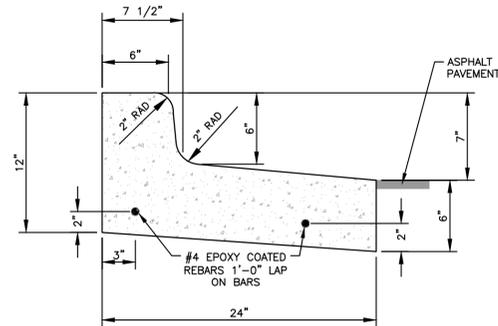
- NOTES:
1. BARRIER CURB AND GUTTER ON ASPHALT STREETS SHALL CONFORM TO THIS DETAIL.
 2. BARRIER CURB AND GUTTER ON CONCRETE STREETS SHALL CONFORM TO MDOT CURB AND GUTTER DETAIL F3.

BARRIER CURB AND GUTTER SD-R-1



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REV. NO.	DATE	DRAWN BY	CHECKED BY
DR. ENG.	CH. ENG.	DRAWING NO.	
SCALE: N.T.S.	DATE: 7/1/2022	DRAWING NO.	SD-R-1

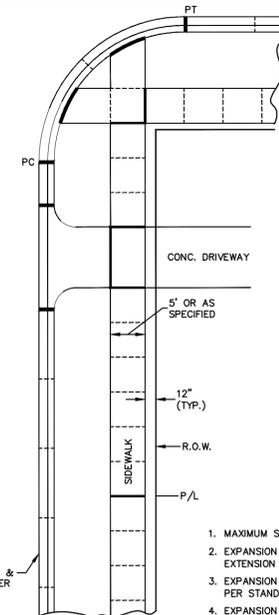


SPILL-OUT BARRIER CURB & GUTTER SD-R-4



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REV. NO.	DATE	DRAWN BY	CHECKED BY
DR. ENG.	CH. ENG.	DRAWING NO.	
SCALE: N.T.S.	DATE: 7/1/2022	DRAWING NO.	SD-R-4



LEGEND:

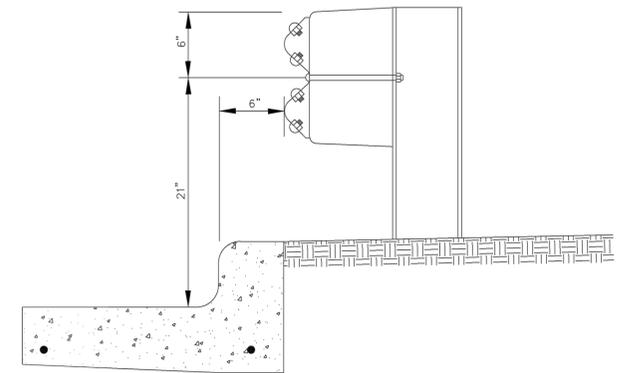
- CONTRACTION JOINTS -----
 - 1/2" EXPANSION JOINTS - - - - -
 - 3/4" EXPANSION JOINTS - - - - -
1. MAXIMUM SPACING BETWEEN ALL EXPANSION JOINTS SHALL BE 300'.
 2. EXPANSION JOINTS SHALL BE PLACED IN SIDEWALKS AT THE EXTENSION OF ALL PROPERTY LINES.
 3. EXPANSION JOINTS SHALL BE PLACED AT DRIVE APPROACH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

SIDEWALK AND CURB & GUTTER JOINTS SD-R-10



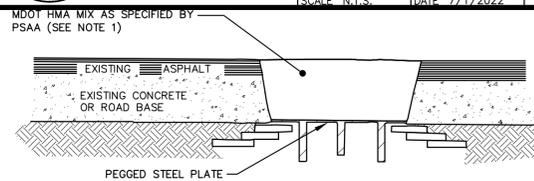
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REV. NO.	DATE	DRAWN BY	CHECKED BY
DR. ENG.	CH. ENG.	DRAWING NO.	
SCALE: N.T.S.	DATE: 7/1/2022	DRAWING NO.	SD-R-10

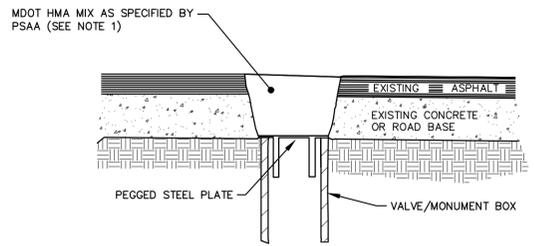


NOTE:
STANDARD GUARDRAIL CONSTRUCTION TO BE IN ACCORDANCE WITH MDOT BEAM GUARDRAIL TYPE B REQUIREMENTS

REVISIONS		REV. NO.	DR. BY	CH. BY	DATE
PUBLIC SERVICES DEPARTMENT CITY OF ANN ARBOR					
URBAN GUARDRAIL LOCATION					
DR. BY	NCF	CH. BY	CSS	DRAWING NO.	
SCALE	NONE	DATE	1-31-94	SD-R-15	
INCH				SHEET NO.	OF



MANHOLE LOWERING DETAIL



VALVE BOX/MONUMENT BOX LOWERING DETAIL (SEE NOTE 3)

- NOTES:
1. IF TRAFFIC IS TO BE MAINTAINED ON THE ROADWAY BEFORE OR AFTER THE COLD MILLING OPERATION, THE STRUCTURE SHALL BE LOWERED TO THE EXTENT THAT A MINIMUM OF THREE(3) INCHES ASPHALT MATERIAL MDOT HMA MIX AS SPECIFIED BY PSAA, OR ENGINEER APPROVED EQUAL, REMAINS TO SUPPORT TRAFFIC.
 2. IF THE ROADWAY BEING MILLED IS CLOSED TO TRAFFIC, THE STRUCTURE SHALL BE LOWERED SUCH THAT THE STEEL PLATE IS A MINIMUM OF FOUR(4) INCHES BELOW THE PROPOSED ROAD GRADE AND THE RESULTING VOID SHALL BE FILLED WITH MDOT HMA MIX AS SPECIFIED BY PSAA OR ENGINEER APPROVED EQUAL.
 3. WHERE A MONUMENT IS TO BE LOWERED, THE CONTRACTOR SHALL GIVE THE ENGINEER A MINIMUM OF 48 HOURS WRITTEN NOTICE SO THAT THE MONUMENT CAN BE PROPERLY WITNESSED OR PROTECTED. FAILURE TO DO SO SHALL RESULT IN THE ENGINEER REPLACING SAID MONUMENT AT THE CONTRACTOR'S EXPENSE.

MANHOLE & VALVE/MONUMENT BOX LOWERING SD-GU-8



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REV. NO.	DATE	DRAWN BY	CHECKED BY
DR. ENG.	CH. ENG.	DRAWING NO.	
SCALE: N.T.S.	DATE: 7/1/2022	DRAWING NO.	SD-GU-8

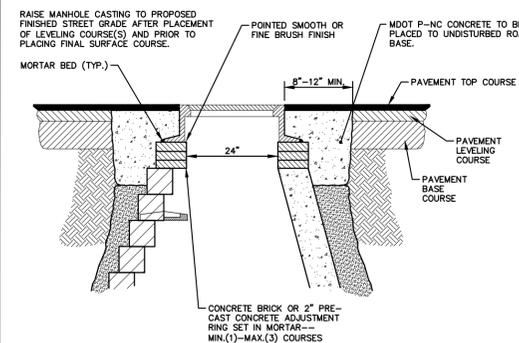
TYPE OF CASTING	MDOT DESIGNATION	EJ CASTING NO.	NEENAH CASTING NO.
MANHOLE AND GATE WELL FRAME AND COVER	Q/B	1040Z W/ TYPE A COVER*	R-1642 W/ TYPE C COVER*
BARRIER CURB INLET FRAME AND COVER	K	7045Z W/ TYPE M1 GRATE	R-3031-B W/ TYPE S GRATE
BARRIER CURB DOUBLE INLET FRAME AND COVER	K	7035Z W/ TYPE M2 GRATE	N/A
GUTTER INLET FRAME AND COVER	R	5080Z W/ TYPE 5000M2 GRATE	R-3448C, W/ TYPE S GRATE
GUTTER DOUBLE 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.



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REV. NO.	DATE	DRAWN BY	CHECKED BY
STANDARD CASTING SCHEDULE			
DR. ENG.	CH. ENG.	DRAWING NO.	
SCALE: N.T.S.	DATE: 10/1/2022	DRAWING NO.	SD-GU-4



- 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.
 2. P-NC CONCRETE MIXTURE SHALL CONTAIN 658 POUNDS PER CUBIC YARD (7 SACKS) OF CEMENT WHEN THE FORECASTED AIR TEMPERATURE IS ABOVE 59-F AND 752 POUNDS PER CUBIC YARD (8 SACKS) OF CEMENT WHEN THE FORECASTED AIR TEMPERATURE IS 59-F OR LESS.

MANHOLE CASTING ADJUSTMENT SD-GU-5



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REV. NO.	DATE	DRAWN BY	CHECKED BY
MANHOLE CASTING ADJUSTMENT			
DR. ENG.	CH. ENG.	DRAWING NO.	
SCALE: N.T.S.	DATE: 7/1/2022	DRAWING NO.	SD-GU-5



REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10/12/22	INB	LCM

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
E. MEDICAL CENTER DRIVE ANN ARBOR STANDARD DETAILS	
SCALE	0 INCH 1
DRAWING NO.	2021-008-STD1
SHEET NO.	123 OF 153

APPROVED BY: LEIGH C. MERRILL P.E., MICHIGAN NO. 6201061025

Technical drawing of the Water Manhole Cover 1040A. It includes a top view with a custom logo, a bottom view, a section view showing a 26" diameter and 2 3/16" height, and an EPIC detail view. Labels include: CUSTOM LOGO, 1 1/2" SHARP FACE GOTHIC, (2) EPIC® PICKHOLES, 1 1/2" SHARP FACE GOTHIC, 26" DIA, 2 3/16", 1 1/2", SECTION, EPIC® DETAIL, and US PATENT 7,982,976 EPIC 1040A ASTM A48 CLASS F400, INC. 80091/76 X.

EJ PRODUCT #001040324

FOR REVIEW

	CITY OF ANN ARBOR PUBLIC SERVICES 301 EAST HURON STREET P.O. BOX 9647 ANN ARBOR, MI 48107-8647 734-794-6410 www.a2gov.org			
	REV. NO.	DATE	DRAWN BY	CHECKED BY
WATER MANHOLE COVER 1040A				
DR. ENG.	CH. ENG.	DRAWING NO.		
SCALE: N.T.S.	DATE: 10/1/2022	SD-GU-X1		

Technical drawing of the Storm Manhole Cover 1040A. It includes a top view with a custom logo, a bottom view, a section view showing a 26" diameter and 2 3/16" height, and an EPIC detail view. Labels include: CUSTOM LOGO, 1 1/2" SHARP FACE GOTHIC, (2) EPIC® PICKHOLES, 1 1/2" SHARP FACE GOTHIC, 26" DIA, 2 3/16", 1 1/2", SECTION, EPIC® DETAIL, and US PATENT 7,982,976 EPIC 1040A ASTM A48 CLASS F400, INC. 80091/76 X.

EJ PRODUCT #001040325

FOR REVIEW

	CITY OF ANN ARBOR PUBLIC SERVICES 301 EAST HURON STREET P.O. BOX 9647 ANN ARBOR, MI 48107-8647 734-794-6410 www.a2gov.org			
	REV. NO.	DATE	DRAWN BY	CHECKED BY
STORM MANHOLE COVER 1040A				
DR. ENG.	CH. ENG.	DRAWING NO.		
SCALE: N.T.S.	DATE: 10/1/2022	SD-GU-X2		

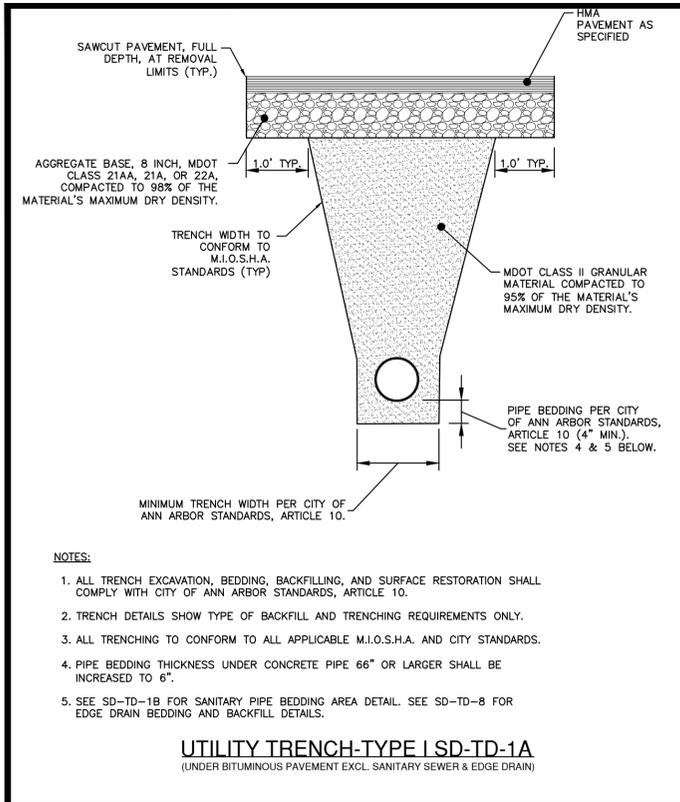
Technical drawing of the Sanitary Manhole Cover 1040AGS. It includes a top view with a custom logo, a bottom view, a section view showing a 26" diameter and 2 3/16" height with a 1/4" DIA NEOPRENE GASKET and 25 1/8" O.D. OF GASKET GROOVE, and an EPIC detail view. Labels include: CUSTOM LOGO, 1 1/2" SHARP FACE GOTHIC, (2) EPIC® PICKHOLES, 1 1/2" SHARP FACE GOTHIC, 26" DIA, 2 3/16", 1 1/2", 1 3/4", 1", 3/4", .180", .240", SECTION, EPIC® DETAIL, and US PATENT 7,982,976 EPIC 1040AGS ASTM A48 CLASS F400, INC. 80091/76 X.

EJ PRODUCT #001040326

FOR REVIEW

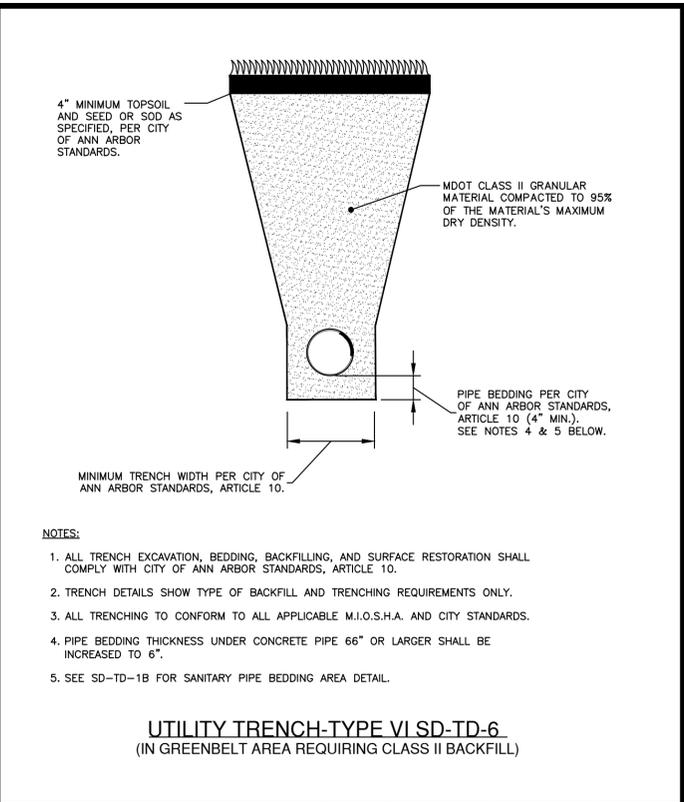
	CITY OF ANN ARBOR PUBLIC SERVICES 301 EAST HURON STREET P.O. BOX 9647 ANN ARBOR, MI 48107-8647 734-794-6410 www.a2gov.org			
	REV. NO.	DATE	DRAWN BY	CHECKED BY
SANITARY MANHOLE COVER 1040AGS				
DR. ENG.	CH. ENG.	DRAWING NO.		
SCALE: N.T.S.	DATE: 10/1/2022	SD-GU-X3		

					PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR				
					E. MEDICAL CENTER DRIVE ANN ARBOR STANDARD DETAILS				
					SCALE	0 INCH		1	
					N/A	[Scale Bar]			
					DRAWING NO. 2021-008-STD2				
					SHEET NO. 124 OF 153				
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY	APPROVED BY _____				
	ORIGINAL ISSUE	10/12/22	INB	LCM	LEIGH C. MERRILL P.E., MICHIGAN NO. 6201061025				



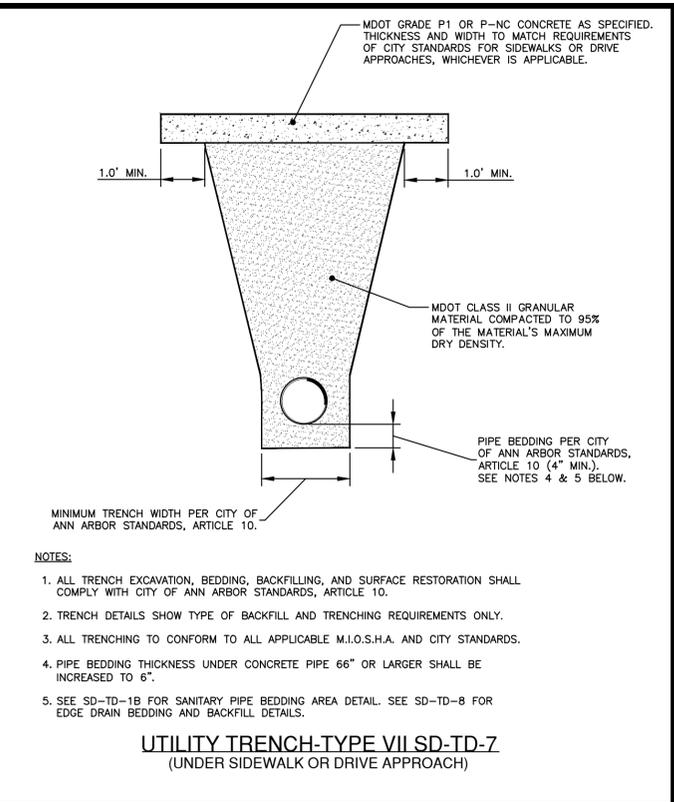
- NOTES:**
1. ALL TRENCH EXCAVATION, BEDDING, BACKFILLING, AND SURFACE RESTORATION SHALL COMPLY WITH CITY OF ANN ARBOR STANDARDS, ARTICLE 10.
 2. TRENCH DETAILS SHOW TYPE OF BACKFILL AND TRENCHING REQUIREMENTS ONLY.
 3. ALL TRENCHING TO CONFORM TO ALL APPLICABLE M.I.O.S.H.A. AND CITY STANDARDS.
 4. PIPE BEDDING THICKNESS UNDER CONCRETE PIPE 66" OR LARGER SHALL BE INCREASED TO 6".
 5. SEE SD-TD-1B FOR SANITARY PIPE BEDDING AREA DETAIL. SEE SD-TD-8 FOR EDGE DRAIN BEDDING AND BACKFILL DETAILS.

UTILITY TRENCH-TYPE I SD-TD-1A
(UNDER BITUMINOUS PAVEMENT EXCL. SANITARY SEWER & EDGE DRAIN)



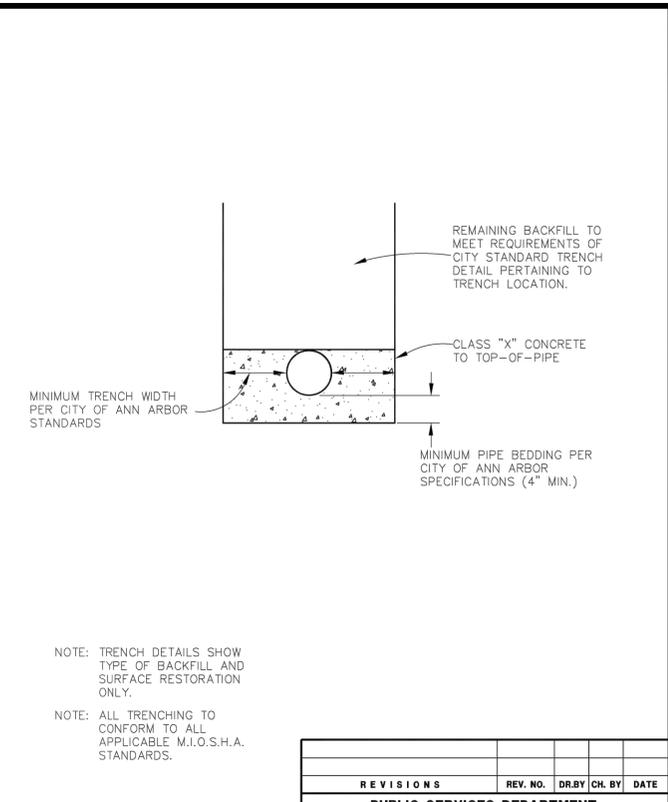
- NOTES:**
1. ALL TRENCH EXCAVATION, BEDDING, BACKFILLING, AND SURFACE RESTORATION SHALL COMPLY WITH CITY OF ANN ARBOR STANDARDS, ARTICLE 10.
 2. TRENCH DETAILS SHOW TYPE OF BACKFILL AND TRENCHING REQUIREMENTS ONLY.
 3. ALL TRENCHING TO CONFORM TO ALL APPLICABLE M.I.O.S.H.A. AND CITY STANDARDS.
 4. PIPE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

UTILITY TRENCH-TYPE VI SD-TD-6
(IN GREENBELT AREA REQUIRING CLASS II BACKFILL)



- 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 PIPE BEDDING AREA DETAIL. SEE SD-TD-8 FOR EDGE DRAIN BEDDING AND BACKFILL DETAILS.

UTILITY TRENCH-TYPE VII SD-TD-7
(UNDER SIDEWALK OR DRIVE APPROACH)



- NOTE:** TRENCH DETAILS SHOW TYPE OF BACKFILL AND SURFACE RESTORATION ONLY.
- NOTE:** ALL TRENCHING TO CONFORM TO ALL APPLICABLE M.I.O.S.H.A. STANDARDS.

REVISIONS		REV. NO.	DR. BY	CH. BY	DATE
PUBLIC SERVICES DEPARTMENT CITY OF ANN ARBOR					
UTILITY TRENCH-TYPE IX (CONCRETE ENCASUREMENT)					
DR. BY	D.F.	CH. BY	C.S.S.	DRAWING NO.	
SCALE	NONE	DATE	11-6-92	SD-TD-9	
INCH	0	1		SHEET NO.	OF

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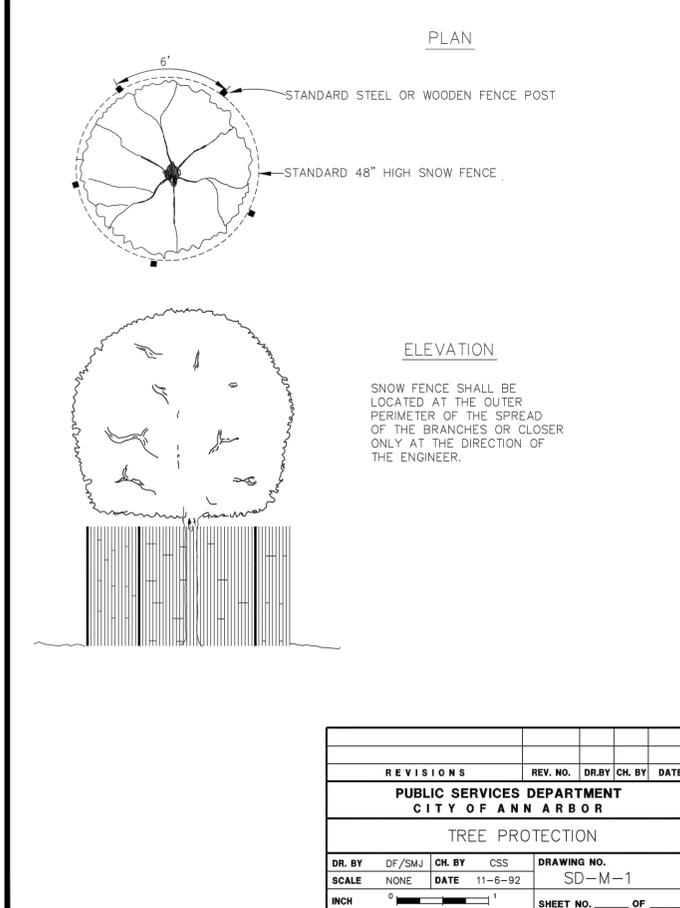
REV. NO.	DATE	DRAWN BY	CHECKED BY
UTILITY TRENCH - TYPE I (UNDER BITUMINOUS PAVEMENT EXCL. SANITARY SEWER & EDGE DRAIN)			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 7/1/2022	SD-TD-1A	

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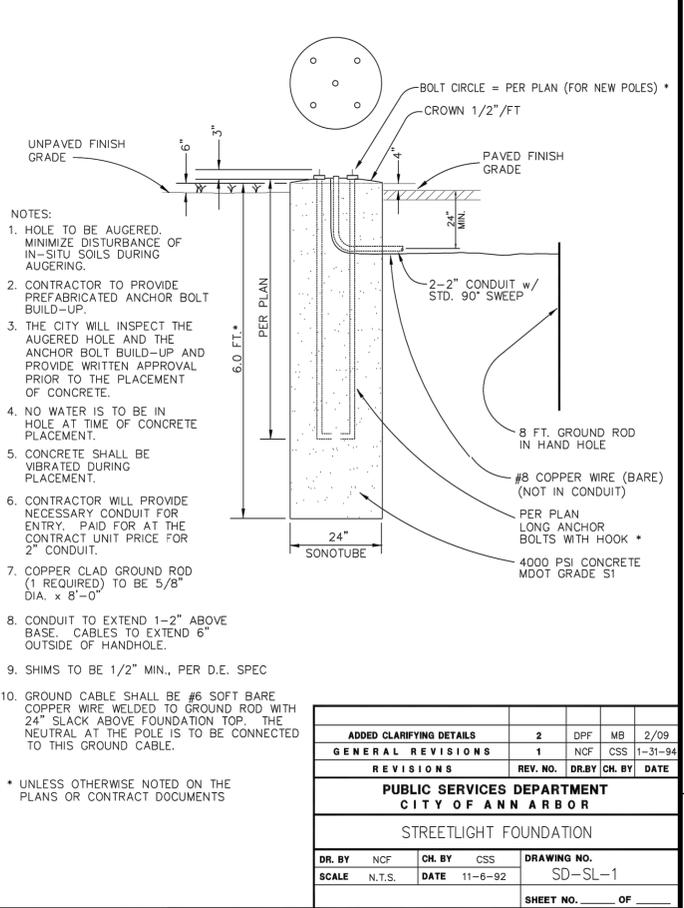
REV. NO.	DATE	DRAWN BY	CHECKED BY
UTILITY TRENCH - TYPE VI			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 7/1/2022	SD-TD-6	

CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

REV. NO.	DATE	DRAWN BY	CHECKED BY
UTILITY TRENCH - TYPE VII			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 7/1/2022	SD-TD-7	



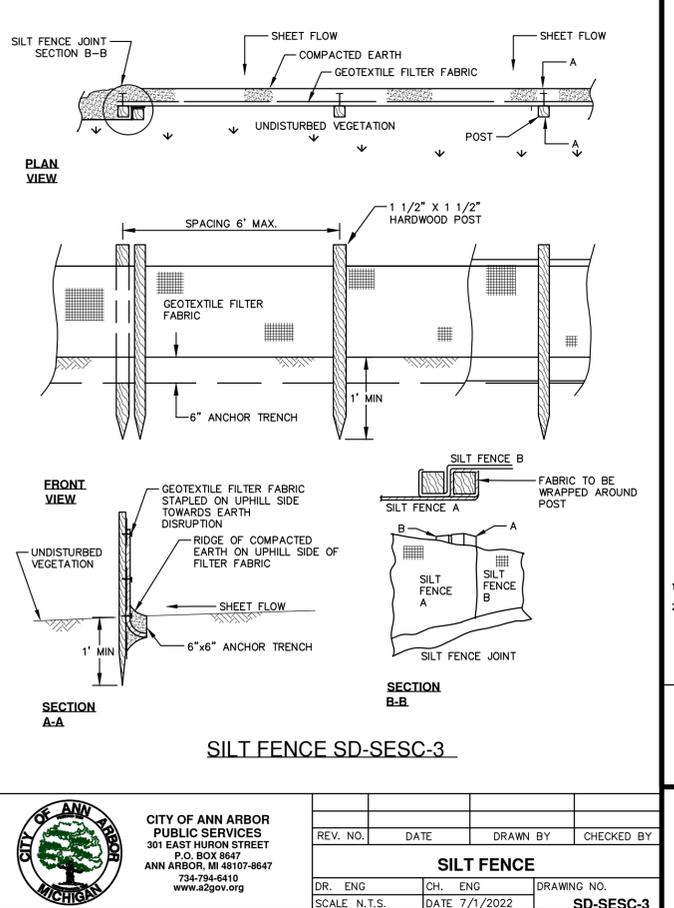
REVISIONS		REV. NO.	DR. BY	CH. BY	DATE
PUBLIC SERVICES DEPARTMENT CITY OF ANN ARBOR					
TREE PROTECTION					
DR. BY	DF/SMJ	CH. BY	CSS	DRAWING NO.	
SCALE	NONE	DATE	11-6-92	SD-M-1	
INCH	0	1		SHEET NO.	OF



- NOTES:**
1. HOLE TO BE AUGERED. MINIMIZE DISTURBANCE OF IN-SITU SOILS DURING AUGERING.
 2. CONTRACTOR TO PROVIDE PREFABRICATED ANCHOR BOLT BUILD-UP.
 3. THE CITY WILL INSPECT THE AUGERED HOLE AND THE ANCHOR BOLT BUILD-UP AND PROVIDE WRITTEN APPROVAL PRIOR TO THE PLACEMENT OF CONCRETE.
 4. NO WATER IS TO BE IN HOLE AT TIME OF CONCRETE PLACEMENT.
 5. CONCRETE SHALL BE VIBRATED DURING PLACEMENT.
 6. CONTRACTOR WILL PROVIDE NECESSARY CONDUIT FOR ENTRY. PAID FOR AT THE CONTRACT UNIT PRICE FOR 2" CONDUIT.
 7. COPPER CLAD GROUND ROD (1 REQUIRED) TO BE 5/8" DIA. x 8'-0"
 8. CONDUIT TO EXTEND 1-2" ABOVE BASE. CABLES TO EXTEND 6" OUTSIDE OF HANDHOLE.
 9. SHIMS TO BE 1/2" MIN., PER D.E. SPEC
 10. GROUND CABLE SHALL BE #6 SOFT BARE COPPER WIRE WELDED TO GROUND ROD WITH 24" SLACK ABOVE FOUNDATION TOP. THE NEUTRAL AT THE POLE IS TO BE CONNECTED TO THIS GROUND CABLE.

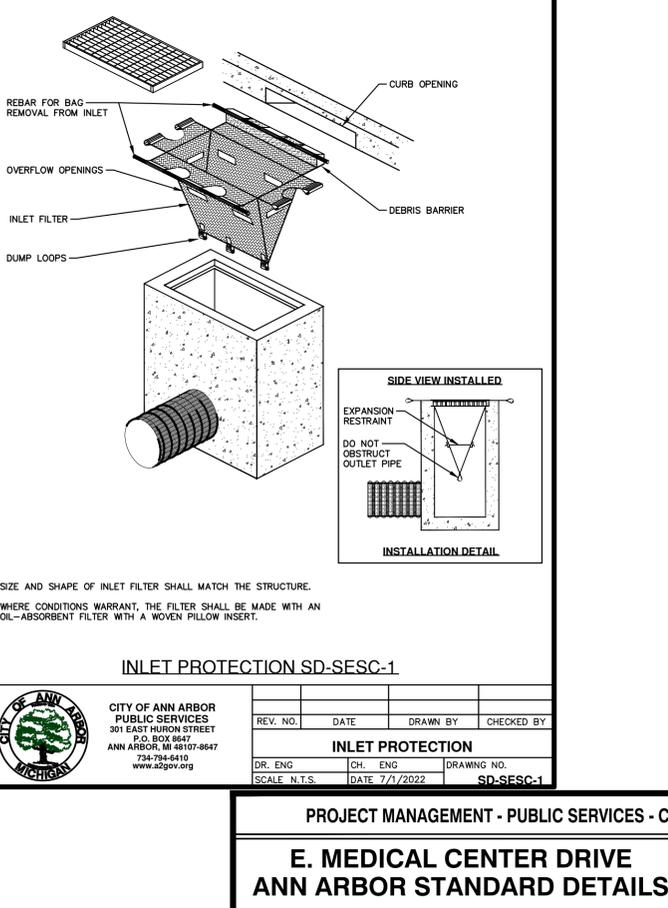
* UNLESS OTHERWISE NOTED ON THE PLANS OR CONTRACT DOCUMENTS

ADDED CLARIFYING DETAILS		2	DPF	MB	2/09
GENERAL REVISIONS		1	NCF	CSS	1-31-94
REVISIONS		REV. NO.	DR. BY	CH. BY	DATE
PUBLIC SERVICES DEPARTMENT CITY OF ANN ARBOR					
STREETLIGHT FOUNDATION					
DR. BY	NCF	CH. BY	CSS	DRAWING NO.	
SCALE	N.T.S.	DATE	11-6-92	SD-SL-1	
				SHEET NO.	OF



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REV. NO.	DATE	DRAWN BY	CHECKED BY
SILT FENCE			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 7/1/2022	SD-SFSC-3	



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INLET PROTECTION			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 7/1/2022	SD-SFSC-1	

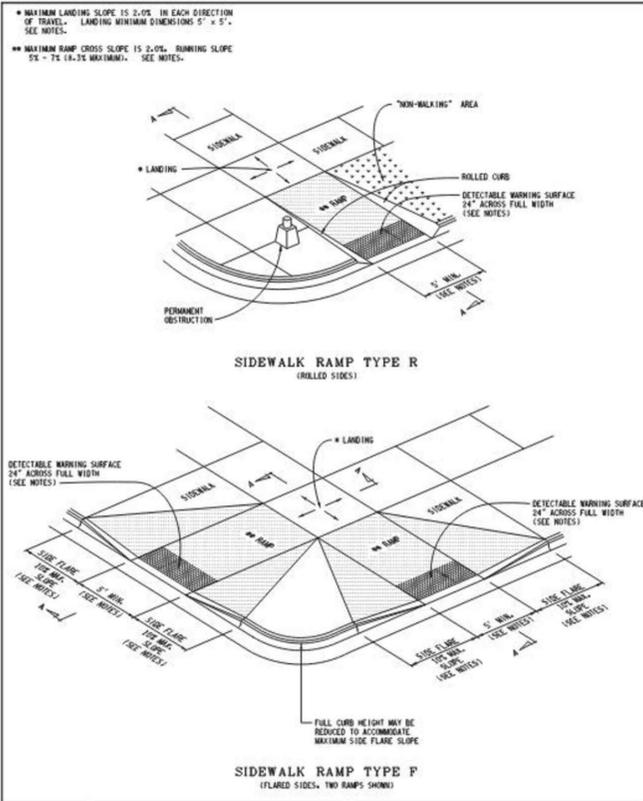
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

E. MEDICAL CENTER DRIVE
ANN ARBOR STANDARD DETAILS

SCALE	N/A	INCH	1
DRAWING NO.	2021-008-STD3		
SHEET NO.	125	OF	153

APPROVED BY: LEIGH C. MERRILL P.E., MICHIGAN NO. 6201061025





MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

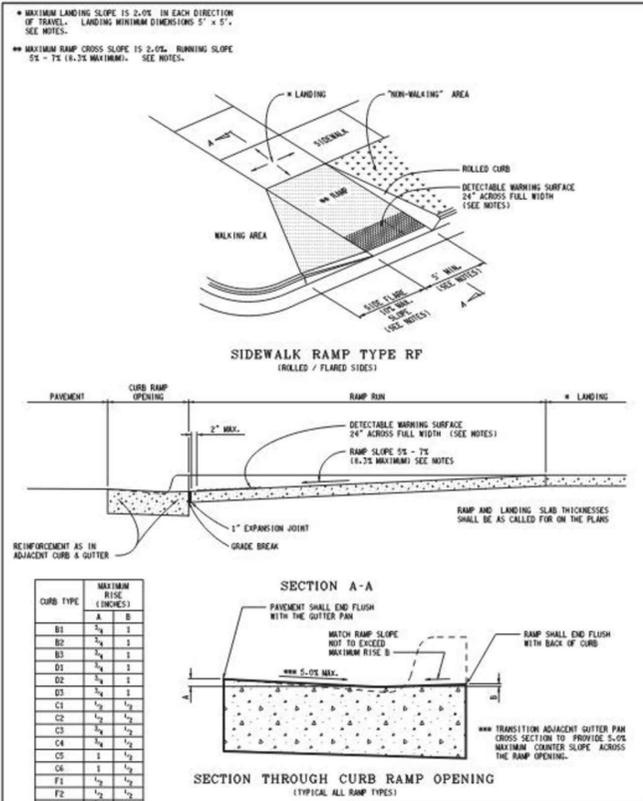
SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

APPROVED BY: DIRECTOR, BUREAU OF FIELD SERVICES

DESIGN DIVISION

APPROVED BY: DIRECTOR, BUREAU OF DEVELOPMENT

F.A.K.A. APPROVE 12-11-2017 PLAN DATE R-28-J SHEET 1 OF 7

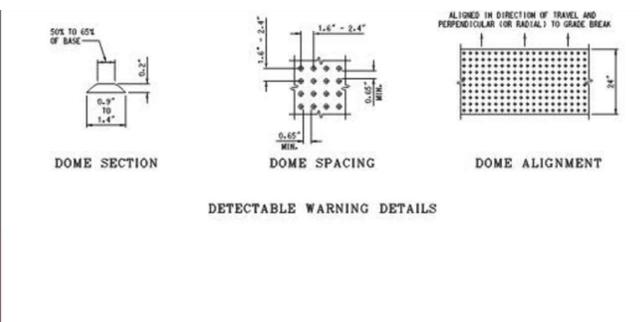


MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

APPROVED BY: DIRECTOR, BUREAU OF DEVELOPMENT

F.A.K.A. APPROVE 12-11-2017 PLAN DATE R-28-J SHEET 2 OF 7



NOTES:

DETAILS SPECIFIED ON THIS PLAN APPLY TO ALL CONSTRUCTION, RECONSTRUCTION, OR ALTERATION OF STREETS, CURBS, OR SIDEWALKS IN THE PUBLIC RIGHT OF WAY.

SIDEWALK RAMPS ARE TO BE LOCATED AS SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

RAMPS SHALL BE PROVIDED AT ALL CORNERS OF AN INTERSECTION WHERE THERE IS EXISTING OR PROPOSED SIDEWALK AND CURB. RAMPS SHALL ALSO BE PROVIDED AT MARKED AND/OR SIGNALIZED WID-BLOCK CROSSINGS.

SURFACE TEXTURE OF THE RAMP SHALL BE THAT OBTAINED BY A COURSE BROOMING, TRANSVERSE TO THE RUNNING SLOPE.

SIDEWALK SHALL BE RAMPED WHERE THE DRIVEWAY CURB IS EXTENDED ACROSS THE WALK.

CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE RAMP, WHERE CONFLICTING PERMITS, IT IS DESIRABLE THAT THE GRADE OF THE RAMP BE IN ONLY ONE DIRECTION, PARALLEL TO THE DIRECTION OF TRAVEL.

RAMP WIDTH SHALL BE INCREASED, IF NECESSARY, TO ACCOMMODATE SIDEWALK SWEEP REMOVAL EQUIPMENT NORMALLY USED BY THE MUNICIPALITY.

WHEN 5' MINIMUM WIDTHS ARE NOT PRACTICABLE, RAMP WIDTH MAY BE REDUCED TO NOT LESS THAN 4' AND LANDINGS TO NOT LESS THAN 4' x 4'.

CURB RAMPS WITH A RUNNING SLOPE 5% DO NOT REQUIRE A TOP LANDING. HOWEVER, ANY CONTINUOUS SIDEWALK OR PEDESTRIAN ROUTE CROSSING THROUGH OR INTERSECTING THE CURB RAMP MUST INDEPENDENTLY MAINTAIN A CROSS SLOPE NOT GREATER THAN 2% PERPENDICULAR TO ITS OWN DIRECTION(S) OF TRAVEL.

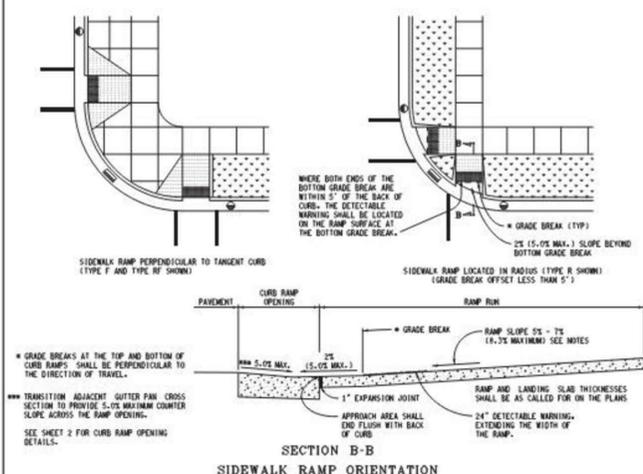
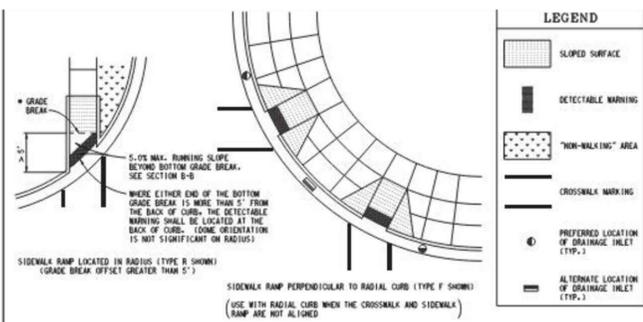
DETECTABLE WARNING SURFACE CONCRESE IS 24" MINIMUM IN THE DIRECTION OF RAMP/PATH TRAVEL AND THE FULL WIDTH OF THE RAMP/PATH OPENING EXCLUDING CURBS OR FLARED CURB TRANSITION AREAS. A BORDER OFFSET NOT GREATER THAN 2" MEASURED ALONG THE EDGES OF THE DETECTABLE WARNING IS ALLOWABLE. FOR RADIAL CURB THE OFFSET IS MEASURED FROM THE ENDS OF THE RADII.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

APPROVED BY: DIRECTOR, BUREAU OF DEVELOPMENT

F.A.K.A. APPROVE 12-11-2017 PLAN DATE R-28-J SHEET 7 OF 7

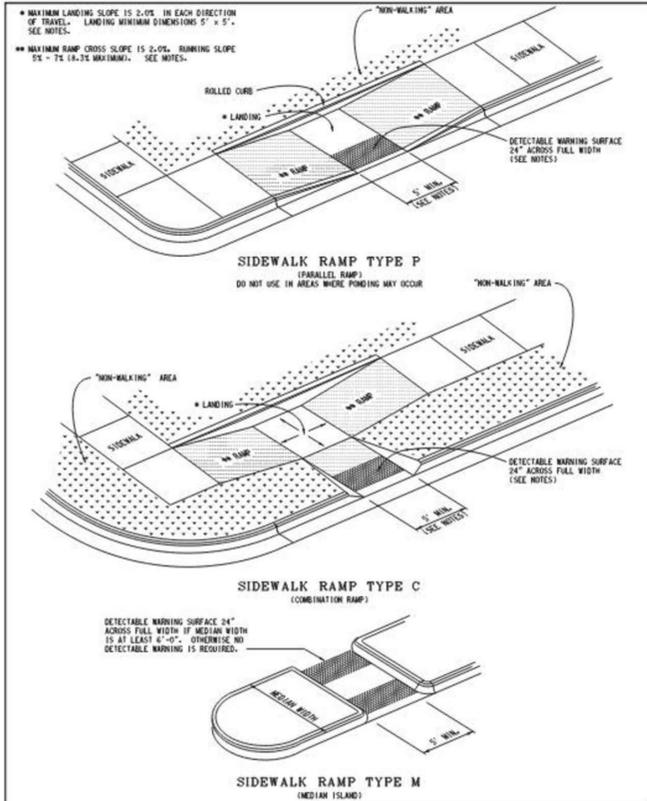


MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

APPROVED BY: DIRECTOR, BUREAU OF DEVELOPMENT

F.A.K.A. APPROVE 12-11-2017 PLAN DATE R-28-J SHEET 6 OF 7

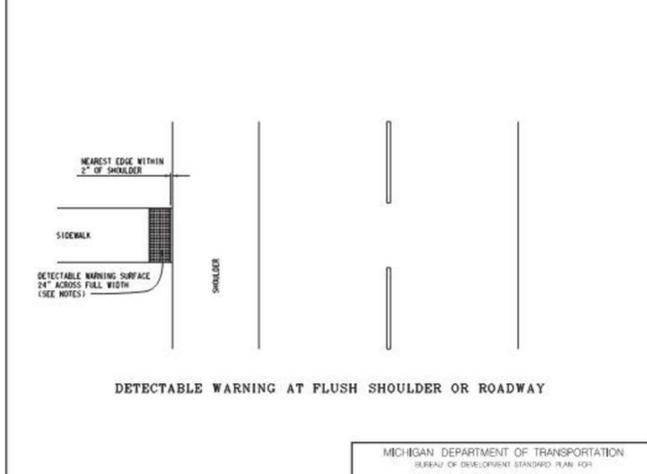
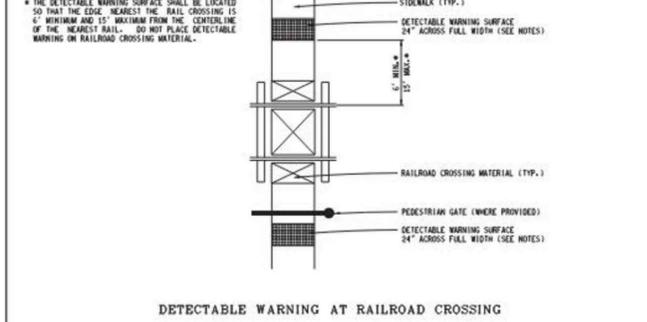


MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

APPROVED BY: DIRECTOR, BUREAU OF DEVELOPMENT

F.A.K.A. APPROVE 12-11-2017 PLAN DATE R-28-J SHEET 3 OF 7

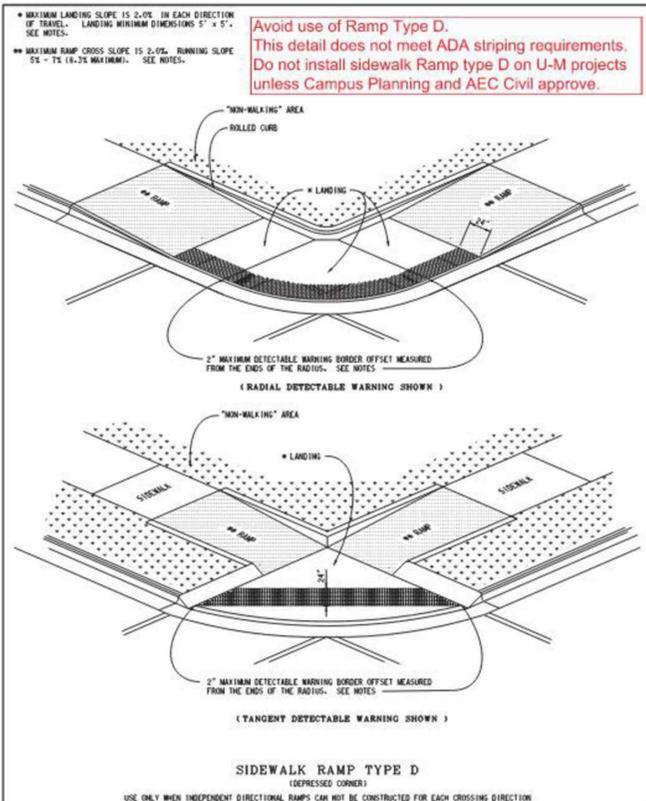


MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

APPROVED BY: DIRECTOR, BUREAU OF DEVELOPMENT

F.A.K.A. APPROVE 12-11-2017 PLAN DATE R-28-J SHEET 5 OF 7



MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

APPROVED BY: DIRECTOR, BUREAU OF DEVELOPMENT

F.A.K.A. APPROVE 12-11-2017 PLAN DATE R-28-J SHEET 4 OF 7

Avoid use of Ramp Type D. This detail does not meet ADA striping requirements. Do not install sidewalk Ramp type D on U-M projects unless Campus Planning and AEC Civil approve.



PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

E. MEDICAL CENTER DRIVE
MDOT STANDARD DETAILS

SCALE: N/A 0 INCH 1

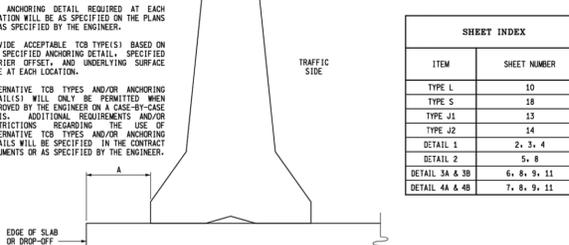
DRAWING NO. 2021-008-STD6

SHEET NO. 128 OF 153

UNDERLYING SURFACE	ACCEPTABLE TEMPORARY CONCRETE BARRIER (TCB) TYPES AND ANCHORING DETAILS BASED ON UNDERLYING SURFACE TYPE AND BARRIER OFFSET FROM DROP-OFF							
	BARRIER OFFSET							
	0" ≤ A < 6"		6" ≤ A < 12"		12" ≤ A < 26"		A ≥ 26"	
TCB TYPE	DETAIL	TCB TYPE	DETAIL	TCB TYPE	DETAIL	TCB TYPE	DETAIL	
BRIDGE DECK (CONCRETE)	L OR S 3A OR 4A	L OR S 3A OR 4A	L OR S 3A OR 4A	L	1	***	N/A	
BRIDGE DECK (CONCRETE WITH HMA OVERLAY)	L OR S 3B	L OR S 3B	L OR S 3B	L	1	***	N/A	
ROADWAY (CONCRETE)	L OR S 4A	L OR S 4A	L OR S 4A	L	1	***	N/A	
ROADWAY (HMA)	****	****	L OR S 2	L	1	***	N/A	
ROADWAY (CONCRETE WITH HMA OVERLAY)	L OR S 4B	L OR S 4B	L OR S 4B	L	1	***	N/A	

IN REGARDS TO BARRIER OFFSET, "A" IS THE DISTANCE FROM THE OUTSIDE EDGE OF THE TCB TO THE DROP OFF OR THE EDGE OF SLAB.

NOTES:
 THE CLEAR DIMENSION, A, BETWEEN THE TIE OF THE TCB AND THE DROP-OFF OR EDGE OF SLAB WILL BE AS SPECIFIED ON THE PLANS OR AS SPECIFIED BY THE ENGINEER.
 THE ANCHORING DETAIL REQUIRED AT EACH LOCATION WILL BE AS SPECIFIED ON THE PLANS OR AS SPECIFIED BY THE ENGINEER.
 PROVIDE ACCEPTABLE TCB TYPE(S) BASED ON THE SPECIFIED ANCHORING DETAIL, SPECIFIED BARRIER OFFSET, AND UNDERLYING SURFACE TYPE AT EACH LOCATION.
 ALTERNATIVE TCB TYPES AND/OR ANCHORING DETAIL(S) WILL ONLY BE PERMITTED WHEN APPROVED BY THE ENGINEER ON A CASE-BY-CASE BASIS. ADDITIONAL REQUIREMENTS AND RESTRICTIONS REGARDING THE USE OF ALTERNATIVE TCB TYPES AND/OR ANCHORING DETAIL(S) WILL BE SPECIFIED IN THE CONTRACT DOCUMENTS OR AS SPECIFIED BY THE ENGINEER.



- USE TYPE J1 AND J2 TCB SECTIONS OVER BRIDGE DECK EXPANSION JOINTS WITH THERMAL EXPANSION FROM 1 1/2" TO 4". DO NOT USE DETAILS 3A, 3B, OR 4A, OVER BRIDGE DECK EXPANSION JOINTS WITH THERMAL EXPANSION GREATER THAN 4". INSTEAD, USE DETAIL 1 AND TYPE L TCB SECTIONS WITH "A" NOW BEING ≥ 12" OVER THE ENTIRE BRIDGE SPAN WHEN PLACING LIMITED DEFLECTION TCB SECTIONS OVER BRIDGE DECK EXPANSION JOINTS WITH THERMAL EXPANSION GREATER THAN 4". REFER TO TCB SECTION OVER BRIDGE EXPANSION JOINT DETAILS. FOR ADDITIONAL INFORMATION CONTACT THE TRAFFIC AND SAFETY CRASH BARRIER ENGINEER.
- PROVIDE THE ANCHORING DETAIL SPECIFIED ON THE PLANS OR AS SPECIFIED BY THE ENGINEER.
- USE OF LIMITED DEFLECTION TCB IS NOT REQUIRED WHEN "A" ≥ 26". TYPE L OR TYPE S TCB MAY BE USED WITHOUT ANCHORING TO THE UNDERLYING SURFACE OR BOX-BEAM STIFFENERS. OTHER MOST APPROVED STANDARD TEMPORARY BARRIER TYPES MAY ALSO BE USED WHEN "A" ≥ 26".
- DO NOT INSTALL LIMITED DEFLECTION TCB ON HMA ROADWAYS WHEN "A" < 6".

DEPARTMENT DIRECTOR
K.A. T. Shultz

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

TEMPORARY CONCRETE BARRIER
LIMITED DEFLECTION

PREPARED BY: DIRECTOR, BUREAU OF FIELD SERVICES

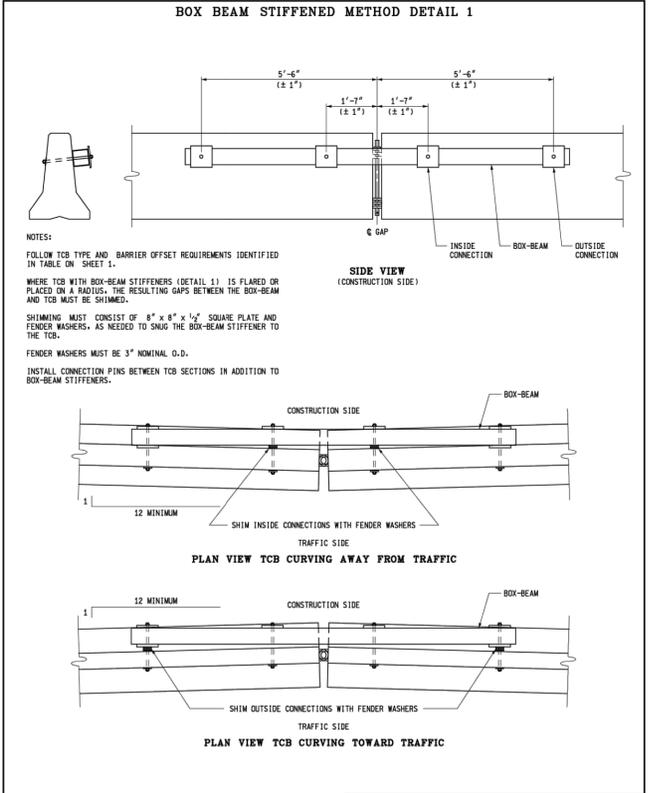
DESIGN DIVISION

APPROVED BY: DIRECTOR, BUREAU OF DEVELOPMENT

8-14-2015
PLAN DATE

R-53-A

SHEET 1 OF 22



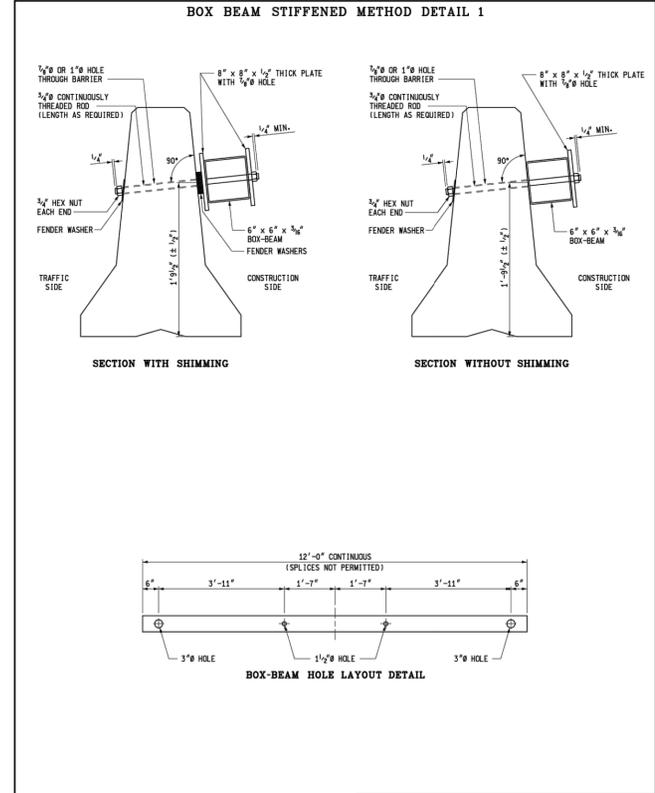
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

TEMPORARY CONCRETE BARRIER
LIMITED DEFLECTION

8-14-2015
PLAN DATE

R-53-A

SHEET 2 OF 22



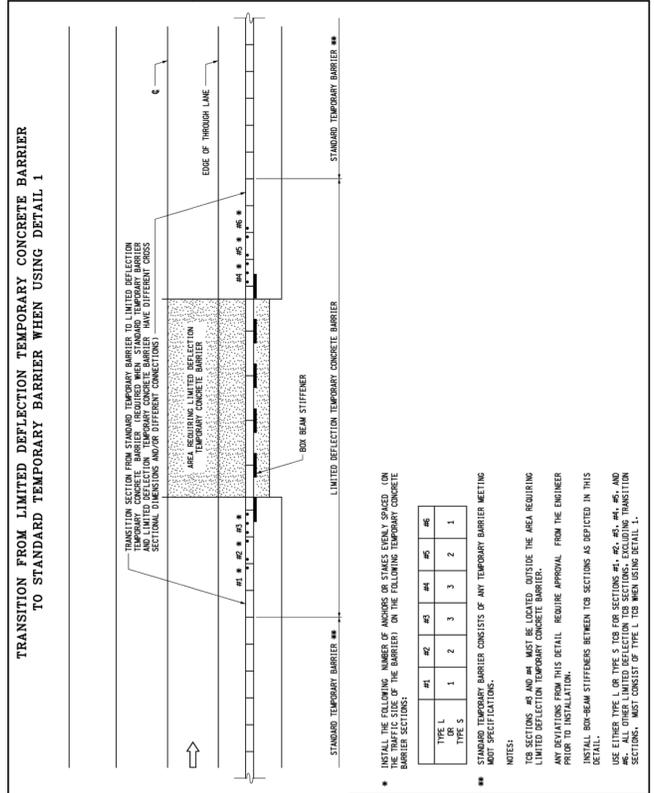
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

TEMPORARY CONCRETE BARRIER
LIMITED DEFLECTION

8-14-2015
PLAN DATE

R-53-A

SHEET 3 OF 22



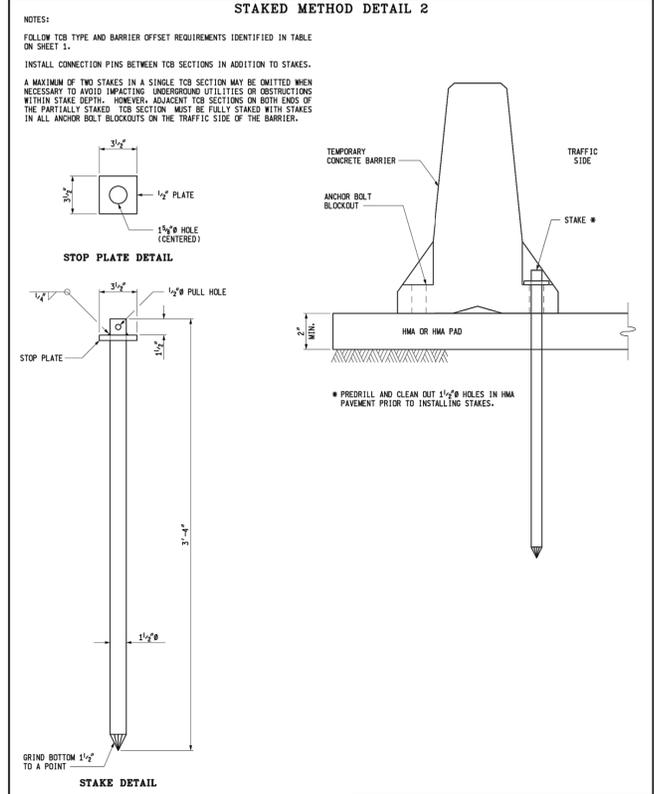
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

TEMPORARY CONCRETE BARRIER
LIMITED DEFLECTION

8-14-2015
PLAN DATE

R-53-A

SHEET 4 OF 22



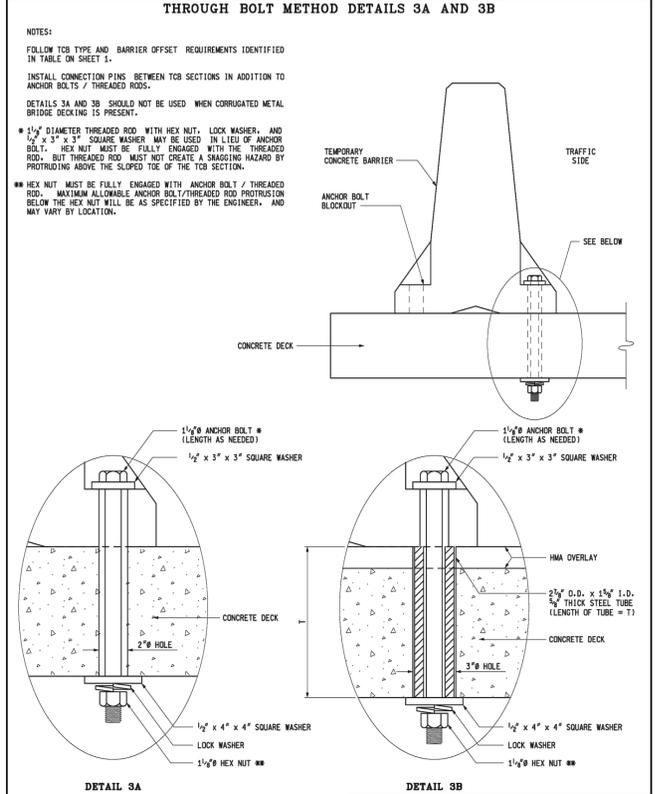
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BUREAU OF DEVELOPMENT STANDARD PLAN FOR

TEMPORARY CONCRETE BARRIER
LIMITED DEFLECTION

8-14-2015
PLAN DATE

R-53-A

SHEET 5 OF 22



MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

TEMPORARY CONCRETE BARRIER
LIMITED DEFLECTION

8-14-2015
PLAN DATE

R-53-A

SHEET 6 OF 22

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	ORIGINAL ISSUE	10/12/22	INB	LCM

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

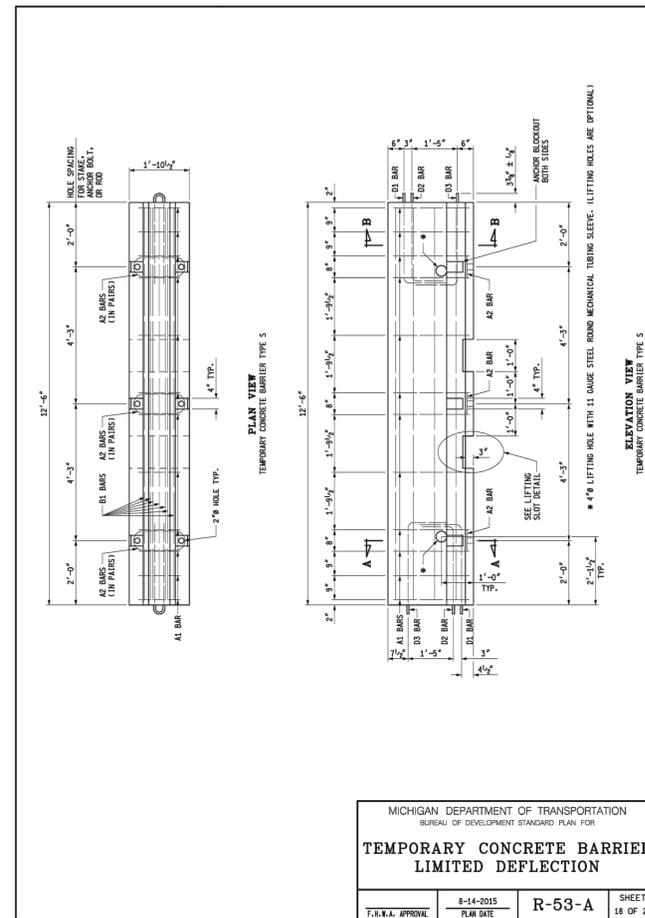
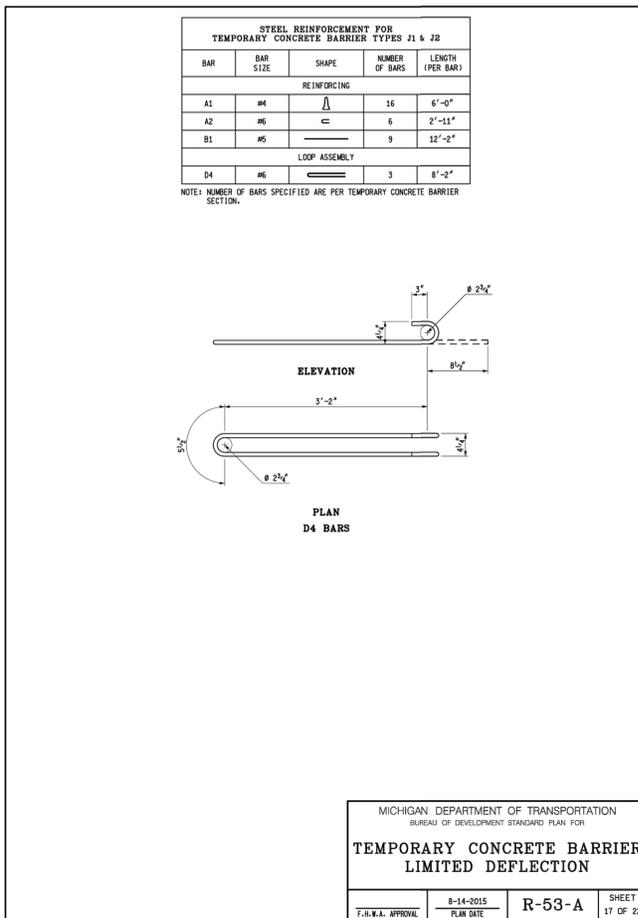
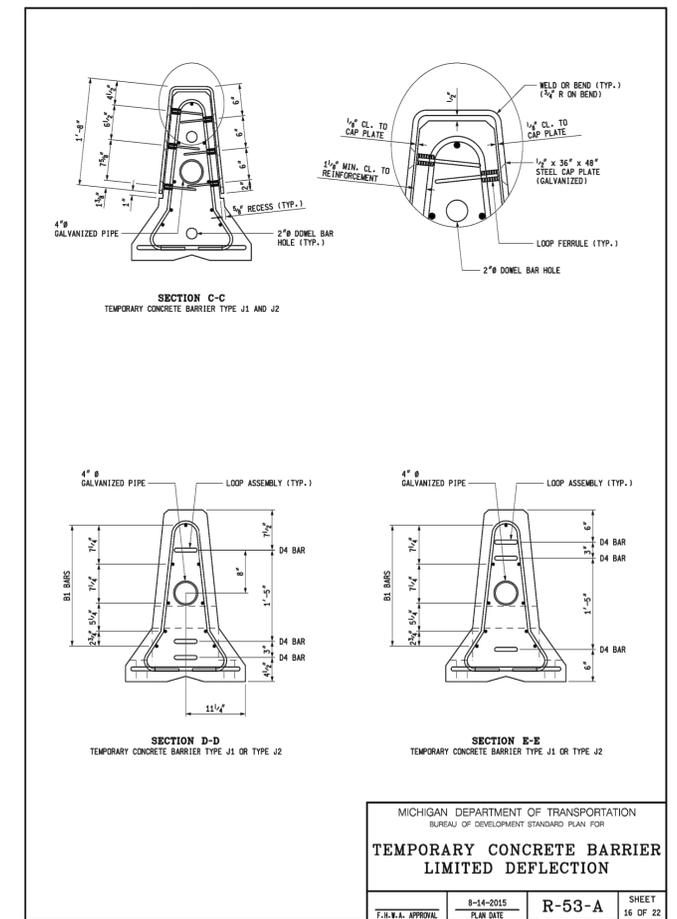
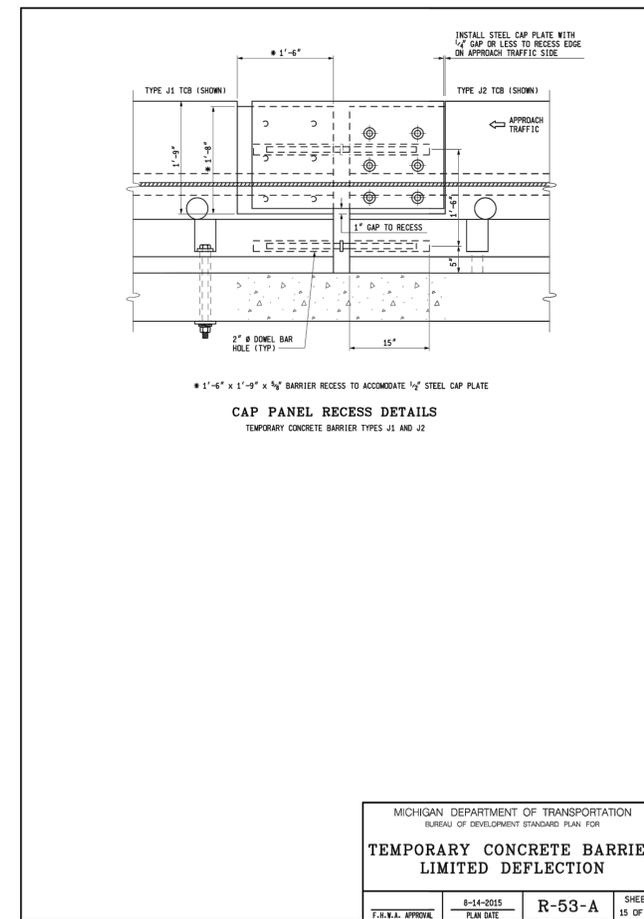
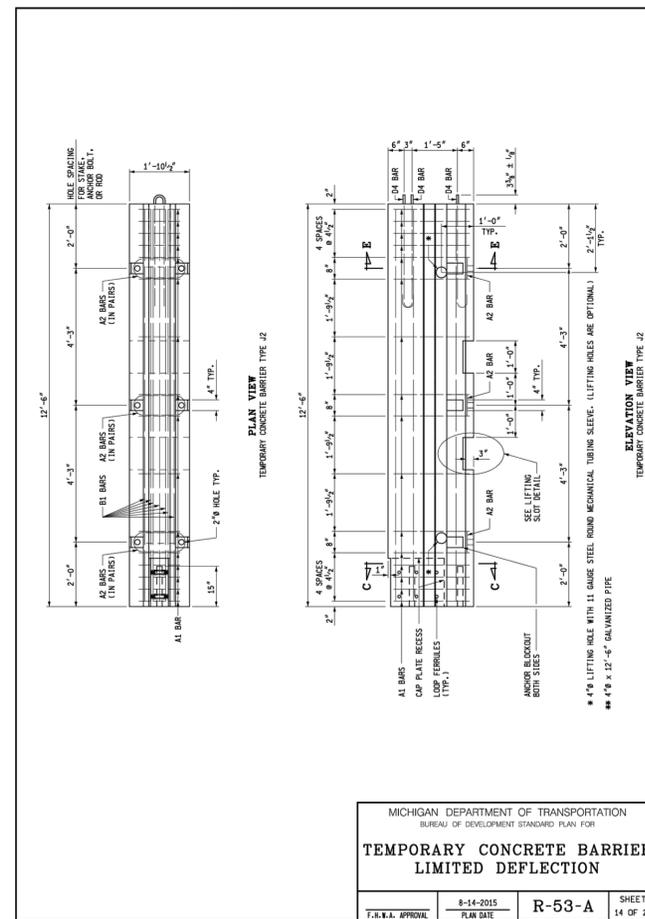
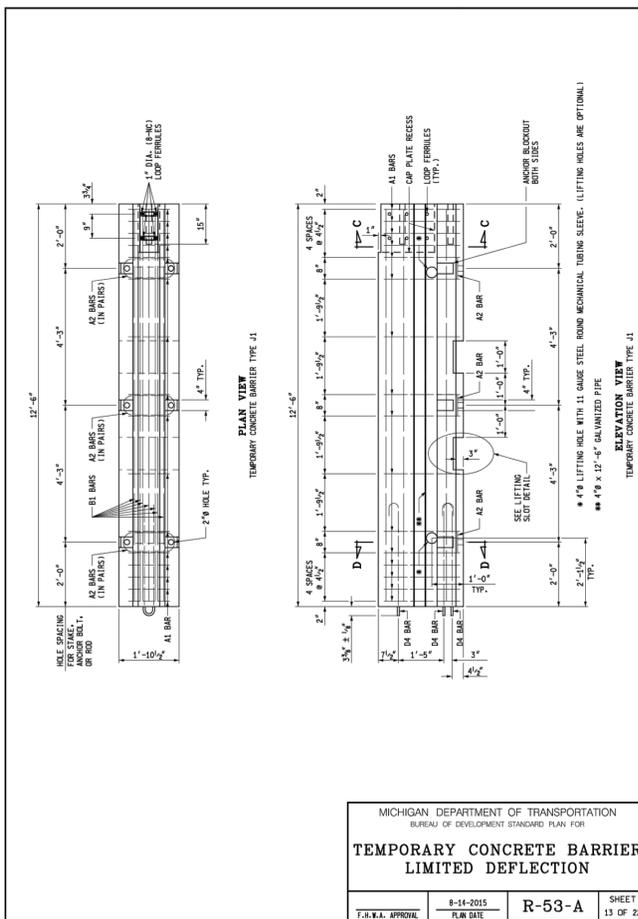
EAST MEDICAL CENTER DRIVE

MDOT STANDARD DETAILS

SCALE
HOR. 1"=40'
VERT. 1"=4'

DRAWING NO.
2021-008-STD8

SHEET NO. 129 OF 153



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EAST MEDICAL CENTER DRIVE	
MDOT STANDARD DETAILS	
SCALE NTS	0 INCH 1
DRAWING NO. 2021-008-STD9	
SHEET NO. <u>130</u> OF <u>153</u>	

DRILLED AND GROUTED METHOD DETAILS 4A AND 4B

NOTES:
FOLLOW TCB TYPE AND BARRIER OFFSET REQUIREMENTS IDENTIFIED IN TABLE ON SHEET 1.
INSTALL CONNECTION PINS BETWEEN TCB SECTIONS IN ADDITION TO THREADED RODS.

DETAIL 4A
CONCRETE ROADWAY OR CONCRETE BRIDGE DECK
(DO NOT USE THIS DETAIL ON CONCRETE BRIDGE DECKS WITH HMA OVERLAY)

DETAIL 4B
CONCRETE ROADWAY WITH HMA OVERLAY
(DO NOT USE THIS DETAIL ON CONCRETE BRIDGE DECKS WITH HMA OVERLAY)

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
TEMPORARY CONCRETE BARRIER LIMITED DEFLECTION

F.S.K.K.A. APPROVAL	8-14-2015 PLAN DATE	R-53-A	SHEET 7 OF 22
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TRANSITION FROM LIMITED DEFLECTION TEMPORARY CONCRETE BARRIER TO STANDARD TEMPORARY BARRIER WHEN USING DETAIL 2, 3A, 3B, 4A, OR 4B

NOTES:
* INSTALL TYPE L, OR TYPE S TEMPORARY CONCRETE BARRIER WITH THE FOLLOWING BARRIERS ON THE TRAFFIC SIDE OF THE LIMITED DEFLECTION TEMPORARY CONCRETE BARRIER.
* ALL LIMITED DEFLECTION TCB SECTIONS, EXCLUDING TRANSITION SECTIONS AND SECTIONS WITH EXPANSION JOINTS, SHALL BE INSTALLED WITH TYPE L OR TYPE S. INTERMEDIARY TYPE L AND TYPE S TCB SECTIONS WILL BE PERMITTED.
* ANY EVALUATIONS FROM THIS LANDUIT REQUIRE APPROVAL FROM THE ENGINEER PRIOR TO INSTALLATION.

TYPE L	1	2	3	2	1
TYPE S	1	2	3	2	1

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
TEMPORARY CONCRETE BARRIER LIMITED DEFLECTION

F.S.K.K.A. APPROVAL	8-14-2015 PLAN DATE	R-53-A	SHEET 8 OF 22
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TOP SECTION OVER BRIDGE DECK EXPANSION JOINT WITH THERMAL EXPANSION LESS THAN 1/2"

NOTES:
* TYPE L TCB PLACED OVER BRIDGE EXPANSION JOINT WITH THERMAL EXPANSION LESS THAN 1/2"
* TYPE S TCB PLACED OVER BRIDGE EXPANSION JOINT WITH THERMAL EXPANSION LESS THAN 1/2"

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
TEMPORARY CONCRETE BARRIER LIMITED DEFLECTION

F.S.K.K.A. APPROVAL	8-14-2015 PLAN DATE	R-53-A	SHEET 9 OF 22
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PLAN VIEW
TEMPORARY CONCRETE BARRIER TYPE L

NOTES:
* ALL LIFTING HOLES SHALL BE INSTALLED IN THE CENTER OF THE TCB SECTION. LIFTING HOLES SHALL NOT INTERFERE WITH ANCHOR BLOCKOUTS OR STEEL ANCHOR BOLT CONNECTIONS IN THE TEMPORARY CONCRETE BARRIER SECTION.
* 4" LIFTING HOLE WITH 11 GAUGE STEEL ROUND MECHANICAL TUBING SLEEVE. (LIFTING HOLES ARE OPTIONAL)

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
TEMPORARY CONCRETE BARRIER LIMITED DEFLECTION

F.S.K.K.A. APPROVAL	8-14-2015 PLAN DATE	R-53-A	SHEET 10 OF 22
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WIRE ROPE ASSEMBLY DETAIL

ELEVATION VIEW
TCB SECTION OVER BRIDGE DECK EXPANSION JOINT WITH THERMAL EXPANSION 1/2" TO 4" WHEN USING DETAIL 3A, 3B, OR 4A

NOTES:
* TYPE L AND TYPE S TCB SECTIONS MAY BE REVERSED IN ORDER TO MATCH CONNECTIONS OF ADJACENT TYPE L OR TYPE S TCB SECTIONS.
* ALL ASSEMBLIES SHALL BE MADE BY ONE PERSON.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
TEMPORARY CONCRETE BARRIER LIMITED DEFLECTION

F.S.K.K.A. APPROVAL	8-14-2015 PLAN DATE	R-53-A	SHEET 11 OF 22
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STEEL CAP PLATE DETAILS

WIRE ROPE AND PIN CONNECTION DETAIL

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
TEMPORARY CONCRETE BARRIER LIMITED DEFLECTION

F.S.K.K.A. APPROVAL	8-14-2015 PLAN DATE	R-53-A	SHEET 12 OF 22
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PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

EAST MEDICAL CENTER DRIVE

MDOT STANDARD DETAILS

SCALE
HOR. 1"=40'
VERT. 1"=4'

DRAWING NO.
2021-008-STD10

SHEET NO. 131 OF 153

APPROVED BY: _____

END VIEW
TEMPORARY CONCRETE BARRIER TYPE L OR TYPE S

SECTION A-A
TEMPORARY CONCRETE BARRIER TYPE L OR TYPE S

SECTION B-B
TEMPORARY CONCRETE BARRIER TYPE L OR TYPE S

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
TEMPORARY CONCRETE BARRIER LIMITED DEFLECTION

F.I.R.W.L. APPROVAL: _____ PLAN DATE: 8-14-2015 **R-53-A** SHEET 19 OF 22

BARrier CONNECTION DETAIL
TEMPORARY CONCRETE BARRIER TYPE L OR TYPE S

TOP PLATE DETAIL

LIFTING SLOT DETAIL
1" CHAMFER TO PREVENT SPALLING

ANCHOR BLOCKOUT DETAIL
SEE TYPE L / TYPE S TOB PLAN AND ELEVATION VIEWS FOR WIDTH AND LOCATION OF ANCHOR BLOCKOUTS

CONNECTION PIN DETAIL
* RETAINER BOLT AND NUT ARE INSTALLED AT THE CONTRACTOR'S OPTION.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
TEMPORARY CONCRETE BARRIER LIMITED DEFLECTION

F.I.R.W.L. APPROVAL: _____ PLAN DATE: 8-14-2015 **R-53-A** SHEET 20 OF 22

STEEL REINFORCEMENT FOR TEMPORARY CONCRETE BARRIER TYPE S			
BAR	BAR SIZE	SHAPE	LENGTH (PER BAR)
REINFORCING			
A1	#4		12 6'-0"
A2	#6		6 2'-11"
B1	#5		7 12'-2"
LOOP ASSEMBLY			
D1	#6		2 8'-5"
D2	#6		2 7'-7"
D3	#6		2 8'-6"

NOTE: NUMBER OF BARS SPECIFIED ARE PER TEMPORARY CONCRETE BARRIER SECTION.

A1 BAR

A2 BAR

B1 BAR

ELEVATION

PLAN
LOOP BAR ASSEMBLY (D1, D2 AND D3 BARS)
INVERT ASSEMBLY FOR OPPOSITE END OF BARRIER

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
TEMPORARY CONCRETE BARRIER LIMITED DEFLECTION

F.I.R.W.L. APPROVAL: _____ PLAN DATE: 8-14-2015 **R-53-A** SHEET 21 OF 22

STEEL REINFORCEMENT FOR TEMPORARY CONCRETE BARRIER TYPE L			
BAR	BAR SIZE	SHAPE	LENGTH (PER BAR)
REINFORCING			
A1	#4		18 6'-0"
A2	#6		10 2'-11"
B1	#5		7 13'-8"
LOOP ASSEMBLY			
D1	#6		2 8'-5"
D2	#6		2 7'-7"
D3	#6		2 8'-6"

NOTE: NUMBER OF BARS SPECIFIED ARE PER TEMPORARY CONCRETE BARRIER SECTION.

NOTES:
DO NOT LIFT OR MOVE THE TOB SECTIONS BY USE OF THE CONNECTING LOOP BARS D1, D2, D3 OR D4. DO NOT APPLY EXCESSIVE FORCE TO THE CONNECTING LOOP BARS D1, D2, D3 OR D4.
CONCRETE CLEAR COVER FOR REINFORCING BARS MUST BE 1 1/2" (MIN.) EXCEPT WHERE OTHERWISE SPECIFIED.
LIFTING SLOTS SHALL BE CONSTRUCTED AS SPECIFIED TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION ON THE ROADWAY.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
TEMPORARY CONCRETE BARRIER LIMITED DEFLECTION

F.I.R.W.L. APPROVAL: _____ PLAN DATE: 8-14-2015 **R-53-A** SHEET 22 OF 22

3 WORKING DAYS!
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10/12/22	INB	LCM

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

EAST MEDICAL CENTER DRIVE

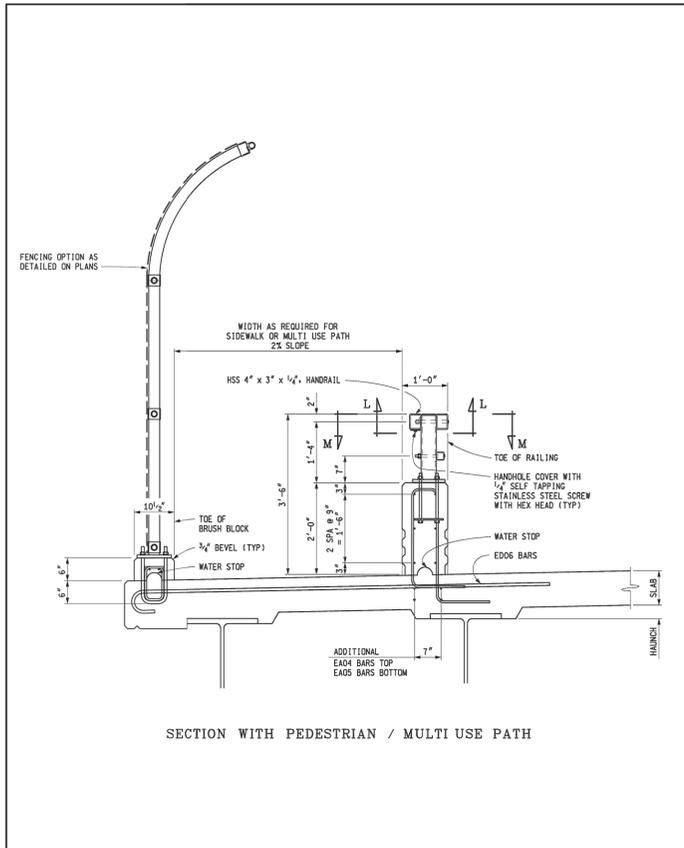
MDOT STANDARD DETAILS

SCALE
HOR. 1"=40'
VERT. 1"=4'

DRAWING NO.
2021-008-STD11

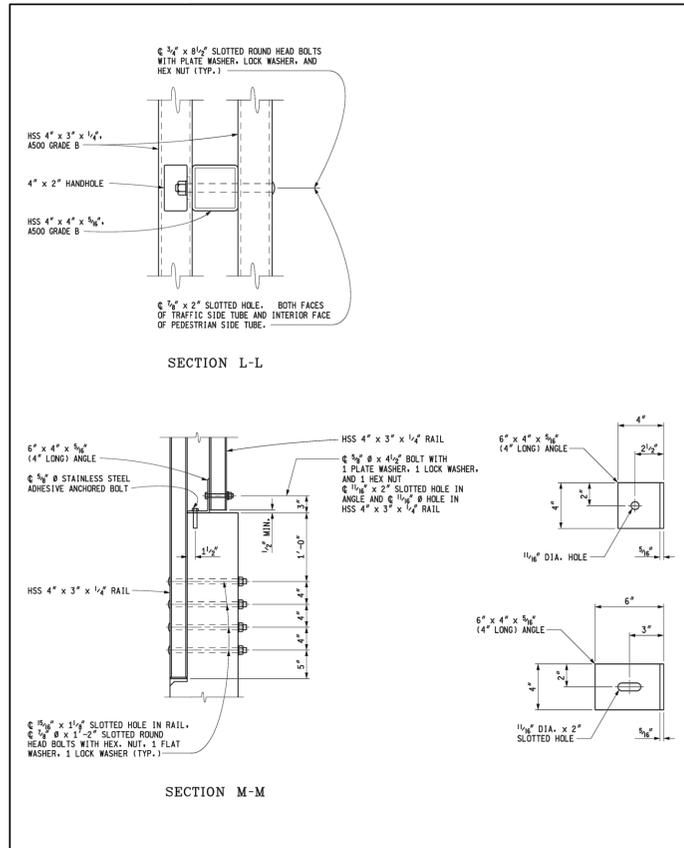
SHEET NO. 132 OF 153

APPROVED BY: _____



SECTION WITH PEDESTRIAN / MULTI USE PATH

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR			
BRIDGE RAILING, AESTHETIC PARAPET TUBE			
7-25-2017 F.H.W.A. APPROVAL	11-2-2016 PLAN DATE	B-25-K	SHEET 7 OF 8



SECTION L-L

SECTION M-M

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR			
BRIDGE RAILING, AESTHETIC PARAPET TUBE			
7-25-2017 F.H.W.A. APPROVAL	11-2-2016 PLAN DATE	B-25-K	SHEET 8 OF 8

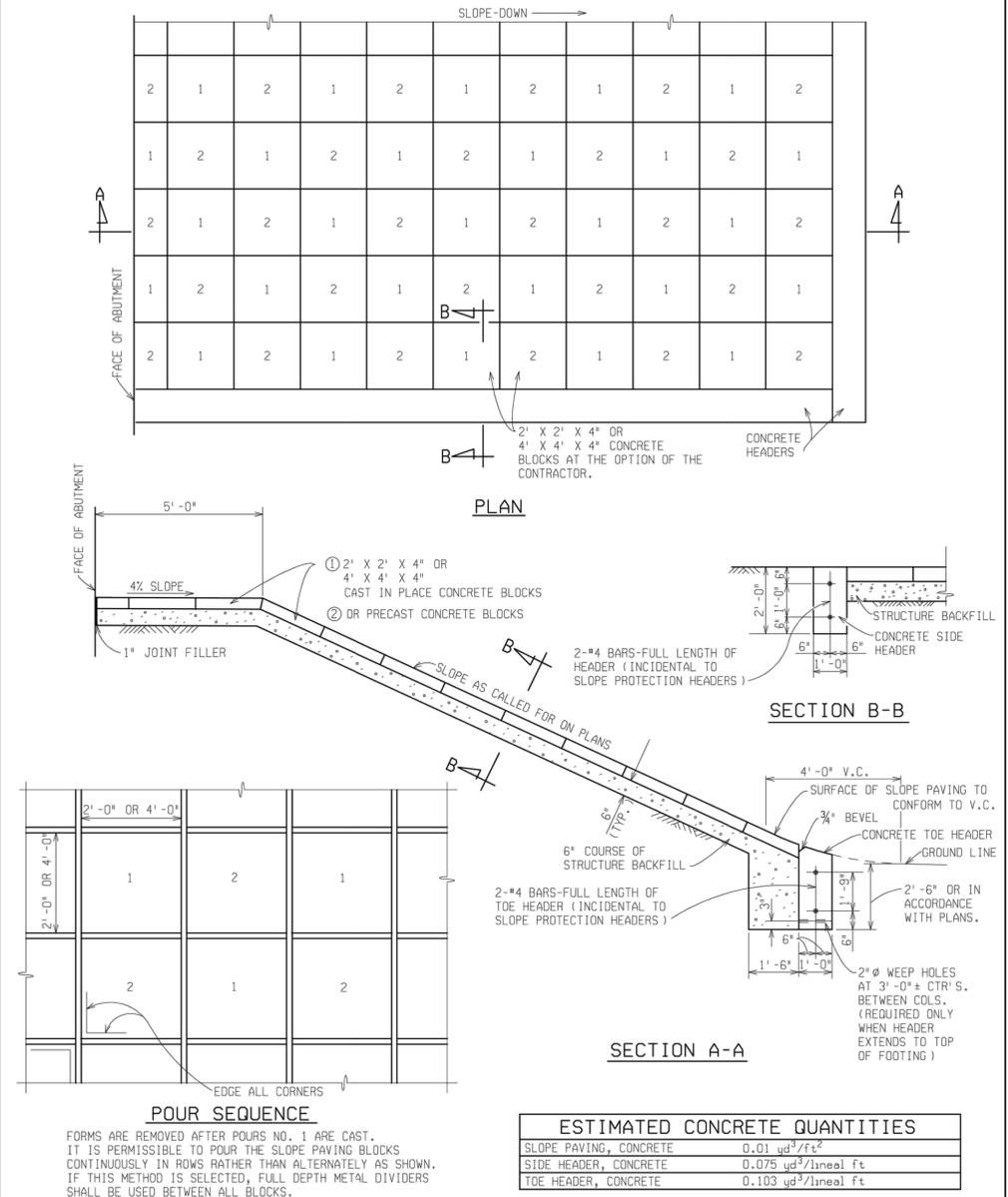
3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10-9-22		

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	
EAST MEDICAL CENTER DRIVE	
MDOT STANDARD DETAILS	
SCALE HOR. 1"=40' VERT. 1"=4'	
DRAWING NO. 2021-008-STD11	
SHEET NO. <u>134</u> OF <u>153</u>	

X:\Projects\2021\2141\736300 AA - EMCD Bridge\01_ConstrDocs\CAD\EMCD_Standard Detail B025K

SLOPE PAVING, CONCRETE



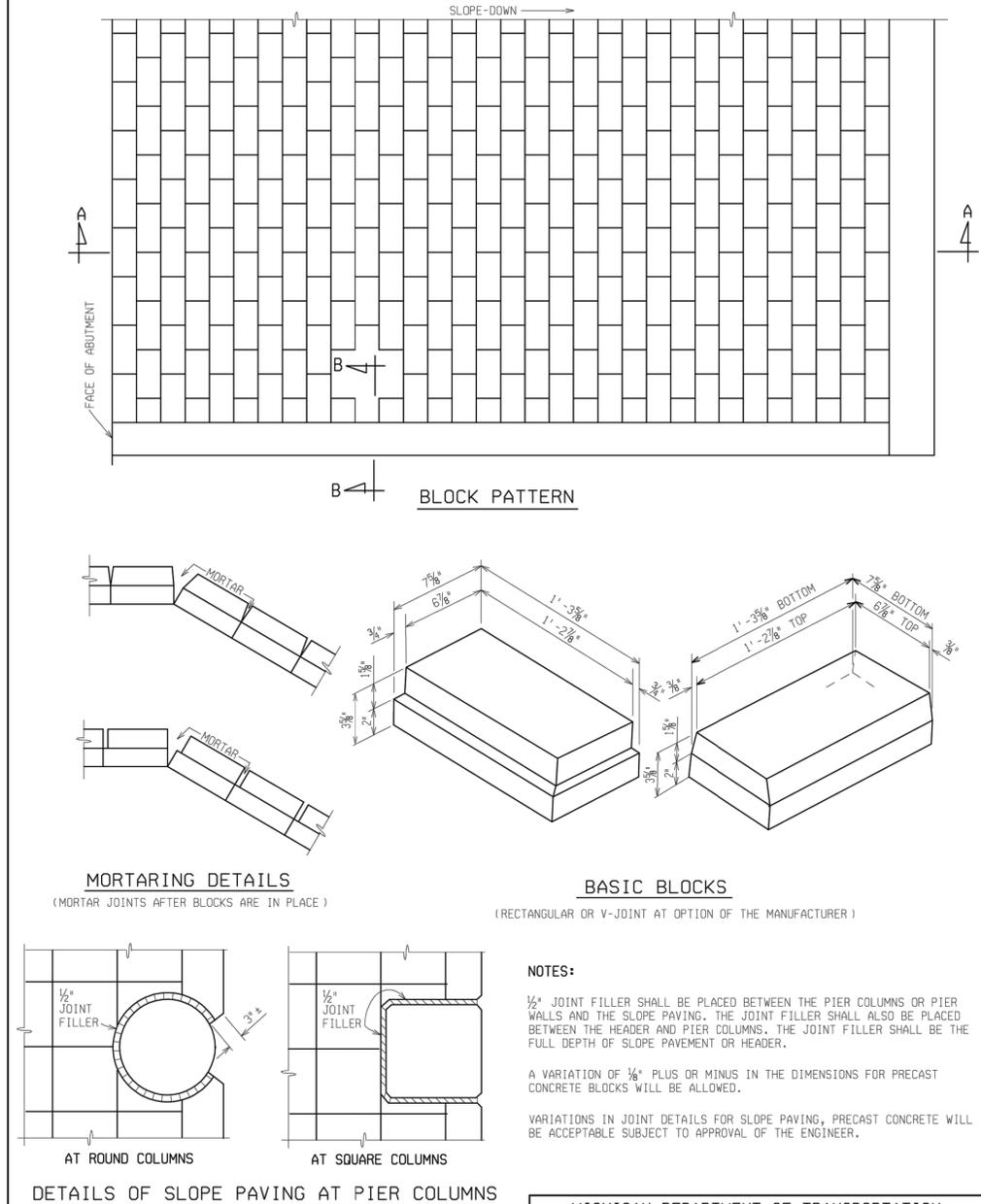
ESTIMATED CONCRETE QUANTITIES

SLOPE PAVING, CONCRETE	0.01 yd ³ /ft ²
SIDE HEADER, CONCRETE	0.075 yd ³ /lineal ft
TOE HEADER, CONCRETE	0.103 yd ³ /lineal ft

POUR SEQUENCE
FORMS ARE REMOVED AFTER POURS NO. 1 ARE CAST. IT IS PERMISSIBLE TO POUR THE SLOPE PAVING BLOCKS CONTINUOUSLY IN ROWS RATHER THAN ALTERNATELY AS SHOWN. IF THIS METHOD IS SELECTED, FULL DEPTH METAL DIVIDERS SHALL BE USED BETWEEN ALL BLOCKS.

MDOT MICHIGAN DEPARTMENT OF TRANSPORTATION	<i>James D. Culp</i> ENGINEER OF CONSTRUCTION & TECHNOLOGY	<i>Near A. Albert</i> ENGINEER - BRIDGE DESIGN	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY TECHNICAL SERVICES STANDARD PLAN FOR STANDARD SLOPE PAVING DETAILS
PREPARED BY DESIGN DIVISION	<i>Carvin Roberts</i> ENGINEER OF MAINTENANCE	<i>Gregory J. Rosine</i> DEPARTMENT DIRECTOR	
DRAWN BY:	<i>John L. Roberts</i> ENGINEER OF TRAFFIC AND SAFETY	<i>Gregory J. Rosine</i> CHIEF ENGINEER/DEPUTY DIRECTOR HIGHWAY TECHNICAL SERVICES	11-26-2001 F.H.W.A. APPROVAL PLAN DATE
CHECKED BY: VZ			B-102-C SHEET 1 OF 2

SLOPE PAVING, PRECAST CONCRETE



NOTES:
1/2" JOINT FILLER SHALL BE PLACED BETWEEN THE PIER COLUMNS OR PIER WALLS AND THE SLOPE PAVING. THE JOINT FILLER SHALL ALSO BE PLACED BETWEEN THE HEADER AND PIER COLUMNS. THE JOINT FILLER SHALL BE THE FULL DEPTH OF SLOPE PAVEMENT OR HEADER.
A VARIATION OF 1/8" PLUS OR MINUS IN THE DIMENSIONS FOR PRECAST CONCRETE BLOCKS WILL BE ALLOWED.
VARIATIONS IN JOINT DETAILS FOR SLOPE PAVING, PRECAST CONCRETE WILL BE ACCEPTABLE SUBJECT TO APPROVAL OF THE ENGINEER.

DETAILS OF SLOPE PAVING AT PIER COLUMNS

MDOT MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY TECHNICAL SERVICES STANDARD PLAN FOR STANDARD SLOPE PAVING DETAILS
11-26-2001 F.H.W.A. APPROVAL PLAN DATE
B-102-C SHEET 2 OF 2

3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
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(TOLL FREE)

DLZ				
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10-9-22		

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

EAST MEDICAL CENTER DRIVE

MDOT STANDARD DETAILS

SCALE
HOR. 1"=40'
VERT. 1"=4'

DRAWING NO.
2021-008-STD12

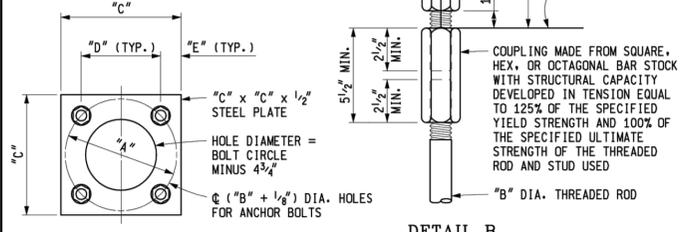
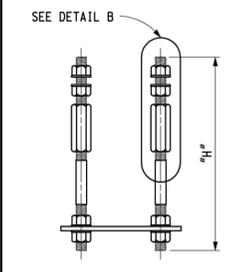
SHEET NO. 135 OF 153

APPROVED BY _____

ANCHOR BOLT ASSEMBLY DIMENSIONS								
LIGHT STANDARD MOUNTING HEIGHT	BOLT CIRCLE "A"	ANCHOR BOLT DIA. "B"	"C"	"D"	"E"	STUD PROJECTION "F"	STUD LENGTH "G"	"H"
30'*	11"	1"	11 1/2"	7 3/4"	1 1/8"	4 3/4"	7 1/4"	1' - 9 3/4"
30'**	11"	1 1/4"	11 1/2"	7 3/4"	1 1/8"	5 1/2"	8"	1' - 10 1/2"
40'**	1' - 1"	1 1/4"	1' - 2"	9 1/4"	2 3/8"	5 1/2"	8"	1' - 10 1/2"
45'**	1' - 1"	1 1/4"	1' - 2"	9 1/4"	2 3/8"	5 1/2"	8"	1' - 10 1/2"

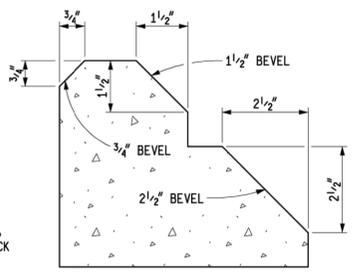
* UP TO 15' SINGLE OR DOUBLE BRACKET ARM
 ** UP TO 17' SINGLE OR DOUBLE BRACKET ARM

ANCHOR BOLTS (4 REQUIRED):
 "B" DIA. x 1'-2" THREADED ROD AND "B" DIA. x "G" STUD
 WITH 4 NUTS, 4 WASHERS, AND ONE COUPLING.

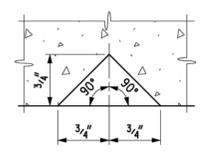


DETAIL B

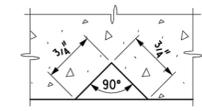
LIGHT STANDARD ANCHOR BOLT ASSEMBLY



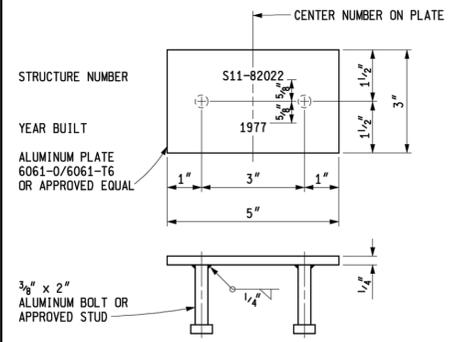
BEVEL DETAILS



DOUBLE 3/4" Δ MOLDING



3/4" Δ MOLDING
 MOLDING DETAILS



NAME PLATE

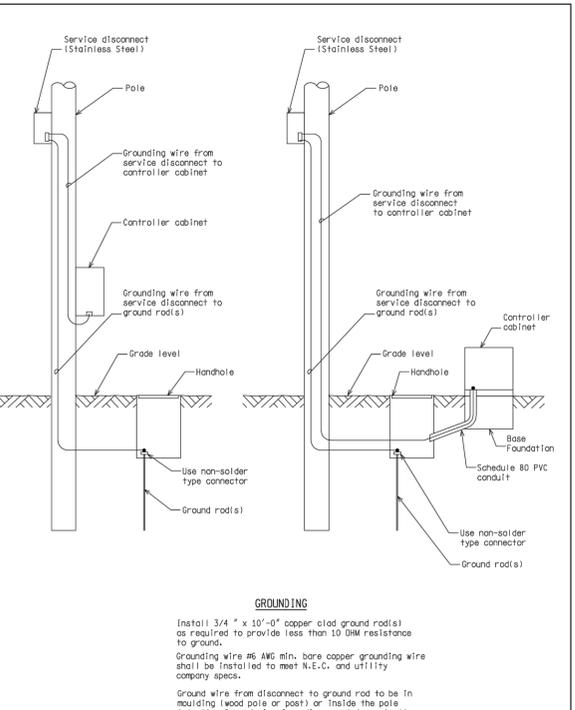
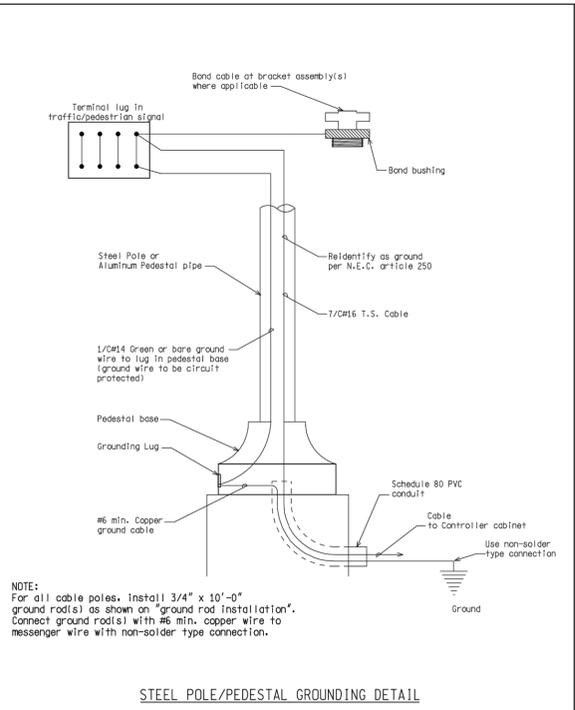
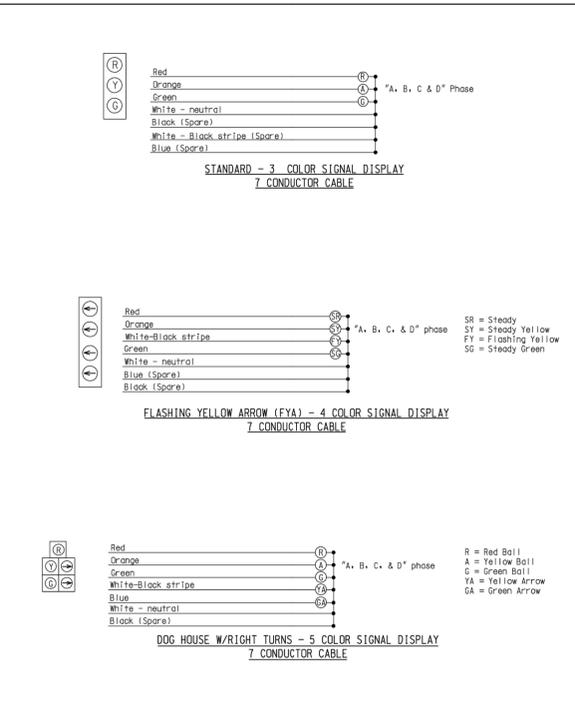
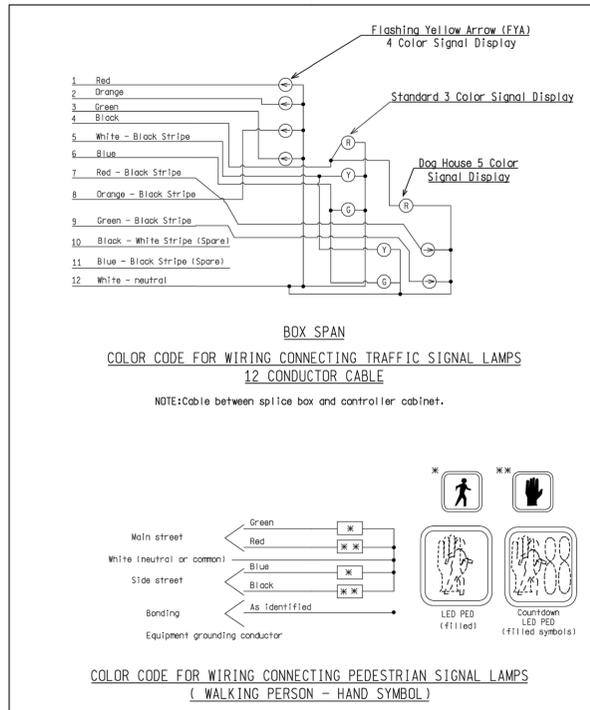
NOTES:
 DIE STAMP - 1/4" MINIMUM
 LETTERS AND NUMBERS SHALL BE 1/4" MINIMUM OR 3/8" MAXIMUM HEIGHT.
 DATE SHALL BE YEAR THAT SUPERSTRUCTURE WAS COMPLETED.

NOTES:
 DETAILS SHOWN ARE ACCORDING TO THE CURRENT AASHTO SPECIFICATIONS.
 LIGHT STANDARD ANCHOR BOLT ASSEMBLY STEEL PLATE SHALL BE ASTM A36.
 ALL STEEL SHALL BE HOT-DIP GALVANIZED ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS.
 ANCHOR BOLTS, WASHERS, COUPLINGS AND NUTS FOR LIGHT STANDARDS SHALL BE ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS.
 THE COUPLING SHALL BE RETAPPED AFTER GALVANIZING IN THE SAME MANNER AS SPECIFIED FOR NUTS.
 ALUMINUM PLATE SHALL MEET THE REQUIREMENTS OF ASTM B209.
 ALUMINUM BOLT SHALL MEET THE REQUIREMENTS OF ASTM F468.

	DEPARTMENT DIRECTOR Kirk T. Stouffe APPROVED BY: ENGINEER OF DELIVERY	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR MOLDING, BEVEL, LIGHT STD. ANCHOR BOLT ASSY., AND NAME PLATE DETAILS		
	PREPARED BY DESIGN DIVISION DRAWN BY: B.L.T. CHECKED BY: V.Z.	APPROVED BY: ENGINEER OF DEVELOPMENT	10-21-2008 F.H.W.A. APPROVAL	3-30-2007 PLAN DATE

3 WORKING DAYS BEFORE YOU DIG
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 800-482-7171
 (TOLL FREE)

					PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR				
					EAST MEDICAL CENTER DRIVE				
					MDOT STANDARD DETAILS				
					SCALE	0 INCH 1			
					HOR. 1"=40'				
					VERT. 1"=4'				
					DRAWING NO.				
					2021-008-STD13				
					SHEET NO. 136 OF 153				
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY	APPROVED BY _____				
	ORIGINAL ISSUE	10-9-22							

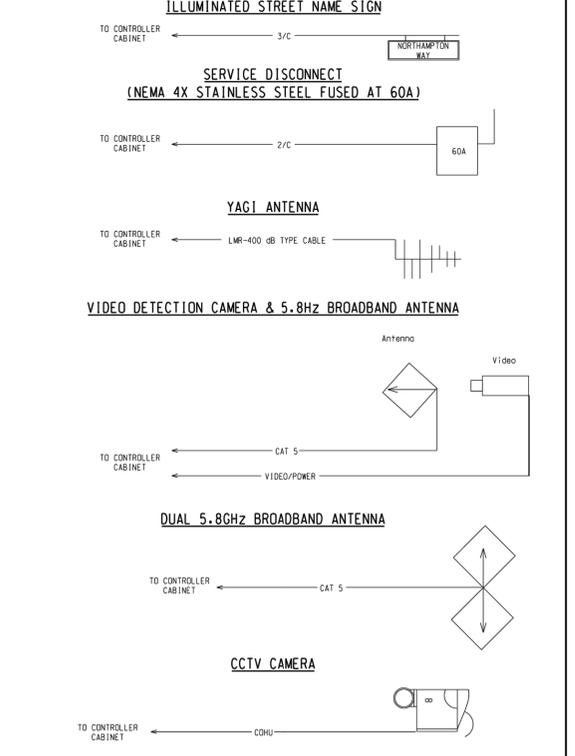
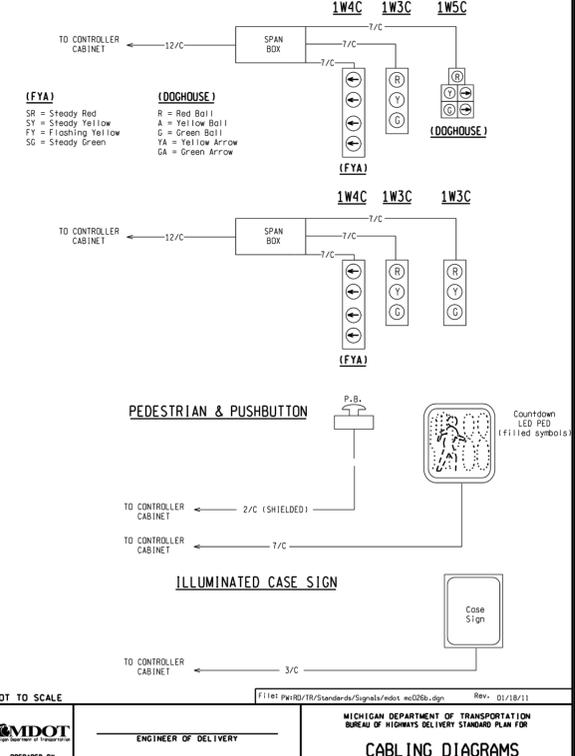
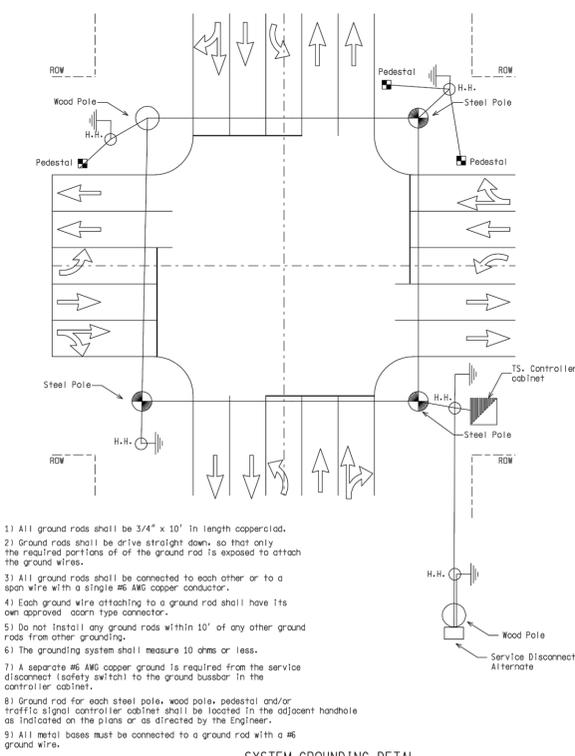
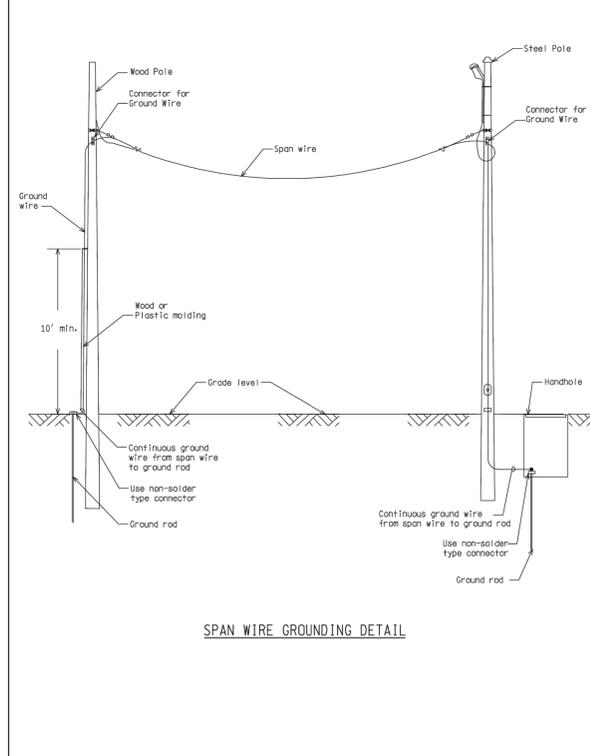


NOT TO SCALE	F1141: Pw/HD/TR/Standards/Signals/ndot_sug226a.dgn	Rev: 11/16/10
MDOT	ENGINEER OF DELIVERY	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR
PREPARED BY TRAFFIC AND SAFETY	ENGINEER OF DEVELOPMENT	COLOR CODE WIRING/EQUIPMENT GROUNDING
DRAWN BY: DJF	(SPECIAL DETAIL)	PLAN DATE
CHECKED BY:	FWHA APPROVAL DATE	MC-026-A
		SHEET 1 OF 6

NOT TO SCALE	F1141: Pw/HD/TR/Standards/Signals/ndot_sug226a.dgn	Rev: 11/16/10
MDOT	ENGINEER OF DELIVERY	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN (SPECIAL DETAIL)
PREPARED BY TRAFFIC AND SAFETY	ENGINEER OF DEVELOPMENT	COLOR CODE WIRING/EQUIPMENT GROUNDING
DRAWN BY: DJF	(SPECIAL DETAIL)	PLAN DATE
CHECKED BY:	FWHA APPROVAL DATE	MC-026-A
		SHEET 2 OF 6

NOT TO SCALE	F1141: Pw/HD/TR/Standards/Signals/ndot_sug226a.dgn	Rev: 11/16/10
MDOT	ENGINEER OF DELIVERY	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN (SPECIAL DETAIL)
PREPARED BY TRAFFIC AND SAFETY	ENGINEER OF DEVELOPMENT	COLOR CODE WIRING/EQUIPMENT GROUNDING
DRAWN BY: DJF	(SPECIAL DETAIL)	PLAN DATE
CHECKED BY:	FWHA APPROVAL DATE	MC-026-A
		SHEET 3 OF 6

NOT TO SCALE	F1141: Pw/HD/TR/Standards/Signals/ndot_sug226a.dgn	Rev: 11/16/10
MDOT	ENGINEER OF DELIVERY	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN (SPECIAL DETAIL)
PREPARED BY TRAFFIC AND SAFETY	ENGINEER OF DEVELOPMENT	COLOR CODE WIRING/EQUIPMENT GROUNDING
DRAWN BY: DJF	(SPECIAL DETAIL)	PLAN DATE
CHECKED BY:	FWHA APPROVAL DATE	MC-026-A
		SHEET 4 OF 6



NOT TO SCALE	F1141: Pw/HD/TR/Standards/Signals/ndot_sug226a.dgn	Rev: 11/16/10
MDOT	ENGINEER OF DELIVERY	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN (SPECIAL DETAIL)
PREPARED BY TRAFFIC AND SAFETY	ENGINEER OF DEVELOPMENT	COLOR CODE WIRING/EQUIPMENT GROUNDING
DRAWN BY: DJF	(SPECIAL DETAIL)	PLAN DATE
CHECKED BY:	FWHA APPROVAL DATE	MC-026-A
		SHEET 5 OF 6

NOT TO SCALE	F1141: Pw/HD/TR/Standards/Signals/ndot_sug226a.dgn	Rev: 11/16/10
MDOT	ENGINEER OF DELIVERY	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN (SPECIAL DETAIL)
PREPARED BY TRAFFIC AND SAFETY	ENGINEER OF DEVELOPMENT	COLOR CODE WIRING/EQUIPMENT GROUNDING
DRAWN BY: DJF	(SPECIAL DETAIL)	PLAN DATE
CHECKED BY:	FWHA APPROVAL DATE	MC-026-A
		SHEET 6 OF 6

NOT TO SCALE	F1141: Pw/HD/TR/Standards/Signals/ndot_sug226a.dgn	Rev: 01/18/11
MDOT	ENGINEER OF DELIVERY	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR
PREPARED BY TRAFFIC AND SAFETY	ENGINEER OF DEVELOPMENT	CABLING DIAGRAMS
DRAWN BY: DJF	(SPECIAL DETAIL)	PLAN DATE
CHECKED BY:	FWHA APPROVAL DATE	MC-026-B
		SHEET 1 OF 2

NOT TO SCALE	F1141: Pw/HD/TR/Standards/Signals/ndot_sug226a.dgn	Rev: 01/18/11
MDOT	ENGINEER OF DELIVERY	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR
PREPARED BY TRAFFIC AND SAFETY	ENGINEER OF DEVELOPMENT	CABLING DIAGRAMS
DRAWN BY: DJF	(SPECIAL DETAIL)	PLAN DATE
CHECKED BY:	FWHA APPROVAL DATE	MC-026-B
		SHEET 2 OF 2

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
CONTOUR	UTILITY POLE & GUY	GAS LINE	LEFT EDGE/RD. GRADE	STORM SEWER & CAT. BAS.	SEE ABOVE
STORM SEWER & CAT. BAS.	FIRE HYDRANT ASSEMBLY	CABLE T.V.	RIGHT EDGE/RD. GRADE	WATER MAIN W/F.H. ASSEM.	BENCH MARK
WATER MAIN & VALVE-IN-WELL	LIGHT POLE	ELECTRIC	CURB & GUTTER	CONTOUR	SURVEY BOOK
WATER MAIN & VALVE-IN-BOX	END SECTION	SIGN	EDGE/GRAVEL	ROAD & GRADE	REV. NO.

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

E. MEDICAL CENTER DRIVE TRAFFIC SIGNAL SPECIAL DETAILS

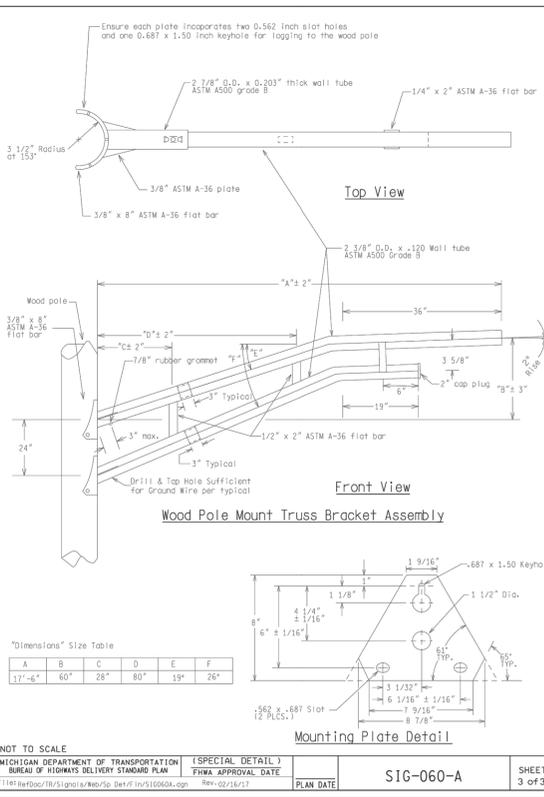
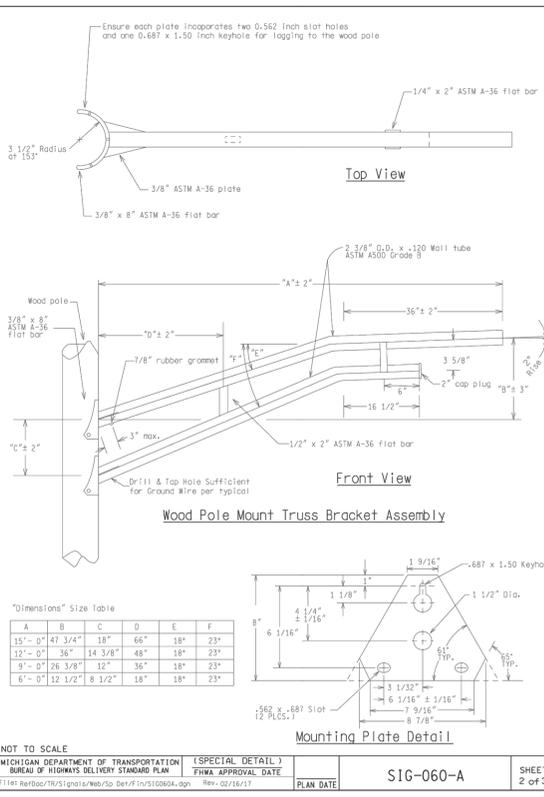
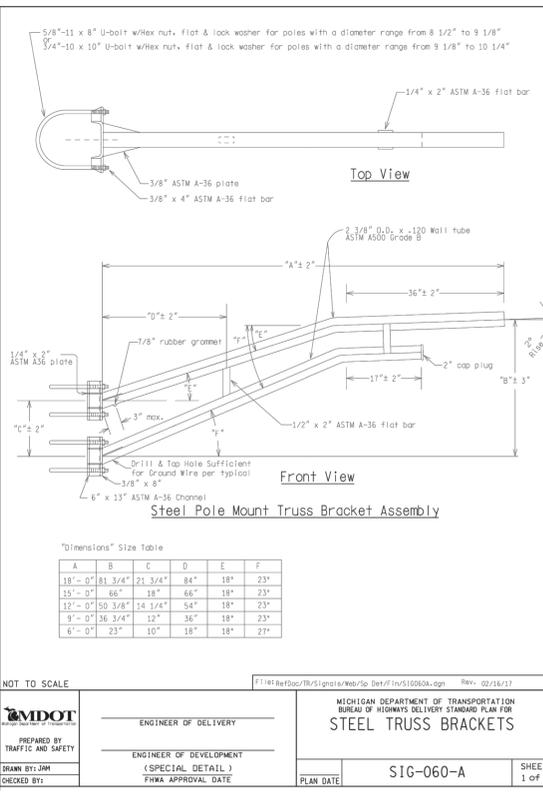
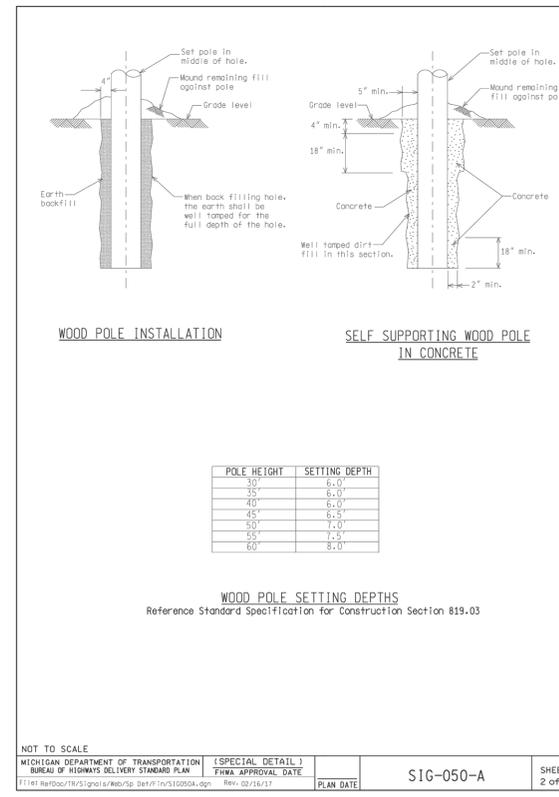
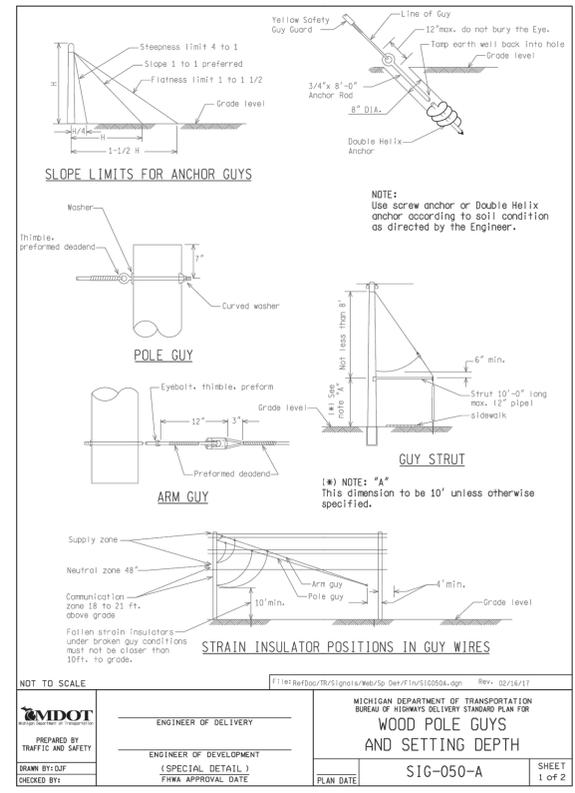
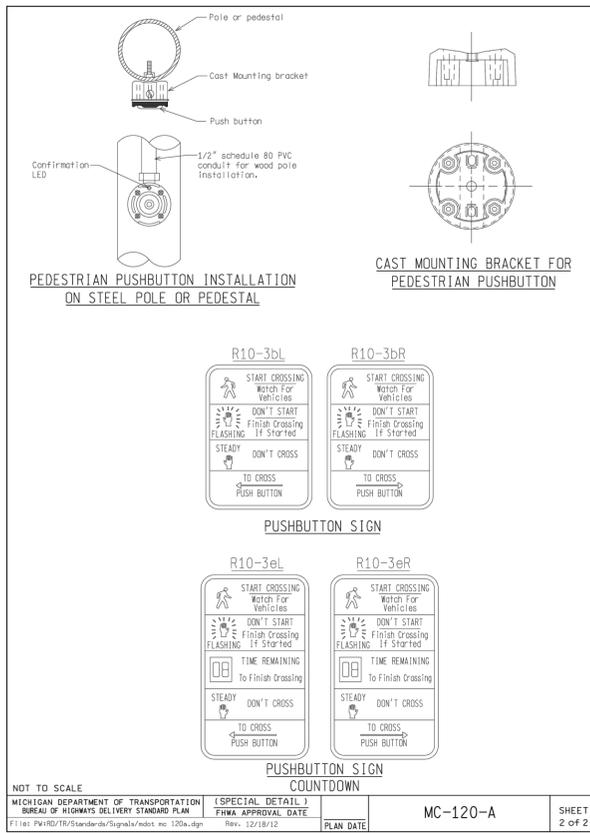
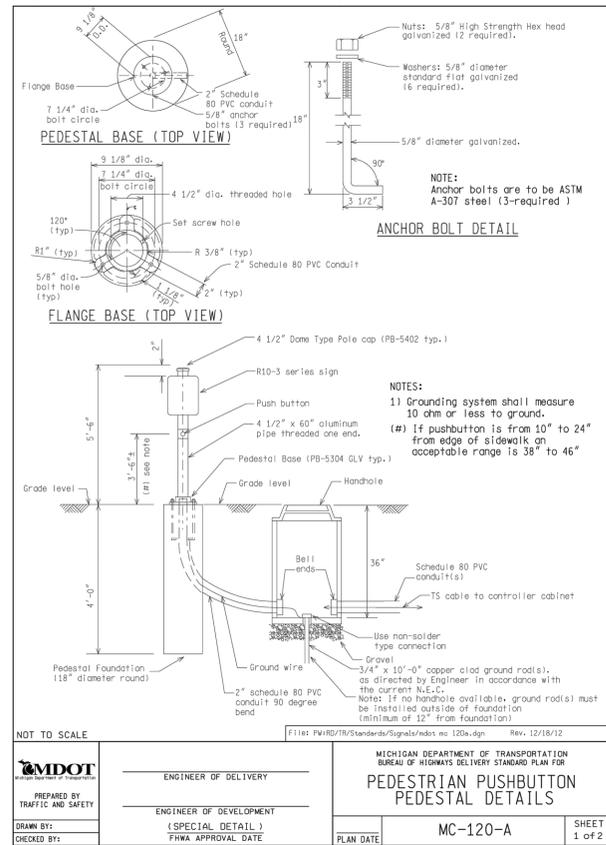
SCALE: 0 INCH 1

DRAWING NO. 2021-008-SSD1

SHEET NO. 137 OF 153

APPROVED BY: _____

ORIGINAL ISSUE	10/12/22	INB	LCM
REV. NO.	DESCRIPTION	DATE	DR. BY



LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
- CONTOUR	- UTILITY POLE & GUY	- GAS LINE	- LEFT EDGE/RD. GRADE	- STORM SEWER & CAT. BAS.	- SEE ABOVE
- STORM SEWER & CAT. BAS.	- FIRE HYDRANT ASSEMBLY	- CABLE T.V.	- RIGHT EDGE/RD. GRADE	- WATER MAIN W/F.H. ASSEM.	- BENCH MARK
- WATER MAIN & VALVE-IN-WELL	- LIGHT POLE	- ELECTRIC	- CURB & GUTTER	- CONTOUR	- SURVEY BOOK
- WATER MAIN & VALVE-IN-BOX	- END SECTION	- SIGN	- EDGE/GRAVEL	- ROAD & GRADE	- REV. NO.

DLZ

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

E. MEDICAL CENTER DRIVE TRAFFIC SIGNAL SPECIAL DETAILS

SCALE: 0 INCH 1

DRAWING NO. 2021-008-SSD2

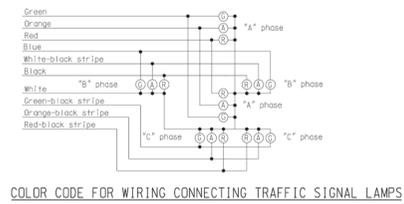
SHEET NO. 138 OF 153

APPROVED BY: [Signature]

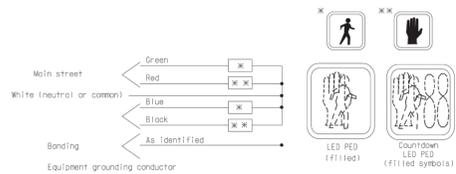
DATE: 10/12/22

DR. BY: INB

CH. BY: LCM



COLOR CODE FOR WIRING CONNECTING TRAFFIC SIGNAL LAMPS
NOTE: No splices allowed between traffic signal head and controller.



COLOR CODE FOR WIRING CONNECTING PEDESTRIAN SIGNAL LAMPS (WALKING PERSON - HAND SYMBOL)

NOT TO SCALE	FILE# B01002/TR/SIGNALS/Rev/Sp_B01/TR/S10230A.dgn	REV# 02/16/17
MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR COLOR CODE WIRING/ EQUIPMENT GROUNDING	ENGINEER OF DELIVERY	
ENGINEER OF DEVELOPMENT	ENGINEER OF DEVELOPMENT	
PREPARED BY	TRAFFIC AND SAFETY	
DRAWN BY/DFP	(SPECIAL DETAIL)	PLAN DATE
CHECKED BY	FWA APPROVAL DATE	PLAN DATE
	SIG-230-A	SHEET 1 of 6



STANDARD - 3 COLOR SIGNAL DISPLAY



FLASHING YELLOW ARROW (FYA) - 4 COLOR SIGNAL DISPLAY

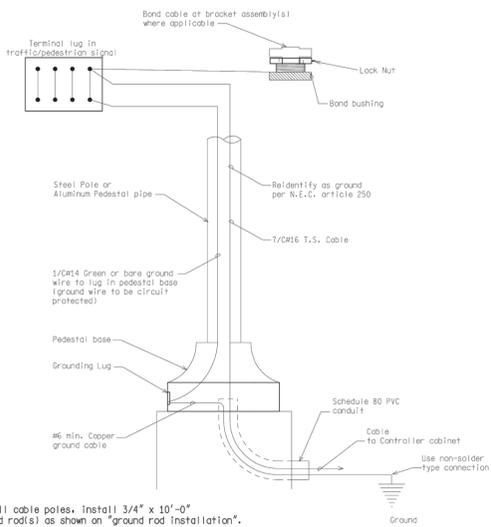


DOG HOUSE W/RIGHT TURNS - 5 COLOR SIGNAL DISPLAY

COLOR CODE FOR WIRING CONNECTING TRAFFIC SIGNAL LAMPS

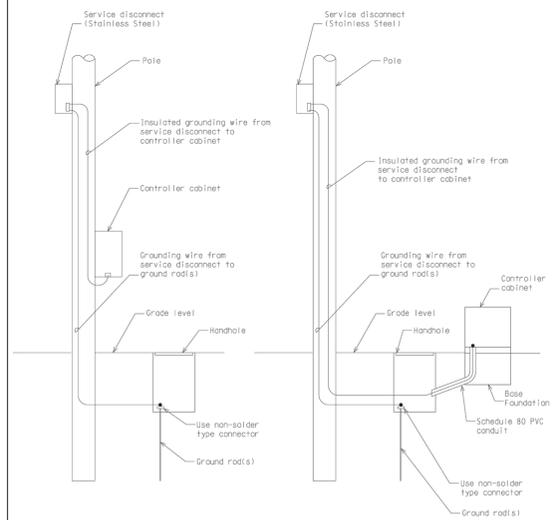
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MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR COLOR CODE WIRING/ EQUIPMENT GROUNDING	ENGINEER OF DELIVERY	
ENGINEER OF DEVELOPMENT	ENGINEER OF DEVELOPMENT	
PREPARED BY	TRAFFIC AND SAFETY	
DRAWN BY/DFP	(SPECIAL DETAIL)	PLAN DATE
CHECKED BY	FWA APPROVAL DATE	PLAN DATE
	SIG-230-A	SHEET 1 of 6

NOT TO SCALE	FILE# B01002/TR/SIGNALS/Rev/Sp_B01/TR/S10230A.dgn	REV# 02/16/17
MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR COLOR CODE WIRING/ EQUIPMENT GROUNDING	ENGINEER OF DELIVERY	
ENGINEER OF DEVELOPMENT	ENGINEER OF DEVELOPMENT	
PREPARED BY	TRAFFIC AND SAFETY	
DRAWN BY/DFP	(SPECIAL DETAIL)	PLAN DATE
CHECKED BY	FWA APPROVAL DATE	PLAN DATE
	SIG-230-A	SHEET 2 of 6



STEEL POLE/PEDESTAL GROUNDING DETAIL

NOT TO SCALE	FILE# B01002/TR/SIGNALS/Rev/Sp_B01/TR/S10230A.dgn	REV# 02/16/17
MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR COLOR CODE WIRING/ EQUIPMENT GROUNDING	ENGINEER OF DELIVERY	
ENGINEER OF DEVELOPMENT	ENGINEER OF DEVELOPMENT	
PREPARED BY	TRAFFIC AND SAFETY	
DRAWN BY/DFP	(SPECIAL DETAIL)	PLAN DATE
CHECKED BY	FWA APPROVAL DATE	PLAN DATE
	SIG-230-A	SHEET 3 of 6

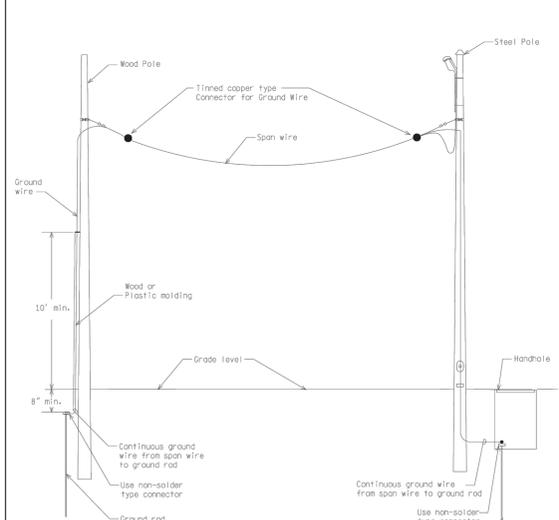


GROUNDING

Install 3/4" x 10'-0" copper clad ground rods as required to provide less than 10 OHM resistance to ground.
Grounding wire #6 AWG min. bare copper grounding wire shall be installed to meet N.E.C. and utility company specs.
Ground wire from disconnect to ground rod to be in conduit (wood pole or post) or inside the pole (steel). Ground wire from disconnect to controller cabinet to be in conduit (wood pole, wood post, and steel pole).

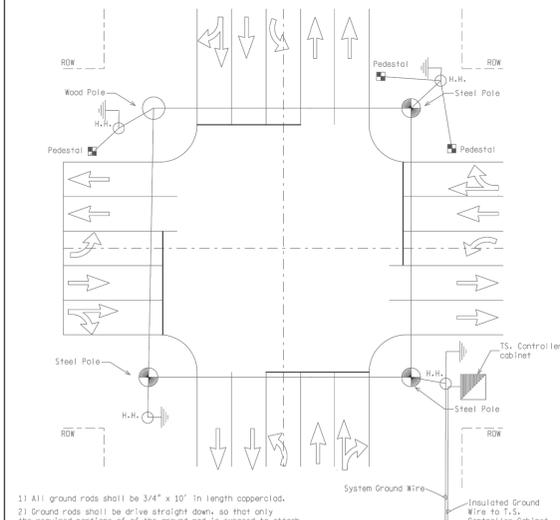
CONTROLLER CABINET GROUNDING DETAIL

NOT TO SCALE	FILE# B01002/TR/SIGNALS/Rev/Sp_B01/TR/S10230A.dgn	REV# 02/16/17
MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR COLOR CODE WIRING/ EQUIPMENT GROUNDING	ENGINEER OF DELIVERY	
ENGINEER OF DEVELOPMENT	ENGINEER OF DEVELOPMENT	
PREPARED BY	TRAFFIC AND SAFETY	
DRAWN BY/DFP	(SPECIAL DETAIL)	PLAN DATE
CHECKED BY	FWA APPROVAL DATE	PLAN DATE
	SIG-230-A	SHEET 4 of 6



SPAN WIRE GROUNDING DETAIL

NOT TO SCALE	FILE# B01002/TR/SIGNALS/Rev/Sp_B01/TR/S10230A.dgn	REV# 02/16/17
MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR COLOR CODE WIRING/ EQUIPMENT GROUNDING	ENGINEER OF DELIVERY	
ENGINEER OF DEVELOPMENT	ENGINEER OF DEVELOPMENT	
PREPARED BY	TRAFFIC AND SAFETY	
DRAWN BY/DFP	(SPECIAL DETAIL)	PLAN DATE
CHECKED BY	FWA APPROVAL DATE	PLAN DATE
	SIG-230-A	SHEET 5 of 6



- All ground rods shall be 3/4" x 10' in length copper clad.
- Ground rods shall be driven straight down, so that only the required portions of the ground rod is exposed to attach the ground wires.
- All ground rods shall be connected to each other or to a span wire with a single #6 AWG copper conductor.
- Each ground wire attaching to a ground rod shall have its own approved acorn type connector.
- Do not install any ground rods within 10' of any other ground rods from other grounding.
- The grounding system shall measure 10 ohms or less.
- A separate insulated green #6 AWG copper ground is required from the service disconnect (safety switch) to the ground busbar in the controller cabinet.
- Ground rod for each steel pole, wood pole, pedestal and/or traffic signal controller cabinet shall be located in the adjacent handhole as indicated on the plans or as directed by the Engineer.
- All metal bases must be connected to a ground rod with a #6 ground wire.

SYSTEM GROUNDING DETAIL

NOT TO SCALE	FILE# B01002/TR/SIGNALS/Rev/Sp_B01/TR/S10230A.dgn	REV# 02/16/17
MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR COLOR CODE WIRING/ EQUIPMENT GROUNDING	ENGINEER OF DELIVERY	
ENGINEER OF DEVELOPMENT	ENGINEER OF DEVELOPMENT	
PREPARED BY	TRAFFIC AND SAFETY	
DRAWN BY/DFP	(SPECIAL DETAIL)	PLAN DATE
CHECKED BY	FWA APPROVAL DATE	PLAN DATE
	SIG-230-A	SHEET 6 of 6

LEGEND

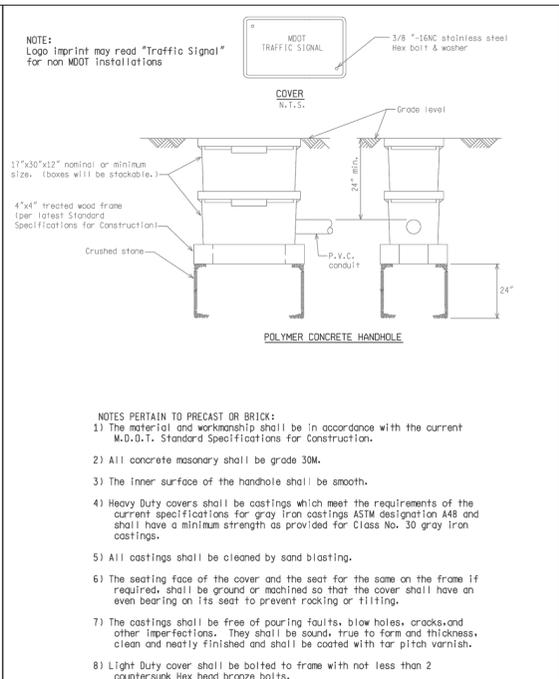
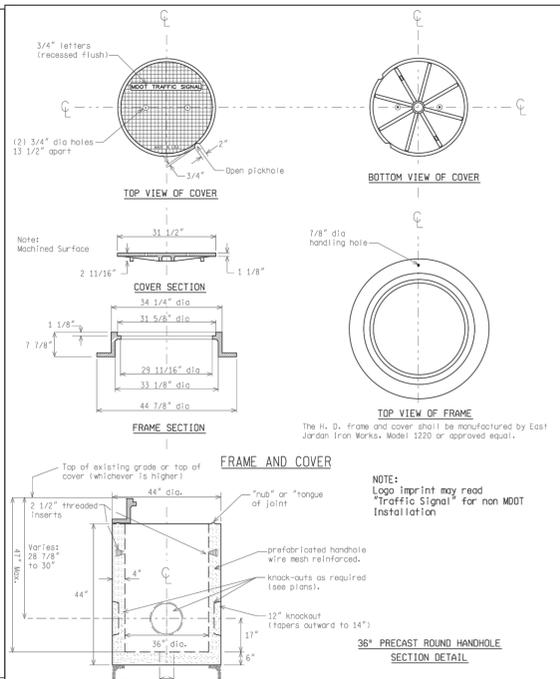
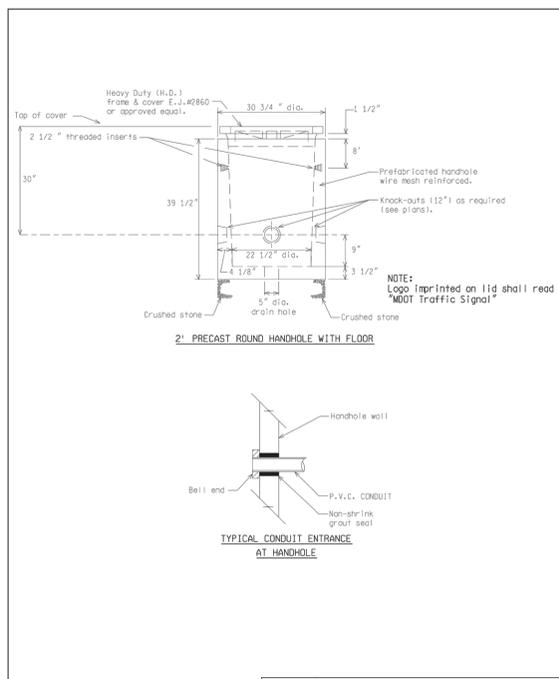
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CONTOUR	---	UTILITY POLE & GUY	U ---	GAS LINE	G ---	LEFT EDGE/RD. GRADE	---	STORM SEWER & CAT. BAS.	---	SEE ABOVE	
STORM SEWER & CAT. BAS.	---	FIRE HYDRANT ASSEMBLY	F ---	CABLE T.V.	T ---	RIGHT EDGE/RD. GRADE	---	WATER MAIN W/F.H. ASSEM.	---	BENCH MARK	BM ---
WATER MAIN & VALVE-IN-WELL	W ---	LIGHT POLE	L ---	ELECTRIC	E ---	CURB & GUTTER	---	CONTOUR	---	SURVEY BOOK	SB ---
WATER MAIN & VALVE-IN-BOX	W ---	END SECTION	---	SIGN	β ---	EDGE/GRAVEL	---	ROAD & GRADE	---	REV. NO.	

EXISTING FENCE	---//---//---	EXISTING SANITARY SEWER & MANHOLE	S ---	EXISTING TELEPHONE	t ---	EXISTING RD. & GRADE	---	PROPOSED SANITARY SEWER & MANHOLE	S ---	PROPOSED CURB & GUTTER	---
CONTOUR	---	UTILITY POLE & GUY	U ---	GAS LINE	G ---	LEFT EDGE/RD. GRADE	---	STORM SEWER & CAT. BAS.	---	SEE ABOVE	
STORM SEWER & CAT. BAS.	---	FIRE HYDRANT ASSEMBLY	F ---	CABLE T.V.	T ---	RIGHT EDGE/RD. GRADE	---	WATER MAIN W/F.H. ASSEM.	---	BENCH MARK	BM ---
WATER MAIN & VALVE-IN-WELL	W ---	LIGHT POLE	L ---	ELECTRIC	E ---	CURB & GUTTER	---	CONTOUR	---	SURVEY BOOK	SB ---
WATER MAIN & VALVE-IN-BOX	W ---	END SECTION	---	SIGN	β ---	EDGE/GRAVEL	---	ROAD & GRADE	---	REV. NO.	

EXISTING FENCE	---//---//---	EXISTING SANITARY SEWER & MANHOLE	S ---	EXISTING TELEPHONE	t ---	EXISTING RD. & GRADE	---	PROPOSED SANITARY SEWER & MANHOLE	S ---	PROPOSED CURB & GUTTER	---
CONTOUR	---	UTILITY POLE & GUY	U ---	GAS LINE	G ---	LEFT EDGE/RD. GRADE	---	STORM SEWER & CAT. BAS.	---	SEE ABOVE	
STORM SEWER & CAT. BAS.	---	FIRE HYDRANT ASSEMBLY	F ---	CABLE T.V.	T ---	RIGHT EDGE/RD. GRADE	---	WATER MAIN W/F.H. ASSEM.	---	BENCH MARK	BM ---
WATER MAIN & VALVE-IN-WELL	W ---	LIGHT POLE	L ---	ELECTRIC	E ---	CURB & GUTTER	---	CONTOUR	---	SURVEY BOOK	SB ---
WATER MAIN & VALVE-IN-BOX	W ---	END SECTION	---	SIGN	β ---	EDGE/GRAVEL	---	ROAD & GRADE	---	REV. NO.	

EXISTING FENCE	---//---//---	EXISTING SANITARY SEWER & MANHOLE	S ---	EXISTING TELEPHONE	t ---	EXISTING RD. & GRADE	---	PROPOSED SANITARY SEWER & MANHOLE	S ---	PROPOSED CURB & GUTTER	---
CONTOUR	---	UTILITY POLE & GUY	U ---	GAS LINE	G ---	LEFT EDGE/RD. GRADE	---	STORM SEWER & CAT. BAS.	---	SEE ABOVE	
STORM SEWER & CAT. BAS.	---	FIRE HYDRANT ASSEMBLY	F ---	CABLE T.V.	T ---	RIGHT EDGE/RD. GRADE	---	WATER MAIN W/F.H. ASSEM.	---	BENCH MARK	BM ---
WATER MAIN & VALVE-IN-WELL	W ---	LIGHT POLE	L ---	ELECTRIC	E ---	CURB & GUTTER	---	CONTOUR	---	SURVEY BOOK	SB ---
WATER MAIN & VALVE-IN-BOX	W ---	END SECTION	---	SIGN	β ---	EDGE/GRAVEL	---	ROAD & GRADE	---	REV. NO.	

		PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR			
		E. MEDICAL CENTER DRIVE TRAFFIC SIGNAL SPECIAL DETAILS			
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DRAWING NO.	2021-008-SSD5				
SHEET NO.	141	OF	153		
APPROVED BY					



NOT TO SCALE

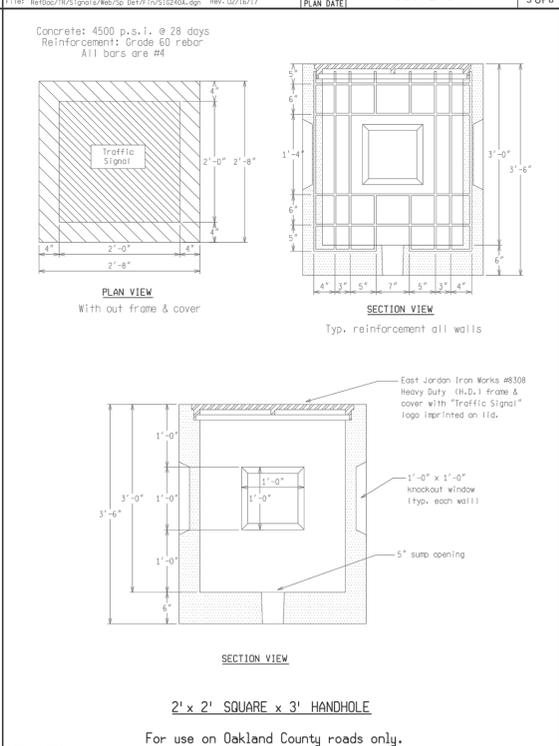
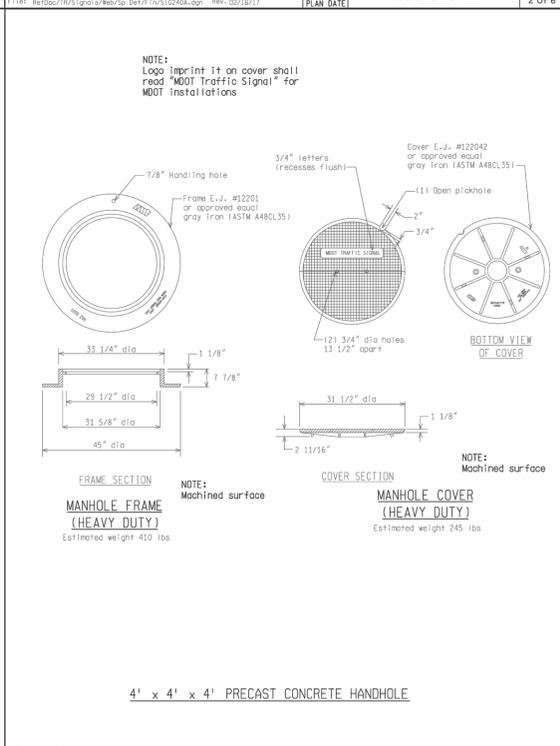
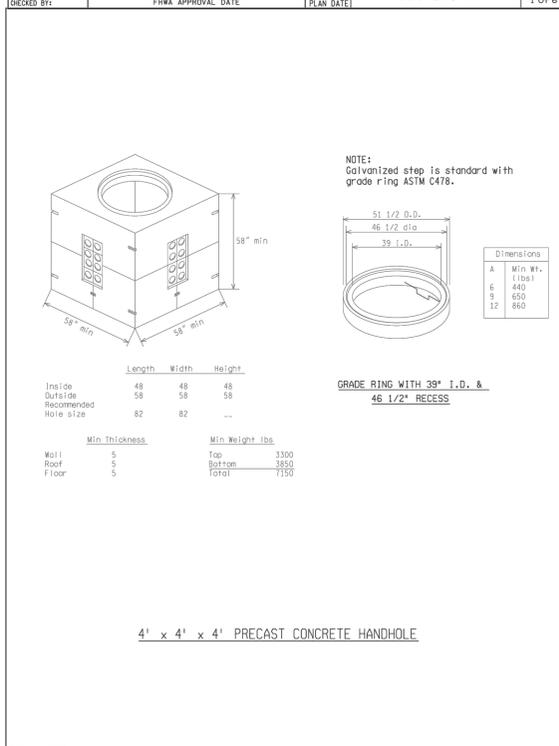
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NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR	(SPECIAL DETAIL) FHWA APPROVAL DATE	PLAN DATE	SIG-240-A	SHEET 2 OF 6
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NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR	(SPECIAL DETAIL) FHWA APPROVAL DATE	PLAN DATE	SIG-240-A	SHEET 3 OF 6
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NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR	(SPECIAL DETAIL) FHWA APPROVAL DATE	PLAN DATE	SIG-240-A	SHEET 4 OF 6
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NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR	(SPECIAL DETAIL) FHWA APPROVAL DATE	PLAN DATE	SIG-240-A	SHEET 5 OF 6
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NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR	(SPECIAL DETAIL) FHWA APPROVAL DATE	PLAN DATE	SIG-240-A	SHEET 6 OF 6
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LEGEND

EXISTING FENCE	---//---//---	EXISTING SANITARY SEWER & MANHOLE	—S—	EXISTING TELEPHONE	—t—	EXISTING RD. & GRADE	—C—	PROPOSED SANITARY SEWER & MANHOLE	—S—	PROPOSED CURB & GUTTER	—C—
CONTOUR	---	UTILITY POLE & GUY	—U—	GAS LINE	—G—	LEFT EDGE/RD. GRADE	—L—	STORM SEWER & CAT. BAS.	—S—	SEE ABOVE	
STORM SEWER & CAT. BAS.	—S—	FIRE HYDRANT ASSEMBLY	—F—	CABLE T.V.	—TV—	RIGHT EDGE/RD. GRADE	—R—	WATER MAIN W/F.H. ASSEM.	—W—	BENCH MARK	—B—
WATER MAIN & VALVE-IN-WELL	—W—	LIGHT POLE	—L—	ELECTRIC	—E—	CURB & GUTTER	—C—	CONTOUR	---	SURVEY BOOK	—S—
WATER MAIN & VALVE-IN-BOX	—W—	END SECTION	—E—	SIGN	—S—	EDGE/GRAVEL	—E—	ROAD & GRADE	—R—	REV. NO.	—R—

CONTOUR	---
STORM SEWER & CAT. BAS.	—S—
WATER MAIN & VALVE-IN-WELL	—W—
WATER MAIN & VALVE-IN-BOX	—W—

UTILITY POLE & GUY	—U—
FIRE HYDRANT ASSEMBLY	—F—
LIGHT POLE	—L—
END SECTION	—E—

GAS LINE	—G—
CABLE T.V.	—TV—
ELECTRIC	—E—
SIGN	—S—

LEFT EDGE/RD. GRADE	—L—
RIGHT EDGE/RD. GRADE	—R—
CURB & GUTTER	—C—
EDGE/GRAVEL	—E—

STORM SEWER & CAT. BAS.	—S—
WATER MAIN W/F.H. ASSEM.	—W—
CONTOUR	---
ROAD & GRADE	—R—

SEE ABOVE	
BENCH MARK	—B—
SURVEY BOOK	—S—
REV. NO.	—R—

ORIGINAL ISSUE	10/12/22	INB	LCM
DATE	DR.BY	CH.BY	

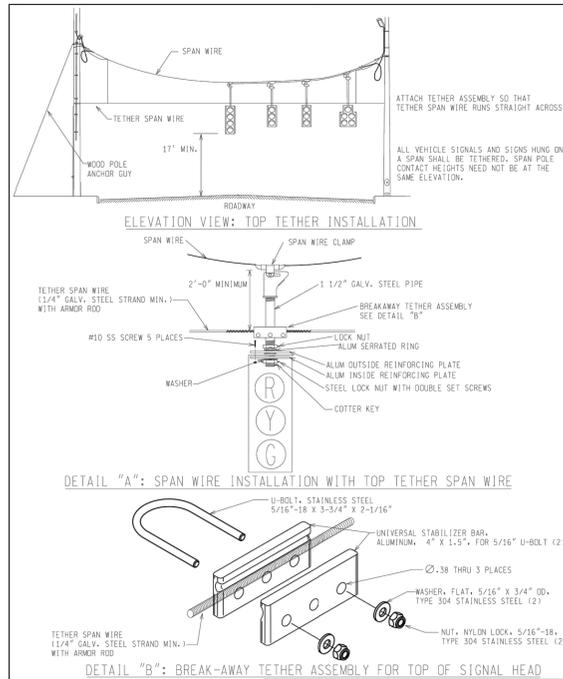
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SHEET NO.	142 OF 153



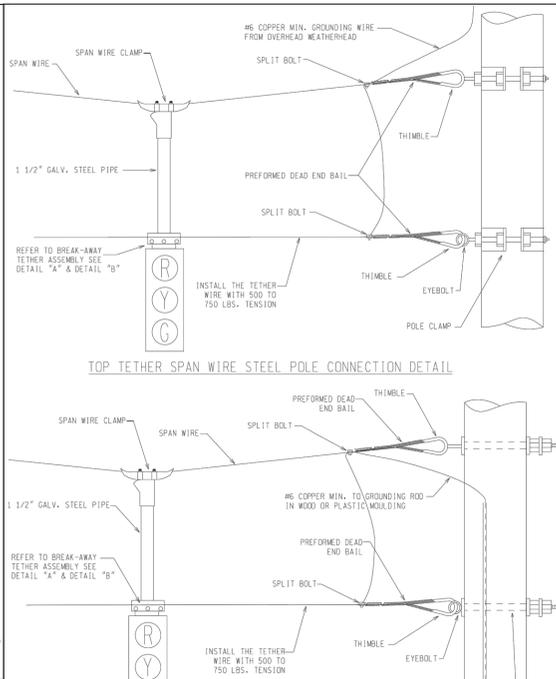
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

E. MEDICAL CENTER DRIVE
TRAFFIC SIGNAL SPECIAL DETAILS

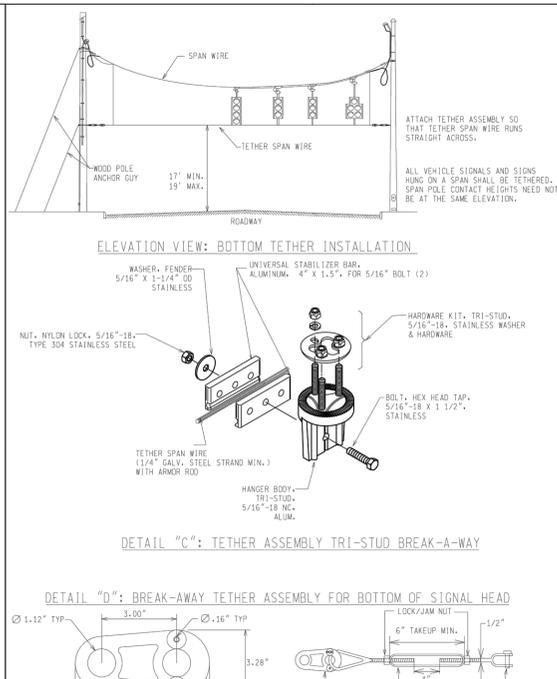
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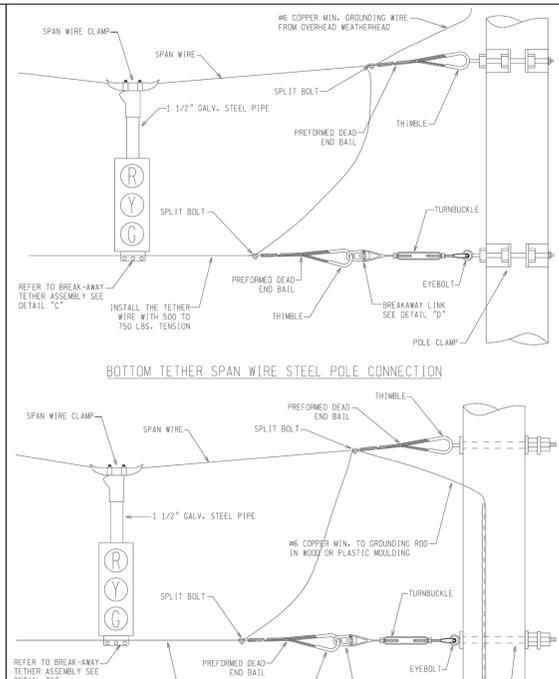
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ENGINEER OF DELIVERY	ENGINEER OF DEVELOPMENT	(SPECIAL DETAIL)	FWHA APPROVAL DATE	PLAN DATE	SIG-305-C	SHEET 1 of 5



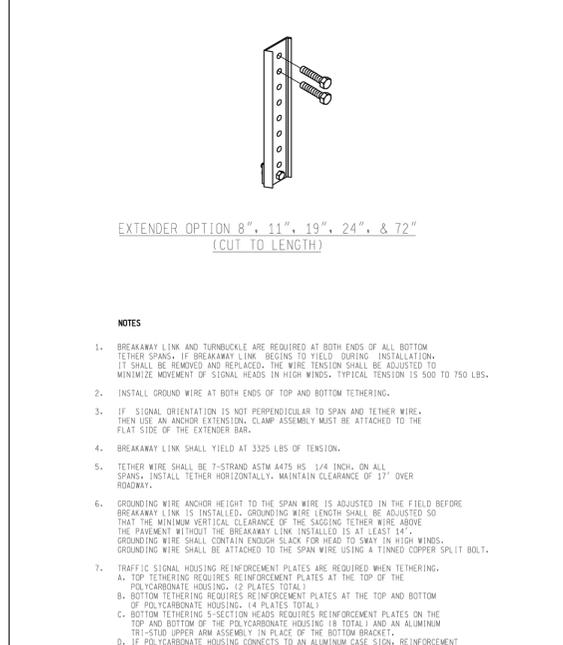
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ENGINEER OF DELIVERY	ENGINEER OF DEVELOPMENT	(SPECIAL DETAIL)	FWHA APPROVAL DATE	PLAN DATE	SIG-305-C	SHEET 2 of 5



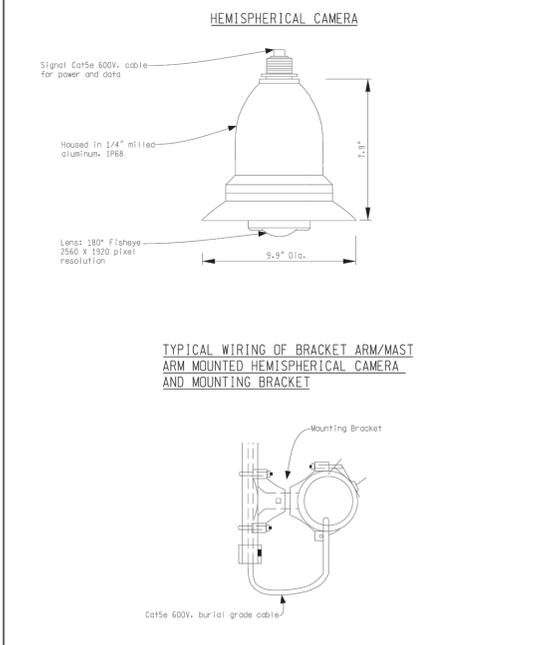
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ENGINEER OF DELIVERY	ENGINEER OF DEVELOPMENT	(SPECIAL DETAIL)	FWHA APPROVAL DATE	PLAN DATE	SIG-305-C	SHEET 3 of 5



NOT TO SCALE	F:\1141\Bul\02\TR\Sig\1a\Wb\Sp\Det\FIN\SIG305C.dgn	REV. 04/08/19	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR SPAN WIRE TETHER DETAILS	PLAN DATE	SIG-305-C	SHEET 4 of 5
ENGINEER OF DELIVERY	ENGINEER OF DEVELOPMENT	(SPECIAL DETAIL)	FWHA APPROVAL DATE	PLAN DATE	SIG-305-C	SHEET 4 of 5



NOT TO SCALE	F:\1141\Bul\02\TR\Sig\1a\Wb\Sp\Det\FIN\SIG431A.dgn	REV. 02/16/17	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR HEMISPHERICAL VIDEO DETECTION SYSTEM	PLAN DATE	SIG-431-A	SHEET 5 of 5
ENGINEER OF DELIVERY	ENGINEER OF DEVELOPMENT	(SPECIAL DETAIL)	FWHA APPROVAL DATE	PLAN DATE	SIG-431-A	SHEET 5 of 5



NOT TO SCALE	F:\1141\Bul\02\TR\Sig\1a\Wb\Sp\Det\FIN\SIG431A.dgn	REV. 02/16/17	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR HEMISPHERICAL VIDEO DETECTION SYSTEM	PLAN DATE	SIG-431-A	SHEET 2 of 2
ENGINEER OF DELIVERY	ENGINEER OF DEVELOPMENT	(SPECIAL DETAIL)	FWHA APPROVAL DATE	PLAN DATE	SIG-431-A	SHEET 2 of 2

LEGEND

EXISTING FENCE	---|---|---|---|	EXISTING SANITARY SEWER & MANHOLE	S	EXISTING TELEPHONE	t	EXISTING RD. & GRADE	---	PROPOSED SANITARY SEWER & MANHOLE	S	PROPOSED CURB & GUTTER	---
CONTOUR	847	UTILITY POLE & GUY	U/H	GAS LINE	g	LEFT EDGE/RD. GRADE	---	STORM SEWER & CAT. BAS.	W	SEE ABOVE	
STORM SEWER & CAT. BAS.	W	FIRE HYDRANT ASSEMBLY	F	CABLE T.V.	t	RIGHT EDGE/RD. GRADE	---	WATER MAIN W/F.H. ASSEM.	W	BENCH MARK	BM
WATER MAIN & VALVE-IN-WELL	W	LIGHT POLE	O	ELECTRIC	e	CURB & GUTTER	---	CONTOUR	847	SURVEY BOOK	SB
WATER MAIN & VALVE-IN-BOX	W	END SECTION	]	SIGN	β	EDGE/GRAVEL	---	ROAD & GRADE	---	REV. NO.	REV.

EXISTING FENCE	---|---|---|---|	EXISTING SANITARY SEWER & MANHOLE	S	EXISTING TELEPHONE	t	EXISTING RD. & GRADE	---	PROPOSED SANITARY SEWER & MANHOLE	S	PROPOSED CURB & GUTTER	---
CONTOUR	847	UTILITY POLE & GUY	U/H	GAS LINE	g	LEFT EDGE/RD. GRADE	---	STORM SEWER & CAT. BAS.	W	SEE ABOVE	
STORM SEWER & CAT. BAS.	W	FIRE HYDRANT ASSEMBLY	F	CABLE T.V.	t	RIGHT EDGE/RD. GRADE	---	WATER MAIN W/F.H. ASSEM.	W	BENCH MARK	BM
WATER MAIN & VALVE-IN-WELL	W	LIGHT POLE	O	ELECTRIC	e	CURB & GUTTER	---	CONTOUR	847	SURVEY BOOK	SB
WATER MAIN & VALVE-IN-BOX	W	END SECTION]	SIGN	β	EDGE/GRAVEL	---	ROAD & GRADE	---	REV. NO.	REV.

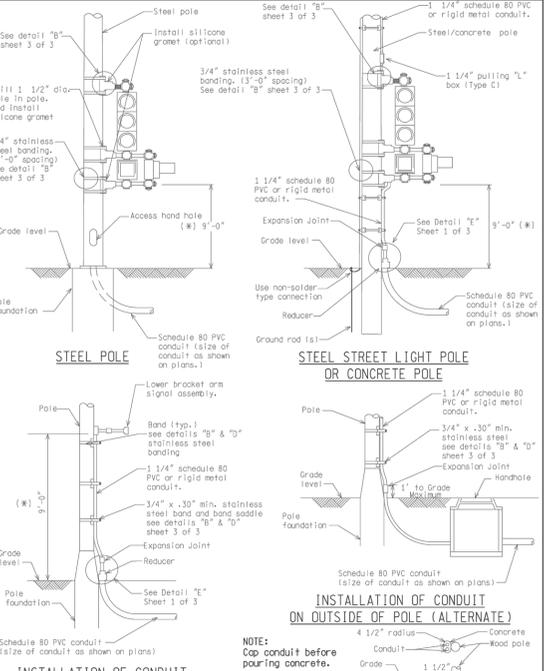
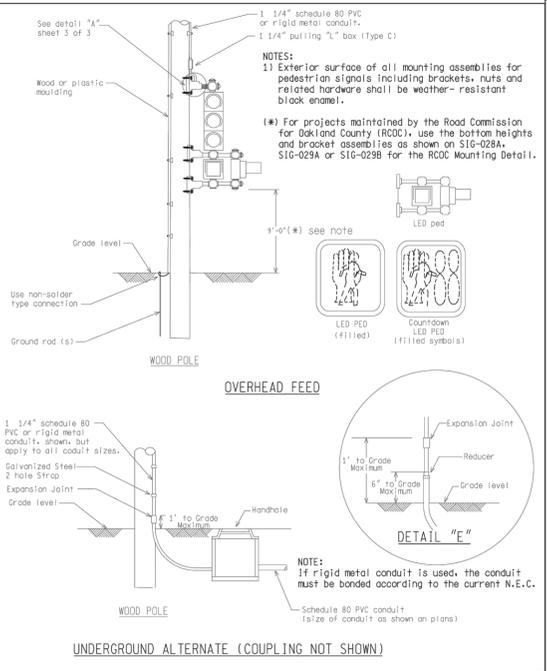
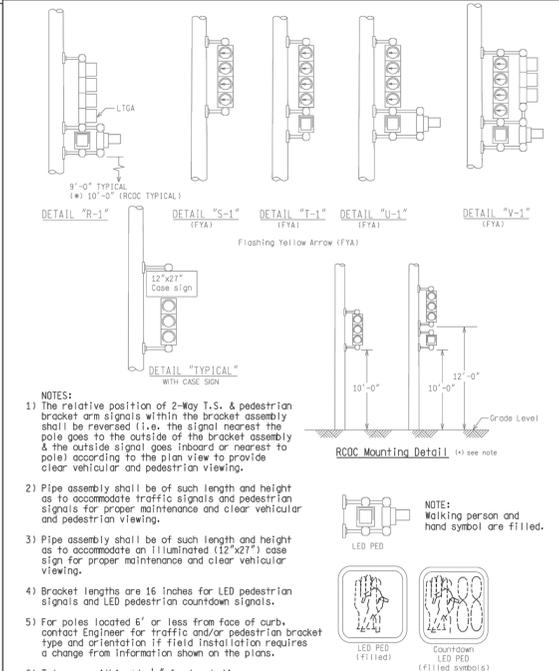
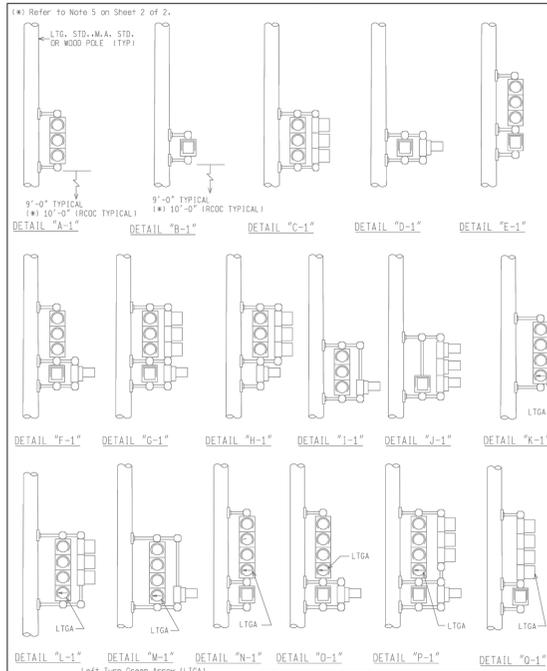
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CONTOUR	847	UTILITY POLE & GUY	U/H	GAS LINE	g	LEFT EDGE/RD. GRADE	---	STORM SEWER & CAT. BAS.	W	SEE ABOVE	
STORM SEWER & CAT. BAS.	W	FIRE HYDRANT ASSEMBLY	F	CABLE T.V.	t	RIGHT EDGE/RD. GRADE	---	WATER MAIN W/F.H. ASSEM.	W	BENCH MARK	BM
WATER MAIN & VALVE-IN-WELL	W	LIGHT POLE	O	ELECTRIC	e	CURB & GUTTER	---	CONTOUR	847	SURVEY BOOK	SB
WATER MAIN & VALVE-IN-BOX	W	END SECTION]	SIGN	β	EDGE/GRAVEL	---	ROAD & GRADE	---	REV. NO.	REV.

EXISTING FENCE	---|---|---|---|	EXISTING SANITARY SEWER & MANHOLE	S	EXISTING TELEPHONE	t	EXISTING RD. & GRADE	---	PROPOSED SANITARY SEWER & MANHOLE	S	PROPOSED CURB & GUTTER	---
CONTOUR	847	UTILITY POLE & GUY	U/H	GAS LINE	g	LEFT EDGE/RD. GRADE	---	STORM SEWER & CAT. BAS.	W	SEE ABOVE	
STORM SEWER & CAT. BAS.	W	FIRE HYDRANT ASSEMBLY	F	CABLE T.V.	t	RIGHT EDGE/RD. GRADE	---	WATER MAIN W/F.H. ASSEM.	W	BENCH MARK	BM
WATER MAIN & VALVE-IN-WELL	W	LIGHT POLE	O	ELECTRIC	e	CURB & GUTTER	---	CONTOUR	847	SURVEY BOOK	SB
WATER MAIN & VALVE-IN-BOX	W	END SECTION	]	SIGN	β	EDGE/GRAVEL	---	ROAD & GRADE	---	REV. NO.	REV.

EXISTING FENCE	---|---|---|---|	EXISTING SANITARY SEWER & MANHOLE	S	EXISTING TELEPHONE	t	EXISTING RD. & GRADE	---	PROPOSED SANITARY SEWER & MANHOLE	S	PROPOSED CURB & GUTTER	---
CONTOUR	847	UTILITY POLE & GUY	U/H	GAS LINE	g	LEFT EDGE/RD. GRADE	---	STORM SEWER & CAT. BAS.	W	SEE ABOVE	
STORM SEWER & CAT. BAS.	W	FIRE HYDRANT ASSEMBLY	F	CABLE T.V.	t	RIGHT EDGE/RD. GRADE	---	WATER MAIN W/F.H. ASSEM.	W	BENCH MARK	BM
WATER MAIN & VALVE-IN-WELL	W	LIGHT POLE	O	ELECTRIC	e	CURB & GUTTER	---	CONTOUR	847	SURVEY BOOK	SB
WATER MAIN & VALVE-IN-BOX	W	END SECTION	]	SIGN	β	EDGE/GRAVEL	---	ROAD & GRADE	---	REV. NO.	REV.

SCALE	NTS	INCH	0	1
DRAWING NO.	2021-008-SSD8			
SHEET NO.	144	OF	153	

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR					
E. MEDICAL CENTER DRIVE TRAFFIC SIGNAL SPECIAL DETAILS					
DATE	10/12/22	DR. BY	INB	CH. BY	LCM
APPROVED BY					

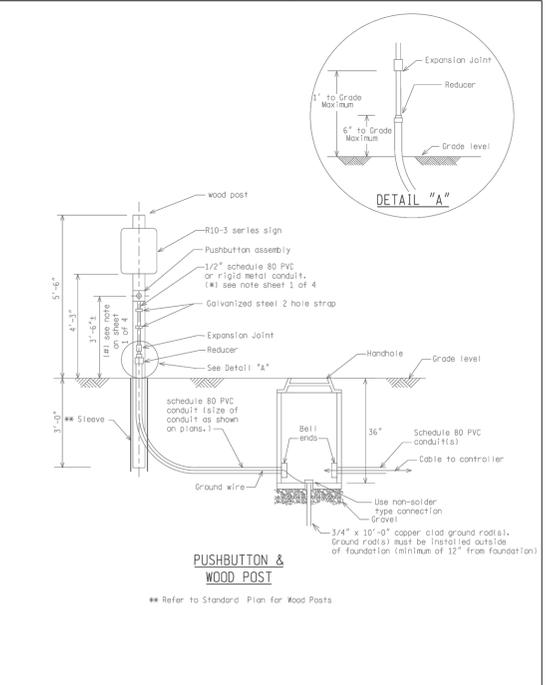
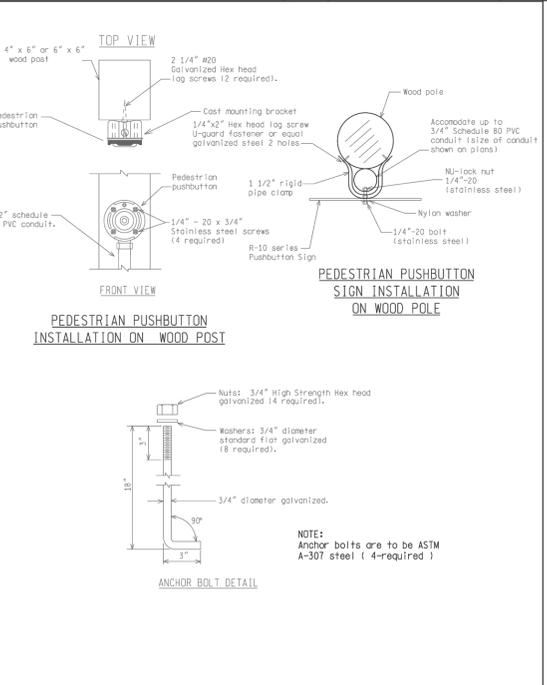
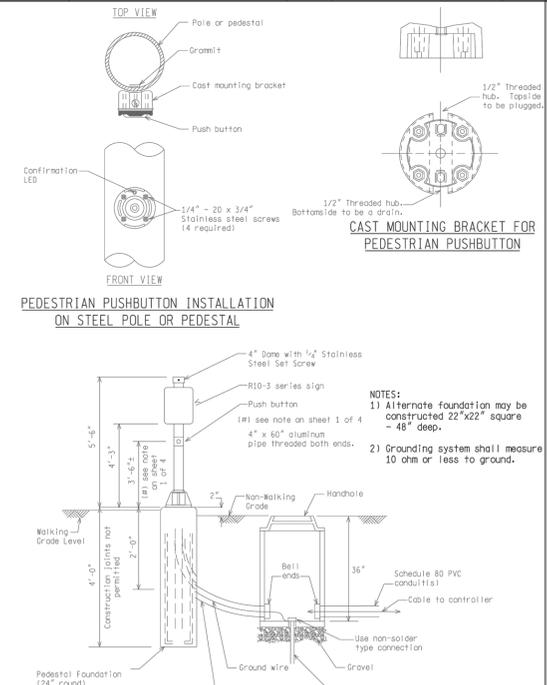
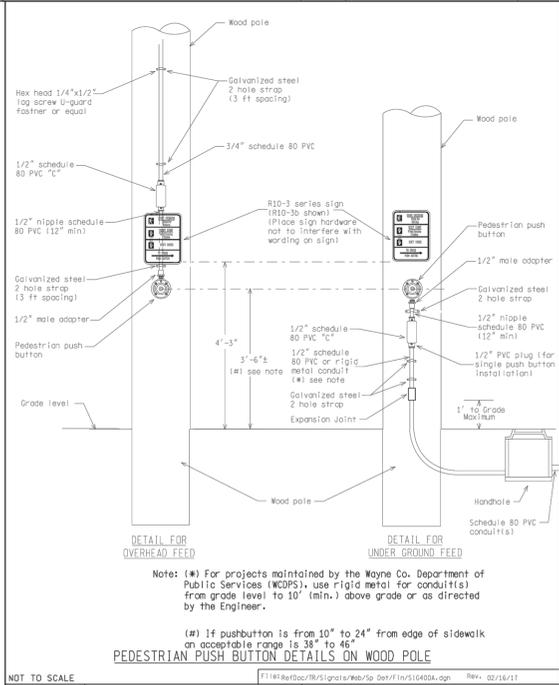
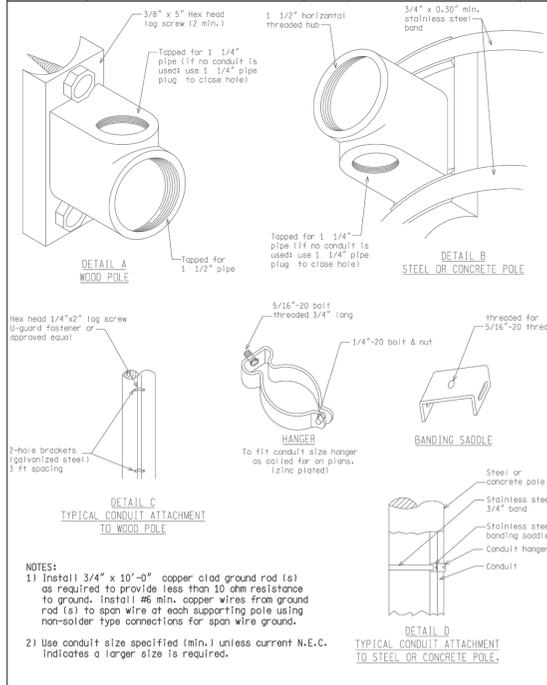


ENGINEER OF DELIVERY	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR	SIG-340-A	SHEET 1 OF 2
ENGINEER OF DEVELOPMENT	POLE MOUNTED SIGNAL DISPLAYS	PLAN DATE	
PREPARED BY	FILE: R:\Bor\TR\Sig\sp\Rev\Sp\Det\F\In\SIG340A.dgn	Rev. 02/16/17	
CHECKED BY:			

ENGINEER OF DELIVERY	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR	SIG-340-A	SHEET 2 OF 2
ENGINEER OF DEVELOPMENT	POLE MOUNTED SIGNAL DISPLAYS	PLAN DATE	
PREPARED BY	FILE: R:\Bor\TR\Sig\sp\Rev\Sp\Det\F\In\SIG340A.dgn	Rev. 02/16/17	
CHECKED BY:			

ENGINEER OF DELIVERY	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR	SIG-341-A	SHEET 1 OF 3
ENGINEER OF DEVELOPMENT	POLE MOUNTING DETAILS FOR SIGNALS	PLAN DATE	
PREPARED BY	FILE: R:\Bor\TR\Sig\sp\Rev\Sp\Det\F\In\SIG341A.dgn	Rev. 02/16/17	
CHECKED BY:			

ENGINEER OF DELIVERY	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR	SIG-341-A	SHEET 2 OF 3
ENGINEER OF DEVELOPMENT	POLE MOUNTING DETAILS FOR SIGNALS	PLAN DATE	
PREPARED BY	FILE: R:\Bor\TR\Sig\sp\Rev\Sp\Det\F\In\SIG341A.dgn	Rev. 02/16/17	
CHECKED BY:			



ENGINEER OF DELIVERY	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR	SIG-341-A	SHEET 3 OF 3
ENGINEER OF DEVELOPMENT	PEDESTRIAN PUSH BUTTON DETAILS	PLAN DATE	
PREPARED BY	FILE: R:\Bor\TR\Sig\sp\Rev\Sp\Det\F\In\SIG341A.dgn	Rev. 02/16/17	
CHECKED BY:			

ENGINEER OF DELIVERY	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR	SIG-400-A	SHEET 1 OF 4
ENGINEER OF DEVELOPMENT	PEDESTRIAN PUSH BUTTON DETAILS	PLAN DATE	
PREPARED BY	FILE: R:\Bor\TR\Sig\sp\Rev\Sp\Det\F\In\SIG400A.dgn	Rev. 02/16/17	
CHECKED BY:			

ENGINEER OF DELIVERY	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR	SIG-400-A	SHEET 2 OF 4
ENGINEER OF DEVELOPMENT	PEDESTRIAN PUSH BUTTON DETAILS	PLAN DATE	
PREPARED BY	FILE: R:\Bor\TR\Sig\sp\Rev\Sp\Det\F\In\SIG400A.dgn	Rev. 02/16/17	
CHECKED BY:			

ENGINEER OF DELIVERY	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR	SIG-400-A	SHEET 3 OF 4
ENGINEER OF DEVELOPMENT	PEDESTRIAN PUSH BUTTON DETAILS	PLAN DATE	
PREPARED BY	FILE: R:\Bor\TR\Sig\sp\Rev\Sp\Det\F\In\SIG400A.dgn	Rev. 02/16/17	
CHECKED BY:			

ENGINEER OF DELIVERY	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR	SIG-400-A	SHEET 4 OF 4
ENGINEER OF DEVELOPMENT	PEDESTRIAN PUSH BUTTON DETAILS	PLAN DATE	
PREPARED BY	FILE: R:\Bor\TR\Sig\sp\Rev\Sp\Det\F\In\SIG400A.dgn	Rev. 02/16/17	
CHECKED BY:			

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
CONTOUR	UTILITY POLE & GUY	GAS LINE	LEFT EDGE/RD. GRADE	STORM SEWER & CAT. BAS.	SEE ABOVE
STORM SEWER & CAT. BAS.	FIRE HYDRANT ASSEMBLY	CABLE T.V.	RIGHT EDGE/RD. GRADE	WATER MAIN W/F.H. ASSEM.	BENCH MARK
WATER MAIN & VALVE-IN-WELL	LIGHT POLE	ELECTRIC	CURB & GUTTER	CONTOUR	SURVEY BOOK
WATER MAIN & VALVE-IN-BOX	END SECTION	SIGN	EDGE/GRAVEL	ROAD & GRADE	REV. NO.

DLZ

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

E. MEDICAL CENTER DRIVE TRAFFIC SIGNAL SPECIAL DETAILS

SCALE: 0 INCH 1

DRAWING NO. 2021-008-SSD9

SHEET NO. 145 OF 153

APPROVED BY: _____

DATE: 10/12/22

DR. BY: INB

CH. BY: LCM

REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10/12/22	INB	LCM

TRAFFIC SIGNAL TIMING PERMIT

APPROACH	PHASE	1	2	3	4	5	6	7	8	TIMING INSTALLED	
		EBWB		NB					NB		
MINIMUM GREEN		15		8					8	REMARKS This timing plan is for EMCD bridge construction Stage 1.	
PASSAGE		0.0		3.0					3.0		
MAXIMUM NO. 1		99		41					41		
MAXIMUM NO. 2		0		0					0		
YELLOW CHANGE		3.1		3.1					3.0		
RED CLEARANCE		2.5		2.5					3.8		
WALK		8		8							
PEDESTRIAN CLEARANCE		16		12							
EXTENDED PED. CLEARANCE		3		3							
REST IN WALK		1		0							
INITIALIZATION		4		1					1		
NON-ACT RESPONSE		0		0					0		
VEHICLE RECALL		3		0					0		
PEDESTRIAN RECALL		0		0					0		
NON-LOCK MEMORY		0		0					0		
DUAL ENTRY		0		1					1		
DIAL 1	SPLIT 1	90	55	35					35 65		
DIAL 2	SPLIT 1	120	87	33					33 79		
DIAL 3	SPLIT 1	140	99	41					41 13		
DIAL	SPLIT										
DIAL	SPLIT										
DIAL	SPLIT										
PHASE	Hours of Operation:										
1	D1/S1/O1: Normal										
2	D2/S1/O1: 07:00 to 09:00 Monday-Friday										
3	D3/S1/O1: 14:00 to 17:00 Monday-Friday										
4	Cancer Center	NB									
5	OVERLAPS										
6	Overlap Phase	Lead	Phases	T.O. (s)	Y (s)	R (s)	-G/Y	+GRN			
7											
8	WMCD	NB									

PREPARED BY: DLZ DATE: 09/09/22

FLASH HOURS: _____ to _____ DAILY NONE

NIGHT FLASH: _____

FY = _____ FR = _____

CONFLICT FLASH: _____

FY = _____ FR = All Directions

CONTROLLER TYPE: EPAC PRE-EMPT

Other: _____ COUNTDOWN PEDS:

LOCATION: EMCD & WMCD & Cancer Center

CITY/TWP: Ann Arbor

COUNTY: Washtenaw

MILE POINT: _____ CONTROL SECTION-SPOT #: 139

Job # (If Applicable): _____

ADVANCED TIMING PARAMETERS FORM

SYSTEM INFORMATION	LEFT-TURN PHASING				RING AND BARRIER STRUCTURE										
	Phase # / Description	Permissive-Protected	Protected-Only		B1	B2	B3	B4							
Controller Type: <input checked="" type="checkbox"/> EPAC <input type="checkbox"/> Other: _____	Lead	Lag	Split	Lead	Lag	R1	2	B							
System Type: <input type="checkbox"/> Closed Loop <input type="checkbox"/> Stand By <input type="checkbox"/> Group 1 <input type="checkbox"/> Group 2 <input checked="" type="checkbox"/> TBC <input type="checkbox"/> TBC/GPS <input type="checkbox"/> None <input type="checkbox"/> Other: _____															
Vehicle Detection: <input checked="" type="checkbox"/> Stand By <input type="checkbox"/> Group 1 <input type="checkbox"/> Group 2 <input checked="" type="checkbox"/> TBC <input type="checkbox"/> TBC/GPS <input type="checkbox"/> None <input type="checkbox"/> Other: _____	Vehicular Detection Approach: NB (WMCD) NB (Cancer Center)				Pedestrian Detection Push-Button Crossing Locations: S Leg of WMCD W & E Legs of EMCD S Leg of Cancer Center										
	Movements and Call Delay (s) Left Thru Right Loop Video Other				Disappearing Legend Case Signs										
ADDITIONAL DIAL SPLIT DATA															
DIAL	SPLIT	CYCLE	PHASE	1	2	3	4	5	6	7	8	O1	O2	O3	COORDINATION DATA
DIAL	SPLIT	CYCLE													Operation Mode
DIAL	SPLIT	CYCLE													Coordination Mode
DIAL	SPLIT	CYCLE													Maximum Mode
DIAL	SPLIT	CYCLE													Correction Mode
DIAL	SPLIT	CYCLE													Offset Mode
DIAL	SPLIT	CYCLE													Force Mode
DIAL	SPLIT	CYCLE													Max Dwell
DIAL	SPLIT	CYCLE													Yield Period
ADDITIONAL OVERLAP DATA															
Overlap Phase: _____															
Load Phases: _____															
Bays Overlapped: _____															
T.O. (s) Y (s) R (s) -G/Y +GRN															
PREPARED BY: DLZ DATE: 09/09/22															
LOCATION: EMCD & WMCD & Cancer Center															
CONTROL SECTION-SPOT #: 139															

REMARKS:

PREPARED BY: DLZ DATE: 09/09/22

LOCATION: EMCD & WMCD & Cancer Center

CONTROL SECTION-SPOT #: 139

CLEAR PAGE 2

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
- CONTOUR	- UTILITY POLE & GUY	- GAS LINE	- LEFT EDGE/RD. GRADE	- STORM SEWER & CAT. BAS.	- SEE ABOVE
- STORM SEWER & CAT. BAS.	- FIRE HYDRANT ASSEMBLY	- CABLE T.V.	- RIGHT EDGE/RD. GRADE	- WATER MAIN W/F.H. ASSEM.	- BENCH MARK
- WATER MAIN & VALVE-IN-WELL	- LIGHT POLE	- ELECTRIC	- CURB & GUTTER	- CONTOUR	- SURVEY BOOK
- WATER MAIN & VALVE-IN-BOX	- END SECTION	- SIGN	- EDGE/GRAVEL	- ROAD & GRADE	- REV. NO.

DLZ				
REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
	ORIGINAL ISSUE	10/12/22	INB	LCM

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR			
E. MEDICAL CENTER DRIVE TRAFFIC SIGNAL TIMING PERMITS			
SCALE NTS	0	INCH	1
DRAWING NO. 2021-08-TSTP1			
SHEET NO. 146 OF 153			

TRAFFIC SIGNAL TIMING PERMIT

APPROACH	PHASE	1	2	3	4	5	6	7	8	TIMING INSTALLED
		SB-Left	SB	NB	WB					
MINIMUM GREEN		5	7	7	10					
PASSAGE		4.0	4.0	4.0	4.0					
MAXIMUM NO. 1		24	40	30	45					
MAXIMUM NO. 2		23	23	46	45					
YELLOW CHANGE		3.1	3.1	3.1	3.1					
RED CLEARANCE		3.7	3.7	3.7	2.7					
WALK				7	7					
PEDESTRIAN CLEARANCE				20	17					
EXTENDED PED. CLEARANCE				3	3					
REST IN WALK				1	0					
INITIALIZATION		1	4	4	1					
NON-ACT RESPONSE		0	0	0	0					
VEHICLE RECALL		0	0	0	0					
PEDESTRIAN RECALL		0	0	2	2					
NON-LOCK MEMORY		1	0	0	0					
DUAL ENTRY		0	1	1	0					
DIAL 1	SPLIT 1	80	15	46	31	34				O1 O2 O3
DIAL 2	SPLIT 1	80	24	52	28	28				0
DIAL 3	SPLIT 1	90	15	46	31	44				82
DIAL 3	SPLIT 2	90	15	46	31	44				0
DIAL	SPLIT									
DIAL	SPLIT									
	MODE	0	1	1	0					

REMARKS: This timing plan is for EMCD bridge construction Stages 1, 2, and 3. Anything outside of the weekday peak hours, maintain existing timings. Phase 4 Leading Pedestrian Interval = 5 sec.

PREPARED BY: DLZ DATE: 09/09/22

FLASH HOURS: 20:00 to 05:45 DAILY NONE
20:00 to 06:30 Saturday & Sunday

NIGHT FLASH: FY = FR = All directions

CONFLICT FLASH: FY = FR = All directions

CONTROLLER TYPE: PRE-EMPT
 EPAC COUNTDOWN PEDS
 Other:

LOCATION: EMCD at Observatory
CITY/TWP: Ann Arbor
COUNTY: Washtenaw
MILE POINT: CONTROL SECTION-SPOT # 23
Job # (If Applicable):

ADVANCED TIMING PARAMETERS FORM

SYSTEM INFORMATION	LEFT-TURN PHASING				RING AND BARRIER STRUCTURE				
	Phase # / Description	Permissive-Protected	Protected-Only	Protected-Only	R1	B1	B2	B3	B4
Phase 1/SB Observatory LT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

System Type:	VEHICULAR AND PEDESTRIAN DETECTION				DISAPPEARING LEGEND CASE SIGNS			
	Approach	Movements and Call Delay (s)	Type	Other	Push-Button Crossing Locations			
<input type="checkbox"/> Closed Loop	SB Observatory	Left Thru Right	Loop Video Other					
<input type="checkbox"/> Stand By	NB Observatory							
<input type="checkbox"/> Group 1	WB EMCD							
<input type="checkbox"/> Group 2								

DIAL	SPLIT	CYCLE	ADDITIONAL DIAL SPLIT DATA							COORDINATION DATA						
			PHASE	1	2	3	4	5	6	7	8	O1	O2	O3		
															Operation Mode	1
															Coordination Mode	0
															Maximum Mode	0
															Correction Mode	3
															Offset Mode	0
															Force Mode	0
															Max Dwell	0
															Yield Period	0

REMARKS:

Overlap Phase	Load Bays	Phases Overlapped	T.G. (s)	Y (s)	R (s)	-G/Y	+GRN
=							
=							
=							
=							

PREPARED BY: DLZ DATE: 09/09/22 LOCATION: EMCD at Observatory
CONTROL SECTION-SPOT # 23

Primary Spot # 1: MDOT County City Consultant

CLEAR PAGE 2

LEGEND

EXISTING FENCE	---//---//---	EXISTING SANITARY SEWER & MANHOLE	S ---	EXISTING TELEPHONE	t ---	EXISTING RD. & GRADE	---	PROPOSED SANITARY SEWER & MANHOLE	S ---	PROPOSED CURB & GUTTER	---
CONTOUR	---847---	UTILITY POLE & GUY	---o---	GAS LINE	g ---	LEFT EDGE/RD. GRADE	---	STORM SEWER & CAT. BAS.	---	SEE ABOVE	
STORM SEWER & CAT. BAS.	---R---	FIRE HYDRANT ASSEMBLY	---v---	CABLE T.V.	t v ---	RIGHT EDGE/RD. GRADE	---	WATER MAIN W/F.H. ASSEM.	---	BENCH MARK	
WATER MAIN & VALVE-IN-WELL	---W---	LIGHT POLE	---o---	ELECTRIC	e ---	CURB & GUTTER	---	CONTOUR	---847---	SURVEY BOOK	
WATER MAIN & VALVE-IN-BOX	---W---	END SECTION	---)---	SIGN	β ---	EDGE/GRAVEL	---	ROAD & GRADE	---	REV. NO.	

DLZ

SEE ABOVE				
BENCH MARK	SURVEY BOOK	ORIGINAL ISSUE	10/12/22	INB
REV. NO.	DESCRIPTION	DATE	DR.BY	CH.BY

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

E. MEDICAL CENTER DRIVE TRAFFIC SIGNAL TIMING PERMITS

SCALE NTS 0 1 INCH

DRAWING NO. 2021-08-TSTP3

SHEET NO. 148 OF 153

APPROVED BY: _____

TRAFFIC SIGNAL TIMING PERMIT

TRAFFIC SIGNAL TIMING PERMIT form containing tables for PHASE, CYCLE, and OVERLAPS, along with timing parameters and remarks.

ADVANCED TIMING PARAMETERS FORM

ADVANCED TIMING PARAMETERS FORM with sections for SYSTEM INFORMATION, LEFT-TURN PHASING, RING AND BARRIER STRUCTURE, and COORDINATION DATA.

CLEAR PAGE 2

PREEMPTION INFORMATION FORM

PREEMPTION INFORMATION FORM with multiple sections for Preempt Description, Preempt System Data, and Remarks.

CLEAR PAGE 3 Page 3 of 3

LEGEND

Legend table listing symbols for existing and proposed features such as fences, utility poles, telephones, and road grades.



PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

E. MEDICAL CENTER DRIVE TRAFFIC SIGNAL TIMING PERMITS

Table with drawing information including SCALE (0 INCH), DRAWING NO. (2021-08-TSTP4), and SHEET NO. (149 OF 153).

Table with project details including BENCH MARK, SURVEY BOOK, REV. NO., DESCRIPTION, DATE (10/12/22), DR. BY (INB), and CH. BY (LCM).

APPROVED BY

TRAFFIC SIGNAL TIMING PERMIT

APPROACH	PHASE	1	2	3	4	5	6	7	8	TIMING INSTALLED
		EB-Left	WB-Thru		NB-Thru	WB-Left	EB-Thru		SB-Thru	
MINIMUM GREEN		5	10		5	5	10		7	REMARKS This timing plan is for EMCD bridge construction Stage 3.
PASSAGE		2.0	0.0		3.0	2.0	0.0		3.0	
MAXIMUM NO. 1		25	45		70	25	45		70	
MAXIMUM NO. 2										
YELLOW CHANGE		3.6	3.6		3.1	3.6	3.6		3.1	
RED CLEARANCE		2.5	2.5		3.3	2.5	2.5		3.3	
WALK			8		7		9		10	
PEDESTRIAN CLEARANCE			17		19		17		14	
EXTENDED PED. CLEARANCE			3		3		3		3	
REST IN WALK			0		0		0		0	
INITIALIZATION		1	4		4	1	4		4	
NON-ACT RESPONSE		0	0		0	0	0		0	
VEHICLE RECALL		2	3		0	2	3		0	
PEDESTRIAN RECALL		0	0		0	0	0		0	
NON-LOCK MEMORY		0	0		0	0	0		0	
DUAL ENTRY		0	1		1	0	1		1	

DIAL	SPLIT	1	2	3	4	5	6	7	8	O1	O2	O3	OPERATION MODE
DIAL 1	SPLIT 1	90	12	35		43	12	35		43	0	0	0
DIAL 2	SPLIT 1	120	22	41		57	23	40		57	0	0	0
DIAL 3	SPLIT 1	140	25	45		70	25	45		70	0	0	0
DIAL	SPLIT												
DIAL	SPLIT												
DIAL	SPLIT												

PHASE	Hours of Operation
1 Fuller EB-Left	D1/S1/O1: Normal D2/S1/O1: 07:00 to 09:00 Monday-Friday D3/S1/O1: 14:00 to 17:00 Monday-Friday
2 Fuller WB-Thru	
3 Maiden SB-Left	
4 EMCD NB-Thru	
5 Fuller WB-Left	
6 Fuller EB-Thru	
7 EMCD NB-Left	
8 Maiden SB-Thru	

OVERLAP	Load	Phases	T.G. (s)	Y (s)	R (s)	-Q/Y	+GRN
Overlap Phase							
=							
=							
=							
=							
=							
=							

PREPARED BY: DLZ	DATE: 09/09/22
FLASH HOURS:	DAILY <input type="checkbox"/> NONE <input checked="" type="checkbox"/>
NIGHT FLASH:	FY = FR =
CONFLICT FLASH:	FY = FR = All Directions
CONTROLLER TYPE:	PRE-EMPT <input type="checkbox"/>
	COUNTDOWN PEDS <input checked="" type="checkbox"/>
LOCATION:	Fuller & Maiden/EMCD
CITY/TWP:	Ann Arbor
COUNTY:	Washtenaw
MILE POINT	CONTROL SECTION-SPOT #
	126
Job # (if Applicable):	

ADVANCED TIMING PARAMETERS FORM

SYSTEM INFORMATION	LEFT-TURN PHASING						RING AND BARRIER STRUCTURE							
	Phase # / Description		Permissive-Protected		Protected-Only		B1		B2		B3		B4	
Controller Type: <input checked="" type="checkbox"/> EPAC <input type="checkbox"/> Other:	Lead	Lag	Split	Lead	Lag	R1	R2	R3	R4	R5	R6	R7	R8	
System Type: <input type="checkbox"/> Closed Loop <input type="checkbox"/> Stand By <input type="checkbox"/> Group 1 <input type="checkbox"/> Group 2 <input checked="" type="checkbox"/> TBC <input type="checkbox"/> TBC/GPS <input type="checkbox"/> None <input type="checkbox"/> Other:	Vehicular Detection Approach: NB, SB, WB, EB Movements and Call Delay (s): Left, Thru, Right, Loop, Video, Other Type: <input type="checkbox"/> All legs						Pedestrian Detection Push-Button Crossing Locations							
Address: <input checked="" type="checkbox"/> TBC <input type="checkbox"/> None <input type="checkbox"/> Other:	Additional Dial Split Data PHASE 1 2 3 4 5 6 7 8 O1 O2 O3						Coordination Data Operation Mode: 1 Coordination Mode: 0 Maximum Mode: 0 Correction Mode: 3 Offset Mode: 0 Force Mode: 0 Max Dwell: 0 Yield Period: 0							
Interconnect Type: <input type="checkbox"/> Hardwire <input type="checkbox"/> Fiber-Optic <input type="checkbox"/> Radio <input type="checkbox"/> Cell Modem <input checked="" type="checkbox"/> None <input type="checkbox"/> Other:	Additional Overlap Data Overlap Phase: = Load Bays: = Phases Overlapped: = T.G. (s): = Y (s): = R (s): = -Q/Y: = +GRN: =						PREPARED BY: DLZ DATE: 09/09/22 LOCATION: Fuller & Maiden/EMCD CONTROL SECTION-SPOT # 126							
If Cell Modem: Phone #: Controller Status: <input type="checkbox"/> Primary <input type="checkbox"/> Secondary <input type="checkbox"/> Isolated <input checked="" type="checkbox"/> TBC If Secondary: Primary Location: Primary Spot # 1	REMARKS:													

CLEAR PAGE 2

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
- CONTOUR	- UTILITY POLE & GUY	- GAS LINE	- LEFT EDGE/RD. GRADE	- STORM SEWER & CAT. BAS.	- SEE ABOVE
- STORM SEWER & CAT. BAS.	- FIRE HYDRANT ASSEMBLY	- CABLE T.V.	- RIGHT EDGE/RD. GRADE	- WATER MAIN W/F.H. ASSEM.	- BENCH MARK
- WATER MAIN & VALVE-IN-WELL	- LIGHT POLE	- ELECTRIC	- CURB & GUTTER	- CONTOUR	- SURVEY BOOK
- WATER MAIN & VALVE-IN-BOX	- END SECTION	- SIGN	- EDGE/GRAVEL	- ROAD & GRADE	- REV. NO.



PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

E. MEDICAL CENTER DRIVE TRAFFIC SIGNAL TIMING PERMITS

SCALE NTS 0 INCH 1

DRAWING NO. 2021-08-TSTP8

SHEET NO. 153 OF 153

REV. NO.	DESCRIPTION	DATE	DR.BY	CH.BY
	ORIGINAL ISSUE	10/12/22	INB	LCM

APPROVED BY