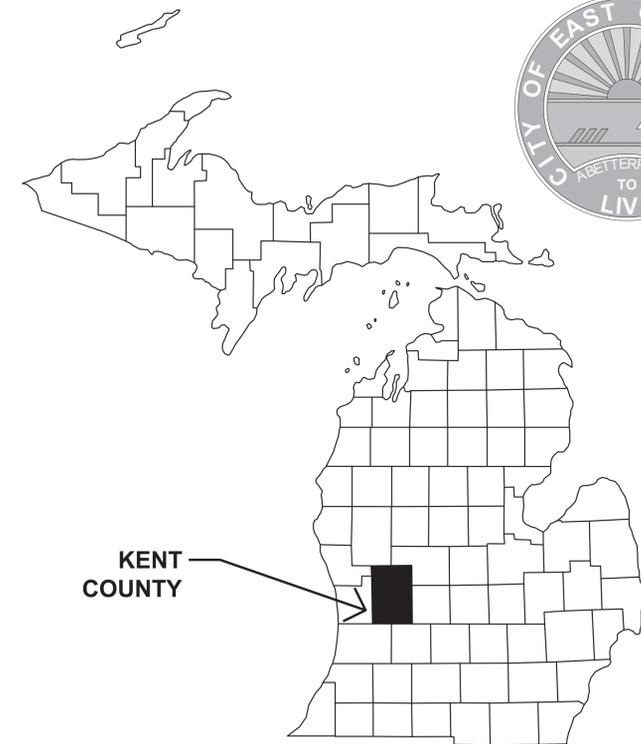


PLAN INDEX

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES
3	TYPICAL CROSS SECTIONS
4-6	REMOVALS
7-9	IMPROVEMENTS
10-11	PAVEMENT MARKINGS AND PERMANENT SIGNS
12	MAINTAINING TRAFFIC

CITY OF EAST GRAND RAPIDS
 KENT COUNTY, MICHIGAN
 IN COOPERATION WITH
FEDERAL HIGHWAY ADMINISTRATION
 AND
MICHIGAN DEPARTMENT OF TRANSPORTATION
 RESURFACING
 OF
PLYMOUTH ROAD
 FROM HALL ST. TO MARTIN LUTHER KING JR ST.
 -2025-
CONTROL SECTION NO. 41000 JOB NO. 215846



CONTROL SECTION NO.
41000
JOB NO. 215846

UTILITY COMPANIES

CONSUMERS ENERGY (ELECTRIC)
PO BOX 201
GRAND RAPIDS, MI 49501-0201
JIM MIXTER
(616) 530-4115 (AERIAL DIST)
(616) 530-4381 (METRO UG)
(800) 477-5050 (CUT LINE)

AT&T (TELEPHONE)
ROOM 5 (PROJECTS N. OF M.L.K. JR ST.)
2ND FLOOR (PROJECTS S. OF M.L.K. JR ST.)
955 36TH ST. SE
GRAND RAPIDS, MI 49508
DOUG RUSS
(616) 246-7203 (PROJECTS N. OF M.L.K. JR ST.)
(616) 246-7210 (PROJECTS S. OF M.L.K. JR ST.)

DTE ENERGY (NATURAL GAS)
444 WEALTHY ST. SW
GRAND RAPIDS, MI 49503
JEFF MARCKINI
(800) 947-4747

VERIZON BUSINESS (FIBER OPTICS)
2855 OAK INDUSTRIAL DR. NE
GRAND RAPIDS, MI 49505
CHRIS LENTINE
(616) 265-8553

EVERSTREAM
3950 SPARKS DR. NE
GRAND RAPIDS, MI 49505
BOB SWIFT
(616) 699-3161

CITY OF GRAND RAPIDS TRAFFIC SIGNALS
509 WEALTHY ST. SW
GRAND RAPIDS, MI 49503
KRIS SILLS
(616) 456-3000

CITY OF GRAND RAPIDS WATER SYSTEM
1900 OAK INDUSTRIAL DR. NE
GRAND RAPIDS, MI 49505
KRIS SILLS
(616) 456-3141
(616) 456-3000 (AFTER HOURS)

CITY OF GRAND RAPIDS SEWER MAINTENANCE
1900 OAK INDUSTRIAL DR. NE
GRAND RAPIDS, MI 49505
KRIS SILLS
(616) 456-3141
(616) 456-3000 (AFTER HOURS)

CITY OF EAST GRAND RAPIDS PUBLIC WORKS DEPARTMENT
750 LAKESIDE DR. SE
GRAND RAPIDS, MI 49506
BRIAN BIGOROWSKI
(616) 940-4817

TRAFFIC DATA

STREET	CURRENT ADT (2025)	FUTURE ADT (2045)
WEALTHY ST	7,400	13,350

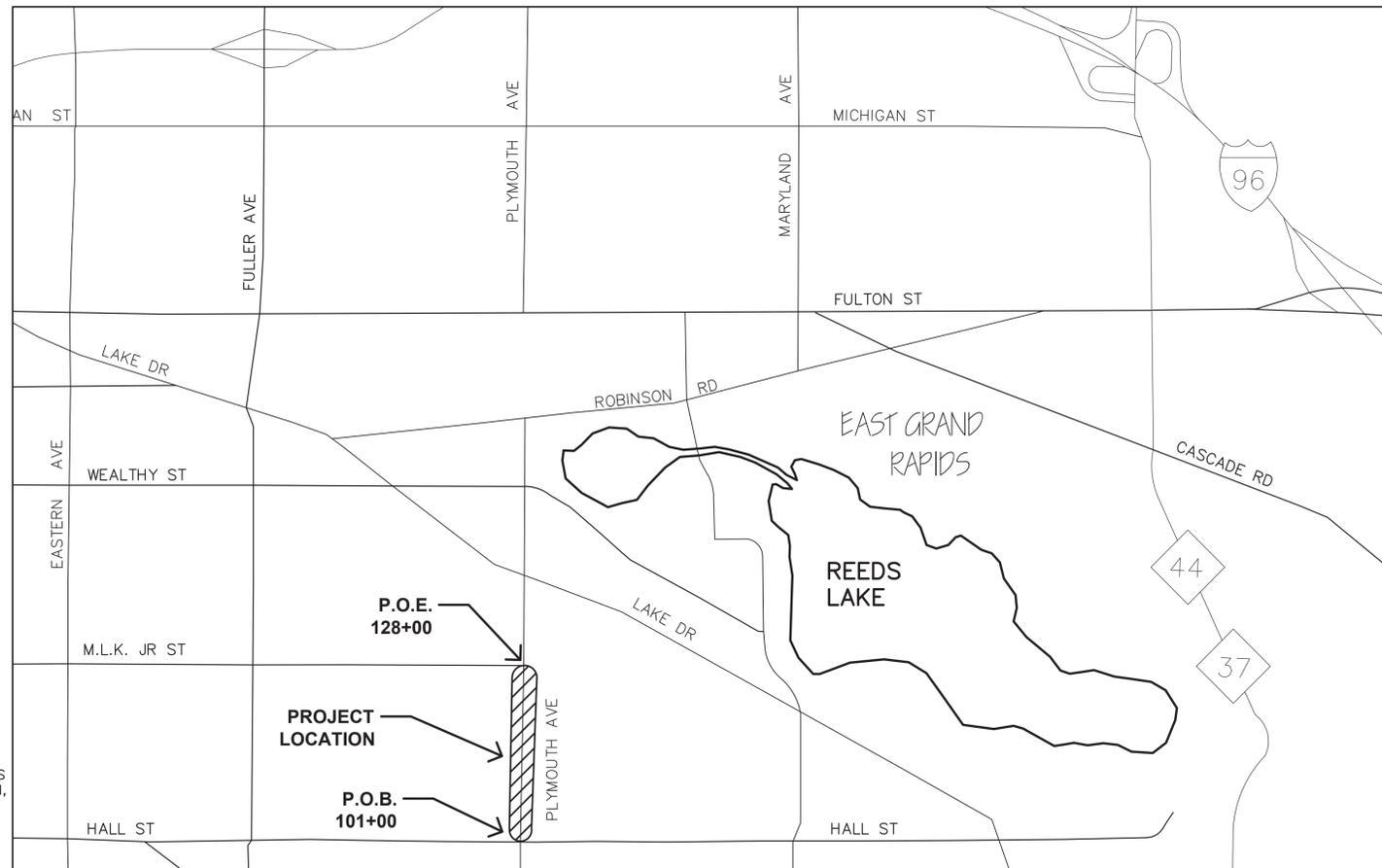
COMM % (2025)	7%
COMM % (2045)	7%

STREET

DESIGN SPEED = 25 MPH
POSTED SPEED = 25 MPH

THE PROPOSED IMPROVEMENTS COVERED BY THESE PLANS ARE IN ACCORDANCE WITH THE FOLLOWING: MICHIGAN DEPARTMENT OF TRANSPORTATION LOCAL AGENCY PROGRAMS GUIDELINES FOR GEOMETRICS ON LOCAL AGENCY PROJECTS, RESURFACING, RESTORATION, AND REHABILITATION (3R): 2017 EDITION

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND WITH THE 2011 MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AS AMENDED BY SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.



PROJECT DESCRIPTION:
0.50 MILES OF ROADWAY IMPROVEMENTS INCLUDING ADA RAMP UPGRADES, CONCRETE CURB AND GUTTER, HMA SURFACE REMOVAL, HMA RESURFACING, PAVEMENT MARKINGS AND PERMANENT SIGNAGE.

RESURFACING
FOR
PLYMOUTH ROAD
 FROM HALL ST. TO MARTIN LUTHER KING JR ST.

SURVEYED & DESIGNED BY:



CITY OF EAST GRAND RAPIDS

Douglas Lave
DOUG LAFAVE, DEPUTY CITY MANAGER

DATE
PREPARED UNDER SUPERVISION OF

RYAN ARENDS, P.E.
ENGINEER, P.E.

6201056998
REGISTRATION NO.

Moore+Bruggink
ORGANIZATION

2020 MONROE NW GRAND RAPIDS, MI 49505
ADDRESS



DATE: FEBRUARY 14, 2025

JOB NUMBER: 240216.01

SHEET NUMBER
1

GENERAL PLAN NOTES

UNDERGROUND UTILITIES

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

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 53, 1974, THE CONTRACTOR SHALL DIAL 1-800-482-7171 OR 811 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

SOIL BORINGS

THE SOIL BORING LOGS AND/OR PAVEMENT CORES REPRESENT POINT INFORMATION ONLY. NO INFERENCE SHOULD BE MADE THAT SUBSURFACE OF PAVEMENT CONDITIONS ARE THE SAME AT OTHER LOCATIONS.

SOIL EROSION CONTROL MEASURES

TEMPORARY SOIL EROSION CONTROLS SHALL BE PLACED PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR WEEKLY INSPECTION, MAINTENANCE, AND CLEANING OF ALL SOIL EROSION CONTROLS. TEMPORARY SOIL EROSION CONTROLS NOT SPECIFICALLY CALLED FOR ON THE DRAWINGS SHALL BE PLACED BY THE CONTRACTOR AS DEEMED NECESSARY BY THE ENGINEER, OR THE ENGINEER'S REPRESENTATIVE. TEMPORARY EROSION CONTROLS SHALL REMAIN IN PLACE UNTIL PERMANENT EROSION CONTROLS HAVE BEEN ESTABLISHED.

GRADES FOR INTERSECTIONS

ALL INTERSECTIONS ARE TO BE CONSIDERED AS COMPLETE UNITS AND THEIR GRADES DETERMINED BEFORE CONSTRUCTION IS STARTED.

EXISTING WATERMAINS AND SEWERS

THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING WATERMAINS AND/OR EXISTING SANITARY SEWERS AND/OR EXISTING STORM SEWERS DURING THE CONSTRUCTION OF THIS PROJECT.

SAW CUTTING

ALL JOINTS BETWEEN EXISTING PAVEMENT AND PAVEMENT OR CURB AND GUTTER REMOVED FOR CONSTRUCTION SHALL BE SAW CUT BY AN APPROVED METHOD. PAYMENT FOR SAW CUTTING SHALL BE INCLUDED IN MAJOR WORK ITEMS NO ADDITIONAL PAYMENT SHALL BE MADE.

ADJUSTING MONUMENT BOXES

IT IS THE INTENT, THAT ALL GOVERNMENT CORNERS ON THIS PROJECT BE PRESERVED AND THAT, WHERE NECESSARY, MONUMENT BOXES BE PLACED OR ADJUSTED, WHETHER SHOWN OR NOT.

PERMANENT PAVEMENT MARKING

PRIOR TO OPENING THE PROJECT TO THRU TRAFFIC, THE ENGINEER WILL DETERMINE EXACT LOCATIONS AND LIMITS OF PAVEMENT MARKINGS AND PLACEMENT OF PERMANENT TRAFFIC CONTROL (SIGNS OR OTHER DEVICES).

RESTORATION

ALL AREAS GRADED FLATTER THAN 1 VERTICAL TO 3 HORIZONTAL SHALL BE RESTORED WITH 4" OF TOPSOIL, SEED, FERTILIZER, AND HYDRO-MULCH MATERIALS AS SPECIFIED IN THE SPECIAL PROVISION FOR TURF ESTABLISHMENT. ALL AREAS GRADED AT 1 VERTICAL TO 3 HORIZONTAL OR STEEPER SHALL BE RESTORED WITH 4" TOPSOIL, SEED, FERTILIZER AND HYDRO-MULCH MATERIALS.

TRENCH PROTECTION

THE CONTRACTOR SHALL SCHEDULE WORK SO THAT NO TRENCHES ARE LEFT OPEN OVERNIGHT. IN THE EVENT THAT TRENCHES MUST REMAIN OPEN THE CONTRACTOR SHALL PROTECT ANY OPEN TRENCHES WITH LIGHTED BARRICADES AND FENCING. THE COST TO FURNISH AND INSTALL SAID BARRICADES AND FENCING SHALL BE CONSIDERED INCLUDED TO CONTRACT ITEMS.

EXPLORATORY INVESTIGATION, VERTICAL

EXPLORATORY INVESTIGATION, VERTICAL SHALL BE USED AS DIRECTED BY THE ENGINEER TO ALLEVIATE ANY PRIVATE UTILITY CONFLICTS WITH THE PROPOSED IMPROVEMENTS. FILED LOCATING THE EXISTING PRIVATE UTILITIES AFTER THE MISS DIG MARKING WILL NOT BE COMPENSATED AS EXPLORATORY INVESTIGATION, VERTICAL.

GENERAL PLAN NOTES (CONT'D)

SITE MAINTENANCE

NO BURNING OR INCINERATION OF RUBBISH WILL BE PERMITTED ON SITE.

THE CONTRACTOR SHALL PROVIDE FOR THE SAFE AND ORDERLY PASSAGE OF TRAFFIC AND PEDESTRIANS WHERE HIS OPERATIONS ABUT PUBLIC THOROUGHFARES AND ADJACENT PROPERTY.

CONSTRUCTION OPERATIONS SHALL BE CONDUCTED IN SUCH A WAY AS TO PREVENT TRACKING OF MUD OR SOIL ONTO PUBLIC THOROUGHFARES, AT THE END OF EACH DAY THE CONTRACTOR SHALL CLEAN UP ALL MUD OR SOIL WHICH HAS BEEN TRACKED ONTO THE PUBLIC STREETS. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT WILL BE CONSIDERED AS HAVING BEEN INCLUDED IN THE ROAD GRADING ITEM.

FOR DISPOSAL OF EXCESS OR UNSUITABLE MATERIAL OR STORAGE OF MATERIAL OR EQUIPMENT (TEMP CONSTRUCTION YARD), THE CONTRACTOR WILL BE REQUIRED TO PROVIDE TO THE ENGINEER A WRITTEN CONSENT FROM THE PROPERTY OWNER FOR THE USE OF THE SITE AND A RELEASE FROM THE OWNER AFTER RESTORATION OF THE SITE.

ALL TREES TO REMAIN SHALL BE PROTECTED FROM DAMAGE TO TRUNKS, BRANCHES AND ROOTS. NO EXCAVATING, FILLING, OR GRADING IS TO BE DONE INSIDE THE DRIP LINE OF TREES UNLESS OTHERWISE INDICATED.

ALL DEWATERING PERFORMED DURING CONSTRUCTION OF UNDERGROUND UTILITIES SHALL BE AT THE CONTRACTOR'S EXPENSE AND WILL NOT BE MEASURED OR PAID FOR SEPARATELY.

ALL APPLICABLE PROVISIONS OF THE CURRENT OCCUPATIONAL SAFETY AND HEALTH ACT ARE HEREIN INCORPORATED BY REFERENCE. THE MICHIGAN DEPARTMENT OF TRANSPORTATION "2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION", AND ALL ADDENDA THERETO, SHALL GOVERN THE EARTHWORK, PAVING AND UNDERGROUND WORK UNDER THIS CONTRACT, EXCEPT AS MODIFIED BY THE SPECIFICATIONS.

ALL EXISTING SITE TOPOGRAPHY, UTILITIES, RIGHT-OF-WAY AND HORIZONTAL CONTROL SHOWN ON THE DRAWINGS WERE OBTAINED FROM SURVEY DATA

PREPARED BY:
MOORE & BRUGGINK, INC.
2020 MONROE AVE NW
(616) 363-9801
MBCE.COM

COPIES OF THE SURVEY ARE AVAILABLE FROM THE ENGINEER.

ALL EXISTING TOPOGRAPHY, UNDERGROUND UTILITIES, STRUCTURES AND ASSOCIATED FACILITIES SHOWN ON THESE DRAWINGS HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS, THEREFORE, THEIR LOCATIONS AND ELEVATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHER FACILITIES, THE EXISTENCE OF WHICH ARE NOT PRESENTLY KNOWN. CONTRACTOR IS TO VERIFY ALL EXISTING STRUCTURES AND FACILITIES AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO STARTING WORK.

PRIOR TO NEW WORK THE CONTRACTOR SHALL FIELD CHECK ALL DIMENSIONS AND ELEVATIONS AND VERIFY THE LOCATION AND ELEVATION OF EXISTING UTILITY LINES AND STRUCTURES TO BE CONNECTED TO PROPOSED WORK. DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY IN WRITING.

BEFORE EXCAVATING OVER OR ADJACENT TO ANY EXISTING UTILITIES, NOTIFY THE OWNER OF SUCH UTILITIES TO ENSURE THAT PROTECTIVE WORK WILL BE COORDINATED AND PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH THE SERVICE LINES. ANY UTILITIES AND UTILITY STRUCTURES WHICH ARE TO REMAIN IN SERVICE AND UNCOVERED OR ENCOUNTERED DURING THIS OPERATION SHALL BE SAFEGUARDED, PROTECTED FROM DAMAGE AND SUPPORTED IF NECESSARY.

STREET PAVING AND CURBS TO REMAIN SHALL BE PROTECTED FROM DAMAGE AND IF DAMAGED, SHALL BE REPLACED PROMPTLY TO MEET MDT'S 2020 STANDARD SPECIFICATIONS IN MATERIALS AND WORKMANSHIP. PROPOSED ELEVATIONS INDICATE FINISHED CONDITIONS. FOR ROUGH GRADING ELEVATIONS ALLOW FOR THICKNESS OF PROPOSED PAVING (ROADS, WALKS, DRIVES, ETC.) OR TOPSOIL AS SHOWN.

NOTES APPLYING TO STANDARD PLANS

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

COVER B	R-7-F
COVER D	R-9-D
MONUMENT BOXES	R-11-E
COVER K	R-15-G
CURB RAMP AND DETECTABLE WARNING DETAILS	R-28-K
DRIVEWAY OPENINGS & APPROACHES AND CONCRETE SIDEWALKS	R-29-J
CONCRETE CURB AND CONCRETE CURB AND GUTTER	R-30-G
SOIL EROSION AND SEDIMENTATION CONTROL MEASURES	R-96-E
SEEDING AND TREE PLANTING	R-100-I*

*INDICATES SPECIAL DETAIL INCLUDED IN THE PROPOSAL

TRAFFIC AND SAFETY STANDARD PLANS

GRD DRIVEN	WZD-100-A
TEMP TRAF	WZD-125-E*

*INDICATES SPECIAL DETAIL INCLUDED IN THE PROPOSAL

PAVEMENT MARKING AND SIGN STANDARD PLANS

STEEL POST	SIGN-200-E
MISCELLANEOUS SIGN CONNECTION DETAILS	SIGN-740-B
TEMPORARY LONGITUDINAL LINE TYPES & PLACEMENT	PAVE-904-A*

*INDICATES SPECIAL DETAIL INCLUDED IN THE PROPOSAL

SUMMARY PAY ITEMS

THE FOLLOWING ITEMS OF WORK SHALL BE DONE AS THEY APPLY THROUGHOUT THE PROJECT. THESE ITEMS MAY NOT BE DETAILED OR INCLUDED ON THE PLAN SHEETS BUT ARE TO BE USED AS DIRECTED BY THE ENGINEER:

ITEMS FOR ROADWAY IMPROVEMENTS			
1100001	Mobilization, Max	1	LSUM
2040020	Curb and Gutter, Rem	1500	Ft
2040050	Pavt, Rem	660	Syd
2040055	Sidewalk, Rem	250	Syd
2040080	Exploratory Investigation, Vertical	50	Ft
2057002	_Roadway Grading	24	Sta
3027031	_Aggregate Base, 21AA Modified	900	Ton
3062001	Driveway Maintenance, Residential	35	Ea
4030010	Dr Structure Cover, Type B	17	Ea
4030025	Dr Structure Cover, Type D	1	Ea
4030050	Dr Structure Cover, Type K	5	Ea
4030390	Dr Structure, Temp Lowering	18	Ea
4037050	_Dr Structure Cover, Adj, Case 1, Modified	22	Ea
5010005	HMA Surface, Rem	9000	Syd
5010025	Hand Patching	40	Ton
5012025	HMA, 4EML	1450	Ton
5012037	HMA, 5EML	850	Ton
8010005	Driveway, Nonreinf Conc, 6 inch	325	Syd
8027001	_Curb and Gutter, Conc, Det F4, Modified	1400	Ft
8030030	Curb Ramp Opening, Conc	100	Ft
8030044	Sidewalk, Conc, 4 inch	1500	Sft
8030046	Sidewalk, Conc, 6 inch	75	Sft
8032002	Curb Ramp, Conc, 6 inch	650	Sft
8037001	_Detectable Warning Surface, Modified	85	Ft
8100371	Post, Steel, 3 pound	294	Ft
8100403	Sign, Type III, Rem	29	Ea
8100404	Sign, Type IIIA	56	Sft
8100405	Sign, Type IIIB	69	Sft
8102010	Ground Mtd Sign Support, Rem	12	Ea
8110091	Pavt Mrkg, Polyurea, 4 inch, White	5000	Ft
8110092	Pavt Mrkg, Polyurea, 4 inch, Yellow	5100	Ft
8110100	Pavt Mrkg, Polyurea, Bike	11	Ea
8110110	Pavt Mrkg, Polyurea, 12 inch, Crosswalk	600	Ft
8110114	Pavt Mrkg, Polyurea, 24 inch, Stop Bar	160	Ft
8110115	Pavt Mrkg, Polyurea, Sharrow Sym	2	Ea
8110405	Pavt Mrkg, Polyurea, Lt Turn Arrow Sym	1	Ea
8112170	Pavt Mrkg, Polyurea, Bike Thru Arrow Sym	11	Ea
8120210	Pavt Mrkg, Longit, 6 inch or Less Width, Rem	400	Ft
8237050	_Water Valve Box, Adj, Modified	5	Ea

ITEMS FOR SOIL EROSION AND SEDIMENTATION CONTROL

2080020	Erosion Control, Inlet Protection, Fabric Drop	16	Ea
8167011	_Turf Establishment	1300	Syd

SUMMARY PAY ITEMS (CONT'D)

ITEMS FOR MAINTAINING TRAFFIC			
8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	11	Ea
8120013	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	11	Ea
8120026	Pedestrian Type II Barricade, Temp	12	Ea
8120170	Minor Traf Devices	1	LSUM
8120245	Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, White, Temp	500	Ft
8120246	Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, Yellow, Temp	500	Ft
8120252	Plastic Drum, Fluorescent, Furn	50	Ea
8120253	Plastic Drum, Fluorescent, Oper	50	Ea
8120330	Sign, Portable, Changeable Message, Furn	2	Ea
8120331	Sign, Portable, Changeable Message, Oper	2	Ea
8120350	Sign, Type B, Temp, Prismatic, Furn	331	Sft
8120351	Sign, Type B, Temp, Prismatic, Oper	331	Sft
8120352	Sign, Type B, Temp, Prismatic, Spec, Furn	30	Sft
8120353	Sign, Type B, Temp, Prismatic, Spec, Oper	30	Sft
8120370	Traf Regulator Control	1	LSUM

Category 0003: 100% Local Agency

4027001	_Sewer, Schedule 80, 4 inch, Tr Det B	350	Ft
4027001	_Sewer, Schedule 80, 6 inch, Tr Det B	875	Ft
4030304	Dr Structure, Tap, 4 inch	3	Ea
4030306	Dr Structure, Tap, 6 inch	5	Ea
8507060	_Underground Sprinkling Systems, Restore	5000	Dir

Miscellaneous Quantities

8120210	Pavt Mrkg, Longit, 6 inch or Less Width, Rem	400	Ft
8110343	Rem Spec Mrkg	51	Sft



Know what's below.
Call before you dig.

PLAN REVISIONS	01/22/2024	REVISED PER	CI.	COMMENTS
	03/04/2025	REVISED PER <td>FINAL</td> <td>COMMENTS</td>	FINAL	COMMENTS
	03/17/2024	REVISED PER <td>FINAL</td> <td>COMMENTS</td>	FINAL	COMMENTS
	04/07/2024	REVISED PER <td>FINAL</td> <td>COMMENTS</td>	FINAL	COMMENTS

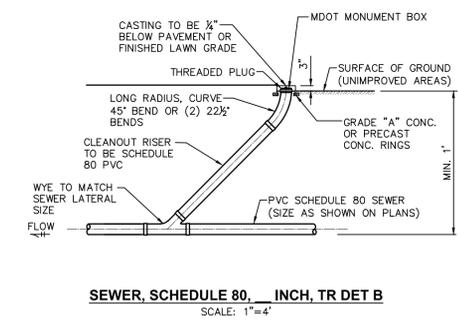
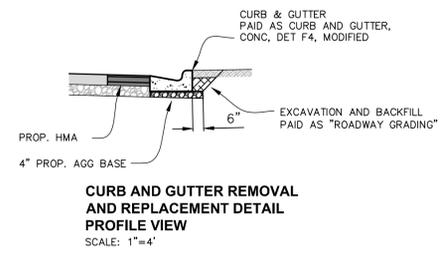
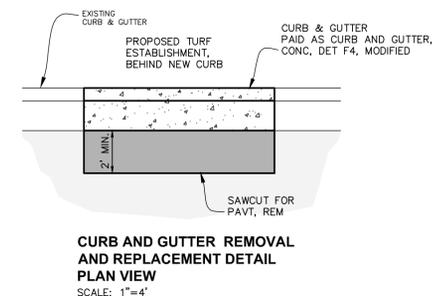
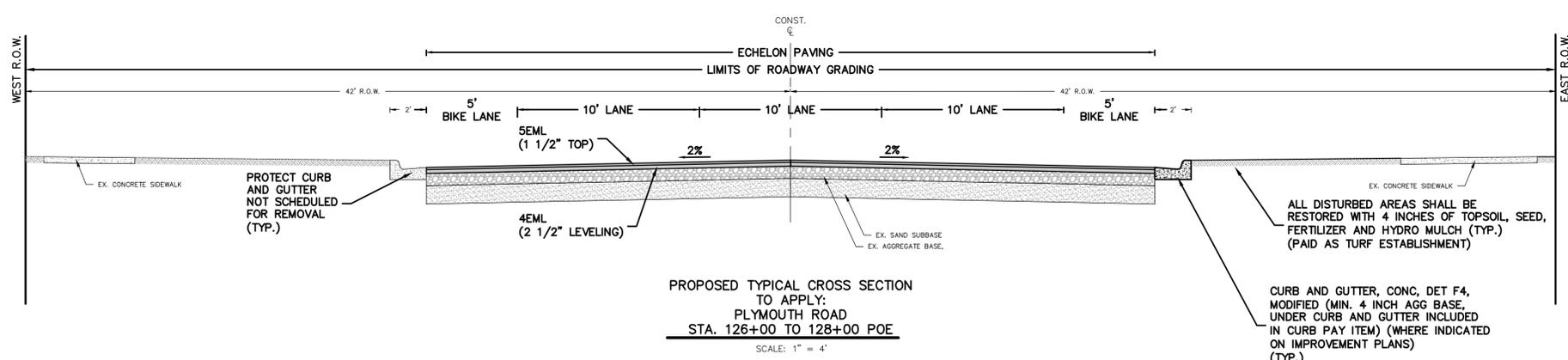
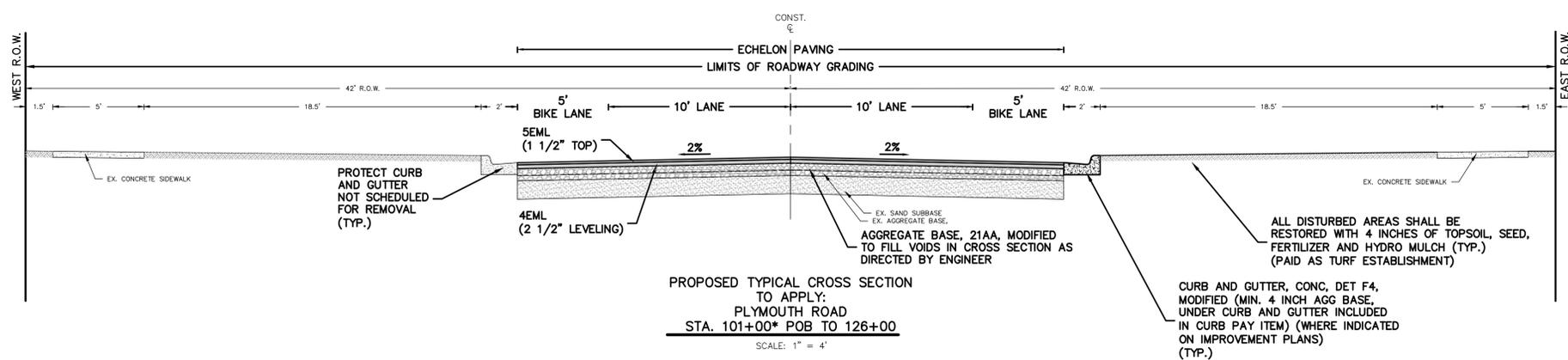
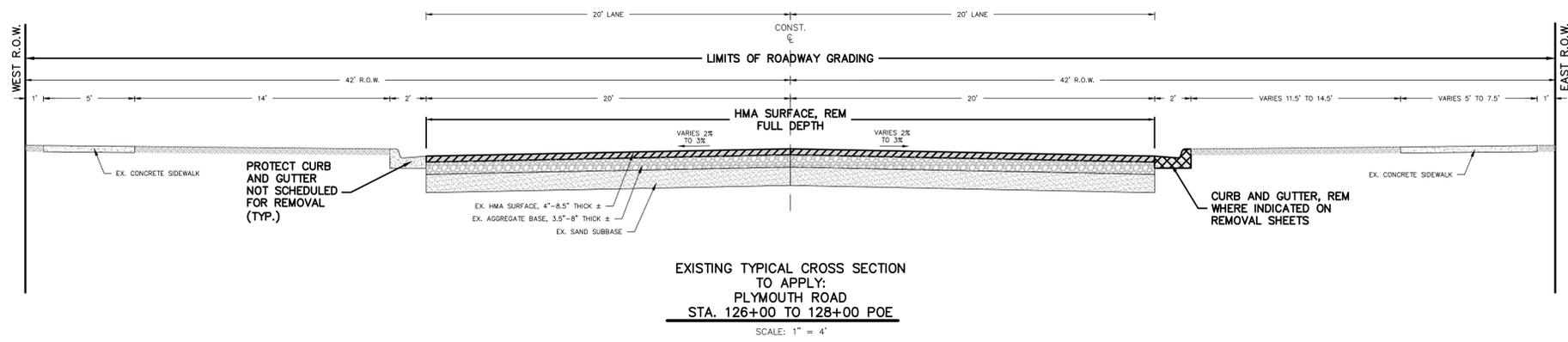
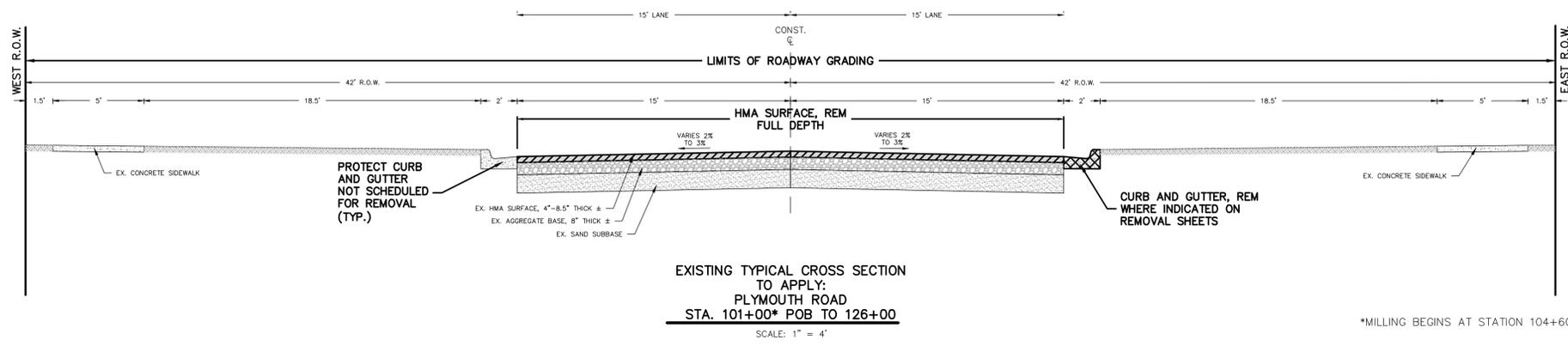
Moore+Bruggink
Consulting Engineers
2020 Monroe Ave.
Grand Rapids, MI 49505
(616) 363-9801
mailto:mbce@mbce.com



GENERAL NOTES
FOR
PLYMOUTH ROAD
CITY OF EAST GRAND RAPIDS, KENT COUNTY, MICHIGAN

FIELD SURVEY / DATE	M+B
PROJECT NO.	240216.01
DESIGN DRAWN BY:	JPV
DESIGNED BY:	JPV
CHECKED BY:	RMA
PLAN DATE:	FEBRUARY 14, 2025
SHEET NUMBER	2 OF 12

P:\2021\6.01 Plymouth Ave Improvements - EGR\CAD\DWG\240216_CROSS SECTIONS.dwg, 4:21:2025 9:04:54 AM, JAMES VANHEKKE



*PAVING BEGINS AT STATION 104+60

HMA APPLICATION TABLE

MIX ID	ITEM	RATE (LBS/SYD)	ASPHALT PERFORMANCE GRADE	REMARKS	AGGREGATE WORK INDEX
5EML	HMA, 5EML	165 (1 1/2 INCHES)	PG 64-28	TOP COURSE	AW-260 MIN.
4EML	HMA, 4EML	275 (2 1/2 INCHES)	PG 64-28	LEVELING COURSE	
HAND PATCHING, 4EML	HAND PATCHING	440 (4 INCHES)	PG 64-28	HMA 4EML (PLACED IN TWO LIFTS OF 220 LBS/SYD)	

NOTES: 1.) HMA BOND COAT 0.05-0.15 GAL/SYD, (INCLUDED IN HMA ITEMS)
2.) HMA MATERIAL FOR ALL INTERSECTION APPROACHES IS INCLUDED IN THE MAINLINE PAVING QUANTITIES.

0 2 4
PLAN SCALE: 1" = 4"



PLAN REVISIONS
01/22/2024 REVISED PER G.I. COMMENTS
03/17/2024 REVISED PER FINAL COMMENTS

Moore+Bruggink
Consulting Engineers
2020 Monroe Ave.
Grand Rapids, MI 49505
(616) 363-9801
mailto:mail@mbce.com



TYPICAL CROSS SECTIONS
IN
PLYMOUTH ROAD
FROM HALL ST. TO MARTIN LUTHER KING JR. ST.
CITY OF EAST GRAND RAPIDS, KENT COUNTY, MICHIGAN

FIELD SURVEY / DATE
M+B
PROJECT NO. 240216.01
DESIGN DRAWN BY: JPV
DESIGNED BY: JPV
CHECKED BY: RMA
PLAN DATE: FEBRUARY 14, 2025
SHEET NUMBER
3 OF 12

BM#4 ELEVATION 739.61
NORTHEAST CORNER OF 1.4'x5' BOTTOM
CONCRETE STEP LOCATED ON THE EAST
SIDE OF HOUSE #1041 PLYMOUTH AVENUE.
(0.5' ABOVE CONCRETE)

BM#5 ELEVATION 725.34
EAST FLANGE BOLT, UNDER THE "E" IN "E.J.W"
ON HYDRANT, LOCATED 32± SOUTH OF THE
C/L OF #1120 PLYMOUTH AVENUE & 25±
EAST OF C/L PLYMOUTH AVENUE. (1.2'
ABOVE GROUND)

BM#6 ELEVATION 620.24
SW BOLT ON TRAFFIC SIGNAL LIGHT POLE
BASE, LOCATED 30± NORTH OF C/L HALL
STREET & 30± EAST OF C/L PLYMOUTH
AVENUE. (0.6' ABOVE CONCRETE)

CP#1	CP#2	CP#3	CP#4
M+B RED CAP N 527602.4339 E 12786535.0420 ELEV 721.58	M+B RED CAP N 527934.8321 E 12786499.0075 ELEV 721.45	M+B RED CAP N 528207.6774 E 12786544.6534 ELEV 731.22	M+B RED CAP N 528488.2273 E 12786487.5867 ELEV 736.48

SOIL BORING NO.	DEPTH	DESCRIPTION
SB-1	0.00' TO 0.31'	HMA (HOT MIX ASPHALT)
	0.31' TO 1.08'	FINE TO COARSE SAND WITH NATURAL GRAVEL AND CLAY, BROWN
	1.08' TO 5.00'	FINE TO MEDIUM SAND WITH TRACE GRAVEL, LIGHT BROWN END OF BORING NO GROUNDWATER ENCOUNTERED

REMOVAL LEGEND

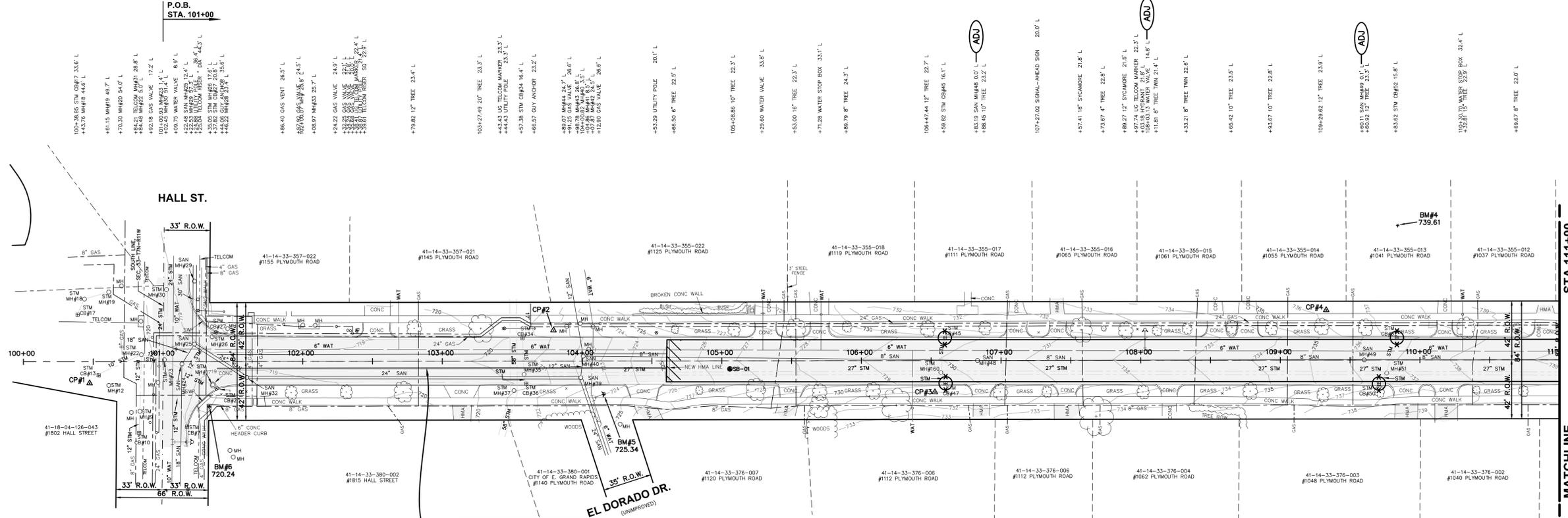
- LIMITS OF HMA SURFACE, REM
- SIDEWALK, REM & PAVT, REM
- CURB AND GUTTER, REM
- DRAINAGE STRUCTURE ADJUST
VALVE BOX ADJUST
- RELOCATE/ADJUST BY OTHERS
- EROSION CONTROL, INLET
PROTECTION, FABRIC DROP

0 20 40
PLAN SCALE: 1" = 40'

Know what's below.
Call before you dig.

PLAN REVISIONS

01/22/2024	REVISED PER G.I. COMMENTS
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REMOVE:
EXISTING PAVEMENT MARKINGS
FROM STA. 101+50 TO 104+60
(PAID AS PAVT MRKG, LONGIT,
6 INCH OR LESS WIDTH, REM)

- 100+54.82 STM CH#13 3.6' R
- + 61.11 MH#2 16.9' R
- + 82.80 STM CH#10 26.2' R
- + 80.63 STM CH#9 23.3' R
- + 80.63 STM CH#9 23.3' R
- + 80.38 GAS VALVE 23.6' R
- + 80.38 GAS VALVE 23.6' R
- + 81.08 GAS VALVE 23.9' R
- + 16.28 WATER VALVE 15.4' R
- + 20.75 HYDRANT 20.7' R
- + 33.06 TRAFFIC SIGNAL POLE 33.4' R
- + 35.43 STM CH#2 23.7' R
- + 35.43 STM CH#2 23.7' R
- + 41.61 UC TELCOM MARKER 23.5' R
- + 59.55 UC TELCOM MARKER 23.5' R
- + 59.98 SAN MH#1 11.4' R
- + 91.59 10" TREE 22.2' R
- 102+70.06 10" TREE 21.9' R
- + 71.84 15" TREE TWIN 21.8' R
- 103+51.29 STM CH#7 21.1' R
- + 58.49 STM CH#5 9.4' R
- + 60.01 STM CH#5 16.1' R
- + 88.71 SON 19.6' R
- + 90.06 MH#9 11.8' R
- 104+15.70 HYDRANT 23.5' R
- + 27.29 MH#28 46.0' R
- + 83.83 6" TREE 21.0' R
- 105+24.29 16" TREE 20.4' R
- + 92.03 16" TREE 22.6' R
- + 92.07 12" TREE 22.6' R
- 106+08.31 12" TREE 21.6' R
- + 24.90 24" TREE 31.6' R
- + 36.60 WATER STOP BOX 33.6' R
- + 56.59 STM CH#45 8.5' R
- + 60.36 STM CH#7 18.1' R
- 106+48.12" TREE 22.4' R
- 107+32.73 6" TREE 22.3' R
- + 68.12 28" TREE 39.8' R
- 108+01.71 10" TREE 22.6' R
- + 58.45 UC TELCOM MARKER 23.7' R
- + 78.41 12" TREE 22.6' R
- 109+36.47 10" TREE 24.5' R
- + 70.05 SAN CH#45 16.6' R
- + 71.08 6" TREE 22.6' R
- + 76.25 STM MH#51 9.3' R
- 110+40.59 6" TREE 21.5' R
- + 73.97 6" TREE 22.3' R

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REMOVALS
IN
PLYMOUTH ROAD
FROM HALL ST. TO MARTIN LUTHER KING JR. ST.
CITY OF EAST GRAND RAPIDS, KENT COUNTY, MICHIGAN

FIELD SURVEY / DATE
M+B

PROJECT NO.
240216.01

DESIGN DRAWN BY:
JPV

DESIGNED BY:
JPV

CHECKED BY:
RMA

PLAN DATE:
FEBRUARY 14, 2025

SHEET NUMBER
4 OF 12

Moore+Bruggink
Consulting Engineers
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Grand Rapids, MI 49505
(616) 365-9801
mailto:info@mbce.com

BM#1 ELEVATION 760.11
 NW FLANGE BOLT, UNDER THE "A" IN "USA"
 ON HYDRANT, LOCATED 65± EAST OF THE
 C/L OF PLYMOUTH AVENUE & 25± NORTH
 OF C/L SAN LU RAE DRIVE. (1.95' ABOVE
 GROUND)

CP#9
 M+B RED CAP
 N 530362.2198
 E 12786532.3328
 ELEV 760.21

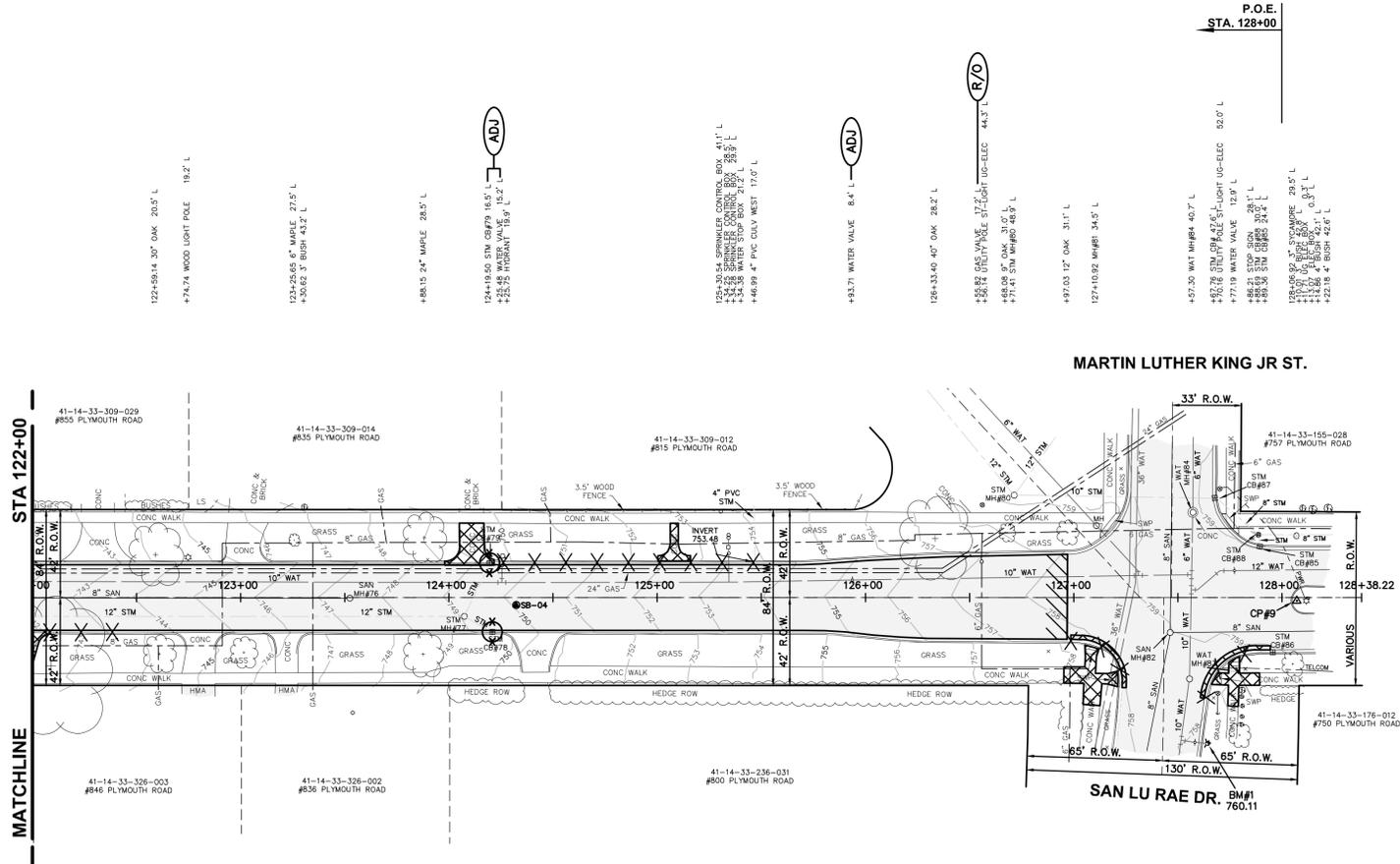
SOL BORING NO.	DEPTH	DESCRIPTION
SB-4	0.00' TO 0.38'	HMA (HOT MIX ASPHALT)
	0.38' TO 1.17'	FINE TO COARSE SAND WITH NATURAL GRAVEL AND CLAY, BROWN
	1.17' TO 3.17'	LEAN CLAY, BROWN
	3.17' TO 4.00'	FINE TO MEDIUM CLAYEY SAND, BROWN
	4.00' TO 10.00'	FINE TO MEDIUM SAND, LIGHT BROWN
		END OF BORING
		NO GROUNDWATER ENCOUNTERED

REMOVAL LEGEND	
	LIMITS OF HMA SURFACE, REM
	SIDEWALK, REM & PAVT, REM
	CURB AND GUTTER, REM
	DRAINAGE STRUCTURE ADJUST VALVE BOX ADJUST
	RELOCATE/ADJUST BY OTHERS
	EROSION CONTROL, INLET PROTECTION, FABRIC DROP

0 20 40
 PLAN SCALE: 1" = 40'

 Know what's below.
 Call before you dig.

PLAN REVISIONS
01/22/2024 REVISED PER C.I. COMMENTS
04/17/2025 REVISED PER CITY COMMENTS



- 122+08.77 48" TREE 32.6' R
- + 60.92 18" SYCAMORE 26.9' R
- 123+01.50 15" MAPLE 26.3' R
- ADJ
- + 32.43 SAN W/HER 0.3' R
- + 53.78 CLEANOUT 55.0' R
- + 87.62 22" MAPLE 27.1' R
- ADJ
- 124+07.37 STM W/HER 9.0' R
- + 26.83 STM C/RYTS 16.4' R
- 126+87.89 STOP SIGN 25.7' R
- 127+46.35 SAN W/HER 15.7' R
- + 55.64 WAT W/HER 35.9' R
- + 67.02 30" C/RYTS 42.8' R
- + 69.28 18" W/HER 42.7' R
- + 70.00 18" W/HER 42.7' R
- + 82.46 US TELCOM FIBER OPTIC MANHOLE 34.0' R
- + 85.64 STM C/RYTS 26.1' R
- 128+05.19 12" MAPLE 31.7' R
- + 11.02 18" C/RYTS 0.6' R
- + 13.03 ELEC BOX 0.7' R

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 Consulting Engineers
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 Grand Rapids, MI 49505
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REMOVALS
 IN
PLYMOUTH ROAD
 FROM HALL ST. TO MARTIN LUTHER KING JR ST.
 CITY OF EAST GRAND RAPIDS, KENT COUNTY, MICHIGAN

FIELD SURVEY / DATE	M+B
PROJECT NO.	240216.01
DESIGN DRAWN BY:	JPV
DESIGNED BY:	JPV
CHECKED BY:	RMA
PLAN DATE:	FEBRUARY 14, 2025
SHEET NUMBER	6 OF 12

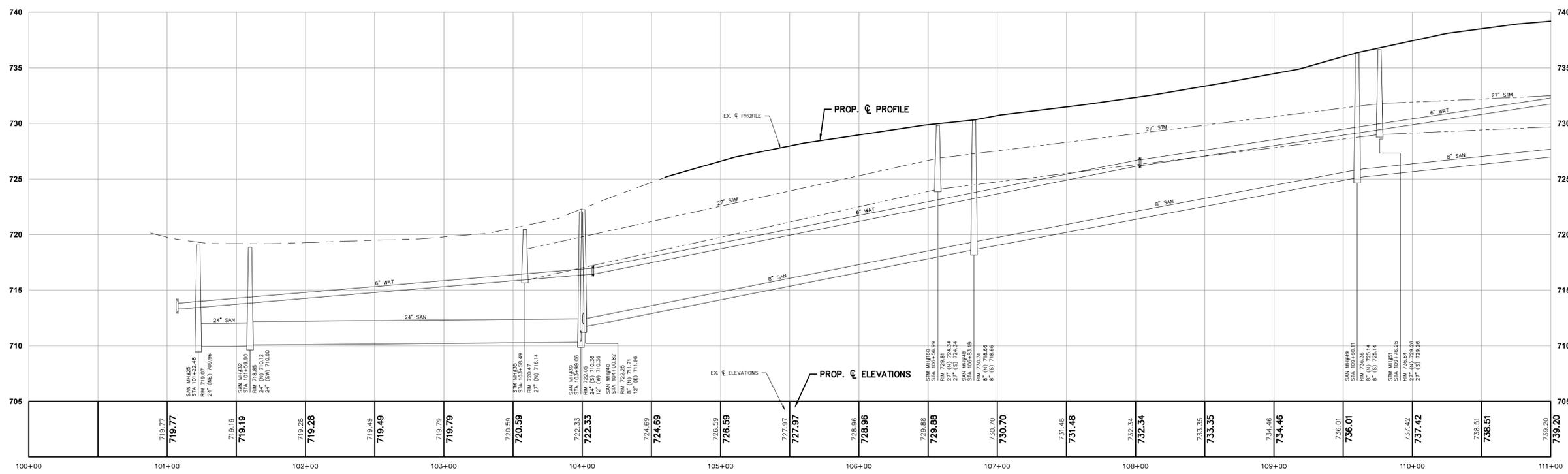
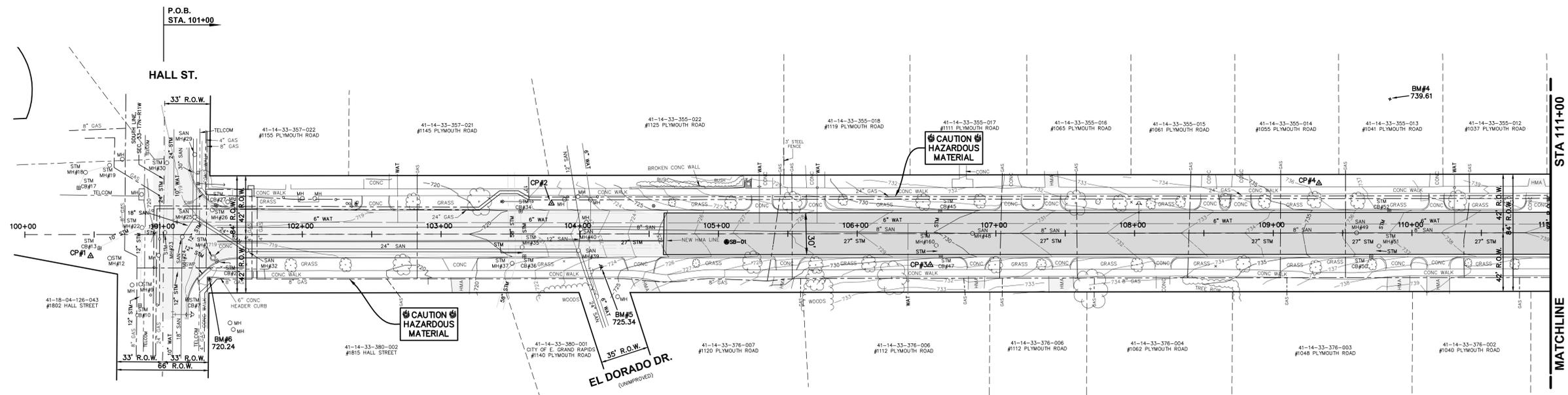
BM#4 ELEVATION 739.61
 NORTHEAST CORNER OF 1.4'x5' BOTTOM CONCRETE STEP, LOCATED ON THE EAST SIDE OF HOUSE #1041 PLYMOUTH AVENUE. (0.5' ABOVE CONCRETE)

BM#5 ELEVATION 725.34
 EAST FLANGE BOLT, UNDER THE "E" IN "E.J.W" ON HYDRANT, LOCATED 32± SOUTH OF THE C/L OF #1120 PLYMOUTH AVENUE & 25± EAST OF C/L PLYMOUTH AVENUE. (1.2' ABOVE GROUND)

BM#6 ELEVATION 620.24
 SW BOLT ON TRAFFIC SIGNAL LIGHT POLE BASE, LOCATED 30± NORTH OF C/L HALL STREET & 30± EAST OF C/L PLYMOUTH AVENUE. (0.6' ABOVE CONCRETE)

SOIL BORING NO.	DEPTH	DESCRIPTION
SB-1	0.00' TO 0.31'	HMA (HOT MIX ASPHALT)
	0.31' TO 1.08'	FINE TO COARSE SAND WITH NATURAL GRAVEL AND CLAY, BROWN
	1.08' TO 5.00'	FINE TO MEDIUM SAND WITH TRACE GRAVEL, LIGHT BROWN
		END OF BORING
		NO GROUNDWATER ENCOUNTERED

CP#1	CP#2	CP#3	CP#4
M+B RED CAP	M+B RED CAP	M+B RED CAP	M+B RED CAP
N 527602.4339	N 527934.8321	N 528207.6774	N 528488.2273
E 12786535.0420	E 12786499.0075	E 12786544.6534	E 12786487.5867
ELEV 721.58	ELEV 721.45	ELEV 731.22	ELEV 736.48



PLAN REVISIONS
01/22/2024 REVISED PER G.I. COMMENTS

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 (616) 365-9801 mail@moorebruggink.com



IMPROVEMENTS IN PLYMOUTH ROAD
 FROM HALL ST. TO MARTIN LUTHER KING JR. ST.
 CITY OF EAST GRAND RAPIDS, KENT COUNTY, MICHIGAN

FIELD SURVEY / DATE	M+B
PROJECT NO.	240216.01
DESIGN DRAWN BY:	JPV
DESIGNED BY:	JPV
CHECKED BY:	RMA
PLAN DATE:	FEBRUARY 14, 2025
SHEET NUMBER	7 OF 12

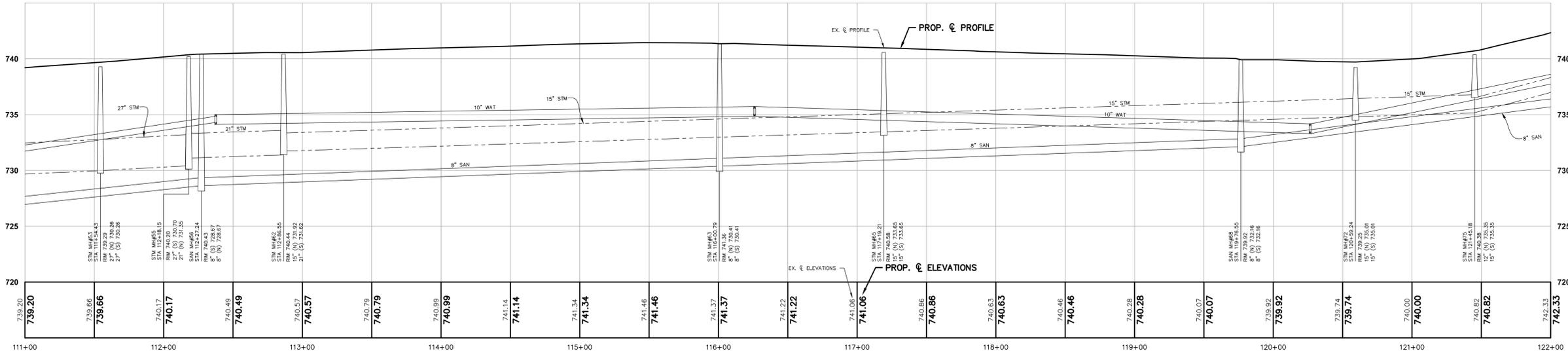
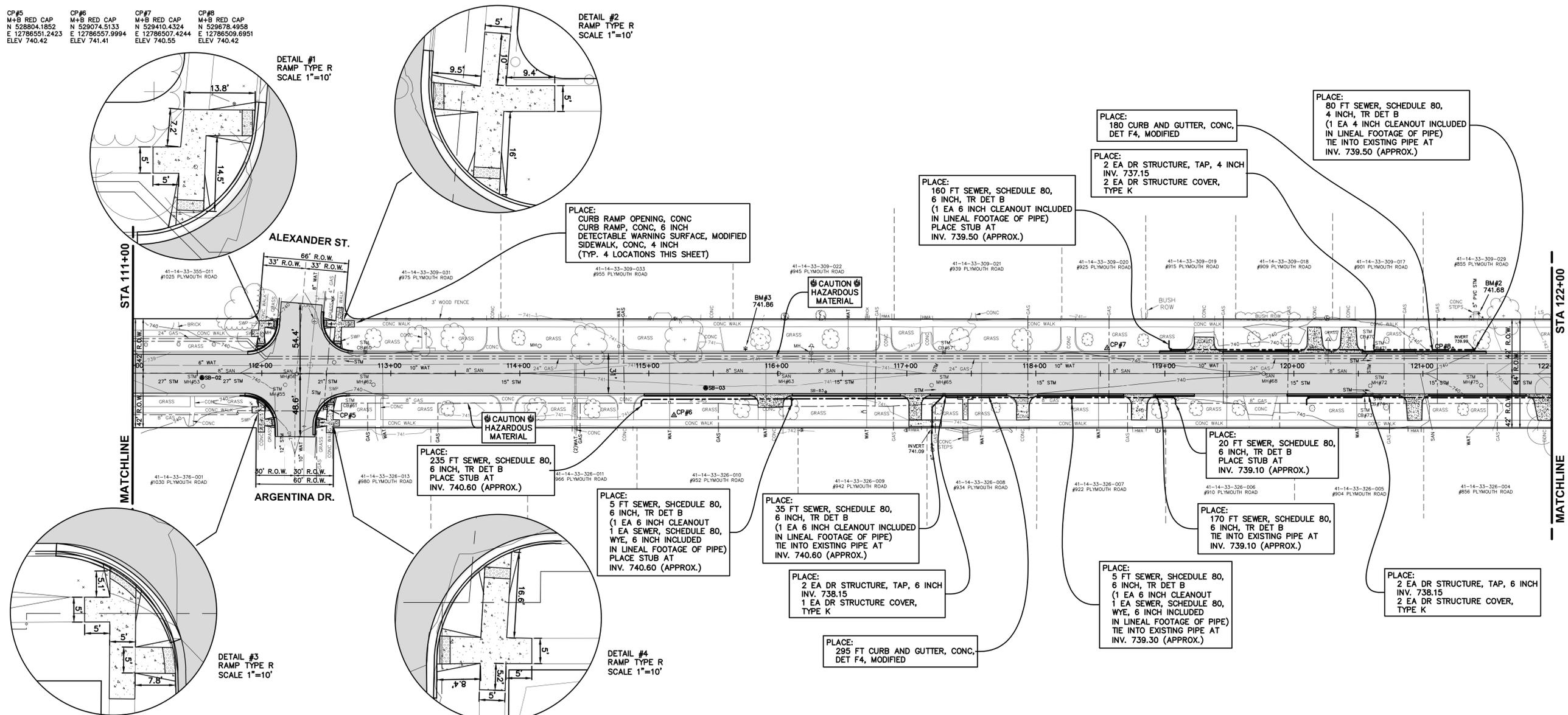
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BM#3 ELEVATION 741.86
SET YELLOW BM SPIKE IN EAST SIDE OF
WOODEN LIGHT POLE, LOCATED 1' WEST OF
THE BACK OF CURB AND 27' NORTH OF C/L
OF DRIVE TO HOUSE #955 PLYMOUTH AVENUE.
(0.65' ABOVE GROUND)

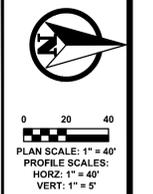
BM#2 ELEVATION 741.68
NORTHEAST CORNER OF 1.35'x4' CONCRETE STEP
ON WALKWAY UP TO HOUSE #855 PLYMOUTH
AVENUE & 5' WEST OF BACK OF WALK.
(0.65' ABOVE CONCRETE)

CP#5 M+B RED CAP N 528804.1852 E 12786501.2423 ELEV 740.42	CP#6 M+B RED CAP N 529074.5133 E 12786507.9994 ELEV 741.41	CP#7 M+B RED CAP N 529410.4324 E 12786507.4244 ELEV 740.55	CP#8 M+B RED CAP N 529678.4958 E 12786509.6951 ELEV 740.42
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SOIL BORING NO.	DEPTH	DESCRIPTION	SOIL BORING NO.	DEPTH	DESCRIPTION
SB-2	0.00' TO 0.31'	HMA (HOT MIX ASPHALT)	SB-3	0.00' TO 0.71'	HMA (HOT MIX ASPHALT)
	0.31' TO 1.08'	FINE TO COARSE SAND WITH NATURAL GRAVEL AND CLAY, BROWN		0.71' TO 1.08'	FINE TO COARSE SAND WITH NATURAL GRAVEL AND CLAY, DARK BROWN
	1.08' TO 5.00'	FINE TO MEDIUM SAND WITH CLAY, BROWN		1.00' TO 5.75'	FINE TO MEDIUM SAND, BROWN
	1.08' TO 5.00'	FINE TO MEDIUM SAND, LIGHT BROWN		5.75' TO 6.42'	FINE TO MEDIUM SAND, LIGHT BROWN
		NO GROUNDWATER ENCOUNTERED			NO GROUNDWATER ENCOUNTERED



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PLAN REVISIONS
01/22/2024 REVISED PER C.I. COMMENTS
04/17/2025 REVISED PER CITY COMMENTS

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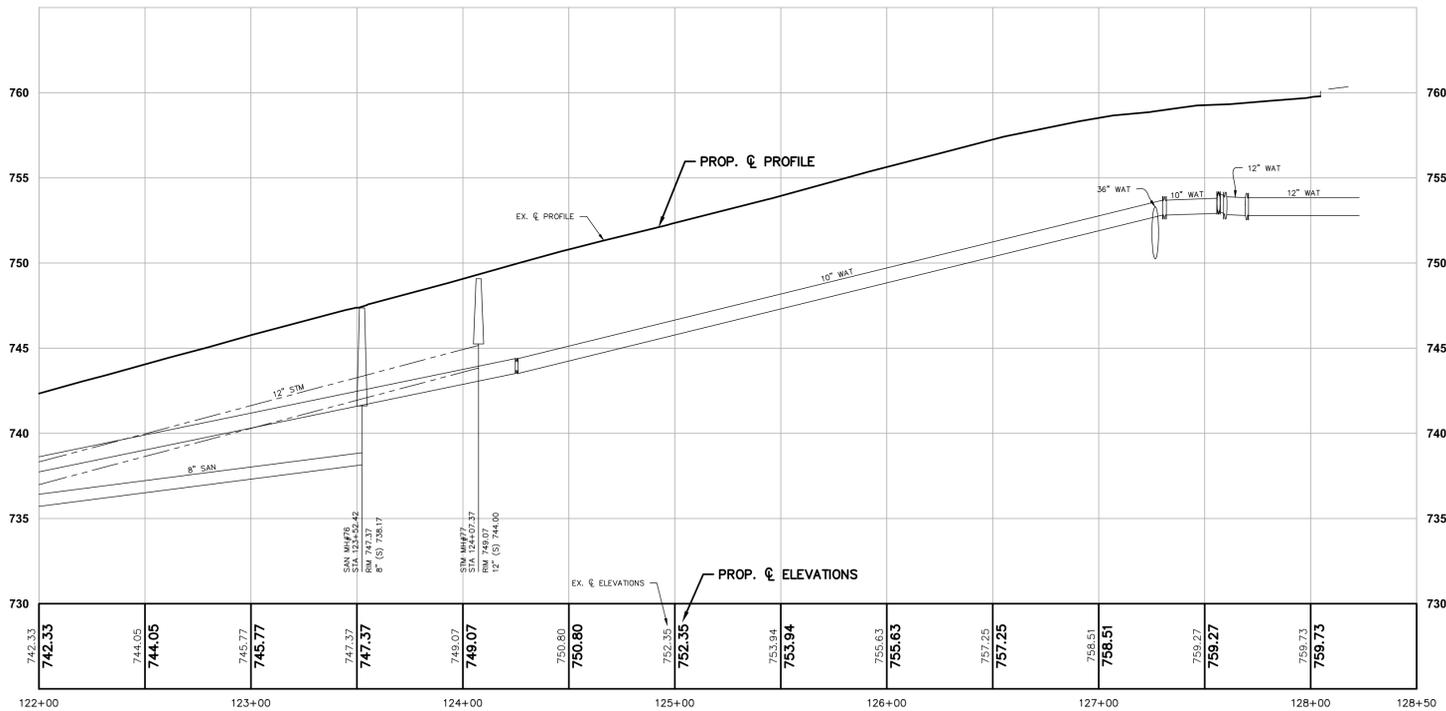
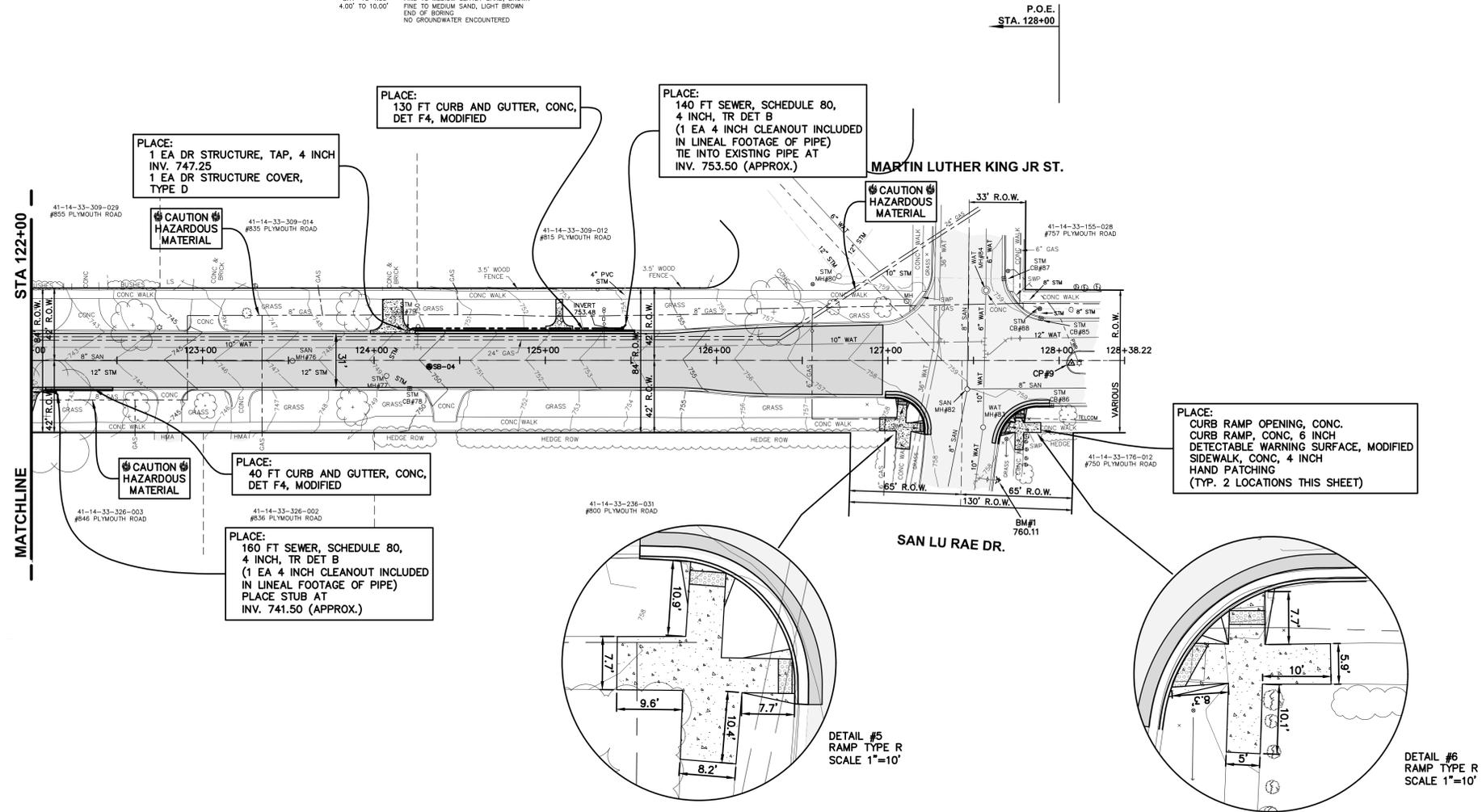
IMPROVEMENTS
IN
PLYMOUTH ROAD
FROM HALL ST. TO MARTIN LUTHER KING JR. ST.
CITY OF EAST GRAND RAPIDS, KENT COUNTY, MICHIGAN

FIELD SURVEY / DATE	M+B
PROJECT NO.	240216.01
DESIGN DRAWN BY:	JPV
DESIGNED BY:	JPV
CHECKED BY:	RMA
PLAN DATE:	FEBRUARY 14, 2025
SHEET NUMBER	8 OF 12

BM#1 ELEVATION 760.11
 NW FLANGE BOLT, UNDER THE "A" IN "USA"
 ON HYDRANT, LOCATED 65± EAST OF THE
 C/L OF PLYMOUTH AVENUE & 25± NORTH
 OF C/L SAN LU RAE DRIVE. (1.95' ABOVE
 GROUND)

CP#9
 M+B RED CAP
 N 530362.2198
 E 12786532.3328
 ELEV 760.21

SOL. BORING NO.	DEPTH	DESCRIPTION
SB-4	0.00' TO 0.38'	HMA (HOT MIX ASPHALT)
	0.38' TO 1.17'	FINE TO COARSE SAND WITH NATURAL GRAVEL AND CLAY, BROWN
	1.17' TO 3.17'	LEAN CLAY, BROWN
	3.17' TO 4.80'	FINE TO MEDIUM CLAYEY SAND, BROWN
	4.00' TO 10.00'	FINE TO MEDIUM SAND, LIGHT BROWN
		END OF BORING
		NO GROUNDWATER ENCOUNTERED



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0 20 40
 PLAN SCALE: 1" = 40'
 PROFILE SCALE: HORIZ: 1" = 40' VERT: 1" = 5'



Know what's below.
 Call before you dig.

PLAN REVISIONS

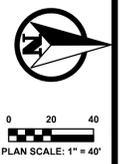
DATE	REVISION
01/22/2024	REVISED PER C.I. COMMENTS
04/17/2025	REVISED PER CITY COMMENTS

Moore+Bruggink
 Consulting Engineers
 2020 Monroe Ave.
 Grand Rapids, MI 49505
 (616) 363-9801 mailbox@mbce.com



IMPROVEMENTS
 IN
PLYMOUTH ROAD
 FROM HALL ST. TO MARTIN LUTHER KING JR ST.
 CITY OF EAST GRAND RAPIDS, KENT COUNTY, MICHIGAN

FIELD SURVEY / DATE: M+B
 PROJECT NO.: 240216.01
 DESIGN DRAWN BY: JPV
 DESIGNED BY: JPV
 CHECKED BY: RMA
 PLAN DATE: FEBRUARY 14, 2025
 SHEET NUMBER: 9 OF 12

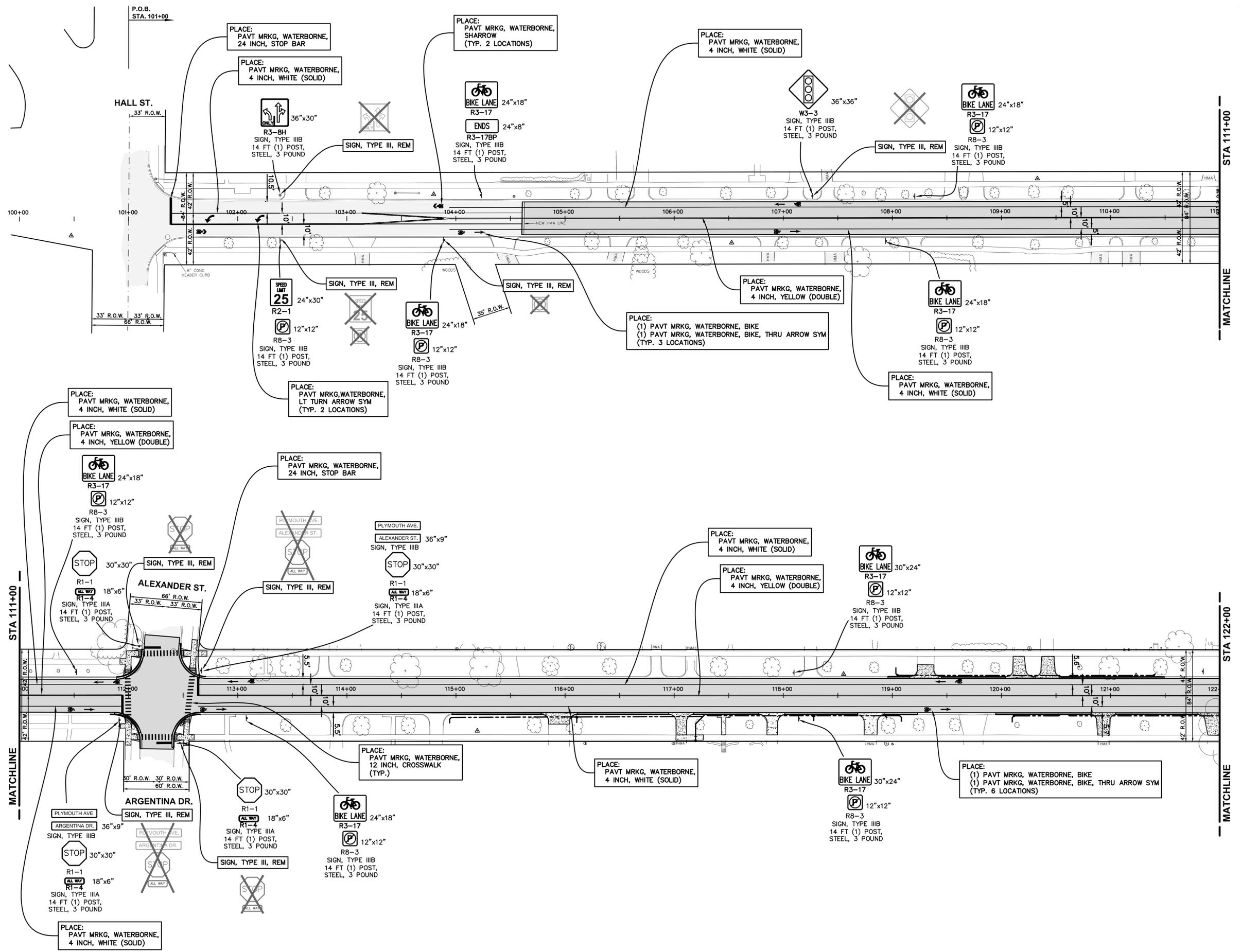


PLAN REVISIONS
01/22/2024 REVISED PER G.I. COMMENTS

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2020 Monroe Ave.
Grand Rapids, MI 49505
(616) 363-9801
mailto:mail@moore.com

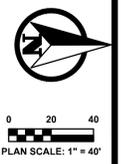
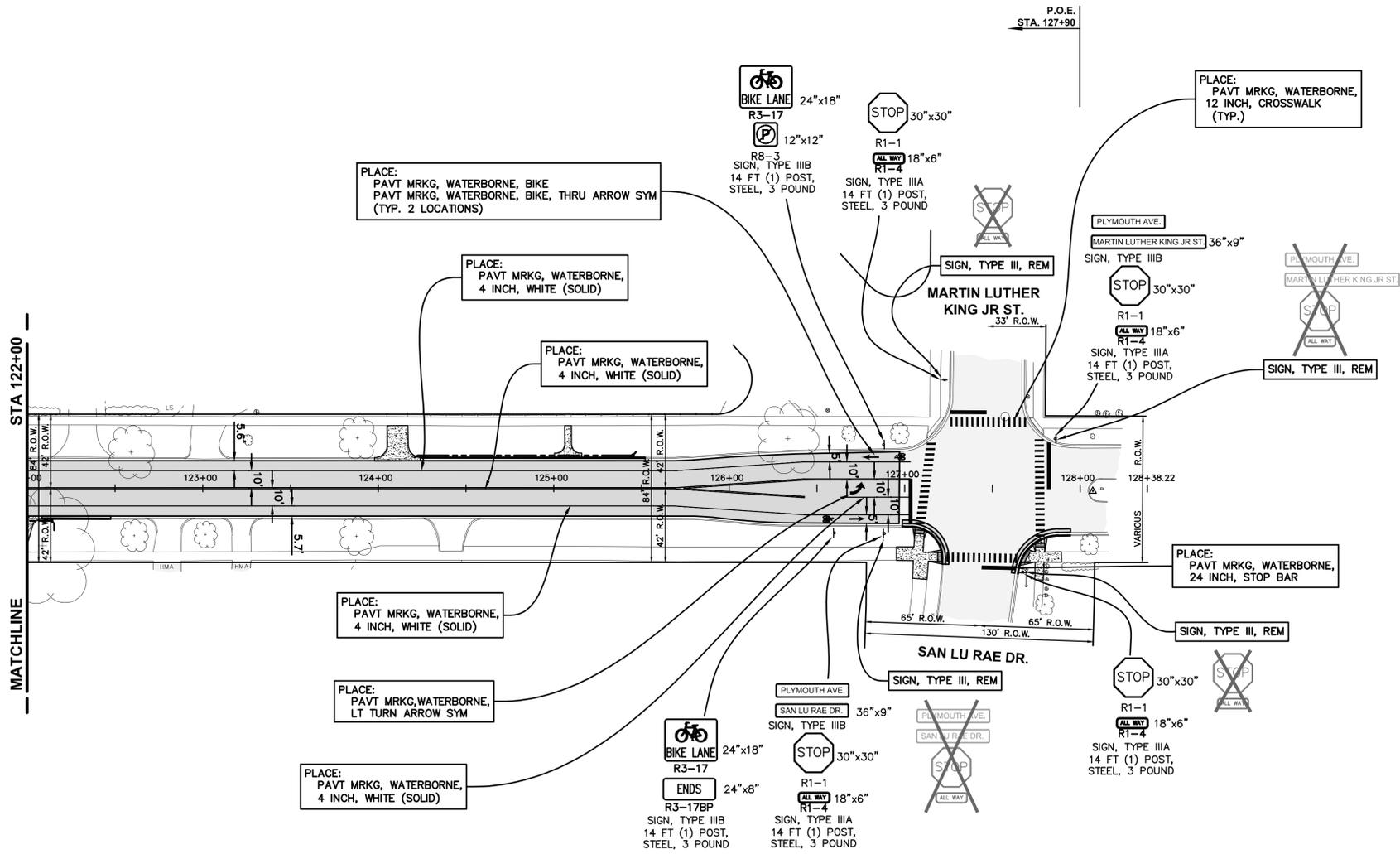
PAVEMENT MARKINGS AND PERMANENT SIGNS
IN
PLYMOUTH ROAD
FROM HALL ST. TO MARTIN LUTHER KING JR. ST.
CITY OF EAST GRAND RAPIDS, KENT COUNTY, MICHIGAN

FIELD SURVEY / DATE	M+B
PROJECT NO.	240216.01
DESIGN DRAWN BY:	JPV
DESIGNED BY:	JPV
CHECKED BY:	RMA
PLAN DATE:	FEBRUARY 14, 2025
SHEET NUMBER	10 OF 12



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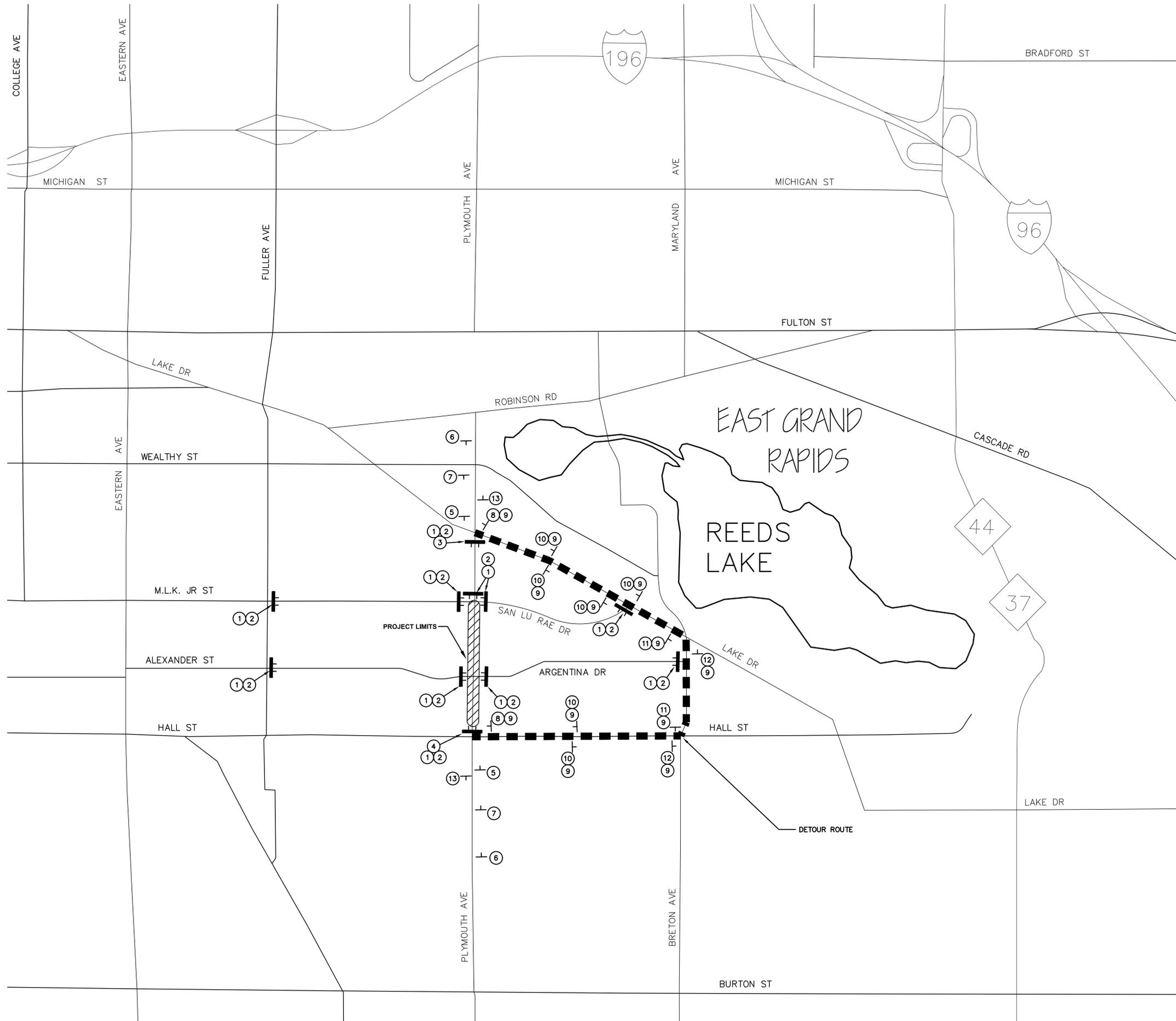
PLAN REVISIONS
01/22/2024 REVISED PER G.I. COMMENTS

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 2020 Monroe Ave.
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PAVEMENT MARKINGS AND PERMANENT SIGNS
 IN
PLYMOUTH ROAD
 FROM HALL ST. TO MARTIN LUTHER KING JR. ST.
 CITY OF EAST GRAND RAPIDS, KENT COUNTY, MICHIGAN

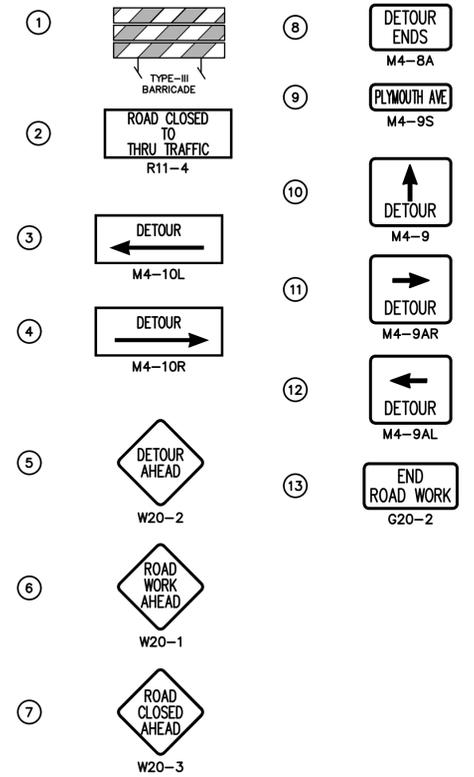
FIELD SURVEY / DATE	M+B
PROJECT NO.	240216.01
DESIGN DRAWN BY:	JPV
DESIGNED BY:	JPV
CHECKED BY:	RMA
PLAN DATE:	FEBRUARY 14, 2025
SHEET NUMBER	11 OF 12

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ESTIMATE OF TEMPORARY SIGN QUANTITIES

SIGN	MESSAGE	QTY.	IN. x IN.	SQ. FT.
SIGN, TYPE B TEMPORARY				
W20-1	ROAD WORK AHEAD	2	48 x 48	32
W20-2	DETOUR AHEAD	2	48 x 48	32
W20-3	ROAD CLOSED AHEAD	2	48 x 48	32
R11-4	ROAD CLOSED TO THRU TRAFFIC	11	60 x 30	137.5
M4-10R	DETOUR & ARROW SYM. →	1	60 x 30	12.5
M4-10L	DETOUR & ARROW SYM. ←	1	60 x 30	12.5
M4-9	DETOUR & ARROW SYM. ↑	6	30 x 24	30
M4-9AL	DETOUR & ARROW SYM. ←	2	30 x 24	10
M4-9AR	DETOUR & ARROW SYM. →	2	30 x 24	10
M4-9S	PLYMOUTH AVE	12	12 x 30	30
M4-8A	DETOUR ENDS	2	24 x 18	6
G20-2	END ROAD WORK	2	48 x 24	16
PCMS		2		
TOTAL, SIGN TYPE B TEMP				348



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01/22/2024 REVISED PER G.I. COMMENTS

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MAINTAINING TRAFFIC FOR PLYMOUTH ROAD
FROM HALL ST. TO MARTIN LUTHER KING JR ST.
CITY OF EAST GRAND RAPIDS, KENT COUNTY, MICHIGAN

FIELD SURVEY / DATE
M+B
PROJECT NO. 240216.01
DESIGN DRAWN BY: JPV
DESIGNED BY: JPV
CHECKED BY: RMA
PLAN DATE: FEBRUARY 14, 2025
SHEET NUMBER