



CITY OF ANN ARBOR PUBLIC WORKS

PLYMOUTH ROAD AND GREEN ROAD WATER MAIN REPLACEMENT

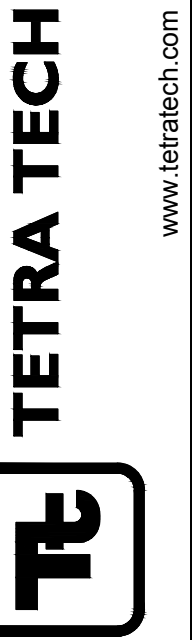
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NOTES:

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

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

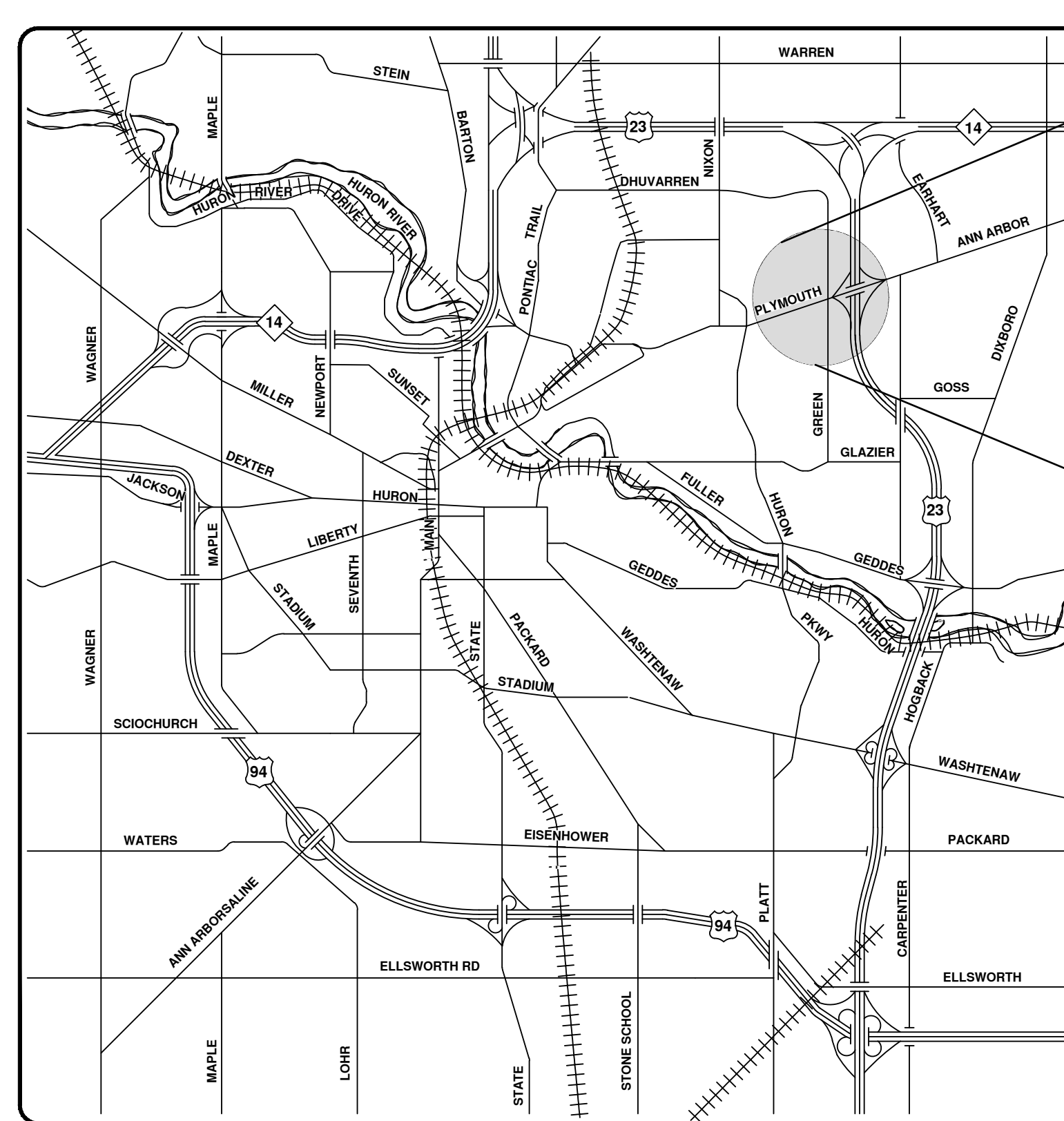
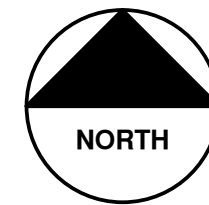
THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO THE 1994 EDITION OF THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS, ITS DETAILS, WHICH ARE INCLUDED BY REFERENCE, AND THIS PROJECT'S CONTRACT DOCUMENTS. THE OMISSION OF ANY CURRENT STANDARD DETAIL DOES NOT RELIEVE THE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



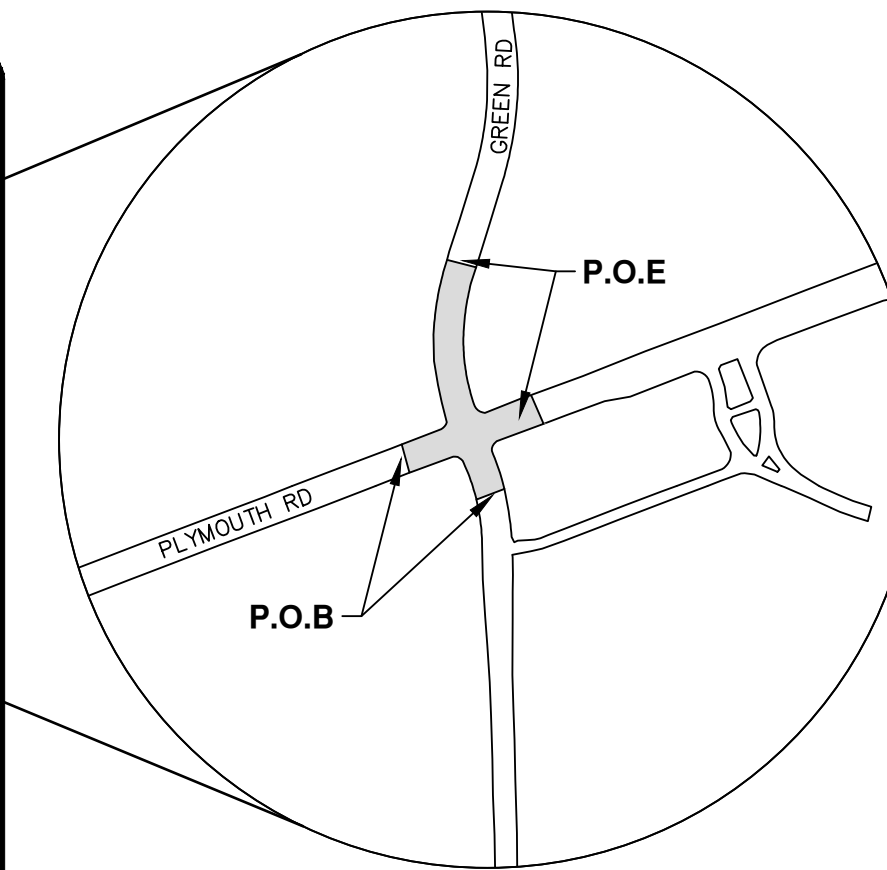
CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR, MI 48107-8847
734-794-4410
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VICINITY MAP



MARK	DATE	DESCRIPTION	BY

CITY OF ANN ARBOR
PUBLIC WORKS
PLYMOUTH ROAD AND GREEN ROAD
WATER MAIN REPLACEMENT
COVER SHEET

Project No.: 200-31537-16003
Designed By: J. SIWEK
Drawn By: S. GOTHA
Checked By:

1

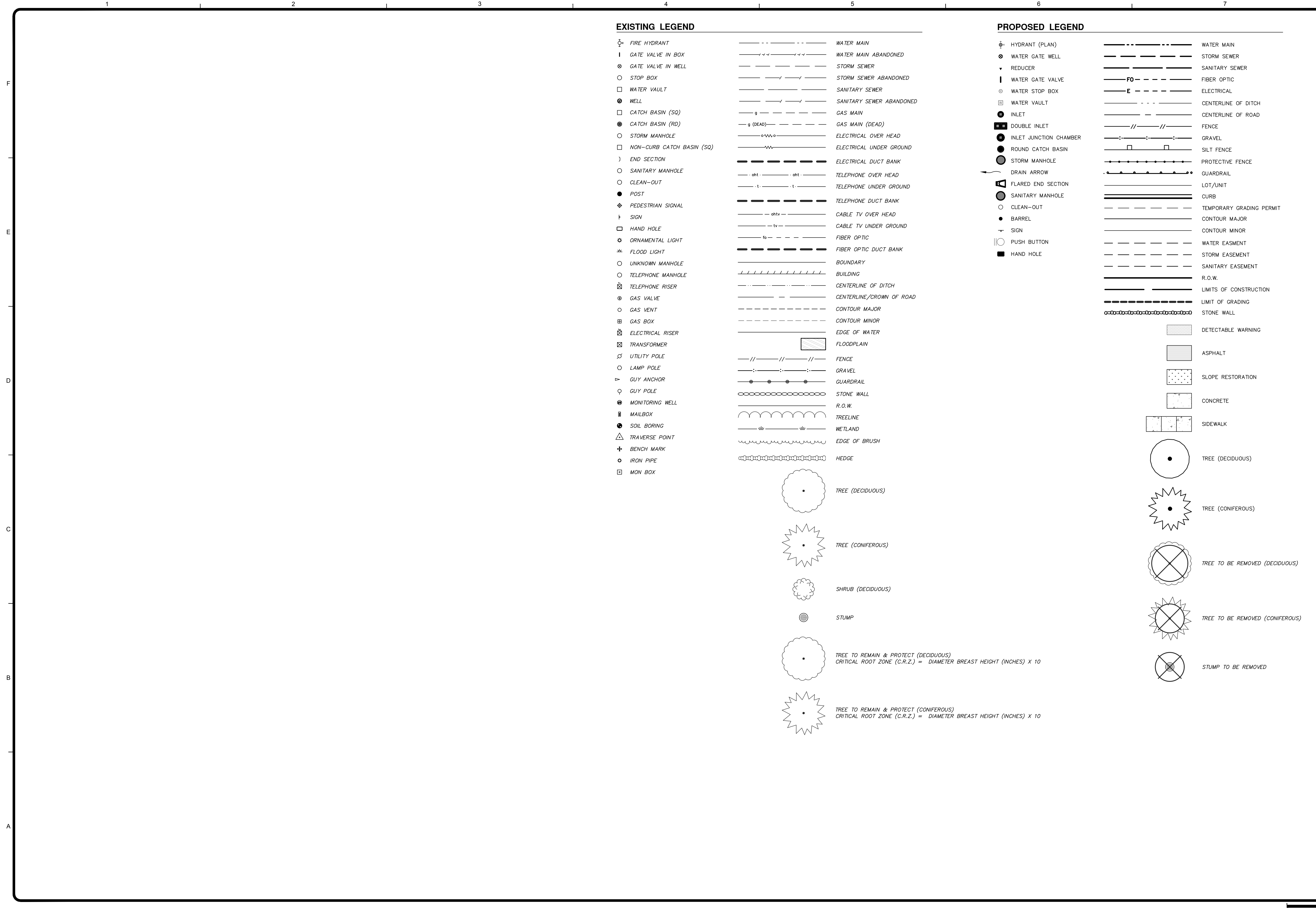
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Bar Measures 1 inch

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EXISTING LEGEND

- FIRE HYDRANT
- GATE VALVE IN BOX
- GATE VALVE IN WELL
- STOP BOX
- WATER VAULT
- WELL
- CATCH BASIN (SQ)
- CATCH BASIN (RD)
- STORM MANHOLE
- NON-CURB CATCH BASIN (SQ)
- END SECTION
- SANITARY MANHOLE
- CLEAN-OUT
- POST
- PEDESTRIAN SIGNAL
- SIGN
- HAND HOLE
- ORNAMENTAL LIGHT
- FLOOD LIGHT
- UNKNOWN MANHOLE
- TELEPHONE MANHOLE
- TELEPHONE RISER
- GAS VALVE
- GAS VENT
- GAS BOX
- ELECTRICAL RISER
- TRANSFORMER
- UTILITY POLE
- LAMP POLE
- GUY ANCHOR
- GUY POLE
- MONITORING WELL
- MAILBOX
- SOIL BORING
- TRAVERSE POINT
- BENCH MARK
- IRON PIPE
- MON BOX

- WATER MAIN
- WATER MAIN ABANDONED
- STORM SEWER
- STORM SEWER ABANDONED
- SANITARY SEWER
- SANITARY SEWER ABANDONED
- GAS MAIN
- GAS MAIN (DEAD)
- ELECTRICAL OVER HEAD
- ELECTRICAL UNDER GROUND
- ELECTRICAL DUCT BANK
- TELEPHONE OVER HEAD
- TELEPHONE UNDER GROUND
- TELEPHONE DUCT BANK
- CABLE TV OVER HEAD
- CABLE TV UNDER GROUND
- FIBER OPTIC
- FIBER OPTIC DUCT BANK
- BOUNDARY
- BUILDING
- CENTERLINE OF DITCH
- CENTERLINE/CROWN OF ROAD
- CONTOUR MAJOR
- CONTOUR MINOR
- EDGE OF WATER
- FLOODPLAIN
- FENCE
- GRAVEL
- GUARDRAIL
- STONE WALL
- R.O.W.
- TREELINE
- WETLAND
- EDGE OF BRUSH
- HEDGE

- TREE (DECIDUOUS)
- TREE (CONIFEROUS)
- SHRUB (DECIDUOUS)
- STUMP
- TREE TO REMAIN & PROTECT (DECIDUOUS)
CRITICAL ROOT ZONE (C.R.Z.) = DIAMETER BREAST HEIGHT (INCHES) X 10
- TREE TO REMAIN & PROTECT (CONIFEROUS)
CRITICAL ROOT ZONE (C.R.Z.) = DIAMETER BREAST HEIGHT (INCHES) X 10

PROPOSED LEGEND

- HYDRANT (PLAN)
- WATER GATE WELL
- REDUCER
- WATER GATE VALVE
- WATER STOP BOX
- WATER VAULT
- INLET
- DOUBLE INLET
- INLET JUNCTION CHAMBER
- ROUND CATCH BASIN
- STORM MANHOLE
- DRAIN ARROW
- FLARED END SECTION
- SANITARY MANHOLE
- CLEAN-OUT
- BARREL
- SIGN
- PUSH BUTTON
- HAND HOLE
- WATER MAIN
- STORM SEWER
- SANITARY SEWER
- FIBER OPTIC
- ELECTRICAL
- CENTERLINE OF DITCH
- CENTERLINE OF ROAD
- FENCE
- GRAVEL
- SILT FENCE
- PROTECTIVE FENCE
- GUARDRAIL
- LOT/UNIT
- CURB
- TEMPORARY GRADING PERMIT
- CONTOUR MAJOR
- CONTOUR MINOR
- WATER EASEMENT
- STORM EASEMENT
- SANITARY EASEMENT
- R.O.W.
- LIMITS OF CONSTRUCTION
- LIMIT OF GRADING
- STONE WALL
- DETECTABLE WARNING
- ASPHALT
- SLOPE RESTORATION
- CONCRETE
- SIDEWALK
- TREE (DECIDUOUS)
- TREE (CONIFEROUS)
- TREE TO BE REMOVED (DECIDUOUS)
- TREE TO BE REMOVED (CONIFEROUS)
- STUMP TO BE REMOVED

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MARK	DATE	DESCRIPTION	BY

CITY OF ANN ARBOR
PUBLIC WORKS
PLYMOUTH ROAD AND GREEN ROAD
WATER MAIN REPLACEMENT
LEGEND

Project No.: 200-31537-16003
Designed By: J. SIWEK
Drawn By: S. GOTHA
Checked By:

CONSTRUCTION NOTES:

- DRIVEWAYS AND ENTRANCES TO BUILDINGS, REAL PROPERTY, AND THE LIKE SHALL NOT BE BLOCKED EXCEPT FOR SHORT DURATIONS AND ONLY WHEN APPROVED BY THE ENGINEER. VEHICULAR AND PEDESTRIAN ACCESS SHALL BE MAINTAINED AT ALL TIMES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL NECESSARY DRIVEWAY CLOSURES WITH THE PROPERTY OWNER(S) AND RESIDENT(S) IN THE AREAS OF CONSTRUCTION.
- THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES AND SERVICE LEADS ARE TO BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- LOCATION AND DEPTH OF UTILITIES AS DEPICTED ON THE PLANS IS APPROXIMATE AND SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXCAVATE AHEAD AND ADJUST DEPTH OF CONFLICT UTILITIES ACCORDINGLY. ANY DAMAGE TO UTILITIES IS THE CONTRACTOR'S RESPONSIBILITY TO AVOID AND/OR REPAIR AS NECESSARY.
- THE CONTRACTOR IS TO TAKE SPECIAL CARE TO PROTECT THE EXISTING WATER MAIN AND BE RESPONSIBLE FOR MAINTAINING CONSISTENT WATER SERVICE.
- 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.
- TRENCHES FOR NEW WATER SERVICES SHALL BE EXCAVATED TO MIOSHA AND CITY OF ANN ARBOR FIELD SERVICES REQUIREMENTS.
- FOR THE OPERATION OF EXISTING VALVES, OR ANY OTHER RELATED ACTIVITIES PREFERRED BY THE CITY, THE CONTRACTOR SHALL NOT RECEIVE ADDITIONAL COMPENSATION FOR DELAYS DUE TO THE SCHEDULING OF OR COORDINATION WITH THE CITY OF ANN ARBOR FIELD SERVICES.
- THE CONTRACTOR SHALL BACKFILL TRENCHES IN ACCORDANCE WITH TRENCH DETAIL SPECIFIED ON PLANS. ALL CONCRETE REMOVALS AND REPLACEMENTS REQUIRED FOR THIS WORK WILL BE PAID FOR SEPARATELY.
- ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE POLYETHYLENE WRAPPED PER ANSI/AWWA C105/A21.5.
- COR-BLU BOLTS TO BE USED AT ALL MECHANICAL WATER MAIN JOINTS AT HYDRANTS AND MEGALUG FITTINGS
- THE CONTRACTOR SHALL CONSTRUCT, FLUSH, AND BACTERIOLOGICALLY TEST THE WATER MAIN PER DETAILED SPECIFICATION "WATER MAIN INSTALLATION AND TESTING" AND AS APPROVED BY THE ENGINEER. ALL CHLORINATED WATER SHALL BE DISCHARGED DIRECTLY INTO AN APPROVED SANITARY SEWER. THE CONTRACTOR SHALL SUPPLY ALL NECESSARY HOSES, FITTINGS AND THE LIKE TO ACCOMPLISH THIS WORK.
- WATER MAIN FITTINGS, OTHER THAN THOSE SPECIFICALLY LISTED AS SEPARATE PAY ITEMS, WHICH ARE REQUIRED TO COMPLETE THE WORK, SUCH AS BLOW-OFF ASSEMBLIES, CONCRETE THRUST BLOCKS, SOLID SLEEVES AND MECHANICAL PLUGS, SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE PIPE PAY ITEMS.
- ALL FITTINGS, HYDRANTS, VALVES AND CASTINGS REMOVED DURING CONSTRUCTION ARE THE PROPERTY OF THE CITY OF ANN ARBOR. THE CONTRACTOR WITHIN 48 HOURS SHALL DELIVER TO CITY OF ANN ARBOR FIELD OPERATIONS AND MAINTENANCE FACILITY AT THE W.R. WHEELER SERVICE CENTER LOCATED AT 4251 STONE SCHOOL ROAD.
- WHERE STREET CURBS ARE UNDERMINED DUE TO CONSTRUCTION ACTIVITIES, THEY SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUOUS MAINTENANCE OF THE TEMPORARY ROAD SURFACE AND SOIL EROSION CONTROL MEASURES WITHIN THE CONSTRUCTION AREA UNTIL THE FULL COMPLETION OF THE PROJECT. THIS WORK SHALL BE INCLUDED IN THE ITEM OF WORK "GENERAL CONDITIONS".
- ALL CURB, SIDEWALK, DRIVEWAY APPROACH REMOVALS SHALL BE APPROVED BY ENGINEER BEFORE THE WORK IS DONE.
- THE LOCATION OF MATERIAL STOCK PILES AND ON-SITE STAGING AREAS TO BE APPROVED BY THE ENGINEER.

- FOR MAINLINE PAVING, THE WIDTH OF THE MAT FOR EACH PASS OF THE PAVEMENT SHALL BE NOT LESS THAN 10.5' OR GREATER THAN 16', AS DIRECTED BY THE ENGINEER. THE ENGINEER WILL DIRECT THE LAYOUT OF THE LONGITUDINAL JOINTS DURING CONSTRUCTION.
- ALL STRUCTURES SHALL RECEIVE NEW CASTINGS AS DIRECTED BY THE ENGINEER, AS SPECIFIED ON THE STANDARD CASTING SCHEDULE. THE EXISTING CASTINGS ARE THE PROPERTY OF THE CITY OF ANN ARBOR. THE CONTRACTOR SHALL DELIVER TO CITY OF ANN ARBOR FIELD OPERATIONS AND MAINTENANCE FACILITY AT THE W.R. WHEELER SERVICE CENTER LOCATED AT 4251 STONE SCHOOL ROAD.
- WHERE WATER MAIN IS TO BE REMOVED & REPLACED OR ADDED, ALL PIPE SHALL BE INSTALLED USING TRENCH DETAIL DETAILED IN THE SPECIFICATIONS OR SHOWN ON PLANS. BACKFILL FOR WATER CONSTRUCTION SHALL BE MDOT GRANULAR MATERIAL, CLASS II, MODIFIED.
- EXISTING STREET NAME, GUIDE, AND REGULATORY SIGNS, AND MAILBOXES WHICH CONFLICT WITH THE PROPOSED CONSTRUCTION SHALL BE REMOVED PRIOR TO CONSTRUCTION, STORED IN A MANNER WHICH WILL PREVENT DAMAGE, AND RE-SET IN LOCATIONS AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN "MACHINE GRADING, MODIFIED"
- IN AREAS WHERE EDGE DRAIN CANNOT BE INSTALLED IN ACCORDANCE WITH CITY OF ANN ARBOR DETAIL SD-TD-11, THE EDGE DRAIN SHALL BE INSTALLED AT THE DEPTH AS INDICATED ON THE PLANS, OR AS DIRECTED BY ENGINEER. IN NO CASE SHALL THE EDGE DRAIN BE INSTALLED AT A GRADE LESS THAN 0.50% OR AT A DEPTH OF LESS THAN 3.25' BELOW TOP OF PROPOSED PAVEMENT.
- ALL EXCAVATION REQUIRED FOR PROJECT GRADING WITHIN THE PROJECT LIMITS, INCLUDING PROPOSED PAVEMENT, 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, 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.
- ALL STRUCTURES SHALL RECEIVE NEW CASTINGS, EITHER TYPE B, 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 THEIR CITY TRUCKS. ALL COSTS ASSOCIATED WITH STORING, STOCKPILING, AND LOADING CASTINGS INTO CITY VEHICLES SHALL BE INCLUDED IN THE ITEM OF WORK MOBILIZATION, MAX. ----- AND WILL NOT BE PAID FOR SEPARATELY.
- PLACE 4" (MINIMUM) THICKNESS CLASS II GRANULAR MATERIAL COMPACTED TO 95% OF ITS MAX. DRY DENSITY UNDER CONCRETE SIDEWALK AS SHOWN ON THE DETAILS. THIS WORK WILL BE INCLUDED IN THE CONTRACT ITEMS SUBBASE, CIP, CLASS II, MODIFIED.
- PRIOR TO PLACING THE ADJACENT PAVING PASS ON THE LEVELING AND WEARING COURSES OF HMA, THE CONTRACTOR SHALL CUT AND REMOVE 6" TO 8" OF THE PREVIOUSLY PLACED PAVEMENT BY MEANS OF A COULTER WHEEL. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY METHOD(S) FOR CUTTING THE PAVEMENT THAT DOES NOT PROVIDE A SATISFACTORY EDGE AS DETERMINED BY THE ENGINEER. ANY METHOD(S) EMPLOYED BY THE CONTRACTOR SHALL BE COMPLETELY EFFECTIVE. THE CUT EDGE SHALL HAVE A UNIFORM BEAD OF CRAFTCO JOINT ADHESIVE APPLIED. THE REMOVAL OF THIS HMA MATERIAL, CLEANING THE HMA SURFACE AND PAVEMENT EDGE, AND CONDITION OF THE RESULTING EDGE MUST BE APPROVED BY THE ENGINEER PRIOR TO PROCEEDING WITH THE PLACEMENT OF THE SUCCEEDING PASS OF HMA. THE BASE COURSE OF HMA WILL ONLY HAVE ITS EDGES TACKED IN ACCORDANCE WITH STANDARD PAVING PRACTICES. ALL COSTS ASSOCIATED WITH COMPLYING WITH THESE REQUIREMENTS WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED TO BE INCLUDED IN THE ITEMS OF WORK HMA -----

28. A UNIFORM COAT(S) OF CURING COMPOUND SHALL BE APPLIED ACCORDING TO THE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS REGARDLESS OF THE DIFFICULTY INVOLVED. THE CONTRACTOR SHALL TAKE CARE TO PREVENT OVERSPRAY WHEN APPLYING CURING COMPOUND. SEVERAL DIFFERENT METHODS MAY NEED TO BE DEVELOPED TO PROTECT VARIOUS SITUATIONS, BUT ALL METHODS USED TO PREVENT OVERSPRAY OF THE CURING COMPOUND SHALL BE COMPLETELY EFFECTIVE. METHODS USED SHALL BE APPROVED BY THE ENGINEER PRIOR TO USE, HOWEVER APPROVAL OF A METHOD DOES NOT GUARANTEE SUCCESS OR ACCEPTABILITY. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR COMPLYING WITH THESE REQUIREMENTS.

GENERAL NOTES:

- NOTIFY THE CITY OF ANN ARBOR SOIL EROSION CONTROL OFFICE 48 HOURS PRIOR TO BEGINNING WORK ON THE PROJECT. PHONE: 734-794-6265.
- THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN THE SOIL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER AT ALL TIMES DURING CONSTRUCTION. ANY MODIFICATIONS OR ADDITIONS TO THE SOIL EROSION CONTROL MEASURES DUE TO CONSTRUCTION OR CHANGED CONDITIONS SHALL BE AS DIRECTED AND APPROVED BY THE ENGINEER.
 - ALL SOIL EROSION AND SEDIMENTATION CONTROL WORK SHALL CONFORM TO THE PERMIT REQUIREMENTS OF THE CITY OF ANN ARBOR, CITY ORDINANCE CHAPTER 63, CITY OF ANN ARBOR STANDARDS DIVISION VII, THE LAWS OF THE STATE OF MICHIGAN, AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
 - DAILY, OR AFTER ANY STORM EVENT, INSPECTIONS OF EROSION CONTROL MEASURES SHALL BE MADE BY THE CONTRACTOR. PERIODIC INSPECTIONS MAY BE MADE BY THE ENGINEER TO DETERMINE THE EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES. ANY NECESSARY CORRECTIONS SHALL BE MADE WITHOUT DELAY, AND WITHOUT ADDITIONAL COST TO THE CITY OF ANN ARBOR.
 - EROSION AND SEDIMENTATION FROM WORK ON THE SITE SHALL BE CONTAINED ON THE SITE AND NOT BE ALLOWED TO COLLECT ON ANY OFF-SITE AREAS, ROADWAYS OR WATERWAYS.
 - ALL MUD/SOIL TRACKED ONTO ROADWAYS FROM THE SITE DUE TO CONSTRUCTION, SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR. IF SO ORDERED, THE CONTRACTOR SHALL PROVIDE AND OPERATE A VACUUM-TYPE STREET SWEEPER, AT NO ADDITIONAL COST TO THE CITY OF ANN ARBOR, WITHIN FOUR (4) HOURS OF BEING SO ORDERED.
 - RESTORATION OF ALL DISTURBED AREAS, INCLUDING PLACEMENT OF TOPSOIL, SEED, FERTILIZER AND MULCH AND/OR SOD SHALL BE PERFORMED WITHIN FIVE (5) DAYS OF THE COMPLETION OF FINAL GRADE.
 - CONSTRUCTION OPERATIONS SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE SOIL EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO EXCAVATION IN CRITICAL AREAS AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING OPERATIONS.
 - SPECIAL PRECAUTIONS WILL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION.
 - PROPER DUST CONTROL SHALL BE MAINTAINED DURING CONSTRUCTION BY USE OF WATER TRUCKS AND/OR DUST PALLIATIVE AS REQUIRED.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND REMOVAL OF SOME MEASURES UPON AUTHORIZED COMPLETION OF THE PROJECT. FINAL COMPLETION OF PROJECT WILL NOT BE AUTHORIZED UNTIL ALL SITE WORK AND UTILITY CONSTRUCTION IS COMPLETE AND ALL SOILS ARE STABILIZED.
 - THE CONTRACTOR SHALL NOT GRADE INTO ADJACENT PROPERTIES. SILT AND PROTECTIVE FENCE SHALL BE INSTALLED AND MAINTAINED TO PREVENT GRADING, EROSION AND SEDIMENTATION INTO THE ADJACENT PROPERTIES.
 - TREE PROTECTION FENCING MUST REMAIN INTACT UNTIL RESTORATION OF THE SITE IS COMPLETE.
- SEQUENCE OF EROSION CONTROL MEASURES:**
- 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

GENERAL NOTES:

- EVENT.
- SAMPLE 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.
 - REMOVE EXISTING PAVEMENT, CURB AND GUTTER AND STRIP AND STOCKPILE TOPSOIL AS NEEDED. STABILIZE STOCKPILE AS REQUIRED.
 - PERFORM MACHINE GRADING OPERATIONS AND CONSTRUCT PAVEMENTS (MAINLINE, SIDEWALKS, DRIVES, ETC.).
 - COMPLETE PAVEMENT RESTORATION WORK OPERATIONS IN ACCORDANCE WITH CONSTRUCTION SEQUENCE CONTAINED WITHIN THE SPECIAL PROVISION ENTITLED "MAINTAINING TRAFFIC AND CONSTRUCTION METHOD AND SEQUENCING" CONTAINED IN THE CONTRACT PROPOSAL.
 - CONTINUALLY MAINTAIN EROSION AND SEDIMENTATION CONTROL MEASURES, AS REQUIRED TO ALLOW DRAINAGE AND SEDIMENT REMOVAL. REMOVE ANY ACCUMULATED SEDIMENT IMMEDIATELY.
 - TEMPORARY SEED AND INSTALL EROSION CONTROL BLANKET IN ALL DISTURBED AREAS.
 - CLEAN OUT STORM SEWER SYSTEMS.
 - 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.
- TEMPORARY SEEDING:**
- SEED IN ACCORDANCE WITH PROJECT DRAWINGS AND SPECIFICATIONS.
 - ANY DISTURBED AREA NOT PAVED, SEEDED, MULCHED, SODDED OR BUILT UPON BY NOVEMBER 15TH OR JUNE 30TH IS TO BE TEMPORARILY STABILIZED PER SPECIFICATIONS.
- THE ESTIMATED COST OF SOIL EROSION AND SEDIMENTATION CONTROL MEASURES, TOPSOIL, SEEDING, AND MULCH = \$10,000
- ESTIMATE OF EXCAVATION AND FILL FROM EXISTING TO FINAL GRADE:
- EXCAVATION = 5080 CY, FILL = 3898 CY
- ON SITE SOILS PER THE USDA SOIL SURVEY OF WASHTEENAW COUNTY, MICHIGAN:
- Sb - SEBEWA LOAM - IN DEPRESSION AREAS, BROAD LOW-LYING AREA, AND DRAINAGEWAYS OF OUTWASH PLAINS, VALLEY TRAINS, AND TERRACES. SLOPE IS 0% TO 2%.
 - FoB - FOX SANDY LOAM - IN UPLAND AREAS AND ON OUT WASH PLAINS, KAMES, VALLEY TRAINS, TERRACES, AND MORAINES. SLOPES ARE UNIFORM OR SHORT AND COMPLEX.
 - MdA - MATHERTON SANDY LOAM - IN DEPRESSION AREAS, BROAD LOW-LYING AREAS, AND ALONG DRAINAGEWAYS, OUTWASH PLAINS, VALLEY TRAINS, AND TERRACES. NEARLY LEVEL TO GENTLY SLOPING.
 - MfA - METAMORA SANDY LOAM - IN DEPRESSION AREAS, BROAD, LOW-LYING AREAS, AND ALONG DRAINAGEWAYS OF TILL PLAINS AND MORAINES.
 - NoB - NAPPANEE SILTY CLAY LOAM - ON FOOT SLOPES AND ALONG DRAINAGEWAYS OF TILL PLAINS, MORAINES, AND LAKE PLAINS. NEARLY LEVEL TO GENTLY SLOPING.

PERMITS REQUIRED TO BE OBTAINED BY THE CONTRACTOR PRIOR TO THE BEGINNING OF CONSTRUCTION.	
PERMIT	ISSUING AUTHORITY
LANE CLOSURE PERMIT*	CITY OF ANN ARBOR PROJECT MANAGEMENT UNIT
GRADING/SOIL EROSION & SEDIMENTATION CONTROL PERMIT*	CITY OF ANN ARBOR CUSTOMER SERVICE
RIGHT-OF-WAY PERMIT*	CITY OF ANN ARBOR CUSTOMER SERVICE
* NO COST TO CONTRACTOR	

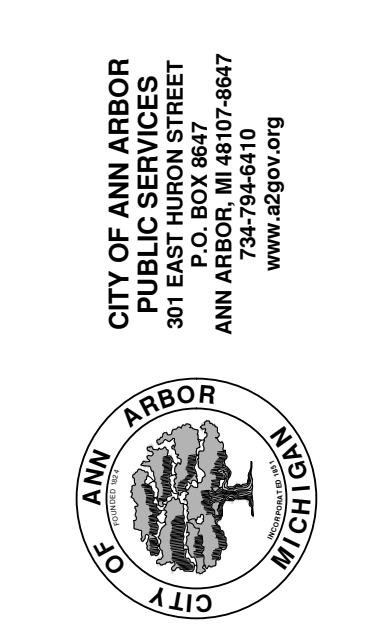
PERMITS REQUIRED TO BE OBTAINED BY THE CITY OF ANN ARBOR PRIOR TO THE BEGINNING OF CONSTRUCTION.	
PERMIT	ISSUING AUTHORITY
M.D.E.Q. WATER MAIN CONSTRUCTION PERMIT	MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
M.D.O.T. ROW CONSTRUCTIONS PERMIT	MICHIGAN DEPARTMENT OF TRANSPORTATION
M.D.E.Q. SANITARY SEWER CONSTRUCTION PERMIT	MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

CONTACT INFORMATION		
PUBLIC UTILITIES	OWNER	CONTACT
WATER		DAN WOODEN (734) 794-6350
SANITARY		PAT MAINO (734) 794-6350
STORM	CITY OF ANN ARBOR FIELD OPERATIONS SERVICE UNIT W.R. WHEELER SERVICE CENTER 4251 STONE SCHOOL ROAD ANN ARBOR, MI 48108	STEVEN GOEBEL (734) 794-6350
FORESTRY		MATT WALDSMITH (734) 794-6350
SIGNS SIGNALS STREET LIGHTS		CHUCK FOJTIK (734) 794-6361
PRIVATE UTILITIES	OWNER	CONTACT
GAS	DTE ENERGY 3150 E. MICHIGAN AVE, YPSILANTI TOWNSHIP, MI 48198	ROBERT CZAPIEWSKI (734) 544-7818
ELECTRIC	DTE ENERGY WESTERN WAYNE SERVICE CENTER 8001 HAGGERTY ROAD BELLEVILLE, MI 48111	CLAY COMBEE (734) 397-4112
CABLE	COMCAST 27800 FRANKLIN ROAD SOUTHFIELD, MI 48034	RON SUTHERLAND (313) 999-8300
PHONE	AT&T 550 S. MAPLE ROAD ANN ARBOR, MI 48103	(734) 996-2135
FIBER OPTIC	EVERSTREAM 1781 HOLLOWAY DR HOLT, MI 48842	RYAN SCHANER (517) 742-4109
FIBER OPTIC	LEVEL 3 COMMUNICATIONS 1025 EL DORADO BLVD BROOMFIELD, CO 80021	JUDY HENRY (720) 888-2061

BENCHMARKS

BM #2 - NW BOLT ON FIRST EXISTING LIGHT POLE 209'+- NORTH OF CL PLYMOUTH ROAD, 39'+- EAST OF CL GREEN ROAD. ESTABLISHED FROM CITY OF ANN ARBOR WATER PLANS FOR GREEN ROAD (BM#2) SHEET 4 OF 7. ELEV. 907.16

BM #4 - NW BOLT ON FIRST EXISTING LIGHT POLE 55'+- NORTH OF CL PLYMOUTH ROAD, 170'+- EAST OF CL GREEN ROAD. ELEV. 910.21



BY	DATE	DESCRIPTION

NOTES

CITY OF ANN ARBOR PUBLIC WORKS

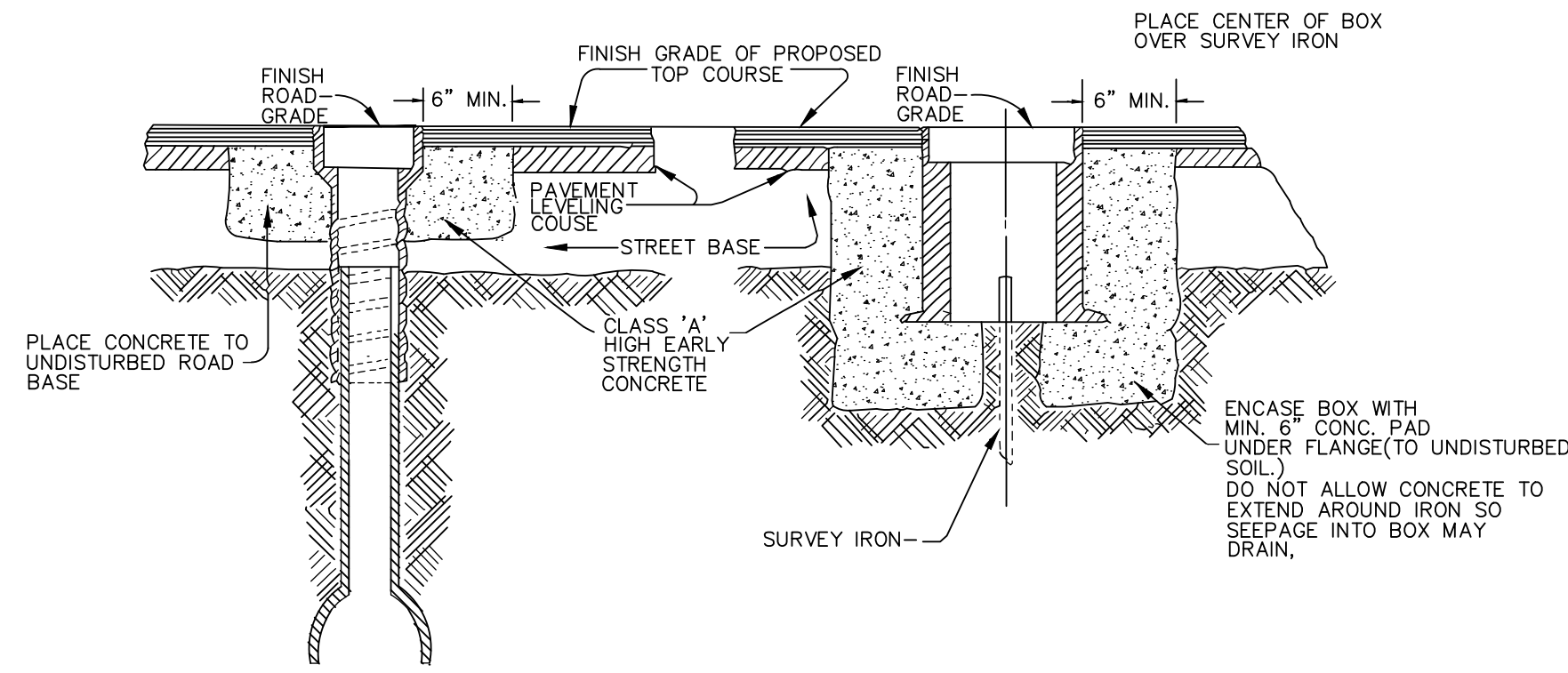
PLYMOUTH ROAD AND GREEN ROAD WATER MAIN REPLACEMENT

Project No.: 200-31537-16003
 Designed By: J. SIWEK
 Drawn By: S. GOTHA
 Checked By:

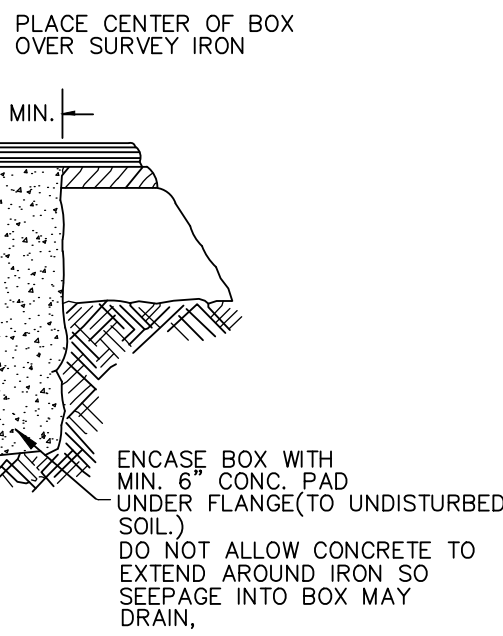
2/22/2017 3:53:47 PM - I:\ERS08\851\PROJECTS\IER01537\200-31537-16003\CAD\SHHEETFILES\C03-NOTES.DWG - GOTHA, STEVEN

WATER OR GAS VALVE BOX ADJUSTMENT

NOTE: GAS VALVE BOXES TO BE ADJUSTED BY THE GAS COMPANY.

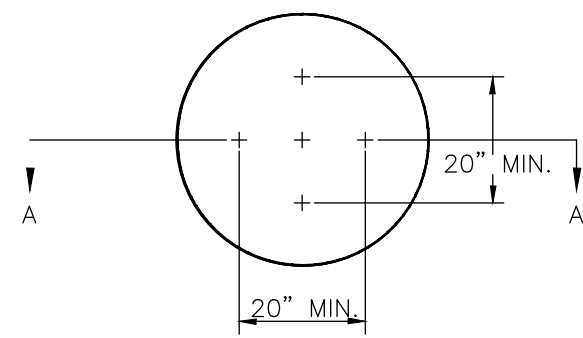


MONUMENT BOX ADJUSTMENT

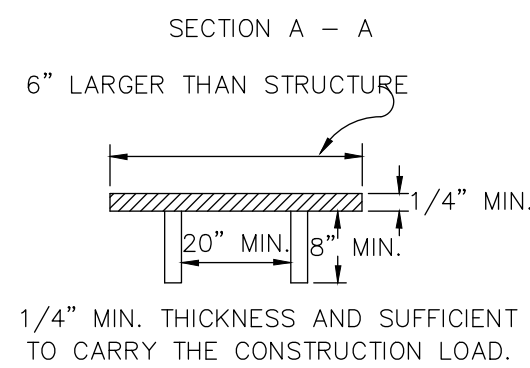


NOTE: RAISE CASTING TO PROPOSED FINISH STREET GRADE AFTER PLACEMENT OF LEVELING COURSE(S) AND PRIOR TO PLACING FINAL TOP COURSE

VALVE/MONUMENT BOX ADJUSTMENT



NOTE: PLATE MAY BE CIRCULAR, SQUARE OR RECTANGULAR

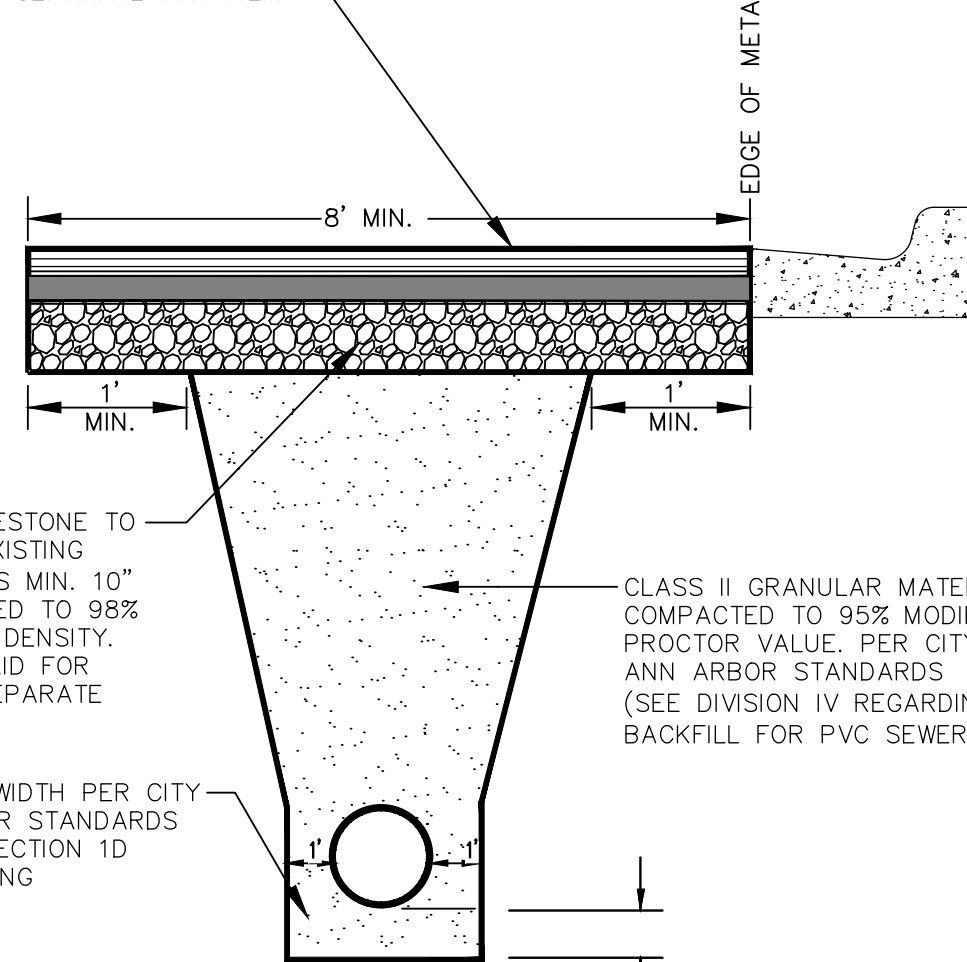


STRUCTURE PLATE

UTILITY TRENCH DETAILS

- NOTES:
- PAVEMENT REMOVAL IS INCLUDED IN PRICE OF UTILITY
 - DENSITY TESTING PER CITY OF ANN ARBOR SPECIFICATION
 - TRENCH DETAILS SHOW TYPE OF BACKFILL AND SURFACE RESTORATION ONLY.
 - ALL TRENCHING TO CONFORM TO ALL APPLICABLE M.I.O.S.H.A. STANDARDS

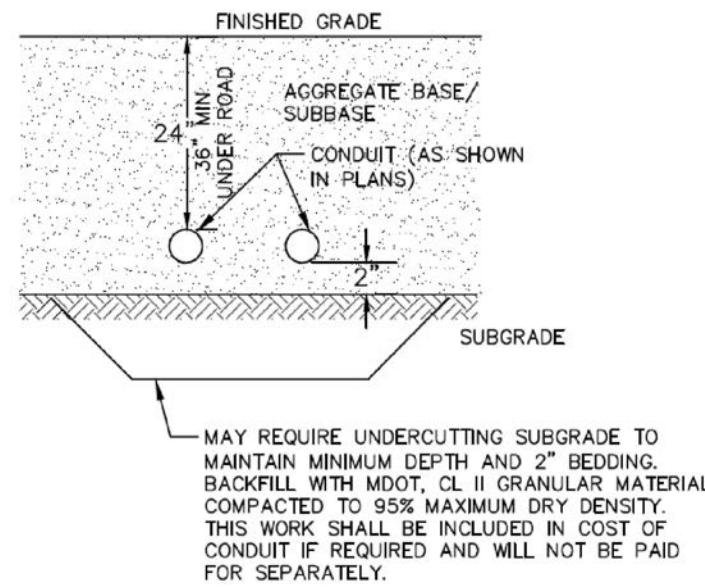
BITUMINOUS PAVEMENT, WEARING COURSE, 5E-10 HIGH STRESS, 1.5" BITUMINOUS PAVEMENT, LEVELING COURSE, 4E-10 HIGH STRESS, 2.0" BITUMINOUS PAVEMENT, BASE COURSE, 3E-10 HIGH STRESS, 3.5" COMPACTED TO 92-96% OF THEORETICAL MAXIMUM DENSITY. TO BE PAID FOR UNDER SEPARATE PAY ITEM



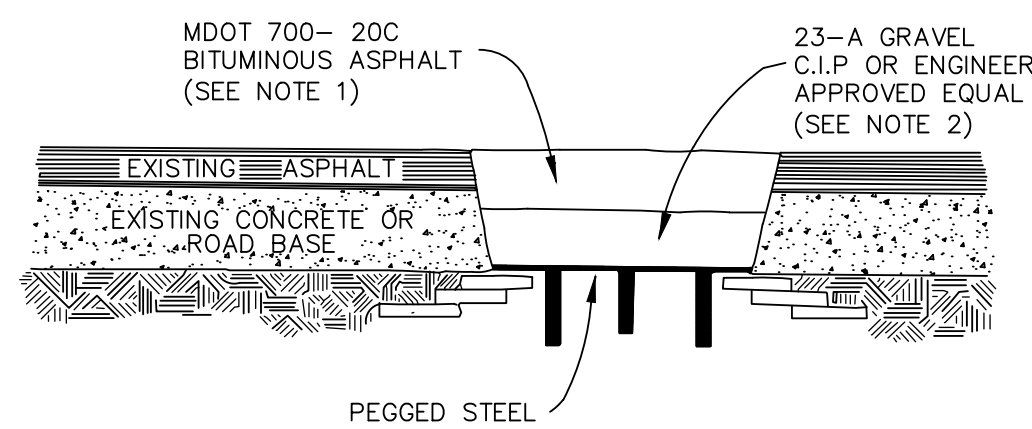
TRENCH DETAIL I, MODIFIED

NO SCALE

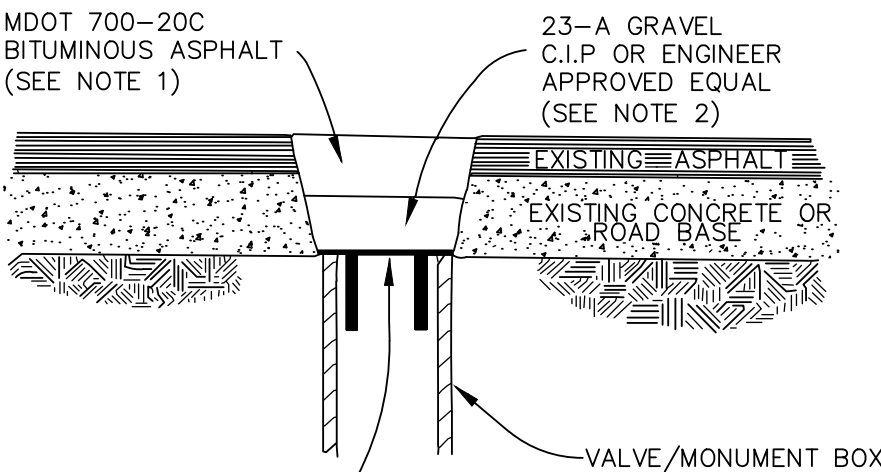
CONDUIT PLACEMENT DETAIL



MAY REQUIRE UNDERCUTTING SUBGRADE TO MAINTAIN MINIMUM DEPTH AND 2" BEDDING. BACKFILL WITH MDOT, CL II GRANULAR MATERIAL COMPACTED TO 95% MAXIMUM DRY DENSITY. THIS WORK SHALL BE INCLUDED IN COST OF CONDUIT IF REQUIRED AND WILL NOT BE PAID FOR SEPARATELY.



MANHOLE LOWERING DETAIL

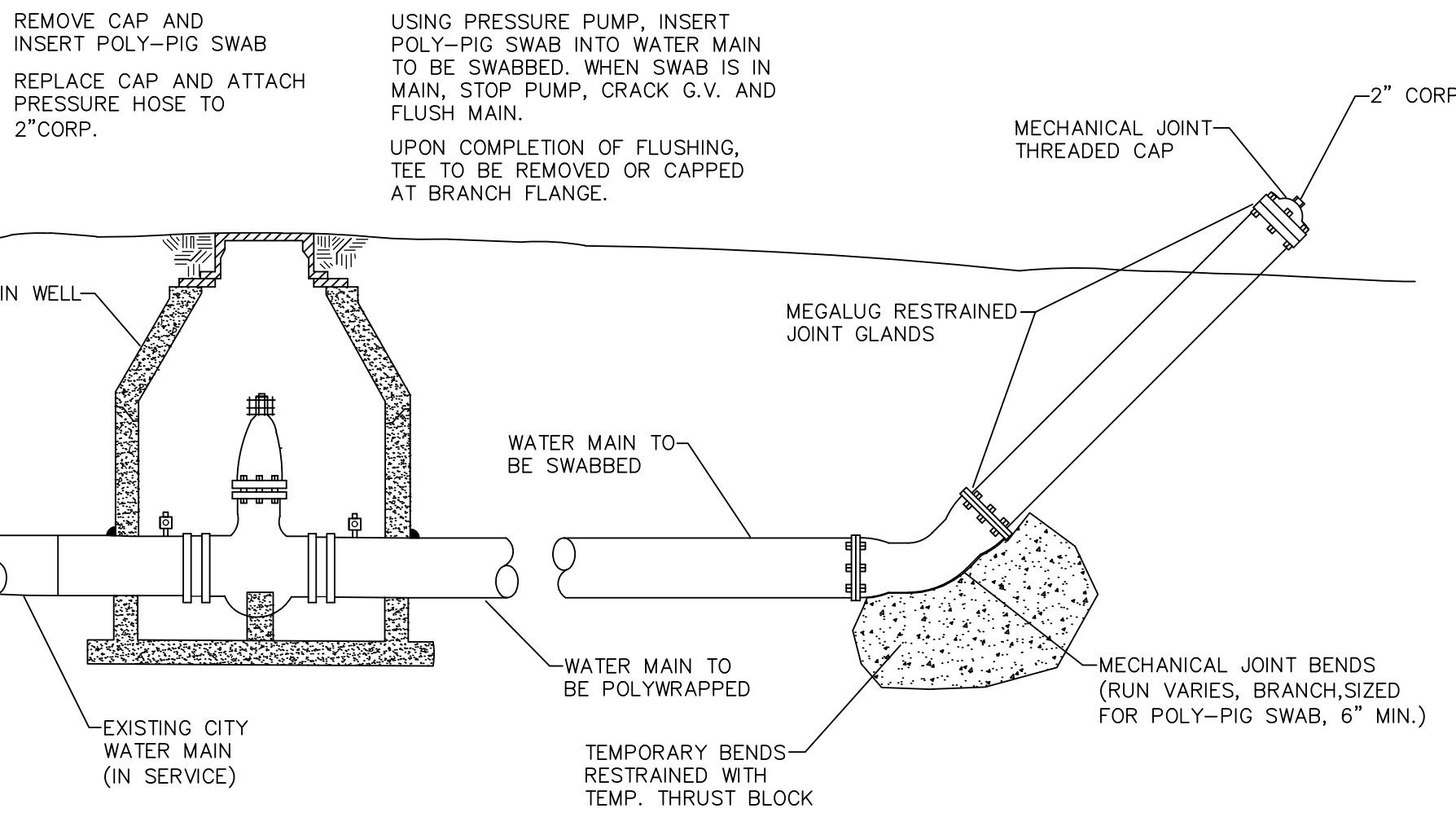


VALVE/ MONUMENT BOX LOWERING DETAIL (SEE NOTE 3)

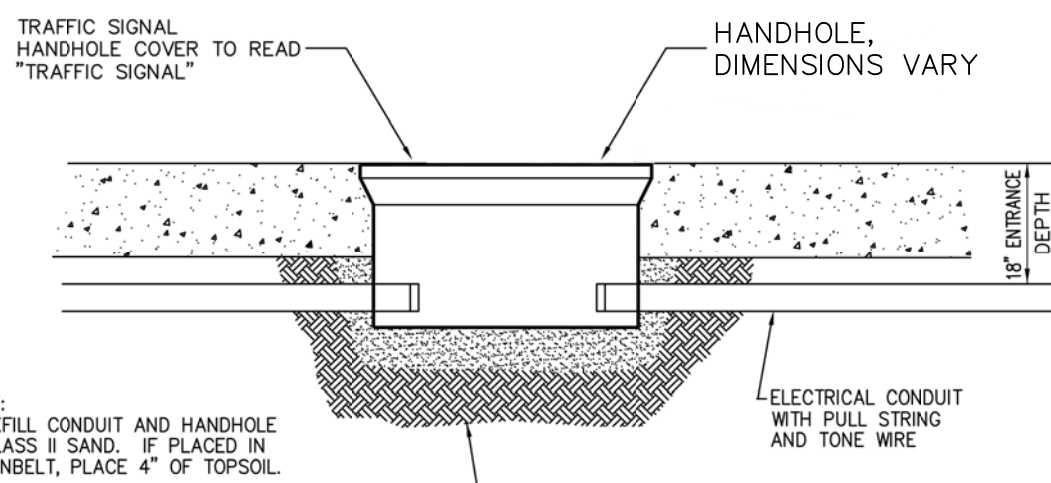
- NOTE 1: IF TRAFFIC IS TO BE MAINTAINED ON THE ROADWAY BEFORE OR AFTER THE COLD MILLING OPERATION, THE STRUCTURE SHALL BE LOWERED TO THE EXTENT THAT A MINIMUM OF THREE(3) INCHES ASPHALT MATERIAL MDOT 700-20C, OR ENGINEER APPROVED EQUAL, REMAINS TO SUPPORT TRAFFIC.
- NOTE 2: IF THE ROADWAY BEING MILLED 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 COMPACTED 23-A GRAVEL OR ENGINEER APPROVED EQUAL.

NOTE 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 REPLACING SAID MONUMENT AT THE CONTRACTORS EXPENSE.

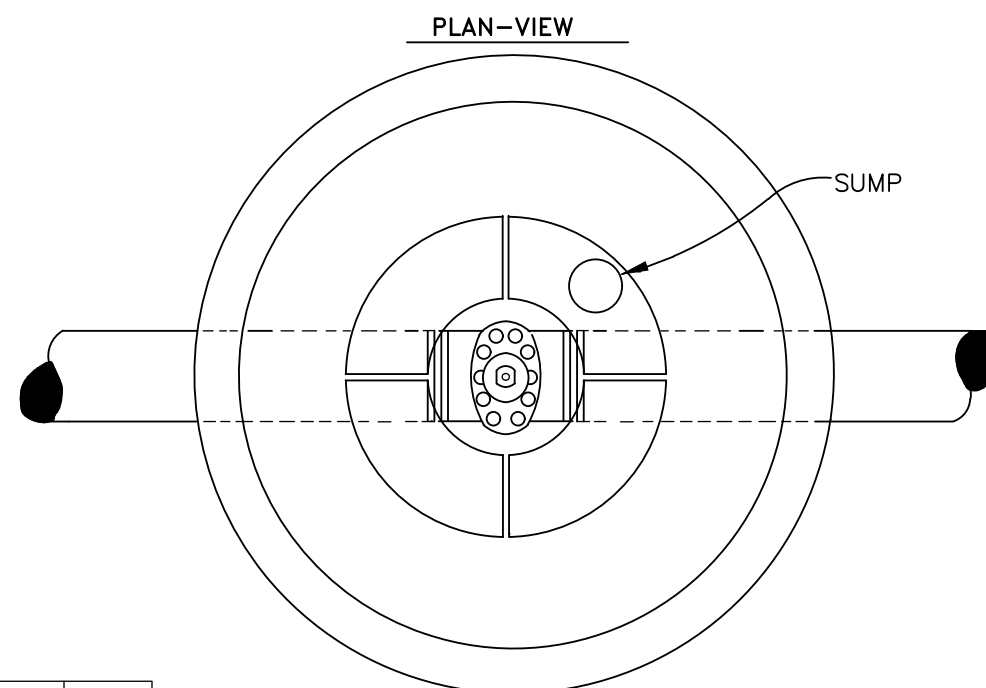
MANHOLE & VALVE/MONUMENT BOX LOWERING



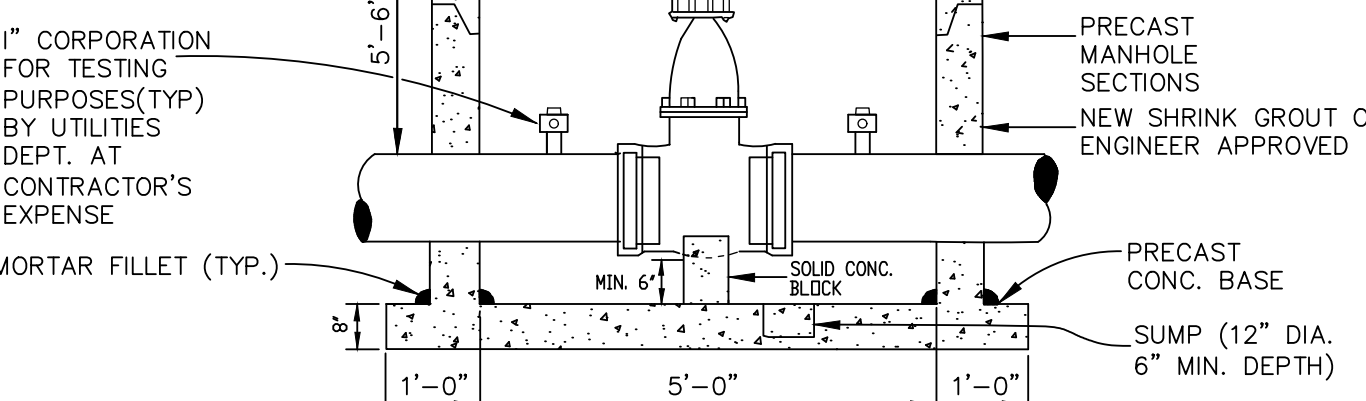
SWAB LAUNCHING, MODIFIED



TRAFFIC SIGNAL HANDHOLE DETAIL



PIPE SIZE	MH DIA.
12" OR LESS	5'
16" TO 20"	6'
24" TO 30"	7'



- NOTE: ALL LIFT HOLES AND JOINTS SHALL BE MORTARED BOTH INSIDE AND OUTSIDE.
- NOTE: ALL JOINTS MADE WATER TIGHT WITH RUBBER GASKET JOINTS
- NOTE: NO STEPS PERMITTED

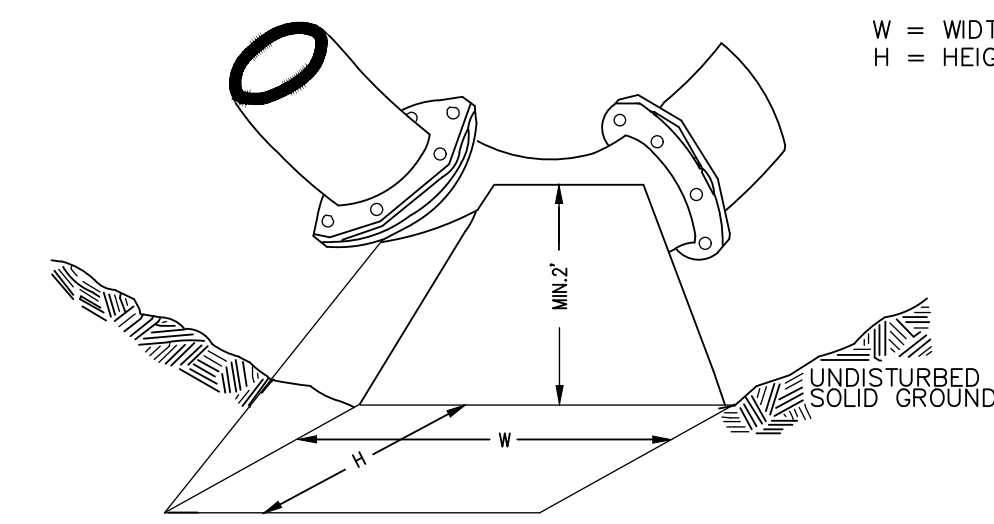
GATE WELL FOR MAIN 16" AND SMALLER

MINIMUM STANDARDS

REACTION BACKING: The Class "A" concrete at the fitting face shall extend to within (2) inches of the bell and shall extend from the fitting face a minimum of (2) feet to the UNDISTURBED SOLID GROUND. The dimensions of the reaction backing (thrust block) at the face of the undisturbed solid ground shall be as shown in the Table below. If there isn't sufficient space for the installation of the "thrust block" without interference with other services, another arrangement satisfactory to the engineer shall be used, i.e. encasement.

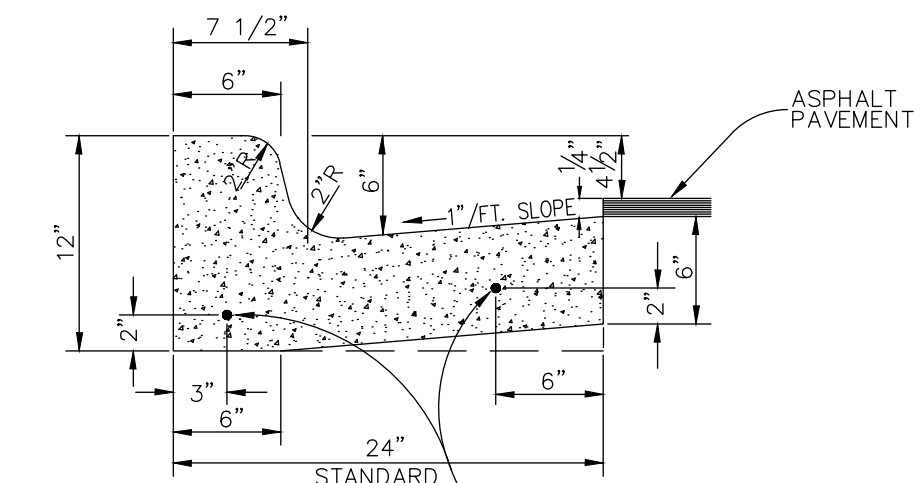
Fittings I.D. Inches	Plug Tee Cross		Bends				Hydrant	
	W	H	90° W	90° H	45° W	45° H	11 1/4" W	11 1/4" H
2.5	1	1	1	1	1	1		
4	1	1	1	1	1	1		
6	2	1.5	2	2	2	2	2	1.5
8	2.5	2	3.5	2	2	2	2	2
12	3.5	3	5.5	3	3.5	2.5	2	2
16	6	3.5	6	4	5	3	3.5	2.5
20	8	4	12	4	6	4	4	3
24	11	4	17	4	9	4	6	4
30	11	4	17	4	9	4	6	4

W = WIDTH IN FEET
H = HEIGHT IN FEET



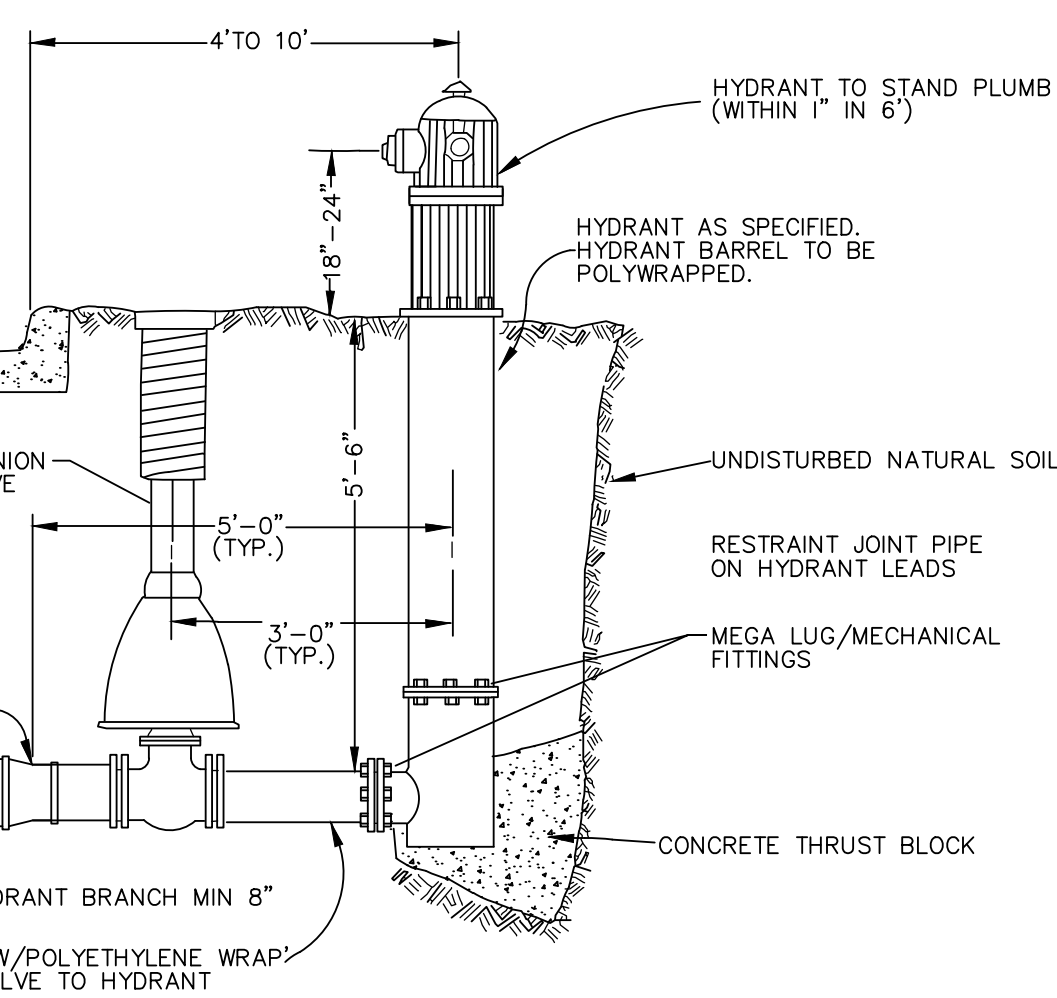
NOTE: THESE ARE MINIMUM STANDARDS. WHERE SOIL CONDITIONS DICTATE, ADJUSTMENTS IN SIZE SHALL BE MADE BY THE PUBLIC SERVICES DIRECTOR.

THRUST BLOCK



CURB, CONC, DET F4

NO SCALE



NOTE: ALL PIPE, FITTINGS AND HYDRANT BARREL TO BE POLYWRAPPED PER AWWA C105

FIRE HYDRANT ASSEMBLY, MODIFIED

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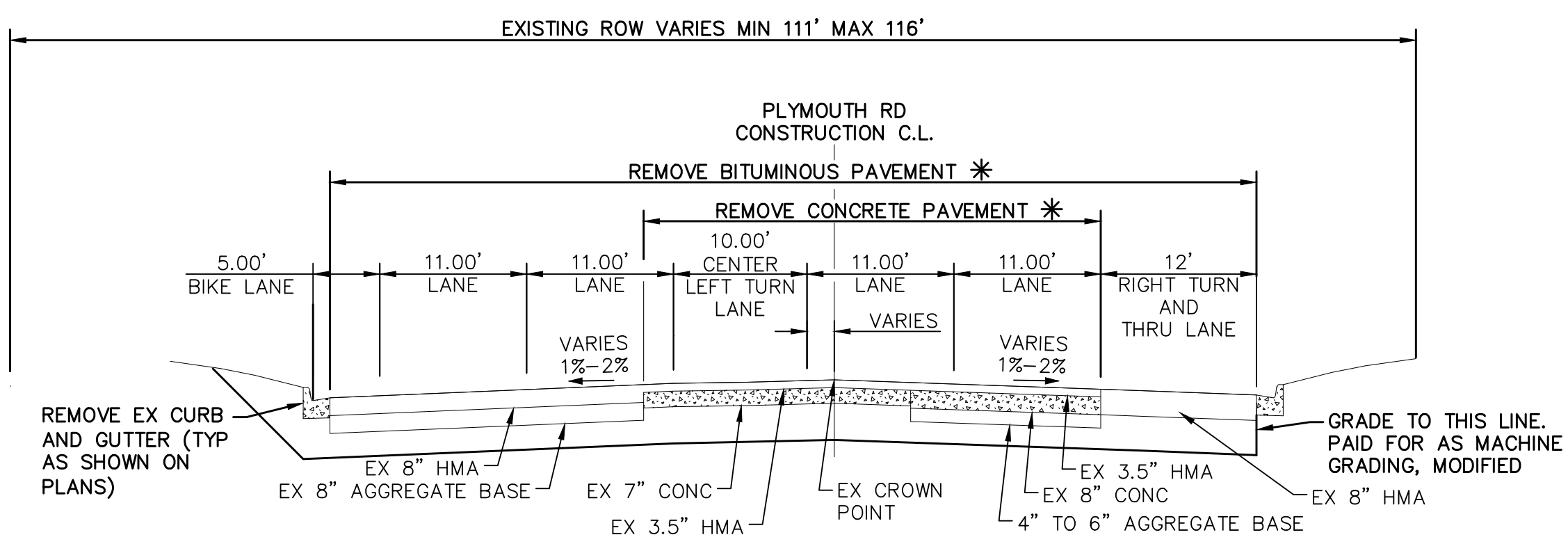
CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR, MI 48107-8847
734-794-4810
www.a2gov.org



BY	DESCRIPTION	DATE	MARK

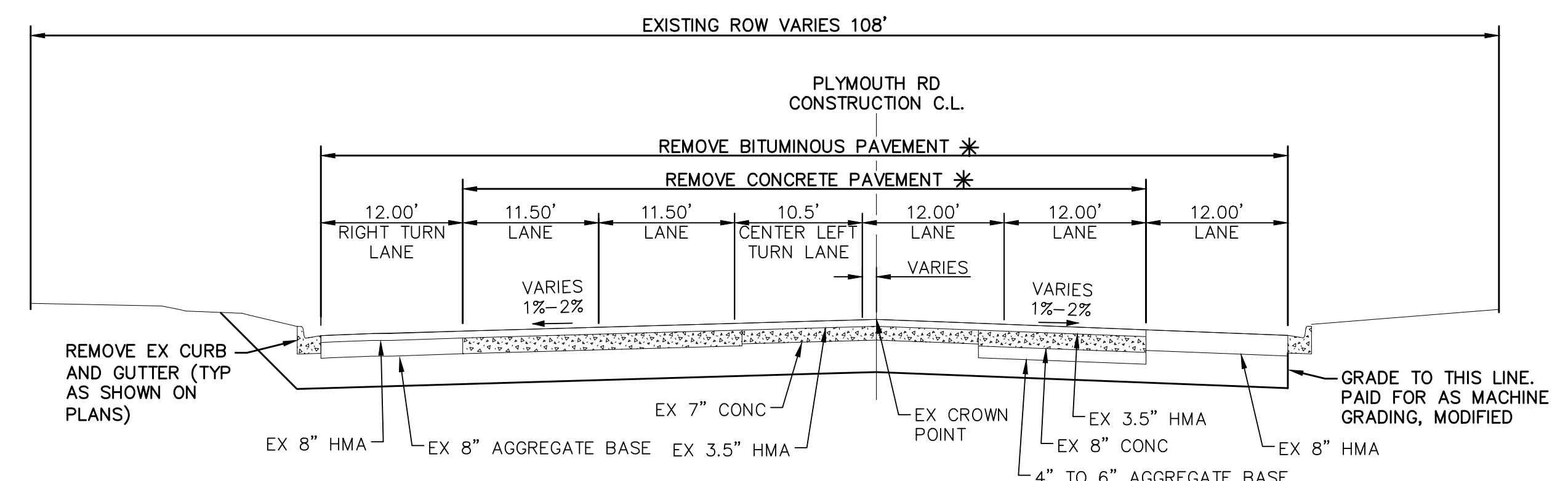
CITY OF ANN ARBOR
PUBLIC WORKS
PLYMOUTH ROAD AND GREEN ROAD
WATER MAIN REPLACEMENT
WATER MAIN DETAILS

Project No.: 200-31537-16003
Designed By: J. SIWEK
Drawn By: S. GOTHIA
Checked By:



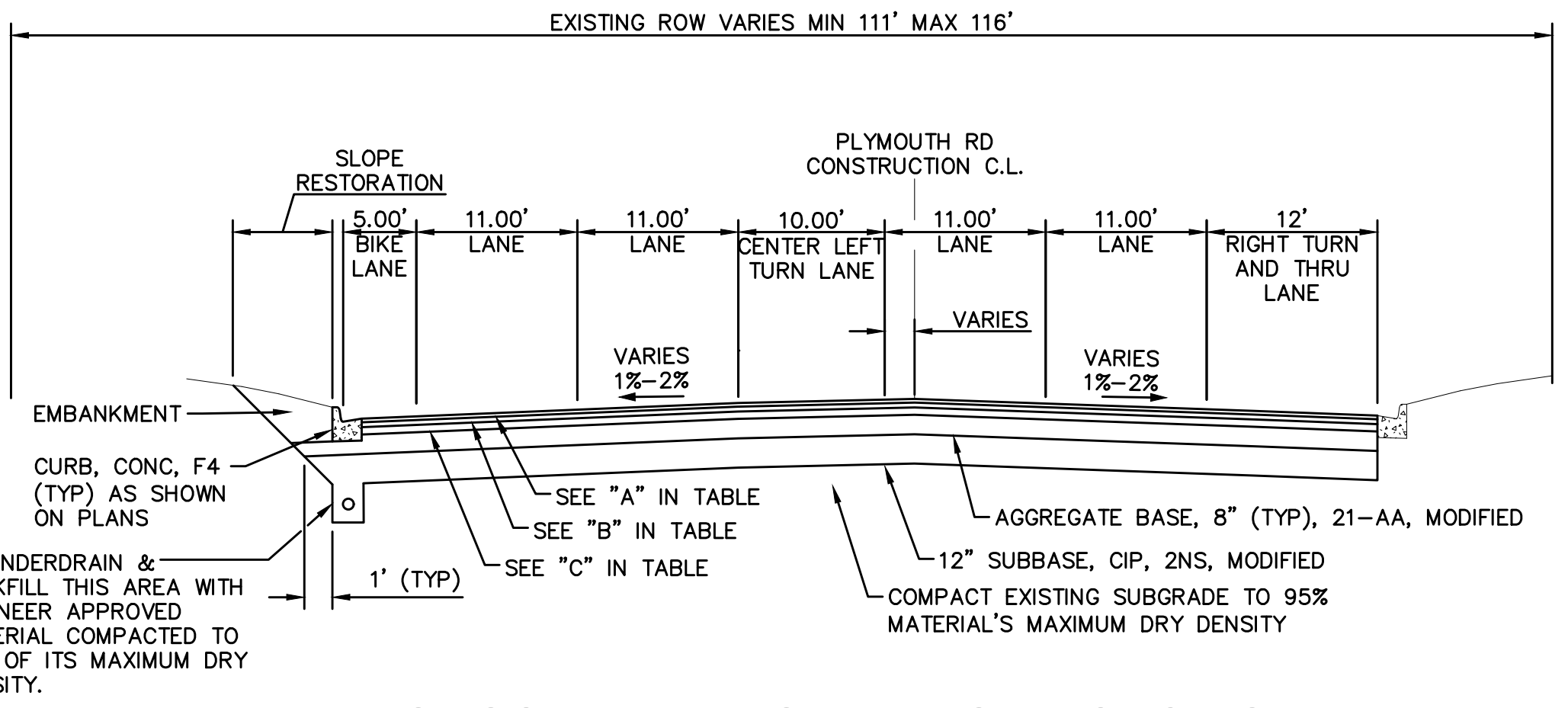
EXISTING PLYMOUTH ROAD SECTION

SECTION APPLIES TO:
STA 48+80.28 TO STA 49+50.00



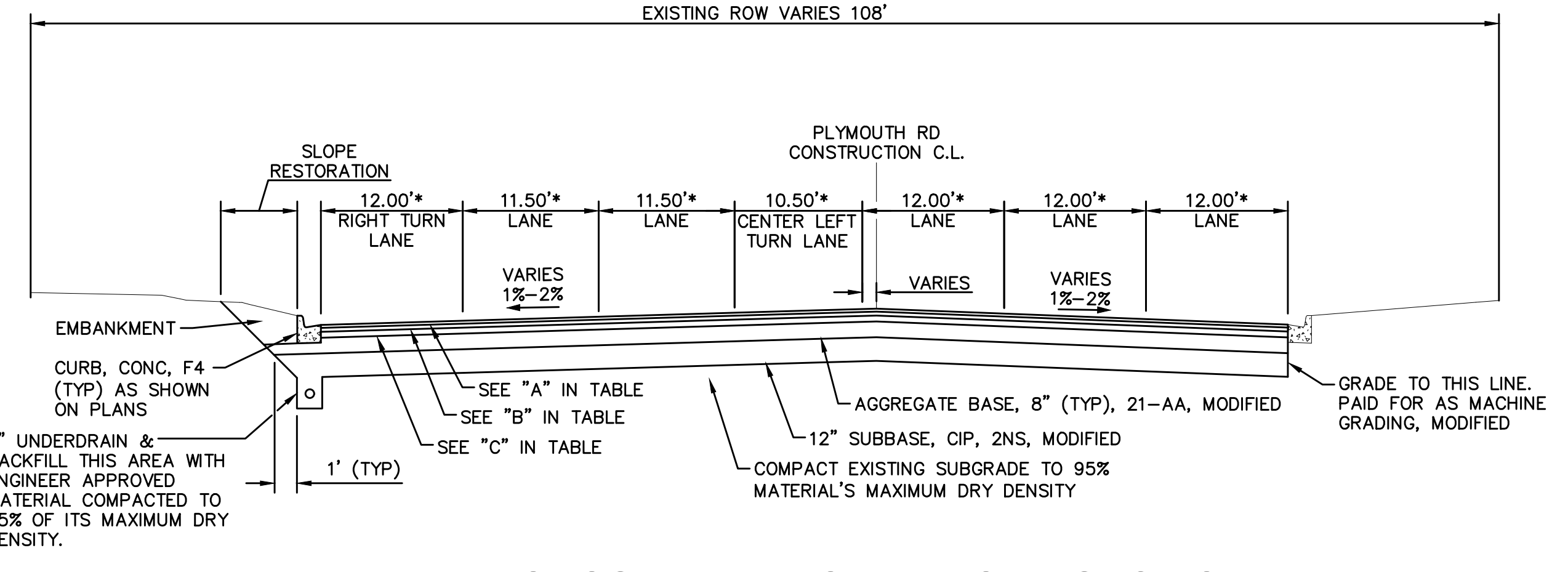
EXISTING PLYMOUTH ROAD SECTION

SECTION APPLIES TO:
STA 49+50.00 TO STA 51+90.40



PROPOSED PLYMOUTH ROAD SECTION

SECTION APPLIES TO:
STA 48+80.28 TO STA 49+50.00

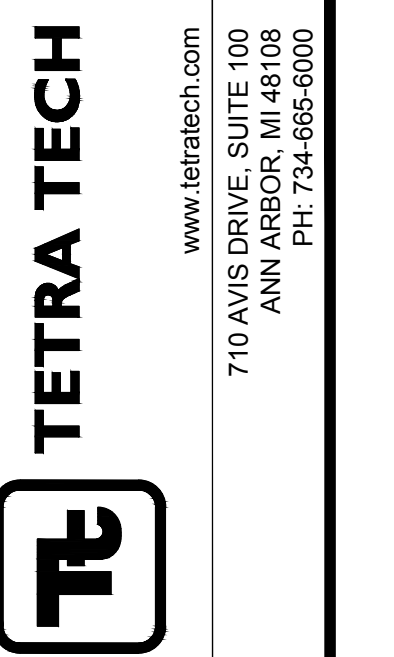


PROPOSED PLYMOUTH ROAD SECTION

SECTION APPLIES TO:
STA 49+50.00 TO STA 51+90.40
* TRANSITION FROM 49+50 TO 51+00

HMA APPLICATION ESTIMATE

ITEM	MIX	RATE OF APPLICATION	PERFORMANCE GRADE	
A	HMA, APPROACH, HIGH STRESS	165	PG 70-28P	USE HMA 5E10, HIGH STRESS (WEARING_COURSE) (AWI=260)
B	HMA, APPROACH, HIGH STRESS	220	PG 70-28P	USE HMA 4E10, HIGH STRESS (LEVELING_COURSE)
C	HMA, APPROACH	385	PG 58-22	USE HMA 3E10, (BASE COURSE)



CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
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BY	DATE	DESCRIPTION

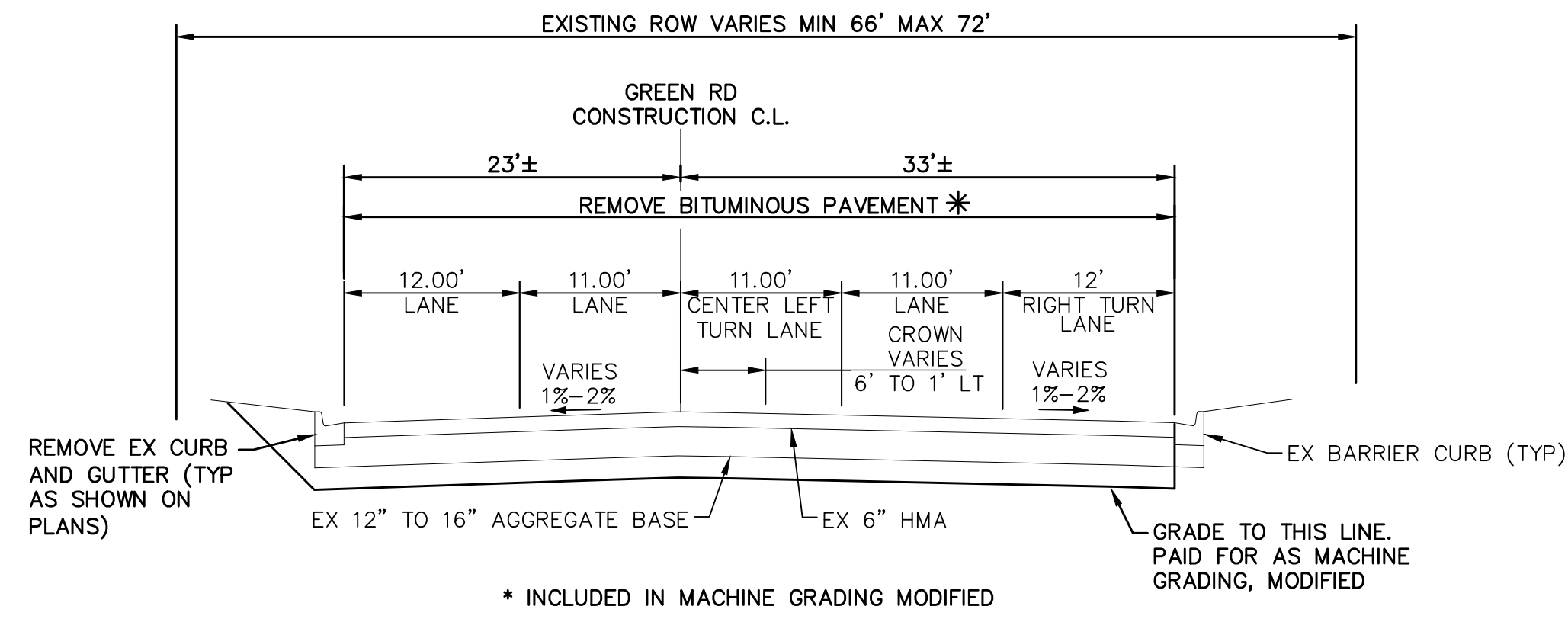
CITY OF ANN ARBOR
PUBLIC WORKS
PLYMOUTH ROAD AND GREEN ROAD
WATER MAIN REPLACEMENT
PLYMOUTH ROAD

Project No.: 200-31537-16003
Designed By: A. BICKLEY
Drawn By: A. BICKLEY
Checked By:

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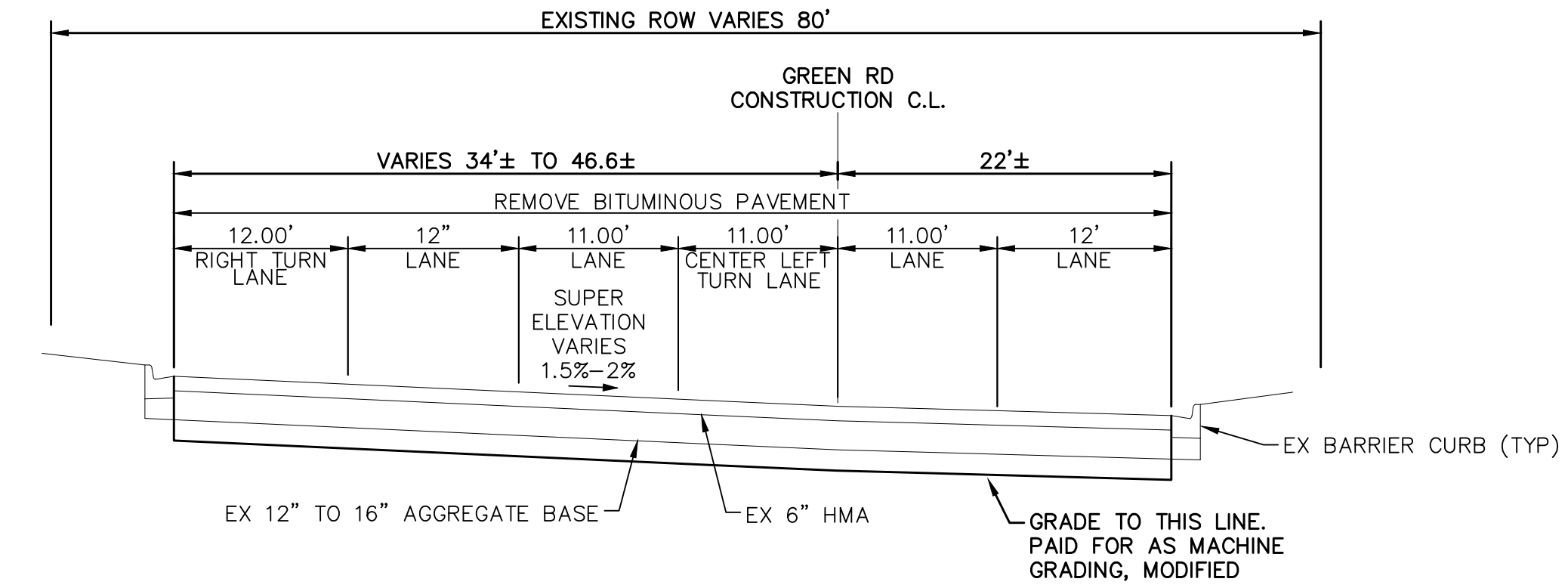
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F
E
D
C
B
A



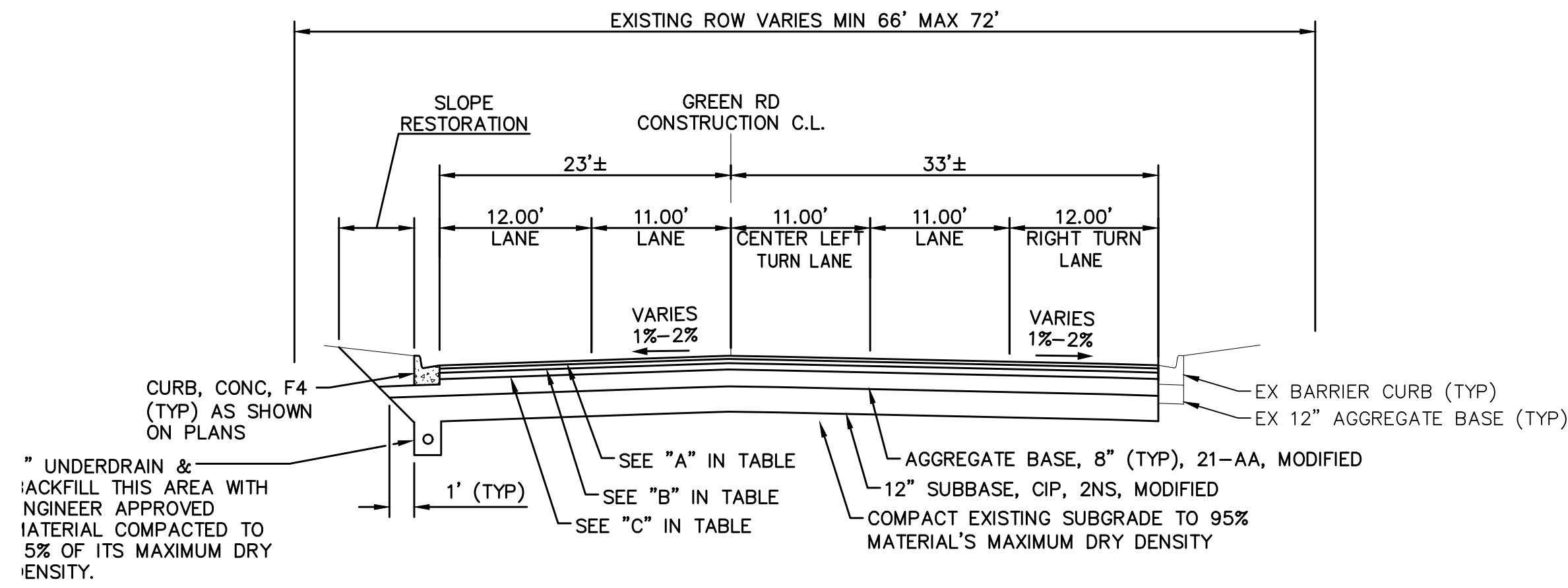
EXISTING GREEN ROAD SECTION

SECTION APPLIES TO:
STA 60+18.36 TO STA 61+28.53



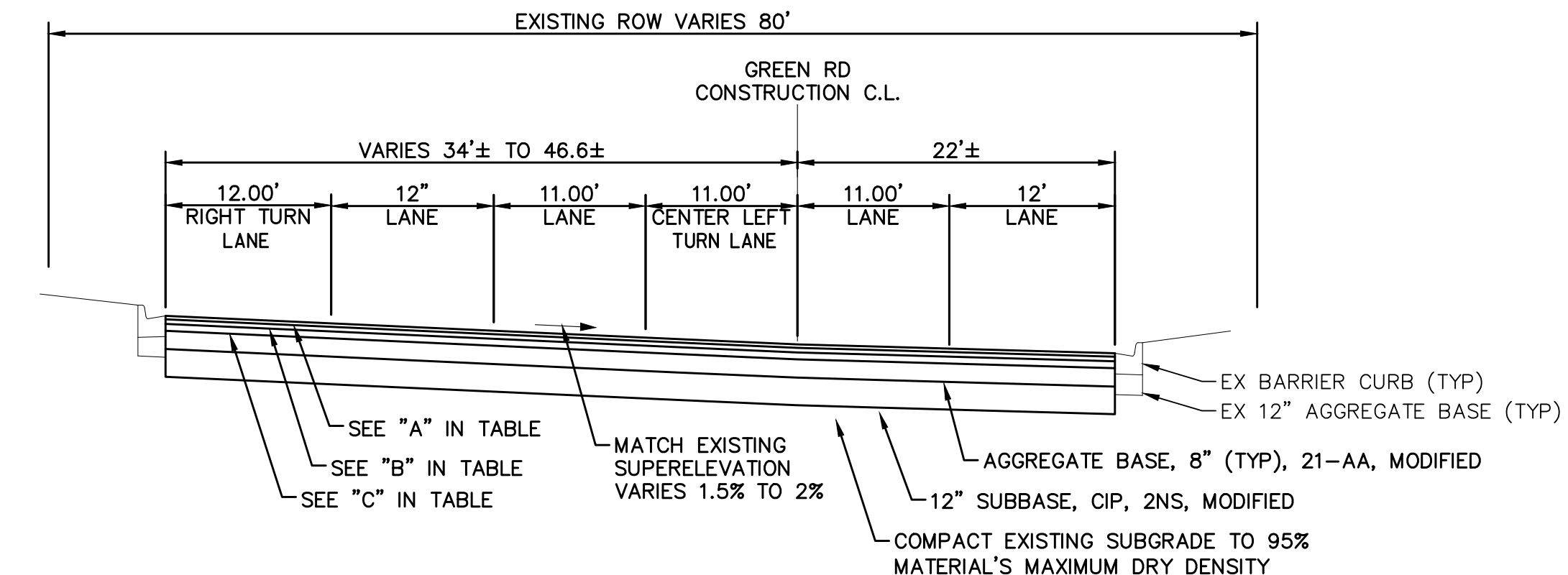
EXISTING GREEN ROAD SECTION

SECTION APPLIES TO:
STA 62+83.30 TO STA 66+58.41



PROPOSED GREEN ROAD SECTION

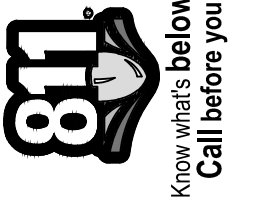
SECTION APPLIES TO:
STA 60+18.36 TO STA 61+28.53



PROPOSED GREEN ROAD SECTION

SECTION APPLIES TO:
STA 62+83.30 TO STA 66+58.41

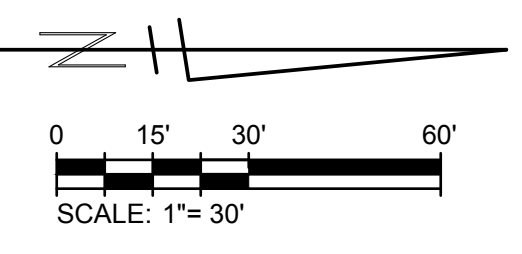
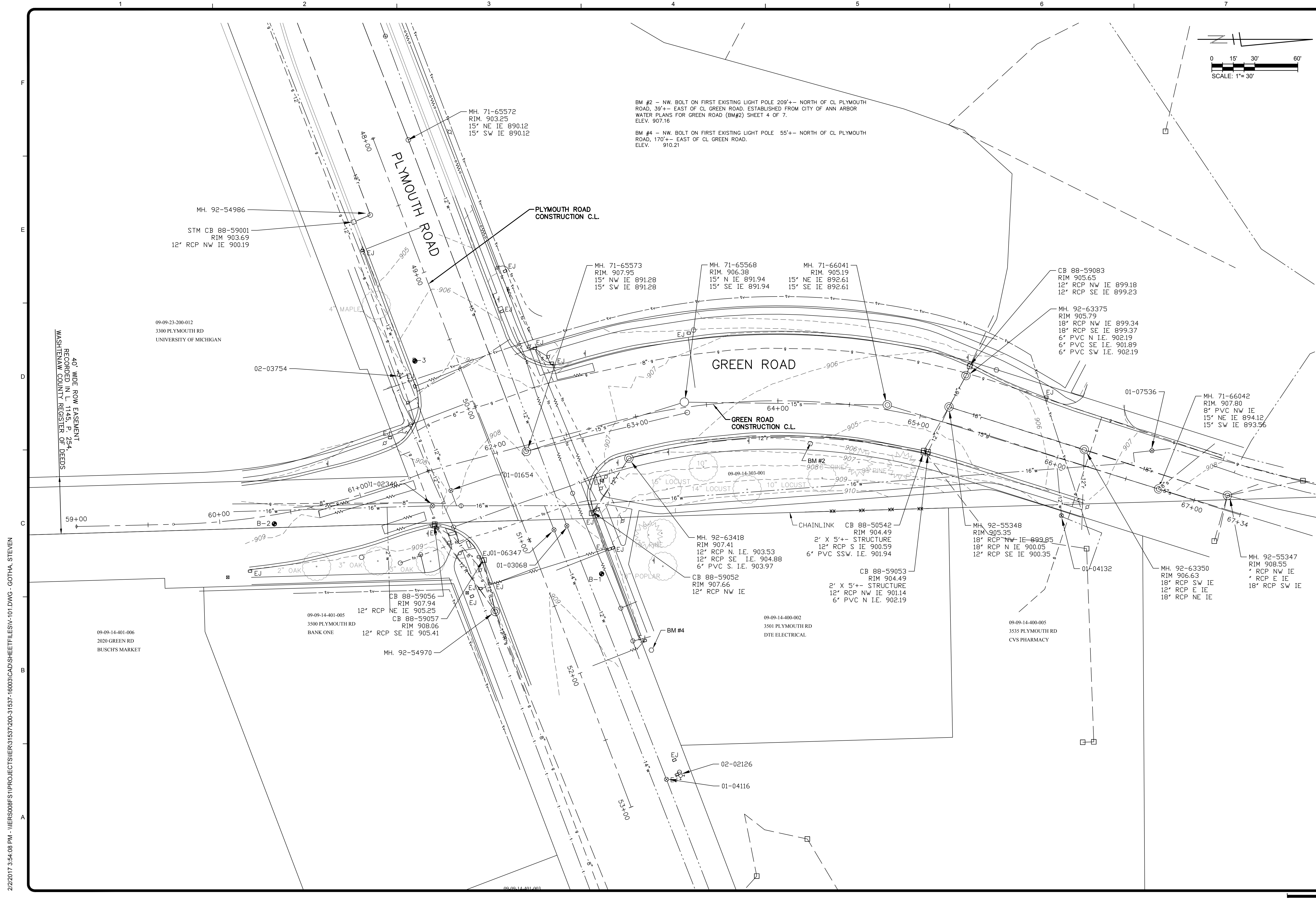
HMA APPLICATION ESTIMATE				
ITEM	MIX	RATE OF APPLICATION	PERFORMANCE GRADE	
A	HMA, APPROACH, HIGH STRESS	165	PG 70-28P	USE HMA 5E10, HIGH STRESS (WEARING COURSE) (AWI=260)
B	HMA, APPROACH, HIGH STRESS	220	PG 70-28P	USE HMA 4E10, HIGH STRESS (LEVELING COURSE)
C	HMA, APPROACH	385	PG 58-22	USE HMA 3E10, (BASE COURSE)



BY	DATE	DESCRIPTION

CITY OF ANN ARBOR PUBLIC WORKS
PLYMOUTH ROAD AND GREEN ROAD WATER MAIN REPLACEMENT
TYPICAL SECTIONS
GREEN ROAD

Project No.: 200-31537-16003
Designed By: A. BICKLEY
Drawn By: A. BICKLEY
Checked By:



**CITY OF ANN ARBOR
PUBLIC SERVICES**
301 EAST HURON STREET
ANN ARBOR, MI 48107-8847
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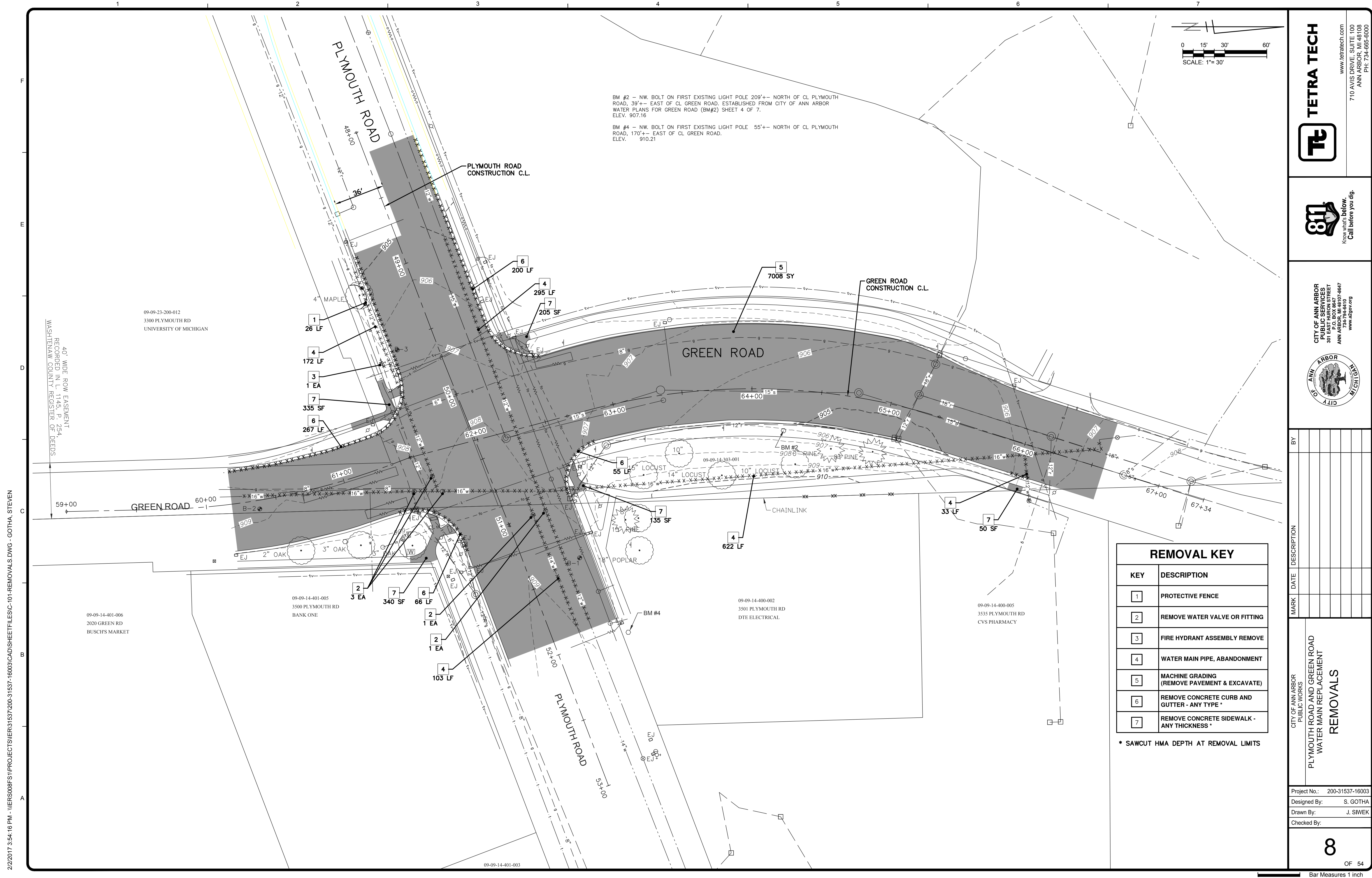


MARK	DATE	DESCRIPTION

EXISTING SURVEY TOPO
 PLYMOUTH ROAD AND GREEN ROAD
 WATER MAIN REPLACEMENT

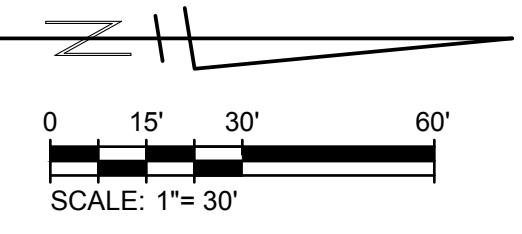
Project No.: 200-31537-16003
 Designed By: J. SIWEK
 Drawn By: S. GOTHA
 Checked By:

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BM #2 - NW. BOLT ON FIRST EXISTING LIGHT POLE 209'+- NORTH OF CL PLYMOUTH ROAD, 39'+- EAST OF CL GREEN ROAD, ESTABLISHED FROM CITY OF ANN ARBOR WATER PLANS FOR GREEN ROAD (BM#2) SHEET 4 OF 7. ELEV. 907.16

BM #4 - NW. BOLT ON FIRST EXISTING LIGHT POLE 55'+- NORTH OF CL PLYMOUTH ROAD, 170'+- EAST OF CL GREEN ROAD. ELEV. 910.21



REMOVAL KEY	
KEY	DESCRIPTION
1	PROTECTIVE FENCE
2	REMOVE WATER VALVE OR FITTING
3	FIRE HYDRANT ASSEMBLY REMOVE
4	WATER MAIN PIPE, ABANDONMENT
5	MACHINE GRADING (REMOVE PAVEMENT & EXCAVATE)
6	REMOVE CONCRETE CURB AND GUTTER - ANY TYPE *
7	REMOVE CONCRETE SIDEWALK - ANY THICKNESS *

* SAWCUT HMA DEPTH AT REMOVAL LIMITS

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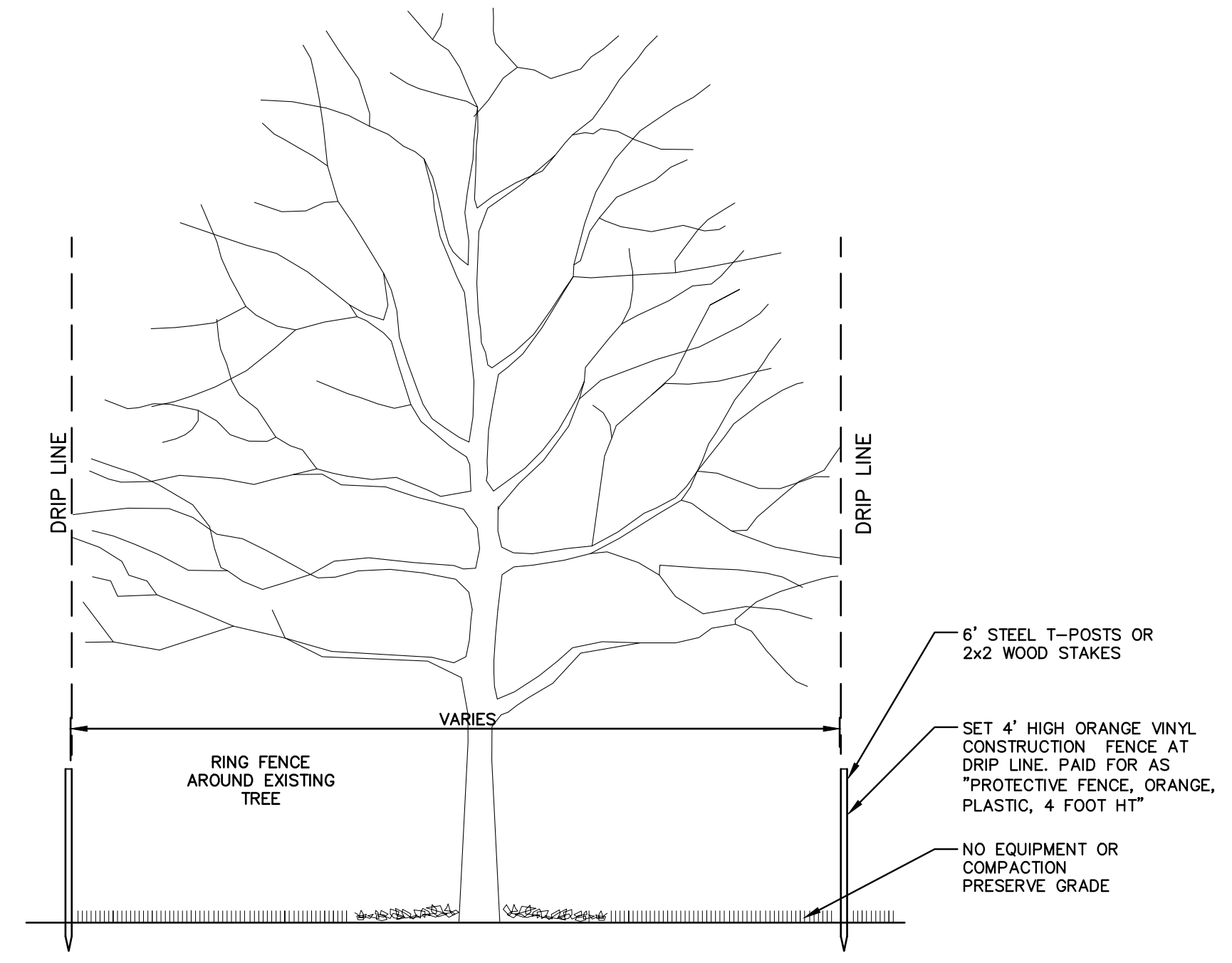
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BY	DATE	DESCRIPTION

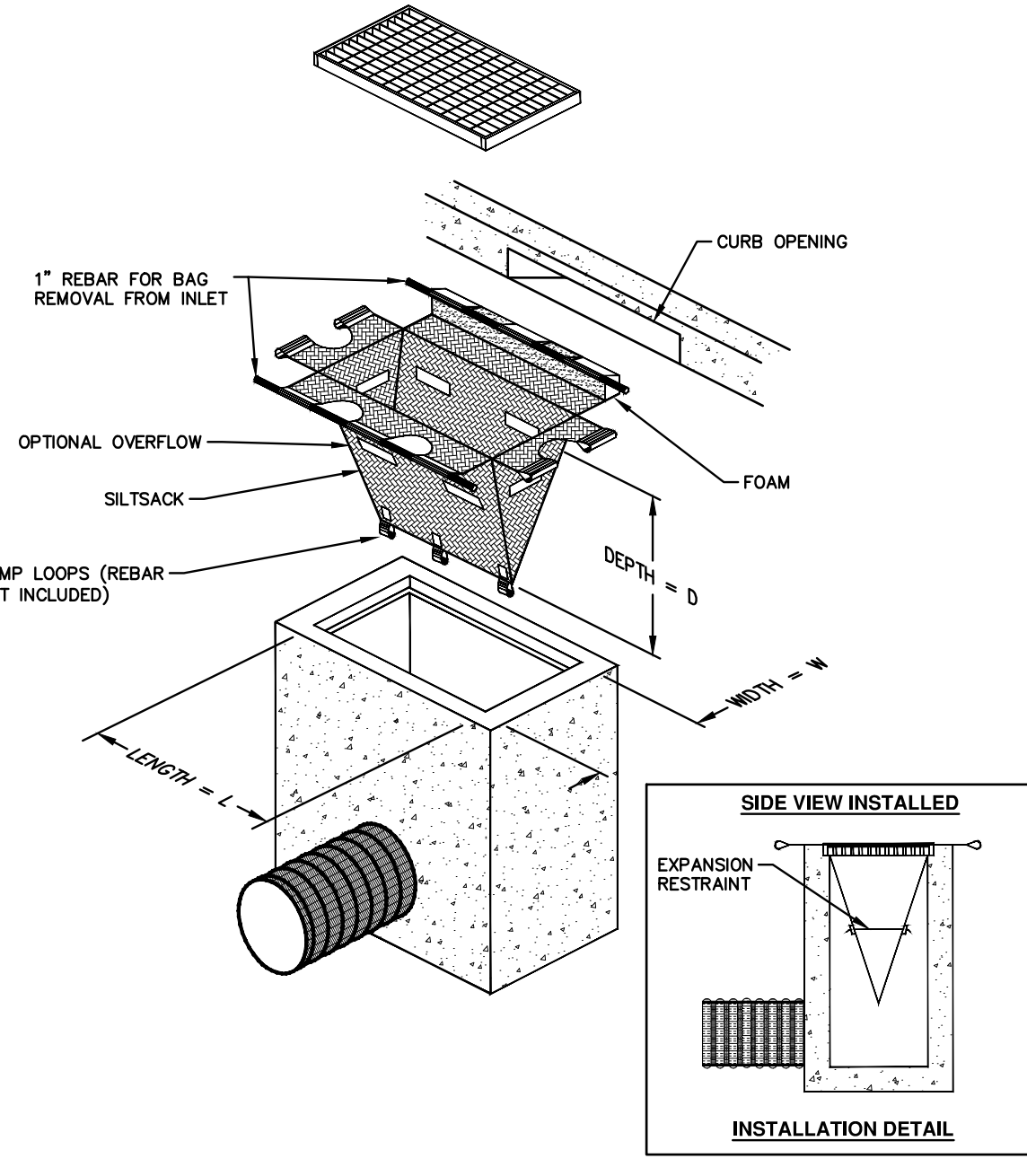
CITY OF ANN ARBOR
PUBLIC WORKS
PLYMOUTH ROAD AND GREEN ROAD
WATER MAIN REPLACEMENT
REMOVALS

Project No.: 200-31537-16003
Designed By: S. GOTHA
Drawn By: J. SIWEK
Checked By:

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TREE PROTECTION DETAIL



SILTSACK DETAIL

NOTE: THE SILTSACK WILL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS.

REGULAR FLOW SILTSACK

(FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUN-OFF)

PROPERTIES	REQUIRED VALUE	TEST METHOD
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80%
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC-1

HI-FLOW SILTSACK

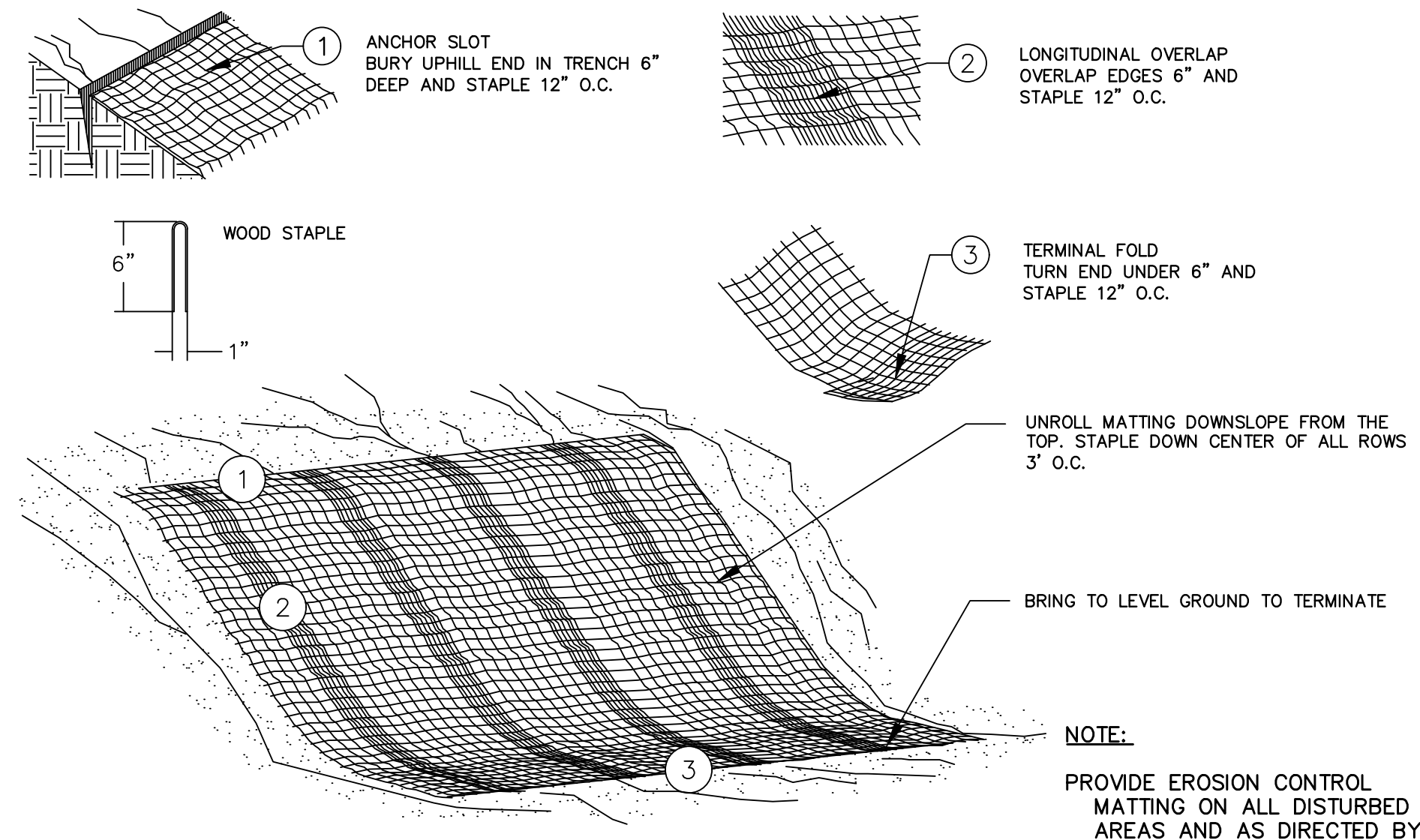
(FOR AREAS OF MODERATE TO HEAVY PRECIPITATION AND RUN-OFF)

PROPERTIES	REQUIRED VALUE	TEST METHOD
GRAB TENSILE STRENGTH	ASTM D-4632	285 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90%
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC-1

OIL-ABSORBANT SILTSACK

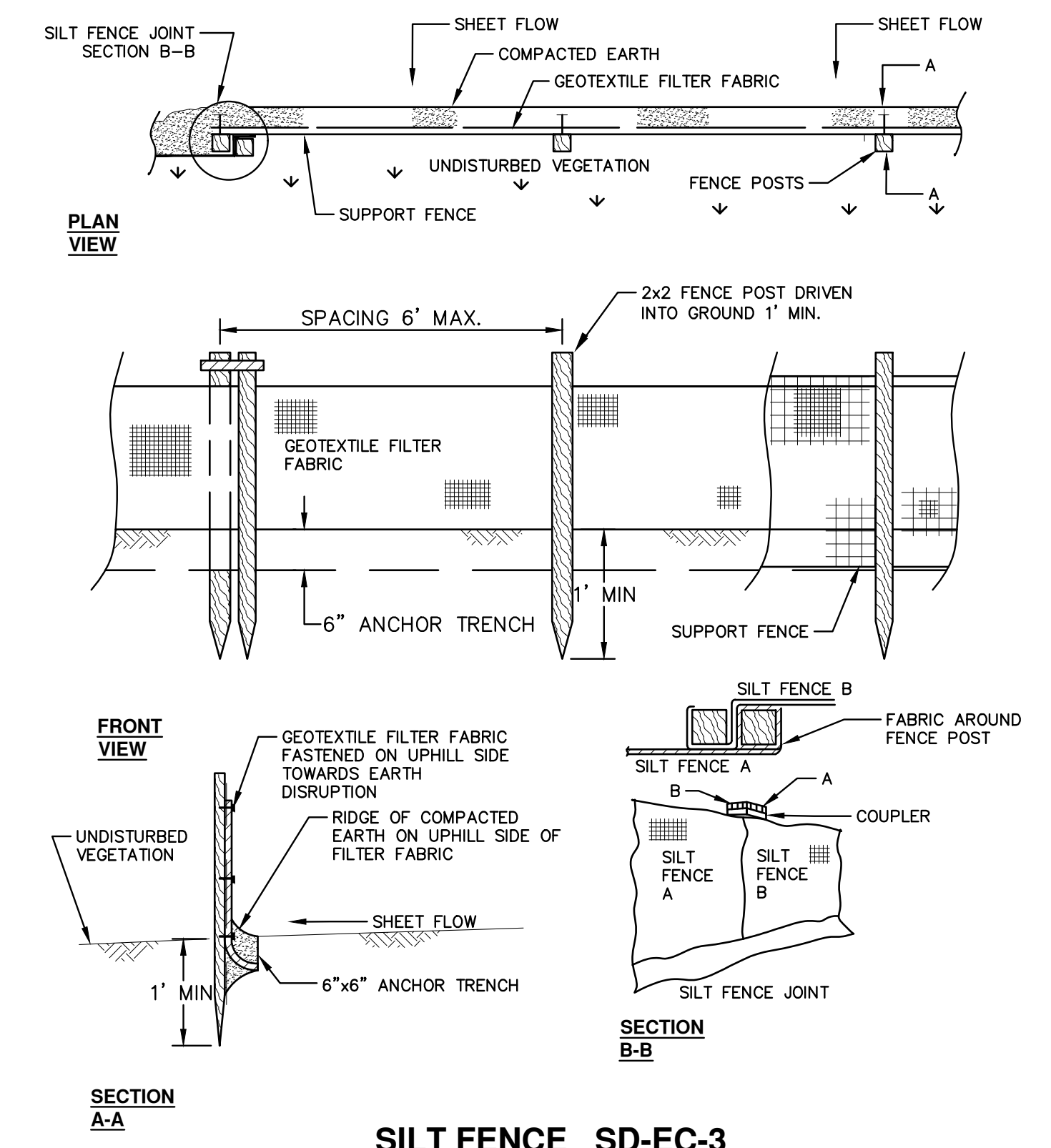
FOR AREAS WHERE THERE IS A CONCERN FOR OIL RUN-OFF OR SPILLS, USE WOVEN, OIL-ABSORBANT PILLow INSERT, CITY DETAIL SD-EC-5B

IT IS THE INTENT OF THE PLANS AND SPECIFICATIONS THAT THE CONTRACTOR INSTALL THE REBAR AS SHOWN IN THIS DETAIL TO PROVIDE A FULLY FUNCTIONING UNIT. ALL COSTS ASSOCIATED WITH FURNISHING, CLEANING AS MANY TIMES AS REQUIRED, DISPOSAL OF SEDIMENT, AND REMOVING THE INLET FILTER WHEN NO LONGER NEEDED IS INCLUDED IN THE ITEM OF WORK AND WILL NOT BE PAID FOR SEPARATELY.



MULCH BLANKET DETAIL

APPLIES TO ALL AREAS TO BE PERMANENTLY RESTORED WITH GRASS. SEE LANDSCAPE PLANS FOR MORE DETAILS.



SILT FENCE SD-EC-3



MARK	DATE	DESCRIPTION

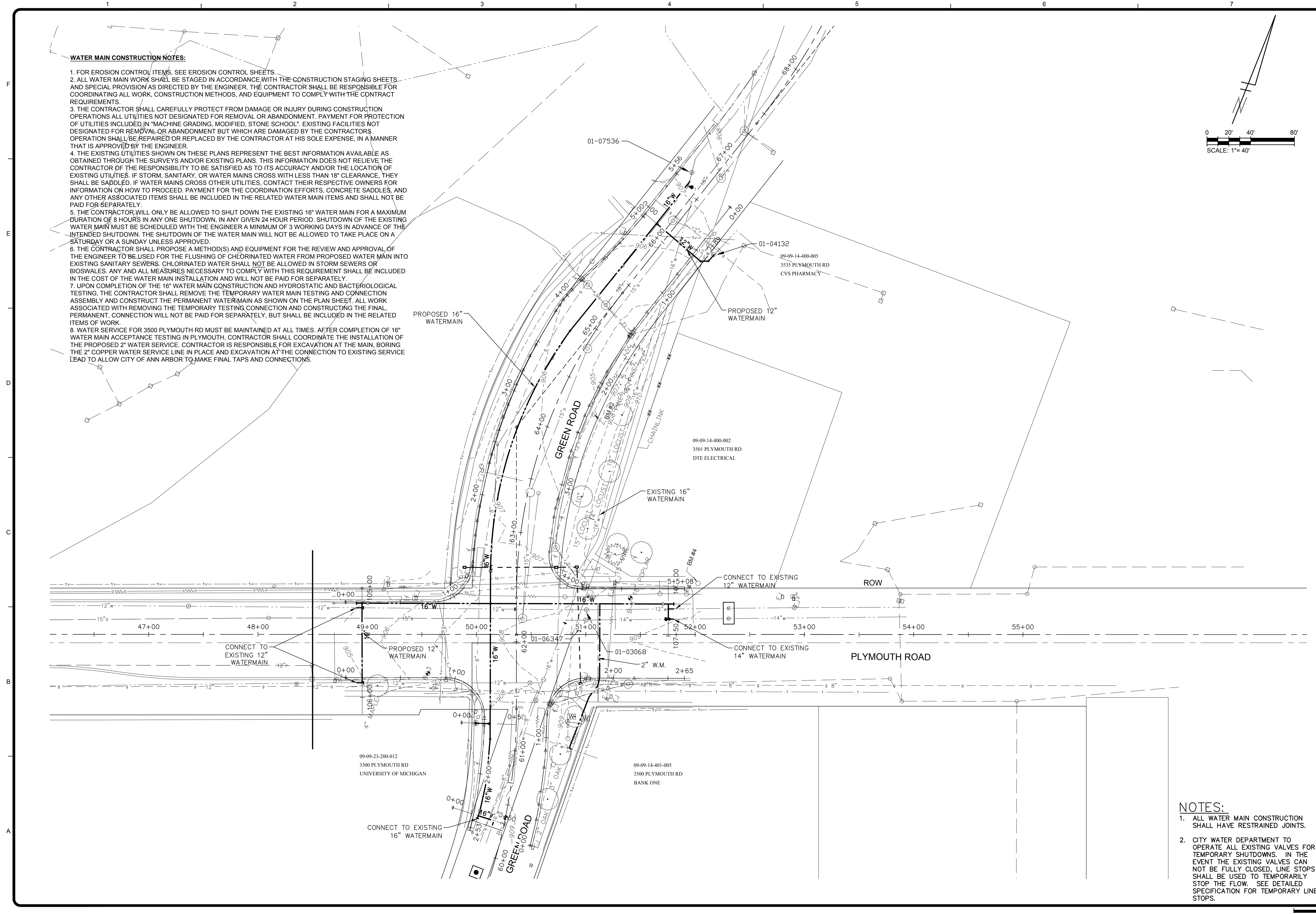
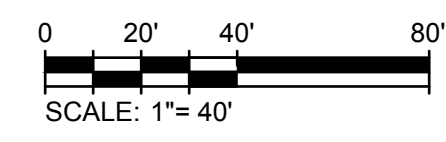
CITY OF ANN ARBOR
PUBLIC WORKS
PLYMOUTH ROAD AND GREEN ROAD
WATER MAIN REPLACEMENT
SESC DETAILS & NOTES

Project No.: 200-31537-16003
Designed By: J. SIWEK
Drawn By: S. GOTHA
Checked By:

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WATER MAIN CONSTRUCTION NOTES:

1. FOR EROSION CONTROL ITEMS, SEE EROSION CONTROL SHEETS.
2. ALL WATER MAIN WORK SHALL BE STAGED IN ACCORDANCE WITH THE CONSTRUCTION STAGING SHEETS AND SPECIAL PROVISION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL WORK, CONSTRUCTION METHODS, AND EQUIPMENT TO COMPLY WITH THE CONTRACT REQUIREMENTS.
3. THE CONTRACTOR SHALL CAREFULLY PROTECT FROM DAMAGE OR INJURY DURING CONSTRUCTION OPERATIONS ALL UTILITIES NOT DESIGNATED FOR REMOVAL OR ABANDONMENT. PAYMENT FOR PROTECTION OF UTILITIES INCLUDED IN "MACHINE GRADING, MODIFIED, STONE SCHOOL". EXISTING FACILITIES NOT DESIGNATED FOR REMOVAL OR ABANDONMENT BUT WHICH ARE DAMAGED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT HIS SOLE EXPENSE, IN A MANNER THAT IS APPROVED BY THE ENGINEER.
4. THE EXISTING UTILITIES SHOWN ON THESE PLANS REPRESENT THE BEST INFORMATION AVAILABLE AS OBTAINED THROUGH THE SURVEYS AND/OR EXISTING PLANS. THIS INFORMATION DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO BE SATISFIED AS TO ITS ACCURACY AND/OR THE LOCATION OF EXISTING UTILITIES. IF STORM, SANITARY, OR WATER MAINS CROSS WITH LESS THAN 18" CLEARANCE, THEY SHALL BE SADDLED. IF WATER MAINS CROSS OTHER UTILITIES, CONTACT THEIR RESPECTIVE OWNERS FOR INFORMATION ON HOW TO PROCEED. PAYMENT FOR THE COORDINATION EFFORTS, CONCRETE SADDLES, AND ANY OTHER ASSOCIATED ITEMS SHALL BE INCLUDED IN THE RELATED WATER MAIN ITEMS AND SHALL NOT BE PAID FOR SEPARATELY.
5. THE CONTRACTOR WILL ONLY BE ALLOWED TO SHUT DOWN THE EXISTING 16" WATER MAIN FOR A MAXIMUM DURATION OF 8 HOURS IN ANY ONE SHUTDOWN, IN ANY GIVEN 24 HOUR PERIOD. SHUTDOWN OF THE EXISTING WATER MAIN MUST BE SCHEDULED WITH THE ENGINEER A MINIMUM OF 3 WORKING DAYS IN ADVANCE OF THE INTENDED SHUTDOWN. THE SHUTDOWN OF THE WATER MAIN WILL NOT BE ALLOWED TO TAKE PLACE ON A SATURDAY OR A SUNDAY UNLESS APPROVED.
6. THE CONTRACTOR SHALL PROPOSE A METHOD(S) AND EQUIPMENT FOR THE REVIEW AND APPROVAL OF THE ENGINEER TO BE USED FOR THE FLUSHING OF CHLORINATED WATER FROM PROPOSED WATER MAIN INTO EXISTING SANITARY SEWERS. CHLORINATED WATER SHALL NOT BE ALLOWED IN STORM SEWERS OR BIOSWALES. ANY AND ALL MEASURES NECESSARY TO COMPLY WITH THIS REQUIREMENT SHALL BE INCLUDED IN THE COST OF THE WATER MAIN INSTALLATION AND WILL NOT BE PAID FOR SEPARATELY.
7. UPON COMPLETION OF THE 16" WATER MAIN CONSTRUCTION AND HYDROSTATIC AND BACTERIOLOGICAL TESTING, THE CONTRACTOR SHALL REMOVE THE TEMPORARY WATER MAIN TESTING AND CONNECTION ASSEMBLY AND CONSTRUCT THE PERMANENT WATER MAIN AS SHOWN ON THE PLAN SHEET. ALL WORK ASSOCIATED WITH REMOVING THE TEMPORARY TESTING CONNECTION AND CONSTRUCTING THE FINAL, PERMANENT, CONNECTION WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE RELATED ITEMS OF WORK.
8. WATER SERVICE FOR 3500 PLYMOUTH RD MUST BE MAINTAINED AT ALL TIMES. AFTER COMPLETION OF 16" WATER MAIN ACCEPTANCE TESTING IN PLYMOUTH, CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE PROPOSED 2" WATER SERVICE. CONTRACTOR IS RESPONSIBLE FOR EXCAVATION AT THE MAIN, BORING THE 2" COPPER WATER SERVICE LINE IN PLACE AND EXCAVATION AT THE CONNECTION TO EXISTING SERVICE LEAD TO ALLOW CITY OF ANN ARBOR TO MAKE FINAL TAPS AND CONNECTIONS.



- NOTES:**
1. ALL WATER MAIN CONSTRUCTION SHALL HAVE RESTRAINED JOINTS.
 2. CITY WATER DEPARTMENT TO OPERATE ALL EXISTING VALVES FOR TEMPORARY SHUTDOWNS. IN THE EVENT THE EXISTING VALVES CAN NOT BE FULLY CLOSED, LINE STOPS SHALL BE USED TO TEMPORARILY STOP THE FLOW. SEE DETAILED SPECIFICATION FOR TEMPORARY LINE STOPS.

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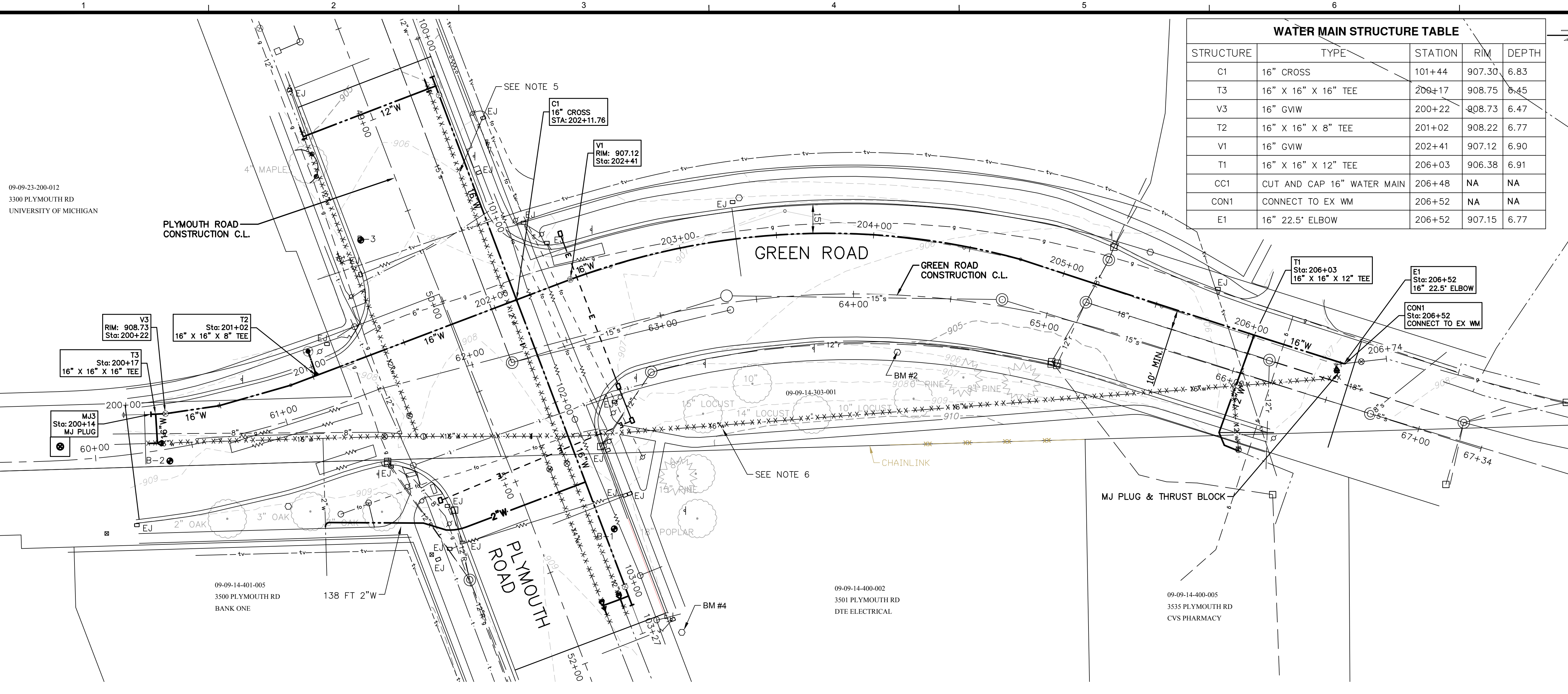
CITY OF ANN ARBOR
PUBLIC WORKS
PLYMOUTH ROAD AND GREEN ROAD
WATER MAIN REPLACEMENT
OVERALL WATER MAIN PLAN

Project No.:	200-31537-16003
Designed By:	J. SIWEK
Drawn By:	S. GOTHA
Checked By:	

10
OF 54
Bar Measures 1 inch

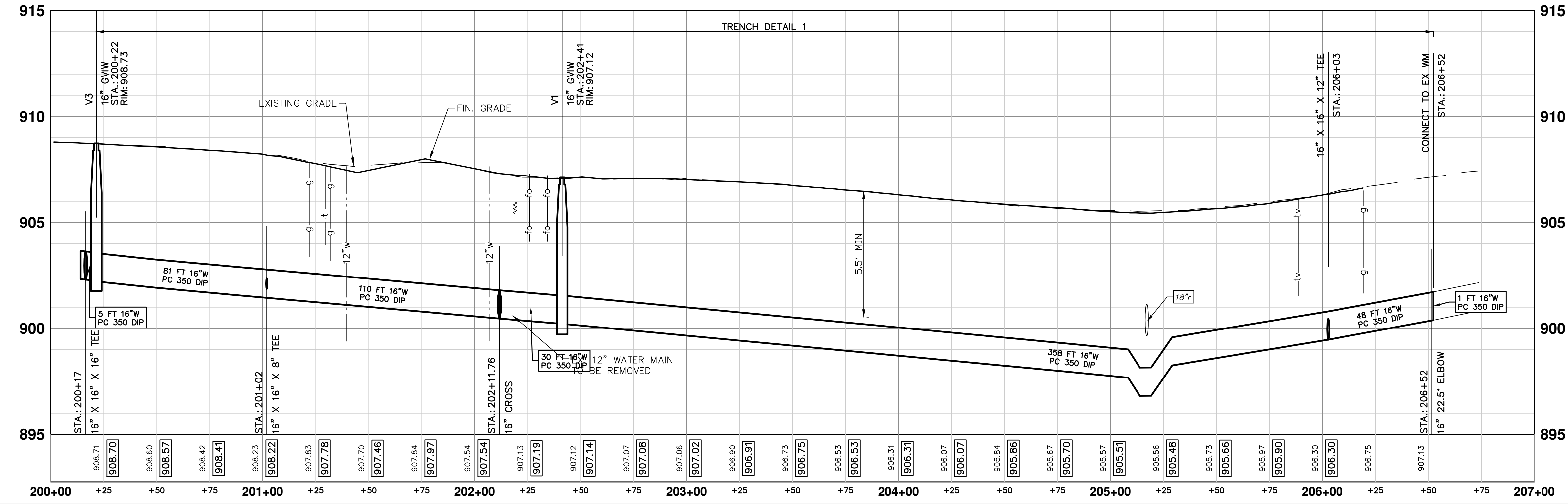
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09-09-23-200-012
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UNIVERSITY OF MICHIGAN



WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	DEPTH
C1	16" CROSS	101+44	907.30	6.83
T3	16" X 16" X 16" TEE	200+17	908.75	6.45
V3	16" GVIW	200+22	908.73	6.47
T2	16" X 16" X 8" TEE	201+02	908.22	6.77
V1	16" GVIW	202+41	907.12	6.90
T1	16" X 16" X 12" TEE	206+03	906.38	6.91
CC1	CUT AND CAP 16" WATER MAIN	206+48	NA	NA
CON1	CONNECT TO EX WM	206+52	NA	NA
E1	16" 22.5' ELBOW	206+52	907.15	6.77

PR WATER GREEN ROAD



- NOTES:**
- ALL WATER MAIN CONSTRUCTION SHALL HAVE RESTRAINED JOINTS.
 - CITY WATER DEPARTMENT TO OPERATE ALL EXISTING VALVES FOR TEMPORARY SHUTDOWNS. IN THE EVENT THE EXISTING VALVES CAN NOT BE FULLY CLOSED, LINE STOPS SHALL BE USED TO TEMPORARILY STOP THE FLOW. SEE DETAILED SPECIFICATIONS FOR TEMPORARY LINE STOPS.
 - PRIOR TO CONSTRUCTION OF NEW WATER MAIN, CONTRACTOR SHALL CHECK THE RESTRAINT OF THE EXISTING 16" WATER MAIN AND PROVIDE ADDITIONAL MEANS OF RESTRAINT AS NEEDED PRIOR TO CUTTING THE EXISTING 16" WATER MAIN. COST INCLUDED WITH ADJACENT ITEMS OF WORK.
 - CONTRACTOR RESPONSIBLE FOR PROVIDING MEANS OF RESTRAINING EXISTING WATER MAIN WHERE LINE STOPS AND TEAM VALVES ARE INSTALLED. SUBMIT PLANS FOR RESTRAINT TO ENGINEER FOR APPROVAL.
 - EXISTING 12" WATER MAIN HAS BEEN REPAIRED MULTIPLE TIMES. CONTRACTOR SHALL CUT AND CAP WATER LINE TO REMOVE IT PRIOR TO INSTALLATION OF PROPOSED MAIN.
 - EXISTING WATER MAIN SHOWN TO BE ABANDONED SHALL BE FILLED WITH FLOWABLE FILL. PORTIONS OF PIPE IN CONFLICT WITH PROPOSED WORK SHALL BE REMOVED AND PAID FOR AS "ABANDONED".

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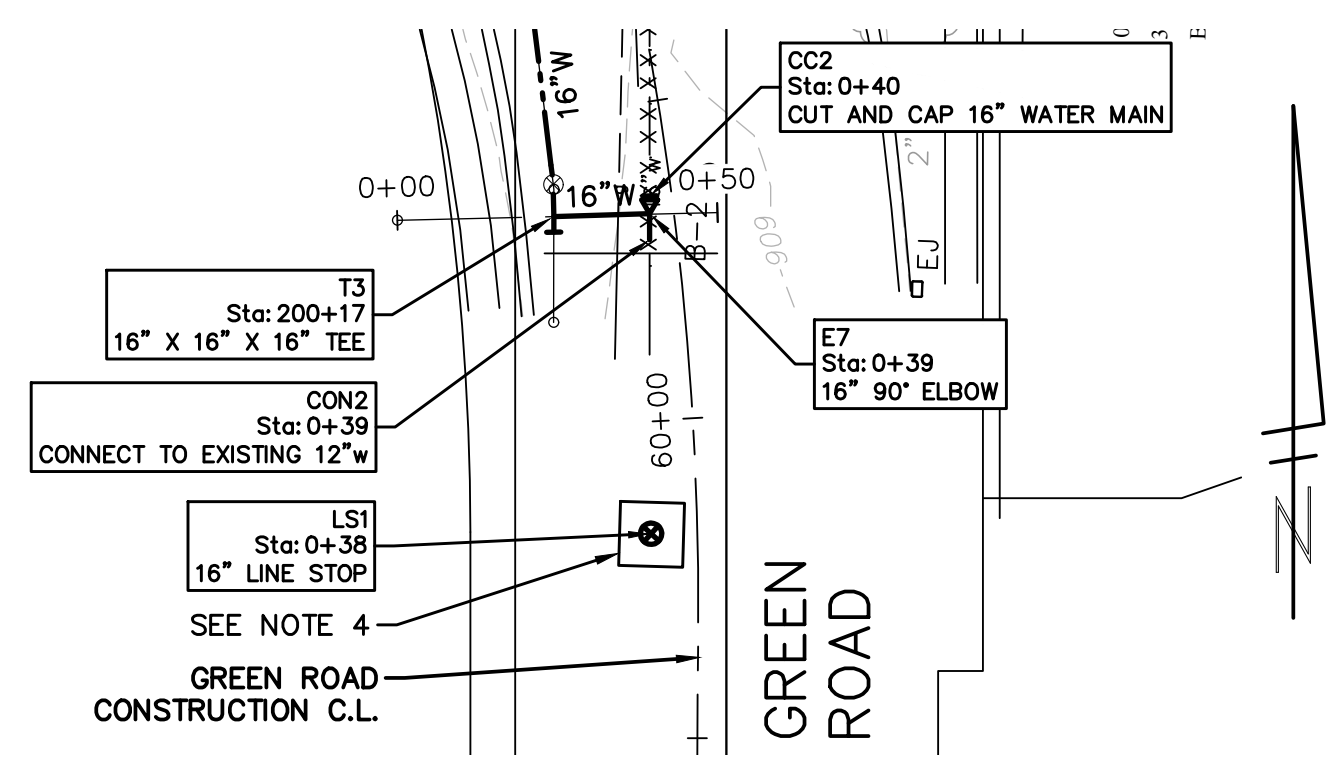
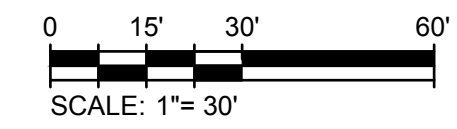
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CITY OF ANN ARBOR
PUBLIC WORKS
PLYMOUTH ROAD AND GREEN ROAD
WATER MAIN REPLACEMENT
GREEN ROAD WATER

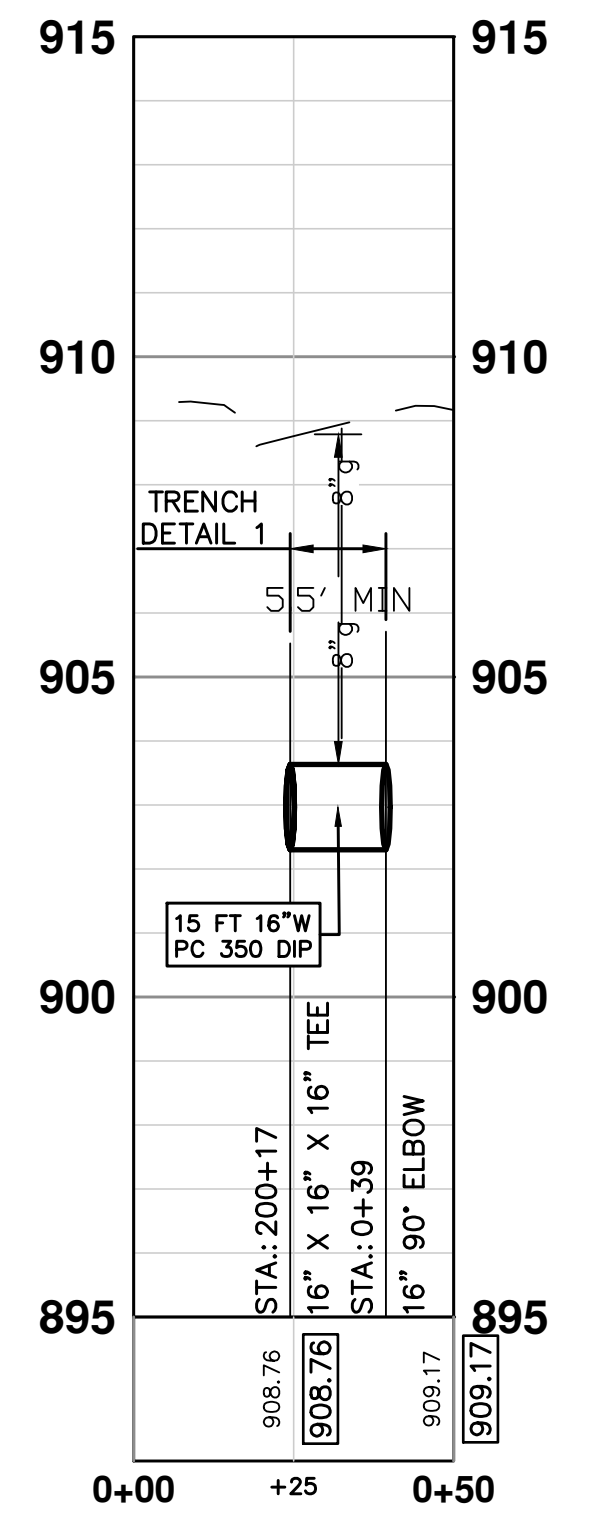
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Drawn By: S. GOTHA
Checked By:

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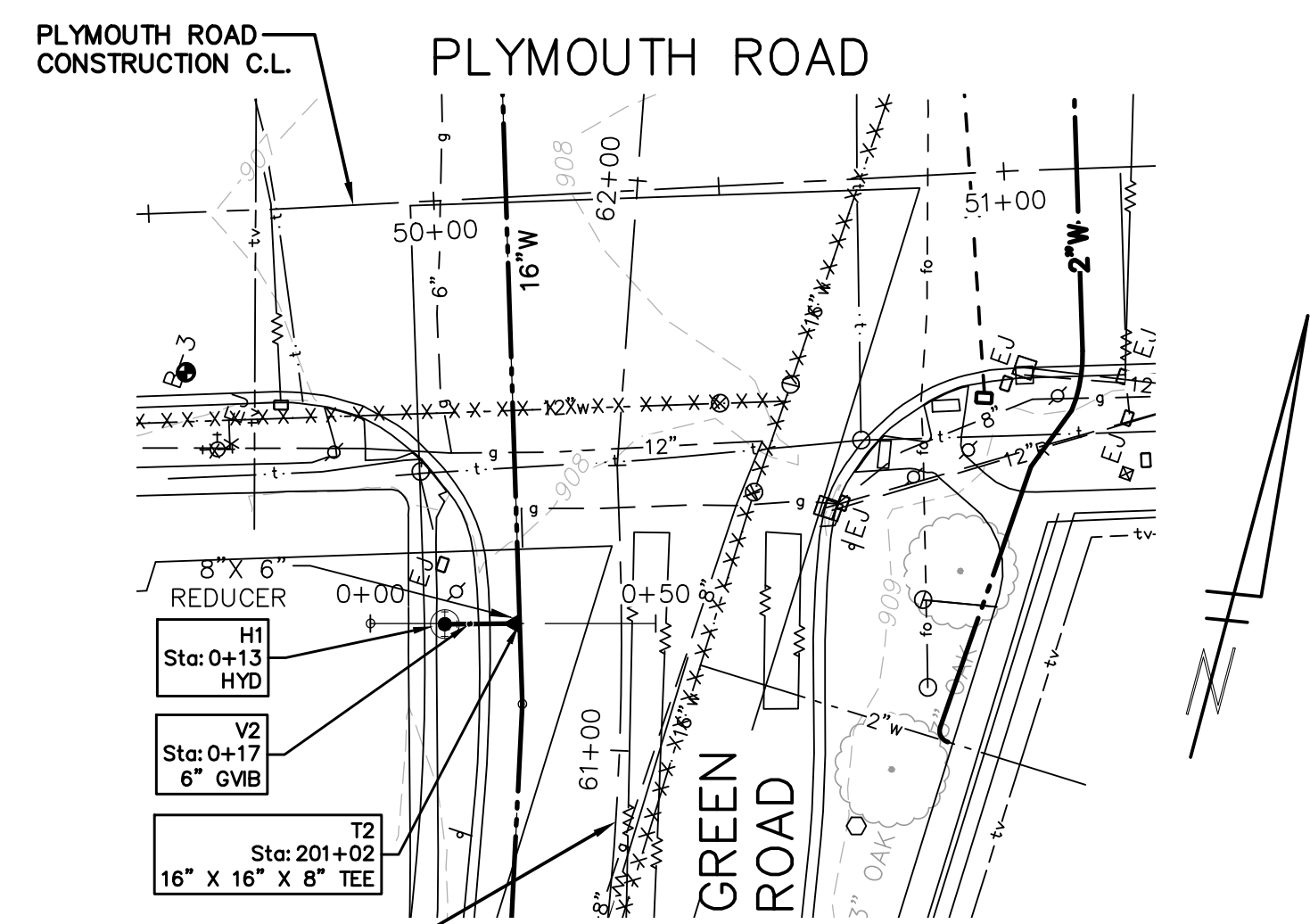


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STA 200+17

PR WATER GREEN - SOUTH

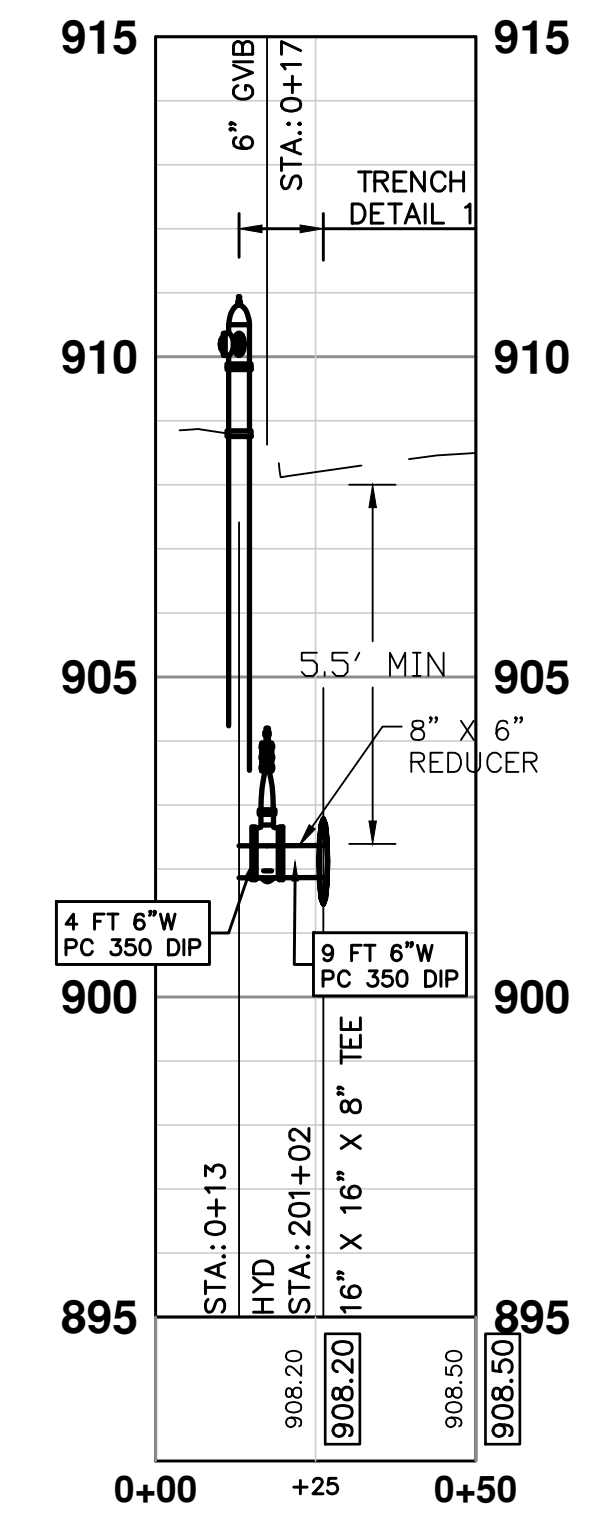


WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	DEPTH
LS1	16" LINE STOP	0+38	NA	NA
CON2	CONNECT TO EXISTING 12" w	0+39	NA	NA
E7	16" 90° ELBOW	0+39	NA	6.82
CC2	CUT AND CAP 16" WATER MAIN	0+40	NA	NA
T3	16" X 16" X 16" TEE	200+17	NA	6.45

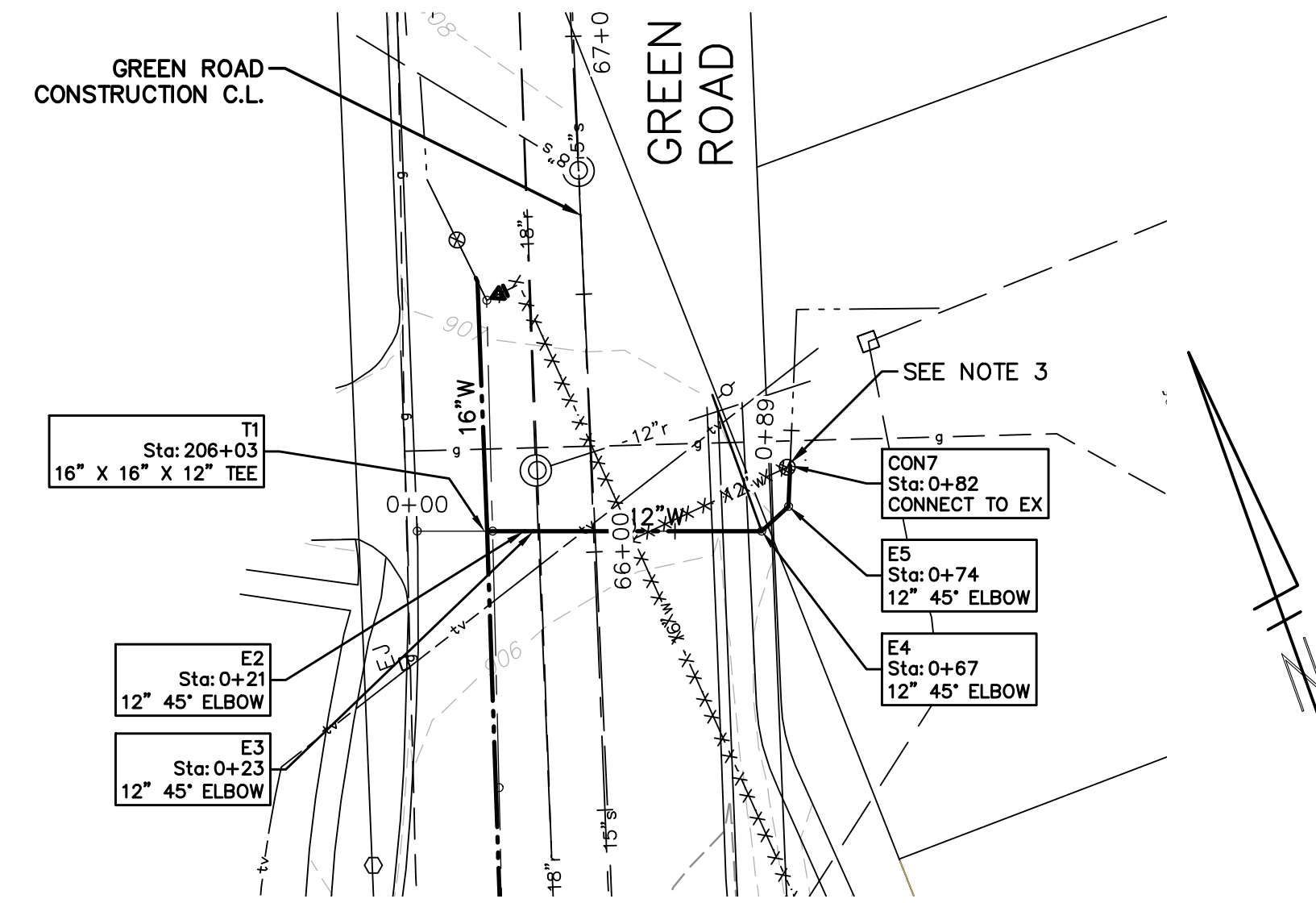


SHEET 11
STA 201+02

PR WATER GREEN - HYDRANT

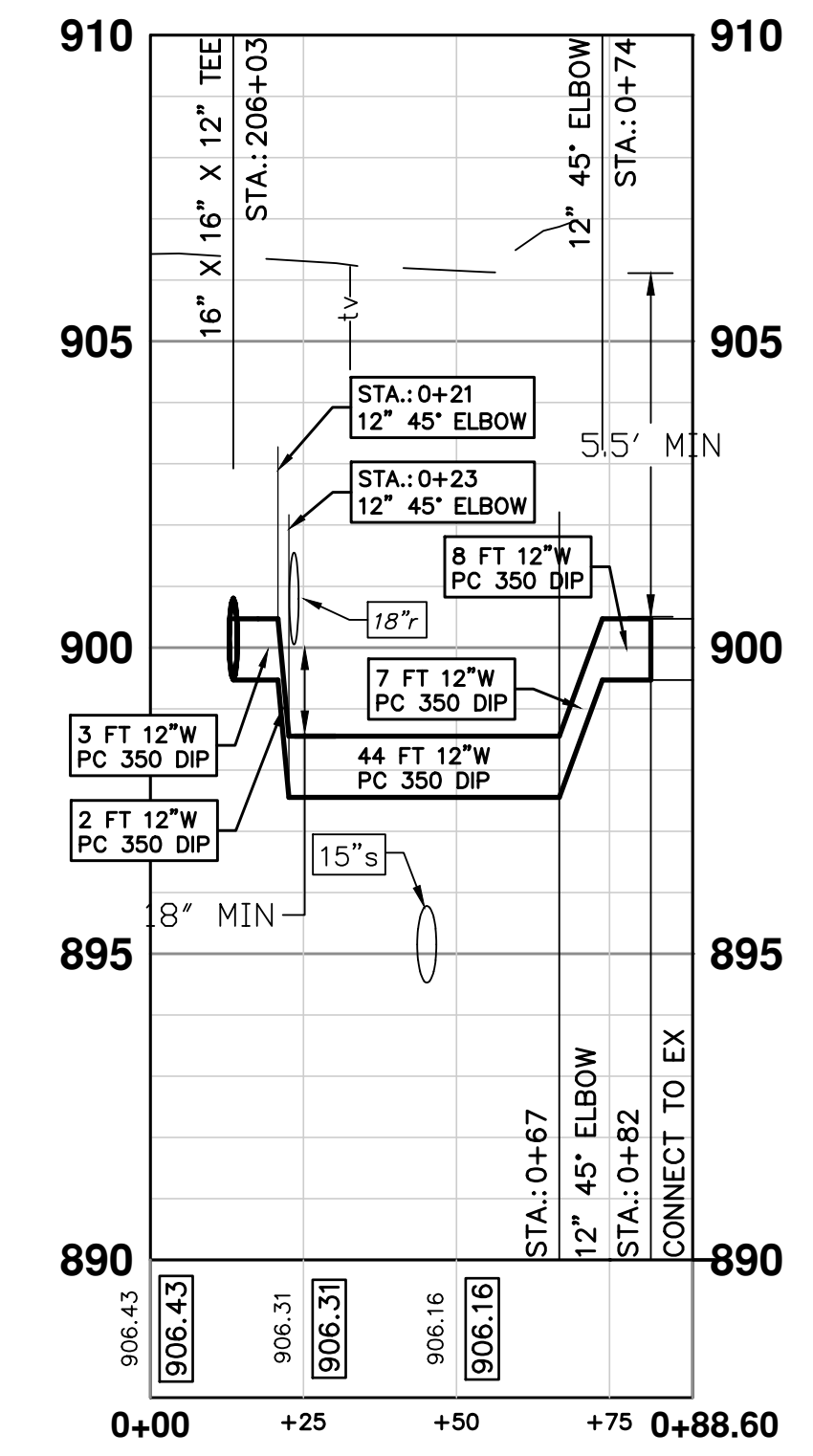


WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	DEPTH
H1	HYD	0+13	908.76	6.90
V2	6" GVB	0+17	908.63	6.77
R2	8" X 6" REDUCER	0+26	NA	NA
T2	16" X 16" X 8" TEE	201+02	NA	6.77



SHEET 11
STA 206+03

PR WATER GREEN - NORTH



WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	DEPTH
E2	12" 45° ELBOW	0+21	NA	6.86
E3	12" 45° ELBOW	0+23	NA	8.77
E4	12" 45° ELBOW	0+67	NA	9.32
E5	12" 45° ELBOW	0+74	NA	7.53
CON7	CONNECT TO EX	0+82	NA	NA
T1	16" X 16" X 12" TEE	206+03	NA	6.91

NOTES:

- ALL WATER MAIN CONSTRUCTION SHALL HAVE RESTRAINED JOINTS.
- CITY WATER DEPARTMENT TO OPERATE ALL EXISTING VALVES FOR TEMPORARY SHUTDOWNS. IN THE EVENT THE EXISTING VALVES CAN NOT BE FULLY CLOSED, LINE STOPS SHALL BE USED TO TEMPORARILY STOP THE FLOW. SEE SPECIAL PROVISION FOR TEMPORARY LINE STOPS.
- PRIOR TO CONSTRUCTION OF NEW WATER MAIN, CONTRACTOR SHALL CHECK THE RESTRAINT OF THE EXISTING 12" WATER MAIN AND PROVIDE ADDITIONAL MEANS OF RESTRAINT AS NEEDED PRIOR TO CUTTING THE EXISTING 12" WATER MAIN. COST INCLUDED WITH ADJACENT ITEMS OF WORK.
- CONTRACTOR RESPONSIBLE FOR PROVIDING MEANS OF RESTRAINING EXISTING WATER MAIN WHERE LINE STOPS ARE INSTALLED. SUBMIT PLANS FOR RESTRAINT TO ENGINEER FOR APPROVAL.



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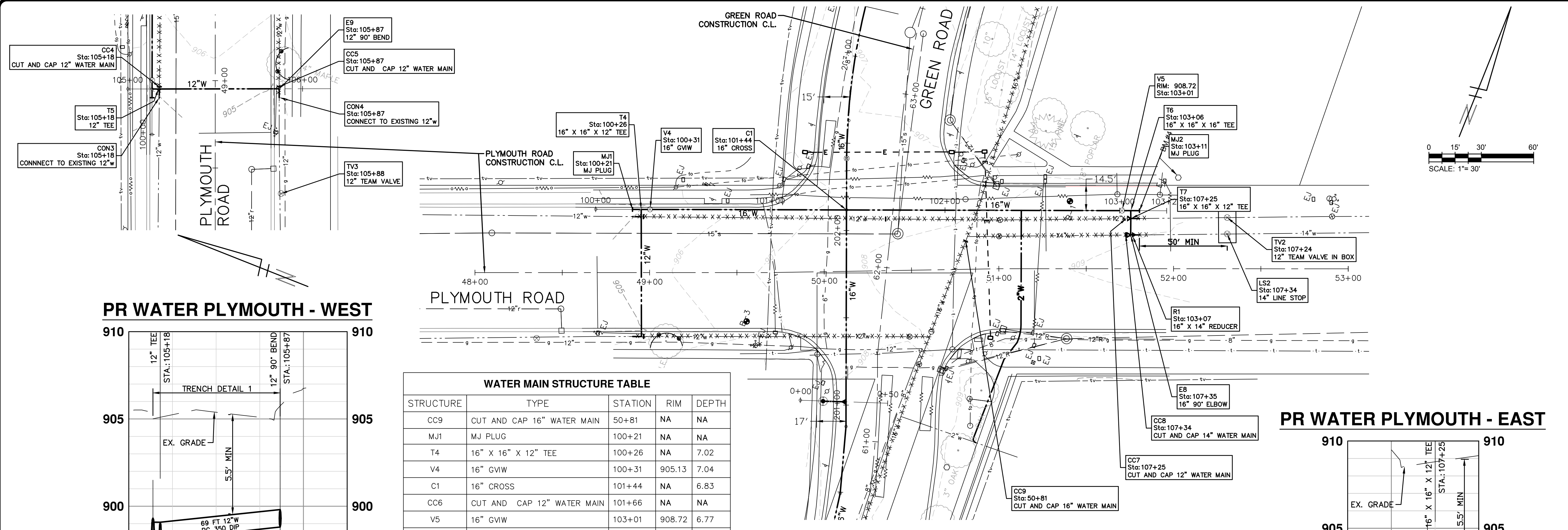
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PUBLIC WORKS
PLYMOUTH ROAD AND GREEN ROAD
WATER MAIN REPLACEMENT
GREEN ROAD WATER

Project No.: 200-31537-16003
Designed By: J. SIWEK
Drawn By: S. GOTHA
Checked By:

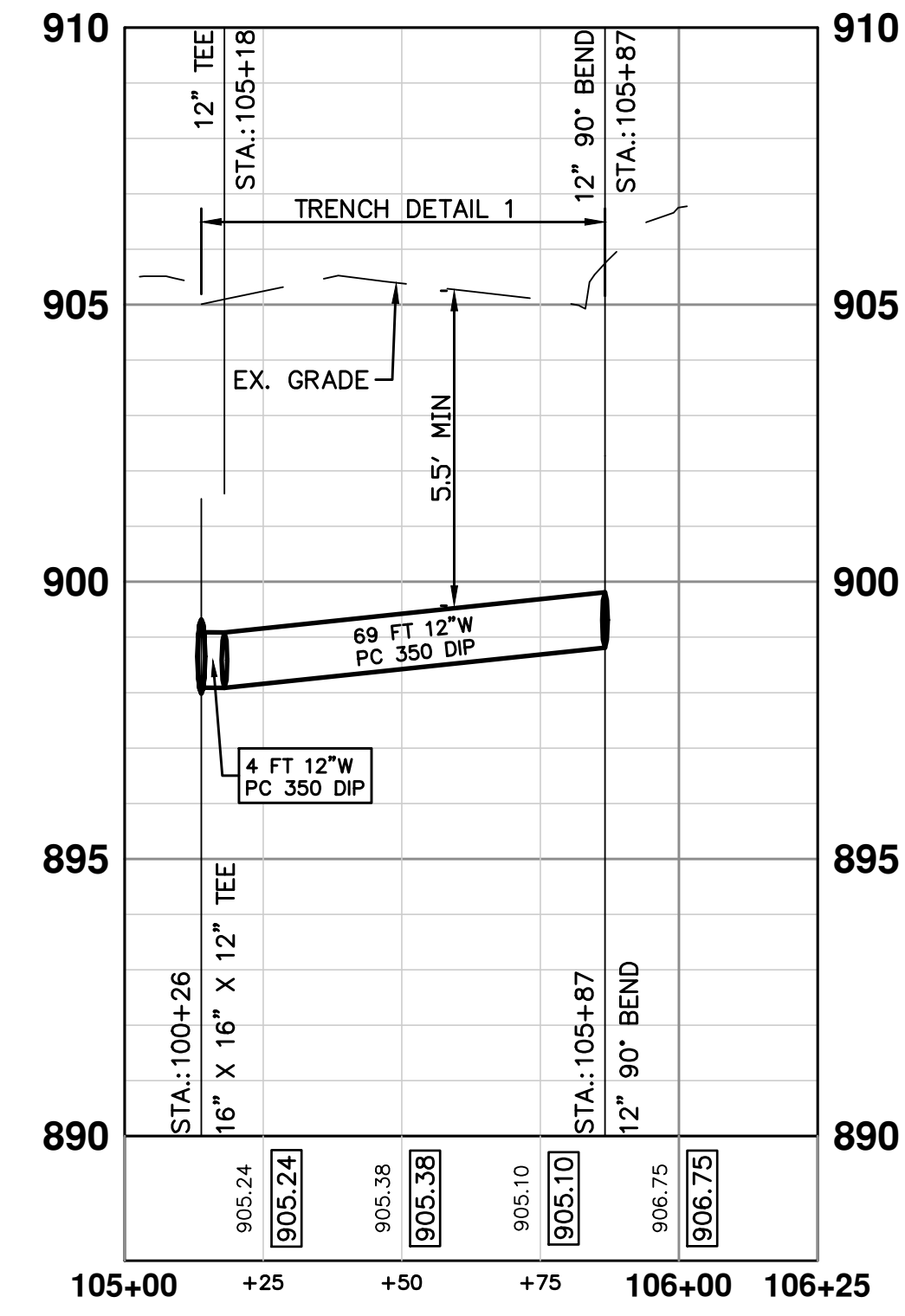
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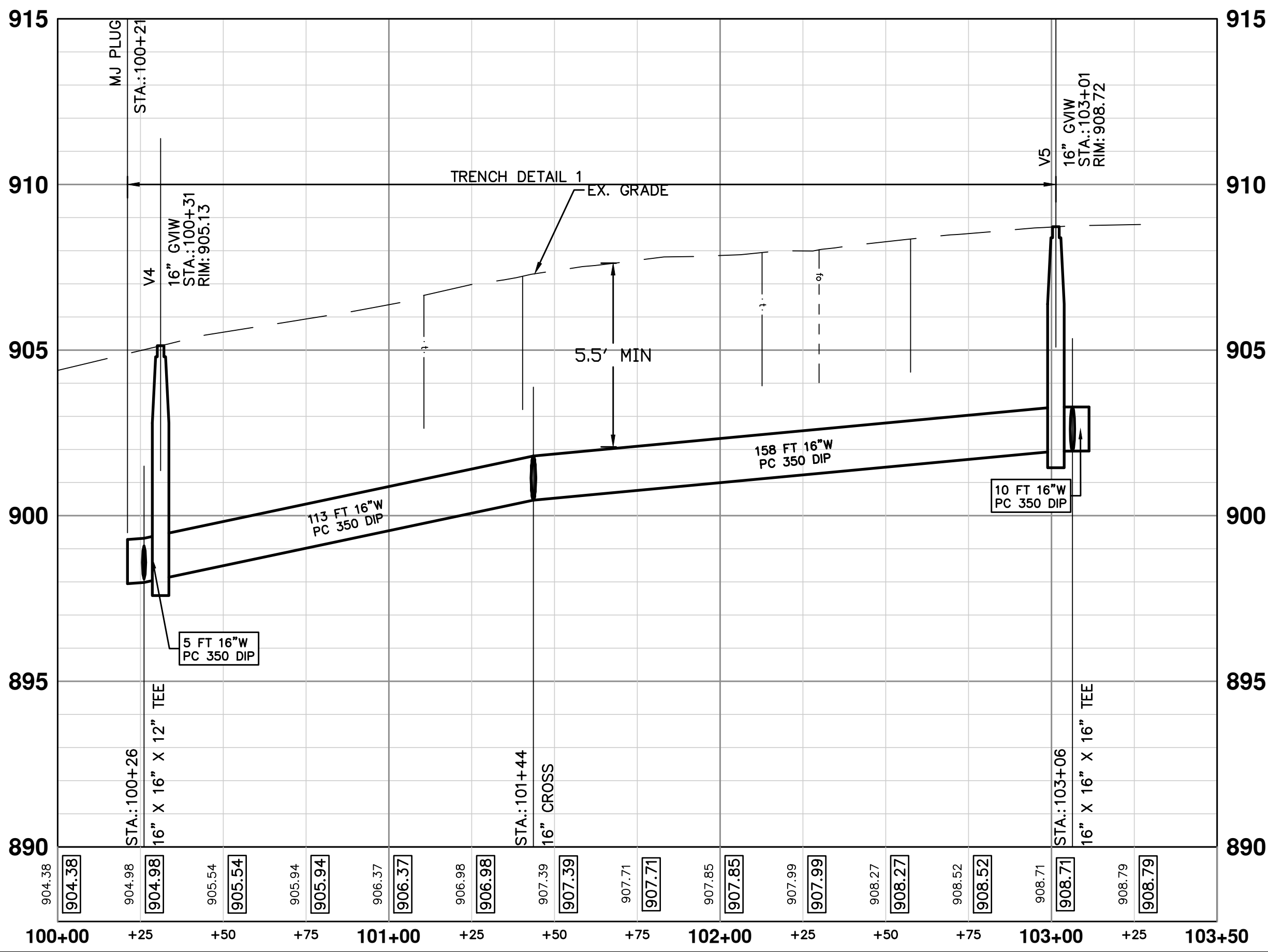
PR WATER PLYMOUTH - WEST



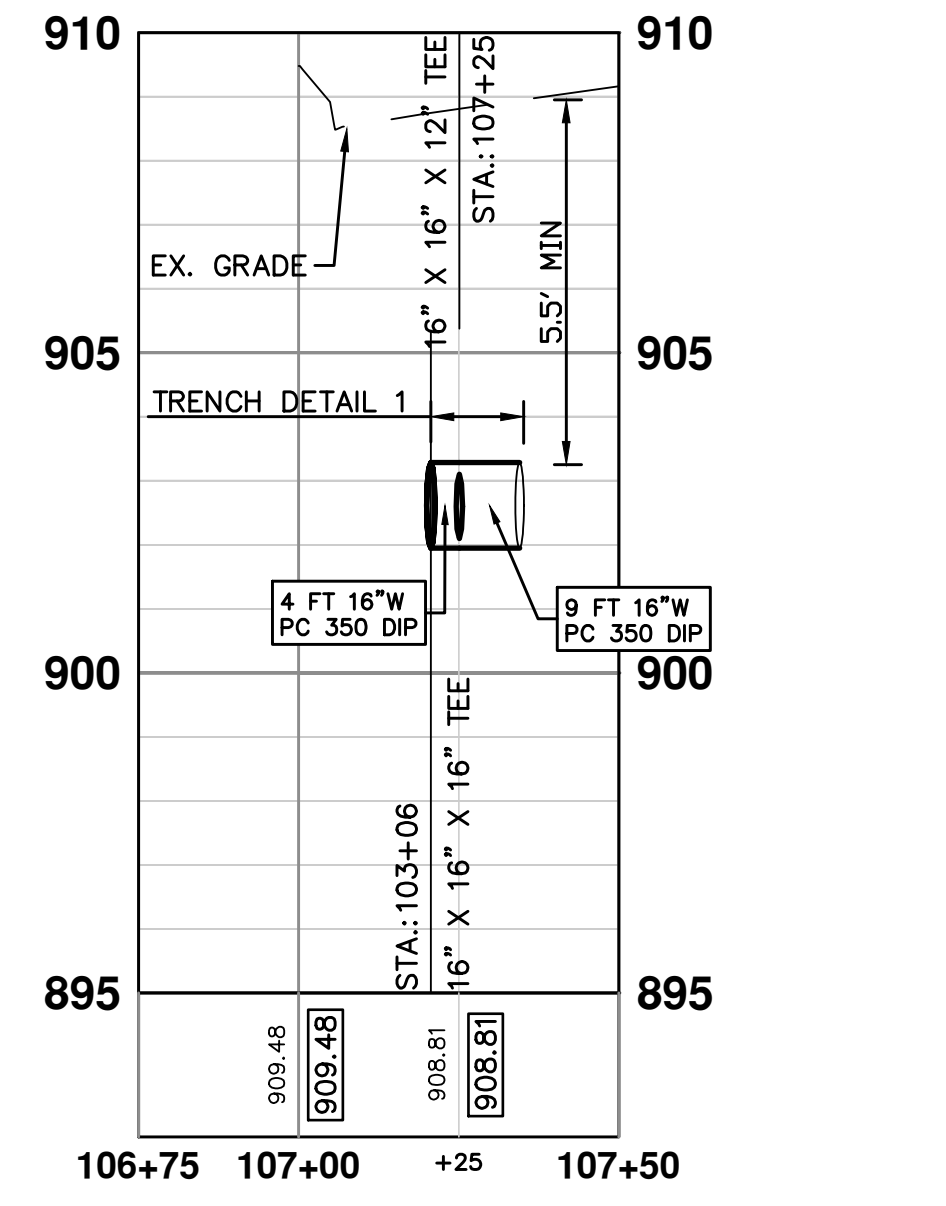
STRUCTURE	TYPE	STATION	RIM	DEPTH
T4	16" X 16" X 12" TEE	100+26	NA	7.02
CON3	CONNECT TO EXISTING 12" w	105+18	NA	NA
CC4	CUT AND CAP 12" WATER MAIN	105+18	NA	???
T5	12" TEE	105+18	NA	NA
CON4	CONNECT TO EXISTING 12" w	105+87	NA	NA
CC5	CUT AND CAP 12" WATER MAIN	105+87	NA	???
E9	12" 90° BEND	105+87	NA	NA
TV3	12" TEAM VALVE	105+88	NA	NA

STRUCTURE	TYPE	STATION	RIM	DEPTH
CC9	CUT AND CAP 16" WATER MAIN	50+81	NA	NA
MJ1	MJ PLUG	100+21	NA	NA
T4	16" X 16" X 12" TEE	100+26	NA	7.02
V4	16" GVW	100+31	905.13	7.04
C1	16" CROSS	101+44	NA	6.83
CC6	CUT AND CAP 12" WATER MAIN	101+66	NA	NA
V5	16" GVW	103+01	908.72	6.77
T6	16" X 16" X 16" TEE	103+06	NA	6.80
MJ2	MJ PLUG	103+11	NA	NA

PR WATER PLYMOUTH RD



PR WATER PLYMOUTH - EAST



STRUCTURE	TYPE	STATION	RIM	DEPTH
T6	16" X 16" X 16" TEE	103+06	908.75	6.80
TV2	12" TEAM VALVE IN BOX	107+24	NA	NA
CON5	CONNECT TO EXISTING 12" w	107+25	NA	NA
CC7	CUT AND CAP 12" WATER MAIN	107+25	0.07	NA
T7	16" X 16" X 12" TEE	107+25	NA	NA
CON6	CONNECT TO EXISTING 14" w	107+34	NA	NA
CC8	CUT AND CAP 14" WATER MAIN	107+34	NA	NA
LS2	14" LINE STOP	107+34	NA	NA
E8	16" 90° ELBOW	107+35	908.94	6.99

NOTES:
 1. ALL WATER MAIN CONSTRUCTION SHALL HAVE RESTRAINED JOINTS.
 2. CITY WATER DEPARTMENT TO OPERATE ALL EXISTING VALVES FOR TEMPORARY SHUTDOWNS. IN THE EVENT THE EXISTING VALVES CAN NOT BE FULLY CLOSED, LINE STOPS SHALL BE USED TO TEMPORARILY STOP THE FLOW. SEE DETAILED SPECIFICATION FOR TEMPORARY LINE STOPS.

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PLYMOUTH ROAD AND GREEN ROAD
WATER MAIN REPLACEMENT

PLYMOUTH ROAD WATER

Project No.: 200-31537-16003
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 Drawn By: S. GOTHA
 Checked By:

Notes:

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OF 54

Bar Measures 1 inch

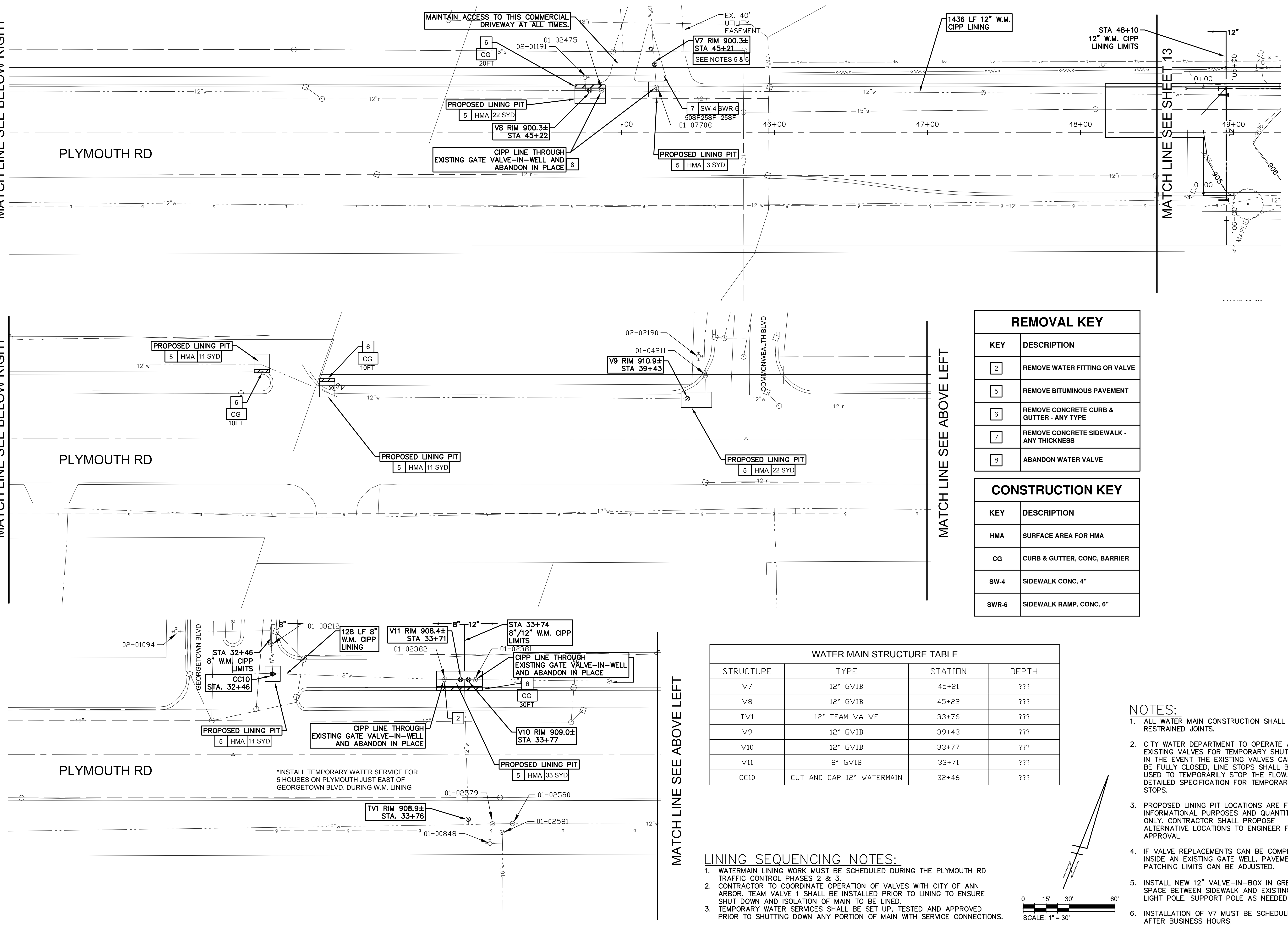
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MATCH LINE SEE BELOW RIGHT

MATCH LINE SEE BELOW RIGHT

MATCH LINE SEE ABOVE LEFT

MATCH LINE SEE SHEET 13



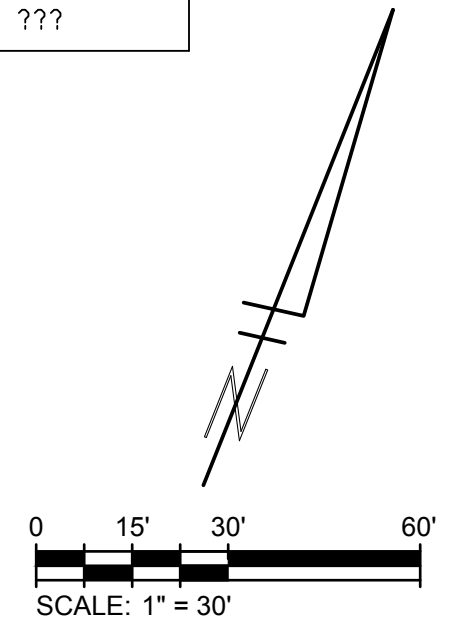
REMOVAL KEY	
KEY	DESCRIPTION
2	REMOVE WATER FITTING OR VALVE
5	REMOVE BITUMINOUS PAVEMENT
6	REMOVE CONCRETE CURB & GUTTER - ANY TYPE
7	REMOVE CONCRETE SIDEWALK - ANY THICKNESS
8	ABANDON WATER VALVE

CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CURB & GUTTER, CONC, BARRIER
SW-4	SIDEWALK CONC, 4"
SWR-6	SIDEWALK RAMP, CONC, 6"

WATER MAIN STRUCTURE TABLE			
STRUCTURE	TYPE	STATION	DEPTH
V7	12" GVIB	45+21	???
V8	12" GVIB	45+22	???
TV1	12" TEAM VALVE	33+76	???
V9	12" GVIB	39+43	???
V10	12" GVIB	33+77	???
V11	8" GVIB	33+71	???
CC10	CUT AND CAP 12" WATERMAIN	32+46	???

LINING SEQUENCING NOTES:

- WATERMAIN LINING WORK MUST BE SCHEDULED DURING THE PLYMOUTH RD TRAFFIC CONTROL PHASES 2 & 3.
- CONTRACTOR TO COORDINATE OPERATION OF VALVES WITH CITY OF ANN ARBOR. TEAM VALVE 1 SHALL BE INSTALLED PRIOR TO LINING TO ENSURE SHUT DOWN AND ISOLATION OF MAIN TO BE LINED.
- TEMPORARY WATER SERVICES SHALL BE SET UP, TESTED AND APPROVED PRIOR TO SHUTTING DOWN ANY PORTION OF MAIN WITH SERVICE CONNECTIONS.



- NOTES:**
- ALL WATER MAIN CONSTRUCTION SHALL HAVE RESTRAINED JOINTS.
 - CITY WATER DEPARTMENT TO OPERATE ALL EXISTING VALVES FOR TEMPORARY SHUTDOWNS. IN THE EVENT THE EXISTING VALVES CAN NOT BE FULLY CLOSED, LINE STOPS SHALL BE USED TO TEMPORARILY STOP THE FLOW. SEE DETAILED SPECIFICATION FOR TEMPORARY LINE STOPS.
 - PROPOSED LINING PIT LOCATIONS ARE FOR INFORMATIONAL PURPOSES AND QUANTITIES ONLY. CONTRACTOR SHALL PROPOSE ALTERNATIVE LOCATIONS TO ENGINEER FOR APPROVAL.
 - IF VALVE REPLACEMENTS CAN BE COMPLETED INSIDE AN EXISTING GATE WELL, PAVEMENT PATCHING LIMITS CAN BE ADJUSTED.
 - INSTALL NEW 12" VALVE-IN-BOX IN GREEN SPACE BETWEEN SIDEWALK AND EXISTING LIGHT POLE. SUPPORT POLE AS NEEDED.
 - INSTALLATION OF V7 MUST BE SCHEDULED FOR AFTER BUSINESS HOURS.

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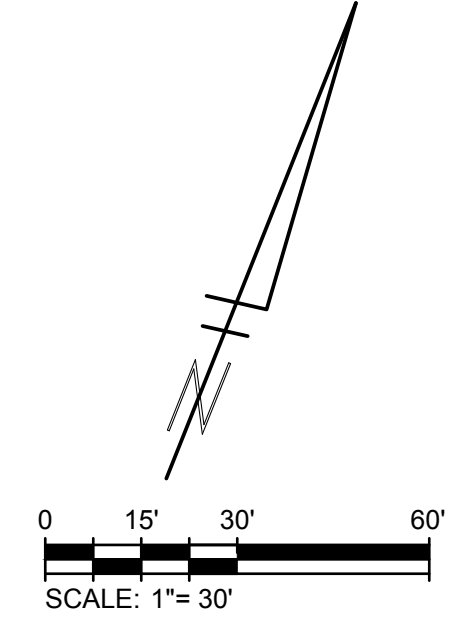
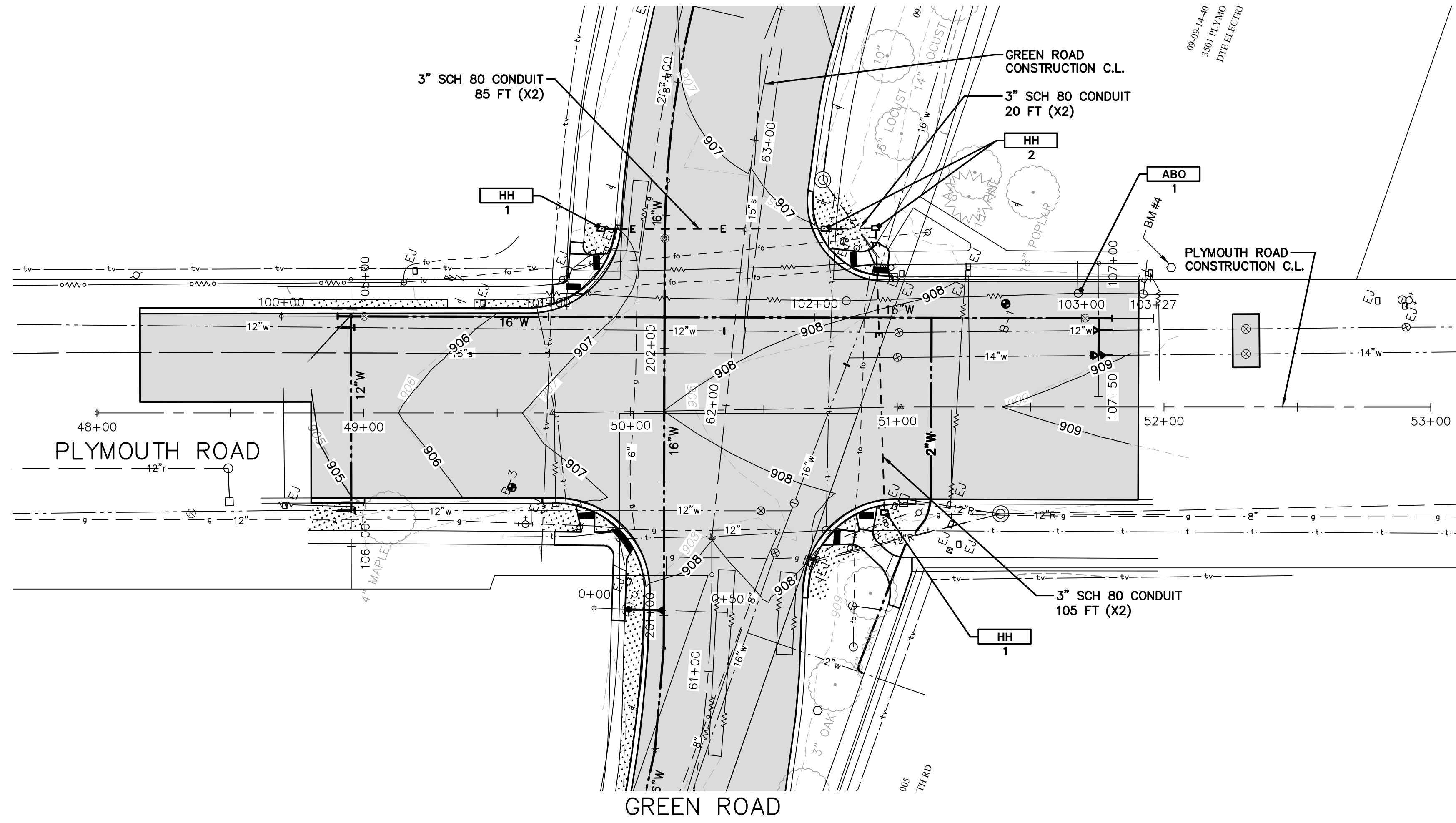
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WATER MAIN REPLACEMENT
PLYMOUTH ROAD WATER

Project No.: 200-31537-16003
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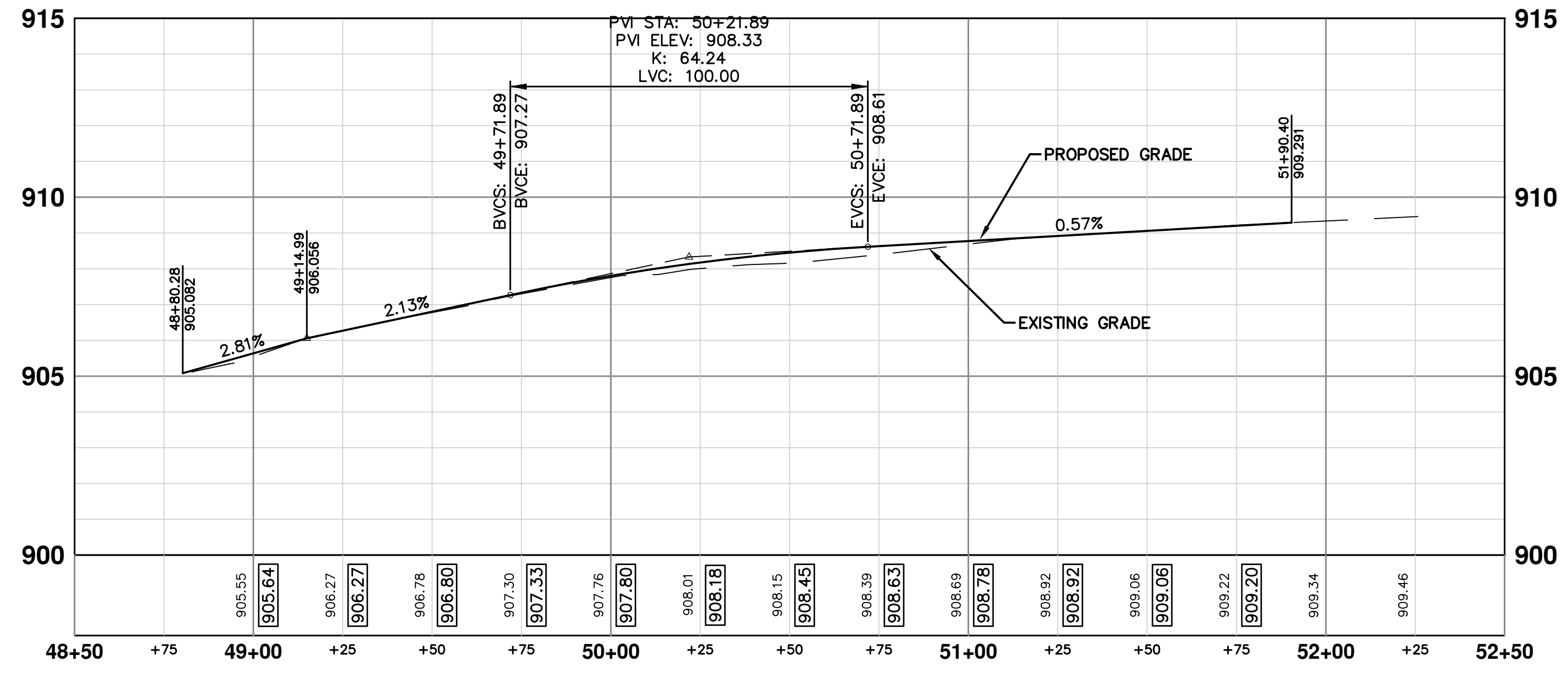
CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA *
CG	CURB AND GUTTER, CONC, BARRIER
SW-4	SIDEWALK, CONC, 4 INCH
SWR-6	SIDEWALK RAMP, CONC, 6 INCH
DWS	DETECTABLE WARNING SURFACE
ABO	ADJUST BY OTHERS
HH	HAND HOLE
1	SLOPE RESTORATION**
2	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX
3	ADJUST STRUCTURE COVER

** THIS ITEM INCLUDES TOPSOIL SURFACE, FURN, 4 INCH, FERTILIZER CHEMICAL NUTRIENT CL A; SEEDING TUF COMPLETE; AND MULCH BLANKET.

* HMA SURFACE AREA PROVIDED. HMA APPLICATION RATE PER SHEETS 5 & 6.

PLYMOUTH-RD-CROWN

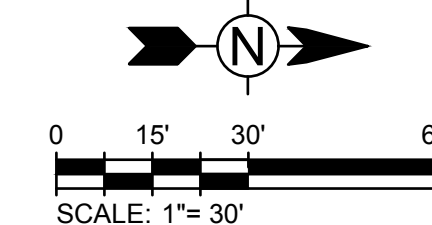


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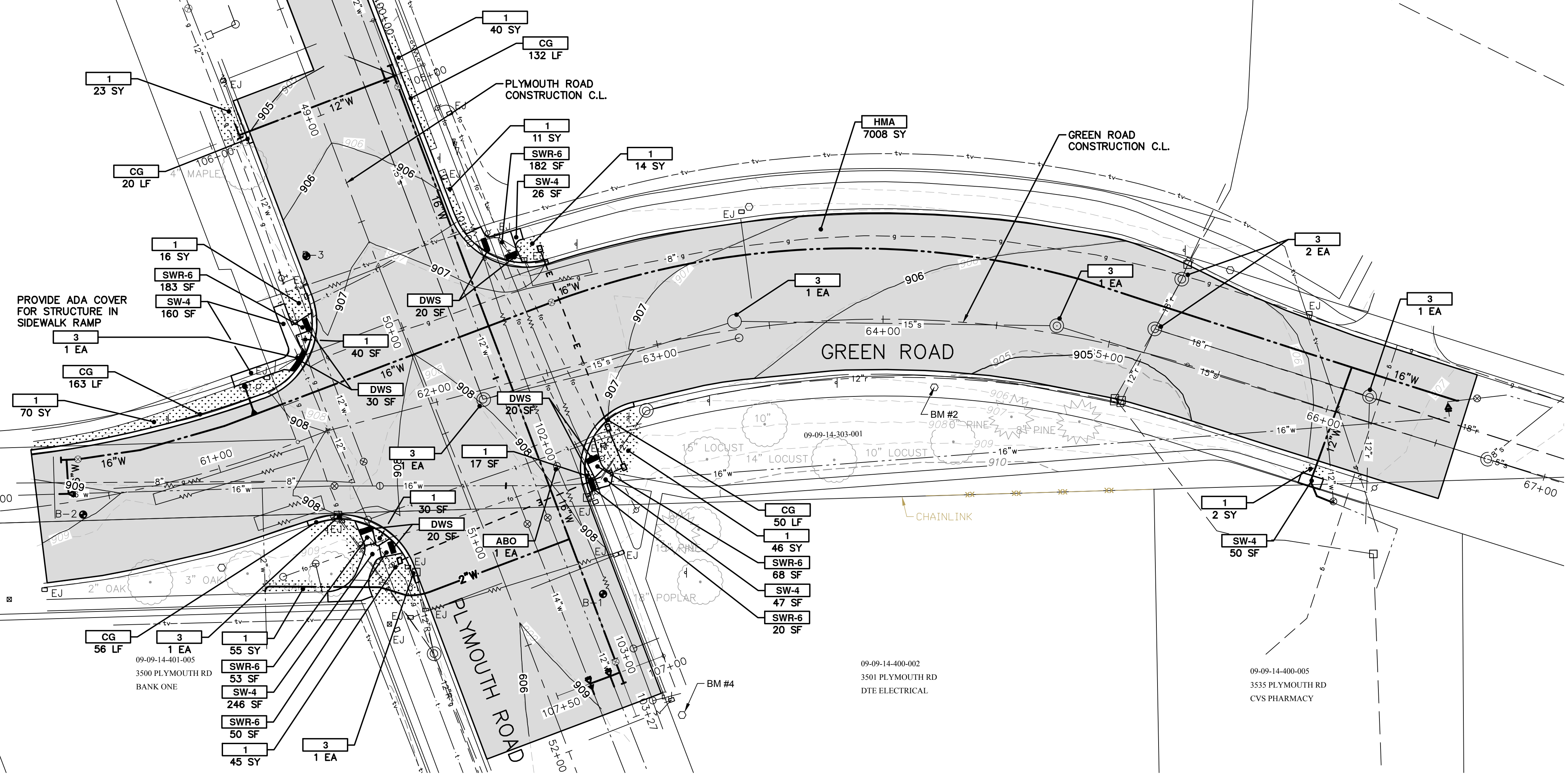
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PLYMOUTH ROAD AND GREEN ROAD
WATER MAIN REPLACEMENT
PLYMOUTH RD

Project No.: 200-31537-16003
Designed By: J. SWEK
Drawn By: S. GOTHA
Checked By:

BM #4 - NW BOLT ON FIRST EXISTING LIGHT POLE 55'± NORTH OF CL PLYMOUTH ROAD, 170'± EAST OF CL GREEN ROAD. ELEV. 910.21



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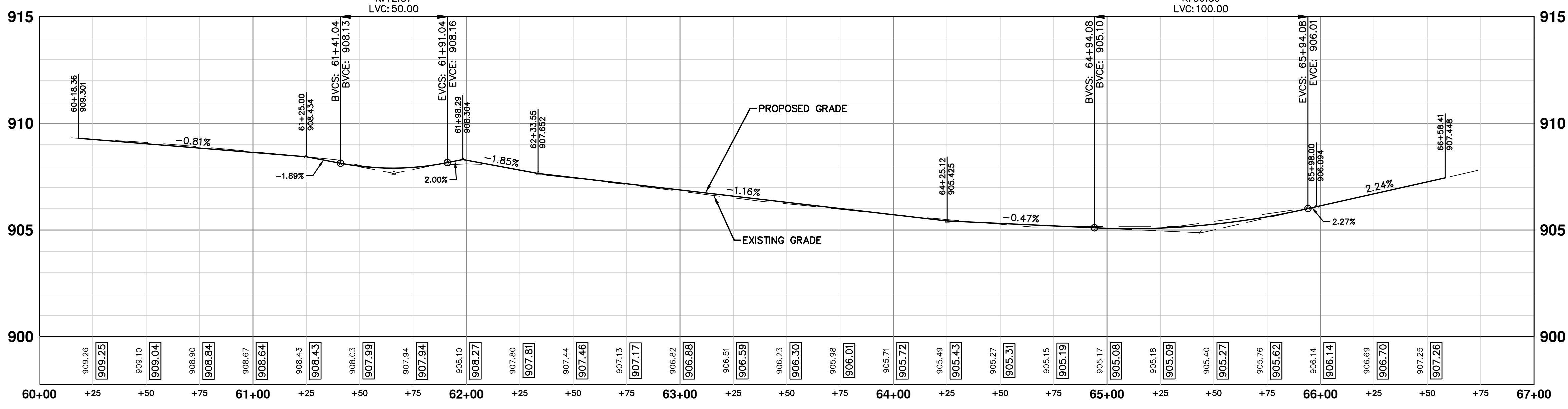
CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA*
CG	CURB AND GUTTER, CONC
SW-4	SIDEWALK, CONC, 4 INCH
SWR-6	SIDEWALK RAMP, CONC, 6 INCH
DWS	DETECTABLE WARNING SURFACE
ABO	ADJUST BY OTHERS
1	SLOPE RESTORATION*
2	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX
3	ADJUST STRUCTURE COVER

* THIS ITEM INCLUDES TOPSOIL SURFACE, FURN, 4 INCH, FERTILIZER CHEMICAL NUTRIENT CL A; SEEDING THM COMPLETE; AND MULCH BLANKET
* HMA SURFACE AREA PROVIDED. HMA APPLICATION RATE PER SHEETS 5 & 6.

LOW PT STA: 61+65.31
LOW PT ELEV: 907.90
PVI STA: 61+66.04
PVI ELEV: 907.66
K: 12.87
LVC: 50.00

LOW PT STA: 65+11.10
LOW PT ELEV: 905.06
PVI STA: 65+44.08
PVI ELEV: 904.87
K: 36.59
LVC: 100.00

GREEN-RD-CROWN



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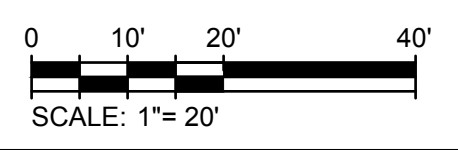
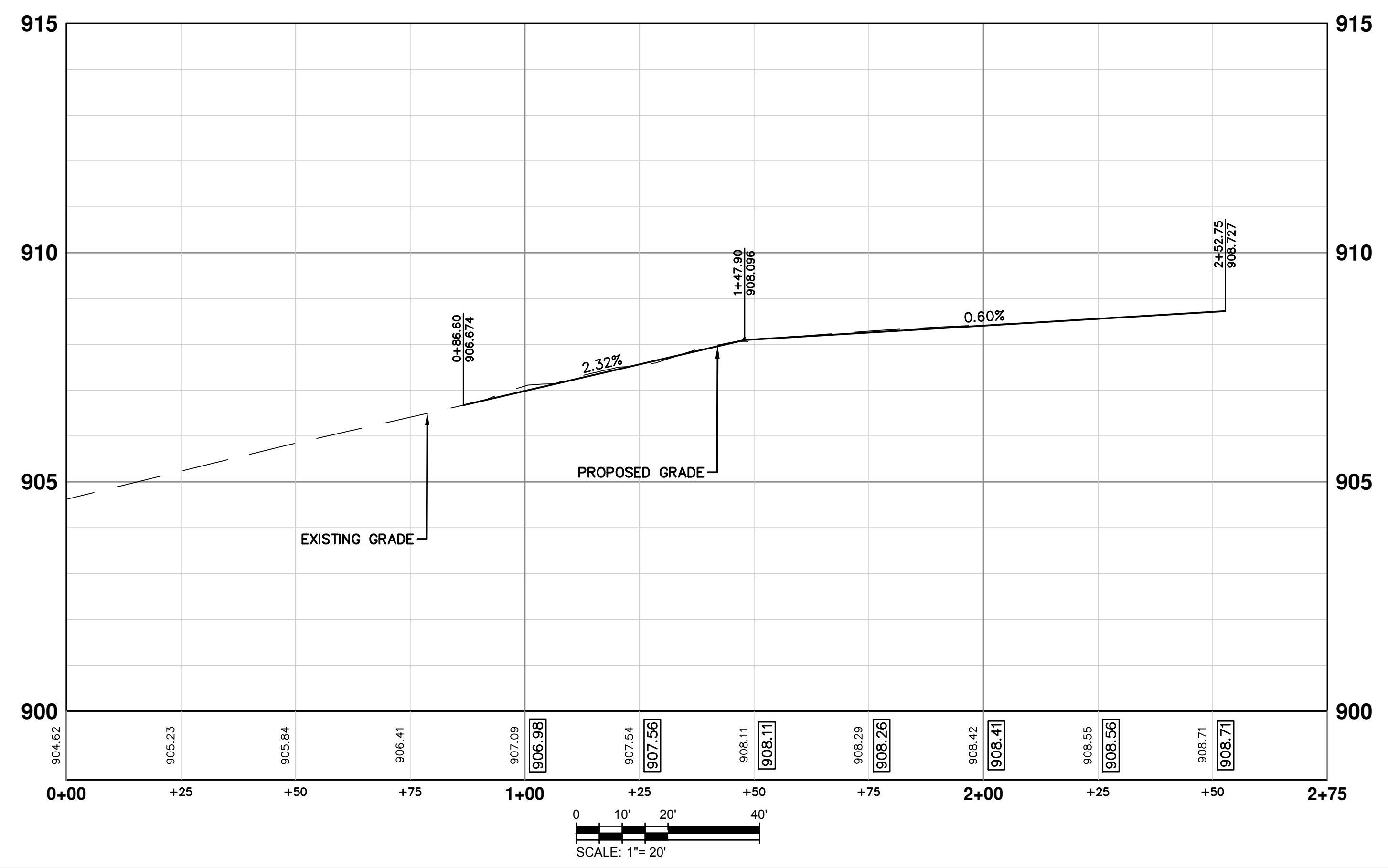
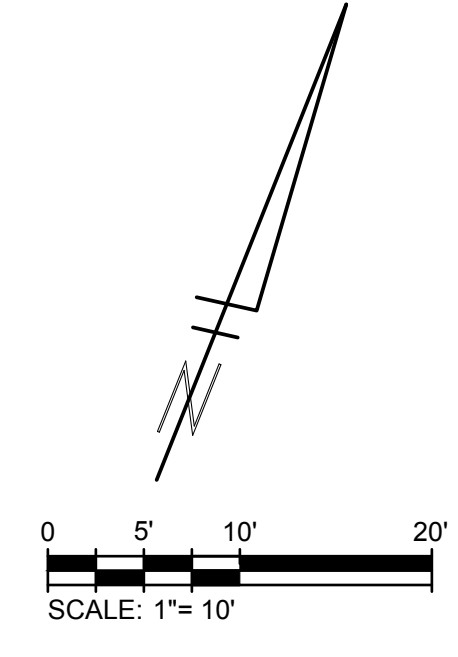
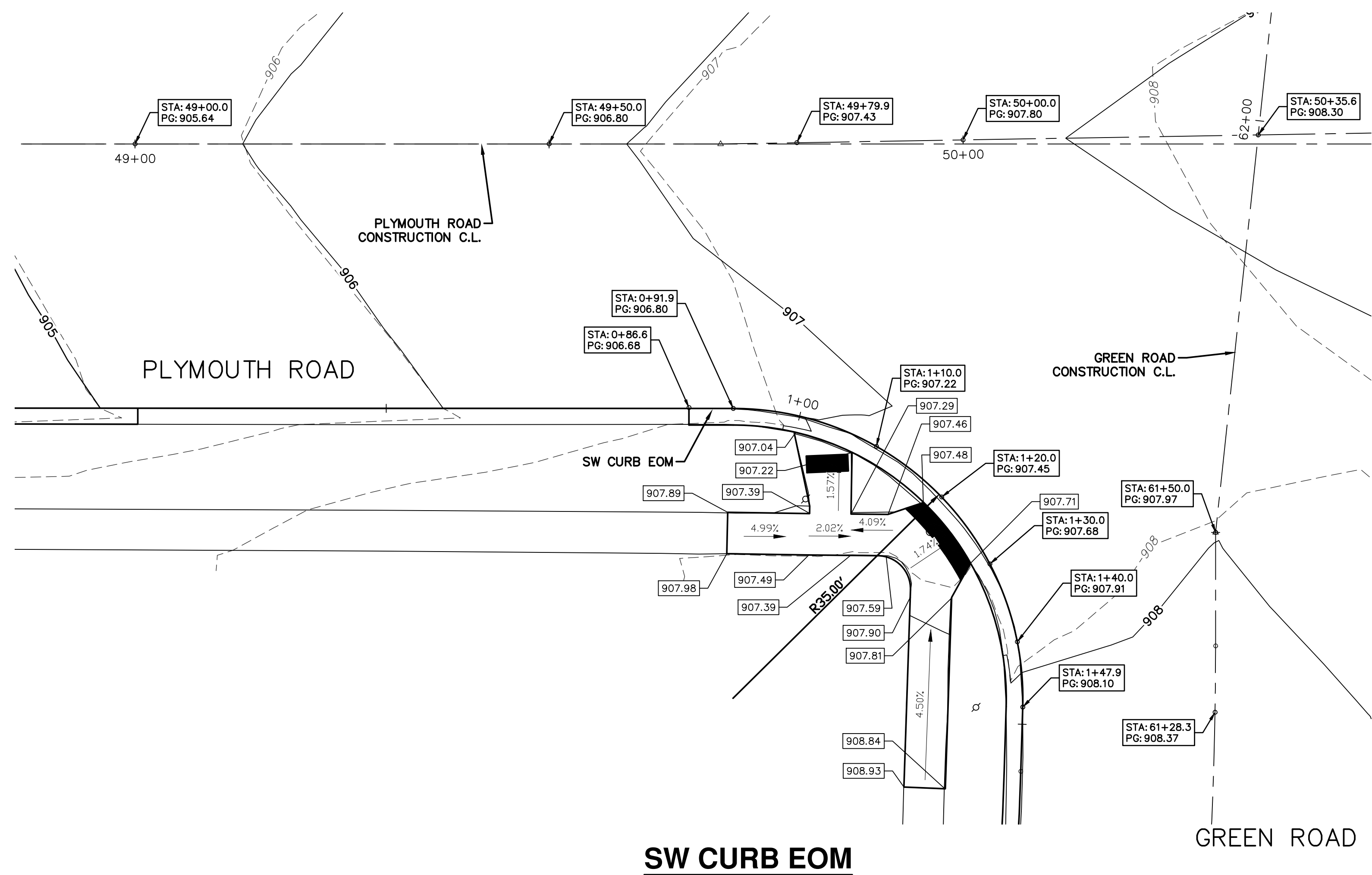


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GREEN ROAD

Project No.: 200-31537-16003
Designed By: J. SIWEK
Drawn By: S. GOTHA
Checked By: K. PIETILA



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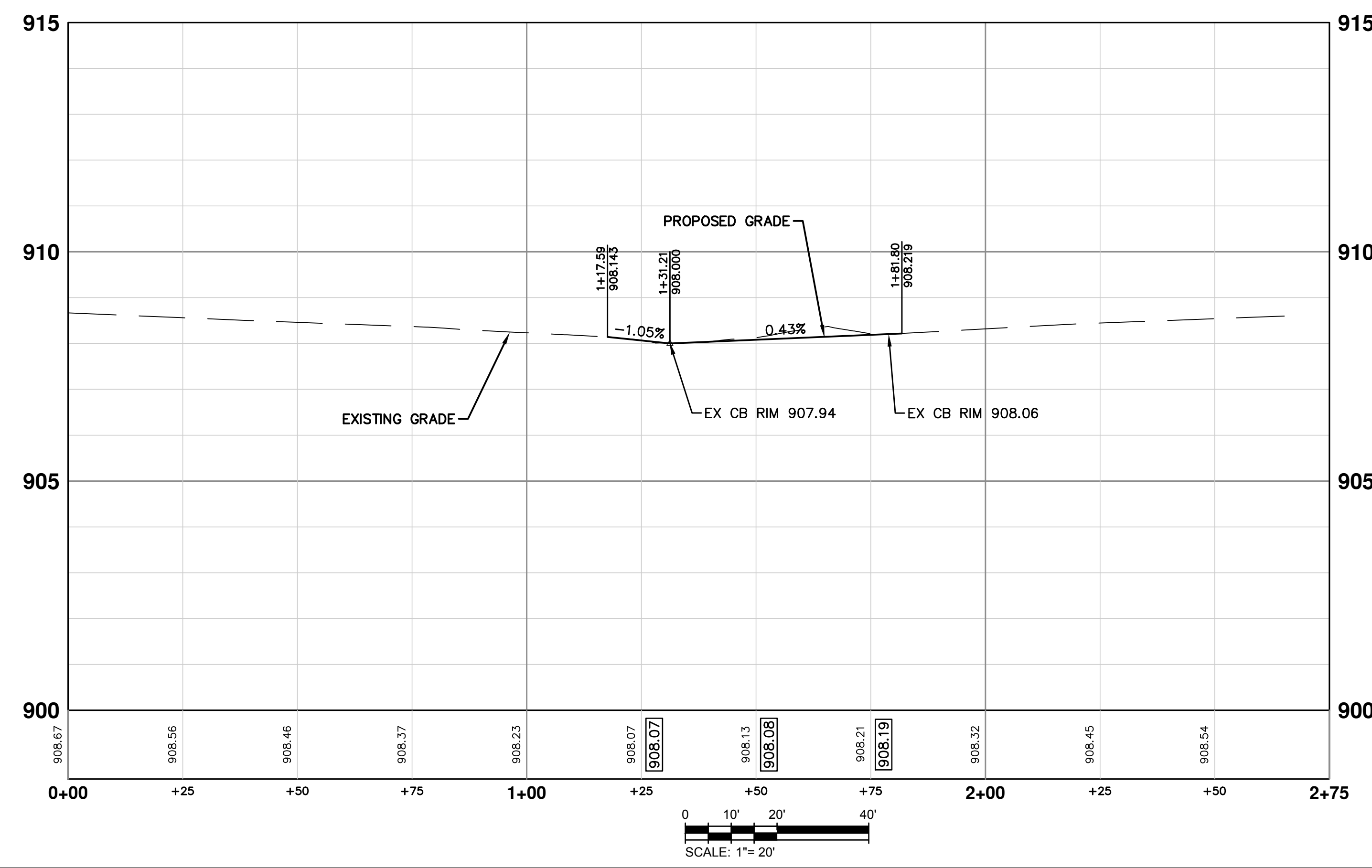
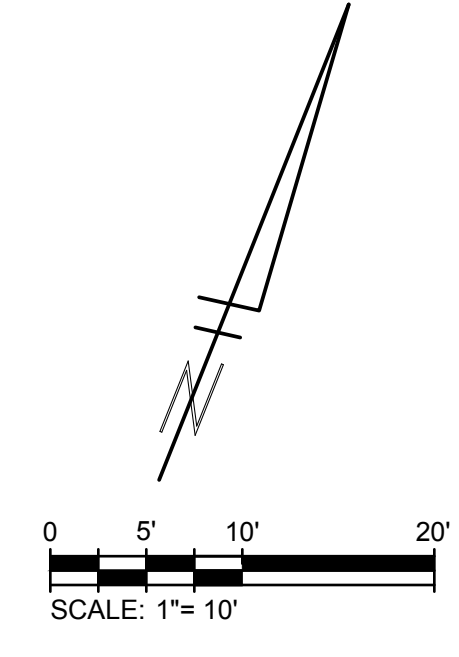
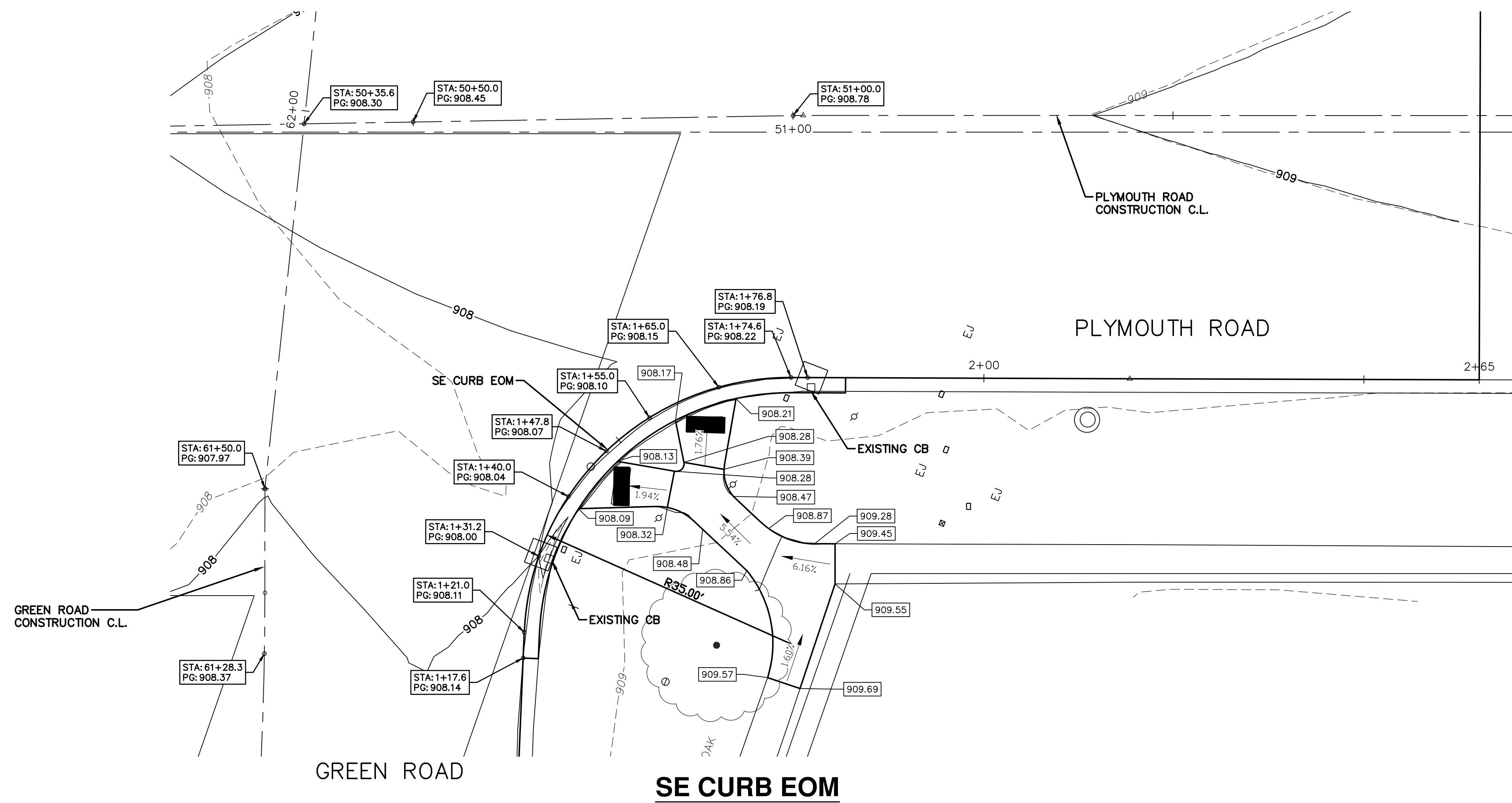


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WATER MAIN REPLACEMENT
INTERSECTION
PLYMOUTH & GREEN RD
SW CURB EOM

Project No.: 200-31537-16003
Designed By: S. GOTHA
Drawn By: S. GOTHA
Checked By: K. PIETILA


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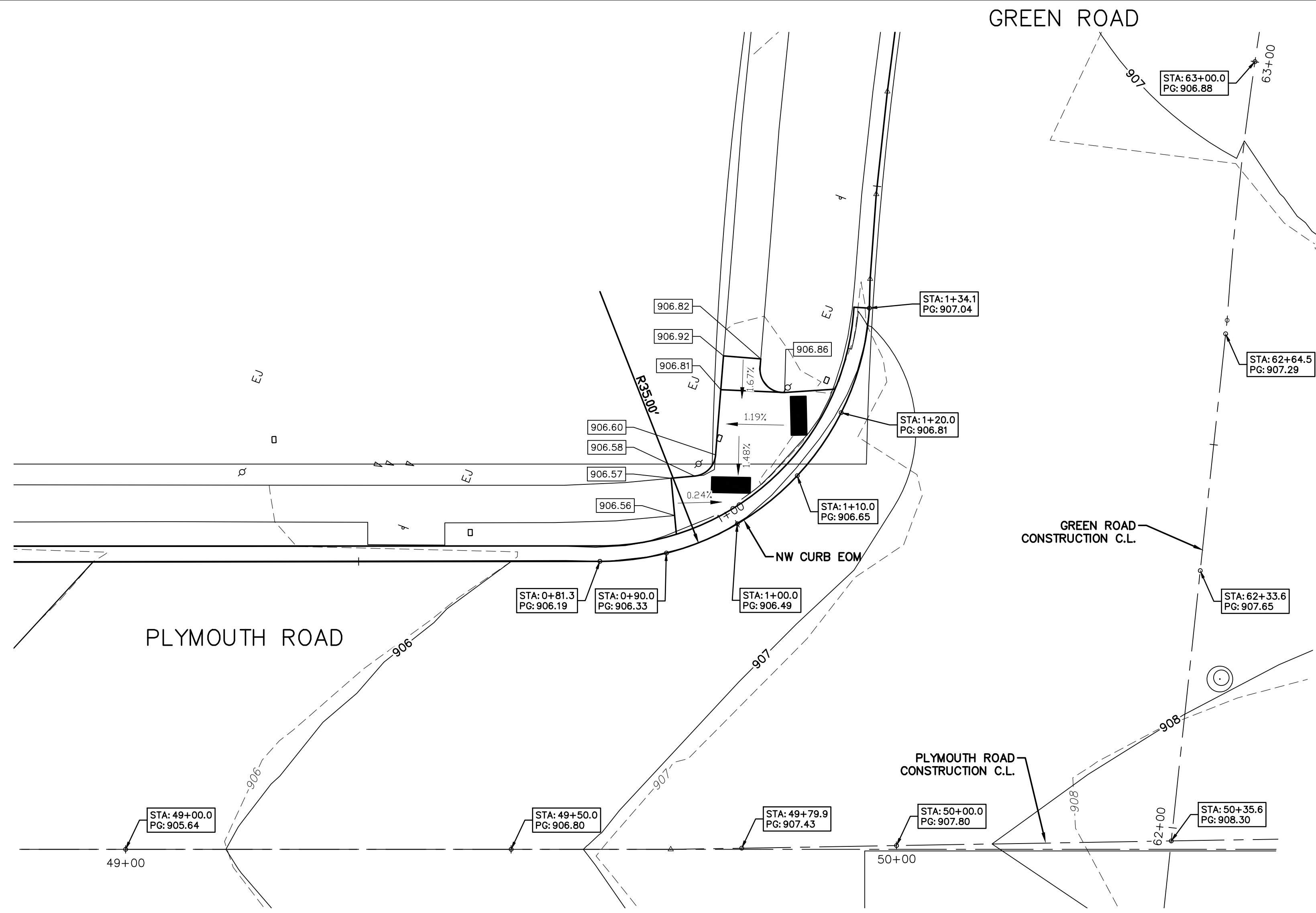


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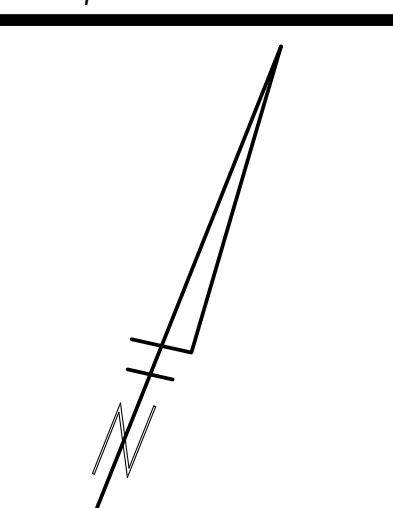
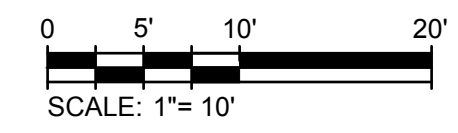
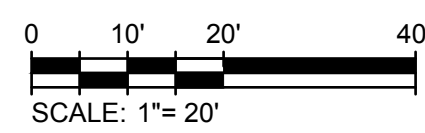
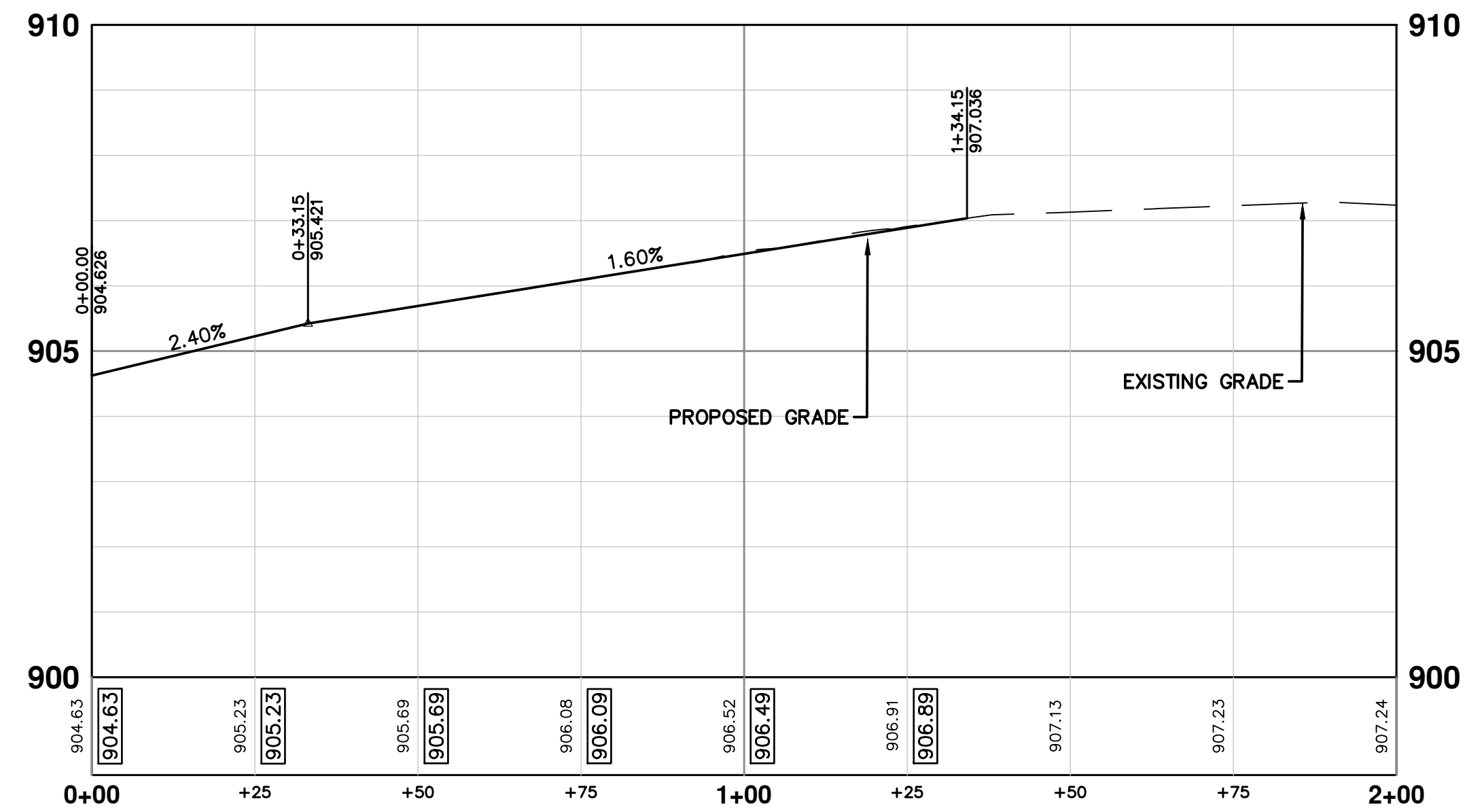
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WATER MAIN REPLACEMENT
**INTERSECTION & GREEN RD
SE CURB EOM**

Project No.: 200-31537-16003
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Drawn By: S. GOTHA
Checked By: K. PIETILA

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NW CURB EOM



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WATER MAIN REPLACEMENT
INTERSECTION
PLYMOUTH & GREEN RD
NW CURB EOM

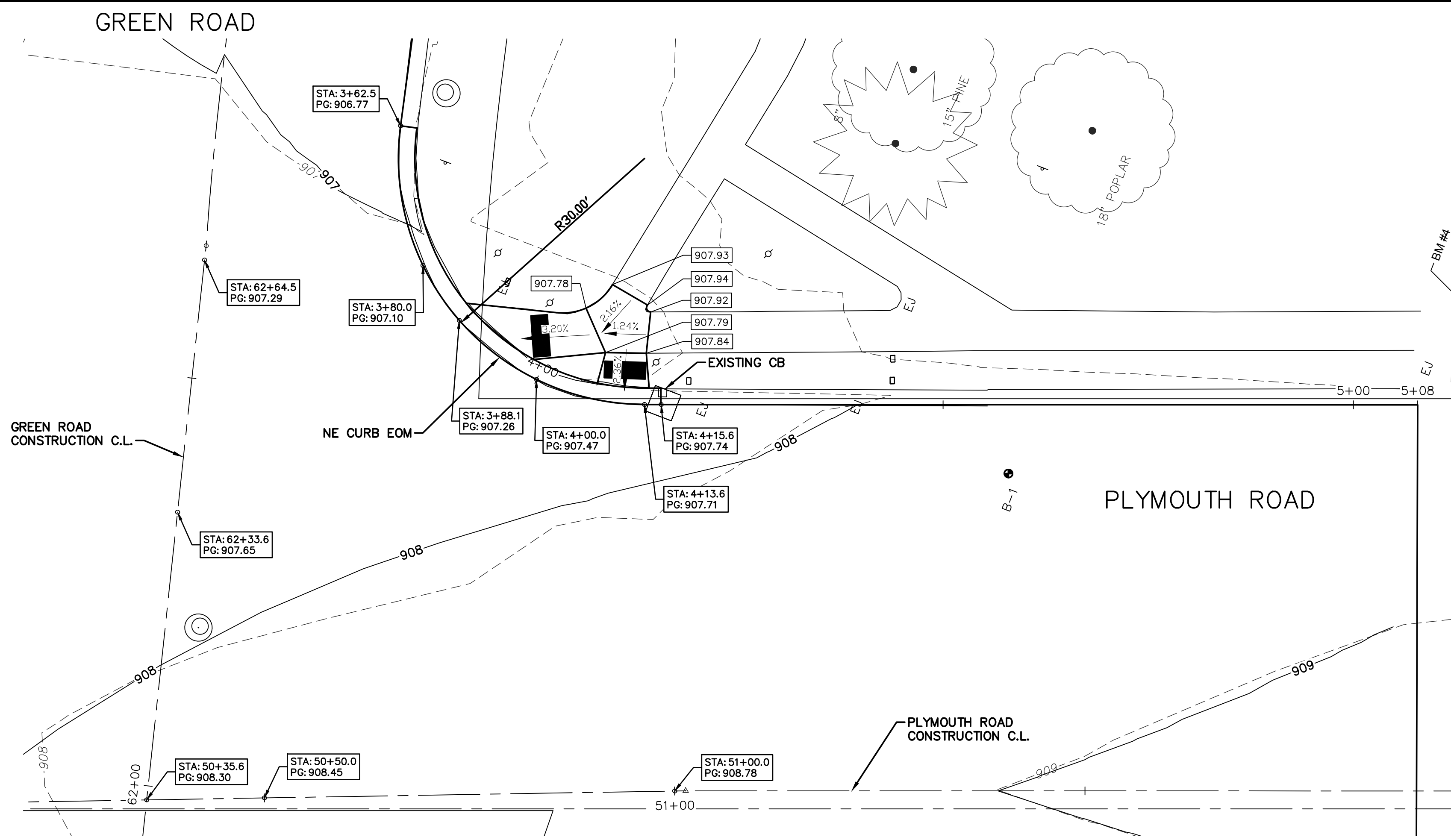
Project No.: 200-31537-16003
Designed By: S. GOTHA
Drawn By: S. GOTHA
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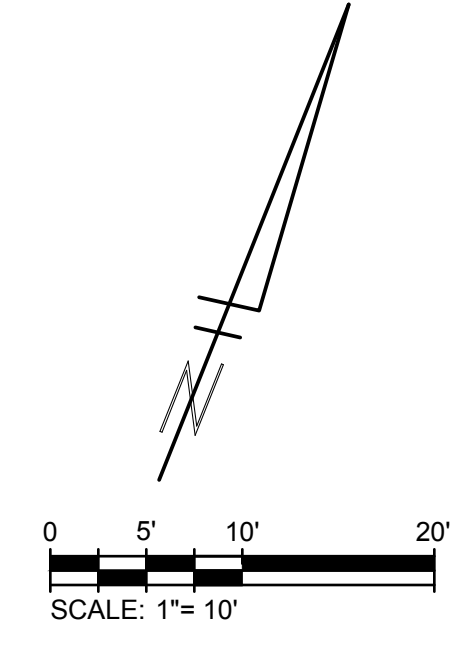
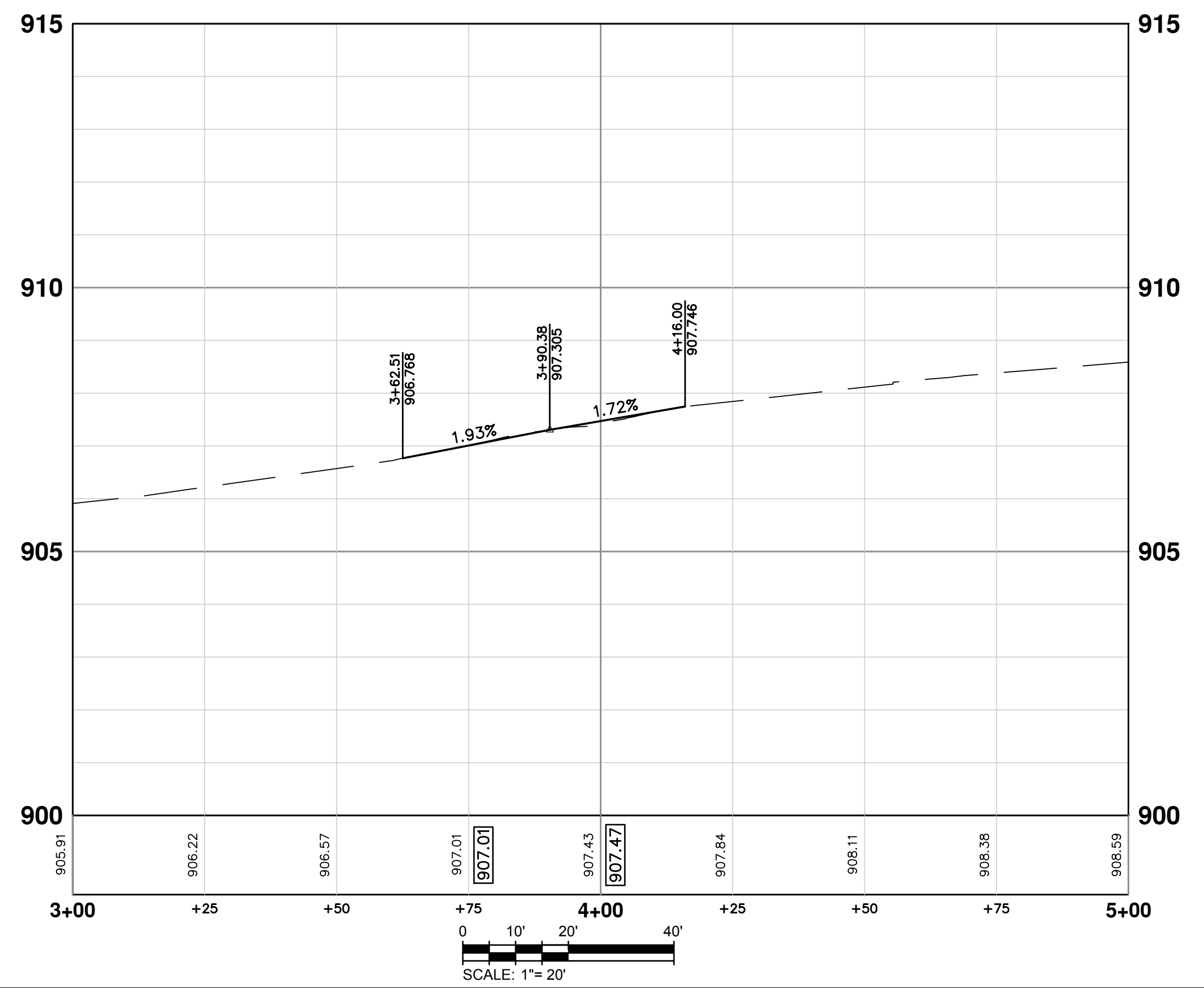
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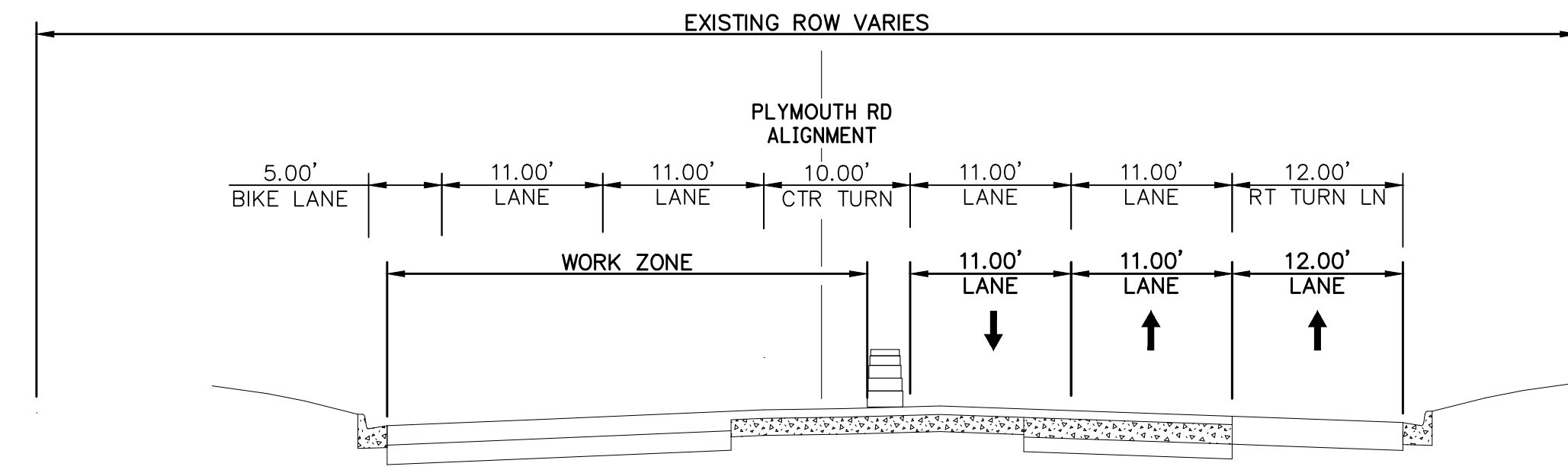
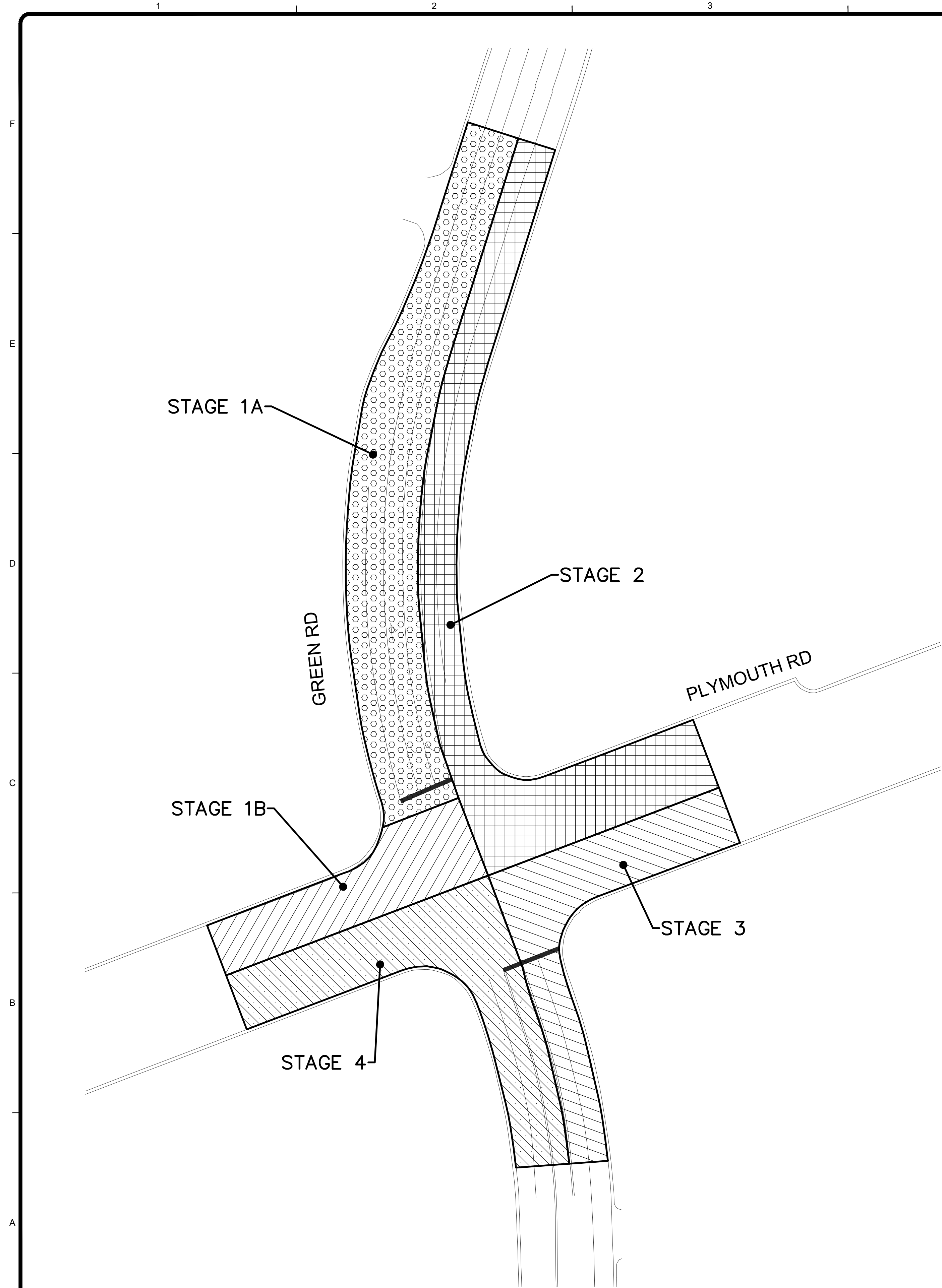
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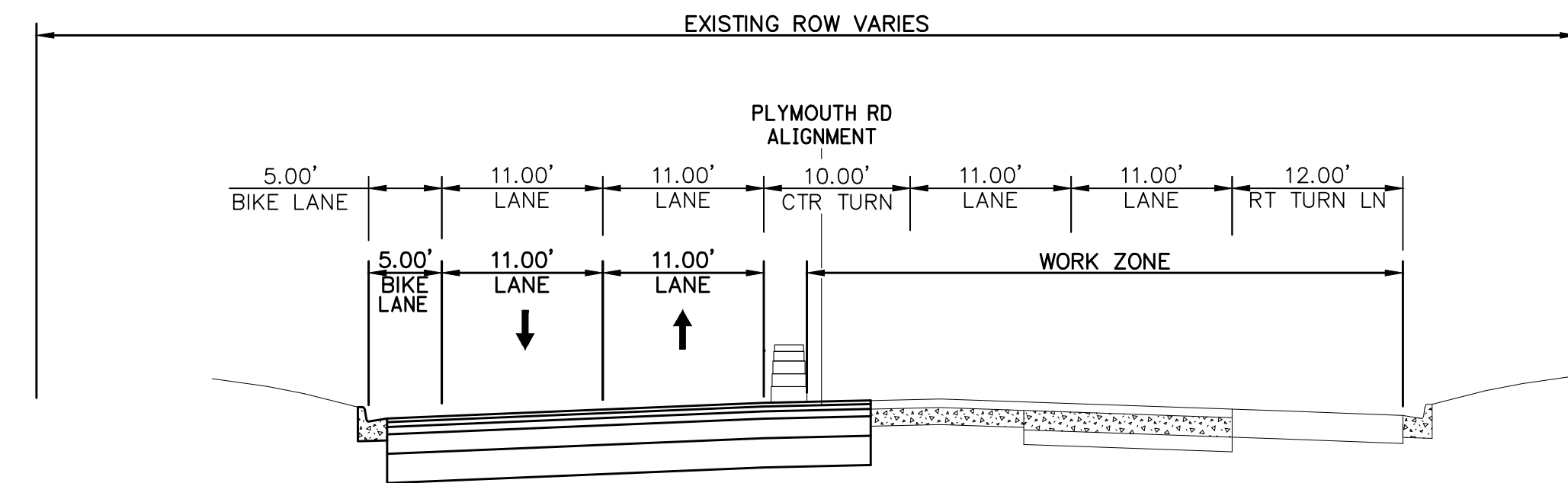
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**INTERSECTION
PLYMOUTH & GREEN RD
NE CURB EOM**

Project No.: 200-31537-16003
Designed By: S. GOTHA
Drawn By: S. GOTHA
Checked By: K. PIETILA

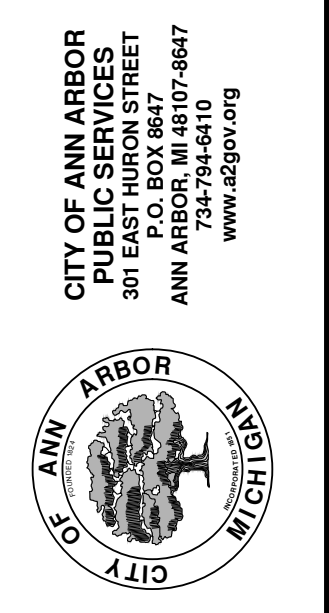
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PLYMOUTH ROAD STAGE 1 & 2



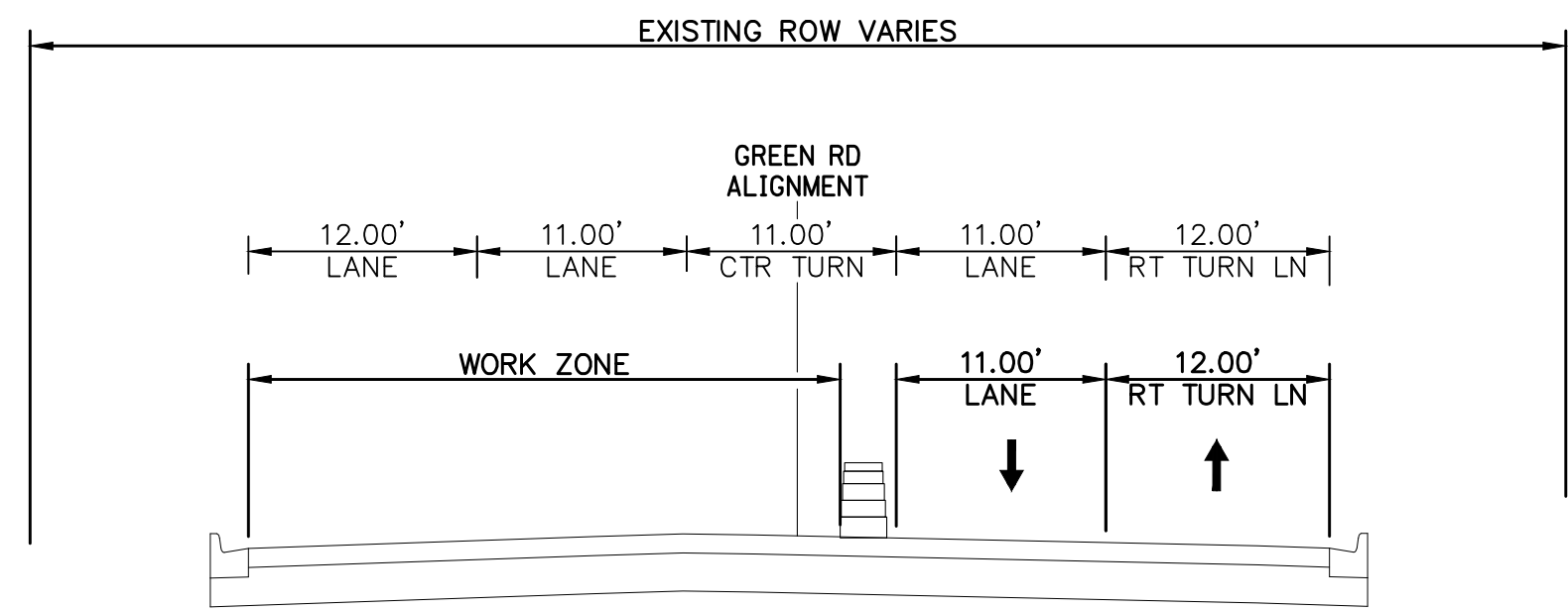
PLYMOUTH ROAD STAGE 3 & 4



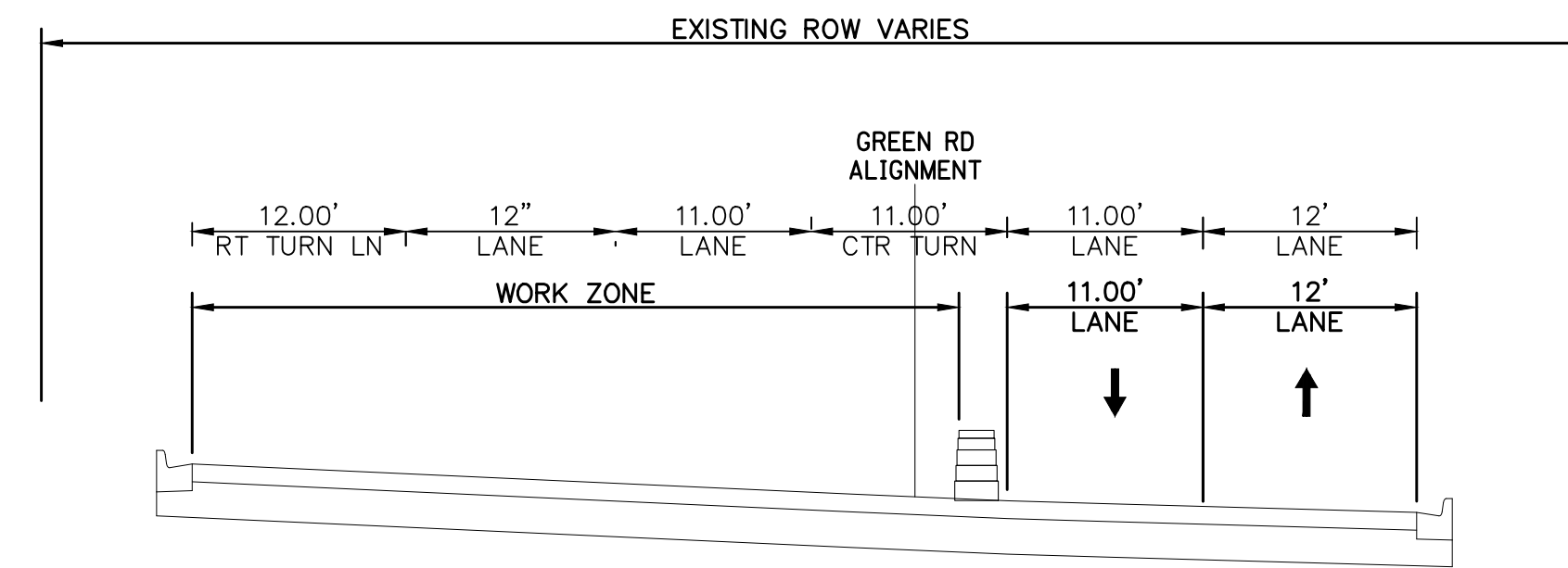
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WATER MAIN REPLACEMENT
MOT TYPICAL SECTIONS
PLYMOUTH ROAD

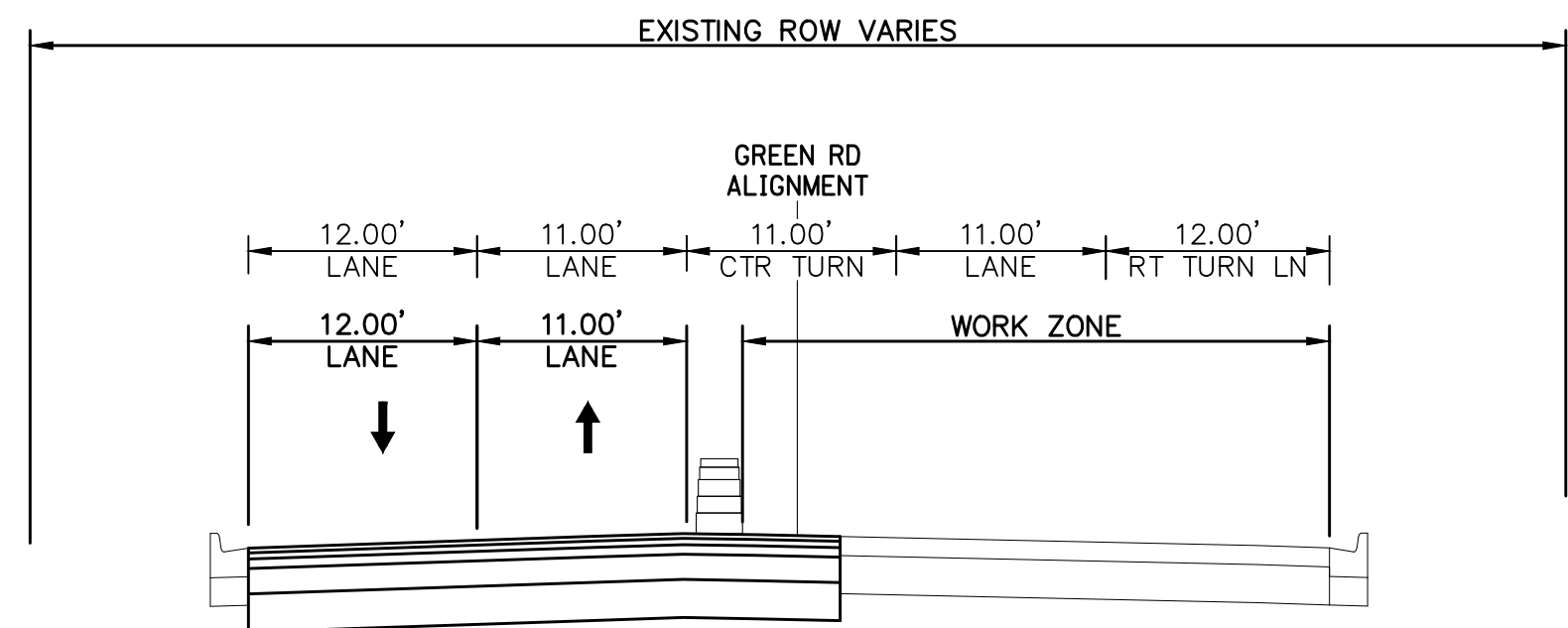
Project No.: 200-31537-16003
Designed By: A. BICKLEY
Drawn By: A. BICKLEY
Checked By: K. PIETILA



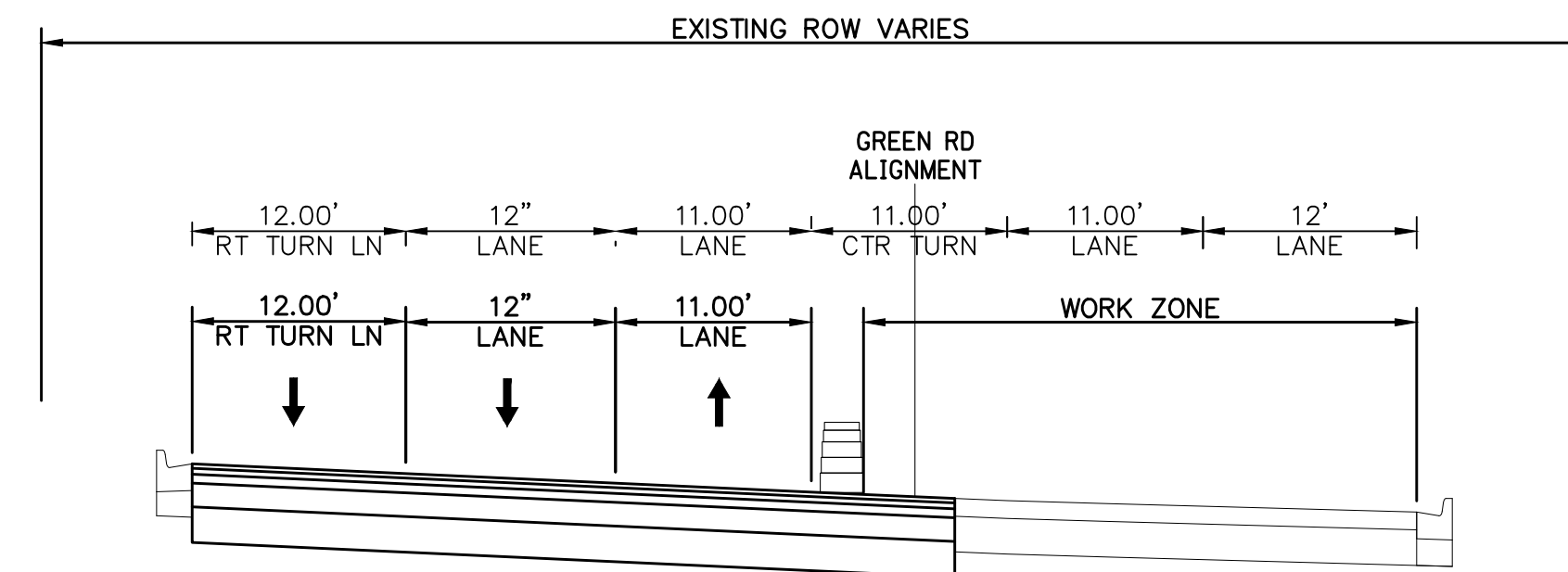
GREEN ROAD STAGE 4
SECTION APPLIES TO:
SOUTH OF PLYMOUTH ROAD



GREEN ROAD STAGE 1A, 1 & 4
SECTION APPLIES TO:
NORTH OF PLYMOUTH ROAD



GREEN ROAD STAGE 2 & 3
SECTION APPLIES TO:
SOUTH OF PLYMOUTH ROAD



GREEN ROAD STAGE 2 & 3
SECTION APPLIES TO:
NORTH OF PLYMOUTH ROAD

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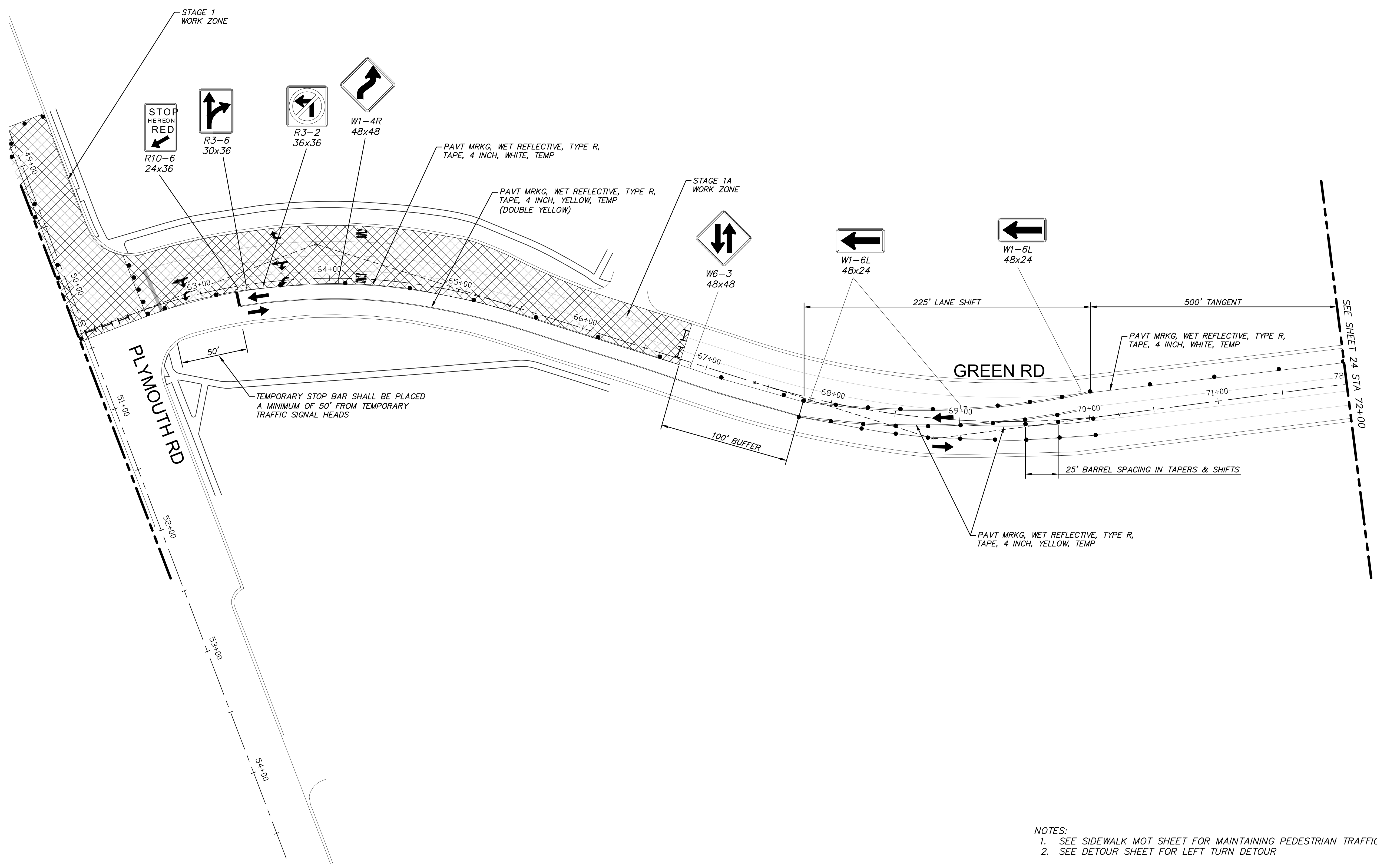
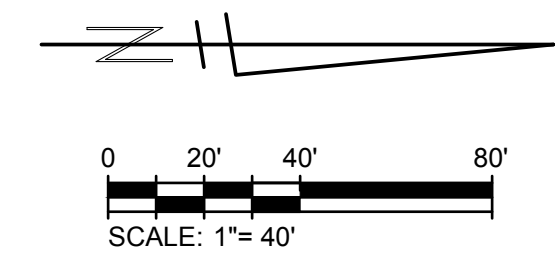


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**MOT TYPICAL SECTIONS
GREEN ROAD**

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 2. SEE DETOUR SHEET FOR LEFT TURN DETOUR

KEY

- PLASTIC DRUM, HIGH INTENSITY
- ➔ TRAFFIC FLOW ARROW
- I TYPE III BARRICADE
- ⊕ TEMPORARY SIGN
- ⊞ WORK ZONE
- ➔ LIGHTED ARROW PANEL

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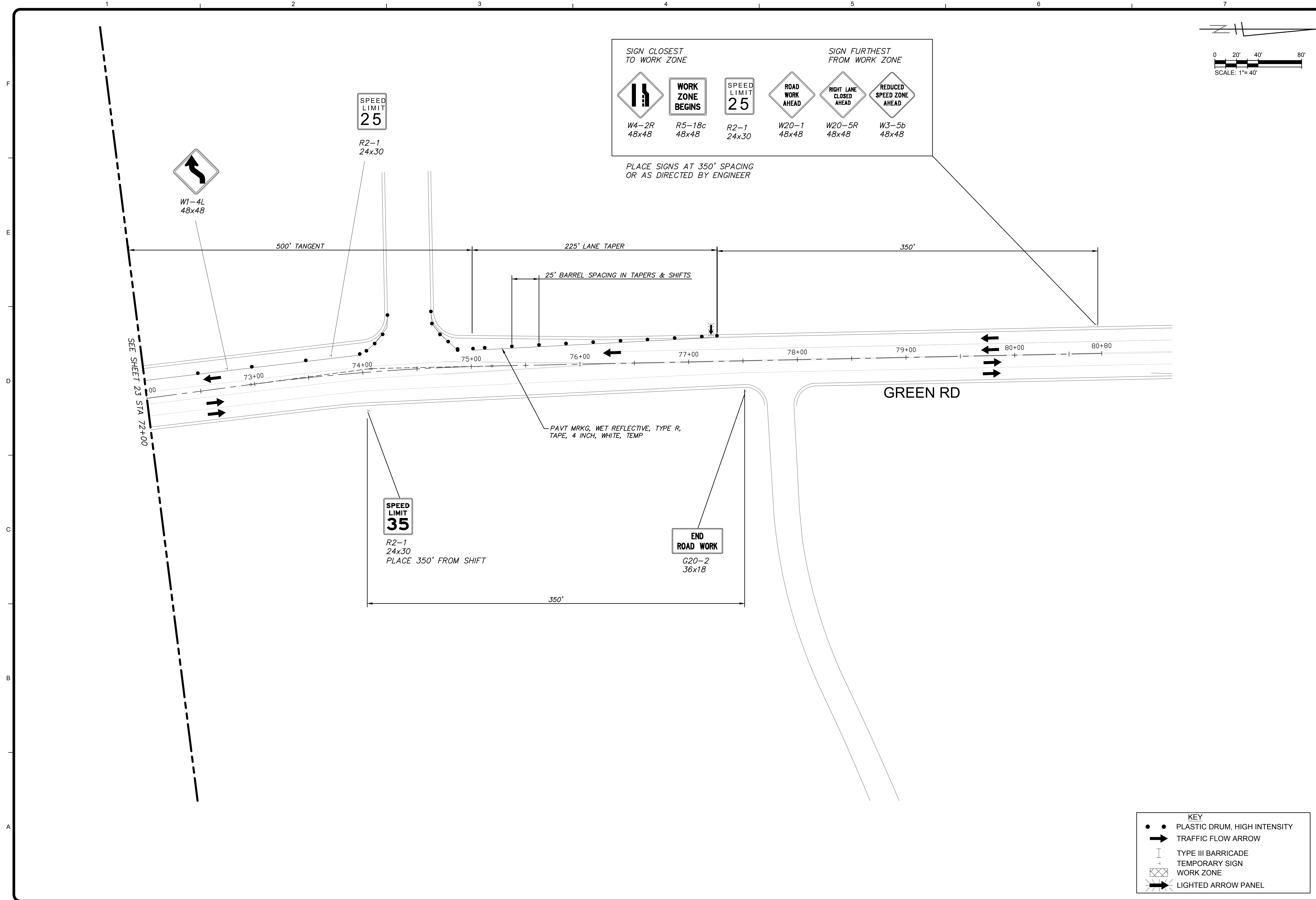
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GREEN RD
MOT STAGE 1A & 1B
STA 62+00 TO STA 72+00

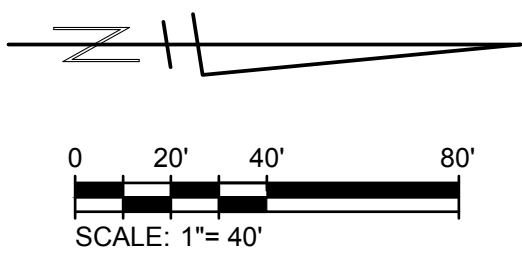
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SIGN CLOSEST TO WORK ZONE			SIGN FURTHEST FROM WORK ZONE		
W4-2R 48x48	R5-18c 48x48	R2-1 24x30	W20-1 48x48	W20-5R 48x48	W3-5b 48x48

PLACE SIGNS AT 350' SPACING OR AS DIRECTED BY ENGINEER



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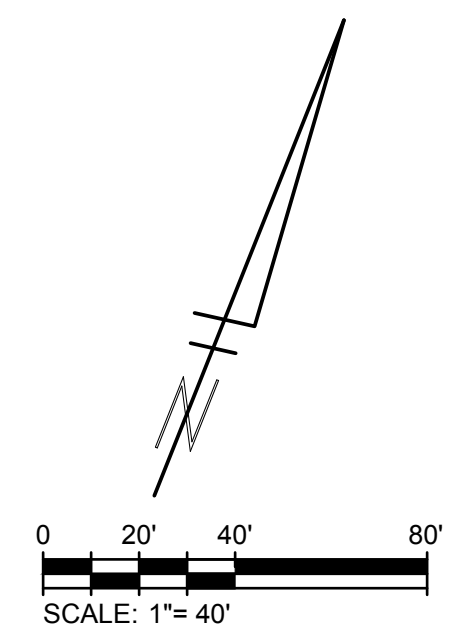
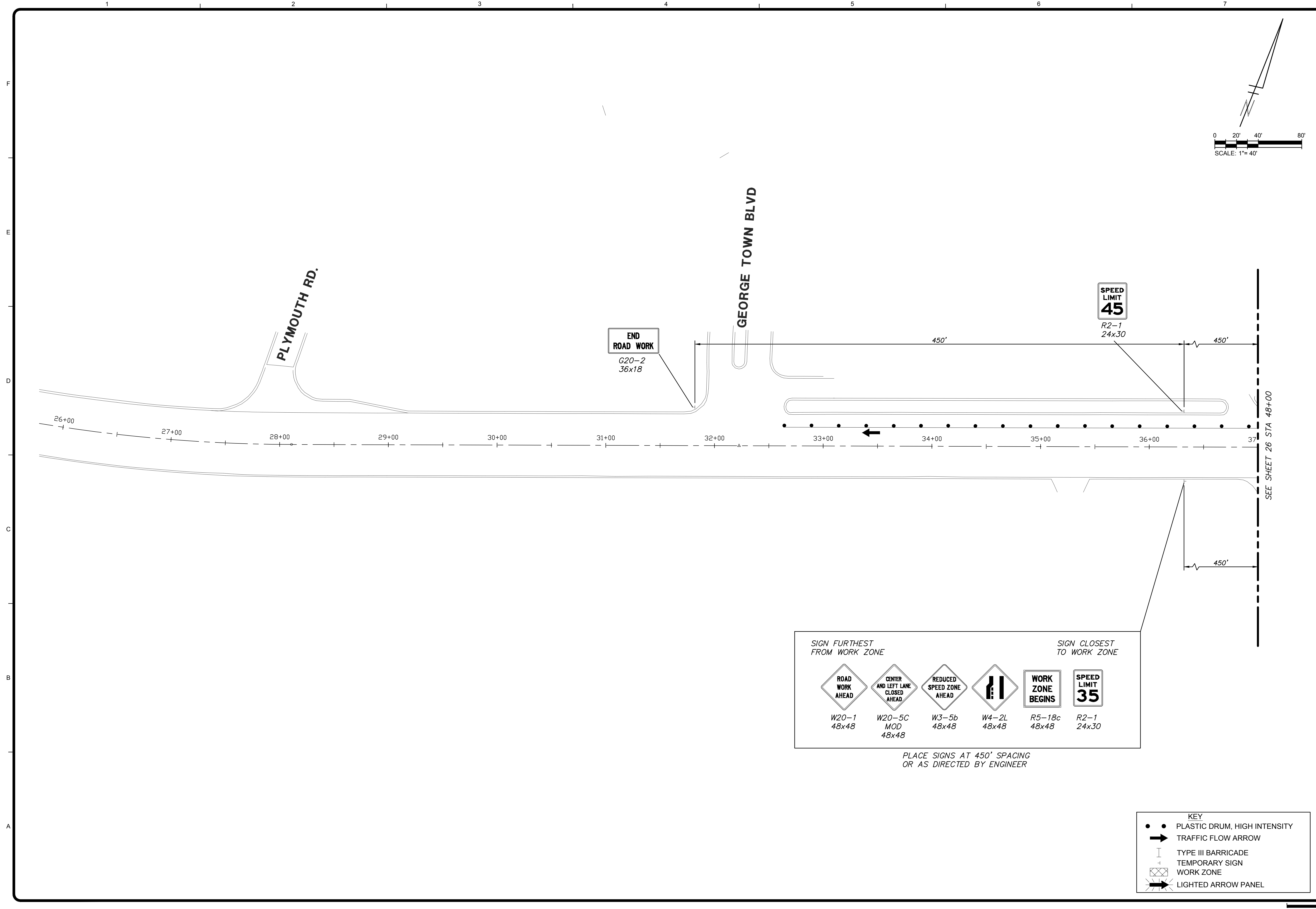
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WATER MAIN REPLACEMENT
GREEN RD
MOT STAGE 1A & 1B
STA 72+00 TO STA 79+50

Project No.: 200-31537-16003
Designed By: A. BICKLEY
Drawn By: A. BICKLEY
Checked By: K. PIETILA

KEY

- PLASTIC DRUM, HIGH INTENSITY
- ➔ TRAFFIC FLOW ARROW
- I TYPE III BARRICADE
- ⊕ TEMPORARY SIGN WORK ZONE
- ➔ LIGHTED ARROW PANEL

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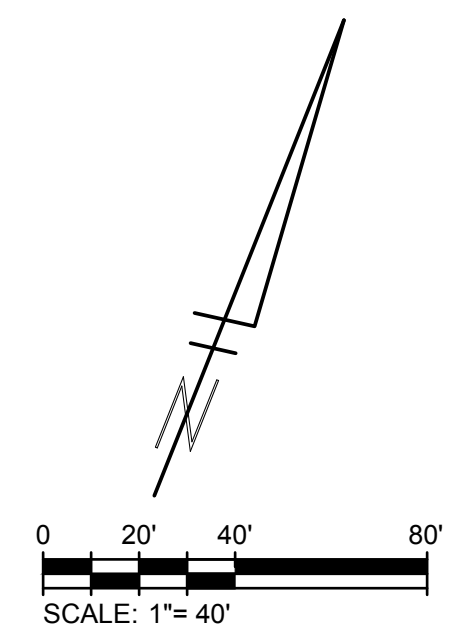
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WATER MAIN REPLACEMENT
PLYMOUTH RD
MOT STAGE 1B
STA 26+00 TO STA 37+00

Project No.: 200-31537-16003
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E
D
C
B
A



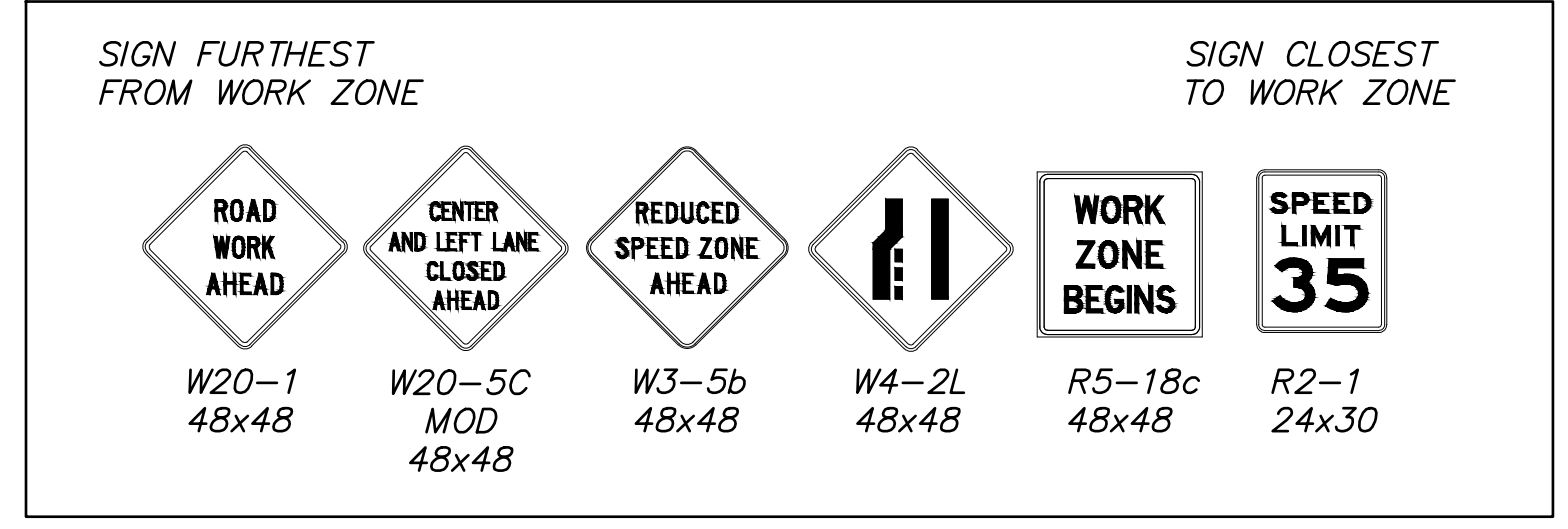
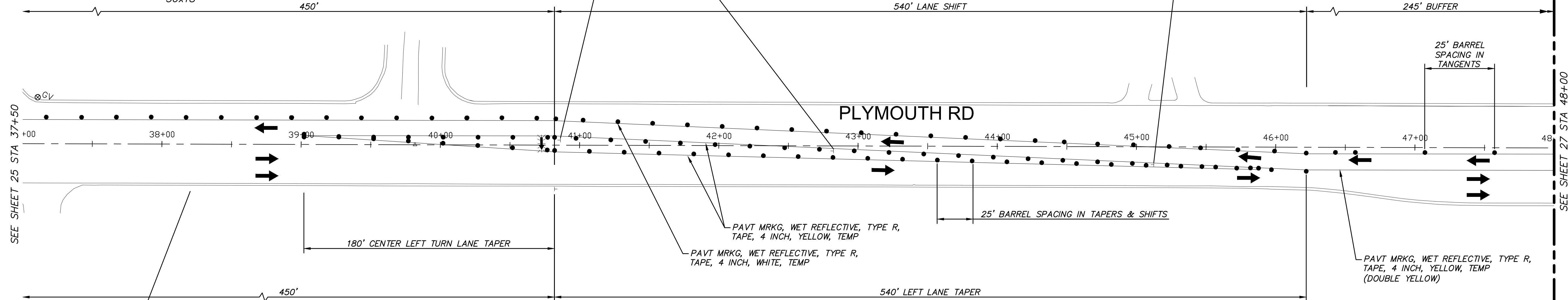
COMMONWEALTH BLVD



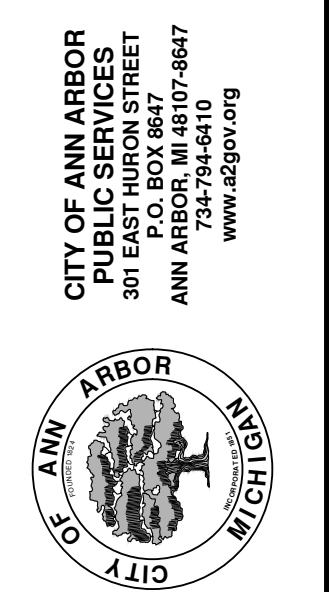
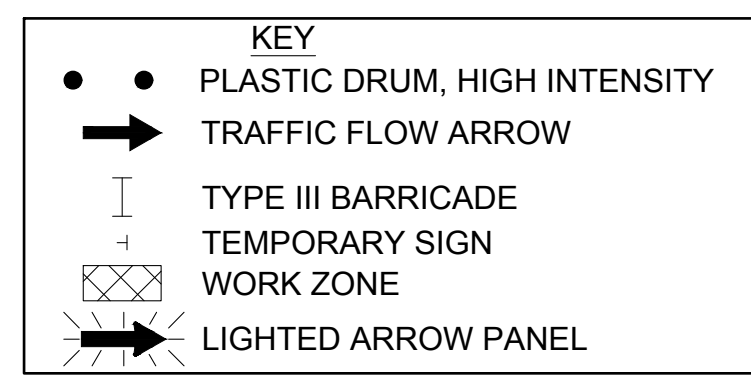
SPEED LIMIT
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R2-1
24x30

END ROAD WORK
G20-2
36x18



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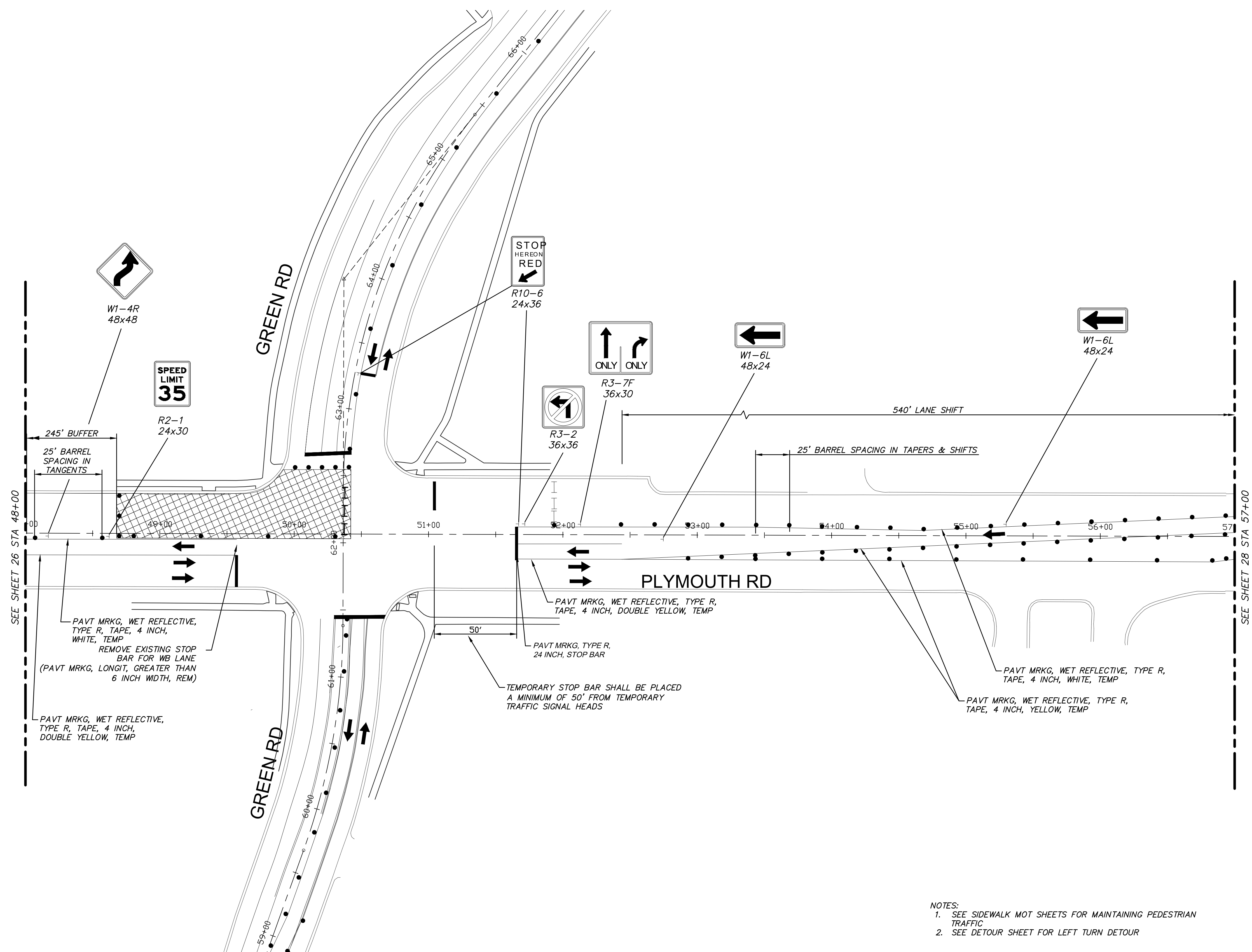


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PLYMOUTH RD MOT
MOT STAGE 1B
STA 37+00 TO STA 48+00

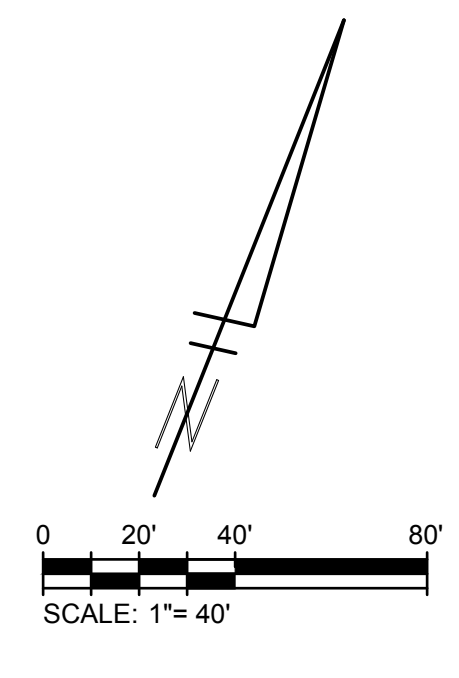
Project No.: 200-31537-16003
Designed By: A. BICKLEY
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SEE SHEET 26 STA 48+00

SEE SHEET 28 STA 57+00



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**PLYMOUTH RD MOT
MOT STAGE 1B
STA 48+00 TO STA 57+00**

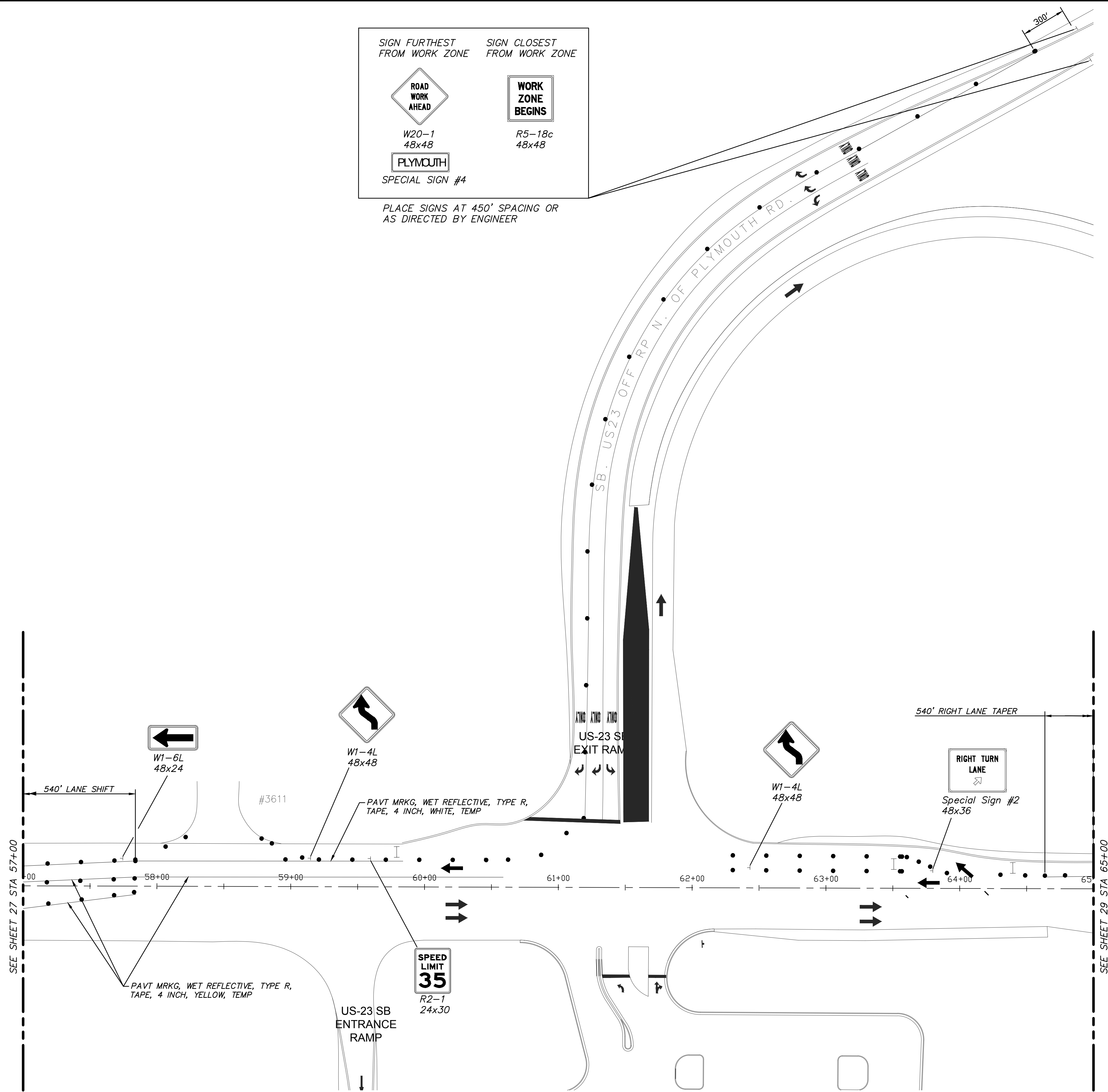
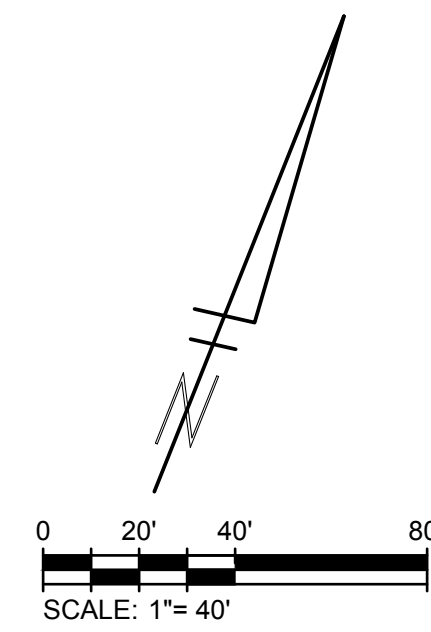
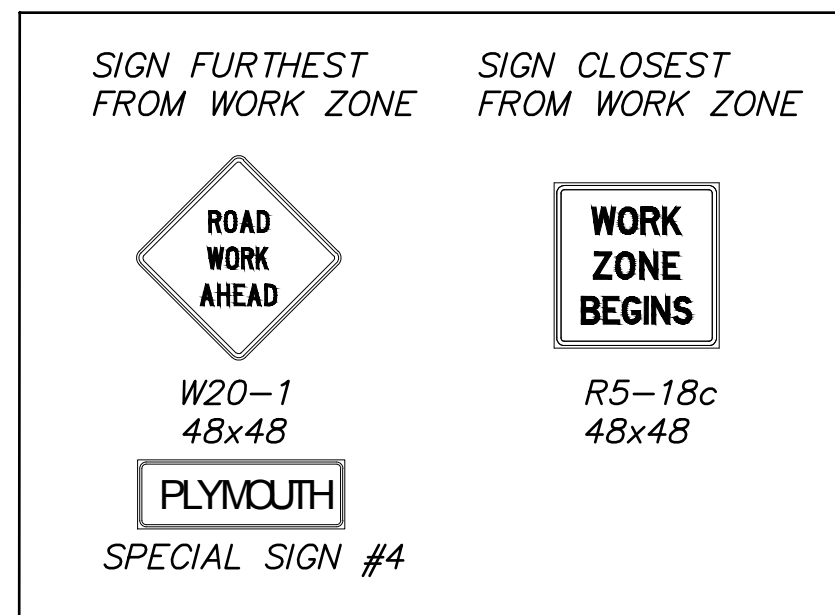
Project No.: 200-31537-16003
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2. SEE DETOUR SHEET FOR LEFT TURN DETOUR.

KEY

- PLASTIC DRUM, HIGH INTENSITY
- TRAFFIC FLOW ARROW
- TYPE III BARRICADE
- TEMPORARY SIGN WORK ZONE
- LIGHTED ARROW PANEL

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KEY

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- ➔ TRAFFIC FLOW ARROW
- I TYPE III BARRICADE
- ⊞ TEMPORARY SIGN
- ⊞ WORK ZONE
- ➔ LIGHTED ARROW PANEL



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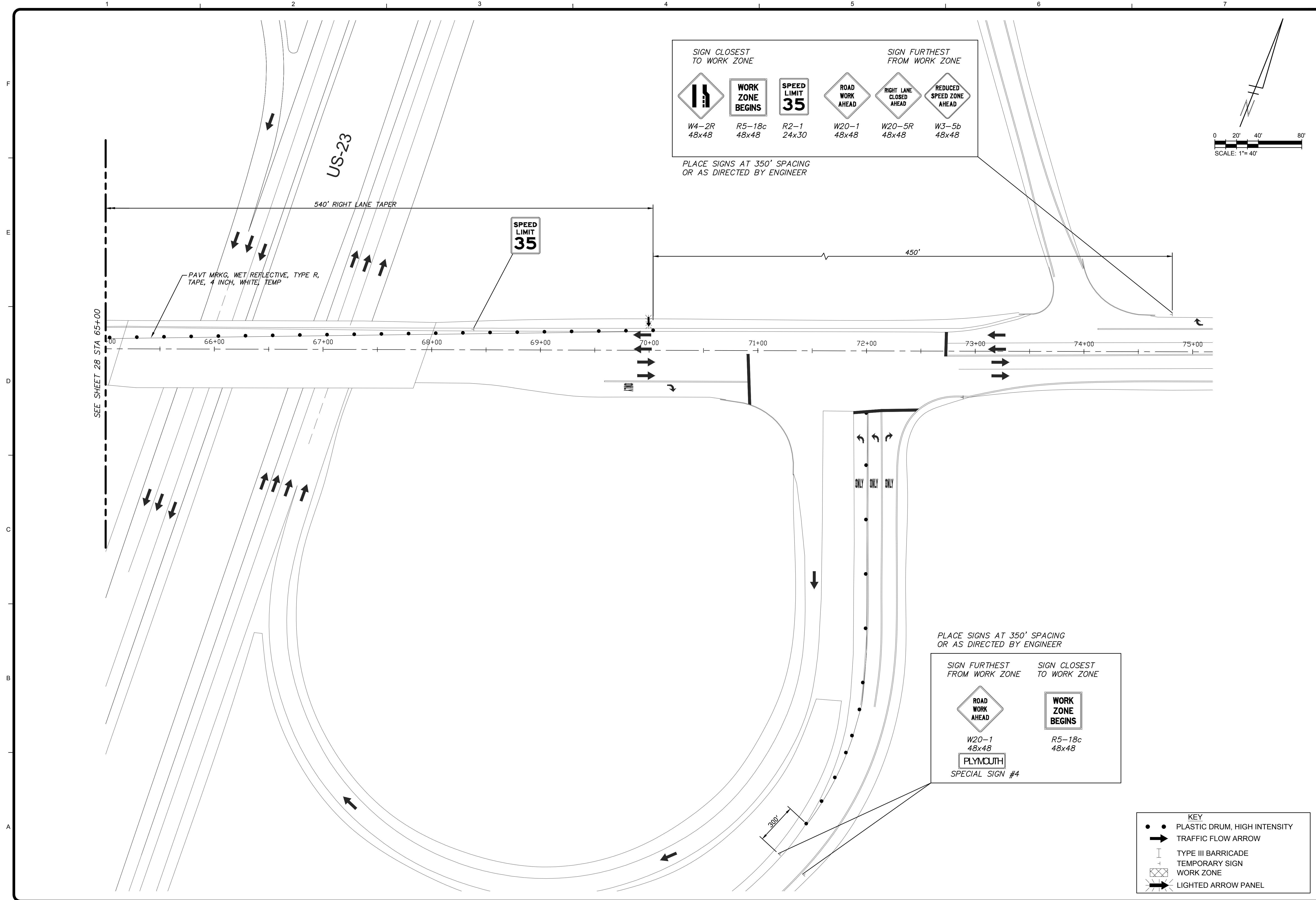
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STA 57+00 TO STA 65+00

Project No.: 200-31537-16003
Designed By: A. BICKLEY
Drawn By: A. BICKLEY
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28
OF 54
Bar Measures 1 inch

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SIGN CLOSEST TO WORK ZONE			SIGN FURTHEST FROM WORK ZONE		
W4-2R 48x48	R5-18c 48x48	R2-1 24x30	W20-1 48x48	W20-5R 48x48	W3-5b 48x48

PLACE SIGNS AT 350' SPACING OR AS DIRECTED BY ENGINEER

SIGN FURTHEST FROM WORK ZONE	SIGN CLOSEST TO WORK ZONE
W20-1 48x48	R5-18c 48x48
PLYMOUTH SPECIAL SIGN #4	

PLACE SIGNS AT 350' SPACING OR AS DIRECTED BY ENGINEER

KEY

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	TRAFFIC FLOW ARROW
	TYPE III BARRICADE
	TEMPORARY SIGN
	WORK ZONE
	LIGHTED ARROW PANEL

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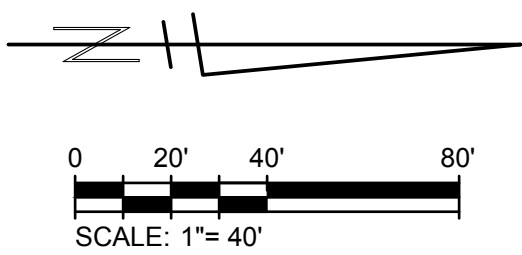
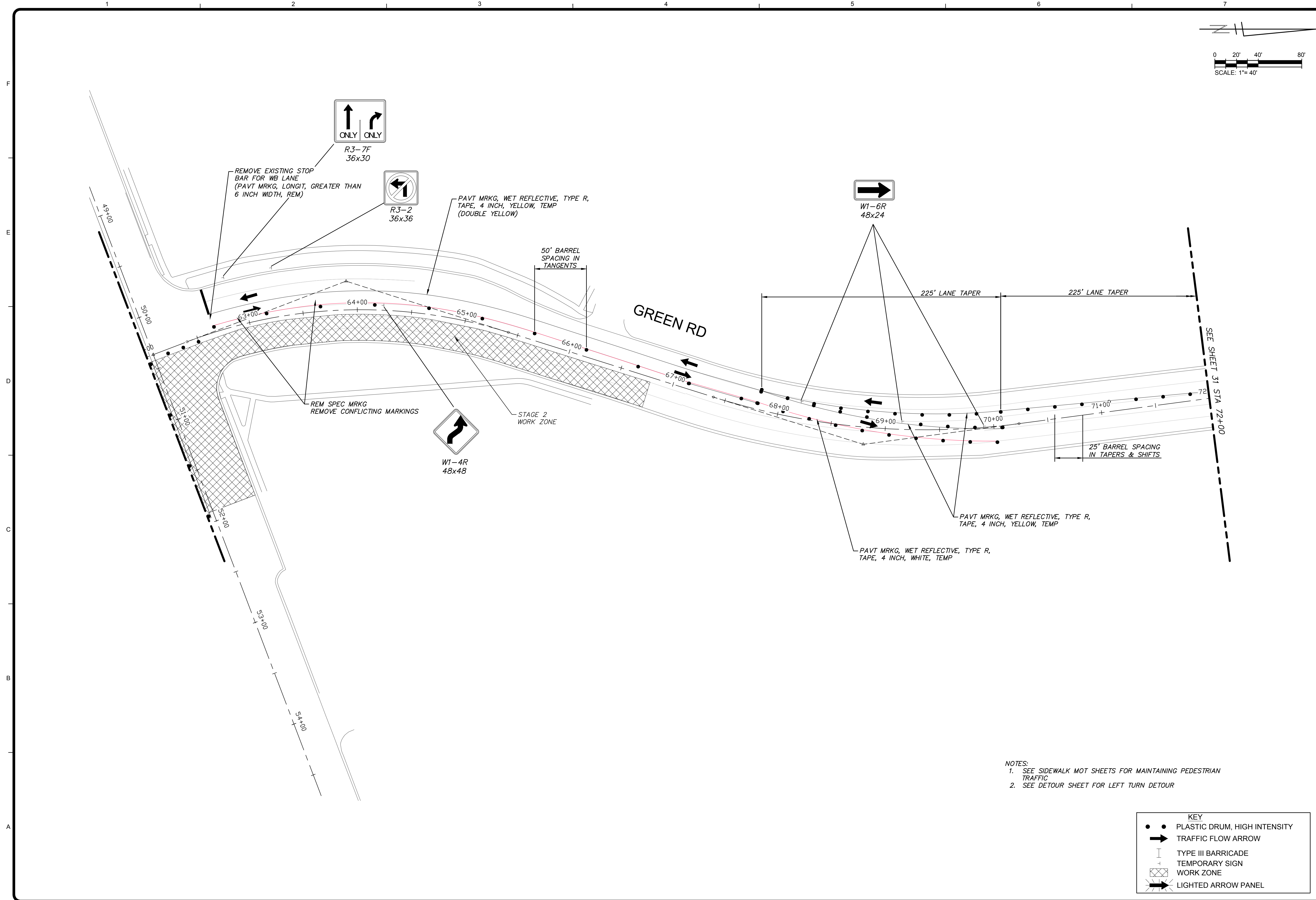
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PLYMOUTH RD
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STA 65+00 TO STA 75+00

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Designed By:	A. BICKLEY
Drawn By:	A. BICKLEY
Checked By:	K. PIETILA

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- NOTES:
- SEE SIDEWALK MOT SHEETS FOR MAINTAINING PEDESTRIAN TRAFFIC
 - SEE DETOUR SHEET FOR LEFT TURN DETOUR

KEY

● ●	PLASTIC DRUM, HIGH INTENSITY
➔	TRAFFIC FLOW ARROW
I	TYPE III BARRICADE
+	TEMPORARY SIGN
⊠	WORK ZONE
➔	LIGHTED ARROW PANEL

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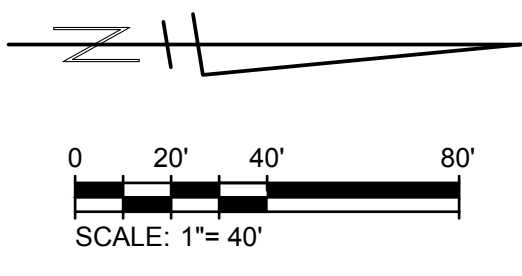
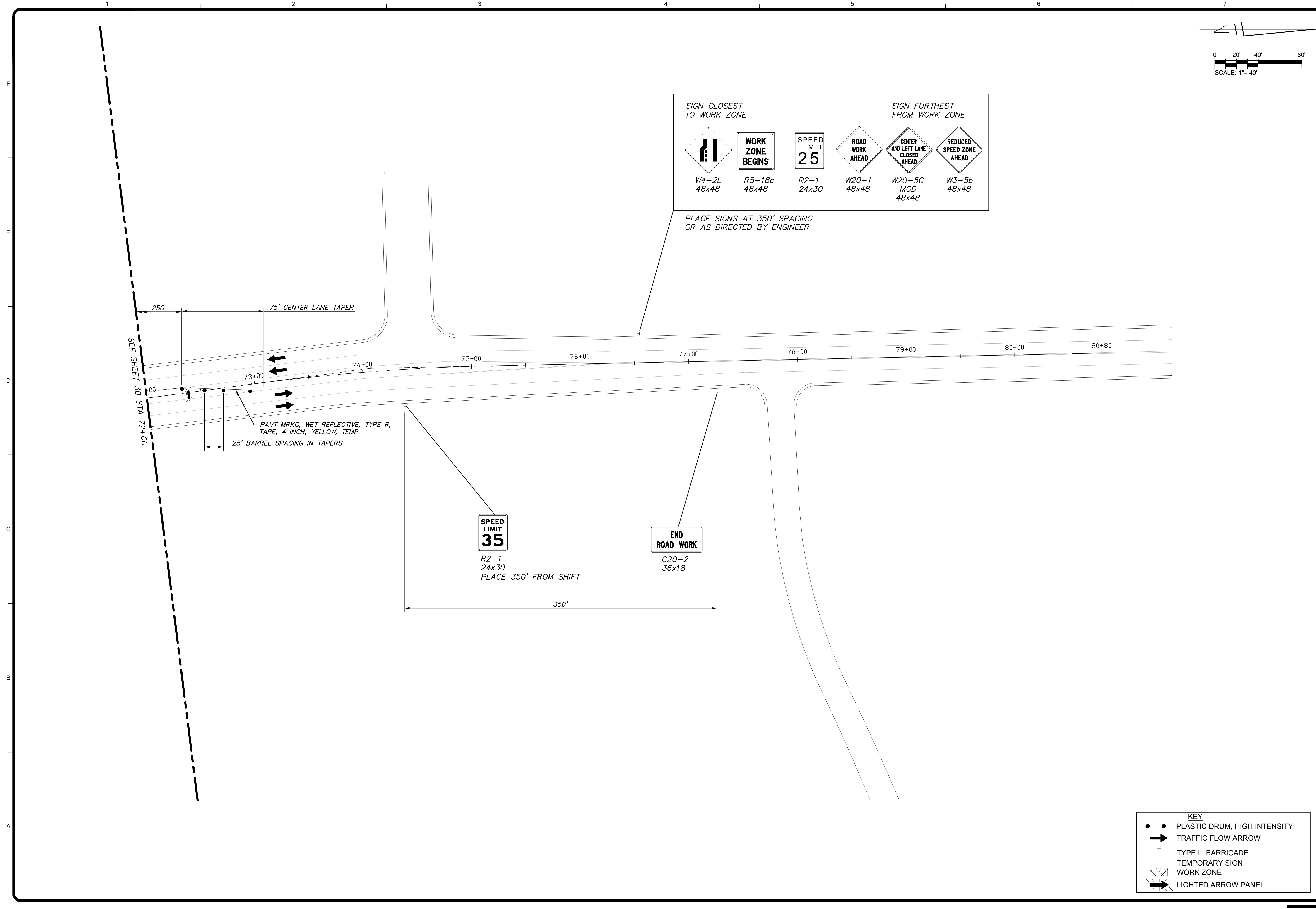
PLYMOUTH ROAD AND GREEN ROAD
 WATER MAIN REPLACEMENT

**GREEN RD
 MOT STAGE 2
 STA 62+00 TO STA 72+00**

Project No.: 200-31537-16003

Designed By:	A. BICKLEY
Drawn By:	A. BICKLEY
Checked By:	K. PIETILA

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SIGN CLOSEST TO WORK ZONE			SIGN FURTHEST FROM WORK ZONE		
W4-2L 48x48	R5-18c 48x48	R2-1 24x30	W20-1 48x48	W20-5C MOD 48x48	W3-5b 48x48

PLACE SIGNS AT 350' SPACING OR AS DIRECTED BY ENGINEER

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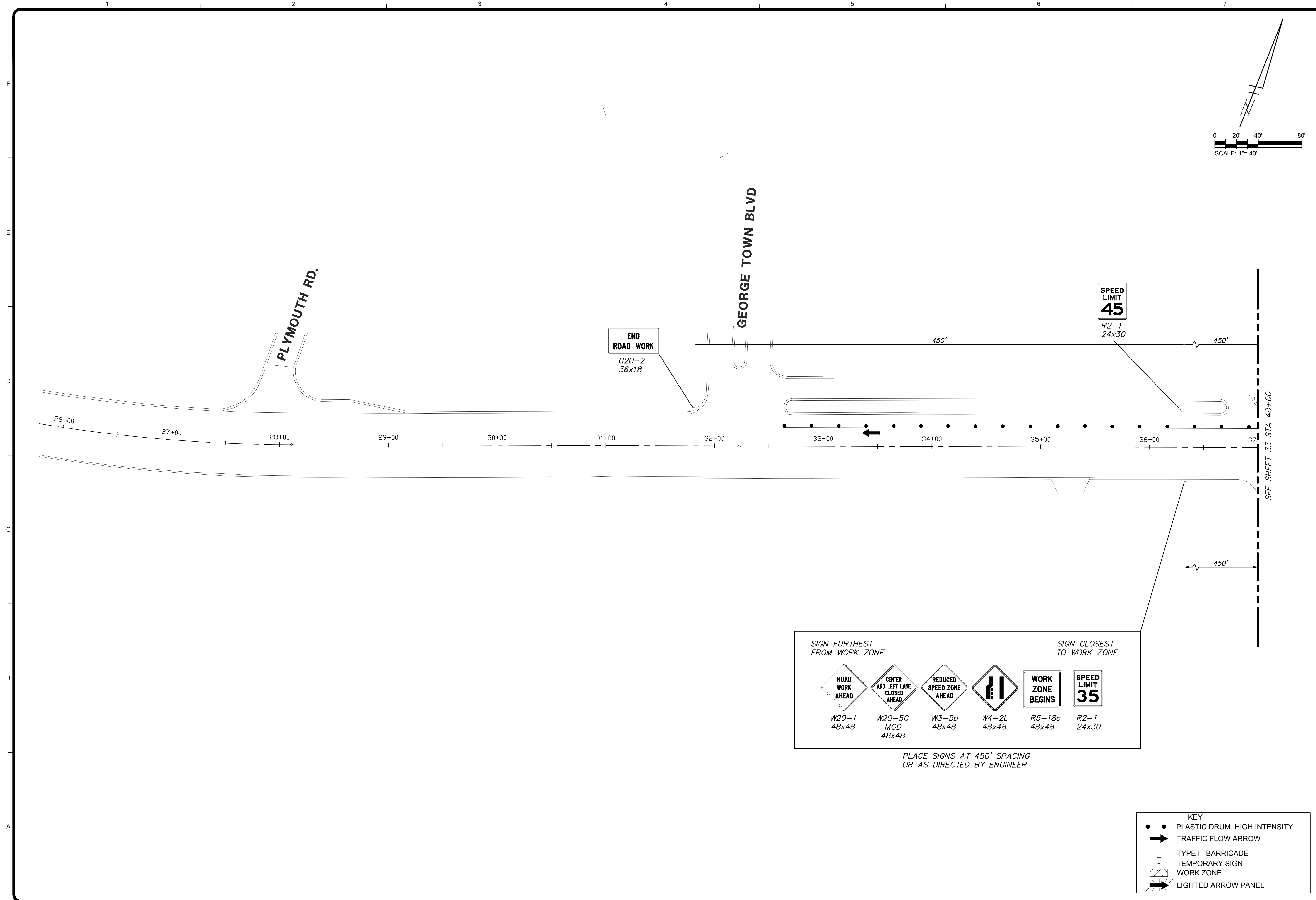


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WATER MAIN REPLACEMENT
GREEN RD
MOT STAGE 2
STA 72+00 TO STA 79+50

Project No.: 200-31537-16003
Designed By: A. BICKLEY
Drawn By: A. BICKLEY
Checked By: K. PIETILA

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SIGN FURTHEST FROM WORK ZONE		SIGN CLOSEST TO WORK ZONE			
W20-1 48x48	W20-5C MOD 48x48	W3-5b 48x48	W4-2L 48x48	R5-18c 48x48	R2-1 24x30

PLACE SIGNS AT 450' SPACING OR AS DIRECTED BY ENGINEER

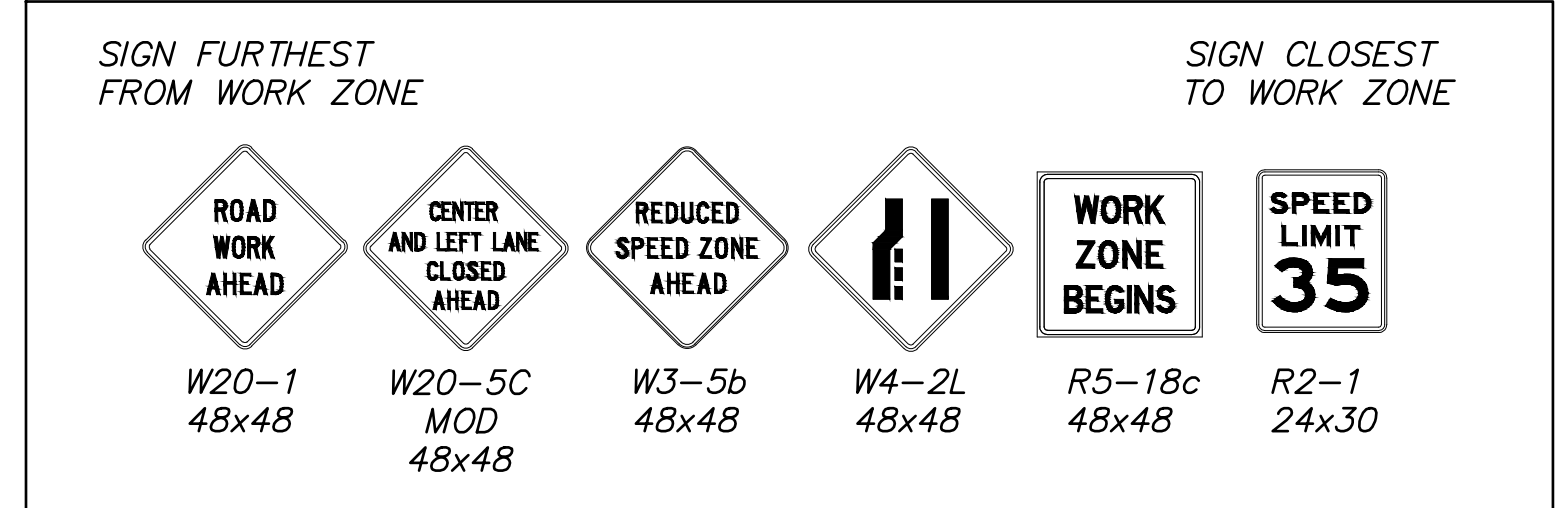
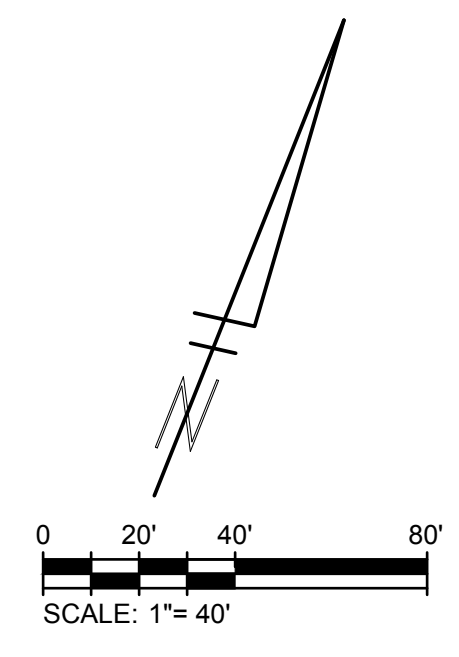
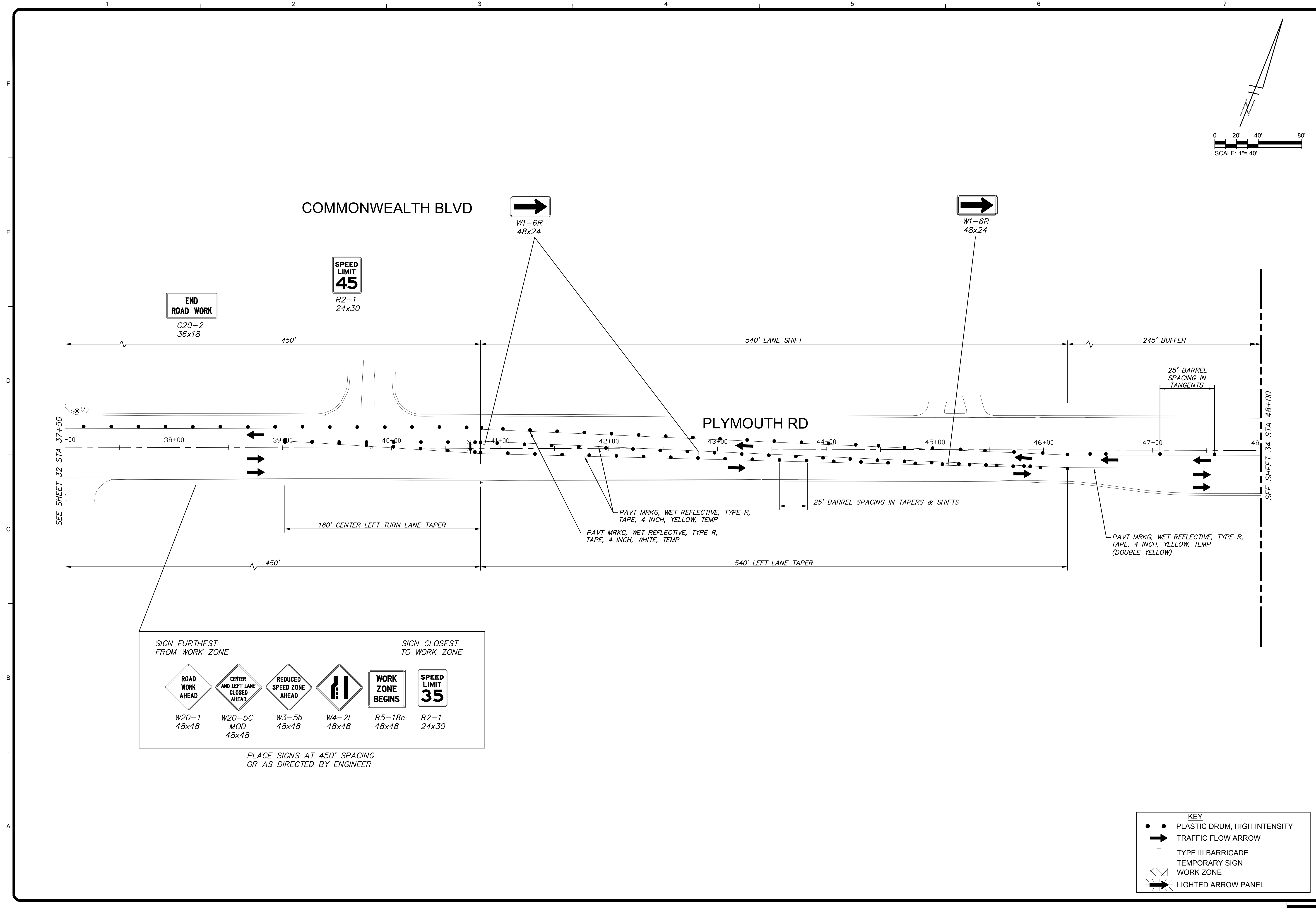
KEY

- PLASTIC DRUM, HIGH INTENSITY
- ➔ TRAFFIC FLOW ARROW
- I TYPE III BARRICADE
- ⊞ TEMPORARY SIGN
- ⊞ WORK ZONE
- ➔ LIGHTED ARROW PANEL

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KEY	
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	TRAFFIC FLOW ARROW
	TYPE III BARRICADE
	TEMPORARY SIGN
	WORK ZONE
	LIGHTED ARROW PANEL

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WATER MAIN REPLACEMENT
PLYMOUTH RD
MOT STAGE 2
STA 37+00 TO STA 48+00

Project No.: 200-31537-16003
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Drawn By:
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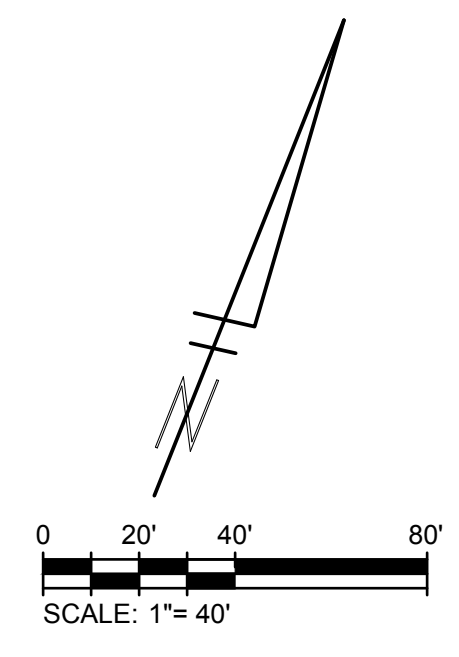
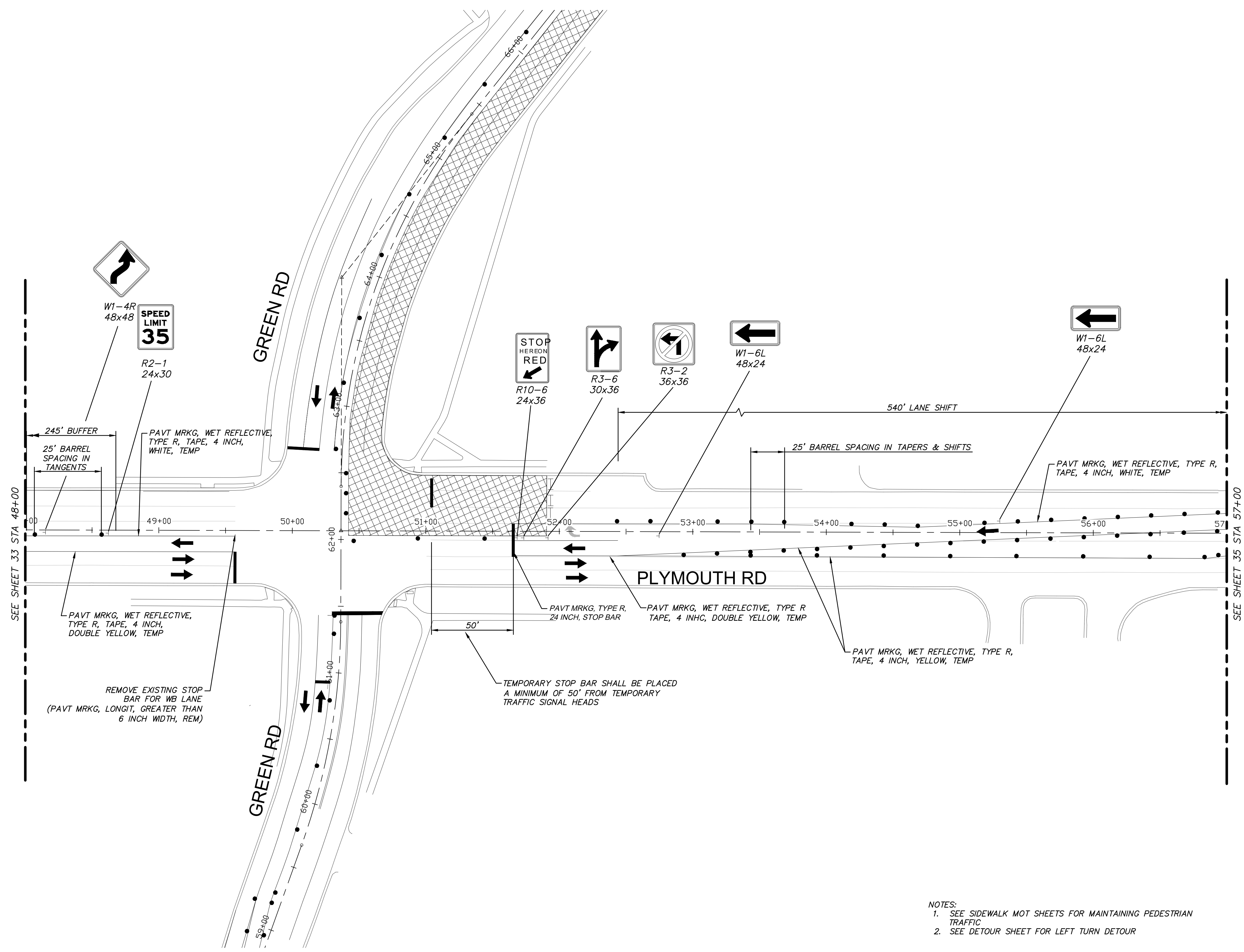
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Bar Measures 1 inch

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SEE SHEET 33 STA 48+00

SEE SHEET 35 STA 57+00

- NOTES:
- SEE SIDEWALK MOT SHEETS FOR MAINTAINING PEDESTRIAN TRAFFIC
 - SEE DETOUR SHEET FOR LEFT TURN DETOUR

KEY

● ●	PLASTIC DRUM, HIGH INTENSITY
➔	TRAFFIC FLOW ARROW
I	TYPE III BARRICADE
⊞	TEMPORARY SIGN WORK ZONE
➔	LIGHTED ARROW PANEL

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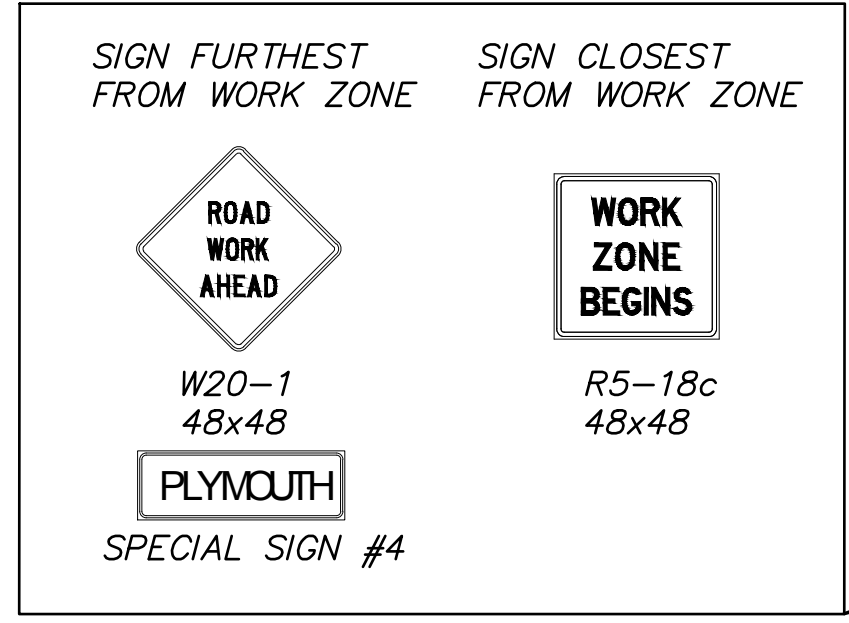
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PLYMOUTH RD
MOT STAGE 2
STA 48+00 TO STA 57+00

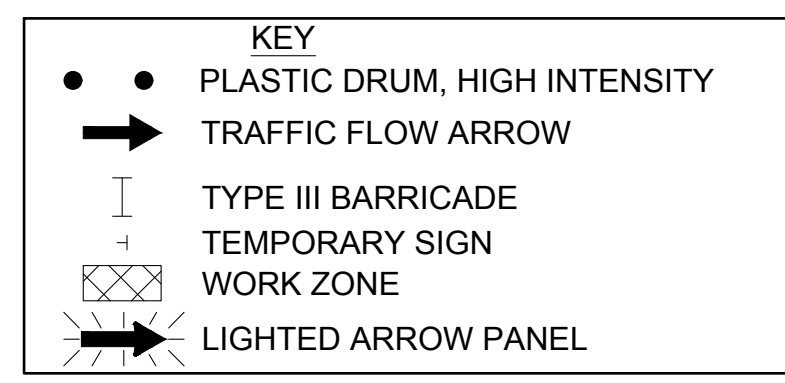
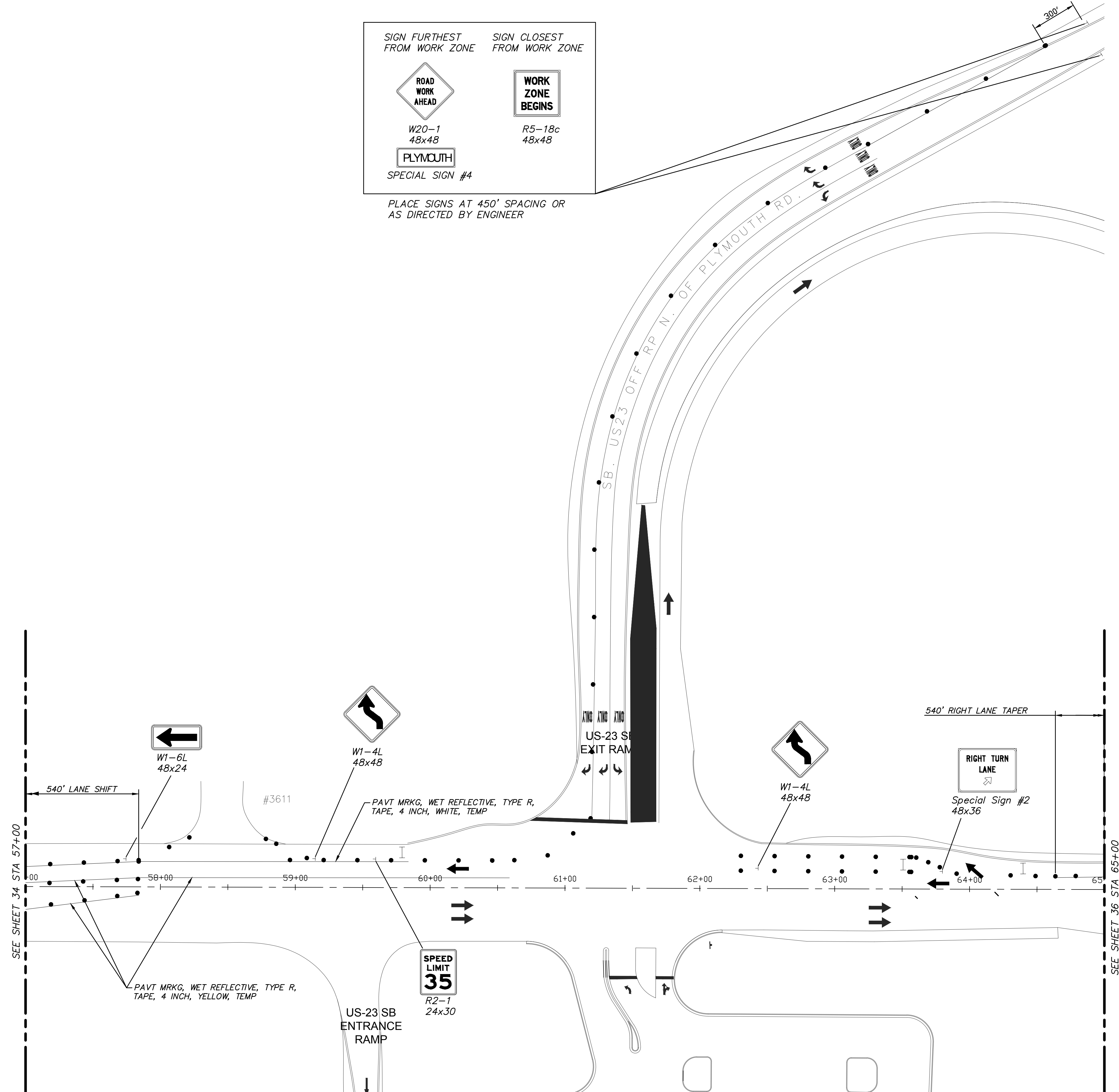
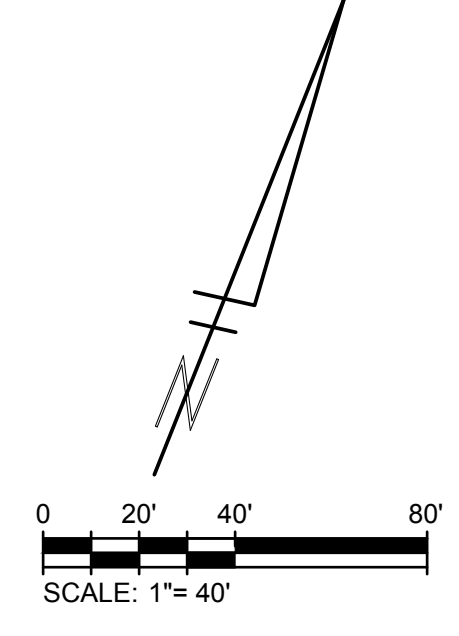
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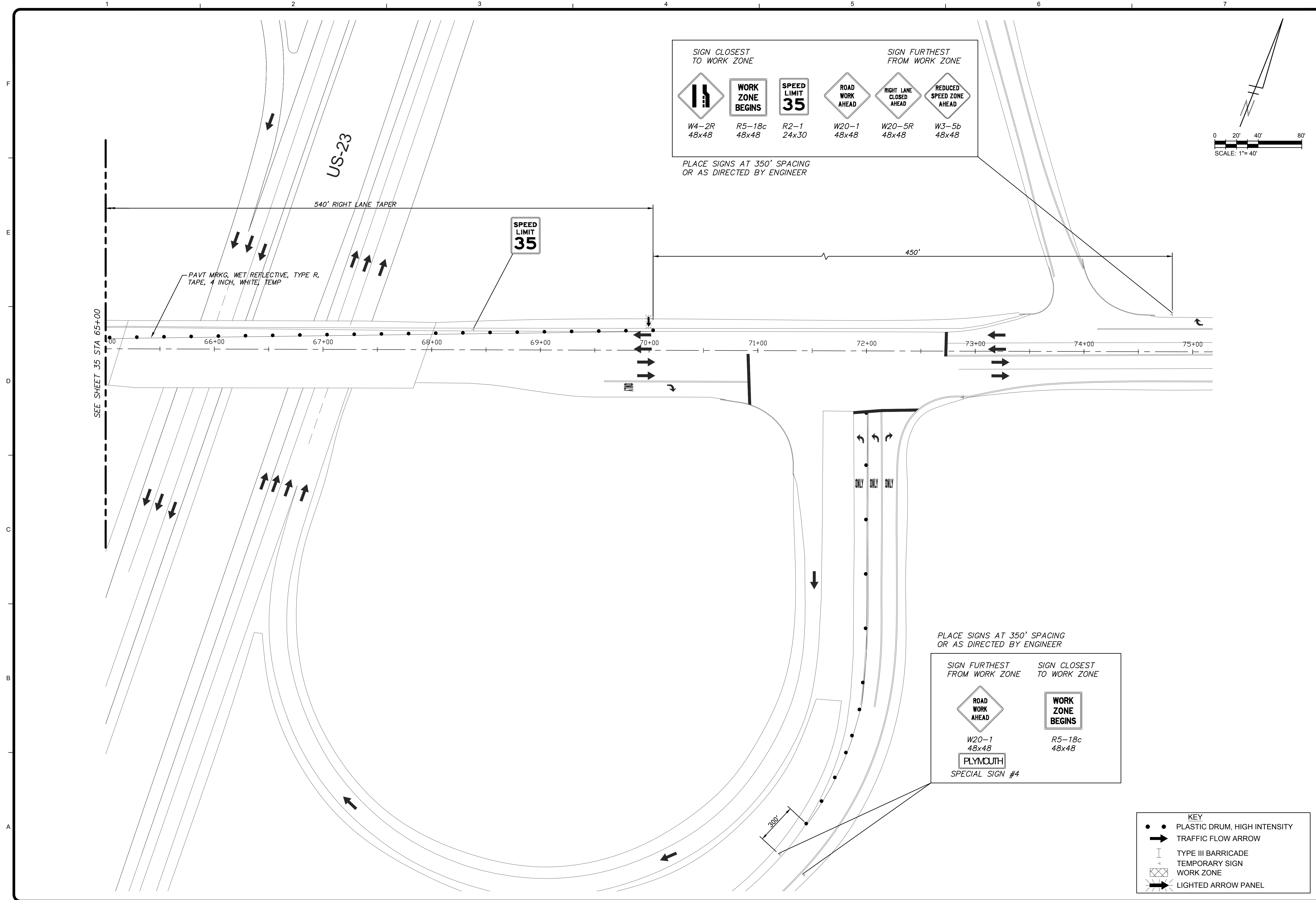


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MOT STAGE 2
STA 57+00 TO STA 65+00

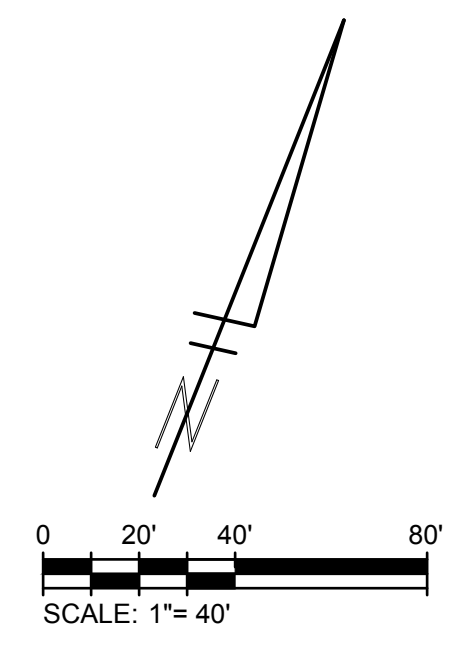
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SIGN CLOSEST TO WORK ZONE			SIGN FURTHEST FROM WORK ZONE		
W4-2R 48x48	R5-18c 48x48	R2-1 24x30	W20-1 48x48	W20-5R 48x48	W3-5b 48x48

PLACE SIGNS AT 350' SPACING OR AS DIRECTED BY ENGINEER



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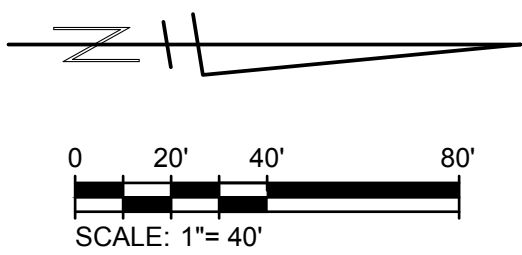
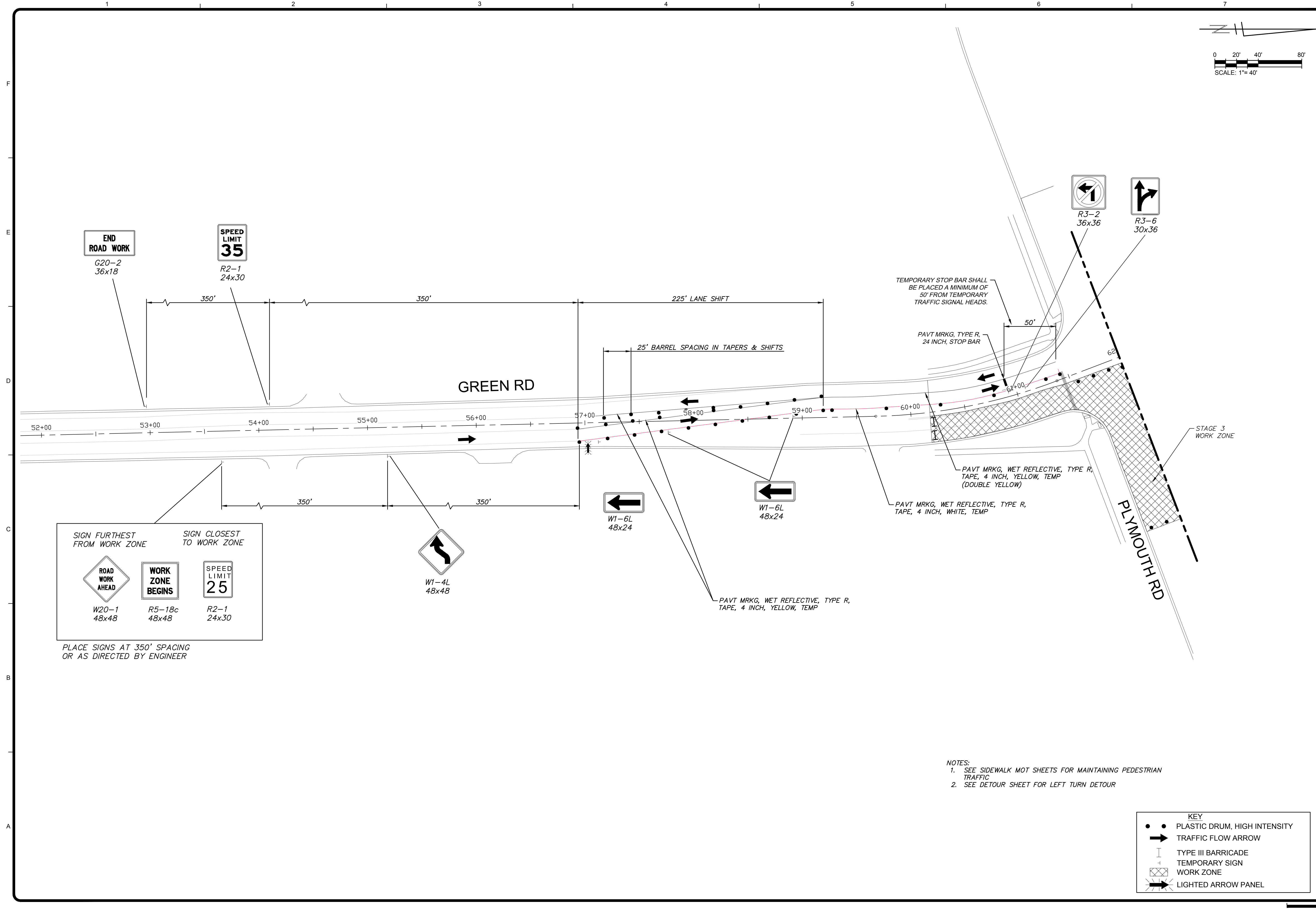
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WATER MAIN REPLACEMENT
PLYMOUTH RD
MOT STAGE 2
STA 65+00 TO STA 75+00

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**GREEN RD
MOT STAGE 3
STA 51+00 TO STA 62+00**

Project No.: 200-31537-16003

Designed By:

Drawn By:

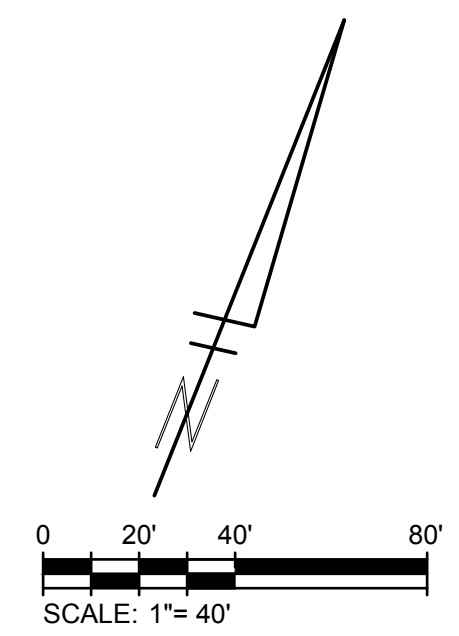
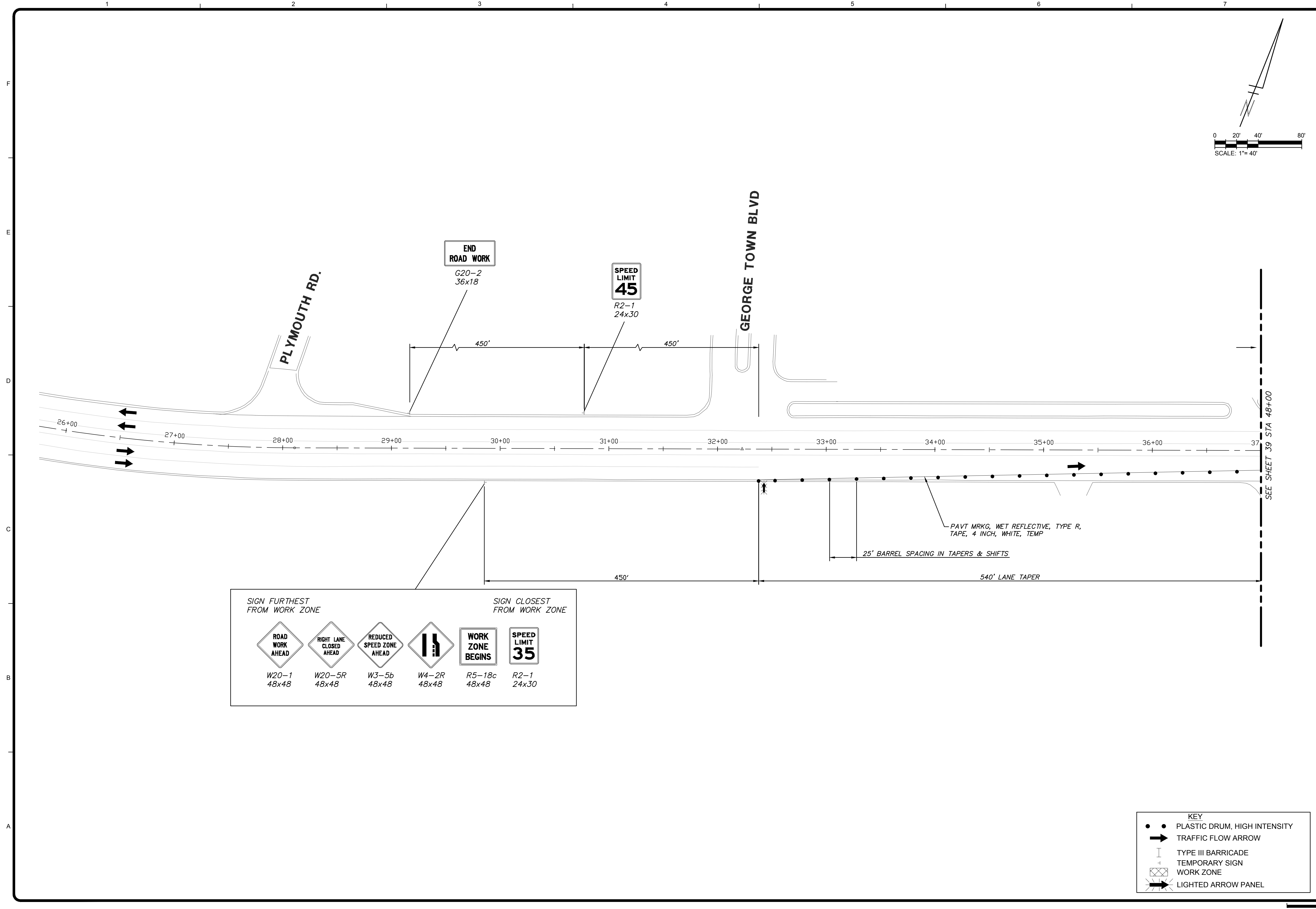
Checked By: K. PIETILA

- NOTES:**
- SEE SIDEWALK MOT SHEETS FOR MAINTAINING PEDESTRIAN TRAFFIC
 - SEE DETOUR SHEET FOR LEFT TURN DETOUR

KEY

- PLASTIC DRUM, HIGH INTENSITY
- ➔ TRAFFIC FLOW ARROW
- I TYPE III BARRICADE
- ⊕ TEMPORARY SIGN WORK ZONE
- ➔ LIGHTED ARROW PANEL

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SIGN FURTHEST FROM WORK ZONE			SIGN CLOSEST FROM WORK ZONE		
W20-1 48x48	W20-5R 48x48	W3-5b 48x48	W4-2R 48x48	R5-18c 48x48	R2-1 24x30

KEY

- PLASTIC DRUM, HIGH INTENSITY
- ➔ TRAFFIC FLOW ARROW
- | TYPE III BARRICADE
- ⊕ TEMPORARY SIGN
- ⊗ WORK ZONE
- ➔ LIGHTED ARROW PANEL

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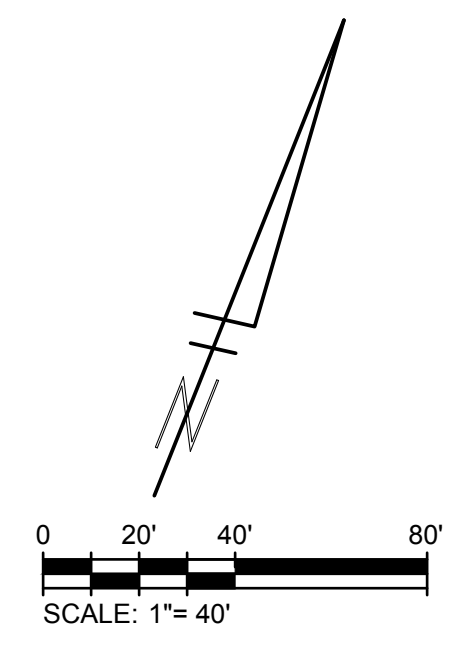
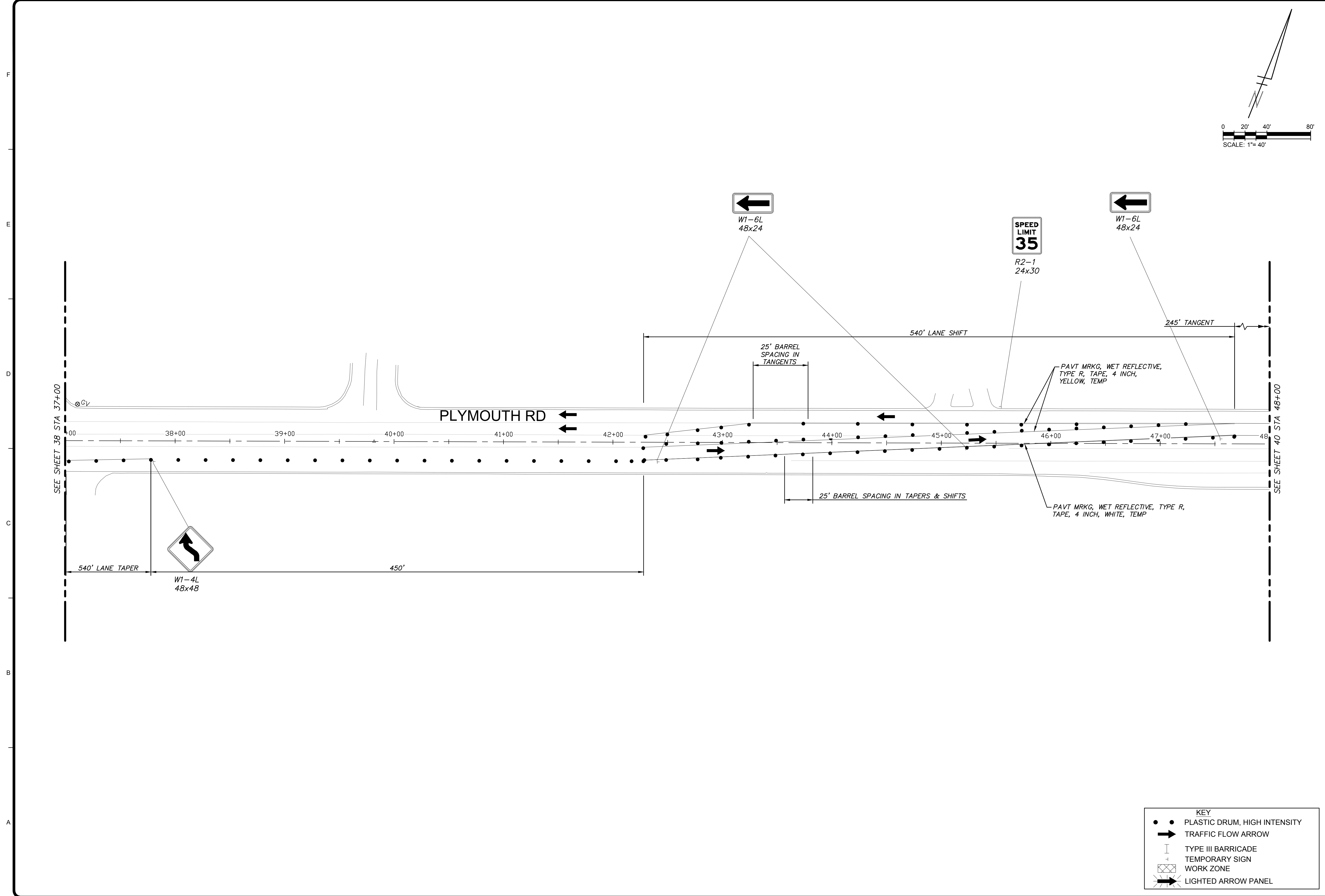
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PLYMOUTH RD
MOT STAGE 3
STA 26+00 TO STA 37+00

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- I TYPE III BARRICADE
- ⊕ TEMPORARY SIGN
- ⊗ WORK ZONE
- ➔ LIGHTED ARROW PANEL

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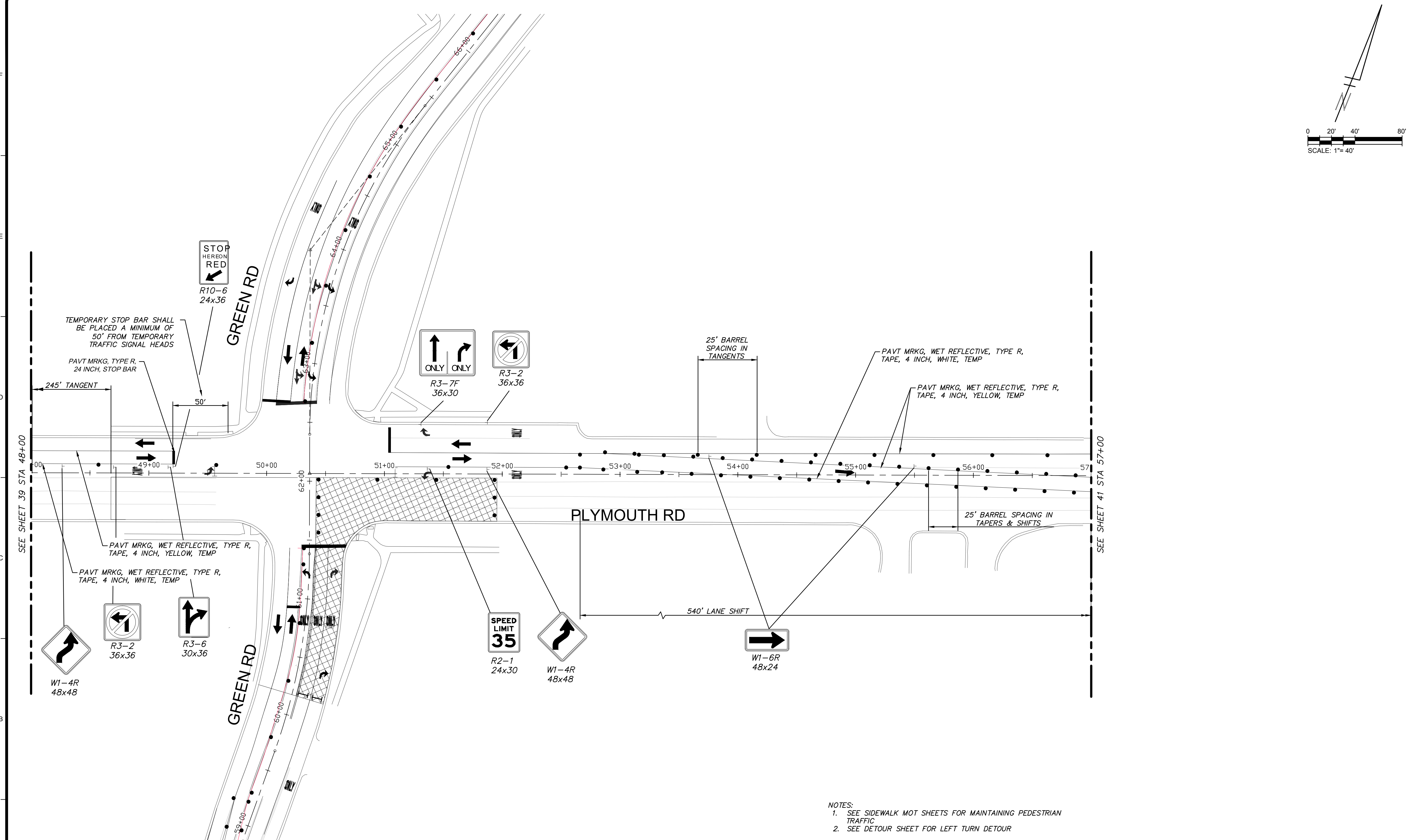
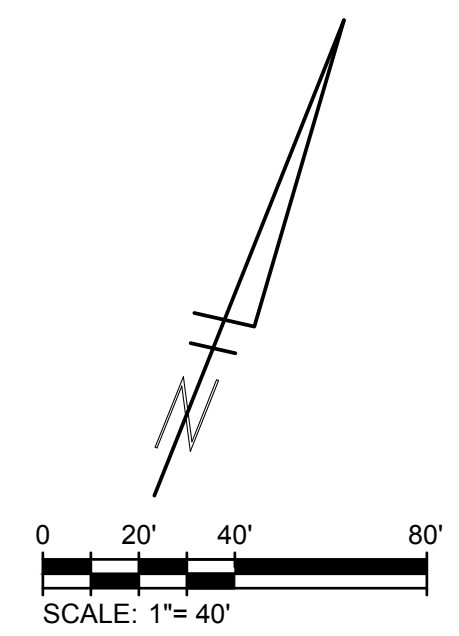
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PLYMOUTH RD
MOT STAGE 3
STA 37+00 TO STA 48+00

Project No.: 200-31537-16003
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NOTES:
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 2. SEE DETOUR SHEET FOR LEFT TURN DETOUR

KEY	
● ●	PLASTIC DRUM, HIGH INTENSITY
➔	TRAFFIC FLOW ARROW
	TYPE III BARRICADE
⊗	TEMPORARY SIGN WORK ZONE
➔	LIGHTED ARROW PANEL

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 PLYMOUTH RD
 MOT STAGE 3
 STA 48+00 TO STA 57+00

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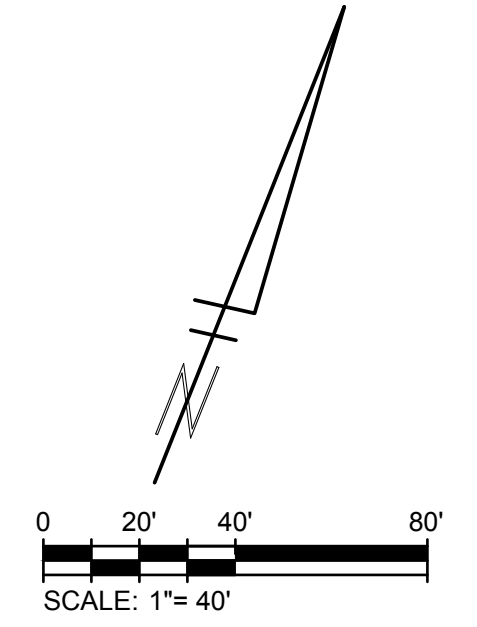
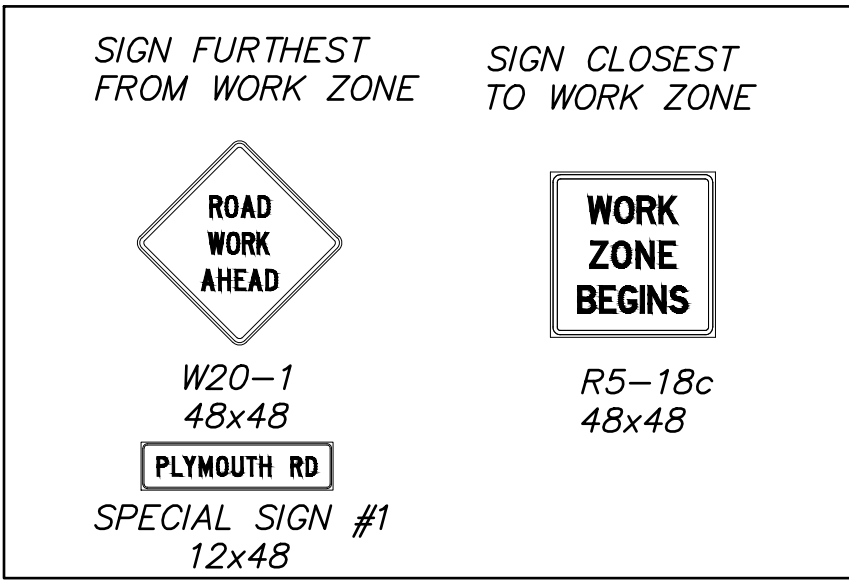
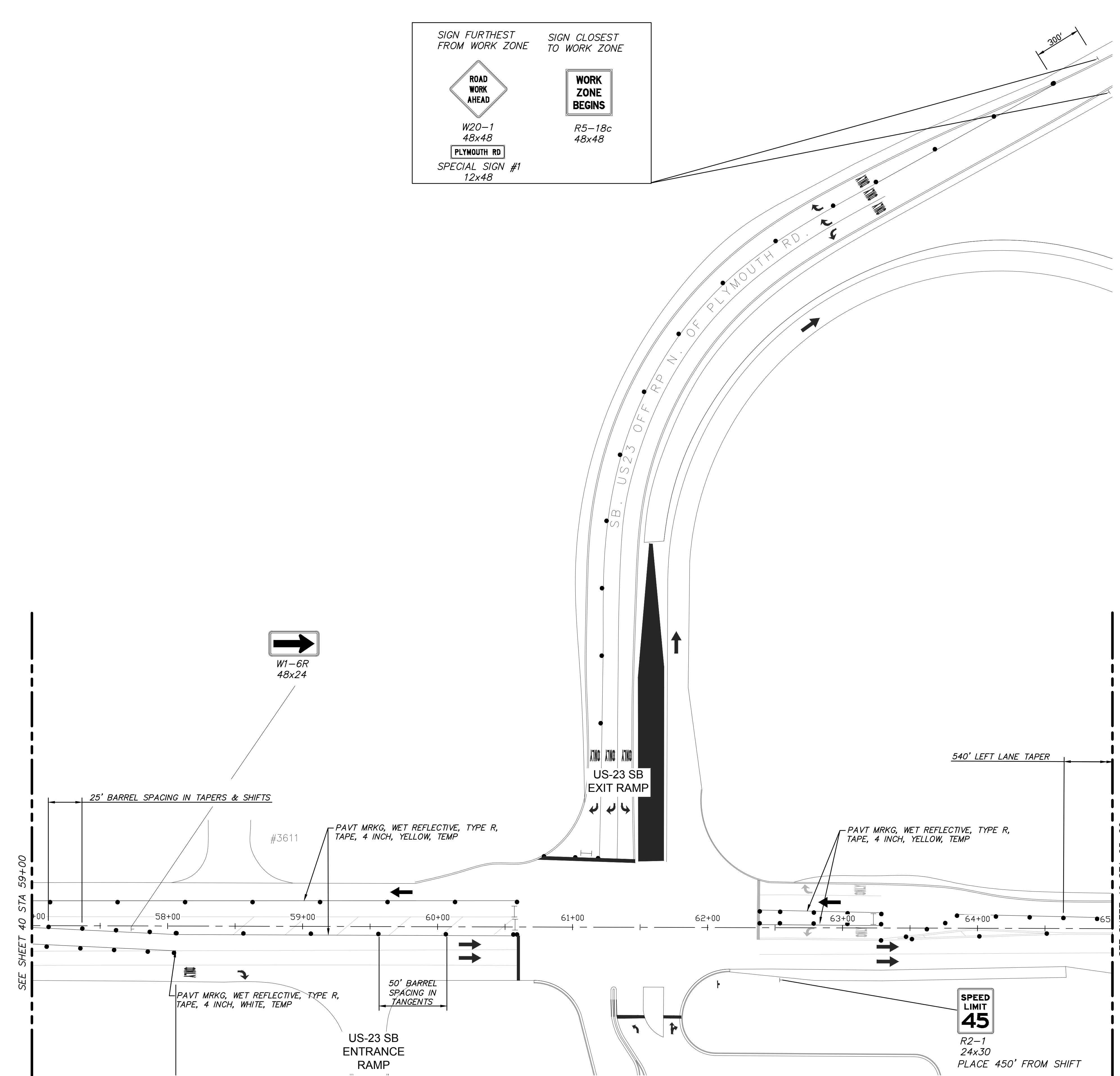
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KEY

- PLASTIC DRUM, HIGH INTENSITY
- TRAFFIC FLOW ARROW
- I TYPE III BARRICADE
- TEMPORARY SIGN
- ▤ WORK ZONE
- ↔ LIGHTED ARROW PANEL

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 PLYMOUTH RD
 MOT STAGE 3
 STA 57+00 TO STA 65+00

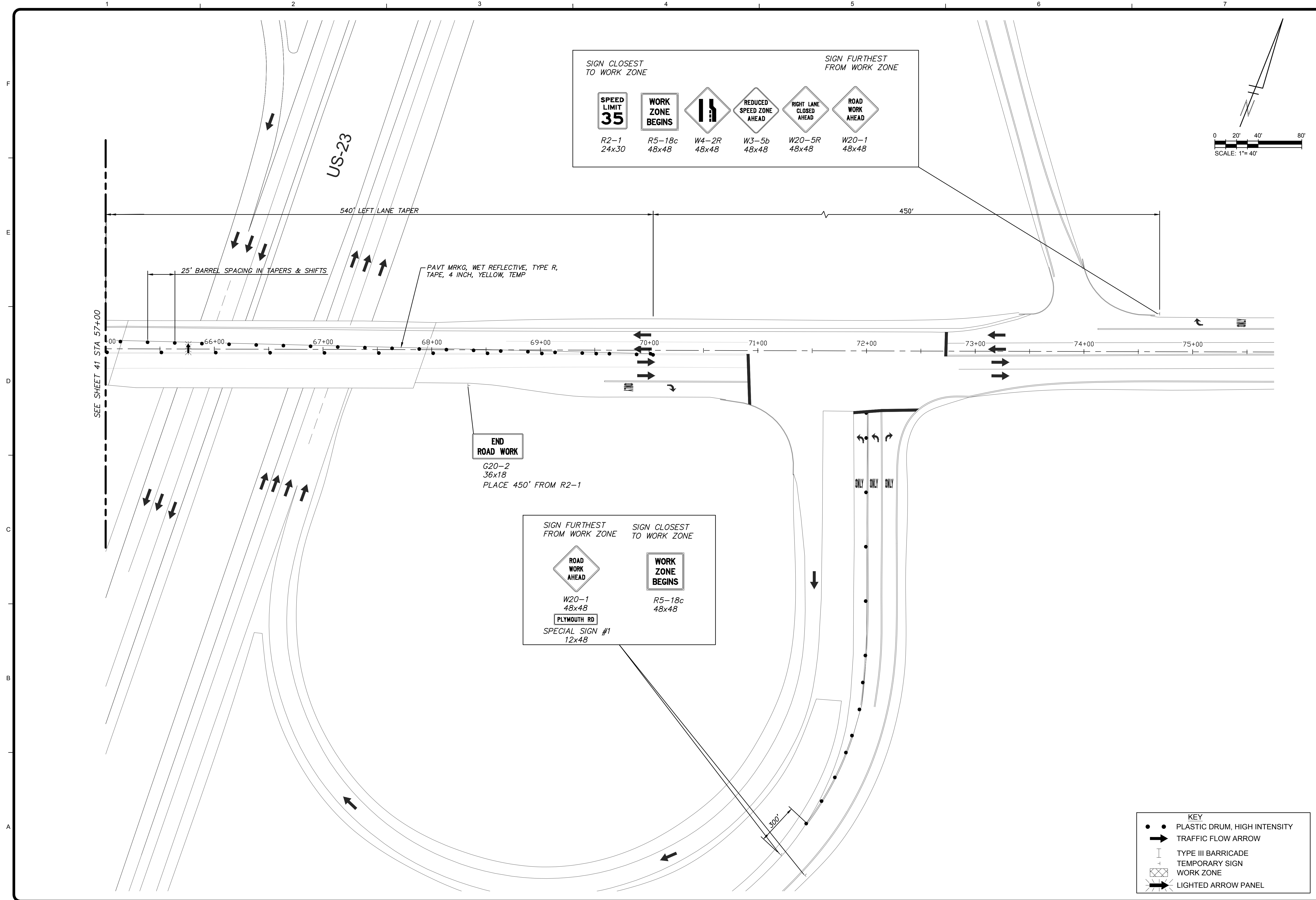
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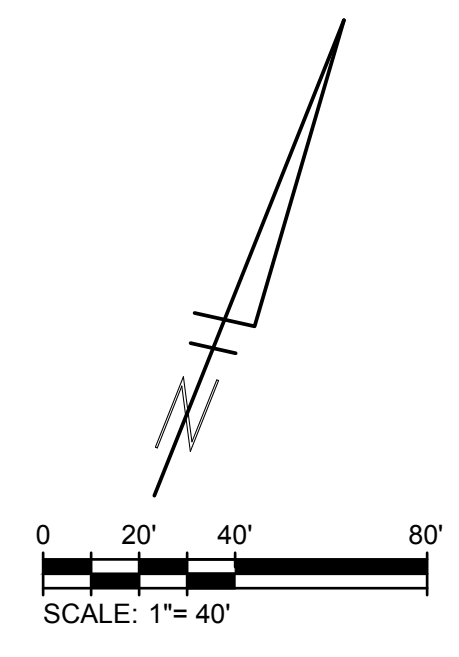
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SIGN CLOSEST TO WORK ZONE			SIGN FURTHEST FROM WORK ZONE		
R2-1 24x30	R5-18c 48x48	W4-2R 48x48	W3-5b 48x48	W20-5R 48x48	W20-1 48x48



END ROAD WORK
G20-2
36x18
PLACE 450' FROM R2-1

SIGN FURTHEST FROM WORK ZONE	SIGN CLOSEST TO WORK ZONE
W20-1 48x48	R5-18c 48x48
PLYMOUTH RD SPECIAL SIGN #1 12x48	

KEY

- PLASTIC DRUM, HIGH INTENSITY
- ➔ TRAFFIC FLOW ARROW
- I TYPE III BARRICADE
- ⊠ TEMPORARY SIGN WORK ZONE
- ➔ LIGHTED ARROW PANEL

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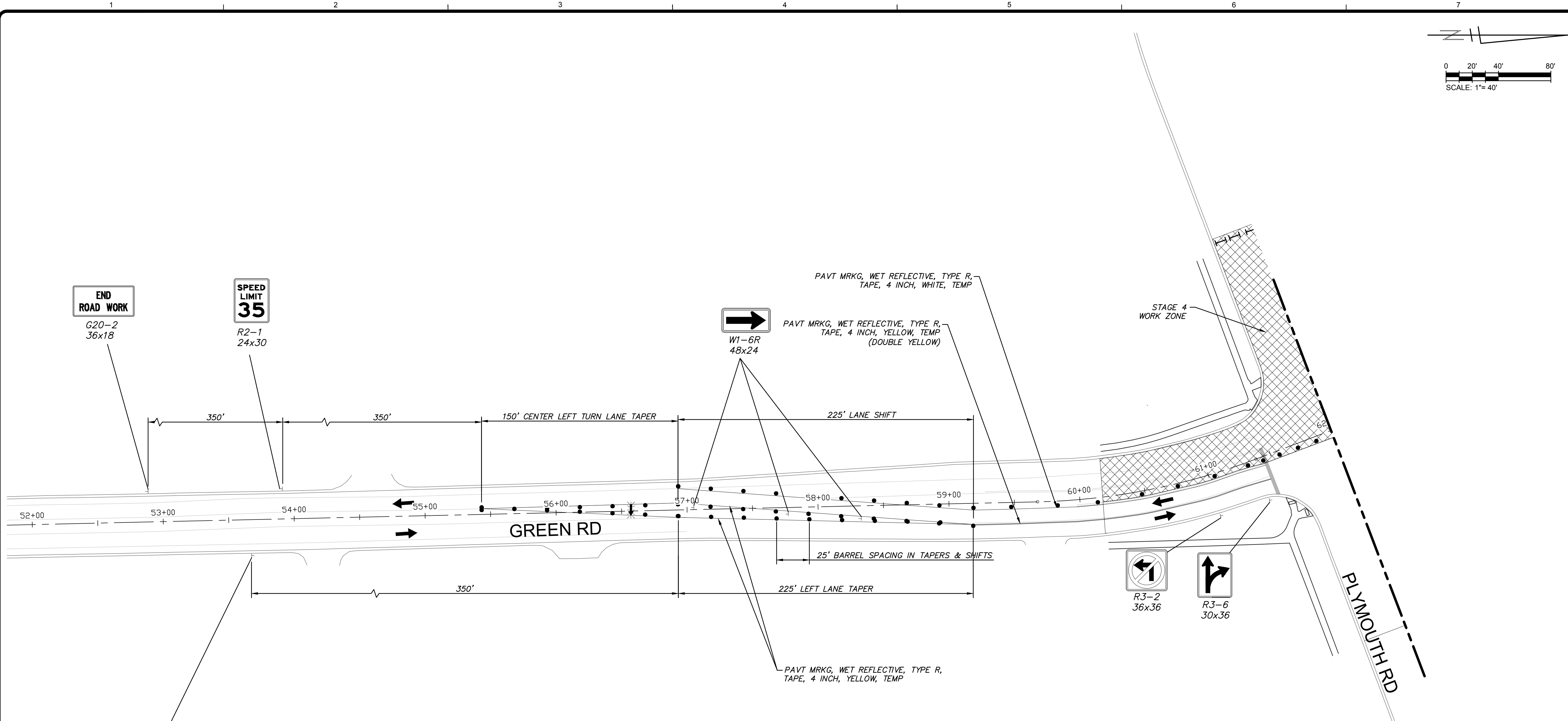
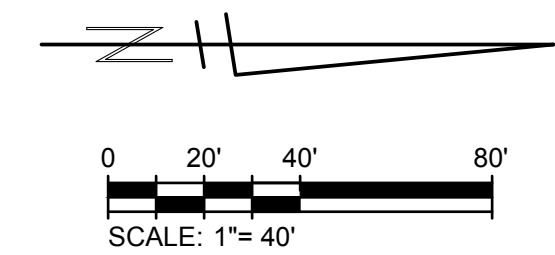
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PLYMOUTH RD
MOT STAGE 3
STA 65+00 TO STA 75+00

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SIGN FURTHEST FROM WORK ZONE			SIGN CLOSEST TO WORK ZONE	
W20-1 48x48	W4-2L 36x36	W3-5b 48x48	R5-18c 48x48	R2-1 24x30

PLACE SIGNS AT 350' SPACING OR AS DIRECTED BY ENGINEER

- NOTES:**
- SEE SIDEWALK MOT SHEET FOR MAINTAINING PEDESTRIAN TRAFFIC
 - SEE DETOUR SHEET FOR LEFT TURN DETOUR

KEY

- PLASTIC DRUM, HIGH INTENSITY
- TRAFFIC FLOW ARROW
- TYPE III BARRICADE
- TEMPORARY SIGN
- WORK ZONE
- LIGHTED ARROW PANEL

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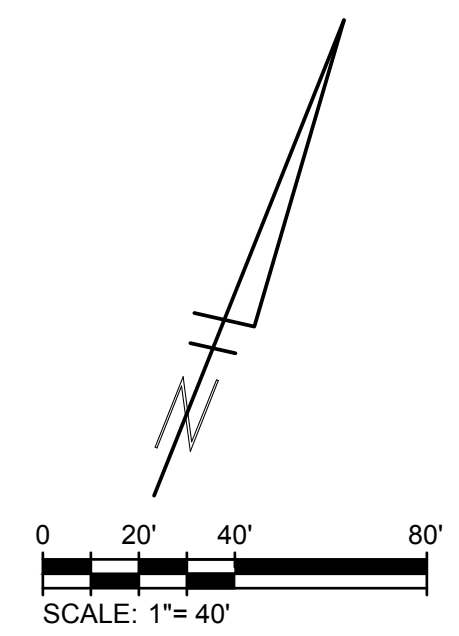
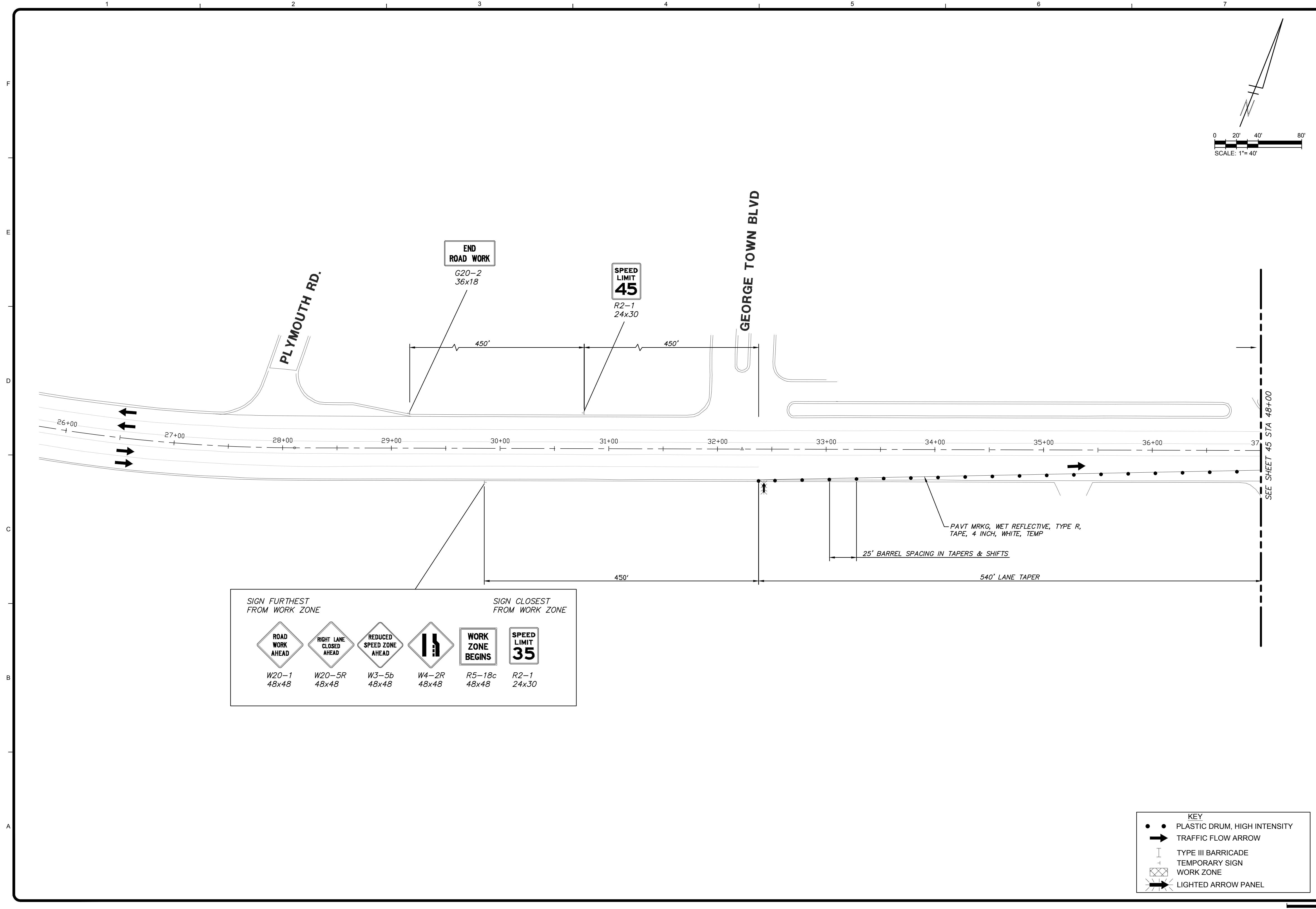


BY	DATE	DESCRIPTION

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GREEN RD - MOT STAGE 4

Project No.: 200-31537-16003
Designed By: A. BICKLEY
Checked By: K. PIETILA

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SIGN FURTHEST FROM WORK ZONE			SIGN CLOSEST FROM WORK ZONE		
W20-1 48x48	W20-5R 48x48	W3-5b 48x48	W4-2R 48x48	R5-18c 48x48	R2-1 24x30

KEY

- PLASTIC DRUM, HIGH INTENSITY
- ➔ TRAFFIC FLOW ARROW
- ⊥ TYPE III BARRICADE
- ⊥ TEMPORARY SIGN
- ⊥ WORK ZONE
- ➔ LIGHTED ARROW PANEL

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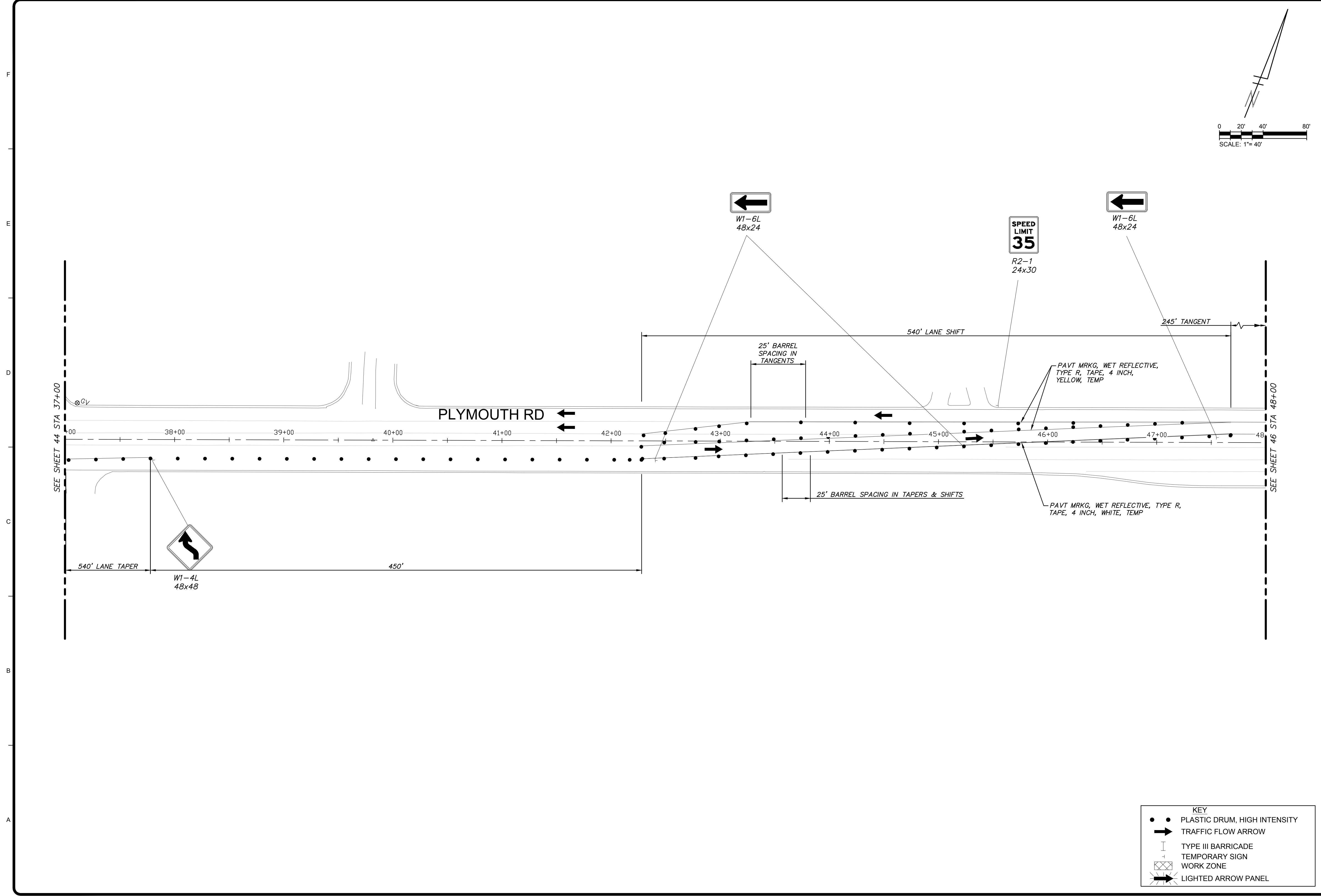
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PLYMOUTH RD
MOT STAGE 4
STA 26+00 TO STA 37+00

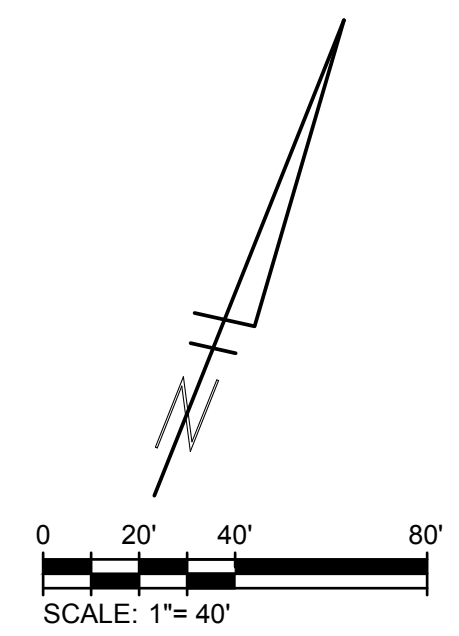
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KEY

- PLASTIC DRUM, HIGH INTENSITY
- ➔ TRAFFIC FLOW ARROW
- I TYPE III BARRICADE
- ⊕ TEMPORARY SIGN
- ⊗ WORK ZONE
- ➔ LIGHTED ARROW PANEL



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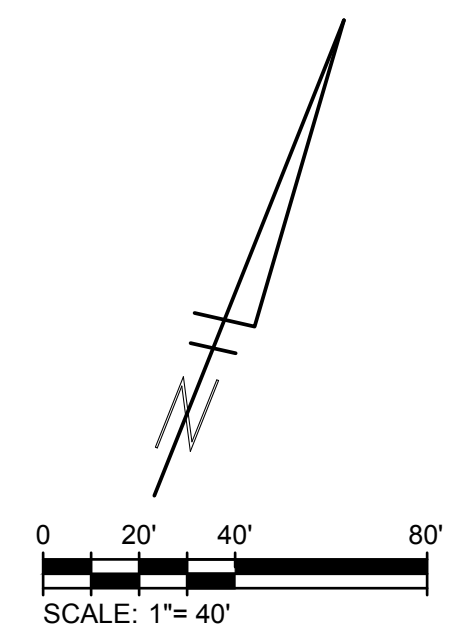
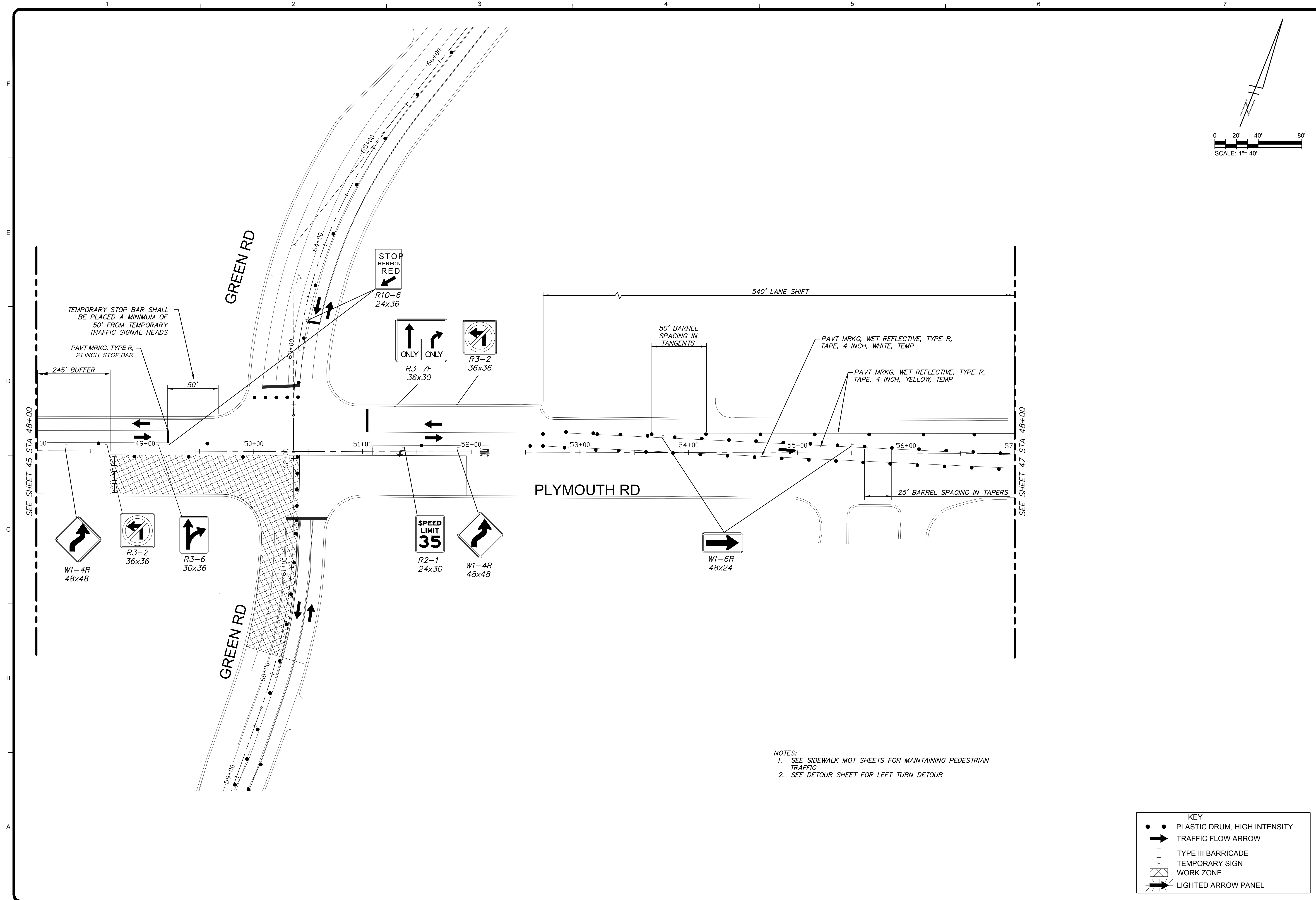
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PLYMOUTH RD
MOT STAGE 4
STA 37+00 TO STA 48+00

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NOTES:
 1. SEE SIDEWALK MOT SHEETS FOR MAINTAINING PEDESTRIAN TRAFFIC
 2. SEE DETOUR SHEET FOR LEFT TURN DETOUR

KEY

- PLASTIC DRUM, HIGH INTENSITY
- ➔ TRAFFIC FLOW ARROW
- I TYPE III BARRICADE
- ⊞ TEMPORARY SIGN WORK ZONE
- ➔ LIGHTED ARROW PANEL

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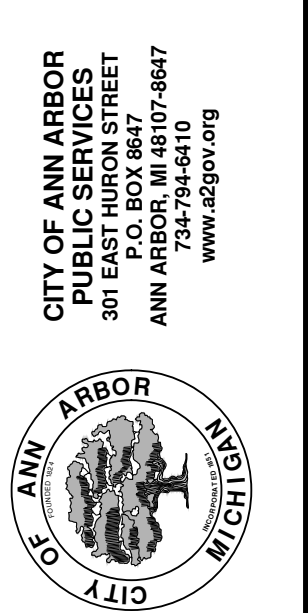
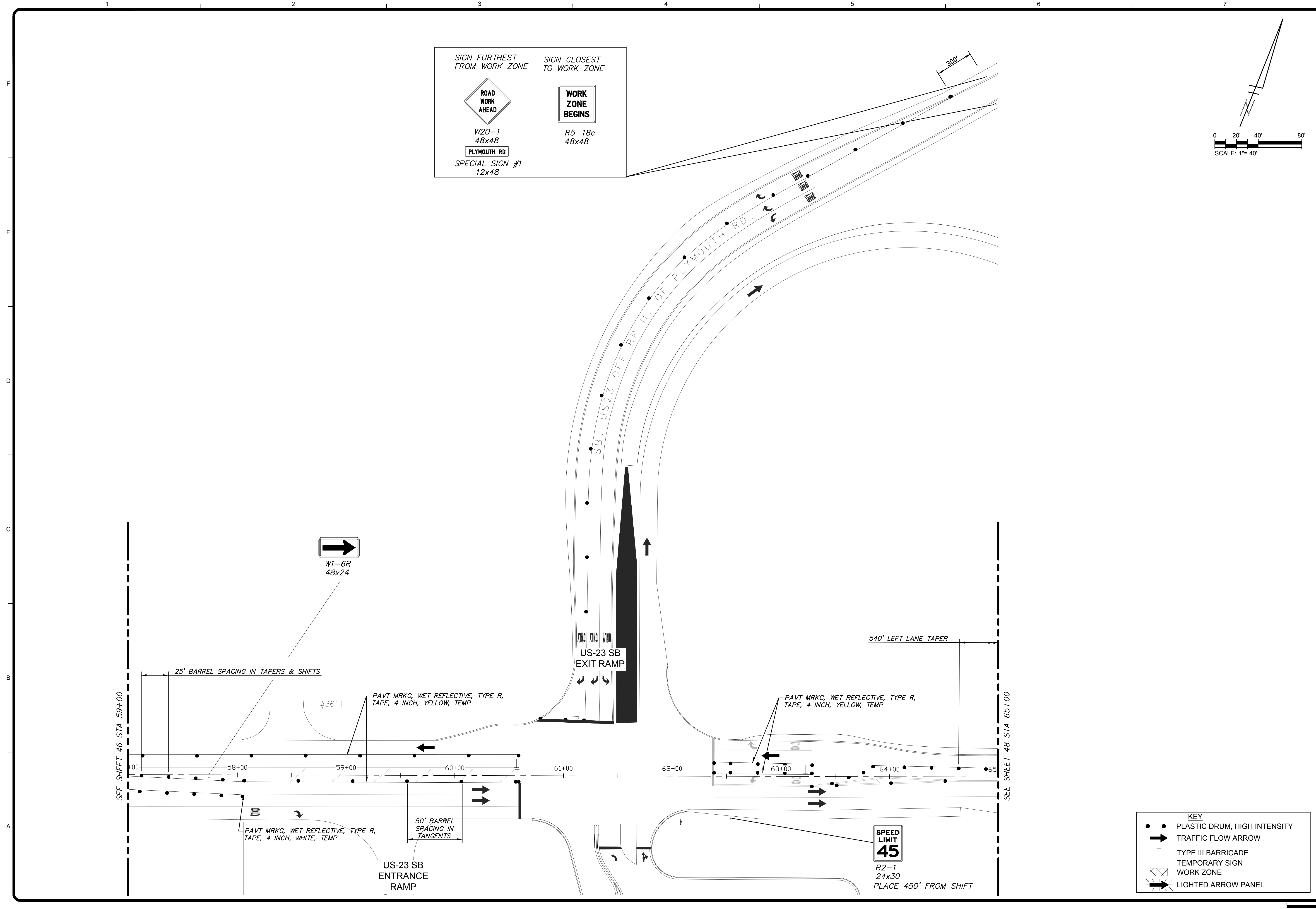
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 PLYMOUTH RD
 MOT STAGE 4
 STA 48+00 TO STA 57+00

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WATER MAIN REPLACEMENT
PLYMOUTH RD
MOT STAGE 4
STA 57+00 TO STA 65+00

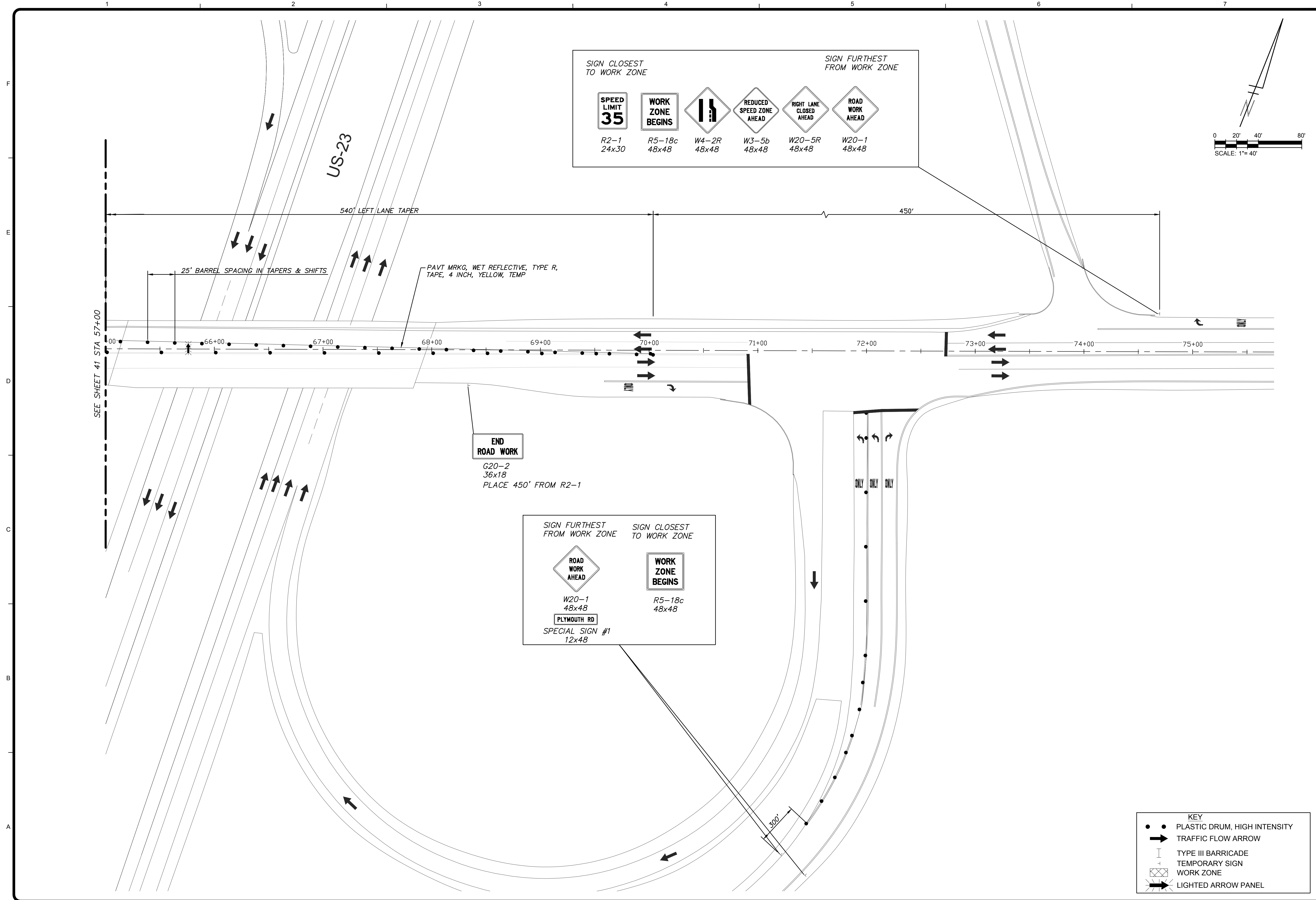
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KEY

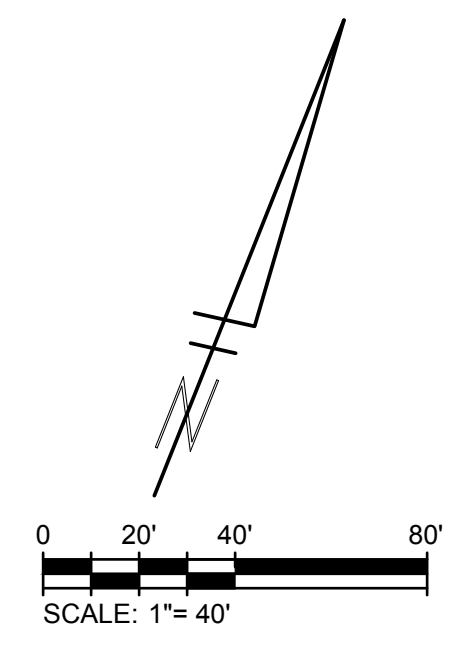
● ●	PLASTIC DRUM, HIGH INTENSITY
➔	TRAFFIC FLOW ARROW
	TYPE III BARRICADE
+	TEMPORARY SIGN
☒	WORK ZONE
➔	LIGHTED ARROW PANEL

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SIGN CLOSEST TO WORK ZONE			SIGN FURTHEST FROM WORK ZONE		
R2-1 24x30	R5-18c 48x48	W4-2R 48x48	W3-5b 48x48	W20-5R 48x48	W20-1 48x48



END ROAD WORK
G20-2
36x18
PLACE 450' FROM R2-1

SIGN FURTHEST FROM WORK ZONE	SIGN CLOSEST TO WORK ZONE
W20-1 48x48	R5-18c 48x48
PLYMOUTH RD SPECIAL SIGN #1 12x48	

KEY

- PLASTIC DRUM, HIGH INTENSITY
- ➔ TRAFFIC FLOW ARROW
- ⊥ TYPE III BARRICADE
- ⊞ TEMPORARY SIGN
- ⊞ WORK ZONE
- ➔ LIGHTED ARROW PANEL

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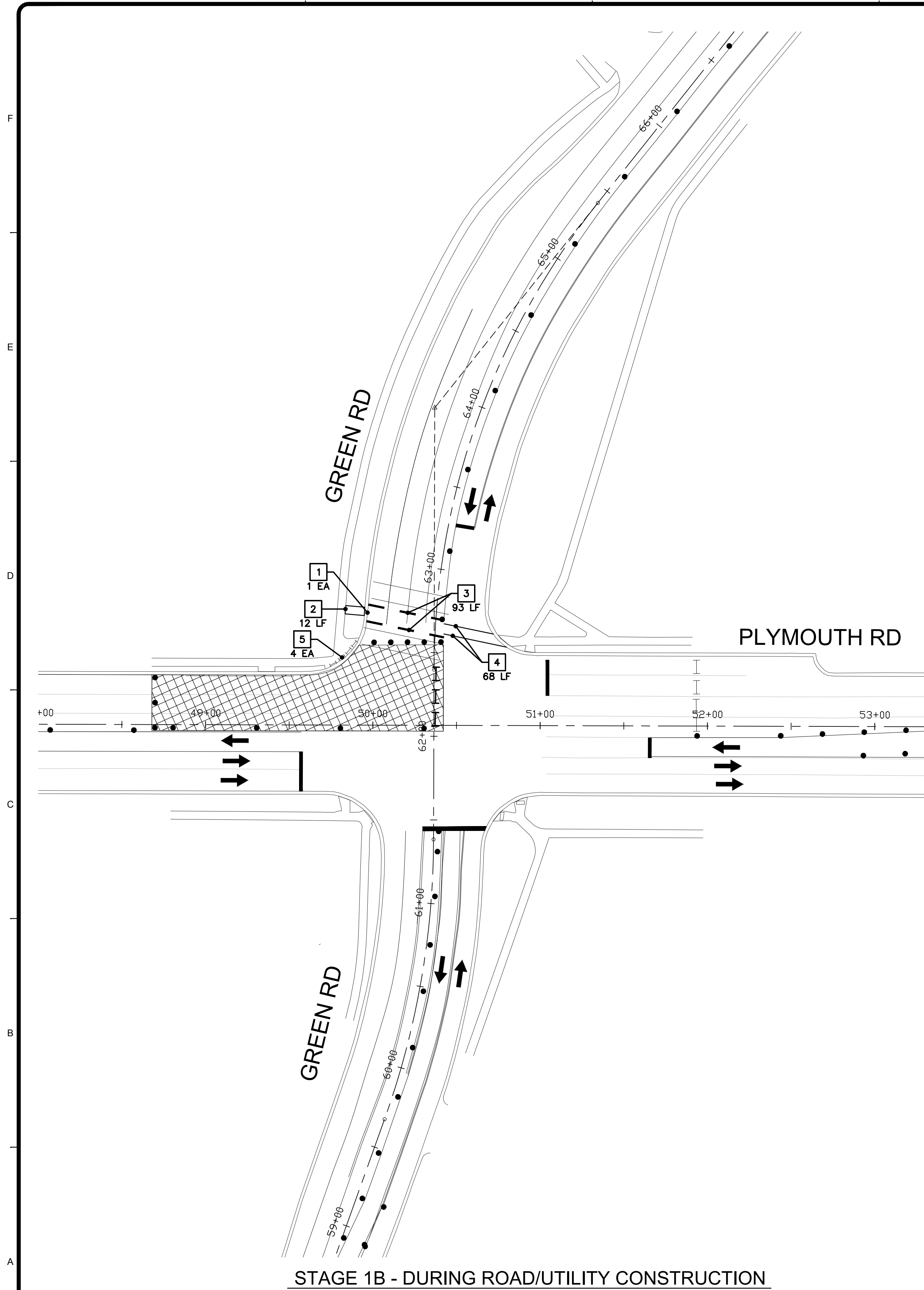


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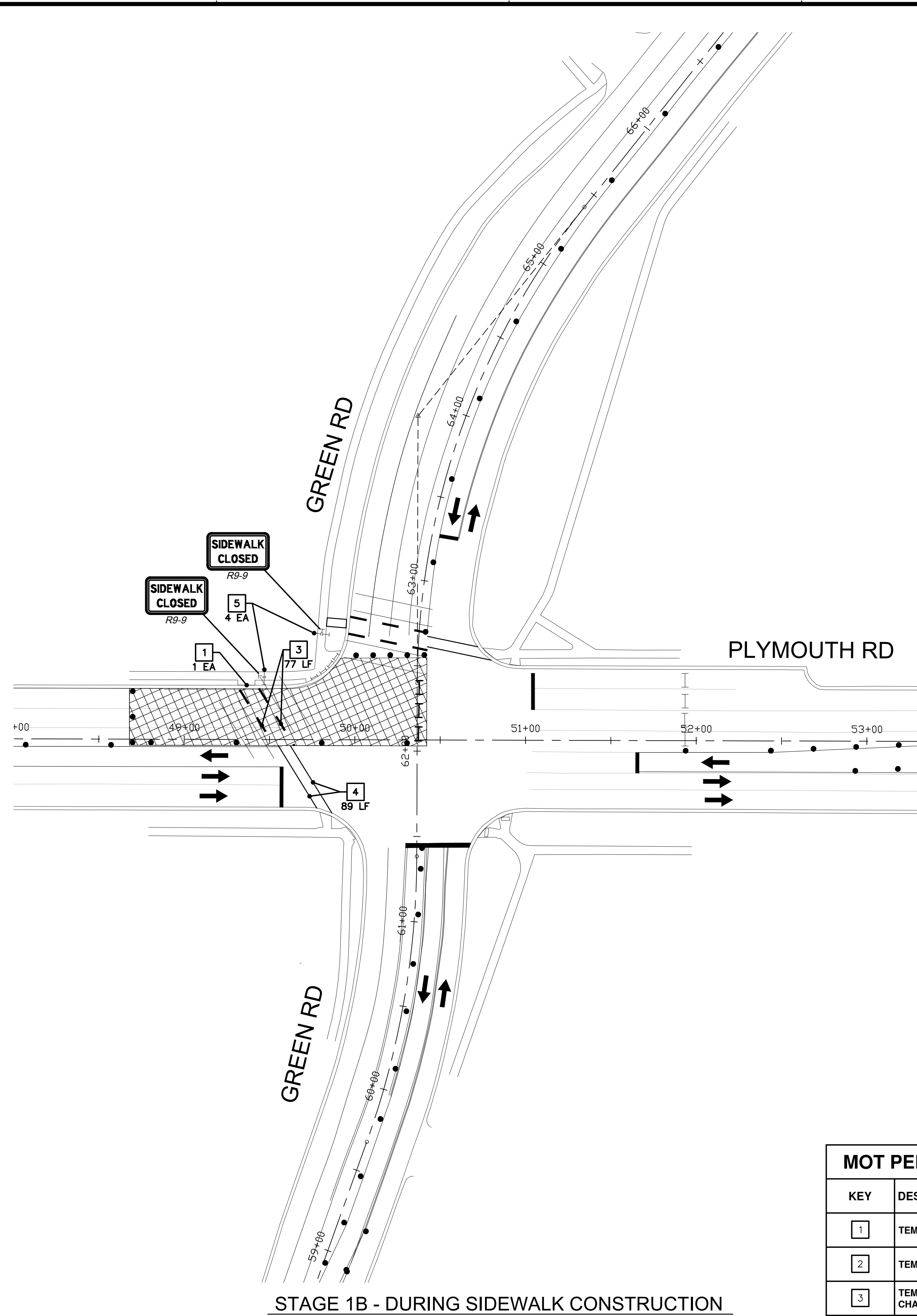
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WATER MAIN REPLACEMENT
PLYMOUTH RD
MOT STAGE 4
STA 65+00 TO STA 75+00

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Drawn By: A. BICKLEY
Checked By: K. PIETILA

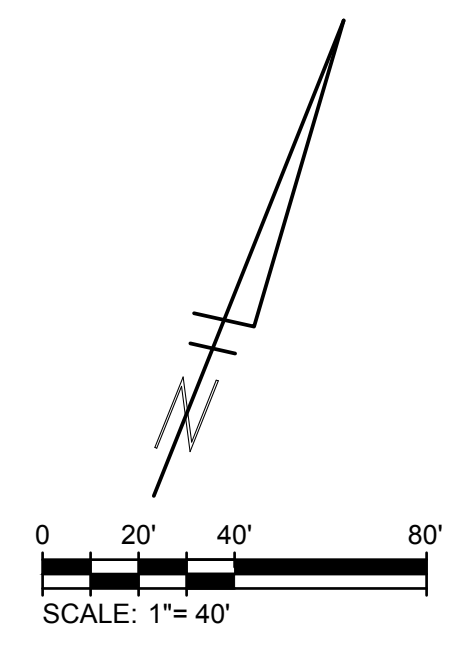
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STAGE 1B - DURING ROAD/UTILITY CONSTRUCTION



STAGE 1B - DURING SIDEWALK CONSTRUCTION



MOT PEDESTRIAN KEY	
KEY	DESCRIPTION
1	TEMPORARY PEDESTRIAN RAMP
2	TEMPORARY PEDESTRIAN PATH
3	TEMPORARY PEDESTRIAN TYPE II CHANNELIZER
4	TEMPORARY CROSSWALK
5	TYPE II PEDESTRIAN BARRICADE

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SIDEWALK MOT STAGE 1B

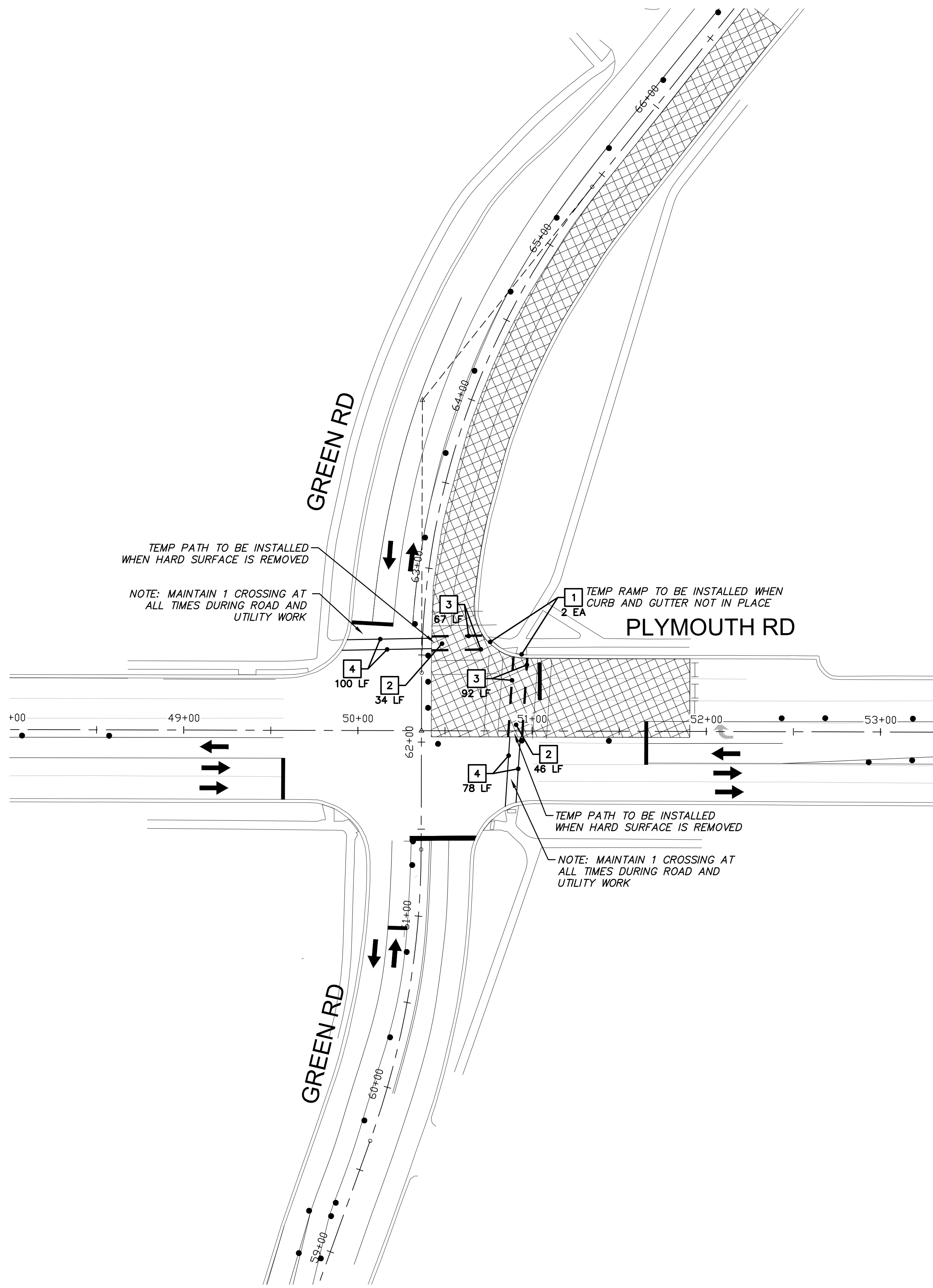
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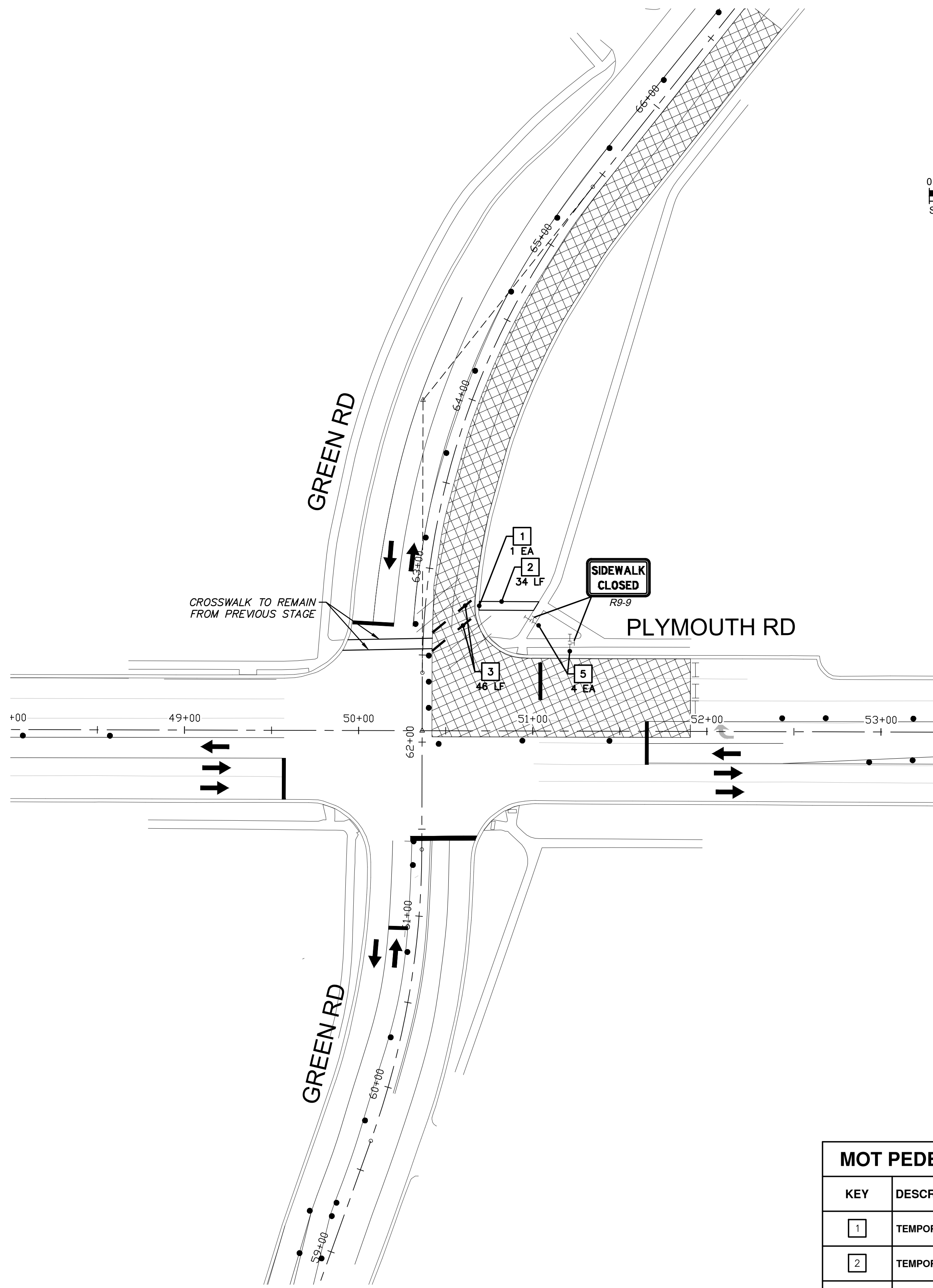
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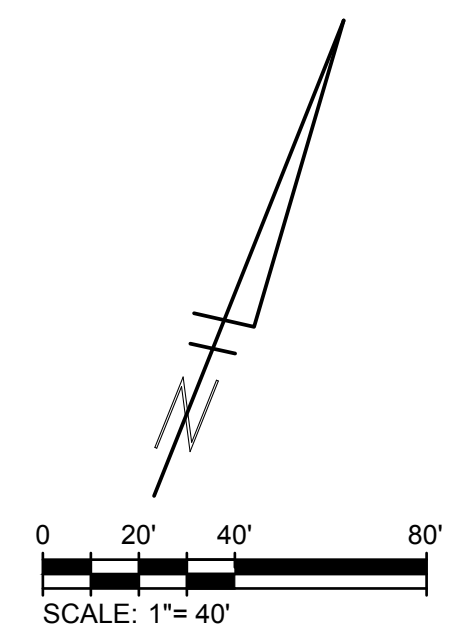
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STAGE 2 - DURING ROAD/UTILITY CONSTRUCTION



STAGE 2 - DURING SIDEWALK RAMP CONSTRUCTION



MOT PEDESTRIAN KEY	
KEY	DESCRIPTION
1	TEMPORARY PEDESTRIAN RAMP
2	TEMPORARY PEDESTRIAN PATH
3	TEMPORARY PEDESTRIAN TYPE II CHANNELIZER
4	TEMPORARY CROSSWALK
5	TYPE II PEDESTRIAN BARRICADE

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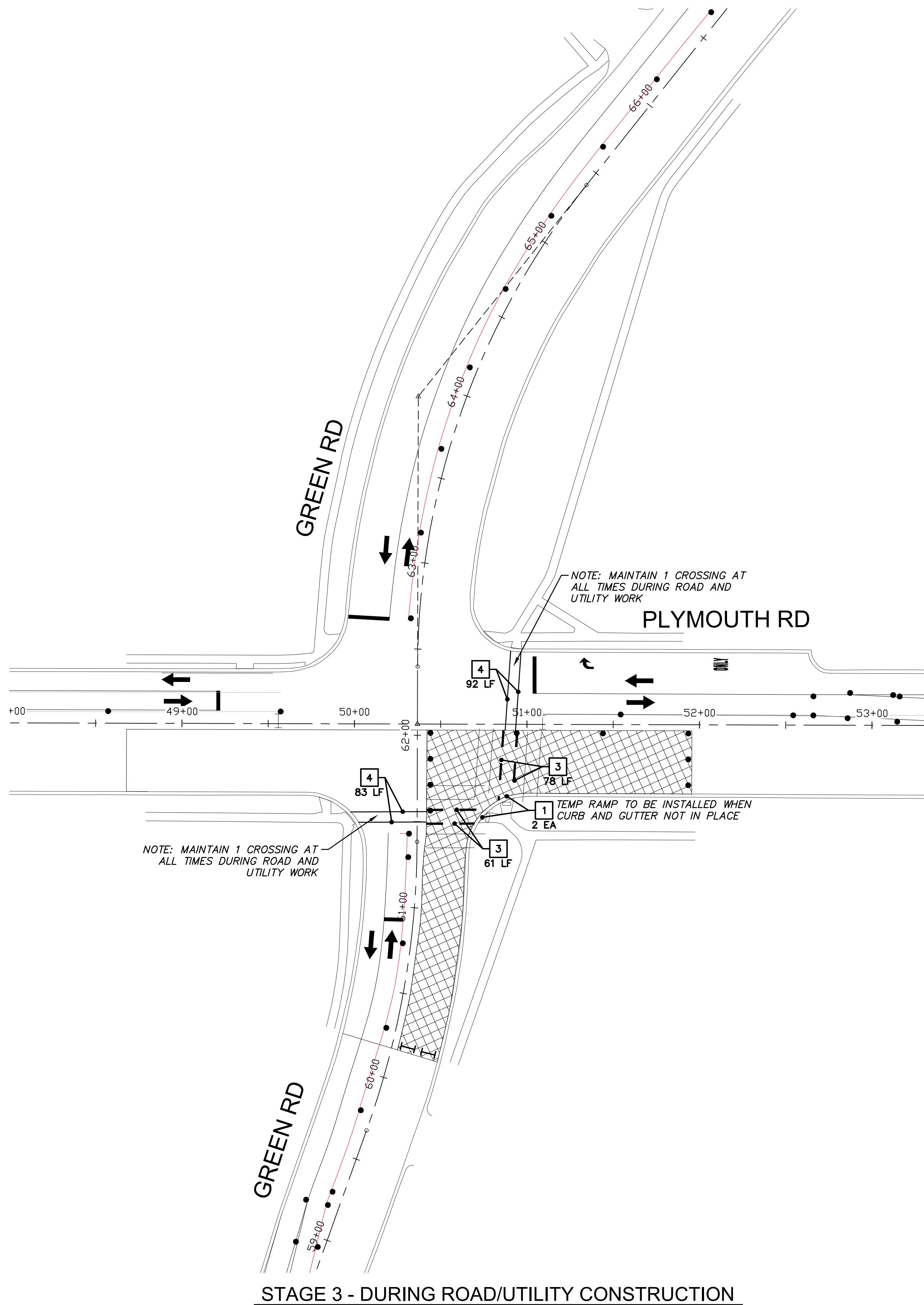
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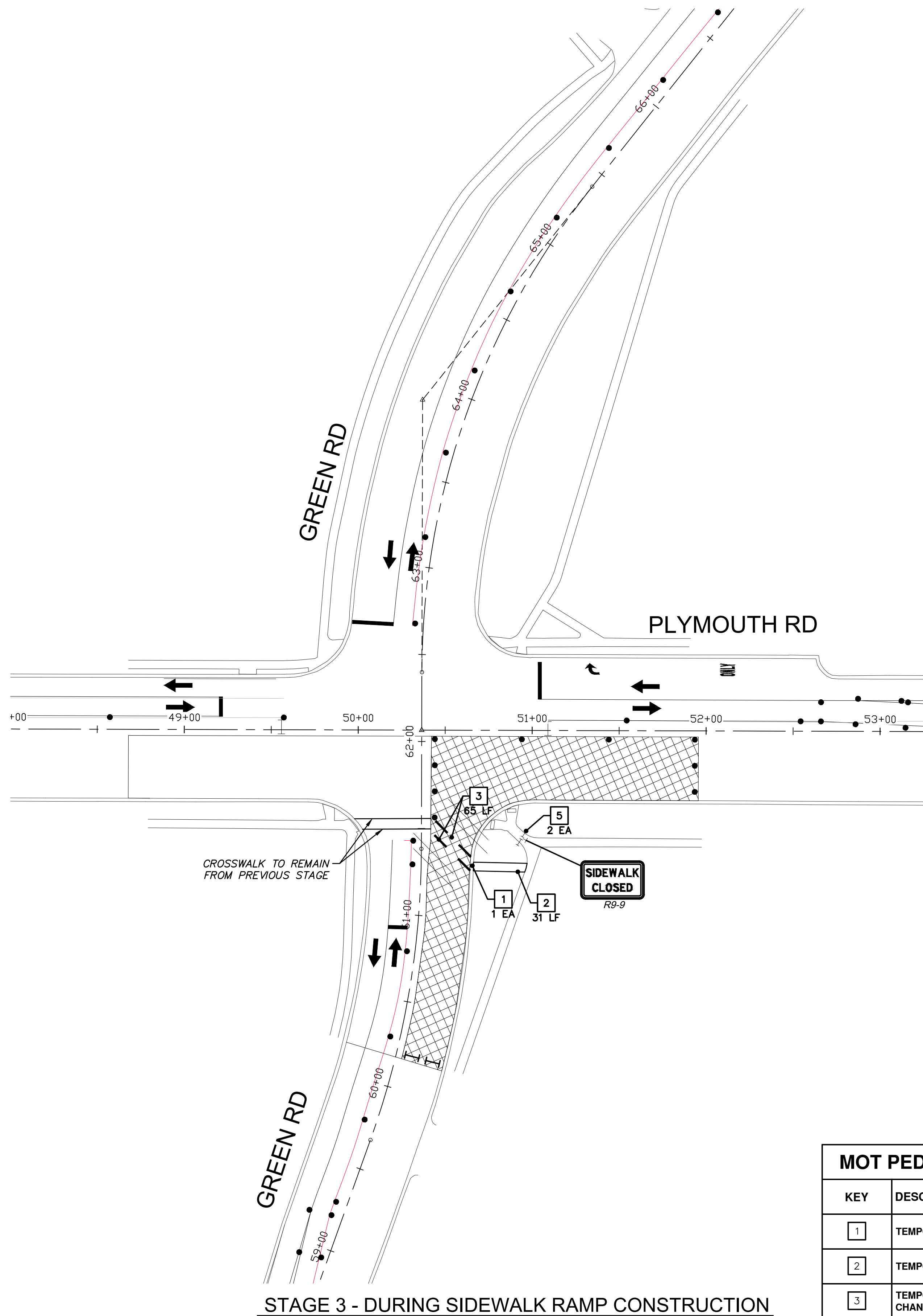
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PLYMOUTH & GREEN RD
SIDEWALK MOT - STAGE 2

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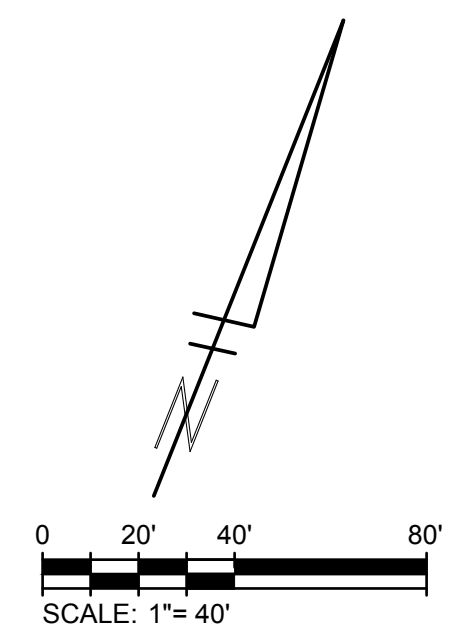
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STAGE 3 - DURING ROAD/UTILITY CONSTRUCTION



STAGE 3 - DURING SIDEWALK RAMP CONSTRUCTION




MOT PEDESTRIAN KEY	
KEY	DESCRIPTION
1	TEMPORARY PEDESTRIAN RAMP
2	TEMPORARY PEDESTRIAN PATH
3	TEMPORARY PEDESTRIAN TYPE II CHANNELIZER
4	TEMPORARY CROSSWALK
5	TYPE II PEDESTRIAN BARRICADE




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SIDEWALK MOT - STAGE 3

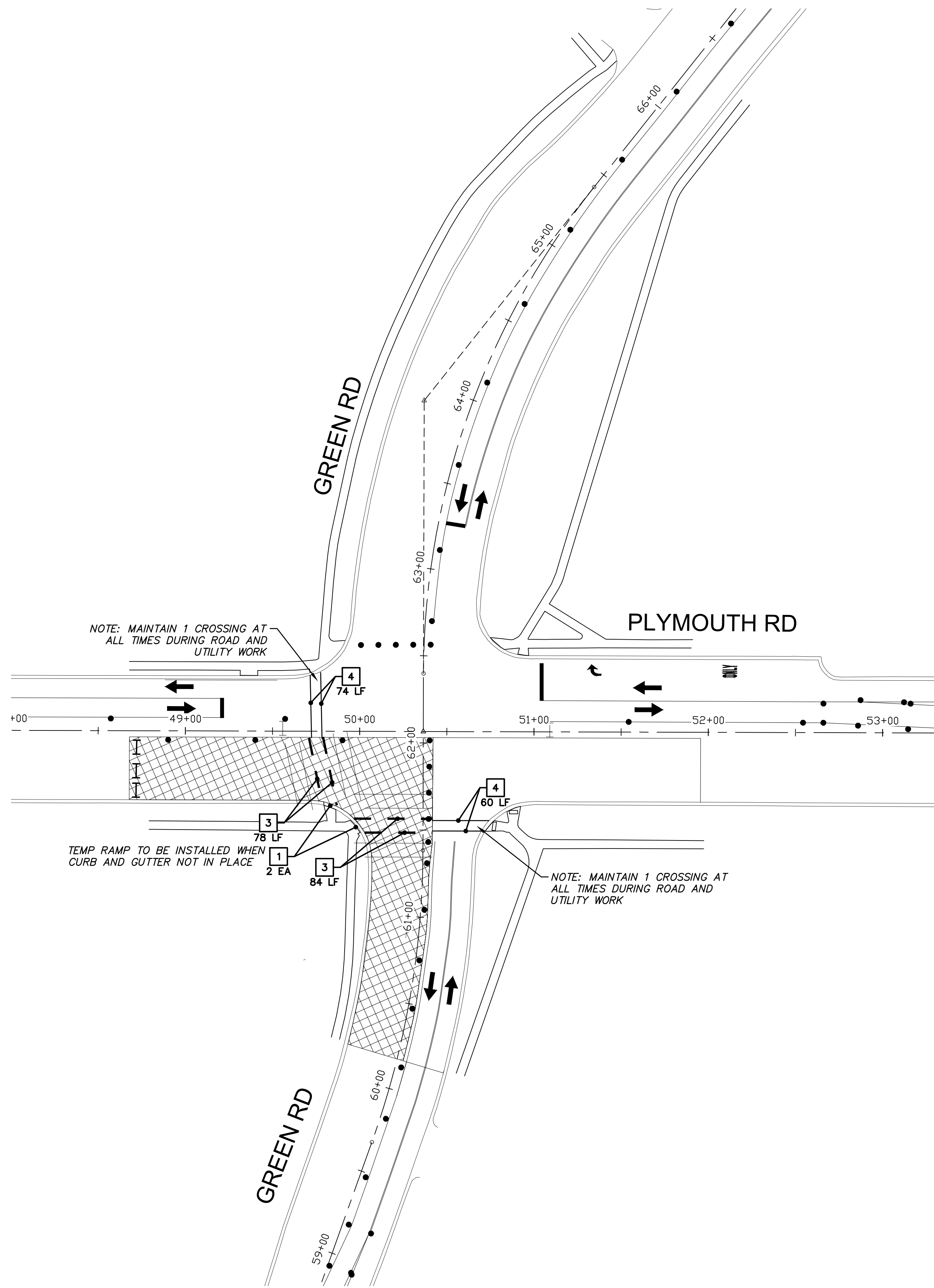
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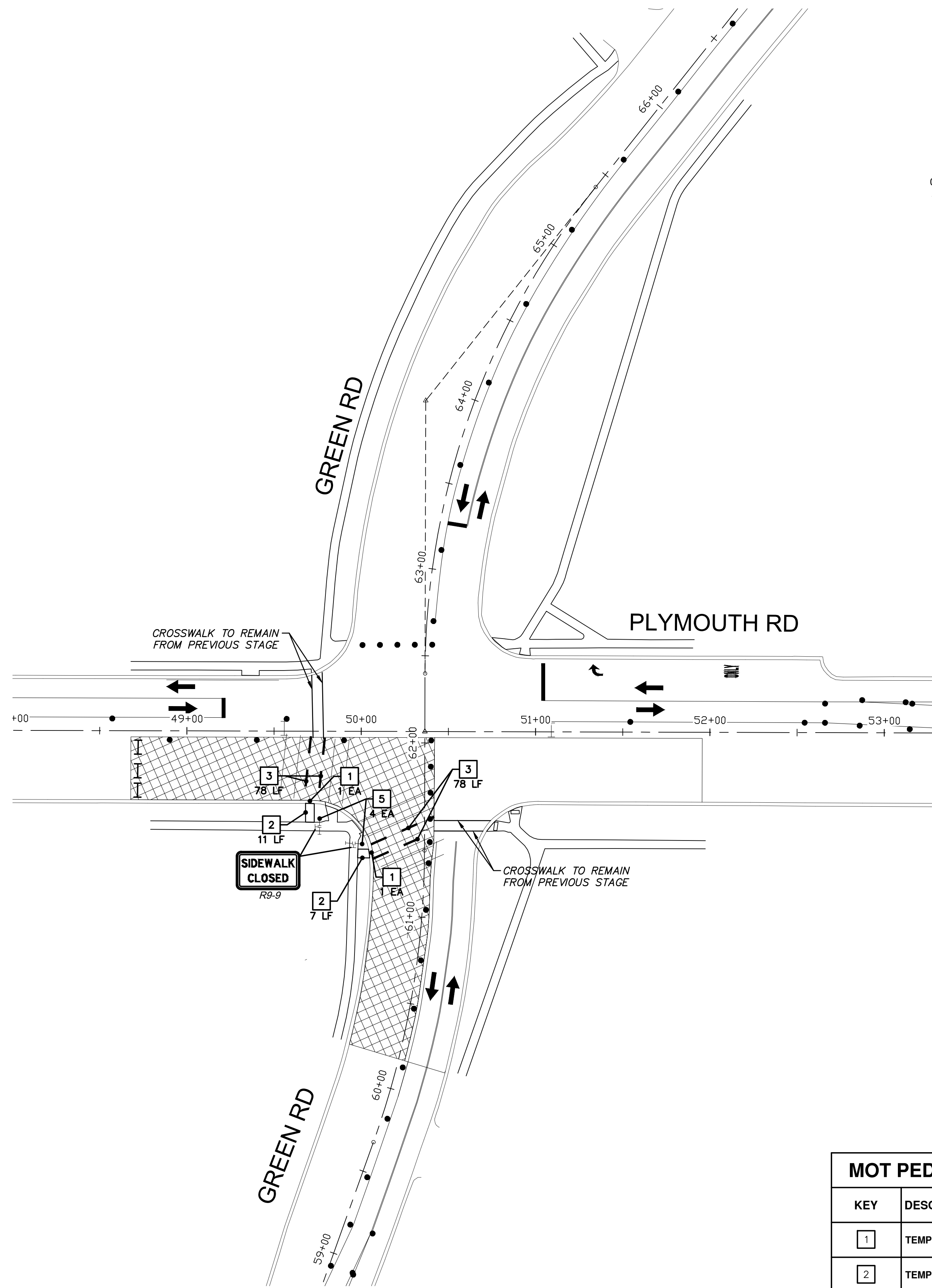
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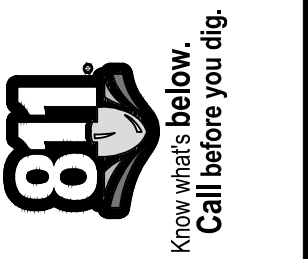
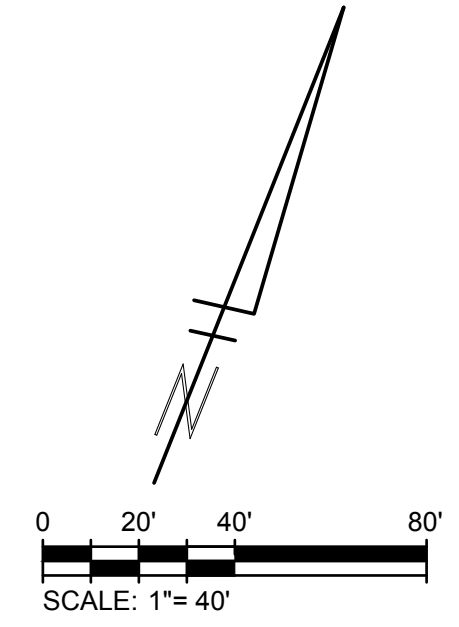


STAGE 4 - DURING ROAD/UTILITY CONSTRUCTION



STAGE 4 - DURING SIDEWALK RAMP CONSTRUCTION

MOT PEDESTRIAN KEY	
KEY	DESCRIPTION
1	TEMPORARY PEDESTRIAN RAMP
2	TEMPORARY PEDESTRIAN PATH
3	TEMPORARY PEDESTRIAN TYPE II CHANNELIZER
4	TEMPORARY CROSSWALK
5	TYPE II PEDESTRIAN BARRICADE



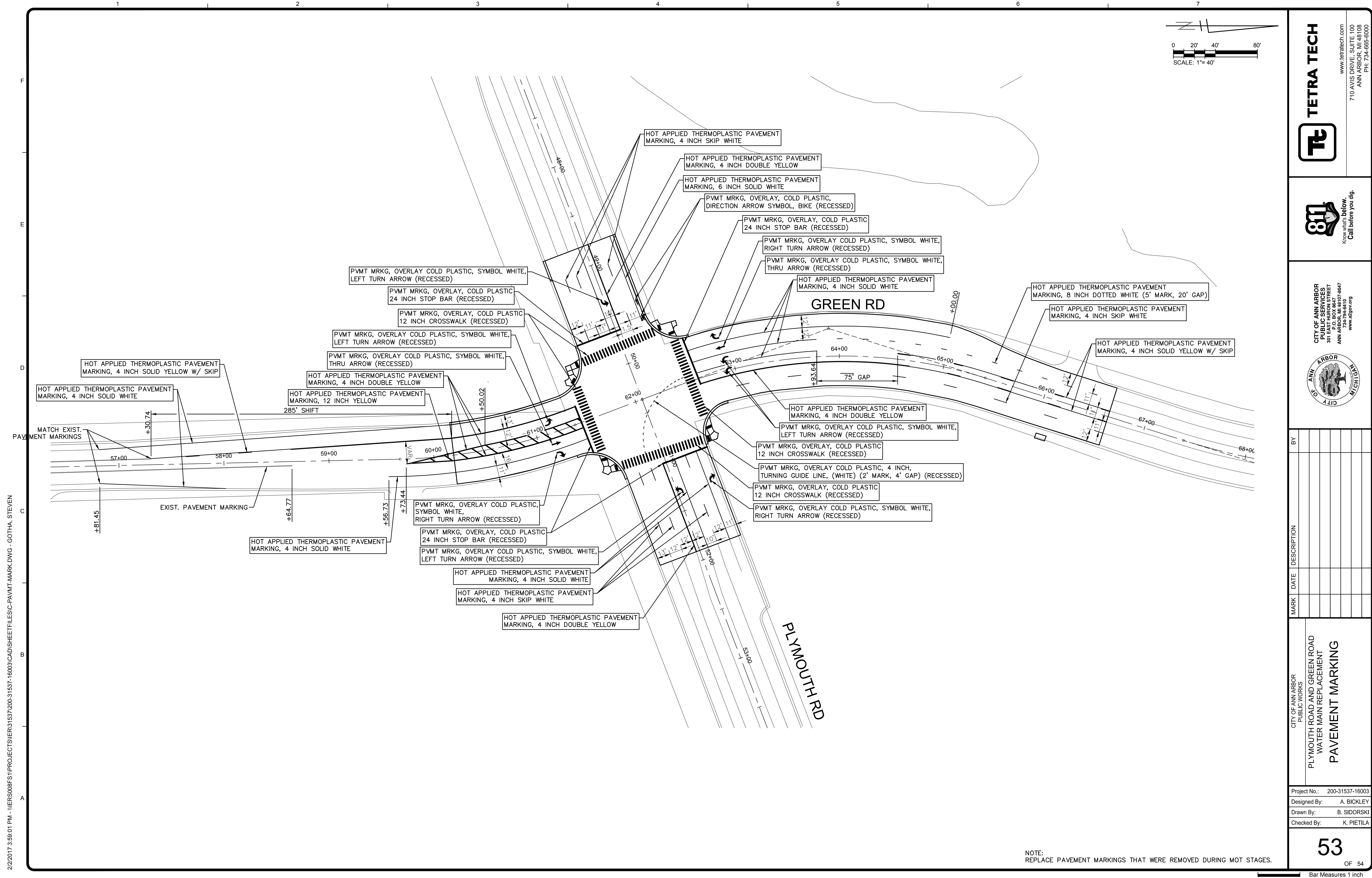
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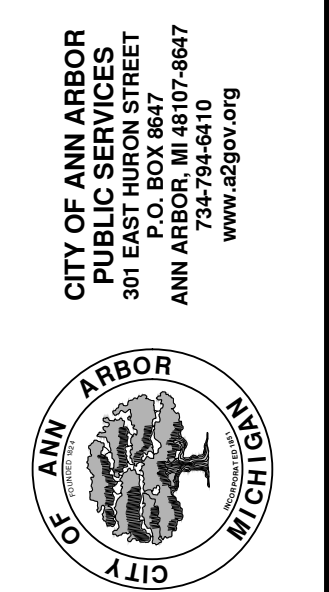
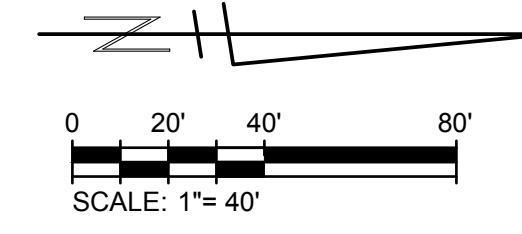
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SIDEWALK MOT - STAGE 4

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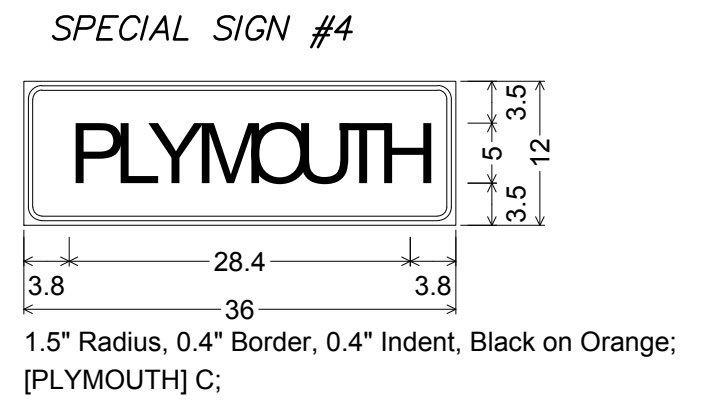
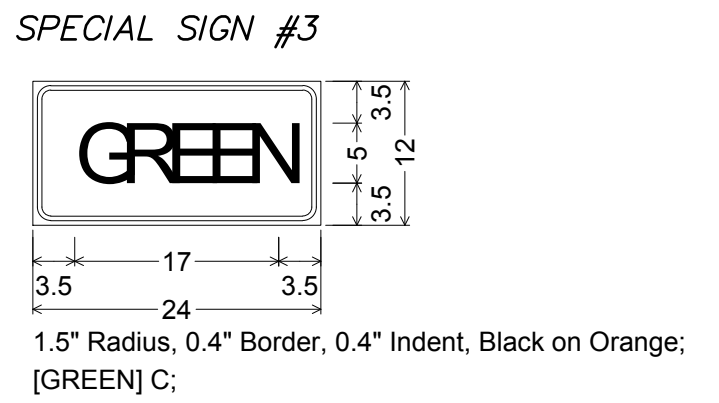
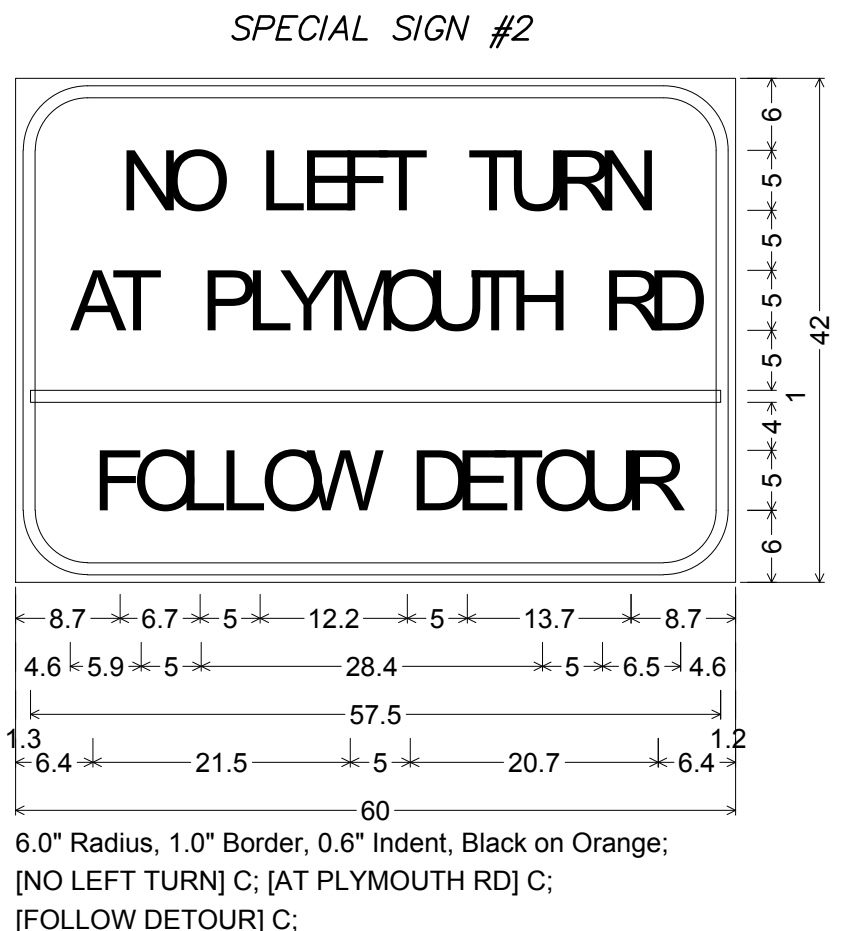
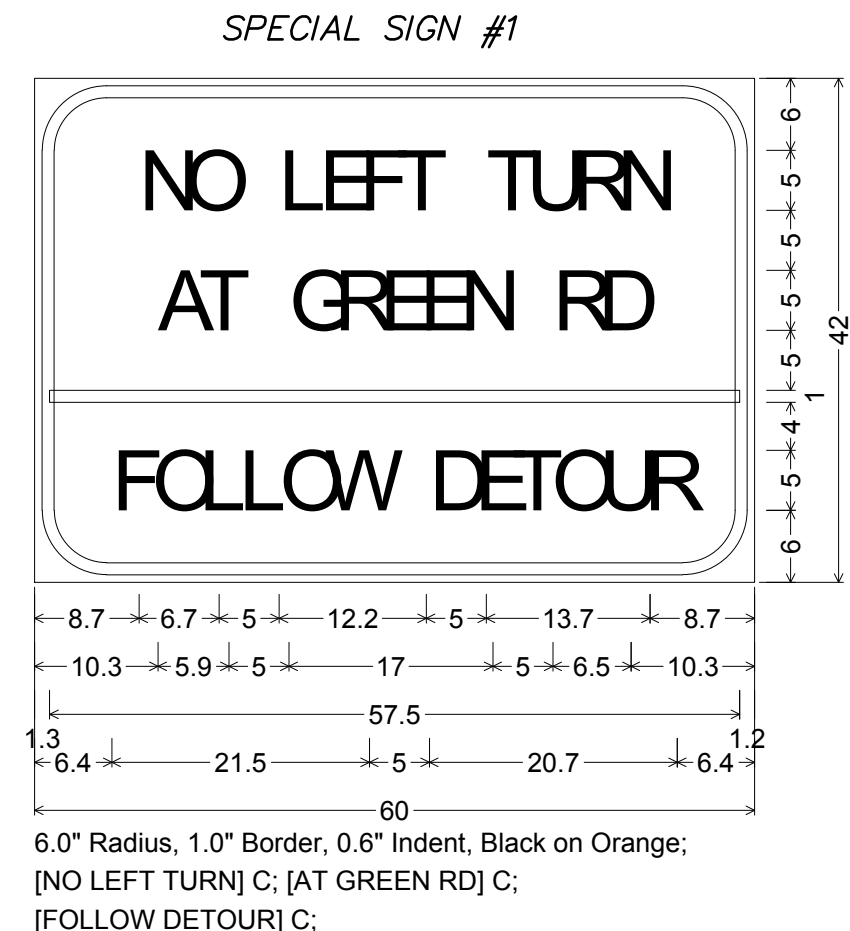
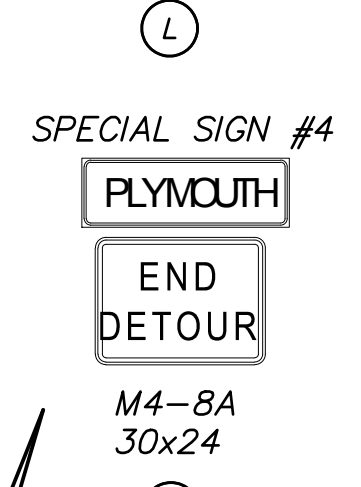
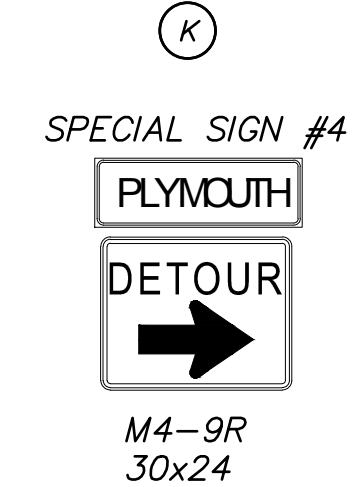
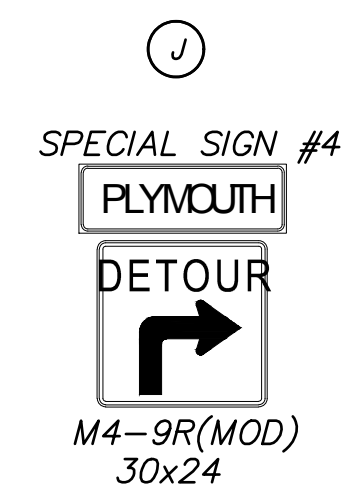
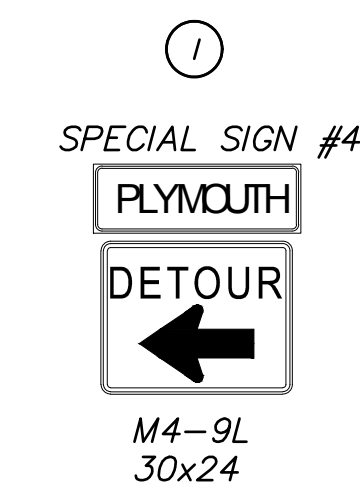
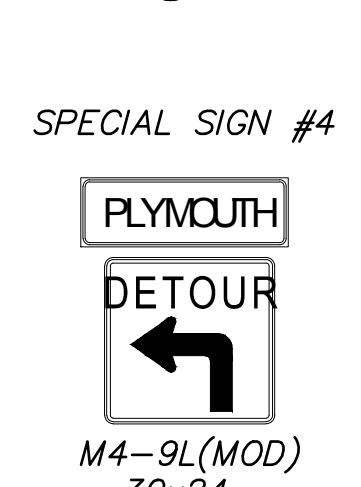
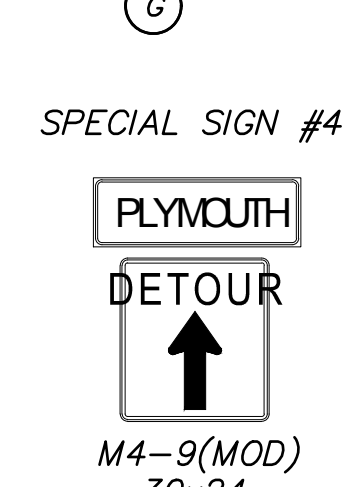
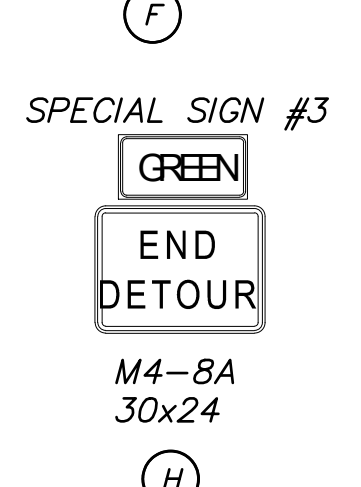
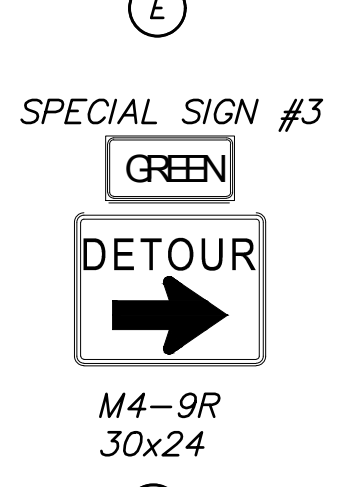
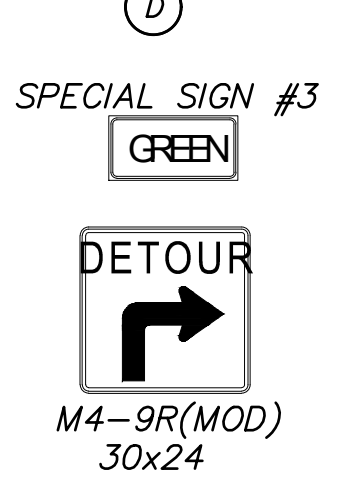
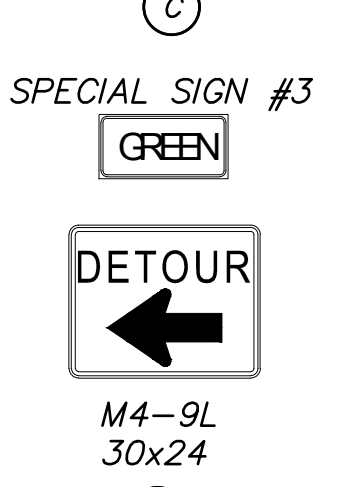
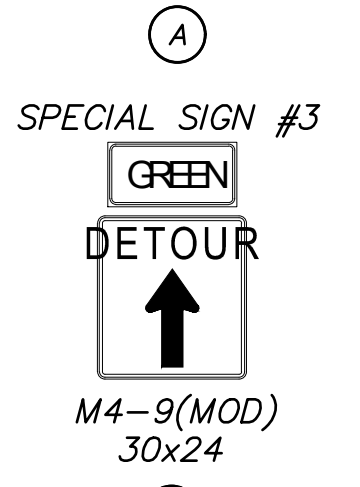
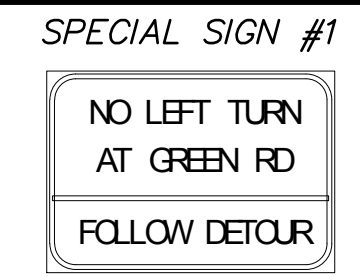
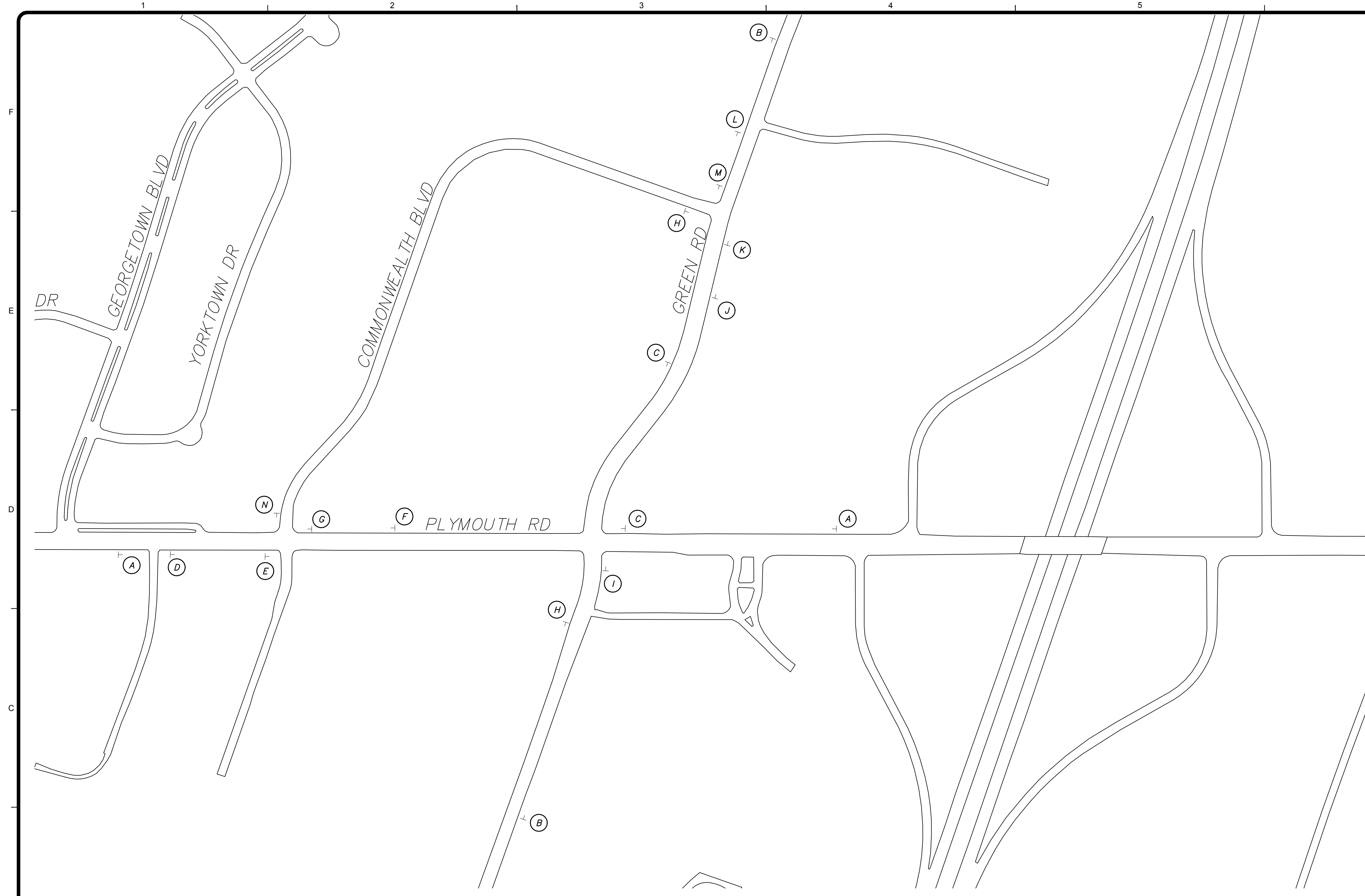
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PAVEMENT MARKING**

Project No.: 200-31537-16003
Designed By: A. BICKLEY
Drawn By: B. SIDORSKI
Checked By: K. PIETILA

NOTE:
REPLACE PAVEMENT MARKINGS THAT WERE REMOVED DURING MOT STAGES.

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