



**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 BREST HEIGHT (INCHES) X 10
- TREE TO REMAIN & PROTECT (CONIFEROUS)  
CRITICAL ROOT ZONE (C.R.Z.) = DIAMETER BREST HEIGHT (INCHES) X 10

**PROPOSED LEGEND**

- HYDRANT (PLAN)
- WATER 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 EASMENT
- STORM EASEMENT
- SANITARY EASEMENT
- R.O.W.
- LIMITS OF CONSTRUCTION
- LIMIT OF GRADING
- STONE WALL
- DETECTABLE WARNING
- ASPHALT
- CONCRETE
- SIDEWALK
- TREE (DECIDUOUS)
- TREE (CONIFEROUS)
- TREE TO BE REMOVED (DECIDUOUS)
- TREE TO BE REMOVED (CONIFEROUS)
- STUMP TO BE REMOVED
- PAVEMENT, REMOVE
- COLD MILLING HMA SURFACE, MODIFIED
- DRIVEWAY APPROACH, REMOVE OR SIDEWALK AND RAMPS, REMOVE
- SEWER, ANY SIZE OR DEPTH, REM OR \_\_\_\_\_inch Water Main, Abandon



**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**  
**HOOVER, GREENE, & HILL**  
**IMPROVEMENT PROJECT**  
LEGEND

SCALE: NTS

DRAWING No. 2018-031-2

SHEET No. 2 OF 83

REV.	DATE	DRAWN	CHECKED	DESCRIPTION

**CITY OF ANN ARBOR PUBLIC SERVICES**  
301 EAST HURON STREET  
ANN ARBOR, MI 48106-1667  
www.a2gov.org



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CONSTRUCTION NOTES:

- 1. 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.
2. THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES AND SERVICE LEADS ARE TO BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
3. 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.
4. THE CONTRACTOR IS TO TAKE SPECIAL CARE TO PROTECT THE EXISTING WATER MAIN AND BE RESPONSIBLE FOR MAINTAINING CONSISTENT WATER SERVICE.
5. DURING NON-WORKING HOURS NO TRENCH SHALL REMAIN OPEN; ANY OPEN TRENCH SHALL BE PROPERLY SECURED WITH PROTECTIVE FENCING. THIS WORK SHALL BE INCLUDED IN THE ITEM OF WORK "GENERAL CONDITIONS, MAX".
6. TRENCHES FOR NEW WATER SERVICES SHALL BE EXCAVATED TO MIOSHA AND CITY OF ANN ARBOR PUBLIC WORKS REQUIREMENTS.
7. CITY OF ANN ARBOR PUBLIC WORKS WILL INSTALL THE CORPORATION AND COPPER SERVICE LEAD(S) TO TRANSFER THE CONNECTION(S). IF AN EXISTING WATER SERVICE IS FOUND TO BE FAILING OR IS NOT COPPER, THE LEAD WILL BE REPLACED TO THE CURB BOX BY PUBLIC WORKS.
8. FOR THE INSTALLATION OF CORPORATIONS, OR ANY OTHER RELATED ACTIVITIES, THE CONTRACTOR SHALL NOT RECEIVE ADDITIONAL COMPENSATION FOR DELAYS DUE TO THE SCHEDULING OF OR COORDINATION WITH THE CITY OF ANN ARBOR PUBLIC WORKS.
9. THE CONTRACTOR SHALL BACKFILL TRENCHES IN ACCORDANCE WITH TRENCH DETAIL SPECIFIED ON PLANS. THIS WORK SHALL BE INCLUDED IN THE ITEM OF WORK "EXCAVATE AND BACKFILL FOR WATER SERVICE TAP AND LEAD". ALL CONCRETE REMOVALS AND REPLACEMENTS REQUIRED FOR THIS WORK WILL BE PAID FOR SEPARATELY.
10. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE POLYETHYLENE WRAPPED PER ANSI/AWWA C105/A21.5.
11. COR-BLU BOLTS TO BE USED AT ALL MECHANICAL WATER MAIN JOINTS AT HYDRANTS AND MEGALUG FITTINGS
12. 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.
13. 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.
14. "NO PARKING" SIGNS SHALL BE INSTALLED BY THE CONTRACTOR AT LOCATIONS AS APPROVED OR DIRECTED BY THE ENGINEER. ALL SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILED SPECIFICATIONS.
15. POSTAL DELIVERY AND REFUSE PICKUP SERVICE SHALL BE MAINTAINED AT ALL TIMES BY THE CONTRACTOR.
16. 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 PUBLIC WORKS FACILITY AT THE W.R. WHEELER SERVICE CENTER LOCATED AT 4251 STONE SCHOOL ROAD.
17. WHERE STREET CURBS ARE UNDERMINED DUE TO CONSTRUCTION ACTIVITIES, THEY SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE ENGINEER.

CONSTRUCTION NOTES (con't):

- 18. 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, MAX".
19. ALL CURB, SIDEWALK, DRIVEWAY APPROACH REMOVALS SHALL BE APPROVED BY ENGINEER BEFORE THE WORK IS DONE.
20. SAWED SEWER PIPE CONNECTIONS SHALL BE COUPLED WITH A FERNCO FLEXIBLE COUPLING AND A STAINLESS STEEL SHEAR RING.
21. THE LOCATION OF MATERIAL STOCK PILES AND ON-SITE STAGING AREAS TO BE APPROVED BY THE ENGINEER.
22. FOR MAINLINE PAVING, THE WIDTH OF THE MAT FOR EACH PASS OF THE PAVER SHALL BE NOT LESS THAN 10.5' OR GREATER THAN 15', AS DIRECTED BY THE ENGINEER. THE ENGINEER WILL DIRECT THE LAYOUT OF THE LONGITUDINAL JOINTS DURING CONSTRUCTION.
23. 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 PUBLIC WORKS FACILITY AT THE W.R. WHEELER SERVICE CENTER LOCATED AT 4251 STONE SCHOOL ROAD.
24. PAYMENT FOR DRAINAGE STRUCTURE SUMPS, WHERE SPECIFIED, SHALL BE INCLUDED IN THE PAYMENT FOR THE VARIOUS DRAINAGE STRUCTURE SIZES AND OR TYPES.
25. WHERE SEWER PIPES OF DIFFERENT SIZES OR MATERIALS ARE JOINED, FERNCO FLEXIBLE COUPLINGS WITH STAINLESS STEEL SHEAR RINGS SHALL BE USED. THE CONTRACTOR'S PURCHASE PRICE FOR THESE DEVICES, INCLUDING SHIPPING, SHALL BE PAID AS AN EXTRA. PRIOR TO PAYMENT FOR THIS ITEM, THE CONTRACTOR SHALL SUBMIT RECEIPTS FOR THE ENGINEER'S REVIEW AND APPROVAL. ALL OTHER COSTS ASSOCIATED WITH THE INSTALLATION OF THESE DEVICES SHALL BE INCLUDED IN THE PAYMENT FOR THE SEWER.
26. WHERE SEWER AND WATER MAIN ARE TO BE REMOVED & REPLACED OR ADDED, ALL PIPE SHALL BE INSTALLED USING TRENCH DETAIL DETAILED IN THE SPECIFICATIONS OR SHOWN ON PLANS. BACKFILL FOR SEWER AND WATER CONSTRUCTION SHALL BE MDOT GRANULAR MATERIAL, CLASS II, MODIFIED.
27. 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, \_\_\_\_"
28. 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 2' BELOW TOP OF PROPOSED PAVEMENT.

CITY OF ANN ARBOR STANDARD DETAILS

Table with 2 columns: ITEM OF WORK, DETAIL. Rows include: SEWER CONNECTION (SD-S-6), SANITARY SEWER CONNECTION WITH RISER (SD-S-7), SEWER BORE (SD-S-13), MAILBOX/NEWSPAPER TUBE INSTALLATION AND RELOCATION (SD-M-2).

WATER MAIN CONSTRUCTION NOTES

- 1. SEE EROSION CONTROL SHEETS FOR DETAILS ON PLACEMENT, MAINTENANCE, AND REMOVAL OF EROSION CONTROL ITEMS.
2. THE CONTRACTOR SHALL CAREFULLY PROTECT FROM DAMAGE OR INJURY DURING CONSTRUCTION OPERATIONS ALL UTILITIES, SITE FEATURES, LANDSCAPING, AND OTHER ITEMS NOT DESIGNATED FOR REMOVAL OR ABANDONMENT. PAYMENT FOR PROTECTION OF UTILITIES INCLUDED IN "GENERAL CONDITIONS, MAX". 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, AS DETERMINED BY THE ENGINEER.
3. THE EXISTING UTILITIES SHOWN ON THESE PLANS REPRESENT THE BEST INFORMATION AVAILABLE AS OBTAINED THROUGH SURVEYS AND/OR EXISTING PLANS. THIS INFORMATION DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO BE SATISFIED AS TO ITS ACCURACY AND THE LOCATION OF EXISTING UTILITIES. IF STORM OR WATERMANS CROSS OTHER UTILITIES, CONTACT THEIR RESPECTIVE OWNERS FOR INFORMATION ON HOW TO PROCEED. PAYMENT FOR THE COORDINATION EFFORTS AND ASSOCIATED ITEMS SHALL BE INCLUDED IN ASSOCIATED PROPOSED STORM OR WATERMAIN ITEMS AND SHALL NOT BE PAID FOR SEPARATELY.
4. THE CONTRACTOR SHALL CAREFULLY PROTECT FROM DAMAGE OR INJURY THE EXISTING WATER MAIN DURING CONSTRUCTION OPERATIONS. ANY DAMAGE TO THIS FACILITY BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT HIS EXPENSE, AS DETERMINED BY THE ENGINEER. PAYMENT FOR PROTECTION OF THE EXISTING WATER MAIN WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE ITEM OF WORK "GENERAL CONDITIONS, MAX".
5: THE CONTRACTOR SHALL NOT REMOVE OR DAMAGE EXISTING SANITARY SEWER OR WATER MAIN LEADS FOR EASE OF CONSTRUCTING OTHER ASPECTS OF WORK. THE CONTRACTOR SHALL CAREFULLY PROTECT ALL LEADS FROM DAMAGE OR INJURY.
6: THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS WHICH ARE INCLUDED BY REFERENCE. THE OMISSION OF ANY CURRENT STANDARD DETAIL DOES NOT RELIEVE THE CONTRACTOR FROM THE REQUIREMENT. THE WORK SHALL BE PERFORMED IN COMPLETE CONFORMANCE WITH CURRENT PUBLIC SERVICE DEPARTMENT STANDARD SPECIFICATIONS AND DETAILS.
7: ALL WATER MAIN SHALL BE PRESSURE CLASS 350 DUCTILE IRON WATER MAIN, CEMENT-LINED (DOUBLE THICKNESS), WITH POLYWRAP UNLESS NOTED OTHERWISE.
8: RESTRAINED JOINT SYSTEMS FOR WATER MAIN SHALL BE UTILIZED WHERE INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. RESTRAINED JOINT GASKET SYSTEMS ARE TO BE USED. (FIELD-LOK 350 BY U.S. PIPE, FAST-GRIP BY AMERICAN DUCTILE IRON PIPE, OR APPROVED EQUAL)
9: ALL WATER MAIN TO HAVE 5.5 FEET OF COVER. MAINTAIN A MINIMUM OF 18-INCH VERTICAL CLEARANCE FOR STORM AND SANITARY CROSSINGS AND A MINIMUM OF 12-INCH VERTICAL CLEARANCE WITH ALL OTHER UTILITIES.
10: UNLESS OTHERWISE NOTED, THE CONTRACTOR SHALL UTILIZE STANDARD PIPE DEFLECTIONS FOR FOLLOWING THE PROPOSED ALIGNMENT.
11: NEW FIRE HYDRANTS SHALL BE EJW 5BR-250 WITH 4-INCH STORZ QUICK CONNEC AND 2-2 1/2 HYDRANT OUTLETS .
12: FIRE HYDRANT ASSEMBLIES SHALL INCLUDE ALL NECESSARY HYDRANT EXTENSIONS, THRUST BLOCKS, PIPE AND FITTINGS, INCLUDING ADJUSTMENT OF THE COMPANION VALVE. FIRE HYDRANT ASSEMBLY INCLUDES 6-INCH COMPANION VALVE LOCATED THREE FEET FROM THE HYDRANT.
13: ALL WATER MAIN TRENCH BACKFILL SHALL BE MDOT CLASS II GRANULAR MATERIAL (SEE UTILITY TRENCH TYPE I DETAIL).
14: CONNECTIONS TO THE EXISTING WATER MAIN SHALL NOT BE MADE UNTIL THE NEW MAIN HAS BEEN SUCCESSFULLY TESTED AND HAS PASSED ALL HYDROSTATIC AND BACTERIOLOGICAL TESTING. FINAL CONNECTIONS SHALL BE COORDINATED WITH THE ENGINEER.
15: THE CONTRACTOR SHALL PERFORM ALL WATER SYSTEM SHUT DOWNS AFTER APPROPRIATE NOTIFICATION TO THOSE AFFECTED AND APPROVAL HAS BEEN GRANTED BY THE ENGINEER.
16: WATER SERVICES SHOWN REPRESENT THE BEST INFORMATION AVAILABLE BASED ON RECORDS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE CITY IN LOCATING, VERIFYING AND RECONNECTING ALL EXISTING ACTIVE SERVICES.
17: ALL LINE STOP LOCATIONS SHALL BE DETERMINED BY THE CITY ENGINEER AS NEEDED. THIS ITEM OF WORK SHALL BE PAID FOR AS "LINE STOP, DUCTILE IRON PIPE, \_\_\_-INCH."

MISCELLANEOUS QUANTITIES

THE FOLLOWING ITEMS OF WORK SHALL BE DONE AS THEY APPLY THROUGHOUT THE PROJECT. THESE ITEMS ARE NOT DETAILED OR INCLUDED IN THE PLAN AND PROFILE SHEETS.

Table with 4 columns: Pay Code, Description, Units, Quantity. Lists various construction items like Protective Fencing, Excavation, Barricade, Channelizing Device, Sign, Plastic Drum, etc.

PERMITS REQUIRED TO BE OBTAINED BY THE CONTRACTOR PRIOR TO THE BEGINNING OF CONSTRUCTION.

Table with 2 columns: PERMIT, ISSUING AUTHORITY. Lists permits like LANE CLOSURE PERMIT, "NO PARKING" SIGNS PERMIT, GRADING/SOIL EROSION & SEDIMENTATION CONTROL PERMIT, RIGHT-OF-WAY PERMIT.

PERMITS REQUIRED TO BE OBTAINED BY THE CITY OF ANN ARBOR PRIOR TO THE BEGINNING OF CONSTRUCTION.

Table with 2 columns: PERMIT, ISSUING AUTHORITY. Lists permits like M.D.E.Q. WATER MAIN CONSTRUCTION PERMIT, OMEGA RAIL PERMIT, WASHTEANAW COUNTY WATER RESOURCE COMMISSIONER PERMIT.

CONTACT INFORMATION

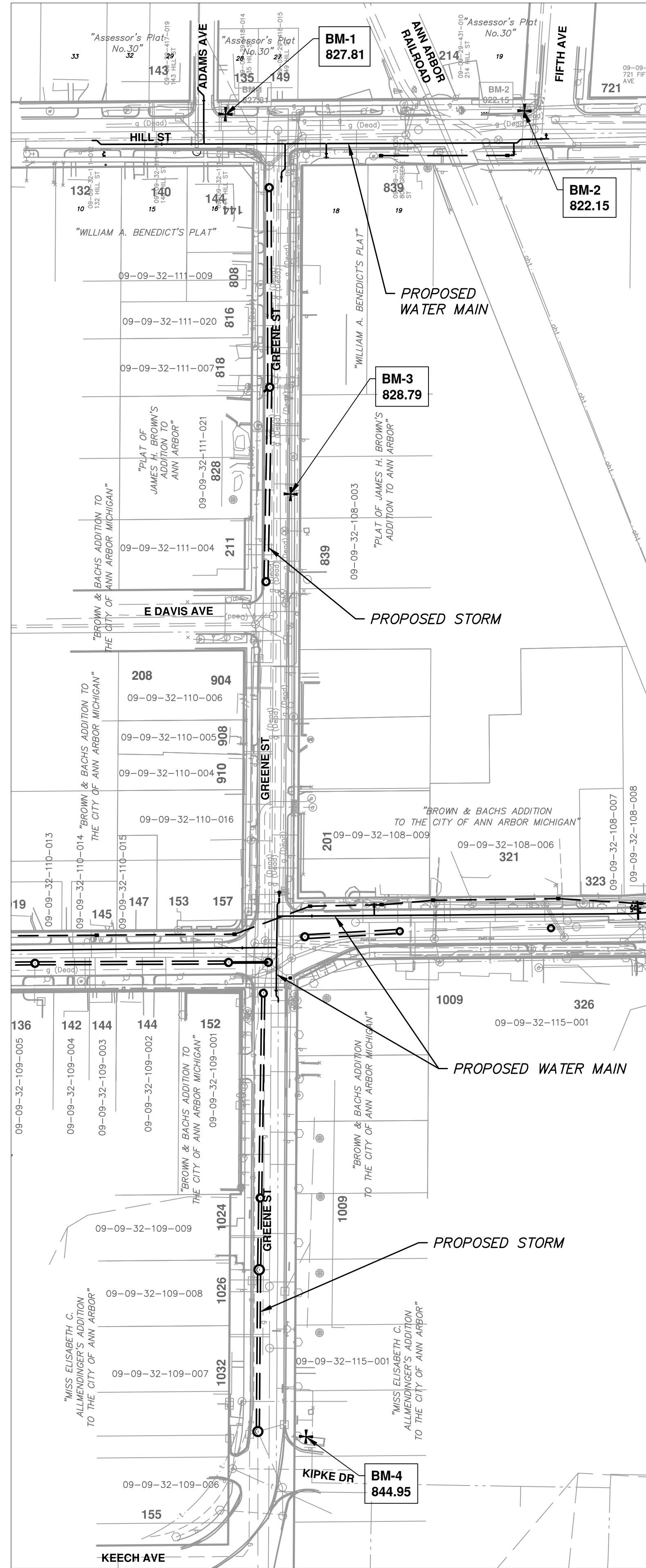
Table with 3 columns: PUBLIC UTILITIES, OWNER, CONTACT. Lists contact info for WATER, SANITARY, STORM, FORESTRY, SIGNS SIGNALS STREET LIGHTS, ALLEN CREEK DRAIN, PRIVATE UTILITIES (GAS, ELECTRIC, CABLE, PHONE, FIBER OPTIC, STEAM/MISC UTILITIES).

WATER MAIN QUANTITIES-FOR MDEQ PERMIT PROCESS ONLY

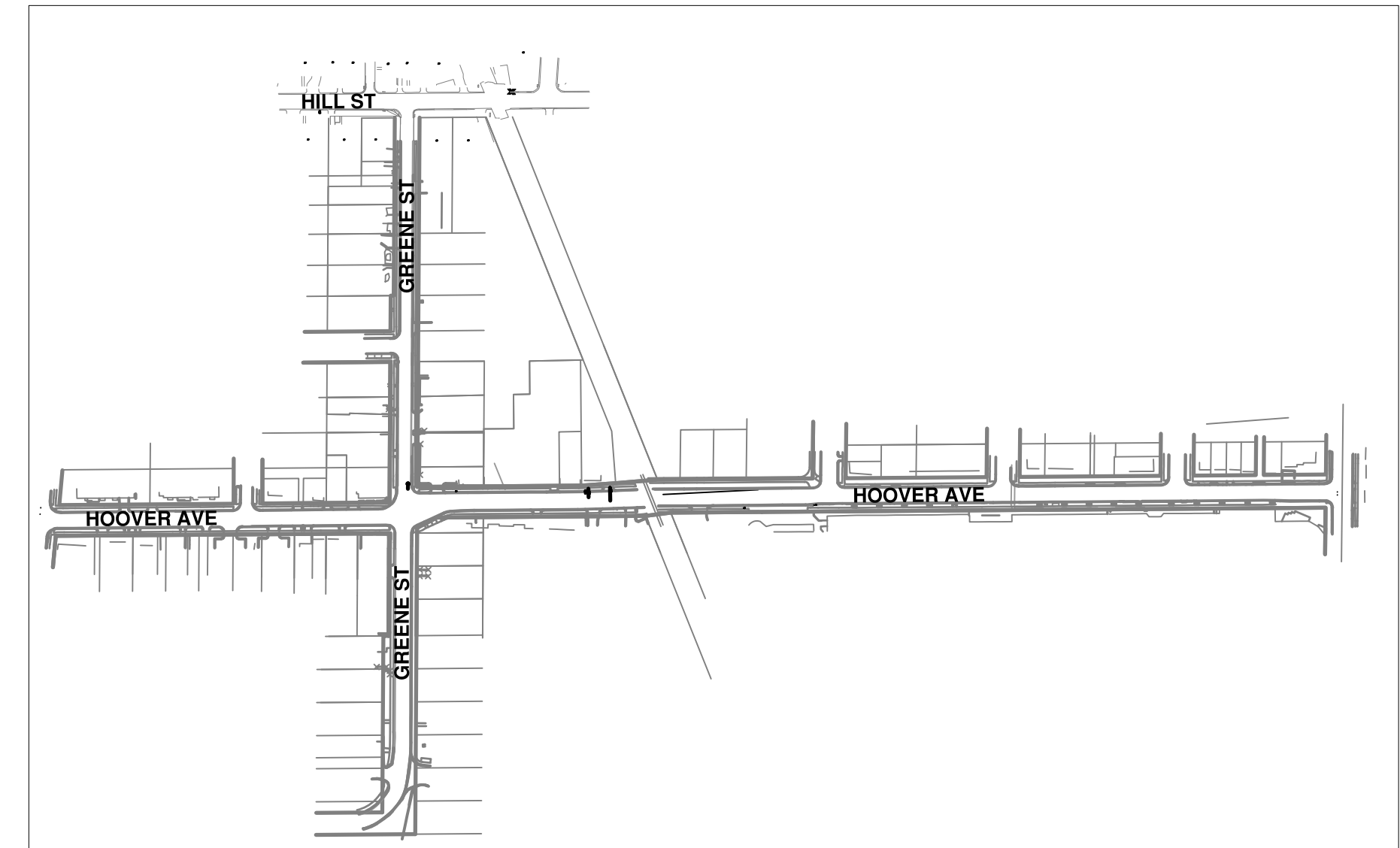
Table with 4 columns: Quantity, Unit, Description, Material. Lists quantities for items like 3400 LFT PC 350 D.I. WATER MAIN, 125 LFT PC 350 D.I. WATER MAIN, etc.

Vertical sidebar containing logos (811, City of Ann Arbor), project title (CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING HOOVER, GREENE, & HILL IMPROVEMENT PROJECT), scale (SCALE: NTS), drawing number (DRAWING No. 2018-031-3), and sheet number (3 OF 83).

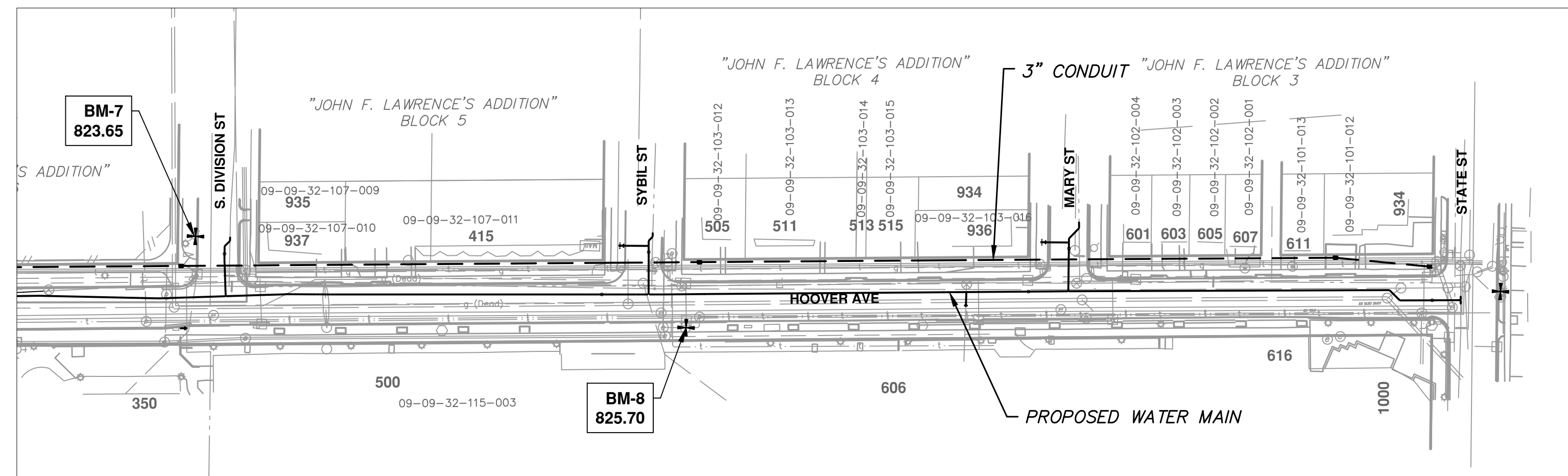
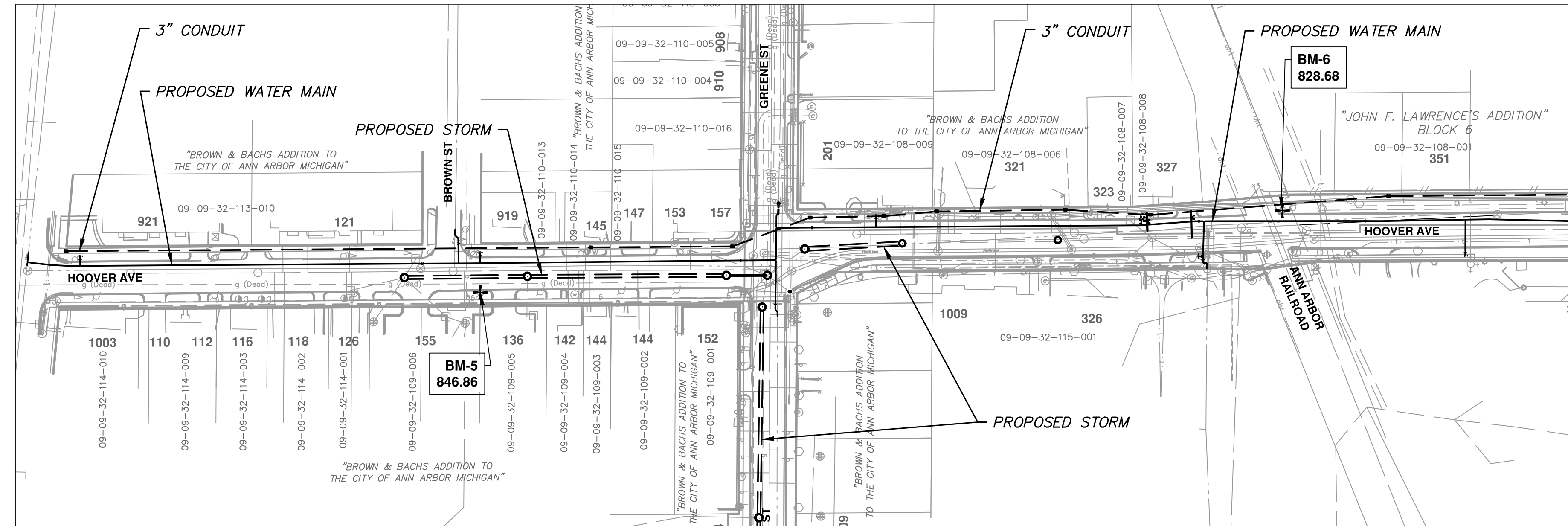




PROJECT NAME BENCHMARKS		
BM #	ELEV	DESCRIPTION
1	827.810	BM TIE ON NORTHEAST SIDE UTILITY POLE @ NORTHEAST CORNER HILL & ADAMS
2	822.150	RAILROAD SPIKE SOUTH SIDE UTILITY POLE @ NORTHWEST CORNER HILL & 5TH
3	828.280	RAILROAD SPIKE WEST SIDE UTILITY POLE, EAST SIDE GREENE, 125± NORTH OF DAVIS
4	844.950	NORTHWEST CORNER TOP CONCRETE BASE FOR BUS STOP SHELTER, EAST SIDE GREENE, NORTH SIDE KIPKE
5	846.860	BENCHMARK SPIKE NORTHWEST SIDE UTILITY POLE @ SOUTHEAST CORNER HOOVER & BROWN
6	828.680	SOUTHEAST BOLT, RAILROAD SIGNAL BASE, NORTH SIDE HOOVER, EAST SIDE RAILROAD
7	823.650	BENCHMARK SPIKE, SOUTHEAST SIDE UTILITY POLE @ NORTHWEST CORNER HOOVER & DIVISION
8	825.700	NORTHEAST BOLT, METAL LIGHT POLE @ SOUTHEAST CORNER HOOVER & SYBIL

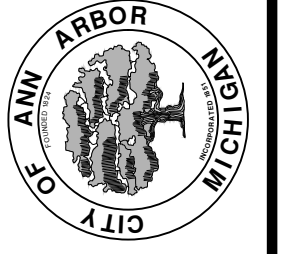


KEY MAP



REV.	DATE	DRAWN	CHECKED	DESCRIPTION

CITY OF ANN ARBOR  
PUBLIC SERVICES  
301 EAST HURON STREET  
ANN ARBOR, MI 48107-8647  
www.a2gov.org

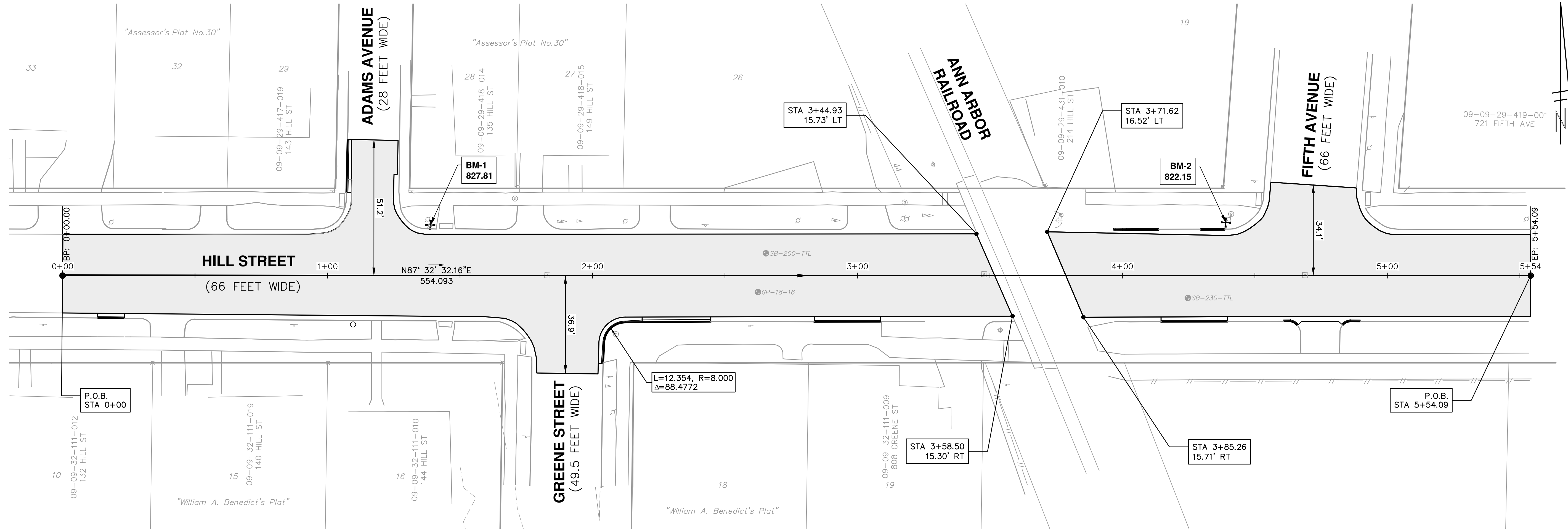


CITY OF ANN ARBOR - ENGINEERING  
HOOVER, GREENE, & HILL  
IMPROVEMENT PROJECT  
OVERALL UTILITY PLAN

SCALE PLAN: 1" = 100'  
DRAWING No. 2018-031-4  
SHEET No.



c:\pwork\mfonagan\00549816\ALIGNMENT PLAN - HILL STREET.dwg Dwg Created: 19-Dec-18 - \_o2\_standard bw.stb - Plot Date: 1-Feb-19

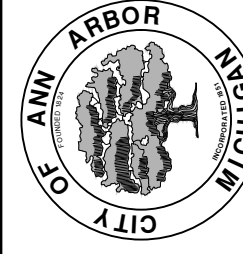


PROJECT NAME BENCHMARKS		
BM #	ELEV	DESCRIPTION
1	827.810	BM TIE ON NORTHEAST SIDE UTILITY POLE @ NORTHEAST CORNER HILL & ADAMS
2	822.150	RAILROAD SPIKE SOUTH SIDE UTILITY POLE @ NORTHWEST CORNER HILL & 5TH

LINE SEGMENT AND CURVE INFORMATION		
Line #	Start Point	End Point
L1	N = 281836.3671 E = 13290731.6861	N = 281860.1279 E = 13291285.2694



CITY OF ANN ARBOR  
PUBLIC SERVICES  
301 EAST HURON STREET  
ANN ARBOR MI 48106-1667  
www.a3gov.org

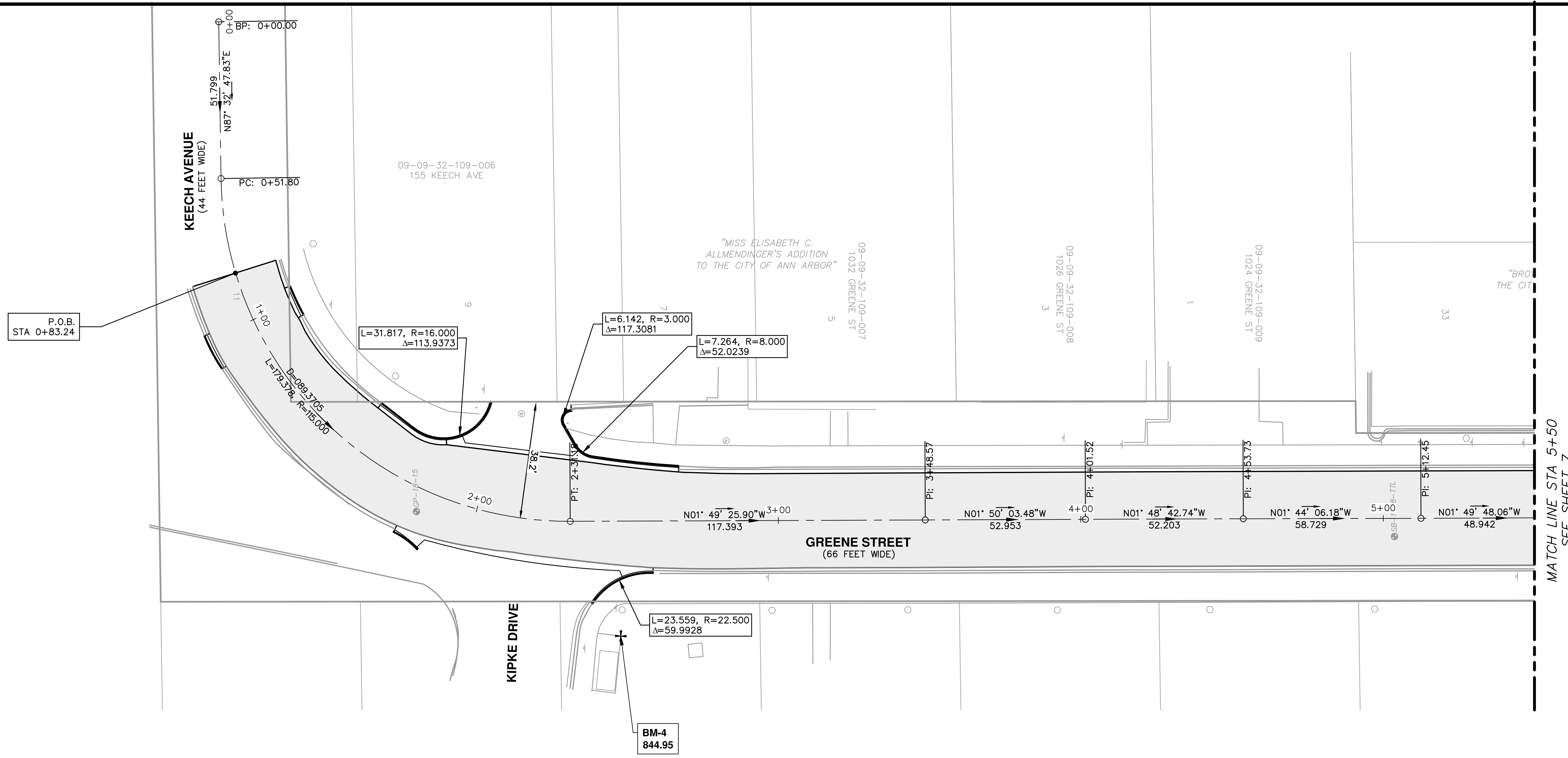


**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**  
**HOOVER, GREENE, & HILL**  
**IMPROVEMENT PROJECT**  
ALIGNMENT PLAN - HILL STREET

SCALE PLAN: 1" = 20'  
DRAWING No. 2018-031-5

REV.	DESCRIPTION	DATE	DRAWN	CHECKED





MATCH LINE STA 5+50  
SEE SHEET 7

PROJECT NAME BENCHMARKS		
BM #	ELEV	DESCRIPTION
4	844.950	NORTHWEST CORNER TOP CONCRETE BASE FOR BUS STOP SHELTER, EAST SIDE GREENE, NORTH SIDE KIPKE

LINE SEGMENT AND CURVE INFORMATION		
Line #	Start Point	End Point
L1	N = 280397.7703 E = 13290797.7321	N = 280399.9877 E = 13290849.4859
C1	N = 280399.9877 E = 13290849.4859	N = 280518.3180 E = 13290959.5118
L2	N = 280518.3180 E = 13290959.5118	N = 281067.9433 E = 13290944.1343
L3	N = 281067.9433 E = 13290944.1343	N = 281357.3171 E = 13290936.0520
L4	N = 281357.3171 E = 13290936.0520	N = 281394.0150 E = 13290934.5300
L5	N = 281394.0150 E = 13290934.5300	N = 281448.5786 E = 13290933.6910
L6	N = 281448.5786 E = 13290933.6910	N = 281764.0360 E = 13290924.3110



CITY OF ANN ARBOR  
PUBLIC SERVICES  
301 EAST HURON STREET  
ANN ARBOR MI 48106-0667  
www.a3gov.org

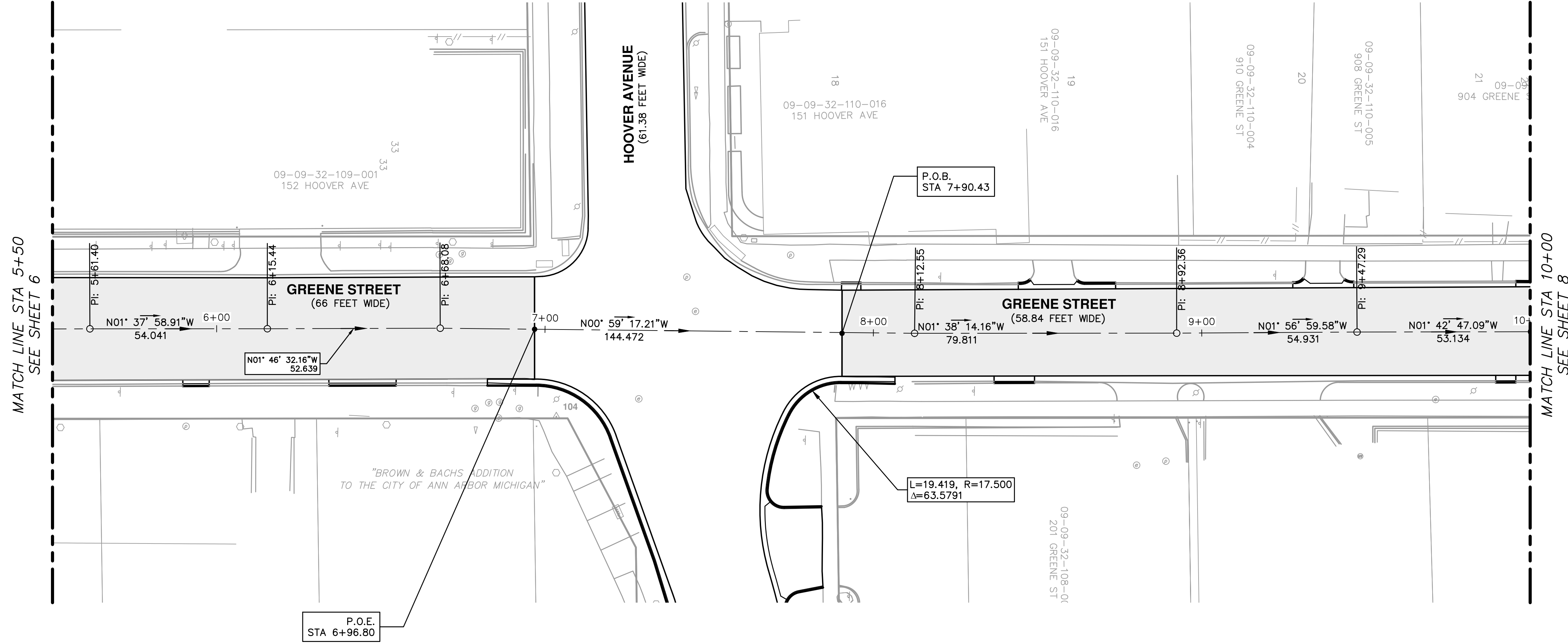


CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
HOOPER, GREENE, & HILL  
IMPROVEMENT PROJECT  
ALIGNMENT PLAN - GREENE STREET STA 0+00 TO STA 5+50

SCALE PLAN: 1" = 20'  
DRAWING No. 2018-031-6

REV.	DESCRIPTION	DATE	DRAWN	CHECKED

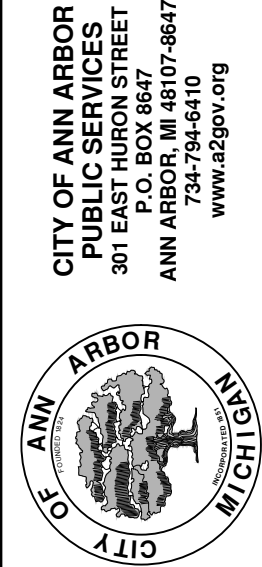




LINE SEGMENT AND CURVE INFORMATION		
Line #	Start Point	End Point
L1	N = 280397.7703 E = 13290797.7321	N = 280399.9877 E = 13290849.4859
C1	N = 280399.9877 E = 13290849.4859	N = 280518.3180 E = 13290959.5118
L2	N = 280518.3180 E = 13290959.5118	N = 281067.9433 E = 13290944.1343
L3	N = 281067.9433 E = 13290944.1343	N = 281357.3171 E = 13290936.0520
L4	N = 281357.3171 E = 13290936.0520	N = 281394.0150 E = 13290934.5300
L5	N = 281394.0150 E = 13290934.5300	N = 281448.5786 E = 13290933.6910
L6	N = 281448.5786 E = 13290933.6910	N = 281764.0360 E = 13290924.3110

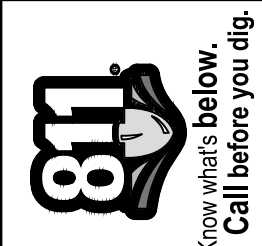


CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**  
 ALIGNMENT PLAN - GREENE STREET STA 5+50 TO STA 10+00

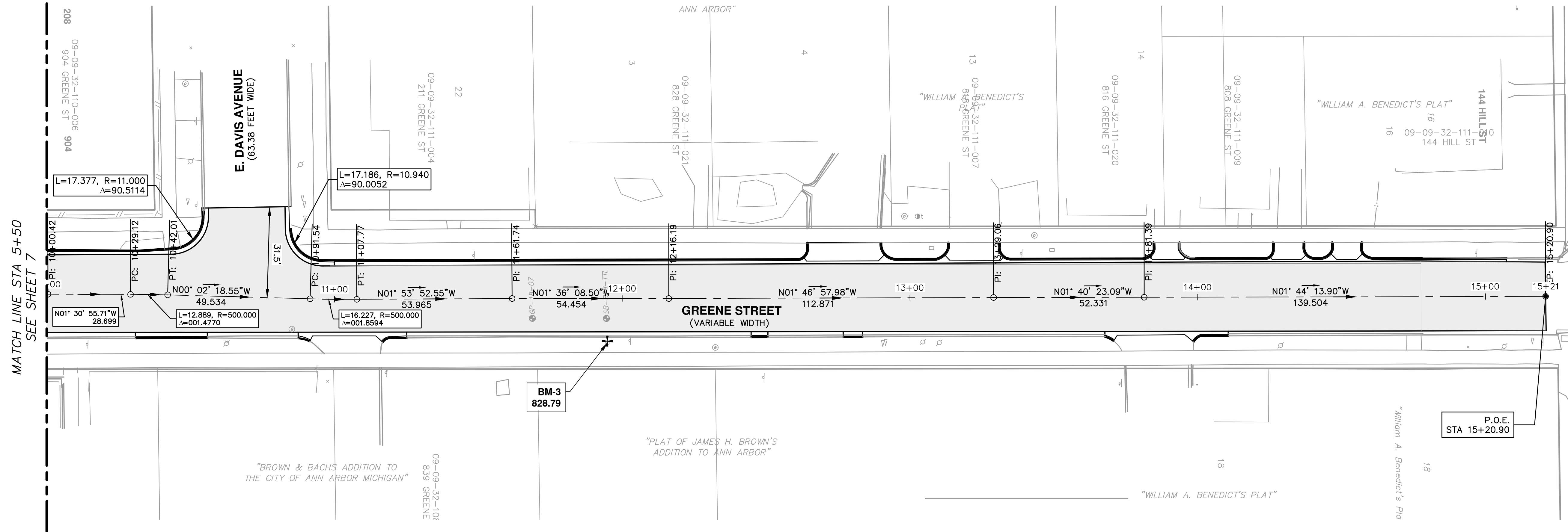


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REV.	DESCRIPTION	DATE	DRAWN	CHECKED







MATCH LINE STA 5+50  
SEE SHEET 7

PROJECT NAME BENCHMARKS		
BM #	ELEV	DESCRIPTION
3	828.280	RAILROAD SPIKE WEST SIDE UTILITY POLE, EAST SIDE GREENE, 125± NORTH OF DAVIS

LINE SEGMENT AND CURVE INFORMATION				
Line #	Start Point		End Point	
L1	N = 280397.7703	E = 13290797.7321	N = 280399.9877	E = 13290849.4859
C1	N = 280399.9877	E = 13290849.4859	N = 280518.3180	E = 13290959.5118
L2	N = 280518.3180	E = 13290959.5118	N = 281067.9433	E = 13290944.1343
L3	N = 281067.9433	E = 13290944.1343	N = 281357.3171	E = 13290936.0520
L4	N = 281357.3171	E = 13290936.0520	N = 281394.0150	E = 13290934.5300
L5	N = 281394.0150	E = 13290934.5300	N = 281448.5786	E = 13290933.6910
L6	N = 281448.5786	E = 13290933.6910	N = 281764.0360	E = 13290924.3110



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


**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**

ALIGNMENT PLAN - GREENE STREET STA 10+00 TO STA 14+77

SCALE 1"=20'


DRAWING No. 2018-031-8

SHEET No. 8 OF 83



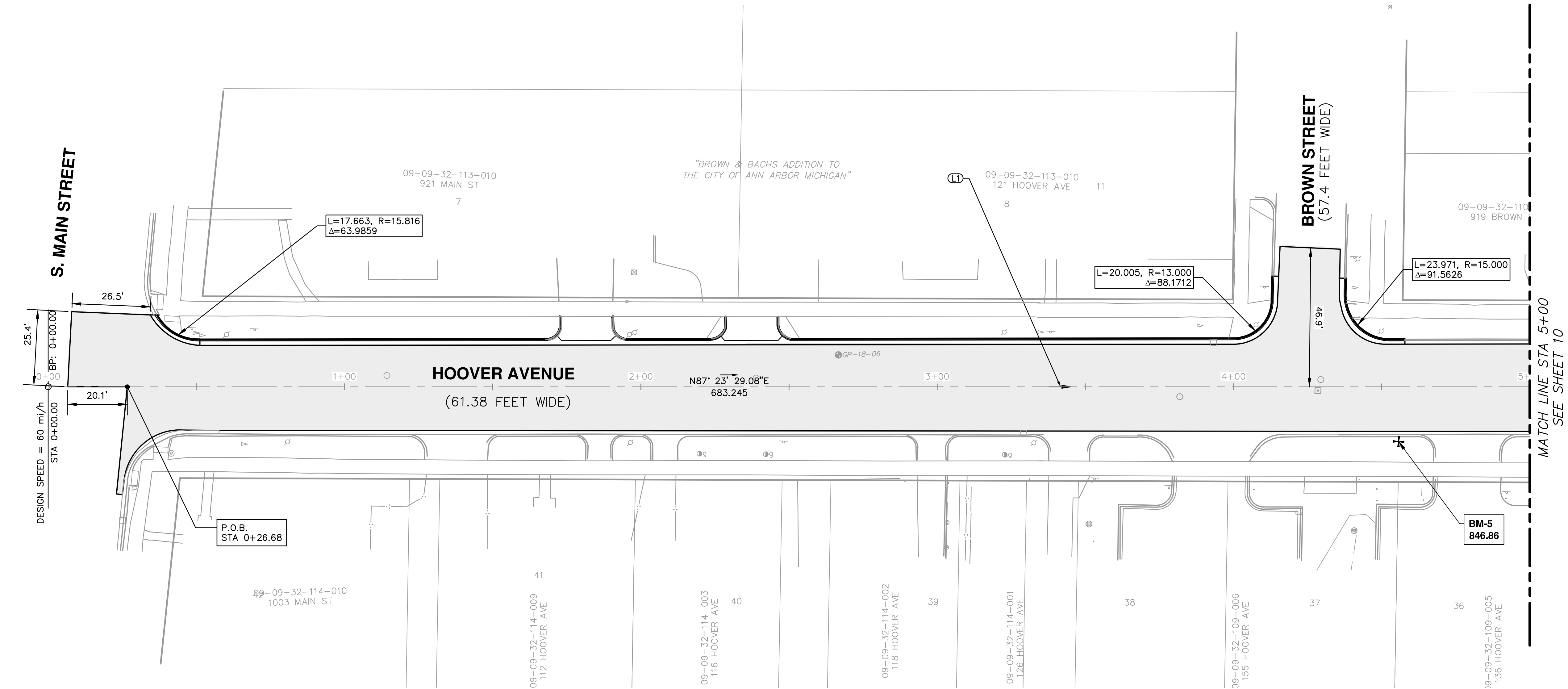
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REV.	DESCRIPTION	DATE	DRAWN	CHECKED



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PROJECT NAME BENCHMARKS		
BM #	ELEV	DESCRIPTION
5	846.860	BENCHMARK SPIKE NORTHWEST SIDE UTILITY POLE @ SOUTHEAST CORNER HOOVER & BROWN

LINE SEGMENT AND CURVE INFORMATION		
Line #	Start Point	End Point
L1	N = 280982.4992 E = 13290206.4923	N = 281013.5955 E = 13290889.0289
L2	N = 281013.5955 E = 13290889.0289	N = 281047.2805 E = 13291043.2696
L3	N = 281047.2805 E = 13291043.2696	N = 281064.1864 E = 13291397.9390
L4	N = 281064.1864 E = 13291397.9390	N = 281072.1001 E = 13291448.5166
L5	N = 281072.1001 E = 13291448.5166	N = 281102.9922 E = 13292137.1384
L6	N = 281102.9922 E = 13292137.1384	N = 281116.8631 E = 13292483.2536
L7	N = 281116.8631 E = 13292483.2536	N = 281131.0057 E = 13292813.8768

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

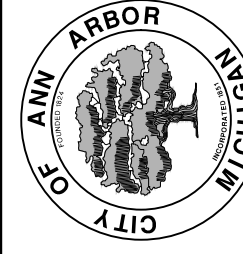
**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**

ALIGNMENT PLAN - HOOVER AVENUE STA 0+00 TO STA 5+00

SCALE PLAN: 1" = 20'


DRAWING No. 2018-031-9

SHEET No. 9 OF 93

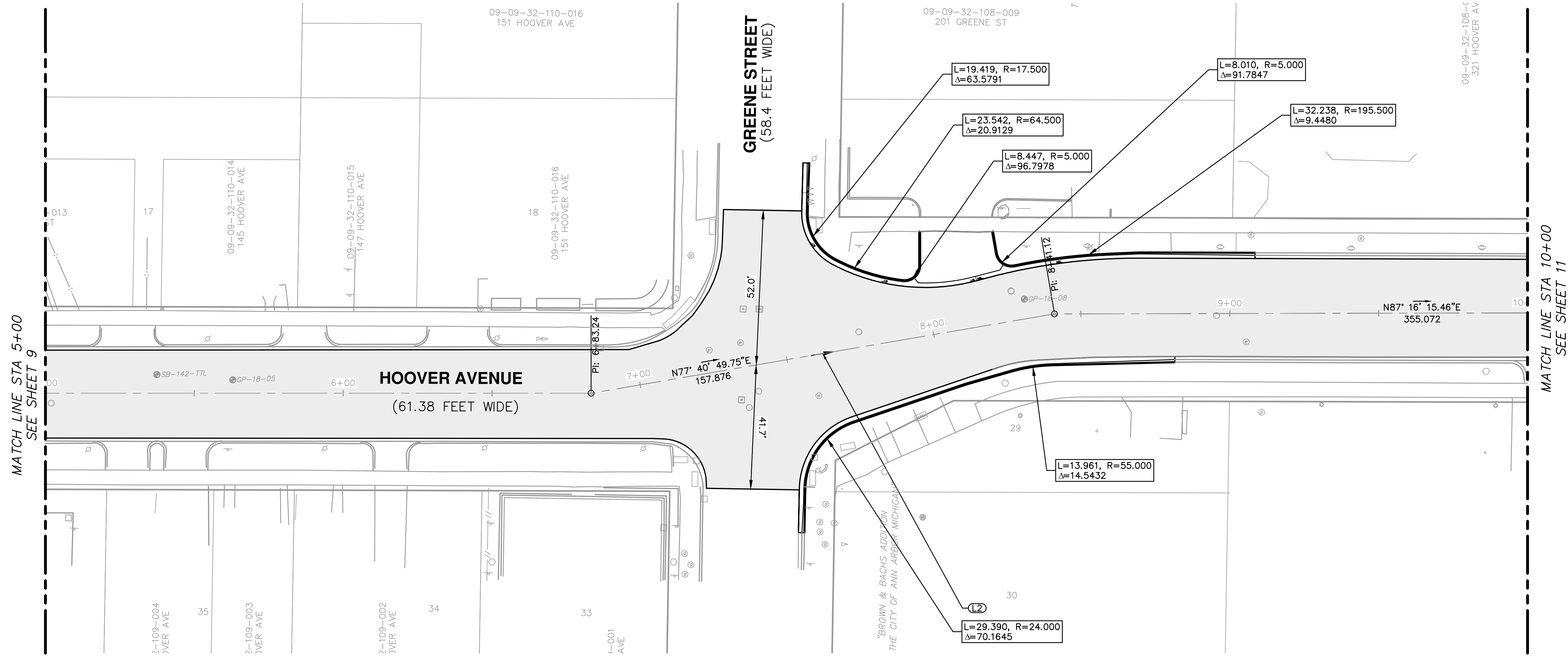


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PUBLIC SERVICES  
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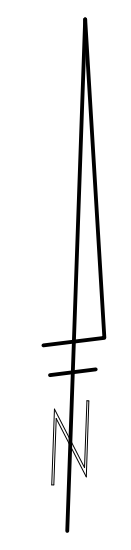
REV.	DESCRIPTION	DATE	DRAWN	CHECKED



Know what's below.  
Call Before you dig.



LINE SEGMENT AND CURVE INFORMATION		
Line #	Start Point	End Point
L1	N = 280982.4992 E = 13290206.4923	N = 281013.5955 E = 13290889.0289
L2	N = 281013.5955 E = 13290889.0289	N = 281047.2805 E = 13291043.2696
L3	N = 281047.2805 E = 13291043.2696	N = 281064.1864 E = 13291397.9390
L4	N = 281064.1864 E = 13291397.9390	N = 281072.1001 E = 13291448.5166
L5	N = 281072.1001 E = 13291448.5166	N = 281102.9922 E = 13292137.1384
L6	N = 281102.9922 E = 13292137.1384	N = 281116.8631 E = 13292483.2536
L7	N = 281116.8631 E = 13292483.2536	N = 281131.0057 E = 13292813.8768



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

**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**

ALIGNMENT PLAN - HOOVER AVENUE STA 5+00 TO STA 10+00

SCALE PLAN: 1" = 20'

DRAWING No. 2018-031-10

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

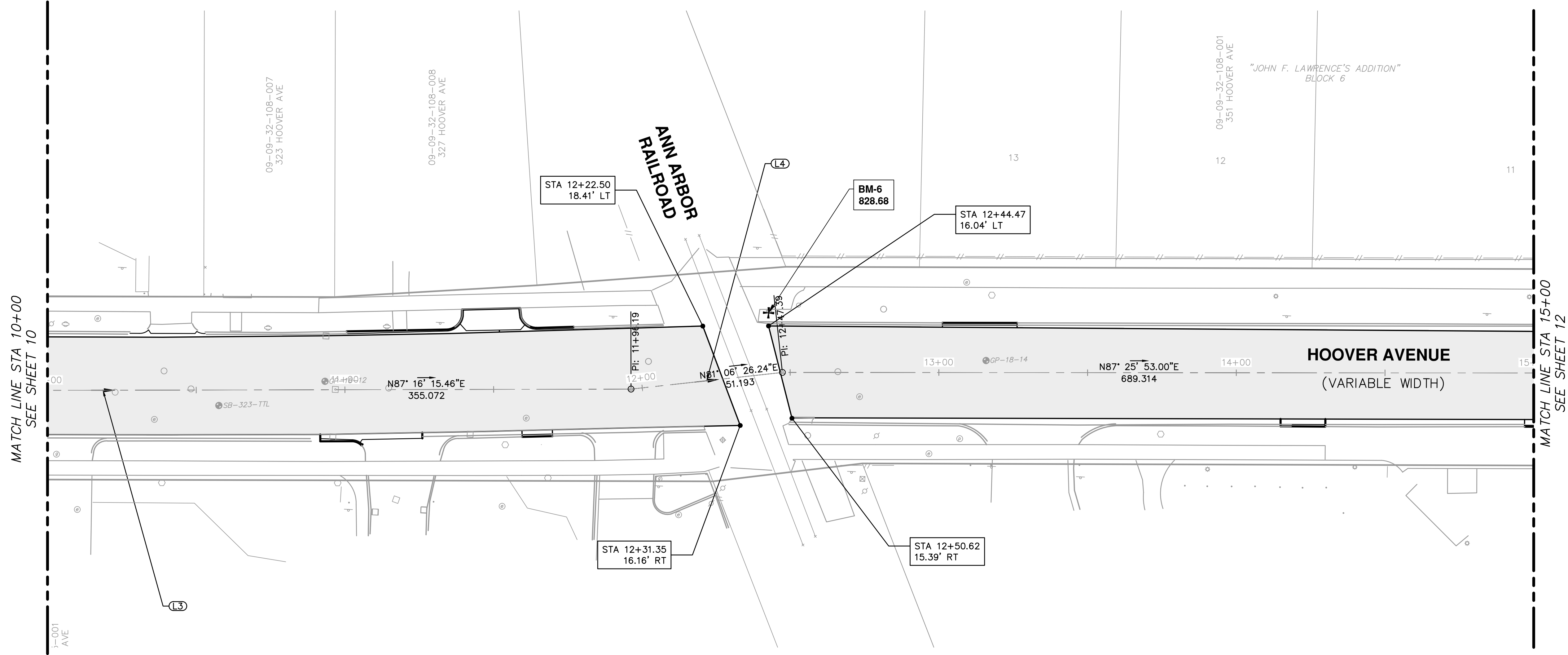
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811  
Know what's below.  
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REV.	DESCRIPTION	DATE	DRAWN	CHECKED

SHEET No. **10 OF 83**





PROJECT NAME BENCHMARKS		
BM #	ELEV	DESCRIPTION
6	828.680	SOUTHEAST BOLT, RAILROAD SIGNAL BASE, NORTH SIDE HOOVER, EAST SIDE RAILROAD

LINE SEGMENT AND CURVE INFORMATION			
Line #	Start Point		End Point
L1	N = 280982.4992	E = 13290206.4923	N = 281013.5955 E = 13290889.0289
L2	N = 281013.5955	E = 13290889.0289	N = 281047.2805 E = 13291043.2696
L3	N = 281047.2805	E = 13291043.2696	N = 281064.1864 E = 13291397.9390
L4	N = 281064.1864	E = 13291397.9390	N = 281072.1001 E = 13291448.5166
L5	N = 281072.1001	E = 13291448.5166	N = 281102.9922 E = 13292137.1384
L6	N = 281102.9922	E = 13292137.1384	N = 281116.8631 E = 13292483.2536
L7	N = 281116.8631	E = 13292483.2536	N = 281131.0057 E = 13292813.8768


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

**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**

ALIGNMENT PLAN - HOOVER AVENUE STA 10+00 TO STA 15+00

SCALE PLAN: 1" = 20'

DRAWING No. 2018-031-11



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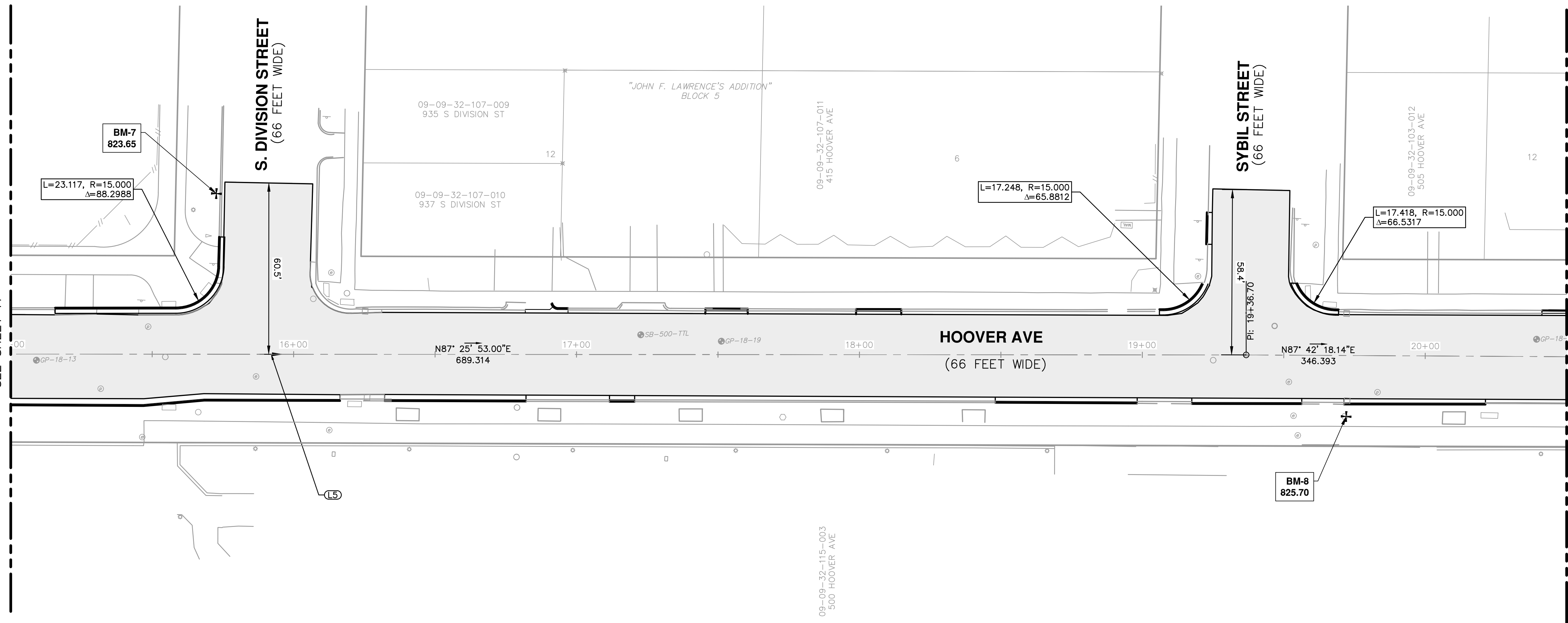
REV.	DESCRIPTION	DATE	DRAWN	CHECKED

SHEET No. 11 OF 83

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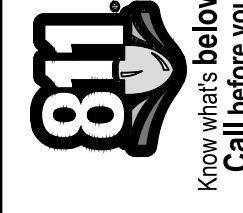
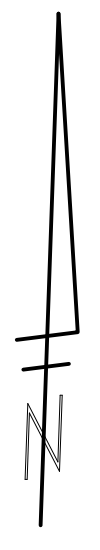
MATCH LINE STA 15+00  
SEE SHEET 11

MATCH LINE STA 20+50  
SEE SHEET 13

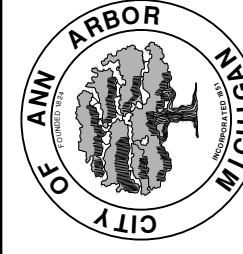


PROJECT NAME BENCHMARKS		
BM #	ELEV	DESCRIPTION
7	823.650	BENCHMARK SPIKE, SOUTHEAST SIDE UTILITY POLE @ NORTHWEST CORNER HOOVER & DIVISION

LINE SEGMENT AND CURVE INFORMATION				
Line #	Start Point		End Point	
L1	N = 280982.4992	E = 13290206.4923	N = 281013.5955	E = 13290889.0289
L2	N = 281013.5955	E = 13290889.0289	N = 281047.2805	E = 13291043.2696
L3	N = 281047.2805	E = 13291043.2696	N = 281064.1864	E = 13291397.9390
L4	N = 281064.1864	E = 13291397.9390	N = 281072.1001	E = 13291448.5166
L5	N = 281072.1001	E = 13291448.5166	N = 281102.9922	E = 13292137.1384
L6	N = 281102.9922	E = 13292137.1384	N = 281116.8631	E = 13292483.2536
L7	N = 281116.8631	E = 13292483.2536	N = 281131.0057	E = 13292813.8768



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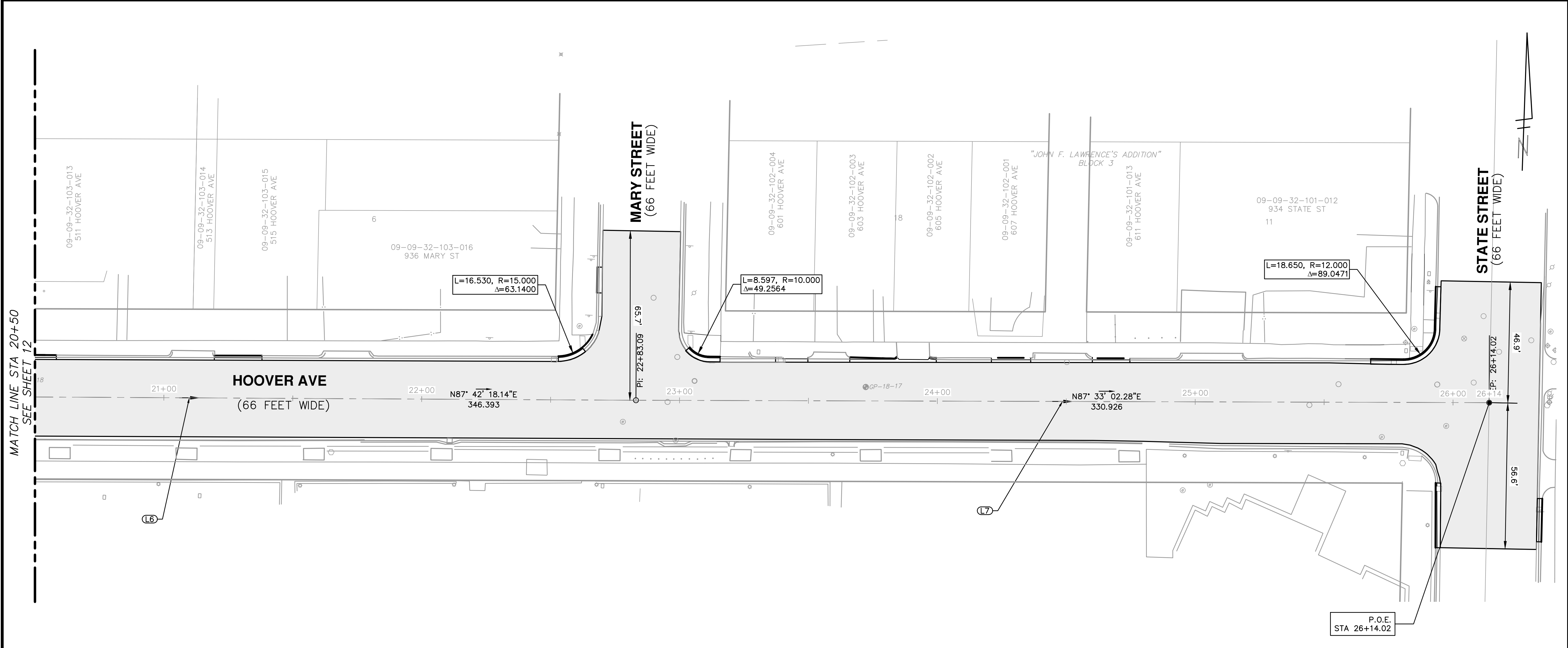
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
HOOVER, GREENE, & HILL  
IMPROVEMENT PROJECT  
ALIGNMENT PLAN - HOOVER AVENUE STA 15+00 TO STA 20+50

SCALE PLAN: 1" = 20'  
DRAWING No.  
2018-031-12

SHEET No.  
12 OF 83

REV.	DESCRIPTION	DATE	DRAWN	CHECKED





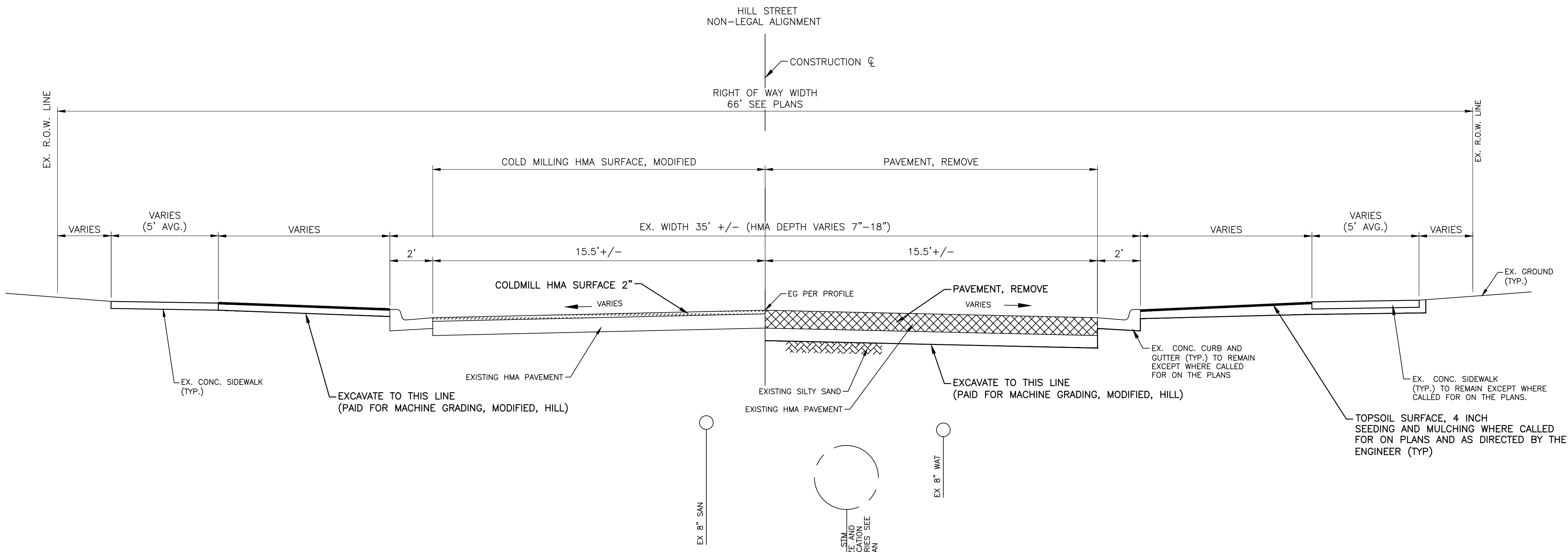
MATCH LINE STA 20+50  
SEE SHEET 12

LINE SEGMENT AND CURVE INFORMATION		
Line #	Start Point	End Point
L1	N = 280982.4992 E = 13290206.4923	N = 281013.5955 E = 13290889.0289
L2	N = 281013.5955 E = 13290889.0289	N = 281047.2805 E = 13291043.2696
L3	N = 281047.2805 E = 13291043.2696	N = 281064.1864 E = 13291397.9390
L4	N = 281064.1864 E = 13291397.9390	N = 281072.1001 E = 13291448.5166
L5	N = 281072.1001 E = 13291448.5166	N = 281102.9922 E = 13292137.1384
L6	N = 281102.9922 E = 13292137.1384	N = 281116.8631 E = 13292483.2536
L7	N = 281116.8631 E = 13292483.2536	N = 281131.0057 E = 13292813.8768



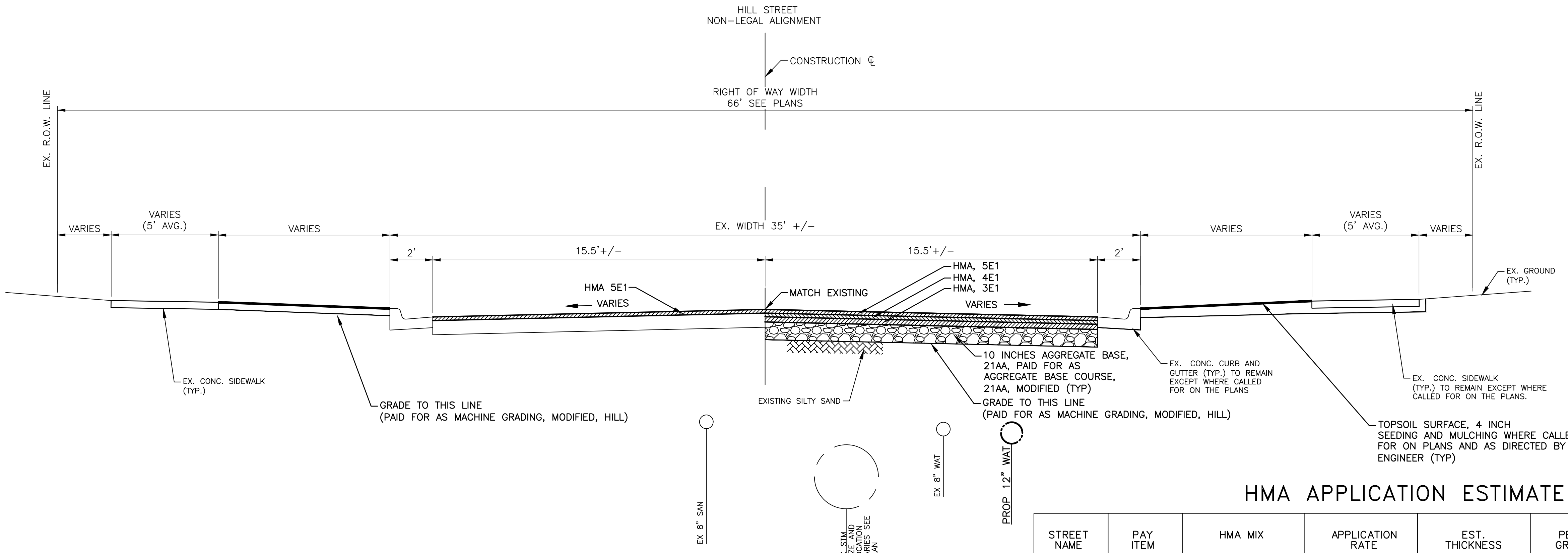
REV.	DESCRIPTION	DATE	DRAWN	CHECKED

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**EXISTING CROSS SECTION**

HILL STREET  
STA 0+00 TO STA 5+49  
WEST OF ADAMS STREET TO EAST OF S FIFTH AVENUE



**PROPOSED CROSS SECTION**

HILL STREET  
STA 0+00 TO STA 5+49  
WEST OF ADAMS STREET TO EAST OF S FIFTH AVENUE

**HMA APPLICATION ESTIMATE**

STREET NAME	PAY ITEM	HMA MIX	APPLICATION RATE	EST. THICKNESS	PERF GRADE	AWI (MIN)
HILL STREET	HMA, 5E1	5E1 (TOP)	220 LB/SYD	2.0"	PG 64-28	260
	HMA, 4E1	4E1 (LEVELING)	220 LB/SYD	2.0"	PG 64-28	
	HMA, 3E1	3E1 (BASE)	330 LB/SYD	3.0"	PG 64-28	



REV.	DESCRIPTION	DATE	DRAWN	CHECKED

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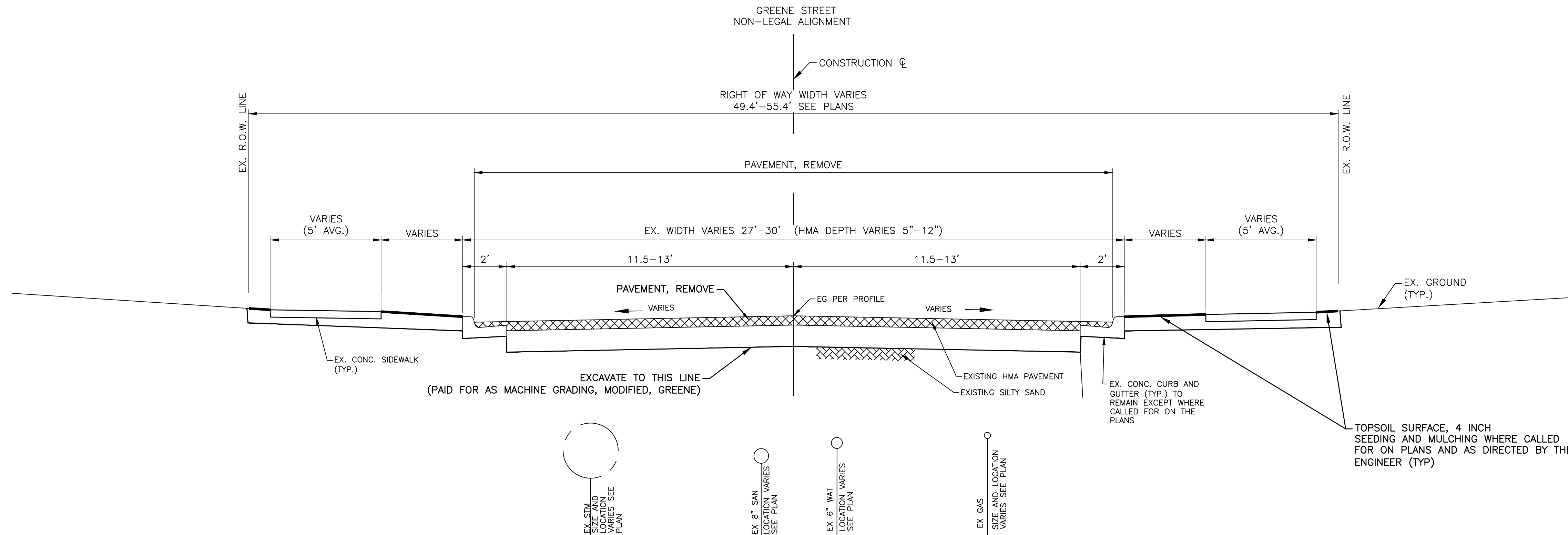
**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**  
**HOOVER, GREENE, & HILL**  
**IMPROVEMENT PROJECT**  
TYPICAL SECTIONS - HILL STREET STA 0+29 TO STA 5+49

SCALE PLAN: #####  
DRAWING No. 2018-031-14



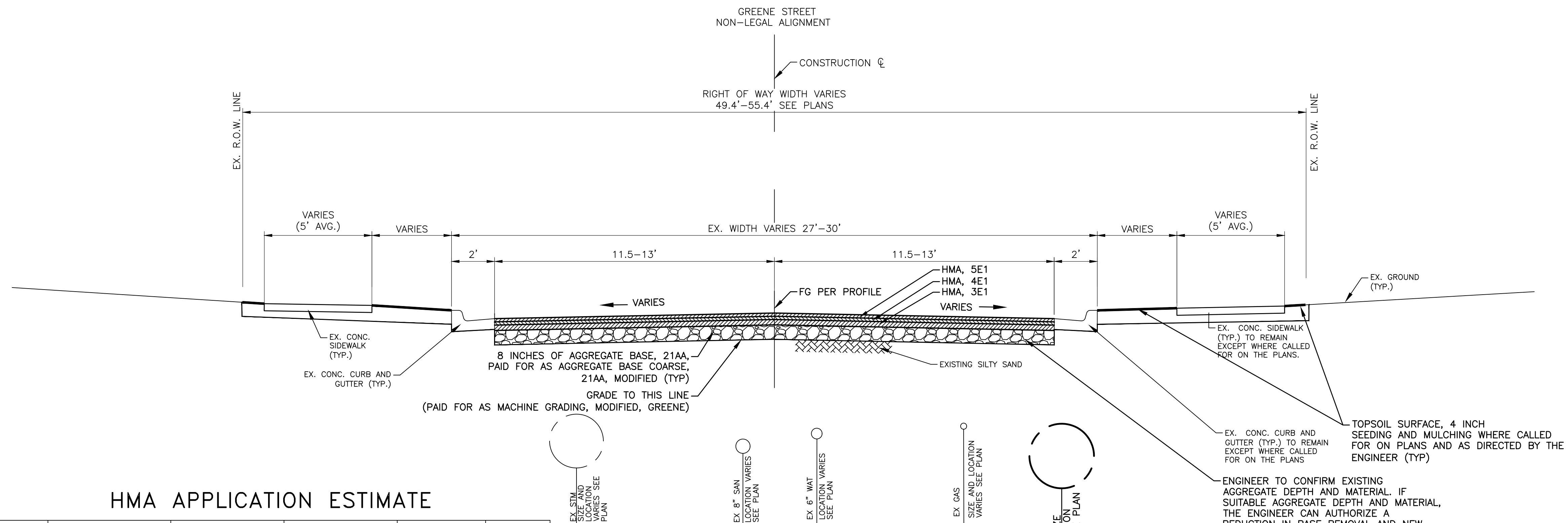


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**EXISTING CROSS SECTION**

GREENE STREET  
STA 7+90.43 TO POE STA 14+77.39  
E HOOVER AVENUE TO HILL STREET

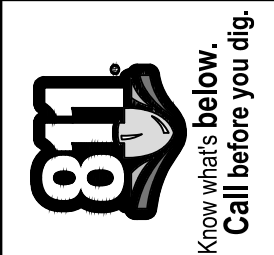


**PROPOSED CROSS SECTION**

GREENE STREET  
STA 7+90.43 TO POE STA 14+77.39  
E HOOVER AVENUE TO HILL STREET

**HMA APPLICATION ESTIMATE**

STREET NAME	PAY ITEM	HMA MIX	APPLICATION RATE	EST. THICKNESS	PERF GRADE	AWI (MIN)
GREENE STREET	HMA, 5E1	5E1 (TOP)	165 LB/SYD	1.5"	PG 64-28	260
	HMA, 4E1	4E1 (LEVELING)	165 LB/SYD	1.5"	PG 64-28	
	HMA, 3E1	3E1 (BASE)	330 LB/SYD	3.0"	PG 64-28	



REV.	DESCRIPTION	DATE	DRAWN	CHECKED

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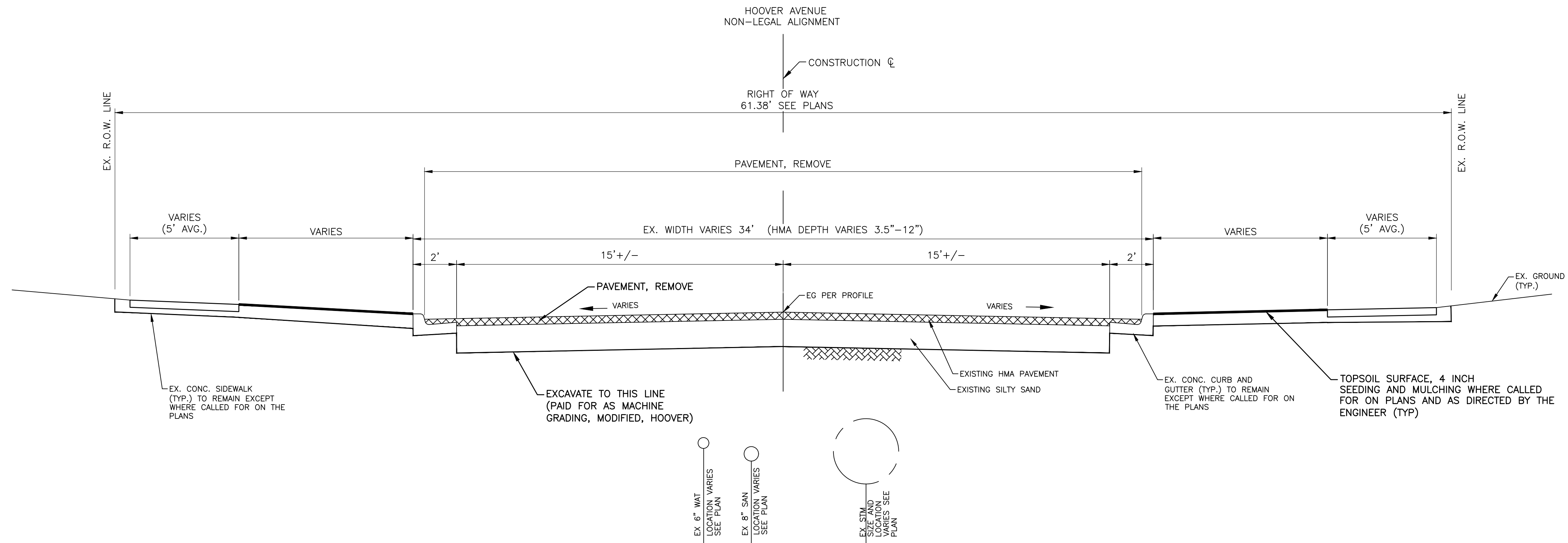


**CITY OF ANN ARBOR - ENGINEERING**  
**HOOVER, GREENE, & HILL**  
**IMPROVEMENT PROJECT**  
TYPICAL SECTIONS - GREENE STREET STA 7+90.43 TO STA 14+77.39

SCALE PLAN: #####  
DRAWING No. 2018-031-16  
SHEET No.

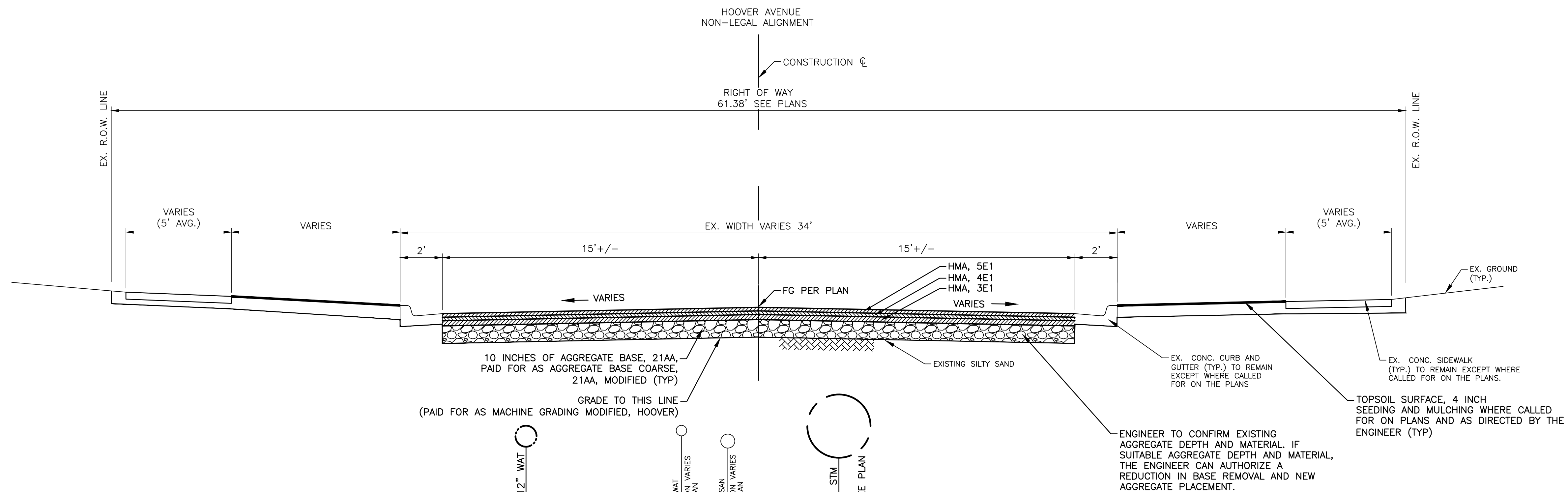


c:\pwwork\m\mianogan\d0549816\X-TYPICAL CROSS SECTIONS.dwg Dwg Created: 2-Jan-19 -- \_a2 standard bw.stb -- Plot Date: 1-Feb-19



**EXISTING CROSS SECTION**

HOOVER AVENUE  
STA 0+27 TO STA 7+40  
S MAIN STREET TO GREENE STREET



**PROPOSED CROSS SECTION**

HOOVER AVENUE  
STA 0+27 TO STA 7+40  
S MAIN STREET TO GREENE STREET

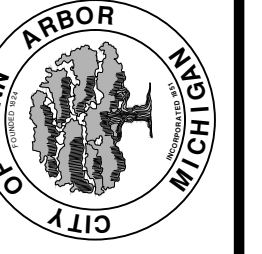
**HMA APPLICATION ESTIMATE**

STREET NAME	PAY ITEM	HMA MIX	APPLICATION RATE	EST. THICKNESS	PERF GRADE	AWI (MIN)
HOOVER STREET	HMA, 5E1	5E1 (TOP)	220 LB/SYD	2.0"	PG 64-28	260
	HMA, 4E1	4E1 (LEVELING)	220 LB/SYD	2.0"	PG 64-28	
	HMA, 3E1	3E1 (BASE)	330 LB/SYD	3.0"	PG 64-28	



REV.	DESCRIPTION	DATE	DRAWN	CHECKED

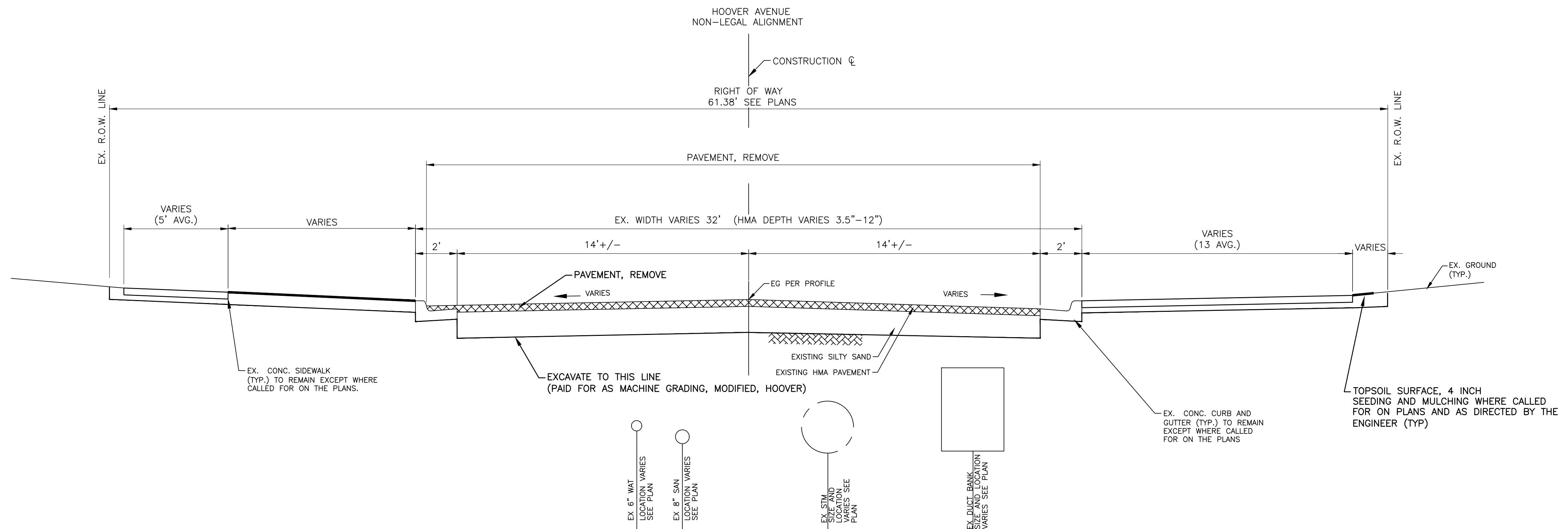
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**CITY OF ANN ARBOR - ENGINEERING**  
**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**  
TYPICAL SECTIONS - HOOVER AVENUE STA 0+27 TO STA 7+40

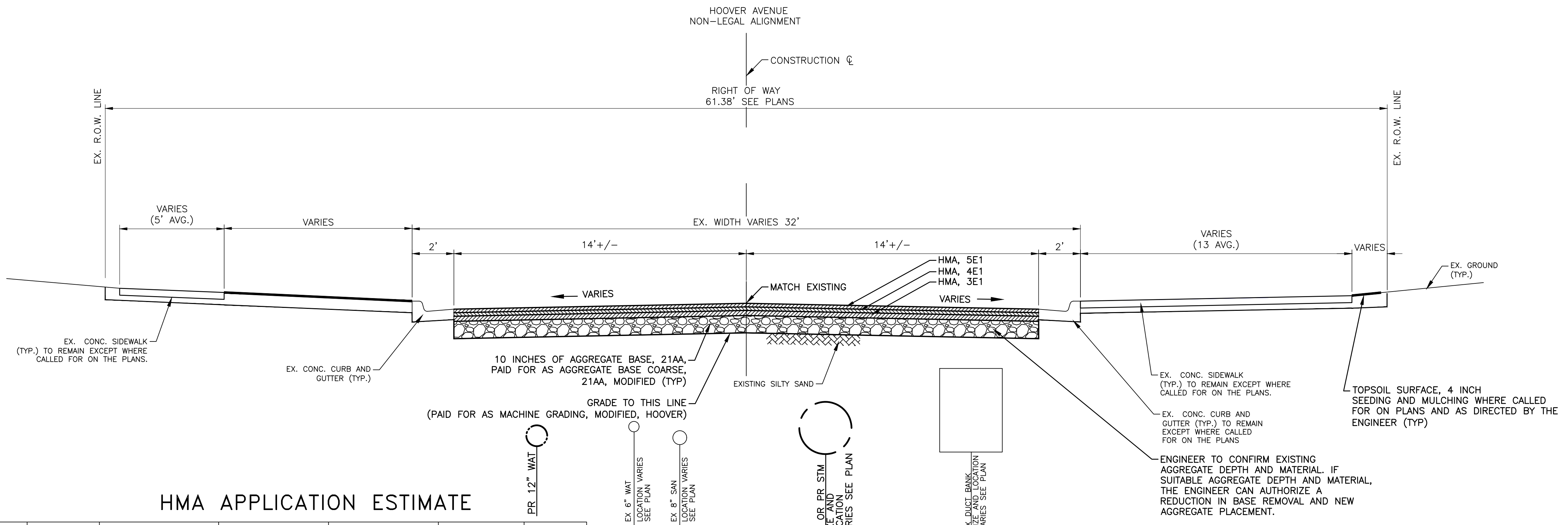
SCALE PLAN: #####  
DRAWING No. 2018-031-17

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**EXISTING CROSS SECTION**

HOOVER AVENUE  
STA 7+40 TO STA 15+90  
GREENE STREET TO DIVISION STREET



**HMA APPLICATION ESTIMATE**

STREET NAME	PAY ITEM	HMA MIX	APPLICATION RATE	EST. THICKNESS	PERF GRADE	AWI (MIN)
HOOVER STREET	HMA, 5E1	5E1 (TOP)	220 LB/SYD	2.0"	PG 64-28	260
	HMA, 4E1	4E1 (LEVELING)	220 LB/SYD	2.0"	PG 64-28	
	HMA, 3E1	3E1 (BASE)	330 LB/SYD	3.0"	PG 64-28	

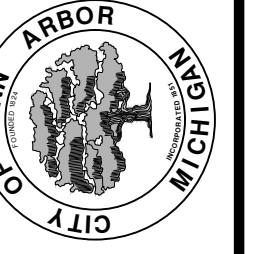
**PROPOSED CROSS SECTION**

HOOVER AVENUE  
STA 7+40 TO STA 15+90  
GREENE STREET TO DIVISION STREET



REV.	DESCRIPTION	DATE	DRAWN	CHECKED

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PUBLIC SERVICES  
301 EAST HURON STREET  
ANN ARBOR MI 48106-6647  
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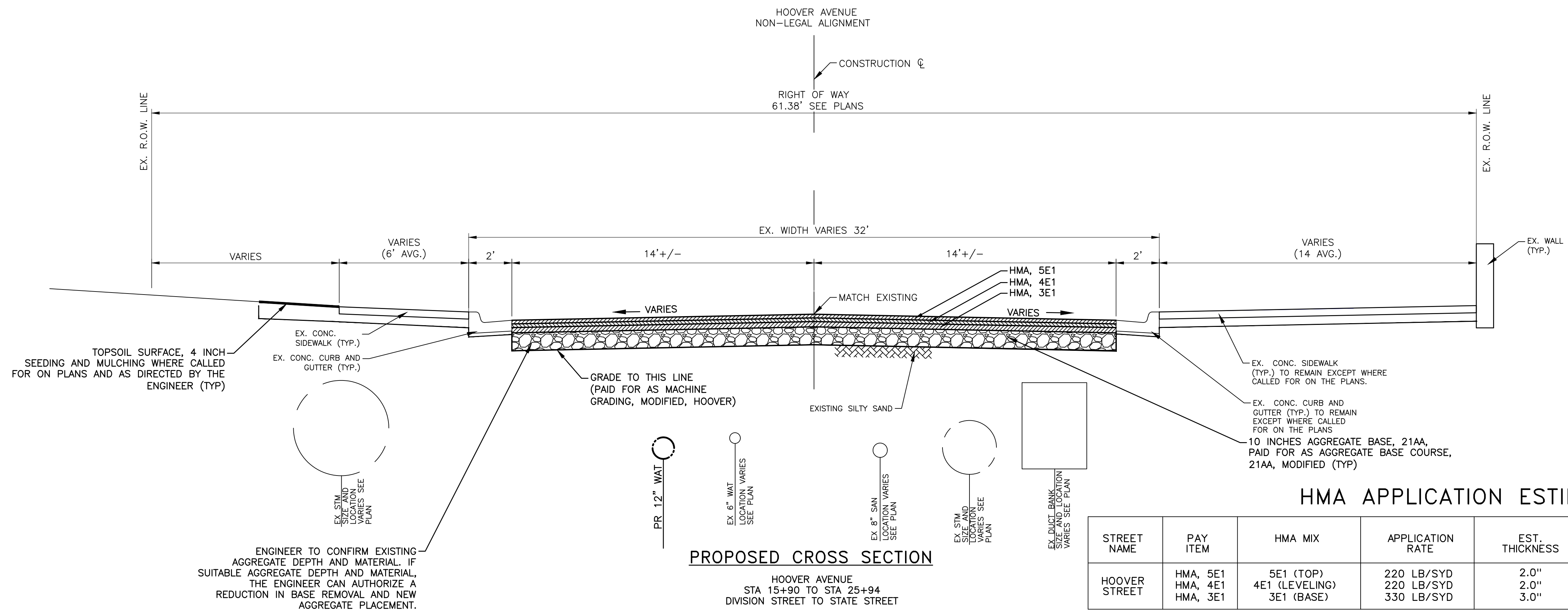
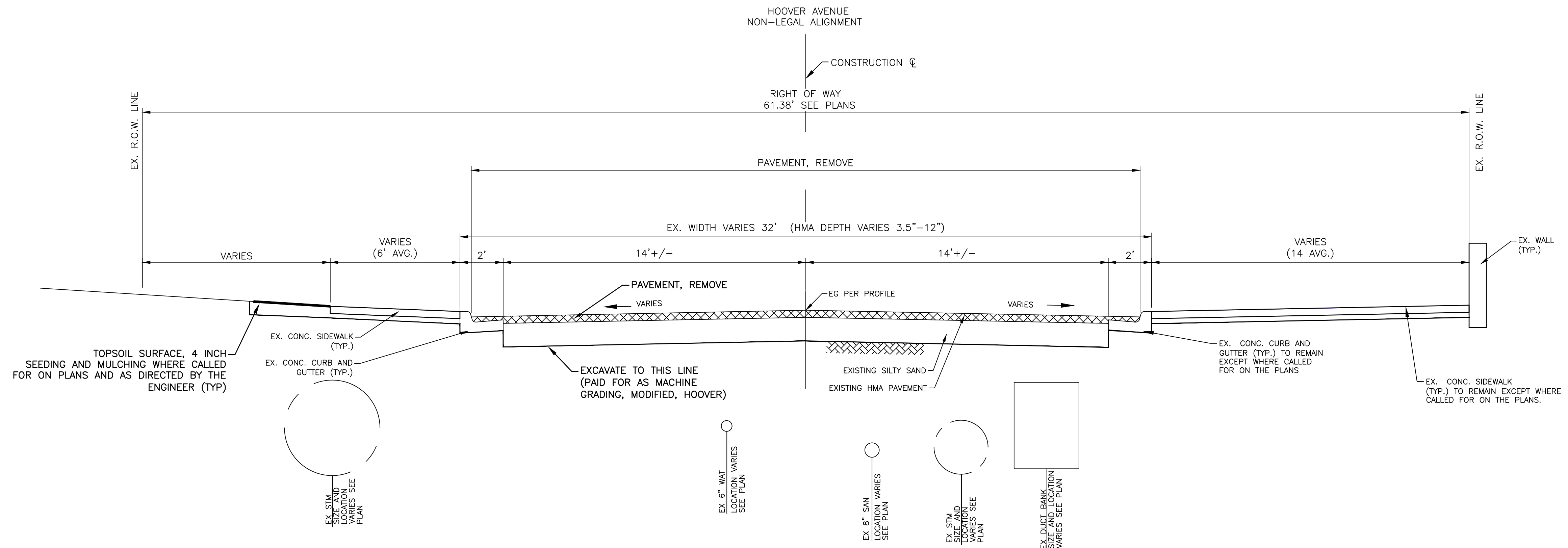


**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**  
**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**  
TYPICAL SECTIONS - HOOVER AVENUE STA 7+40 TO STA 15+90

SCALE PLAN: #####  
DRAWING No. 2018-031-18



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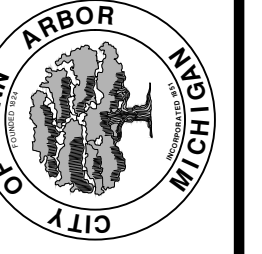
**HMA APPLICATION ESTIMATE**

STREET NAME	PAY ITEM	HMA MIX	APPLICATION RATE	EST. THICKNESS	PERF GRADE	AWI (MIN)
HOOVER STREET	HMA, 5E1	5E1 (TOP)	220 LB/SYD	2.0"	PG 64-28	260
	HMA, 4E1	4E1 (LEVELING)	220 LB/SYD	2.0"	PG 64-28	
	HMA, 3E1	3E1 (BASE)	330 LB/SYD	3.0"	PG 64-28	



REV.	DESCRIPTION	DATE	DRAWN	CHECKED

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**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**  
**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**  
 TYPICAL SECTIONS - HOOVER AVENUE STA 15+90 TO STA 25+94

SCALE PLAN: #####  
 DRAWING No. 2018-031-19

C:\pwwork2\j0849816\8\_SOIL EROSION AND SEDIMENTATION CONTROL NOTES AND DETAILS.dwg Dwg Created: 15-Jul-18 - \_c02\_standard bw.stb - Plot Date: 1-Feb-19

**GENERAL**  
 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.
- ALL AREAS TO BE PERMANENTLY RESTORED WITH GRASS SHALL RECEIVE TOPSOIL, HYDROSEED, AND STAKED EROSION CONTROL BLANKETS (MULCH BLANKETS) AND 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.

**SOIL EROSION SEQUENCE OF CONSTRUCTION:**

- PLACE INLET FILTERS ON EXISTING DRAINAGE FEATURES THAT WILL REMAIN IN PLACE AFTER CONSTRUCTION BEGINS.
- INSTALL SEWERS, WATER MAIN AND PAVEMENT IMPROVEMENTS.
- RESTORE ALL DISTURBED AREAS TO A CONDITION THAT IS BETTER THAN, OR EQUAL TO, THAT WHICH EXISTED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
- INSPECT & REPAIR OR REPLACE ALL TEMPORARY SESC MEASURES WEEKLY AND WITHIN 24 HOURS OF A STORM EVENT.
- ESTABLISH VEGETATION FOR ALL DISTURBED AREAS WITHIN CONSTRUCTION LIMITS.
- CLEAN OUT STORM SEWER SYSTEMS.
- REMOVE TEMPORARY SESC FEATURES (CALL FOR FINAL INSPECTION).
- REMEDY ANY NOTED DEFECTS TO THE SATISFACTION OF THE CITY'S SESC OFFICIAL.

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

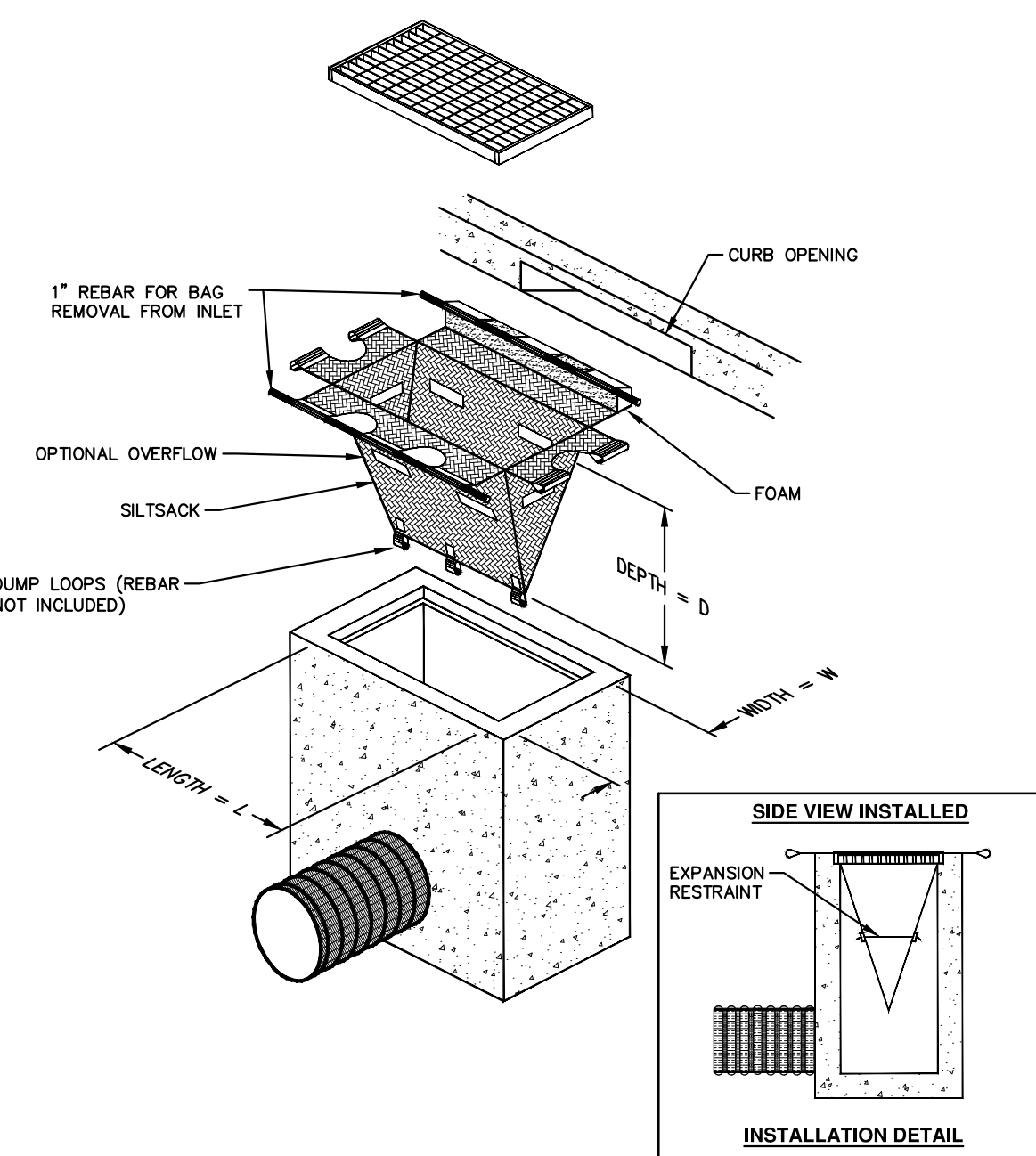
AND ACCEPTANCE.

**TEMPORARY SEEDING:**

- SEED IN ACCORDANCE WITH PROJECT DRAWINGS AND SPECIFICATIONS.
- ANY DISTURBED AREA NOT PAVED, SEED, 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 = \$41,875

ON SITE SOILS PER THE USDA SOIL SURVEY OF WASHTENAW COUNTY, MICHIGAN:  
 • FoA - FOX SANDY LOAM, 0 TO 2 PERCENT SLOPE  
 • FoB - FOX SANDY LOAM, 2 TO 6 PERCENT SLOPE  
 • FoC - FOX SANDY LOAM, 6 TO 12 PERCENT SLOPE  
 • WawobC - WAWASEE LOAM, 6 TO 12 PERCENT SLOPE



**SILTSACK DETAIL**  
 PAID FOR AS EROSION CONTROL, INLET FILTER

**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**

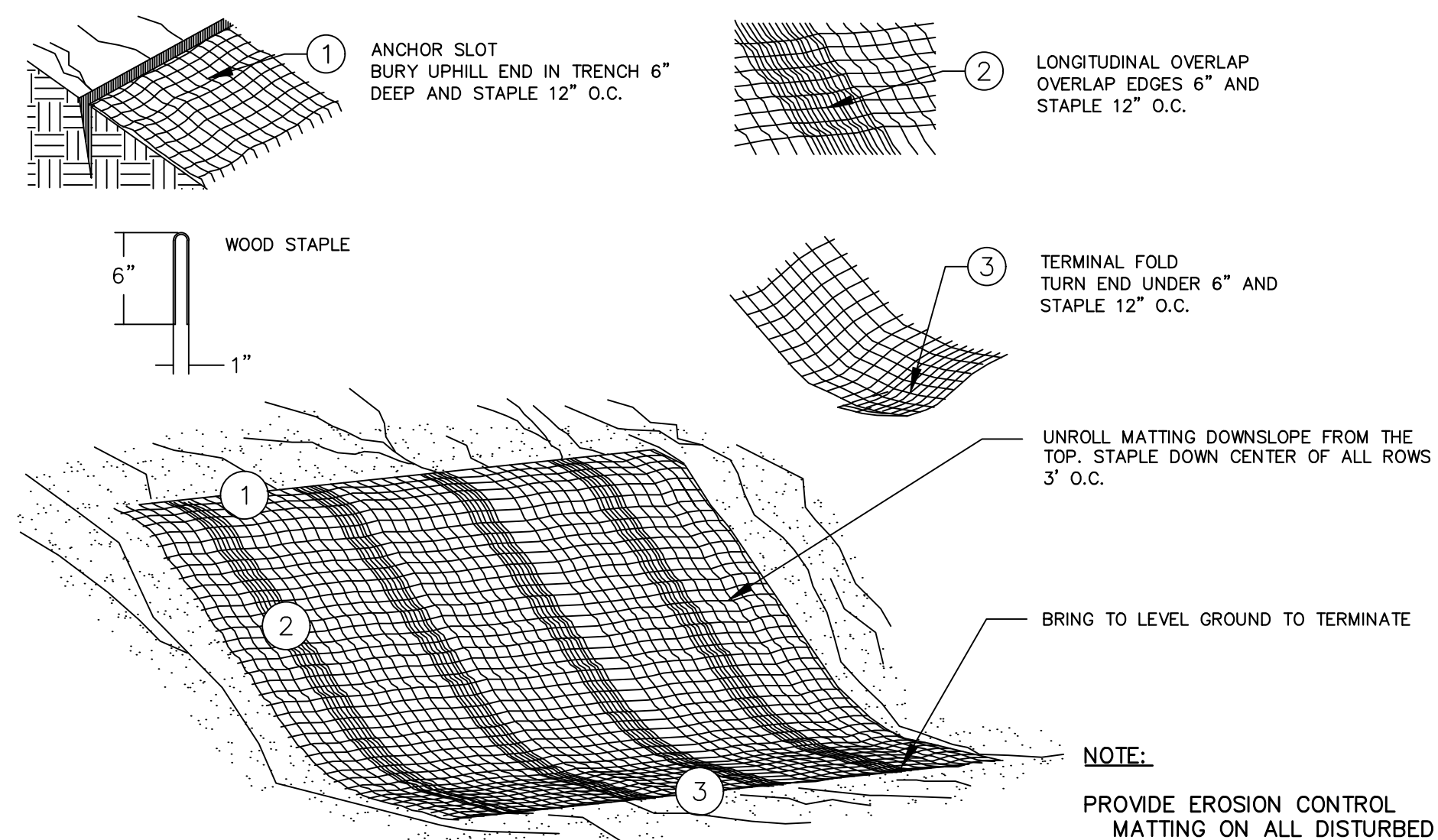
(FOR AREAS OF MODERATE TO HEAVY PRECIPITATION AND RUN-OFF)

PROPERTIES	REQUIRED VALUE	TEST METHOD
GRAB TENSILE STRENGTH	ASTM D-4632	265 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

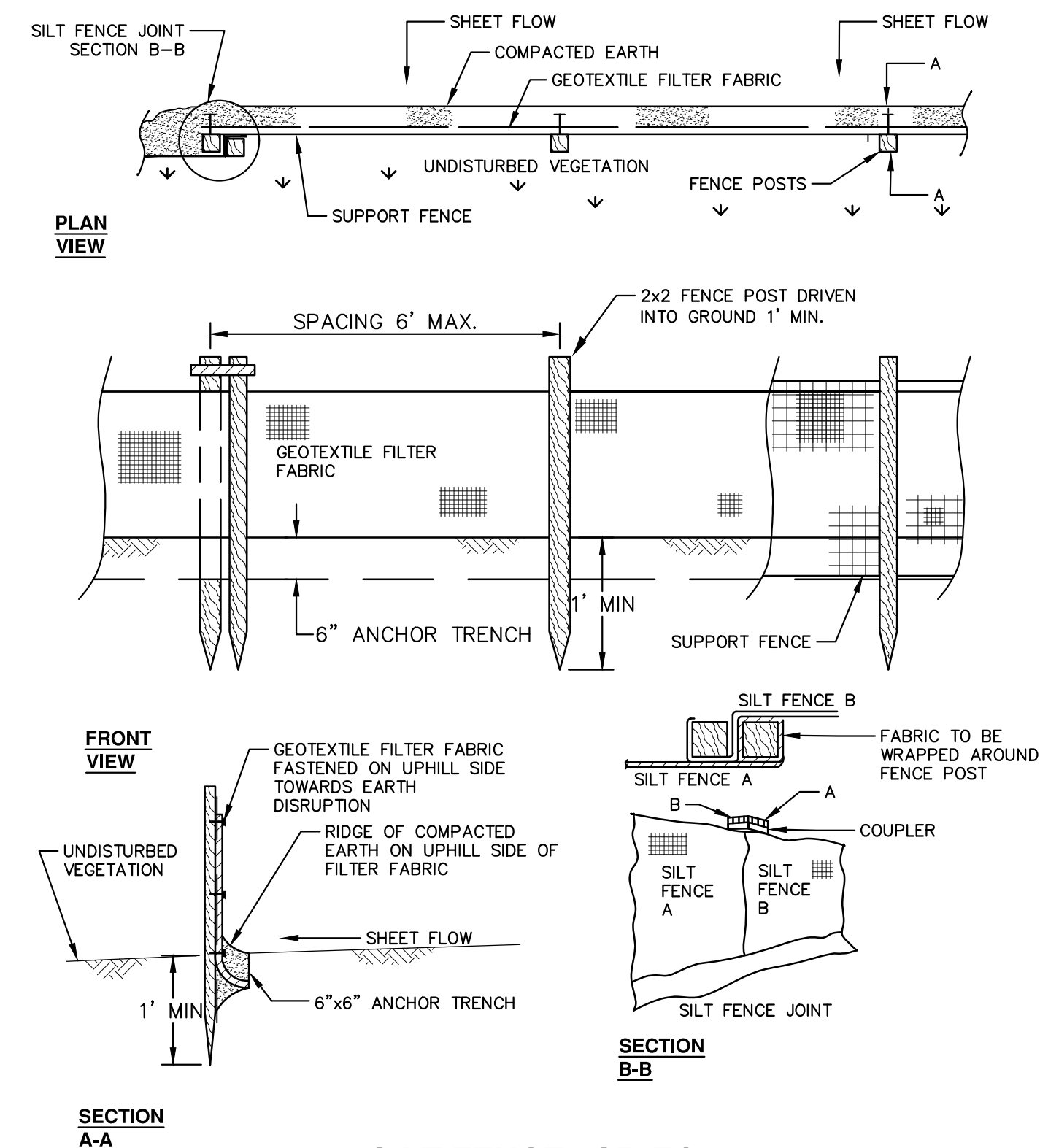
**OIL-ABSORBANT SILTSACK**

(FOR AREAS WHERE THERE IS A CONCERN FOR OIL RUN-OFF OR SPILLS)

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.  
 PAID FOR AS PART OF SEEDING AND MULCHING



**SILT FENCE SD-EC-3**  
 PAID FOR AS SILT FENCE

**811**  
 Know what's below.  
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 301 EAST HURON STREET  
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CITY OF ANN ARBOR  
 HOOPER, GREENE, & HILL  
 IMPROVEMENT PROJECT

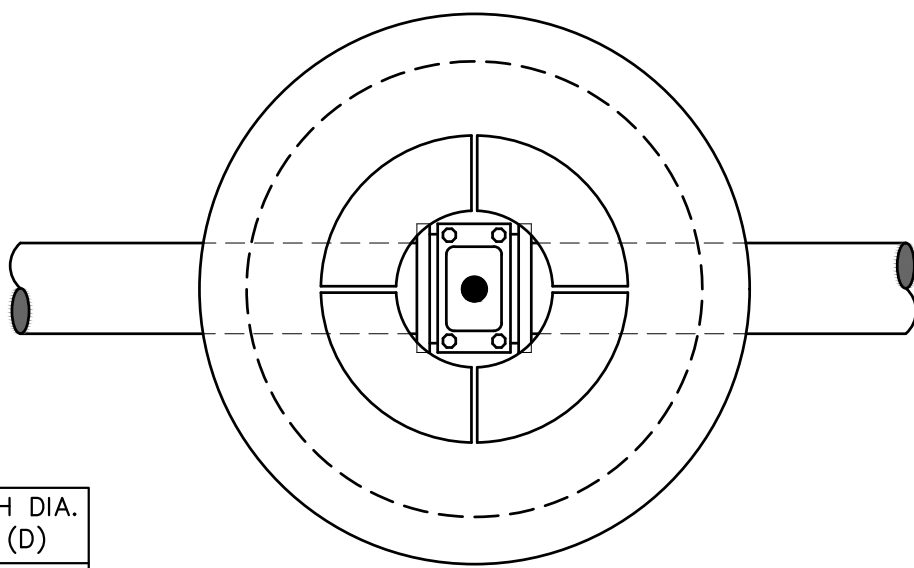
SOIL EROSION AND SEDIMENTATION CONTROL NOTES AND DETAILS

SCALE: NTS

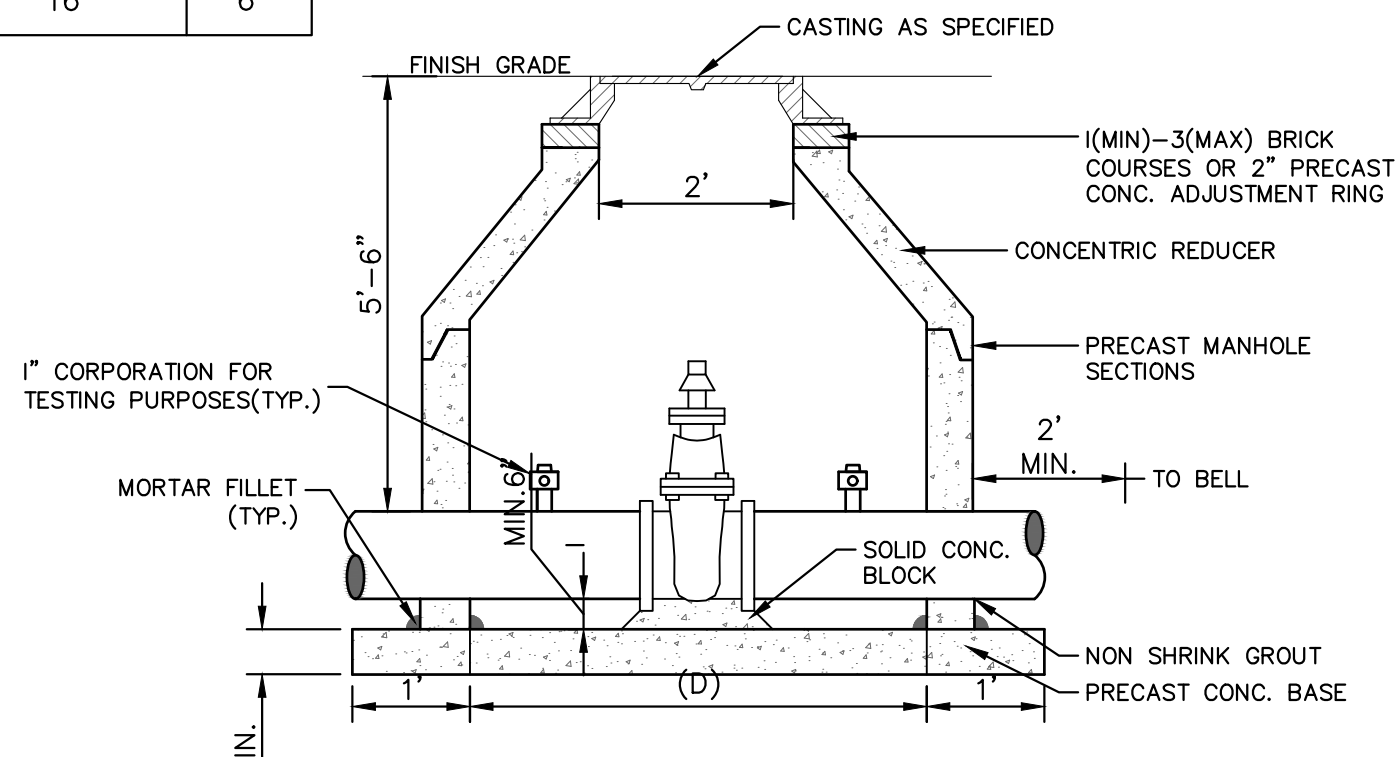
DRAWING No. 2018-031-20

SHEET No. 20 OF 83





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



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

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

PAID FOR AS GATE VALVE-IN-WELL, 12 INCH

**MINIMUM STANDARDS**

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

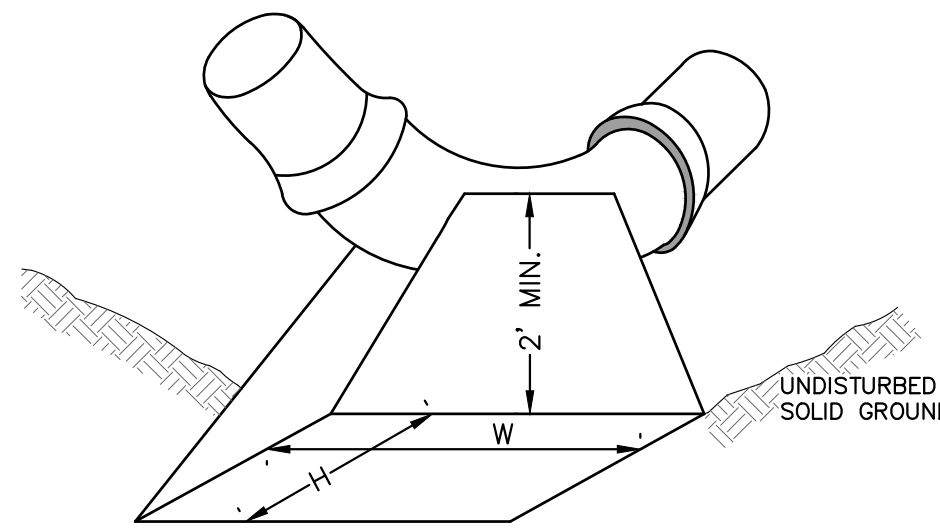
THE DIMENSIONS OF THE THRUST BLOCK AT THE FACE OF THE UNDISTURBED SOLID GROUND SHALL BE AS SHOWN IN THE TABLE BELOW.

IF THERE ISN'T SUFFICIENT SPACE FOR THE INSTALLATION OF THE THRUST BLOCK WITHOUT INTERFERENCE WITH OTHER SERVICES, ANOTHER ARRANGEMENT SATISFACTORY TO THE ENGINEER SHALL BE USED.

FITTINGS I.D.	PLUG TEE CROSS	BENDS								HYDRANT	
		90°		45°		22½°		11¼°		W	H
4	1.0 1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.5
6	2.0 1.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.0
8	2.5 2.0	3.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.0
12	3.5 3.0	5.5	3.0	3.5	2.5	2.0	2.0	2.0	2.0	2.0	1.0
16	6.0 3.5	6.0	4.0	5.0	3.0	3.5	2.5	2.0	2.0		

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

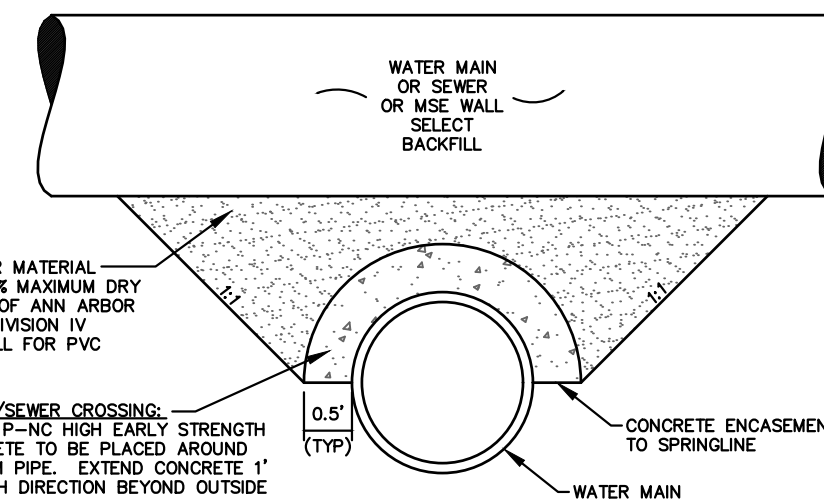
W = WIDTH IN FEET  
H = HEIGHT IN FEET



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

**THRUST BLOCK SD-W-2**

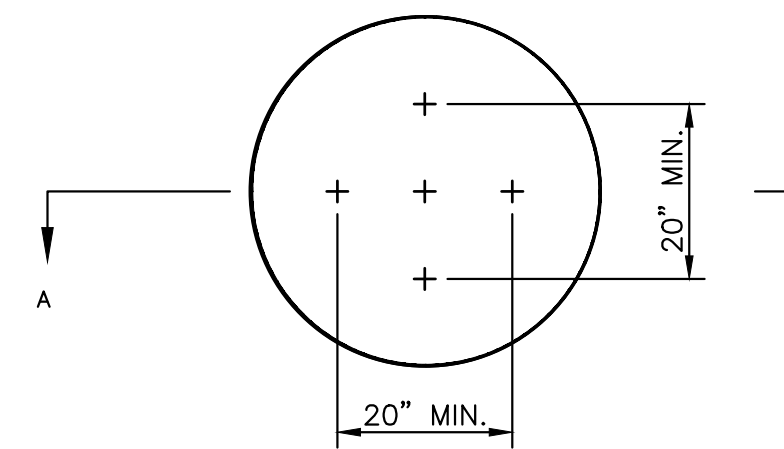
INCLUDED IN PIPE PAY ITEM



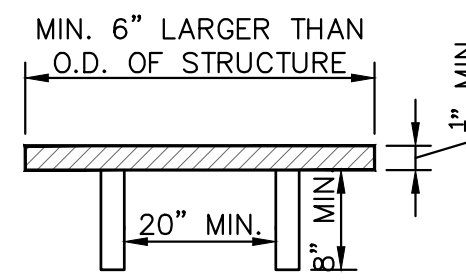
APPLIES TO: WATER AND/OR SEWER CROSSINGS WITH LESS THAN 1.5' OF VERTICAL CLEARANCE

**CONCRETE UTILITY SADDLE**

INCLUDED IN PIPE PAY ITEM

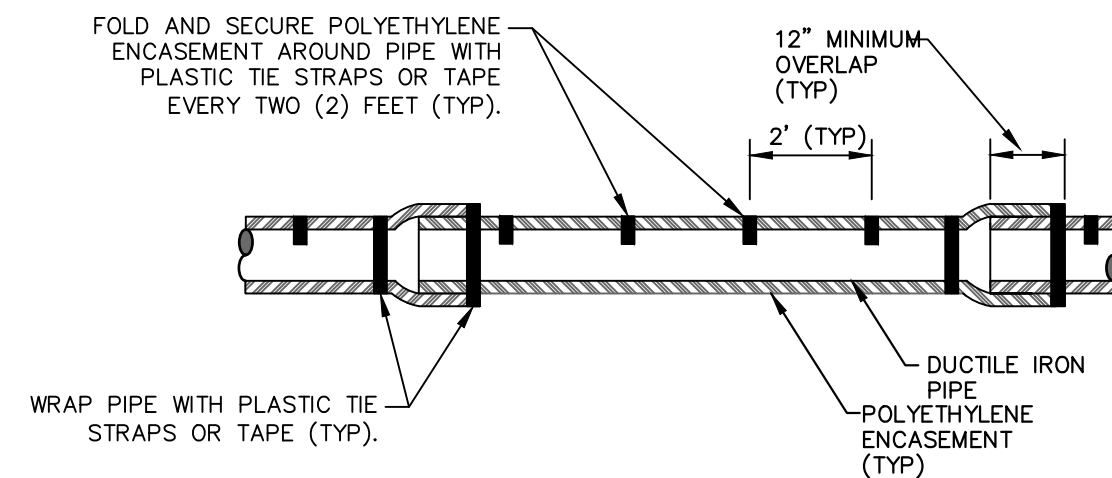


NOTE: PLATE MAY BE CIRCULAR, SQUARE OR RECTANGULAR



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

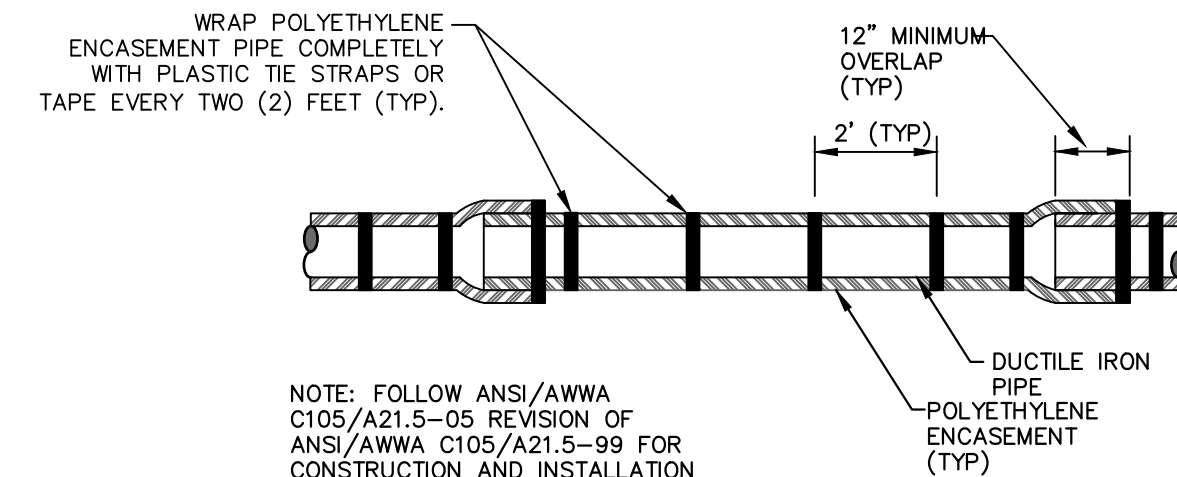
**STRUCTURE PLATE SD-GU-8**



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

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

**POLYETHYLENE ENCASMENT (DRY INSTALLATION)**

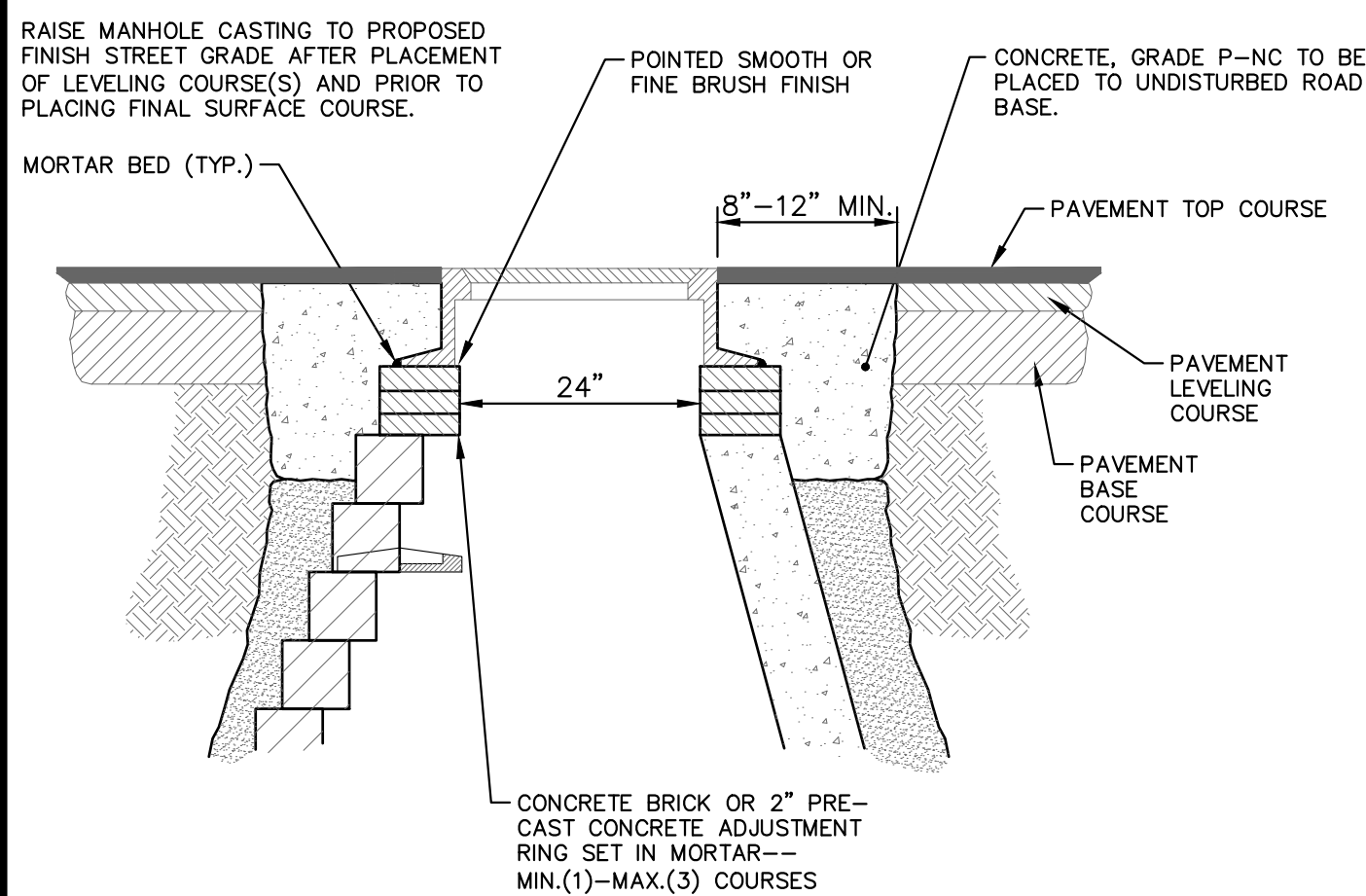


NOTE: FOLLOW ANSI/AWWA C105/A21.5-05 REVISION OF ANSI/AWWA C105/A21.5-99 FOR CONSTRUCTION AND INSTALLATION METHODS. USE MODIFIED METHOD A

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

**POLYETHYLENE ENCASMENT (WET INSTALLATION)**

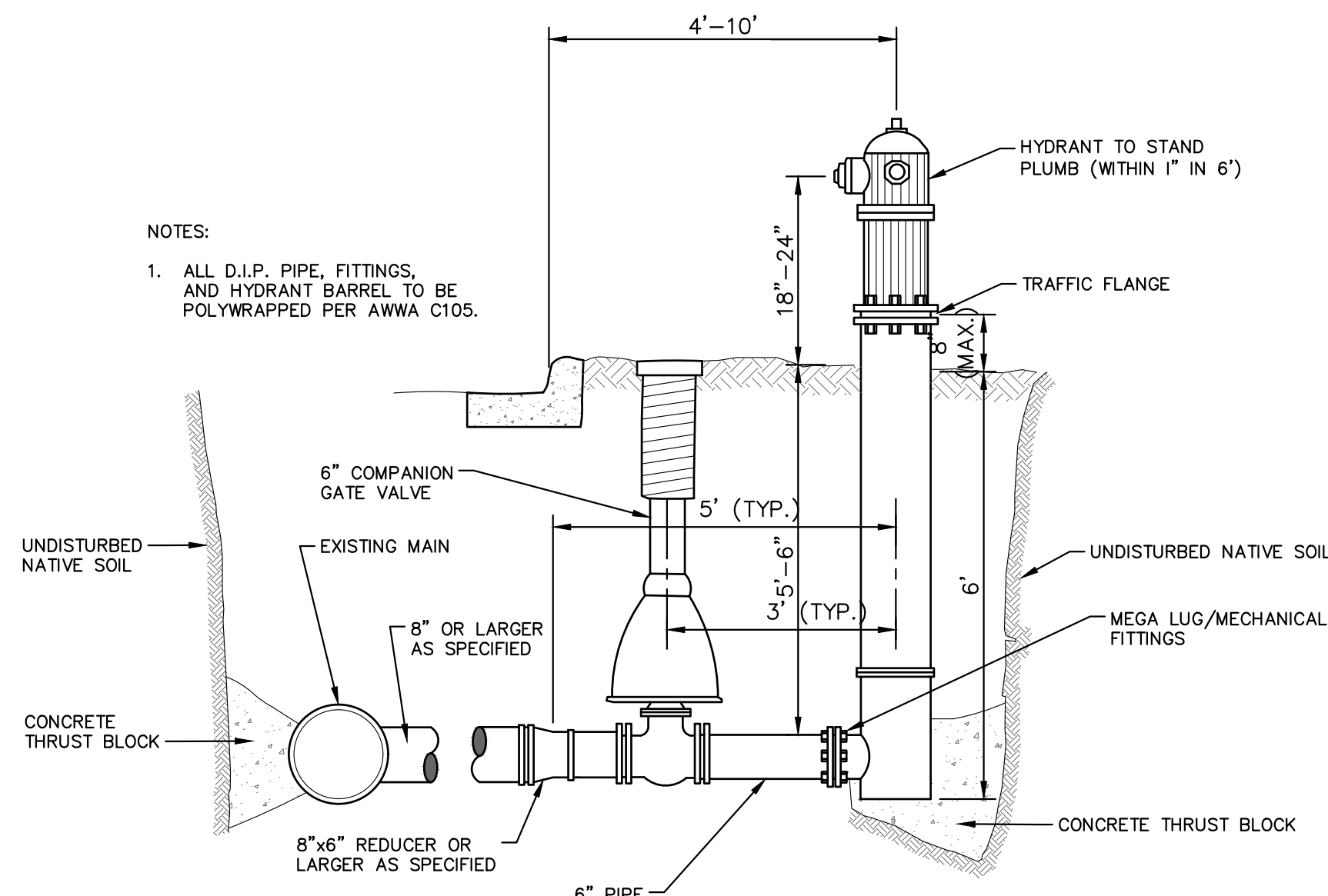
INCLUDED IN PIPE PAY ITEM



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

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

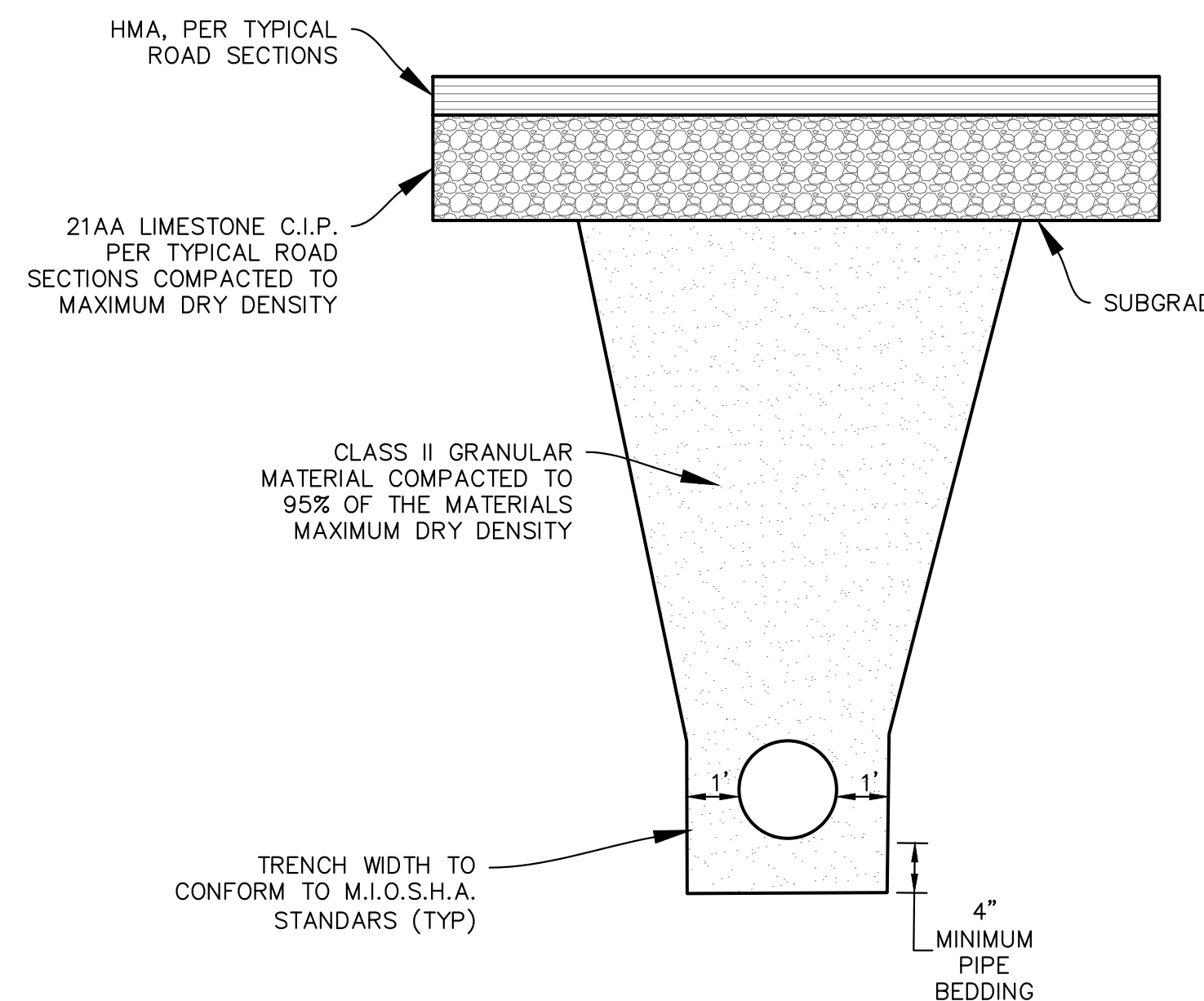
PAID FOR AS ADJUST STRUCTURE COVER



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

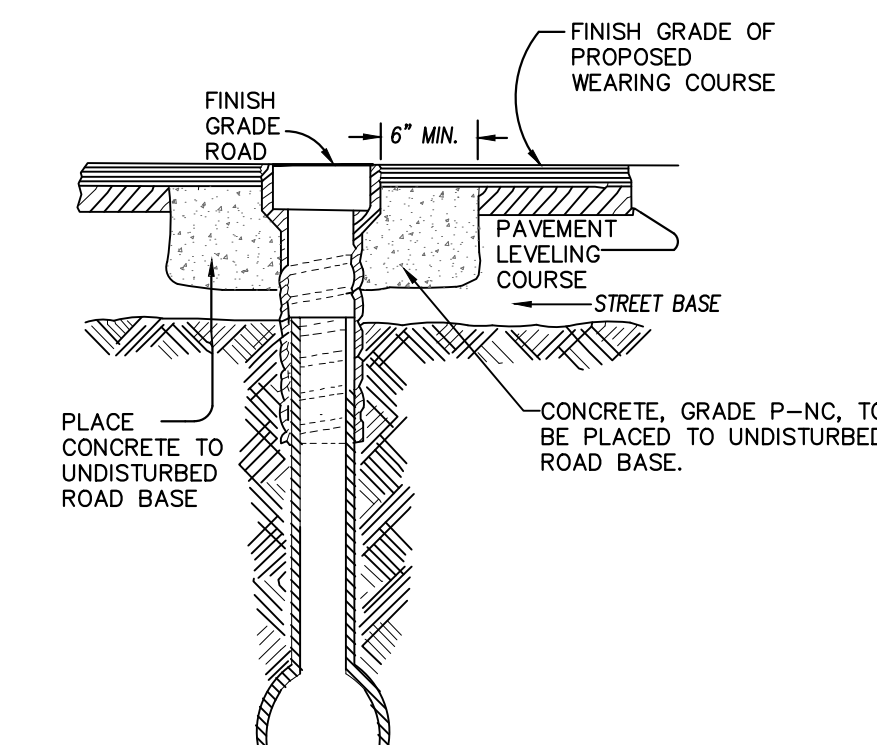
**FIRE HYDRANT ASSEMBLY**

PAID FOR AS FIRE HYDRANT ASSY, W/EXTENSIONS, COMPLETE



**TRENCH DETAIL I**

APPLIES TO WATERMAIN AND STORM SEWER UNDER ROADBED OR WITHIN INFLUENCE OF ROADBED - SEE PLANS FOR LOCATIONS  
INCLUDED IN PIPE PAY ITEM



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

**WATER VALVE BOX ADJUSTMENT**

PAID FOR AS ADJUST MONUMENT BOX OR GATE VALVE BOX

c:\pwwork\mfonagan\00549816\WATER DETAILS.dwg Dwg Created: 11-Jan-19 - o2\_standard bw.stb - Plot Date: 1-Feb-19



NO.	DATE	DESCRIPTION	REV.

CITY OF ANN ARBOR  
PUBLIC SERVICES  
301 EAST HURON STREET  
PO BOX 86407-8647  
ANN ARBOR MI 48106-8647  
www.a2gov.org

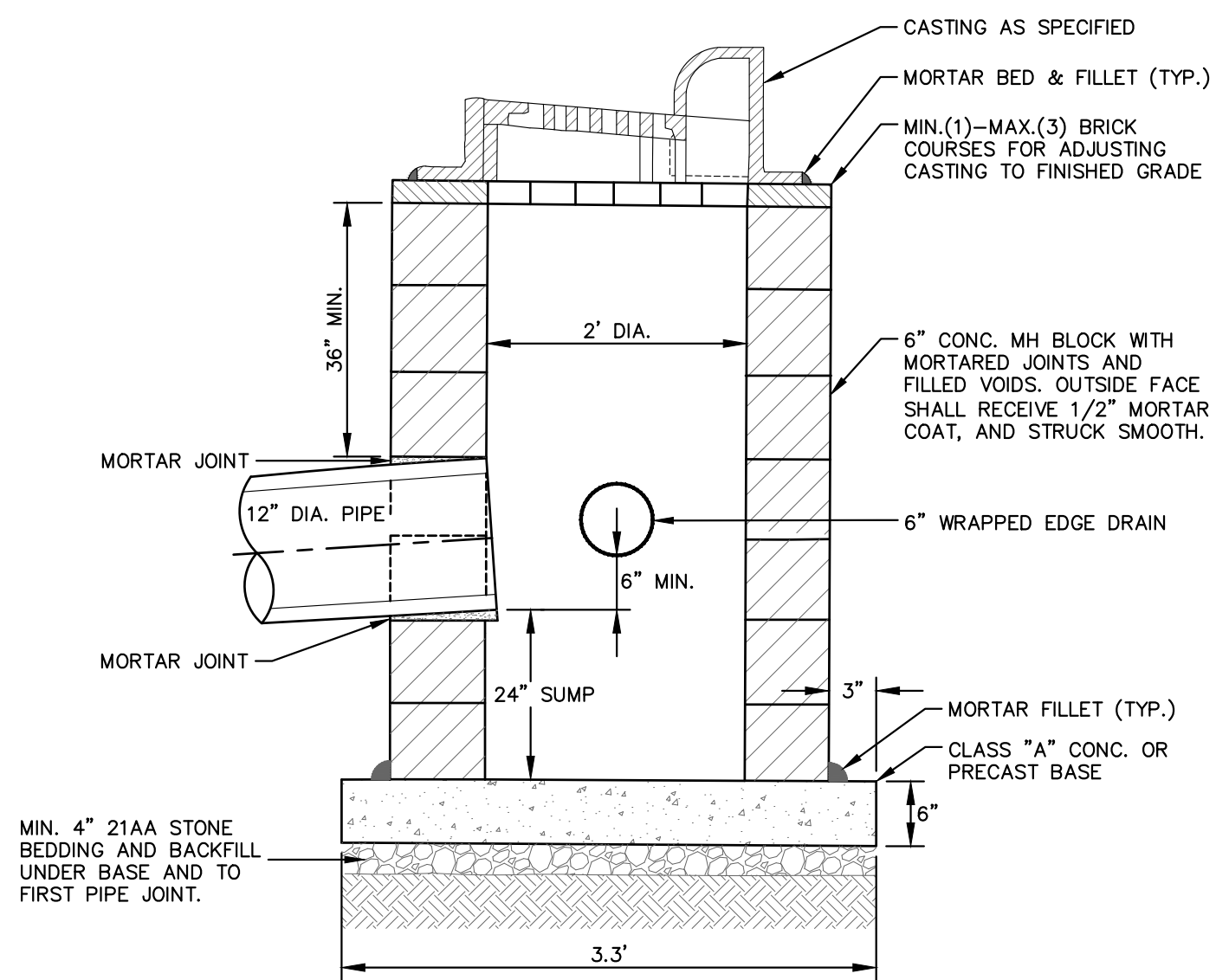


CITY OF ANN ARBOR - ENGINEERING  
HOOVER, GREENE, & HILL  
IMPROVEMENT PROJECT  
WATER DETAILS

SCALE PLAN: #####  
DRAWING NO. 2018-031-21

SHEET No.



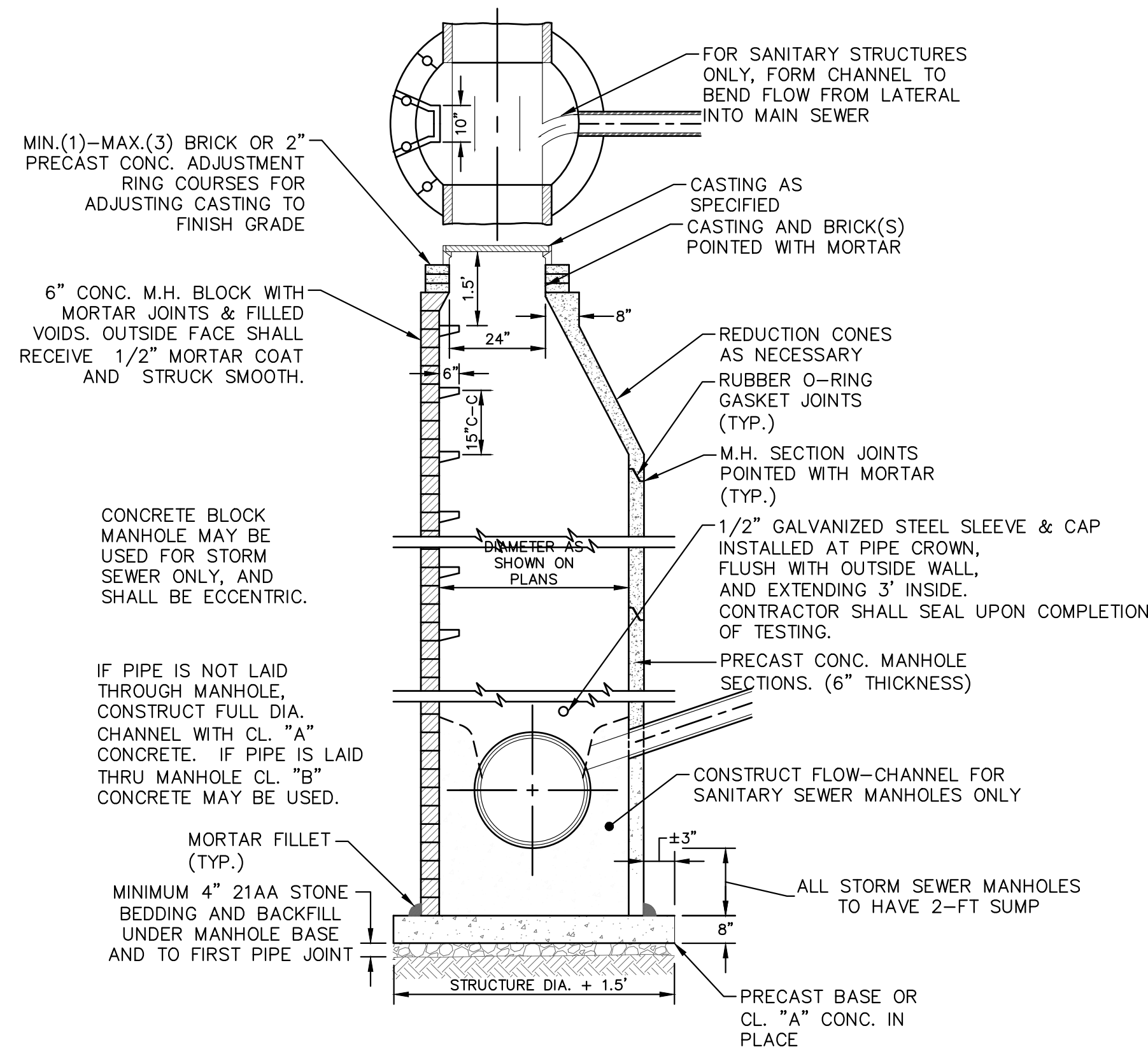


**NOTES:**

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

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

PAID FOR AS SINGLE INLET.

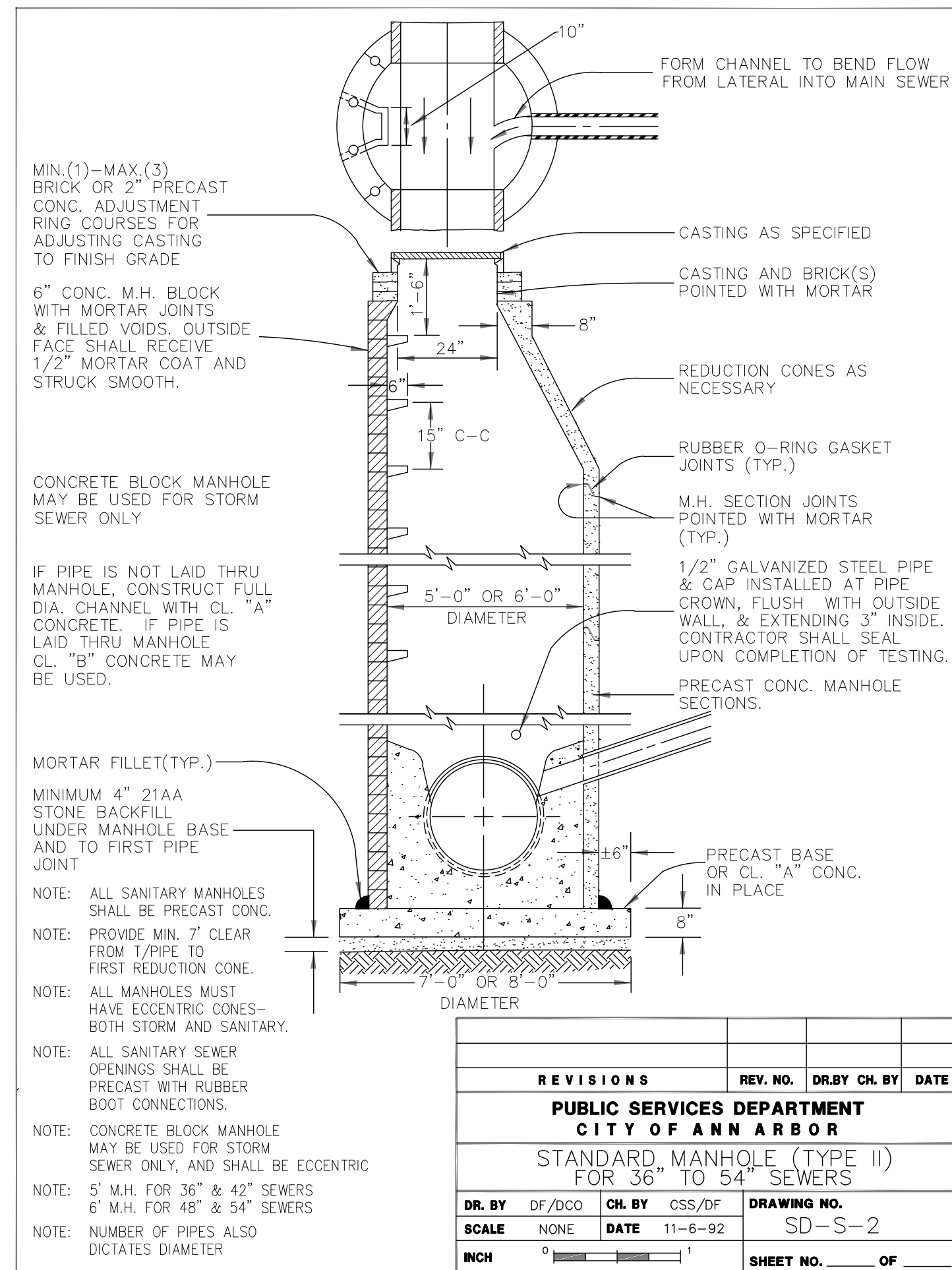


**NOTES:**

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

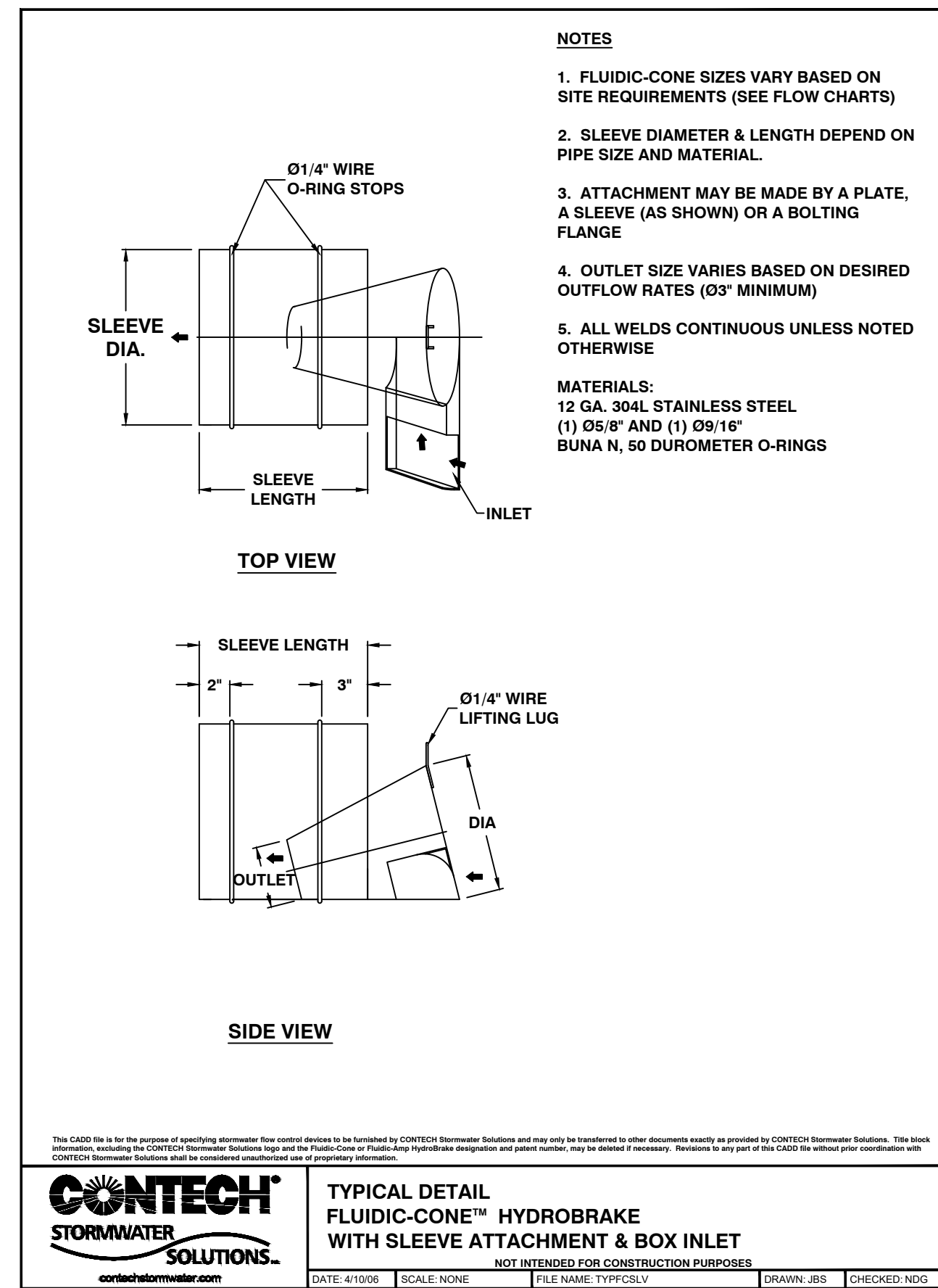
**STANDARD MANHOLE (TYPE I)**

PAID FOR AS TYPE I MANHOLE (0-10 FT. DEEP).



REVISIONS	REV. NO.	DR. BY	CH. BY	DATE
<b>PUBLIC SERVICES DEPARTMENT CITY OF ANN ARBOR</b>				
<b>STANDARD MANHOLE (TYPE II) FOR 36" TO 54" SEWERS</b>				
DR. BY	DF/DCO	CH. BY	CSS/DF	DRAWING NO.
SCALE	NONE	DATE	11-6-92	SD-S-2
INCH	0	1		SHEET NO. OF

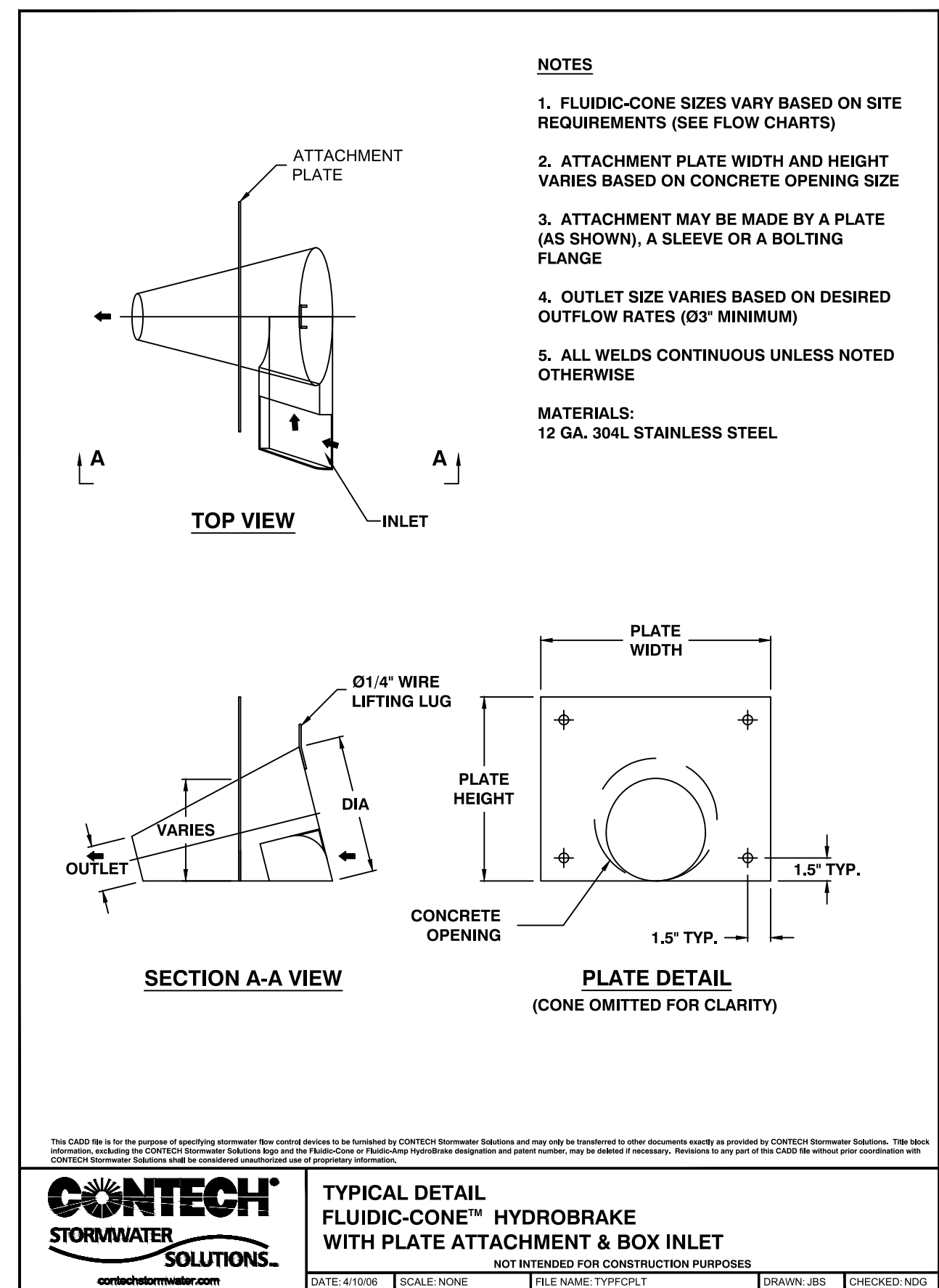
PAID FOR AS TYPE II MANHOLE (\_\_\_DIA.) (0-10 FT. DEEP).



**NOTES**

- FLUIDIC-CONE SIZES VARY BASED ON SITE REQUIREMENTS (SEE FLOW CHARTS)
  - SLEEVE DIAMETER & LENGTH DEPEND ON PIPE SIZE AND MATERIAL.
  - ATTACHMENT MAY BE MADE BY A PLATE, A SLEEVE (AS SHOWN) OR A BOLTING FLANGE
  - OUTLET SIZE VARIES BASED ON DESIRED OUTFLOW RATES (0.3" MINIMUM)
  - ALL WELDS CONTINUOUS UNLESS NOTED OTHERWISE
- MATERIALS:**  
12 GA. 304L STAINLESS STEEL  
(1) 05/8" AND (1) 09/16"  
BUNA N, 50 DUROMETER O-RINGS

**CONTECH STORMWATER SOLUTIONS.** TYPICAL DETAIL FLUIDIC-CONE™ HYDROBRAKE WITH SLEEVE ATTACHMENT & BOX INLET  
DATE: 4/10/06 SCALE: NONE FILE NAME: TYPICAL.DWG DRAWN: JBS CHECKED: NDD



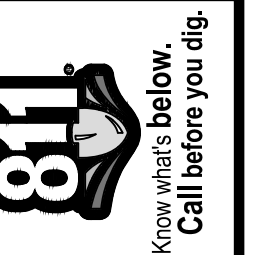
**NOTES**

- FLUIDIC-CONE SIZES VARY BASED ON SITE REQUIREMENTS (SEE FLOW CHARTS)
  - ATTACHMENT PLATE WIDTH AND HEIGHT VARIES BASED ON CONCRETE OPENING SIZE
  - ATTACHMENT MAY BE MADE BY A PLATE (AS SHOWN), A SLEEVE OR A BOLTING FLANGE
  - OUTLET SIZE VARIES BASED ON DESIRED OUTFLOW RATES (0.3" MINIMUM)
  - ALL WELDS CONTINUOUS UNLESS NOTED OTHERWISE
- MATERIALS:**  
12 GA. 304L STAINLESS STEEL

**CONTECH STORMWATER SOLUTIONS.** TYPICAL DETAIL FLUIDIC-CONE™ HYDROBRAKE WITH PLATE ATTACHMENT & BOX INLET  
DATE: 4/10/06 SCALE: NONE FILE NAME: TYPICAL.DWG DRAWN: JBS CHECKED: NDD

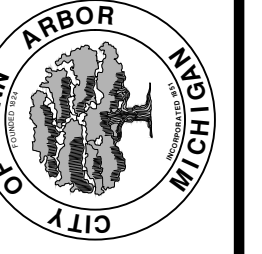
INCLUDED IN PAY ITEM FOR STORM CONTROL STRUCTURE \_\_\_\_ THE ABOVE DETAILS ARE EXAMPLES OF THE FLOW RESTRICTION DEVICES REQUESTED FOR THE PROJECT. OTHER SIMILAR DEVICES WILL BE CONSIDERED FOR USE. FLOW RESTRICTION DEVICES MUST CONFORM TO THE DETAILED SPECIFICATION.

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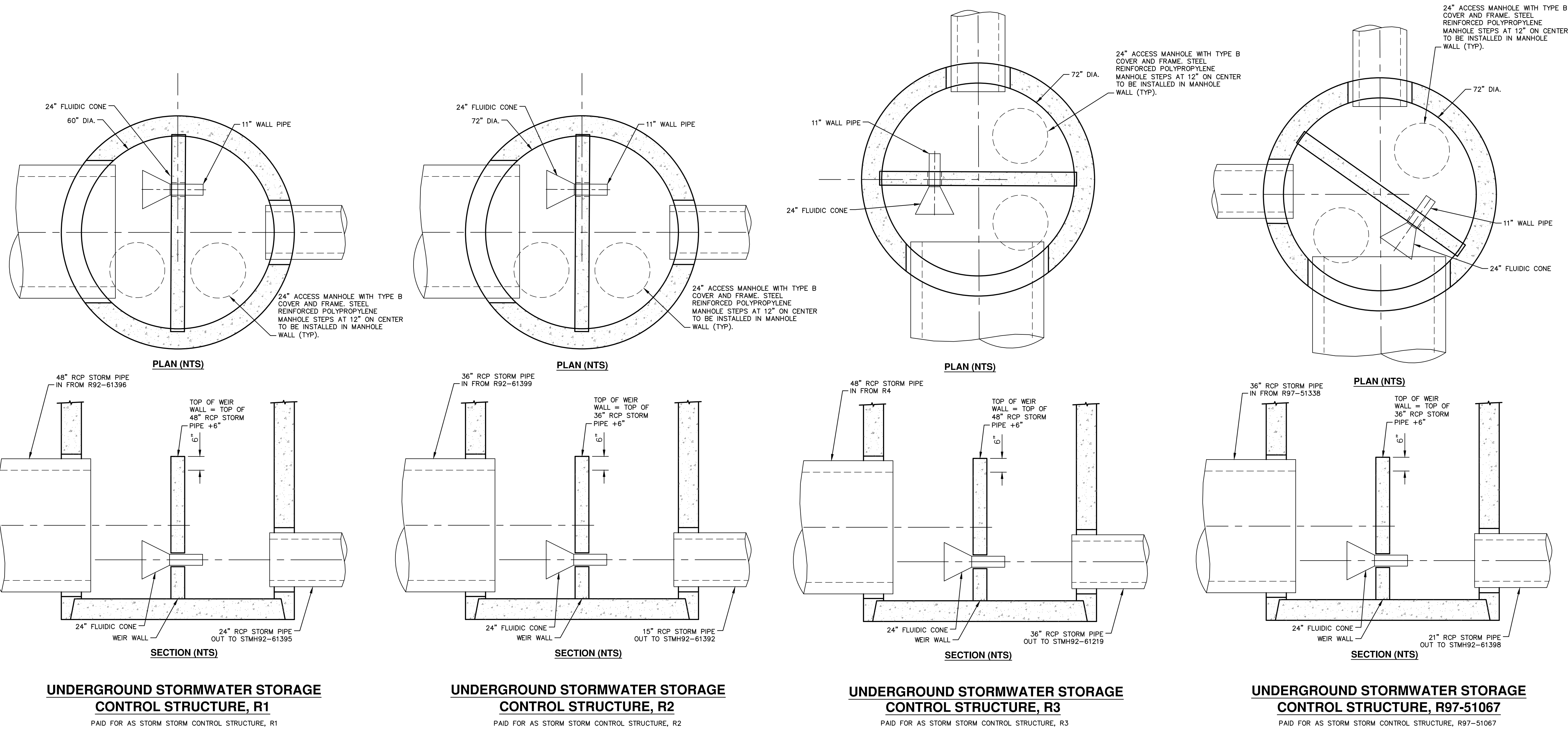


**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**  
**HOOVER, GREENE, & HILL**  
**IMPROVEMENT PROJECT**  
STORM DETAILS

SCALE PLAN: NTS  
DRAWING NO.: 2018-031-22

NOTE:

- CONTRACTOR SHALL PROVIDE SHOP DRAWINGS AND DESIGN CALCULATIONS FOR EACH OF THE "STORM CONTROL STRUCTURE" ITEMS AND THEY SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MICHIGAN.
- "STORM CONTROL STRUCTURE" SHALL BE MANUFACTURED TO ASTM C78-CL2 SPECIFICATIONS FOR HS-20 TRUCK LOADING.
- REINFORCED CONCRETE DESIGN IS TO COMPLY WITH APPLICABLE MINIMUM REQUIREMENTS SET FORTH IN ACI 350-01(CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES).
- TOP SLAB OF STRUCTURE SHALL BE PRE-CAST CONCRETE WITH TWO 24-INCH OPENINGS.



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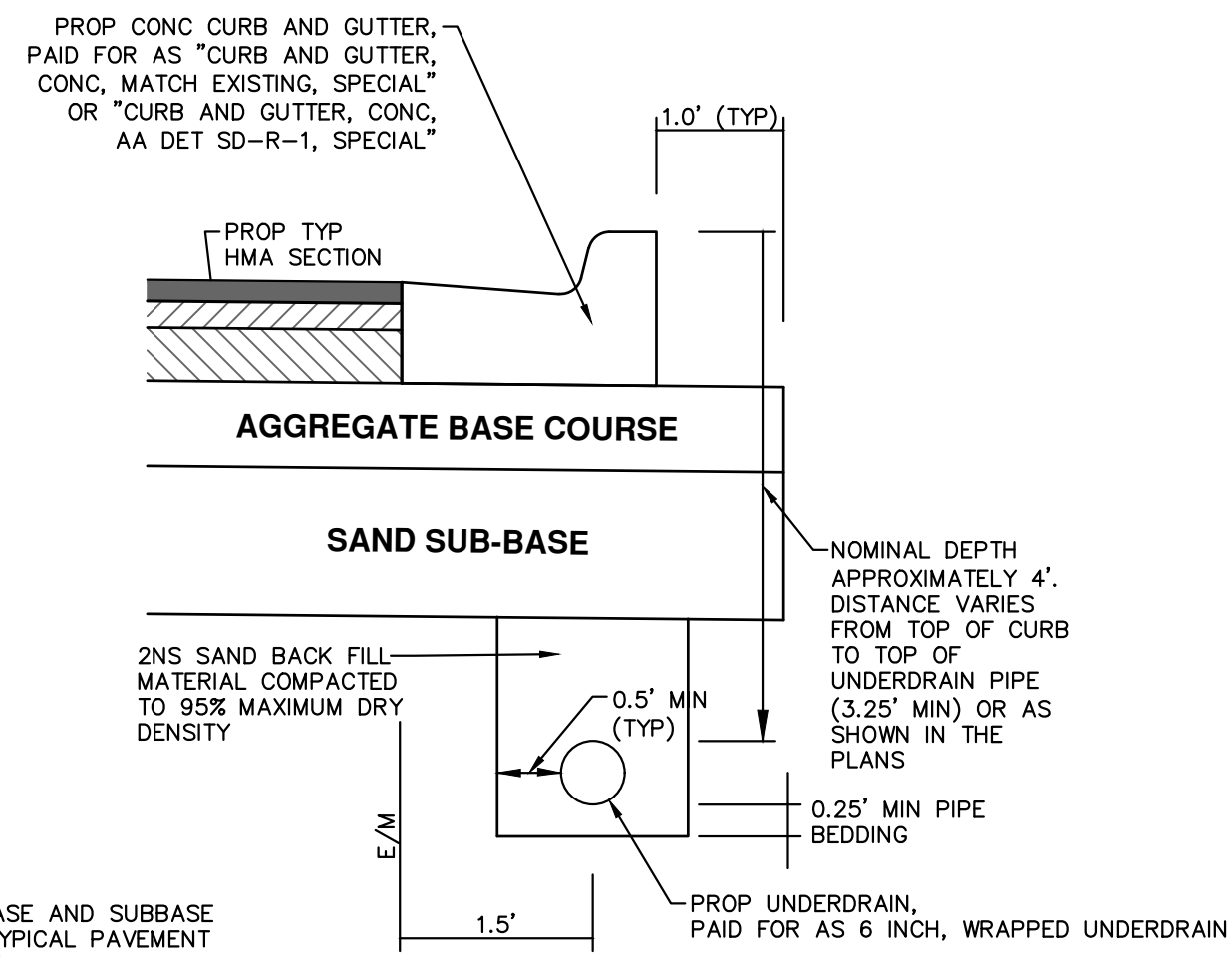
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**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**  
**HOOVER, GREENE, & HILL**  
**IMPROVEMENT PROJECT**  
**STORM DETAILS**

CITY OF ANN ARBOR  
 PUBLIC SERVICES  
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 ANN ARBOR, MI 48106-1667  
 www.a2gov.org

SCALE PLAN: NTS  
 DRAWING No. 2018-031-23  
 SHEET No. 23 OF 83



**NOTES:**

FOR PAVEMENT BASE AND SUBBASE THICKNESS, SEE TYPICAL PAVEMENT CROSS-SECTION(S)

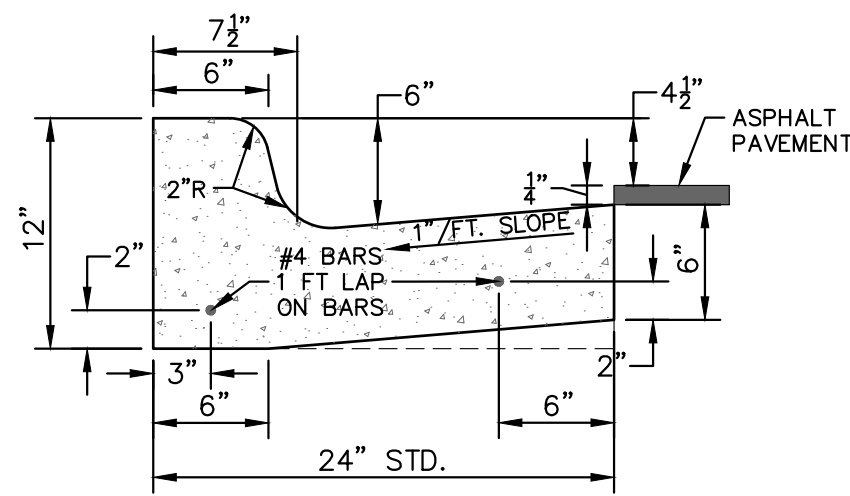
TRENCH DETAILS SHOW TYPE OF BACKFILL AND SURFACE RESTORATION ONLY

ALL TRENCHING TO CONFORM TO ALL APPLICABLE M.I.O.S.H.A. STANDARDS

BASED ON CITY OF ANN ARBOR STANDARD SD-TD-10 APPLIES TO: HOOPER AVE, STA 0+00 TO 4+30 GREEN AVE, STA 10+70 TO 15+20, IN ALL AREAS OF CURB REPLACEMENT AND AS DIRECTED BY THE CITY ENGINEER

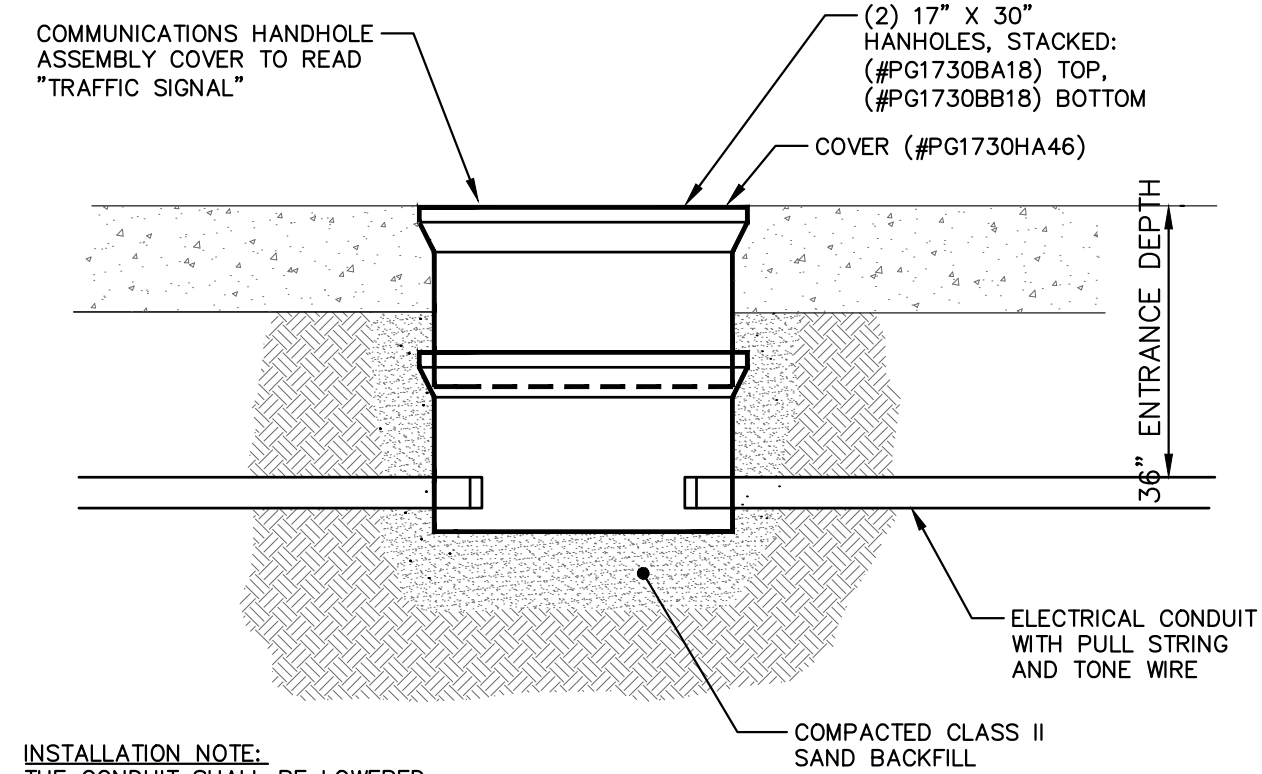
**TRENCH DETAIL FOR UNDER DRAIN**

(UNDER HMA PAVEMENT)  
PAID FOR AS 6 INCH, WRAPPED UNDERDRAIN



**CURB AND GUTTER, CONC, DET SD-R-1, SPECIAL**

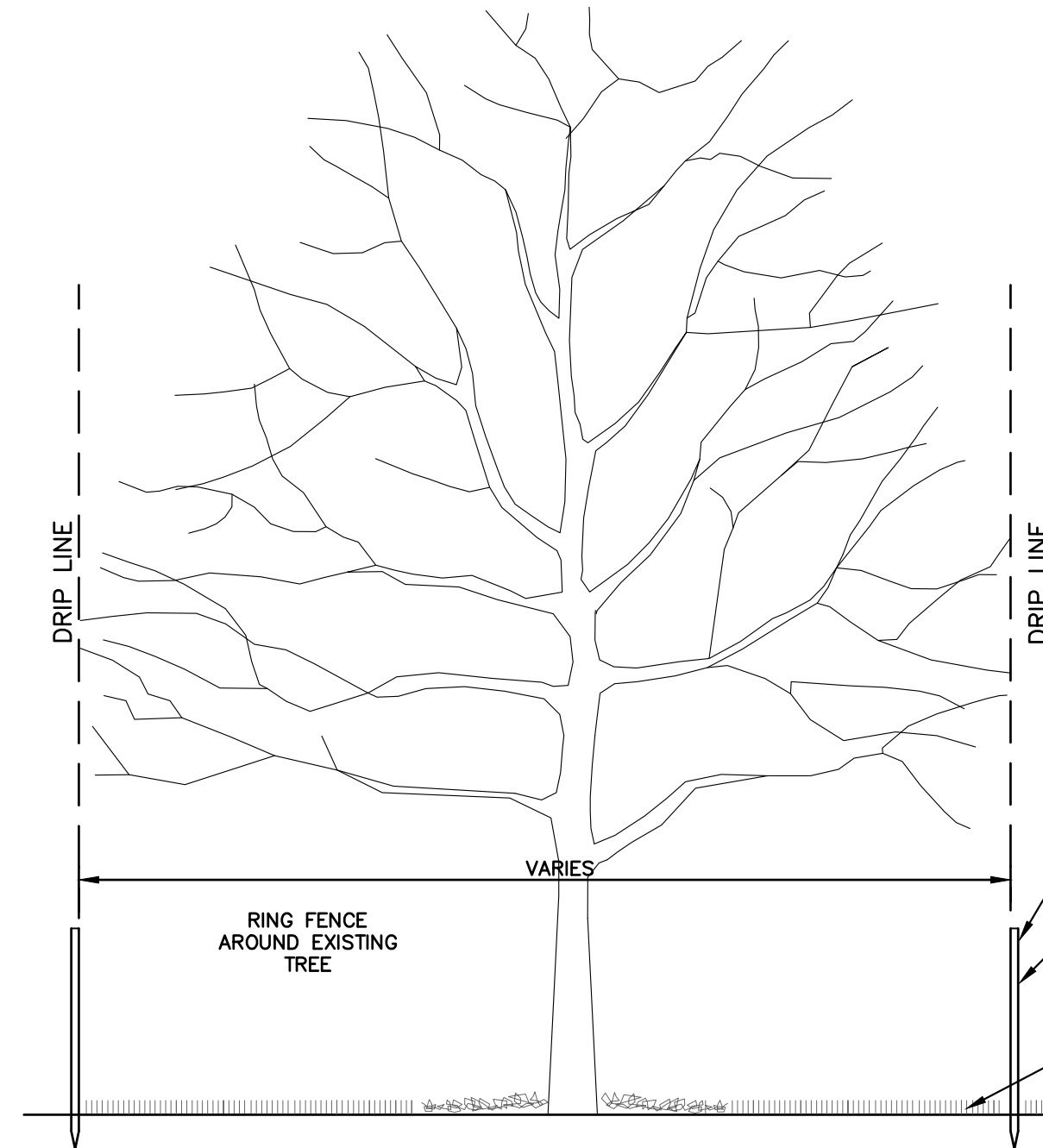
NO SCALE  
PAID FOR AS CURB AND GUTTER, CONC, AA DET SD-R-1, SPECIAL  
NOTE: CURB AND GUTTER, CONC, MATCH EXISTING, SPECIAL SHALL HAVE SIMILAR COMPONENTS AS SHOWN IN DETAIL SD-R-1 AND CONSTRUCTED TO MATCH EXISTING CURB AND GUTTER, AND AS DIRECTED BY THE ENGINEER.



INSTALLATION NOTE:  
THE CONDUIT SHALL BE LOWERED TO A MINIMUM ENTRANCE DEPTH OF 36" BELOW TOP OF THE HAND HOLE OVER A DISTANCE OF 10' ON EACH SIDE OF THE HANDHOLE ASSEMBLY

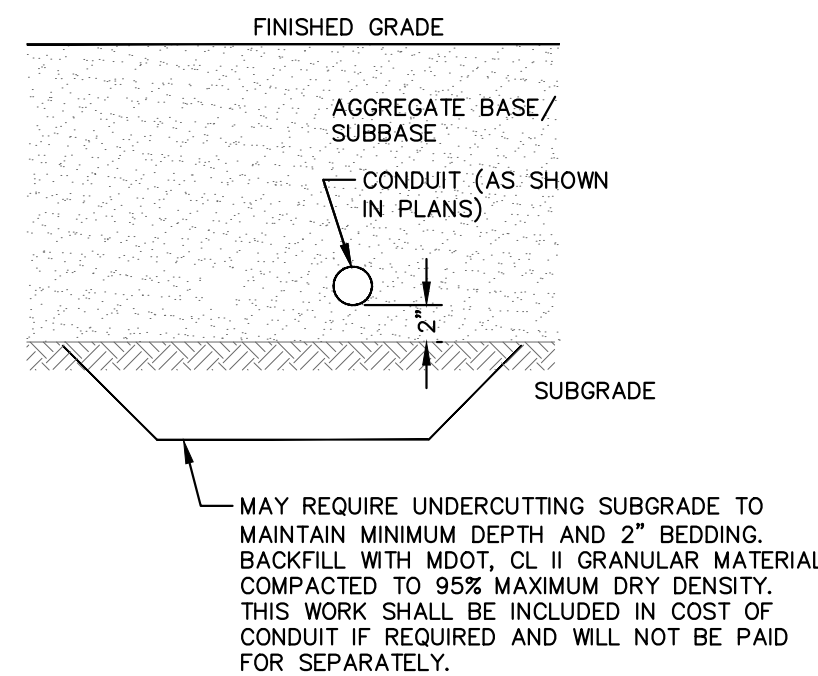
**COMMUNICATIONS HANDHOLE ASSEMBLY**

PAID FOR AS HANDHOLE ASSEMBLY, 12 INCH X 18 INCH



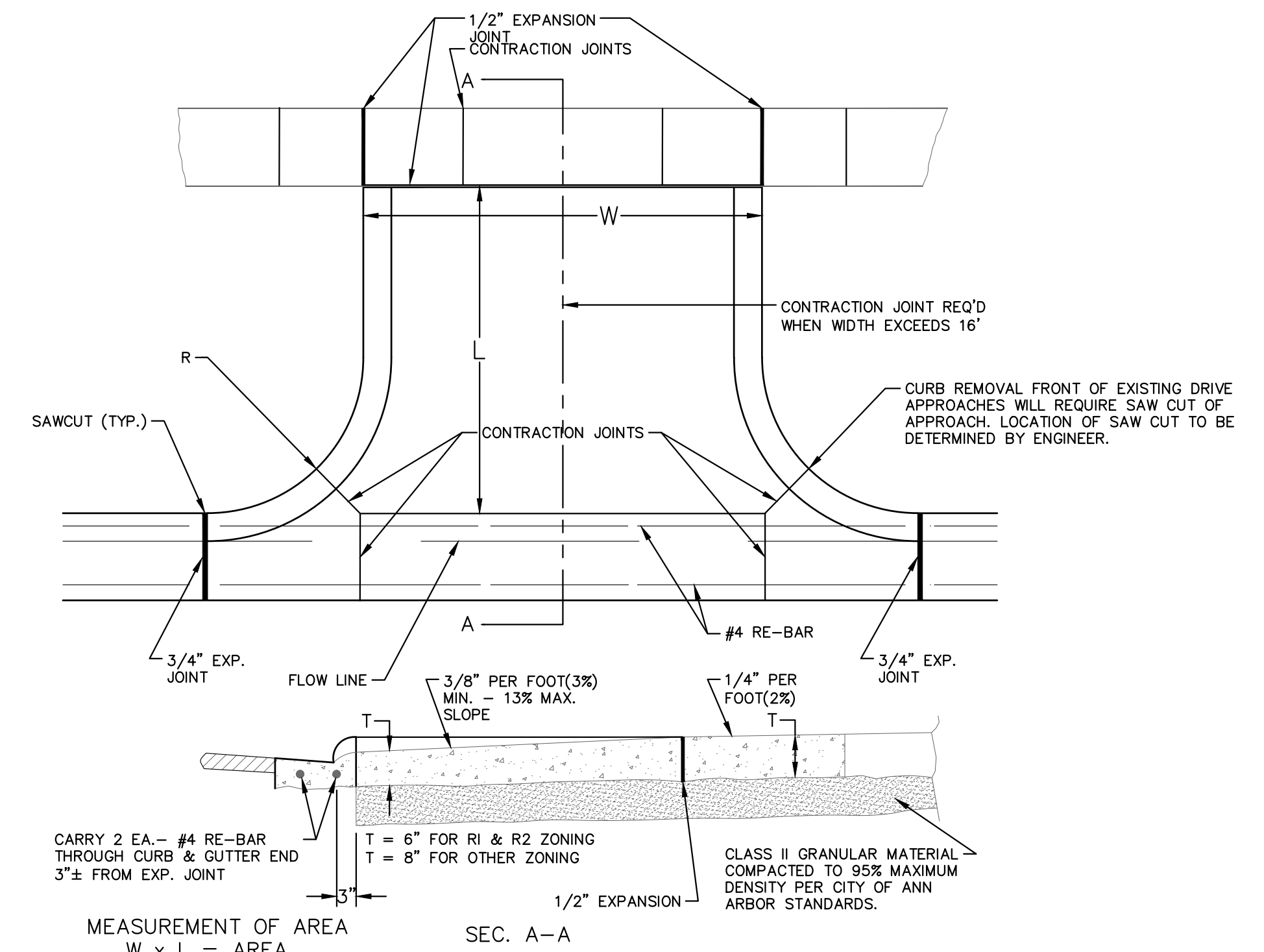
**TREE PROTECTION DETAIL**

PAID FOR AS PROTECTION FENCING



**CONDUIT PLACEMENT DETAIL**

INCLUDED AS PART OF CONDUIT, DIRECTIONAL BORE, 3 INCH



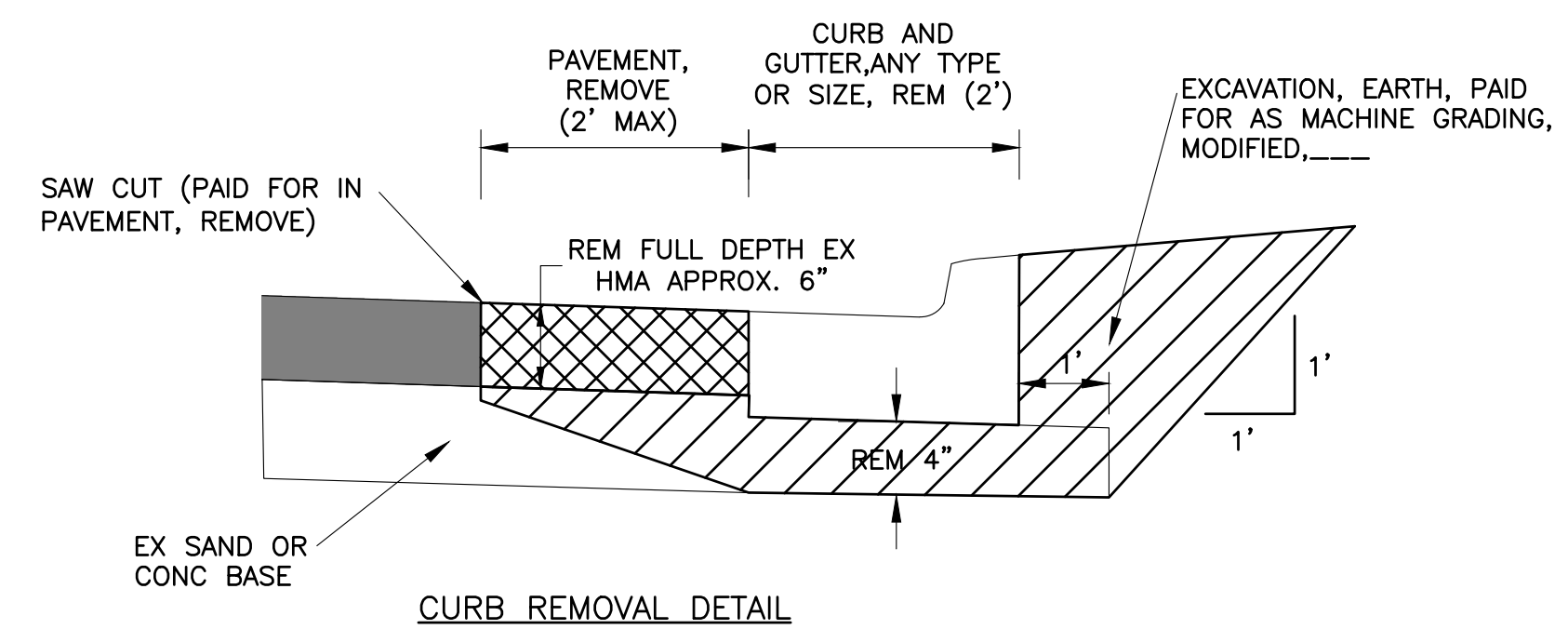
MEASUREMENT OF AREA  
W x L = AREA

**NOTE:**

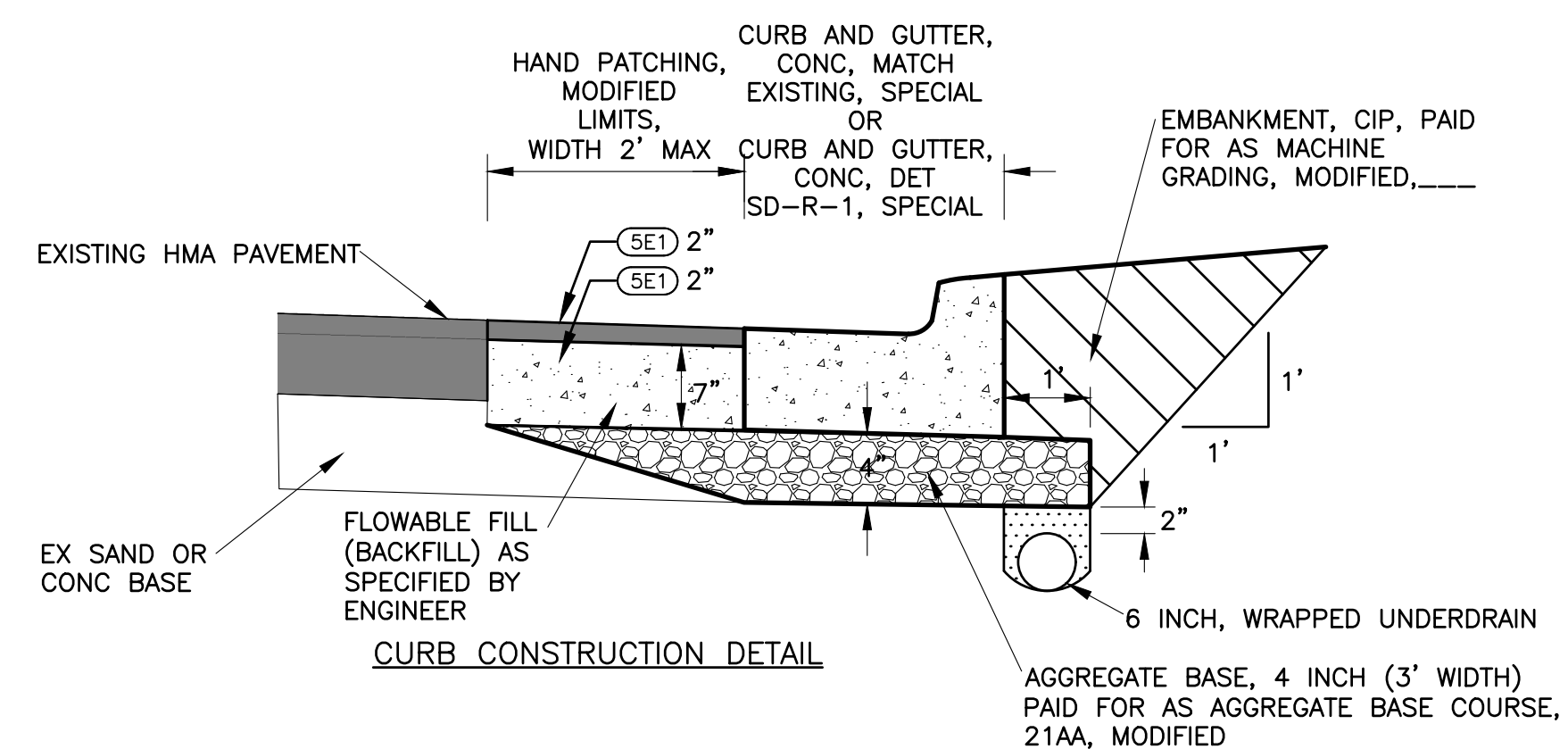
1. DRIVE APPROACH TO BE CLASS 'A' CONCRETE.
2. R(RADIUS) AND W(DRIVE WIDTH) AS REQUIRED FOR ZONING BY CITY CODE
3. IF GUTTER IS OVERLAPPED, GUTTER OF THE APPROACH SHALL BE AT SAME ELEVATION AS EXISTING GUTTER AND ASPHALT WEDGE SHALL BE PLACED IN THE APPROACH.

**TYPE 'M' DRIVE APPROACH SD-R-6**

PAID FOR AS DRIVEWAY OPENING, CONC, DETAIL M, P-NC



**CURB REMOVAL DETAIL**



**CURB CONSTRUCTION DETAIL**

**DETAIL FOR CURB REPLACEMENT AREAS**

NOTE: 6 INCH, WRAPPED UNDERDRAIN SHALL BE PLACED UNDER ALL NEW CURB AND GUTTER AND AS DIRECTED BY THE ENGINEER.



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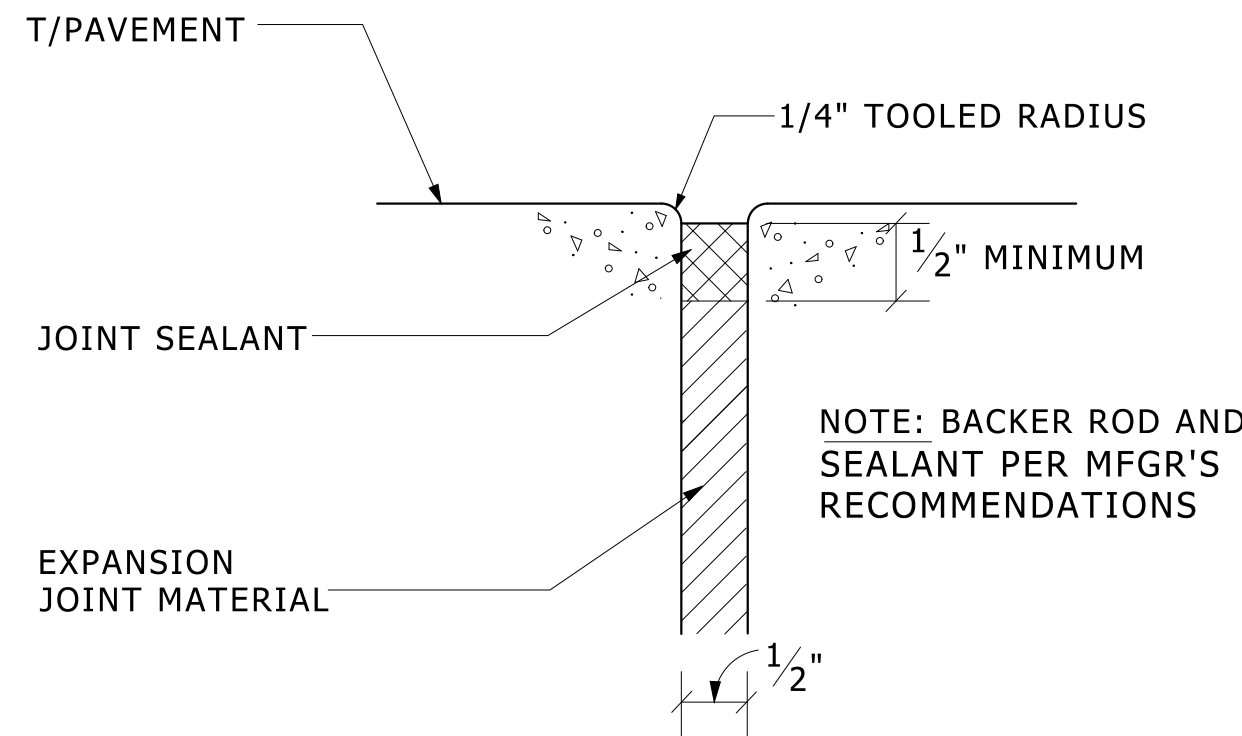


CITY OF ANN ARBOR - ENGINEERING  
HOOPER, GREENE, & HILL  
IMPROVEMENT PROJECT  
MISCELLANEOUS DETAILS

SCALE NTS  
DRAWING No. 2018-031-24

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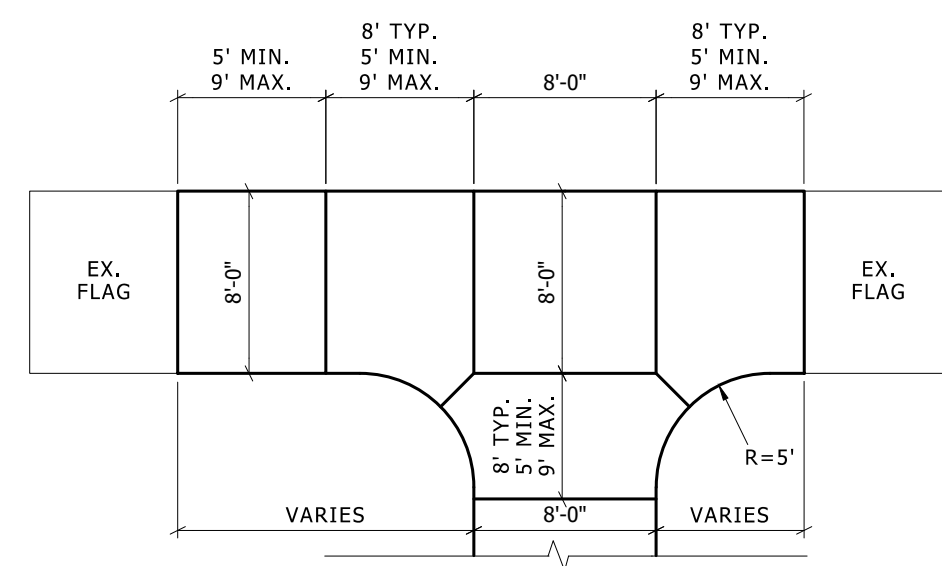


**PAVEMENT EXPANSION JOINT (E.J.)**

NO SCALE

1. VERTICAL SURFACES:  
PROVIDE MANUFACTURER'S STANDARD, NON-MODIFIED, TWO-OR-MORE-PART, POLY-SULFIDE-BASED, ELASTOMERIC SEALANT; COMPLYING WITH EITHER ASTM C 920 TYPE M CLASS 25, OR FS TT-S-00227E CLASS A; NON-SAG GRADE/TYPE.
2. HORIZONTAL SURFACES:  
PROVIDE MANUFACTURER'S STANDARD, NON-MODIFIED, TWO-OR-MORE-PART, POLYURETHANE-BASED, ELASTOMERIC SEALANT; COMPLYING WITH EITHER ASTM C 920 TYPE M CLASS 25, OR FS TT-S-00227E CLASS A; SELF-LEVELING GRADE/TYPE.
3. SET UP TIME FOR SEALANT ON WALKING SURFACES SHALL BE NO LONGER THAN 8 HOURS.
4. PROVIDE PRODUCT OF ONE OF THE FOLLOWING MANUFACTURES:
  - a. CONTECH/SONNEBORN
  - b. MAMECO INTERNATIONAL
  - c. W.R. MEADOWS, INC.
  - d. PECORA CORP.
  - e. PRODUCTS RESEARCH & CHEMICAL CORP.
  - f. SIKA CHEMICAL CORP.
  - g. TREMCO, INC.
  - h. TOCH/CARBOLINE
5. DO NOT ALLOW SEALANTS TO OVERFLOW OR SPILL ONTO ADJOINING SURFACES. REMOVE EXCESS AND SPILLAGE OF SEALANTS PROMPTLY.
6. SEALED ZIP STRIPS ARE ACCEPTABLE.

INCLUDED IN THE APPLICABLE SIDEWALK PAY ITEMS.

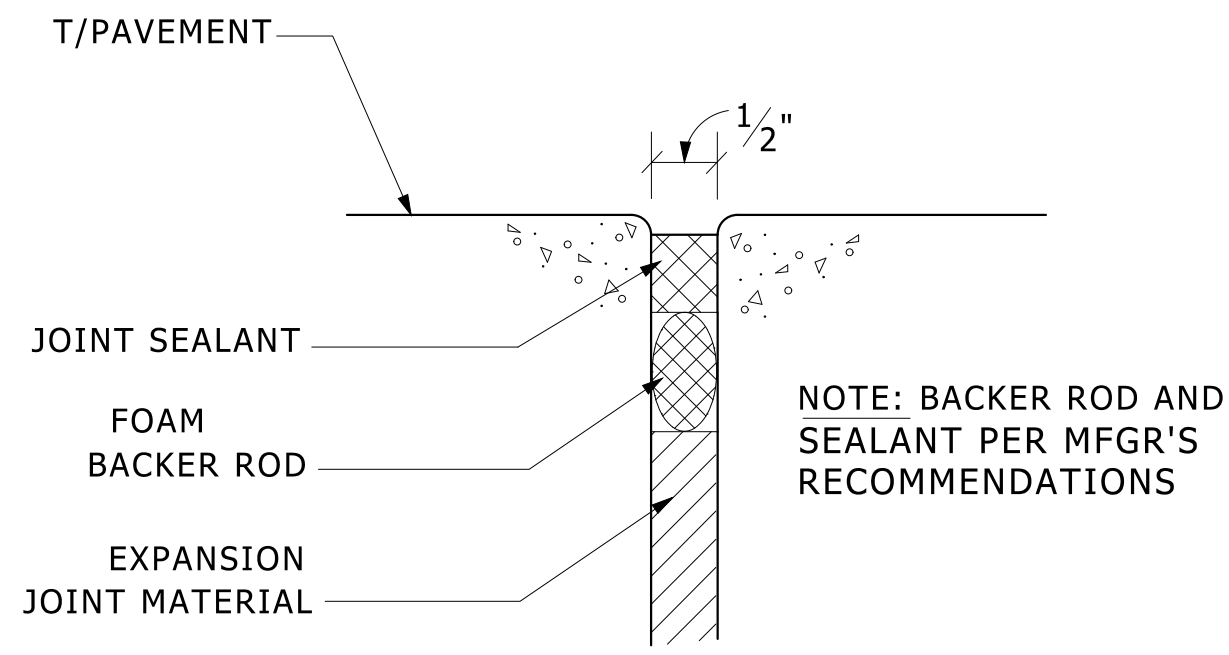


**SIDEWALK CONTROL JOINT LAYOUT**

NO SCALE

INCLUDED IN THE APPLICABLE SIDEWALK PAY ITEMS.

SD-SW-CTRL\_JNT



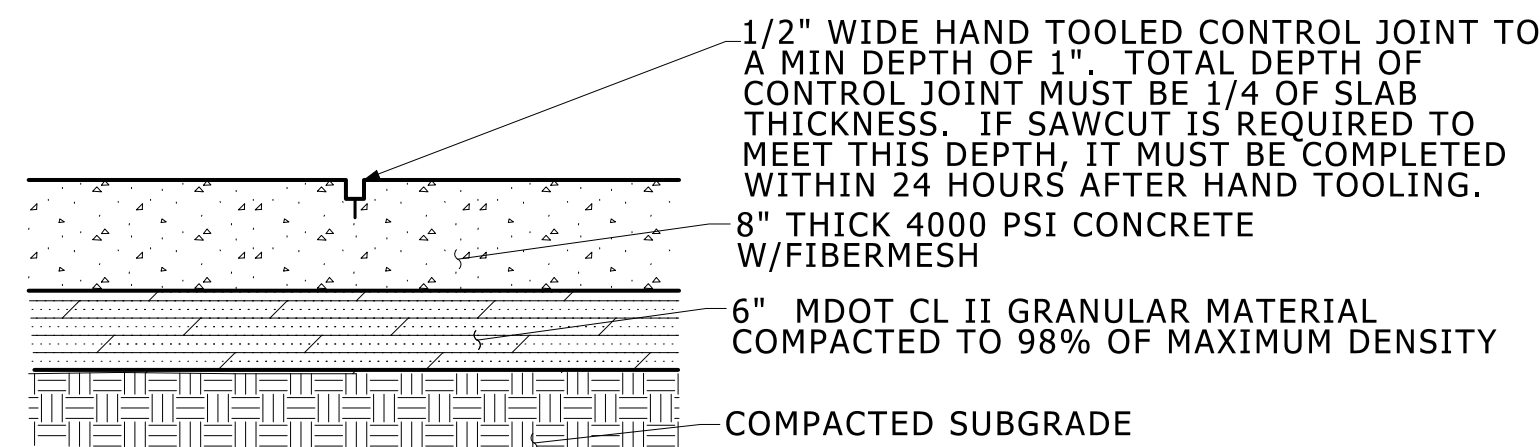
**EXPANSION JOINT REPLACEMENT**

NO SCALE

1. VERTICAL SURFACES:  
PROVIDE MANUFACTURER'S STANDARD, NON-MODIFIED, TWO-OR-MORE-PART, POLY-SULFIDE-BASED, ELASTOMERIC SEALANT; COMPLYING WITH EITHER ASTM C 920 TYPE M CLASS 25, OR FS TT-S-00227E CLASS A; NON-SAG GRADE/TYPE.
2. HORIZONTAL SURFACES:  
PROVIDE MANUFACTURER'S STANDARD, NON-MODIFIED, TWO-OR-MORE-PART, POLYURETHANE-BASED, ELASTOMERIC SEALANT; COMPLYING WITH EITHER ASTM C 920 TYPE M CLASS 25, OR FS TT-S-00227E CLASS A; SELF-LEVELING GRADE/TYPE.
3. SET UP TIME FOR SEALANT ON WALKING SURFACES SHALL BE NO LONGER THAN 8 HOURS.
4. PROVIDE PRODUCT OF ONE OF THE FOLLOWING MANUFACTURES:
  - a. CONTECH/SONNEBORN
  - b. MAMECO INTERNATIONAL
  - c. W.R. MEADOWS, INC.
  - d. PECORA CORP.
  - e. PRODUCTS RESEARCH & CHEMICAL CORP.
  - f. SIKA CHEMICAL CORP.
  - g. TREMCO, INC.
  - h. TOCH/CARBOLINE
5. DO NOT ALLOW SEALANTS TO OVERFLOW OR SPILL ONTO ADJOINING SURFACES. REMOVE EXCESS AND SPILLAGE OF SEALANTS PROMPTLY.

INCLUDED IN THE APPLICABLE SIDEWALK PAY ITEMS.

SD-SW-EXP\_JNT



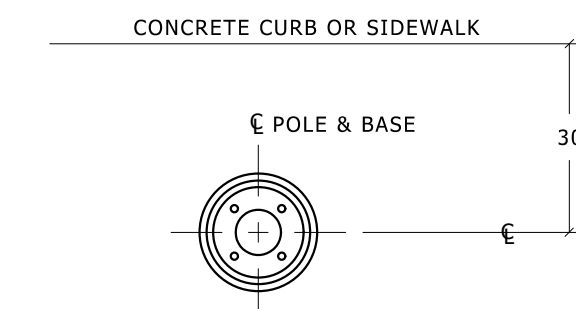
**SIDEWALK - 8" THICKNESS**

NO SCALE

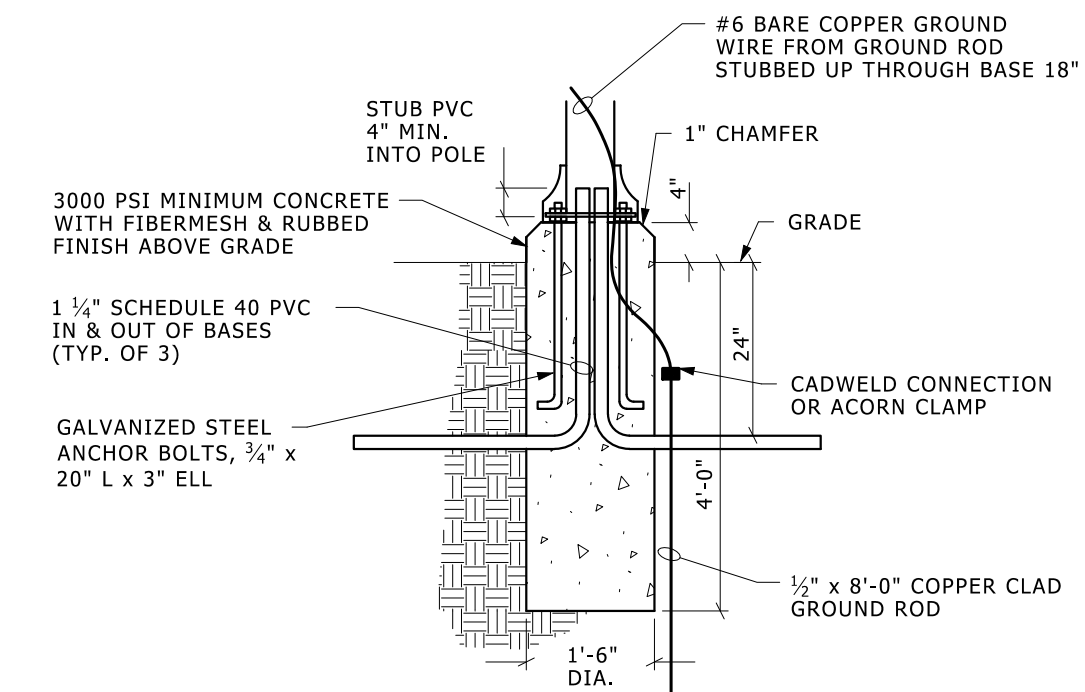
- NOTES:
- EXPANSION JOINTS SHALL BE INSTALLED SUCH THAT NO SINGLE DIMENSION EXCEEDS 50 FT. AREA BETWEEN EXPANSION JOINTS NOT TO EXCEED 320 SQ.FT.
  - 1/2" EXPANSION PAPER SHALL BE PLACED AT ALL LOCATIONS WHERE NEW SIDEWALK ABUTS CONCRETE CURB, EXISTING SIDEWALK, LIGHT POLE BASES AND RETAINING WALLS.
  - SNAP-CAP EXPANSION JOINT STRIPS CAN BE USED ON ALL EXPANSION JOINTS.
  - ALL EXPANSION JOINTS SHALL BE SEALED.
  - BROOM FINISH PARALLEL TO JOINTS AND PERPENDICULAR TO TRAFFIC (IF BROOMING PATTERN NOT SHOWN).

INCLUDED IN THE APPLICABLE SIDEWALK PAY ITEMS.

SD-SW-STD



**BASE PLAN VIEW**

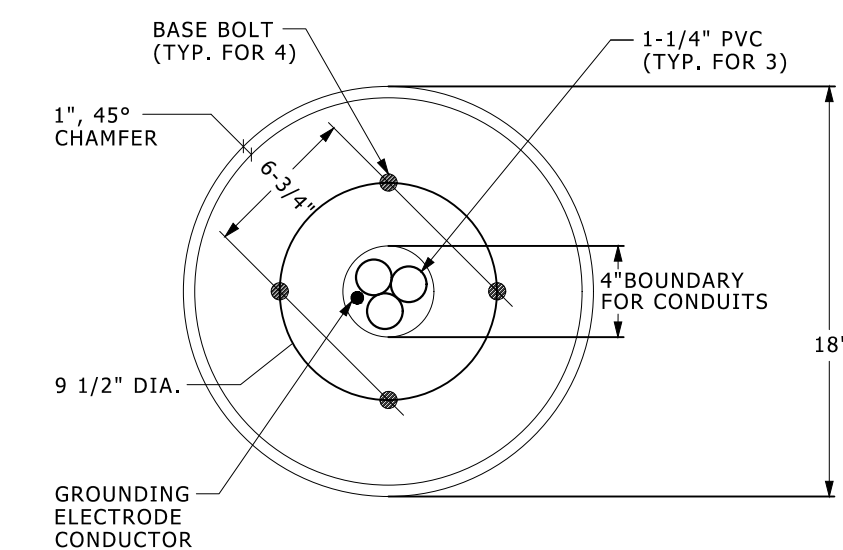


**TYPICAL PEDESTRIAN LIGHT POLE BASE IN LAWN**

NO SCALE

26560013.dgn

INCLUDED IN THE PAY ITEM PEDESTRIAN LIGHT, REMOVE AND RE-INSTALL.



**PEDESTRIAN POLE BASE - PLAN VIEW**

NO SCALE

26560017.dgn

INCLUDED IN THE PAY ITEM PEDESTRIAN LIGHT, REMOVE AND RE-INSTALL.

c:\pwork\mfonagan\d0549816\33 DETAILS.dwg Dwg Created: 17-Jul-18 - \_o2 standard bw.stb - Plot Date: 1-Feb-19



NO.	DATE	DESCRIPTION	REV.

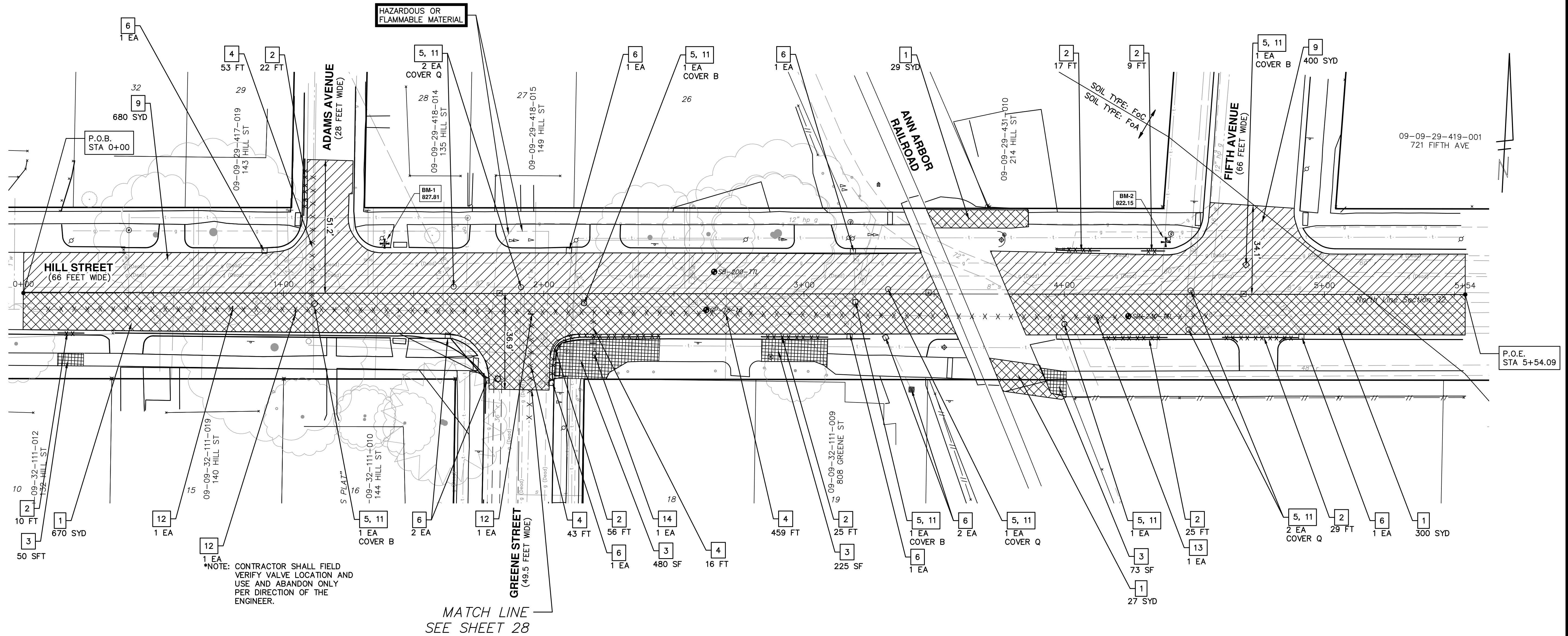
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**IMPROVEMENT PROJECT**  
MISCELLANEOUS DETAILS

SCALE NTS  
DRAWING No. 2018-031-25

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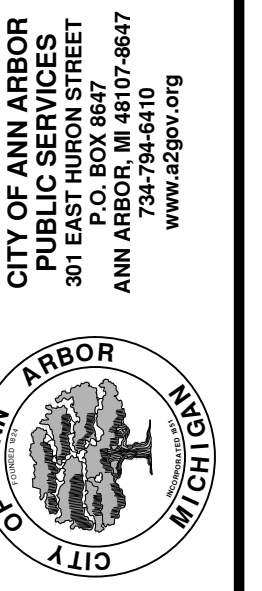


REMOVAL KEY	
KEY	DESCRIPTION
1	PAVEMENT, REMOVE*
2	CURB AND GUTTER, ANY TYPE OR SIZE, REMOVE*
3	SIDEWALK AND RAMPS, REMOVE* DRIVEWAY APPROACH, REMOVE*
4	__ INCH WATER MAIN, ABANDON
5	ADJUST MONUMENT BOX, GATE VALVE BOX, OR STRUCTURE COVER
6	EROSION CONTROL, INLET FILTER
7	DR STRUCTURE, ANY SIZE OR DEPTH, REM

REMOVAL KEY	
KEY	DESCRIPTION
9	COLD MILLING HMA SURFACE, MODIFIED
11	STRUCTURE COVERS, SPECIAL
12	__ INCH GATE VALVE-IN-BOX, ABANDON
13	__ INCH GATE VALVE-IN-WELL, ABANDON
14	FIRE HYDRANT, REM

\*SAWCUT FULL DEPTH AT REMOVAL LIMITS

NOTE: DRIVEWAY APPROACH REMOVAL SHALL BE DETERMINED ON A CASE BY CASE BASIS AT THE SOLE DISCRETION OF THE CITY ENGINEER. THIS WORK SHALL BE PAID FOR AS "DRIVEWAY APPROACH, REMOVE"



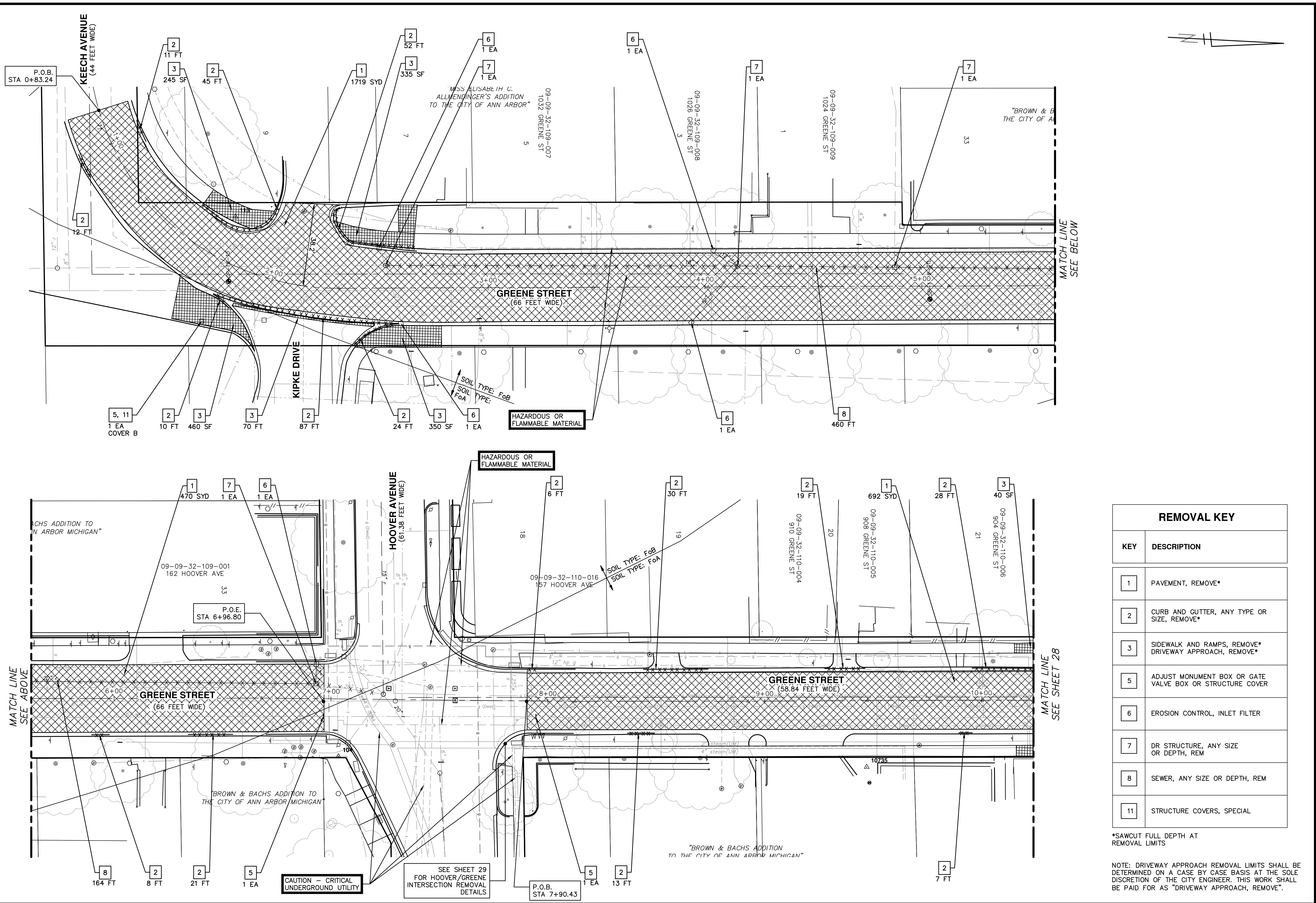
**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**  
**HOOVER, GREENE, & HILL**  
**IMPROVEMENT PROJECT**  
SESC AND REMOVAL PLAN - HILL STREET

SCALE PLAN: 1" = 20'  
DRAWING No. 2018-031-26  
SHEET No. 26 OF 83

REV.	DESCRIPTION	DATE	DRAWN	CHECKED



c:\pwwork\mfianagan\d0549816\Removal and SESC - Greene.dwg Dwg Created: 20-Nov-18 - \_a2\_standard bw.stb - Plot Date: 1-Feb-19



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

**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**

SESC AND REMOVAL PLAN - GREENE STREET

SCALE PLAN: 1" = 20'

DRAWING NO. 2018-031-27

SHEET NO. 27 OF 83

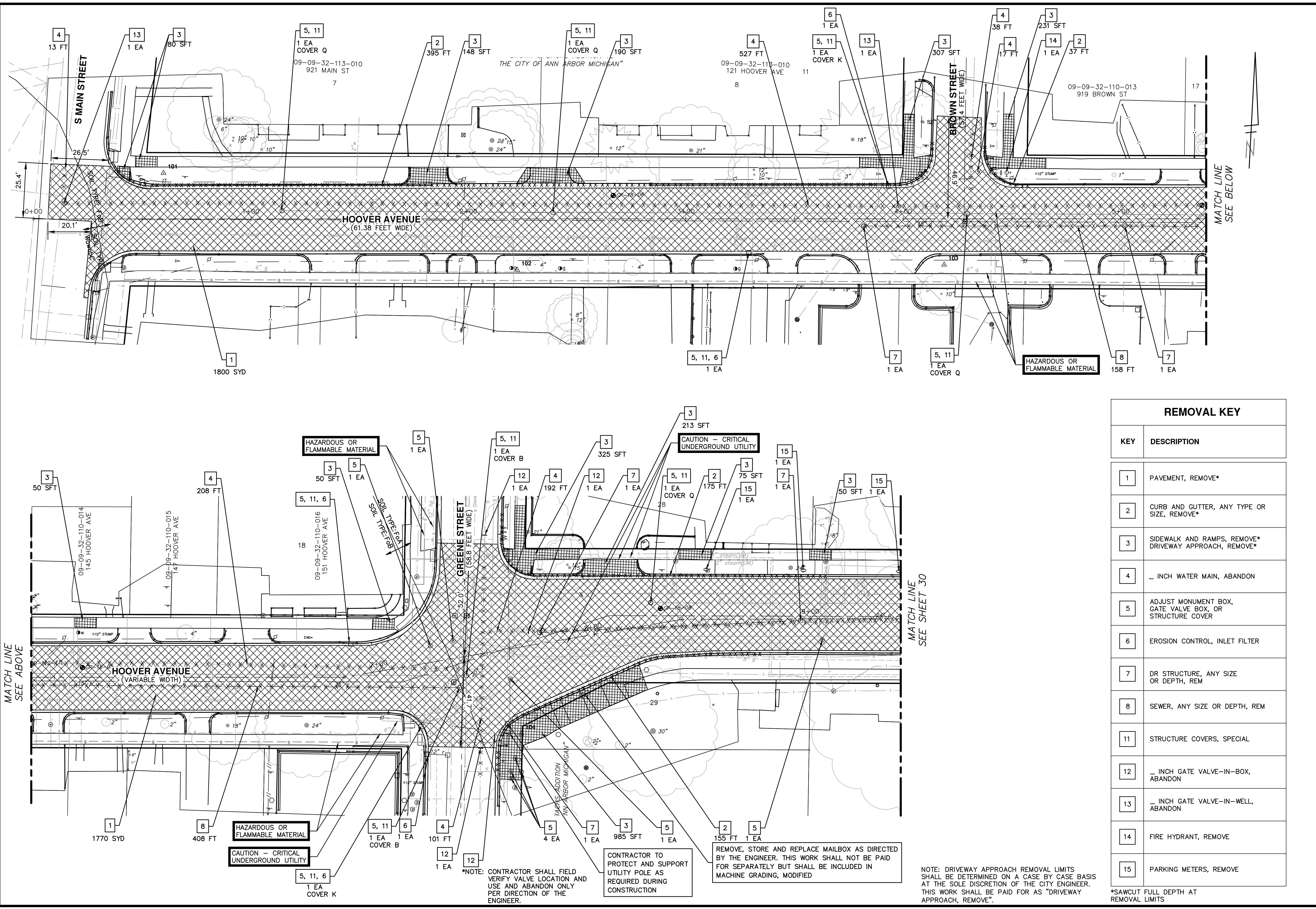
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REV.	DESCRIPTION	DATE	DRAWN	CHECKED





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REMOVAL KEY	
KEY	DESCRIPTION
1	PAVEMENT, REMOVE*
2	CURB AND GUTTER, ANY TYPE OR SIZE, REMOVE*
3	SIDEWALK AND RAMPS, REMOVE* DRIVEWAY APPROACH, REMOVE*
4	12 INCH WATER MAIN, ABANDON
5	ADJUST MONUMENT BOX, GATE VALVE BOX, OR STRUCTURE COVER
6	EROSION CONTROL, INLET FILTER
7	DR STRUCTURE, ANY SIZE OR DEPTH, REM
8	SEWER, ANY SIZE OR DEPTH, REM
11	STRUCTURE COVERS, SPECIAL
12	12 INCH GATE VALVE-IN-BOX, ABANDON
13	12 INCH GATE VALVE-IN-WELL, ABANDON
14	FIRE HYDRANT, REMOVE
15	PARKING METERS, REMOVE

\*NOTE: CONTRACTOR SHALL FIELD VERIFY VALVE LOCATION AND USE AND ABANDON ONLY PER DIRECTION OF THE ENGINEER.

CONTRACTOR TO PROTECT AND SUPPORT UTILITY POLE AS REQUIRED DURING CONSTRUCTION

REMOVE, STORE AND REPLACE MAILBOX AS DIRECTED BY THE ENGINEER. THIS WORK SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN MACHINE GRADING, MODIFIED

NOTE: DRIVEWAY APPROACH REMOVAL LIMITS SHALL BE DETERMINED ON A CASE BY CASE BASIS AT THE SOLE DISCRETION OF THE CITY ENGINEER. THIS WORK SHALL BE PAID FOR AS "DRIVEWAY APPROACH, REMOVE".

\*SAWCUT FULL DEPTH AT REMOVAL LIMITS

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

**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**

SESC AND REMOVAL PLAN - HOOVER AVENUE

SCALE PLAN: 1" = 20'

DRAWING NO: 2018-031-29

SHEET NO. 29 OF 83

**811**  
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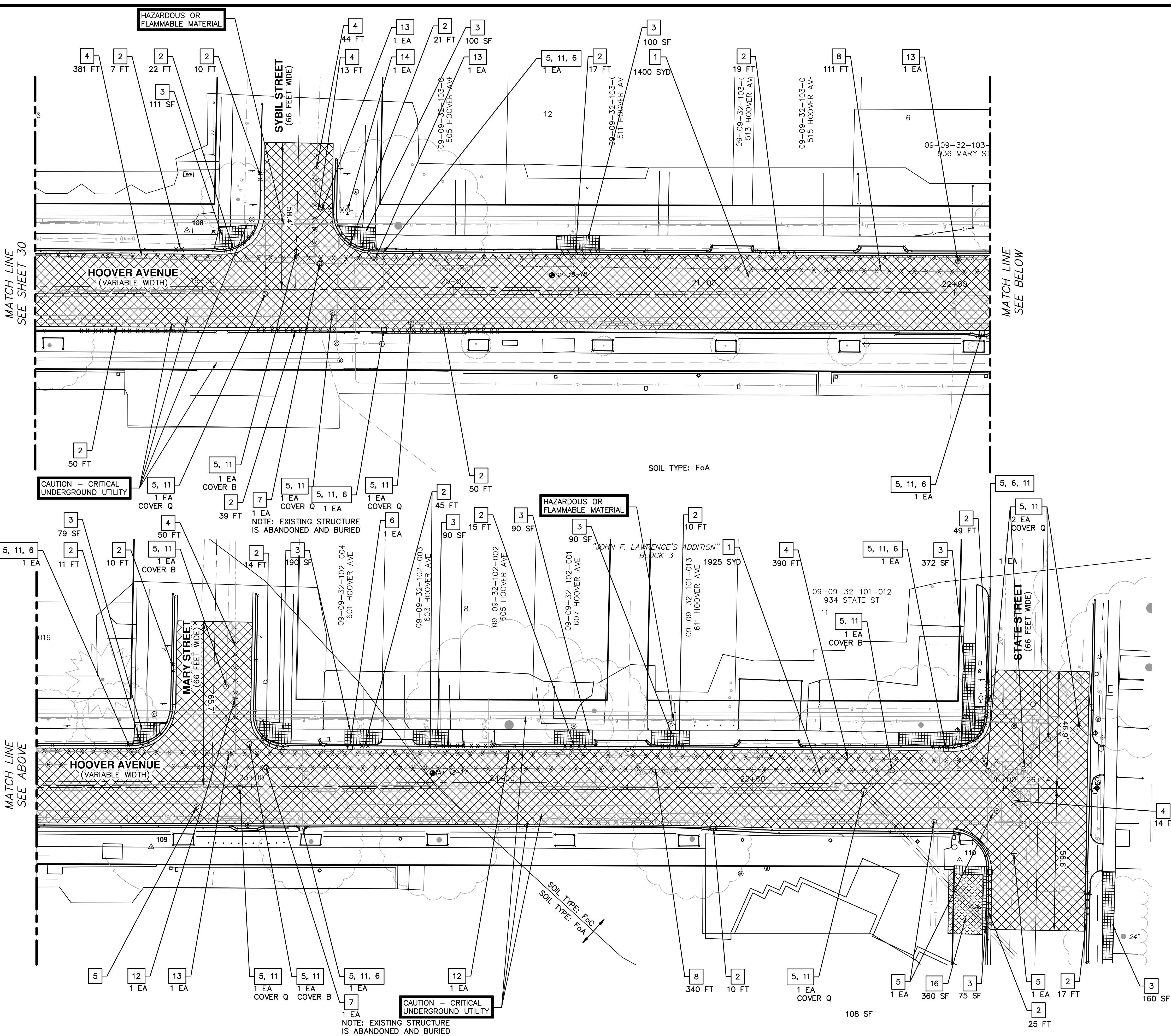
**CITY OF ANN ARBOR**







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REMOVAL KEY	
KEY	DESCRIPTION
1	PAVEMENT, REMOVE*
2	CURB AND GUTTER, ANY TYPE OR SIZE, REMOVE*
3	SIDEWALK AND RAMPS, REMOVE* DRIVEWAY APPROACH, REMOVE*
4	_ INCH WATER MAIN, ABANDON
5	ADJUST MONUMENT BOX, GATE VALVE BOX, OR STRUCTURE COVER
6	EROSION CONTROL, INLET FILTER
7	DR STRUCTURE, ANY SIZE OR DEPTH, REM
8	SEWER, ANY SIZE OR DEPTH, REM
11	STRUCTURE COVERS, SPECIAL
12	_ INCH GATE VALVE-IN-BOX, ABANDON
13	_ INCH GATE VALVE-IN-WELL, ABANDON
14	FIRE HYDRANT, REM
16	SIDEWALK, CONC OR CLAY BRICK PAVERS, REM AND REINSTALL

\*SAWCUT FULL DEPTH AT REMOVAL LIMITS  
NOTE: DRIVEWAY APPROACH REMOVAL LIMITS SHALL BE DETERMINED ON A CASE BY CASE BASIS AT THE SOLE DISCRETION OF THE CITY ENGINEER. THIS WORK SHALL BE PAID FOR AS "DRIVEWAY APPROACH, REMOVE".

**811**  
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DESCRIPTION

DATE

DRAWN

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**

SESC AND REMOVAL PLAN - HOOVER AVENUE

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

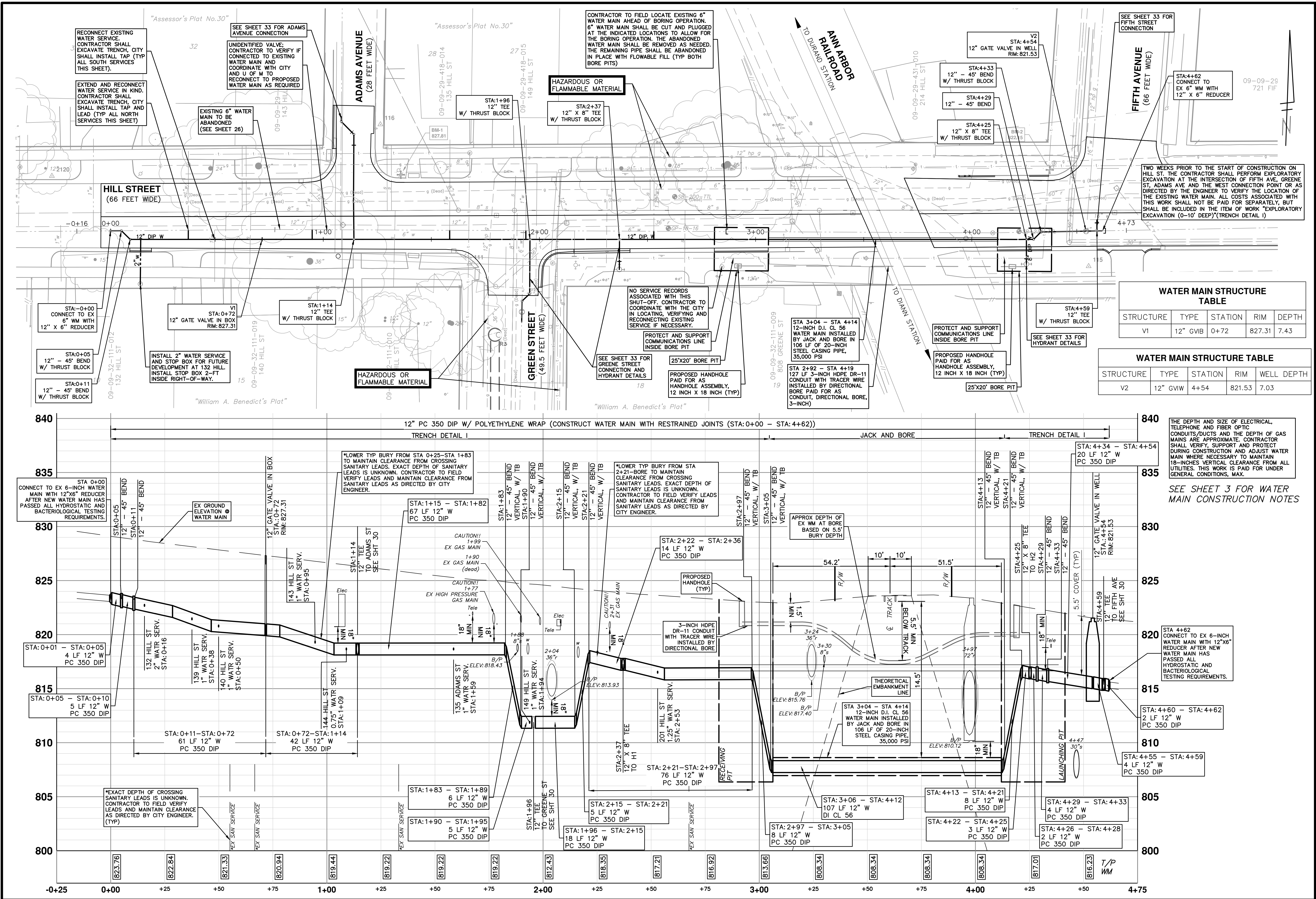
SCALE 1"=20'

DRAWING No. 2018-031-31

SHEET No. 31 OF 83

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

**HOOVER, GREENE, & HILL**

**IMPROVEMENT PROJECT**

WATER MAIN PLAN AND PROFILE - HILL STREET

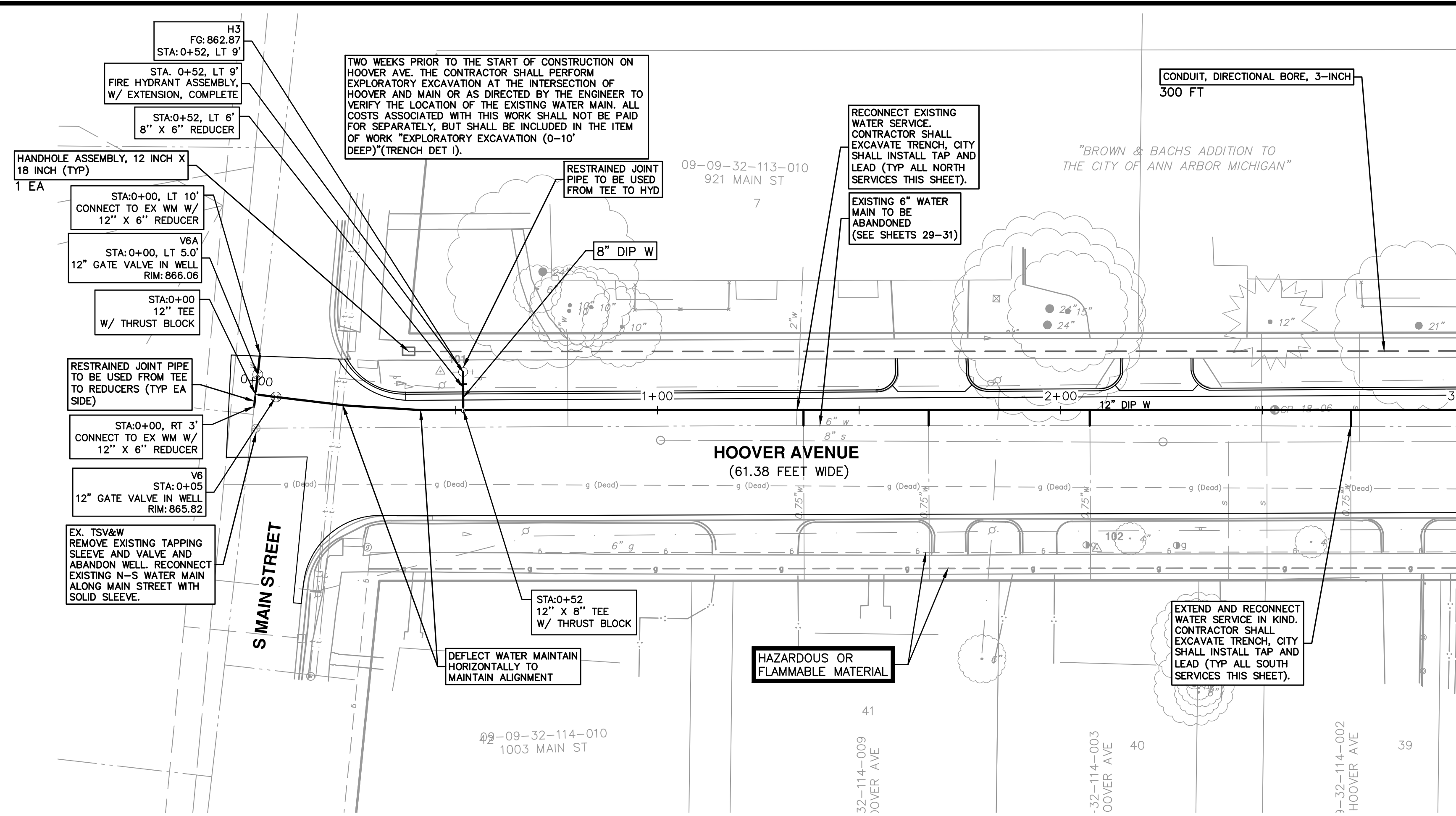
REV.	DATE	DRAWN	CHECKED	DESCRIPTION

SCALE PLAN: 1" = 20'  
 PROFILE: 1" = 4'  
 DRAWING NO. 2018-031-32  
 SHEET NO. 32 OF 83





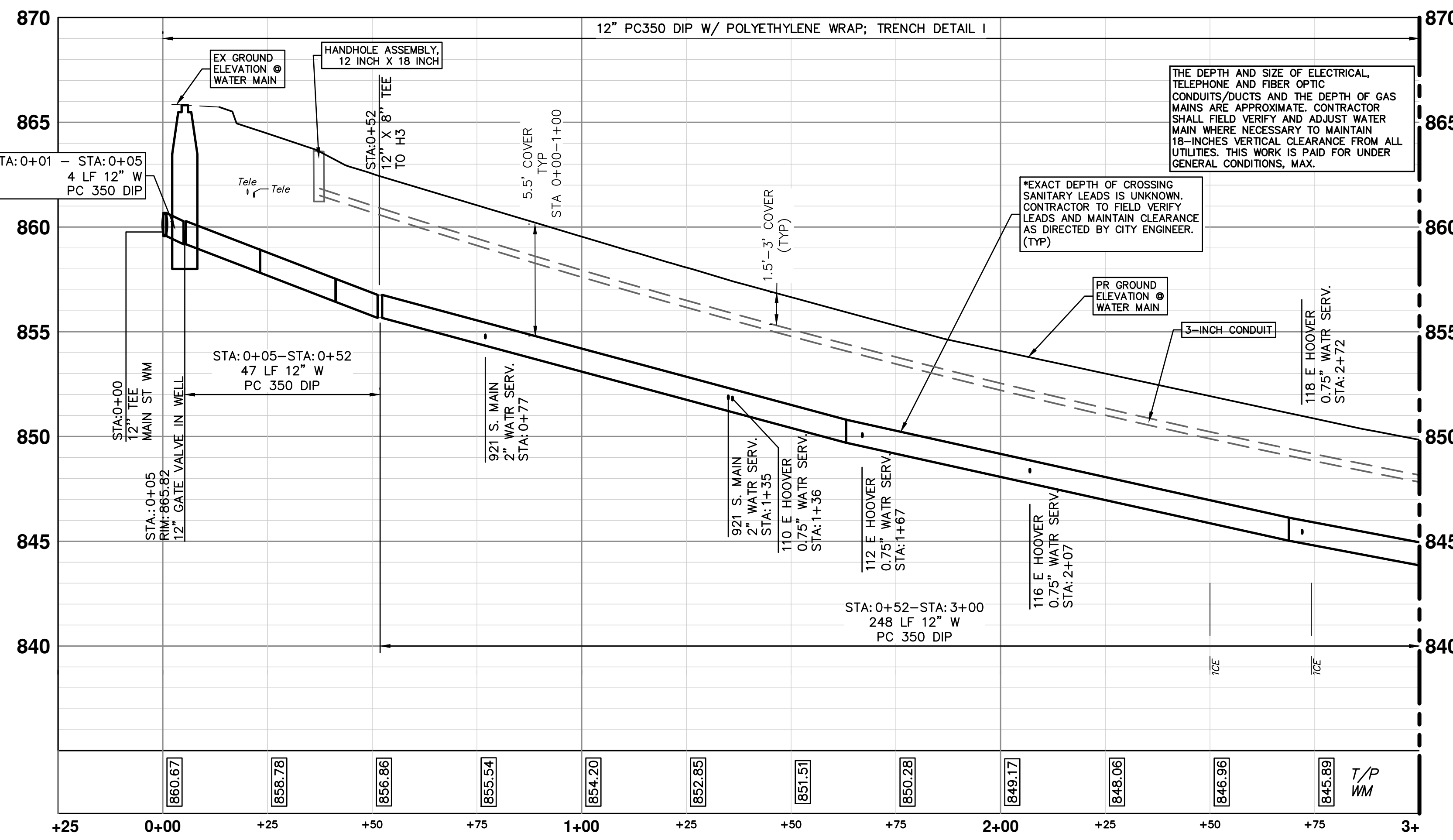
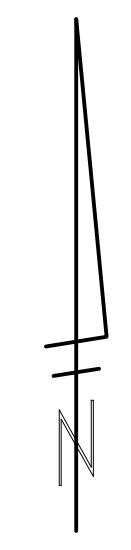
c:\pwork\mfonagan\0549816\10 PROPOSED WATER MAIN - HOOVER AVENUE.dwg Dwg Created: 2--Nov--18 --\_02 standard bw.stb - Plot Date: 1--Feb--19



MATCH LINE STA 3+00  
SEE SHEET 35

STRUCTURE	TYPE	STATION	RIM	WELL DEPTH
V6	12" GVW	0+05	865.82	7.15

STRUCTURE	TYPE	STATION	FG	DEPTH
H3	HYDRANT ASSEMBLY	0+52, LT 9'	862.87	6.95



MATCH LINE STA 3+00  
SEE SHEET 35

SEE SHEET 3 FOR WATER MAIN CONSTRUCTION NOTES

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

**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**

WATER MAIN PLAN AND PROFILE - HOOVER AVE STA 0+00 TO STA 3+00

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

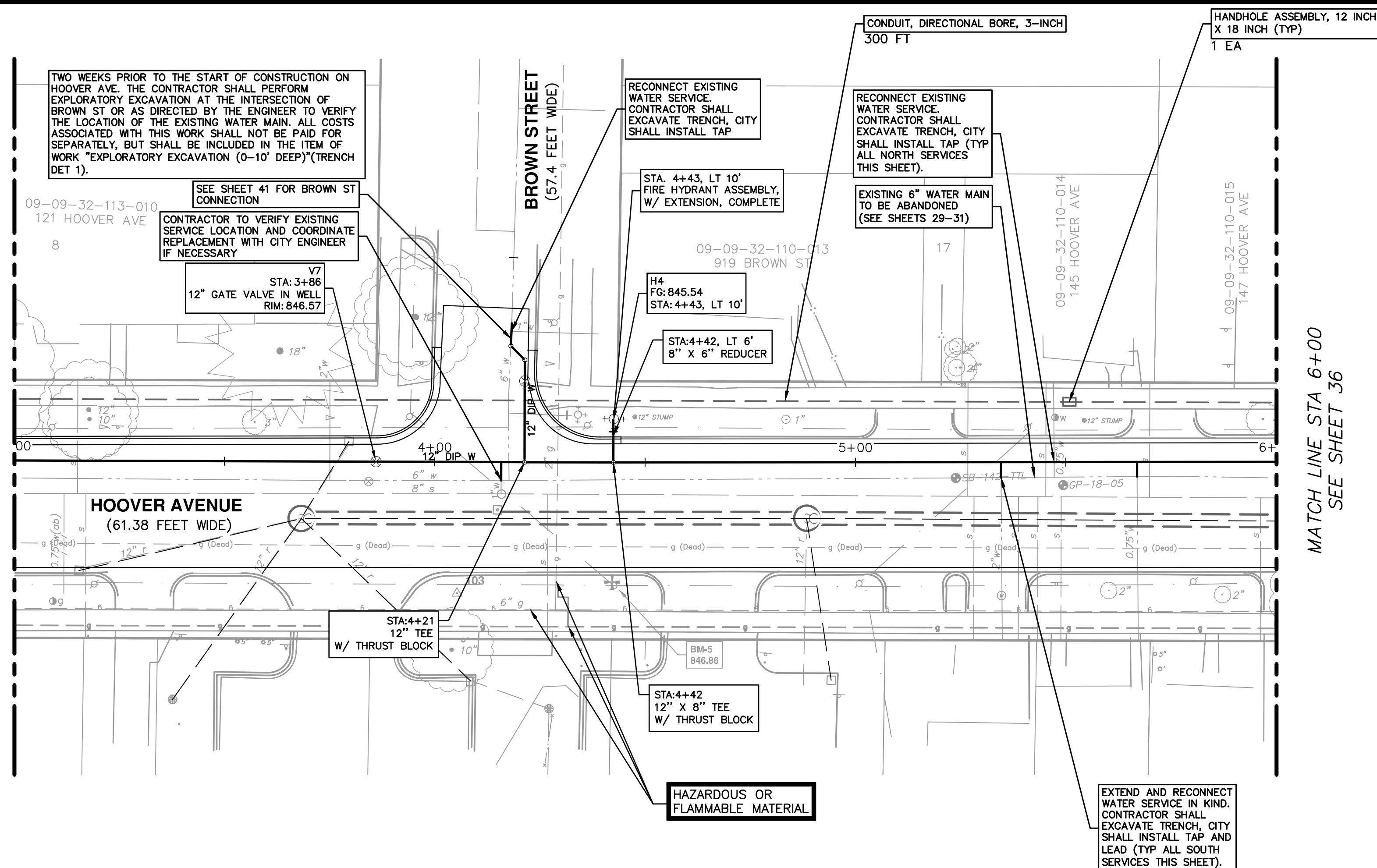
DRAWING No. 2018-031-34

SHEET No. 34 OF 83

REV.	DESCRIPTION	DATE	DRAWN	CHECKED

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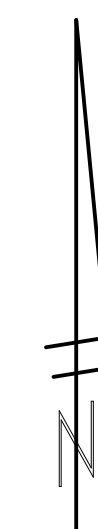
MATCH LINE STA 3+00  
SEE SHEET 34



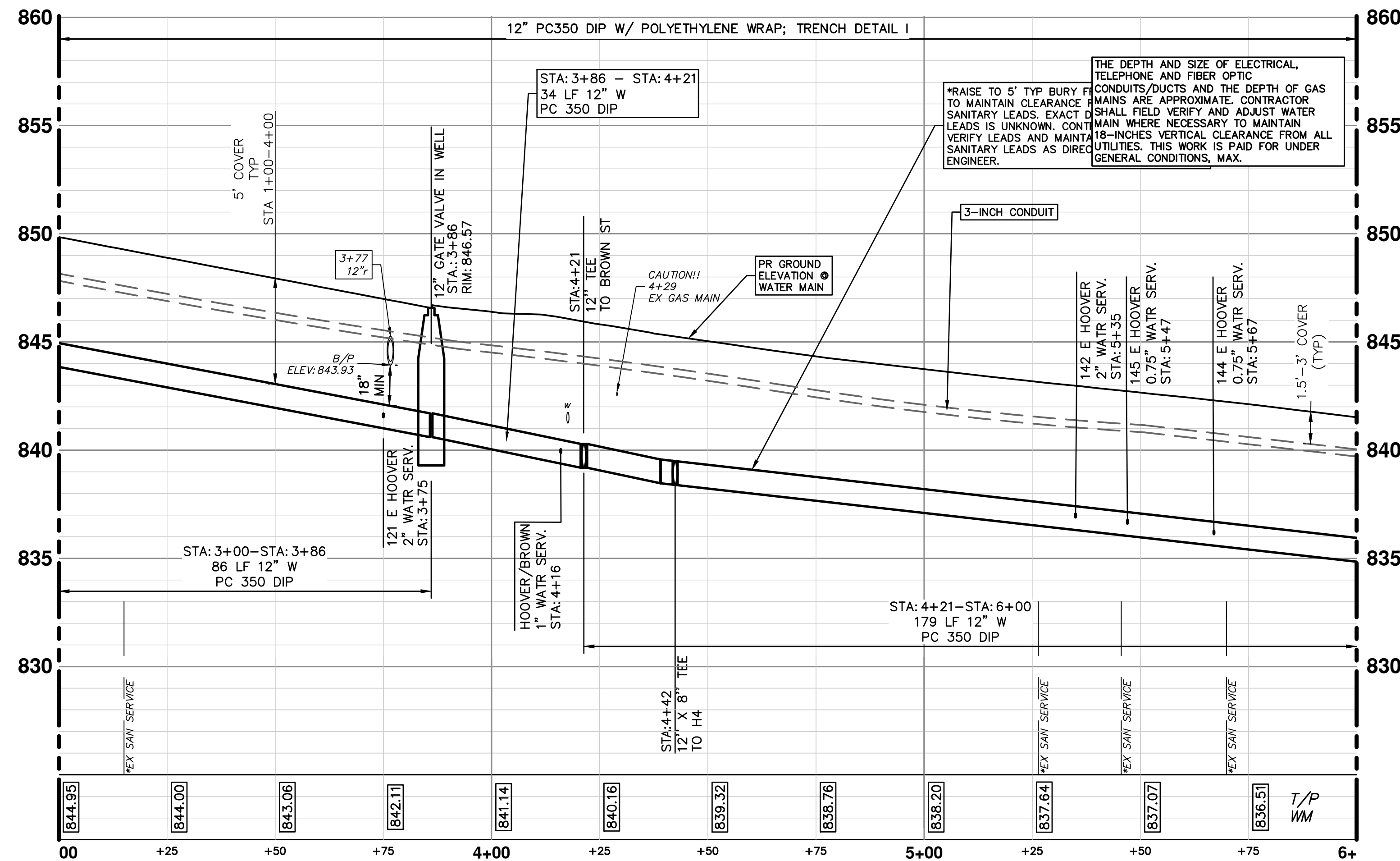
MATCH LINE STA 6+00  
SEE SHEET 36

WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	WELL DEPTH
V7	12" GWV	3+86	846.57	6.60

WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	FG	DEPTH
H4	HYDRANT ASSEMBLY	4+43, LT 10'	668.32	6.25



MATCH LINE STA 3+00  
SEE SHEET 34



MATCH LINE STA 6+00  
SEE SHEET 36

SEE SHEET 3 FOR WATER MAIN CONSTRUCTION NOTES



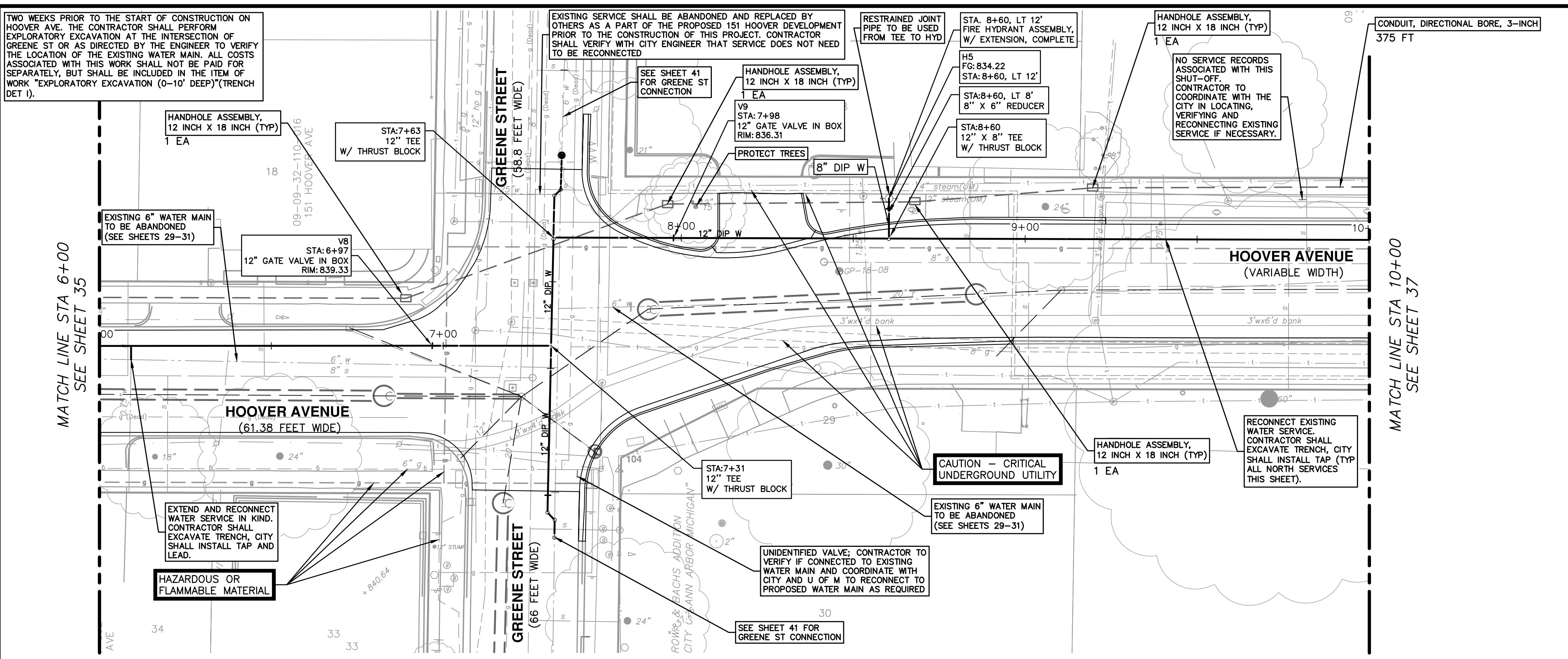
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**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**  
**HOOVER, GREENE, & HILL**  
**IMPROVEMENT PROJECT**

SCALE PLAN: 1" = 20'  
PROFILE: 1" = 4'  
DRAWING No.  
2018-031-35

c:\pwwork\mfonagan\0549816\10 PROPOSED WATER MAIN - HOOVER AVENUE.dwg Dwg Created: 2-Nov-18 - 02 standard bw.stb - Plot Date: 1-Feb-19

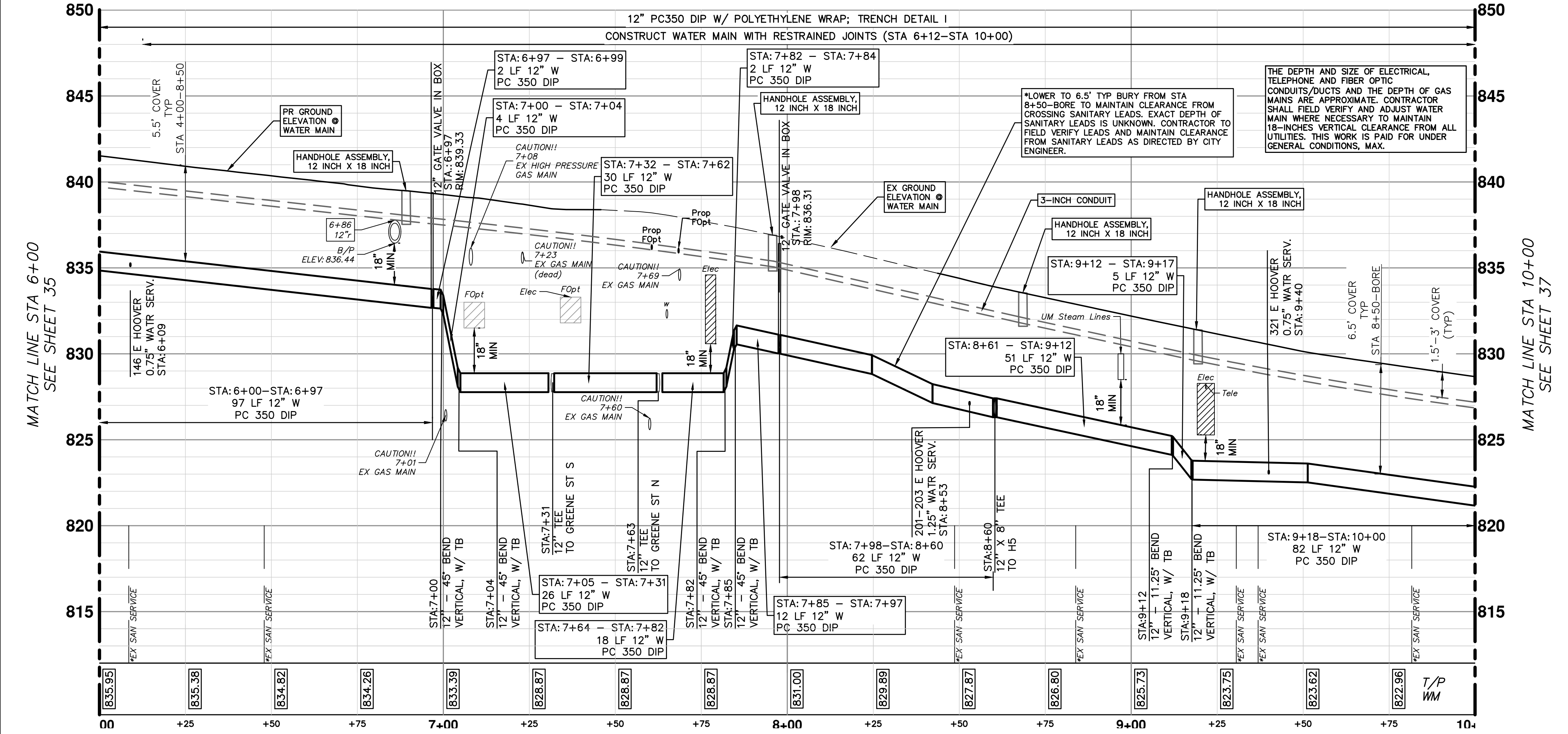


**WATER MAIN STRUCTURE TABLE**


STRUCTURE	TYPE	STATION	RIM	DEPTH
V8	12" GVIB	6+97	839.33	5.61
V9	12" GVIB	7+98	836.31	5.72

**WATER MAIN STRUCTURE TABLE**

STRUCTURE	TYPE	STATION	FG	DEPTH
H5	HYDRANT ASSEMBLY	8+60, LT 12'	537.24	6.65




SEE SHEET 3 FOR WATER MAIN CONSTRUCTION NOTES



Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED



**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**  
**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**  
 WATER MAIN PLAN & PROFILE - HOOVER AVE STA 6+00 TO STA 10+00

SCALE PLAN: 1" = 20'

PROFILE: 1" = 4'

DRAWING NO. 2018-031-36

SHEET NO. 36 OF 83

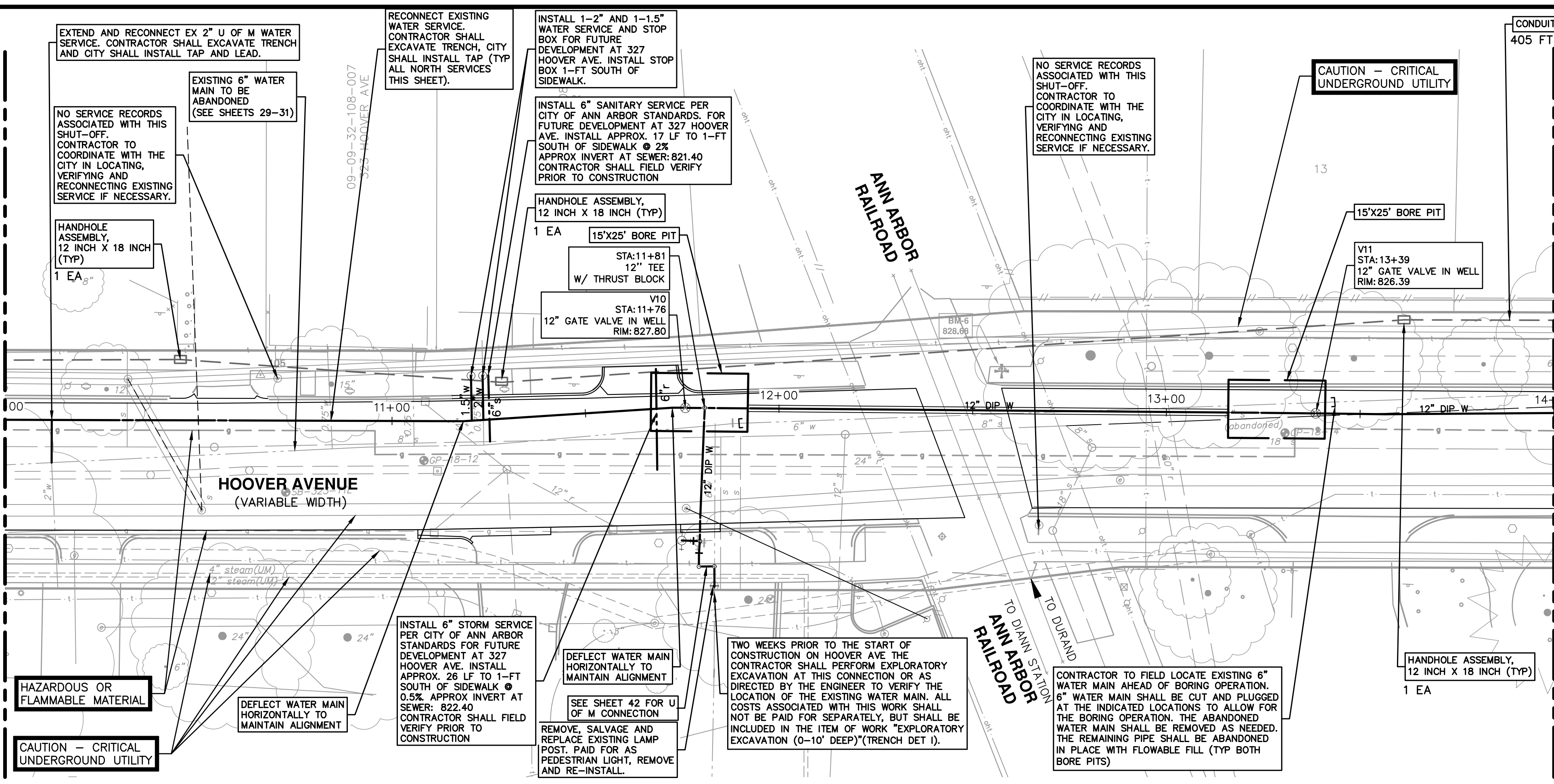


MATCH LINE STA 14+00  
SEE SHEET 36

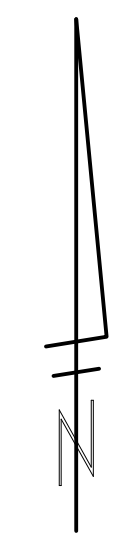
MATCH LINE STA 14+00  
SEE SHEET 36

MATCH LINE STA 14+00  
SEE SHEET 38

MATCH LINE STA 14+00  
SEE SHEET 38

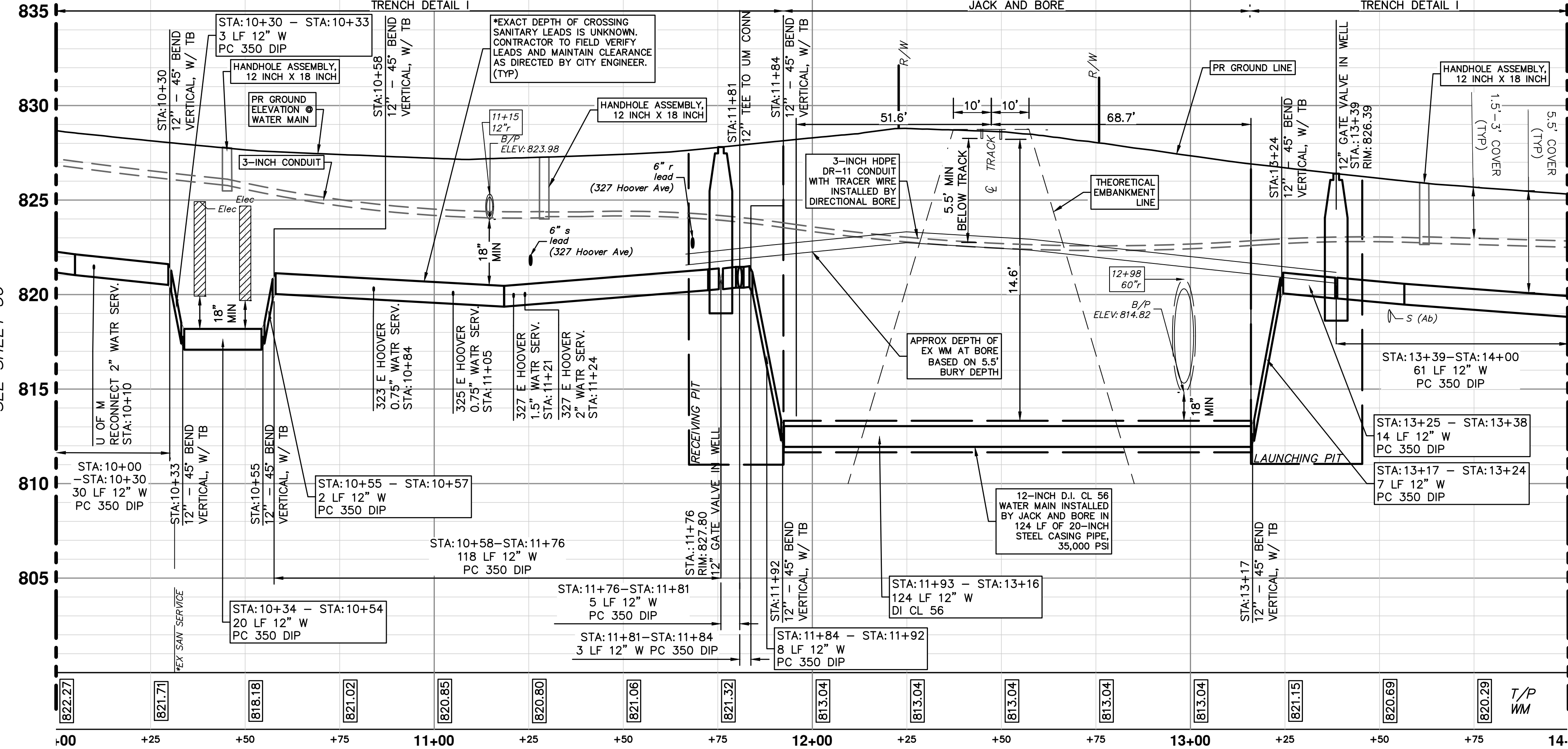


WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	WELL DEPTH
V10	12" GWV	11+76	827.80	8.13
V11	12" GWV	13+39	826.39	7.11



12" PC350 DIP W/ POLYETHYLENE WRAP  
CONSTRUCT WATER MAIN WITH RESTRAINED JOINTS (STA 10+00-STA 14+00)

THE DEPTH AND SIZE OF ELECTRICAL, TELEPHONE AND FIBER OPTIC CONDUITS/DUCTS AND THE DEPTH OF GAS MAINS ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY AND ADJUST WATER MAIN WHERE NECESSARY TO MAINTAIN 18-INCHES VERTICAL CLEARANCE FROM ALL UTILITIES. THIS WORK IS PAID FOR UNDER GENERAL CONDITIONS, MAX.



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

**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**

WATER MAIN PLAN & PROFILE - HOOVER AVE STA 10+00 TO STA 14+00

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

DRAWING NO. 2018-031-37

SHEET NO. 37 OF 83

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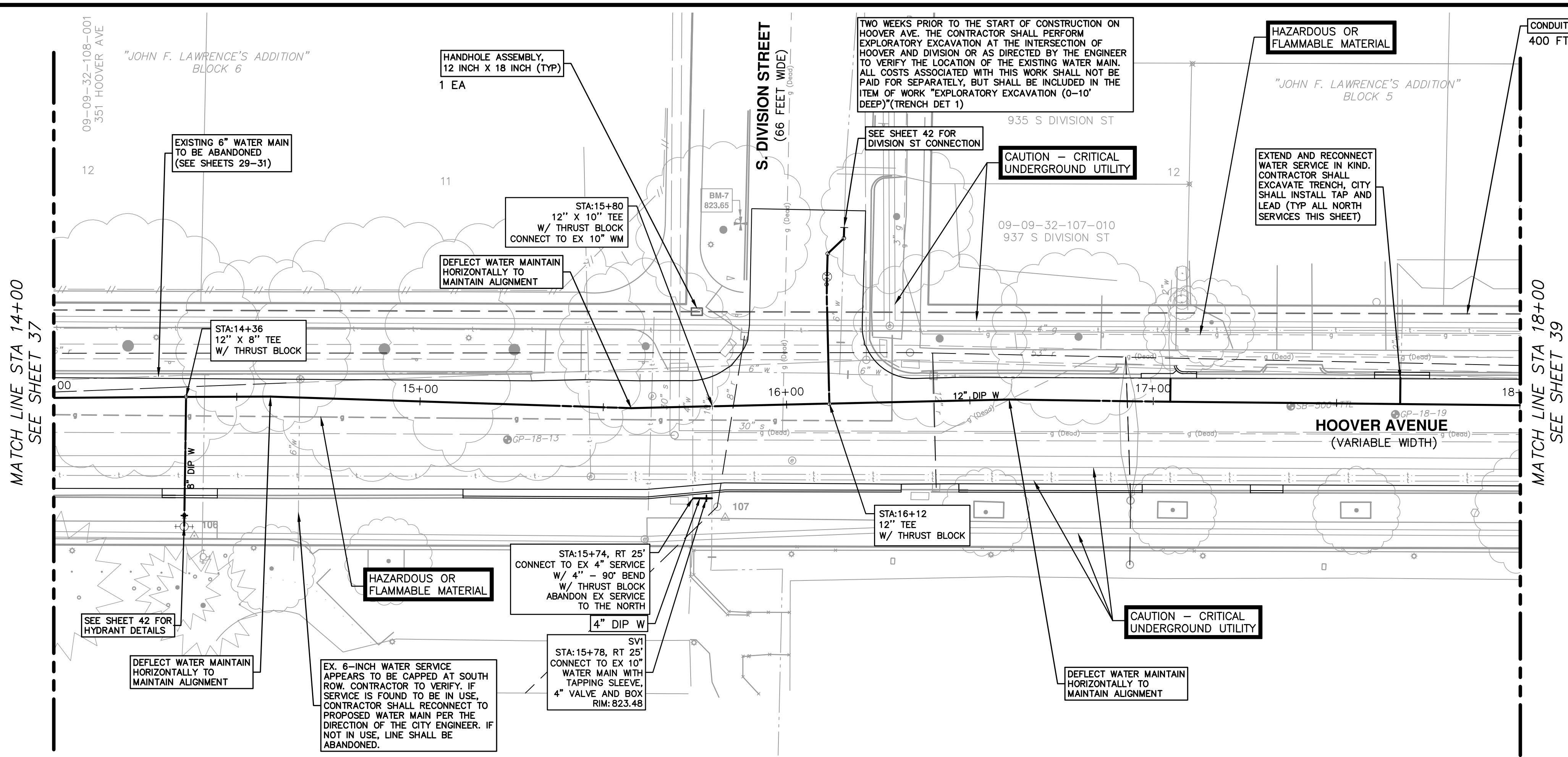
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ANN ARBOR  
MICHIGAN  
CITY

REV.	DESCRIPTION	DATE	DRAWN	CHECKED

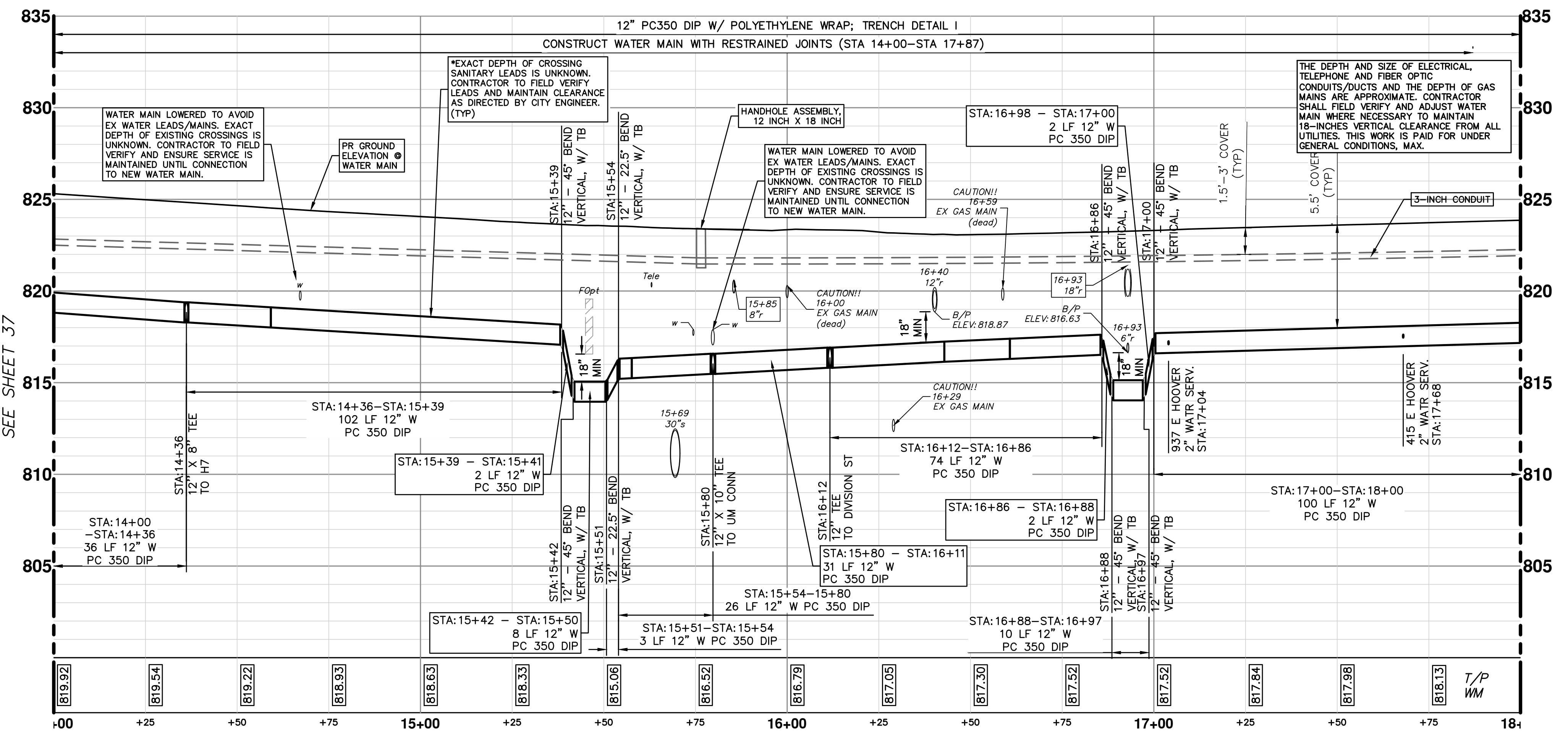
SEE SHEET 3 FOR WATER MAIN CONSTRUCTION NOTES

c:\pwwork\m\fanagan\00549816\10 PROPOSED WATER MAIN - HOOVER AVENUE.dwg Dwg Created: 2--Nov--18 - \_o2 standard bw.stb - Plot Date: 1--Feb--19



**WATER MAIN STRUCTURE TABLE**

STRUCTURE	TYPE	STATION	RIM	DEPTH
SV1	4\"/>			



SEE SHEET 3 FOR WATER MAIN CONSTRUCTION NOTES

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

**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**

WATER MAIN PLAN & PROFILE - HOOVER AVE STA 14+00 TO STA 18+00

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

DRAWING NO. 2018-031-38

SHEET NO. 38 OF 83

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Know what's below. Call before you dig.

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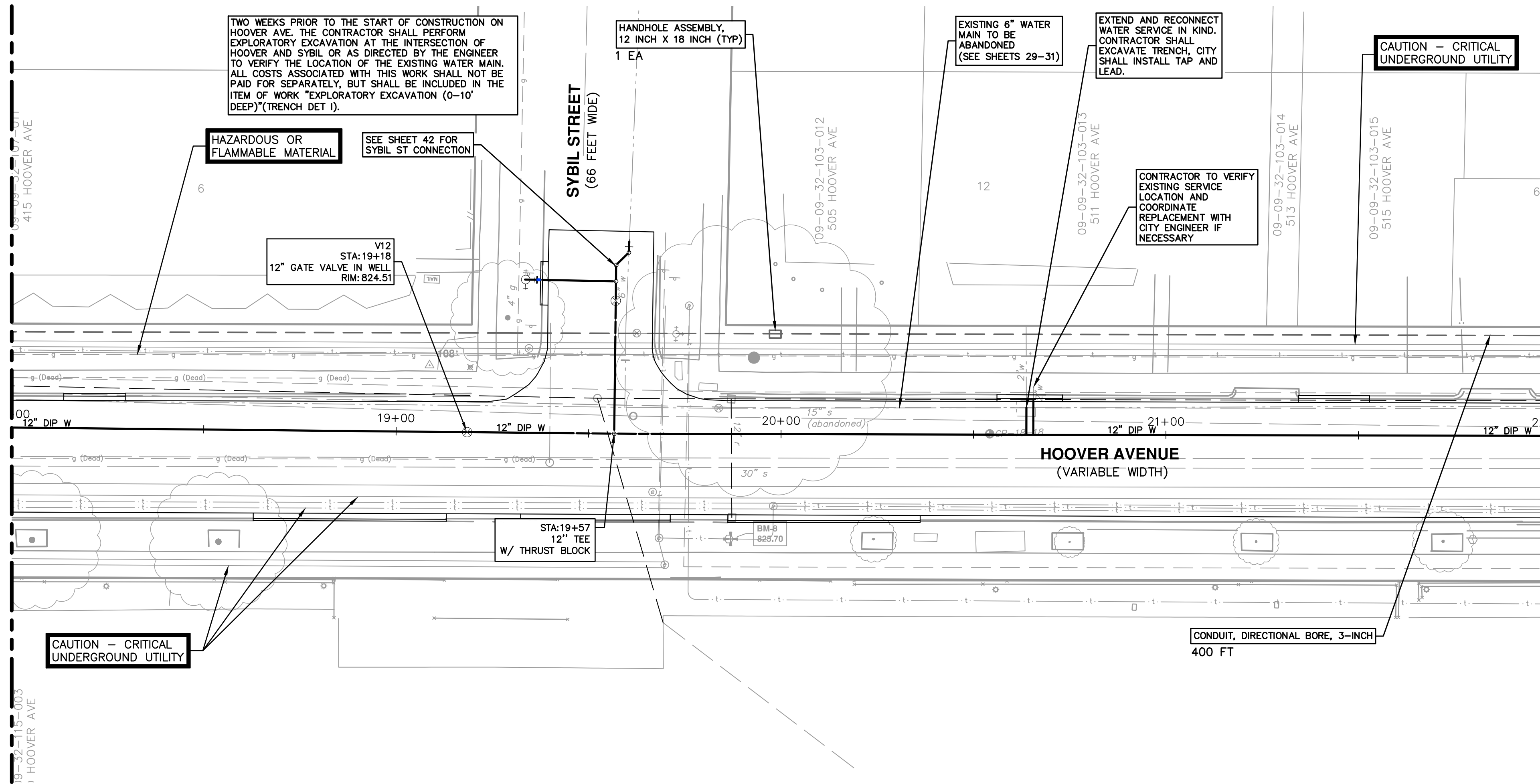
c:\pwwork\m\mianagan\00549816\10 PROPOSED WATER MAIN - HOOVER AVENUE.dwg Dwg Created: 2--Nov--18 --\_c2 standard bw.stb -- Plot Date: 1--Feb--19

MATCH LINE STA 18+00  
SEE SHEET 38

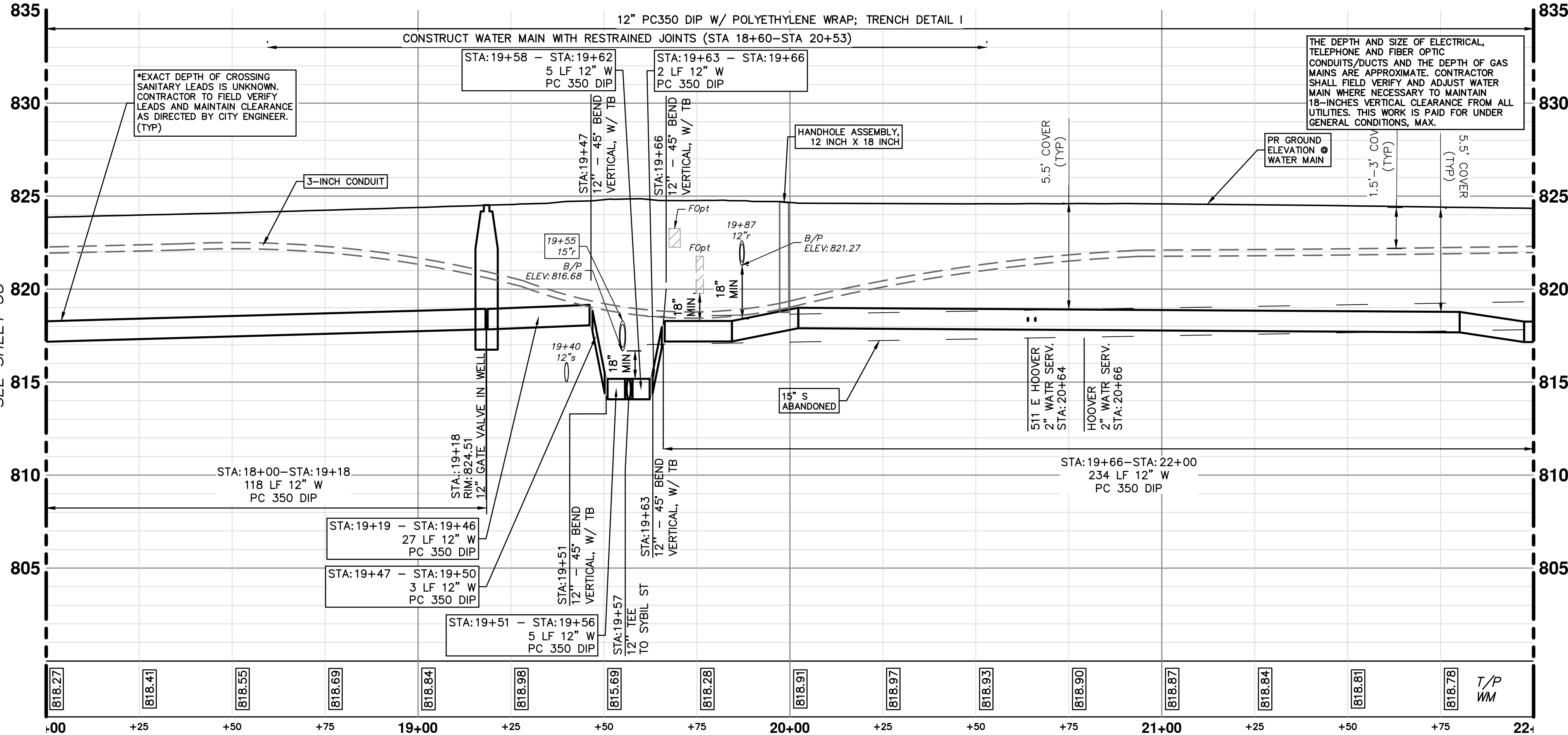
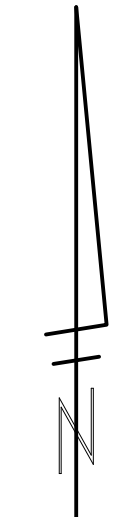
MATCH LINE STA 18+00  
SEE SHEET 38

MATCH LINE STA 22+00  
SEE SHEET 40

MATCH LINE STA 22+00  
SEE SHEET 40



WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	WELL DEPTH
V12	12" GVIW	19+18	824.51	7.11



SEE SHEET 3 FOR WATER MAIN CONSTRUCTION NOTES

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

**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**

WATER MAIN PLAN & PROFILE - HOOVER AVE STA 18+00 TO STA 22+00

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

DRAWING NO. 2018-031-39

SHEET NO. 39 OF 83

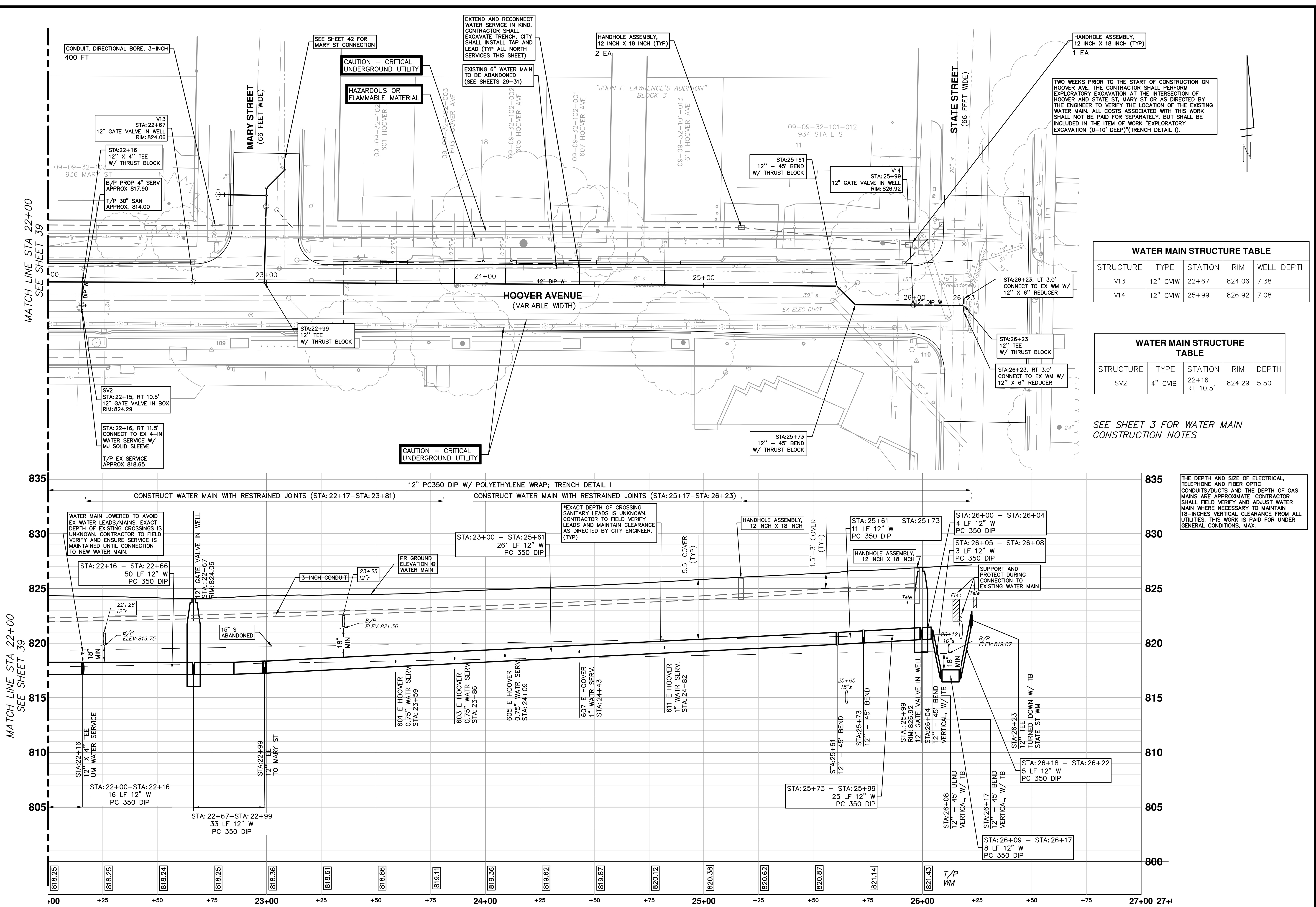
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**WATER MAIN STRUCTURE TABLE**

STRUCTURE	TYPE	STATION	RIM	WELL DEPTH
V13	12" GWV	22+67	824.06	7.38
V14	12" GWV	25+99	826.92	7.08

**WATER MAIN STRUCTURE TABLE**

STRUCTURE	TYPE	STATION	RIM	DEPTH
SV2	4" GVB	22+16 RT 10.5'	824.29	5.50

SEE SHEET 3 FOR WATER MAIN CONSTRUCTION NOTES

THE DEPTH AND SIZE OF ELECTRICAL, TELEPHONE AND FIBER OPTIC CONDUITS/DUCTS AND THE DEPTH OF GAS MAINS ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY AND ADJUST WATER MAIN WHERE NECESSARY TO MAINTAIN 18-INCHES VERTICAL CLEARANCE FROM ALL UTILITIES. THIS WORK IS PAID FOR UNDER GENERAL CONDITIONS, MAX.

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

**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**

WATER MAIN PLAN & PROFILE - HOOVER AVE STA 22+00 TO STA 26+22

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

DRAWING NO. 2018-031-40

SHEET NO. 40 OF 83

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ANN ARBOR CITY

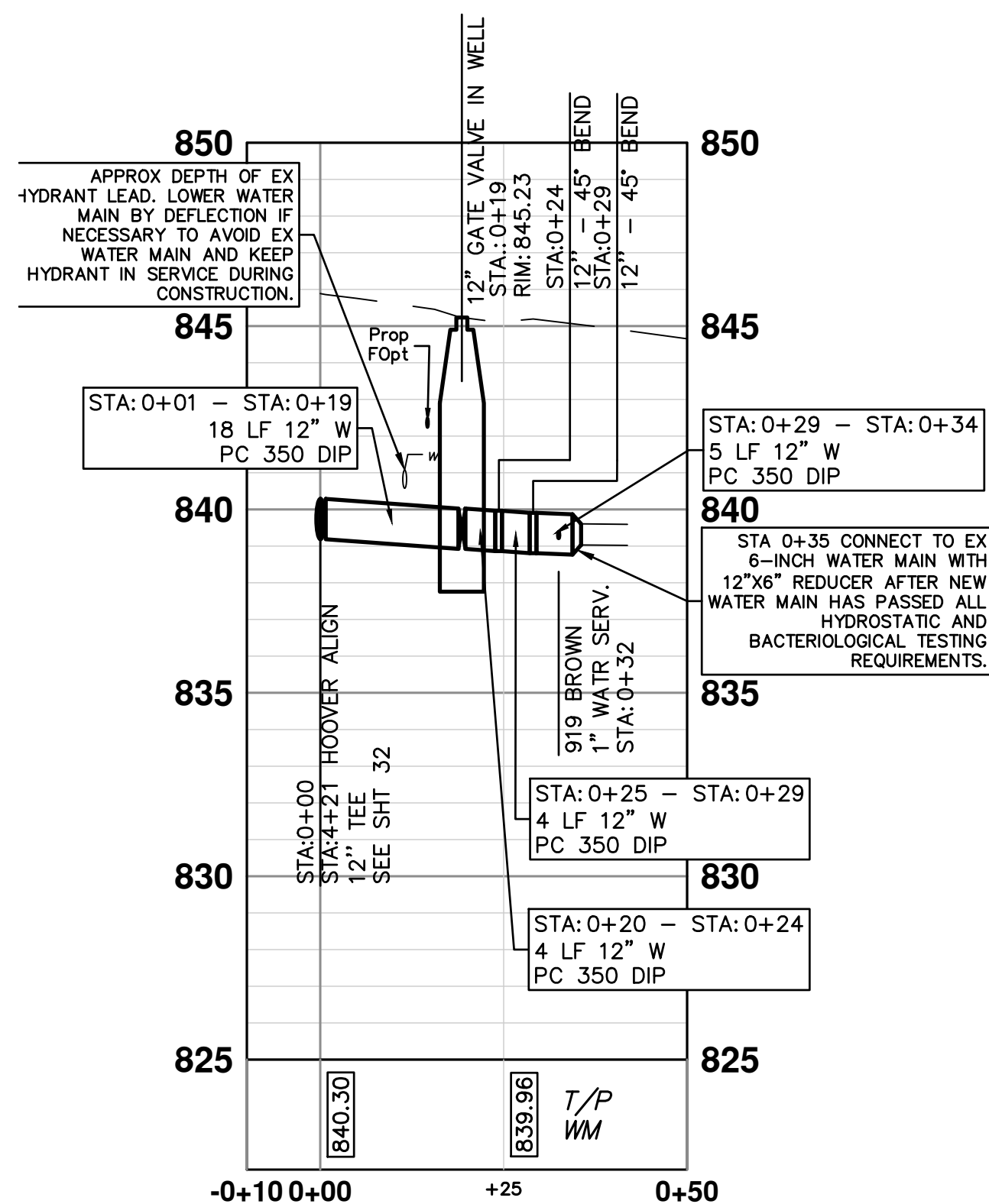
REV.	DESCRIPTION	DATE	DRAWN	CHECKED

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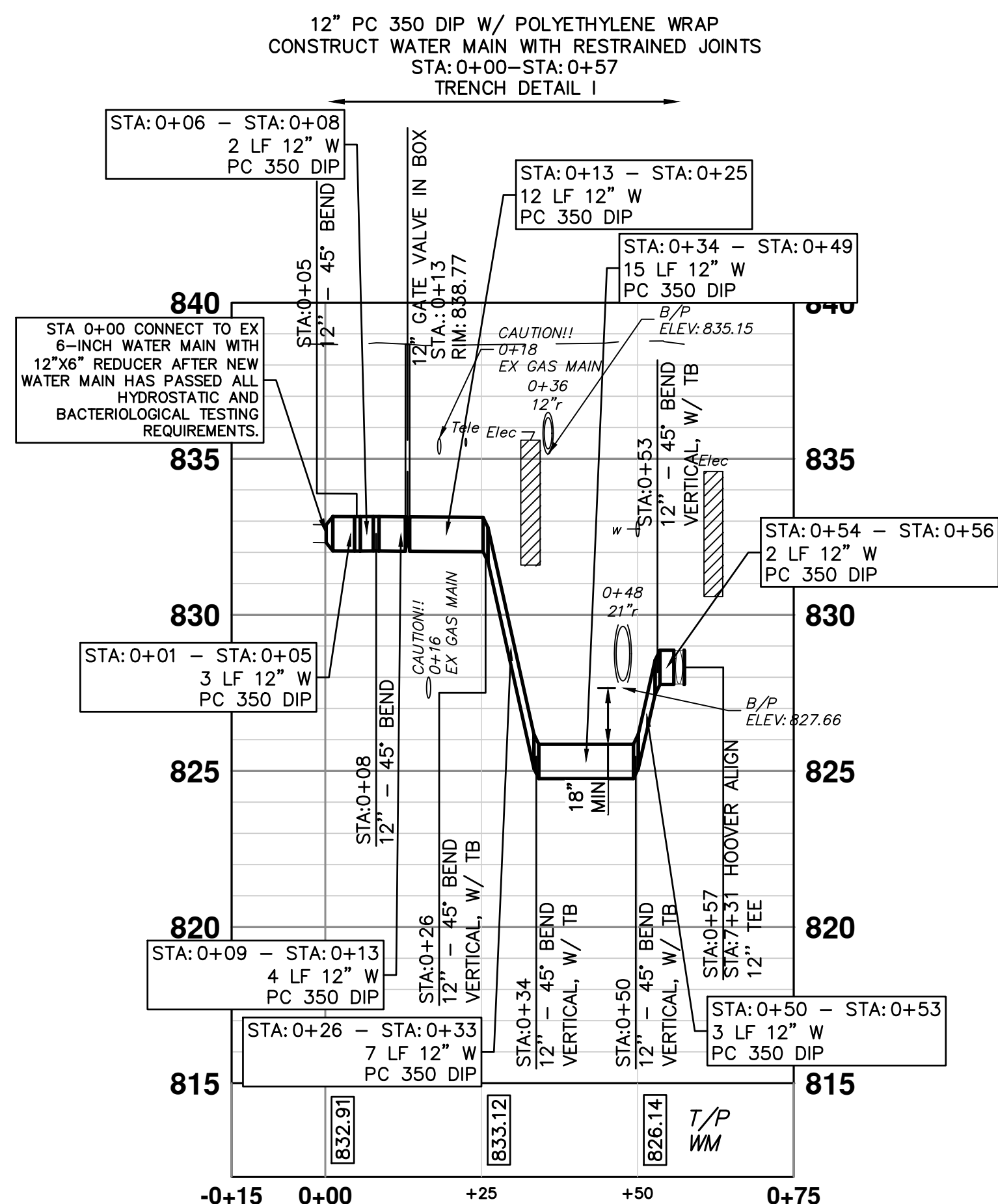
c:\pwwork\mfonagan\0549816\PROPOSED WATER MAIN - CONNECTIONS.dwg Created: 2--Nov-18 --\_a2 standard bw.stb - Plot Date: 1--Feb-19

SEE SHEET 3 FOR WATER MAIN CONSTRUCTION NOTES

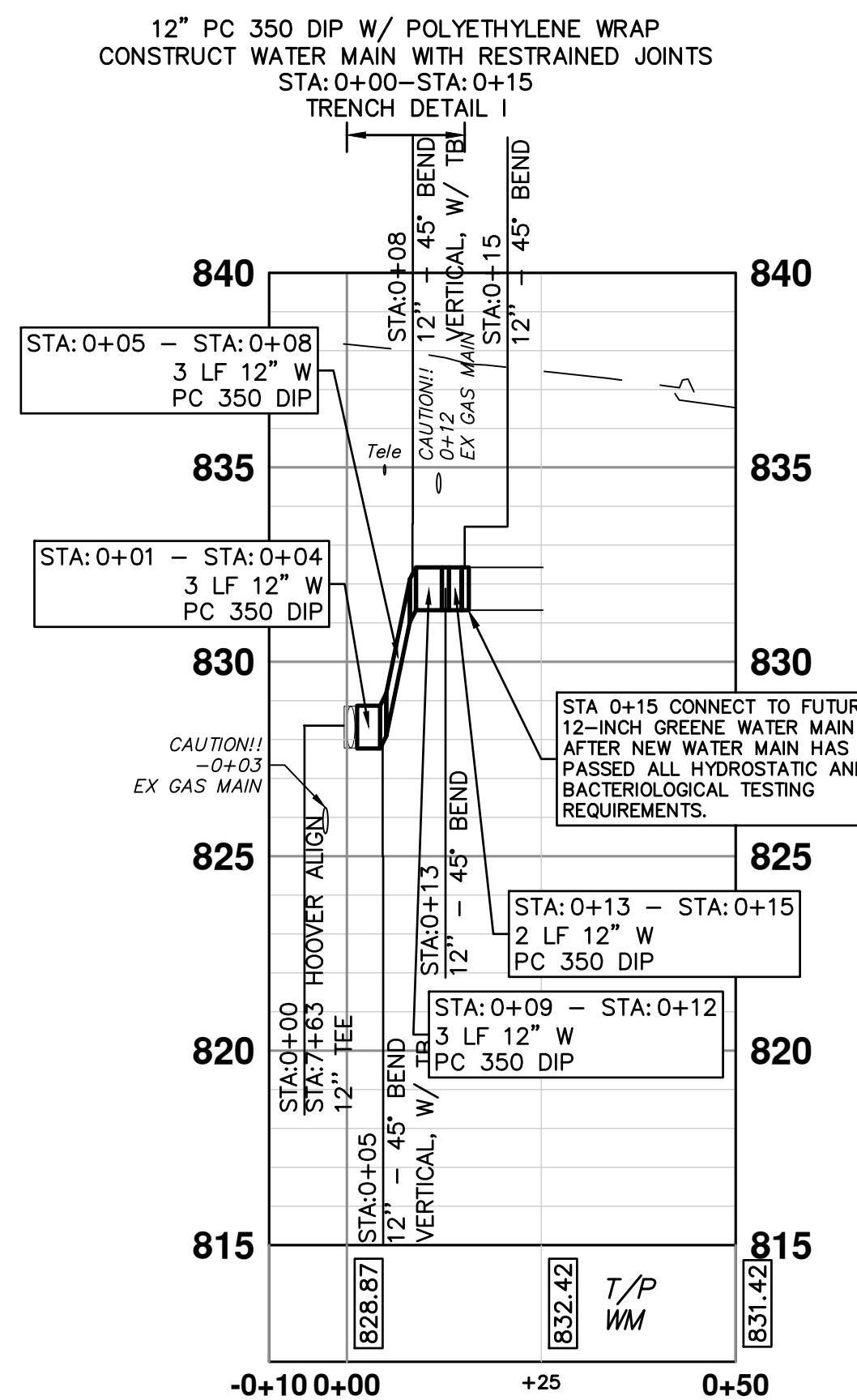
THE DEPTH AND SIZE OF ELECTRICAL, TELEPHONE AND FIBER OPTIC CONDUITS/DUCTS AND THE DEPTH OF GAS MAINS ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY AND ADJUST WATER MAIN WHERE NECESSARY TO MAINTAIN 18-INCHES VERTICAL CLEARANCE FROM ALL UTILITIES. THIS WORK IS PAID FOR UNDER GENERAL CONDITIONS, MAX.



CONNECTION AT BROWN ST



CONNECTION AT GREENE ST (SOUTH)

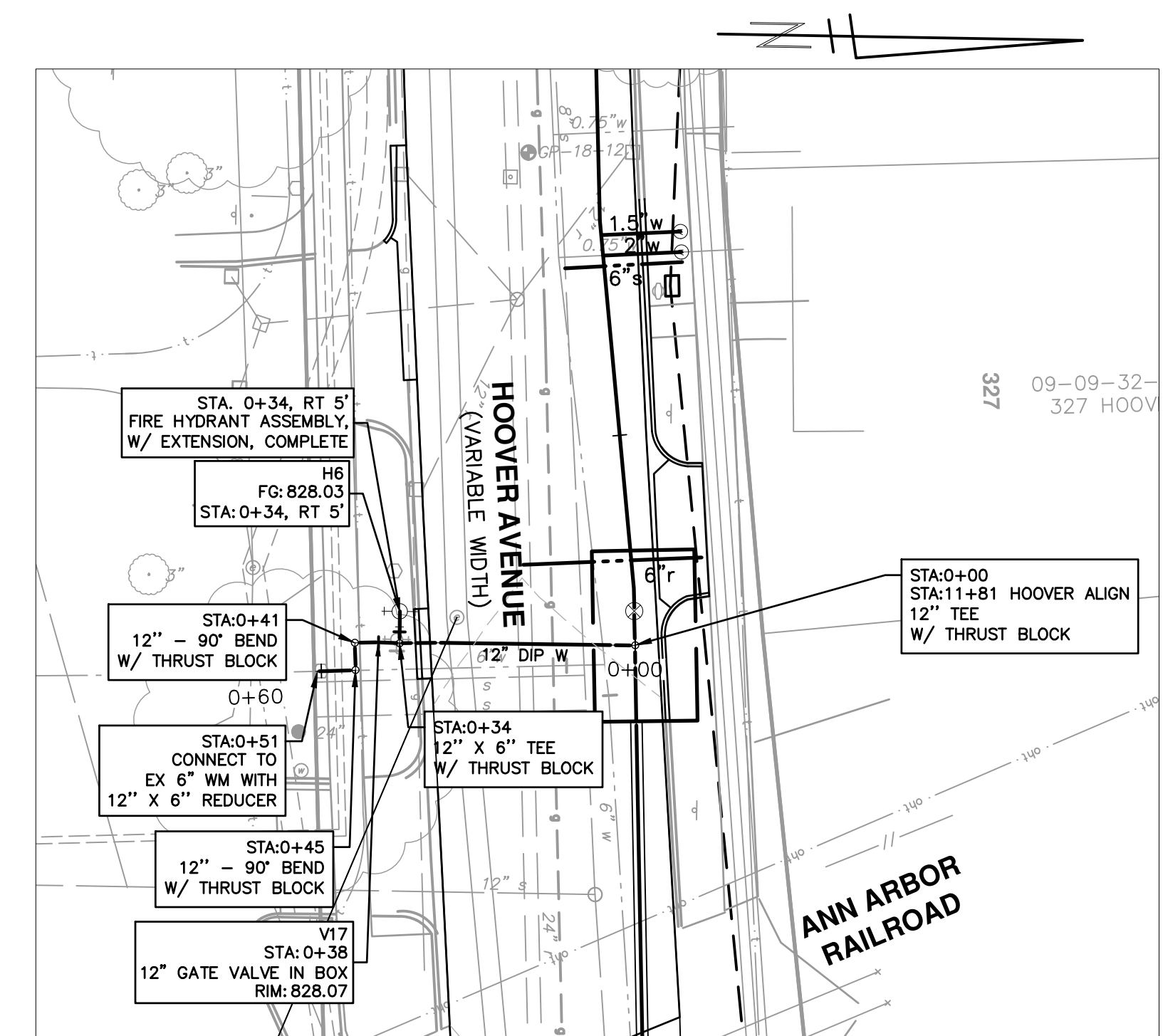
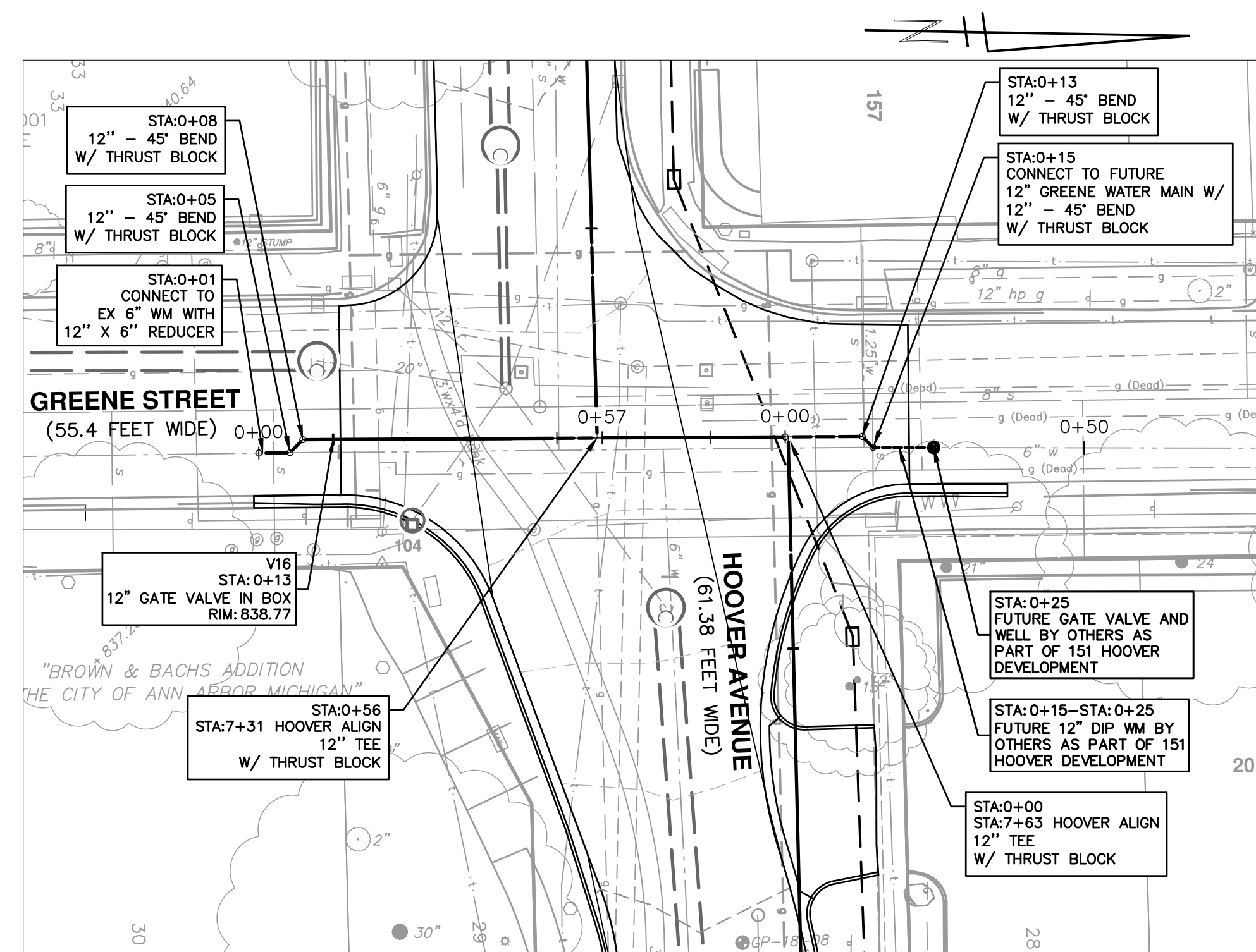
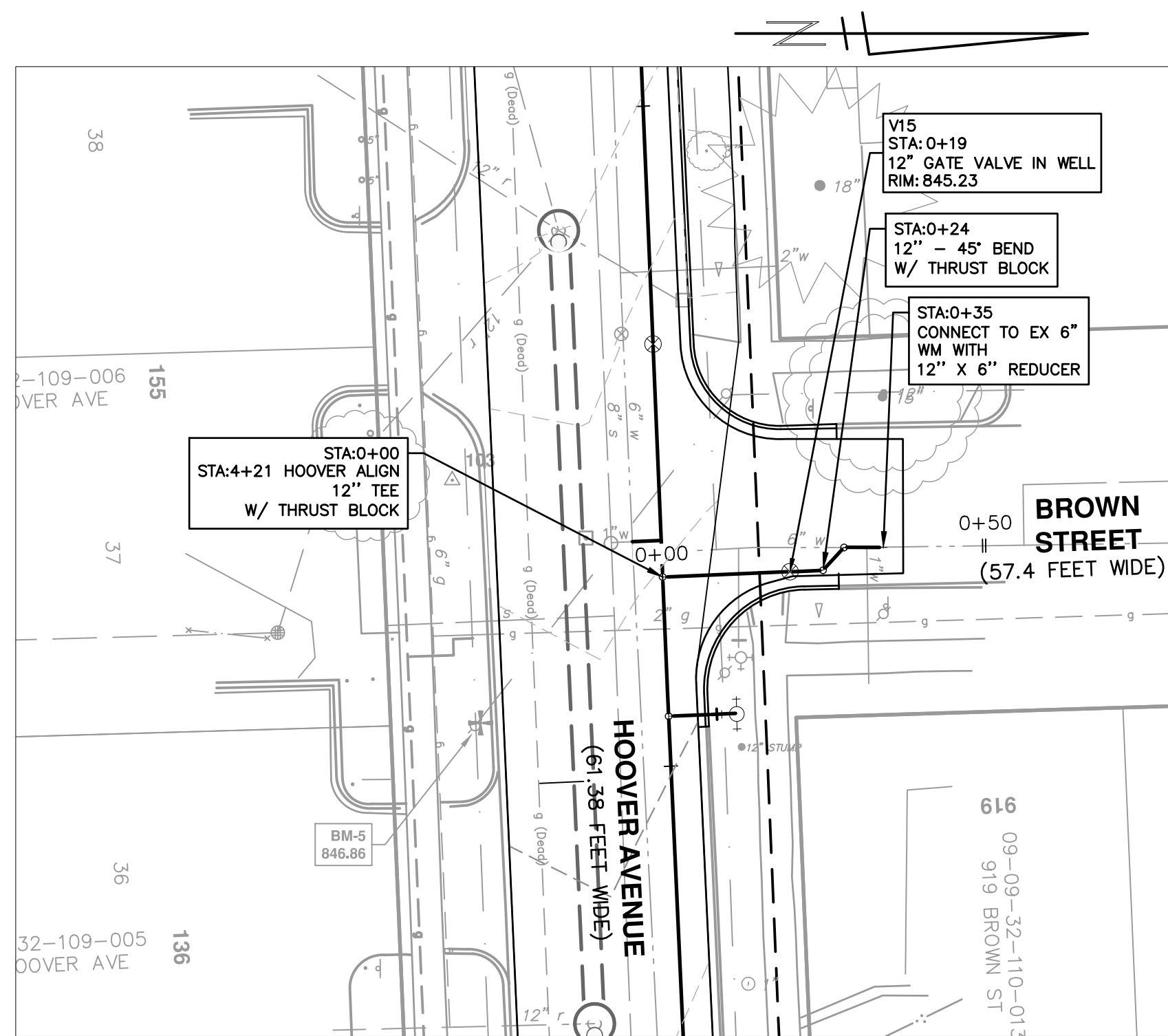


CONNECTION AT GREENE ST (NORTH)

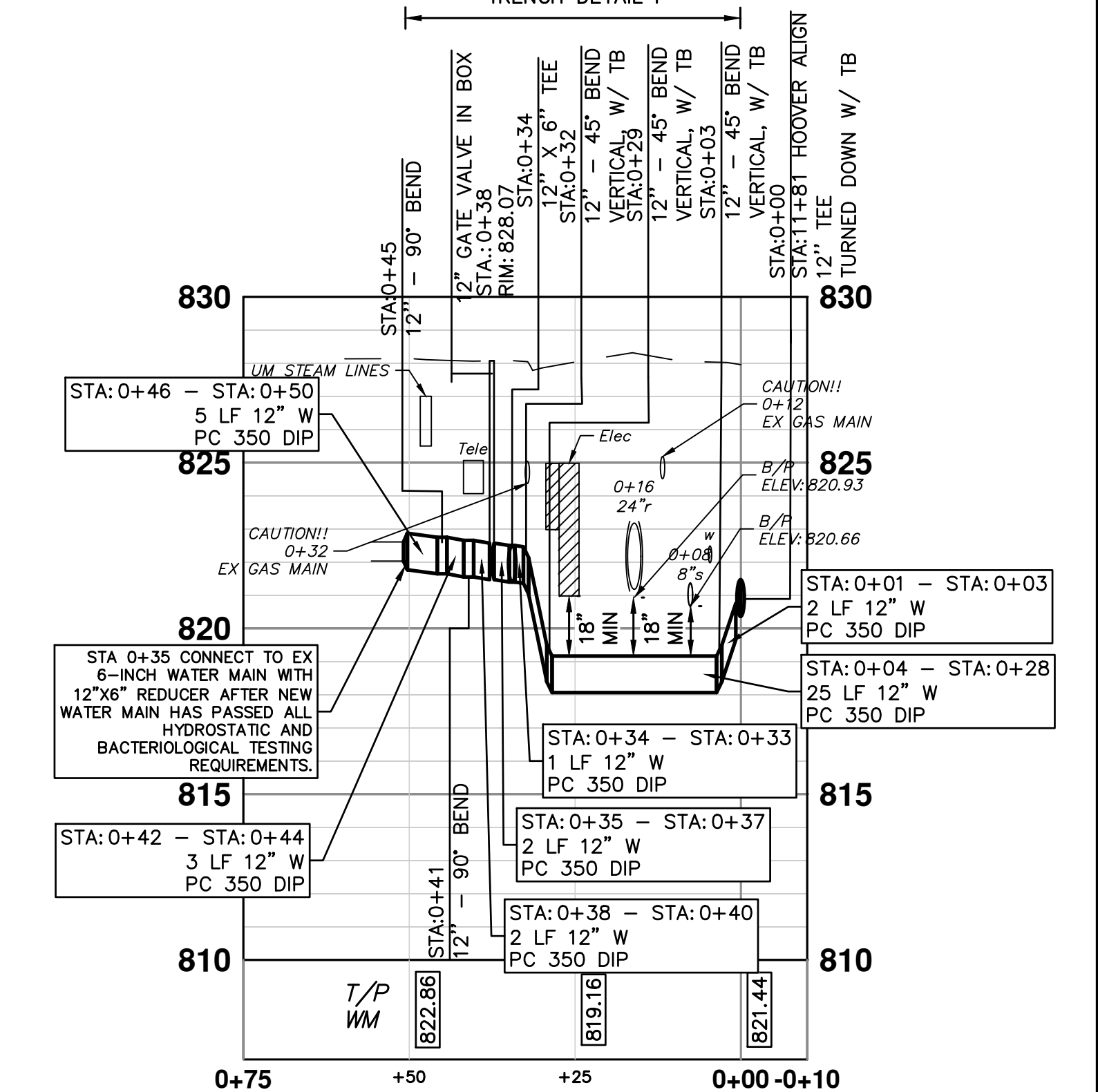
WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	FG	DEPTH
H6	HYDRANT ASSEMBLY	11+75, RT 34'	828.01	6.20

WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	WELL DEPTH
V15	12" GVIB	0+19	845.23	6.81

WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	DEPTH
V16	12" GVIB	0+13	838.77	5.54
V17	12" GVIB	0+38	828.07	5.50



12" PC 350 DIP W/ POLYETHYLENE WRAP  
CONSTRUCT WATER MAIN WITH RESTRAINED JOINTS  
STA: 0+00 - STA: 0+51  
TRENCH DETAIL I



CONNECTION AT UM

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REV.	DESCRIPTION	DATE	DRAWN	CHECKED

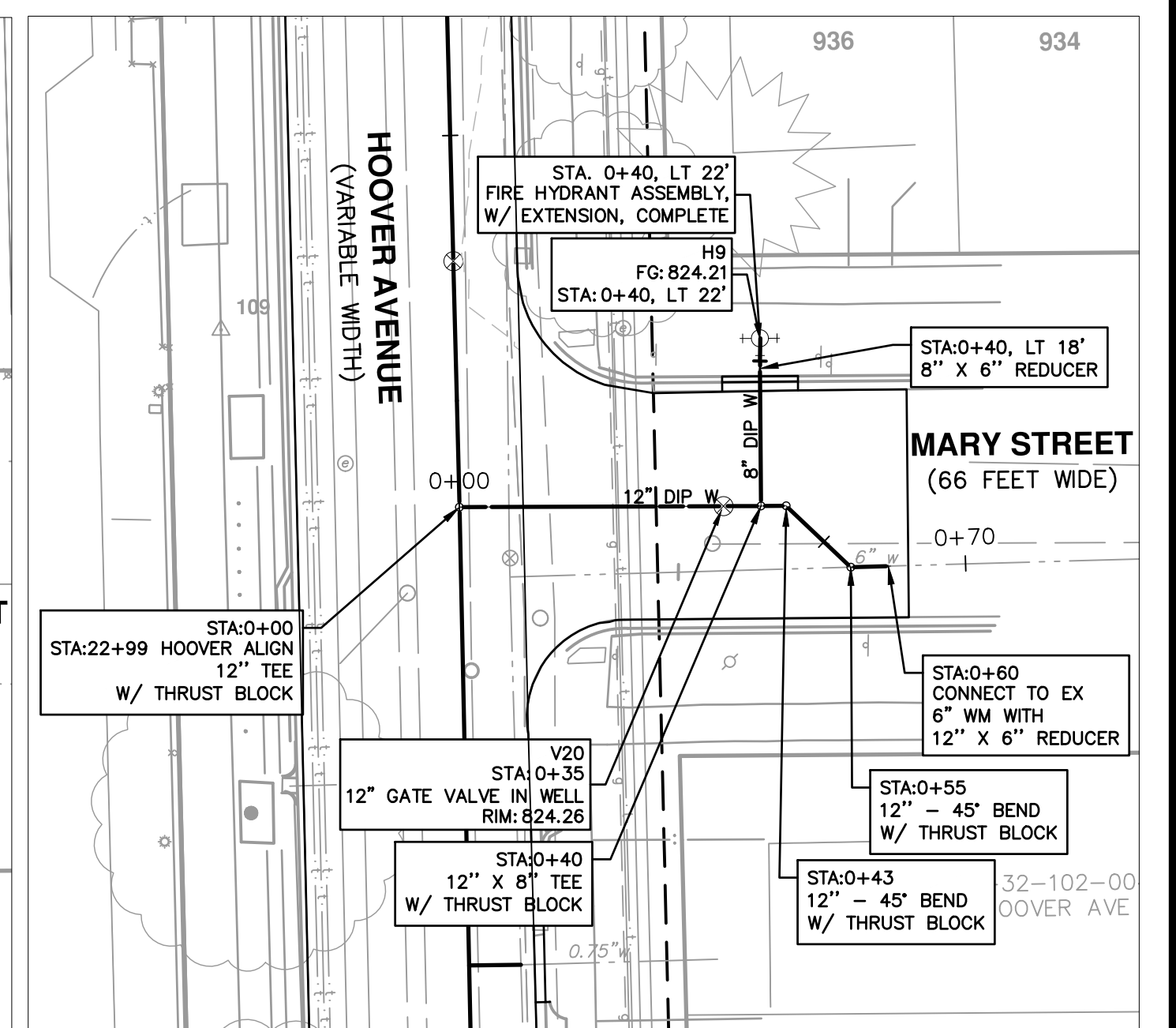
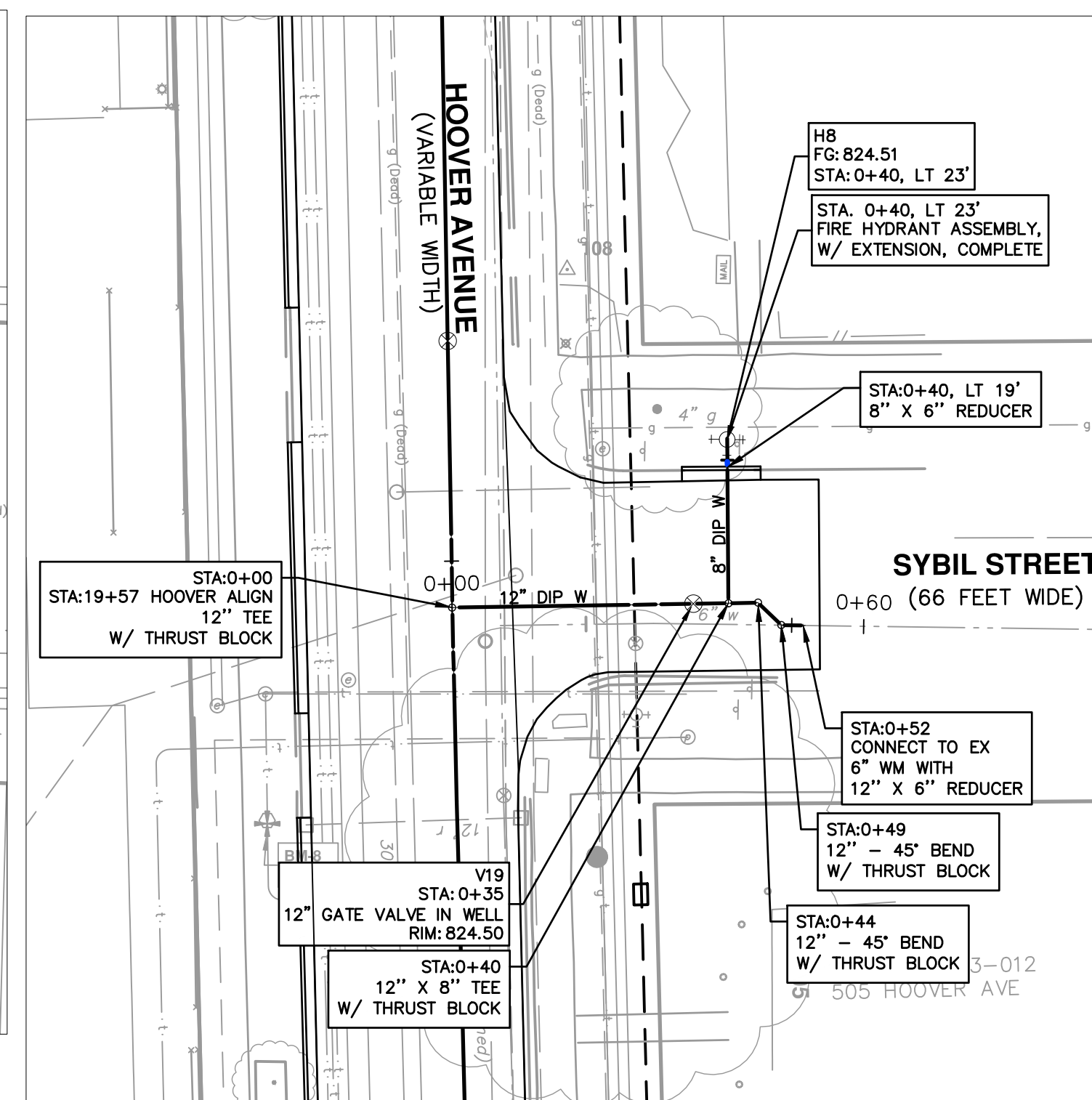
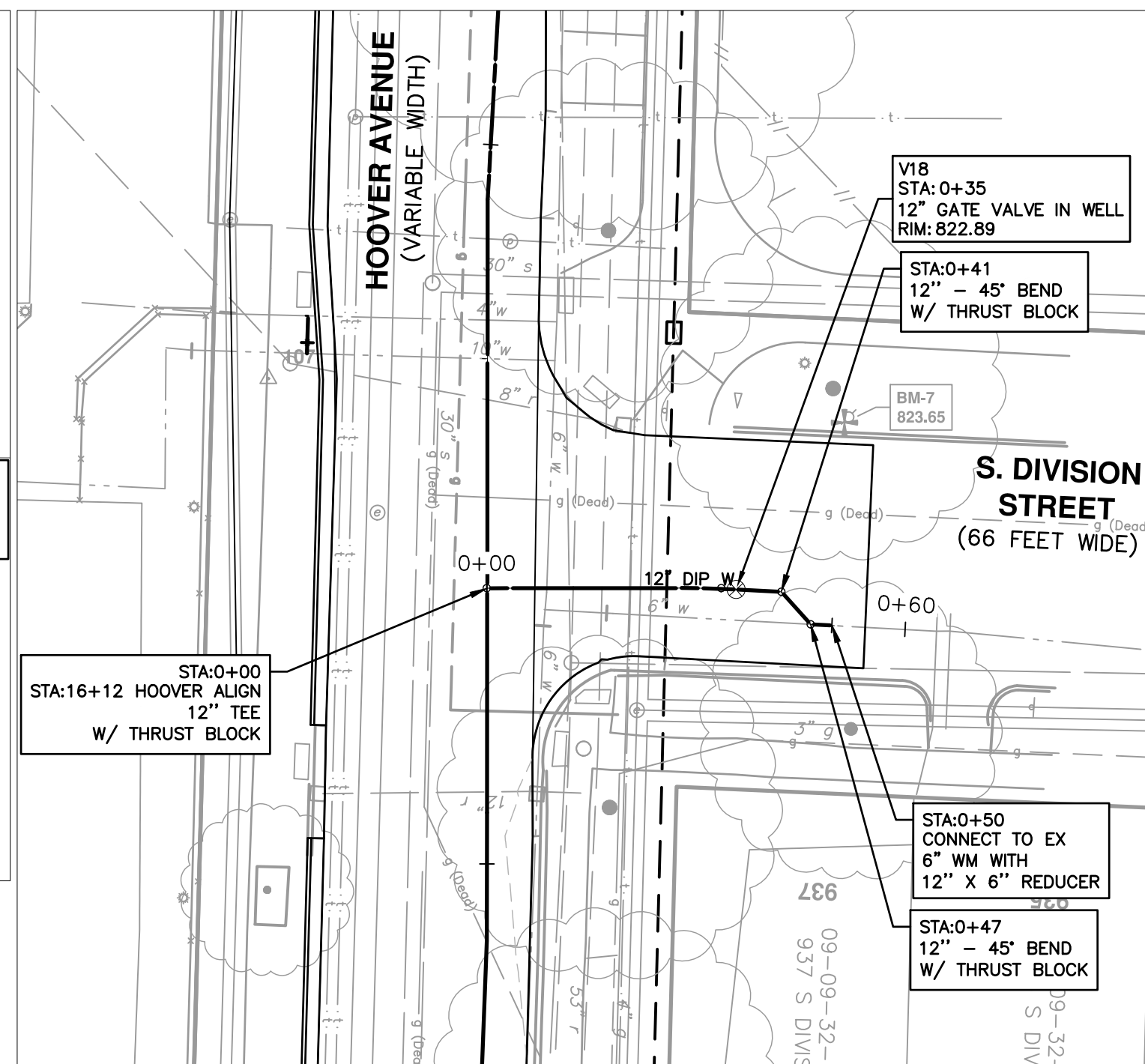
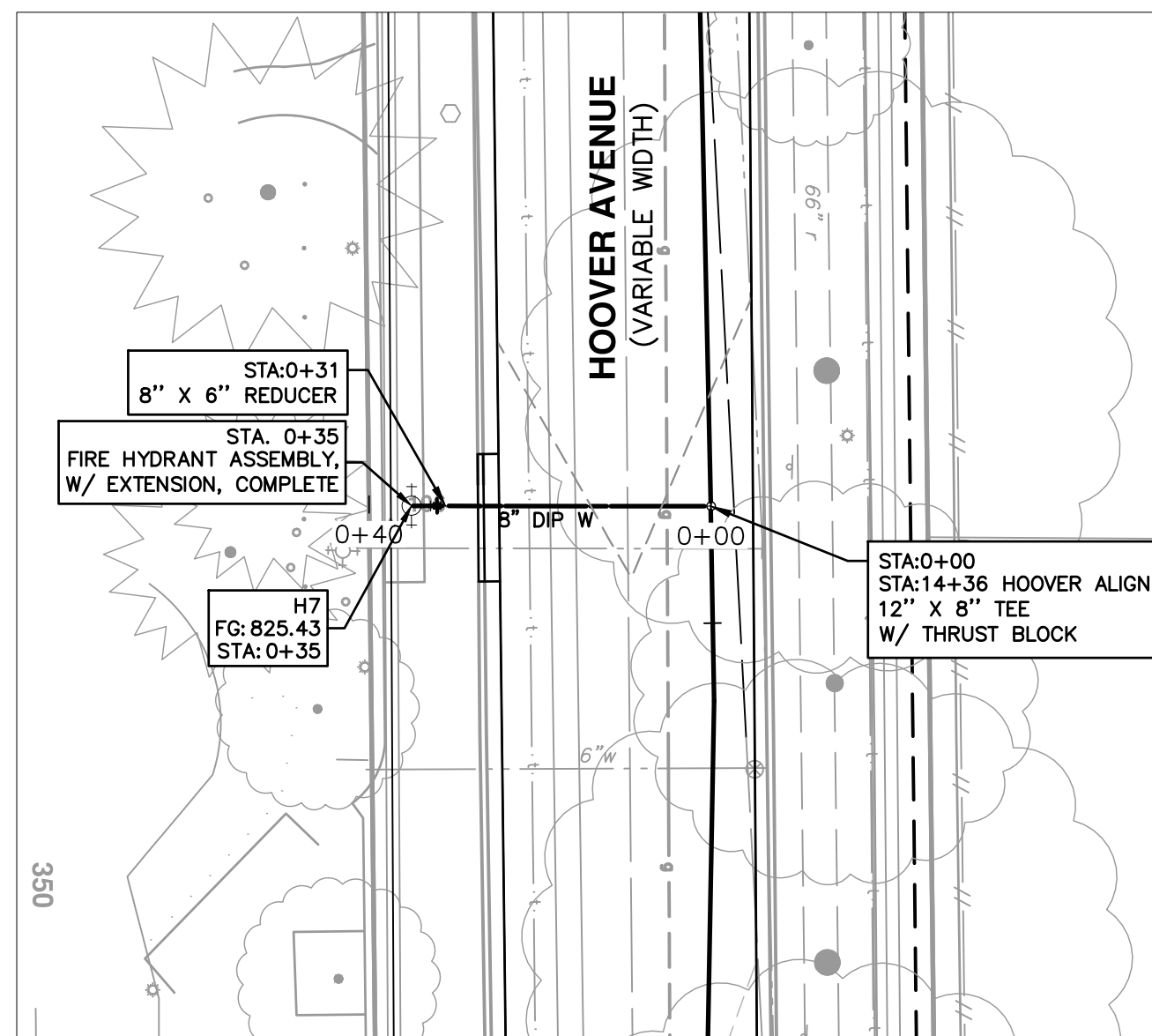
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HOOPER, GREENE, & HILL IMPROVEMENT PROJECT  
HOOPER WATER MAIN CONNECTIONS - BROWN ST, GREENE ST

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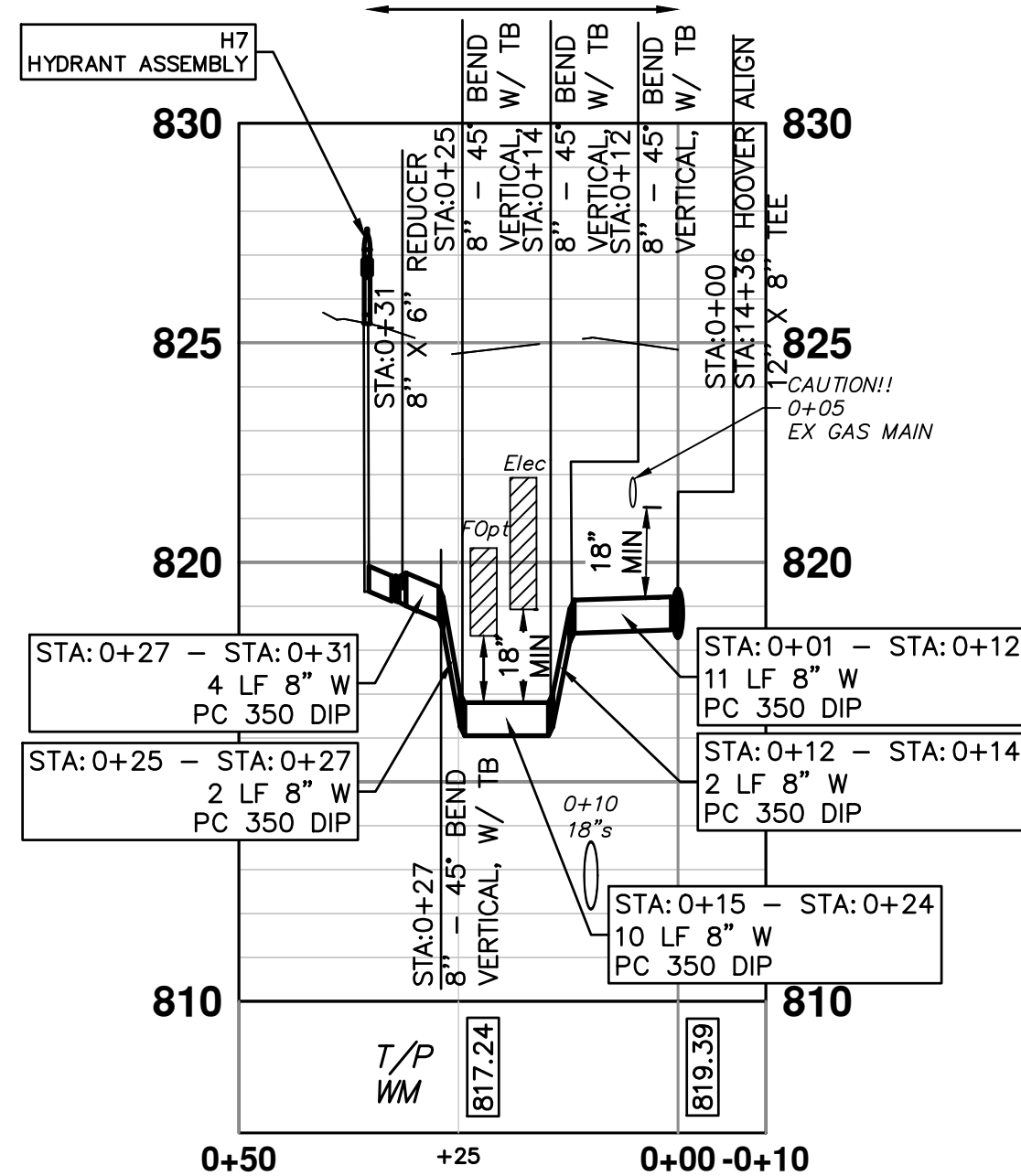
CITY OF ANN ARBOR  
SCALE PLAN: 1" = 20'  
PROFILE: 1" = 4'  
DRAWING NO. 2018-031-41  
SHEET NO. 41 OF 83



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PC 350 DIP W/ POLYETHYLENE WRAP  
CONSTRUCT WATER MAIN WITH RESTRAINED JOINTS  
STA: 0+00 - STA: 0+36  
TRENCH DETAIL I



CONNECTION AT H7

WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	FG	DEPTH
H7	HYDRANT ASSEMBLY	14+35	825.44	6.09

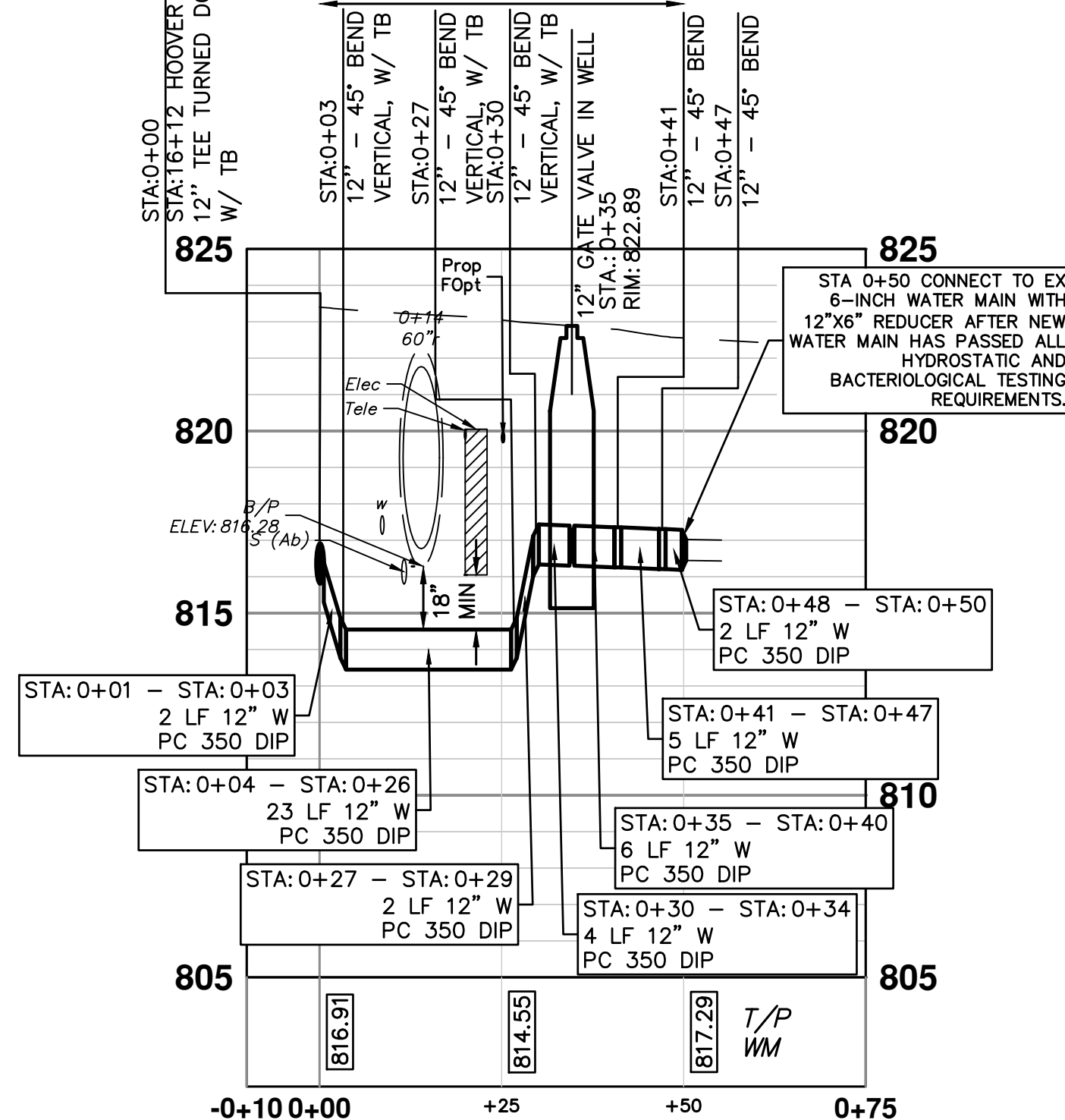
WATER MAIN STRUCTURE TABLE

STRUCTURE	TYPE	STATION	FG	DEPTH
H8	HYDRANT ASSEMBLY	0+40, LT 24'	824.45	6.37
H9	HYDRANT ASSEMBLY	0+40, LT 22'	824.21	6.55

WATER MAIN STRUCTURE TABLE

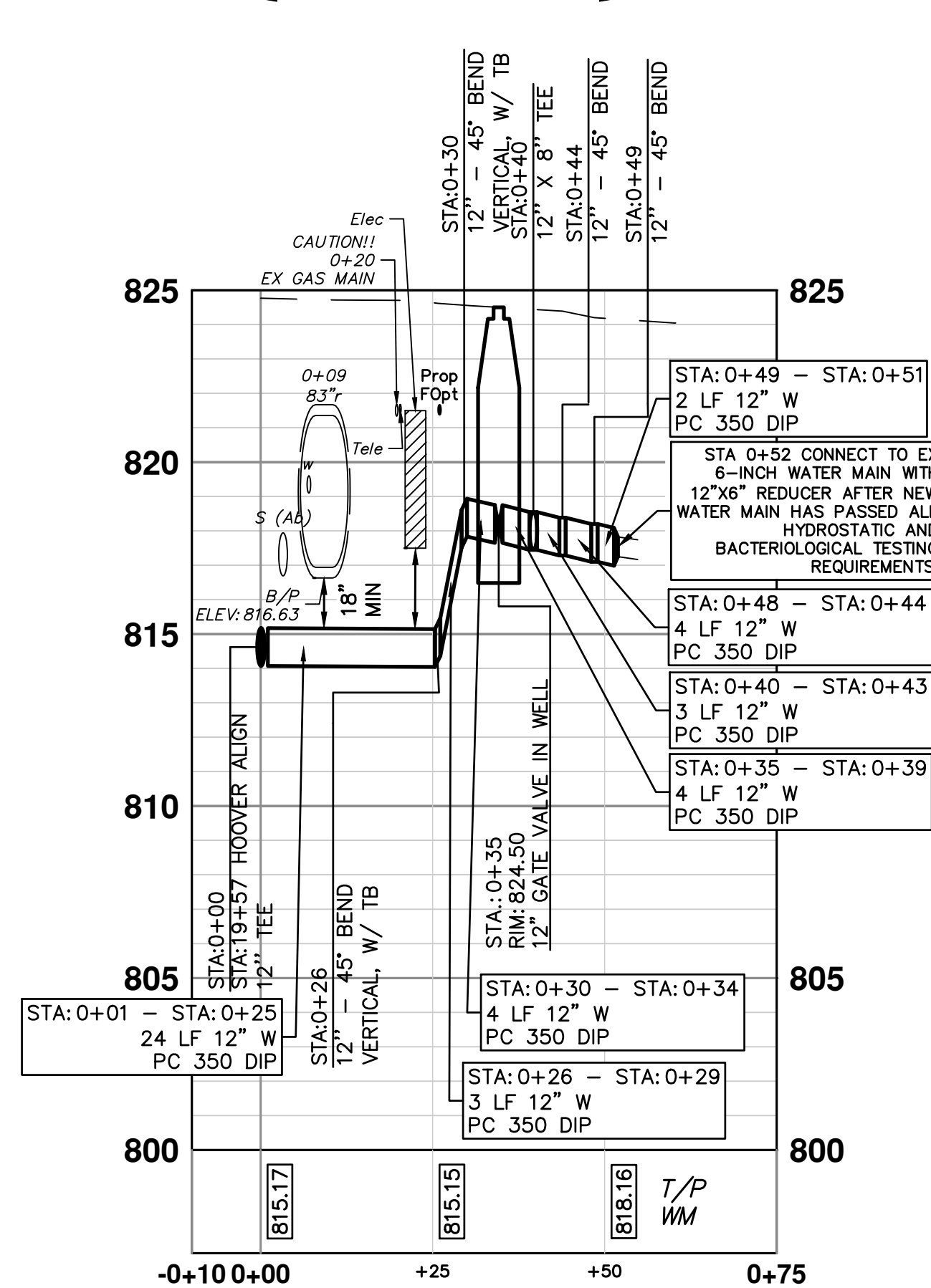
STRUCTURE	TYPE	STATION	RIM	WELL DEPTH
V18	12" GVW	0+35	822.89	7.09
V19	12" GVW	0+35	824.50	7.35
V20	12" GVW	0+35	824.26	6.93

12" PC 350 DIP W/ POLYETHYLENE WRAP  
CONSTRUCT WATER MAIN WITH RESTRAINED JOINTS  
STA: 0+00 - STA: 0+50  
TRENCH DETAIL I



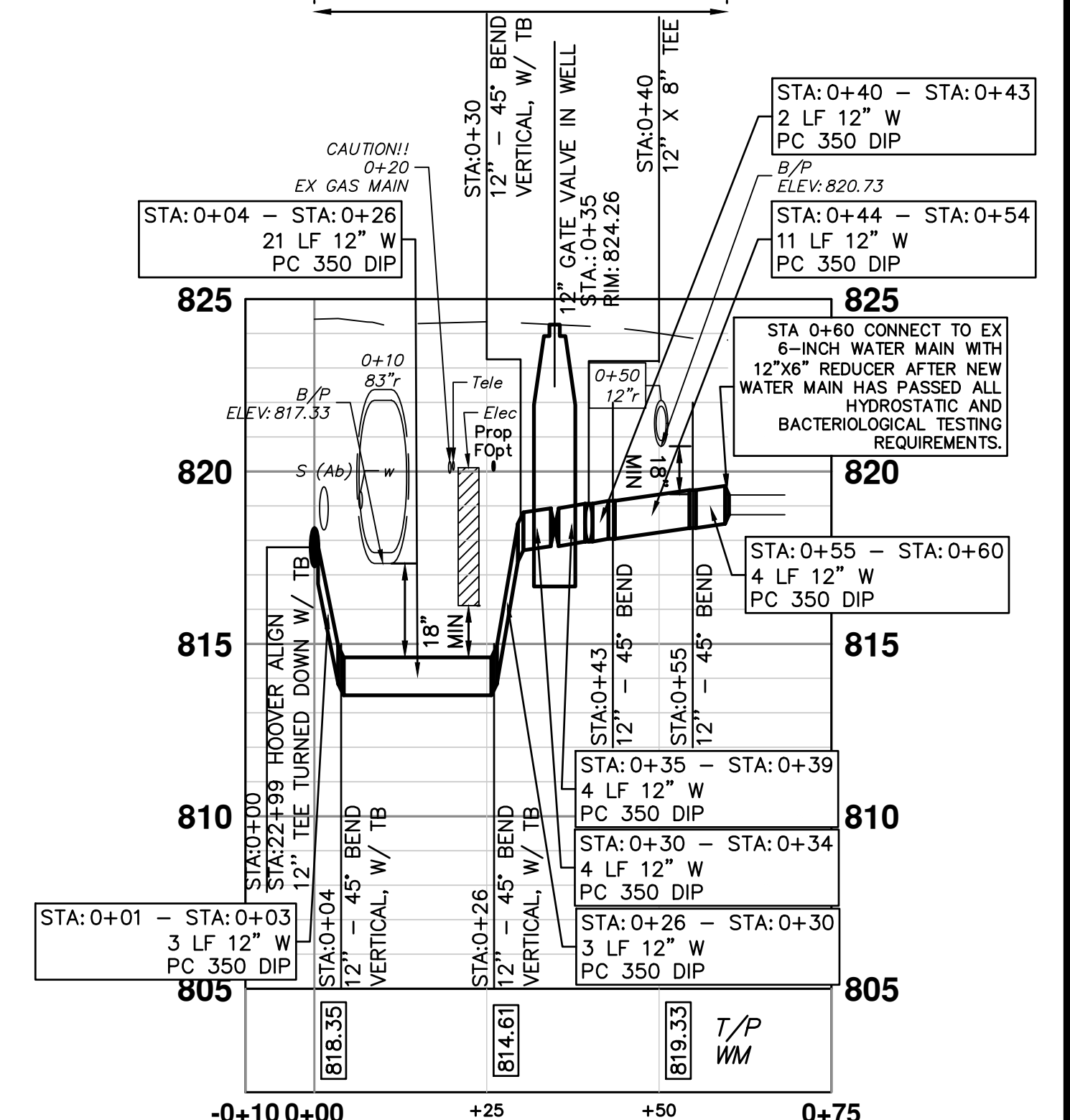
CONNECTION AT S. DIVISION ST (NORTH)

12" PC 350 DIP W/ POLYETHYLENE WRAP  
CONSTRUCT WATER MAIN WITH RESTRAINED JOINTS  
STA: 0+00 - STA: 0+52  
TRENCH DETAIL I



CONNECTION AT SYBIL ST

12" PC 350 DIP W/ POLYETHYLENE WRAP  
CONSTRUCT WATER MAIN WITH RESTRAINED JOINTS  
STA: 0+00 - STA: 0+60  
TRENCH DETAIL I



CONNECTION AT MARY ST

SEE SHEET 3 FOR WATER MAIN CONSTRUCTION NOTES

THE DEPTH AND SIZE OF ELECTRICAL, TELEPHONE AND FIBER OPTIC CONDUITS/DUCTS AND THE DEPTH OF GAS MAINS ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY AND ADJUST WATER MAIN WHERE NECESSARY TO MAINTAIN 18-INCHES VERTICAL CLEARANCE FROM ALL UTILITIES. THIS WORK IS PAID FOR UNDER GENERAL CONDITIONS, MAX.



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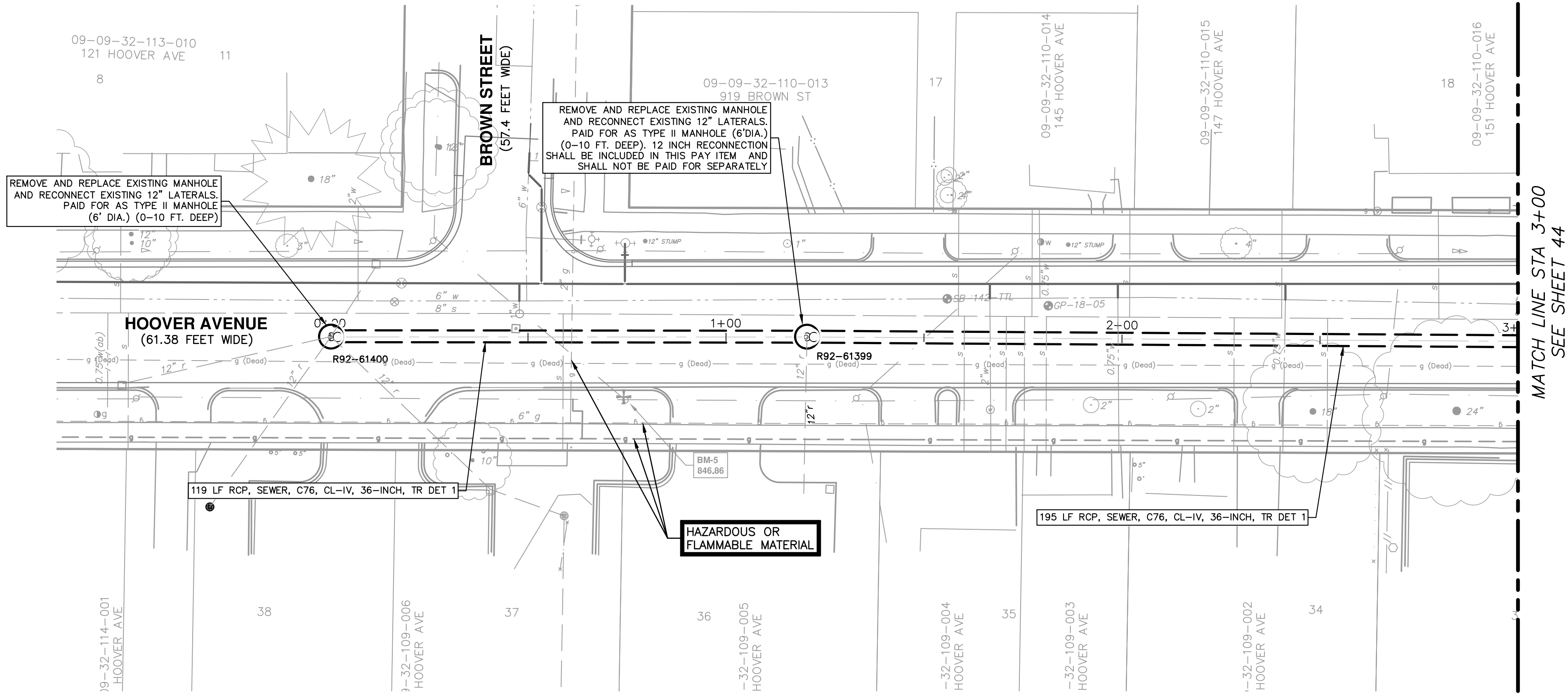


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HOOPER, GREENE, & HILL  
IMPROVEMENT PROJECT  
HOOPER WATER MAIN CONNECTIONS - UM, SYBIL ST, MARY ST

SCALE: 1"=20'  
PROFILE: 1"=4'  
DRAWING NO. 2018-031-42  
SHEET NO. 42 OF 83

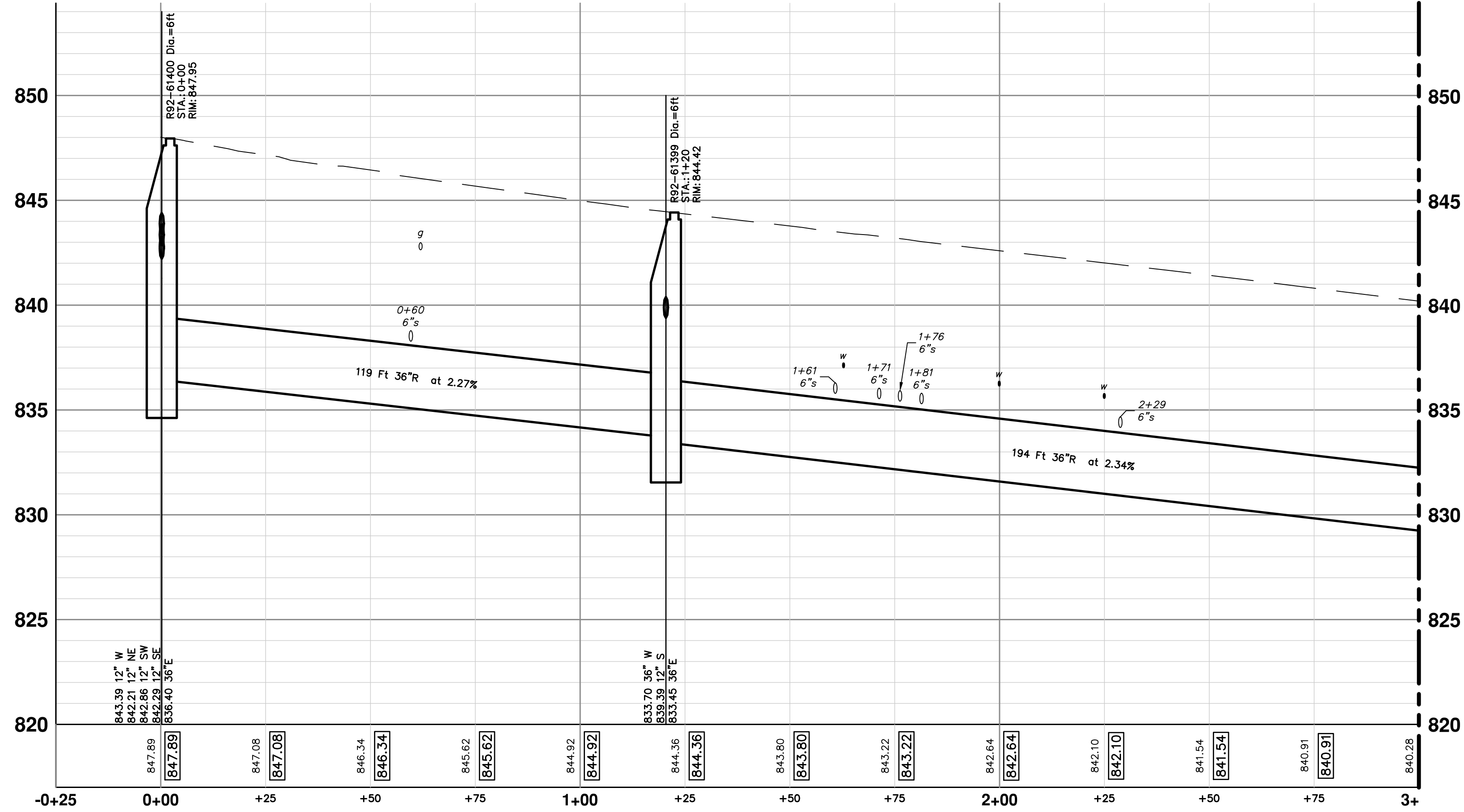
REV.	DESCRIPTION	DATE	DRAWN	CHECKED





**STORM SEWER STRUCTURE TABLE**

STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DEPTH (Feet)	SIZE	APPLICATION/CONSTRUCTION
R92-61399	1+20	36" W 833.70 P 12" S 839.39 36" E 833.45 P	844.42	12.21	72" Dia.	TYPE B COVER
R92-61400	0+00	12" W 843.39 12" NE 842.21 12" SW 842.86 12" SE 842.29 36" E 836.40 P	847.95	12.67	72" Dia.	TYPE B COVER



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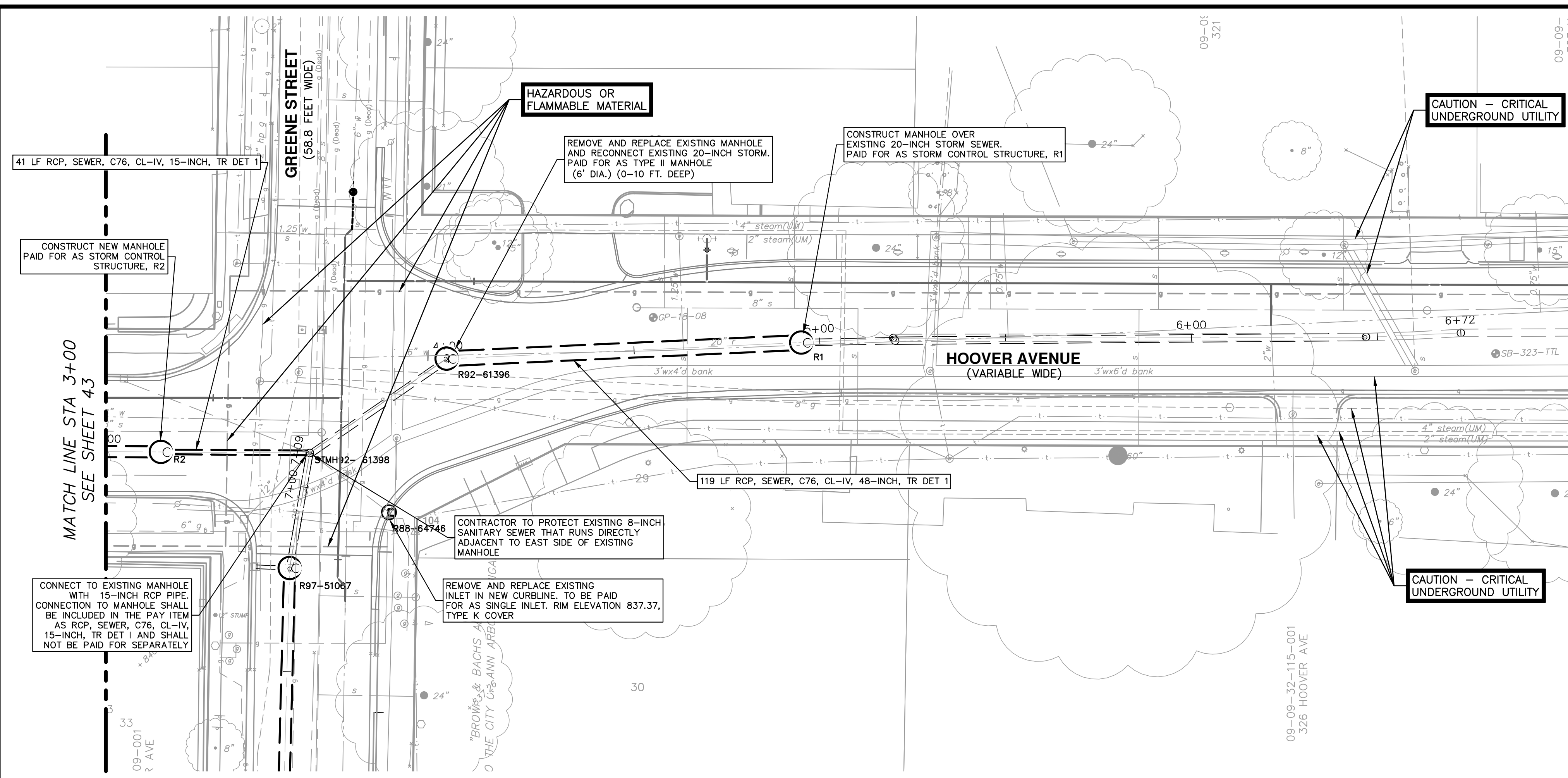
HOOPER, GREENE, & HILL  
IMPROVEMENT PROJECT

STORM PLAN & PROFILE - HOOVER AVE STA 0+00 TO STA 3+50

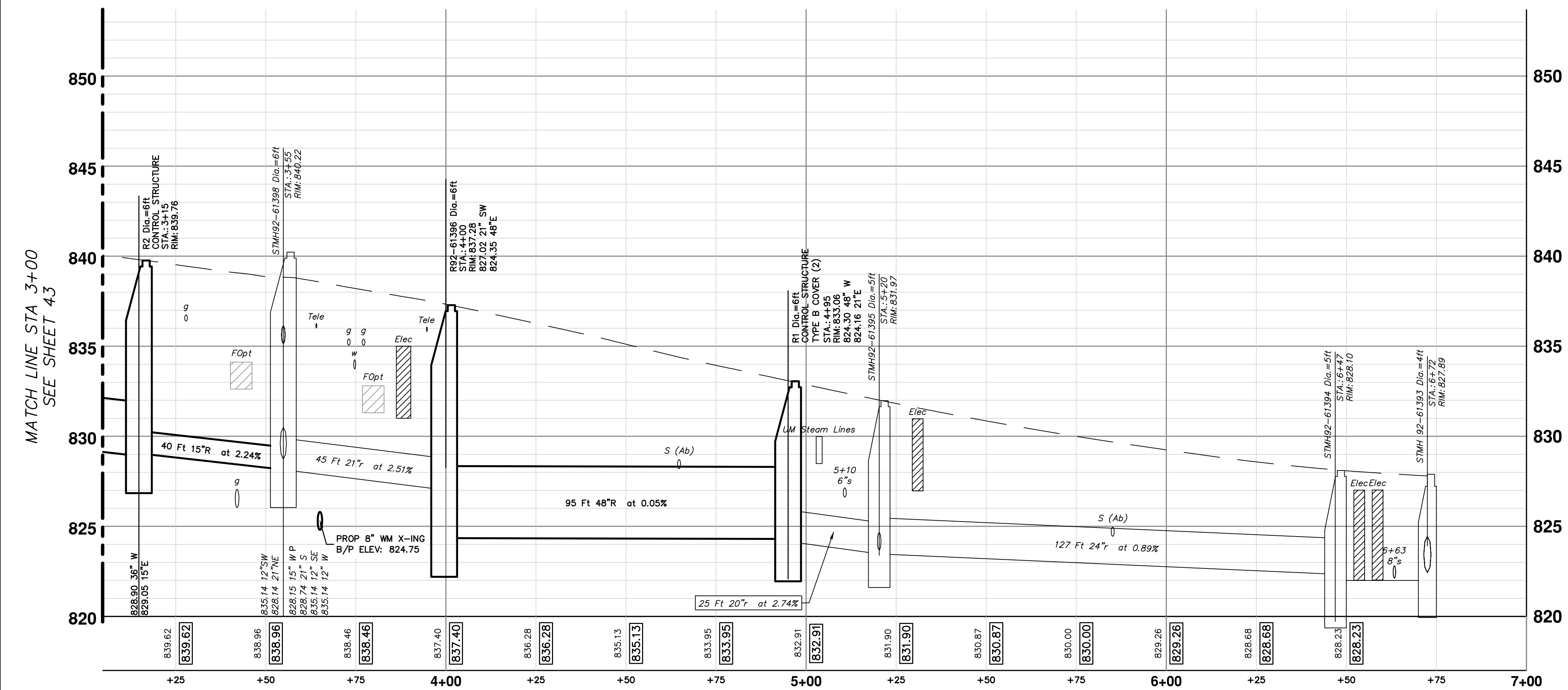
SCALE PLAN: 1" = 20'  
PROFILE: 1" = 4'

DRAWING No.  
2018-031-43

REV.	DESCRIPTION	DATE	DRAWN	CHECKED



STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DEPTH (Feet)	SIZE	APPLICATION / CONSTRUCTION
R1	4+95	48" W 824.30P 21" E 824.16	833.06	10.44	72" Dia.	CONTROL STRUCTURE TYPE B COVER (2)
R2	3+15	36" W 828.90P 15" E 829.05P	839.76	12.25	72" Dia.	CONTROL STRUCTURE TYPE B COVER (2)
R88-64746	3+63	12" NW 835.62 P	837.37	3.75	48" Dia.	TYPE K COVER
R92-61396	4+00	21" SW 827.02 48" E 824.35 P	837.28	14.42	72" Dia.	TYPE B COVER
STMH92-61398	3+55	15" W 828.15P 21" S 828.74 12" SE 835.14 12" W 835.14 12" SW 835.14 21" NE 828.14	840.22	13.51	72" Dia.	TYPE B COVER



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

**HOOPER, GREENE, & HILL IMPROVEMENT PROJECT**

STORM PLAN & PROFILE - HOOPER AVE STA 3+50 TO STA 6+72

SHEET No. **44 OF 83**

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CITY OF ANN ARBOR  
MICHIGAN

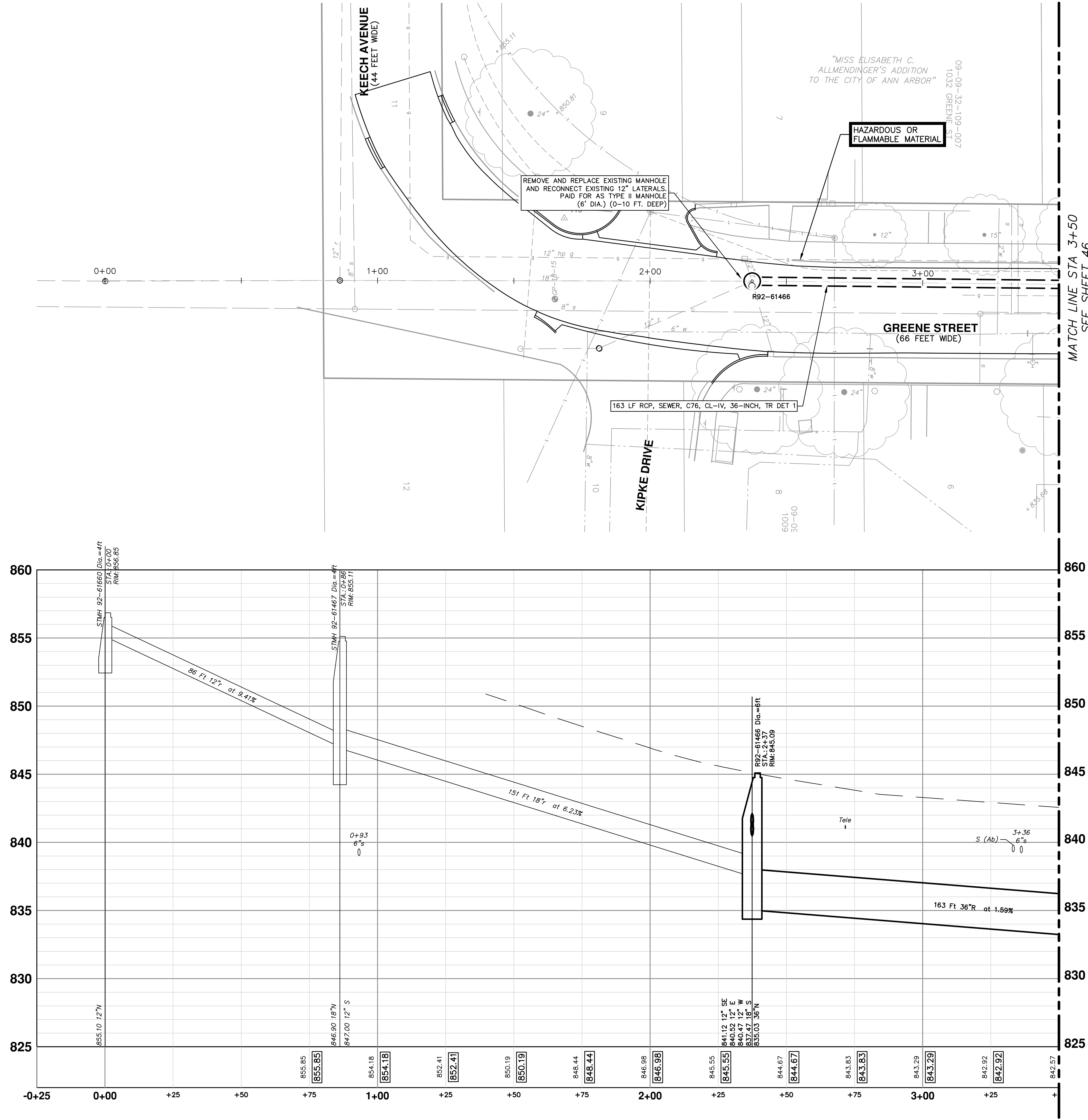
SCALE PLAN: 1" = 20'  
PROFILE: 1" = 4'

DRAWING No. **2018-031-44**

REV.	DESCRIPTION	DATE	DRAWN	CHECKED



c:\pwork\mifanogan\0549816\CST-PLTS-Storm-Greene.dwg Dwg Created: 30-Nov-18 - .a2 standard bw.stb - Plot Date: 1-Feb-19



MATCH LINE STA 3+50  
SEE SHEET 46

MATCH LINE STA 3+50  
SEE SHEET 46

STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DEPTH (Feet)	SIZE	APPLICATION / CONSTRUCTION
R92-61466	2+37	12" SE 841.12 12" E 840.52 12" W 840.47 18" S 837.47 36" N 835.03 P	845.09	10.06	72" Dia.	TYPE B COVER



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

**HOOVER, GREENE, & HILL**

**IMPROVEMENT PROJECT**

STORM PLAN & PROFILE - GREENE ST SOUTH STA 0+00 TO STA 3+50

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

DRAWING No. 2018-031-45

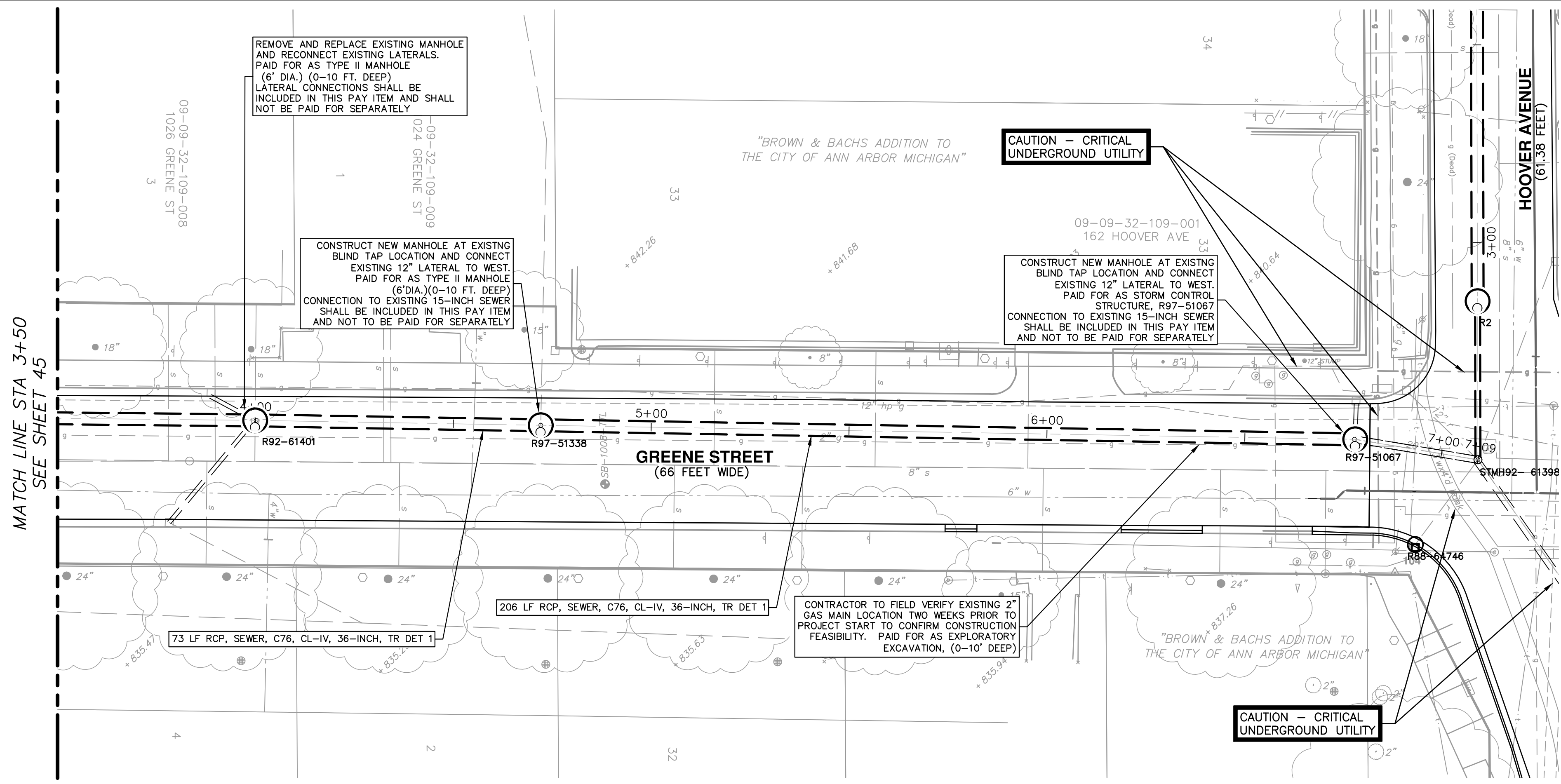
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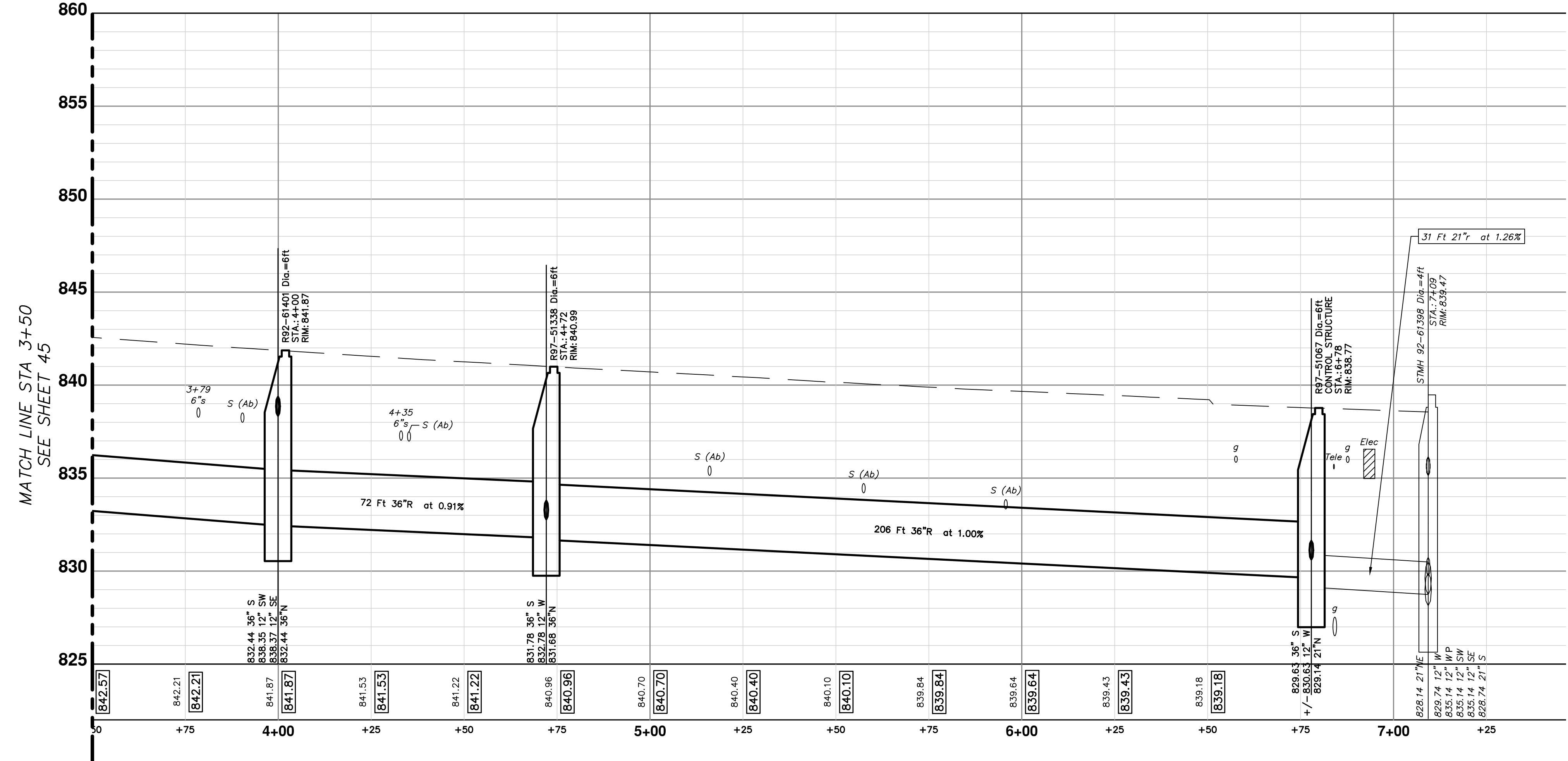
ANN ARBOR MICHIGAN

REV.	DESCRIPTION	DATE	DRAWN	CHECKED

SHEET No. 45 OF 83



STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DEPTH (Feet)	SIZE	APPLICATION/CONSTRUCTION
R92-61401	4+00	36" S 832.44 P 12" SW 838.35 12" SE 838.37 36" N 832.44 P	841.87	10.66	72" Dia.	TYPE B COVER
R97-51067	6+78	36" S 829.63 P 12" W 830.63 21" N 829.14	838.77	11.12	72" Dia.	CONTROL STRUCTURE TYPE B COVER (2)
R97-51338	4+72	36" S 831.78 P 12" W 832.78 36" N 831.68 P	840.99	10.57	72" Dia.	TYPE B COVER



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

**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**

STORM PLAN & PROFILE - GREENE ST SOUTH STA 3+50 TO STA 7+08

SHEET No. **46 OF 83**

SCALE: 1"=20'

PROFILE: 1"=4'

DRAWING No. **2018-031-46**

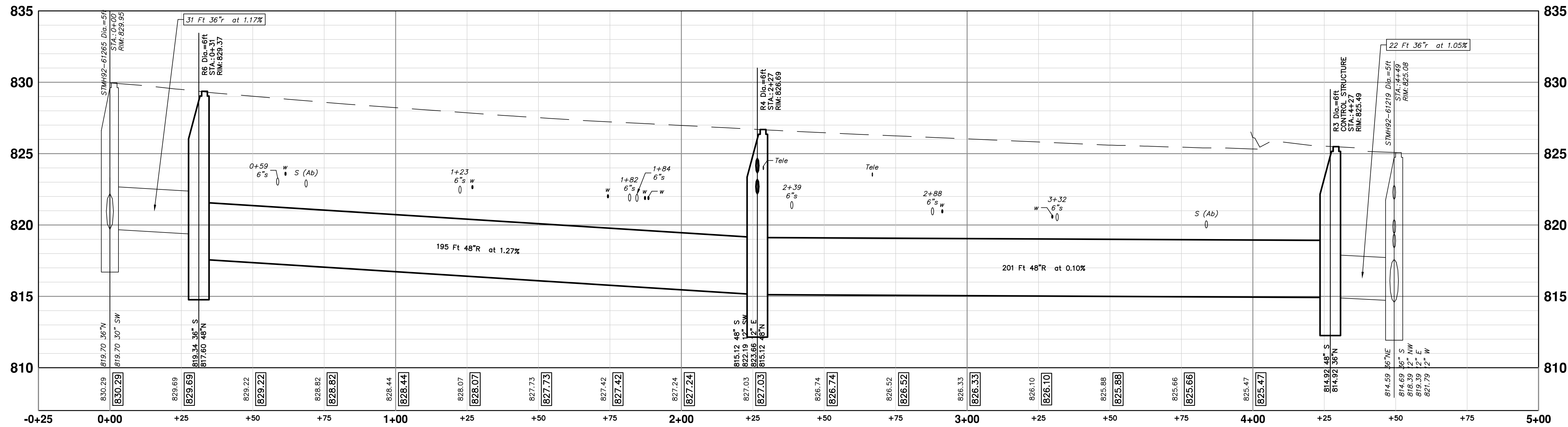
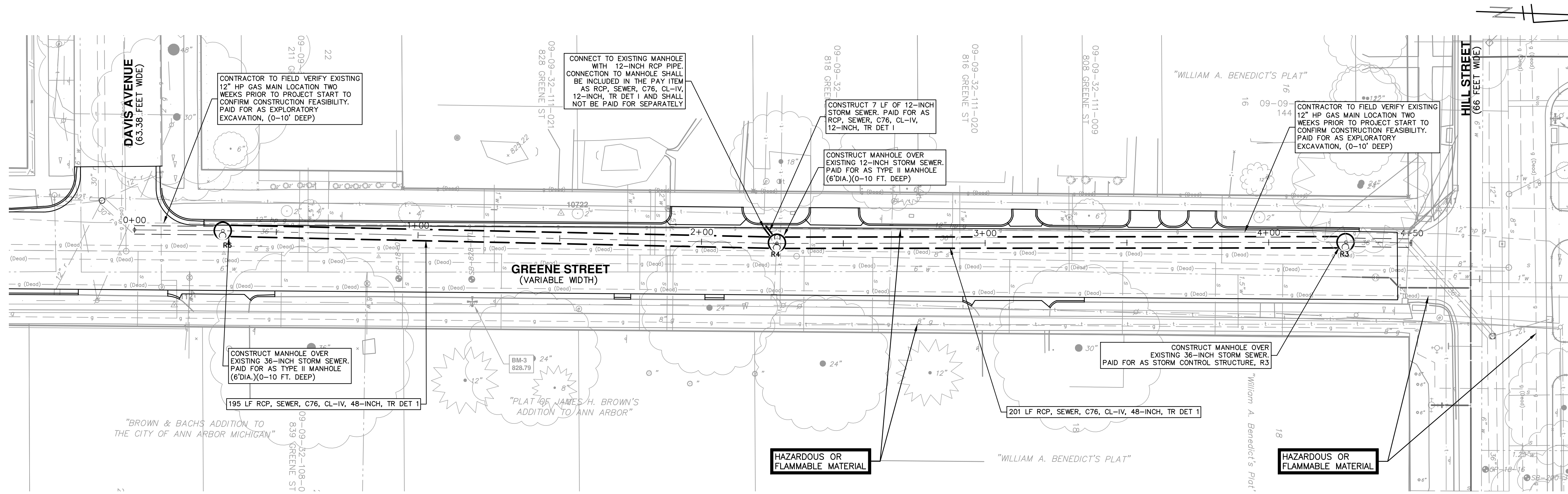
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REV.	DESCRIPTION	DATE	DRAWN	CHECKED

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STORM SEWER STRUCTURE TABLE

STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DEPTH (Feet)	SIZE	APPLICATION/CONSTRUCTION
R3	4+27	48" S 814.92 P 36" N 814.92 P	825.49	12.57	72" Dia.	CONTROL STRUCTURE TYPE B COVER (2)
R4	2+27	48" S 815.12 P 12" SW 822.19 P 12" E 823.66 P 48" N 815.12 P	826.69	13.88	72" Dia.	TYPE B COVER
R6	0+31	36" S 819.34 P 48" N 817.60 P	829.37	13.94	72" Dia.	TYPE K COVER

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
**HOOVER, GREENE, & HILL**  
**IMPROVEMENT PROJECT**

STORM PLAN & PROFILE - GREENE ST NORTH STA 0+00 TO STA 4+88

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

DRAWING No. **2018-031-47**

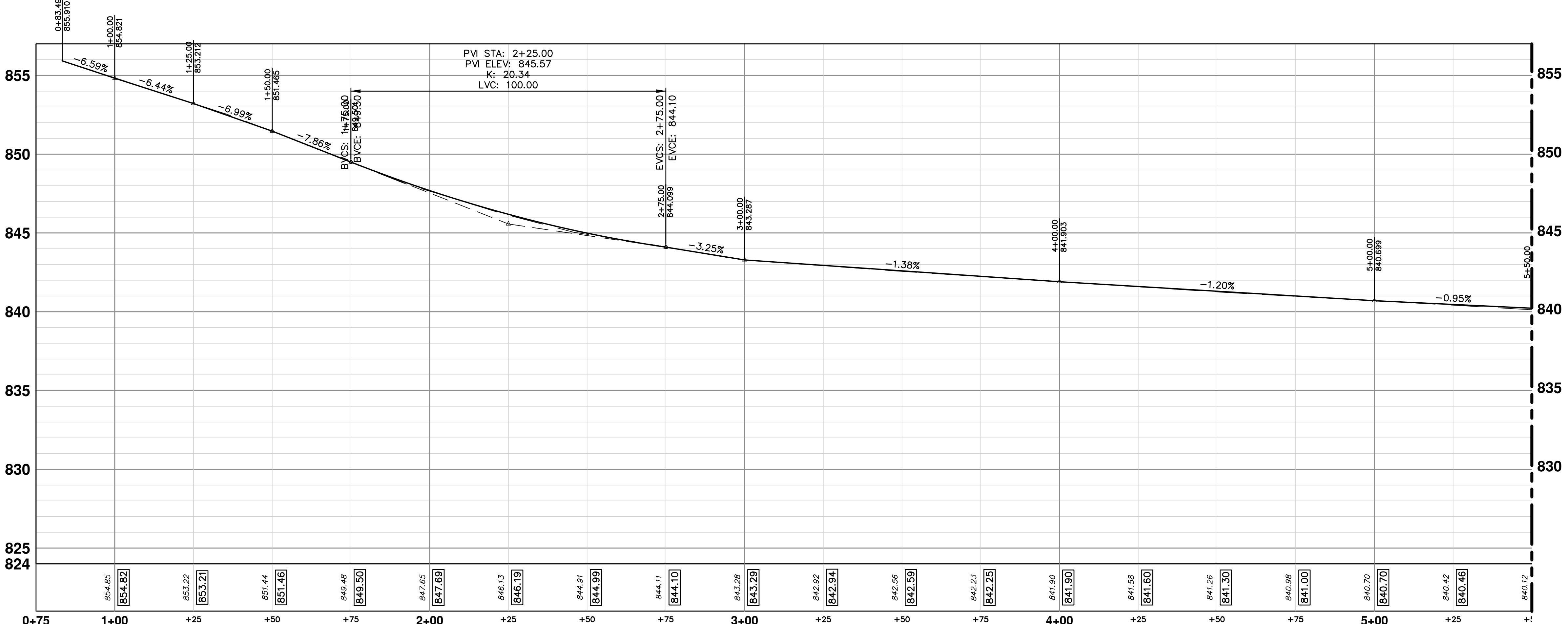
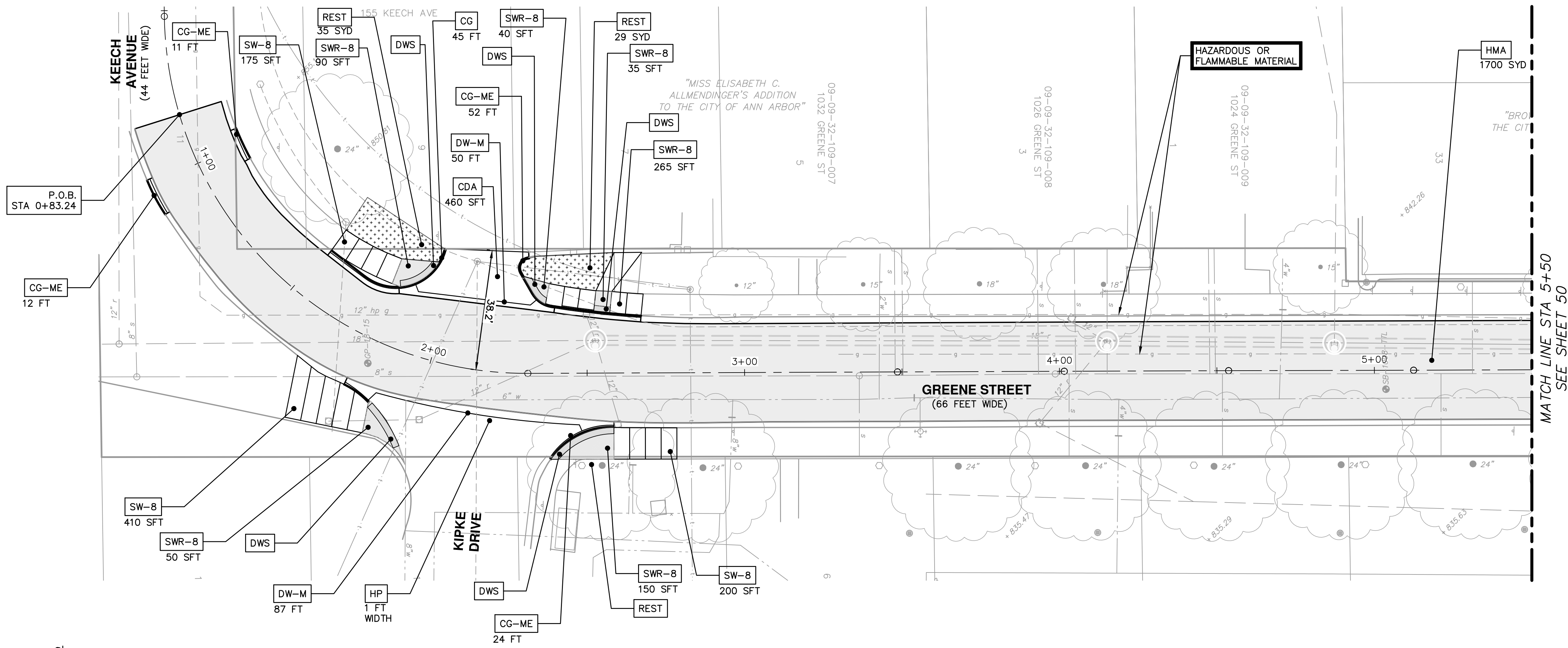
SHEET No. **47 OF 83**

REV.	DESCRIPTION	DATE	DRAWN	CHECKED

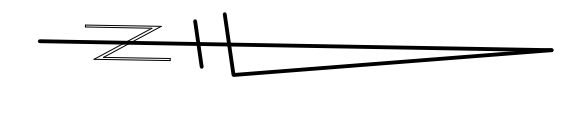
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c:\pwwork\mfonagan\00549816\25 PROPOSED PAVING PLAN-PROFILE - GREENE STREET.dwg Dwg Created: 1-Oct-18 - \_a2 standard bw.stb - Plot Date: 1-Feb-19



CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CURB AND GUTTER, CONC, AA DET SD-R-1, SPECIAL
CG-ME	CURB AND GUTTER, CONC, MATCH EXISTING, SPECIAL
SW-4	SIDEWALK, CONCRETE, 4 INCH, SPECIAL
SWR-6	SIDEWALK RAMP, CONCRETE, 6 INCH, SPECIAL
SW-8	SIDEWALK, CONCRETE, 8 INCH, S2 SPECIAL
SWR-8	SIDEWALK RAMP, CONCRETE, 8 INCH, S2 SPECIAL
DWS	DETECTABLE WARNING SURFACE, MODIFIED
CDA	DRIVE APPROACH, CONC, 6 INCH, NON-REINF, P-NC
DW-M	DRIVEWAY OPENING, CONC, DETAIL M, P-NC
REST	TOPSOIL SURFACE, 4 INCH, SEEDING AND MULCHING
HP	HAND PATCHING, MODIFIED



MATCH LINE STA 5+50  
SEE SHEET 50

MATCH LINE STA 5+50  
SEE SHEET 50

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


**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**

PAVING PLAN & PROFILE - GREENE STREET STA 0+00 TO STA 5+50

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

DRAWING No. 2018-031-49

SHEET No. 49 OF 83

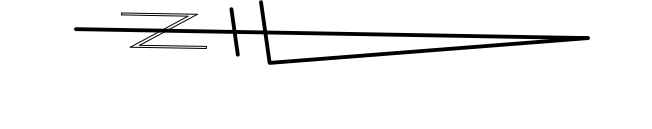
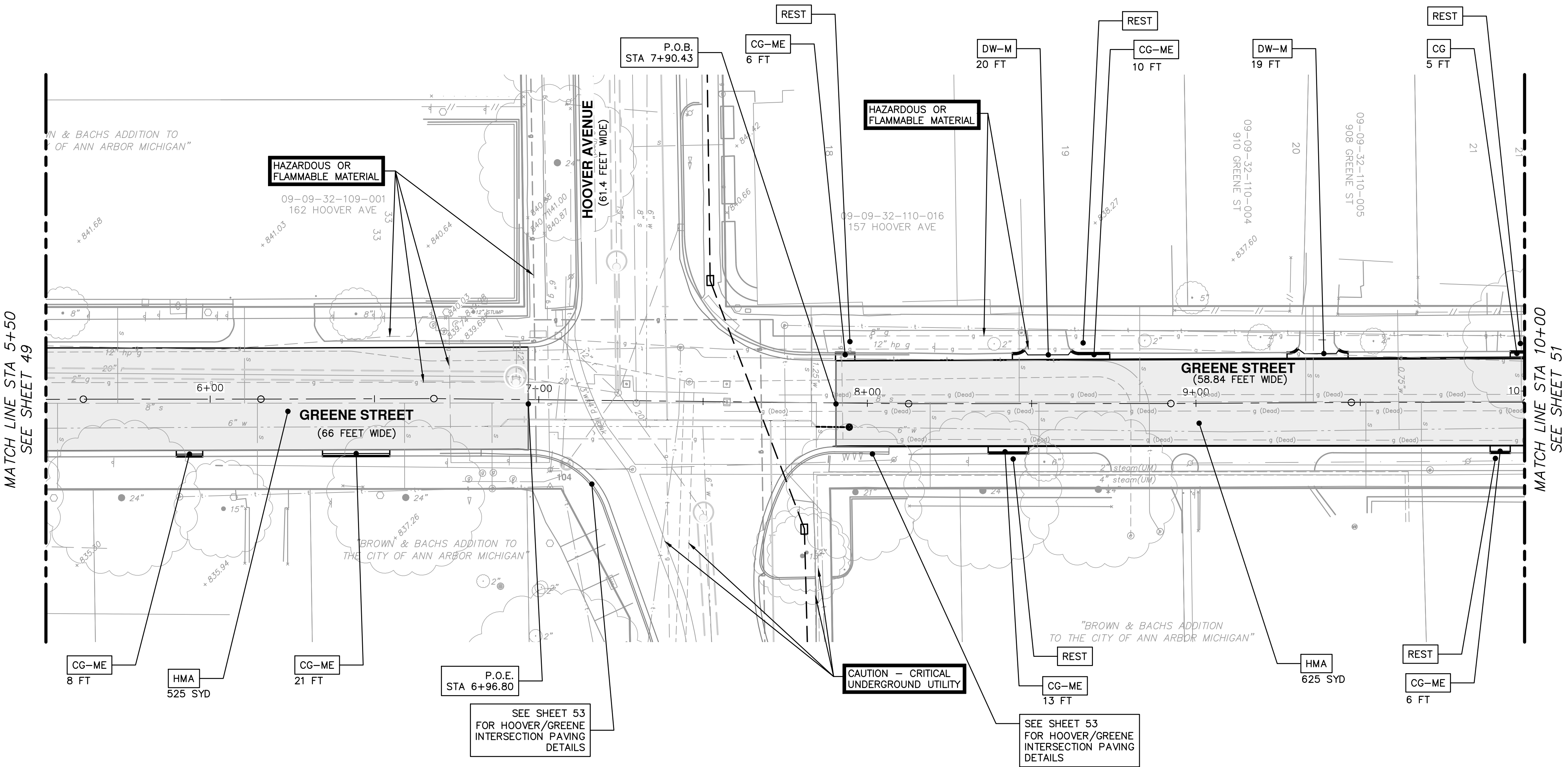


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ANN ARBOR, MI 48106-1667  
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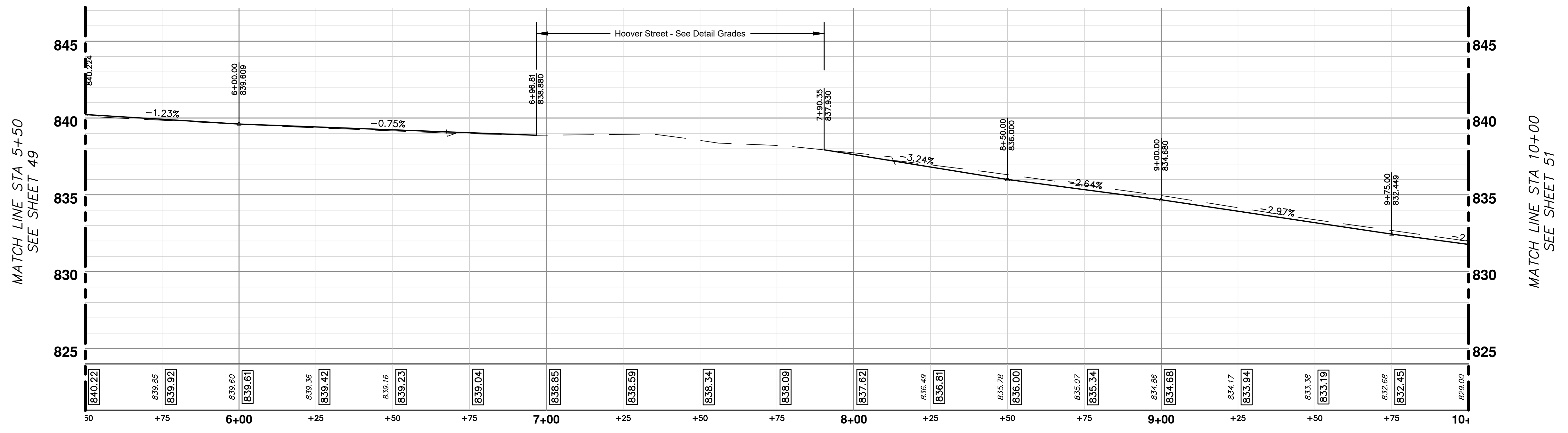
REV.	DESCRIPTION	DATE	DRAWN	CHECKED

Know what's below. Call Before you dig.





CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CURB AND GUTTER, CONC, AA DET SD-R-1, SPECIAL
CG-ME	CURB AND GUTTER, CONC, MATCH EXISTING, SPECIAL
SW-4	SIDEWALK, CONCRETE, 4 INCH, SPECIAL
SWR-6	SIDEWALK RAMP, CONCRETE, 6 INCH, SPECIAL
SW-8	SIDEWALK, CONCRETE, 8 INCH, S2 SPECIAL
SWR-8	SIDEWALK RAMP, CONCRETE, 8 INCH, S2 SPECIAL
DWS	DETECTABLE WARNING SURFACE, MODIFIED
CDA	DRIVE APPROACH, CONC, 6 INCH, NON-REINF, P-NC
DW-M	DRIVEWAY OPENING, CONC, DETAIL M, P-NC
REST	TOPSOIL SURFACE, 4 INCH, SEEDING AND MULCHING

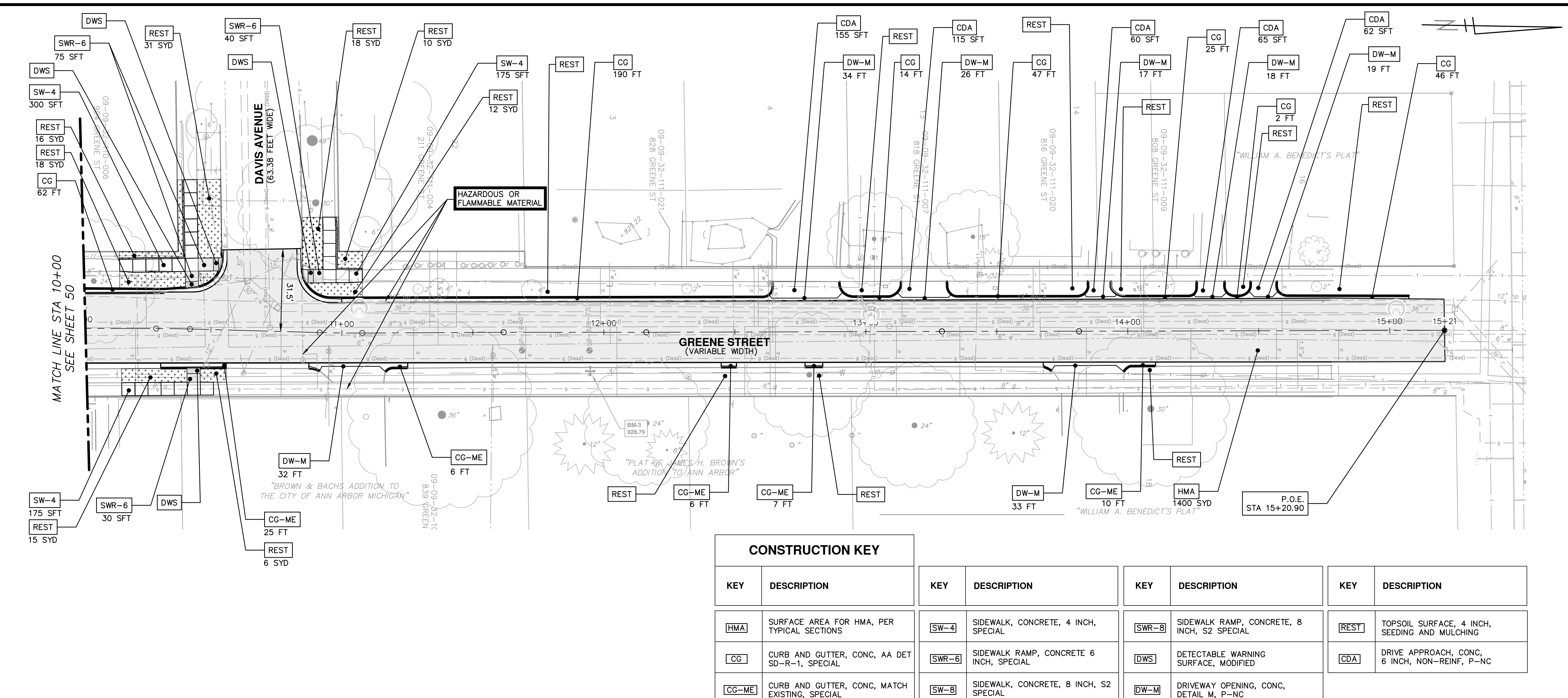


NO.	DATE	DESCRIPTION	REV.

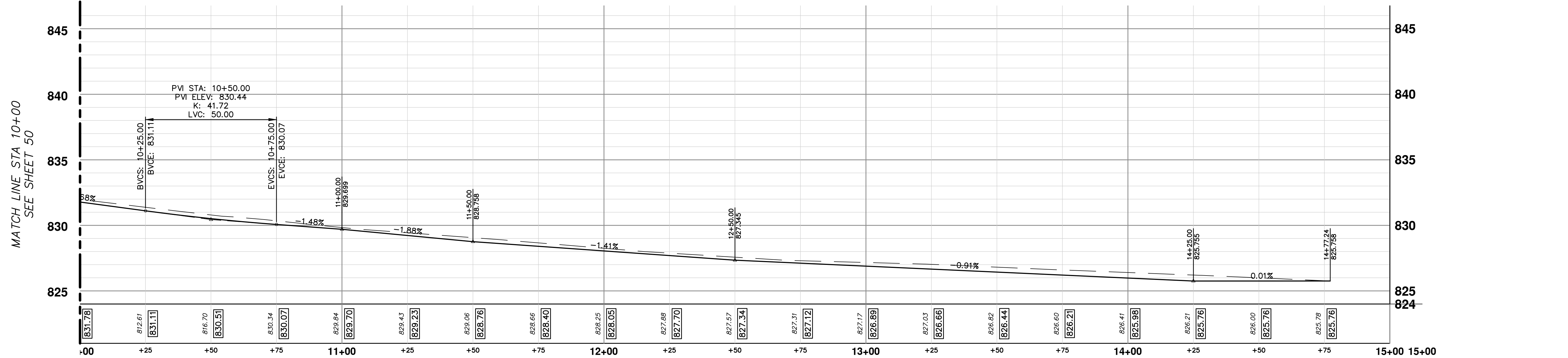
CITY OF ANN ARBOR  
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
HOOPER, GREENE, & HILL  
IMPROVEMENT PROJECT  
PAVING PLAN & PROFILE - GREENE STREET STA 5+50 TO STA 10+00

c:\pwork\mfonagan\0549816\25 PROPOSED PAVING PLAN-PROFILE - GREENE STREET.dwg Dwg Created: 1-Oct-18 - \_a2 standard bw.stb - Plot Date: 1-Feb-19



CONSTRUCTION KEY			
KEY	DESCRIPTION	KEY	DESCRIPTION
[HMA]	SURFACE AREA FOR HMA, PER TYPICAL SECTIONS	[SW-4]	SIDEWALK, CONCRETE, 4 INCH, SPECIAL
[CG]	CURB AND GUTTER, CONC, AA DET SD-R-1, SPECIAL	[SWR-6]	SIDEWALK RAMP, CONCRETE 6 INCH, SPECIAL
[CG-ME]	CURB AND GUTTER, CONC, MATCH EXISTING, SPECIAL	[SW-8]	SIDEWALK, CONCRETE, 8 INCH, S2 SPECIAL
		[SWR-8]	SIDEWALK RAMP, CONCRETE, 8 INCH, S2 SPECIAL
		[DWS]	DETECTABLE WARNING SURFACE, MODIFIED
		[DW-M]	DRIVEWAY OPENING, CONC, DETAIL M, P-NC
		[REST]	TOPSOIL SURFACE, 4 INCH, SEEDING AND MULCHING
		[CDA]	DRIVE APPROACH, CONC, 6 INCH, NON-REINF, P-NC



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

**HOOVER, GREENE, & HILL**

**IMPROVEMENT PROJECT**

PAVING PLAN & PROFILE - GREENE STREET STA 10+00 TO STA 15+20

SCALE PLAN: 1"=40'  
PROFILE: 1"=4'

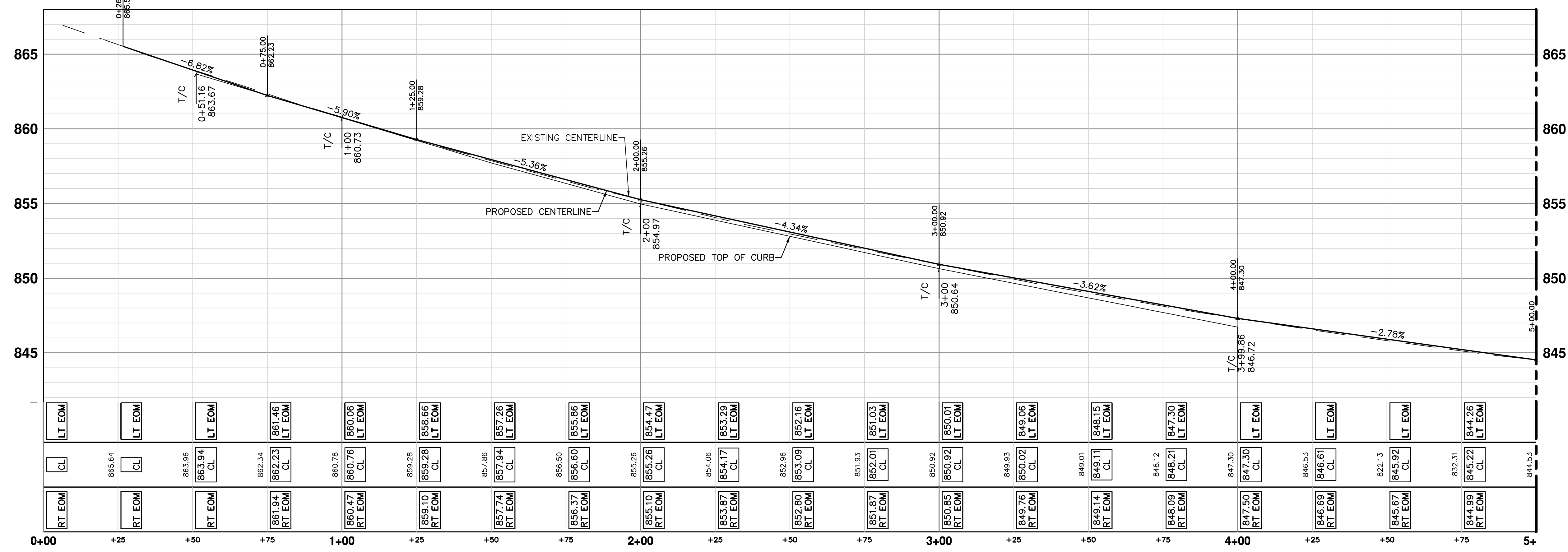
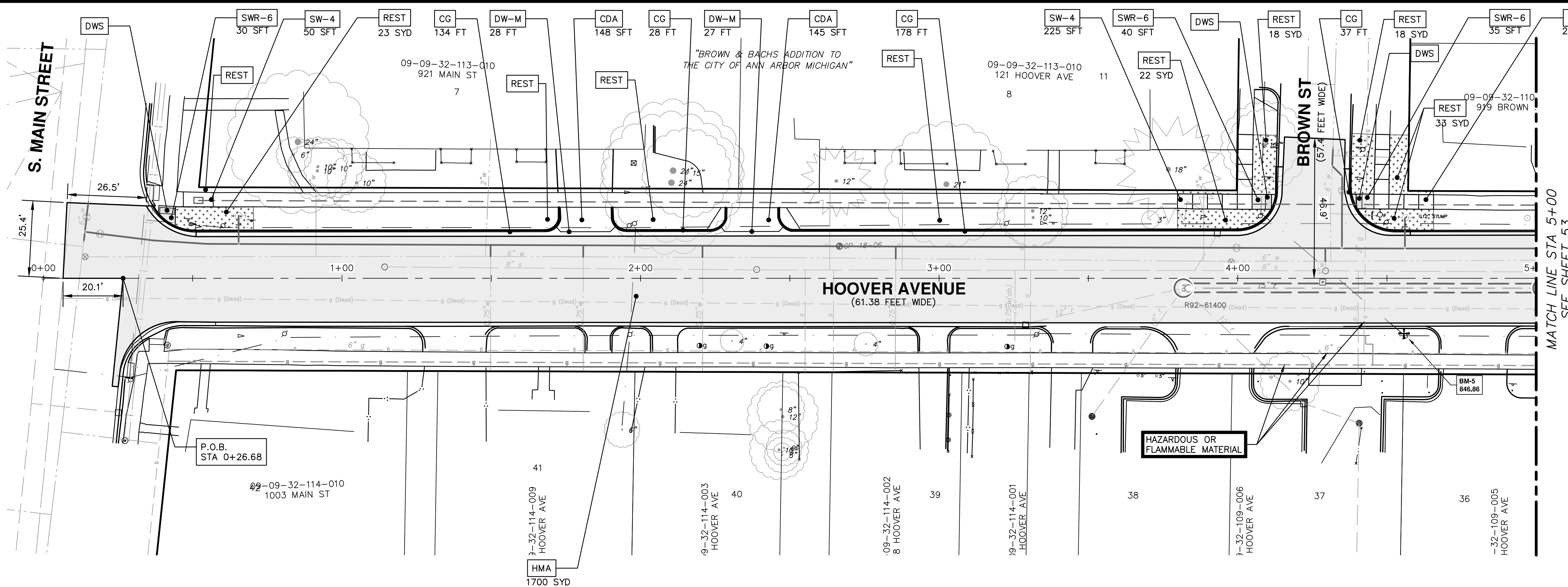
DRAWING No. 2018-031-51

SHEET No. 51 OF 83

CITY OF ANN ARBOR  
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ANN ARBOR: 734-754-4110  
WWW.A2GOV.ORG

REV.	DESCRIPTION	DATE	DRAWN	CHECKED

C:\pwork\mianagon\00549816\28\_PAVING PLAN AND PROFILE - HOOVER AVENUE STA 0+00 TO STA 5+00.dwg Dwg Created: 7-Aug-18 - \_a2\_standard bw.stb - Plot Date: 1-Feb-19



CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CURB AND GUTTER, CONC, AA DET SD-R-1, SPECIAL
SW-4	SIDEWALK, CONC, 4 INCH, SPECIAL
SWR-6	SIDEWALK RAMP, CONCRETE, 6 INCH, SPECIAL
DWS	DETECTABLE WARNING SURFACE, MODIFIED
CDA	DRIVE APPROACH, CONC, 6 INCH, NON-REINF, P-NC
DW-M	DRIVEWAY OPENING, CONC, DETAIL M, P-NC
REST	TOPSOIL SURFACE, 4 INCH, SEEDING AND MULCHING

MATCH LINE STA 5+00  
SEE SHEET 53

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

**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**

PAVING PLAN & PROFILE - HOOVER AVENUE STA 0+00 TO STA 5+00

SHEET No. 52 OF 83

811  
Know what's below.  
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PUBLIC SERVICES  
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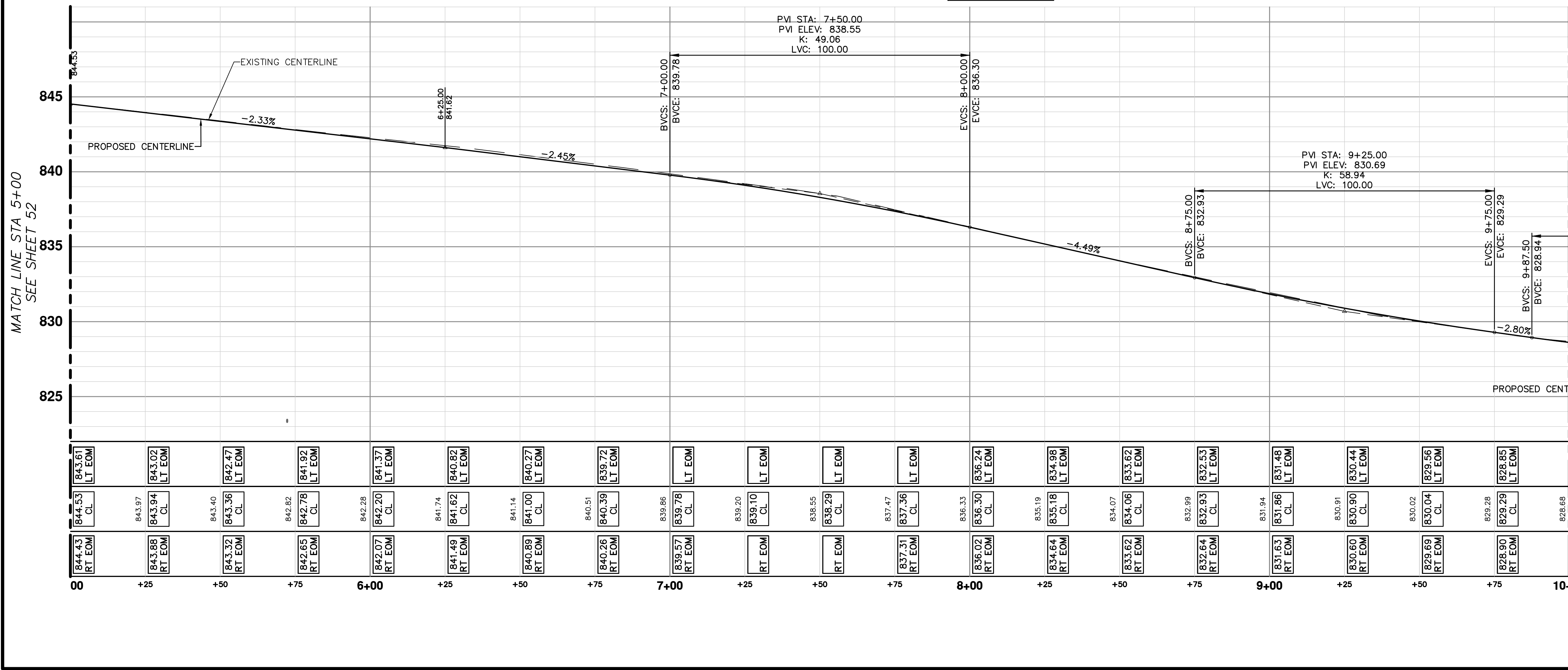
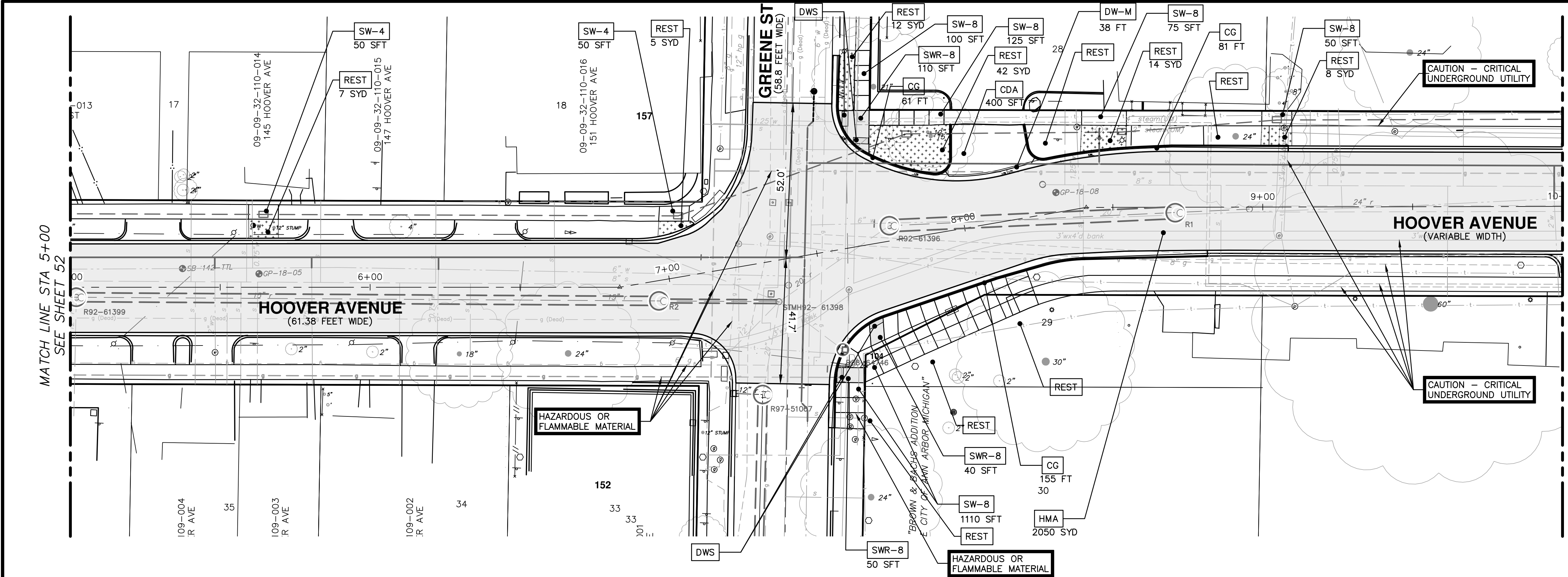
ANN ARBOR MI

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

DRAWING No. 2018-031-52

REV.	DATE	DRAWN	CHECKED	DESCRIPTION





CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CURB AND GUTTER, CONC, AA DET SD-R-1, SPECIAL
SW-4	SIDEWALK, CONCRETE, 4 INCH, SPECIAL
SWR-6	SIDEWALK RAMP, CONCRETE, 6 INCH, SPECIAL
SW-8	SIDEWALK, CONCRETE, 8 INCH, S2 SPECIAL
SWR-8	SIDEWALK RAMP, CONCRETE, 8 INCH, S2 SPECIAL
DWS	DETECTABLE WARNING SURFACE, MODIFIED
CDA	DRIVE APPROACH, CONC, 6 INCH, NON-REINF, P-NC
DW-M	DRIVEWAY OPENING, CONC, DETAIL M, P-NC
REST	TOPSOIL SURFACE, 4 INCH, SEEDING AND MULCHING

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

**HOOPER, GREENE, & HILL IMPROVEMENT PROJECT**

PAVING PLAN & PROFILE - HOOPER AVENUE STA 5+00 TO STA 10+00

SHEET No. **53 OF 83**

PROFILE: 1" = 4'

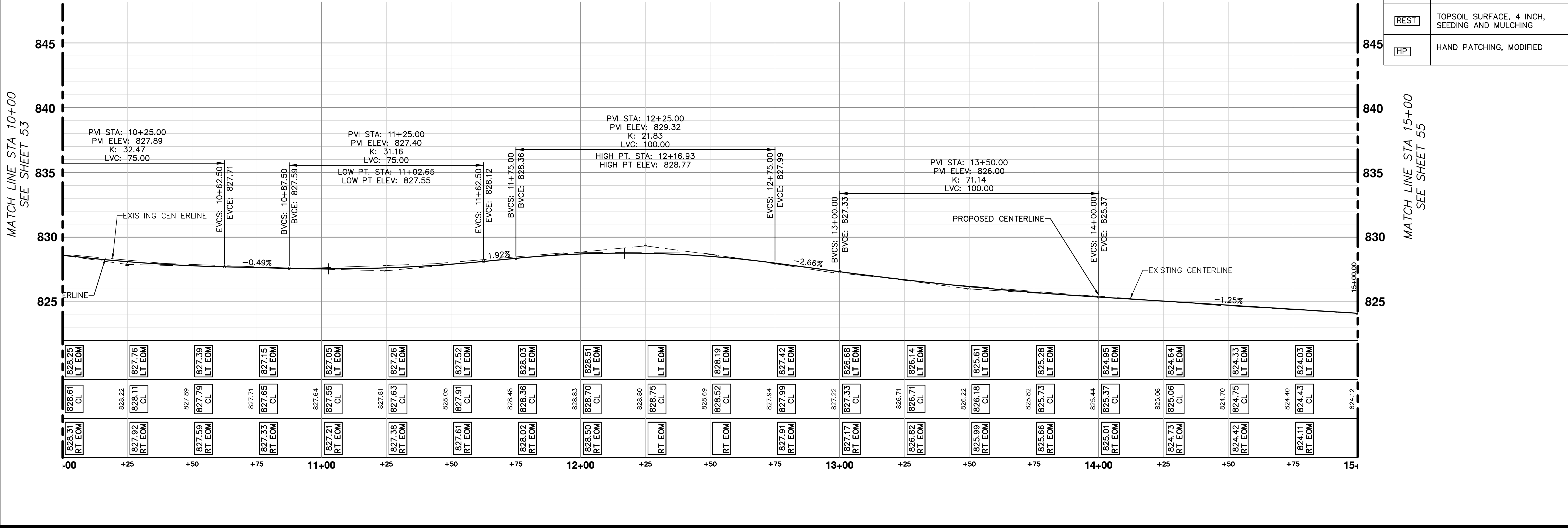
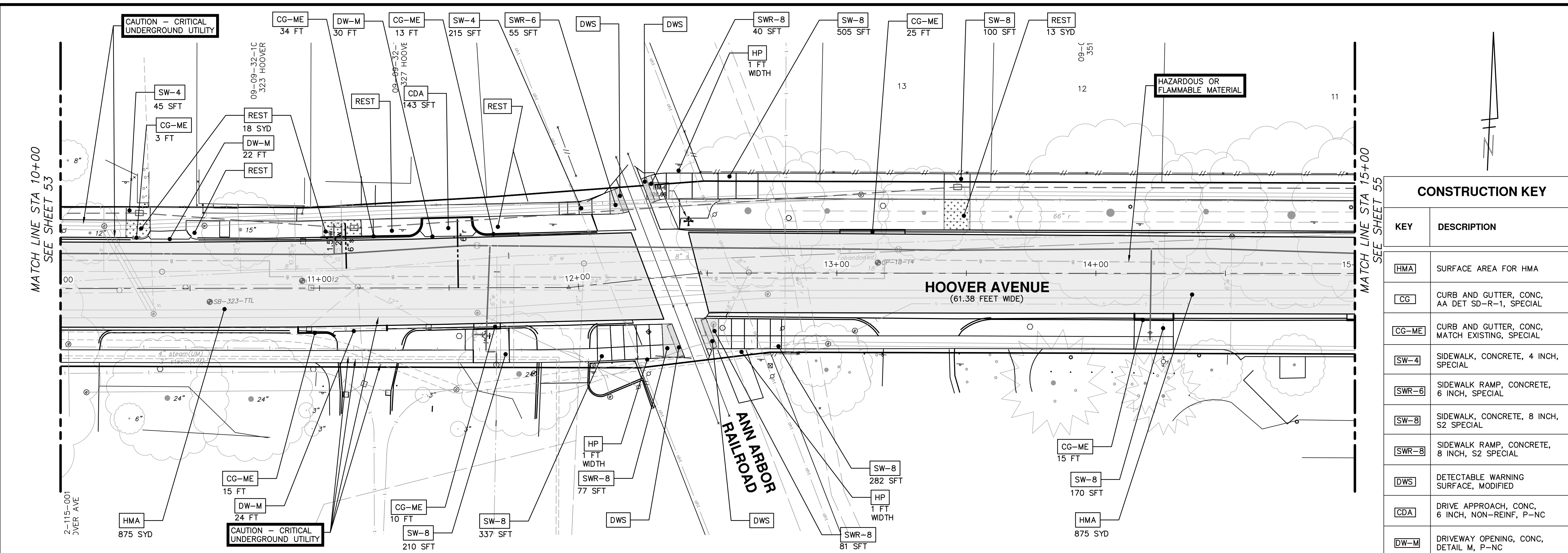
SCALE PLAN: 1" = 20'

DRAWING No. **2018-031-53**

DESCRIPTION	DATE	DRAWN	CHECKED

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

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CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CURB AND GUTTER, CONC, AA DET SD-R-1, SPECIAL
CG-ME	CURB AND GUTTER, CONC, MATCH EXISTING, SPECIAL
SW-4	SIDEWALK, CONCRETE, 4 INCH, SPECIAL
SWR-6	SIDEWALK RAMP, CONCRETE, 6 INCH, SPECIAL
SW-8	SIDEWALK, CONCRETE, 8 INCH, S2 SPECIAL
SWR-8	SIDEWALK RAMP, CONCRETE, 8 INCH, S2 SPECIAL
DWS	DETECTABLE WARNING SURFACE, MODIFIED
CDA	DRIVE APPROACH, CONC, 6 INCH, NON-REINF, P-NC
DW-M	DRIVEWAY OPENING, CONC, DETAIL M, P-NC
REST	TOPSOIL SURFACE, 4 INCH, SEEDING AND MULCHING
HP	HAND PATCHING, MODIFIED

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

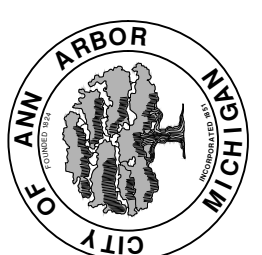
**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**

PAVING PLAN & PROFILE - HOOVER AVENUE STA 10+00 TO STA 15+00

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

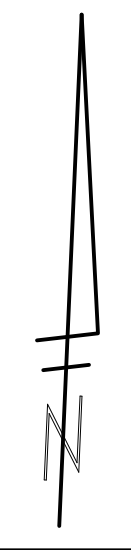
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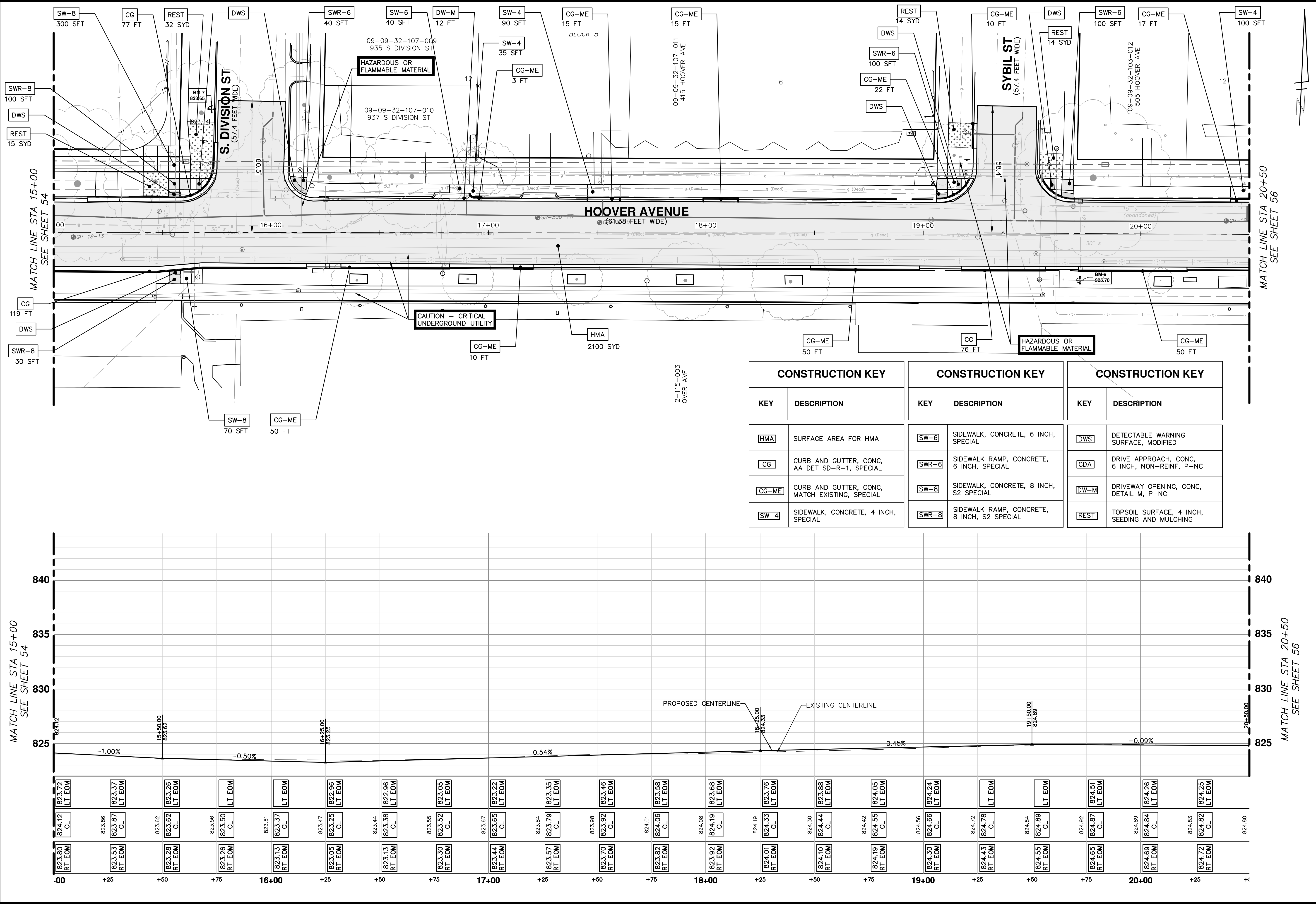
SHEET NO. 54 OF 83



CITY OF ANN ARBOR  
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DESCRIPTION	DATE	DRAWN	CHECKED





CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CURB AND GUTTER, CONC, AA DET SD-R-1, SPECIAL
CG-ME	CURB AND GUTTER, CONC, MATCH EXISTING, SPECIAL
SW-4	SIDEWALK, CONCRETE, 4 INCH, SPECIAL

CONSTRUCTION KEY	
KEY	DESCRIPTION
SW-6	SIDEWALK, CONCRETE, 6 INCH, SPECIAL
SWR-6	SIDEWALK RAMP, CONCRETE, 6 INCH, SPECIAL
SW-8	SIDEWALK, CONCRETE, 8 INCH, S2 SPECIAL
SWR-8	SIDEWALK RAMP, CONCRETE, 8 INCH, S2 SPECIAL

CONSTRUCTION KEY	
KEY	DESCRIPTION
DWS	DETECTABLE WARNING SURFACE, MODIFIED
CDA	DRIVE APPROACH, CONC, 6 INCH, NON-REINF, P-NC
DW-M	DRIVEWAY OPENING, CONC, DETAIL M, P-NC
REST	TOPSOIL SURFACE, 4 INCH, SEEDING AND MULCHING

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


**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**

PAVING PLAN & PROFILE - HOOVER AVENUE STA 15+00 TO STA 20+50

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

DRAWING NO. 2018-031-55

SHEET NO. 55 OF 83

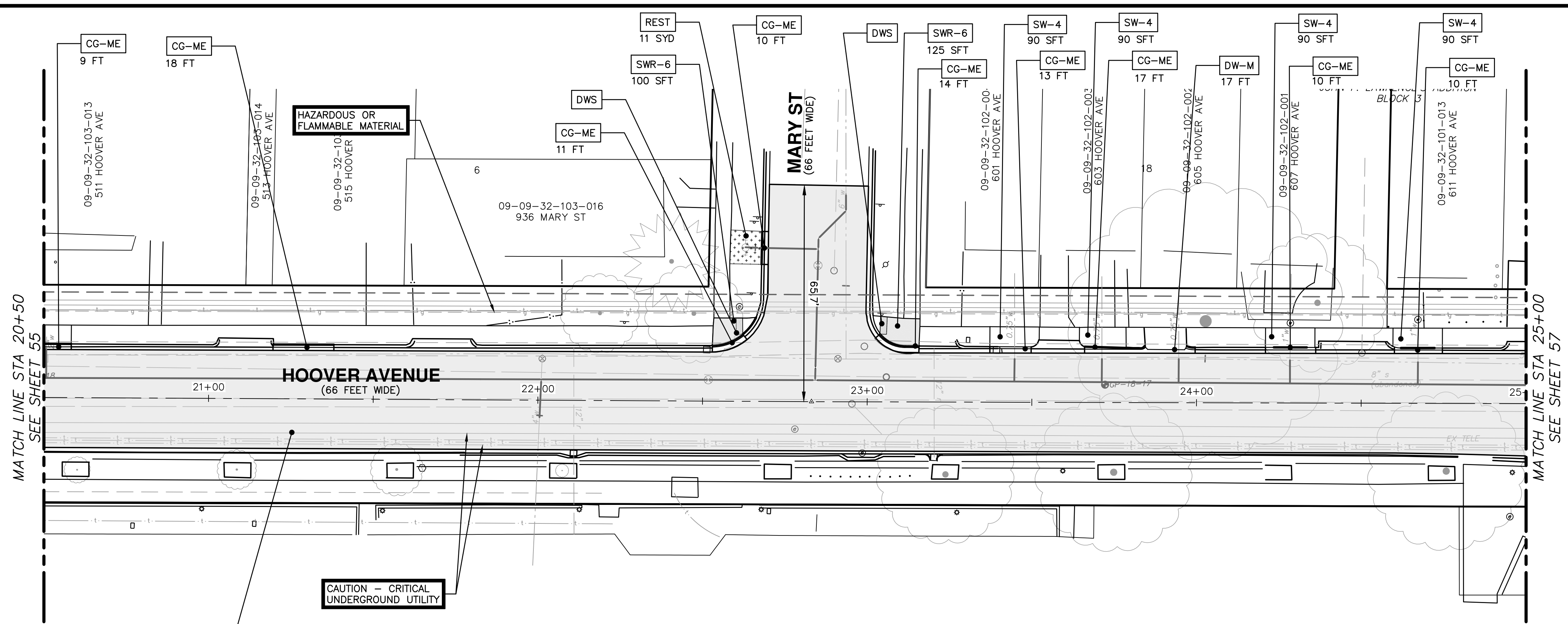


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ANN ARBOR, MI 48106-1647  
ANN ARBOR: 734.794.4110  
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REV.	DESCRIPTION	DATE	DRAWN	CHECKED

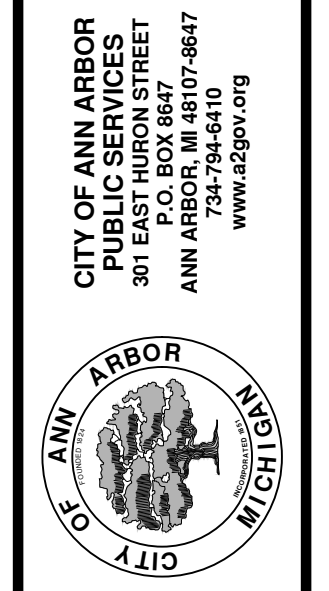
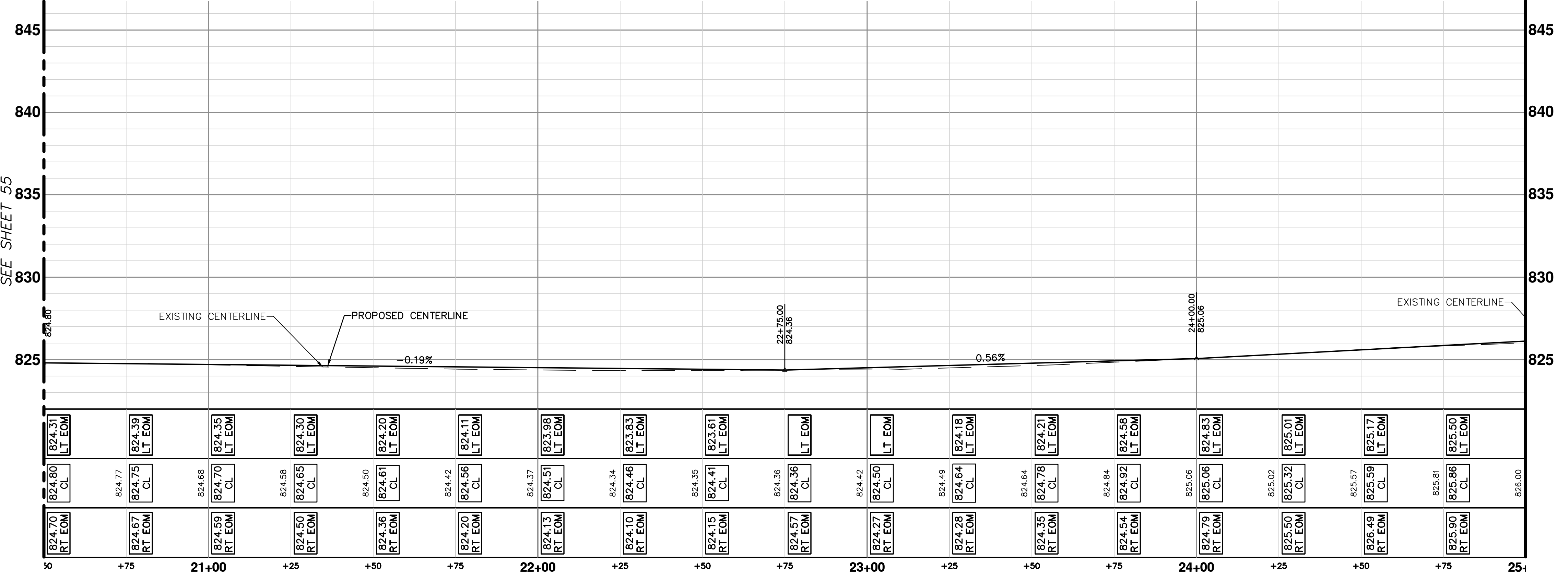
Know what's below. Call before you dig.





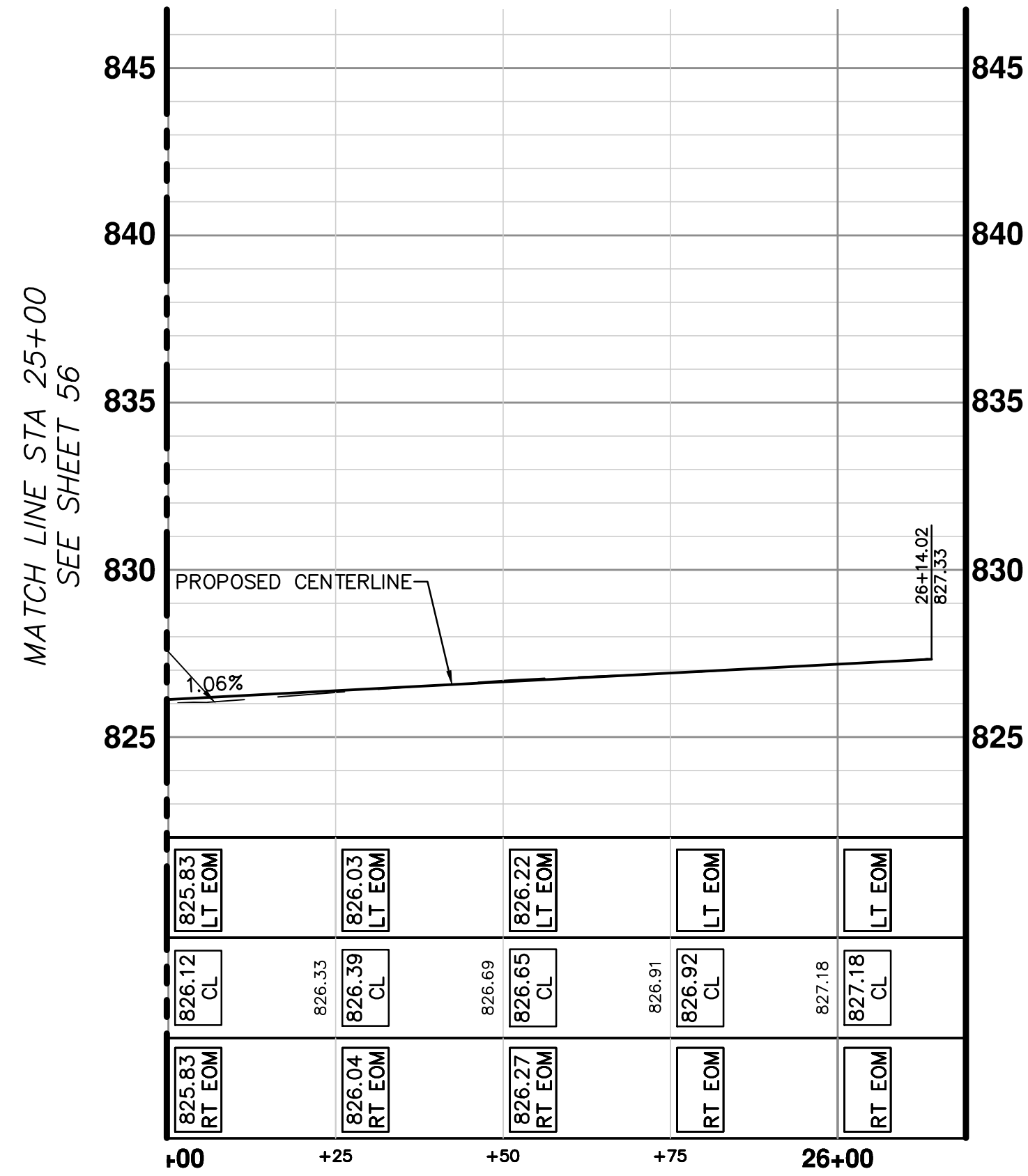
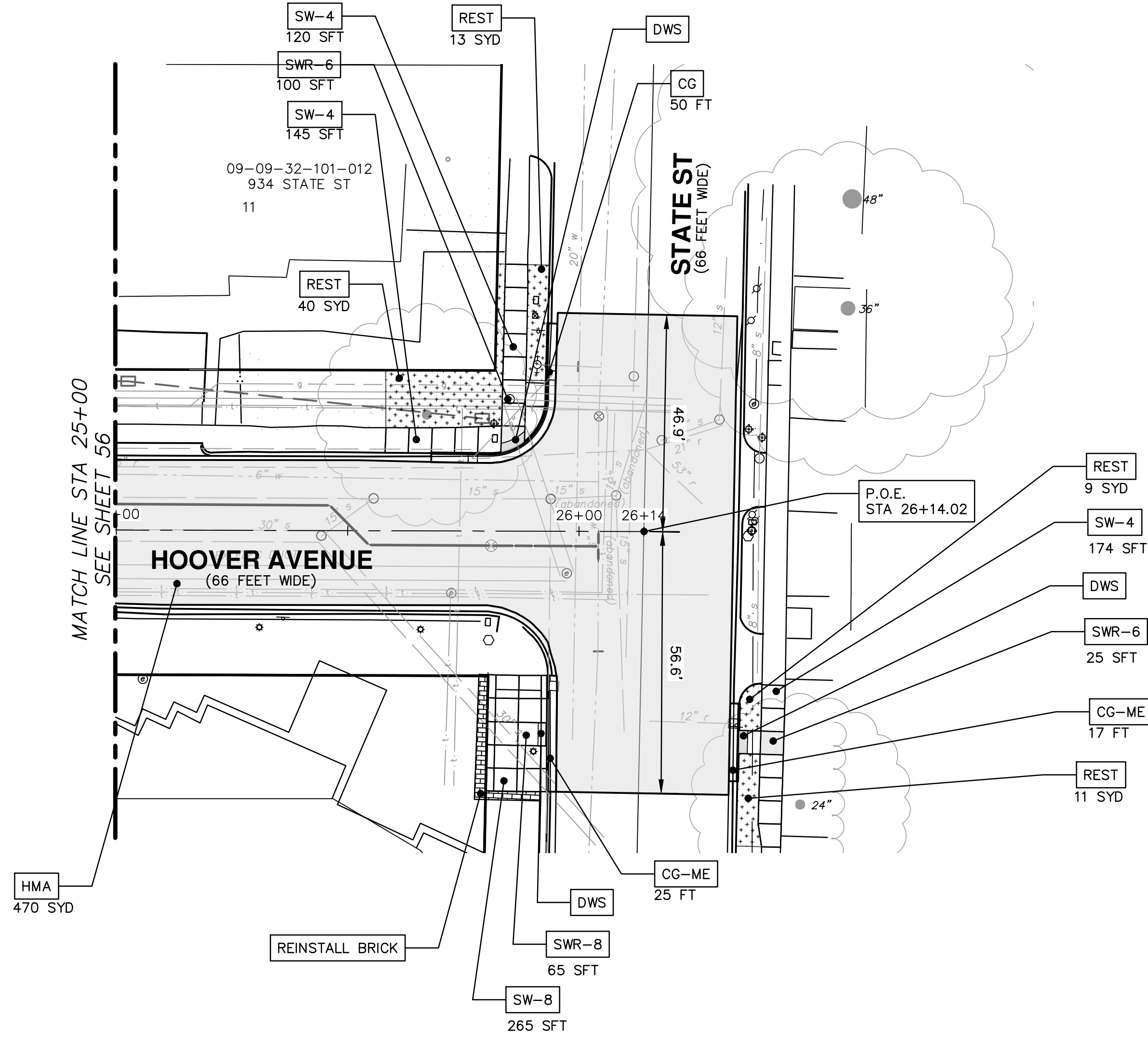
CAUTION - CRITICAL UNDERGROUND UTILITY

CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CURB AND GUTTER, CONC, AA DET SD-R-1, SPECIAL
CG-ME	CURB AND GUTTER, CONC, MATCH EXISTING, SPECIAL
SW-4	SIDEWALK, CONCRETE, 4 INCH, SPECIAL
SWR-6	SIDEWALK RAMP, CONCRETE, 6 INCH, SPECIAL
SW-8	SIDEWALK, CONCRETE, 8 INCH, S2 SPECIAL
SWR-8	SIDEWALK RAMP, CONCRETE, 8 INCH, S2 SPECIAL
DWS	DETECTABLE WARNING SURFACE, MODIFIED
DW-M	DRIVEWAY OPENING, CONC, DETAIL M, P-NC
REST	TOPSOIL SURFACE, 4 INCH, SEEDING AND MULCHING



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING  
 HOOVER, GREENE, & HILL  
 IMPROVEMENT PROJECT  
 PAVING PLAN & PROFILE - HOOVER AVENUE STA 20+50 TO STA 26+14  
 SCALE PLAN: 1" = 20'  
 PROFILE: 1" = 4'  
 DRAWING No. 2018-031-56  
 SHEET No. 56 OF 83

REV.	DESCRIPTION	DATE	DRAWN	CHECKED



CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CURB AND GUTTER, CONC, AA DET SD-R-1, SPECIAL
CG-ME	CURB AND GUTTER, CONC, MATCH EXISTING, SPECIAL
SW-4	SIDEWALK, CONCRETE, 4 INCH, SPECIAL
SWR-6	SIDEWALK RAMP, CONCRETE, 6 INCH, SPECIAL
SW-8	SIDEWALK, CONCRETE, 8 INCH, S2 SPECIAL
SWR-8	SIDEWALK RAMP, CONCRETE, 8 INCH, S2 SPECIAL
DWS	DETECTABLE WARNING SURFACE, MODIFIED
DW-M	DRIVEWAY OPENING, CONC, DETAIL M, P-NC
REST	TOPSOIL SURFACE, 4 INCH, SEEDING AND MULCHING



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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

HOOVER, GREENE, & HILL  
IMPROVEMENT PROJECT

PAVING PLAN & PROFILE - HOOVER AVENUE STA 25+00 TO POE

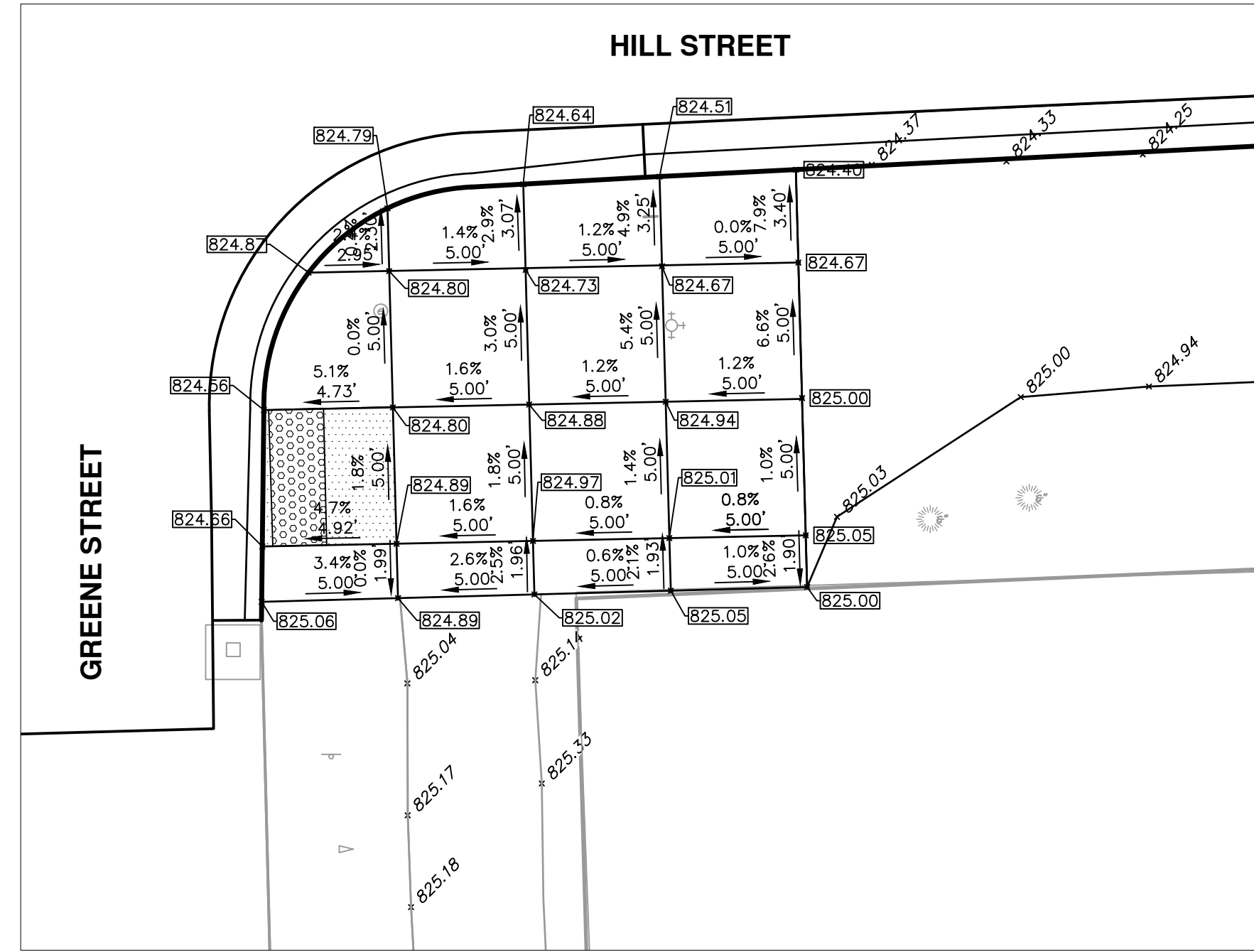
SCALE PLAN: 1" = 20'  
PROFILE: 1" = 4'

DRAWING No.  
2018-031-57

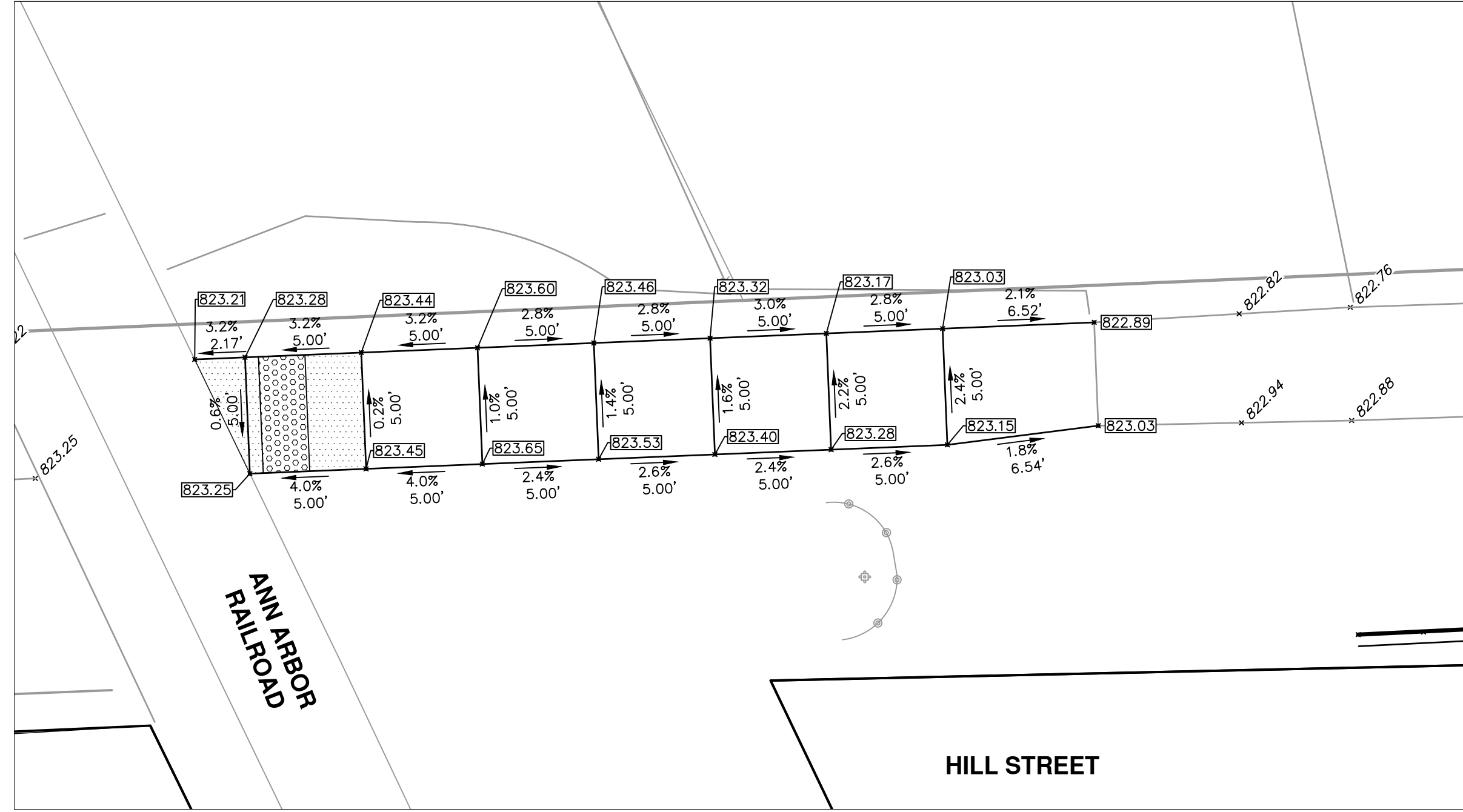
SHEET No.

DESCRIPTION	DATE	DRAWN	CHECKED

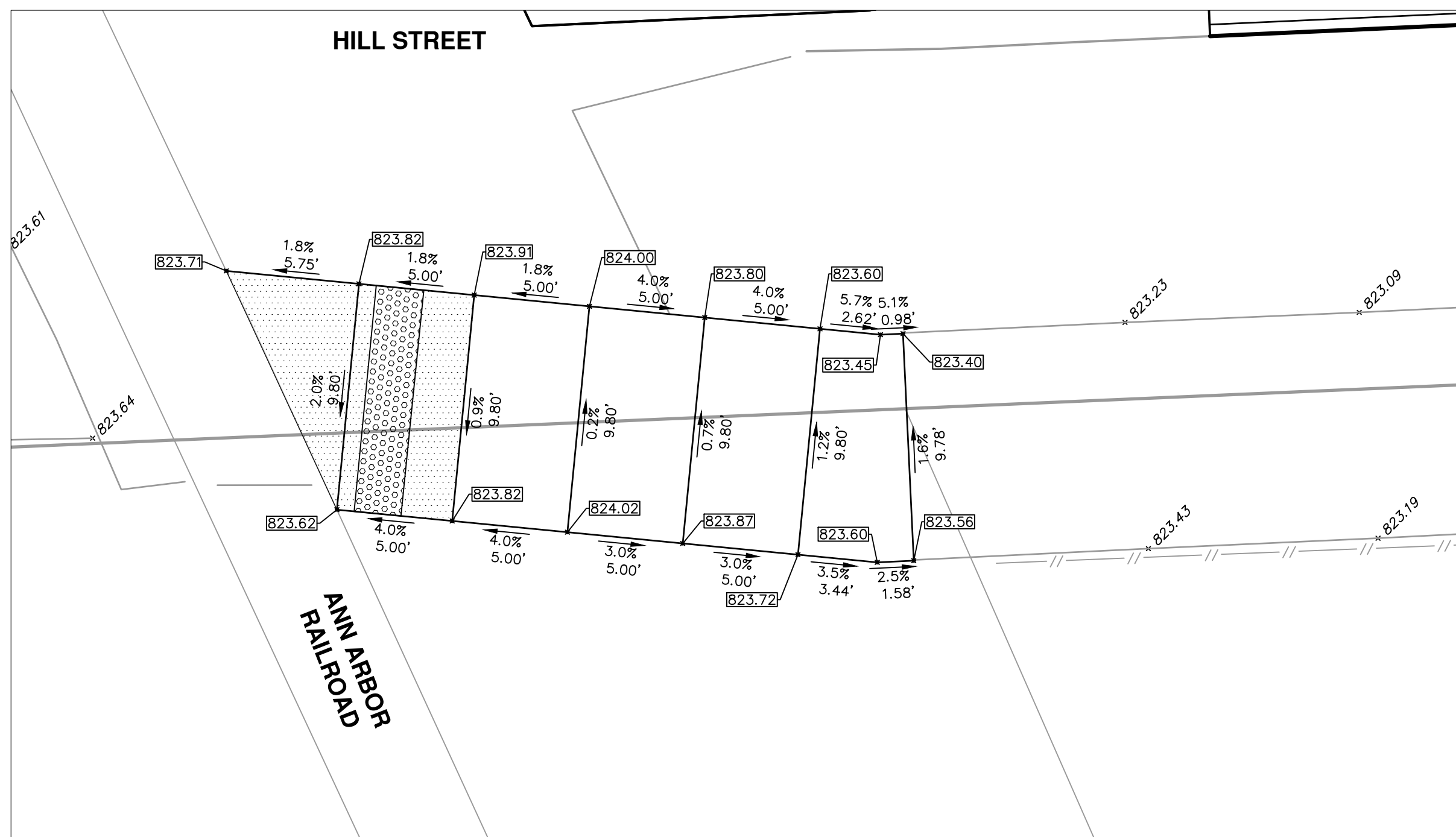
c:\pw\_work\mfonagan\d0549876\HILL STREET - ADA RAMP DETAIL GRADES.dwg Dwg Created: 12-Nov-18 - \_a2\_standard bw.stb - Plot Date: 1-Feb-19



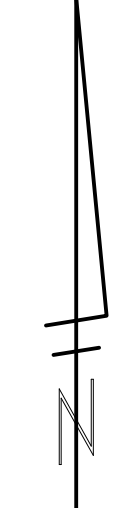
**SOUTHEAST CORNER - GREENE & HILL**



**NORTH SIDE HILL ST - EAST SIDE OF ANN ARBOR RAILROAD**



**SOUTH SIDE HILL ST - EAST SIDE OF ANN ARBOR RAILROAD**



REV.	DESCRIPTION	DATE	DRAWN	CHECKED

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**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**  
**HOOVER, GREENE, & HILL**  
**IMPROVEMENT PROJECT**  
ADA RAMP DETAIL GRADES - HILL STREET

SCALE 1"=5'  
DRAWING No. 2018-031-58



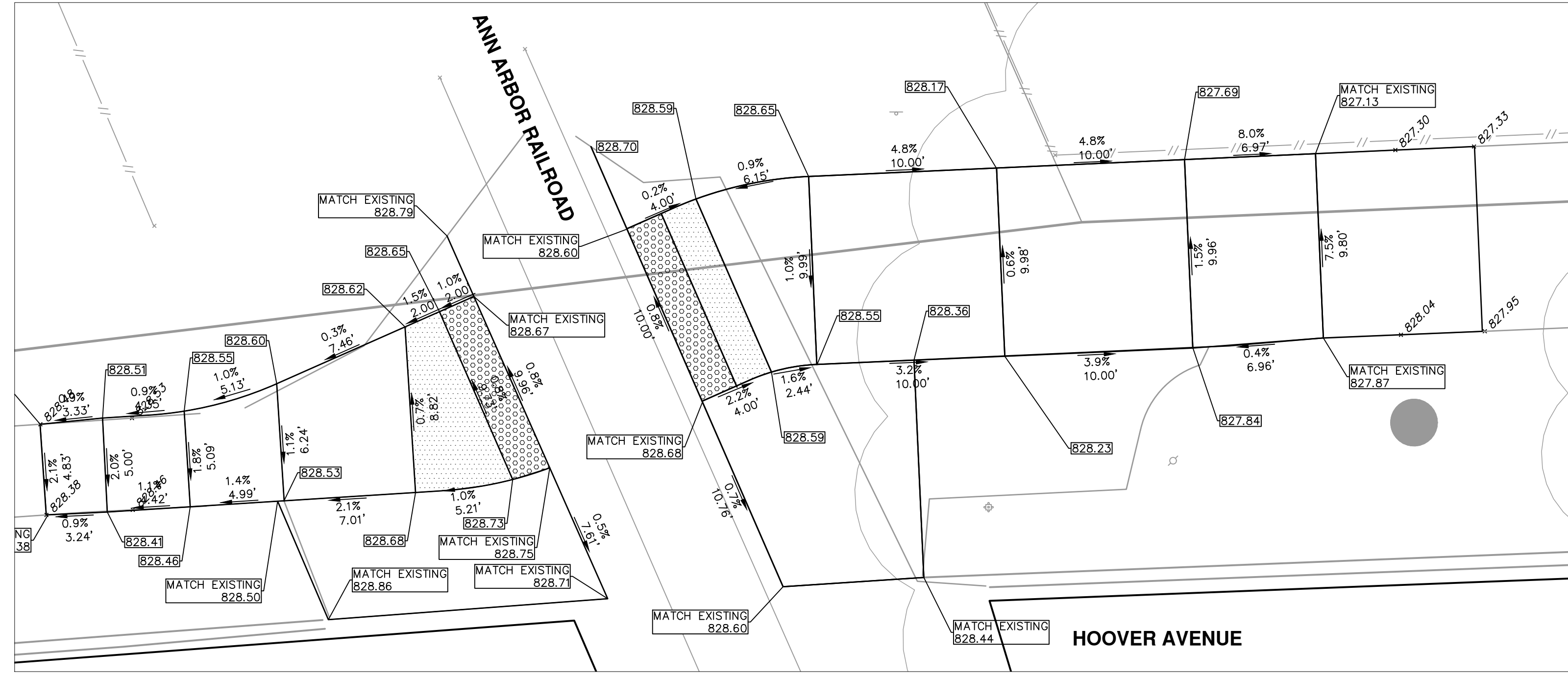




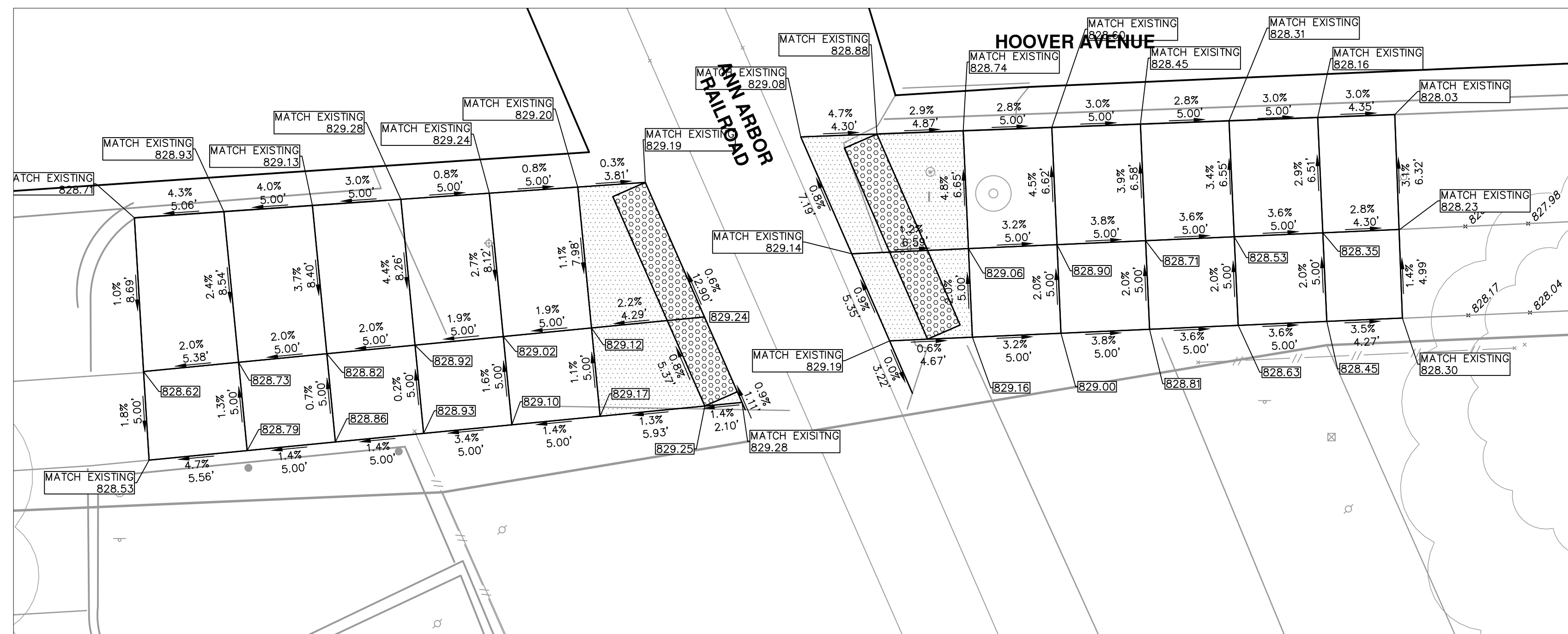









**NORTHSIDE HOOVER @ ANN ARBOR RAILROAD**



**SOUTHSIDE HOOVER @ ANN ARBOR RAILROAD**

		<b>CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING</b> <b>HOOVER, GREENE, &amp; HILL IMPROVEMENT PROJECT</b> ADA RAMP DETAIL GRADES - HOOVER AVENUE	
SCALE PLAN: ### DRAWING No. 2018-031-63	SHEET No. 63 OF 83	CITY OF ANN ARBOR PUBLIC SERVICES 301 EAST HURON STREET ANN ARBOR, MI 48106-6647 www.a2gov.org	REVISIONS TABLE: REV.   DESCRIPTION   DATE   DRAWN   CHECKED







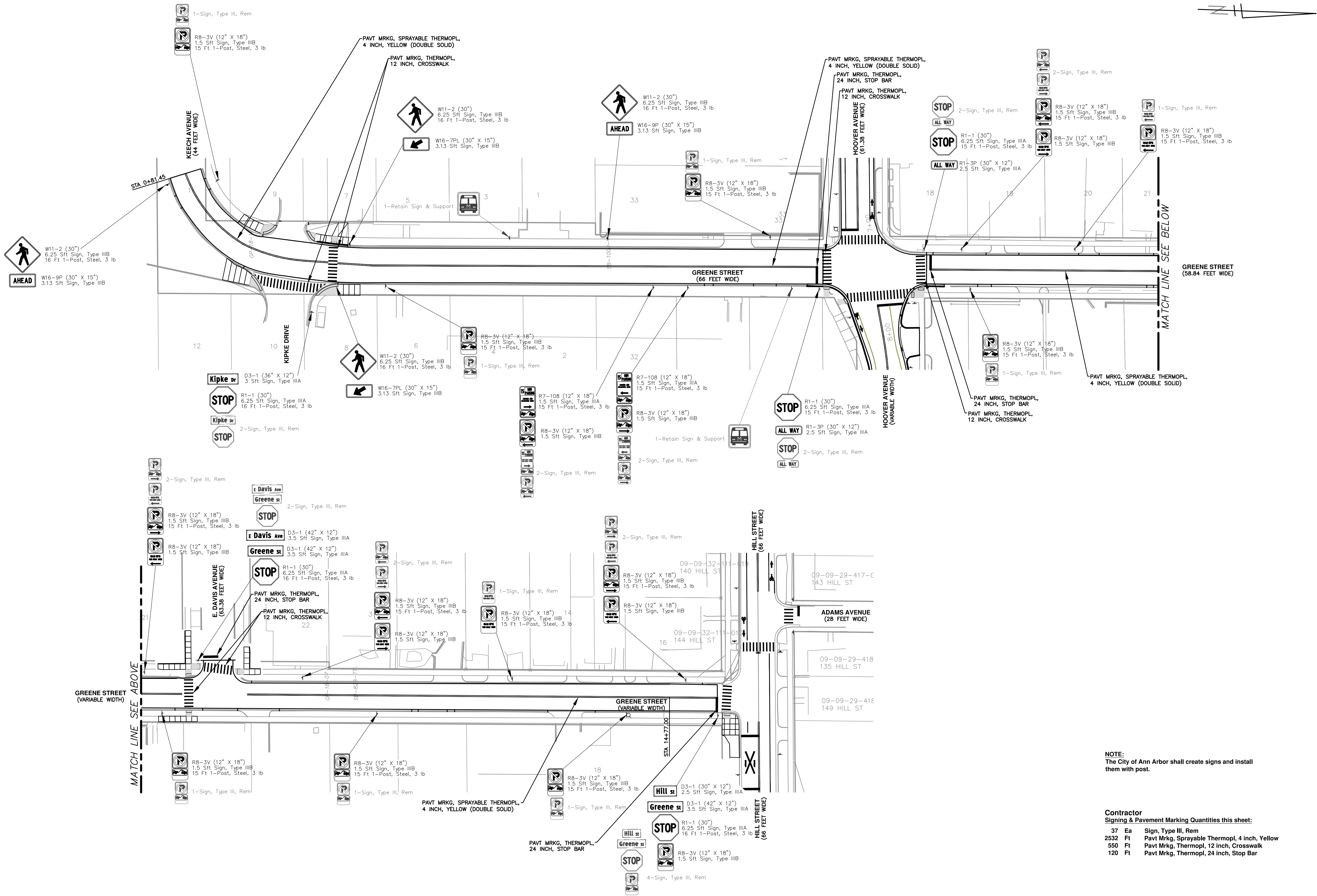








C:\pw\_work2\j0849816\CSP-PLTS-Striping&Signage.dwg Dwg Created: 27-Nov-18 - \_a2 standard bw.stb - Plot Date: 1-Feb-19



**NOTE:**  
The City of Ann Arbor shall create signs and install them with post.

**Contractor**  
Signing & Pavement Marking Quantities this sheet:

37	Ea	Sign, Type III, Rem
2532	Ft	Pavt Mrkg, Sprayable ThermoPl, 4 inch, Yellow
550	Ft	Pavt Mrkg, ThermoPl, 12 inch, Crosswalk
120	Ft	Pavt Mrkg, ThermoPl, 24 inch, Stop Bar

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

**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**

STRIPING AND SIGNAGE PLANE - GREENE STREET

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED

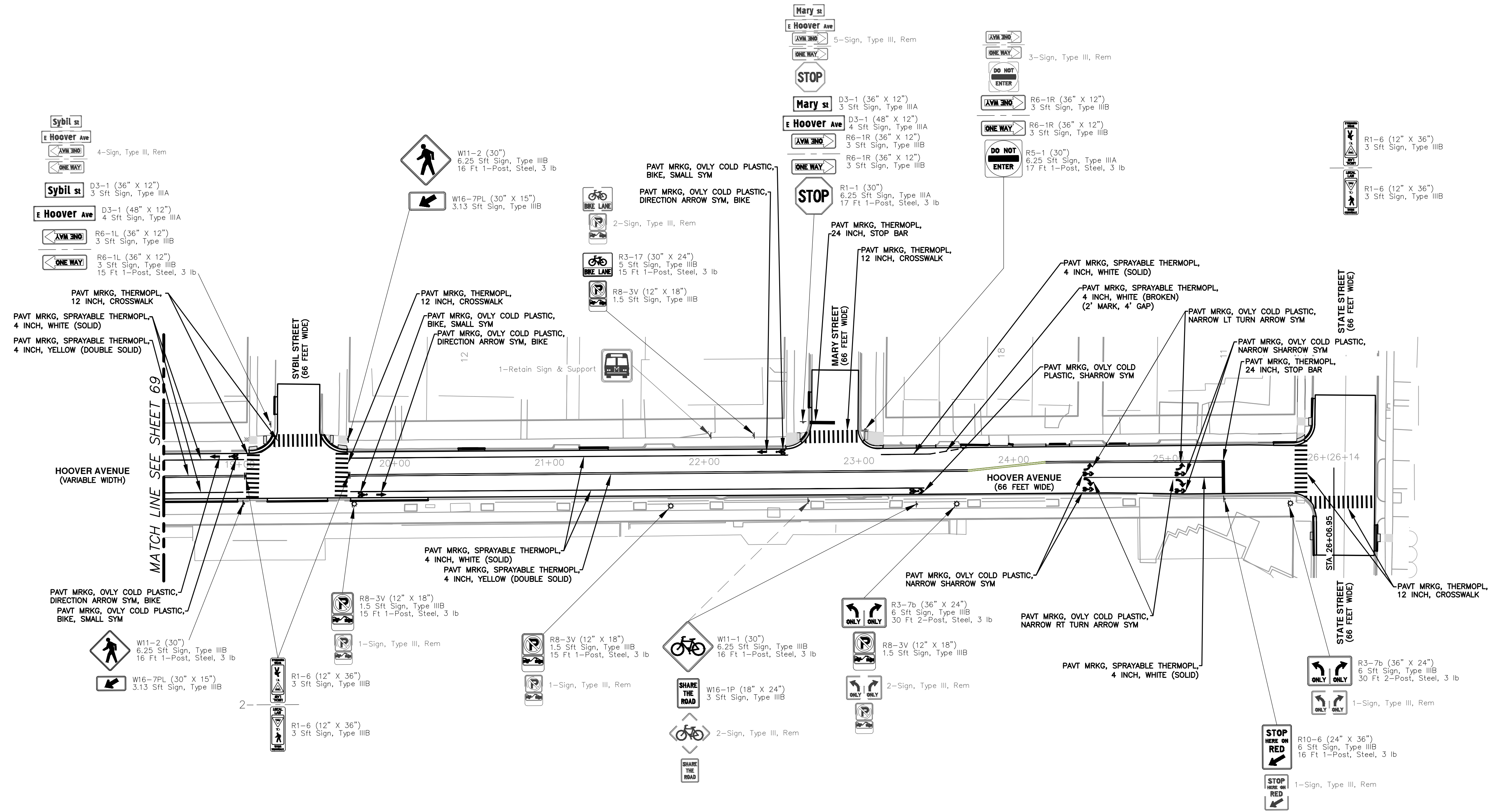
**CITY OF ANN ARBOR**  
PUBLIC SERVICES  
301 EAST HURON STREET  
ANN ARBOR, MI 48106-1667  
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SCALE 1"=40'  
DRAWING NO. 2018-031-68  
SHEET NO. 68 OF 83





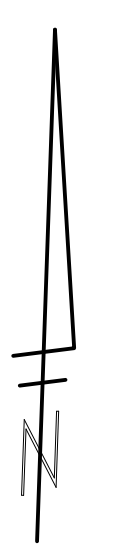




**NOTE:**  
The City of Ann Arbor shall create signs and install them with post.  
  
Use the special City of Ann Arbor narrow turn arrow and sharrow markings for Hoover Avenue turn lane markings at State Street.

**Contractor**  
Signing & Pavement Marking Quantities this sheet:

22	Ea	Sign, Type III, Rem
2	Ea	Pavt Mrkg, Ovly Cold Plastic, Direction Arrow Sym, Bike
2	Ea	Pavt Mrkg, Ovly Cold Plastic, Bike, Small Sym
3	Ea	Pavt Mrkg, Ovly Cold Plastic, Lt Turn Arrow Sym
0	Ea	Pavt Mrkg, Ovly Cold Plastic, Railroad Sym
3	Ea	Pavt Mrkg, Ovly Cold Plastic, Rt Turn Arrow Sym
5	Ea	Pavt Mrkg, Ovly Cold Plastic, Sharrow Symbol
854	Ft	Pavt Mrkg, Sprayable Thermopl, 4 inch, White
1232	Ft	Pavt Mrkg, Sprayable Thermopl, 4 inch, Yellow
656	Ft	Pavt Mrkg, Thermopl, 12 inch, Crosswalk
38	Ft	Pavt Mrkg, Thermopl, 24 inch, Stop Bar



REV.	DATE	DESCRIPTION	CHECKED	DRAWN

**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**  
**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**  
 STRIPING AND SIGNAGE PLAN - HOOVER AVE STA 18+50 TO STA 26+14

SCALE 1"=40'

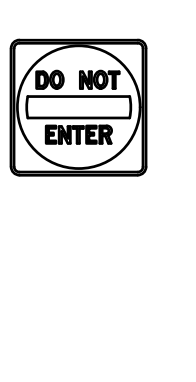
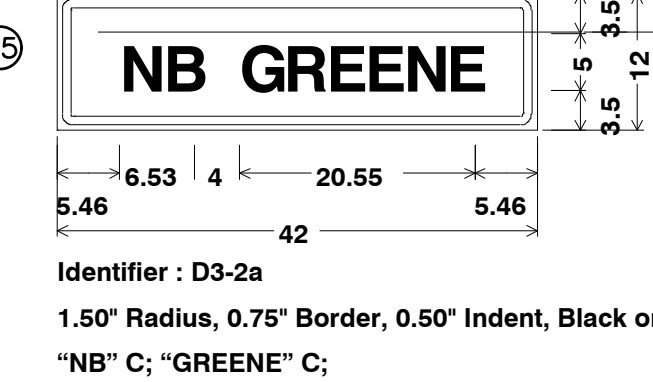
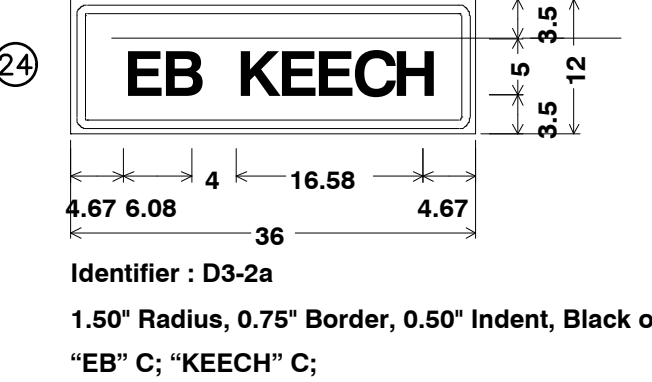
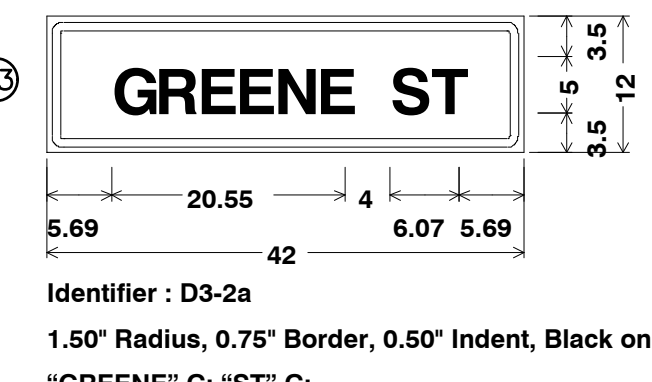
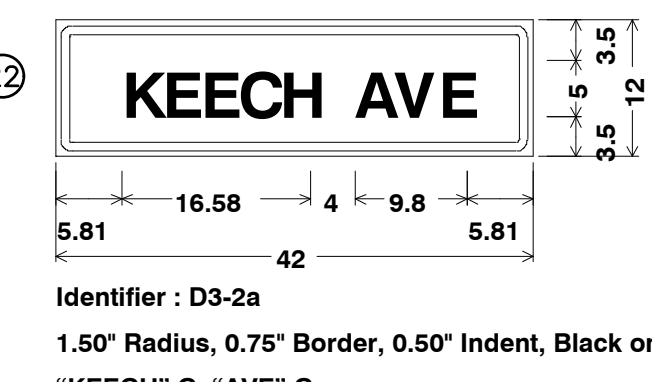
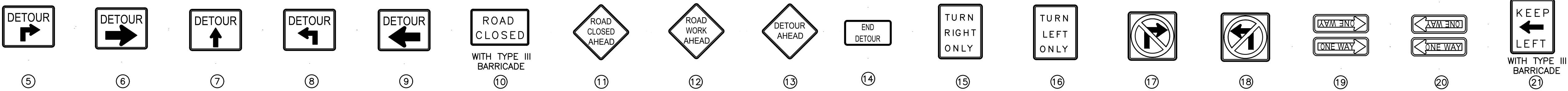
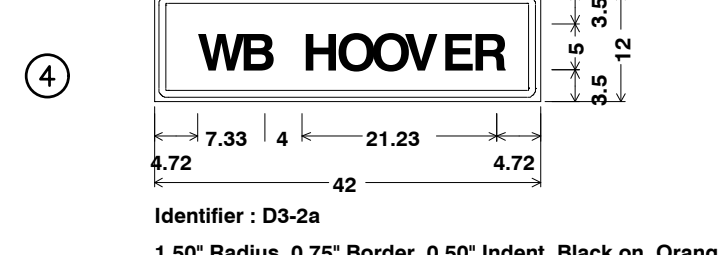
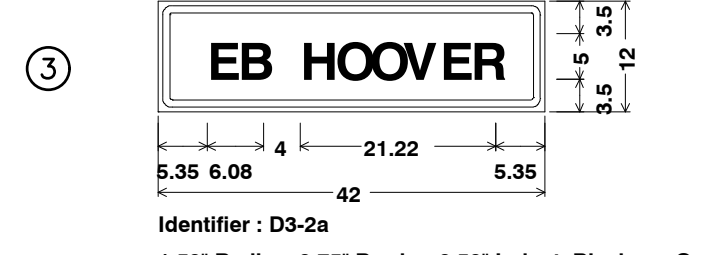
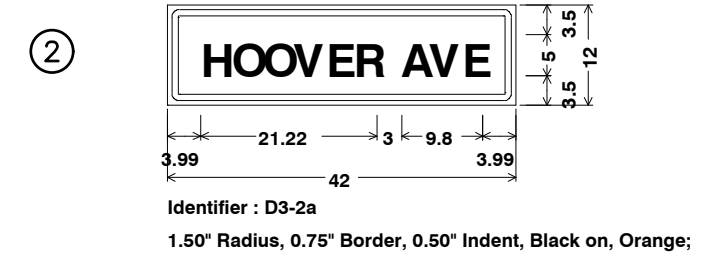
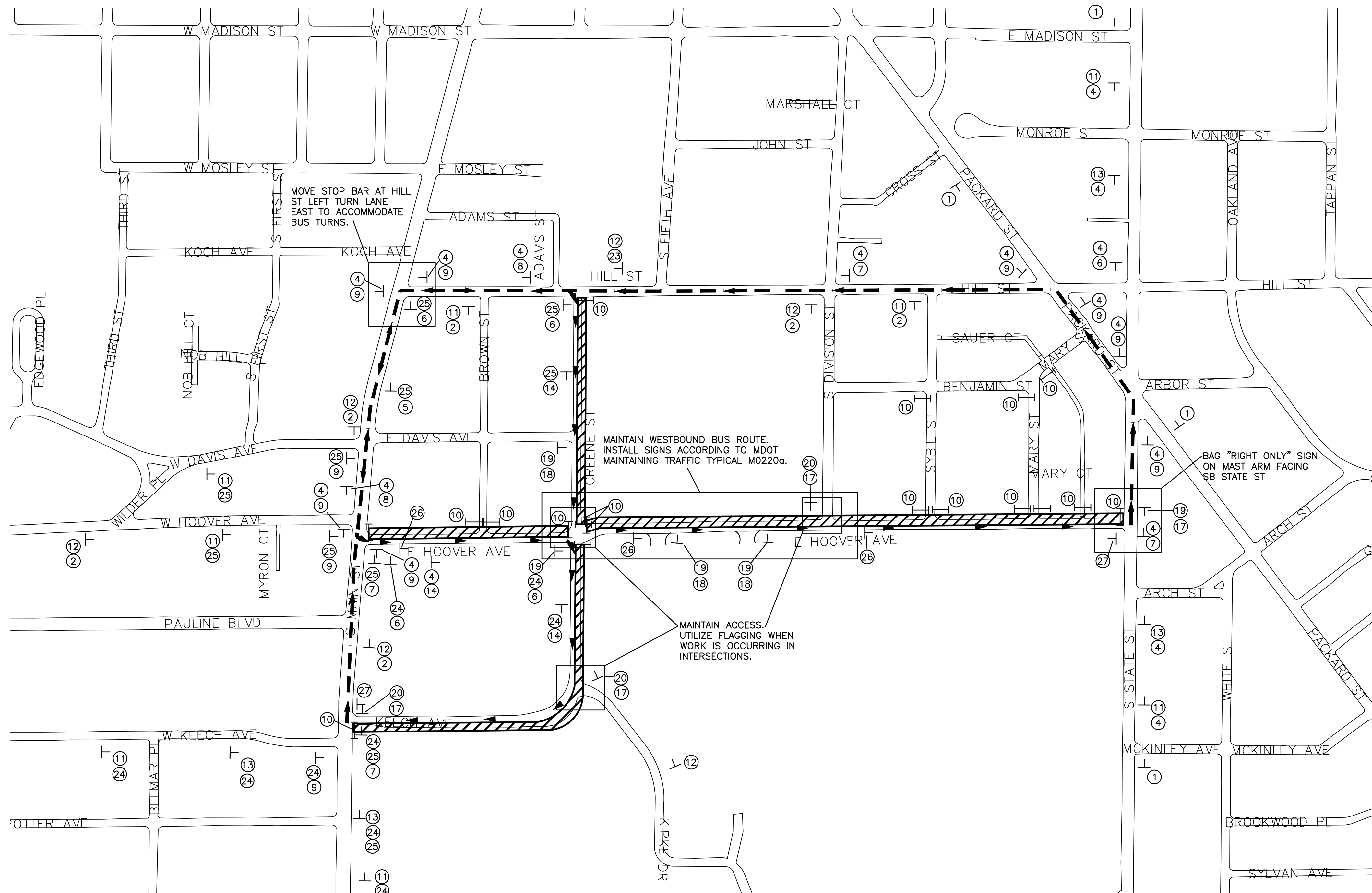
DRAWING No. 2018-031-70

SHEET No. 70 OF 83

CITY OF ANN ARBOR  
 PUBLIC SERVICES  
 301 EAST HURON STREET  
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WB HOOPER STAGE 1:  
 HOOPER AVE: NORTH SIDE CLOSURE, EB TRAFFIC MAINTAINED, WB TRAFFIC DETOURED  
 GREENE ST: EAST SIDE CLOSURE, SB TRAFFIC MAINTAINED, NB TRAFFIC DETOURED  
 KEECH AVE: SOUTH SIDE CLOSURE, WB TRAFFIC MAINTAINED, EB TRAFFIC DETOURED

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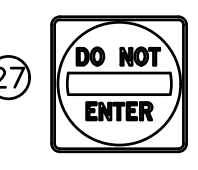
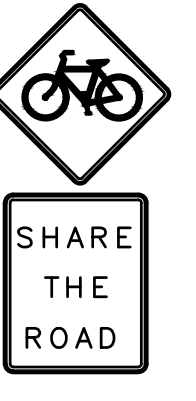
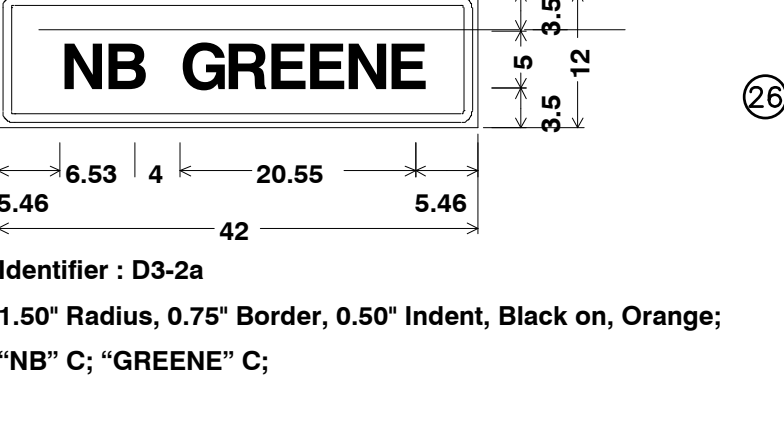
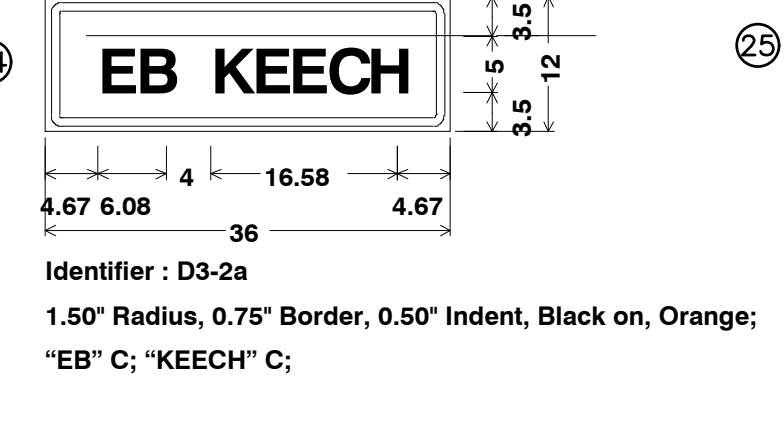
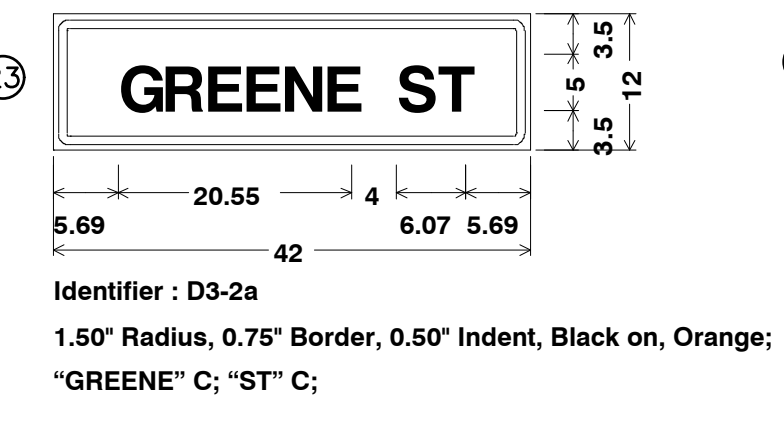
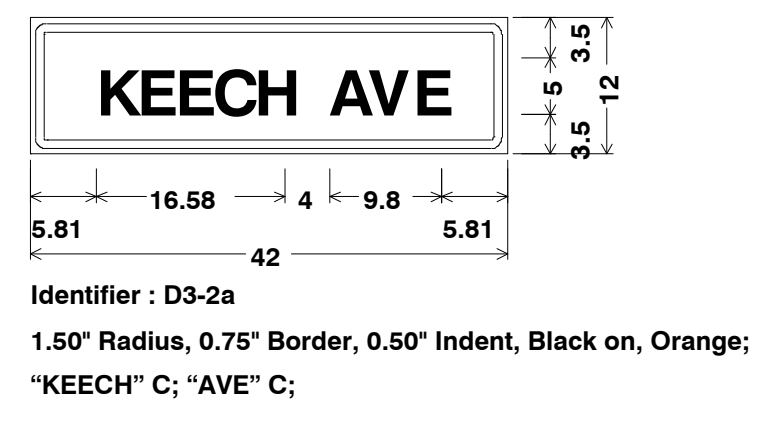
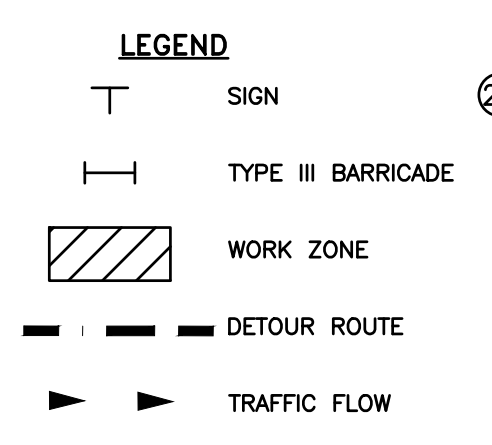
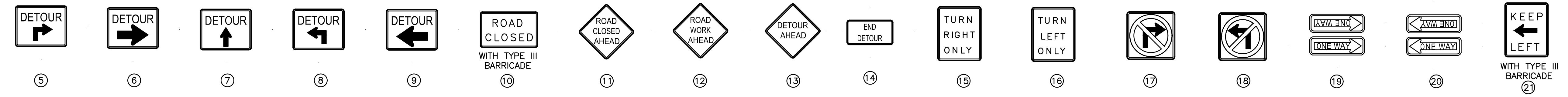
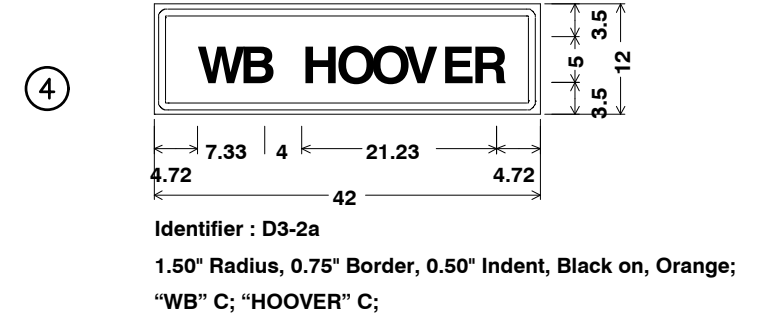
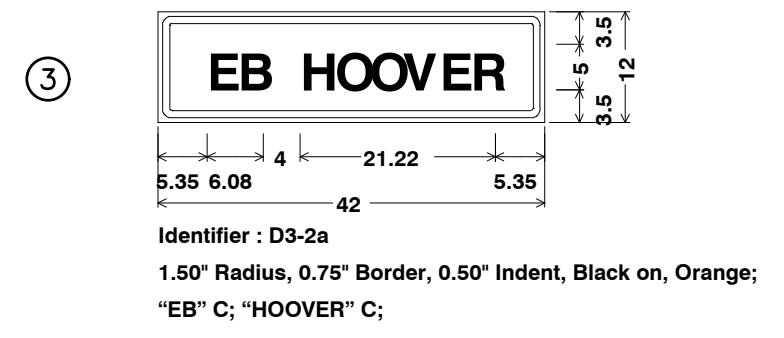
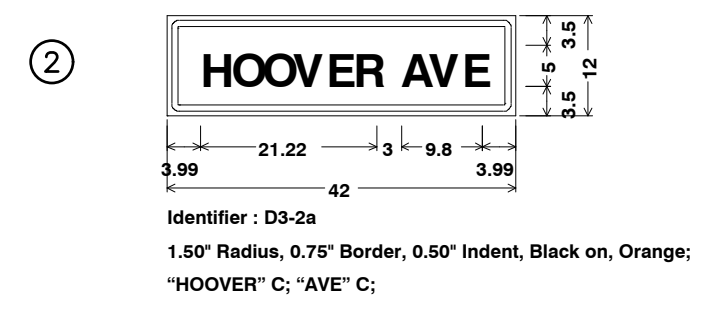
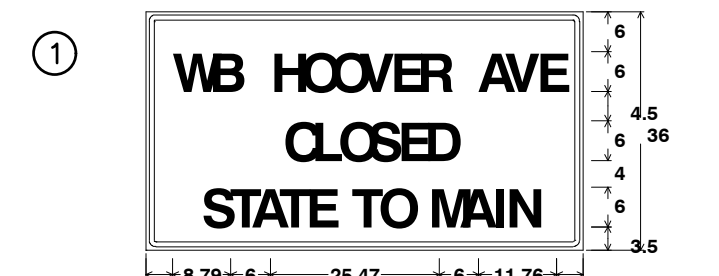
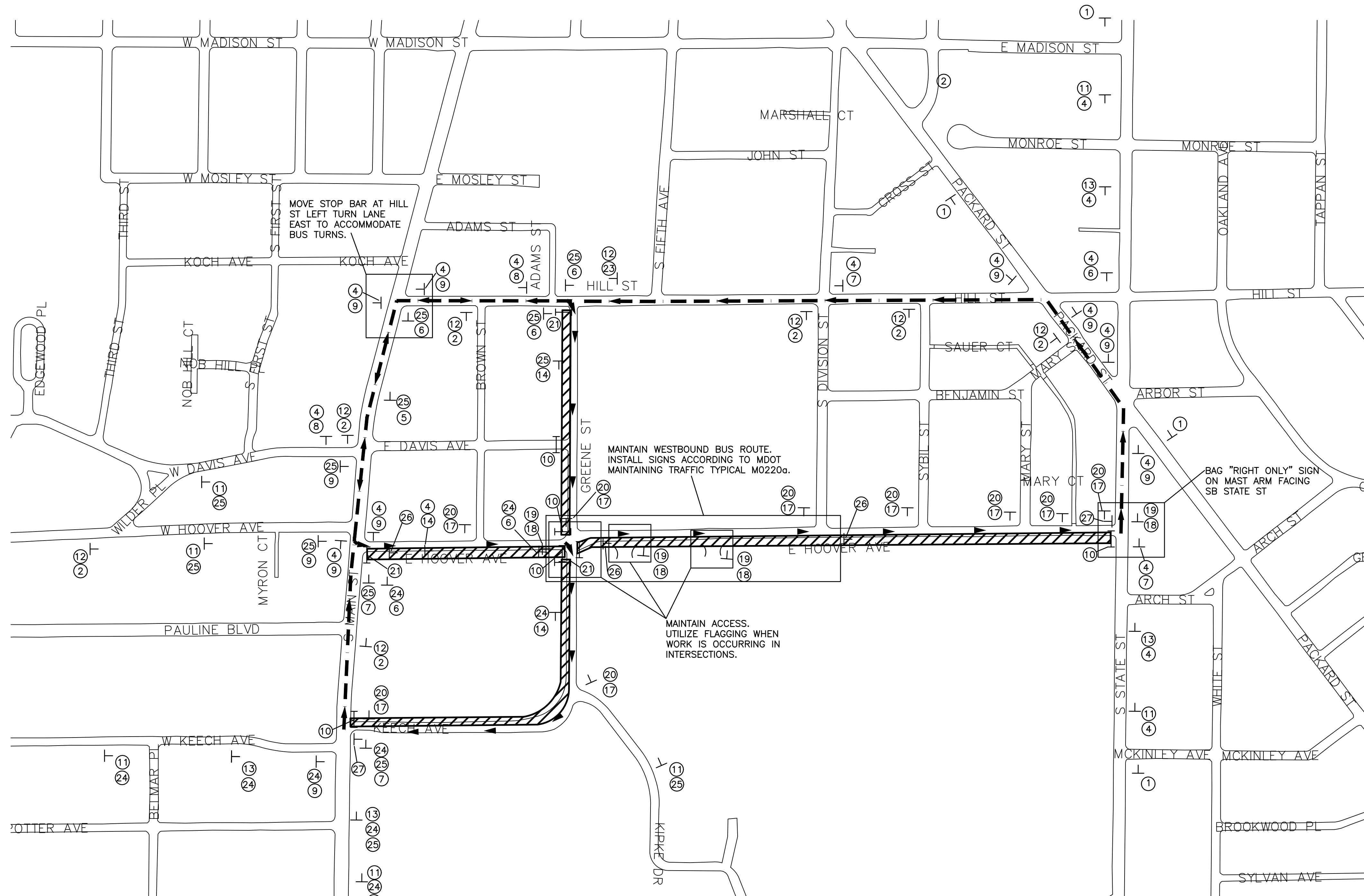
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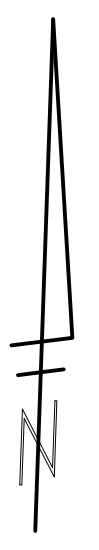
**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**  
**HOOPER, GREENE, & HILL IMPROVEMENT PROJECT**  
 HOOPER MOT - WESTBOUND LANE

SCALE: NTS  
 DRAWING NO. 2018-031-71  
 SHEET NO. 71 OF 83

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WB HOOPER STAGE 2:  
 HOOPER AVE: SOUTH SIDE CLOSURE, EB TRAFFIC MAINTAINED, WB TRAFFIC DETOURED  
 GREENE ST: WEST SIDE CLOSURE, SB TRAFFIC MAINTAINED, NB TRAFFIC DETOURED  
 KEECH AVE: NORTH SIDE CLOSURE, WB TRAFFIC MAINTAINED, EB TRAFFIC DETOURED



REV.	DATE	DRAWN	CHECKED	DESCRIPTION

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**HOOPER, GREENE, & HILL IMPROVEMENT PROJECT**  
 HOOPER MOT - EASTBOUND LANE

SCALE: NTS

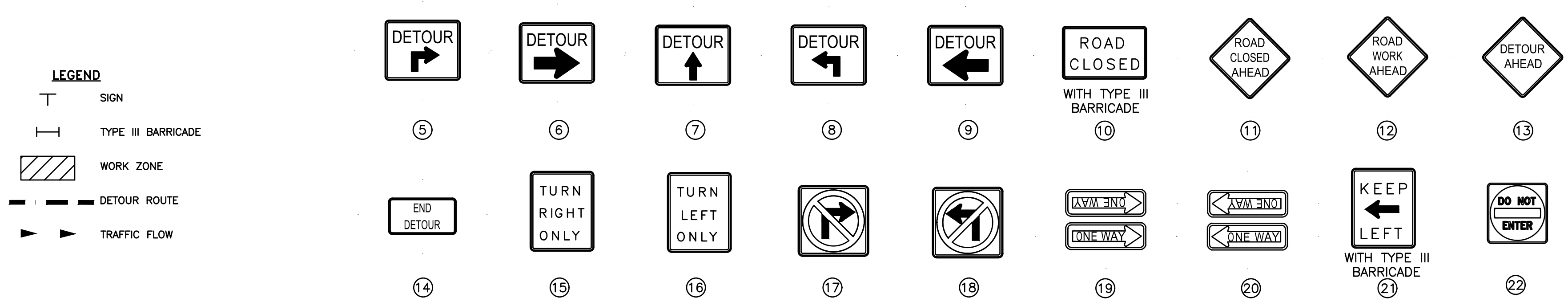
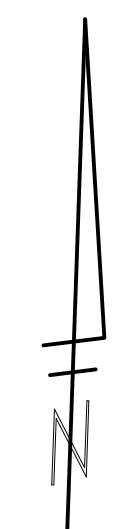
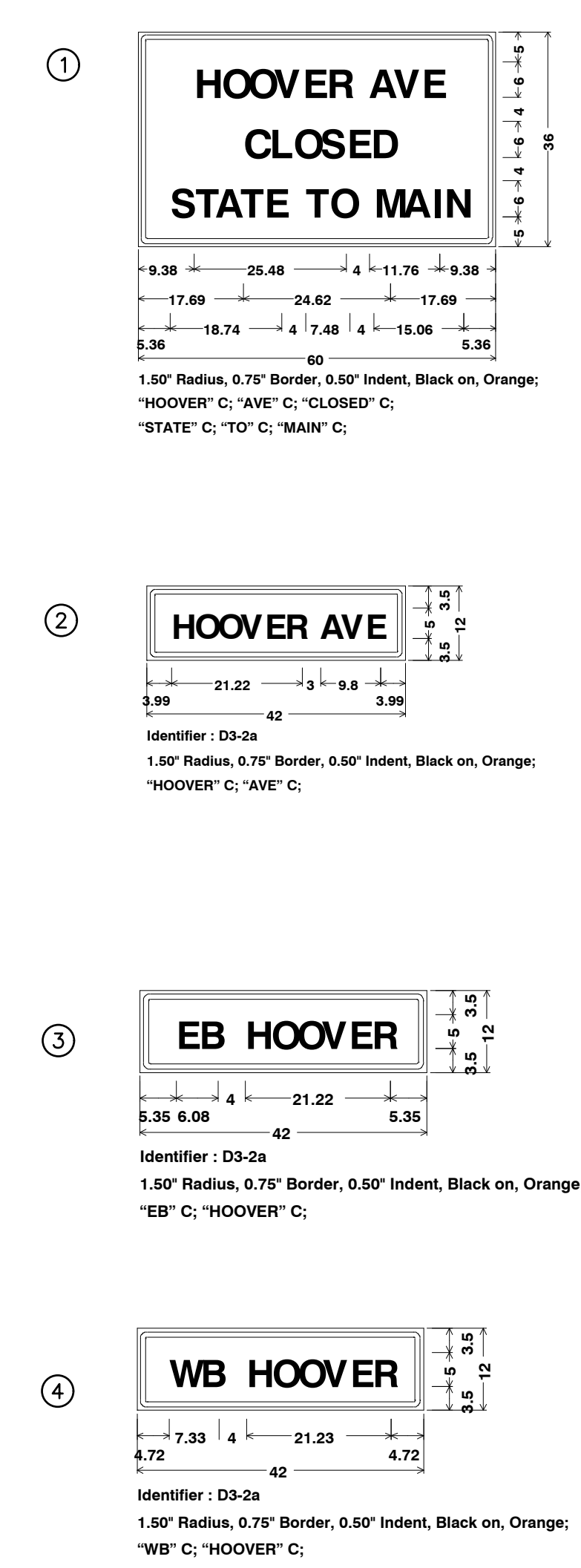
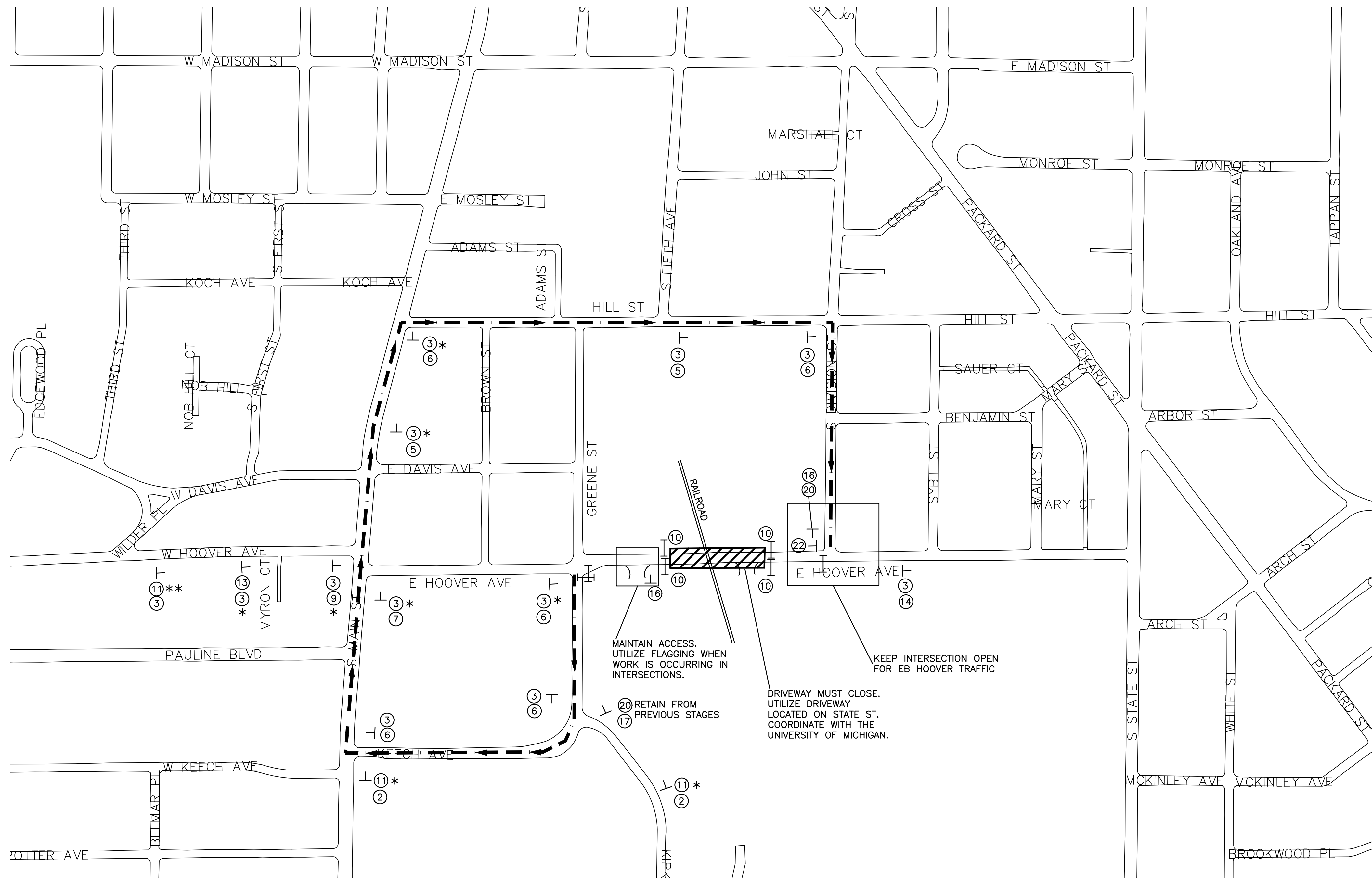
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2018-031-72

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HOOVER ST CLOSURE AT RAILROAD

NOTE: TEMPORARY CONDITION ANTICIPATED TO OCCUR IN CONJUNCTION WITH WB HOOVER DETOUR. TWO-WAY TRAFFIC MUST BE MAINTAINED ON DIVISION ST FROM HOOVER TO HILL. COORDINATE WITH DIVISION RESURFACING PROJECT. HILL ST MUST BE OPEN TO TRAFFIC.

\* PLACE SIGNS NEXT TO SIGNS ALREADY IN PLACE FOR WB HOOVER CLOSURES - STAGES 1 AND 2  
 \*\*COVER/REMOVE CONFLICTING SIGN FROM PREVIOUS STAGES

Know what's below. Call Before you dig.

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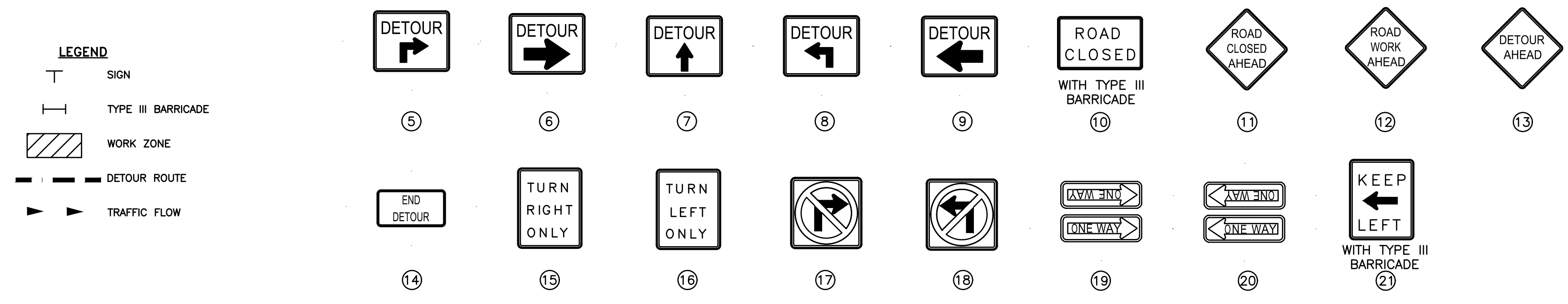
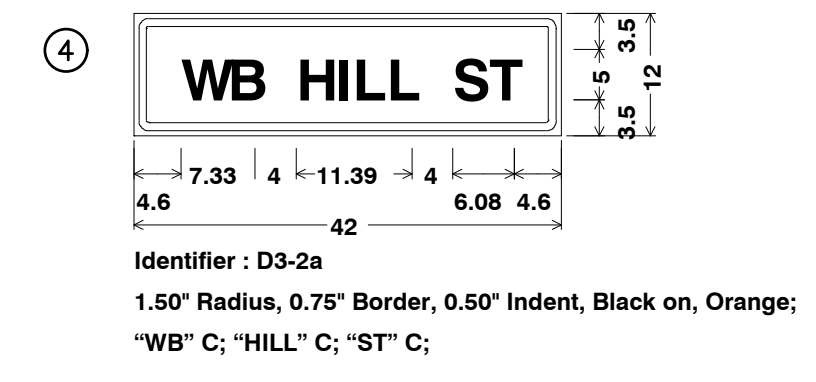
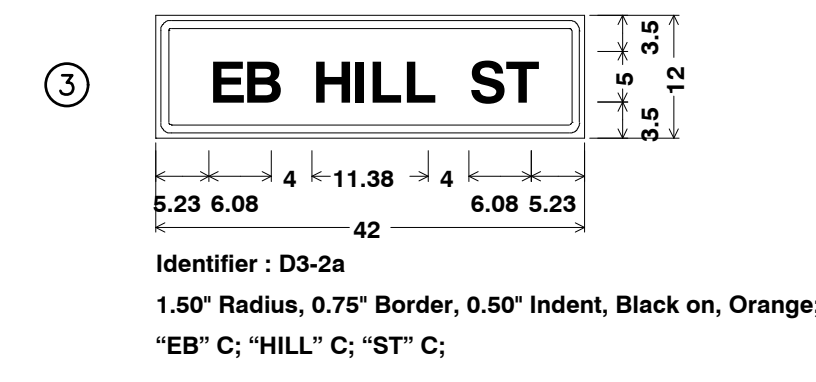
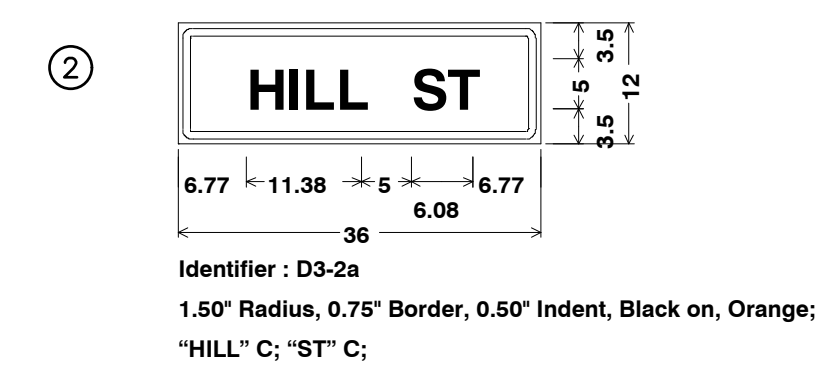
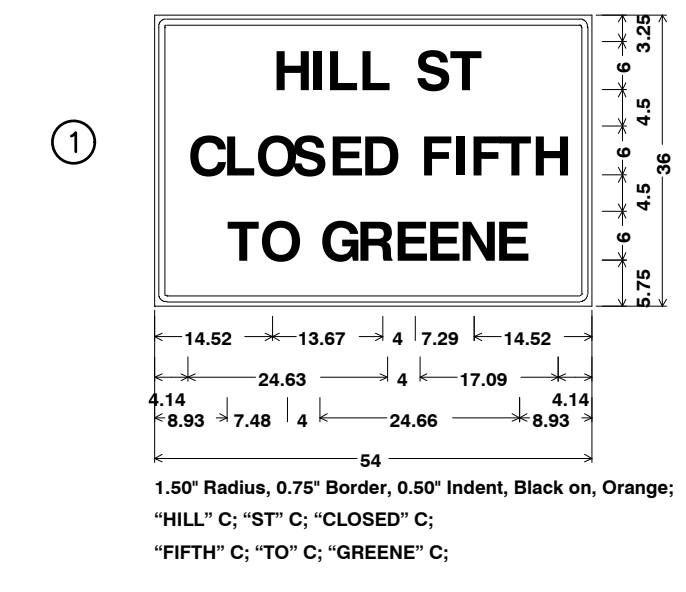
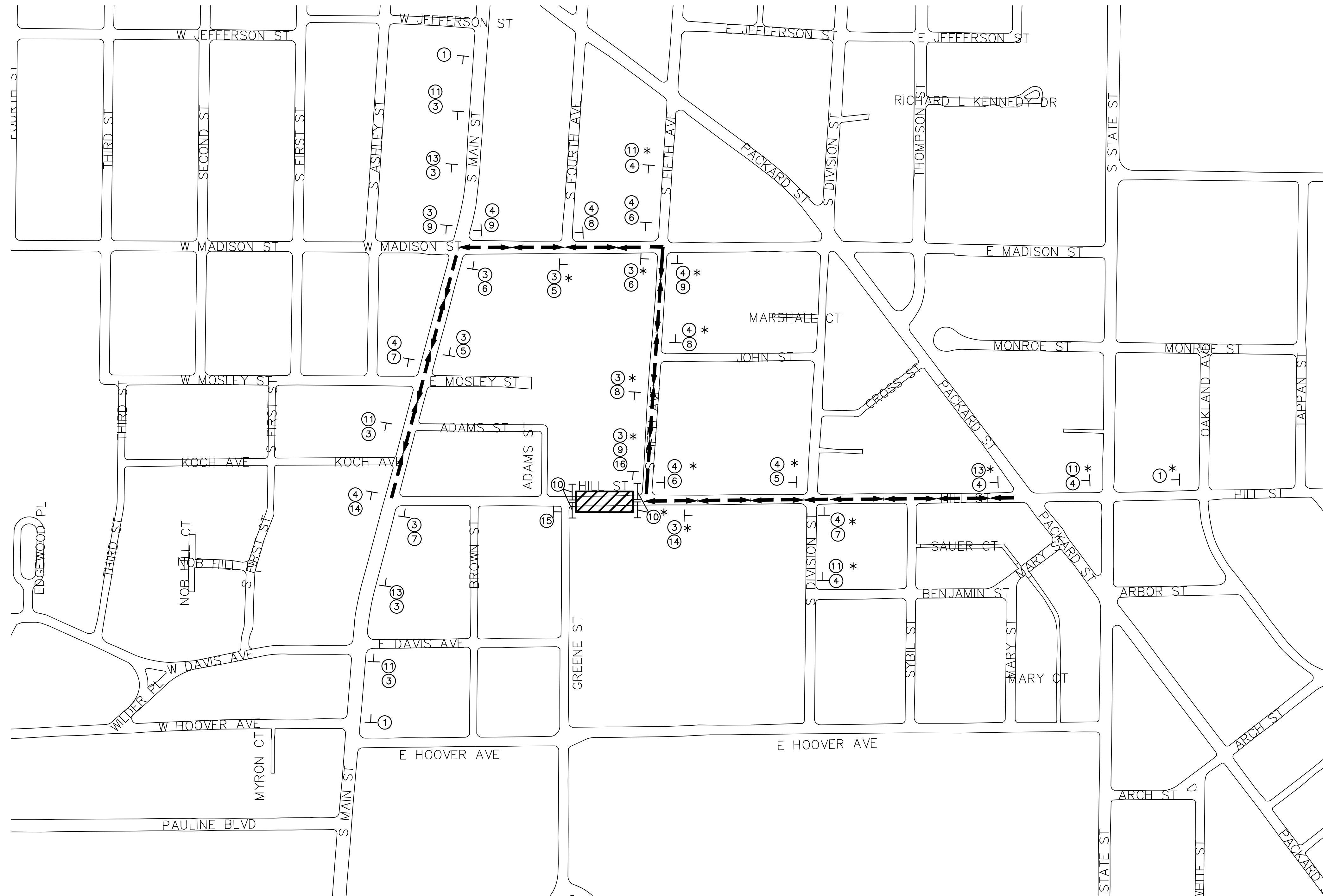
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**HOOVER, GREENE, & HILL  
 IMPROVEMENT PROJECT**  
 HOOVER MOT - RAILWAY CLOSURE

SCALE: NTS  
 DRAWING No. 2018-031-73

SHEET No. 73 OF 83

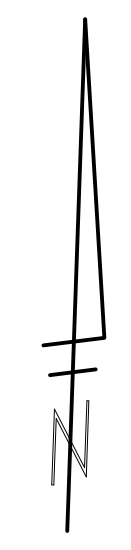




HILL ST: CLOSURE GREENE TO FIFTH,  
EB AND WB DETOUR  
FIFTH STREET OPEN TO TRAFFIC

\* INDICATES SIGNS TO BE REMOVED OR RELOCATED DURING FIFTH STREET CLOSURE

NOTE: USE WITH HOOVER/GREENE/KEECH DETOURS. HOOVER DETOUR WILL MOVE TO MADISON STREET WHEN HILL STREET IS CLOSED. HOOVER MUST REMAIN OPEN DURING THIS CLOSURE.



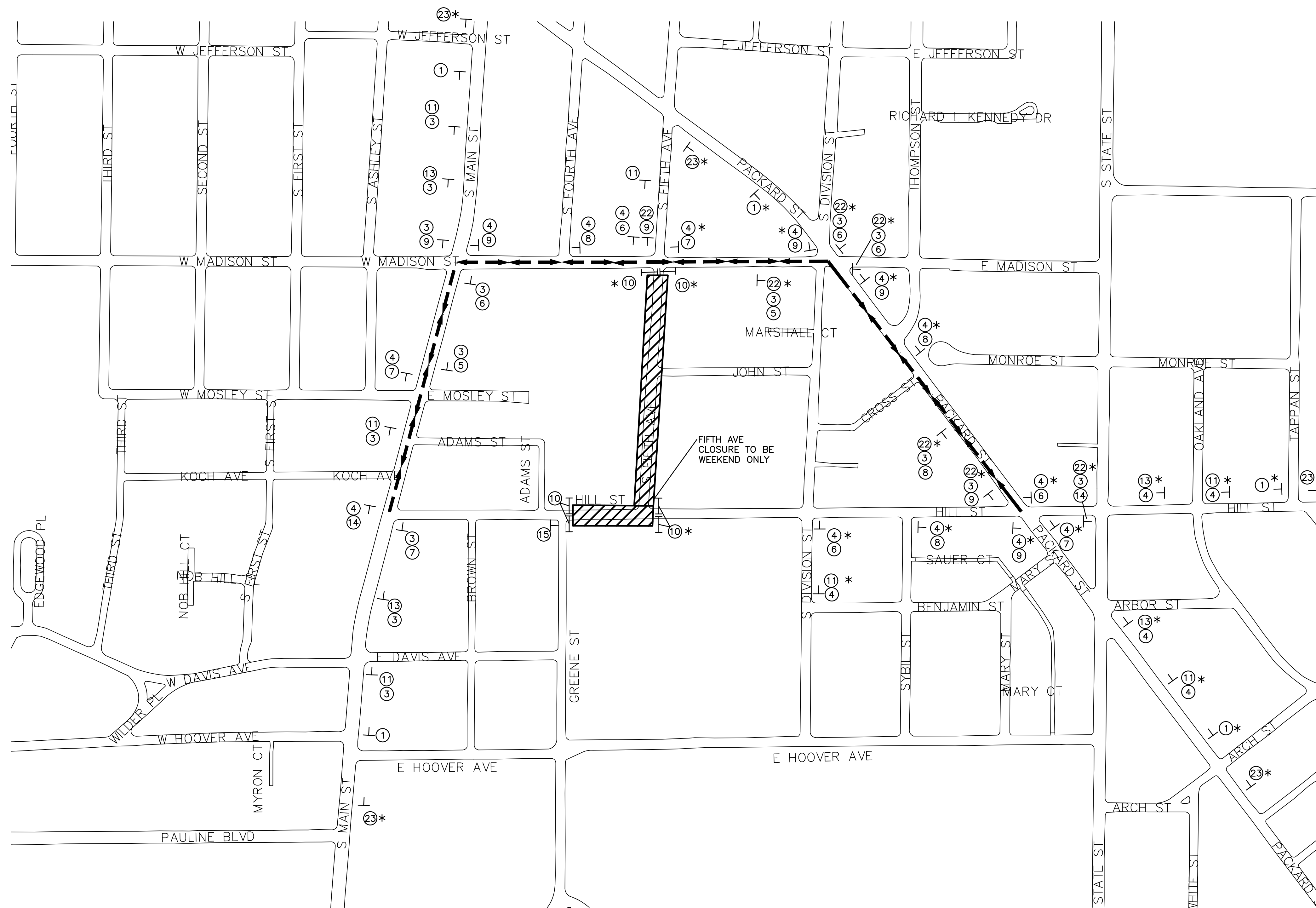
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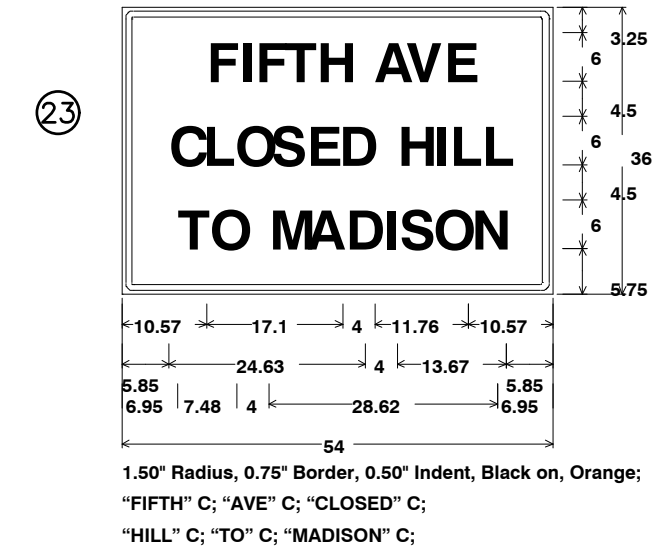
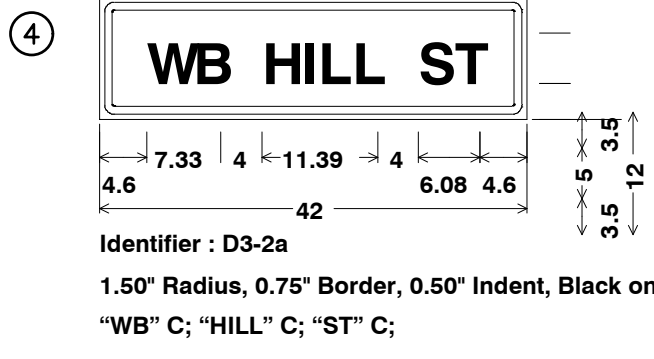
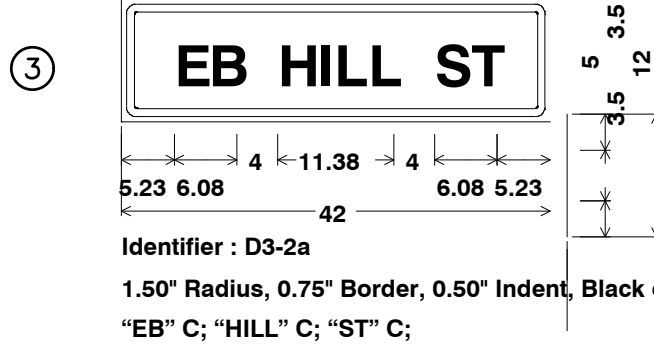
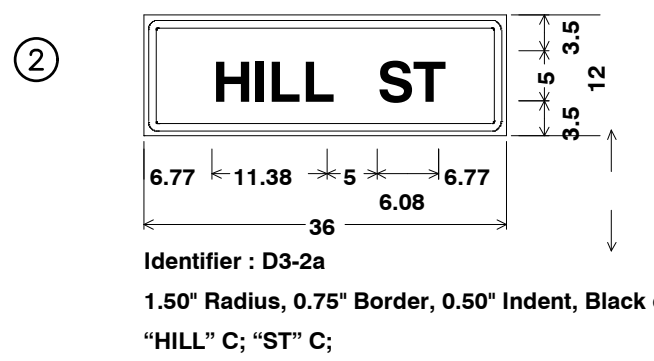
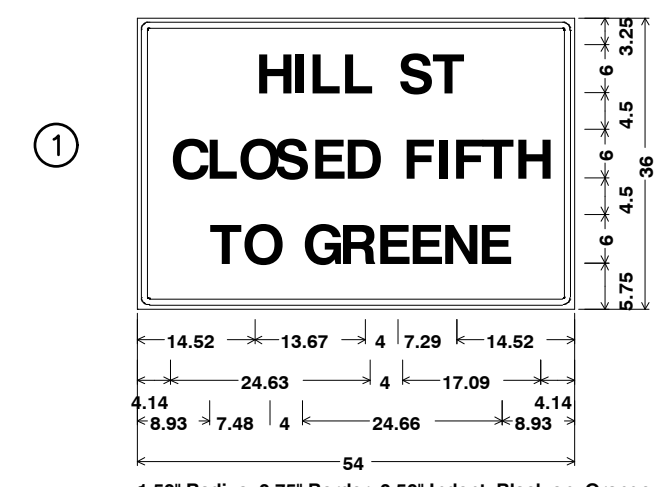
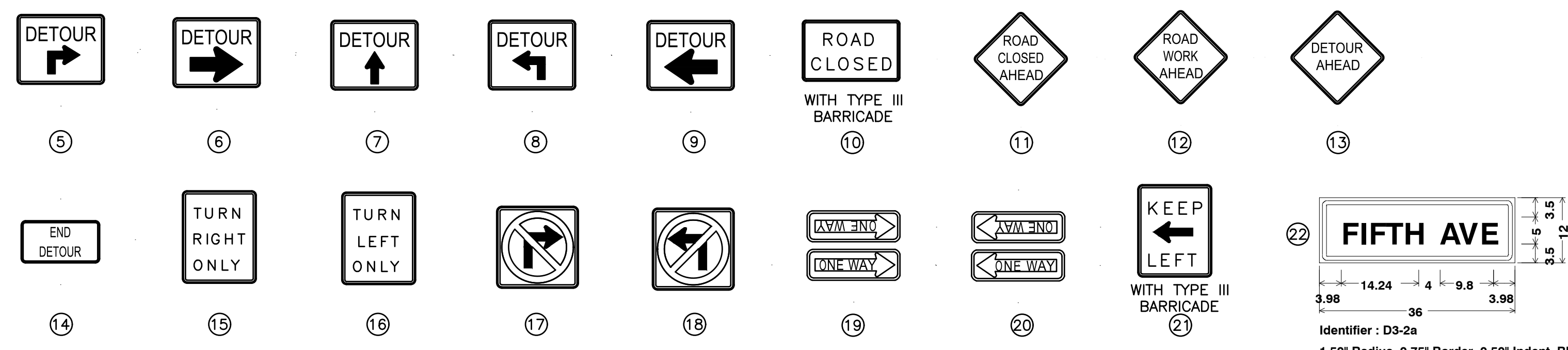
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**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**  
HILL STREET DETOUR - FIFTH OPEN

SCALE: NTS  
DRAWING No. 2018-031-74  
SHEET No. 74 OF 83



**LEGEND**  
 T SIGN  
 I TYPE III BARRICADE  
 [Hatched Box] WORK ZONE  
 - - - DETOUR ROUTE  
 >> TRAFFIC FLOW



HILL ST: CLOSURE GREENE TO FIFTH, EB AND WB DETOUR  
 FIFTH STREET: CLOSURE HILL TO MADISON

\* INDICATES SIGNS PLACED DURING FIFTH STREET CLOSURE  
 NOTE: USE WITH HOOVER/GREEN/KEECH CLOSURES AND DETOURS. HOOVER DETOUR WILL MOVE TO MADISON STREET WHEN HILL STREET IS CLOSED. ADDITIONAL SIGNS WILL BE ADDED FOR FIFTH AVE DETOUR. HOOVER MUST REMAIN OPEN DURING THIS CLOSURE. DETOUR PEDESTRIANS ACCORDING TO ATTACHED TYPICAL.

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

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**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**  
 HILL STREET DETOUR - FIFTH CLOSED

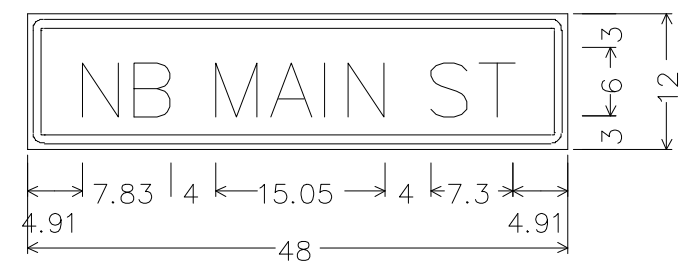
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SCALE: NTS  
 DRAWING NO. 2018-031-75  
 SHEET NO. 75 OF 83

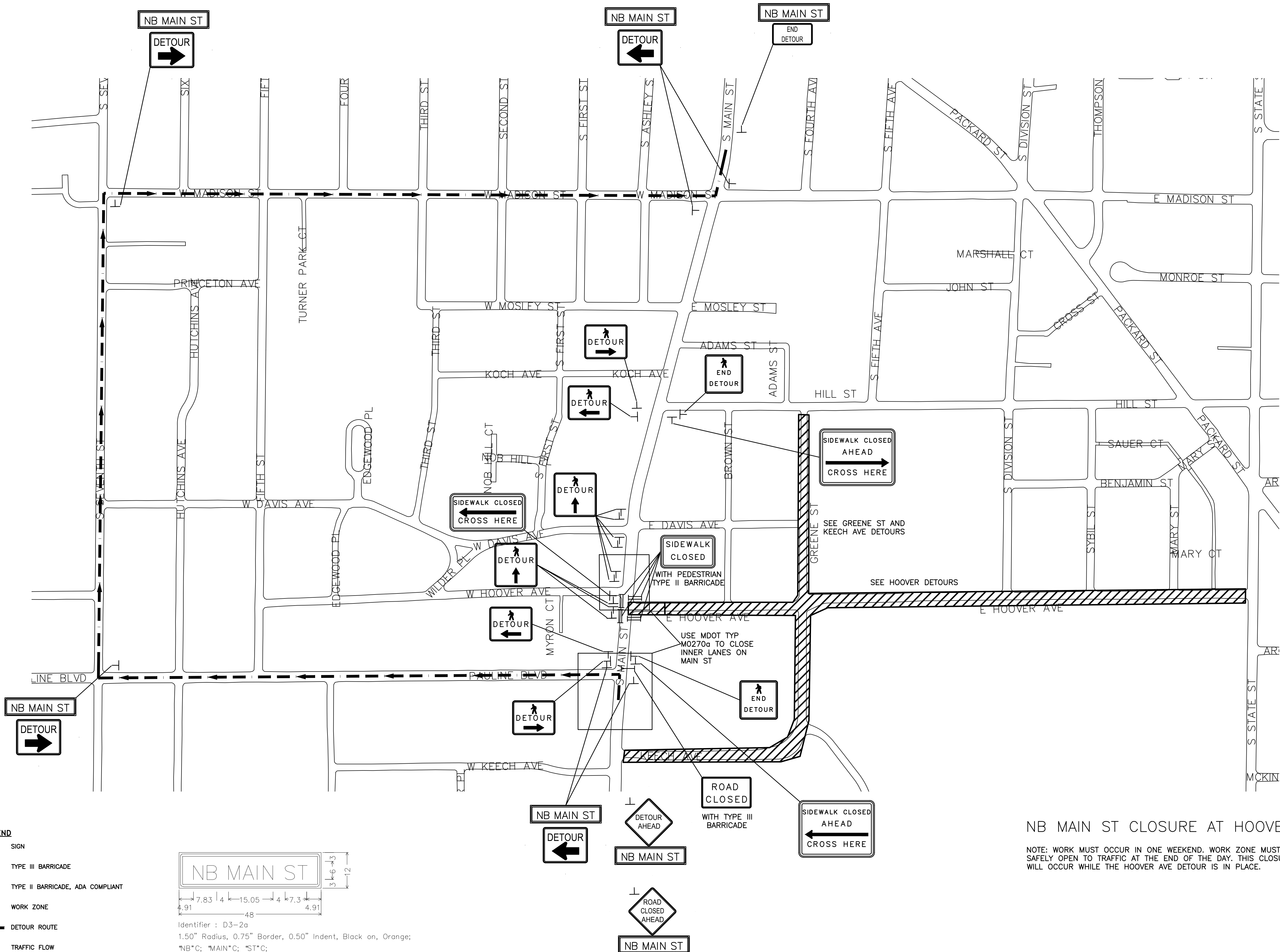
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**LEGEND**

- T SIGN
- I TYPE III BARRICADE
- II TYPE II BARRICADE, ADA COMPLIANT
- WORK ZONE
- DETOUR ROUTE
- TRAFFIC FLOW



Identifier : D3-2a  
 1.50" Radius, 0.75" Border, 0.50" Indent, Black on, Orange;  
 \*NB\*C; \*MAIN\*C; \*ST\*C;



**NB MAIN ST CLOSURE AT HOOVER**

NOTE: WORK MUST OCCUR IN ONE WEEKEND. WORK ZONE MUST BE SAFELY OPEN TO TRAFFIC AT THE END OF THE DAY. THIS CLOSURE WILL OCCUR WHILE THE HOOVER AVE DETOUR IS IN PLACE.



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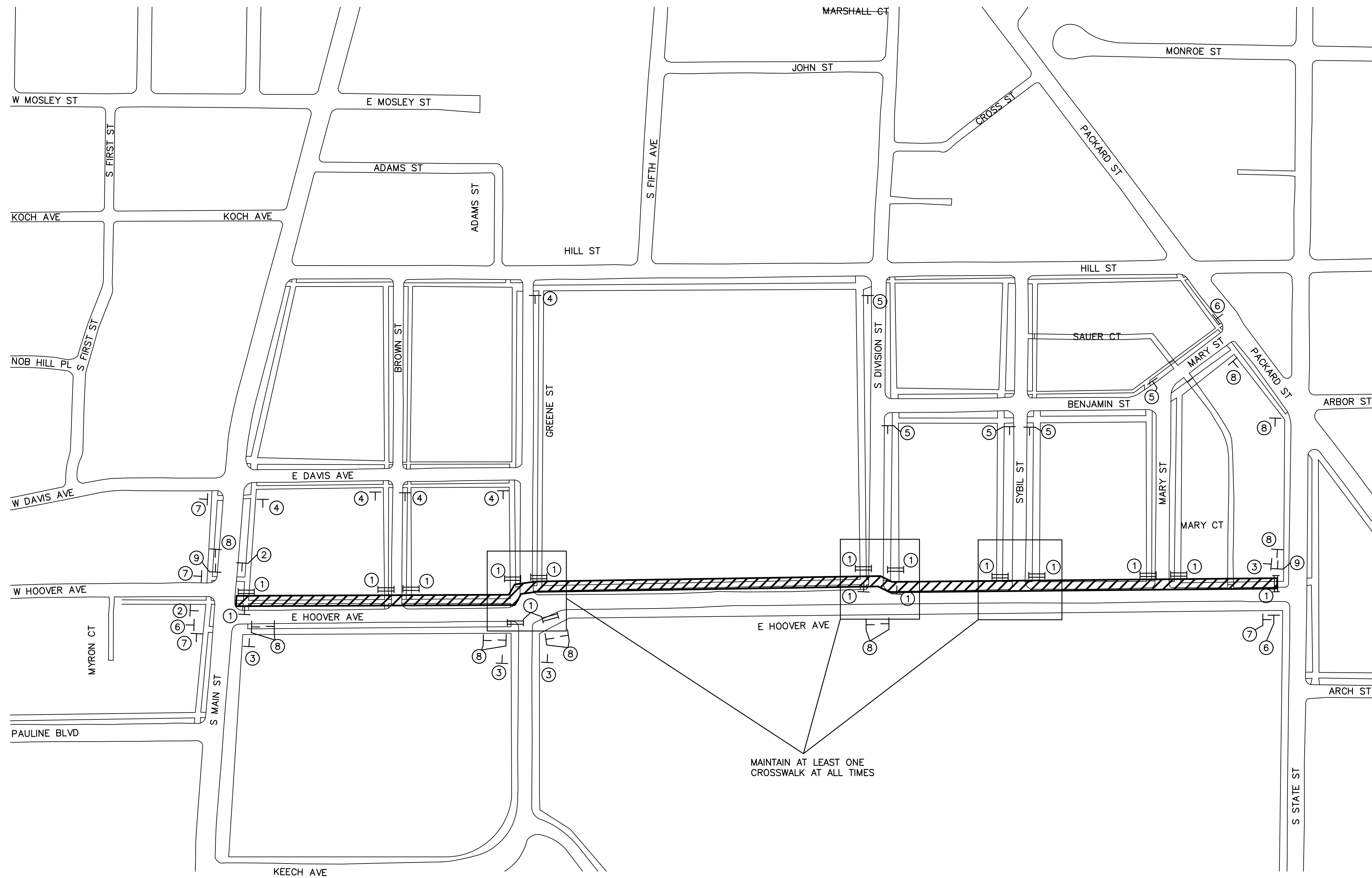
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**HOOVER, GREENE, & HILL IMPROVEMENT PROJECT**  
 HOOVER MOT - NORTHBOUND MAIN STREET

SCALE NTS  
 DRAWING No. 2018-031-76





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MAINTAIN AT LEAST ONE CROSSWALK AT ALL TIMES

**LEGEND**  
 T SIGN  
 || TYPE II BARRICADE, ADA COMPLIANT  
 // WORK ZONE

- ①
- ②
- ③
- ④
- ⑤
- ⑥
- ⑦
- ⑧
- ⑨

NORTH HOOVER SIDEWALK CLOSURE,  
 PEDESTRIAN DETOUR  
 MAINTAIN SOUTH SIDEWALK

NOTE: CONTRACTOR TO PERFORM WORK IN SEGMENTS. CONTRACTOR IS TO MAINTAIN ACCESS TO PROPERTIES AT ALL TIMES.

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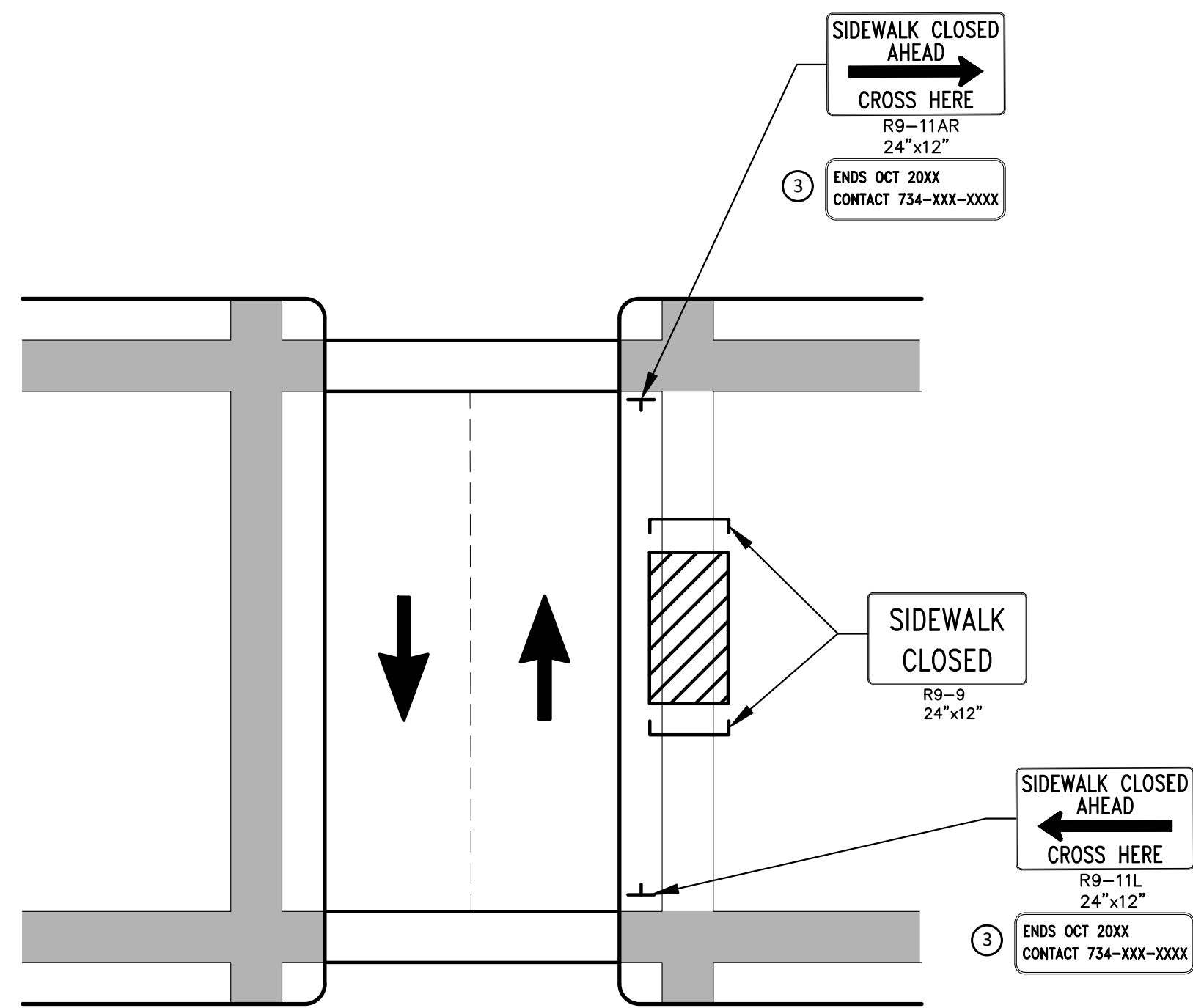
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 IMPROVEMENT PROJECT**

HOOVER PED DETOUR - NORTH

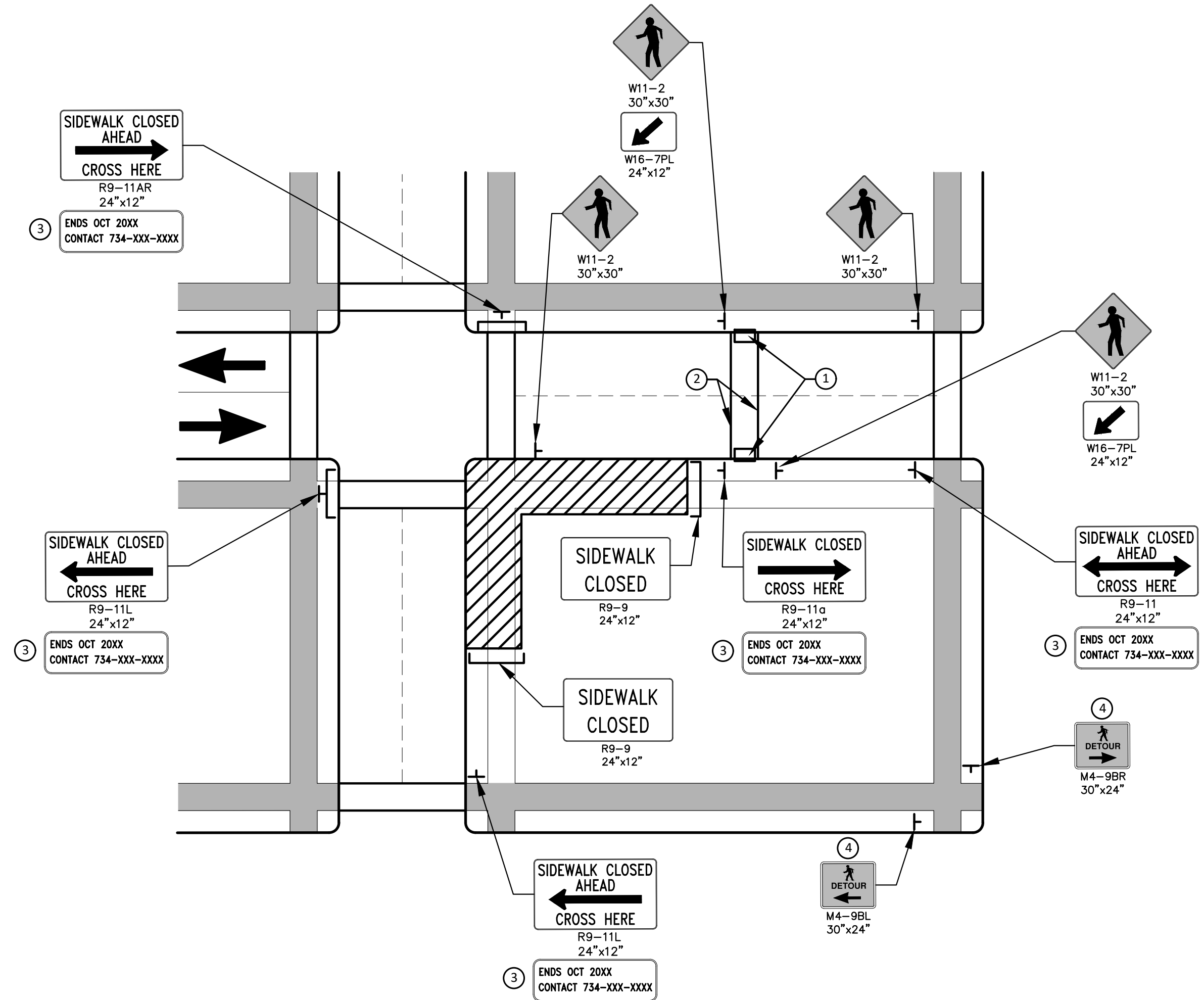
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OTHER SIDE OF STREET DETOUR  
(FOR MID-BLOCK CLOSURE)



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

**GENERAL NOTES**

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

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

PROVIDE A SMOOTH, CONTINUOUS, HARD SURFACE THROUGH THE LENGTH OF THE APR. PROVIDE A FIRM, STABLE, AND SLIP RESISTANT TEMPORARY WALKWAY SURFACE TO COVER SHORT SEGMENTS OF ROUGH, SOFT, OR UNEVEN GROUND.

THE PEDESTRIAN TRAFFIC SIGNALS CONTROLLING CLOSED CROSSWALKS SHALL BE COVERED OR DEACTIVATED.

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

WHEN A SIGN OR BARRICADE IS ORIENTED SUCH THAT VISIBILITY TO TRAFFIC (BIKES, PEDESTRIANS) IS REDUCED ENOUGH TO CAUSE HAZARD, DELINEATE THE SIGN/BARRICADE WITH APPROPRIATE DEVICES.

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

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

**SPECIFIC NOTES**

1. TEMPORARY CURB RAMPS WITH DETECTABLE WARNINGS.
2. TEMPORARY PAVEMENT MARKING FOR CROSSWALK LINES.
3. TYPICAL SIGN MESSAGE FOR A TEMPORARY PEDESTRIAN DETOUR SHOULD INCLUDE INFORMATION SUCH AS THE DURATION OF THE WALKWAY RESTRICTIONS (BEGINNING AND/OR END DATES) AND A PROJECT CONTACT NUMBER FOR 24 / 7 QUESTIONS OR REPORTING HAZARDS.
4. PEDESTRIAN DETOUR TRAILBLAZING SIGNS SHOULD BE USED IF THE PEDESTRIAN DETOUR IS LOCATED SOMEPLACE OTHER THAN ACROSS THE STREET FROM THE SIDEWALK CLOSURE.

**PEDESTRIAN TEMPORARY TRAFFIC CONTROL NOTES**

1. THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN THROUGH MOVEMENTS FROM ONE END OF THE CONSTRUCTION AREA TO THE OTHER, ON AT LEAST ONE SIDE OF THE STREET DURING CONSTRUCTION. ANY SIDEWALK CLOSURES SHALL MEET THE REQUIREMENTS OF THE MMUTCD, PART 6.
2. PEDESTRIAN ACCESS SHALL BE PROVIDED TO ALL ADJACENT PROPERTIES, BUILDINGS, RESIDENCES AND COMMERCIAL PROPERTIES AT ALL TIMES. THIS MAY INCLUDE TEMPORARY WALKWAYS SPANNING THE CONSTRUCTION AREA.
3. IF SIDEWALKS ARE CLOSED, A TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) SHALL BE PROVIDED ON THE SAME SIDE OF THE ROAD AS THE CLOSED SIDEWALK, IF POSSIBLE. SIGNS AND BARRICADES SHALL BE USED TO PROVIDE ADVANCE NOTICE OF THE CLOSURE AND THE ROUTE OF ANY PEDESTRIAN DETOURS. THE TPAR SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4 FEET. IF THE TPAR IS LESS THAN 5 FEET IN WIDTH, A 5 FOOT BY 5 FOOT PASSING SPACE SHOULD BE PROVIDED AT LEAST EVERY 200 FEET. THE SURFACE OF THE TPAR SHALL BE SMOOTH AND CONTINUOUS FOR THE LENGTH OF THE TPAR. THE TPAR SHALL MAINTAIN THE SAME LEVEL OF ACCESSIBILITY AND DETECTABILITY AS THE FACILITY THAT IS BEING CLOSED. THE TPAR SHALL NOT LEAD PEDESTRIANS INTO CONFLICTS WITH VEHICLES, EQUIPMENT, OR CONSTRUCTION OPERATIONS.
4. IF THE TPAR IS ADJACENT TO MOVING TRAFFIC, CONSTRUCTION OPERATIONS/EQUIPMENT, OR DROP-OFFS, THEN CRASH WORTHY CHANNELIZING DEVICES THAT MEET THE REQUIREMENTS OF THE MMUTCD SHALL BE USED.
5. THE CONTRACTOR SHALL NOT STORE OR PLACE ANY CONSTRUCTION MATERIALS, EQUIPMENT OR SIGNS IN THE PEDESTRIAN PATH OF TRAVEL.
6. THE CONTRACTOR'S OPERATIONS SHALL NOT OCCUPY SIDEWALKS EXCEPT WHERE PROPER PROTECTION AND A TPAR HAVE BEEN PROVIDED.
7. THE CONTRACTOR SHALL PROVIDE A TEMPORARY PEDESTRIAN TRAFFIC CONTROL PLAN FOR REVIEW AND WRITTEN APPROVAL BY THE ENGINEER A MINIMUM OF THREE WEEKS BEFORE SUCH PLAN IS IMPLEMENTED. THIS PLAN SHALL DETAIL THE CONSTRUCTION PHASING AND SCHEDULE AND THE SPECIFIC METHODS OF MAINTAINING SAFE PEDESTRIAN ACCESS THROUGHOUT THE CONSTRUCTION AREA. THIS PLAN SHALL PROVIDE THE LOCATION AND DETAILS OF TEMPORARY CONSTRUCTION SIGNING, MARKINGS, BARRICADES, CHANNELIZING DEVICES, TPARS AND METHODS TO MAINTAIN ACCESS TO ADJACENT PROPERTIES, BUSINESSES, RESIDENCES, ETC.
8. PROVISION OF THE TPAR AND ALL OF ITS ELEMENTS, INCLUDING BUT NOT LIMITED TO SIGNS, CHANNELIZING DEVICES, BARRICADES, TEMPORARY PAVEMENT MARKINGS AND OTHER TRAFFIC CONTROL DEVICES IS TO BE PAID FOR INCIDENTAL TO TRAFFIC CONTROL.

**LEGEND**

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

PEDESTRIAN DETOUR TYPICAL DETAIL  
FOR USE IN ALL SIDEWALK DETOURS  
NOT OTHERWISE SHOWN

INCLUDED AS PAY ITEMS:  
PEDESTRIAN RAMP, TEMP  
SIGN, TYPE B, TEMP, PRISMATIC, OPER/FURN  
PEDESTRIAN TYPE II BARRICADE, TEMP



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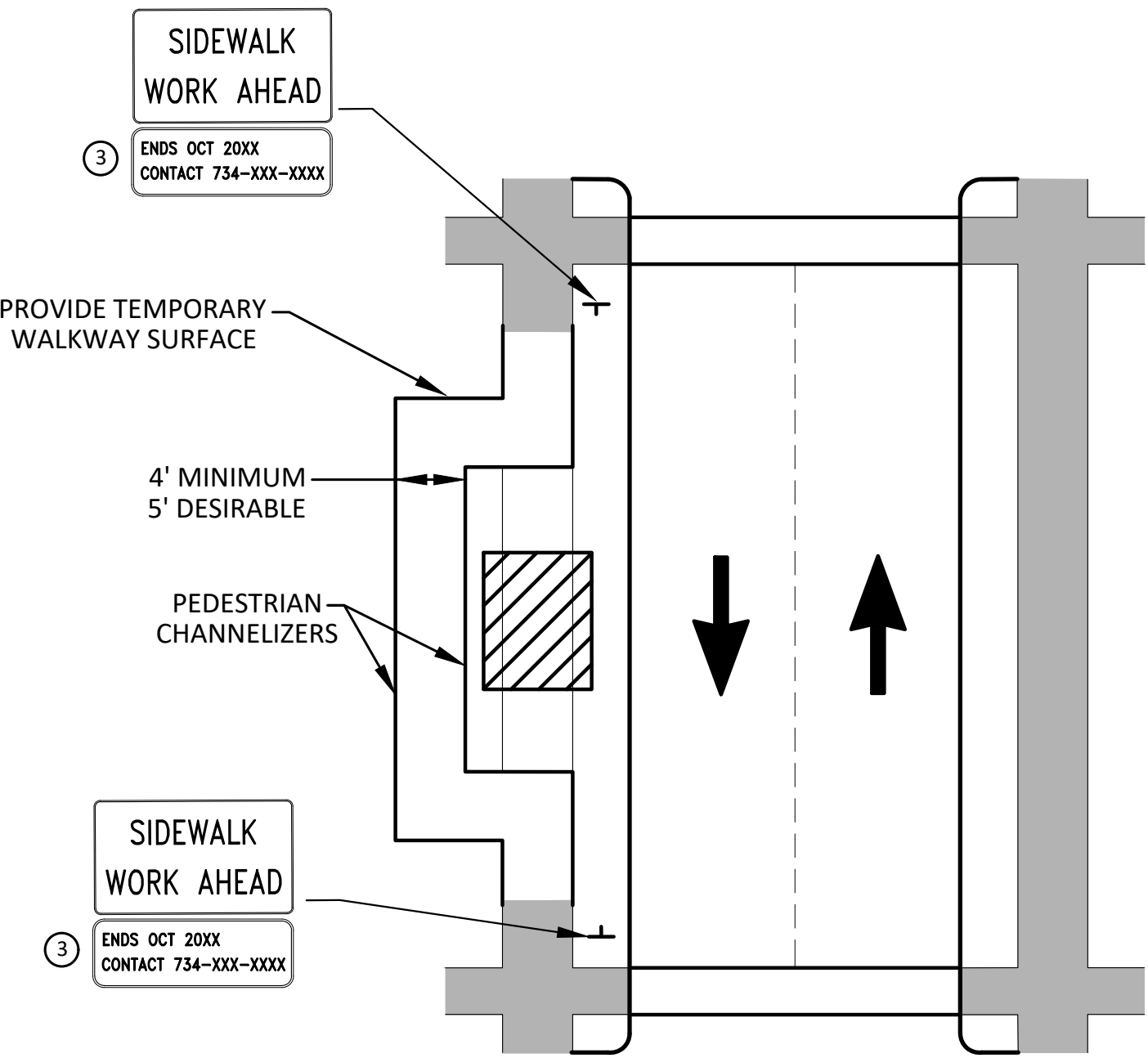


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ALTERNATE PEDESTRIAN ROUTE (APR) DETOUR

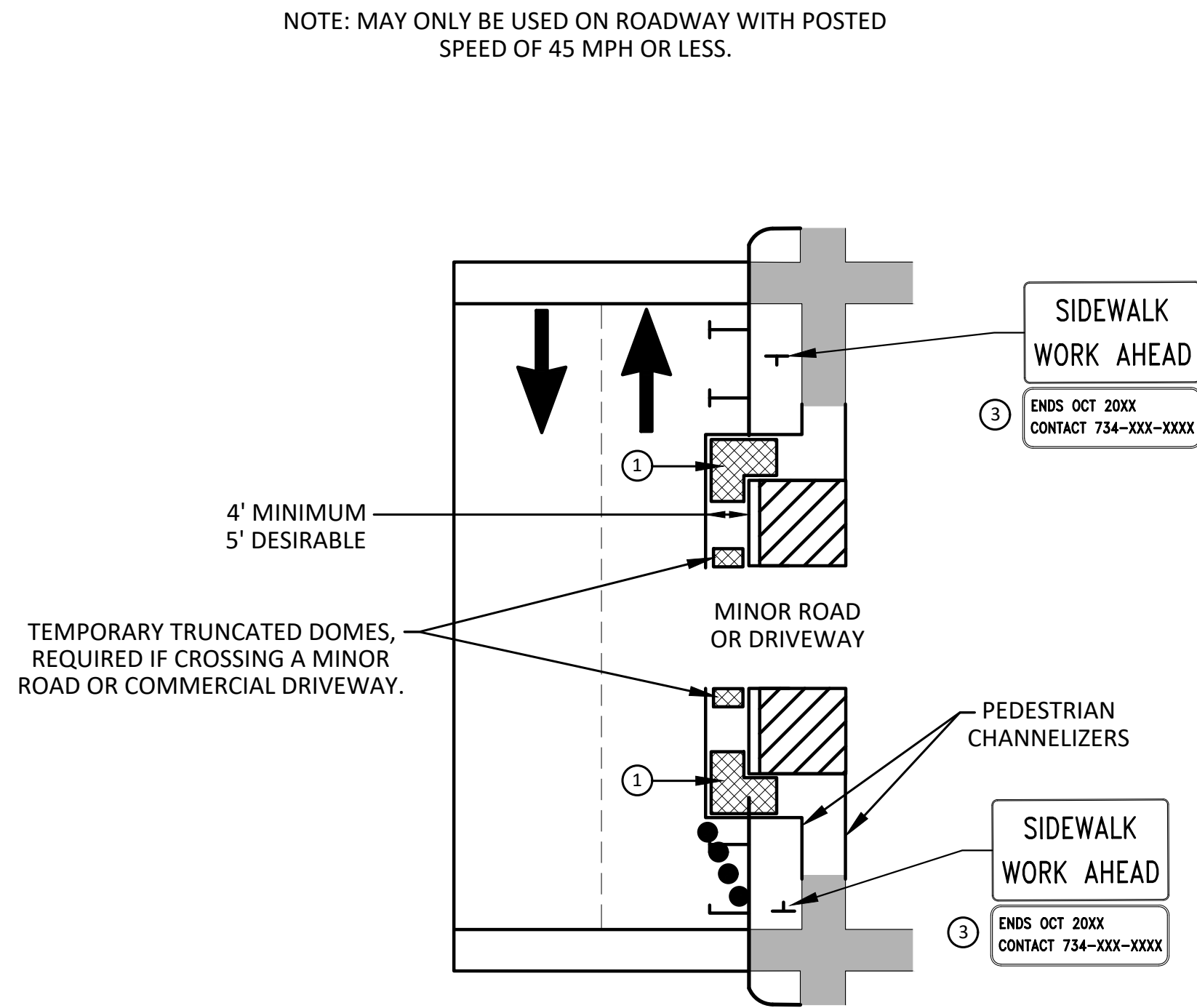
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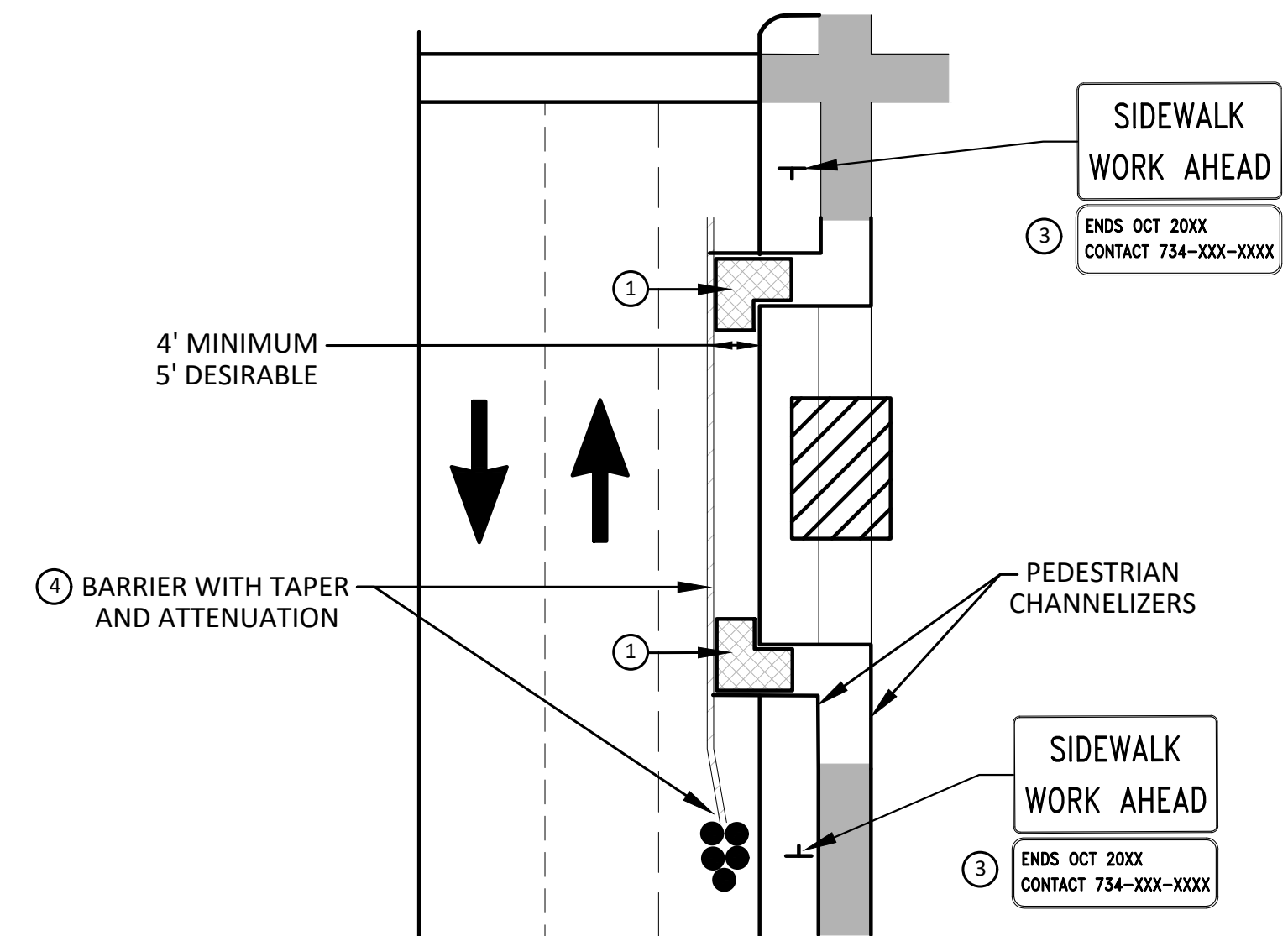
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**BYPASS ON ADJACENT AVAILABLE  
RIGHT OF WAY  
BYPASS TYPE A**



**SIDEWALK BYPASS USING PARKING OR  
SHOULDER ON LOW SPEED ROADWAY  
BYPASS TYPE B**



**SIDEWALK BYPASS USING  
SHOULDER ON OR PARKING LANE  
HIGH SPEED ROADWAY  
BYPASS TYPE C**

NOTE: MAY ONLY BE USED ON ROADWAY WITH POSTED SPEED OF 45 MPH OR LESS.

**GENERAL NOTES**

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PROVIDE A SMOOTH, CONTINUOUS, HARD SURFACE THROUGH THE LENGTH OF THE APR. PROVIDE A FIRM, STABLE, AND SLIP RESISTANT TEMPORARY WALKWAY SURFACE TO COVER SHORT SEGMENTS OF ROUGH, SOFT, OR UNEVEN GROUND.

THE PEDESTRIAN TRAFFIC SIGNALS CONTROLLING CLOSED CROSSWALKS SHALL BE COVERED OR DEACTIVATED.

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

WHEN A SIGN OR BARRICADE IS ORIENTED SUCH THAT VISIBILITY TO TRAFFIC (BIKES, PEDESTRIANS) IS REDUCED ENOUGH TO CAUSE HAZARD, DELINEATE THE SIGN/BARRICADE WITH APPROPRIATE DEVICES.

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

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

**SPECIFIC NOTES**

1. TEMPORARY CURB RAMPS WITH DETECTABLE WARNINGS.
2. 5 DEVICE TAPER 25 FEET LONG, RECOMMENDED WHEN THE CLOSED AREA WAS USED AS AN INTERMITTENT TRAFFIC LANE OR BYPASS LANE. STREET PARKING SHALL BE PROHIBITED FOR AT LEAST 50 FEET IN ADVANCE OF THE MID-BLOCK CROSSWALK.
3. TYPICAL SIGN MESSAGE FOR A TEMPORARY PEDESTRIAN DETOUR SHOULD INCLUDE INFORMATION SUCH AS THE DURATION OF THE WALKWAY RESTRICTIONS (BEGINNING AND/OR END DATES) AND A PROJECT CONTACT NUMBER FOR 24 / 7 QUESTIONS OR REPORTING HAZARDS.
4. SEE MMUTCD FOR GUIDANCE ON PLACEMENT AND USAGE OF BARRIER.

**LEGEND**

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

INCLUDED AS PAY ITEMS:  
PEDESTRIAN RAMP, TEMP  
PEDESTRIAN PATH, TEMP  
SIGN, TYPE B, TEMP, PRISMATIC, OPER/FURN  
PEDESTRIAN TYPE II CHANNELIZER, TEMP



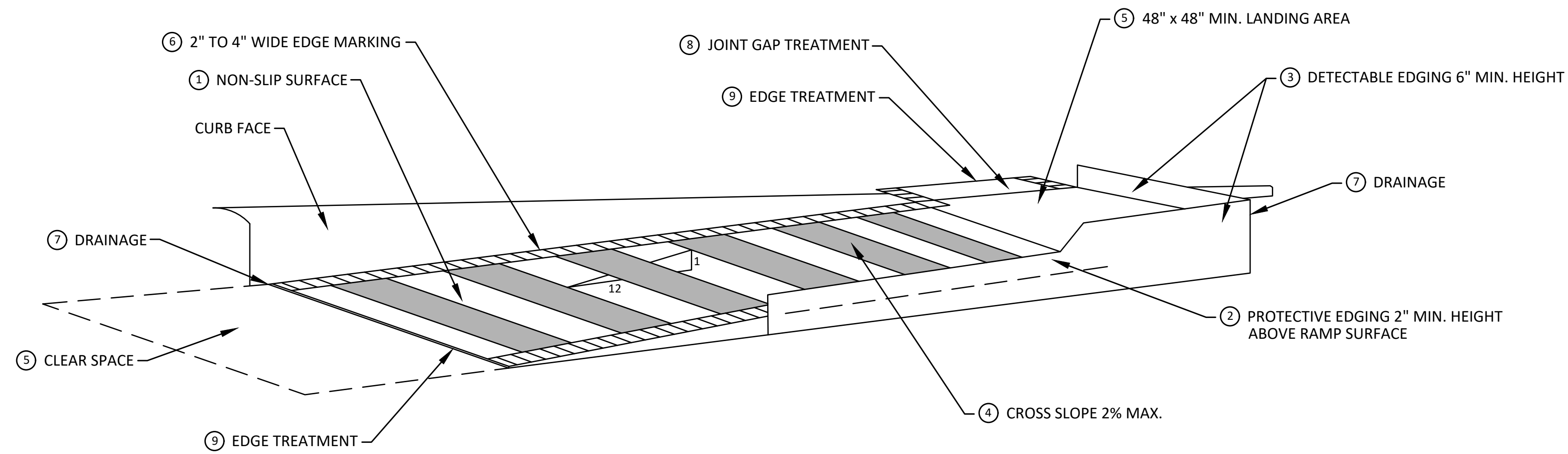
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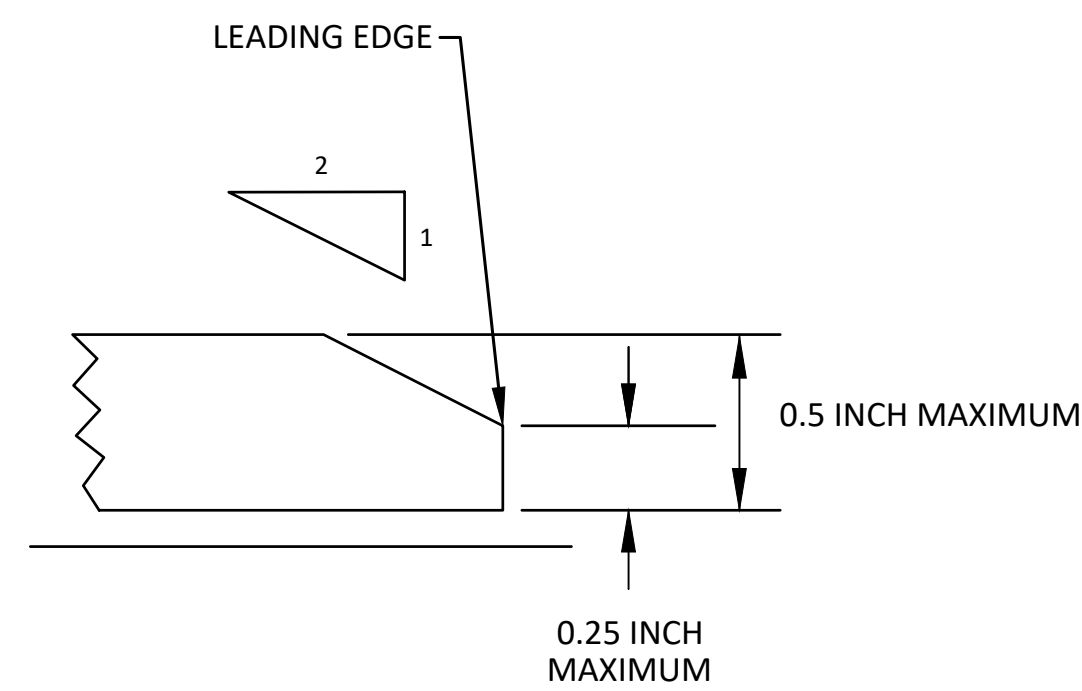
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IMPROVEMENT PROJECT  
ALTERNATE PEDESTRIAN ROUTE (APR) BYPASS

SCALE: NTS  
DRAWING No. 2018-031-80  
SHEET No. 80 OF 83

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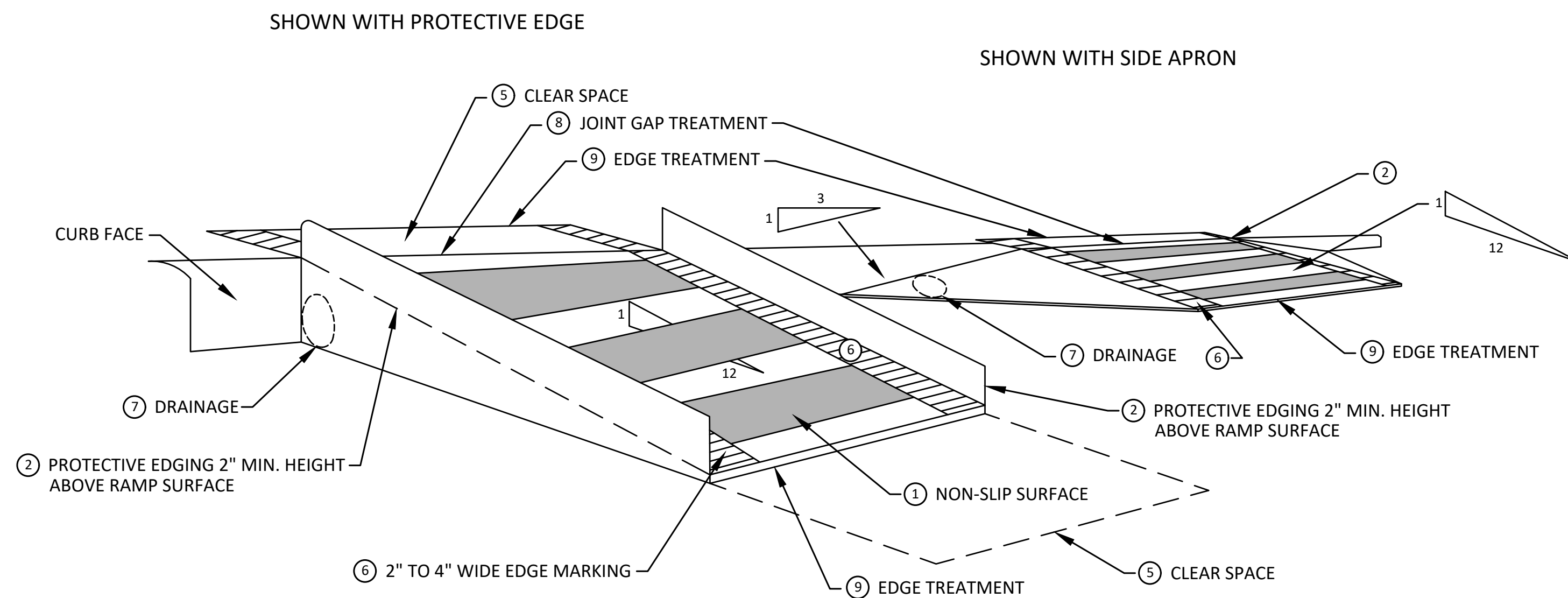
**TEMPORARY CURB RAMP  
PARALLEL TO CURB**



**EDGE TREATMENT**

**SPECIFIC NOTES**

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



**TEMPORARY CURB RAMP  
PERPENDICULAR TO CURB**



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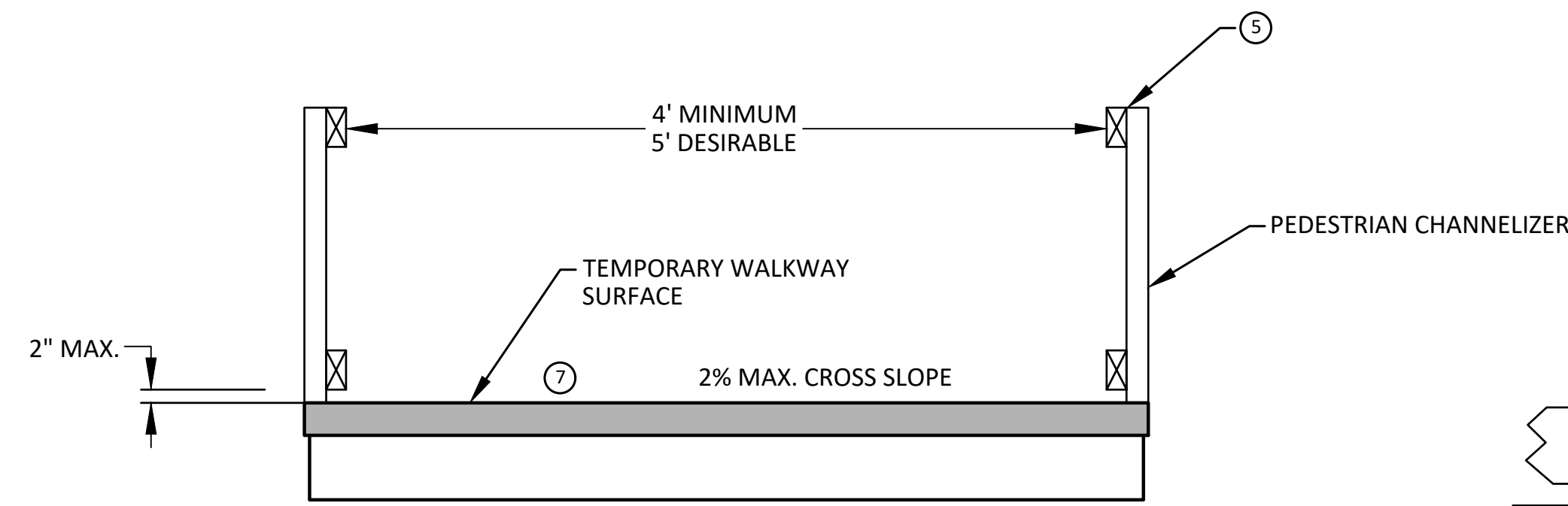
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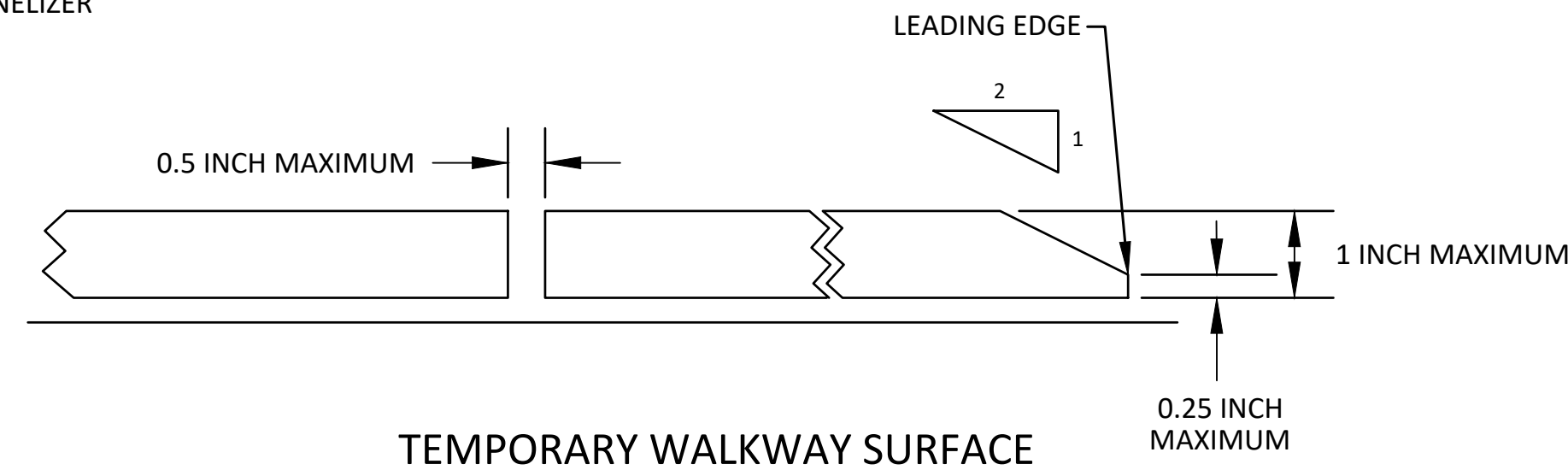
**CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING**  
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**IMPROVEMENT PROJECT**  
TPAR RAMPS

SCALE NTS  
DRAWING No. 2018-031-81

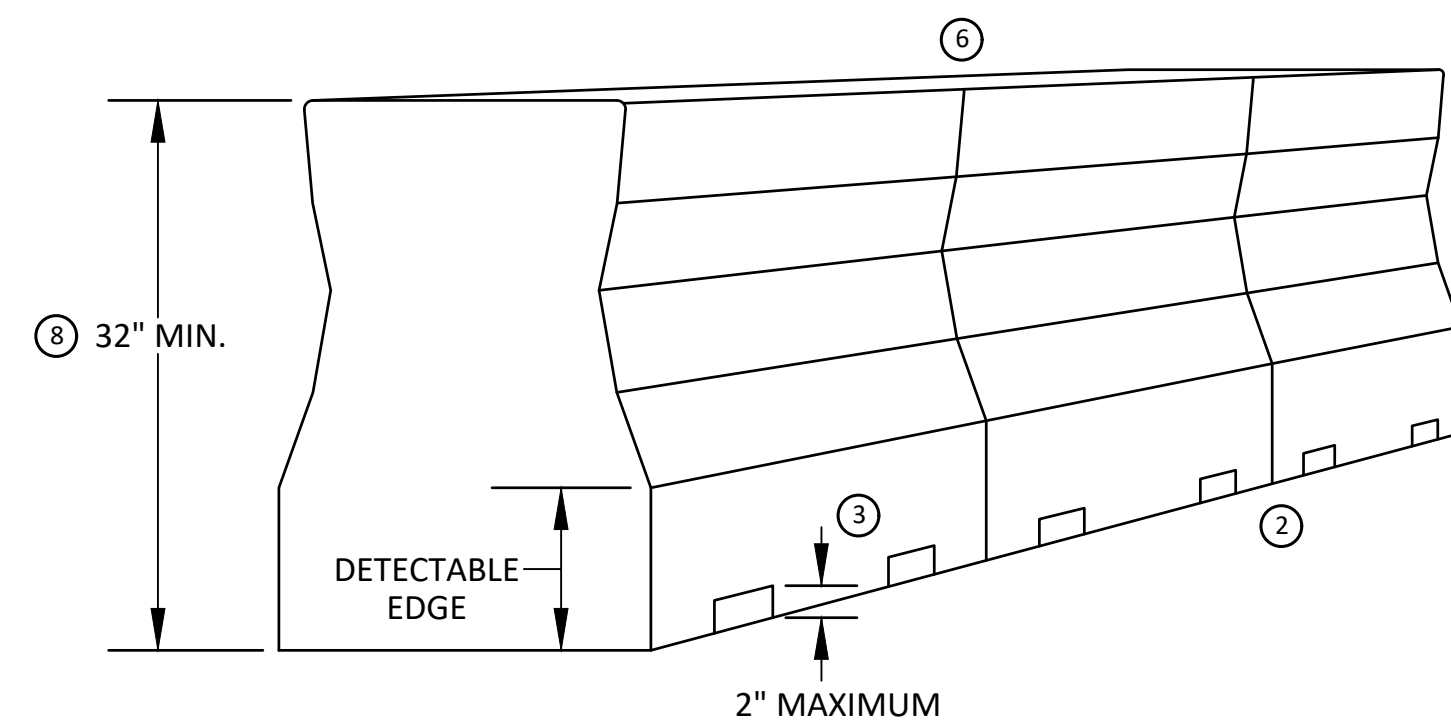
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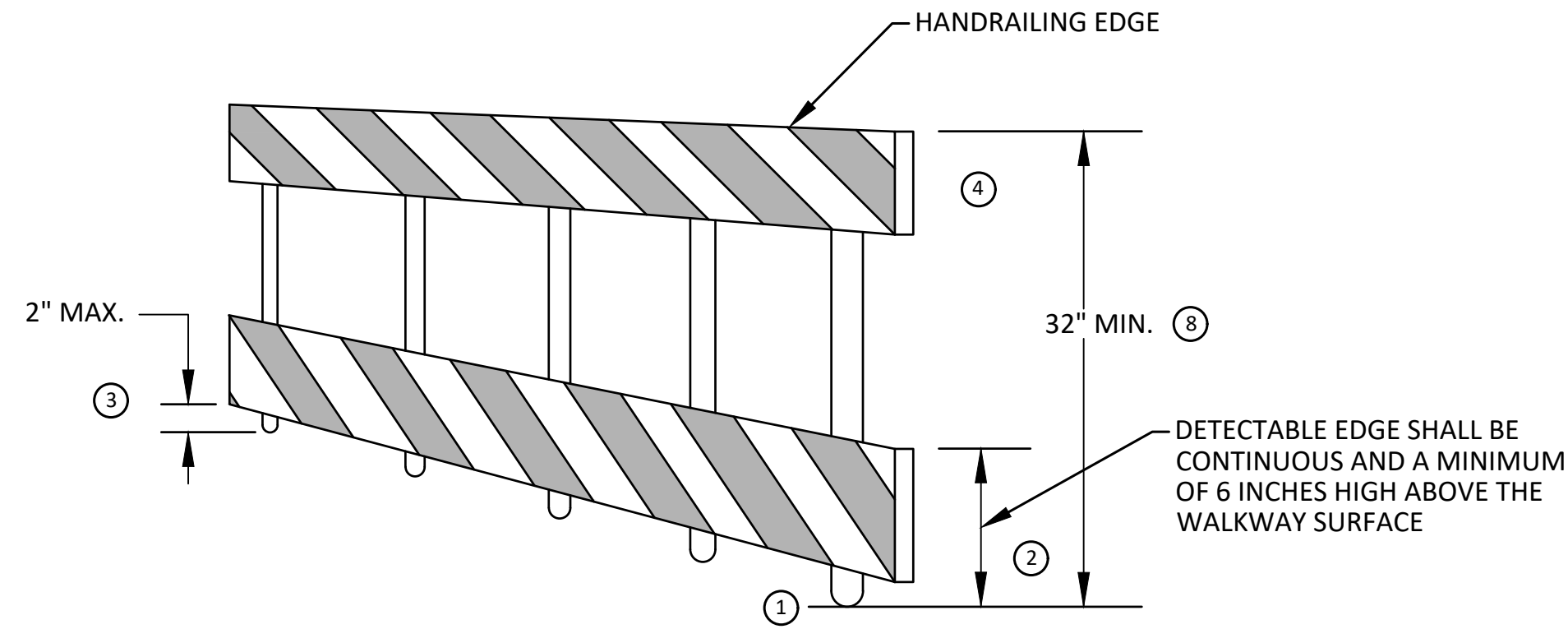
TEMPORARY PEDESTRIAN ACCESS



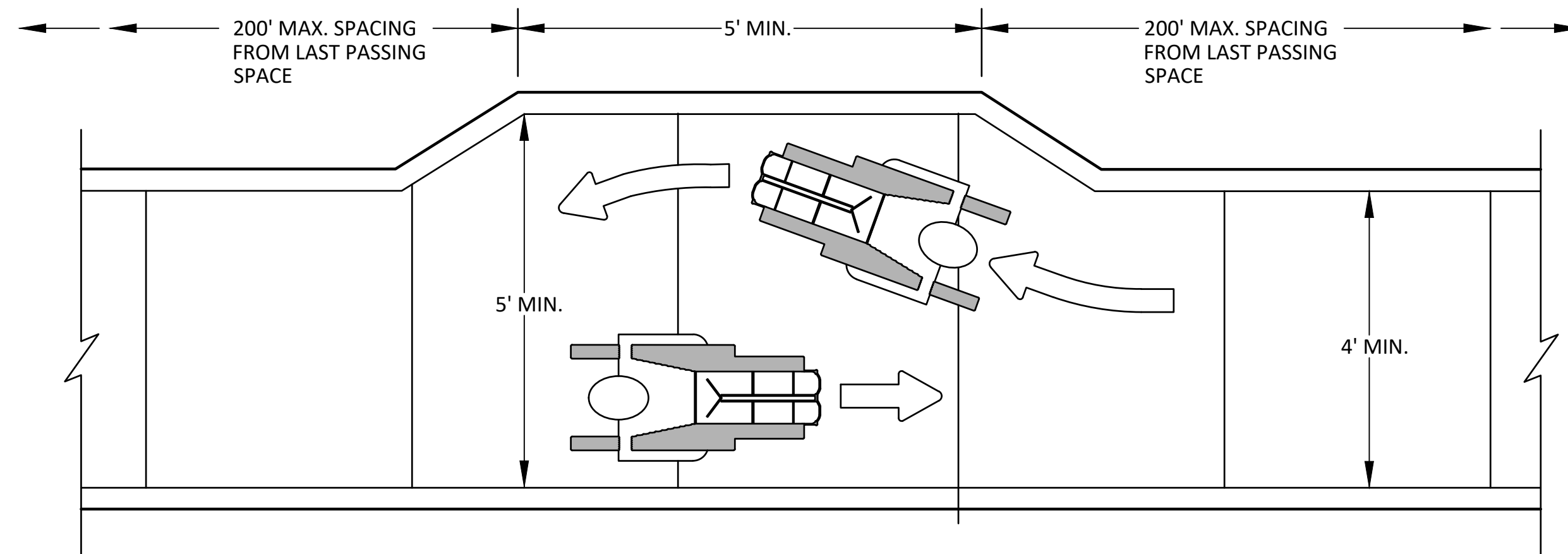
TEMPORARY WALKWAY SURFACE



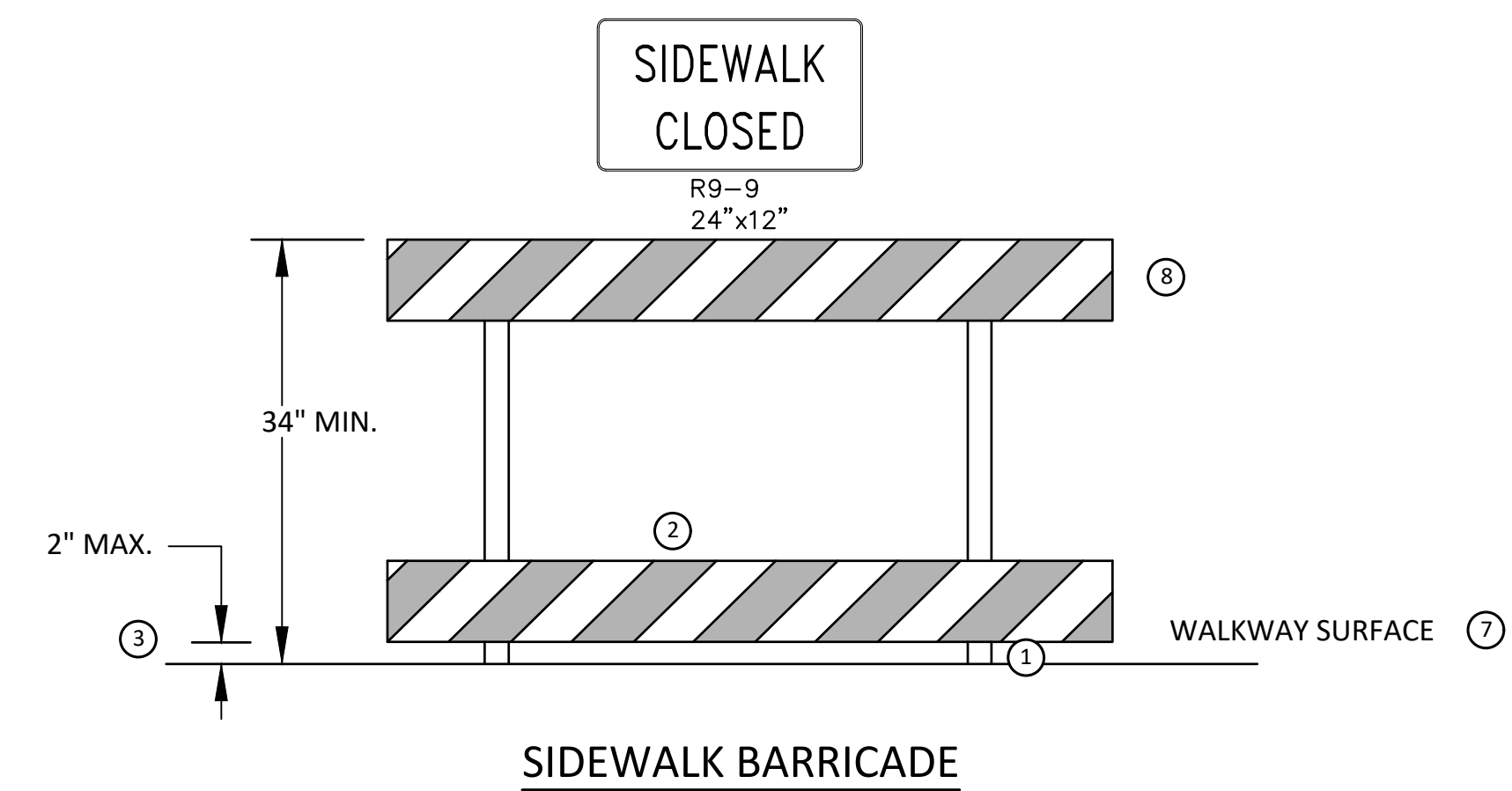
PEDESTRIAN CHANNELIZER USING A BARRIER  
(MINIMUM REQUIREMENTS)



PEDESTRIAN CHANNELIZER  
(MINIMUM REQUIREMENTS)



NARROW TEMPORARY PEDESTRIAN ACCESS ROUTE PASSING DETAIL



SIDEWALK BARRICADE

GENERAL NOTES

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

ANY PEDESTRIAN DEVICES USED TO PROVIDE POSITIVE PROTECTION FOR PEDESTRIANS OR WORKERS SHALL MEET CRASHWORTHY REQUIREMENTS APPROPRIATE FOR THE BARRIERS APPLICATION.

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

SPECIFIC NOTES

- 1 ANY TRIPPING HAZARD IN THE WALKWAY NEEDS A DETECTABLE EDGE. BALLAST SHALL BE LOCATED BEHIND OR INTERNAL TO THE DEVICE. ANY SUPPORT ON THE FRONT OF THE DEVICE SHALL NOT EXTEND INTO THE 48 INCH MINIMUM WALKWAY CLEAR SPACE AND SHALL NOT EXCEED 0.5 INCHES IN HEIGHT ABOVE THE WALKWAY SURFACE.
- 2 DETECTABLE EDGES SHALL BE CONTINUOUS AND 6 INCHES MIN. HIGH ABOVE WALKWAY SURFACE AND HAVE COLOR MARKINGS CONTRASTING WITH THE WALKWAY SURFACE.
- 3 DEVICES SHALL NOT BLOCK WATER DRAINAGE FROM THE WALKWAY. A GAP HEIGHT OR OPENING FROM THE WALKWAY SURFACE UP TO A MAXIMUM OF 2 INCHES IS ALLOWED FOR DRAINAGE PURPOSES.
- 4 WHEN HAND GUIDANCE IS REQUIRED, THE TOP RAIL OR TOP SURFACE SHALL:
  - BE IN A VERTICAL PLANE PERPENDICULAR TO THE WALKWAY ABOVE THE DETECTABLE EDGE.
  - BE CONTINUOUS AT A HEIGHT OF 34 TO 38 INCHES ABOVE THE WALKWAY SURFACE, AND
  - BE SUPPORTED WITH MINIMAL INTERFERENCE TO THE PEDESTRIAN'S HANDS OR FINGERS.
- 5 ALL DEVICES SHALL BE FREE OF SHARP OR ROUGH EDGES, AND FASTENERS (BOLTS) SHALL BE ROUNDED TO PREVENT HARM TO HANDS, ARMS OR CLOTHING OF PEDESTRIANS.
- 6 ALL DEVICES USED TO CHANNELIZE PEDESTRIAN FLOW SHOULD INTERLOCK SUCH THAT GAPS DO NOT ALLOW PEDESTRIANS TO STRAY FROM THE CHANNELIZED PATH.
- 7 A WALKWAY SURFACE SHALL BE FIRM, STABLE, AND SLIP RESISTANT.
- 8 LONGITUDINAL CHANNELIZING DEVICES FOR PEDESTRIANS SHALL BE 32 INCHES HIGH OR GREATER.



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CITY OF ANN ARBOR - ENGINEERING  
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IMPROVEMENT PROJECT  
TPAR WALKWAY DEVICES

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