



CITY OF ANN ARBOR ENGINEERING

CREST, BUENA VISTA, WASHINGTON WATER MAIN

BID No. 4525, FILE No. 2016029

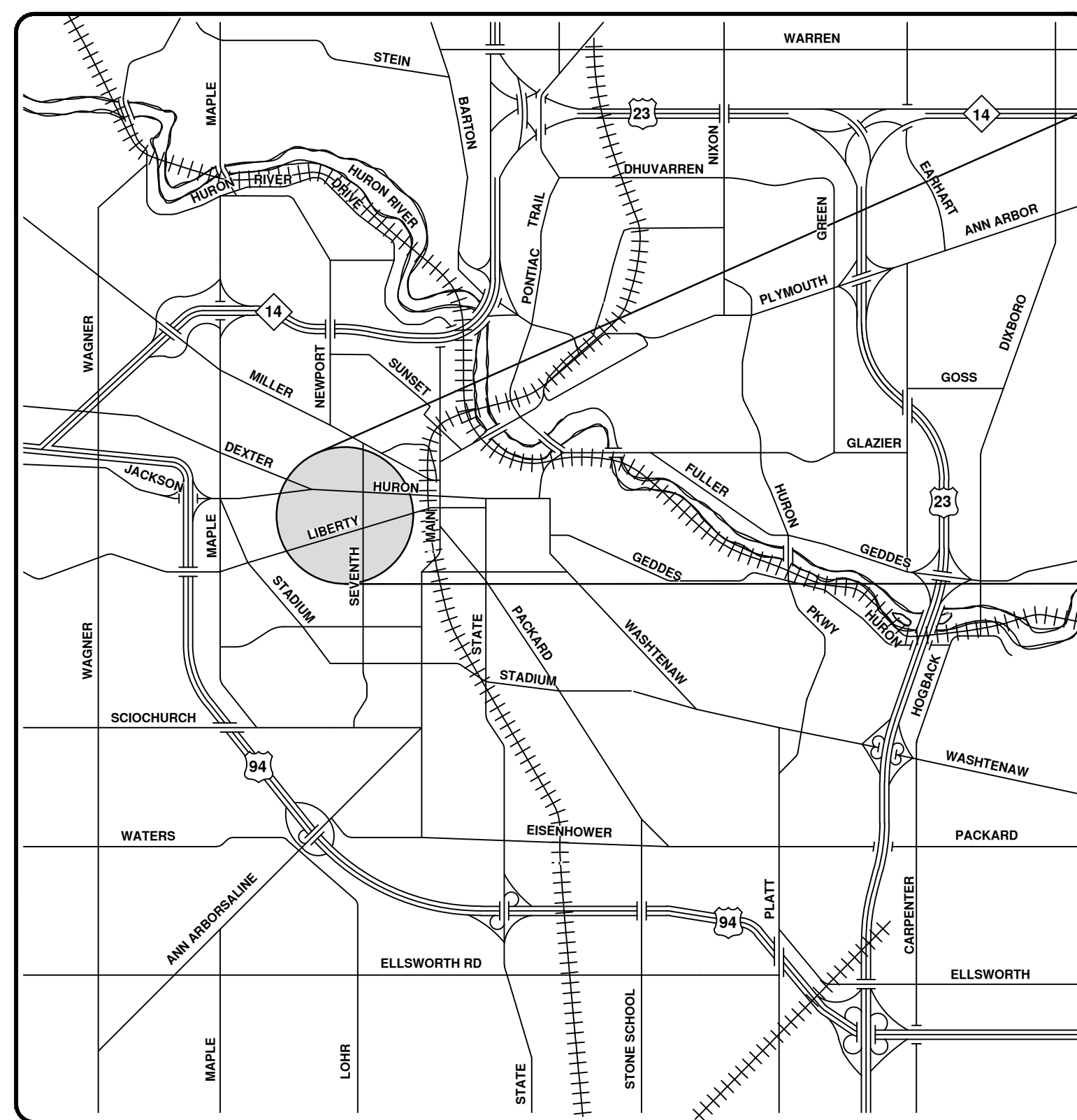
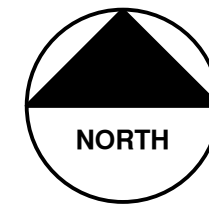
NOTES

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

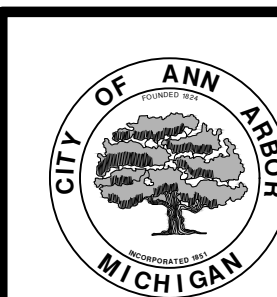
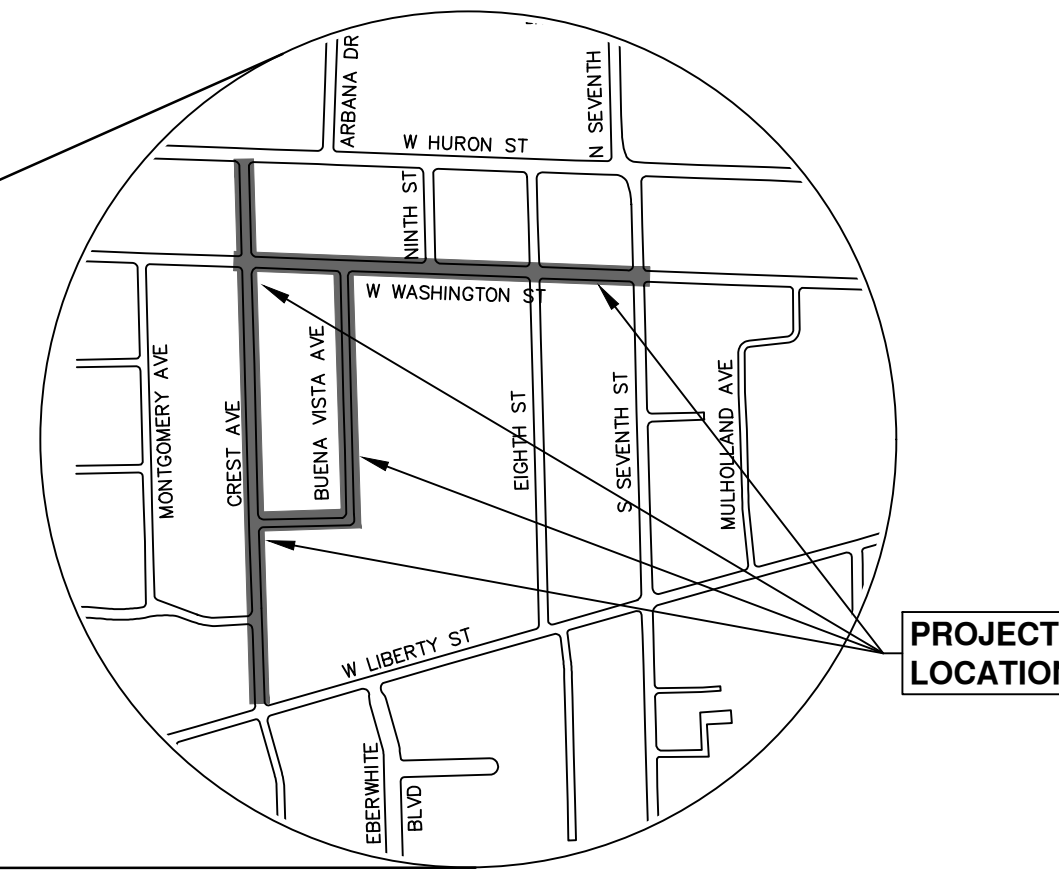
THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS, TELEPHONE, ELECTRICAL POWER, CABLE TV AND FIBER OPTIC LINES ARE APPROXIMATE. THE CITY OF ANN ARBOR ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. MISS DIG MUST BE CONTACTED PRIOR TO CONSTRUCTION TO LOCATE THESE UTILITIES.

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

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VICINITY MAP



PREPARED UNDER THE SUPERVISION OF

Jane K. Allen
JANE KATHERINE ALLEN, P.E. - MI LICENSE No. 57254
PROJECT MANAGER

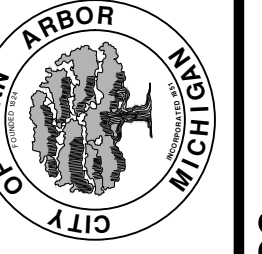


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CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR, MI 48106-8647
www.a2gov.org



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
SCALE
DRAWING No. 2016029-1
SHEET No. 1 OF 46
CREST AVE., BUENA VISTA AVE., W. WASHINGTON ST.
WATERMAIN REPLACEMENT PROJECT

CONSTRUCTION NOTES:

- DRIVEWAYS AND ENTRANCES TO BUILDINGS, REAL PROPERTY, AND THE LIKE SHALL NOT BE BLOKED EXCEPT FOR SHORT DURATIONS AND ONLY WHEN APPROVED BY THE ENGINEER. VEHICULAR AND PEDESTRIAN ACCESS SHALL BE MAINTAINED AT ALL TIMES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL NECESSARY DRIVEWAY CLOSURES WITH THE PROPERTY OWNER(S) AND RESIDENT(S) IN THE AREAS OF CONSTRUCTION.
- THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES AND SERVICE LEADS ARE TO BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- LOCATION AND DEPTH OF UTILITIES AS DEPICTED ON THE PLANS IS APPROXIMATE AND SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXCAVATE AHEAD AND ADJUST DEPTH OF CONFLICT UTILITIES ACCORDINGLY. ANY DAMAGE TO UTILITIES IS THE CONTRACTOR'S RESPONSIBILITY TO AVOID AND/OR REPAIR AS NECESSARY.
- THE CONTRACTOR IS TO TAKE SPECIAL CARE TO PROTECT THE EXISTING WATER MAIN AND BE RESPONSIBLE FOR MAINTAINING CONSISTENT WATER SERVICE.
- DURING NON-WORKING HOURS NO 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".
- TRENCHES FOR NEW WATER SERVICES SHALL BE EXCAVATED TO MIOSHA AND CITY OF ANN ARBOR PUBLIC WORKS REQUIREMENTS.
- 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.
- 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.
- 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.
- ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE POLYETHYLENE ENCASED PER ANSI/AWWA C105/A21.5.
- COR-BLU BOLTS TO BE USED AT ALL MECHANICAL WATER MAIN JOINTS AT HYDRANTS AND MEGALUG FITTINGS
- THE CONTRACTOR SHALL CONSTRUCT, FLUSH, AND BACTERIOLOGICALLY TEST THE WATER MAIN PER DETAILED SPECIFICATION "WATER MAIN INSTALLATION AND TESTING" AND AS APPROVED BY THE ENGINEER. ALL CHLORINATED WATER SHALL BE DISCHARGED DIRECTLY INTO AN APPROVED SANITARY SEWER. THE CONTRACTOR SHALL SUPPLY ALL NECESSARY HOSES, FITTINGS AND THE LIKE TO ACCOMPLISH THIS WORK.
- WATER MAIN FITTINGS, OTHER THAN THOSE SPECIFICALLY LISTED AS SEPARATE PAY ITEMS, WHICH ARE REQUIRED TO COMPLETE THE WORK, SUCH AS BLOW-OFF ASSEMBLIES, CONCRETE THRUST BLOCKS, SOLID SLEEVES AND MECHANICAL PLUGS, SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE PIPE PAY ITEMS.
- "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.
- POSTAL DELIVERY AND REFUSE PICKUP SERVICE SHALL BE MAINTAINED AT ALL TIMES BY THE CONTRACTOR.
- ALL FITTINGS, HYDRANTS, VALVES AND CASTINGS REMOVED DURING CONSTRUCTION ARE THE PROPERTY OF THE CITY OF ANN ARBOR. THE CONTRACTOR WITHIN 48 HOURS SHALL DELIVER TO CITY OF ANN ARBOR FIELD OPERATIONS AND MAINTENANCE FACILITY AT THE W.R. WHEELER SERVICE CENTER LOCATED AT 4251 STONE SCHOOL ROAD.
- WHERE STREET CURBS ARE UNDERMINED DUE TO CONSTRUCTION ACTIVITIES, THEY SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUOUS MAINTENANCE OF THE TEMPORARY ROAD SURFACE AND SOIL EROSION CONTROL MEASURES WITHIN THE CONSTRUCTION AREA UNTIL THE FULL COMPLETION OF THE PROJECT. THIS WORK SHALL BE INCLUDED IN THE ITEM OF WORK "GENERAL CONDITIONS".
- ALL CURB, SIDEWALK, DRIVEWAY APPROACH REMOVALS SHALL BE APPROVED BY ENGINEER BEFORE THE WORK IS DONE.
- SAWED SEWER PIPE CONNECTIONS SHALL BE COUPLED WITH A FERENCO FLEXIBLE COUPLING AND A STAINLESS STEEL SHEAR RING.
- THE LOCATION OF MATERIAL STOCK PILES AND ON-SITE STAGING AREAS TO BE APPROVED BY THE ENGINEER.
- FOR MAINLINE PAVING, THE WIDTH OF THE MAT FOR EACH PASS OF THE 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.
- ALL STRUCTURES SHALL RECEIVE NEW CASTINGS AS DIRECTED BY THE ENGINEER, AS SPECIFIED ON THE STANDARD CASTING SCHEDULE. THE EXISTING CASTINGS ARE THE PROPERTY OF THE CITY OF ANN ARBOR. THE CONTRACTOR SHALL DELIVER TO CITY OF ANN ARBOR FIELD OPERATIONS AND MAINTENANCE FACILITY AT THE W.R. WHEELER SERVICE CENTER LOCATED AT 4251 STONE SCHOOL ROAD.
- PAYMENT FOR DRAINAGE STRUCTURE SUMPS, WHERE SPECIFIED, SHALL BE INCLUDED IN THE PAYMENT FOR THE VARIOUS DRAINAGE STRUCTURE SIZES AND OR TYPES.
- WHERE SEWER PIPES OF DIFFERENT SIZES OR MATERIALS ARE JOINED, FERENCO FLEXIBLE COUPLINGS WITH STAINLESS STEEL SHEAR RINGS SHALL BE USED. ALL COSTS ASSOCIATED WITH THE INSTALLATION OF THESE DEVICES SHALL BE INCLUDED IN THE PAYMENT FOR THE SEWER.
- 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.
- EXISTING STREET NAME, GUIDE, AND REGULATORY SIGNS, AND MAILBOXES WHICH CONFLICT WITH THE PROPOSED CONSTRUCTION SHALL BE REMOVED PRIOR TO CONSTRUCTION, STORED IN A MANNER WHICH WILL PREVENT DAMAGE, AND RE-SET IN LOCATIONS AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN "MACHINE GRADING, MODIFIED"
- IN AREAS WHERE EDGE DRAIN CANNOT BE INSTALLED IN ACCORDANCE WITH CITY OF ANN ARBOR DETAIL SD-TD-11, THE EDGE DRAIN SHALL BE INSTALLED AT THE DEPTH AS INDICATED ON THE PLANS, OR AS DIRECTED BY ENGINEER. IN NO CASE SHALL THE EDGE DRAIN BE INSTALLED AT A GRADE LESS THAN 0.50% OR AT A DEPTH OF LESS THAN 2' BELOW TOP OF PROPOSED PAVEMENT.

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.
- RESTORATION OF ALL DISTURBED AREAS, INCLUDING PLACEMENT OF TOPSOIL, SEED, FERTILIZER AND MULCH AND/OR SOD SHALL BE PERFORMED WITHIN FIVE (5) DAYS OF THE COMPLETION OF FINAL GRADE.
- CONSTRUCTION OPERATIONS SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE SOIL EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO EXCAVATION IN CRITICAL AREAS AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING OPERATIONS.
- SPECIAL PRECAUTIONS WILL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION.
- PROPER DUST CONTROL SHALL BE MAINTAINED DURING CONSTRUCTION BY USE OF WATER TRUCKS AND/OR DUST PALLIATIVE AS REQUIRED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND REMOVAL OF SOME MEASURES UPON AUTHORIZED COMPLETION OF THE PROJECT. FINAL COMPLETION OF PROJECT WILL NOT BE AUTHORIZED UNTIL ALL SITE WORK AND UTILITY CONSTRUCTION IS COMPLETE AND ALL SOILS ARE STABILIZED.
- THE CONTRACTOR SHALL NOT GRADE INTO ADJACENT PROPERTIES. SILT AND PROTECTIVE FENCE SHALL BE INSTALLED AND MAINTAINED TO PREVENT GRADING, EROSION AND SEDIMENTATION INTO THE ADJACENT PROPERTIES.
- TREE PROTECTION FENCING MUST REMAIN INTACT UNTIL RESTORATION OF THE SITE IS COMPLETE.

SEQUENCE OF EROSION CONTROL MEASURES:

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

SAMPLE SOIL EROSION AND SEDIMENTATION CONTROL INSTALLATION MINIMUM REQUIREMENTS:

- INSTALL SILT FENCE, TREE PROTECTION FENCING, MUD MATS, INLET FILTERS ON EXISTING DRAINAGE FEATURES, AND ALL OTHER TEMPORARY SOIL EROSION CONTROLS, PRIOR TO ANY CLEARING OR EARTH MOVING OPERATION.
- STRIP AND STOCKPILE TOPSOIL. STABILIZE STOCKPILE AS REQUIRED.
- INSTALL WATER MAINS, STORM AND SANITARY SEWERS, AND OTHER ENCLOSED DRAINAGE FEATURES. NEW INLET FILTERS SHALL BE INSTALLED IMMEDIATELY FOLLOWING INSTALLATION OF NEW DRAINAGE INLETS.
- PERFORM MACHINE GRADING OPERATIONS AND CONSTRUCT PAVEMENTS (MAINLINE, SIDEWALKS, DRIVES, ETC.).
- CONTINUALLY MAINTAIN EROSION AND SEDIMENTATION CONTROL MEASURES, AS REQUIRED TO ALLOW DRAINAGE AND SEDIMENT REMOVAL. REMOVE ANY ACCUMULATED SEDIMENT IMMEDIATELY.
- COMPLETE ALL FINE GRADING.
- TEMPORARY SEED AND INSTALL EROSION CONTROL BLANKET IN ALL DISTURBED AREAS.
- REFER TO LANDSCAPE PLANTING PLANS FOR PERMANENT SITE STABILIZATION.
- CLEAN OUT STORM SEWER SYSTEMS.
- REMEDY ANY NOTED DEFECTS TO THE SATISFACTION OF THE CITY OF ANN ARBOR'S SOIL EROSION AND SEDIMENTATION CONTROL OFFICIAL.
- ALL TEMP. SOIL EROSION CONTROL MEASURES MUST BE REMOVED, WITH ENGINEERS APPROVAL, PRIOR TO FINAL INSPECTION

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

TEMPORARY SEEDING:

- SEED IN ACCORDANCE WITH PROJECT DRAWINGS AND SPECIFICATIONS.
- ANY DISTURBED AREA NOT PAVED, SEEDED, MULCHED, SODDED OR BUILT UPON BY NOVEMBER 15TH OR JUNE 30TH IS TO BE TEMPORARILY STABILIZED PER SPECIFICATIONS.

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

| PERMIT | ISSUING AUTHORITY |
|------------------------------------------------------|------------------------------------|
| LANE CLOSURE PERMIT* | CITY OF ANN ARBOR ENGINEERING |
| "NO PARKING" SIGNS PERMIT* | CITY OF ANN ARBOR ENGINEERING |
| GRADING/SOIL EROSION & SEDIMENTATION CONTROL PERMIT* | CITY OF ANN ARBOR CUSTOMER SERVICE |
| RIGHT-OF-WAY PERMIT* | CITY OF ANN ARBOR CUSTOMER SERVICE |
| * NO COST TO CONTRACTOR | |

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

| PERMIT | ISSUING AUTHORITY |
|-----------------------------------------|----------------------------------------------|
| M.D.E.Q. WATER MAIN CONSTRUCTION PERMIT | MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY |
| MDOT RIGHT-OF-WAY PERMIT | MICHIGAN DEPARTMENT OF TRANSPORTATION |

CONTACT INFORMATION

| PUBLIC UTILITIES | OWNER | CONTACT |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| WATER | | DAN WOODEN (734) 794-6350 |
| SANITARY | | RYAN FERREL (734) 794-6350 |
| STORM | CITY OF ANN ARBOR FIELD OPERATIONS SERVICE UNIT W.R. WHEELER SERVICE CENTER 4251 STONE SCHOOL ROAD ANN ARBOR, MI 48108 | PAT MAINO (734) 794-6350 |
| FORESTRY | | MATT WALDSMITH (734) 794-6350 |
| SIGNS SIGNALS STREET LIGHTS | | CHUCK FOJTIK (734) 794-6361 |
| PRIVATE UTILITIES | OWNER | CONTACT |
| GAS | DTE ENERGY 3150 E. MICHIGAN AVE, YPSILANTI TOWNSHIP, MI 48198 | ROBERT CZAPIEWSKI (734) 544-7818 |
| ELECTRIC | DTE ENERGY WESTERN WAYNE SERVICE CENTER 8001 HAGGERTY ROAD BELLEVILLE, MI 48111 | CLAY COMBEE (734) 397-4112 |
| CABLE | COMCAST 27800 FRANKLIN ROAD SOUTHFIELD, MI 48034 | RON SUTHERLAND (313) 999-8300 |
| PHONE | AT&T 550 S. MAPLE ROAD ANN ARBOR, MI 48103 | (734) 996-2135 |
| FIBER OPTIC | MCI 2800 N. GLENFILLE ROAD RICHARDSON, TX 75082 | DEAN BOYERS (972) 729-6016 |

| BM # | ELEV | DESCRIPTION |
|------|---------|---------------------------------------------------------------------------------------------|
| 1 | 852.599 | RR SPIKE IN N'LY SIDE OF U.P. @ S.E. CORNER OF LIBERTY ST. & SEVENTH ST. (BK 1115, PG. 29) |
| 2 | 857.983 | SET RR SPIKE IN N. SIDE OF U.P. ON S. SIDE OF LIBERTY ST. 30± W OF E OF EIGHTH ST TO NORTH. |
| 3 | 860.753 | SET RR SPIKE IN N'LY SIDE OF U.P. ON S. SIDE OF LIBERTY ST. IN FRONT OF HSE NO. 1017 |
| 4 | 863.006 | RR SPIKE IN N. SIDE OF U.P. @ S.E. CORNER OF LIBERTY ST. & EBERWHITE BLVD. |
| 5 | 870.196 | N.W. ANCHOR BOLT FOR "CROSS-WALK" MAST ARM POLE @ SW CORNER OF LIBERTY ST. & CREST AVE. |
| 6 | 855.669 | SET RR SPIKE IN E. SIDE OF L.P. @ S.W. CORNER OF CREST AVE. & BEMIDJI DR. |
| 7 | 858.214 | SET RR SPIKE IN EAST SIDE OF L.P. ON W. SIDE OF CREST AVE. @ BUENA VISTA AVE. |
| 8 | 862.400 | SET RR SPIKE IN E. SIDE OF L.P. ON W. SIDE OF CREST AVE. @ HSE NO. 240 |
| 9 | 861.462 | FND RR SPIKE IN E. SIDE OF L.P. ON W. SIDE OF CREST AVE. @ DRIVE FOR HSE NO. 218 |
| 10 | 862.883 | SET RR SPIKE IN S.E. SIDE OF U.P. @ N.W. CORNER OF CREST AVE. & WASHINGTON ST. |
| 11 | 862.649 | SET RR SPIKE IN N.W. SIDE OF L.P. @ S.E. CORNER OF CREST AVE. & HURON ST. |
| 12 | 858.162 | SET RR SPIKE IN S. SIDE OF U.P. ON N. SIDE OF WASHINGTON ST. @ BUENA VISTA AVE. |
| 13 | 855.241 | SET RR SPIKE IN E. SIDE OF L.P. ON W. SIDE OF BUENA VISTA AVE. BETWEEN HSE NO.'S 210 & 212 |
| 14 | 854.193 | SET RR SPIKE IN E. SIDE OF P.P. ON W. SIDE OF BUENA VISTA AVE. BETWEEN HSE NO.'S 226 & 224 |
| 15 | 842.363 | SET RR SPIKE IN N. SIDE OF U.P. ON S. SIDE OF BUENA VISTA AVE. @ BEND IN STREET. |
| 16 | 852.598 | SET RR SPIKE IN S'LY SIDE OF U.P. @ N.W. CORNER OF WASHINGTON ST. & NINTH ST. |
| 17 | 846.504 | SET RR SPIKE IN N'LY SIDE OF U.P. @ S.W. CORNER OF WASHINGTON ST. & EIGHTH ST. |
| 18 | 835.276 | SET RR SPIKE IN N'LY SIDE OF U.P. @ S.W. CORNER OF SEVENTH ST. & WASHINGTON ST. |



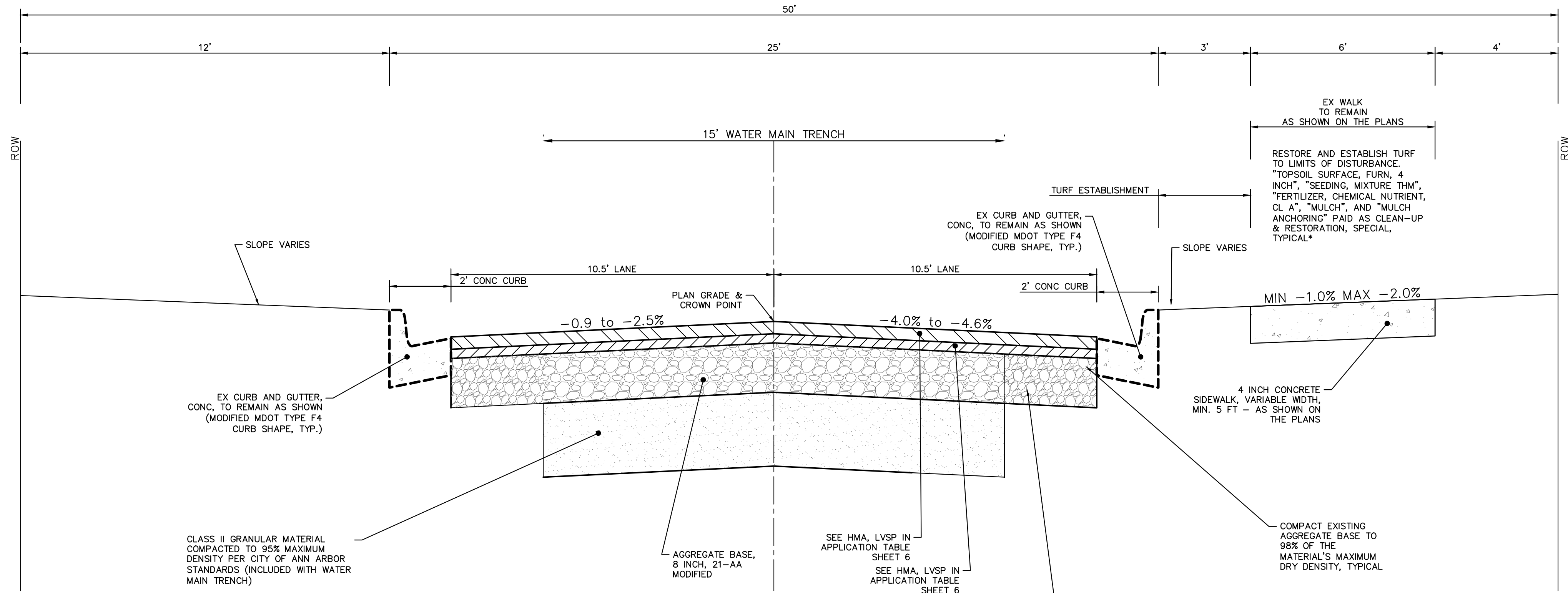
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CREST, BUENA VISTA, WASHINGTON WATER MAIN
STANDARD NOTES
SHEET No. 2 OF 46

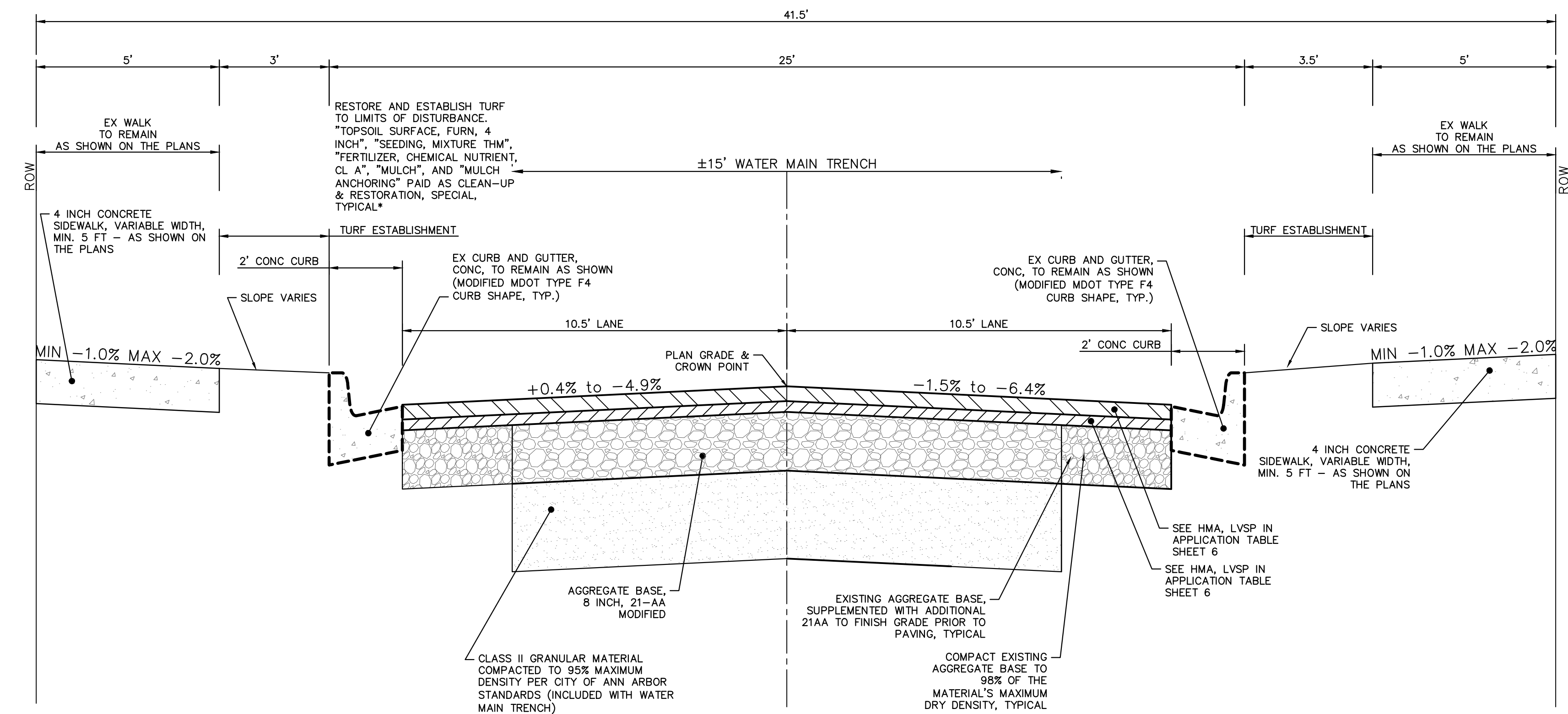
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BUENA VISTA AVENUE
TYPICAL SECTION STA 0+00 to 3+07

N.T.S.

NOTE:
SIDEWALK CONSTRUCTION MAY REQUIRE UNDERCUTTING SUBGRADE. BACKFILL WITH MDOT, CL II GRANULAR MATERIAL COMPACTED TO 95% MAXIMUM DRY DENSITY. THIS WORK SHALL BE INCLUDED IN COST OF SIDEWALK, IF REQUIRED, AND WILL NOT BE PAID FOR SEPARATELY.



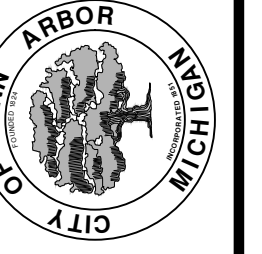
BUENA VISTA AVENUE
TYPICAL SECTION STA 3+07 to 5+05 and 8+19 to 9+88

N.T.S.



| REV. | DATE | DESCRIPTION |
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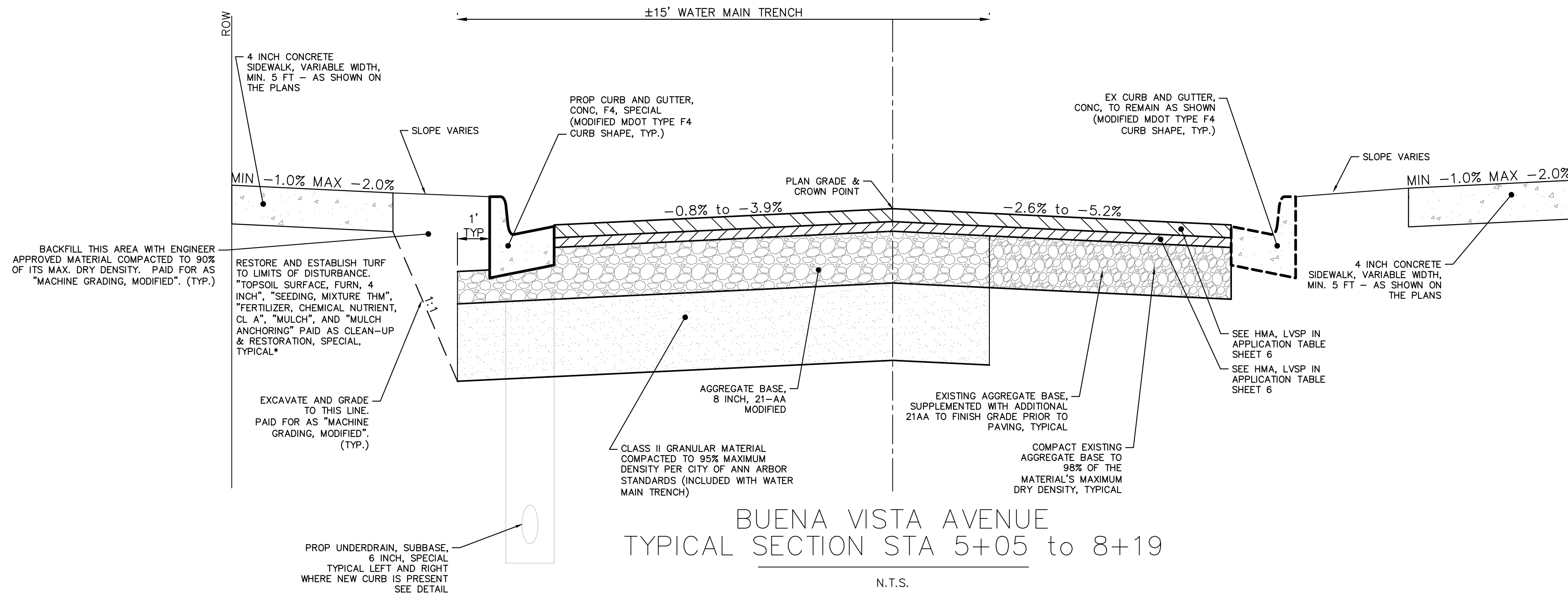
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PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR MI 48106-8647
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CREST, BUENA VISTA, WASHINGTON WATER MAIN
TYPICAL PROPOSED ROAD SECTIONS BUENA VISTA

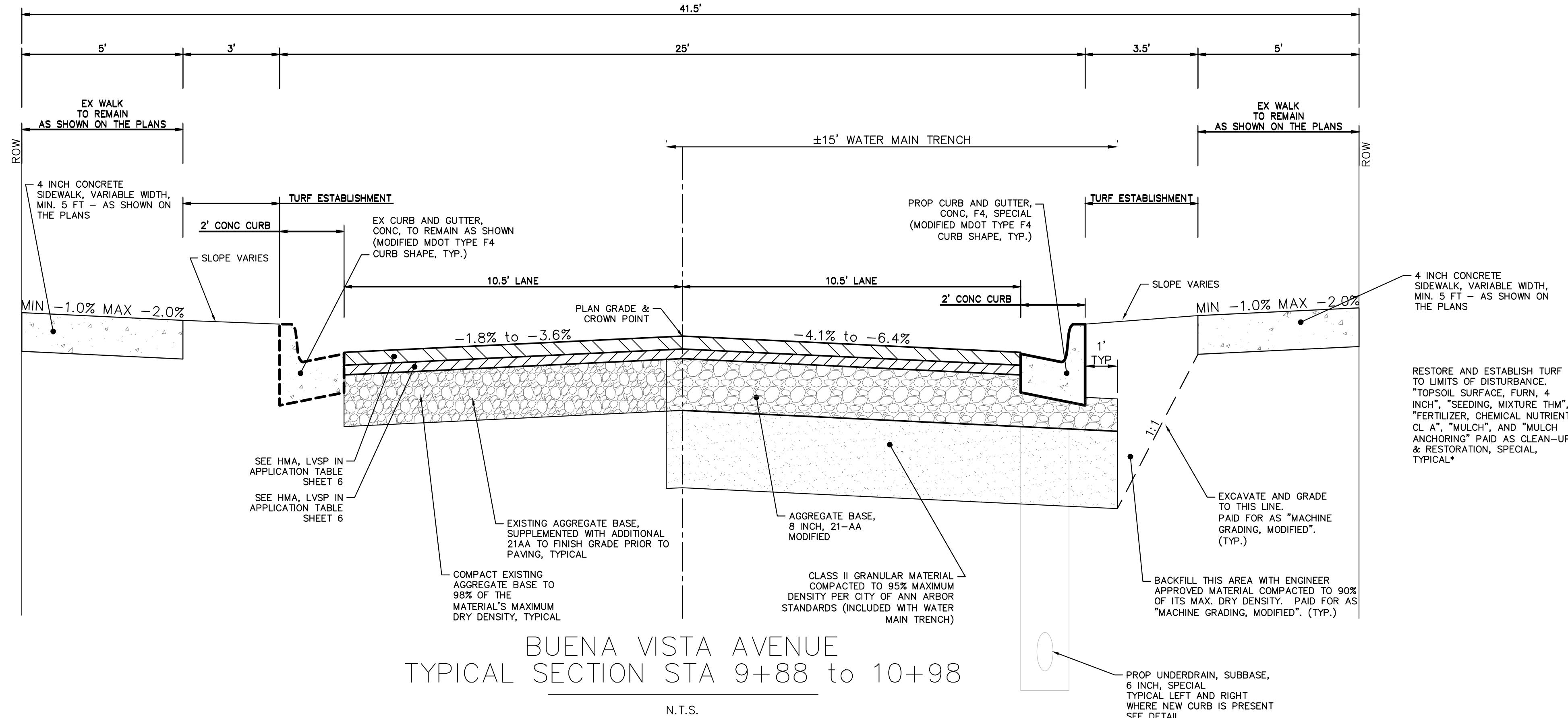
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BUENA VISTA AVENUE
TYPICAL SECTION STA 5+05 to 8+19
N.T.S.

NOTE:
SIDEWALK CONSTRUCTION MAY REQUIRE UNDERCUTTING SUBGRADE. BACKFILL WITH MDOT, CL II GRANULAR MATERIAL COMPACTED TO 95% MAXIMUM DRY DENSITY. THIS WORK SHALL BE INCLUDED IN COST OF SIDEWALK, IF REQUIRED, AND WILL NOT BE PAID FOR SEPARATELY.



BUENA VISTA AVENUE
TYPICAL SECTION STA 9+88 to 10+98
N.T.S.

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

DATE: 2-6-18
DRAWN: JKA
CHECKED: []

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CREST, BUENA VISTA, WASHINGTON WATER MAIN

TYPICAL PROPOSED ROAD SECTIONS BUENA VISTA

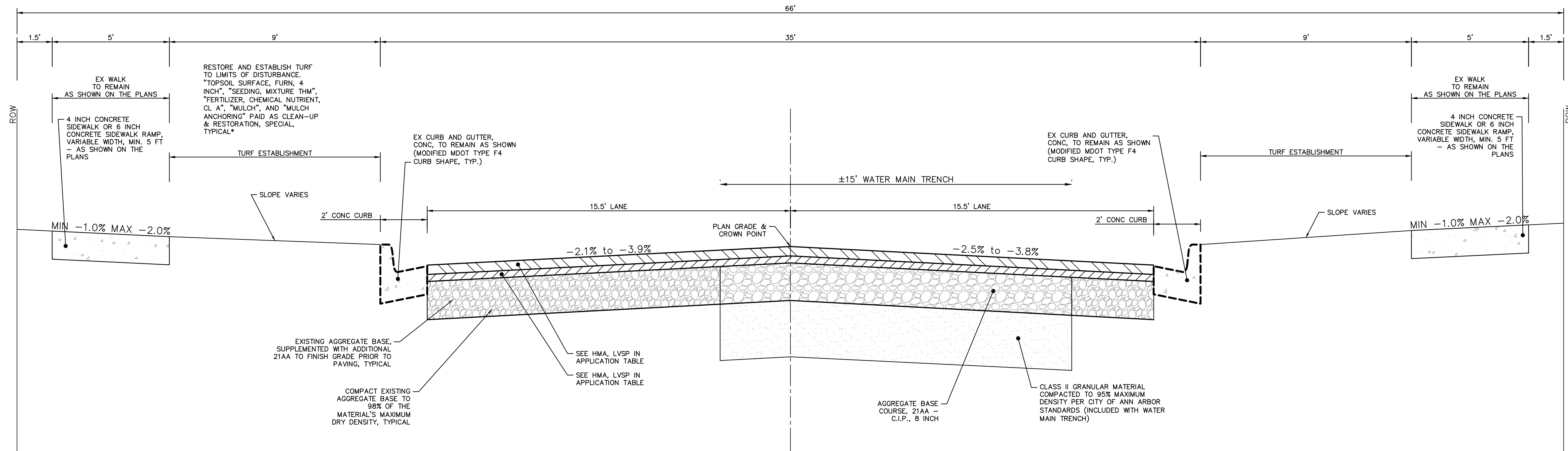
SCALE: N/A

DRAWING No. 2016029-5

SHEET No. 5 OF 46

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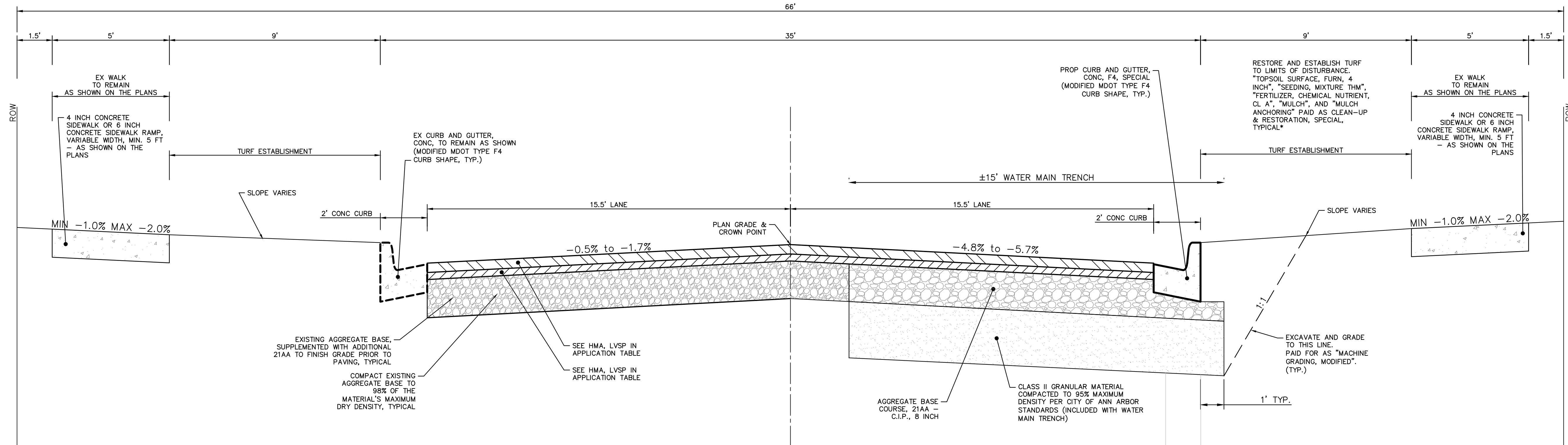
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W WASHINGTON STREET
TYPICAL SECTION STA 0+00 to 10+00

N.T.S.

| HMA APPLICATION ESTIMATE | | | | | |
|--------------------------|---------------------|--------------------|------------|----------|-----------------------------|
| HMA MIX | RATE OF APPLICATION | THICKNESS (INCHES) | AWI (MIN.) | BINDER | LOCATION/NOTES |
| LVSP | 220 LB/SYD | 2 | 260 (TOP) | PG 58-28 | TOP COURSE |
| LVSP | 250 LB/SYD | 2.25 | - | PG 58-28 | LEVELING COURSE |
| Bond Coat SS-1h | 0.10 GAL/SYD | - | - | - | INCLUDE IN COST OF HMA ITEM |



W WASHINGTON STREET
TYPICAL SECTION STA 10+00 to 13+02

N.T.S.

| HMA APPLICATION ESTIMATE | | | | | |
|--------------------------|---------------------|--------------------|------------|----------|-----------------------------|
| HMA MIX | RATE OF APPLICATION | THICKNESS (INCHES) | AWI (MIN.) | BINDER | LOCATION/NOTES |
| LVSP | 220 LB/SYD | 2 | 260 (TOP) | PG 58-28 | TOP COURSE |
| LVSP | 250 LB/SYD | 2.25 | - | PG 58-28 | LEVELING COURSE |
| Bond Coat SS-1h | 0.10 GAL/SYD | - | - | - | INCLUDE IN COST OF HMA ITEM |



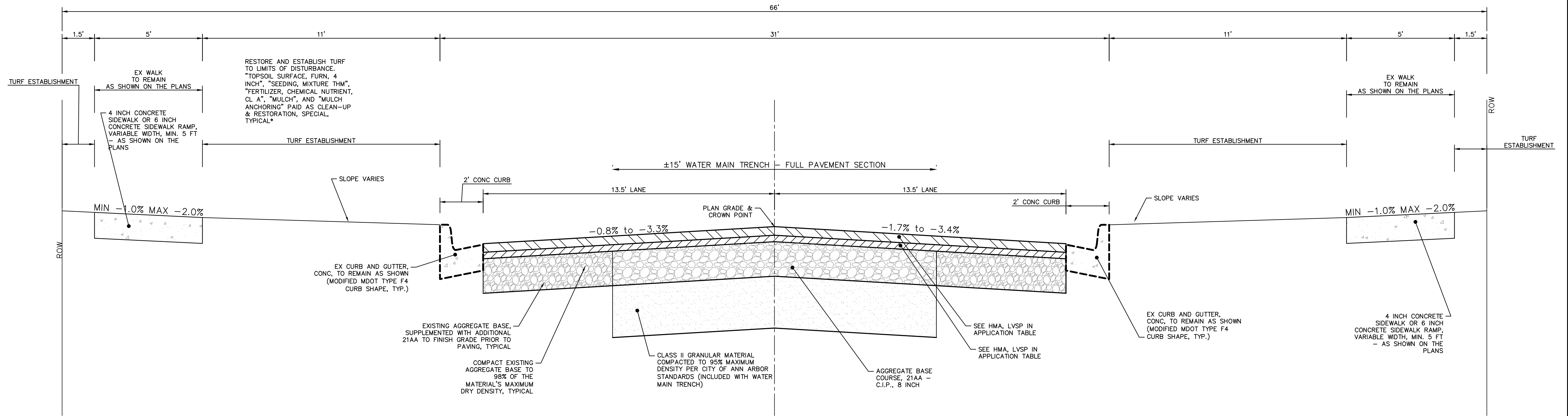
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| | | CEC/DFW |
| | | JKA |
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CREST, BUENA VISTA, WASHINGTON WATER MAIN
TYPICAL PROPOSED ROAD SECTIONS WASHINGTON

SCALE: N/A
DRAWING No. 2016029-6

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CREST AVENUE
TYPICAL SECTION

N.T.S.

| HMA APPLICATION ESTIMATE | | | | | |
|--------------------------|---------------------|--------------------|------------|----------|-----------------------------|
| HMA MIX | RATE OF APPLICATION | THICKNESS (INCHES) | AWI (MIN.) | BINDER | LOCATION/NOTES |
| LVSP | 220 LB/SYD | 2 | 260 (TOP) | PG 58-28 | TOP COURSE |
| LVSP | 250 LB/SYD | 2.25 | - | PG 58-28 | LEVELING COURSE |
| Bond Coat SS-1h | 0.10 GAL/SYD | - | - | - | INCLUDE IN COST OF HMA ITEM |



| REV. | DESCRIPTION | DATE | DRAWN | CHECKED |
|------|-------------|--------|---------|---------|
| 00 | OUT FOR BID | 2-6-18 | CEC/DFP | JKA |

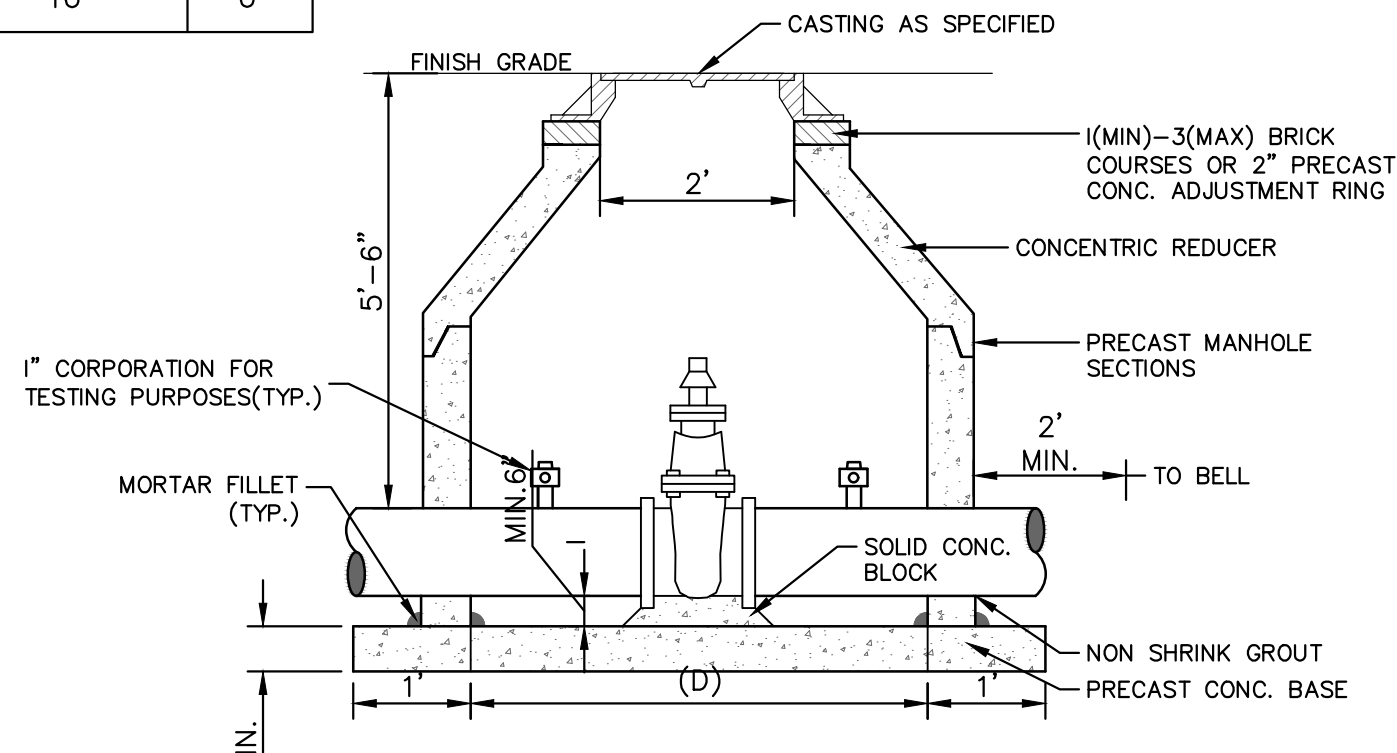
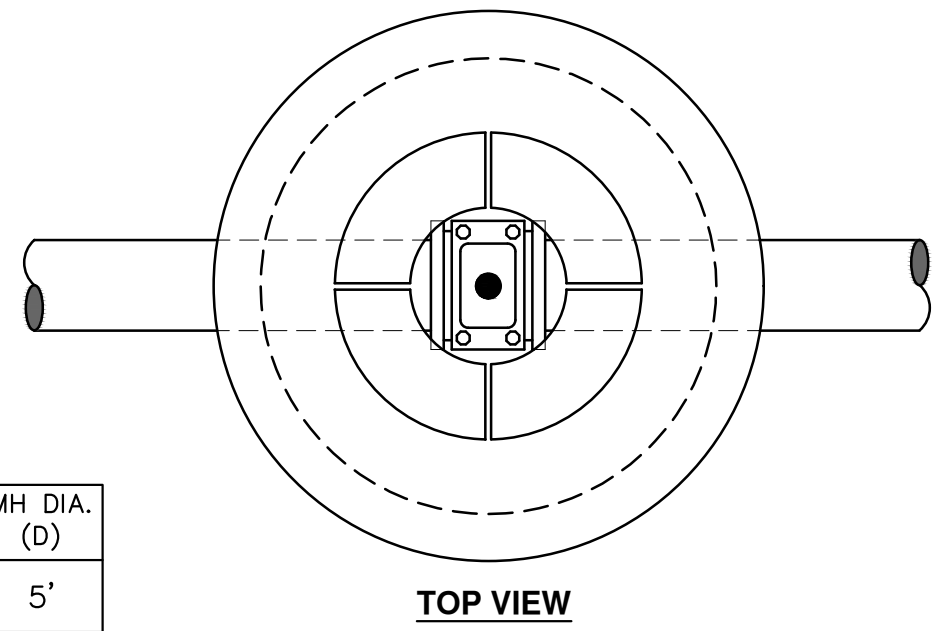
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CREST, BUENA VISTA, WASHINGTON WATER MAIN
TYPICAL PROPOSED ROAD SECTIONS CREST

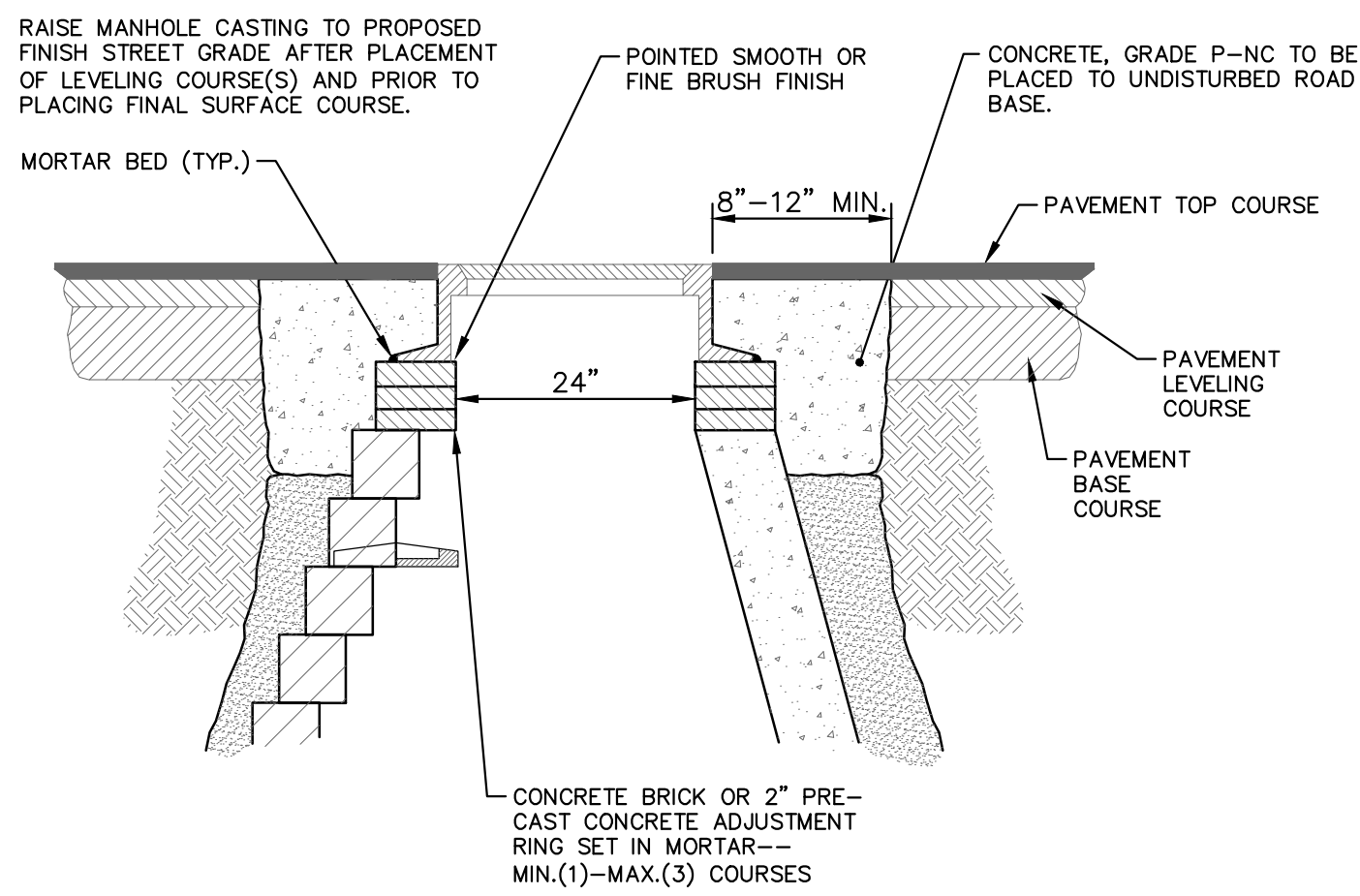
SCALE: N/A
DRAWING No. 2016029-7

| 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



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

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.

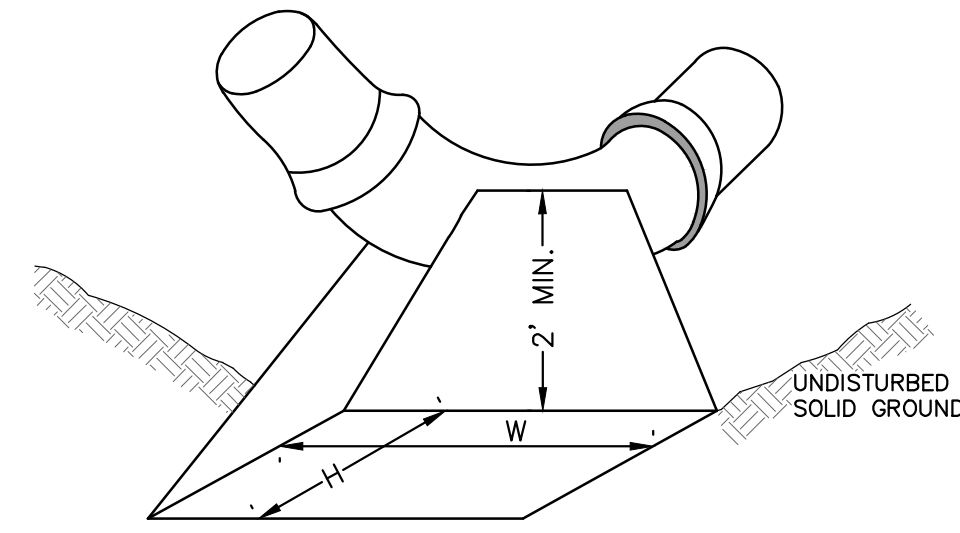
THE DIMENSIONS OF THE THRUST BLOCK AT THE FACE OF THE UNDISTURBED SOLID GROUND SHALL BE AS SHOWN IN THE TABLE BELOW.

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 | |
|---------------|----------------|-----|-------|-----|---------|---------|---------|-----|
| | W | H | 90° | 45° | 22 1/2° | 11 1/4° | W | H |
| INCHES | W | H | W | H | W | H | W | H |
| 4 | 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 | 1.0 | 1.0 | 2.5 |
| 8 | 2.5 | 2.0 | 3.5 | 2.0 | 2.0 | 2.0 | 1.0 | 2.0 |
| 12 | 3.5 | 3.0 | 5.5 | 3.0 | 3.5 | 2.5 | 2.0 | 1.0 |
| 16 | 6.0 | 3.5 | 6.0 | 4.0 | 5.0 | 3.0 | 3.5 | 2.0 |

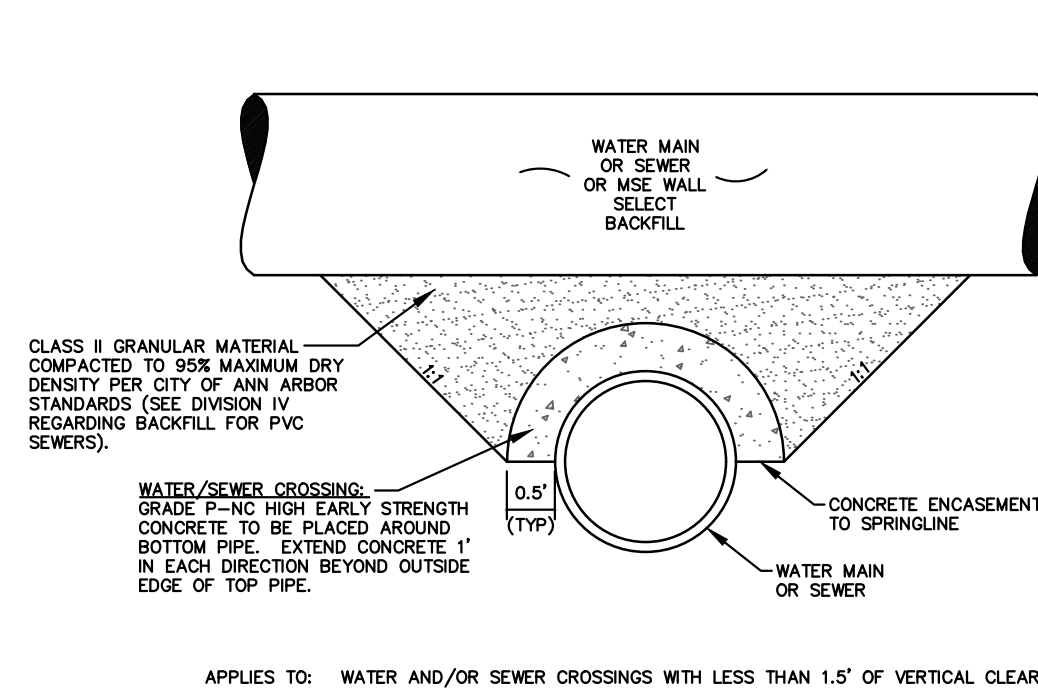
FOR FITTING SIZES LARGER THAN 16", THRUST BLOCK DIMENSIONS SHALL BE AS SPECIFIED BY ENGINEER.

W = WIDTH IN FEET
H = HEIGHT IN FEET



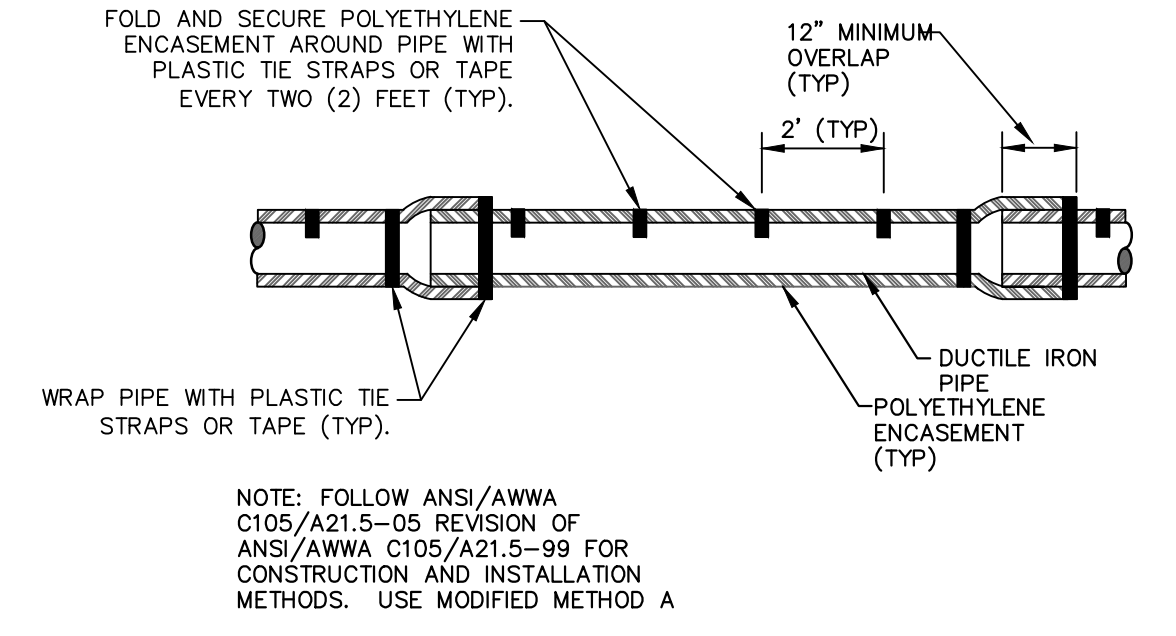
NOTE:
THESE ARE MINIMUM STANDARDS. WHERE SOIL CONDITIONS DICTATE, ADJUSTMENTS IN SIZE SHALL BE MADE AS DIRECTED BY THE PUBLIC SERVICES AREA ADMINISTRATOR.

THRUST BLOCK SD-W-2

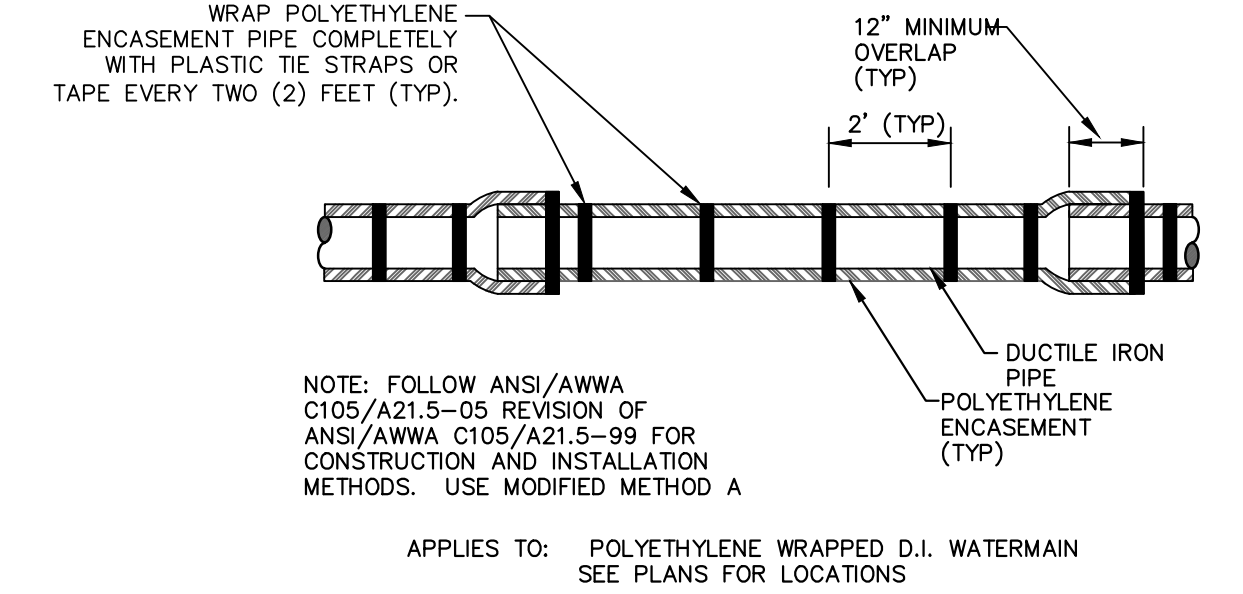


CONCRETE UTILITY SADDLE

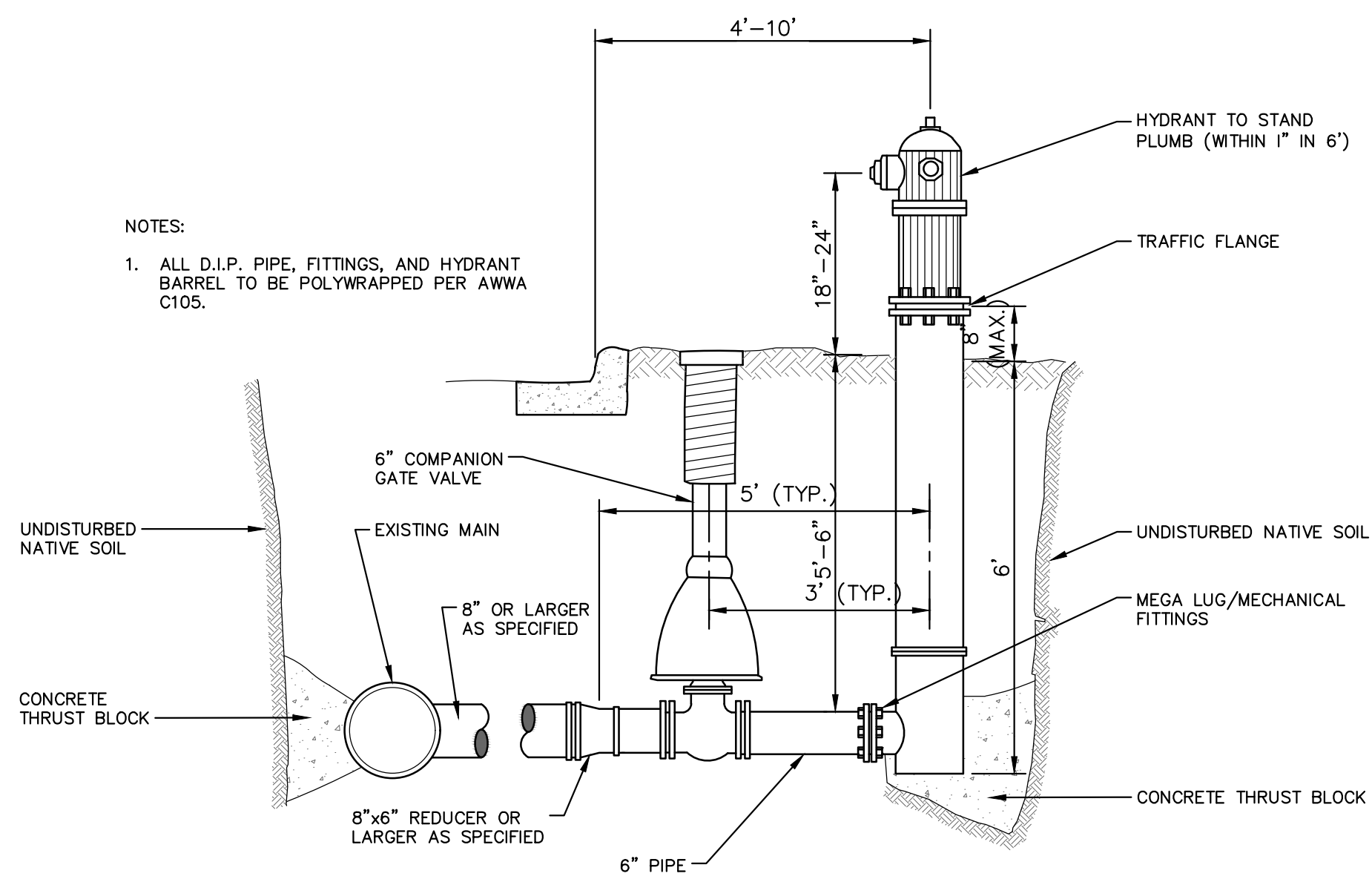
APPLIES TO: WATER AND/OR SEWER CROSSINGS WITH LESS THAN 1.5' OF VERTICAL CLEARANCE



POLYETHYLENE ENCASEMENT (DRY INSTALLATION)

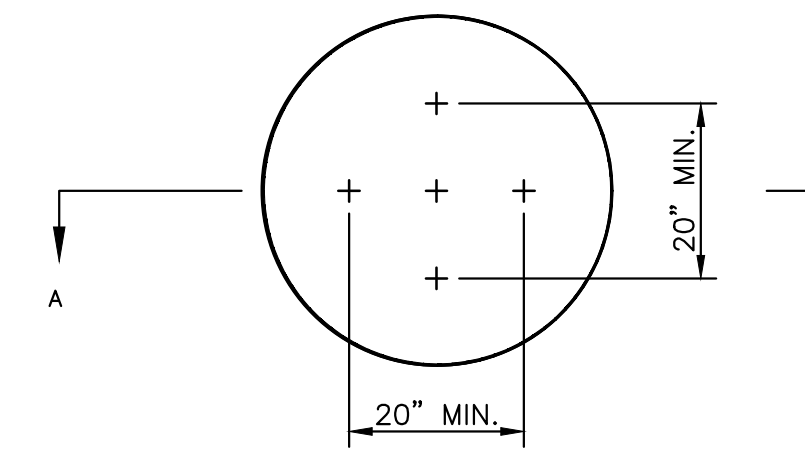


POLYETHYLENE ENCASEMENT (WET INSTALLATION)



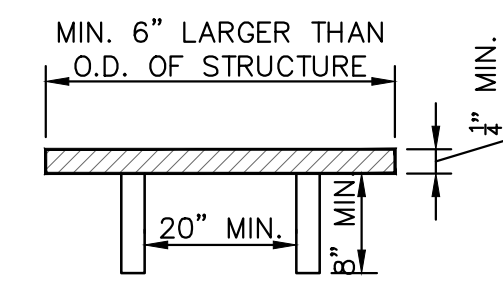
NOTES:
1. ALL D.I.P. PIPE, FITTINGS, AND HYDRANT BARREL TO BE POLYWRAPPED PER AWWA C105.

FIRE HYDRANT ASSEMBLY

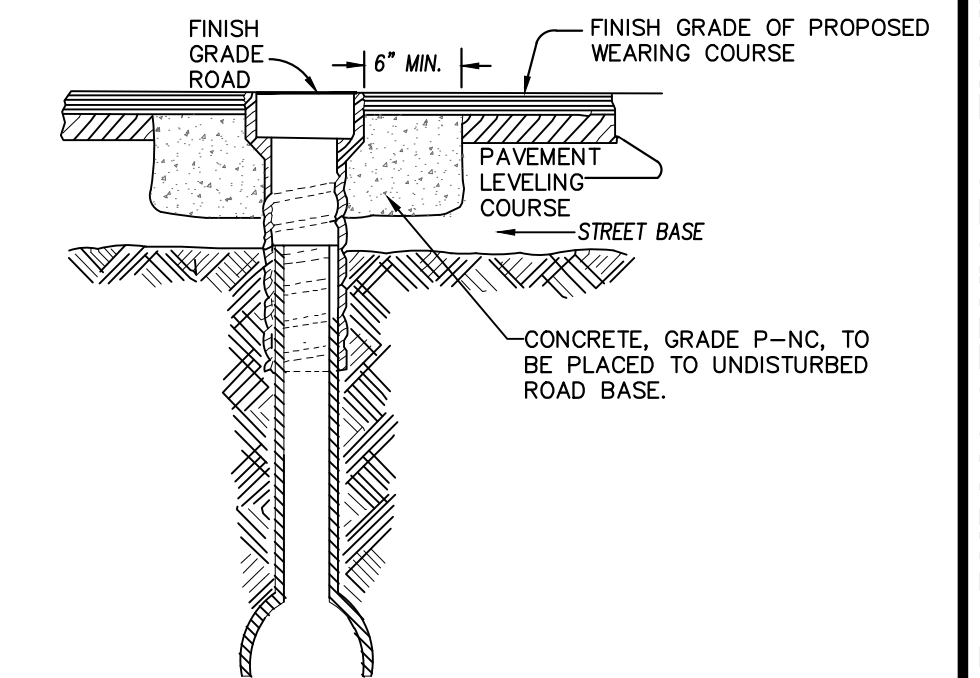


NOTE: PLATE MAY BE CIRCULAR, SQUARE OR RECTANGULAR

SECTION A - A



STRUCTURE PLATE SD-GU-8



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

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CREST, BUENA VISTA, WASHINGTON WATER MAIN
WATER MAIN DETAILS

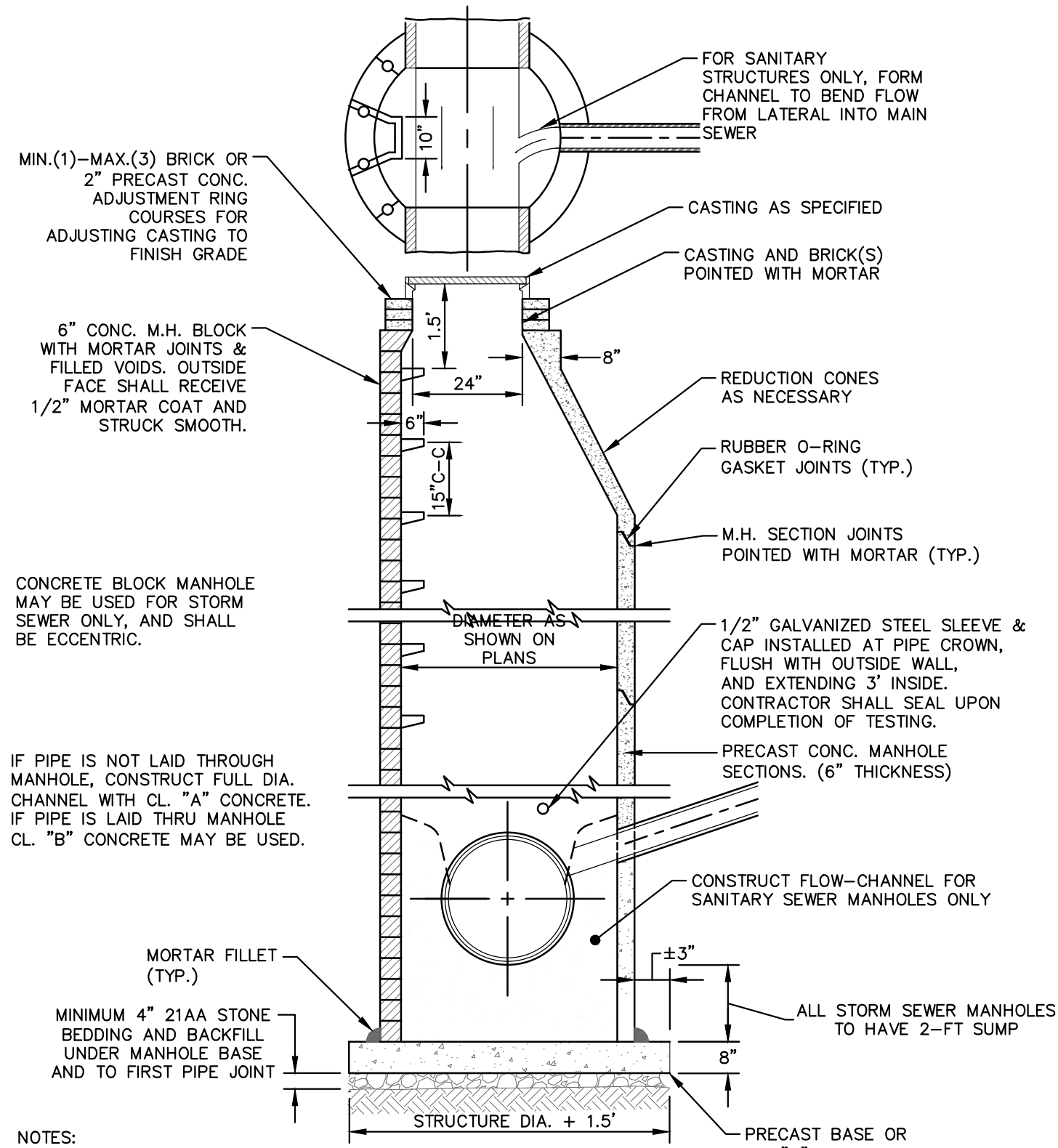
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301 EAST HURON STREET
ANN ARBOR, MI 48106-8647
www.aagov.org

DATE: 2-6-18
DRAWN: JKA
CHECKED: CEC/DFP

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SHEET No. 8 OF 46

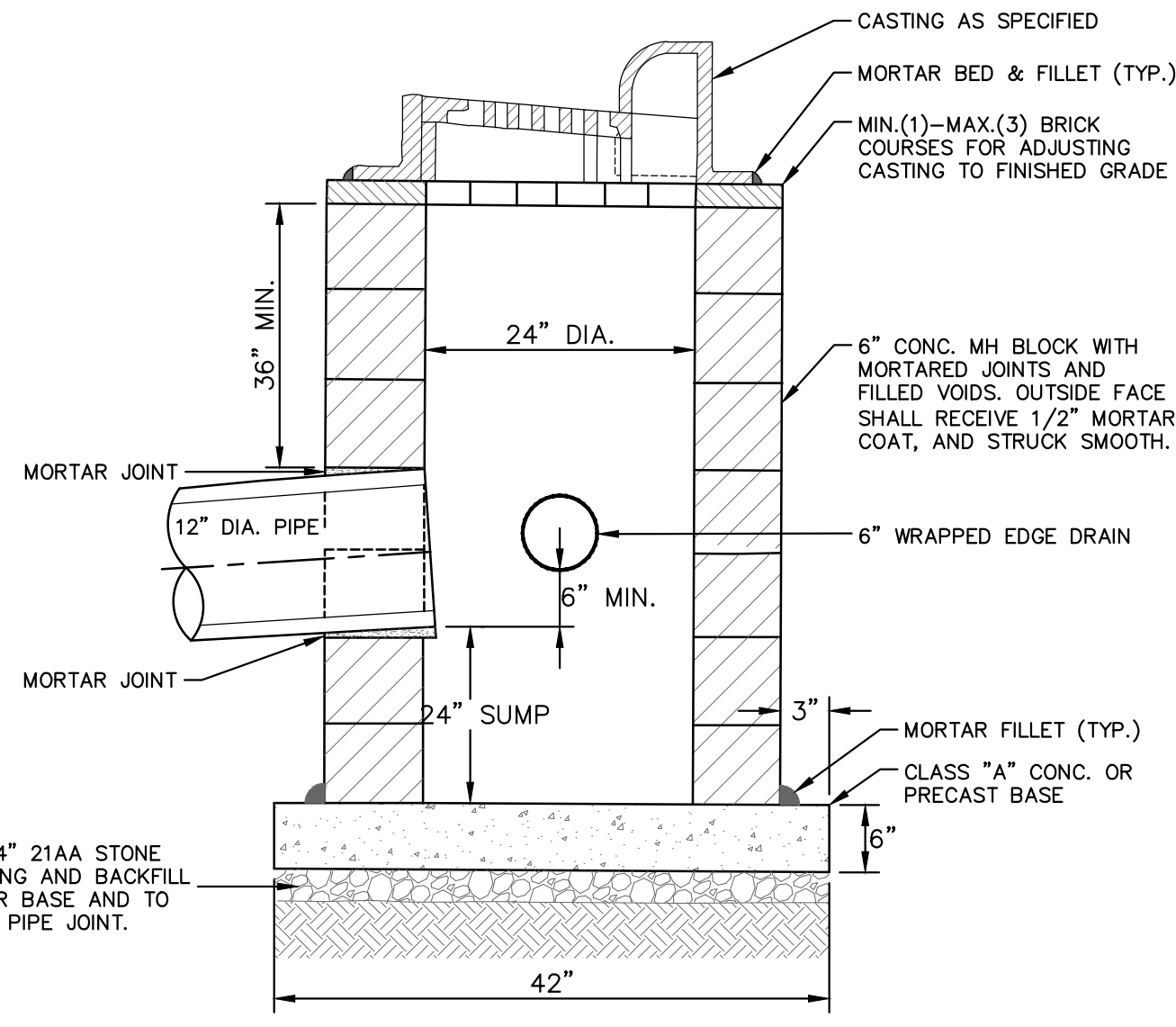
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NOTES:

1. ALL SANITARY MANHOLES SHALL BE PRECAST CONCRETE.
2. ALL MANHOLES MUST HAVE ECCENTRIC CONES - BOTH STORM AND SANITARY
3. ALL SANITARY SEWER OPENINGS SHALL BE PRECAST WITH RUBBER BOOT CONNECTIONS.
4. 2' SUMP REQUIRED ON ALL DRAINAGE STRUCTURES.

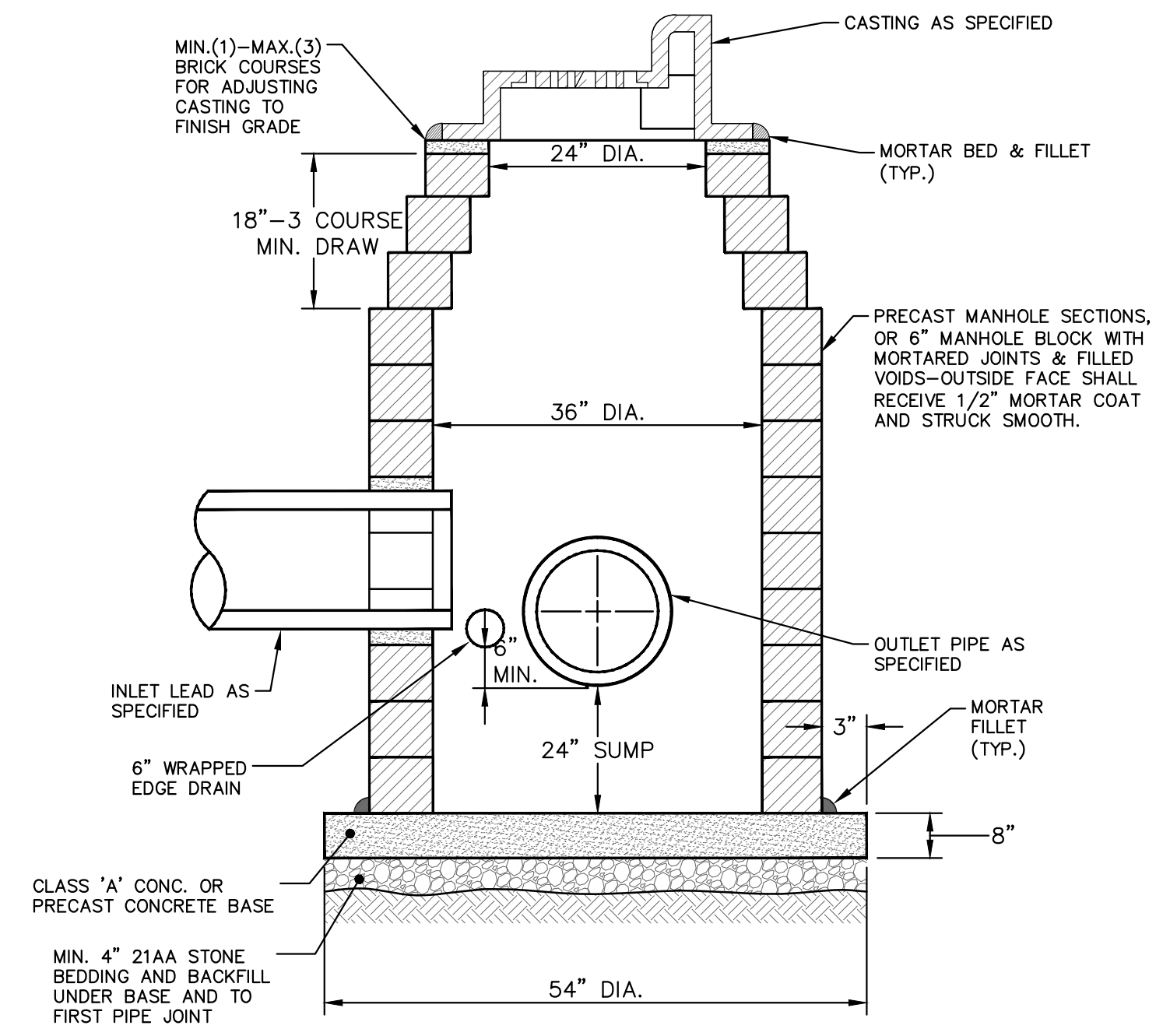
STANDARD MANHOLE (TYPE I)



NOTES:

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

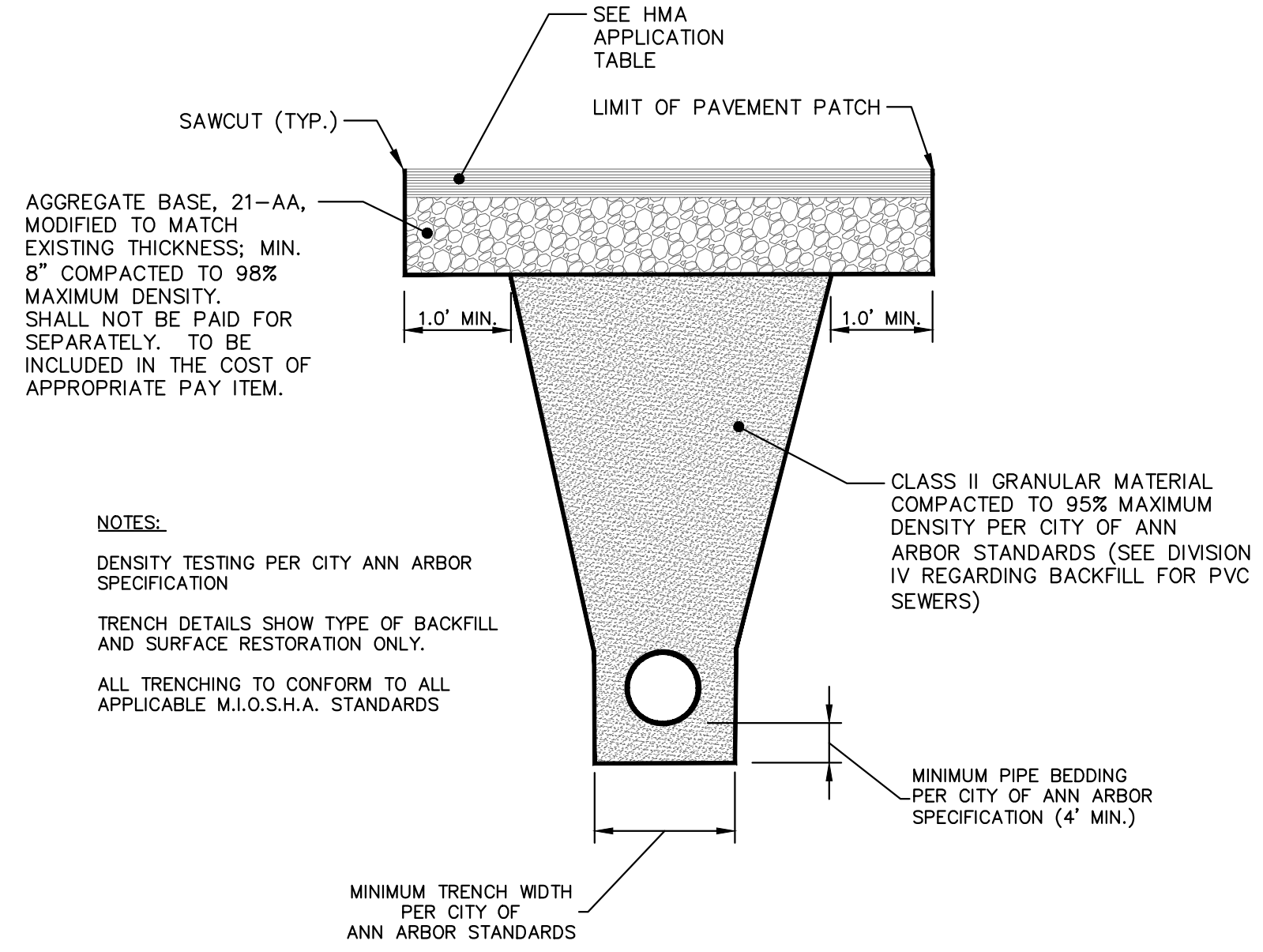
SINGLE INLET STRUCTURE SD-S-10



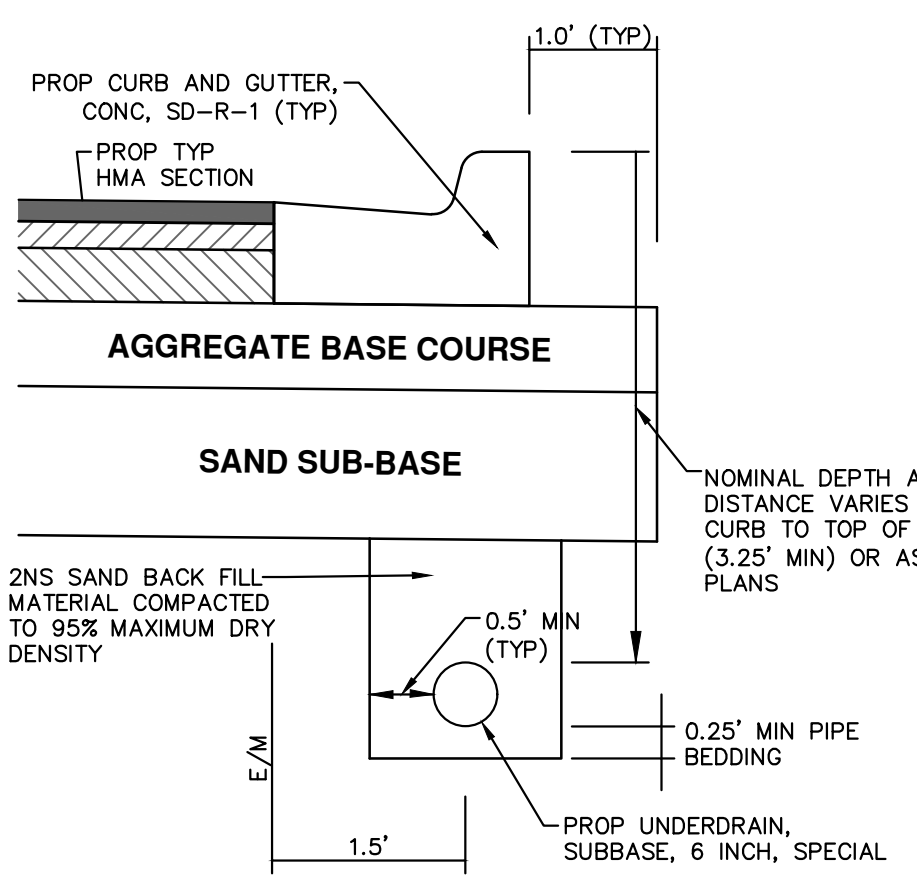
NOTES:

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

INLET-JUNCTION CHAMBER SD-S-9



UTILITY TRENCH-TYPE I SD-TD-1 (MODIFIED)
(UNDER HMA PAVEMENT)



BASED ON CITY OF ANN ARBOR STANDARD SD-TD-10 APPLIES TO: HMA PAVEMENT

TRENCH DETAIL FOR UNDER DRAIN
(UNDER HMA PAVEMENT)

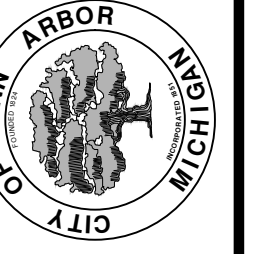
NOTES:

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



| | | | | |
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| DATE | 2-6-18 | CEC/DFW | JKA | CHECKED |
| DESCRIPTION | | | | |
| REV. | | | | |

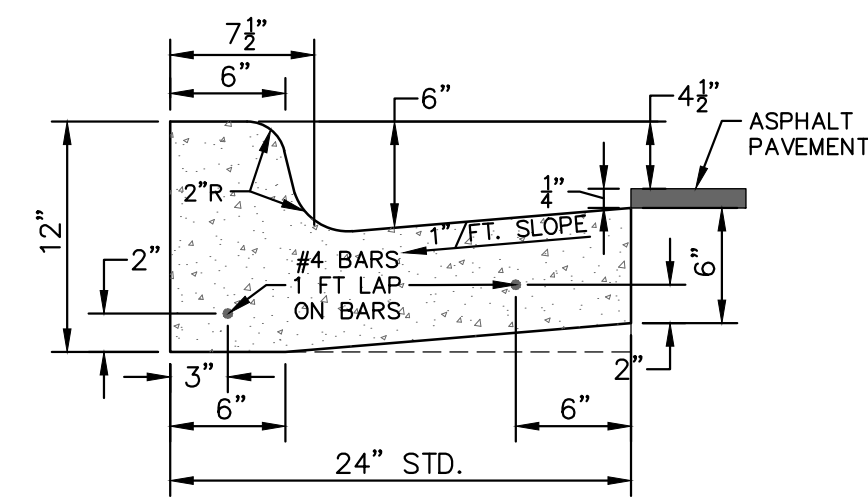
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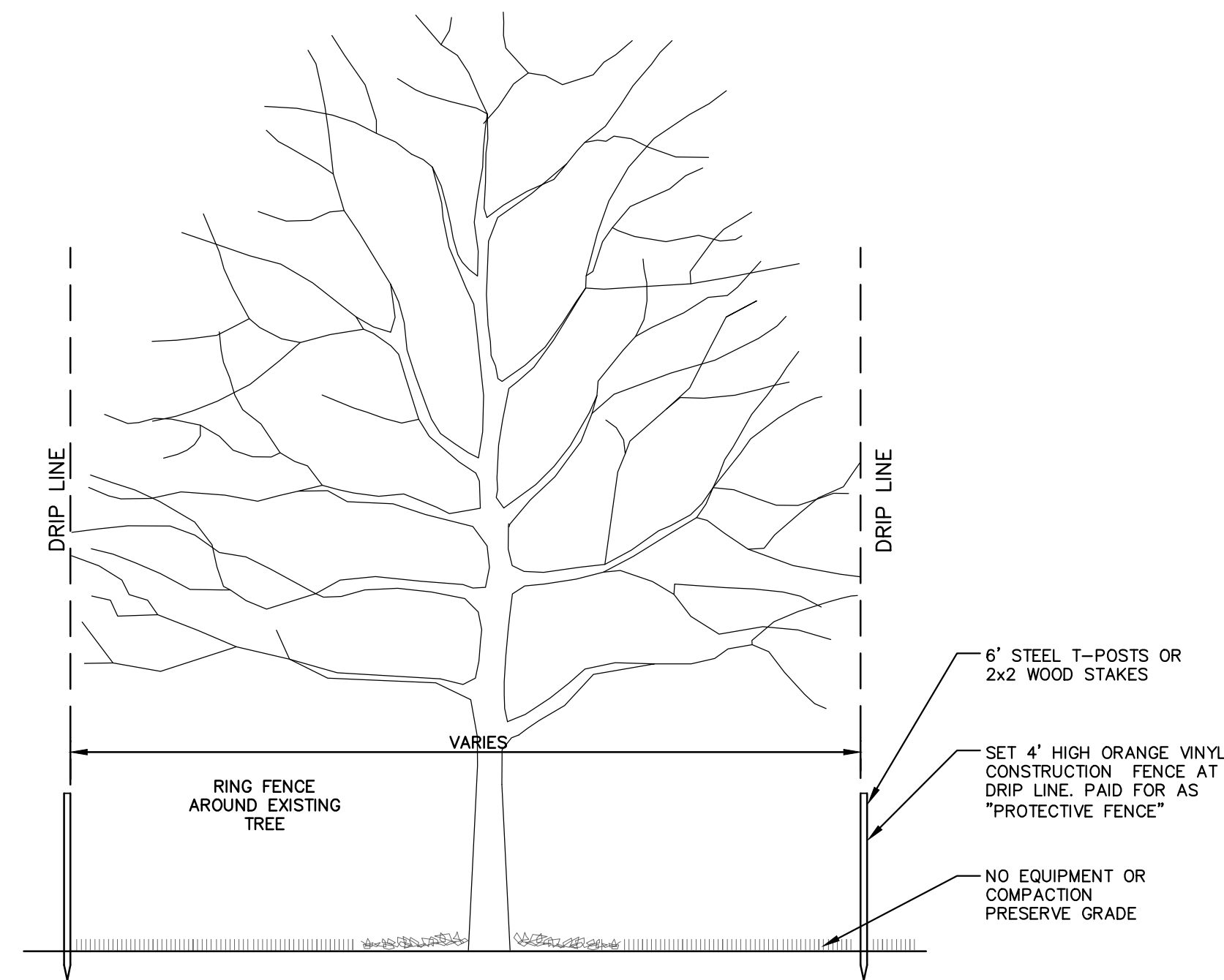
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CREST, BUENA VISTA, WASHINGTON WATER MAIN
STORM SEWER AND TRENCH DETAILS

SCALE: N/A
DRAWING No. 2016029-9
SHEET No. 9 OF 46

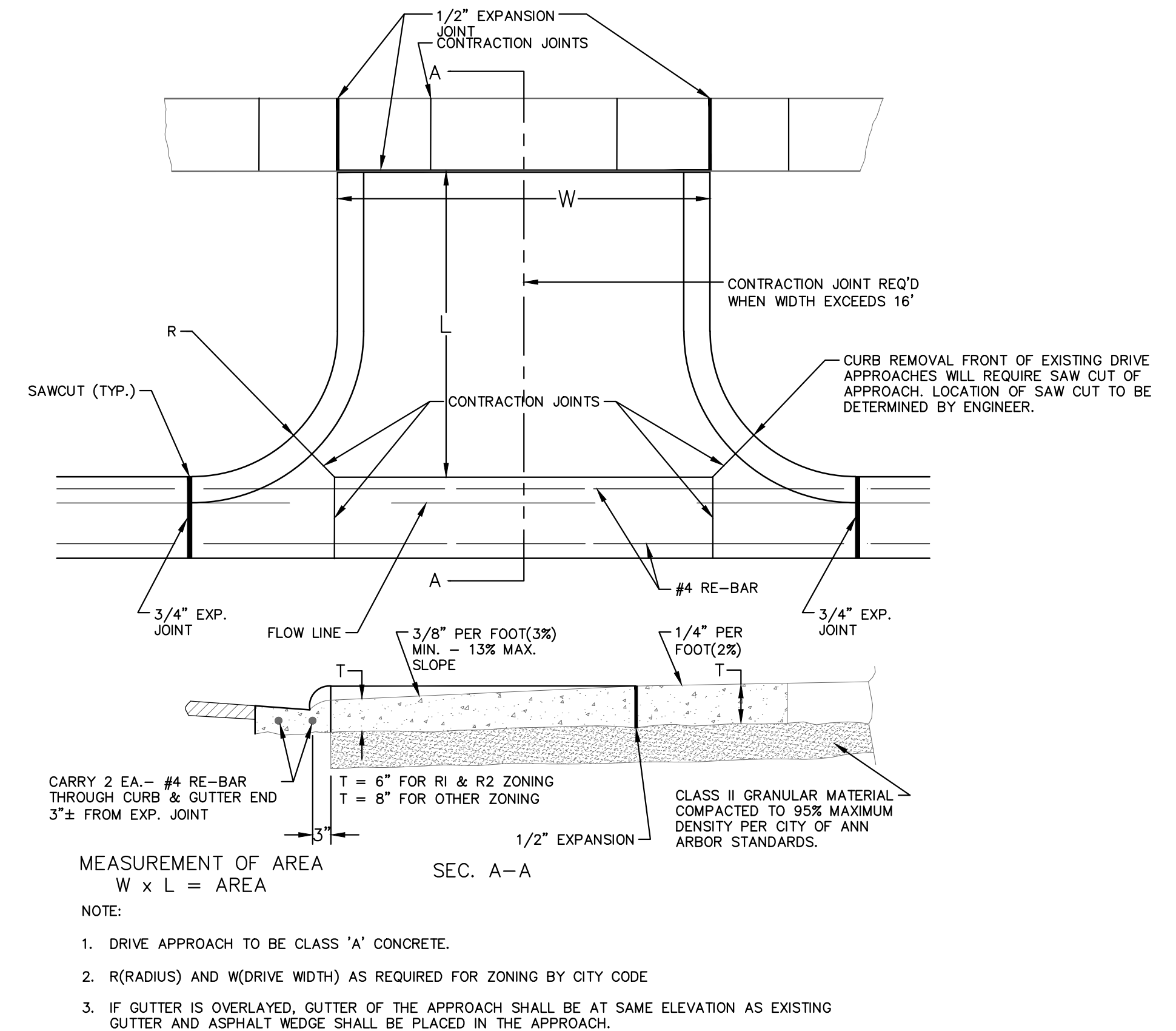
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CURB AND GUTTER, CONC, DET F4, SPECIAL
NO SCALE



TREE PROTECTION DETAIL



TYPE 'M' DRIVE APPROACH SD-R-6



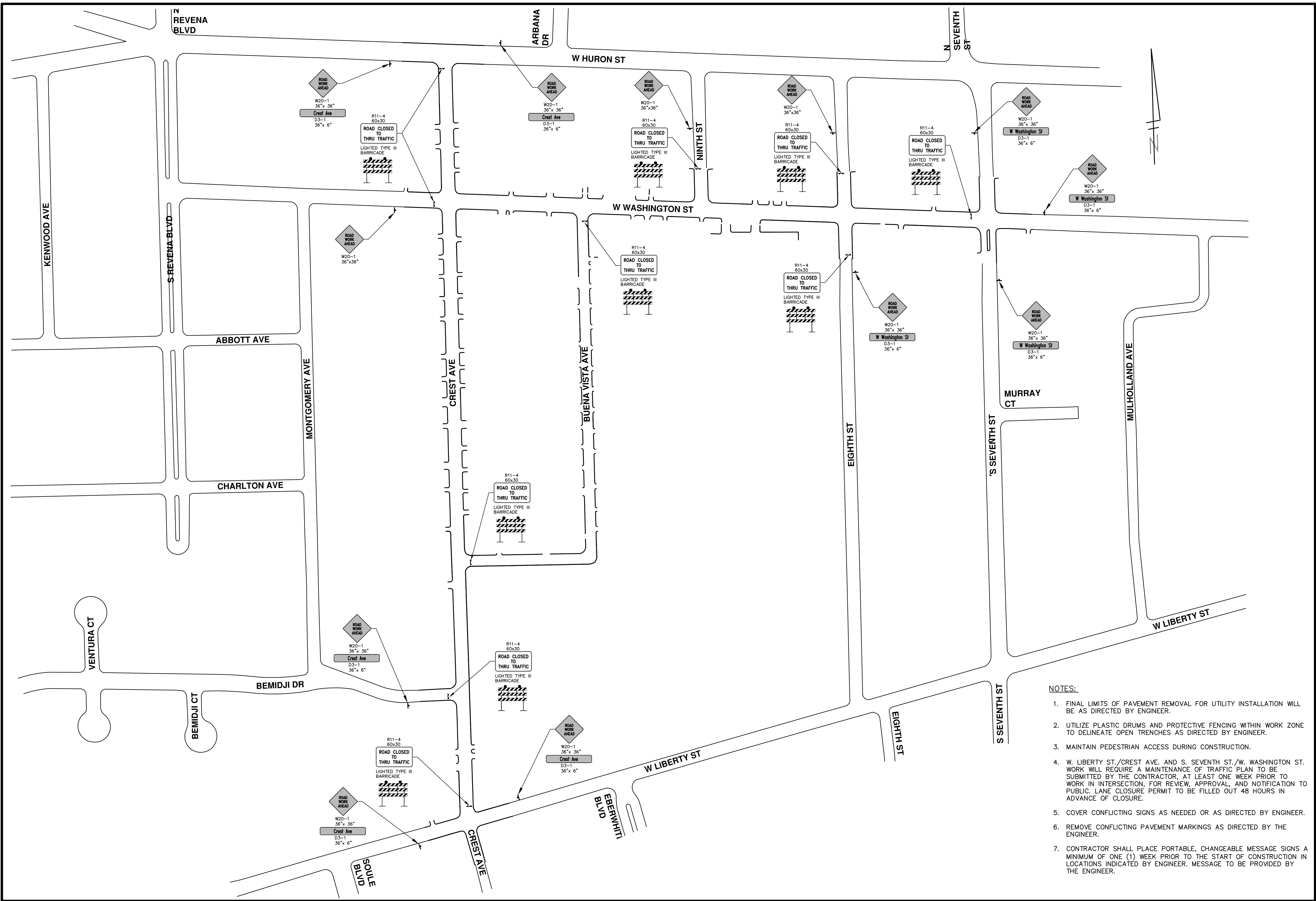
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CREST, BUENA VISTA, WASHINGTON WATER MAIN
MISC. DETAILS

SCALE: N/A
DRAWING No. 2016029-10

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- NOTES:**
1. FINAL LIMITS OF PAVEMENT REMOVAL FOR UTILITY INSTALLATION WILL BE AS DIRECTED BY ENGINEER.
 2. UTILIZE PLASTIC DRUMS AND PROTECTIVE FENCING WITHIN WORK ZONE TO DELINEATE OPEN TRENCHES AS DIRECTED BY ENGINEER.
 3. MAINTAIN PEDESTRIAN ACCESS DURING CONSTRUCTION.
 4. W. LIBERTY ST./CREST AVE. AND S. SEVENTH ST./W. WASHINGTON ST. WORK WILL REQUIRE A MAINTENANCE OF TRAFFIC PLAN TO BE SUBMITTED BY THE CONTRACTOR, AT LEAST ONE WEEK PRIOR TO WORK IN INTERSECTION, FOR REVIEW, APPROVAL, AND NOTIFICATION TO PUBLIC. LANE CLOSURE PERMIT TO BE FILLED OUT 48 HOURS IN ADVANCE OF CLOSURE.
 5. COVER CONFLICTING SIGNS AS NEEDED OR AS DIRECTED BY ENGINEER.
 6. REMOVE CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
 7. CONTRACTOR SHALL PLACE PORTABLE, CHANGEABLE MESSAGE SIGNS A MINIMUM OF ONE (1) WEEK PRIOR TO THE START OF CONSTRUCTION IN LOCATIONS INDICATED BY ENGINEER. MESSAGE TO BE PROVIDED BY THE ENGINEER.

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CREST, BUENA VISTA, WASHINGTON WATER MAIN

SCALE PLAN: 1" = 100'

DRAWING No. **2016029-11**

SHEET No. **11 OF 46**

MAINTENANCE OF TRAFFIC OVERALL TRAFFIC CONTROL

DATE: 2-6-18
DRAWN: JKA
CHECKED: JKA

DESCRIPTION: REV.

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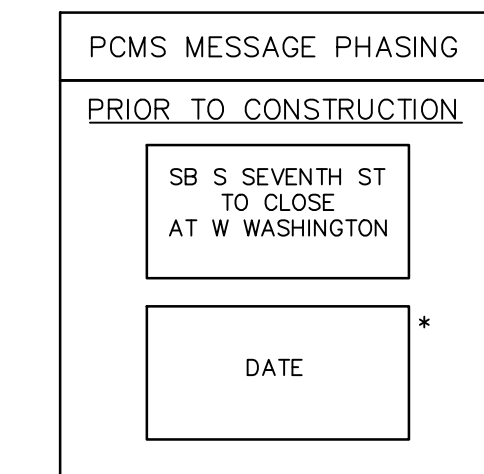
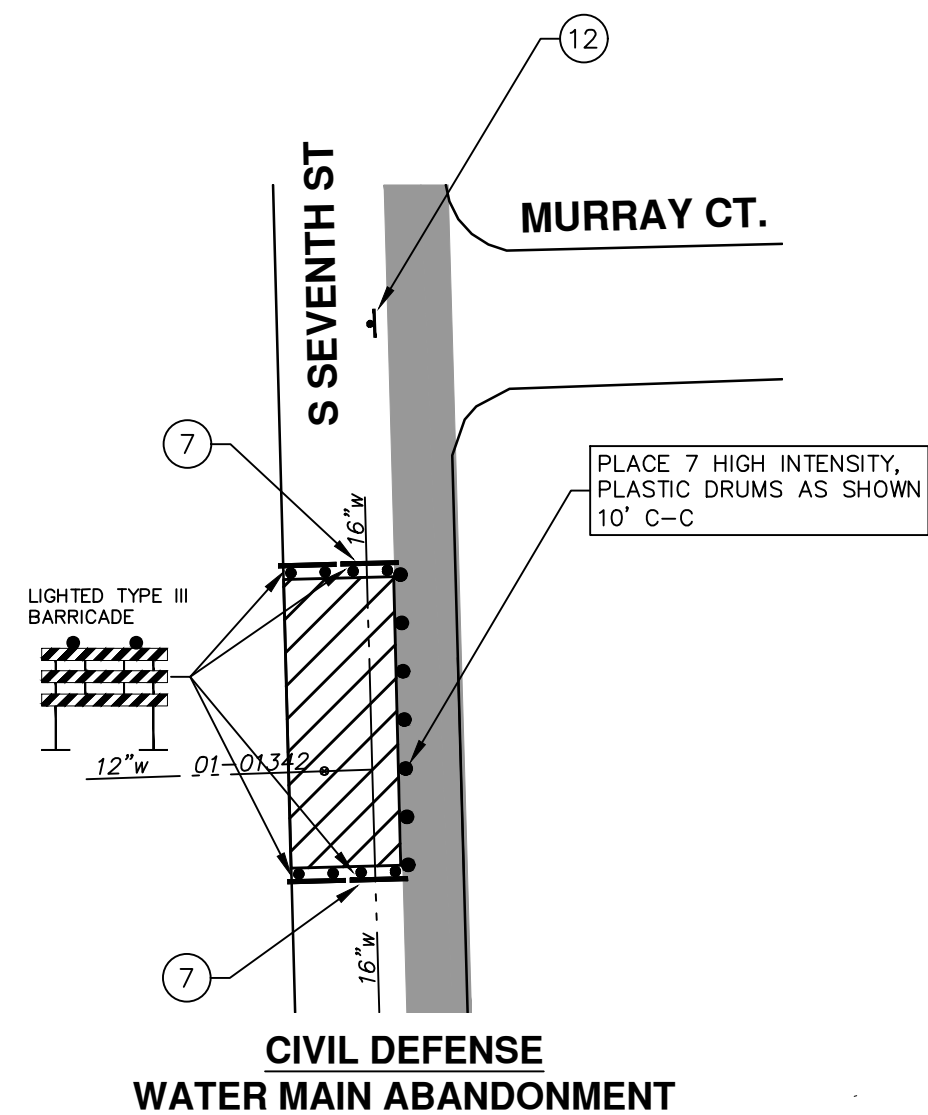
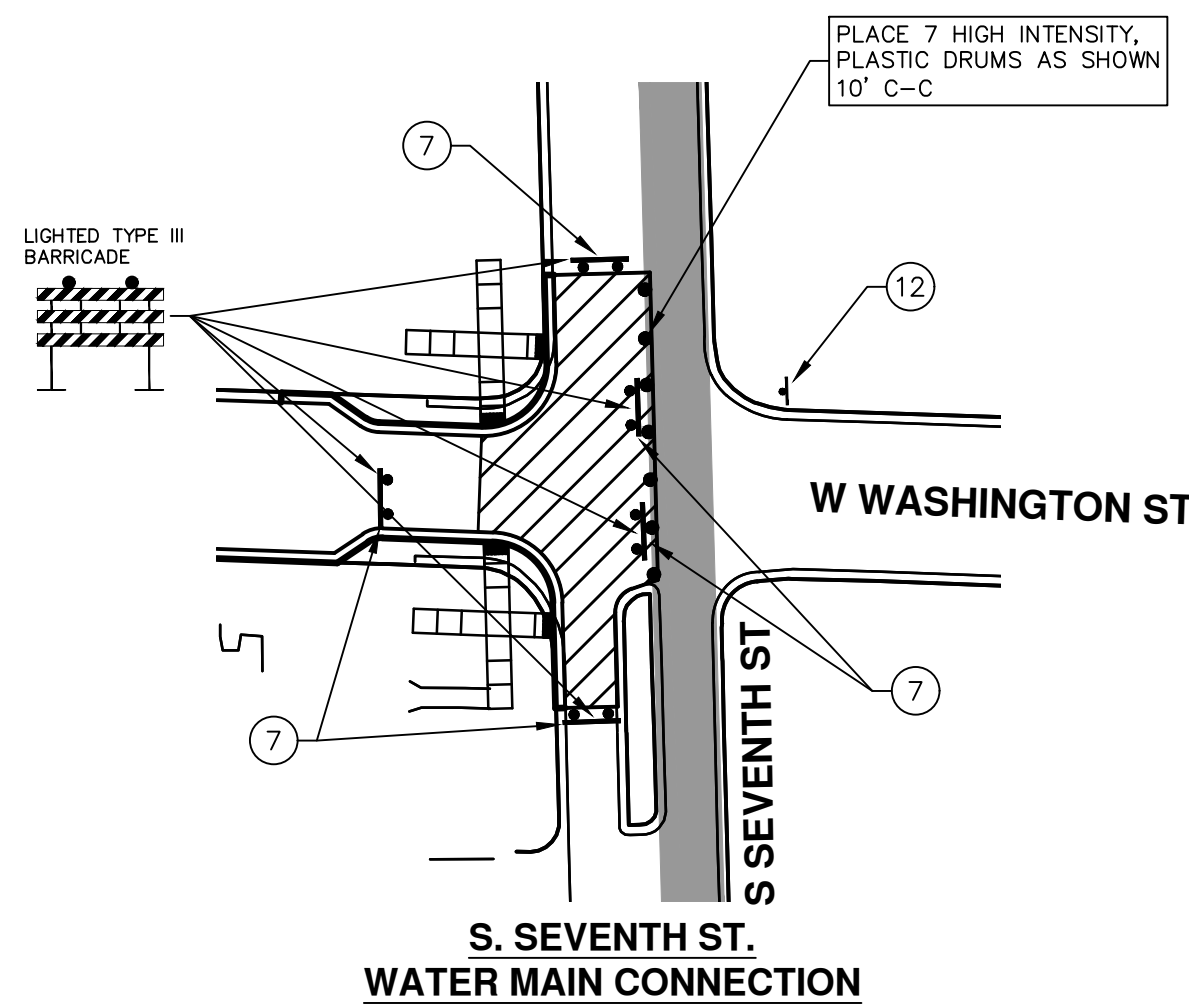
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DETOUR CONSTRUCTION NOTES:

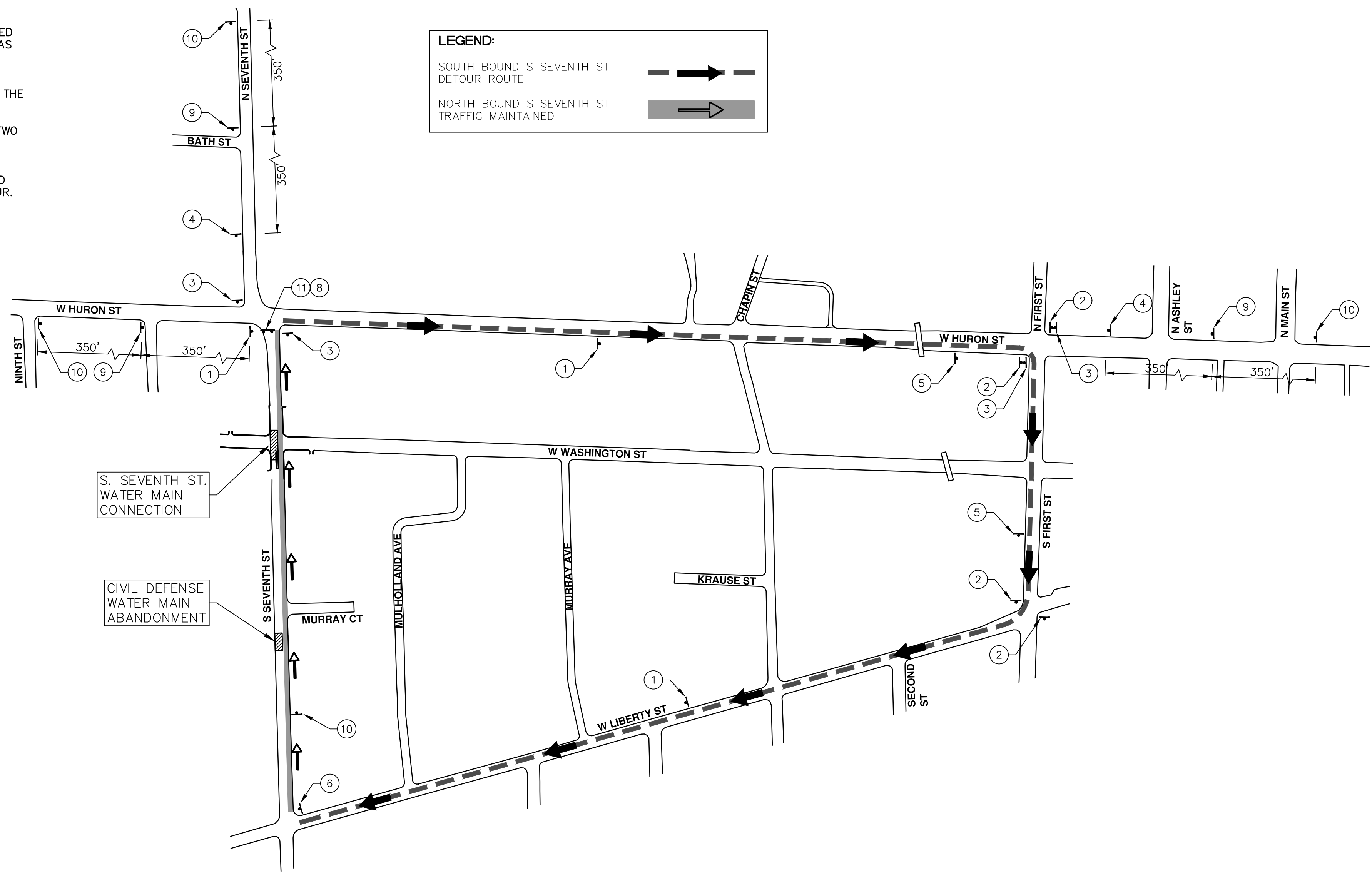
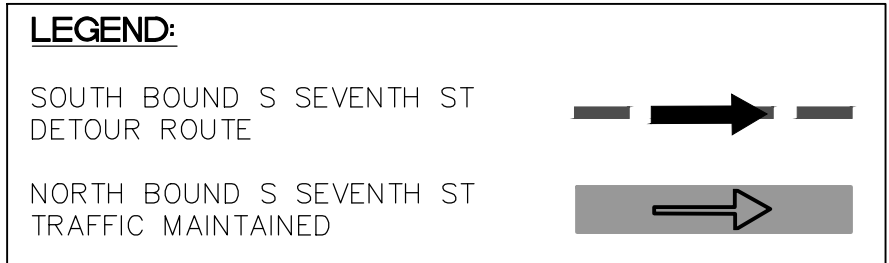
1. DEPENDING ON THE DETOUR ROUTE THAT IS PUT IN PLACE, CONFLICTING SIGNS MAY BE PRESENT. PRIOR TO THE ORDERING OR PLACEMENT OF ANY SIGNS, MEET WITH THE ENGINEER TO VERIFY THE EXACT NUMBER AND LOCATION OF THE SIGNS TO BE PLACED. THE ENGINEER AND THE CONTRACTOR SHALL WORK TOGETHER TO ELIMINATE ALL CONFLICTS.
2. THE CITY RESERVES THE RIGHT TO ORDER ADDITIONAL SIGNS AND PLACE THEM INTO SERVICE IN ORDER TO SAFELY MAINTAIN TRAFFIC. ADJUSTMENTS IN THE UNIT PRICE FOR THESE ITEMS OF WORK SHALL NOT BE ALLOWED FOR THESE OCCURRENCES.
3. THE CONTRACTOR SHALL COORDINATE HIS OPERATIONS WITH THOSE OF THE CITY OF ANN ARBOR'S SIGNS AND SIGNALS UNIT DURING THE COURSE OF THE DETOUR ROUTE ESTABLISHMENT TO EFFECTIVELY AND SAFELY MAINTAIN TRAFFIC. DO NOT ERECT ANY SIGNS UNTIL ITS LOCATION AND PROPOSED DATE OF INSTALLATION IS APPROVED BY THE ENGINEER.
4. THE DETOUR IS TO BE IN PLACE DURING THE S. SEVENTH STREET WATER MAIN CONNECTION AND THE CIVIL DEFENSE WATER MAIN ABANDONMENT. AS DIRECTED BY THE ENGINEER, THE CONTRACTOR WILL CLOSE AND DETOUR SOUTH BOUND S. SEVENTH STREET TRAFFIC. SEE DETAILED SPECIFICATION FOR MAINTAINING TRAFFIC AND FOR DETAILS ON CONSTRUCTION STAGING, SEQUENCING, CLOSURE AND DETOUR LIMITATIONS, AND OTHER DETAILS.
5. REFERENCE THE DETAILED SPECIFICATION FOR MAINTAINING TRAFFIC AND FOR ADDITIONAL PROJECT REQUIREMENTS. THE CONTRACTOR'S ATTENTION IS SPECIFICALLY DIRECTED TO THE SECTION OF SAME SPECIAL PROVISION REGARDING COORDINATION WITH THE CITY SIGNS AND SIGNALS UNIT FOR MODIFICATIONS TO TRAFFIC SIGNALS FOR THE DETOUR.

6. THE CONTRACTOR SHALL FURNISH, ERECT, AND MAINTAIN SIGNS AS SHOWN ON THE PLANS OR OTHERWISE DIRECTED BY THE ENGINEER.
7. CONSTRUCTION WARNING SIGNS SHALL HAVE AN ORANGE, HIGH-INTENSITY, REFLECTORIZED BACKGROUND.
8. SIGNS SHALL CONFORM TO THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
9. THE CONTRACTOR SHALL DRIVE ALL SIGNS INTO EXPOSED GROUND OR INSERT INTO A BORED HOLE IN PAVEMENT AS NECESSARY TO PERMANENTLY SECURE. ALL HOLES IN PAVEMENT SHALL BE FILLED WITH ENGINEER-APPROVED MORTAR WHEN THE SIGN IS REMOVED AND NO LONGER NEEDED. COSTS FOR THIS WORK SHALL BE INCLUDED IN THE PAY ITEM "MINOR TRAFFIC DEVICES, MAX \$15,000."
10. ADVANCE WARNING SIGNS SHALL BE PROVIDED WITH TWO (2) TYPE A FLASHING LIGHTS AND ONE (1) DAY-GLOW ORANGE FLAG.
11. CITY TO BE NOTIFIED A MINIMUM OF 7 DAYS PRIOR TO IMPLEMENTING NORTH BOUND S. SEVENTH STREET DETOUR. MESSAGE BOARDS TO BE PLACED 7 DAYS PRIOR TO IMPLEMENTATION OF DETOUR.

| SOUTH BOUND S. SEVENTH ST. | | |
|--------------------------------------------------------------------|---------------------|----------|
| SIGN | NUMBER | QUANTITY |
| | D3-1 | 3 |
| | M4-9S 30"x24" | 3 |
| | D3-1 | 4 |
| | M4-9R 30"x24" | 4 |
| | D3-1 | 4 |
| | M4-9L 30"x24" | 4 |
| | D3-1 | 2 |
| | M4-9L (MOD) 30"x24" | 2 |
| | D3-1 | 2 |
| | M4-9R (MOD) 30"x24" | 2 |
| | D3-1 | 1 |
| | M4-8A 24"x18" | 1 |
| | R11-2 48"x30" | 7 |
| | M4-10L 48"x18" | 1 |
| | D3-1 | 3 |
| | W20-2 36"x36" | 3 |
| | D3-1 | 4 |
| | W20-1 36"x36" | 4 |
| | R11-4 60"x30" | 1 |
| | R3-2 24"x24" | 2 |
| BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED - 10 EACH | | |
| SIGN, PORTABLE, CHANGEABLE MESSAGE - 2 EACH | | |
| VERIFY EXACT QUANTITY AND LOCATION WITH ENGINEER PRIOR TO ORDERING | | |



NOTE: PCMS LOCATIONS AND MESSAGES WILL BE AS DIRECTED BY THE ENGINEER. TO BE PLACED ONE WEEK PRIOR TO CONSTRUCTION.
 *THE CONTRACTOR SHALL PLACE THE APPROPRIATE DATE AS APPROVED BY THE ENGINEER.



- NOTES:**
1. FINAL LIMITS OF PAVEMENT REMOVAL FOR UTILITY INSTALLATION WILL BE AS DIRECTED BY ENGINEER.
 2. UTILIZE PLASTIC DRUMS AND PROTECTIVE FENCING WITHIN WORK ZONE TO DELINEATE OPEN TRENCHES AS DIRECTED BY ENGINEER.
 3. MAINTAIN PEDESTRIAN ACCESS DURING CONSTRUCTION.
 4. W. LIBERTY ST./CREST AVE. AND S. SEVENTH ST./W. WASHINGTON ST. WORK WILL REQUIRE A MAINTENANCE OF TRAFFIC PLAN TO BE SUBMITTED BY THE CONTRACTOR, AT LEAST ONE WEEK PRIOR TO WORK IN INTERSECTION, FOR REVIEW, APPROVAL, AND NOTIFICATION TO PUBLIC. LANE CLOSURE PERMIT TO BE FILLED OUT 48 HOURS IN ADVANCE OF CLOSURE.
 5. COVER CONFLICTING SIGNS AS NEEDED OR AS DIRECTED BY ENGINEER.
 6. REMOVE CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
 7. CONTRACTOR SHALL PLACE PORTABLE, CHANGEABLE MESSAGE SIGNS A MINIMUM OF ONE (1) WEEK PRIOR TO THE START OF CONSTRUCTION IN LOCATIONS INDICATED BY ENGINEER. MESSAGE TO BE PROVIDED BY THE ENGINEER.

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DATE: 2-6-18
DRAWN: JKA
CHECKED: CEC/DFP

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CREST, BUENA VISTA, WASHINGTON WATER MAIN

SCALE PLAN: 1" = 200'

DRAWING No. 2016029-12

SHEET No. 12 OF 46

DESCRIPTION: MAINTENANCE OF TRAFFIC SOUTH BOUND S SEVENTH ST DETOUR

REV. 00 OUT FOR BID

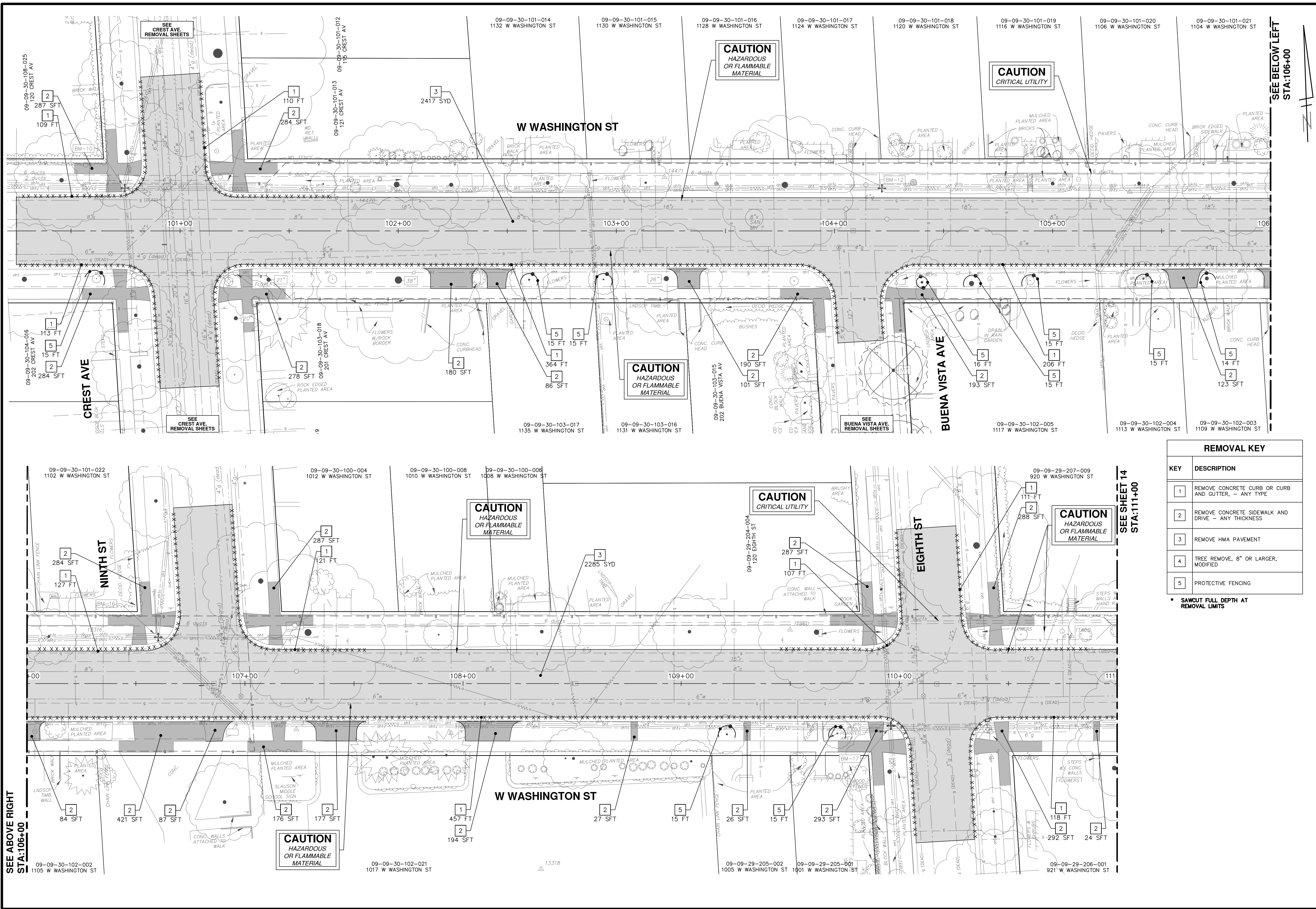
DATE: 2-6-18

DESCRIPTION: JKA DRAWN CEC/DFP CHECKED

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

CITY OF ANN ARBOR
MICHIGAN

R: \2016029 Crest Buena Wash Lib WA\Plan Production\2016029Rem1.dwg Dwg Created: 6-Feb-18 --_a2 standard bw.stb -- Plot Date: 6-Feb-18



REMOVAL KEY

| KEY | DESCRIPTION |
|-----|-----------------------------------------------------|
| 1 | REMOVE CONCRETE CURB OR CURB AND GUTTER, - ANY TYPE |
| 2 | REMOVE CONCRETE SIDEWALK AND DRIVE - ANY THICKNESS |
| 3 | REMOVE HMA PAVEMENT |
| 4 | TREE REMOVE, 8" OR LARGER, MODIFIED |
| 5 | PROTECTIVE FENCING |

• SAWCUT FULL DEPTH AT REMOVAL LIMITS

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CREST, BUENA VISTA, WASHINGTON WATER MAIN

SCALE PLAN: 1" = 20'

DRAWING NO. 2016029-13

SHEET NO. 13 OF 46

WASHINGTON STREET REMOVALS

STA. 100+00 TO STA. 111+00

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

| REV. | DESCRIPTION | DATE | DRAWN | CHECKED | JCA |
|------|-------------|--------|-------|---------|-----|
| 00 | OUT FOR BID | 2-6-18 | | | |

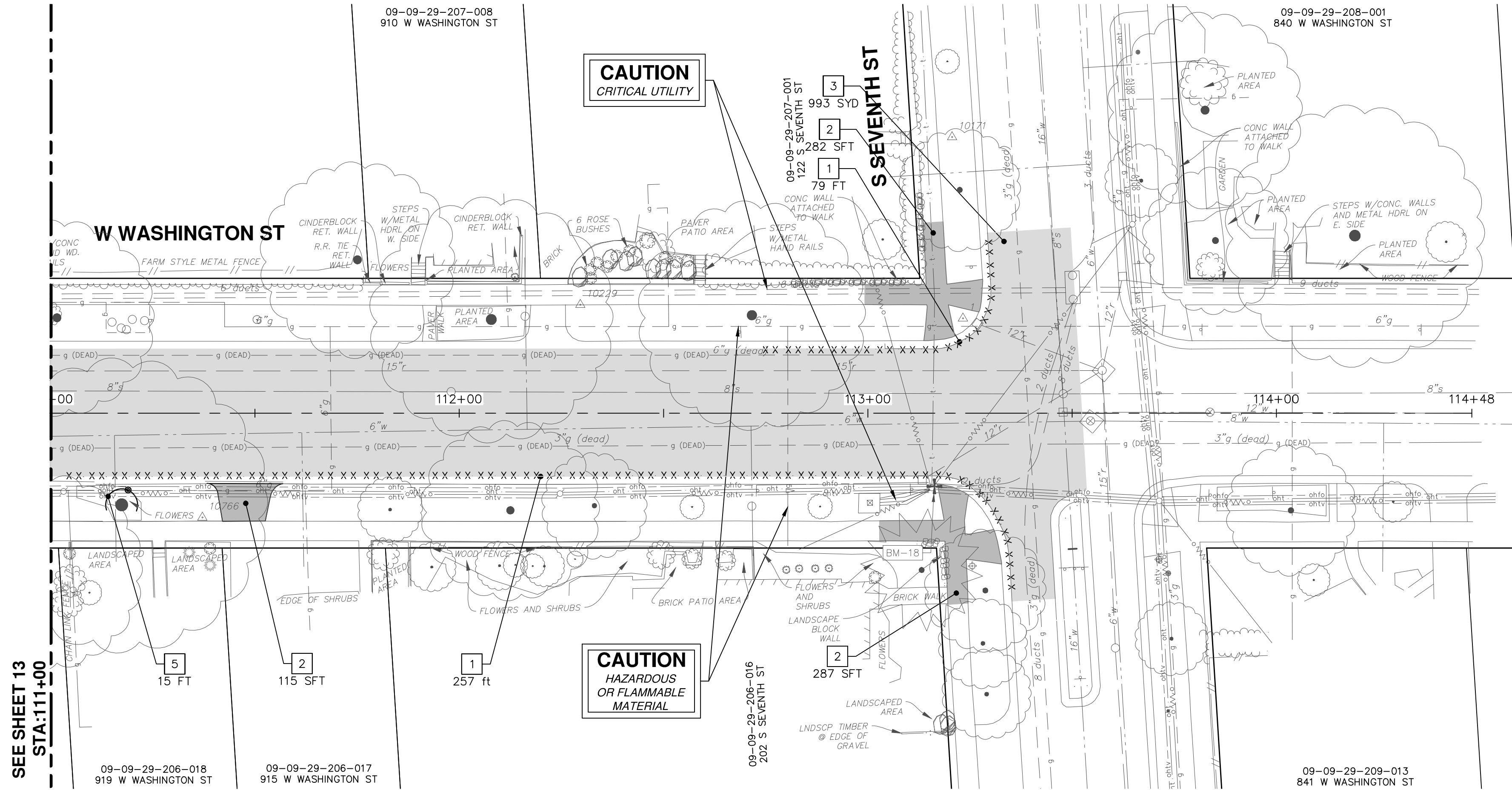
CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
PO BOX 86400
ANN ARBOR MI 48106-8647
www.aagov.org

SEE ABOVE RIGHT
STA:106+00

SEE SHEET 14
STA:111+00

SEE BELOW LEFT
STA:106+00

R:\2016029 Crest Buena Wash Lib WM\Plan Production\2016029Remi.dwg Dwg Created: 6-Feb-18 -- _a2 standard bw.stb -- Plot Date: 6-Feb-18



SEE SHEET 13
STA:111+00

CAUTION
CRITICAL UTILITY

CAUTION
HAZARDOUS
OR FLAMMABLE
MATERIAL

| REMOVAL KEY | |
|-------------|-----------------------------------------------------|
| KEY | DESCRIPTION |
| 1 | REMOVE CONCRETE CURB OR CURB AND GUTTER, - ANY TYPE |
| 2 | REMOVE CONCRETE SIDEWALK AND DRIVE - ANY THICKNESS |
| 3 | REMOVE HMA PAVEMENT |
| 4 | TREE REMOVE, 8" OR LARGER, MODIFIED |
| 5 | PROTECTIVE FENCING |

* SAWCUT FULL DEPTH AT REMOVAL LIMITS



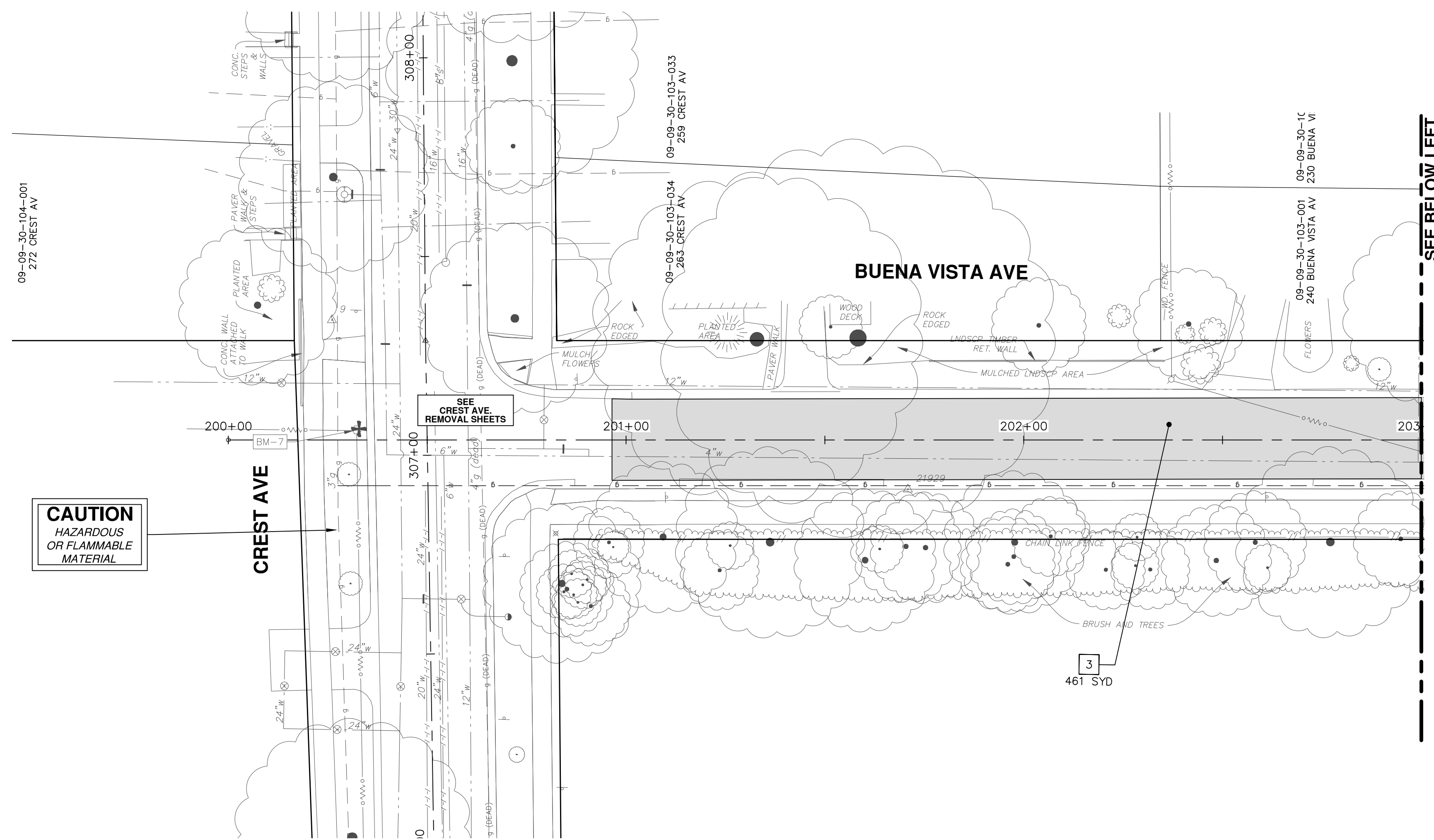
| REV. | DESCRIPTION | DATE | DRAWN | CHECKED |
|------|-------------|--------|---------|---------|
| 00 | OUT FOR BID | 2-6-18 | JKA | |
| | | | CEC/DFP | |

CITY OF ANN ARBOR
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ANN ARBOR MI 48106-0667
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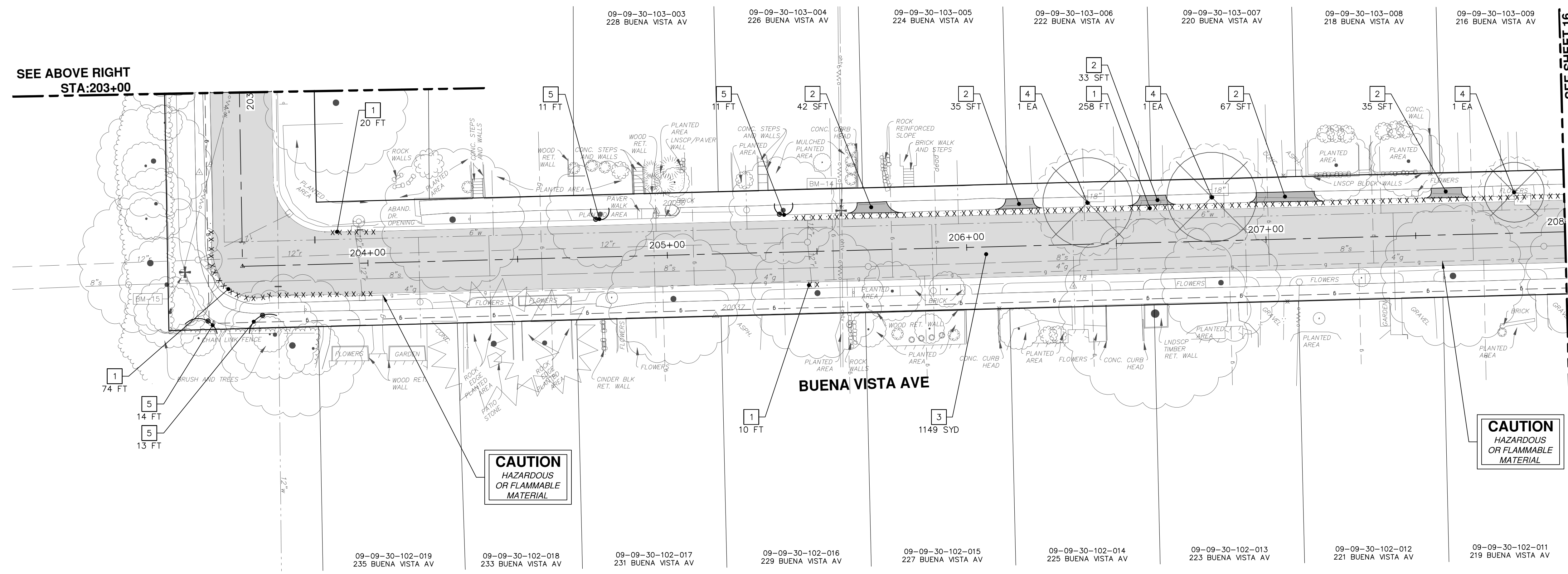
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
SCALE PLAN: 1" = 20'
DRAWING No.
2016029-14
CREST, BUENA VISTA, WASHINGTON WATER MAIN
WASHINGTON STREET REMOVALS
STA. 111+00 TO STA. 114+48

R:\2016029 Crest Buena Wash Lib WA\Plan Production\2016029Rem2.dwg Dwg Created: 6-Feb-18 - _a2 standard bw.stb - Plot Date: 6-Feb-18



| REMOVAL KEY | |
|-------------|-----------------------------------------------------|
| KEY | DESCRIPTION |
| 1 | REMOVE CONCRETE CURB OR CURB AND GUTTER, - ANY TYPE |
| 2 | REMOVE CONCRETE SIDEWALK AND DRIVE - ANY THICKNESS |
| 3 | REMOVE HMA PAVEMENT |
| 4 | TREE REMOVE, 8" OR LARGER, MODIFIED |
| 5 | PROTECTIVE FENCING |

* SAWCUT FULL DEPTH AT REMOVAL LIMITS



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CREST, BUENA VISTA, WASHINGTON WATER MAIN

BUENA VISTA AVENUE REMOVALS
STA. 200+00 TO STA. 208+00

SCALE PLAN: 1" = 20'

DRAWING NO. 2016029-15

SHEET NO. 15 OF 46

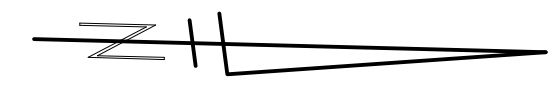
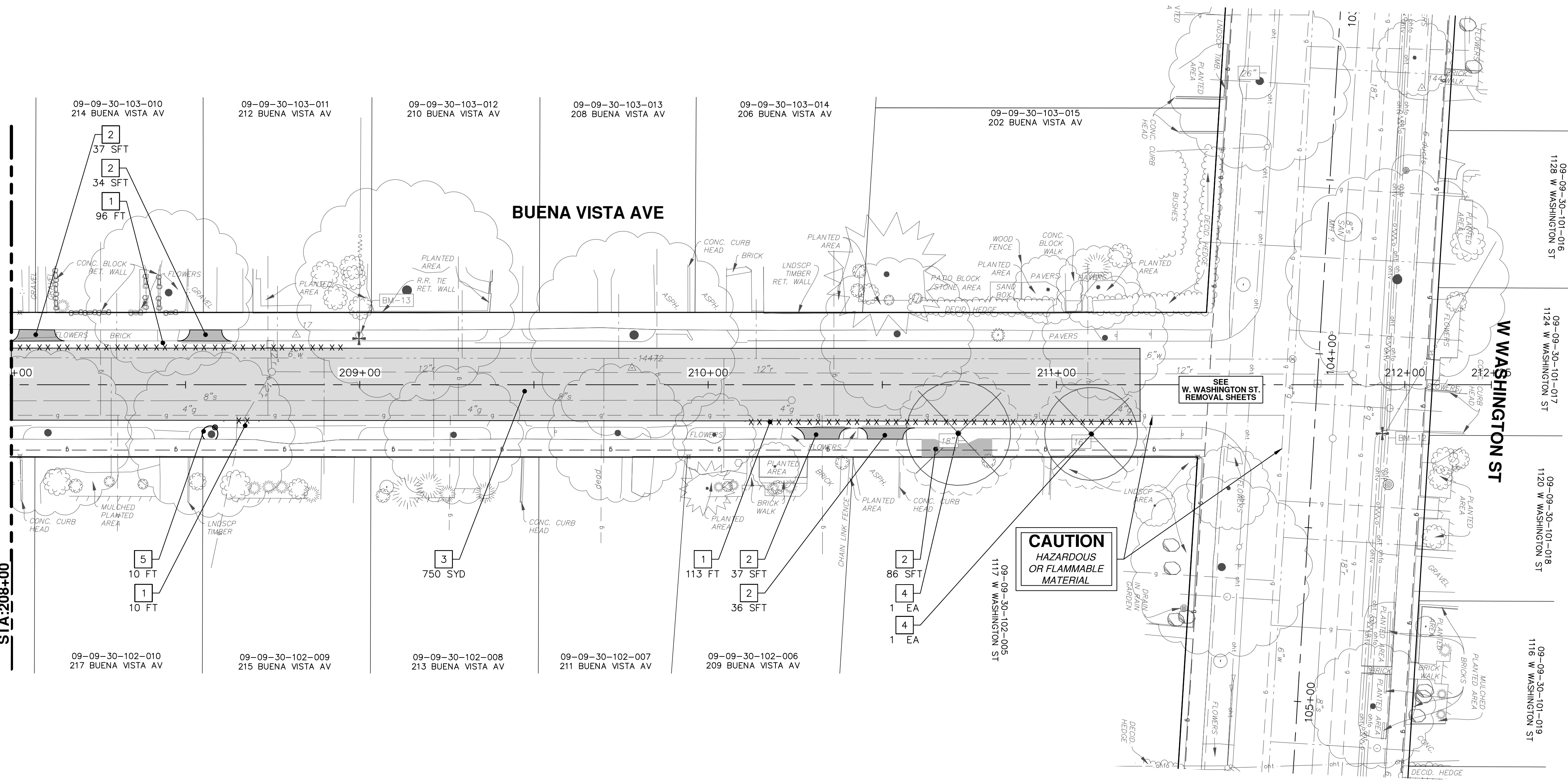
811
Know what's below.
Call Before you dig.

| REV. | DATE | DESCRIPTION | DRAWN | CHECKED |
|------|--------|-------------|---------|---------|
| 00 | 2-6-18 | OUT FOR BID | CEC/DPF | JKA |

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CITY OF ANN ARBOR
MICHIGAN

SEE SHEET 15
STA: 208+00



| REMOVAL KEY | |
|-------------|-----------------------------------------------------|
| KEY | DESCRIPTION |
| 1 | REMOVE CONCRETE CURB OR CURB AND GUTTER, - ANY TYPE |
| 2 | REMOVE CONCRETE SIDEWALK AND DRIVE - ANY THICKNESS |
| 3 | REMOVE HMA PAVEMENT |
| 4 | TREE REMOVE, 8" OR LARGER, MODIFIED |
| 5 | PROTECTIVE FENCING |

* SAWCUT FULL DEPTH AT REMOVAL LIMITS

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CREST, BUENA VISTA, WASHINGTON WATER MAIN

BUENA VISTA AVENUE REMOVALS
STA. 208+00 TO STA. 212+25

SCALE PLAN: 1" = 20'

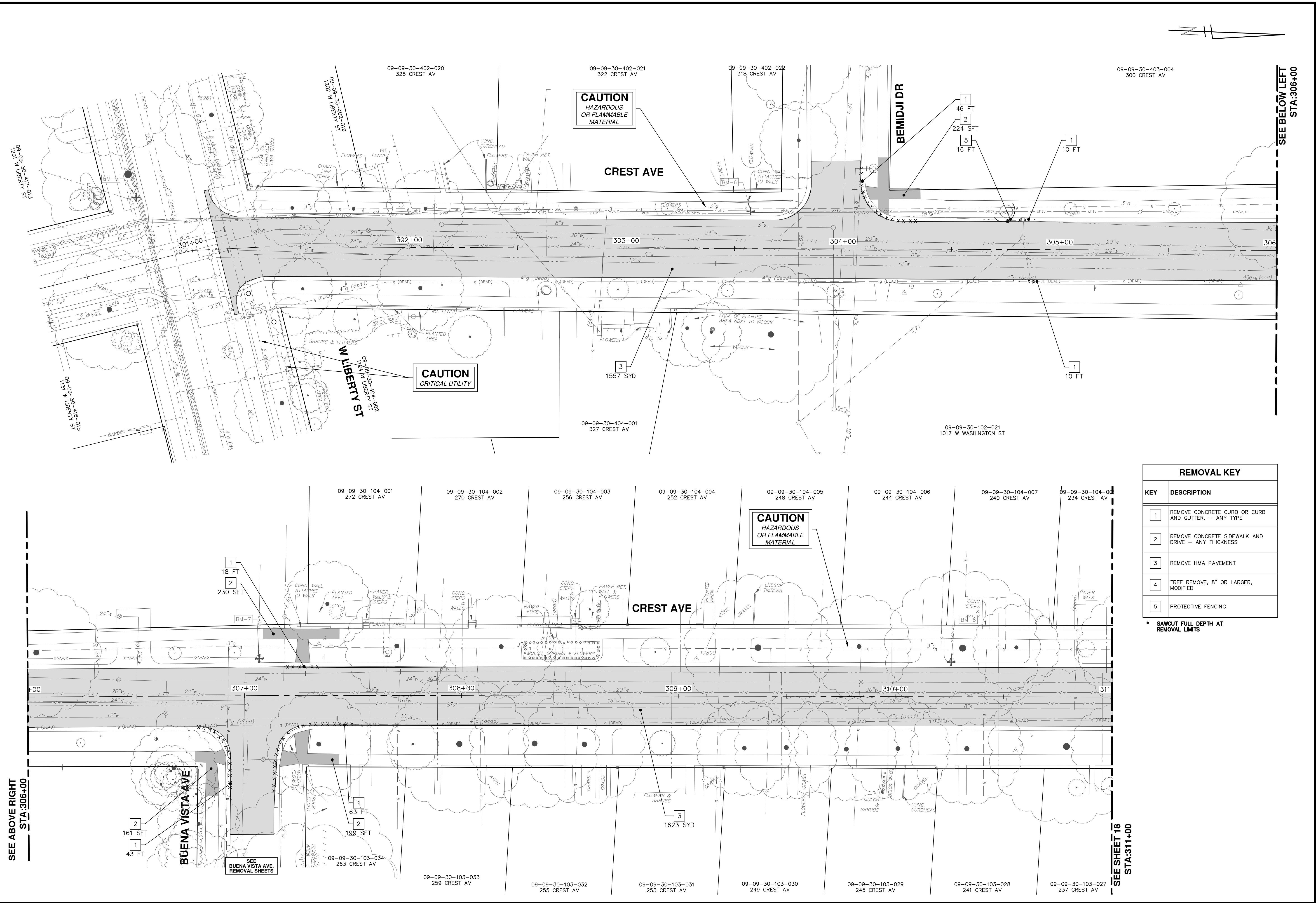
DRAWING No. 2016029-16

SHEET No. 16 OF 46

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

DATE: 2-6-18
DRAWN: JKA
CHECKED: JKA

Know what's below.
Call Before you dig.



SEE BELOW LEFT
STA:306+00

SEE ABOVE RIGHT
STA:306+00

SEE SHEET 18
STA:311+00

| REMOVAL KEY | |
|-------------|-----------------------------------------------------|
| KEY | DESCRIPTION |
| 1 | REMOVE CONCRETE CURB OR CURB AND GUTTER, - ANY TYPE |
| 2 | REMOVE CONCRETE SIDEWALK AND DRIVE - ANY THICKNESS |
| 3 | REMOVE HMA PAVEMENT |
| 4 | TREE REMOVE, 8" OR LARGER, MODIFIED |
| 5 | PROTECTIVE FENCING |

• SAWCUT FULL DEPTH AT REMOVAL LIMITS

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CREST, BUENA VISTA, WASHINGTON WATER MAIN

CREST AVE REMOVALS
17 - STA. 300+00 TO STA. 311+00

SCALE PLAN: 1" = 20'

DRAWING No.
2016029-17

SHEET No.
17 OF 46

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

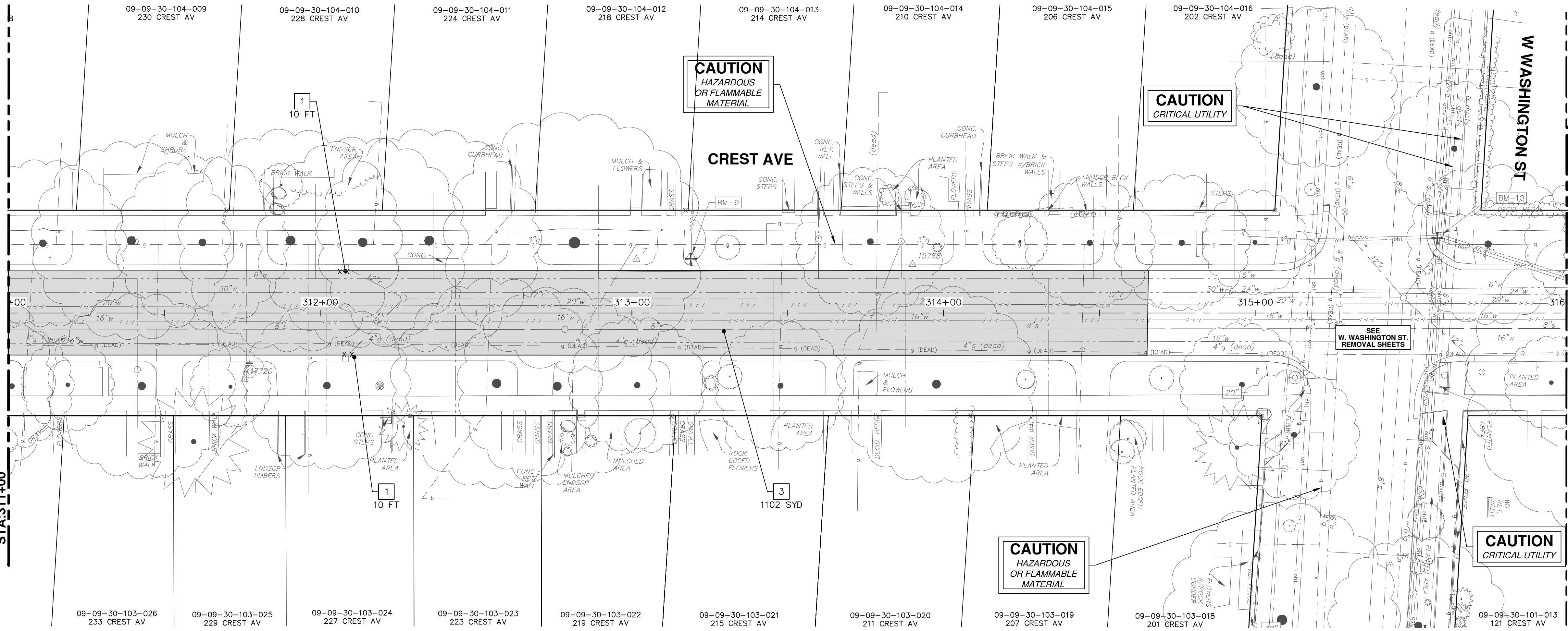
| REV. | DATE | DESCRIPTION |
|------|--------|-------------|
| 00 | 2-6-18 | OUT FOR BID |
| | | CEC/DFP |
| | | JKA |
| | | CHECKED |

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ANN ARBOR 734.794.4410
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CITY OF ANN ARBOR

R:\2016029 Crest Buena Wash Lib WA\Plan Production\2016029Rem3.dwg Dwg Created: 6-Feb-18 - _a2_standard.bw.stb - Plot Date: 6-Feb-18

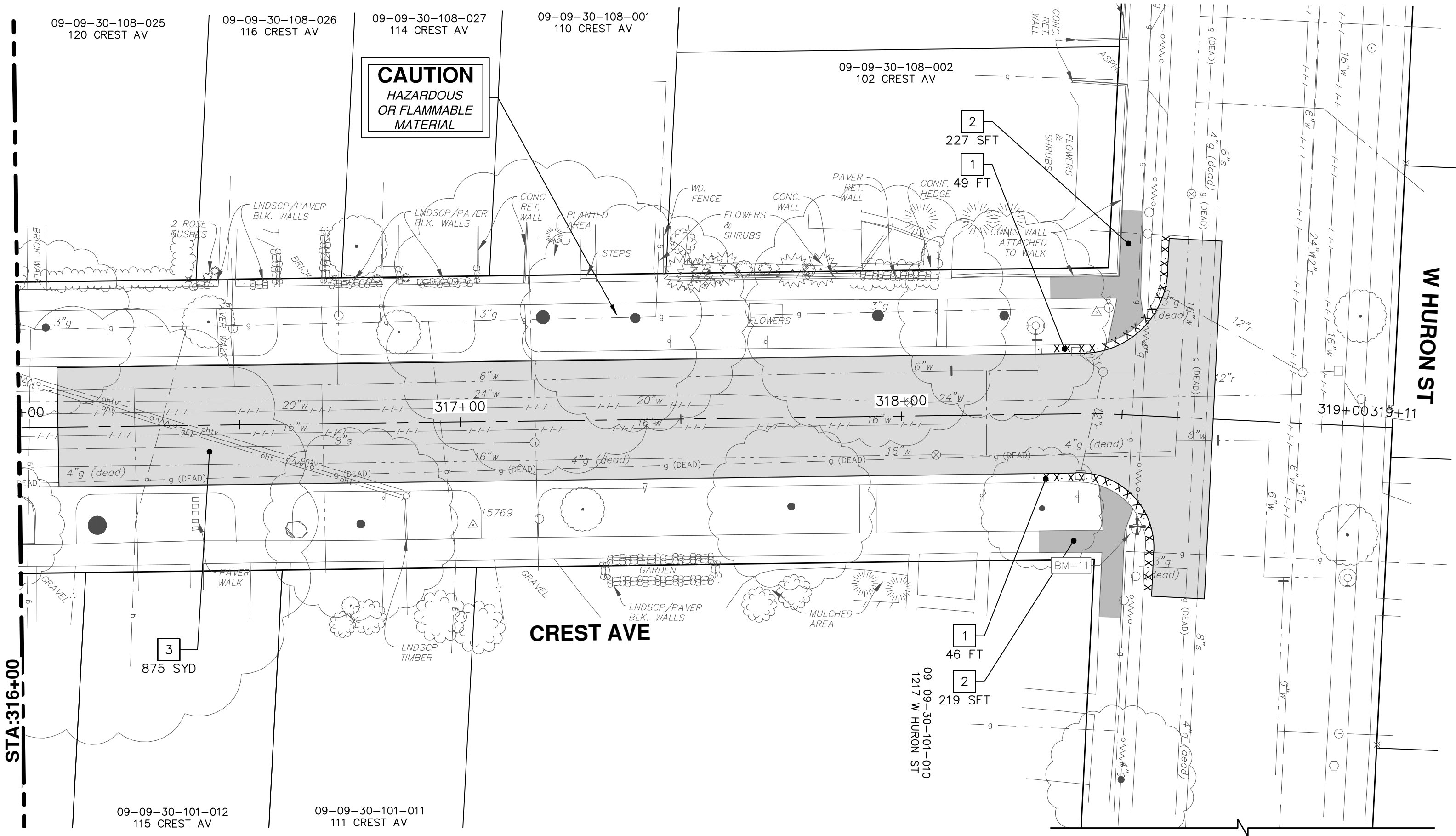
SEE SHEET 17
STA: 311+00



SEE BELOW LEFT
STA: 316+00



SEE ABOVE RIGHT
STA: 316+00



| REMOVAL KEY | |
|-------------|-----------------------------------------------------|
| KEY | DESCRIPTION |
| 1 | REMOVE CONCRETE CURB OR CURB AND GUTTER, - ANY TYPE |
| 2 | REMOVE CONCRETE SIDEWALK AND DRIVE - ANY THICKNESS |
| 3 | REMOVE HMA PAVEMENT |
| 4 | TREE REMOVE, 8" OR LARGER, MODIFIED |
| 5 | PROTECTIVE FENCING |

* SAWCUT FULL DEPTH AT REMOVAL LIMITS

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE PLAN: 1" = 20'

DRAWING No. 2016029-18

SHEET No. 18 OF 46

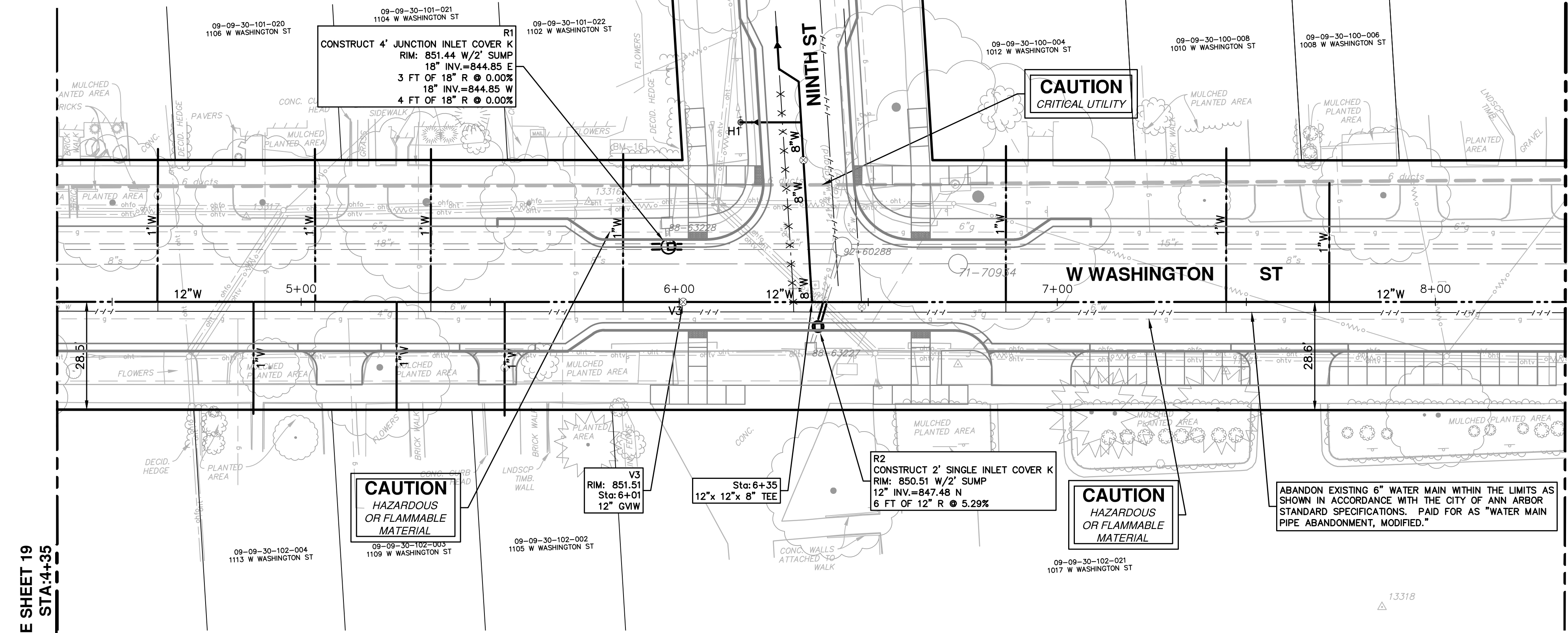
CREST, BUENA VISTA, WASHINGTON WATER MAIN

CREST AVE REMOVALS
STA. 311+00 TO STA. 319+11

| REV. | DESCRIPTION | DATE | DRAWN | CHECKED |
|------|-------------|--------|---------|---------|
| 00 | OUT FOR BID | 2-6-18 | JKA | |
| | | | CEC/DFP | |

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ANN ARBOR MI 48106-8667
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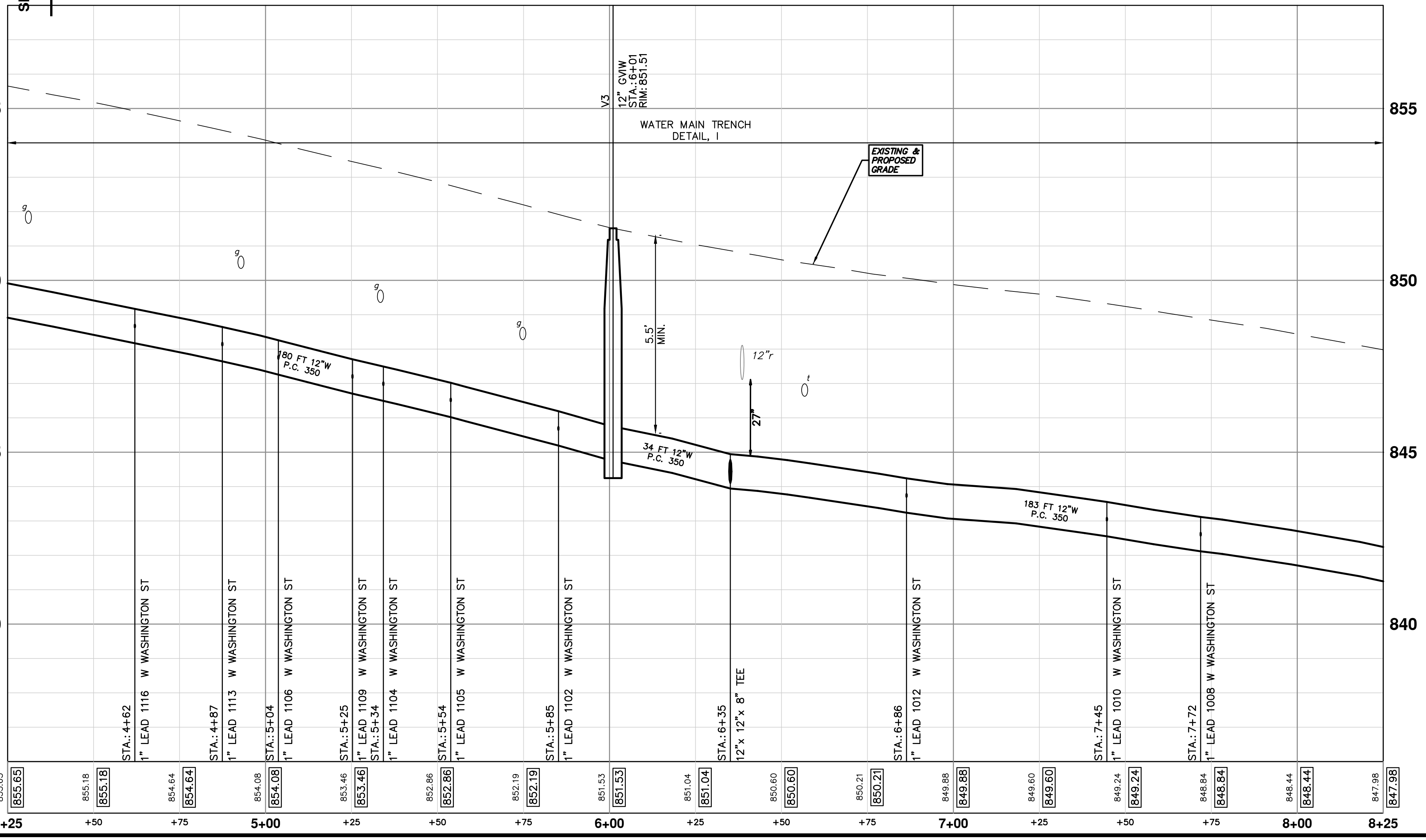
811
Know what's below.
Call before you dig.



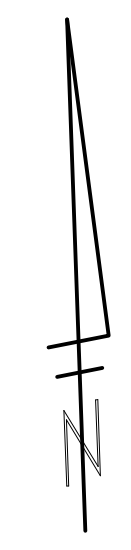
SEE SHEET 21
STA. 8+34

WATER MAIN STRUCTURE TABLE

| STRUCTURE | TYPE | STATION | RIM | DEPTH |
|-----------|---------|---------|--------|-------|
| V3 | 12" GWW | 6+01 | 851.51 | 6.76 |



SEE SHEET 19
STA. 4+35



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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

DRAWING NO. 20160229-20

SHEET NO. 20 OF 46

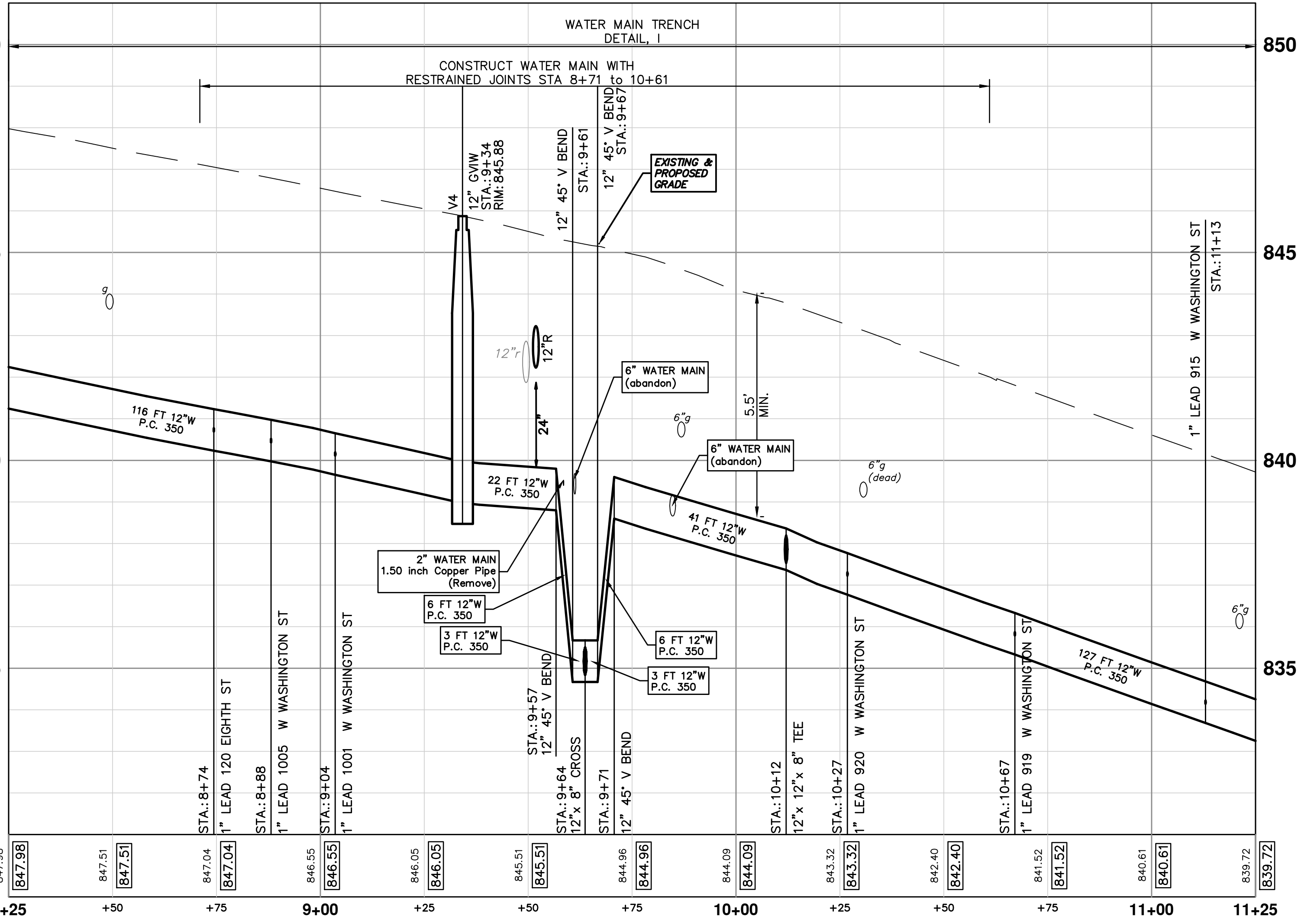
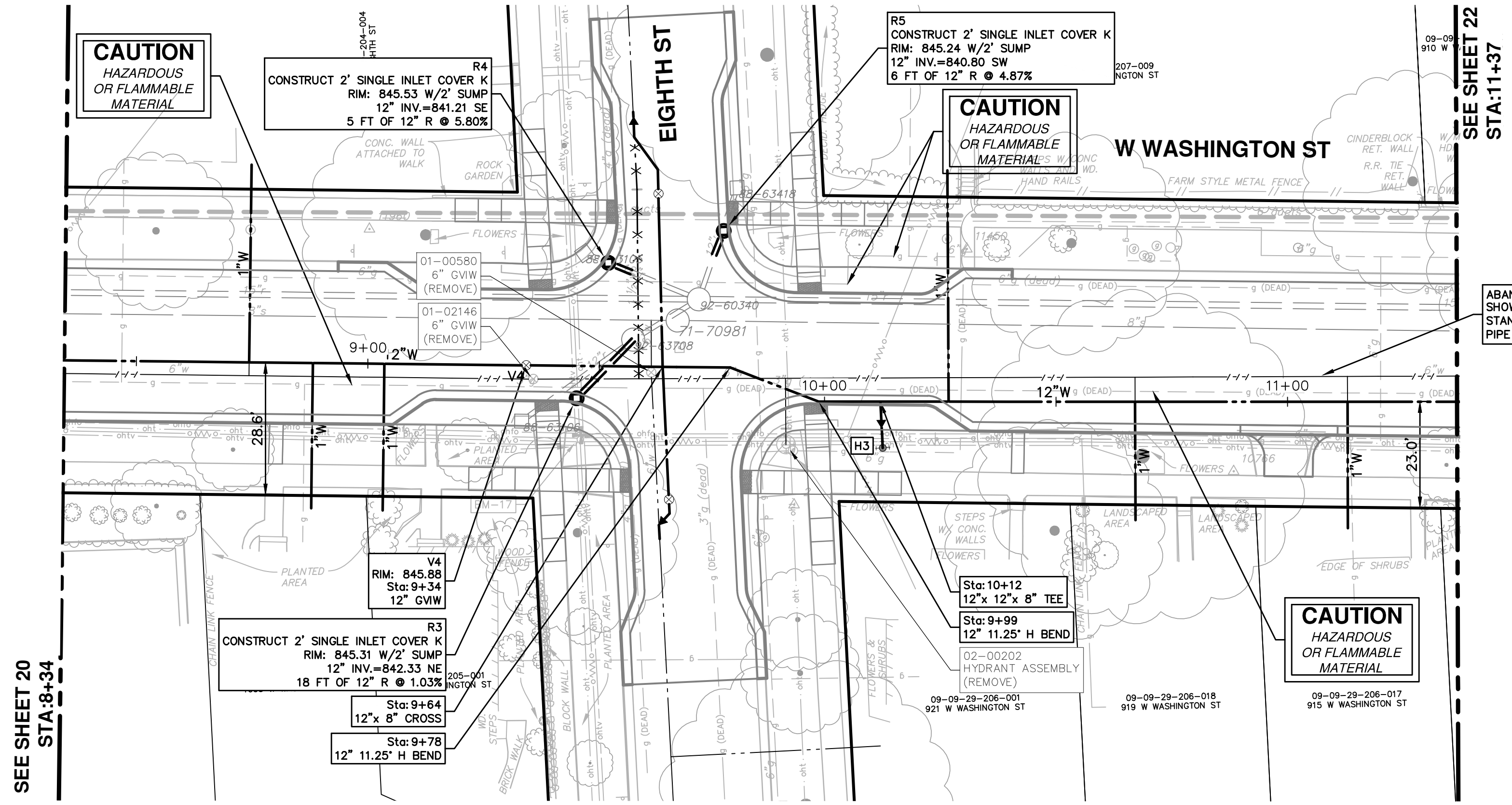
CREST, BUENA VISTA, WASHINGTON WATER MAIN

WASHINGTON ST. WATER MAIN PLAN AND PROFILE
STA. 4+25 TO STA. 8+25

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

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| REV. | DESCRIPTION | DATE | DRAWN | CHECKED |
|------|-------------|--------|-------|---------|
| 00 | OUT FOR BID | 2-6-18 | JKA | |



WATER MAIN STRUCTURE TABLE

| STRUCTURE | TYPE | STATION | RIM | DEPTH |
|-----------|----------|---------|--------|-------|
| V4 | 12" GVIW | 9+34 | 845.88 | 6.91 |

SEE SHEET 20
STA: 8+34

SEE SHEET 22
STA: 11+37

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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

DRAWING NO.
2016029-21

SHEET No.
21 OF 46

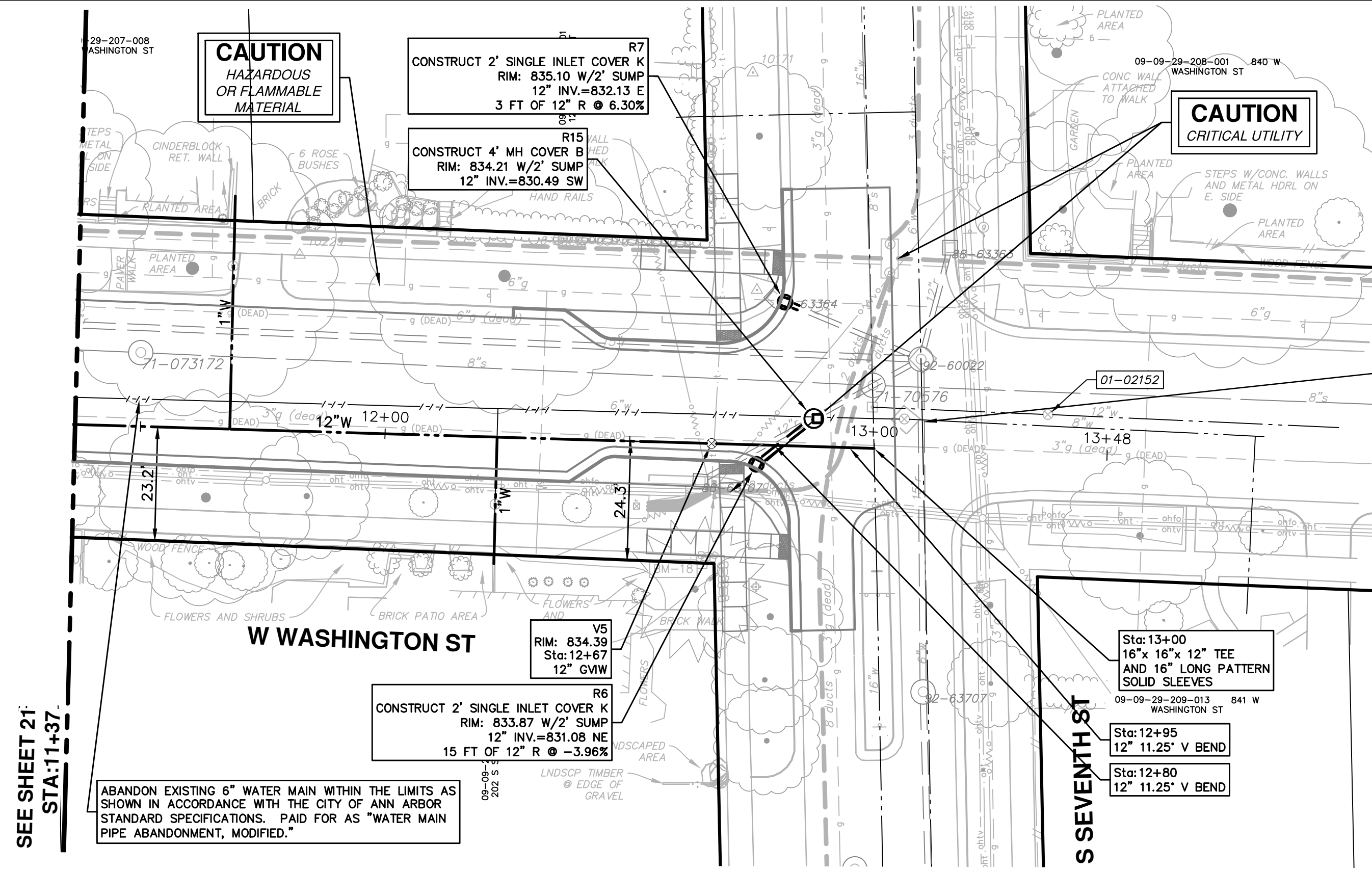
CREST, BUENA VISTA, WASHINGTON WATER MAIN

WASHINGTON ST. WATER MAIN PLAN AND PROFILE
STA. 8+25 TO STA. 11+25

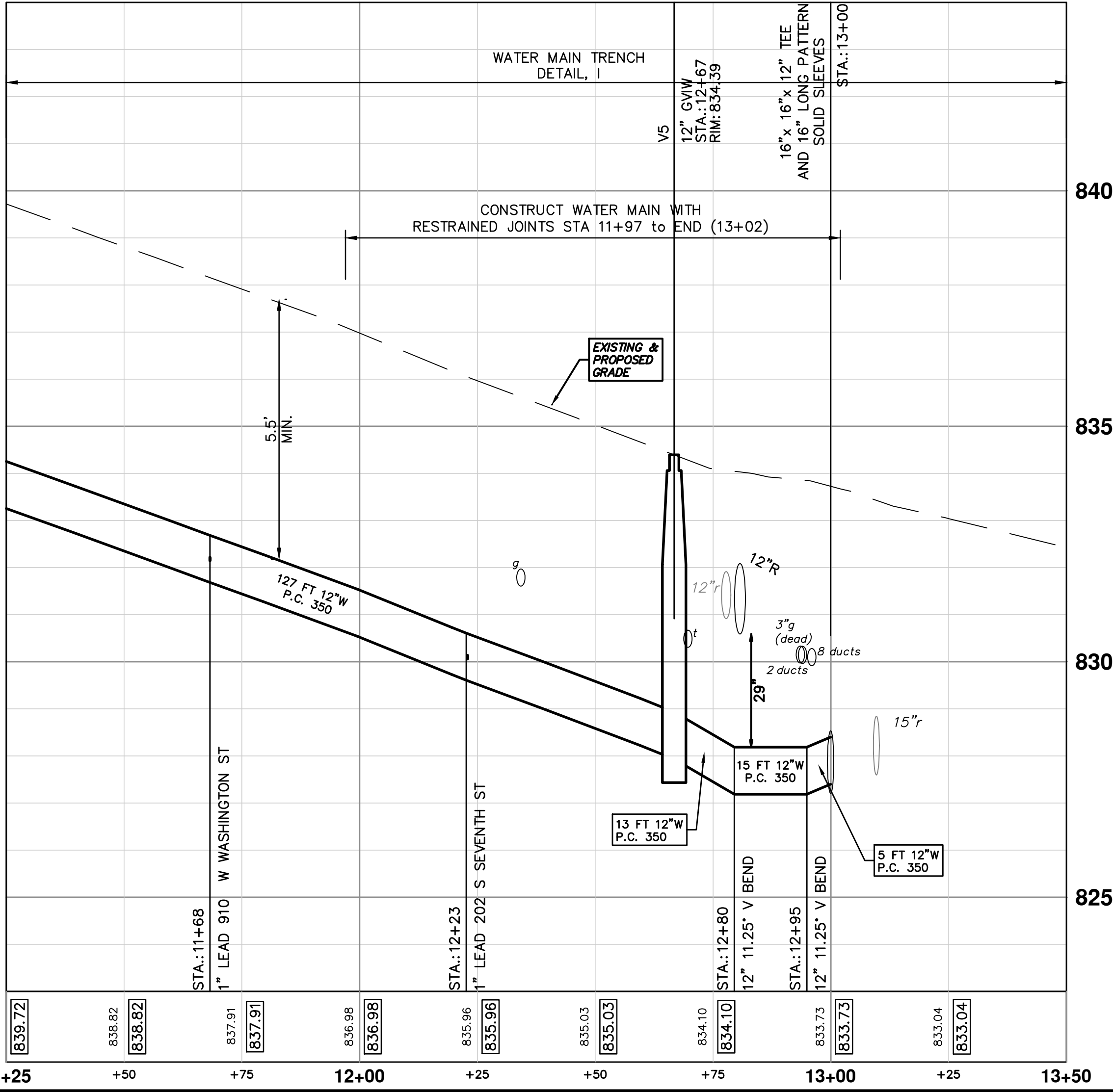
CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR, MI 48106-0667
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| REV. | DATE | DESCRIPTION | DRAWN | CHECKED |
|------|--------|-------------|---------|---------|
| 00 | 2-6-18 | OUT FOR BID | JKA | |
| | | | CEC/DFP | |

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



UPON COMPLETION OF THE WATER MAIN IN WASHINGTON STREET, THE CONTRACTOR SHALL REMOVE THE EXISTING CROSS, ABANDON THE EXISTING 6" WATER MAIN, AND PLACE AN 8" x 8" x 8" TEE, 8" DUCTILE IRON PIPE AND AN 8" LONG PATTERN SOLID SLEEVE TO RE-ESTABLISH THE 8" WATER MAIN SOUTH OF SEVENTH STREET. THE CONTRACTOR TO BE PAID AT THE CORRESPONDING CONTRACT UNIT PRICES FOR THE ACTUAL WORK PERFORMED.



| STRUCTURE | TYPE | STATION | RIM | DEPTH |
|-----------|----------|---------|--------|-------|
| V5 | 12" GVIW | 12+67 | 834.39 | 6.46 |

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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

DRAWING No. 2016029-22

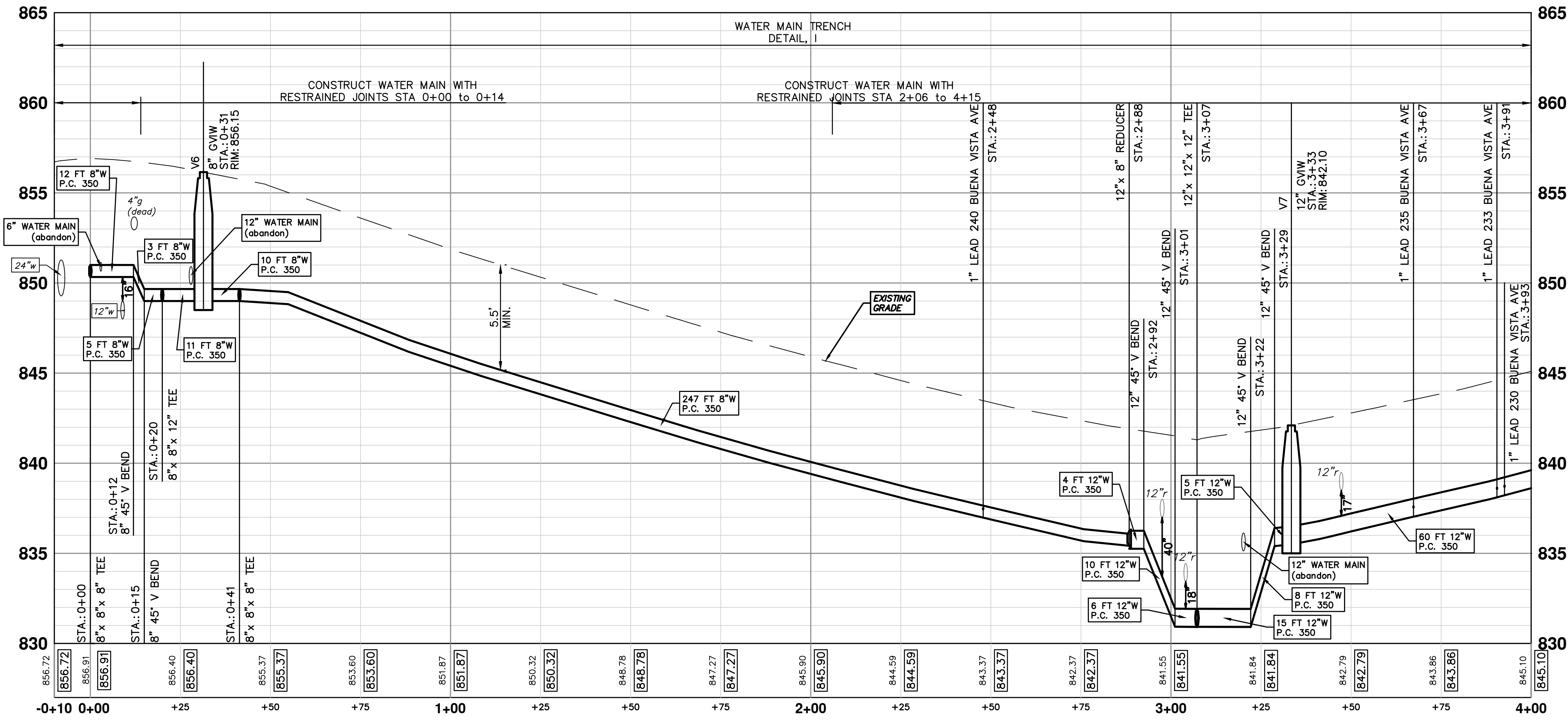
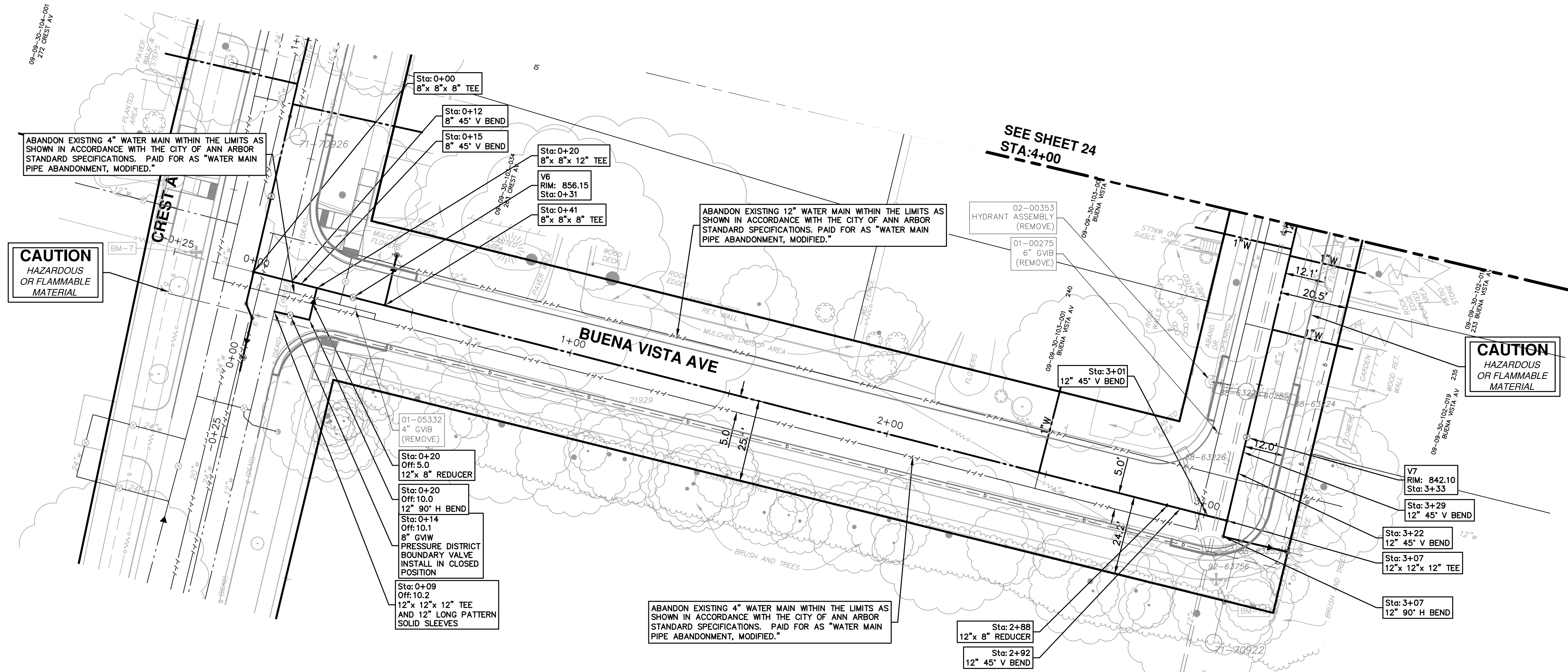
CREST, BUENA VISTA, WASHINGTON WATER MAIN

WASHINGTON ST. WATER MAIN PLAN AND PROFILE
STA. 11+25 TO STA. 13+80

**CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
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DATE: 2-6-18
DRAWN: JKA
CHECKED: JKA

22 OF 46



| STRUCTURE | TYPE | STATION | RIM | DEPTH |
|-----------|---------|---------|--------|-------|
| V6 | 8" GWV | 0+31 | 856.15 | 7.15 |
| V7 | 12" GWV | 3+33 | 842.10 | 6.60 |

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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

DRAWING NO. 2016029-23

SHEET No. 23 OF 46

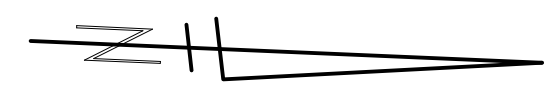
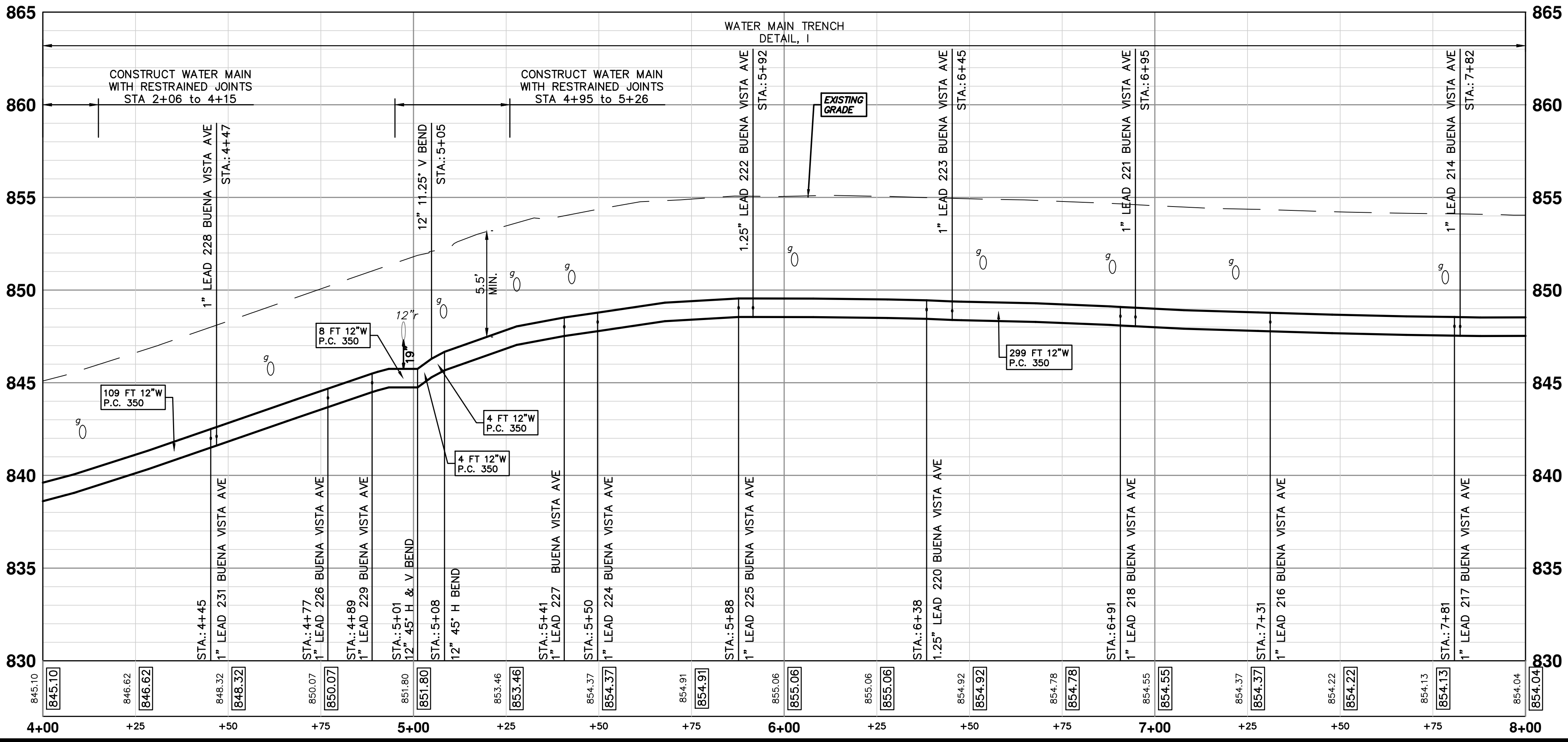
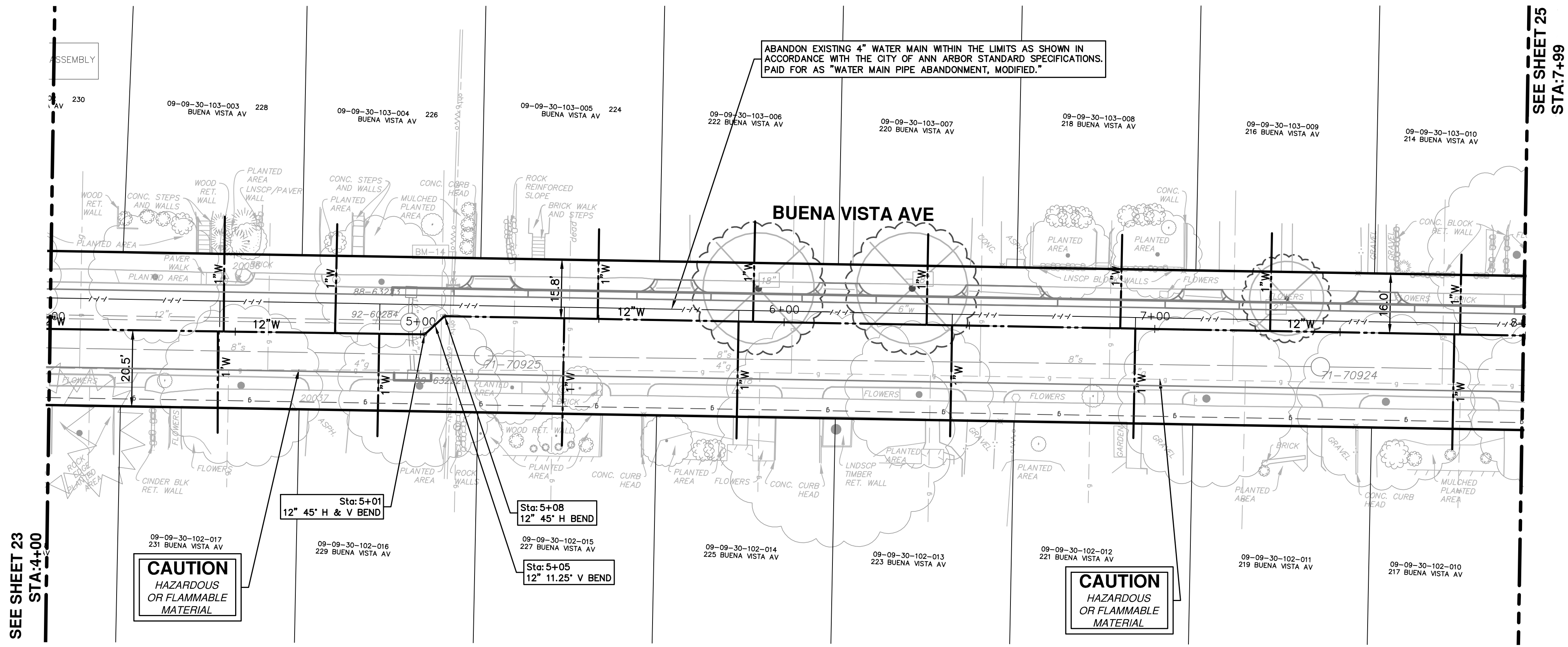
CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
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ANN ARBOR
MICHIGAN

BUENA VISTA AVENUE WATER MAIN PLAN AND PROFILE
STA. 0+00 TO STA. 4+00

| REV. | DATE | DESCRIPTION |
|------|--------|-------------|
| 00 | 2-6-18 | OUT FOR BID |
| | | CEC/DFP |
| | | JKA |
| | | CHECKED |

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CREST, BUENA VISTA, WASHINGTON WATER MAIN

BUENA VISTA AVENUE WATER MAIN PLAN AND PROFILE
STA. 4+00 TO STA. 8+00

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

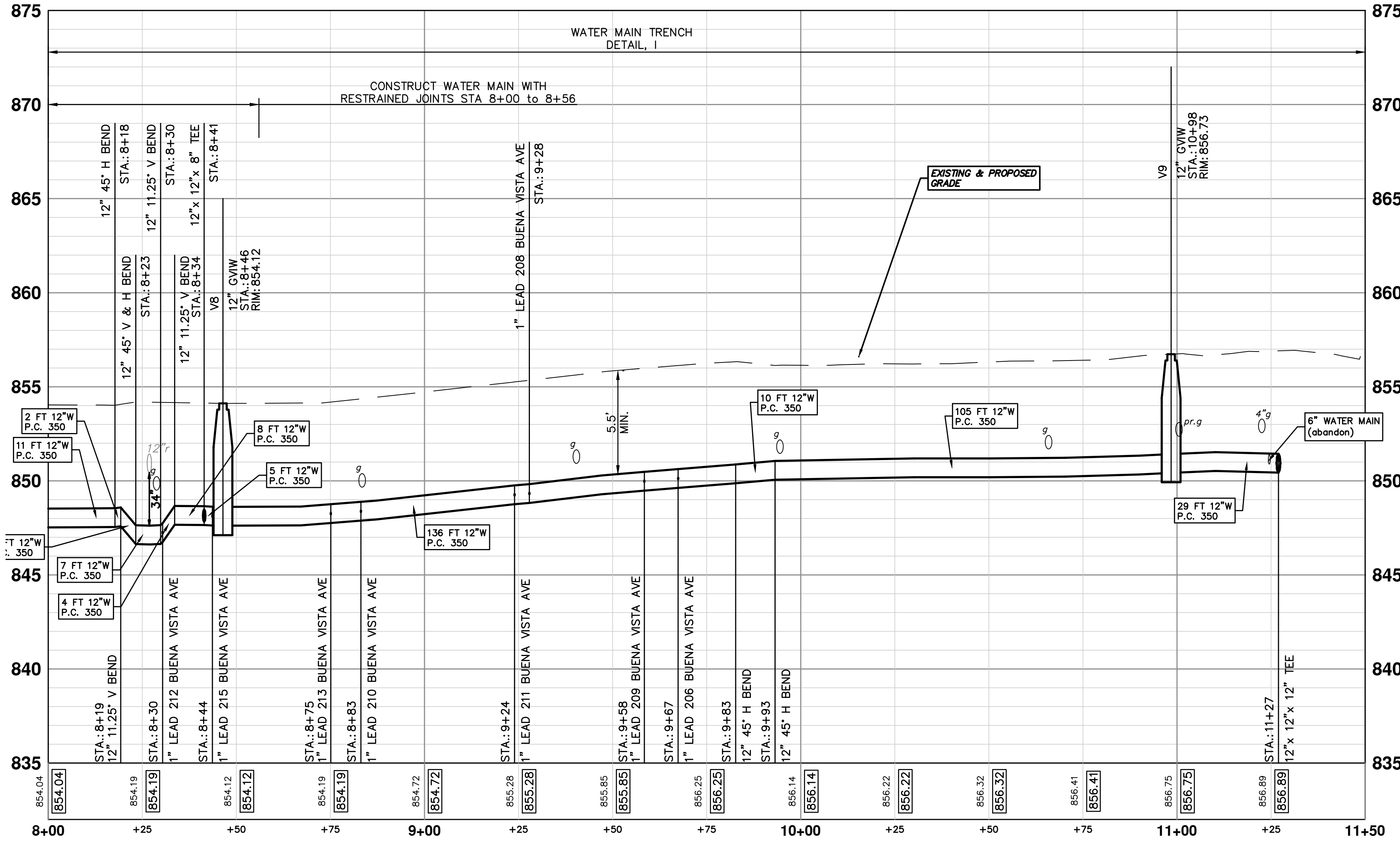
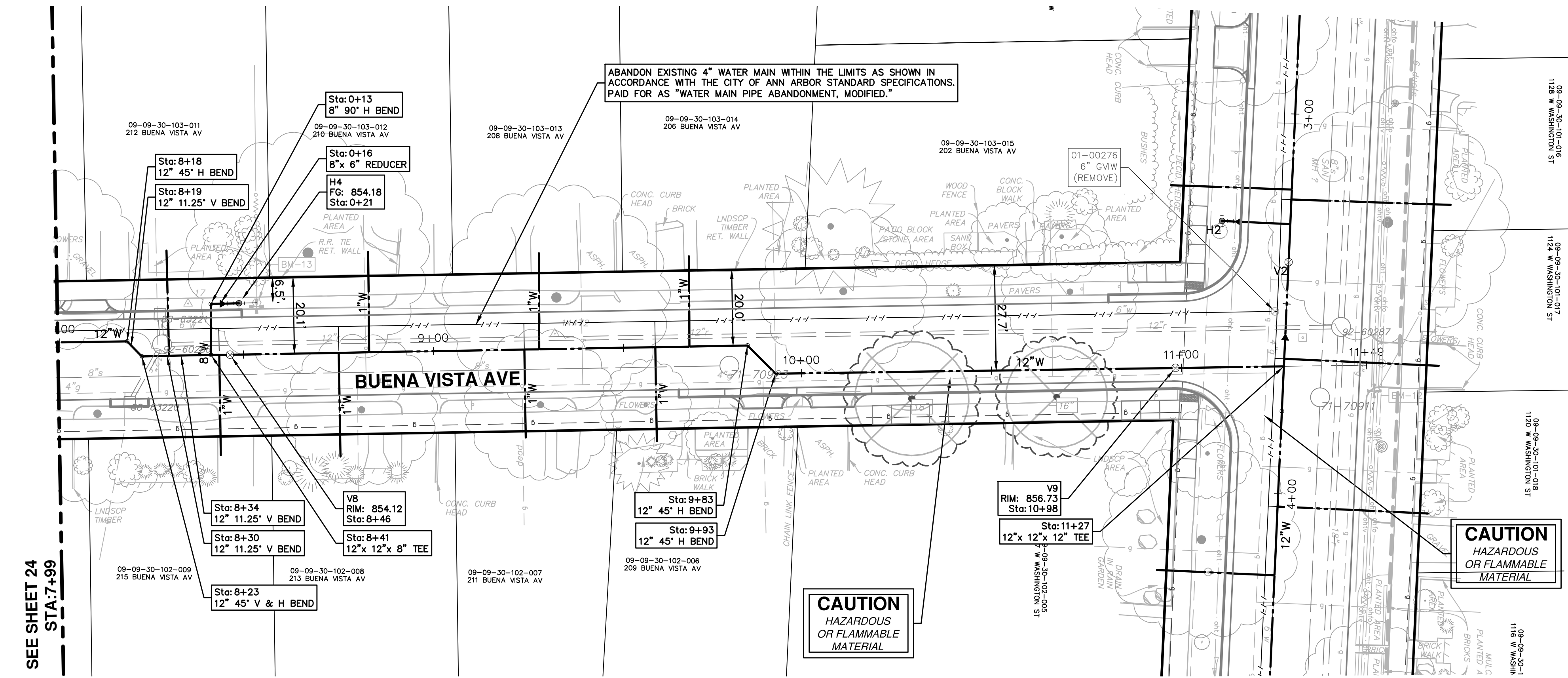
DRAWING NO. 2016029-24

SHEET NO. 24 OF 46

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

| REV. | DESCRIPTION | DATE | DRAWN | CHECKED |
|------|-------------|--------|-------|---------|
| 00 | OUT FOR BID | 2-6-18 | JKA | |

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
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| WATER MAIN STRUCTURE TABLE | | | | |
|----------------------------|------------------|---------|--------|-------|
| STRUCTURE | TYPE | STATION | RIM | DEPTH |
| H4 | HYDRANT ASSEMBLY | 0+21 | 854.18 | 6.00 |
| V8 | 12" GVIW | 8+46 | 854.12 | 6.50 |
| V9 | 12" GVIW | 10+98 | 856.73 | 6.31 |



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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

DRAWING NO.
2016029-25

SHEET No.
25 OF 46

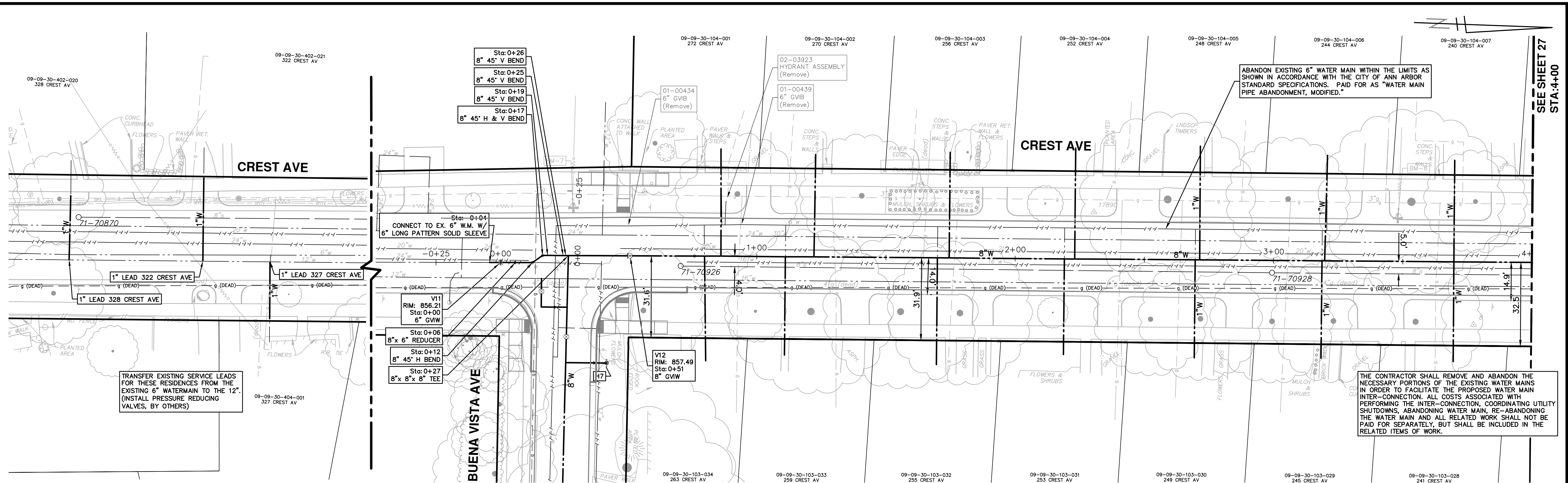
CREST, BUENA VISTA, WASHINGTON WATER MAIN

BUENA VISTA AVENUE WATER MAIN PLAN AND PROFILE
STA. 8+00 TO STA. 11+20

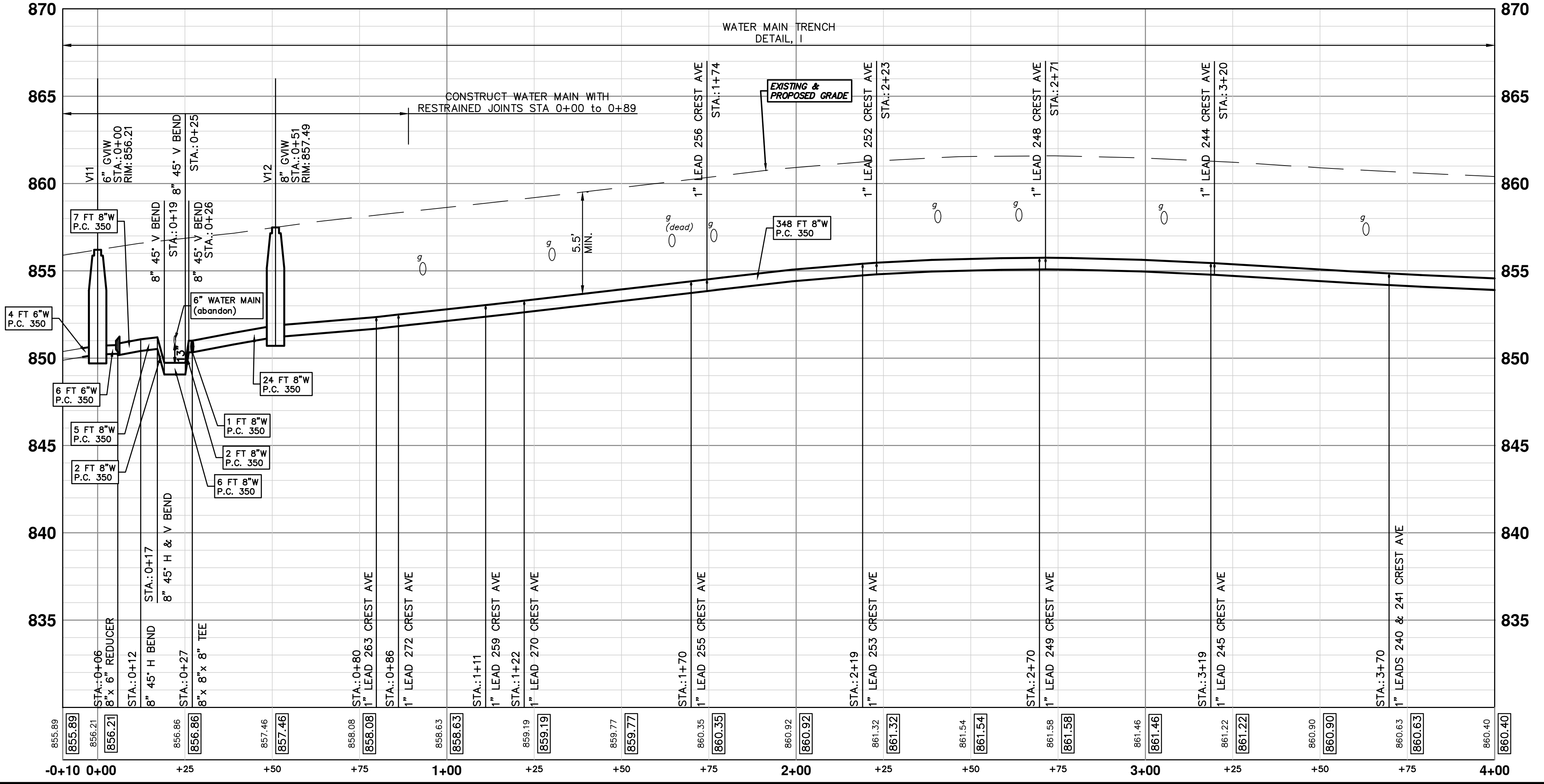
| REV. | DESCRIPTION | DATE | DRAWN | CHECKED |
|------|-------------|--------|-------|---------|
| 00 | OUT FOR BID | 2-6-18 | JKA | |

811
Know what's below.
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www.a2gov.org



| STRUCTURE | TYPE | STATION | RIM | DEPTH |
|-----------|---------|---------|--------|-------|
| V11 | 6" GVIW | 0+00 | 856.21 | 6.01 |
| V12 | 8" GVIW | 0+51 | 857.49 | 6.28 |



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

TRANSFER EXISTING SERVICE LEADS FOR THESE RESIDENCES FROM THE EXISTING 6" WATERMAIN TO THE 12". (INSTALL PRESSURE REDUCING VALVES, BY OTHERS)

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

SEE SHEET 27
STA: 4+00

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CREST, BUENA VISTA, WASHINGTON WATER MAIN

CREST AVENUE WATER MAIN PLAN AND PROFILE
STA. 0+00 TO STA. 4+00

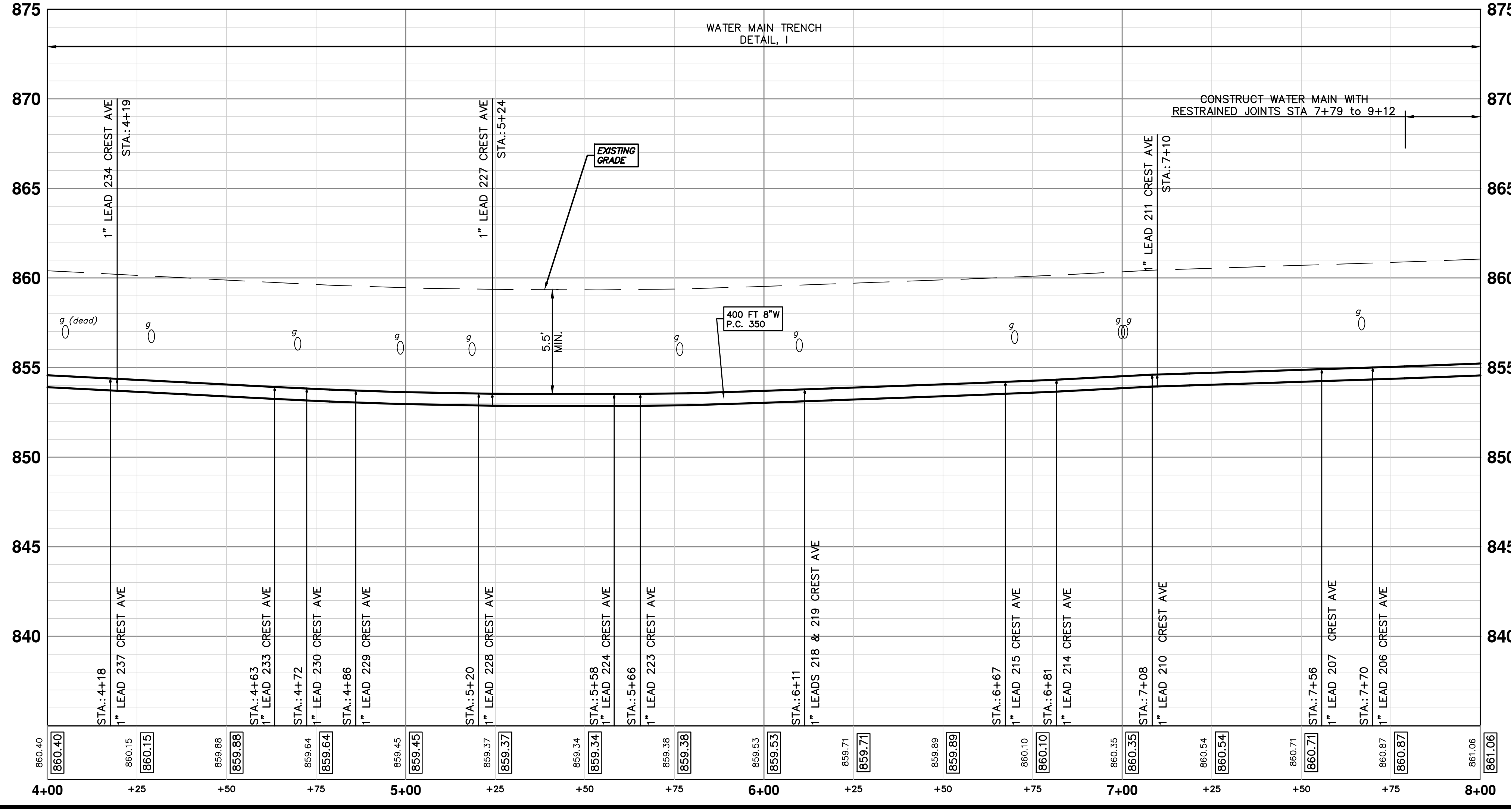
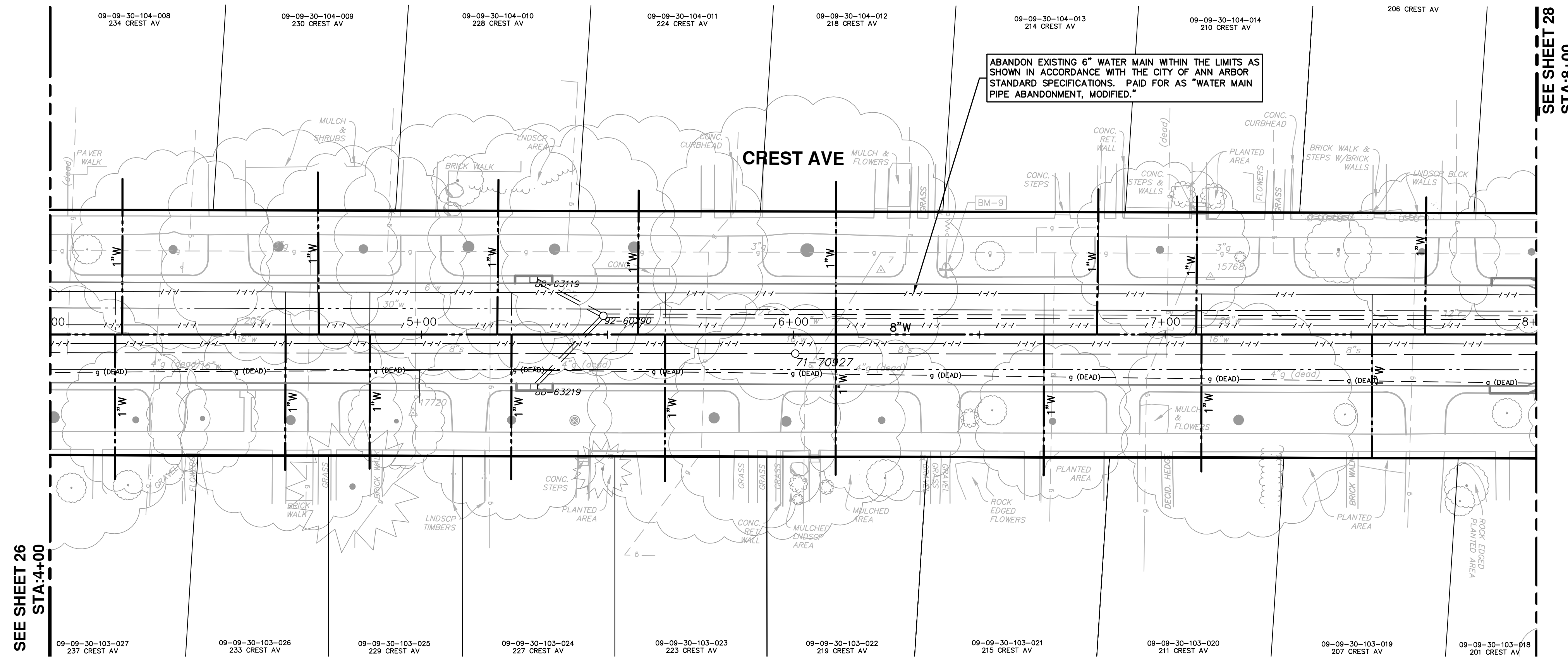
SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'

DRAWING NO. 2016029-26

SHEET NO. 26 OF 46

| REV. | DESCRIPTION | DATE | DRAWN | CHECKED |
|------|-------------|--------|-------|---------|
| 00 | OUT FOR BID | 2-6-18 | JKA | |

CITY OF ANN ARBOR
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 ANN ARBOR, MI 48106-0667
 WWW.A2GOV.ORG



SEE SHEET 26
STA: 4+00

SEE SHEET 28
STA: 8+00



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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

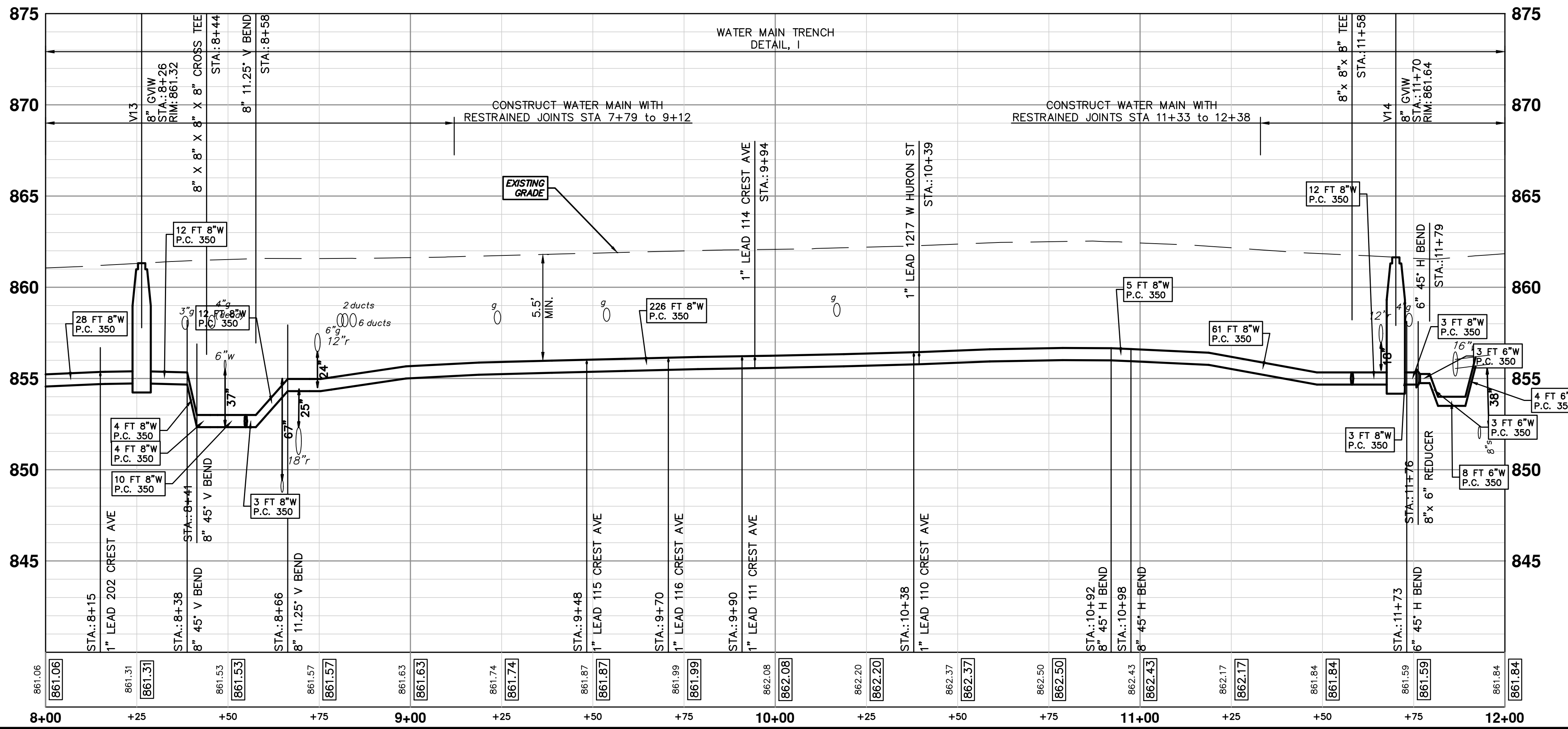
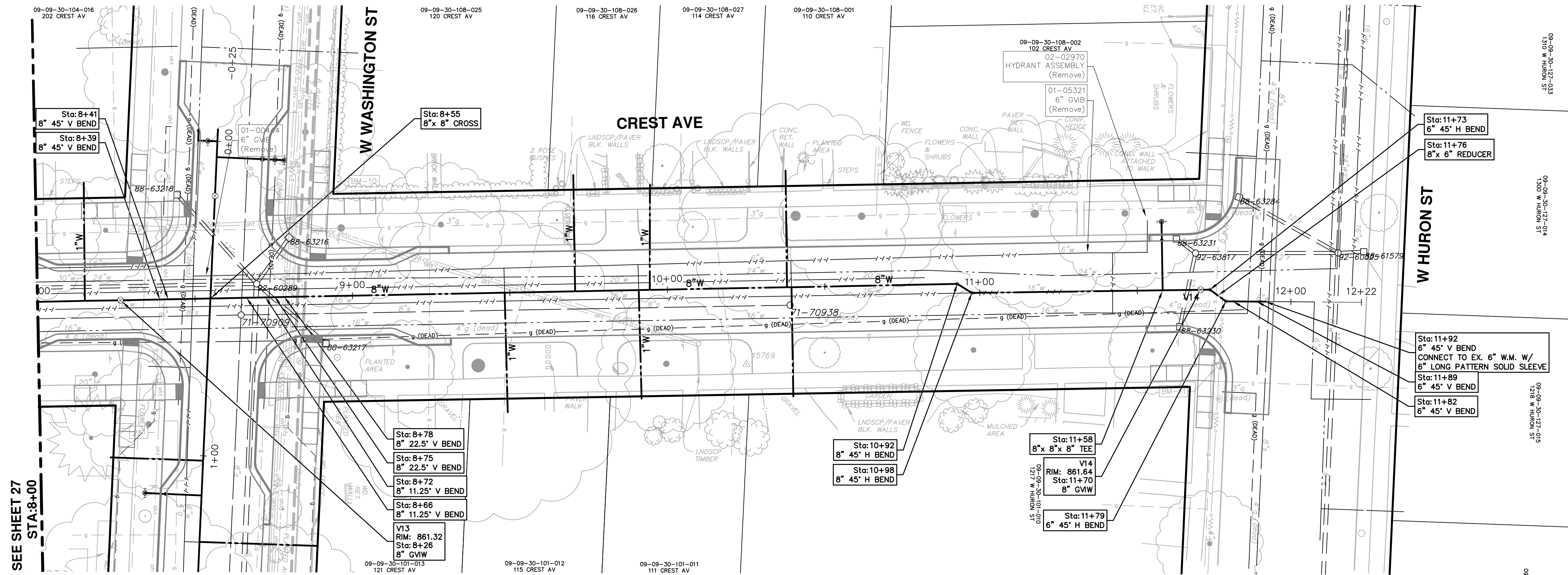
DRAWING NO.
2016029-27

SHEET No.
27 OF 46

CITY OF ANN ARBOR
PUBLIC SERVICES
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ANN ARBOR MI 48106-8647
www.a2gov.org

CITY OF ANN ARBOR
CREST, BUENA VISTA, WASHINGTON WATER MAIN
CREST AVENUE WATER MAIN PLAN AND PROFILE
STA. 4+00 TO STA. 8+00

| REV. | DESCRIPTION | DATE | DRAWN | CHECKED |
|------|-------------|--------|-------|---------|
| 00 | OUT FOR BID | 2-6-18 | JKA | |



| STRUCTURE | TYPE | STATION | RIM | DEPTH |
|-----------|---------|---------|--------|-------|
| V13 | 8" G.W. | 8+26 | 861.32 | 6.58 |
| V14 | 8" G.W. | 11+70 | 861.64 | 6.98 |

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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

DRAWING NO.
2016029-28

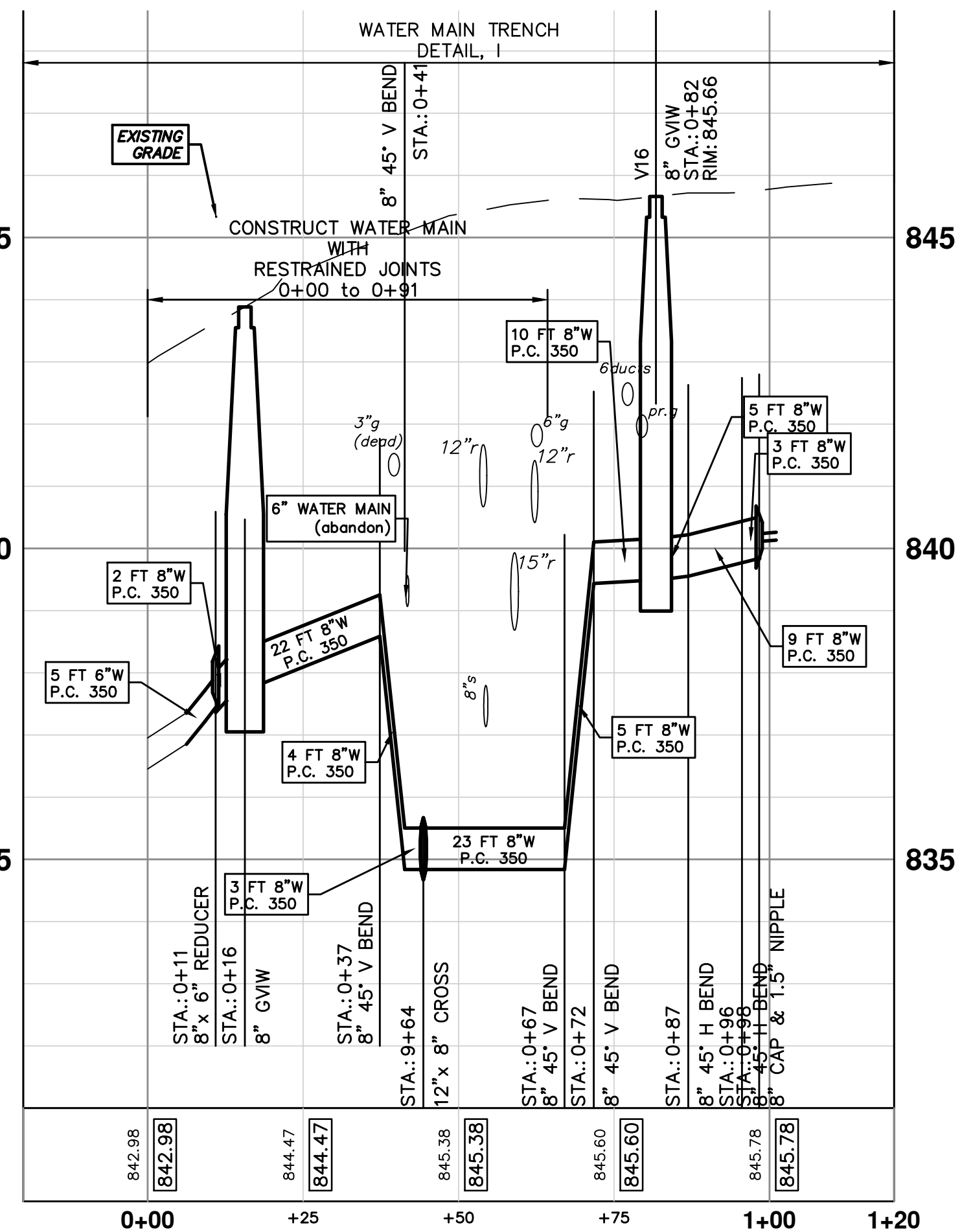
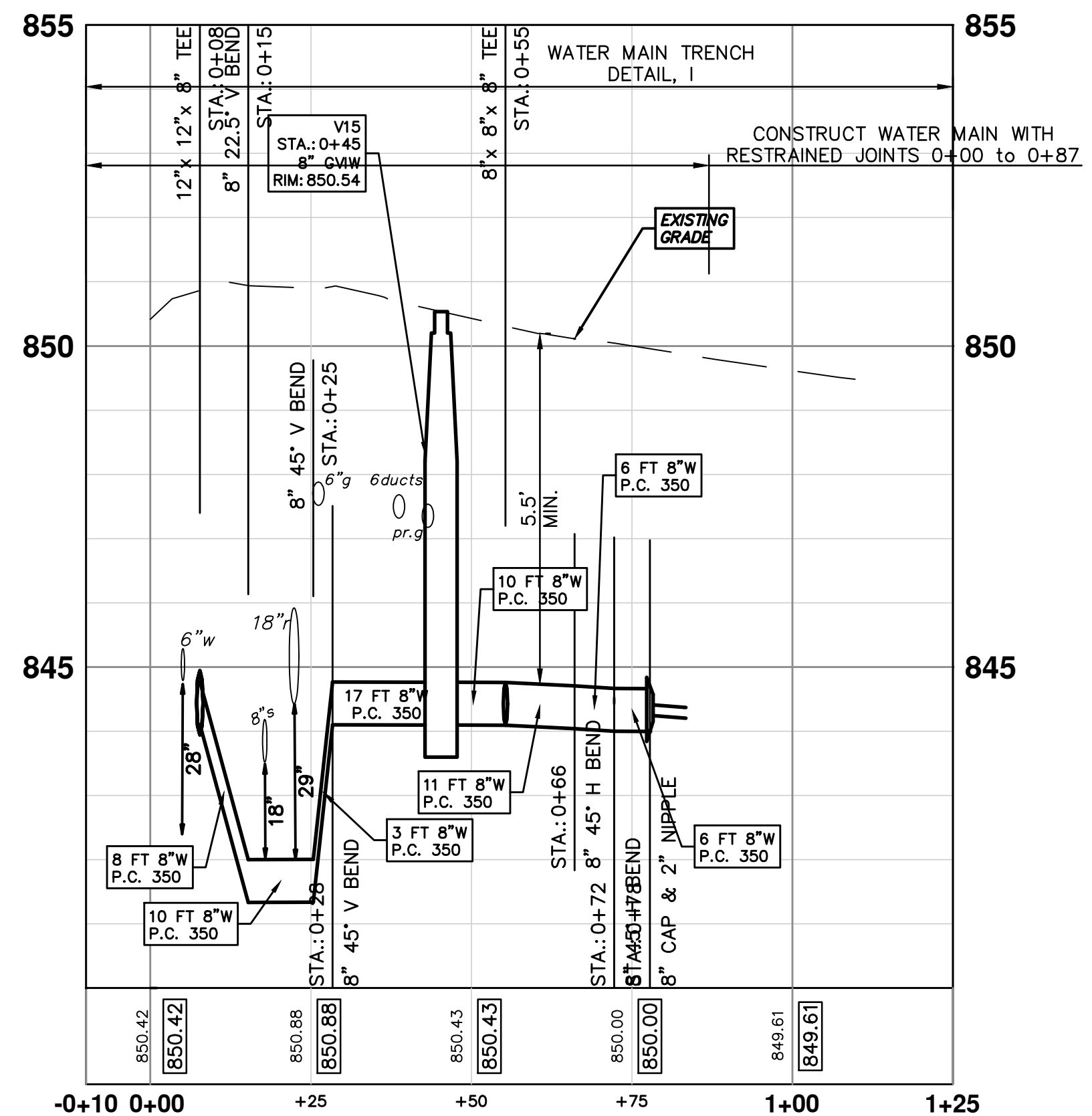
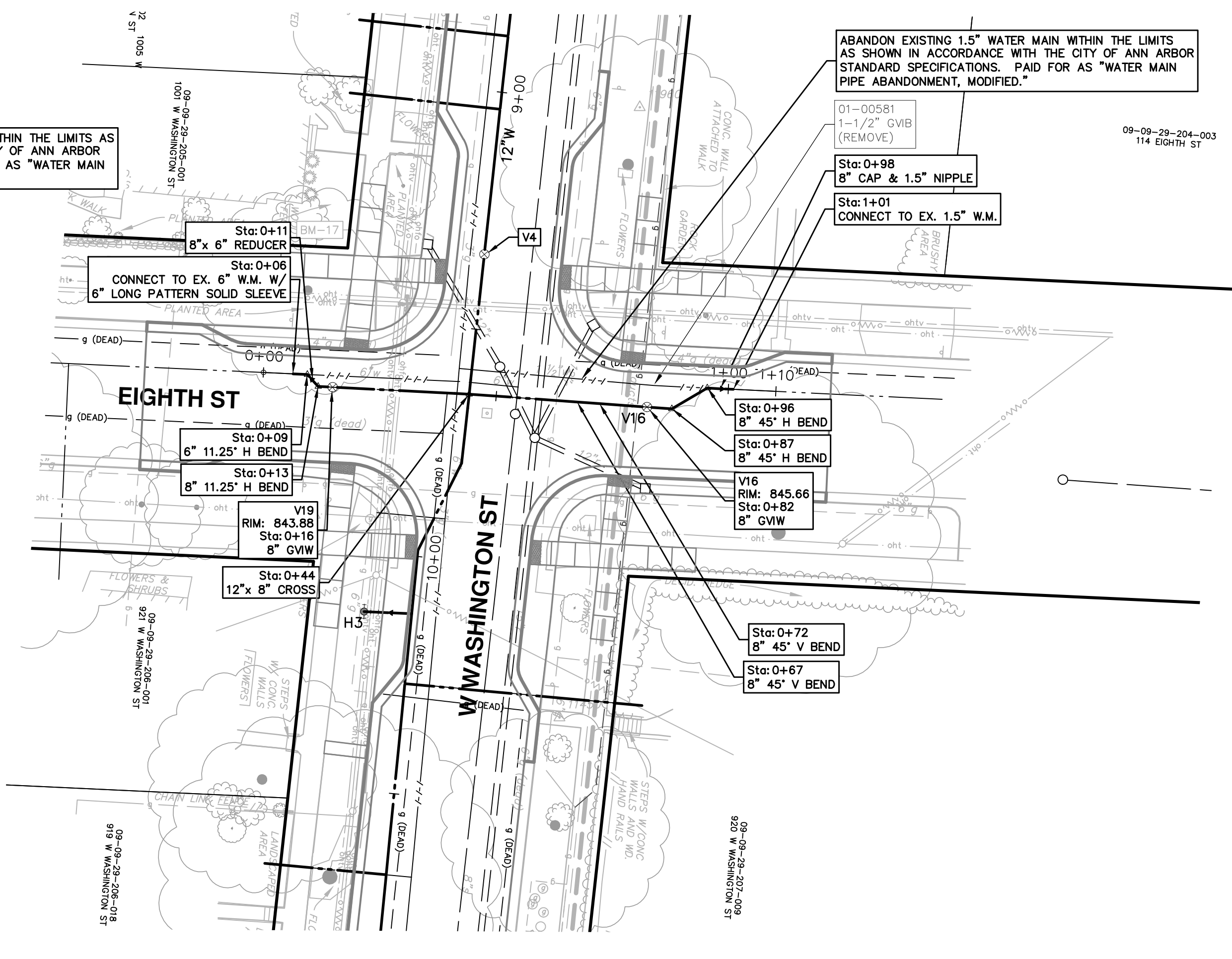
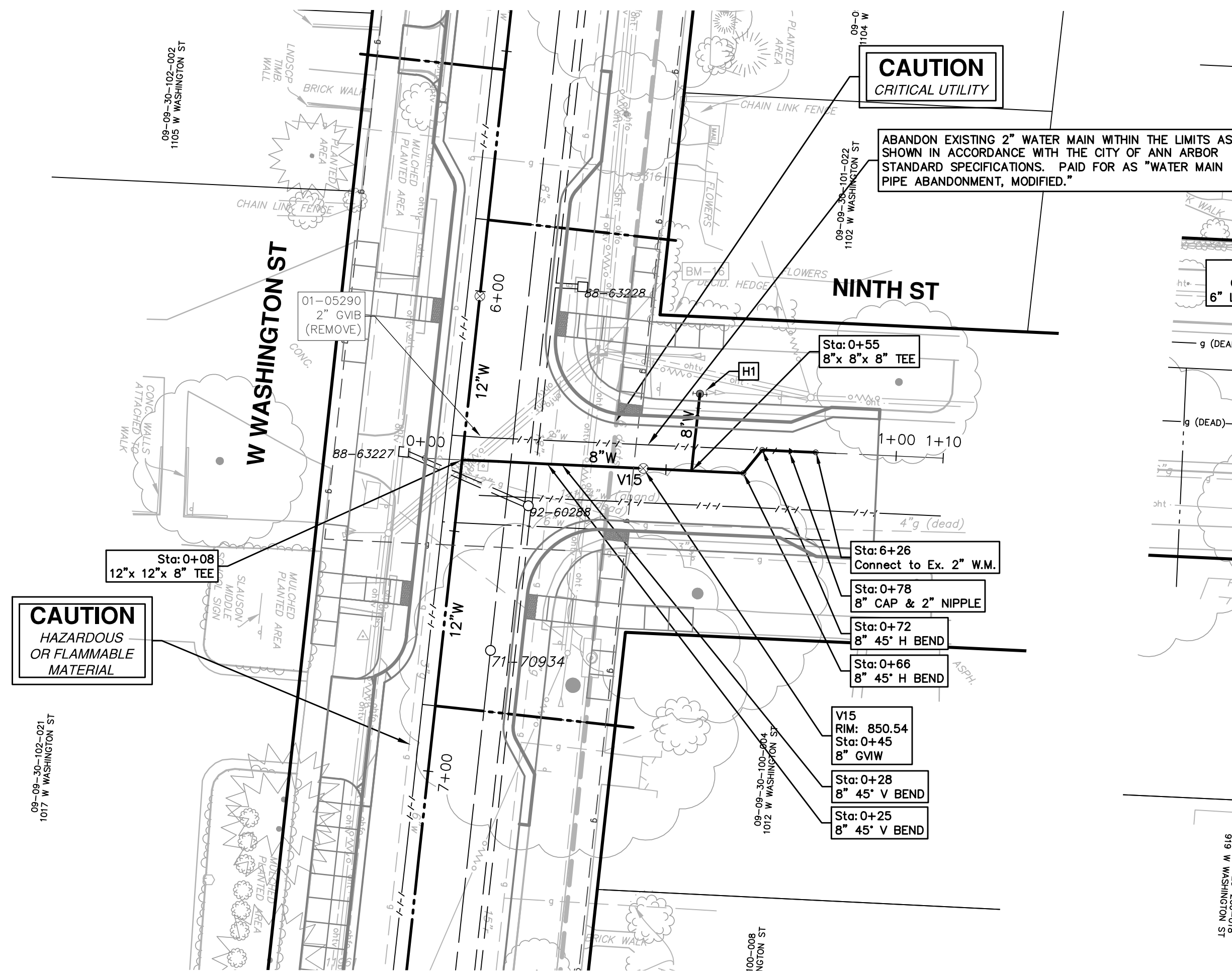
SHEET NO.
28 OF 46

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR, MI 48106-0667
www.a2gov.org

CREST, BUENA VISTA, WASHINGTON WATER MAIN
CREST AVENUE WATER MAIN PLAN AND PROFILE
STA. 8+00 TO STA. 12+00

| REV. | DESCRIPTION | DATE | DRAWN | CHECKED |
|------|-------------|--------|-------|---------|
| 00 | OUT FOR BID | 2-6-18 | JKA | JKA |

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



| WATER MAIN STRUCTURE TABLE | | | | |
|----------------------------|---------|---------|--------|-------|
| STRUCTURE | TYPE | STATION | RIM | DEPTH |
| V15 | 8" GVIW | 0+45 | 850.54 | 6.44 |
| V16 | 8" GVIW | 0+82 | 845.66 | 6.17 |

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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

DRAWING NO. 20160229-29

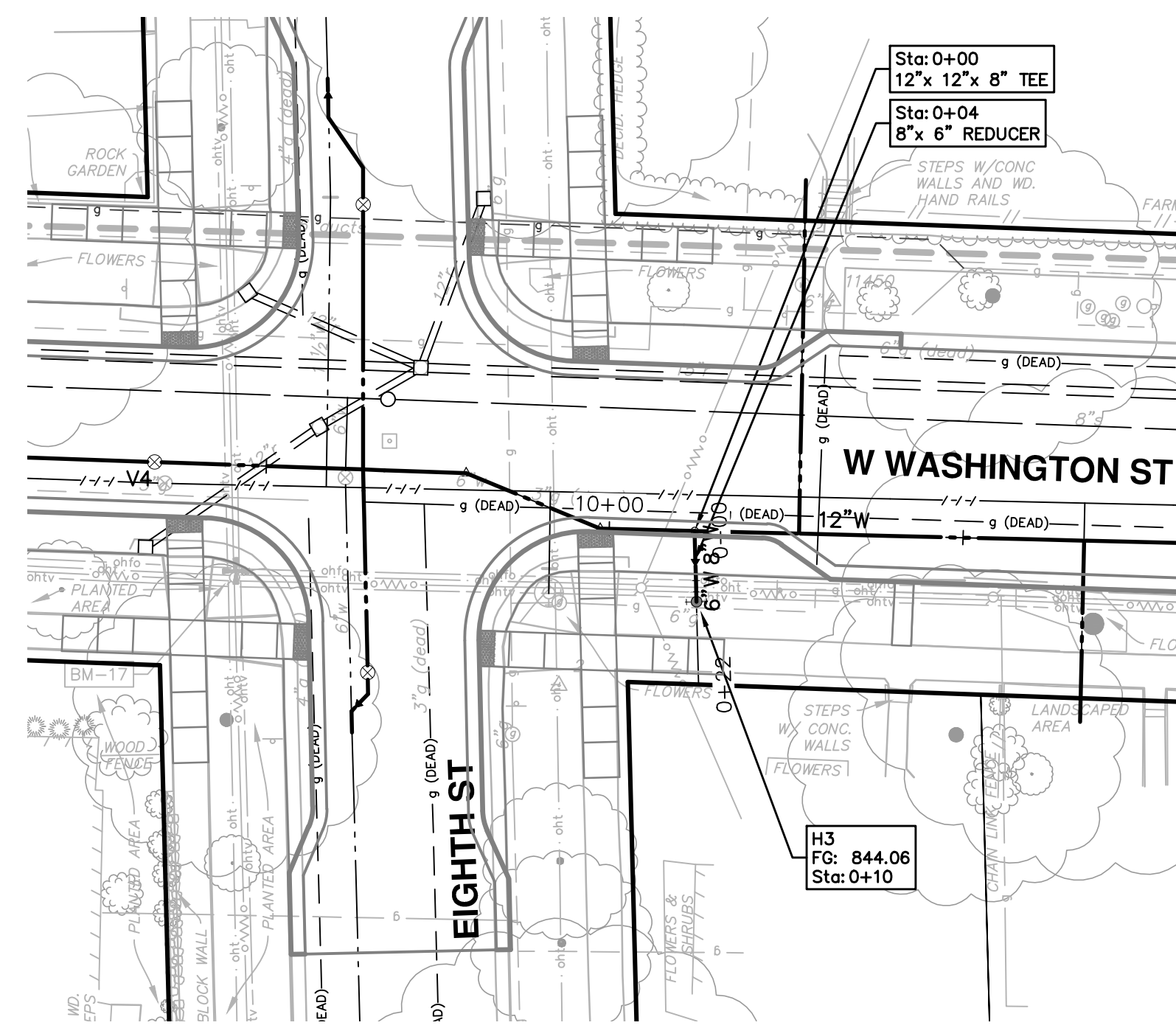
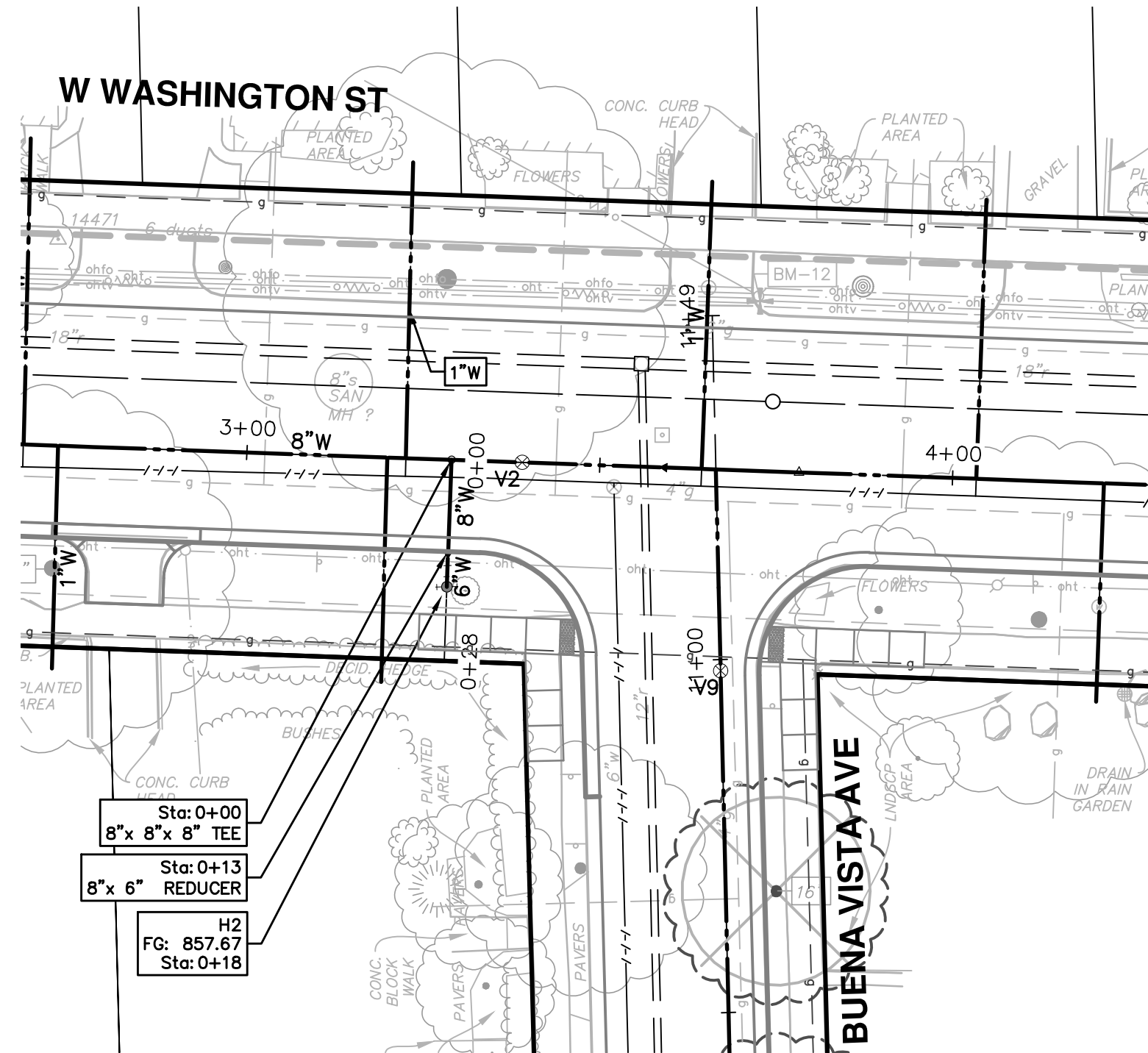
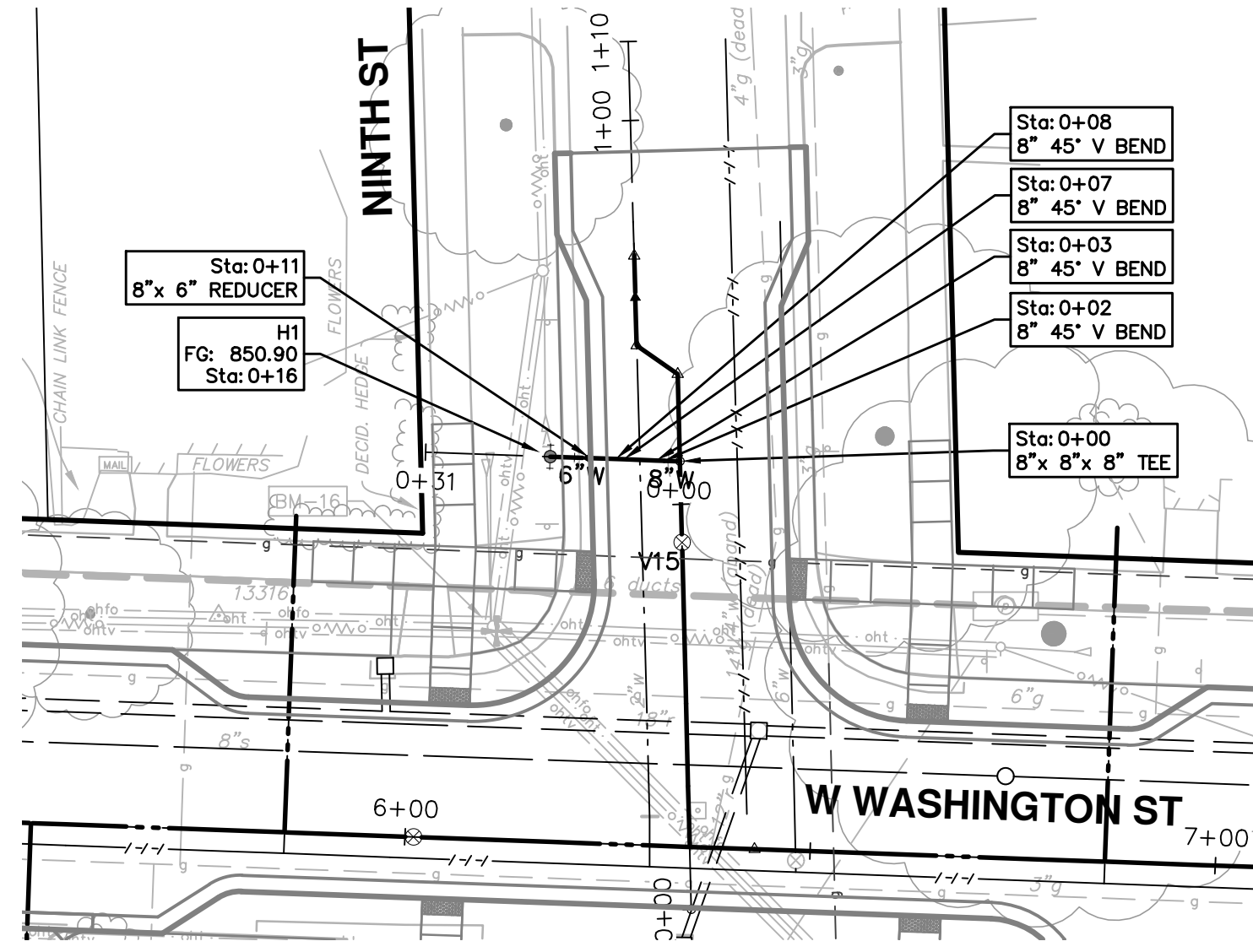
SHEET NO. 29 OF 46

CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR, MI 48106-0667
www.a2gov.org

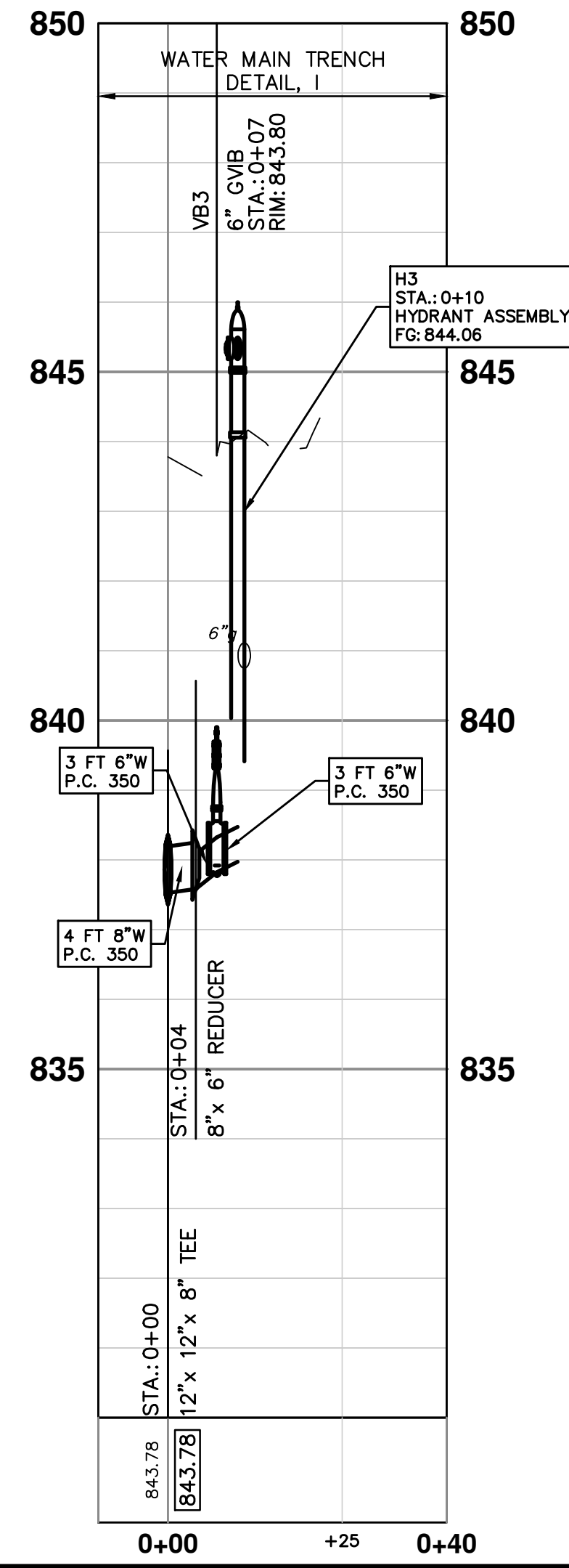
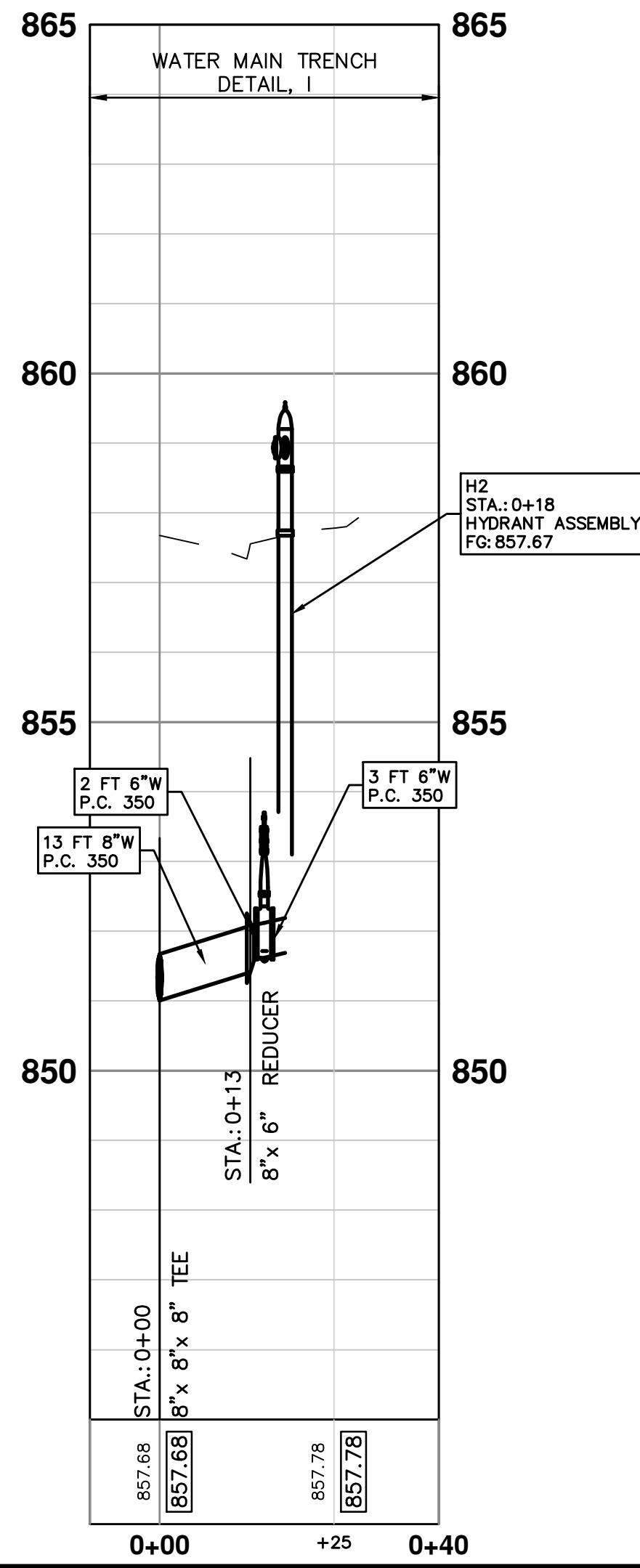
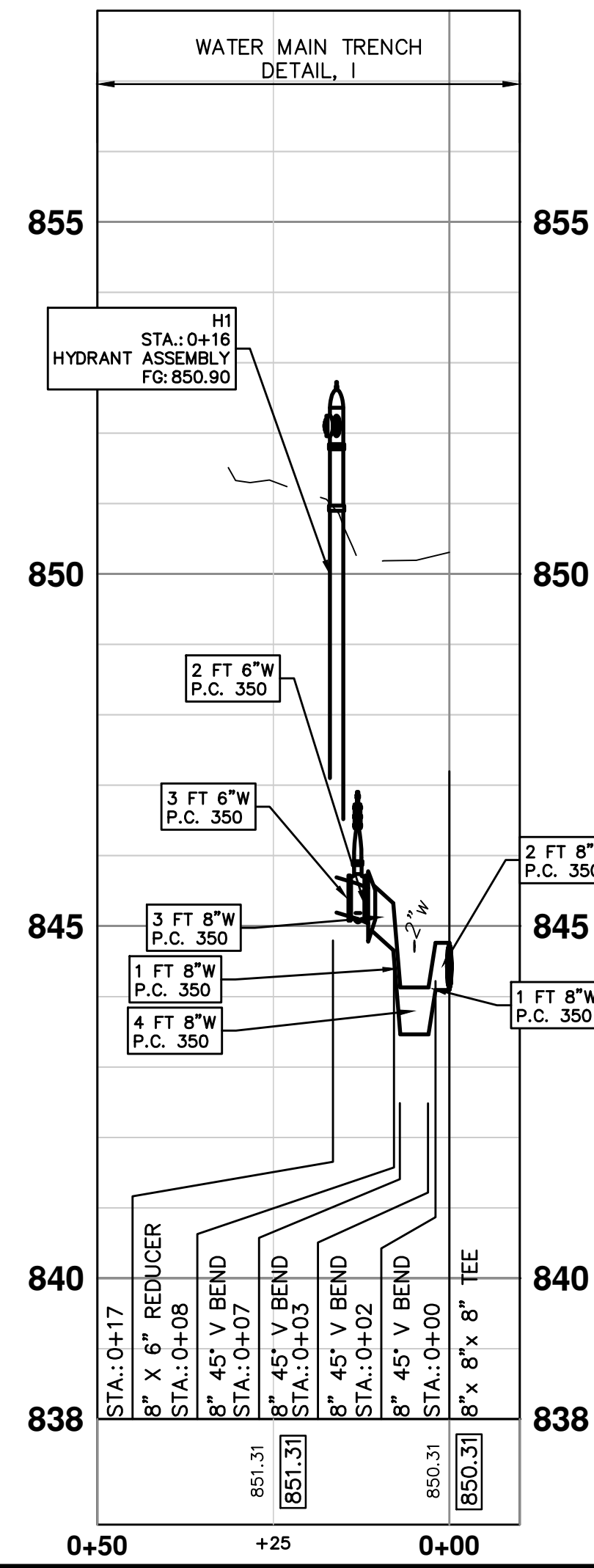
CREST, BUENA VISTA, WASHINGTON WATER MAIN

NINTH STREET AND EIGHTH STREET
WATER MAIN PLAN AND PROFILE

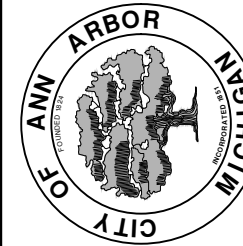
| REV. | DATE | DESCRIPTION | DRAWN | CHECKED |
|------|--------|-------------|---------|---------|
| 00 | 2-6-18 | OUT FOR BID | JKA | |
| | | | CEC/DFP | |



| WATER MAIN STRUCTURE TABLE | | | | |
|----------------------------|------------------|---------|--------|-------|
| STRUCTURE | TYPE | STATION | RIM | DEPTH |
| H1 | HYDRANT ASSEMBLY | 0+16 | 850.90 | 5.71 |
| H2 | HYDRANT ASSEMBLY | 0+18 | 857.67 | 5.98 |
| H3 | HYDRANT ASSEMBLY | 0+10 | 844.06 | 6.08 |



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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

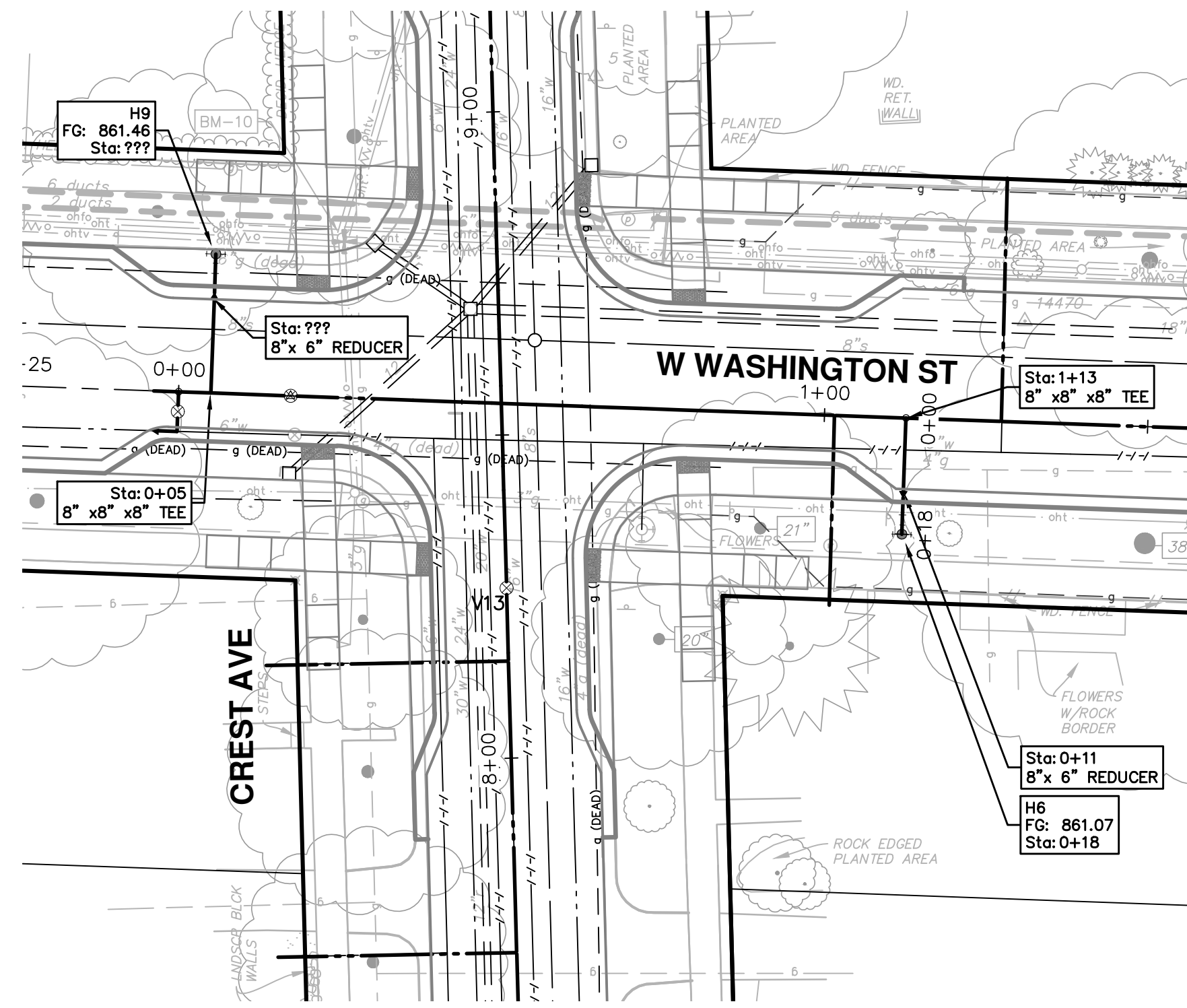
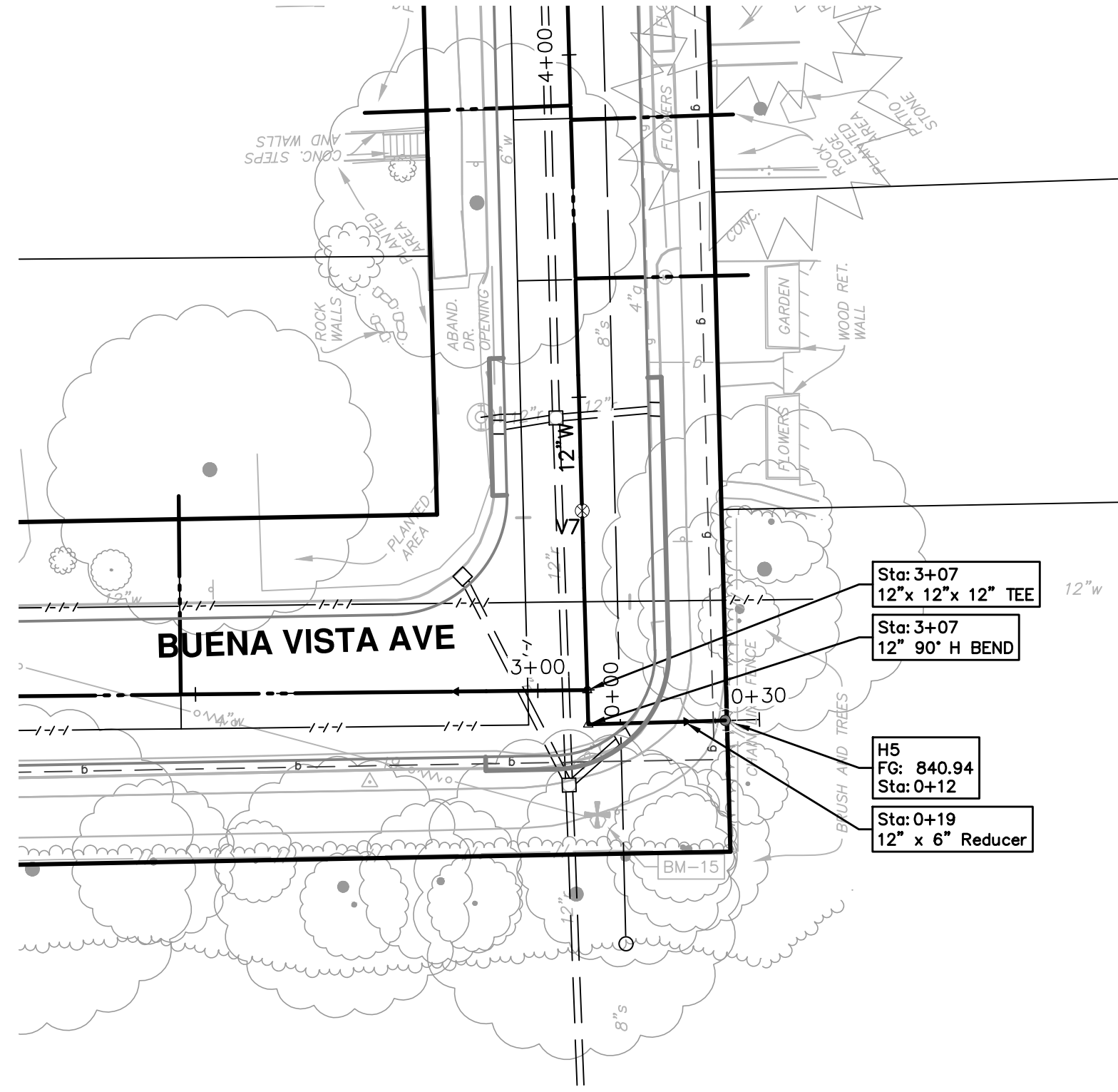
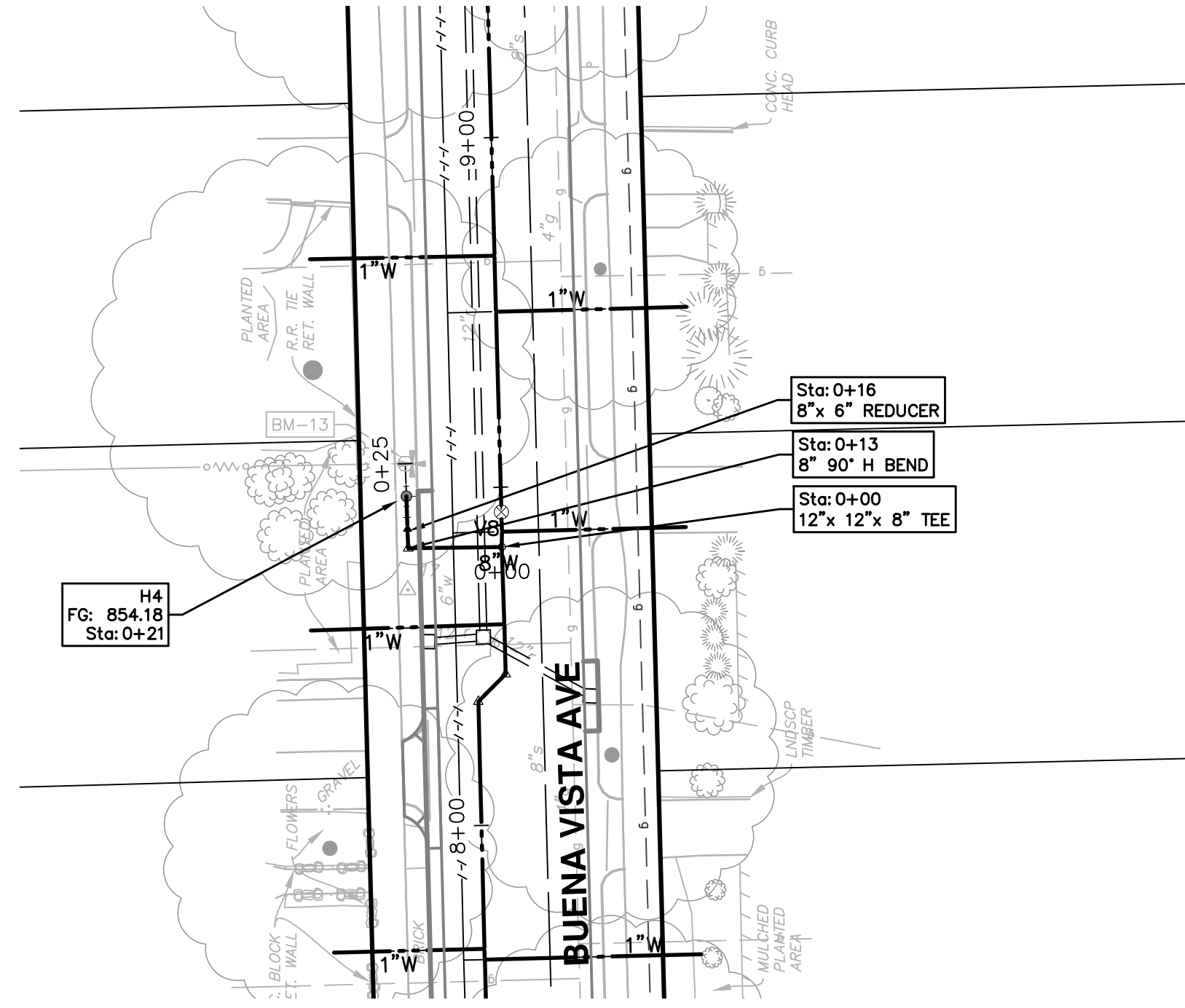
CREST, BUENA VISTA, WASHINGTON WATER MAIN

HYDRANT PROFILES
H1, H2, H3

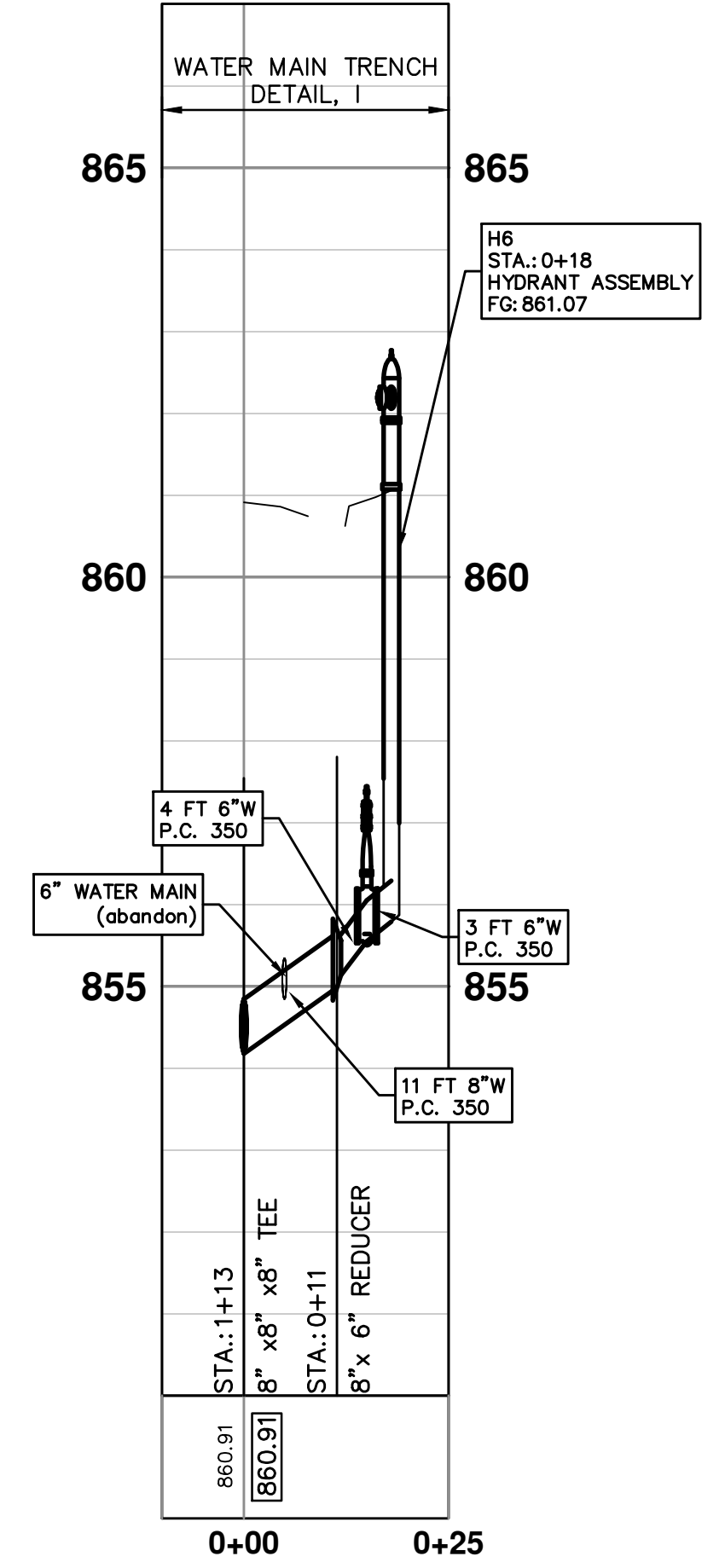
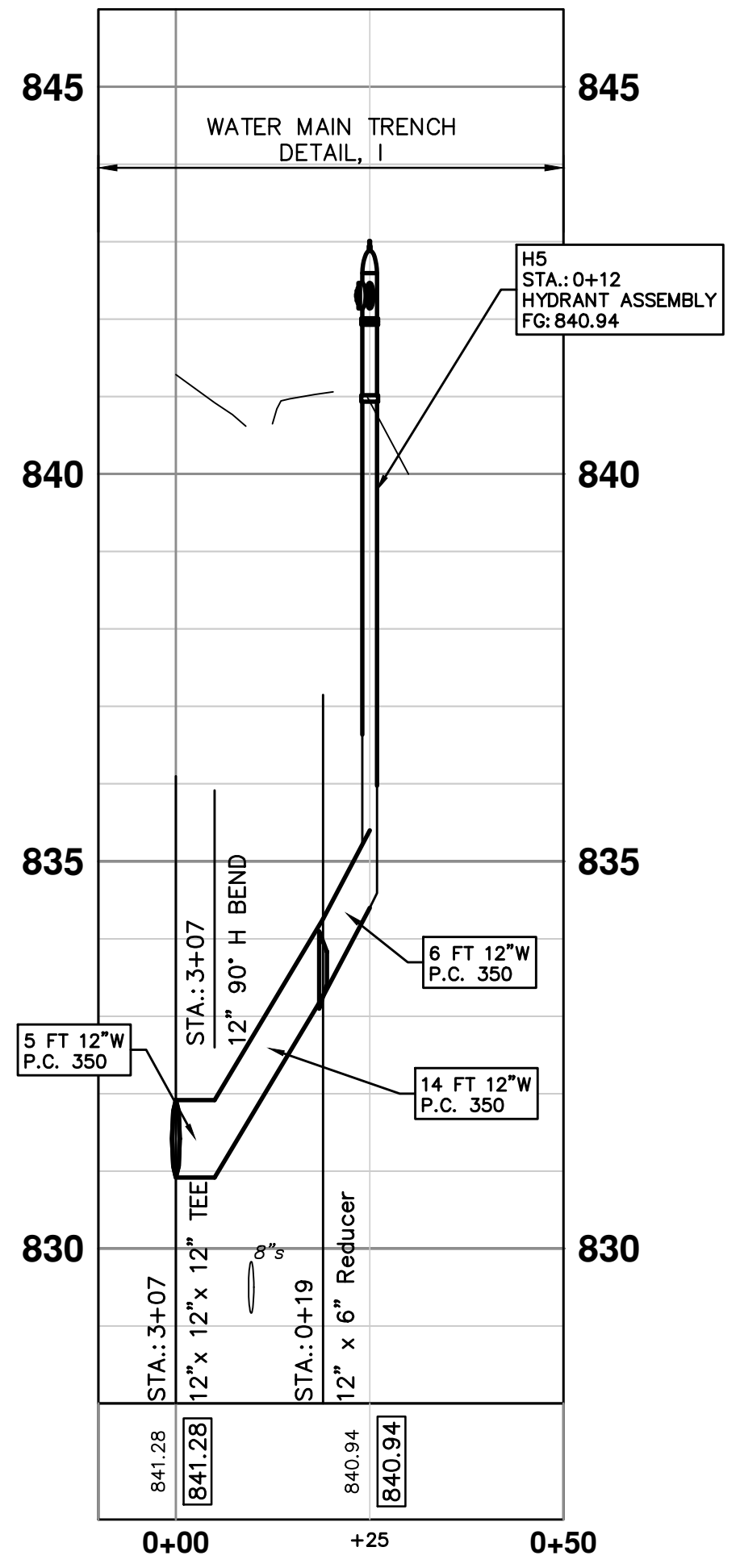
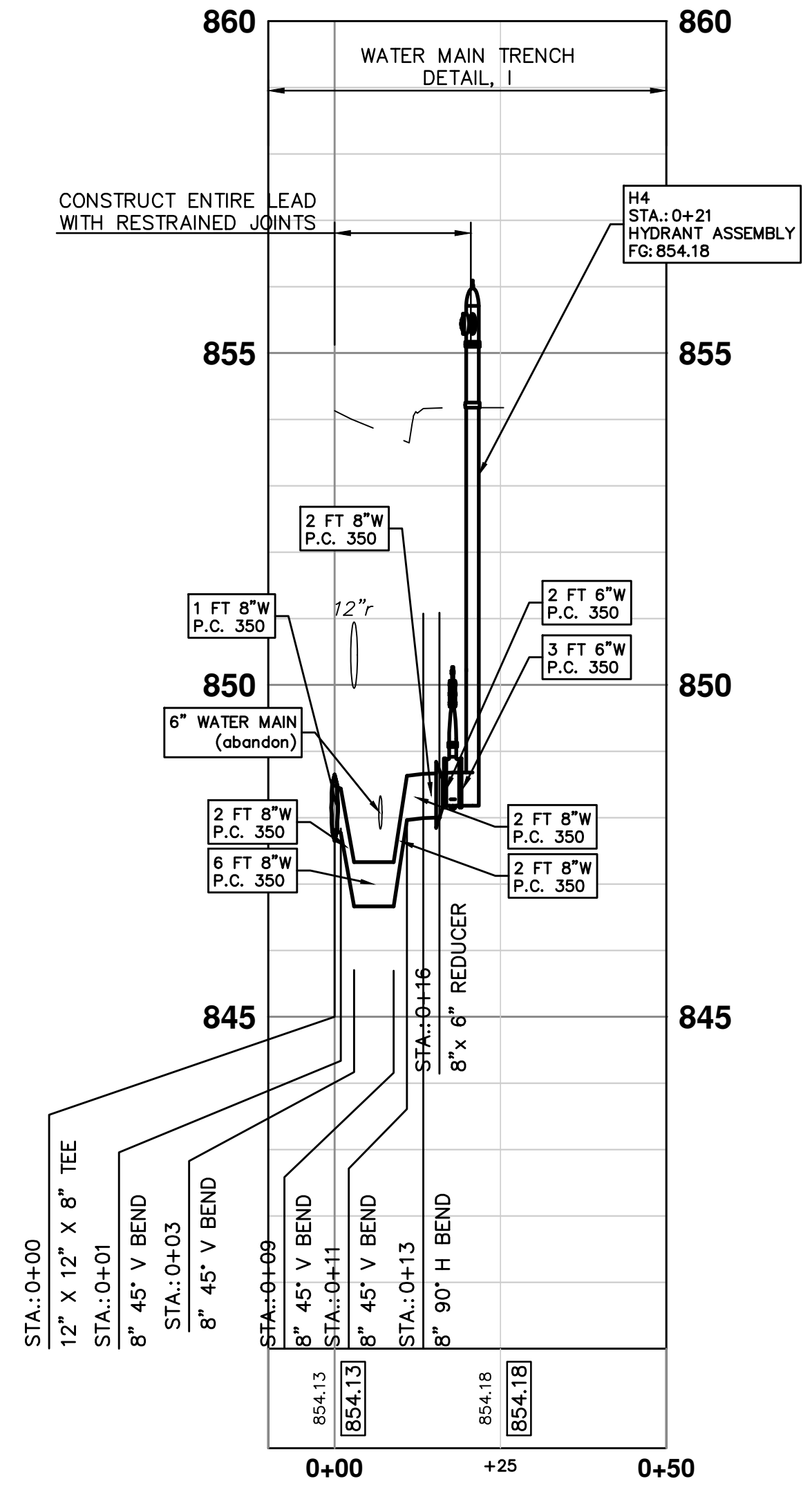
SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'
DRAWING NO.
2016029-30

SHEET No.
30 OF 46

| REV. | DATE | DESCRIPTION | DRAWN | CHECKED |
|------|--------|-------------|-------|---------|
| 00 | 2-6-18 | OUT FOR BID | JKA | |



| WATER MAIN STRUCTURE TABLE | | | | |
|----------------------------|------------------|---------|--------|-------|
| STRUCTURE | TYPE | STATION | RIM | DEPTH |
| H4 | HYDRANT ASSEMBLY | 0+21 | 854.18 | 6.00 |
| H5 | HYDRANT ASSEMBLY | 0+12 | 840.94 | 6.54 |
| H6 | HYDRANT ASSEMBLY | 0+18 | 861.07 | 5.28 |
| H9 | HYDRANT ASSEMBLY | ??? | 861.46 | 5.71 |



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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

DRAWING NO. 2016029-31

SHEET NO. 31 OF 46

CITY OF ANN ARBOR PUBLIC SERVICES

301 EAST HURON STREET
ANN ARBOR, MI 48106-0667
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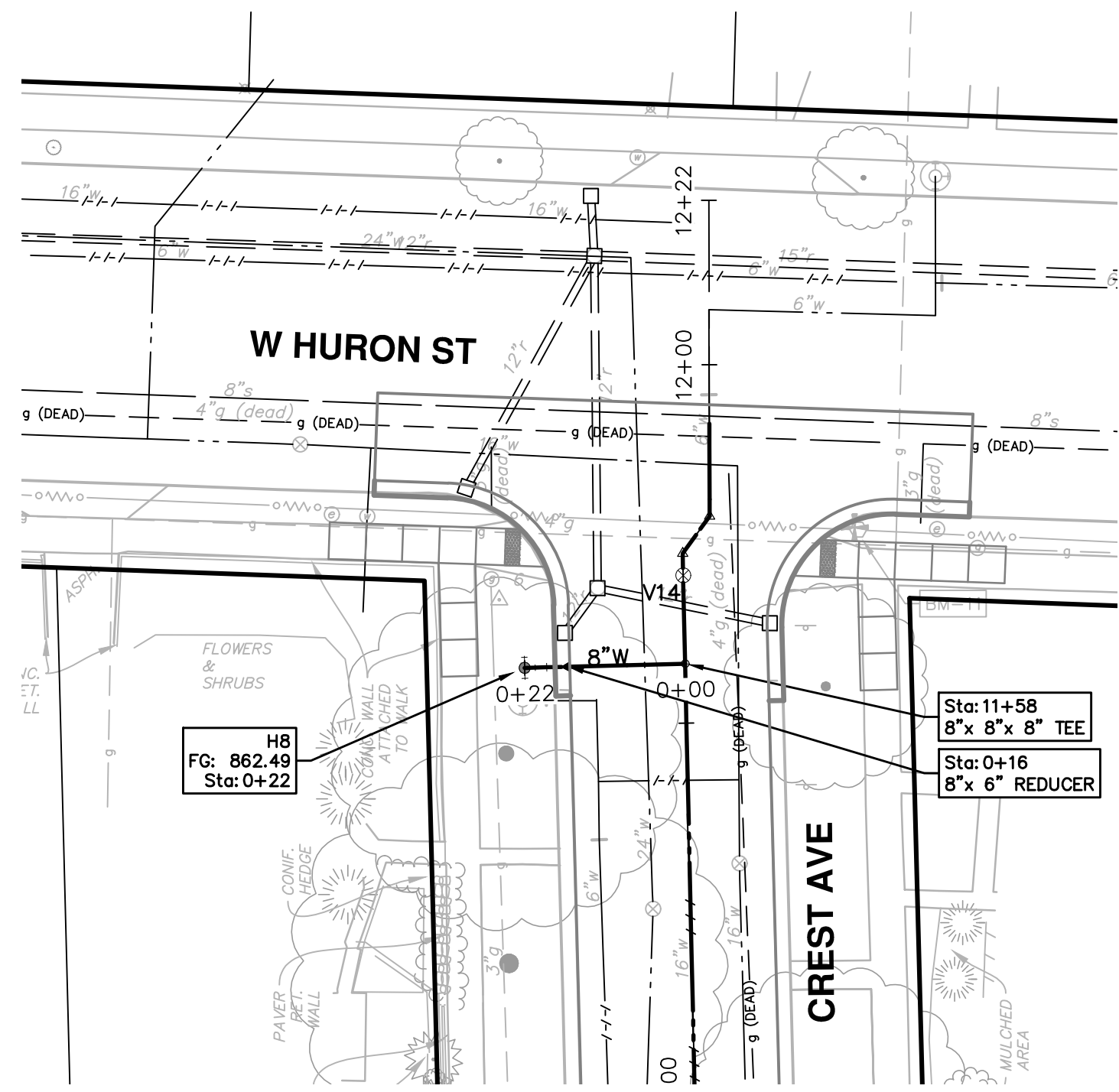
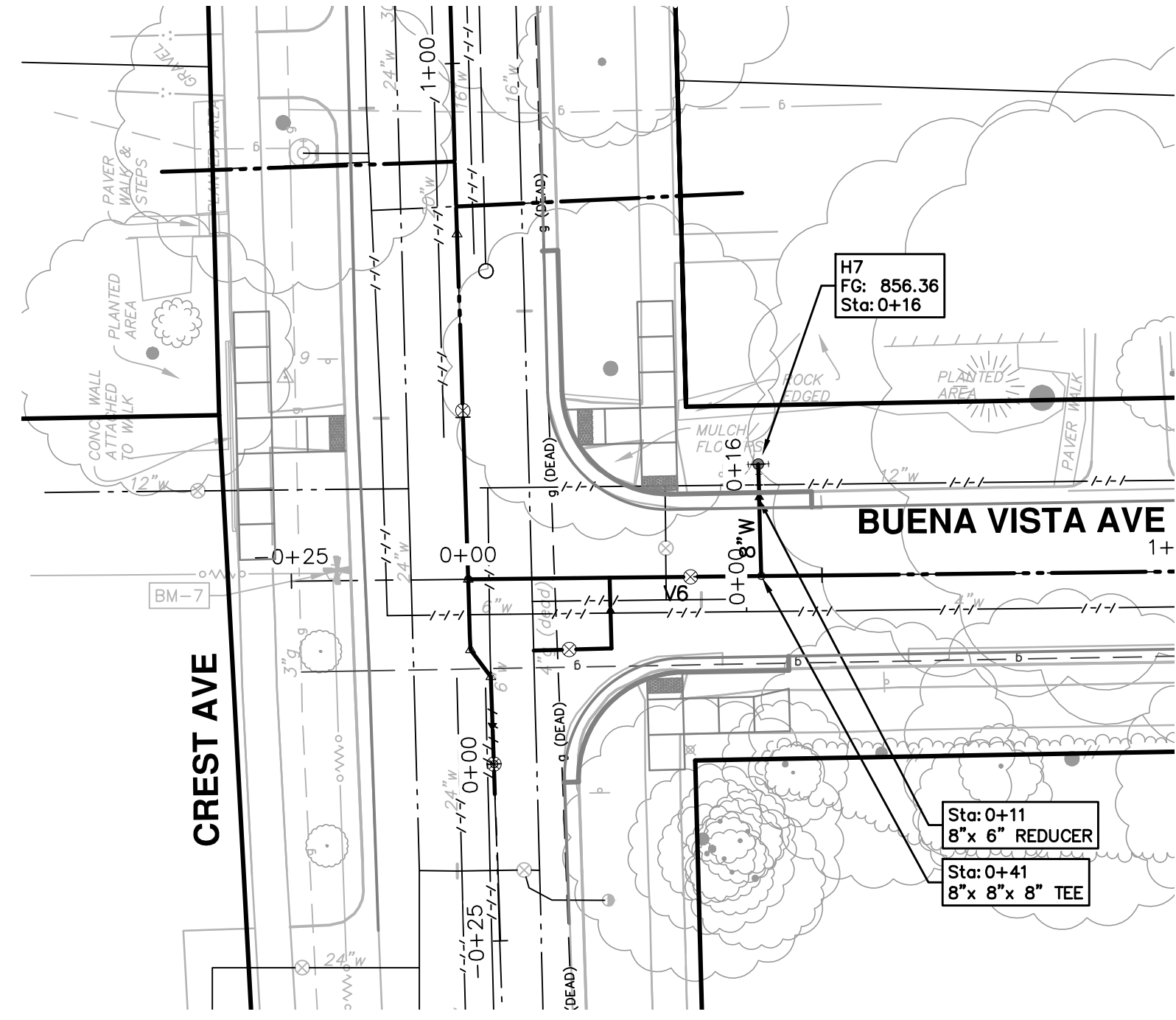
CITY OF ANN ARBOR

CREST, BUENA VISTA, WASHINGTON WATER MAIN

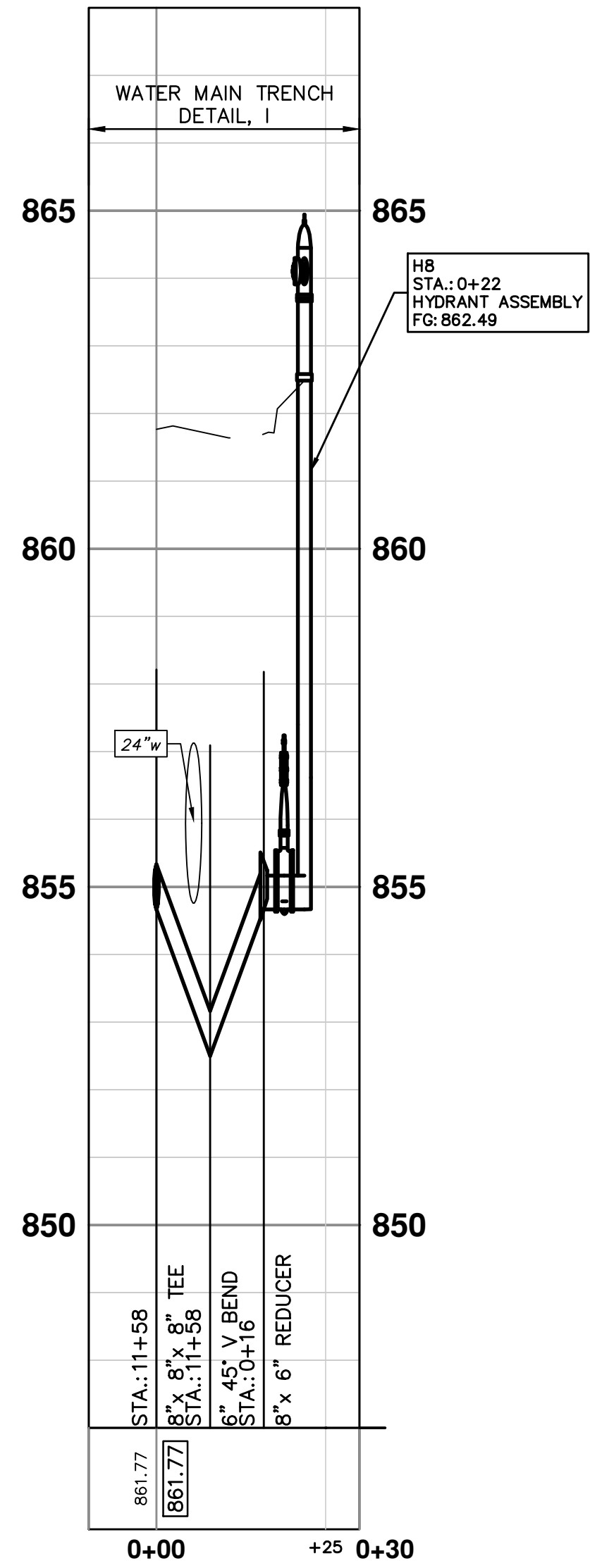
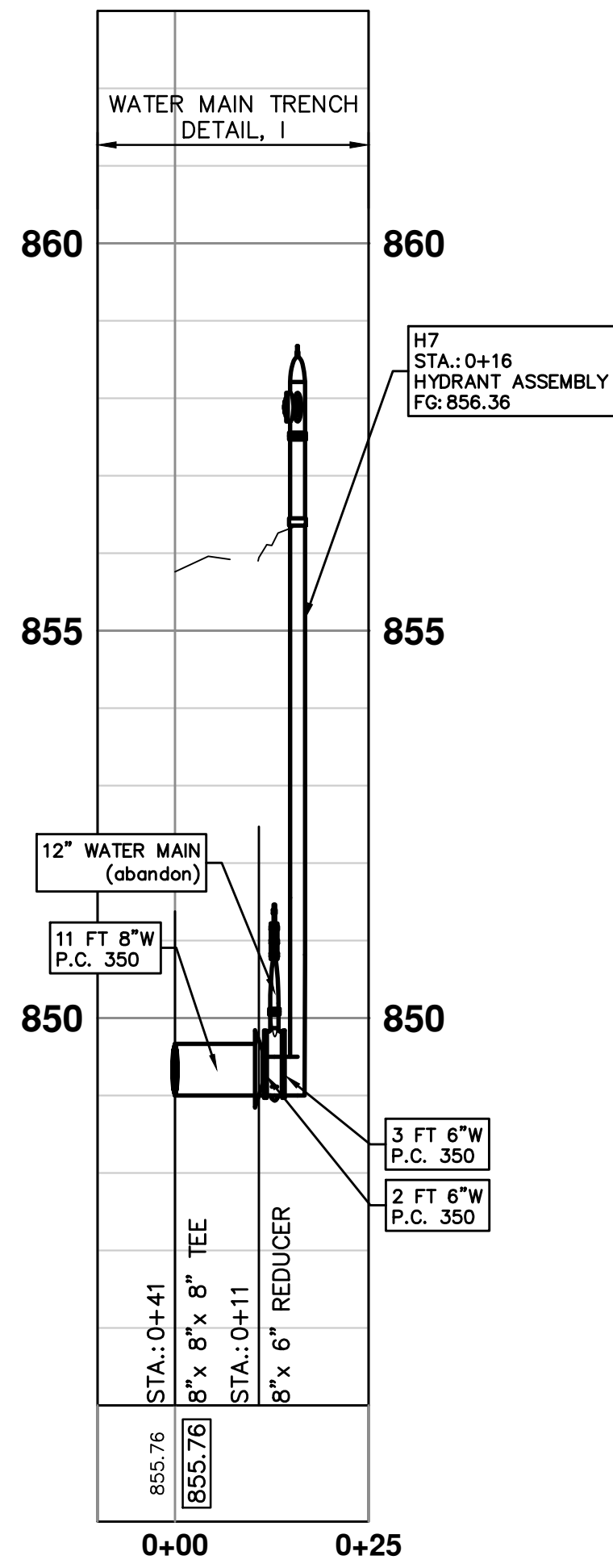
HYDRANT PROFILES
H4, H5, H6

| REV. | DATE | DESCRIPTION | DRAWN | CHECKED |
|------|--------|-------------|---------|---------|
| 00 | 2-6-18 | OUT FOR BID | JKA | |
| | | | CEC/DPF | |

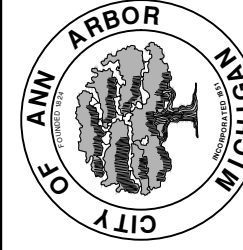
Know what's below. Call before you dig.



| WATER MAIN STRUCTURE TABLE | | | | |
|----------------------------|------------------|---------|--------|-------|
| STRUCTURE | TYPE | STATION | RIM | DEPTH |
| H7 | HYDRANT ASSEMBLY | 0+16 | 856.36 | 7.36 |
| H8 | HYDRANT ASSEMBLY | 0+22 | 862.49 | 7.82 |



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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CREST, BUENA VISTA, WASHINGTON WATER MAIN

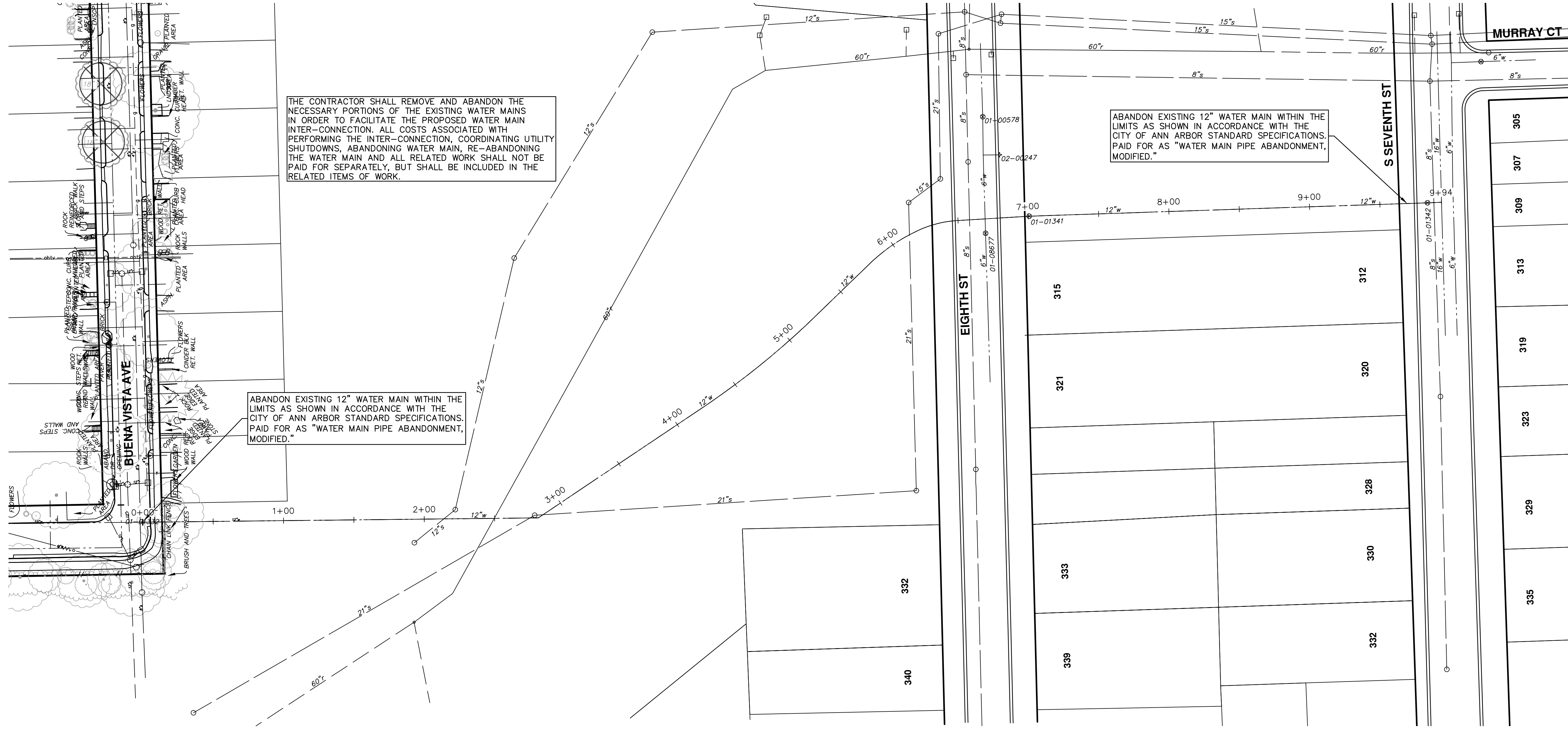
HYDRANT PROFILES
H7, H8

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

DRAWING No.
2016029-32

SHEET No.

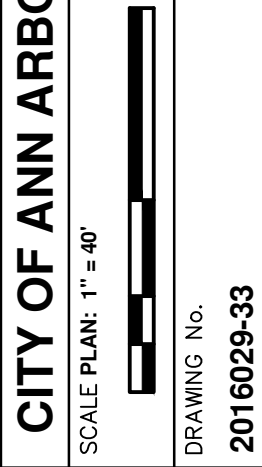
| REV. | DESCRIPTION | DATE | DRAWN | CHECKED |
|------|-------------|--------|---------|---------|
| 00 | OUT FOR BID | 2-6-18 | CEC/DFP | JKA |



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

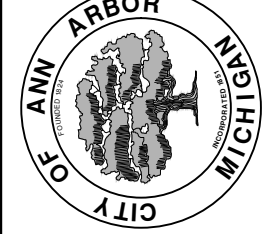
ABANDON EXISTING 12" WATER MAIN WITHIN THE LIMITS AS SHOWN IN ACCORDANCE WITH THE CITY OF ANN ARBOR STANDARD SPECIFICATIONS. PAID FOR AS "WATER MAIN PIPE ABANDONMENT, MODIFIED."

ABANDON EXISTING 12" WATER MAIN WITHIN THE LIMITS AS SHOWN IN ACCORDANCE WITH THE CITY OF ANN ARBOR STANDARD SPECIFICATIONS. PAID FOR AS "WATER MAIN PIPE ABANDONMENT, MODIFIED."



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
 SCALE PLAN: 1" = 40'
 DRAWING No. 2016029-33

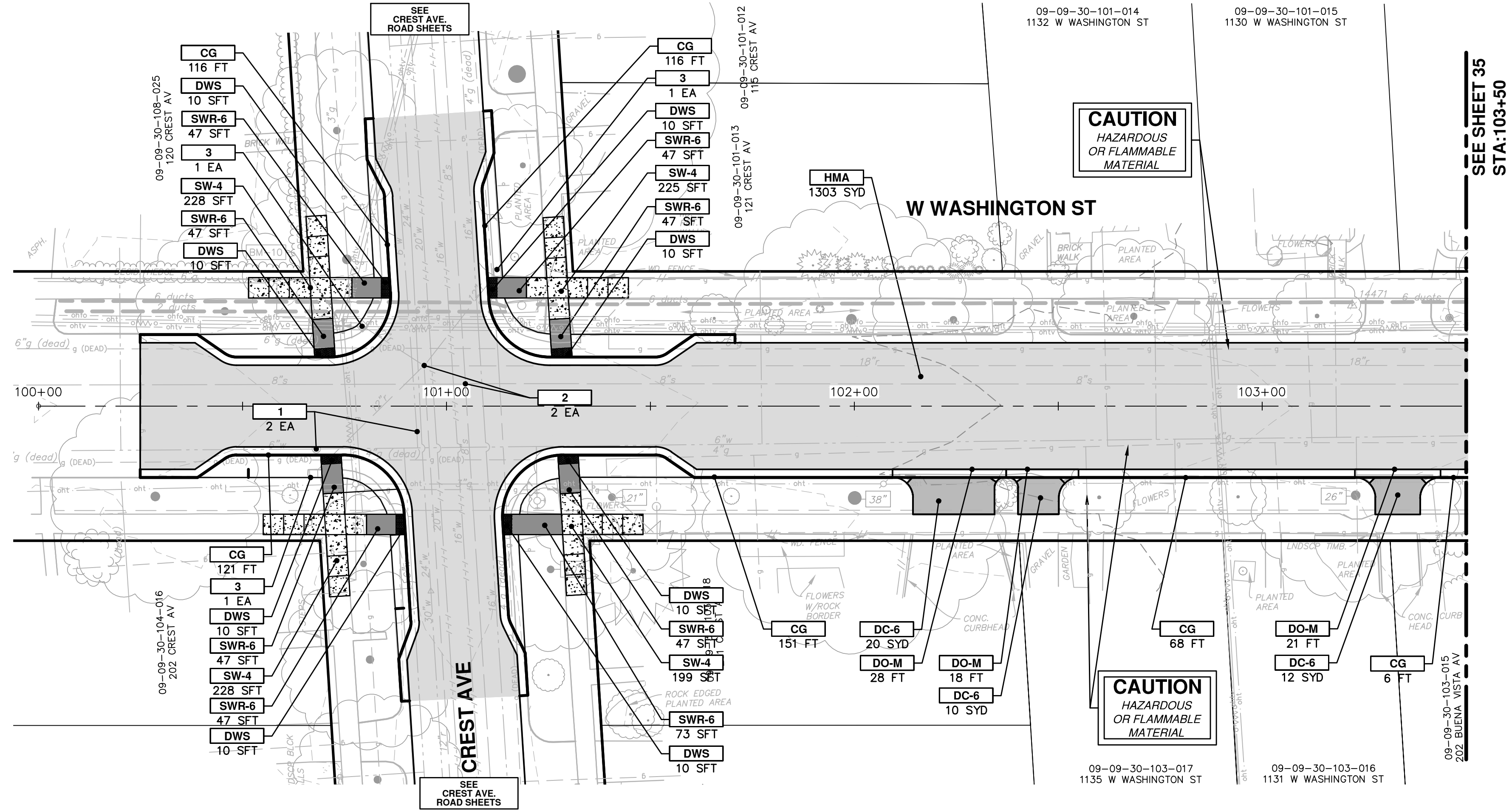
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
CREST, BUENA VISTA, WASHINGTON WATER MAIN
 CIVIL DEFENSE WATER MAIN ABANDONMENT
 WATER MAIN ABANDONMENT



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 ANN ARBOR: 734-794-4410
 WWW.A2GOV.ORG

| REV. | DESCRIPTION | DATE | DRAWN | CHECKED |
|------|-------------|--------|-------|---------|
| 00 | OUT FOR BID | 2-6-18 | JKA | |



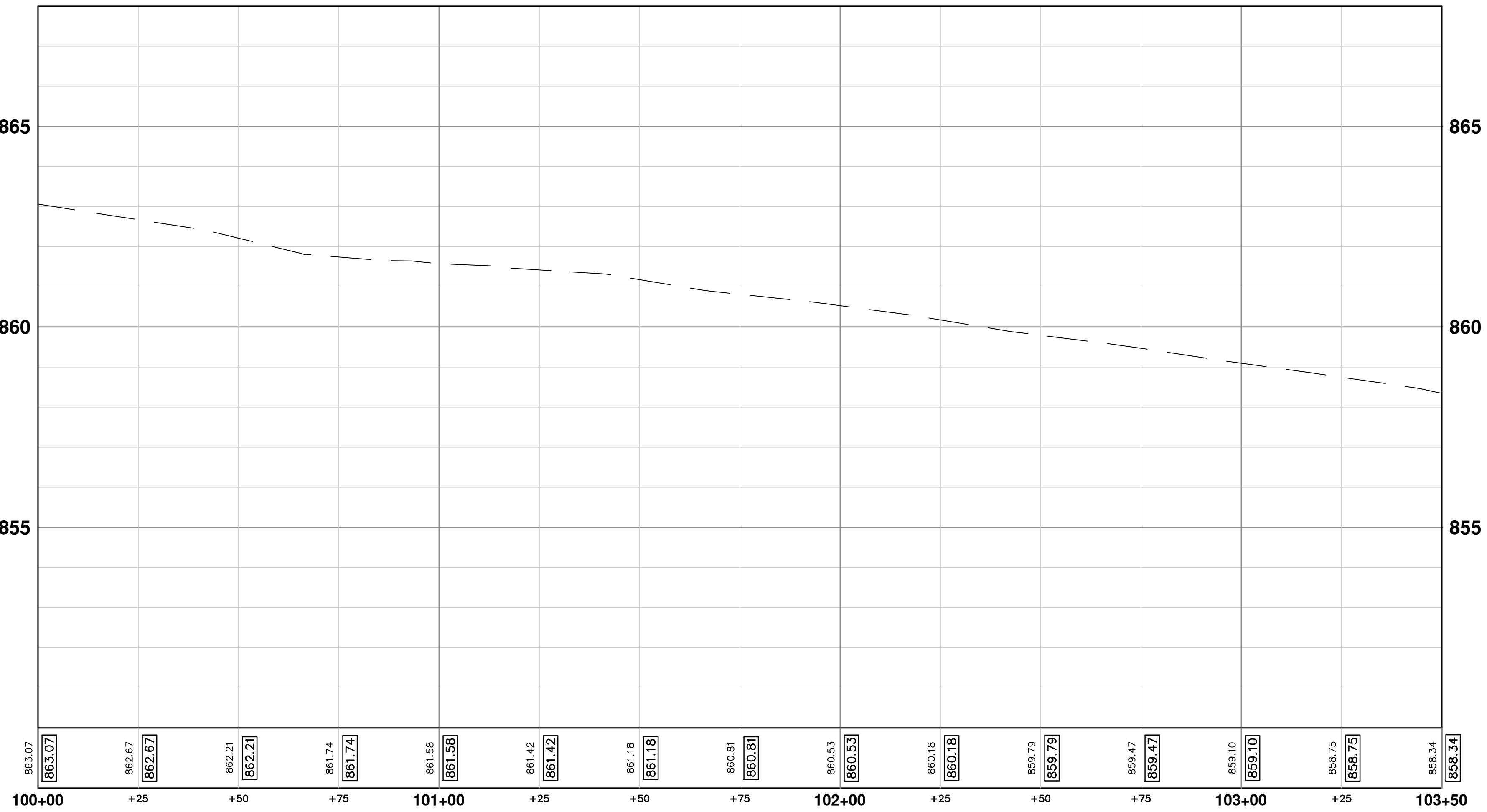


CAUTION
HAZARDOUS
OR FLAMMABLE
MATERIAL

CAUTION
HAZARDOUS
OR FLAMMABLE
MATERIAL

SEE SHEET 35
STA: 103+50

| CONSTRUCTION KEY | |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| KEY | DESCRIPTION |
| HMA | PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER. |
| CG | PLACE CURB AND GUTTER, CONC, F4, SPECIAL |
| DO-M | PLACE DRIVEWAY OPENING, CONC, DETAIL M, P-NC |
| DC-6 | PLACE CONC, DRIVE APPROACH, NON-REINFORCED, P-NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED. |
| SW-4 | PLACE SIDEWALK, CONC, 4 INCH, MODIFIED |
| SWR-6 | PLACE SIDEWALK RAMP, CONC, 6 INCH, MODIFIED |
| DWS | DETECTABLE WARNING, CAST IN PLACE |
| ABO | ADJUST BY OTHERS |
| 1 | ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX. |
| 2 | ADJUST STRUCTURE COVER |
| 3 | PLACE DR STRUCTURE, 24 INCH DIA & DR STRUCTURE COVER, TYPE K |



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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

DRAWING No. **2016029-34**

SHEET No. **34 OF 46**

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

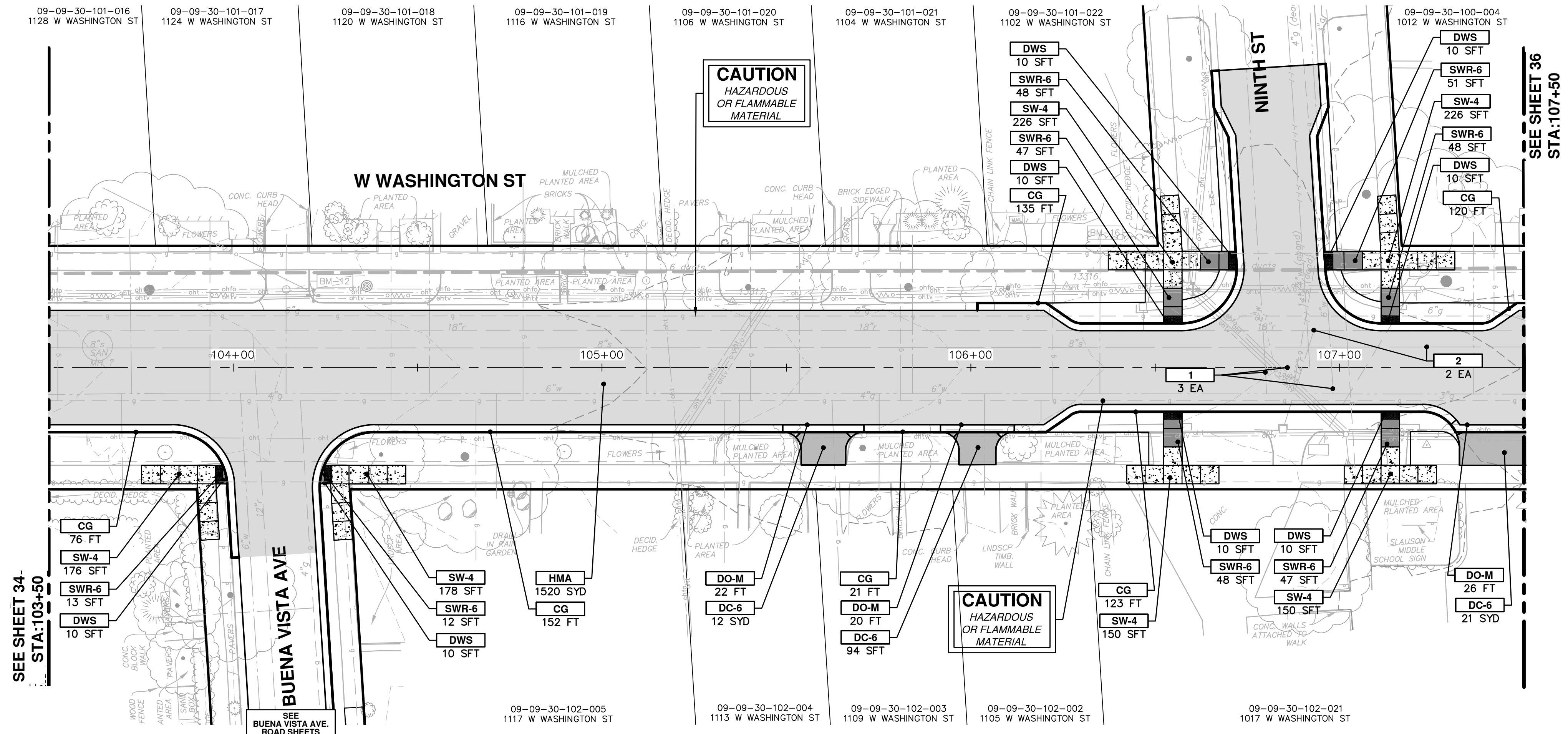
DATE: 2-6-18
DRAWN: JKA
CHECKED: JKA

**CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR, MI 48106-0667
www.a2gov.org**

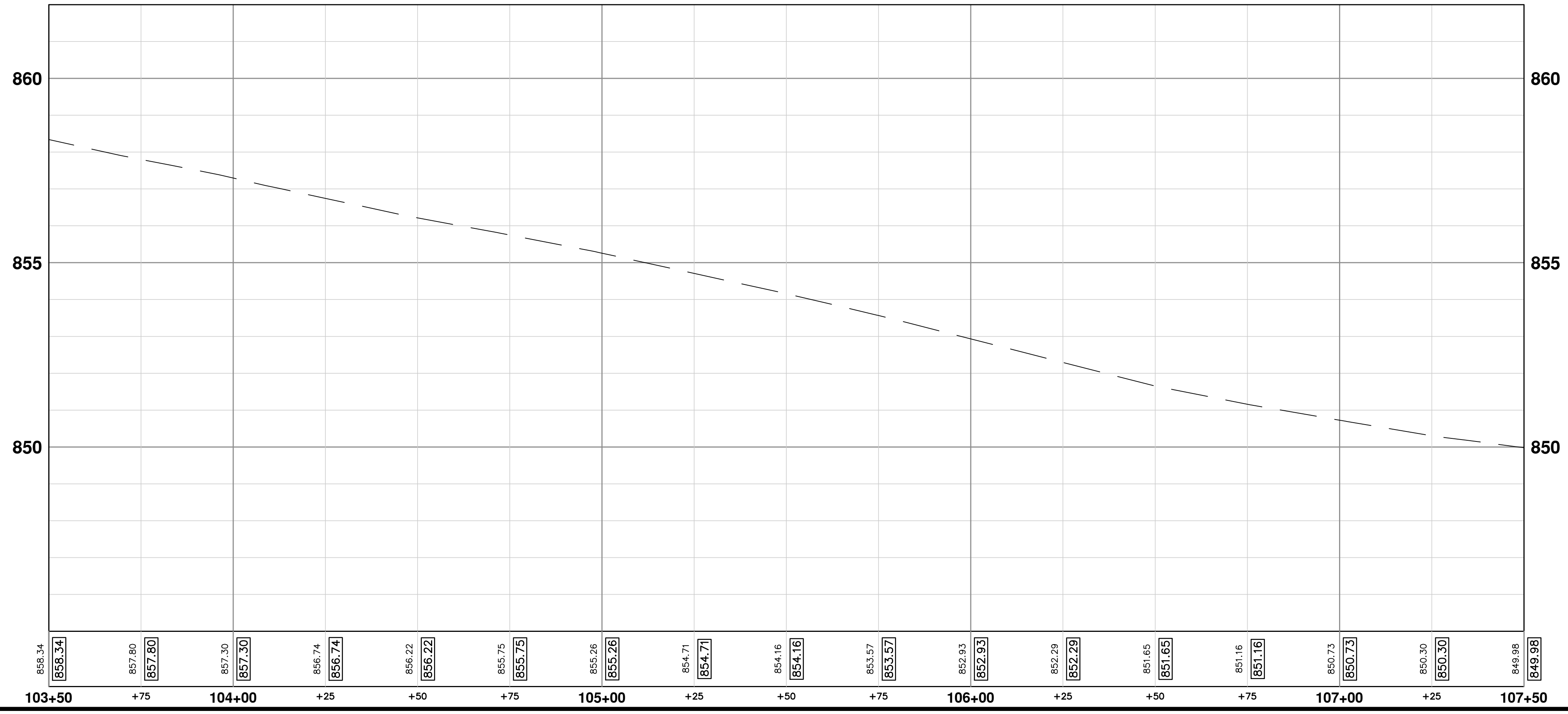
CITY OF ANN ARBOR

CREST, BUENA VISTA, WASHINGTON WATER MAIN

WASHINGTON ST. ROAD PLAN AND PROFILE
STA. 100+00 TO STA. 103+50



| CONSTRUCTION KEY | |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| KEY | DESCRIPTION |
| HMA | PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER. |
| CG | PLACE CURB AND GUTTER, CONC. F4, SPECIAL |
| DO-M | PLACE DRIVEWAY OPENING, CONC. DETAIL M, P-NC |
| DC-6 | PLACE CONC. DRIVE APPROACH, NON-REINFORCED, P-NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED. |
| SW-4 | PLACE SIDEWALK, CONC. 4 INCH, MODIFIED |
| SWR-6 | PLACE SIDEWALK RAMP, CONC. 6 INCH, MODIFIED |
| DWS | DETECTABLE WARNING, CAST IN PLACE |
| ABO | ADJUST BY OTHERS |
| 1 | ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX. |
| 2 | ADJUST STRUCTURE COVER |
| 3 | PLACE DR STRUCTURE, 24 INCH DIA & DR STRUCTURE COVER, TYPE K |



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CREST, BUENA VISTA, WASHINGTON WATER MAIN

WASHINGTON ST. ROAD PLAN AND PROFILE
STA. 103+50 TO STA. 107+50

SHEET No. 35 OF 46

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

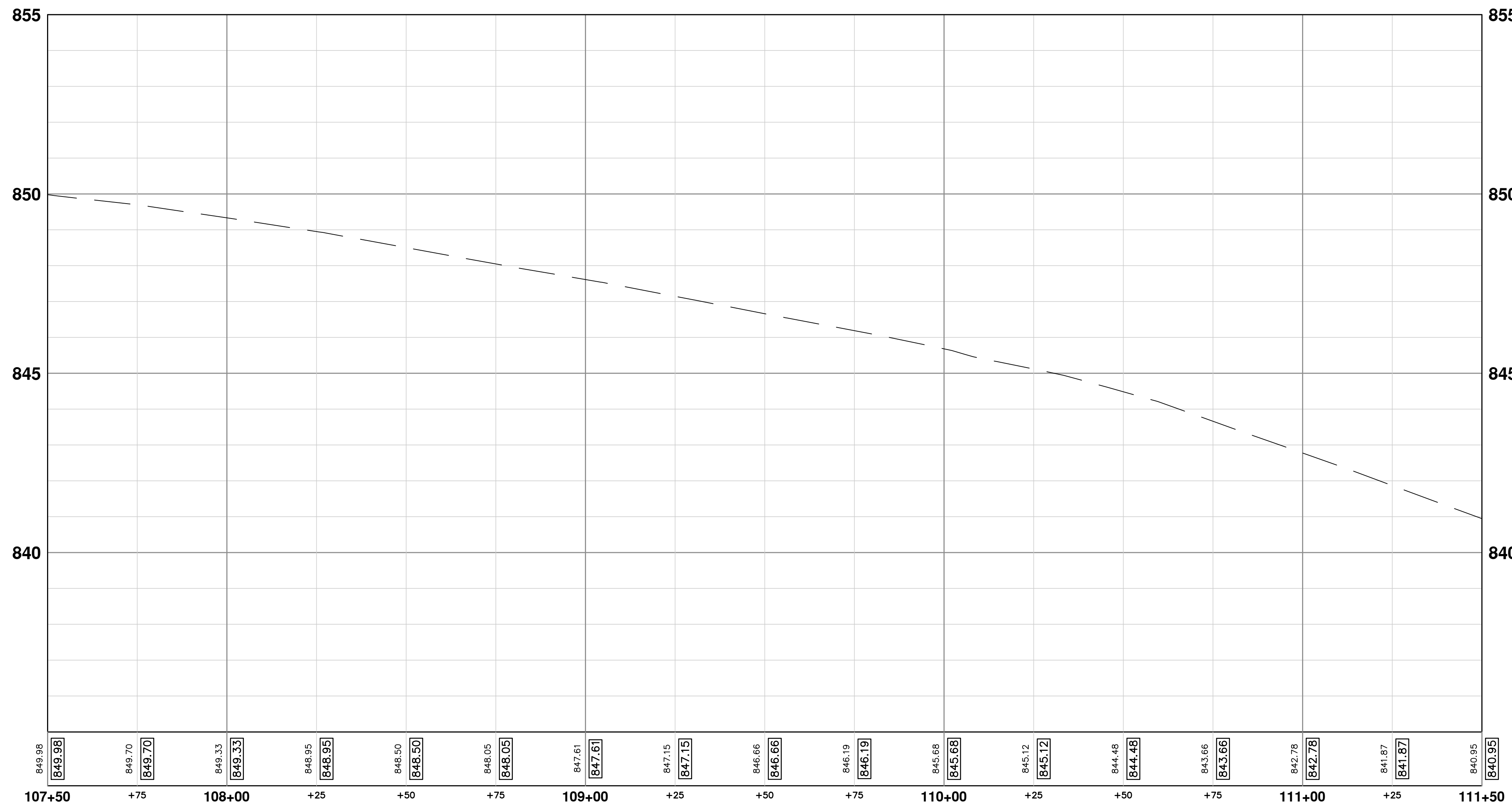
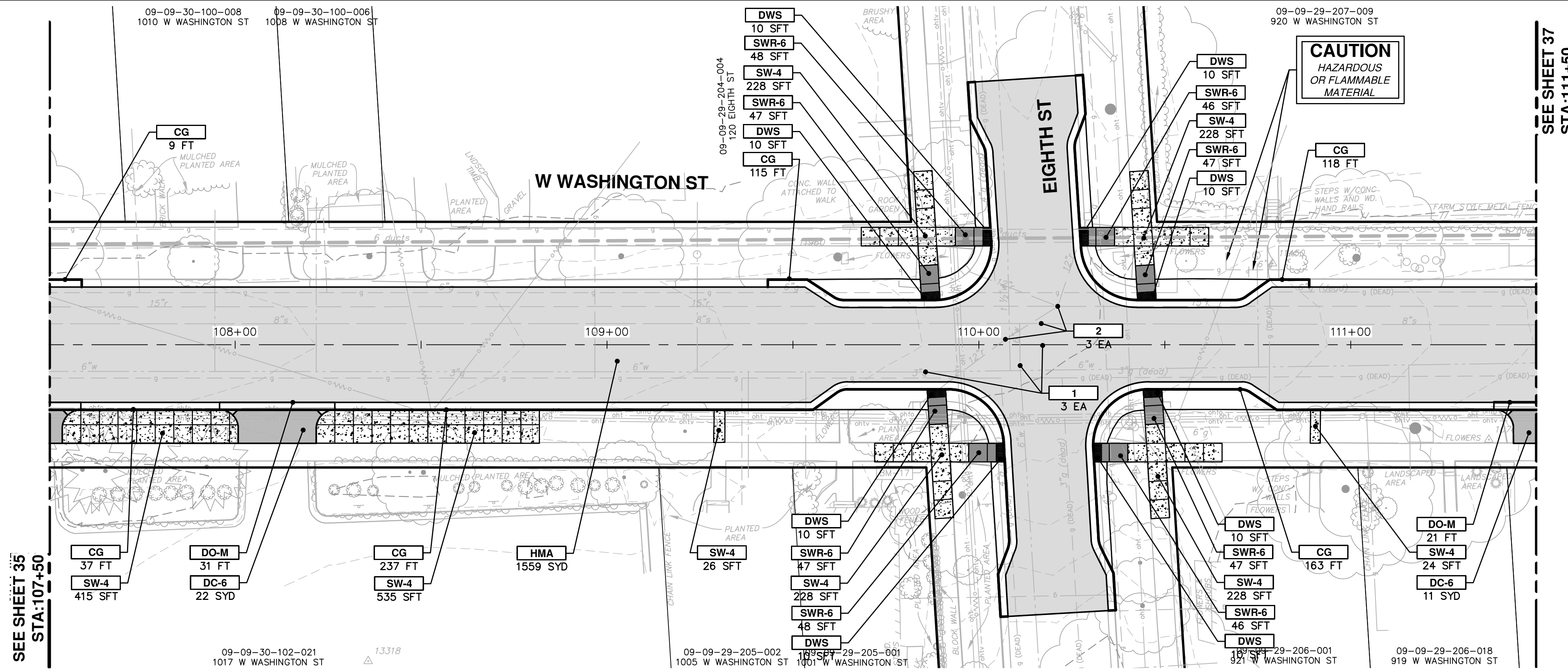
DRAWING No. 2016029-35

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR, MI 48106-1667
ANN ARBOR: 734-794-4410
WWW.A2GOV.ORG

DATE: 2-6-18
DRAWN: JKA
CHECKED: JKA

DESCRIPTION: OUT FOR BID

REV. 00



CONSTRUCTION KEY

| KEY | DESCRIPTION |
|-------|----------------------------------------------------------------------------------------------------------------------------------------|
| HMA | PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER. |
| CG | PLACE CURB AND GUTTER, CONC. F4, SPECIAL |
| DO-M | PLACE DRIVEWAY OPENING, CONC. DETAIL M, P-NC |
| DC-6 | PLACE CONC. DRIVE APPROACH, NON-REINFORCED, P-NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED. |
| SW-4 | PLACE SIDEWALK, CONC. 4 INCH, MODIFIED |
| SWR-6 | PLACE SIDEWALK RAMP, CONC. 6 INCH, MODIFIED |
| DWS | DETECTABLE WARNING, CAST IN PLACE |
| ABO | ADJUST BY OTHERS |
| 1 | ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX. |
| 2 | ADJUST STRUCTURE COVER |
| 3 | PLACE DR STRUCTURE, 24 INCH DIA & DR STRUCTURE COVER, TYPE K |

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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

CREST, BUENA VISTA, WASHINGTON WATER MAIN

WASHINGTON ST. ROAD PLAN AND PROFILE
STA. 107+50 TO STA. 111+50

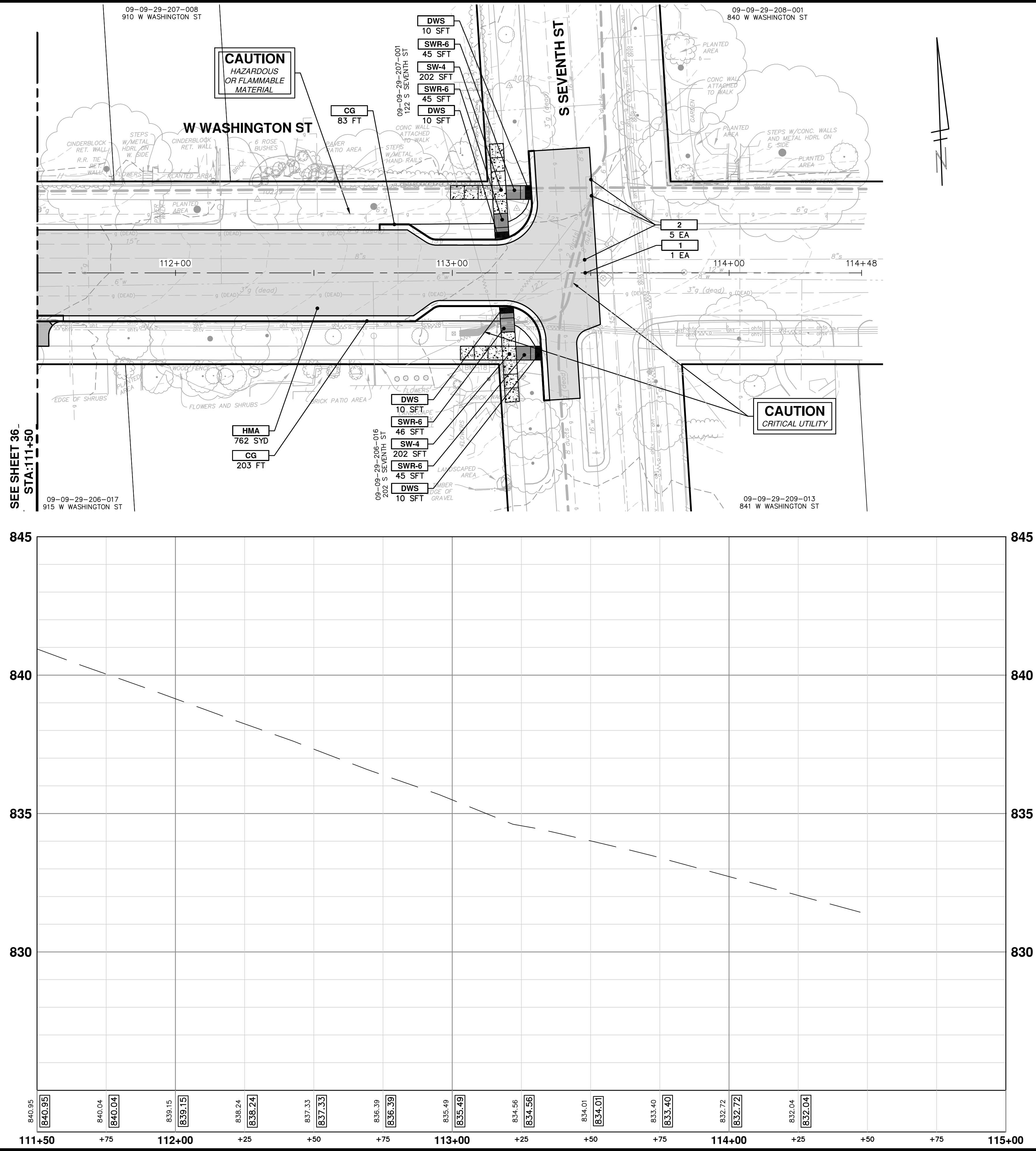
DRAWING No. **2016029-36**

SHEET No. **36 OF 46**

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

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PUBLIC SERVICES
301 EAST HURON STREET
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ANN ARBOR 734-784-4110
www.a2gov.org

DATE: 2-6-18
DRAWN: JKA
CHECKED: JKA



| CONSTRUCTION KEY | |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| KEY | DESCRIPTION |
| HMA | PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER. |
| CG | PLACE CURB AND GUTTER, CONC, F4, SPECIAL |
| DO-M | PLACE DRIVEWAY OPENING, CONC, DETAIL M, P-NC |
| DC-6 | PLACE CONC. DRIVE APPROACH, NON-REINFORCED, P-NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED. |
| SW-4 | PLACE SIDEWALK, CONC, 4 INCH, MODIFIED |
| SWR-6 | PLACE SIDEWALK RAMP, CONC, 6 INCH, MODIFIED |
| DWS | DETECTABLE WARNING, CAST IN PLACE |
| ABO | ADJUST BY OTHERS |
| 1 | ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX. |
| 2 | ADJUST STRUCTURE COVER |
| 3 | PLACE DR STRUCTURE, 24 INCH DIA & DR STRUCTURE COVER, TYPE K |

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CREST, BUENA VISTA, WASHINGTON WATER MAIN

WASHINGTON ST. ROAD PLAN AND PROFILE
STA. 111+50 TO STA. 114+48

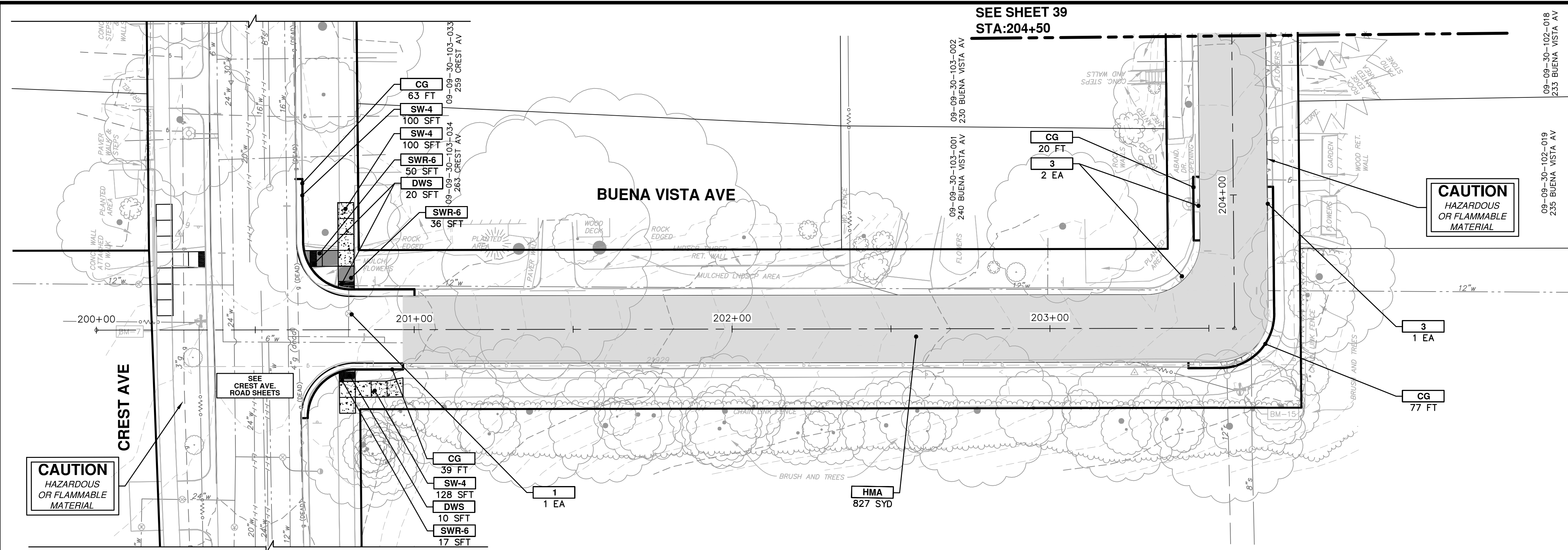
SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'

DRAWING No. **2016029-37**

SHEET No. **37 OF 46**

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR, MI 48106-0667
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| | | | | |
|------|-------------|--------|-------|---------|
| REV. | DESCRIPTION | DATE | DRAWN | CHECKED |
| 00 | OUT FOR BID | 2-6-18 | JKA | |



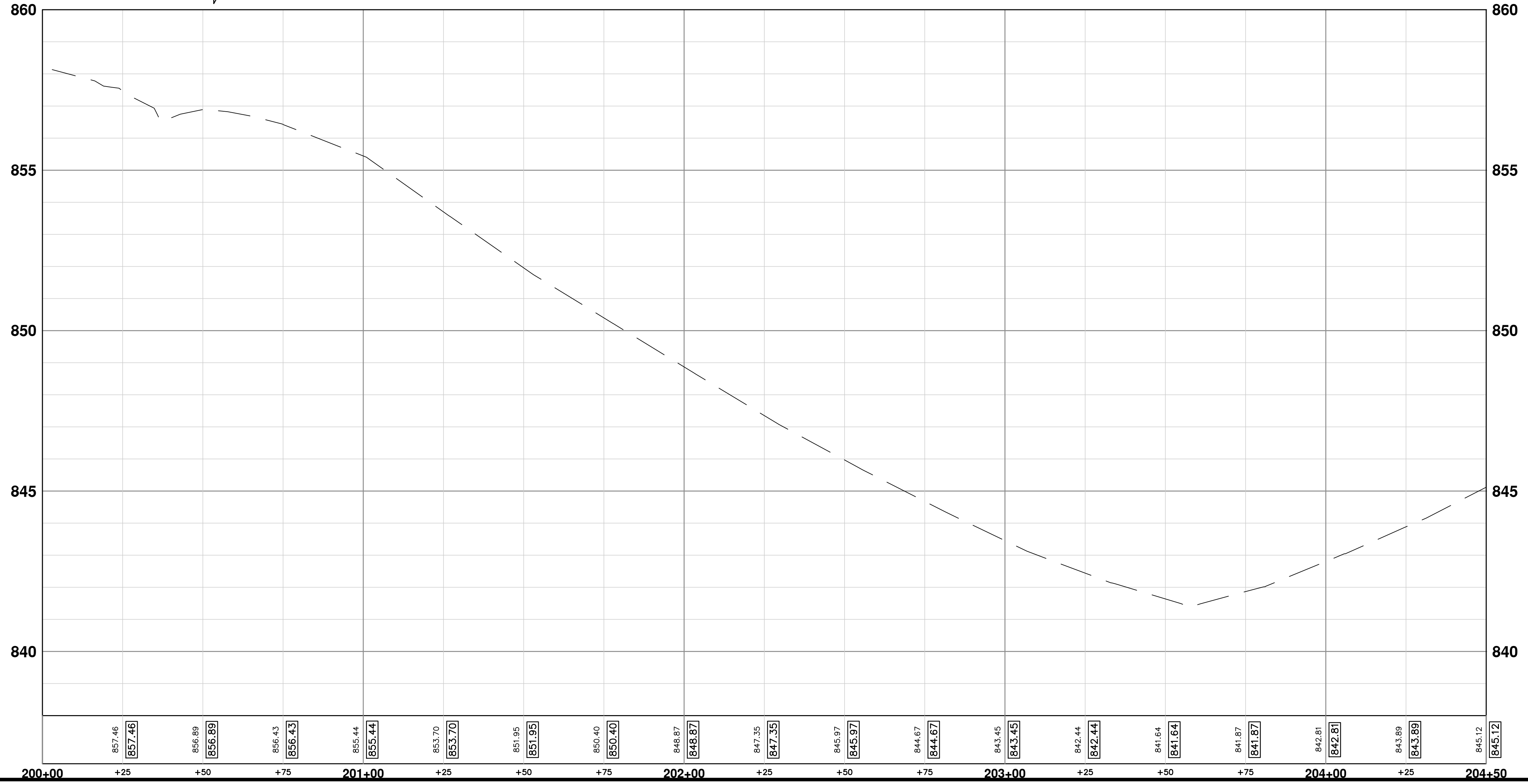
SEE SHEET 39
STA:204+50

CAUTION
HAZARDOUS
OR FLAMMABLE
MATERIAL

CAUTION
HAZARDOUS
OR FLAMMABLE
MATERIAL



| CONSTRUCTION KEY | |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| KEY | DESCRIPTION |
| HMA | PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER. |
| CG | PLACE CURB AND GUTTER, CONC, F4, SPECIAL |
| DO-M | PLACE DRIVEWAY OPENING, CONC, DETAIL M, P-NC |
| DC-6 | PLACE CONC. DRIVE APPROACH, NON-REINFORCED, P-NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED. |
| SW-4 | PLACE SIDEWALK, CONC, 4 INCH, MODIFIED |
| SWR-6 | PLACE SIDEWALK RAMP, CONC, 6 INCH, MODIFIED |
| DWS | DETECTABLE WARNING, CAST IN PLACE |
| ABO | ADJUST BY OTHERS |
| 1 | ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX. |
| 2 | ADJUST STRUCTURE COVER |
| 3 | PLACE DR STRUCTURE, 24 INCH DIA & DR STRUCTURE COVER, TYPE K |



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

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

CREST, BUENA VISTA, WASHINGTON WATER MAIN

BUENA VISTA AVE ROAD PLAN AND PROFILE
STA. 200+00 TO STA. 204+50

DRAWING No. **2016029-38**

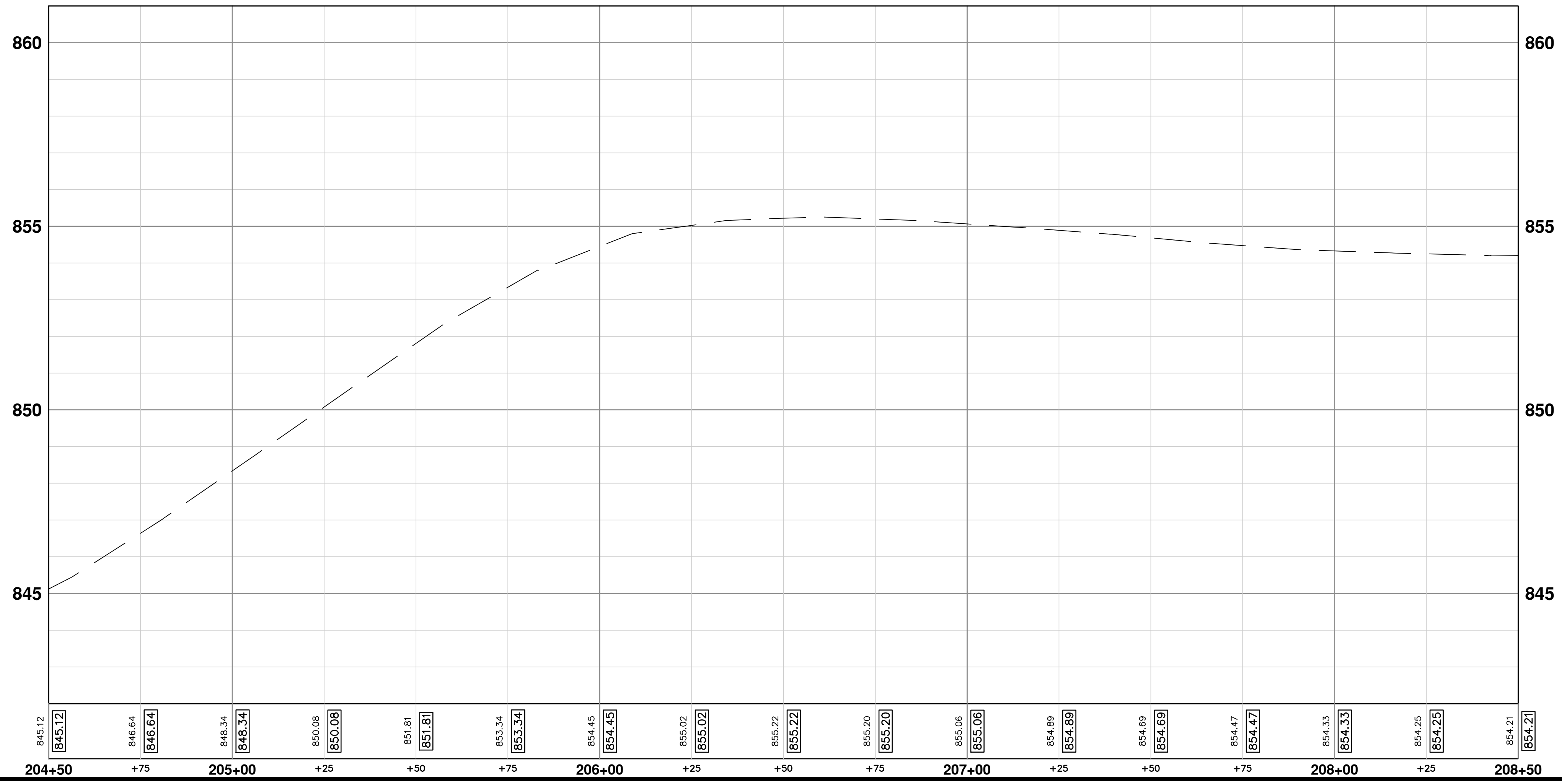
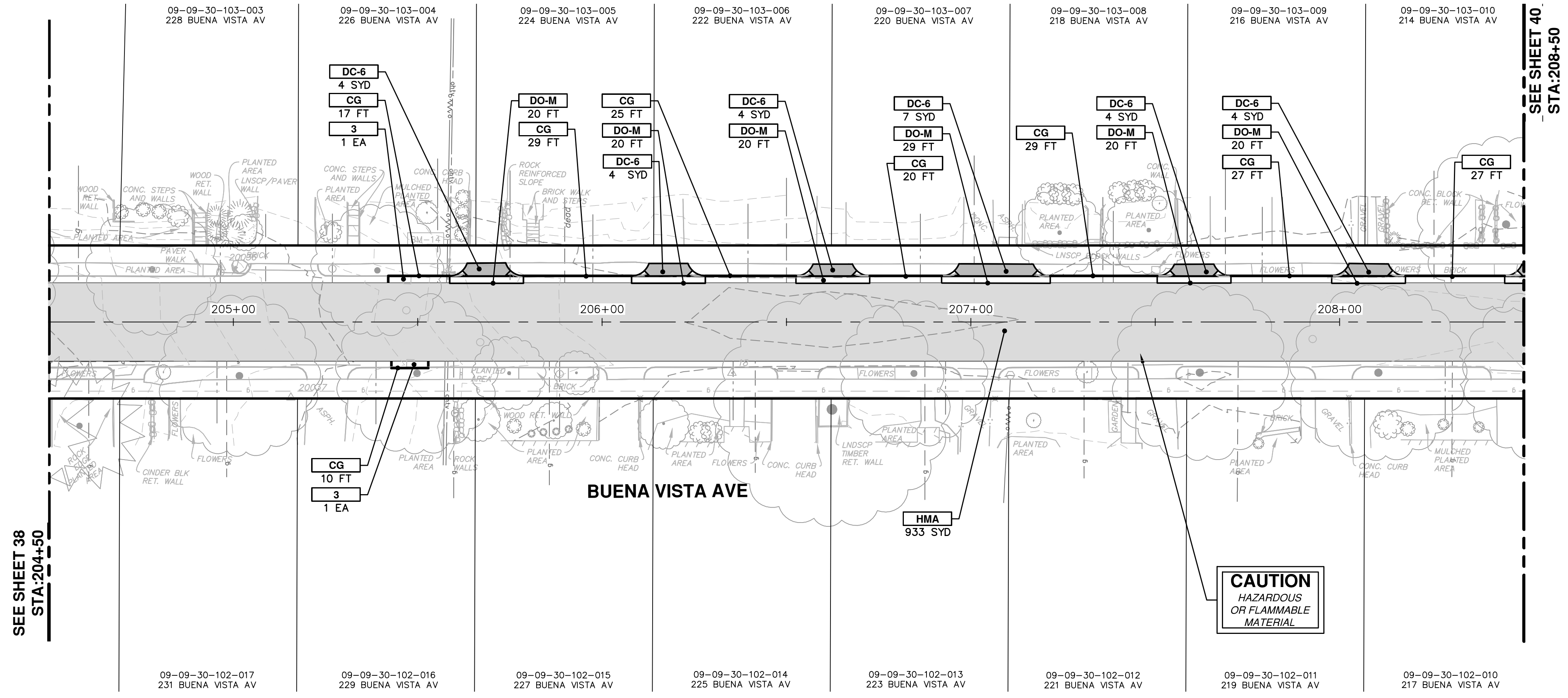
SHEET No. **38 OF 46**

811
Know what's below.
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DATE: 2-6-18
DRAWN: JKA
CHECKED: JKA

DESCRIPTION: REV.



| CONSTRUCTION KEY | |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| KEY | DESCRIPTION |
| HMA | PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER. |
| CG | PLACE CURB AND GUTTER, CONC, F4, SPECIAL |
| DO-M | PLACE DRIVEWAY OPENING, CONC, DETAIL M, P-NC |
| DC-6 | PLACE CONC. DRIVE APPROACH, NON-REINFORCED, P-NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED. |
| SW-4 | PLACE SIDEWALK, CONC, 4 INCH, MODIFIED |
| SWR-6 | PLACE SIDEWALK RAMP, CONC, 6 INCH, MODIFIED |
| DWS | DETECTABLE WARNING, CAST IN PLACE |
| ABO | ADJUST BY OTHERS |
| 1 | ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX. |
| 2 | ADJUST STRUCTURE COVER |
| 3 | PLACE DR STRUCTURE, 24 INCH DIA & DR STRUCTURE COVER, TYPE K |

CAUTION
HAZARDOUS
OR FLAMMABLE
MATERIAL

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CREST, BUENA VISTA, WASHINGTON WATER MAIN

BUENA VISTA AVE ROAD PLAN AND PROFILE
STA. 204+50 TO STA. 208+50

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

DRAWING No. 2016029-39

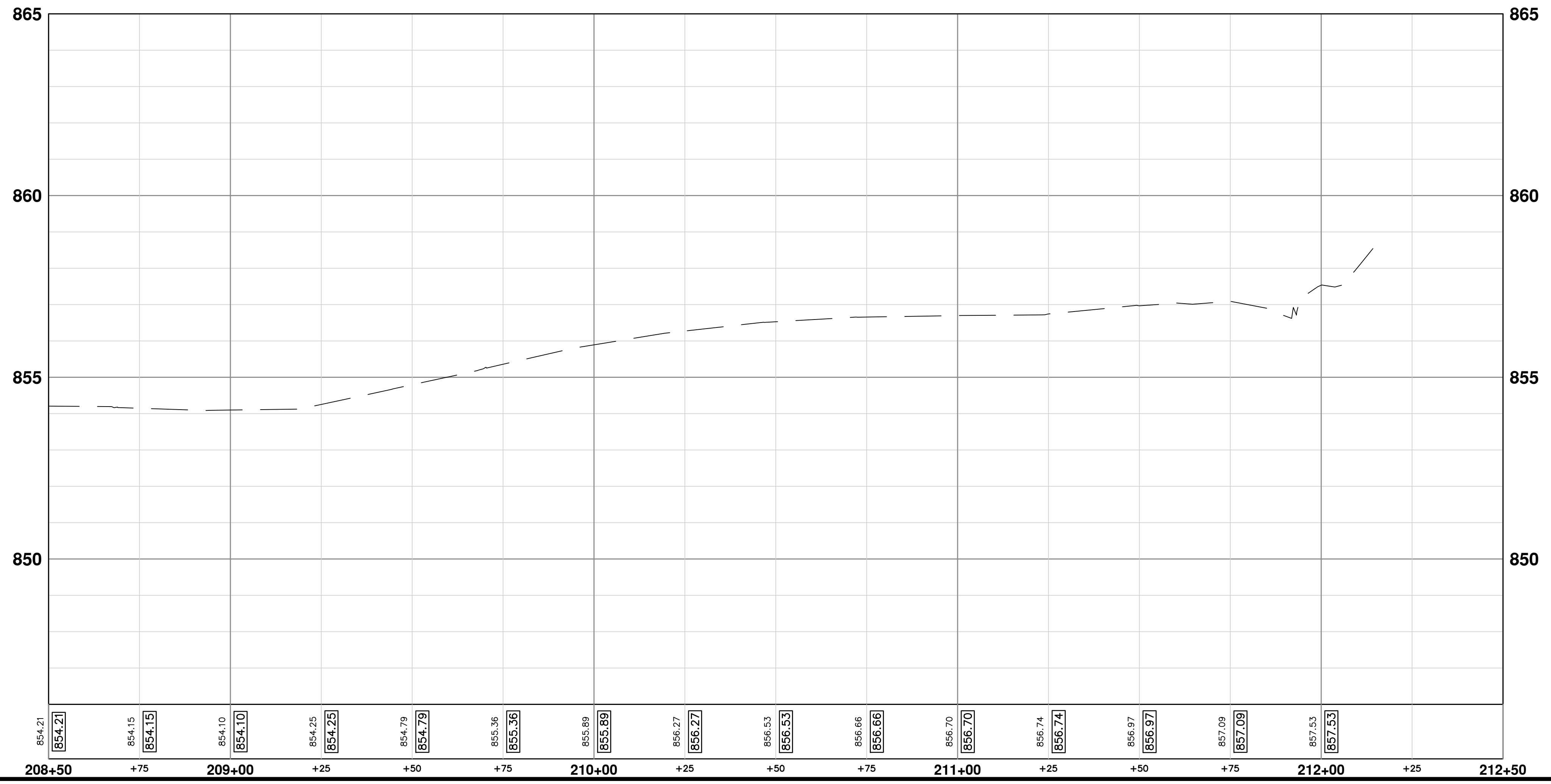
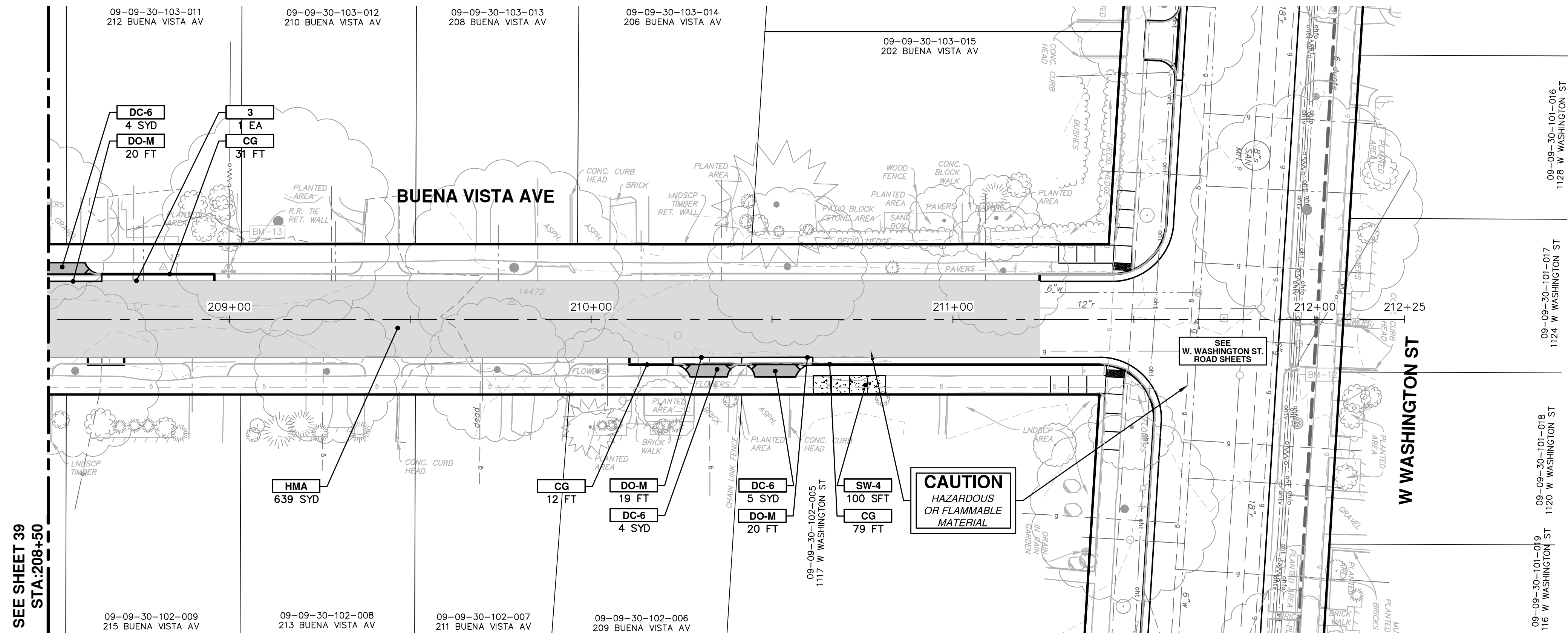
SHEET No. 39 OF 46

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| CONSTRUCTION KEY | |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| KEY | DESCRIPTION |
| HMA | PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER. |
| CG | PLACE CURB AND GUTTER, CONC, F4, SPECIAL |
| DO-M | PLACE DRIVEWAY OPENING, CONC, DETAIL M, P-NC |
| DC-6 | PLACE CONC. DRIVE APPROACH, NON-REINFORCED, P-NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED. |
| SW-4 | PLACE SIDEWALK, CONC, 4 INCH, MODIFIED |
| SWR-6 | PLACE SIDEWALK RAMP, CONC, 6 INCH, MODIFIED |
| DWS | DETECTABLE WARNING, CAST IN PLACE |
| ABO | ADJUST BY OTHERS |
| 1 | ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX. |
| 2 | ADJUST STRUCTURE COVER |
| 3 | PLACE DR STRUCTURE, 24 INCH DIA & DR STRUCTURE COVER, TYPE K |

SEE SHEET 39
STA. 208+50

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CREST, BUENA VISTA, WASHINGTON WATER MAIN

BUENA VISTA AVE ROAD PLAN AND PROFILE
STA. 208+50 TO STA. 212+50

DRAWING No. **2016029-40**

SHEET No. **40 OF 46**

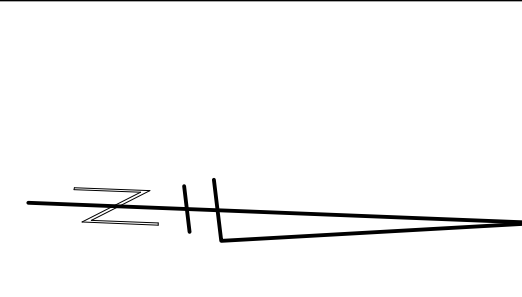
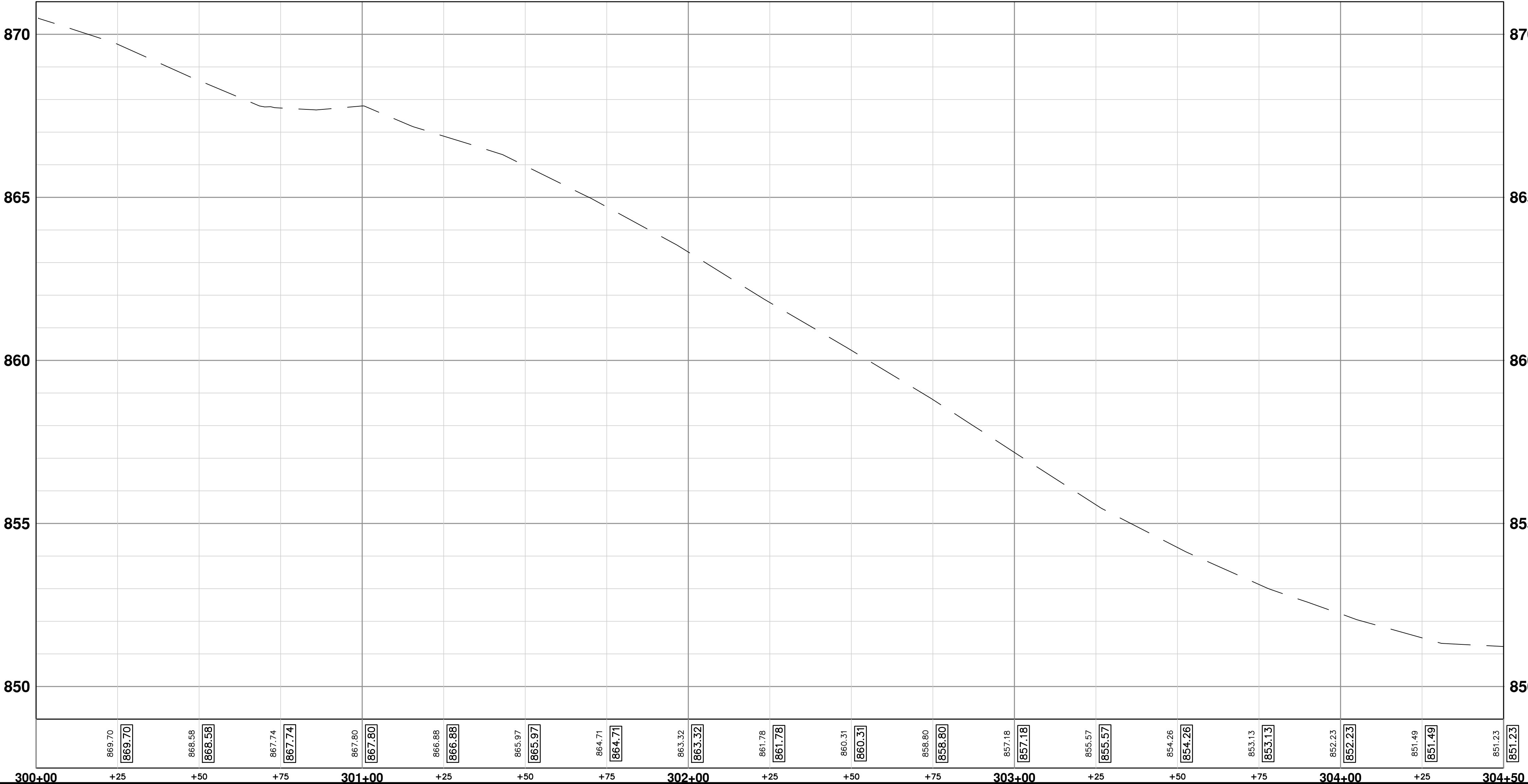
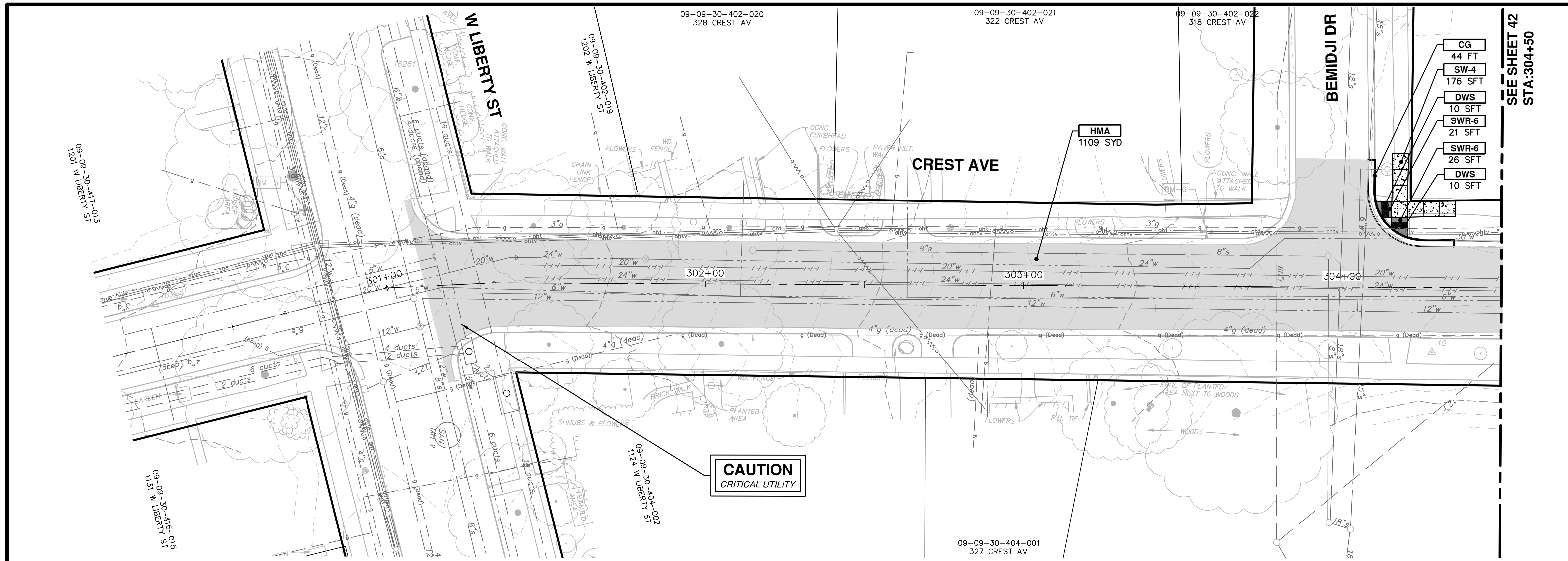
SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'

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SEE SHEET 42
STA. 304+50

- CG
44 FT
176 SFT
- SW-4
10 SFT
- DWS
21 SFT
- SWR-6
26 SFT
- DWS
10 SFT

| CONSTRUCTION KEY | |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| KEY | DESCRIPTION |
| HMA | PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER. |
| CG | PLACE CURB AND GUTTER, CONC. F4, SPECIAL |
| DO-M | PLACE DRIVEWAY OPENING, CONC. DETAIL M, P-NC |
| DC-6 | PLACE CONC. DRIVE APPROACH, NON-REINFORCED, P-NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, GIP, CLASS II GRANULAR MATERIAL, MODIFIED. |
| SW-4 | PLACE SIDEWALK, CONC. 4 INCH, MODIFIED |
| SWR-6 | PLACE SIDEWALK RAMP, CONC. 6 INCH, MODIFIED |
| DWS | DETECTABLE WARNING, CAST IN PLACE |
| ABO | ADJUST BY OTHERS |
| 1 | ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX. |
| 2 | ADJUST STRUCTURE COVER |
| 3 | PLACE DR STRUCTURE, 24 INCH DIA & DR STRUCTURE COVER, TYPE K |

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CREST, BUENA VISTA, WASHINGTON WATER MAIN

CREST AVE. ROAD PLAN AND PROFILE
STA. 300+00 TO STA. 304+50

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

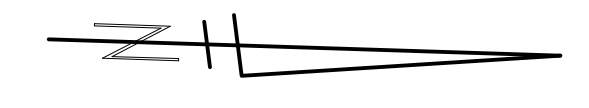
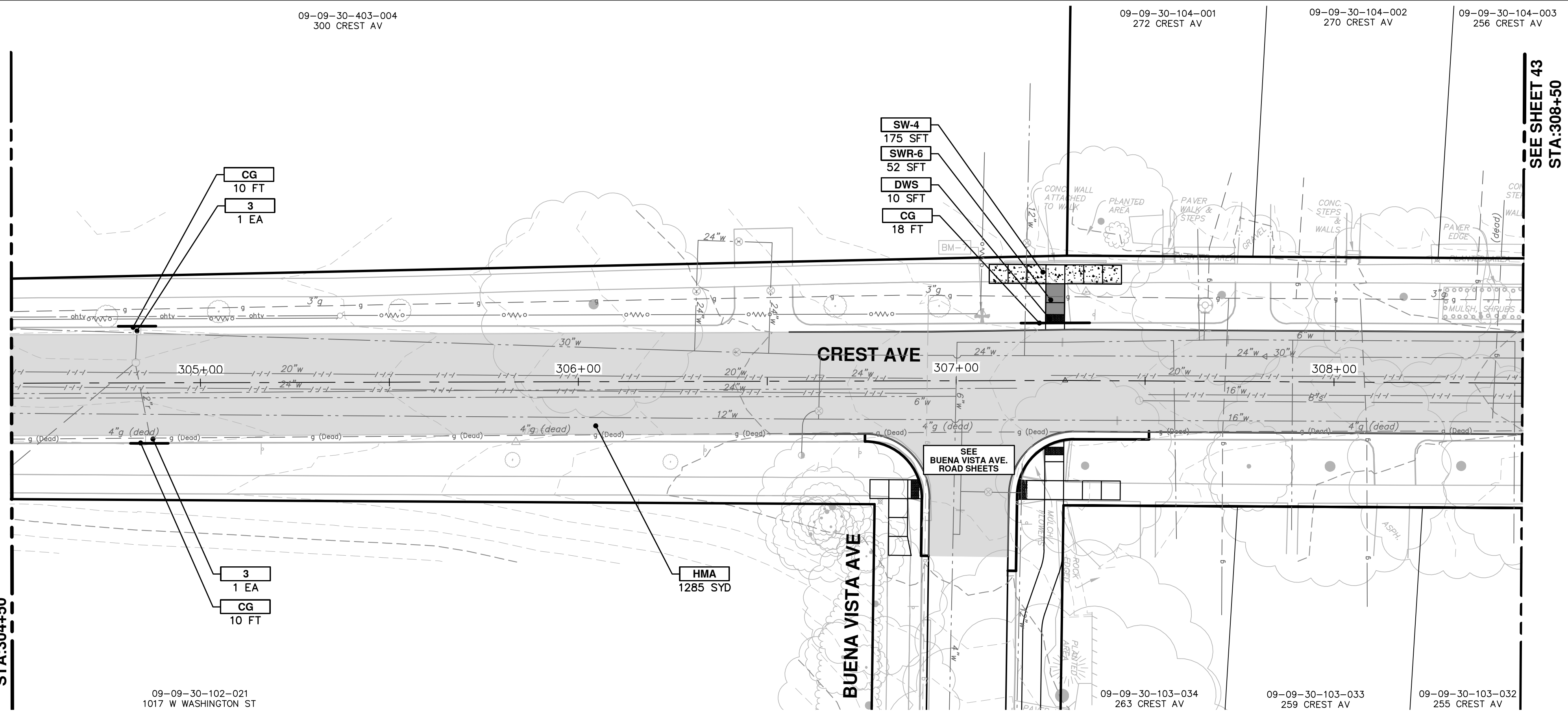
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SHEET No. **41 OF 46**

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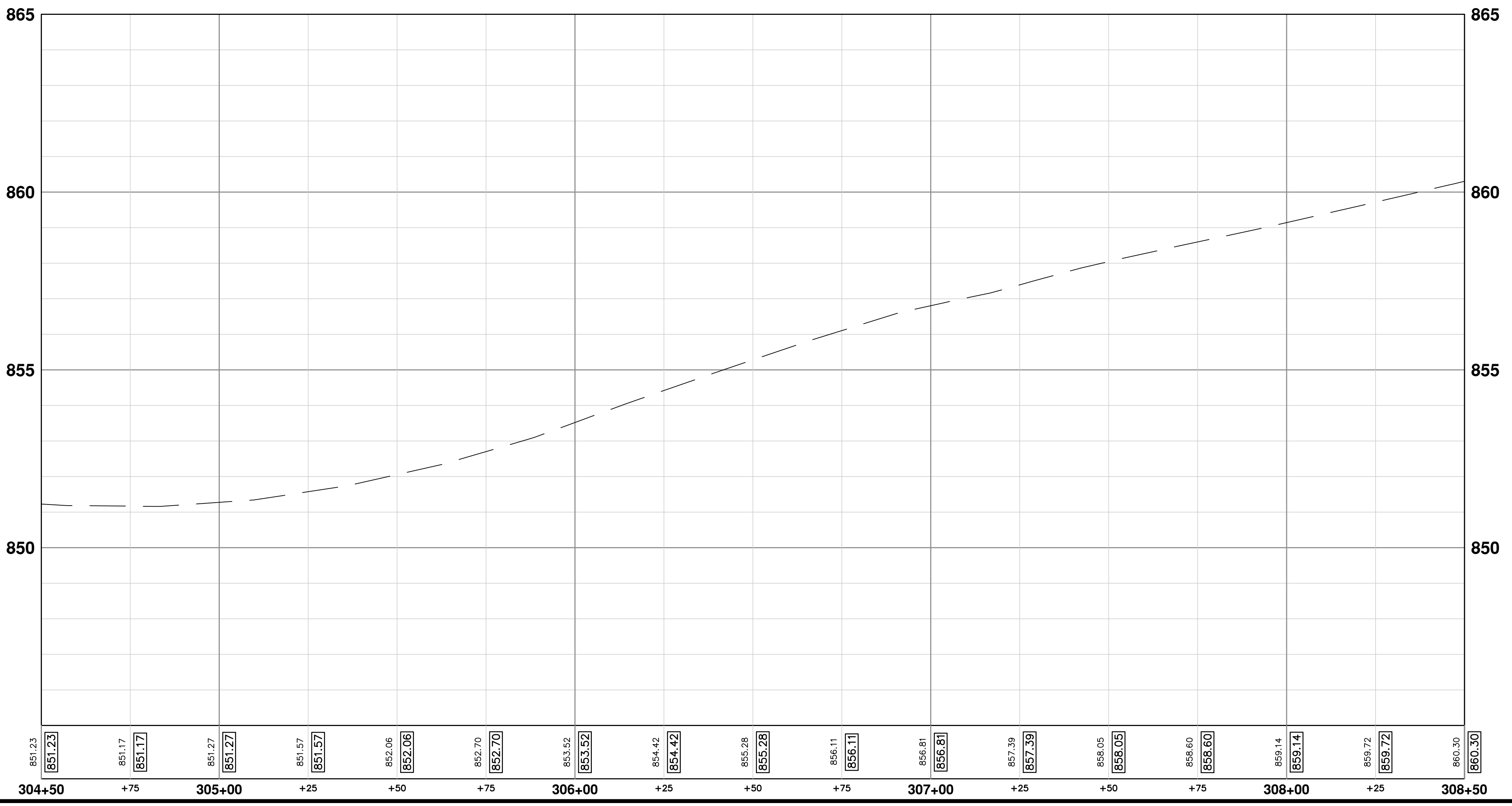
DATE: 2-6-18
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CHECKED: JKA

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DESCRIPTION



SEE SHEET 43
STA: 308+50

SEE SHEET 41
STA: 304+50



| CONSTRUCTION KEY | |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| KEY | DESCRIPTION |
| HMA | PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER. |
| CG | PLACE CURB AND GUTTER, CONC, F4, SPECIAL |
| DO-M | PLACE DRIVEWAY OPENING, CONC, DETAIL M, P-NC |
| DC-6 | PLACE CONC. DRIVE APPROACH, NON-REINFORCED, P-NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED. |
| SW-4 | PLACE SIDEWALK, CONC, 4 INCH, MODIFIED |
| SWR-6 | PLACE SIDEWALK RAMP, CONC, 6 INCH, MODIFIED |
| DWS | DETECTABLE WARNING, CAST IN PLACE |
| ABO | ADJUST BY OTHERS |
| 1 | ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX. |
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CREST, BUENA VISTA, WASHINGTON WATER MAIN

CREST AVE. ROAD PLAN AND PROFILE
STA. 304+50 TO STA. 308+50

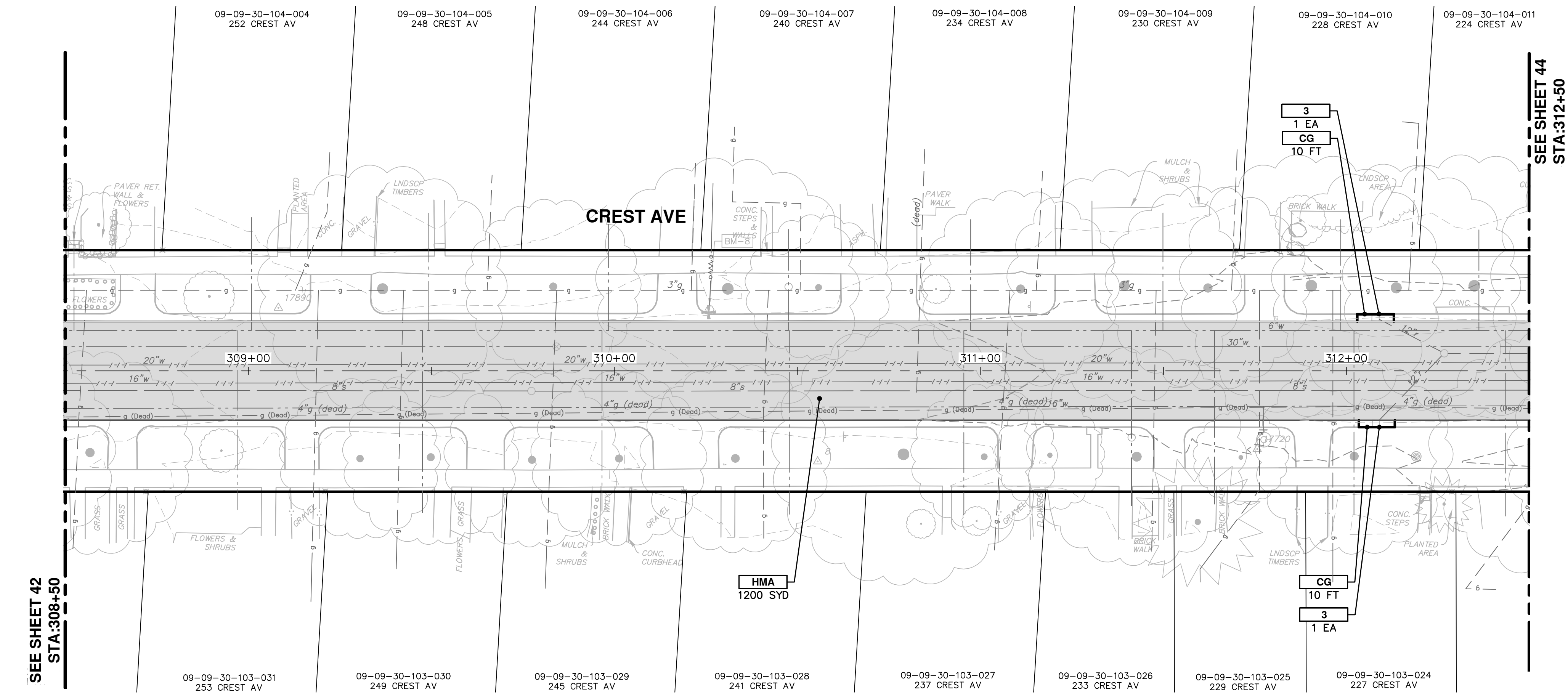
SCALE PLAN: 1" = 20'
PROFILE: 1" = 2'

DRAWING No. **2016029-42**

SHEET No. **42 OF 46**

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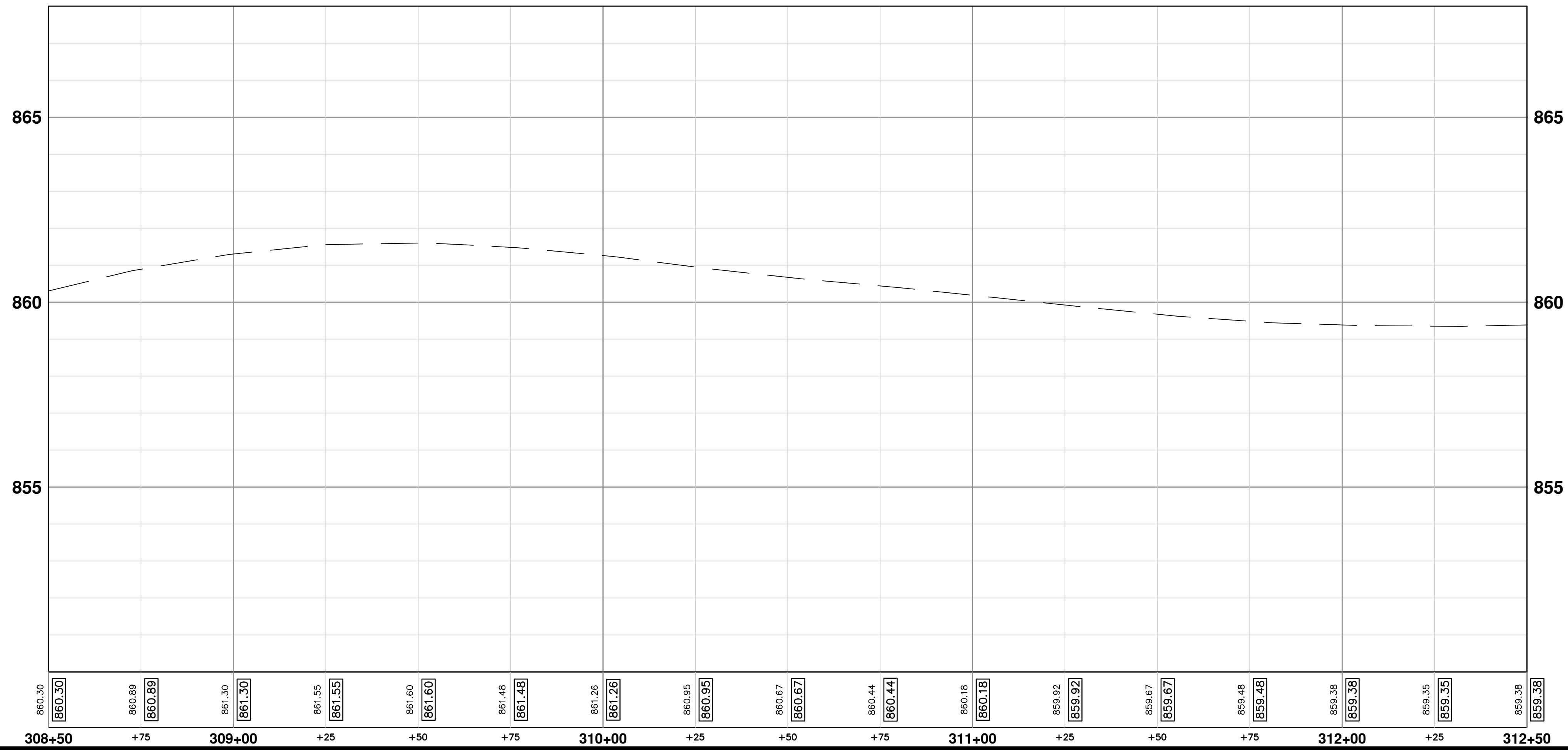


SEE SHEET 44
STA: 312+50

SEE SHEET 42
STA: 308+50



| CONSTRUCTION KEY | |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| KEY | DESCRIPTION |
| HMA | PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER. |
| CG | PLACE CURB AND GUTTER, CONC, F4, SPECIAL |
| DO-M | PLACE DRIVEWAY OPENING, CONC, DETAIL M, P-NC |
| DC-6 | PLACE CONC. DRIVE APPROACH, NON-REINFORCED, P-NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED. |
| SW-4 | PLACE SIDEWALK, CONC, 4 INCH, MODIFIED |
| SWR-6 | PLACE SIDEWALK RAMP, CONC, 6 INCH, MODIFIED |
| DWS | DETECTABLE WARNING, CAST IN PLACE |
| ABO | ADJUST BY OTHERS |
| 1 | ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX. |
| 2 | ADJUST STRUCTURE COVER |
| 3 | PLACE DR STRUCTURE, 24 INCH DIA & DR STRUCTURE COVER, TYPE K |



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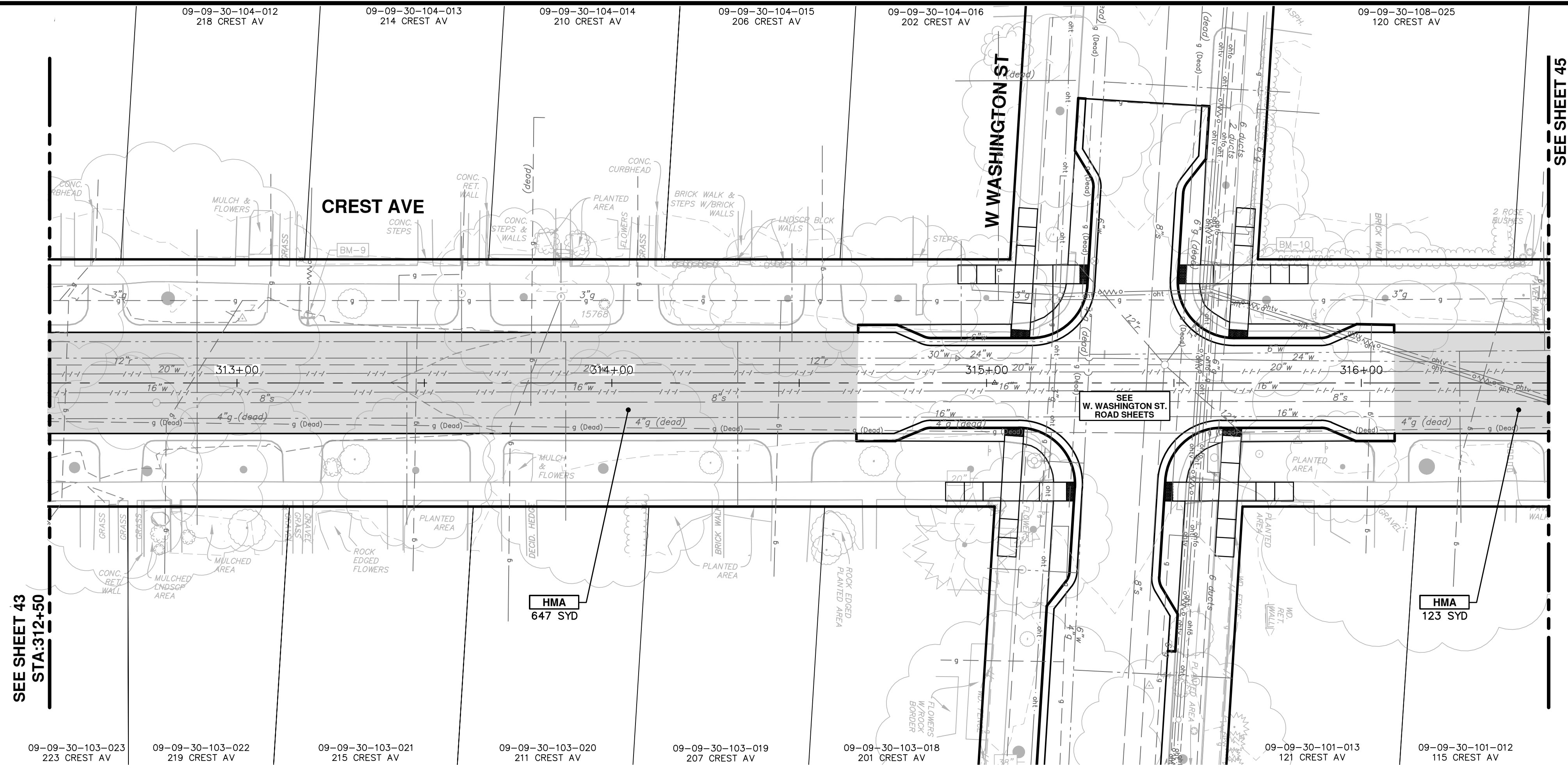
CREST, BUENA VISTA, WASHINGTON WATER MAIN

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

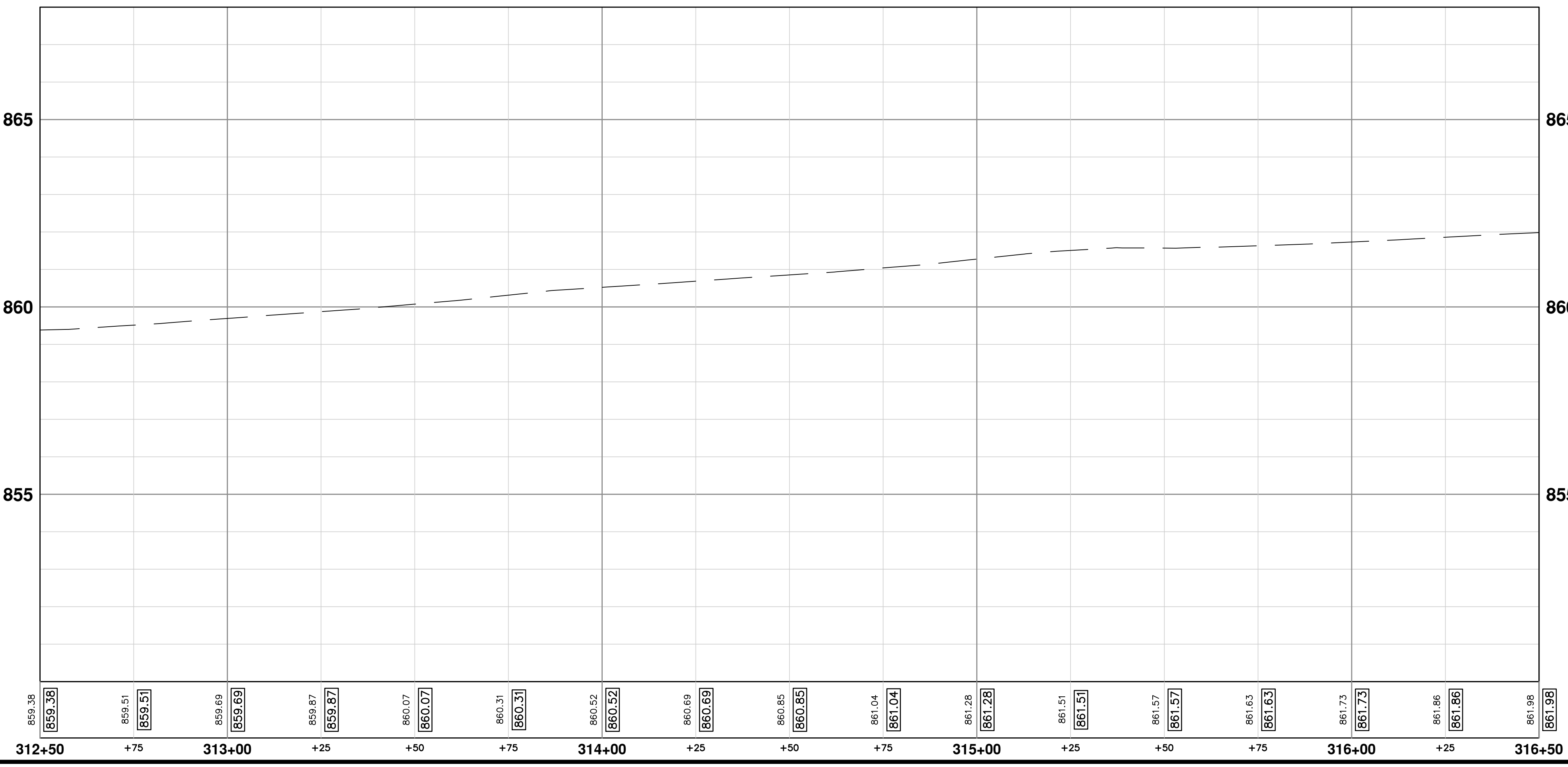
CREST AVE. ROAD PLAN AND PROFILE
STA. 308+50 TO STA. 312+50

DRAWING No. 2016029-43

SHEET No. 43 OF 46



SEE SHEET 45
STA:316+50



| CONSTRUCTION KEY | |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| KEY | DESCRIPTION |
| HMA | PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER. |
| CG | PLACE CURB AND GUTTER, CONC, F4, SPECIAL |
| DO-M | PLACE DRIVEWAY OPENING, CONC, DETAIL M, P-NC |
| DC-6 | PLACE CONC. DRIVE APPROACH, NON-REINFORCED, P-NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED. |
| SW-4 | PLACE SIDEWALK, CONC, 4 INCH, MODIFIED |
| SWR-6 | PLACE SIDEWALK RAMP, CONC, 6 INCH, MODIFIED |
| DWS | DETECTABLE WARNING, CAST IN PLACE |
| ABO | ADJUST BY OTHERS |
| 1 | ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX. |
| 2 | ADJUST STRUCTURE COVER |
| 3 | PLACE DR STRUCTURE, 24 INCH DIA & DR STRUCTURE COVER, TYPE K |

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CREST, BUENA VISTA, WASHINGTON WATER MAIN

CREST AVE. ROAD PLAN AND PROFILE
STA. 312+50 TO STA. 316+50

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

DRAWING No. **2016029-44**

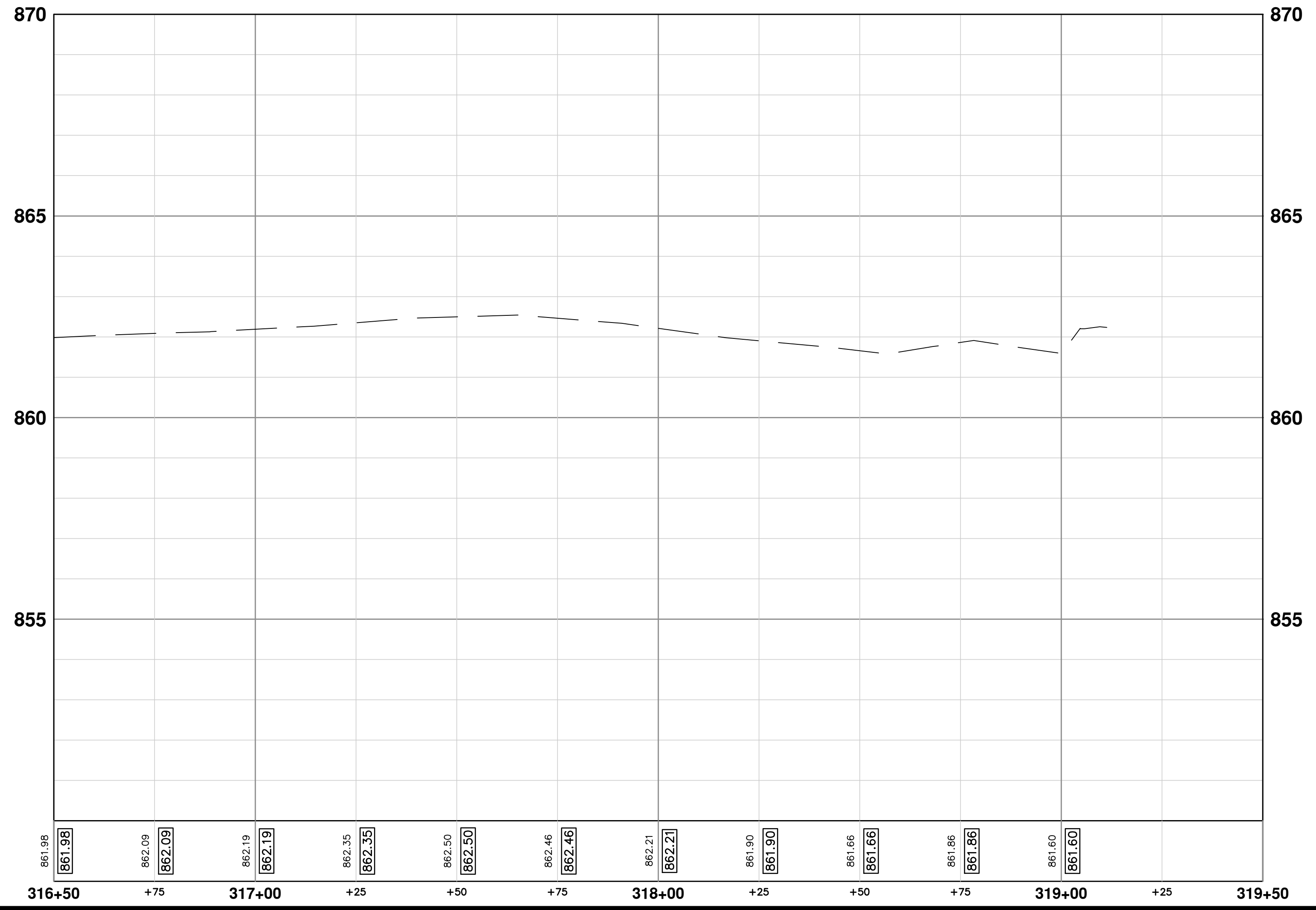
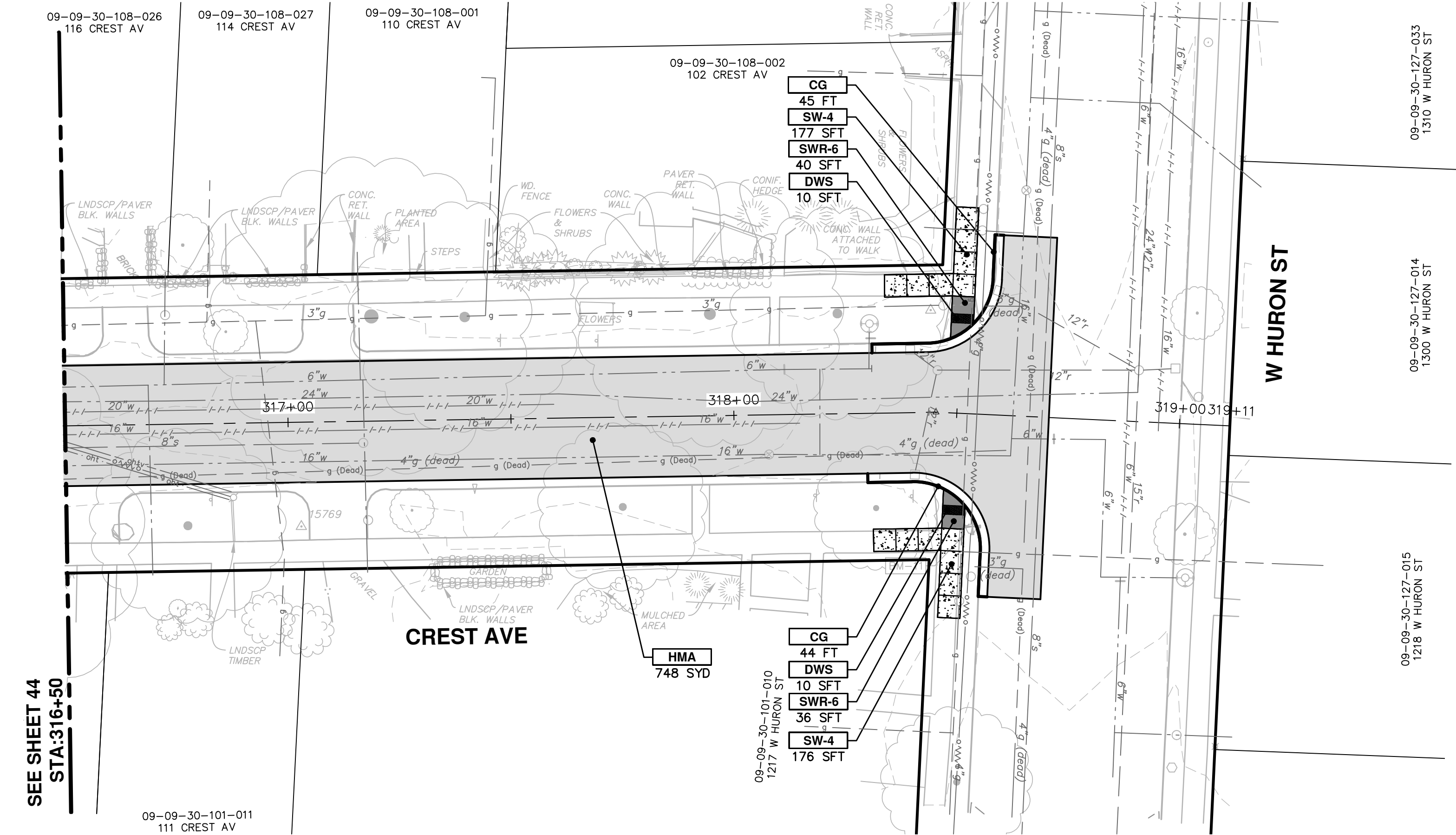
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| CONSTRUCTION KEY | |
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| KEY | DESCRIPTION |
| HMA | PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER. |
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| DC-6 | PLACE CONC. DRIVE APPROACH, NON-REINFORCED, P-NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED. |
| SW-4 | PLACE SIDEWALK, CONC, 4 INCH, MODIFIED |
| SWR-6 | PLACE SIDEWALK RAMP, CONC, 6 INCH, MODIFIED |
| DWS | DETECTABLE WARNING, CAST IN PLACE |
| ABO | ADJUST BY OTHERS |
| 1 | ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX. |
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| 3 | PLACE DR STRUCTURE, 24 INCH DIA & DR STRUCTURE COVER, TYPE K |

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

CREST, BUENA VISTA, WASHINGTON WATER MAIN

CREST AVE. ROAD PLAN AND PROFILE
STA. 316+50 TO STA. 319+11

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

DRAWING No. **2016029-45**

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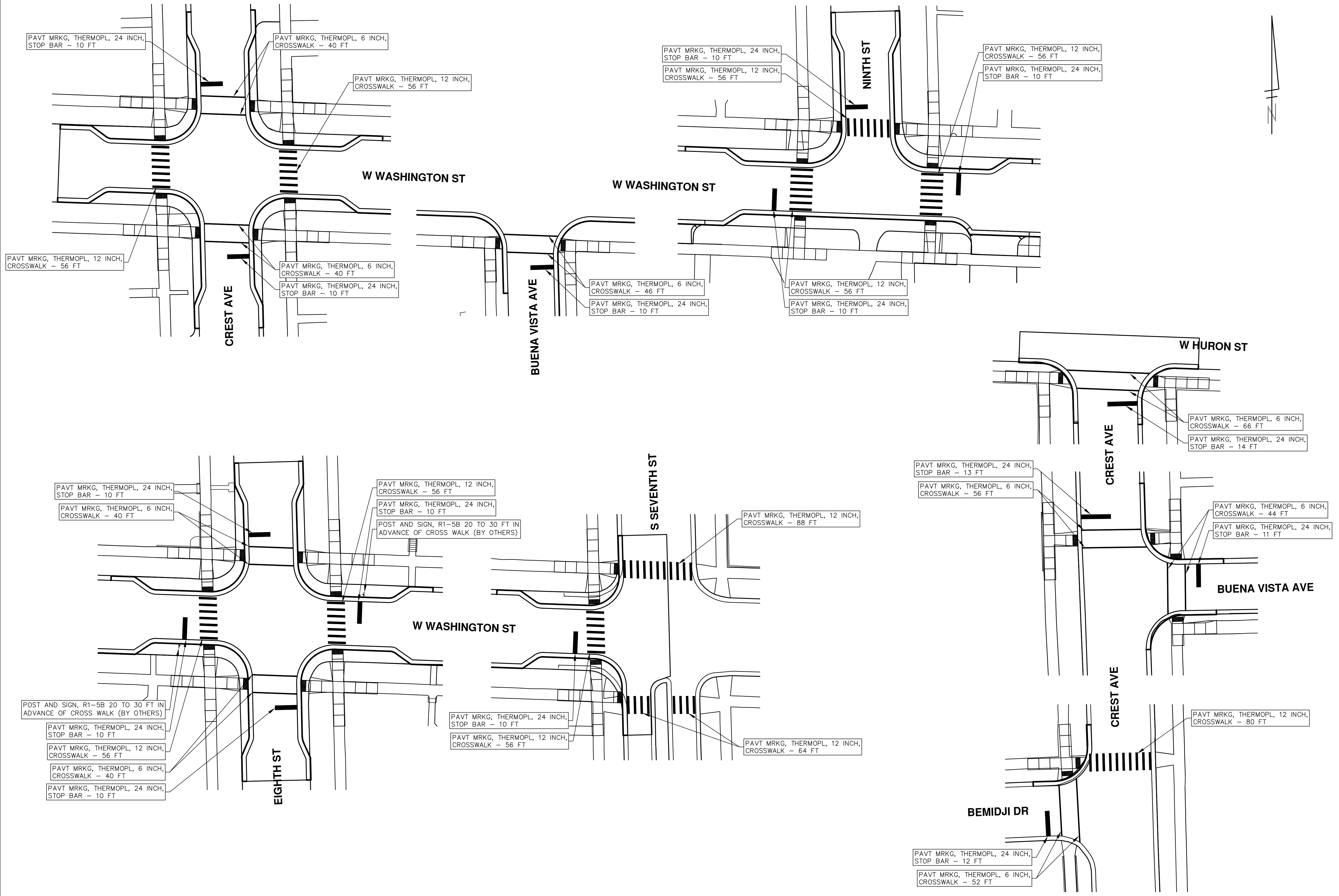
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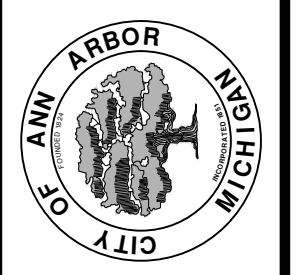
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R:\2016029 Crest Buena Wash Lib WA\Plan Production\2016029Pmk.dwg Dwg Created: 6-Feb-18 - _g2 standard bw.stb - Plot Date: 6-Feb-18



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