

CITY OF OWOSSO

2020 STREET PROGRAM CONTRACT 2 SHIAWASSEE COUNTY

SECTION 14, T7N-R2E, CITY OF OWOSSO
SECTION 19, T7N-R3E, CITY OF OWOSSO
POP: 15,194 (2010 CENSUS)

UTILITY CONTACTS

THE EXISTING UTILITIES LISTED BELOW AND SHOWN ON THE PLANS REPRESENT THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARING THESE PANS. THIS INFORMATION DOES NOT RELIEVE THE CONTRACTOR OF THE REASONABILITY TO BE SATISFIED AS TO ITS ACCURACY AND LOCATION OF EXISTING UTILITIES.

CHARTER COMMUNICATIONS
ATT: MARK KELLY
1480 S. VALLEY CENTER DRIVE
BAY CITY, MI 48706

CABLE TV
PHONE: 989-233-9404
mark.kelly@chartercom.com

CITY OF OWOSSO
ATT: RANDY CHESNEY, P.E.
301 W. MAIN STREET
OWOSSO, MI 48867

ROAD
989-725-0550
randy.chesney@ci.owosso.mi.us

CITY OF OWOSSO
ATT: GLENN CHINAVARE
301 W. MAIN STREET
OWOSSO, MI 48867

SANITARY SEWER & WATER MAIN
989-725-0550
glenn.chinavare@ci.owosso.mi.us

CONSUMERS ENERGY
ATT: TRACY MAHAR
1801 W. MAIN ST
OWOSSO, MI 48867

ELECTRIC
OFFICE: 989-729-3250
CELL: 517-204-9018
tmahar@cmsenergy.com

CONSUMERS ENERGY
ATT: ADAM BERTRAM
530 W. WILLOW STREET
P.O. BOX 30162
LANSING, MI 48909

GAS
OFFICE: 517-374-2375
CELL: 517-614-8570
adam.bertram@cmsenergy.com

DAYSTARR COMMUNICATIONS
ATT: BRENT KLEIN
307 N. BALL STREET
OWOSSO, MI 48867

FIBER
PHONE: 989-720-6000
FAX: 989-720-6060
brent.klein@daystarrfiber.net

FRONTIER COMMUNICATIONS
ATT: MARK V. STEVENS
1943 W. M-21
OWOSSO, MI 48847

FIBER
PHONE: 989-723-0373
mark.stevens@ftr.com

SHIAWASSEE COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
ATT: STEVE ALWORDEN
201 N. SHIAWASSEE STREET
CORUNNA, MI 48817

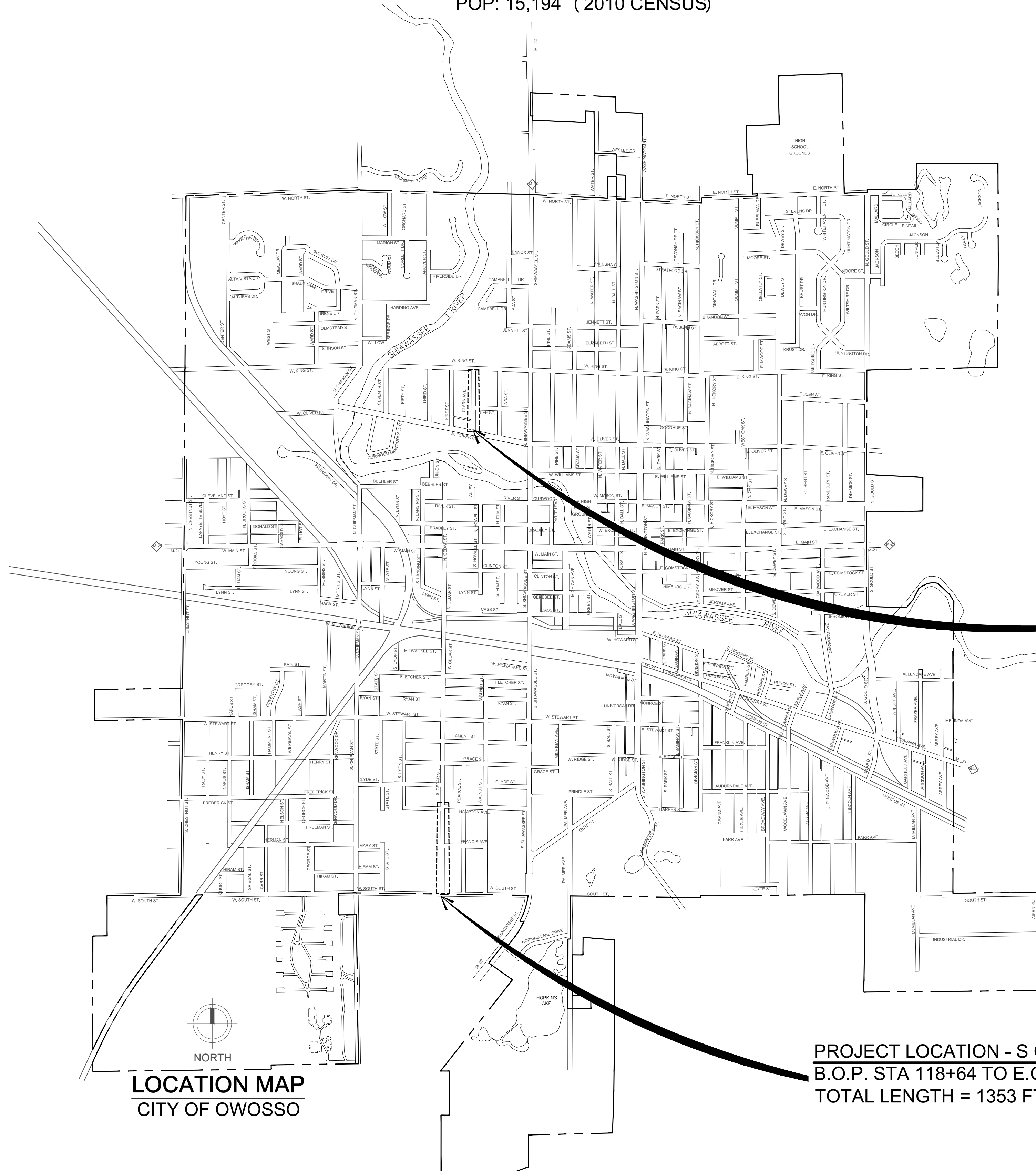
SOIL EROSION AND SEDIMENTATION CONTROL
PHONE: 989-743-2289
FAX: 989-743-2413
salworden@shiawasseechd.net

CALL MISS DIG AT 1-800-482-7171 OR 811 THREE DAYS, EXCLUDING SATURDAY, SUNDAY, AND HOLIDAY, BEFORE STARTING YOUR PROJECT.

MDOT ROAD STANDARD PLANS

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

| | |
|--|---|
| DRAINAGE STRUCTURES COVER B MONUMENT BOXES COVER K COVER Q SIDEWALK RAMP AND DETECTABLE WARNING DETAILS DRIVEWAY OPENINGS & APPROACHES AND CONCRETE SIDEWALKS CONCRETE CURB AND CONCRETE CURB AND GUTTER BUMPER & PARKING RAIL AND MISC. WOOD POSTS GRANULAR BLANKET, UNDERDRAINS, AND OUTLET ENDINGS FOR SEWER UNDERDRAINS, AND SEWER BULKHEADS BEDDING AND FILLING AROUND PIPE CULVERTS UTILITY TRENCHES SOIL EROSION & SEDIMENT CONTROL MEASURES SEEDING AND TREE PLANTING *SPECIAL DETAILS INCLUDED IN PROPOSAL OR MODIFIED IN GENERAL PLANS | R-1-G* R-7-F R-11-E R-15-F R-18-F R-28-J* R-29-I R-30-G R-74-D R-80-E R-82-D R-83-C R-96-E R-100-H |
|--|---|



| SHEET NO. | DESCRIPTION |
|-----------|--|
| CS | COVER SHEET |
| D1 | NOTES AND MISCELLANEOUS ESTIMATES ROAD AND STORM SEWER DETAILS |
| D2 | WATER MAIN NOTES AND DETAILS |
| D3 | WATER MAIN STANDARD DETAILS |
| D4 | SESC STANDARD NOTES AND DETAILS |
| CD1 | S CEDAR ST - ROAD AND STORM SEWER COVER SHEET & TRAFFIC CONTROL PLAN |
| CD2 | S CEDAR ST - TYPICAL CROSS SECTIONS |
| CD3 | S CEDAR ST - REMOVAL PLAN |
| CD4-CD9 | S CEDAR ST - ROAD PLAN AND PROFILE |
| CD10 | S CEDAR ST - SOIL BORINGS |
| CD11 | S CEDAR ST - WATER MAIN COVER SHEET & TRAFFIC CONTROL PLAN |
| CD12-CD13 | S CEDAR ST - WATER MAIN PLAN AND PROFILE |
| CL1 | CLARK AVE - COVER SHEET |
| CL2-CL3 | CLARK AVE - TYPICAL CROSS SECTIONS |
| CL4 | CLARK AVE - REMOVAL PLAN |
| CL5-CL8 | CLARK AVE - ROAD PLAN AND PROFILE |
| CL9 | CLARK AVE - SOIL BORINGS |
| CL10 | CLARK AVE - WATER MAIN COVER SHEET & TRAFFIC CONTROL PLAN |
| CL11-CL13 | CLARK AVE - WATER MAIN PLAN AND PROFILE |

PROJECT LOCATION - CLARK AVENUE
B.O.P. STA 60+95 TO E.O.P. STA 70+26
TOTAL LENGTH = 931 FT (0.18 MILES)

PROJECT LOCATION - S CEDAR STREET
B.O.P. STA 118+64 TO E.O.P. STA 132+17
TOTAL LENGTH = 1353 FT (0.26 MILES)



Know what's below.
Call before you dig.

CITY OF OWOSSO, MICHIGAN
ENGINEERING DIVISION
DEPT. OF PUBLIC SERVICE

| NO. | REVISIONS | DATE | BY |
|-----|-----------|------|----|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

BENCHMARK DATA
ELEV. DESCRIPTION

NO. REVISIONS DATE BY

ORIGINAL PLAN CHECKED BY APPROVED BY

2020 STREET PROGRAM CONTRACT 2
DWRF PROJECT NUMBER 7457-01 PHASE 1
COVER SHEET

CS

GENERAL NOTES

UNDERGROUND UTILITIES/MISS DIG
FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174, 2013, THE CONTRACTOR SHALL DIAL 1-800-482-7171 FOR 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. MEMBER 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 EXISTING UTILITIES ON THESE DRAWINGS HAVE BEEN SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION AND SHALL NOTIFY THE ENGINEER AS TO WHERE POSSIBLE CONFLICT EXIST.

EXISTING WATER MAINS AND SEWERS
THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO PROPERLY IDENTIFIED EXISTING WATER MAINS AND / OR EXISTING SEWERS DURING THE CONSTRUCTION OF THE PROJECT.

ADJUSTING OF MONUMENT BOXES
ALL GOVERNMENT CORNERS ON THIS PROJECT SHALL BE PRESERVED, WHETHER SHOWN OR NOT. IT MAY BE NECESSARY TO PLACE OR ADJUST MONUMENT BOXES AS REQUIRED.

PAVEMENT MARKINGS AND SIGNS
ALL PERMANENT PAVEMENT MARKINGS, SHAPES, AND DIMENSIONS SHALL CONFORM WITH MDOT PAVEMENT MARKING TYPICALS PAVE - 900 SERIES.

SOIL EROSION MEASURES
APPROPRIATE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO EARTH DISTURBING ACTIVITIES. PLACE LAWN RESTORATION ITEMS AS SOON AS POSSIBLE ON POTENTIAL ERODIBLE SLOPES AS DIRECTED BY THE ENGINEER. CRITICAL DITCH GRADES SHALL BE PROTECTED WITH EITHER SOD OR SEED / MULCH BLANKET AS DIRECTED BY THE ENGINEER.

SOIL EROSION AND SEDIMENTATION CONTROL MEASURES
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT SOIL EROSION AND SEDIMENTATION CONTROL MEASURES ARE IN PLACE AND MAINTAINED UNTIL THE CONTRACT HAS BEEN COMPLETED AND ACCEPTED. MEASURES SHALL ONLY BE PAID FOR ONCE.

RUBBISH DISPOSAL
SEE MAINTAINING TRAFFIC SPECIAL PROVISIONS.

MAIL DELIVERY
SEE MAINTAINING TRAFFIC SPECIAL PROVISIONS.

STORM SEWER REMOVAL
REMOVAL OF SEWER WITH DIAMETER LESS THAN 12 INCHES, WITHIN THE EXCAVATION LIMITS OF NEW SEWER, IS INCLUDED IN THE UNIT PRICE FOR NEW SEWER AND WILL NOT BE PAID FOR SEPARATELY.

STORM SEWER STRUCTURES
ALL STORM ORIFICES TO RECEIVE SEWER PIPE SHALL BE FITTED WITH KOR-N-SEAL FLEXIBLE CONNECTOR (S) , OR APPROVED EQUAL CONNECTOR. THE FLEXIBLE CONNECTOR WILL NOT BE PAID FOR SEPARATELY, BUT IS CONSIDERED AS PART OF THE DRAINING STRUCTURE PAY ITEM.

STORM SEWER CONNECTIONS
PROPOSED STORM SEWERS SHALL BE CONNECTED TO EXISTING STORM SEWERS WITH A FERNOCO COUPLER, OR APPROVED EQUAL, AS DIRECTED BY THE ENGINEER. CONNECTION SHALL BE ACCOMPLISHED WITH COUPLER OF SIMILAR SIZE IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS. PAYMENT FOR ALL MATERIALS AND LABOR NECESSARY TO ACCOMPLISH THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE CONSIDERED AS PART OF OTHER WORK ITEMS.

STREET APPROACHES
STREET APPROACHES SHALL BE PAID FOR AS PART OF THE MAINLINE PAVING PAY ITEMS.

STRUCTURE ADJUSTMENTS
ADJUSTMENTS TO STORM AND SANITARY STRUCTURES LOCATED WITHIN THE PAVEMENT OR CURB AND GUTTER SHALL BE PAID FOR AS: Dr Structure Cover, Adj, Case 1.

CURB AND GUTTER
ALL NEW SECTIONS OF CURB AND GUTTER SHALL BE TIED TO EXISTING CURB AND GUTTER ON BOTH ENDS USING EPOXY COATED #4 BARS.

SIDEWALK RAMPS AND SIDEWALKS
SIDEWALK RAMPS SHALL BE COMPLETED IN ACCORDANCE WITH THE MDOT 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MDOT STANDARD PLAN R-28 SERIES, EXCEPT AS MODIFIED HEREIN. THE PORTION OF RAMP FROM THE CURB AND GUTTER TO THE LANDING SHALL BE 7-INCHES THICK AS IDENTIFIED ON THE SIDEWALK RAMP THICKNESS DETAIL. THE LANDING SHALL BE 4-INCHES THICK. THE PAY ITEMS FOR Sidewalk Ramp, Conc, 7 inch AND Sidewalk, Conc, 7 inch SHALL INCLUDE ALL EXCAVATION AND EMBANKMENT NECESSARY TO CONSTRUCT EACH ITEM AND ALL WORK NECESSARY TO SAW AND TRIM EDGES OF EXISTING CONCRETE. EXCAVATION AND EMBANKMENT WILL NOT BE PAID FOR SEPARATELY.

DETECTIBLE WARNING SURFACES SHALL BE EAST JORDAN DURALAST TM AND POWDER COATED RED, INSTALLED ONTO FRESH CONCRETE, AND IN ACCORDANCE WITH MDOT STANDARD R-28 SERIES. THE WARNING SURFACES SHALL BE 2.5 FEET IN LENGTH SUCH THAT TWO PLATES ARE USED FOR EACH 5 FOOT WIDE RAMP.

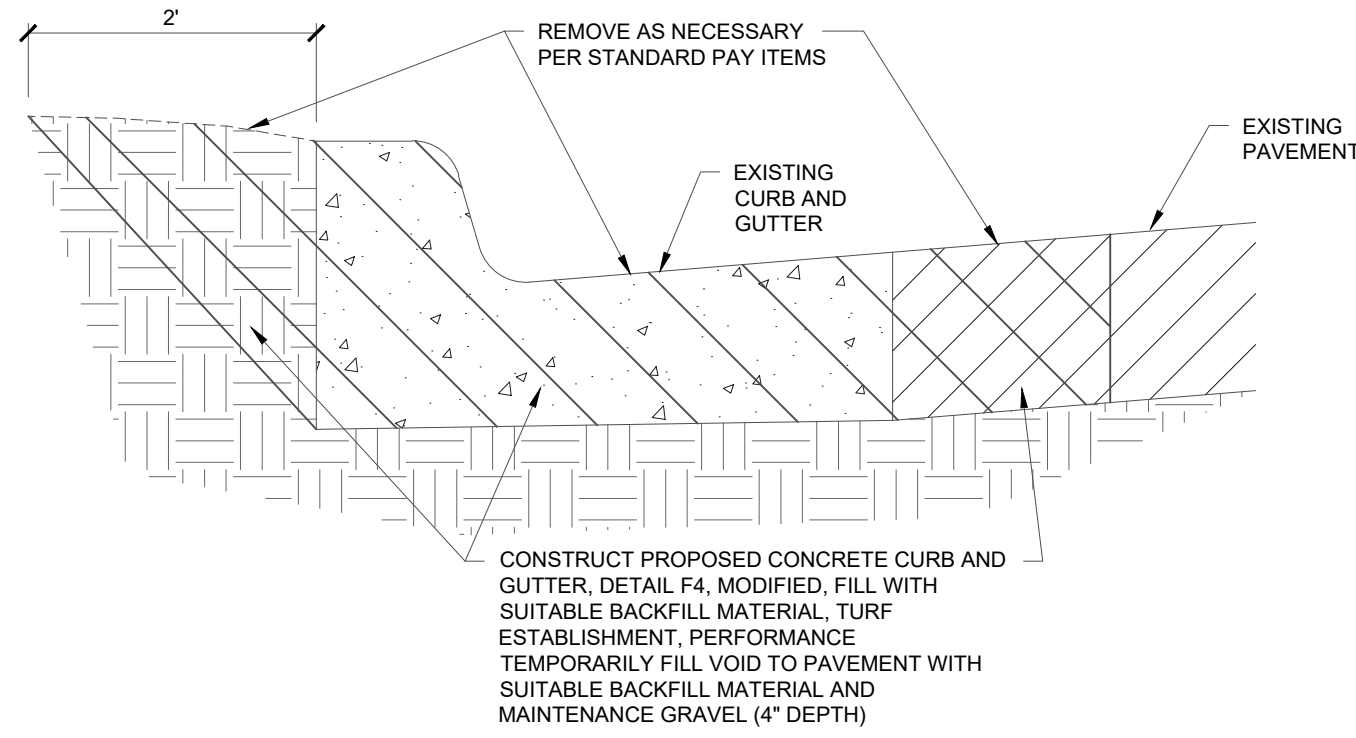
SIDEWALKS LOCATED WITHIN RESIDENTIAL DRIVEWAYS SHALL BE 6-INCHES THICK AND WILL BE PAID FOR AS Sidewalk, Conc, 6 inch.

SIDEWALKS LOCATED WITHIN COMMERCIAL DRIVEWAYS SHALL BE 7-INCHES THICK AND WILL BE PAID FOR AS Sidewalk, Conc, 7 inch.

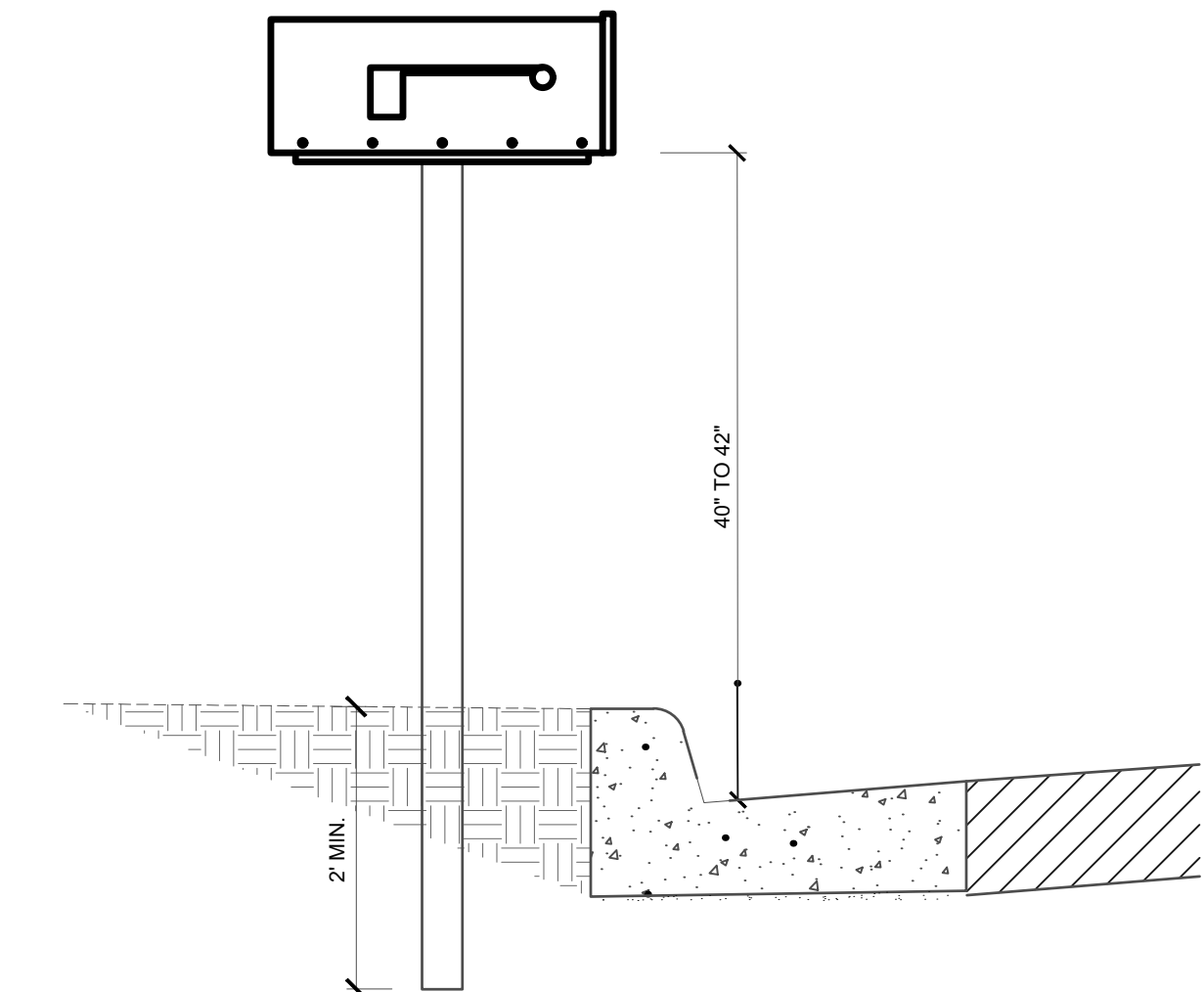
LAWN SPRINKLERS / LANDSCAPING
OWNERS OF EXISTING LAWN SPRINKLER SYSTEMS AND / OR LANDSCAPING SHALL BE NOTIFIED (IN WRITING WITH A COPY SENT TO THE ENGINEER) BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF ANY WORK THAT WILL BE DONE THAT WILL AFFECT THOSE SYSTEMS AND / OR LANDSCAPING. IF THE PROPERTY OWNER FAILS TO RELOCATE THE LAWN SPRINKLER SYSTEM PRIOR TO THE CONTRACTOR BEGINNING WORK, AND IF THE CONTRACTOR CUTS THE SYSTEM DURING CONSTRUCTION, THE CONTRACTOR SHALL CAP THE SYSTEM PIPE AND WITNESS THE LOCATION OF THE CAP WITH A WOODEN STAKE FOR THE PROPERTY OWNERS USE. THE CONTRACTOR SHALL PLACE THE SALVAGED SPRINKLER HEADS ON THE BACK OF THE RIGHT OF WAY. IF THE PROPERTY OWNER FAILS TO RELOCATE THE LANDSCAPING PRIOR TO THE CONTRACTOR BEGINNING WORK, THE CONTRACTOR SHALL CAREFULLY SALVAGE THE LANDSCAPING ITEMS AND STOCKPILE THEM ON THE BACK OF THE RIGHT OF WAY OR AT A LOCATION DESIGNATED BY THE ENGINEER FOR THE PROPERTY OWNER. ANY OTHER MODIFICATION TO THE SPRINKLER SYSTEM AND / OR LANDSCAPING IS THE RESPONSIBILITY OF THE OWNER AND IS NOT PART OF THIS CONTRACT. THIS WORK WILL NOT BE PAID FOR SEPARATELY.

PROPERTY OWNERS
PROPERTY OWNERS' NAMES, WHERE SHOWN, ARE FOR INFORMATION ONLY, AND THEIR ACCURACY IS NOT GUARANTEED.

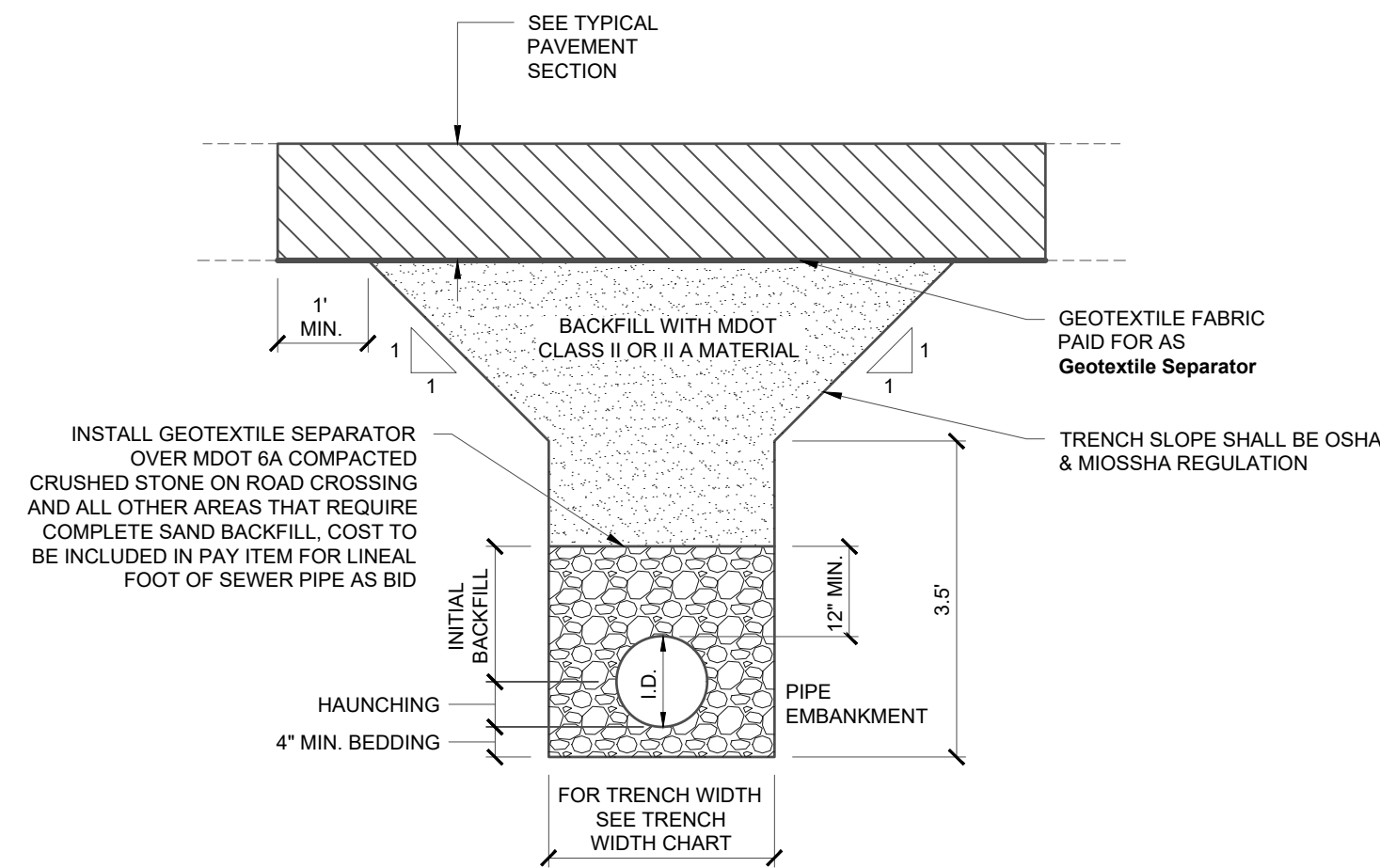
MAINTAINING TRAFFIC
REFER TO THE CONTRACT SPECIAL PROVISION FOR WORK RESTRICTIONS RELATIVE TO MAINTAINING TRAFFIC.



TYPICAL SELECT CURB AND GUTTER REPAIR DETAIL
NOT TO SCALE

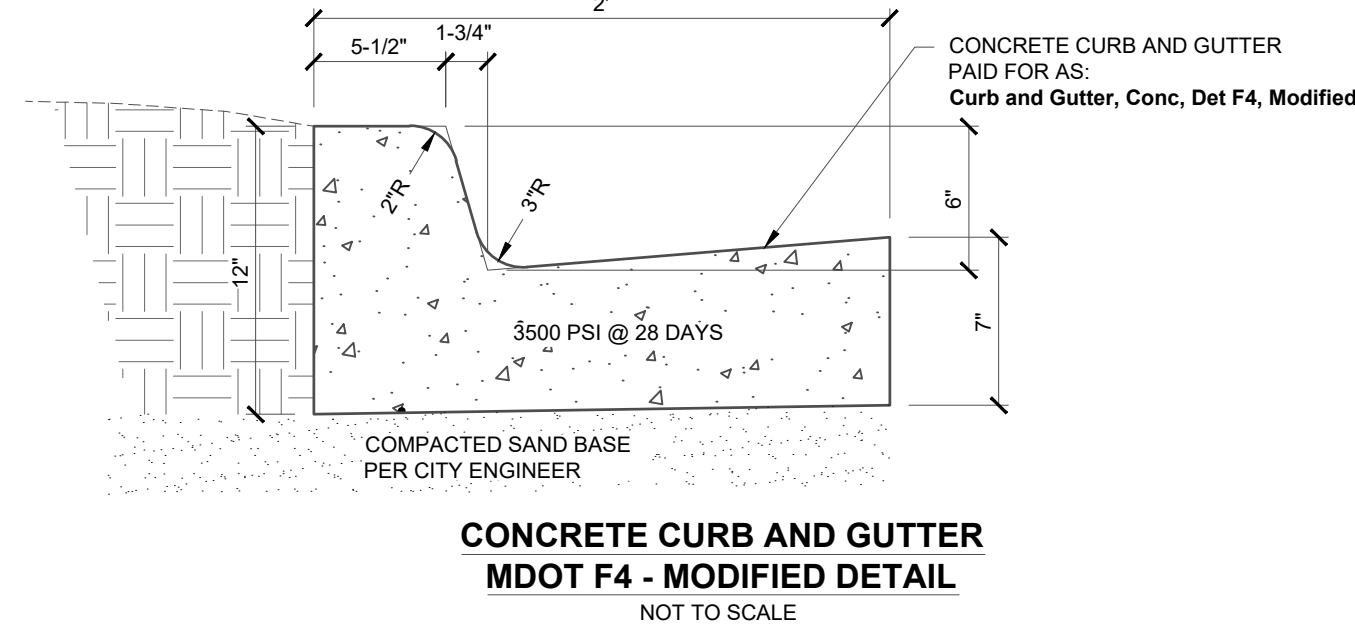


TYPICAL MAIL BOX CROSS SECTION DETAIL
NOT TO SCALE

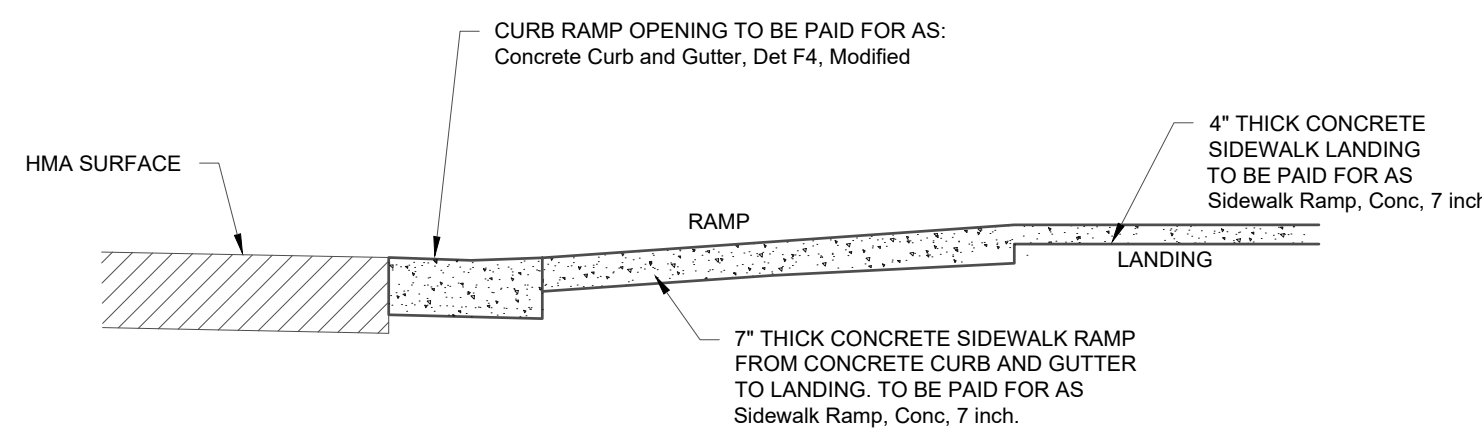


TRENCH DETAIL B, MODIFIED DETAIL
NOT TO SCALE

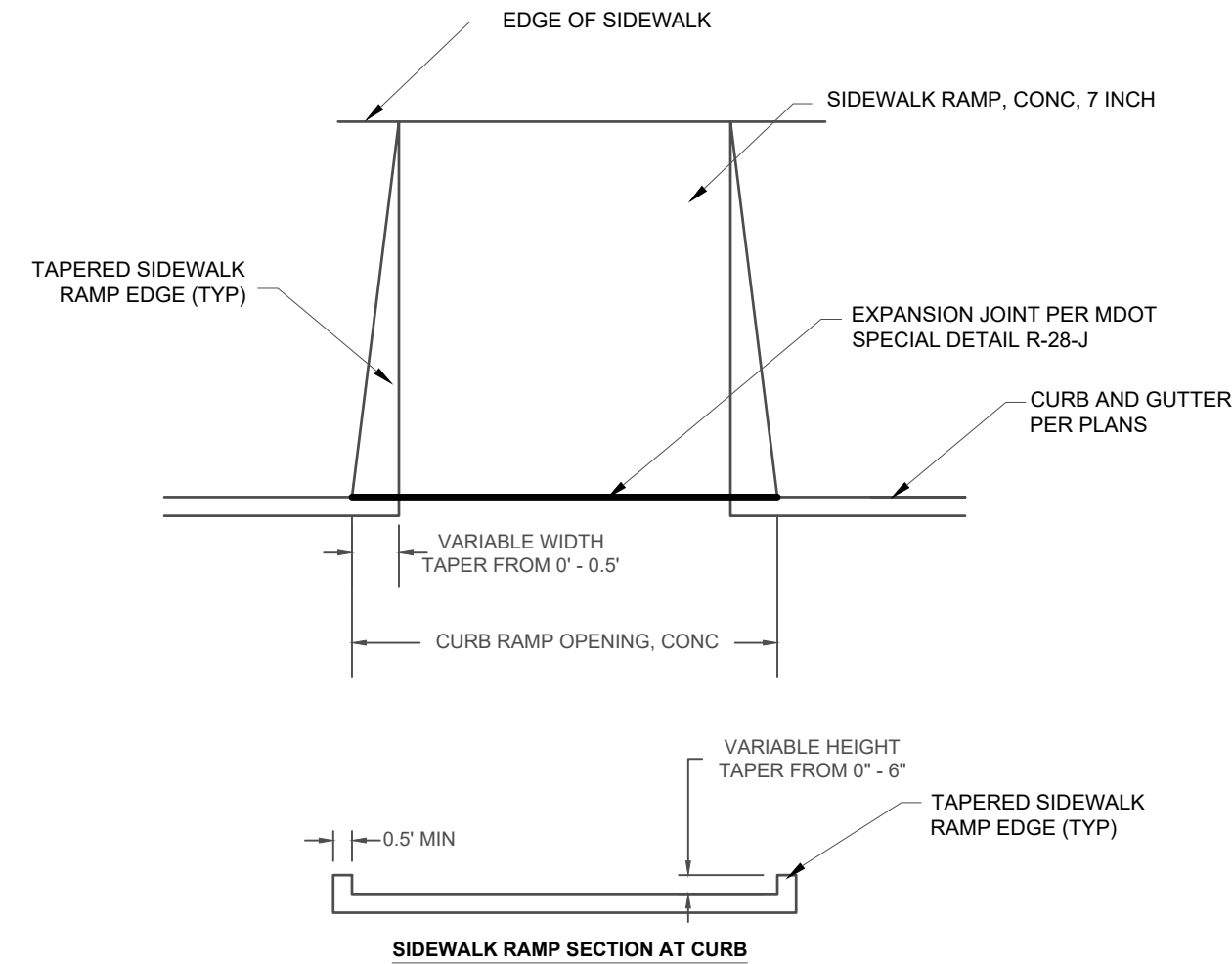
| PIPE SIZE | MINIMUM | MAXIMUM |
|-----------------|-----------|-----------|
| 6", 8" & 10" | 24" | 30" |
| 12" & 15" | 30" | 36" |
| 18" | 34" | 40" |
| 21" | 38" | 42" |
| 24" | 42" | 46" |
| 27" | 45" | 49" |
| 30" | 49" | 53" |
| 36" | 56" | 60" |
| LARGER THAN 36" | I.D. +20" | I.D. +24" |



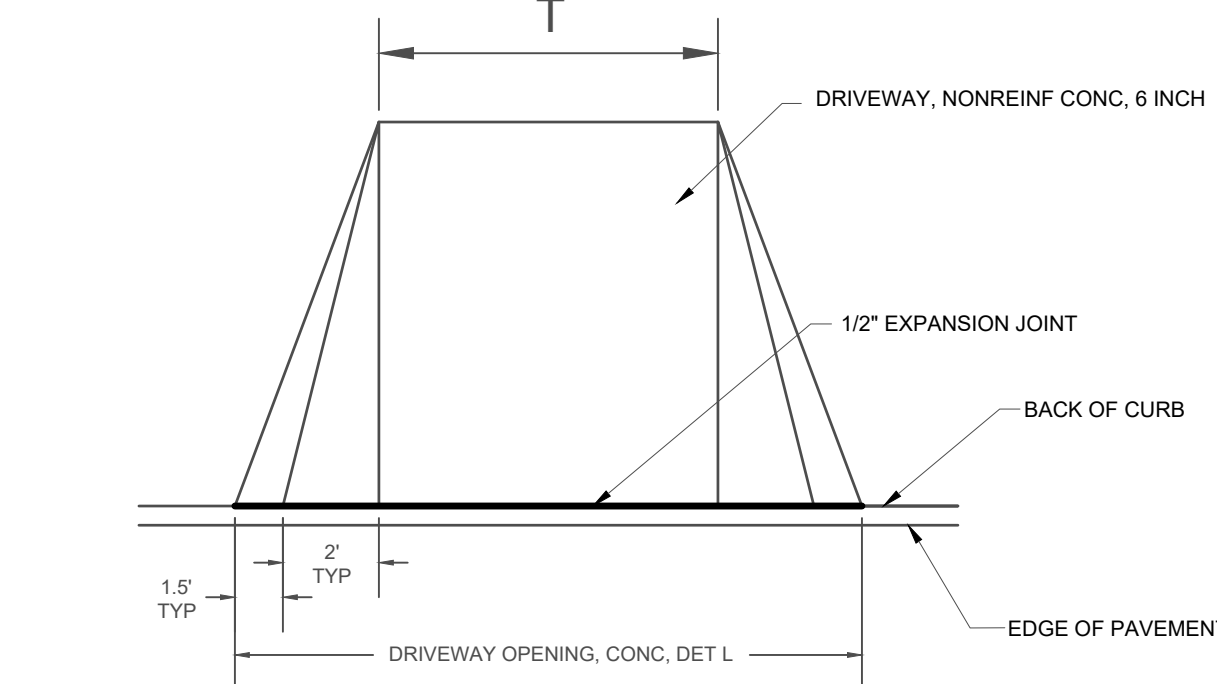
CONCRETE CURB AND GUTTER MDOT F4 - MODIFIED DETAIL
NOT TO SCALE



SIDEWALK RAMP THICKNESS DETAIL
NOT TO SCALE



SIDEWALK RAMP SECTION AT CURB
NOT TO SCALE



SIDEWALK RAMP DETAIL
NOT TO SCALE

DIMENSION T IS 1" EACH SIDE OF THE EXISTING DRIVEWAY WIDTH BEHIND SIDEWALK

DRIVEWAY APPROACH DETAIL
NOT TO SCALE

MISCELLANEOUS ESTIMATES

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

| | | |
|------|------|---|
| 1 | LSUM | Mobilization, Max 5% (Road and Storm) |
| 1 | LSUM | Mobilization, Max 5% (Water Main) |
| 1 | LSUM | Testing and Chlorination of Water Main |
| 5 | Ea | Sanitary Serv Conflict |
| 10 | Ea | Abandoned Gas Main Conflict |
| 5 | Ea | Sewer Bulkhead, 12 inch |
| 10 | Cyd | Subbase, CIP |
| 100 | Syd | Pavt, Rem |
| 100 | Syd | Sidewalk, Rem |
| 100 | Syd | Driveway, Nonreinf Conc, 6 inch |
| 600 | Sft | Sidewalk, Conc, 4 inch |
| 400 | Sft | Sidewalk, Conc, 6 inch |
| 2 | Ton | Cement |
| 200 | Ft | Saw Cutting |
| 500 | Ft | Curb and Gutter, Rem |
| 500 | Ft | Curb and Gutter, Conc, Det F4, Modified |
| 10 | Ton | Hand Patching |
| 15 | Ton | HMA Approach |
| 15 | Cyd | Approach, CL II, LM |
| 10 | Ea | Sign, Type III, Rem |
| 10 | Ea | Sign, Type III, Erect, Salv |
| 160 | Ft | Post, Steel, 3 pound |
| 1200 | Syd | Turf Establishment, Performance |
| 1 | LSUM | Audio Visual Filming |

MAINTAINING TRAFFIC QUANTITIES

| | | |
|-----|------|--|
| 11 | Ea | Barricade, Type III, High Intensity, Double Sided, Furn & Oper |
| 30 | Ea | Pedestrian, Type II Barricade, Temp |
| 2 | Ea | Lighted Arrow, Type C, Furn & Oper |
| 95 | Ea | Plastic Drum, High Intensity, Furn & Oper |
| 291 | Sft | Sign, Type B, Temp, Prismatic, Furn & Oper |
| 1 | LSUM | Minor Traffic Devices, Max \$10,000 |

EXISTING FEATURES LEGEND

| SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION |
|--------|-------------------|--------|---------------------|--------|----------------------|
| | TREE (DECIDUOUS) | | CABLE BOX | | SURVEY CONTROL POINT |
| | BUSH | | TELEPHONE RISER | | BENCHMARK |
| | TREE (CONIFEROUS) | | TELEPHONE MANHOLE | | SECTION CORNER |
| | DEAD TREE | | TELEPHONE HANDHOLE | | BOUNDARY LINE |
| | STUMP | | ELECTRICAL RISER | | PROPERTY LINE |
| | MANHOLE | | ELECTRICAL MANHOLE | | WATERMAIN |
| | SANITARY CLEANOUT | | ELECTRICAL HANDHOLE | | SANITARY SEWER |
| | RD. CATCH BASIN | | POWER POLE | | STORM SEWER |
| | SQ. CATCH BASIN | | LIGHT POLE | | |

CITY OF OWOSSO, MICHIGAN
ENGINEERING DIVISION
DEPT. OF PUBLIC SERVICE

2020 STREET PROGRAM CONTRACT 2
DWRF PROJECT NUMBER 7457-01 PHASE 1

NOTES AND MISCELLANEOUS ESTIMATES
ROAD AND STORM SEWER DETAILS

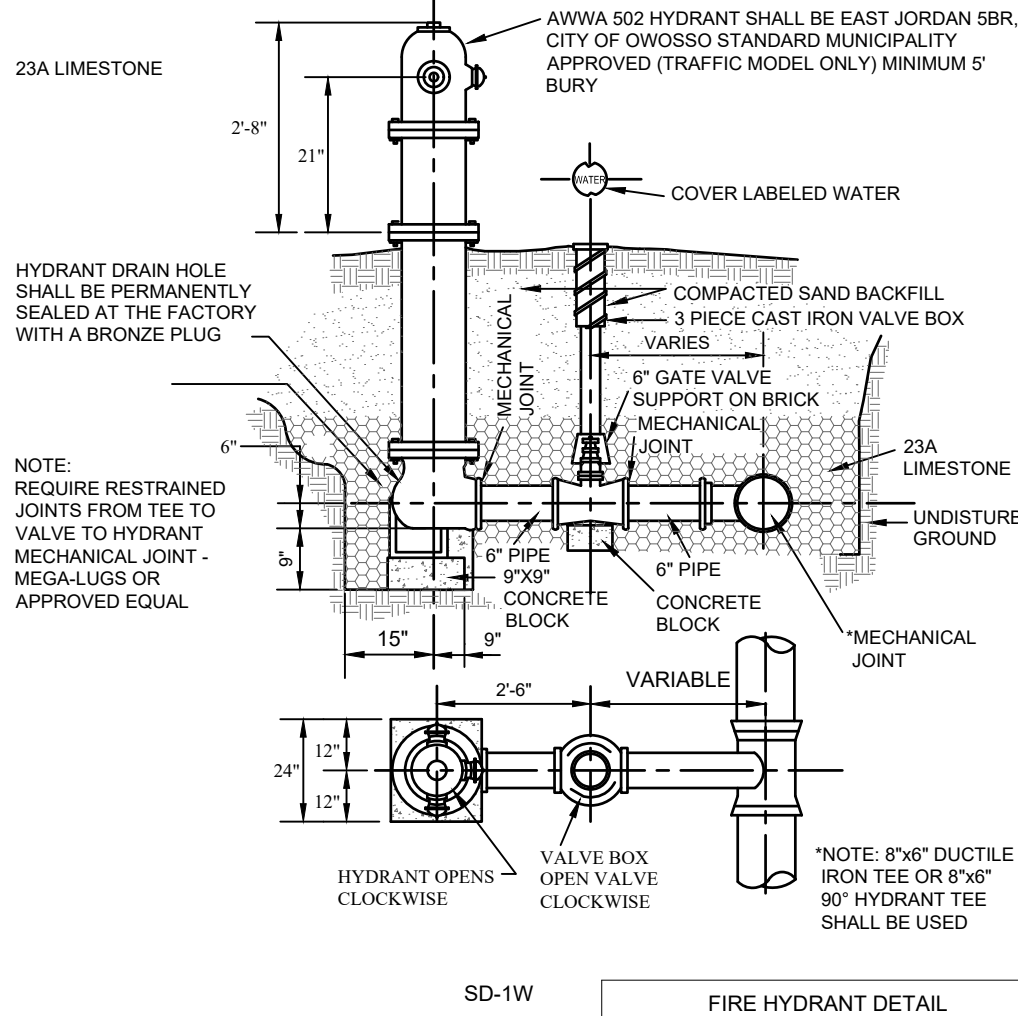
BENCHMARK DATA
ELEV. DESCRIPTION

REVISIONS
NO. DATE BY

APPROVED BY
CHECKED BY
ORIGINAL PLAN

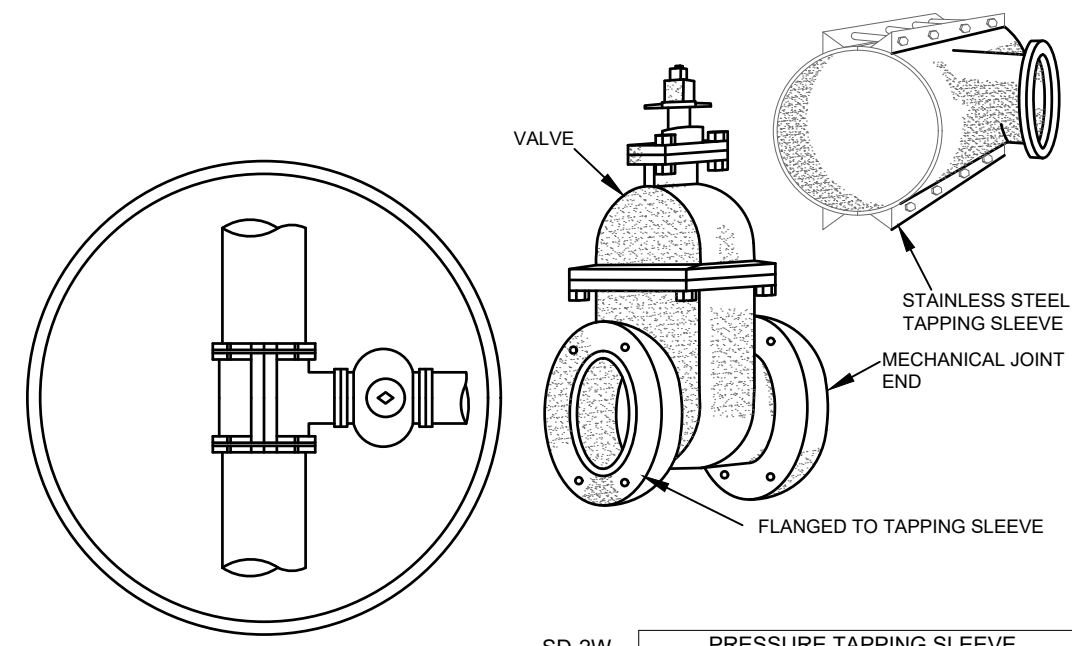
D1

- NOTES:**
1. THE PUMPER CONNECTION SHALL FACE THE STREET.
 2. SET THE HYDRANT FLANGE AT PROPOSED GRADE OR AS FIELD DIRECTED.
 3. SET THE VALVE BOX COVER FLUSH WITH THE PROPOSED GRADE.
 4. ALL WORK FROM THE CENTER LINE OF THE MAIN TO AND INCLUDING THE HYDRANT SHALL BE PAID FOR BY UNIT PRICE BID ITEM FOR HYDRANTS.
 5. ALL MECHANICAL JOINTS SHALL BE RESTRAINED BY MEGA LUGS, OR APPROVED EQUAL.
 6. HYDRANT BARRELS SHALL BE PAINTED YELLOW. CAPS SHALL BE COLOR GREEN.
 7. 90° HYDRANT TEES ARE APPROVED WHERE SPACE REQUIREMENTS ARE LIMITED.



SD-1W FIRE HYDRANT DETAIL

- NOTES:**
1. ALL TAPPING SLEEVES SHALL BE STAINLESS STEEL WITH FLANGED OUTLET. TAPPING SLEEVES SHALL BE APPROVED BY THE CITY OF OWOSSO PRIOR TO INSTALLATION.
 2. THE GASKET FOR MAIN LINE SHALL BE MADE FOR THE PIPE MATERIAL IN PLACE, NORMALLY DUCTILE IRON CLASS 53.
 3. OUTLET FLANGE IS CLASS 125 ANS/B16.1.
 4. TAPPING TEE SHALL HAVE A BUILT-IN TEST PLUG.
 5. THE VALVE SHALL BE FLANGED, CONNECTED TO THE SLEEVE BY MECHANICAL JOINT TO THE LINE TO BE CONSTRUCTED.
 6. THE VALVE SHALL HAVE OVERSIZE SEAT RINGS TO PERMIT ENTRY OF THE TAPPING MACHINE CUTTERS.
 7. THE VALVE SHALL MEET ALL REQUIREMENTS OF AWWA C-500.
 8. THE MINIMUM SIZE MANHOLE SHALL BE 5'-0" INTERNAL DIAMETER.
 9. THE TOP OPENING SHALL BE CENTERED ON THE VALVE OPERATING NUT.
 10. USE FLAT SLAB FOR COVER WITH 24" OPENING.

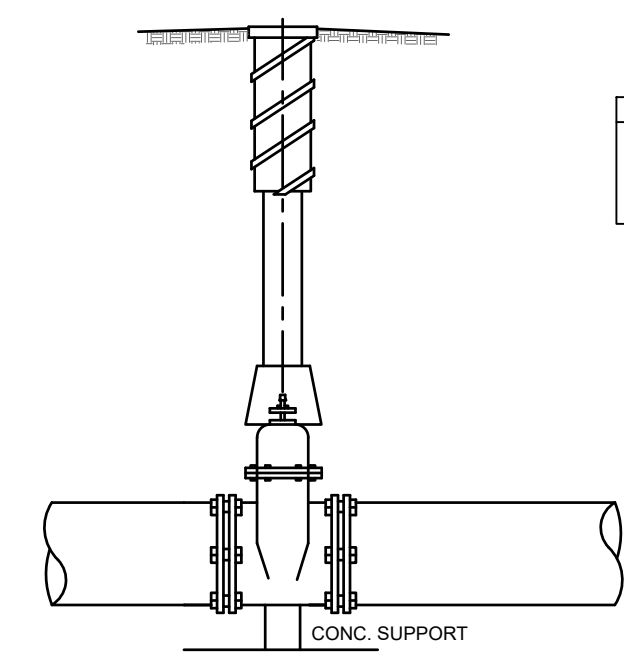


SD-2W PRESSURE TAPPING SLEEVE AND VALVE

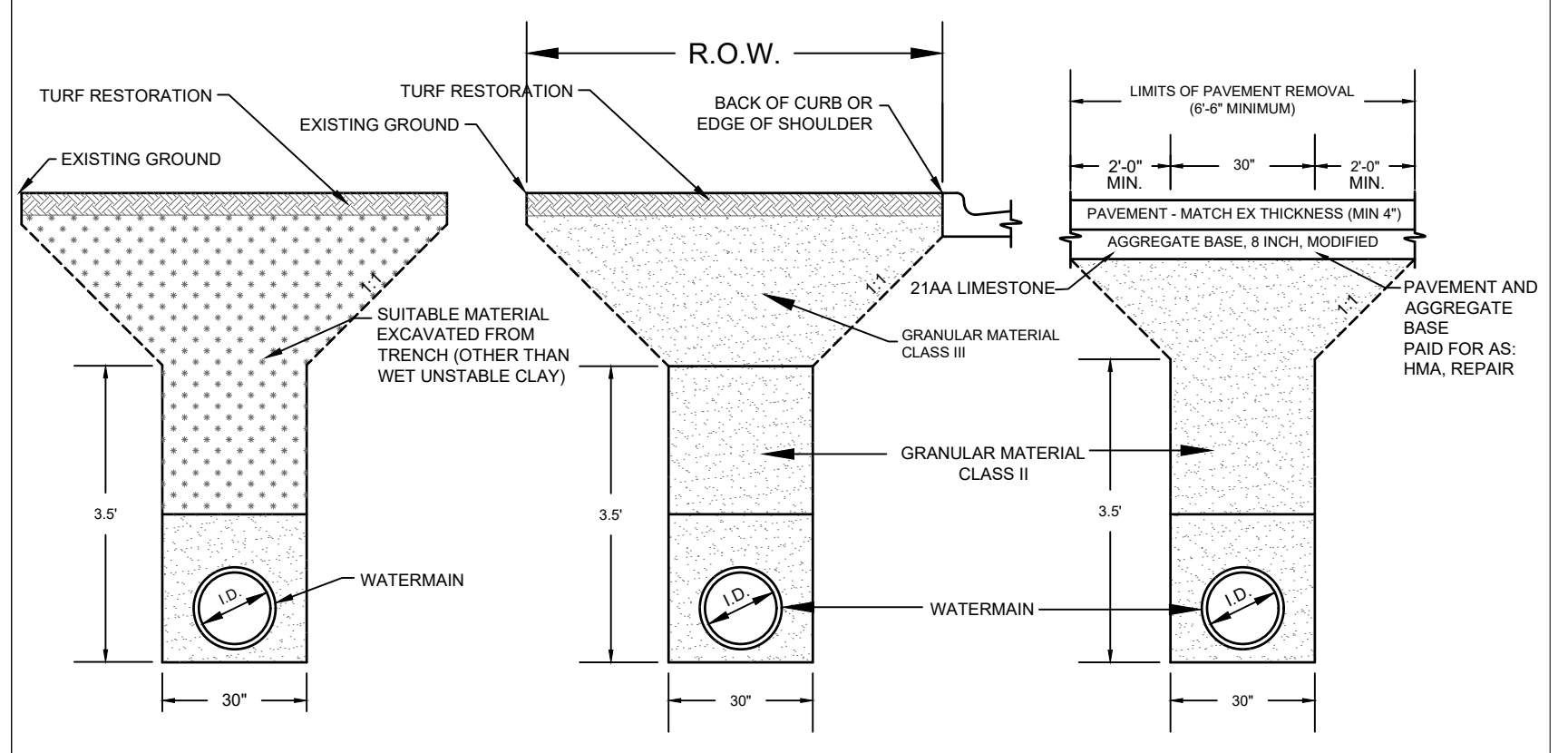
NOTE:
ALL MECHANICAL JOINTS SHALL BE RESTRAINED WITH MEGA LUGS OR APPROVED EQUAL. LENGTH OF RESTRAINT SHALL BE DETERMINED BY MANUFACTURER AND DIPRA, AND APPROVED BY CITY OF OWOSSO. THE MINIMUM REQUIRED RESTRAINT LENGTHS ARE SHOWN IN DETAIL SD-7W. MANUFACTURER RESTRAINT LENGTHS THAT ARE LESS THAN SHOWN IN SD-7W MUST BE APPROVED BY CITY OF OWOSSO.

SD-3W LOCATION OF RESTRAINED JOINTS

- NOTES:**
1. RESILIENT SEATED WEDGE GATE VALVES SHALL BE PER PROJECT SPECIFICATIONS.
 2. ALL PRESSURE TAPS 4" AND OVER MUST BE ENCLOSED WITH A CONCRETE VALVE MANHOLE.
 3. CONCRETE ADJUSTING BRICK OR RINGS ALLOWABLE TO A MAXIMUM ADJUSTMENT OF 12".
 4. VALVE BOXES SHALL BE MADE OF GOOD QUALITY CAST IRON AND SHALL BE OF THE SECTIONAL TYPE. THE LOWER SECTION SHALL BE A MINIMUM OF FIVE (5) INCHES IN DIAMETER, ENLARGED AT THE BASE TO FIT AROUND THE BONNET OF THE VALVE. THE UPPER SECTION SHALL BE ARRANGED TO SLIDE OR SCREW DOWN OVER THE ADJOINING LOWER SECTION AND SHALL BE FULL DIAMETER THROUGHOUT. VALVE BOXES SHALL BE PROVIDED WITH CAST IRON LIDS OR COVERS. LIDS OR COVERS SHALL BE MARKED "WATER". THE OVER-ALL LENGTH OF VALVE BOXES SHALL BE SUFFICIENT TO PERMIT THE TOP TO BE SET FLUSH WITH THE FINAL GROUND SURFACE GRADE. VALVE BOXES SHALL BE AS MANUFACTURED BY TRAVERSE CITY IRON WORKS, CLOW CORPORATION OR APPROVED EQUAL.



SD-4W WATER VALVE AND VALVE BOX DETAIL



TRENCH BACKFILL DETAIL 'F'
TYPICAL WATERMANS
NOT WITHIN INFLUENCE OF ROADBED,
DRIVEWAY, OR SIDEWALK, AND
LOCATED OUTSIDE OF ROAD
RIGHT-OF-WAY

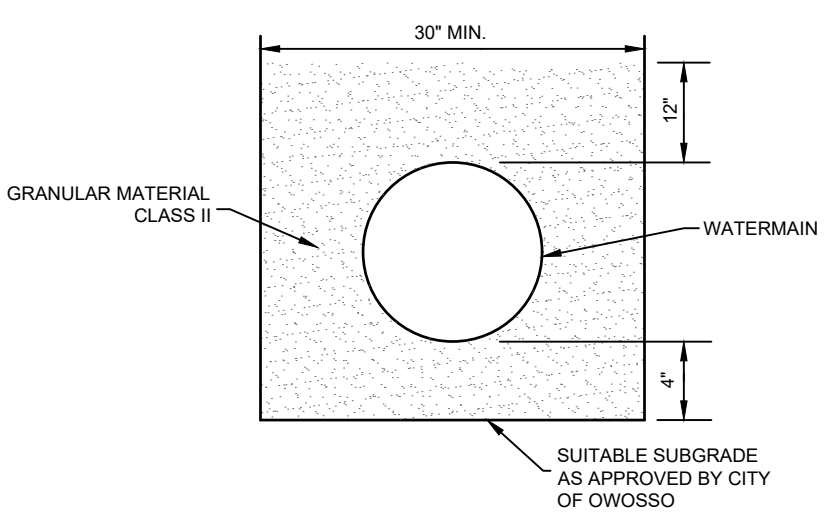
TRENCH BACKFILL DETAIL 'G'
TYPICAL WATERMANS
UNDER ROADBED AND/OR WITHIN INFLUENCE OF
ROADBED, DRIVEWAY, OR SIDEWALK, OR
LOCATED WITHIN THE ROAD RIGHT-OF-WAY

SD-5W WATERMAIN TRENCH BACKFILL DETAILS

MINIMUM PIPE RESTRAINT LENGTH SCHEDULE FOR GROUND BURIED PRESSURE PIPES(1)

| DEFLECTION ANGLE | LENGTH (IN FEET) OF RESTRAINT REQUIRED (2) | | | | | | |
|------------------|--|---------|-----|---------|---------|---------|-----------------|
| | 22 1/2° | 33 3/4° | 45° | 56 1/4° | 67 1/2° | 78 3/4° | 90° OR DEAD END |
| PIPE | | | | | | | |
| 6" | 3 | 6 | 11 | 16 | 23 | 29 | 37 |
| 8" | 4 | 8 | 15 | 22 | 31 | 41 | 50 |
| 10" | 5 | 11 | 18 | 28 | 38 | 49 | 61 |

* WHEN MANUFACTURER SPECIFICATIONS CALL FOR GREATER RESTRAINT LENGTHS THE GREATER LENGTHS SHALL BE INSTALLED. WHEN THE MANUFACTURER SPECIFICATIONS CALL FOR LESSER RESTRAINT LENGTHS THEN THE ABOVE LENGTHS SHALL BE INSTALLED



SD-10W WATERMAIN BEDDING DETAIL

1. THIS TABLE IS BASED ON A TEST PRESSURE OF 100 PSI (OPERATING PRESSURE + WATER HAMMER). FOR OTHER TEST PROCEDURES, ALL VALUES ARE TO BE INCREASED PROPORTIONALLY.
2. IN EACH DIRECTION FROM POINT OF DEFLECTION OR TERMINATION EXCEPT FOR A TEE AT WHICH ONLY THE BRANCH IN THE DIRECTION OF THE TEE STEM.
3. IF THE RODS ARE USED, PLACE 2 RODS 5/8 INCH DIAMETER MINIMUM FOR WATERMAIN 6 INCH TO 10 INCH.

SD-7W MINIMUM PIPE RESTRAINT SCHEDULE

| BENCHMARK DATA ELEV. | DESCRIPTION | NO. | REVISIONS | DATE | BY | APPROVED BY |
|-------------------------|-------------|-----|-----------|------|----|-------------|
| | | | | | | |
| | | | | | | |

S CEDAR STREET ROAD AND STORM SEWER CITY OF OWOSSO

2020 STREET PROGRAM CONTRACT 2

| SHEET NO. | DESCRIPTION |
|-----------|--|
| CD1 | S CEDAR ST - ROAD AND STORM SEWER COVER SHEET & TRAFFIC CONTROL PLAN |
| CD2 | S CEDAR ST - TYPICAL CROSS SECTIONS |
| CD3 | S CEDAR ST - REMOVAL PLAN |
| CD4-CD9 | S CEDAR ST - ROAD PLAN AND PROFILE |
| CD10 | S CEDAR ST - SOIL BORINGS |

CITY OF OWOSSO, MICHIGAN
ENGINEERING DIVISION
DEPT. OF PUBLIC SERVICE



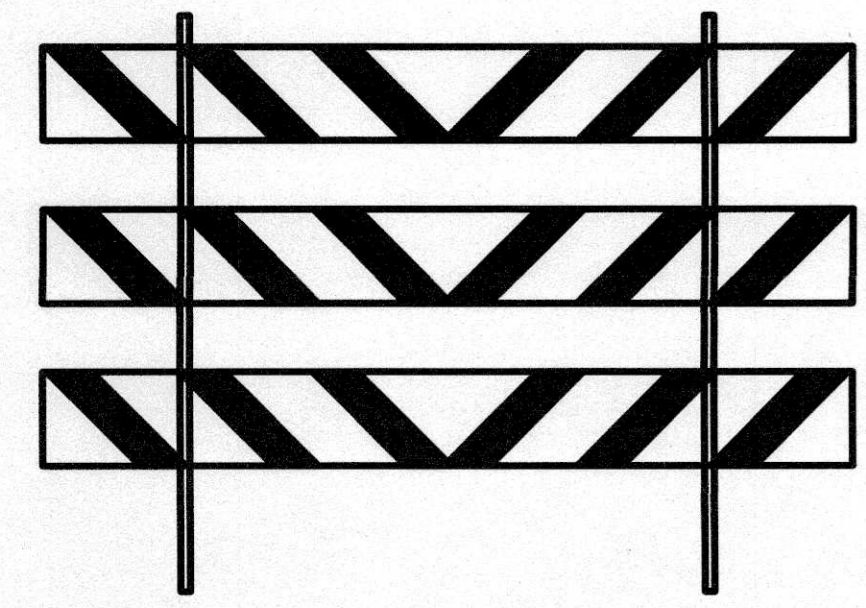
W20-1
48" x 48"

CEDAR ST

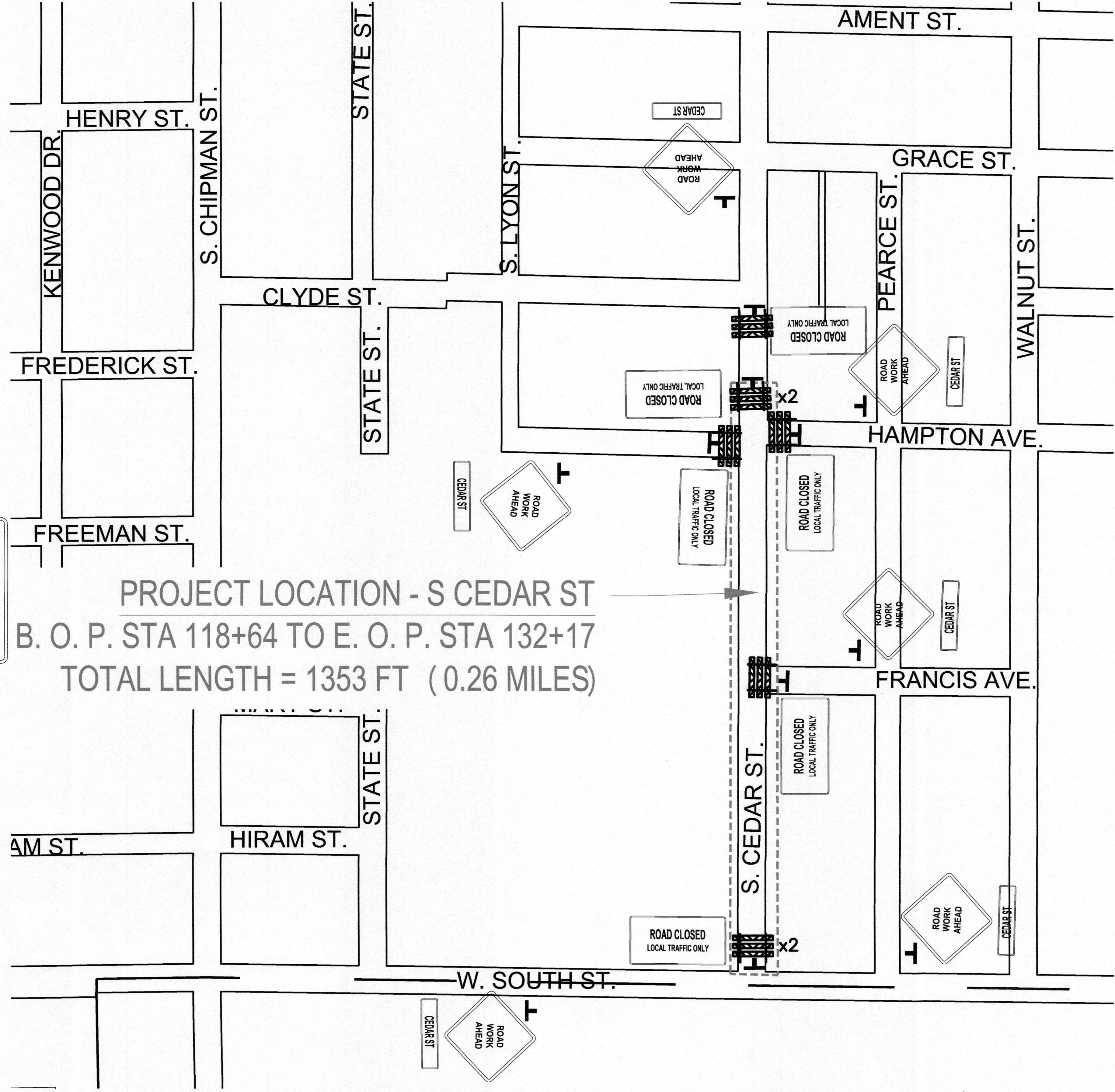
M4-8 (MOD)
30" x 8"



R11-3a
60" x 30"



TYPE III BARRICADE



PROJECT LOCATION - S CEDAR ST
B. O. P. STA 118+64 TO E. O. P. STA 132+17
TOTAL LENGTH = 1353 FT (0.26 MILES)

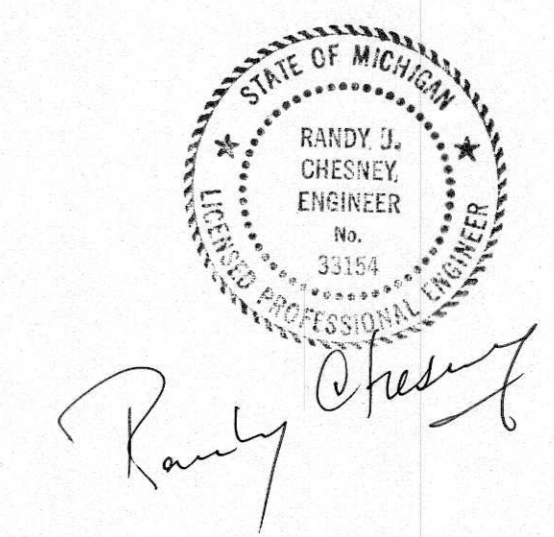
VICINITY MAP AND TRAFFIC CONTROL PLAN S CEDAR ST



THE DESIGN OF THIS ROAD IS BASED ON THE MICHIGAN DEPARTMENT OF TRANSPORTATION STAND SPECIFICATIONS OF CONSTRUCTION, 2012 EDITION, AND THE AASHTO A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, 2011 EDITION, AND THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, 2011 EDITION.

CONTRACT FOR: 0.26 MILES OF HMA RECONSTRUCTION, INTERSECTION IMPROVEMENTS, DRAINAGE IMPROVEMENTS, CURB AND GUTTER, ADA SIDEWALK RAMPS, AND PAVEMENT MARKINGS.

CITY OF OWOSSO APPROVAL



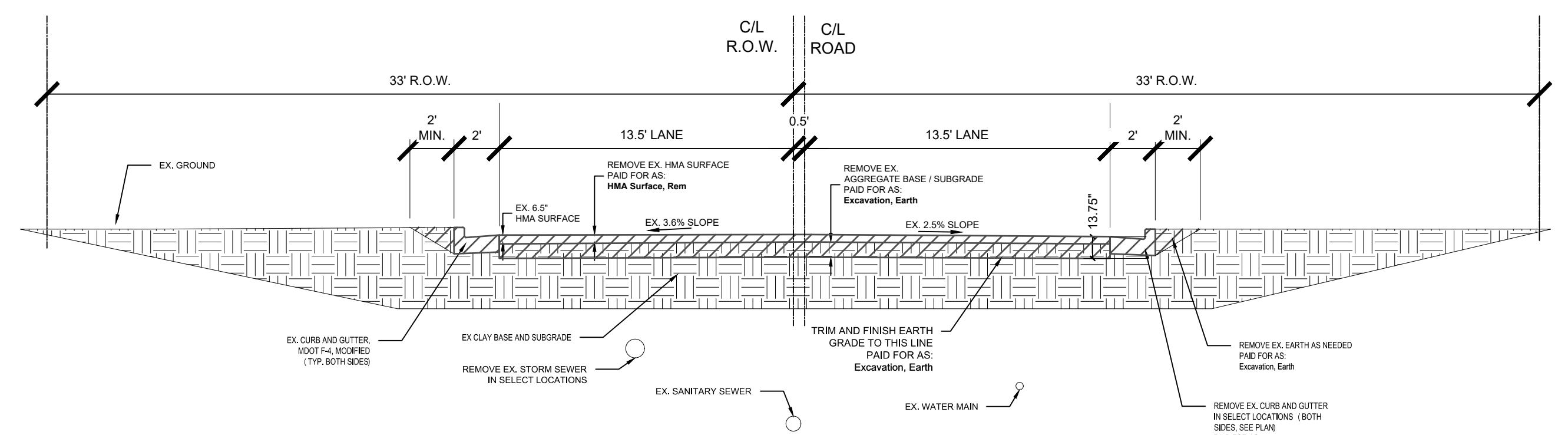
Randy Chesney

CITY ENGINEER *Randy Chesney* 33154 11-8-2019
REGISTRATION NUMBER DATE

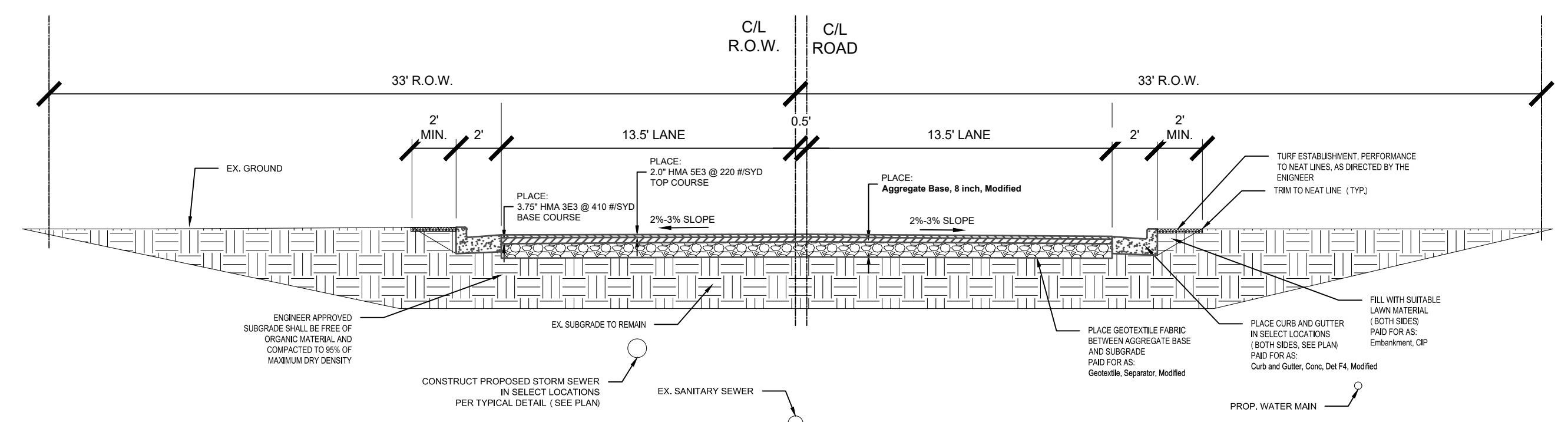
| BENCHMARK DATA | NO. | REVISIONS | DATE | BY | |
|----------------|-----|-----------|------|----|-------|
| | | | | | ELEV. |
| | | | | | |

2020 STREET PROGRAM CONTRACT 2
DWRP PROJECT NUMBER 7457-01 PHASE 1
S CEDAR STREET
ROAD AND STORM SEWER COVER SHEET
& TRAFFIC CONTROL PLAN
DATE PROJECT NO.
FIELD BOOK PG.

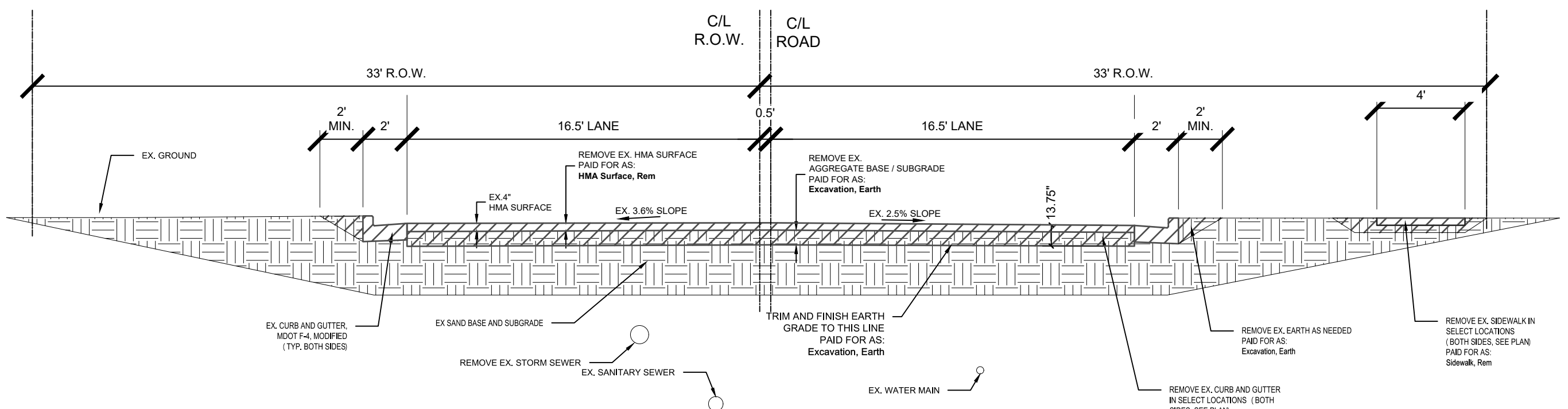
CD1



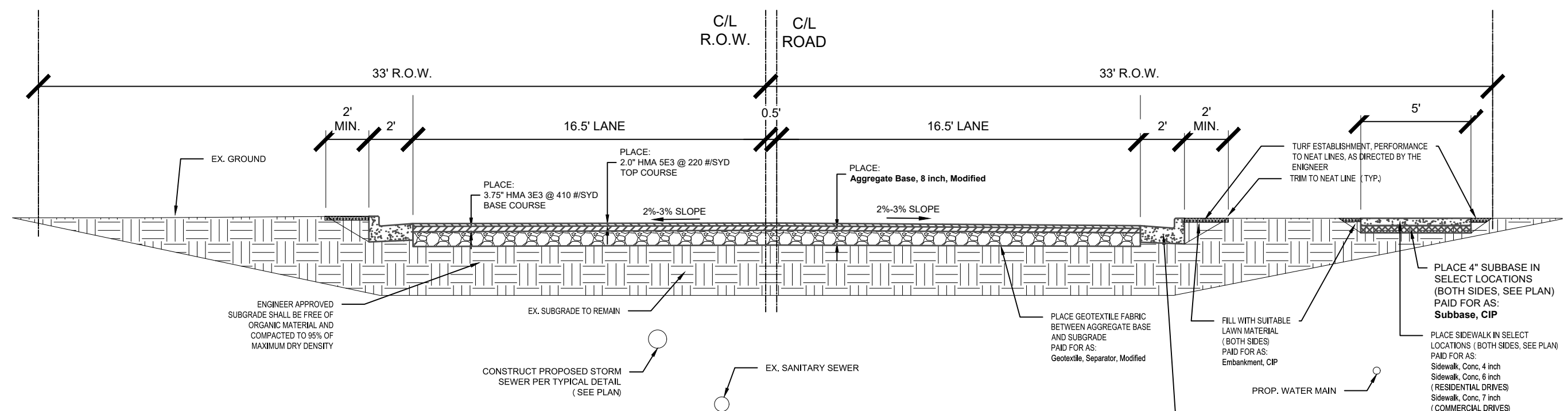
TYPICAL EXISTING CROSS SECTION - S CEDAR STREET
APPLIES TO STATIONS:
118+64 (B.O.P.) TO 125+36
SCALE: 1" = 5'



TYPICAL PROPOSED CROSS SECTION - S CEDAR STREET
APPLIES TO STATIONS:
118+64 (B.O.P.) TO 125+36
SCALE: 1" = 5'



TYPICAL EXISTING CROSS SECTION - S CEDAR STREET
APPLIES TO STATIONS:
125+36 TO 132+17 (E.O.P.)
SCALE: 1" = 5'



TYPICAL PROPOSED CROSS SECTION - S CEDAR STREET
APPLIES TO STATIONS:
125+36 TO 132+17 (E.O.P.)
SCALE: 1" = 5'

| S CEDAR STREET - HMA APPLICATION RATE | | | | | |
|---------------------------------------|--------------|--------------|-------------------|---------------------|------------------------------|
| ITEM | PAY ITEM | RATE PER SYD | PERFORMANCE GRADE | ESTIMATED THICKNESS | REMARKS |
| HMA | HMA, 5E3 | 220 LBS. | 64-28 | 2.0" | TOP COURSE - AWI = 220 (MIN) |
| | HMA, 3E3 | 410 LBS. | 64-28 | 3.75" | BASE COURSE |
| DRIVE APPROACH | HMA APPROACH | 220 LBS. | 64-28 | 2.0" | TOP COURSE - AWI = 220 (MIN) |
| | HMA APPROACH | 330 LBS. | 64-28 | 3.0" | BASE COURSE HMA, 3E3 |
| BOND COAT | | 0.1 GAL. | | | SS-1H (FOR INFORMATION ONLY) |

| BENCHMARK DATA | ELEV. | DESCRIPTION | REVISIONS | | APPROVED BY |
|----------------|-------|-------------|-----------|------|---------------|
| | | | NO. | DATE | |
| | | | | | ORIGINAL PLAN |
| | | | | | CHECKED BY |

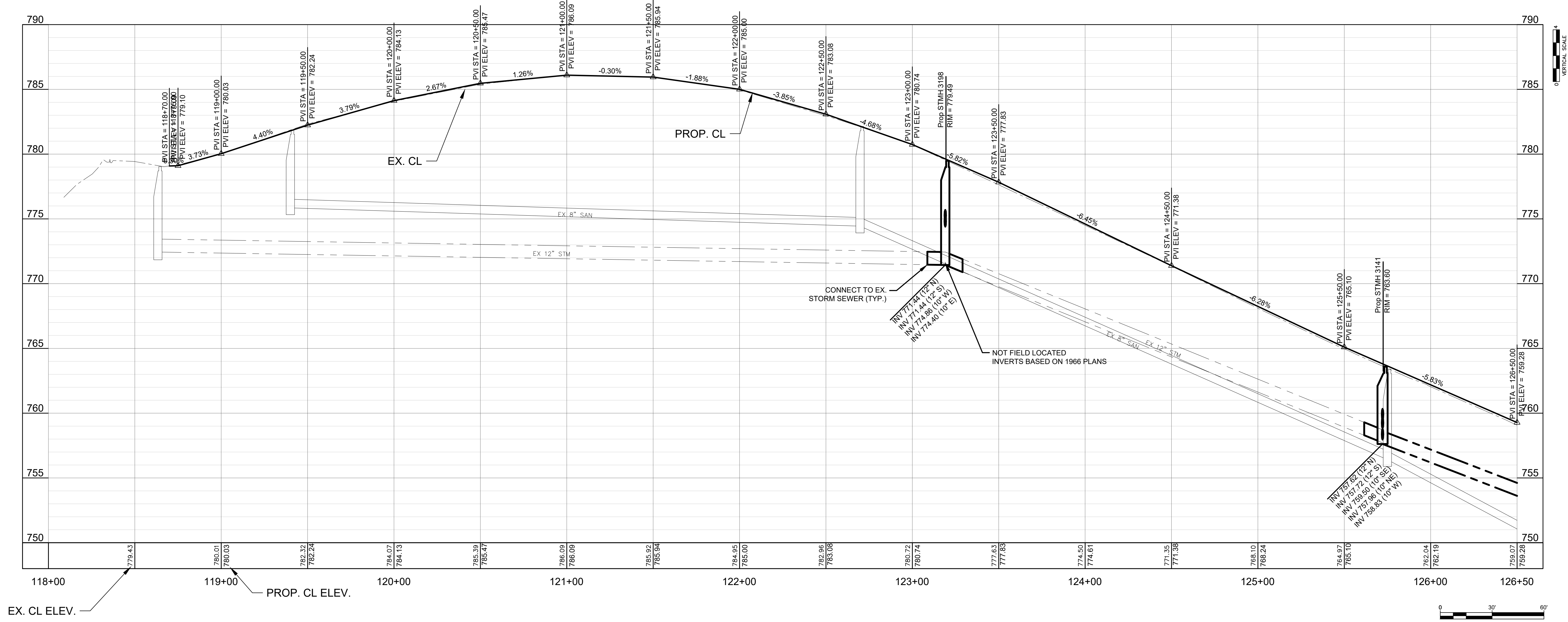
2020 STREET PROGRAM CONTRACT 2
DWRF PROJECT NUMBER 7457-01 PHASE 1

S CEDAR STREET
TYPICAL CROSS SECTIONS

DATE PROJECT NO.
FIELD BOOK PG.

CD2

CENTERLINE PROFILE



CITY OF OWOSSO, MICHIGAN
ENGINEERING DIVISION
DEPT. OF PUBLIC SERVICE

| NO. | REVISIONS | DATE | BY |
|-----|-----------|------|----|
| | | | |
| | | | |
| | | | |
| | | | |

CHECKED BY: _____ APPROVED BY: _____

| BENCHMARK DATA | DESCRIPTION |
|----------------|-------------|
| | |
| | |
| | |

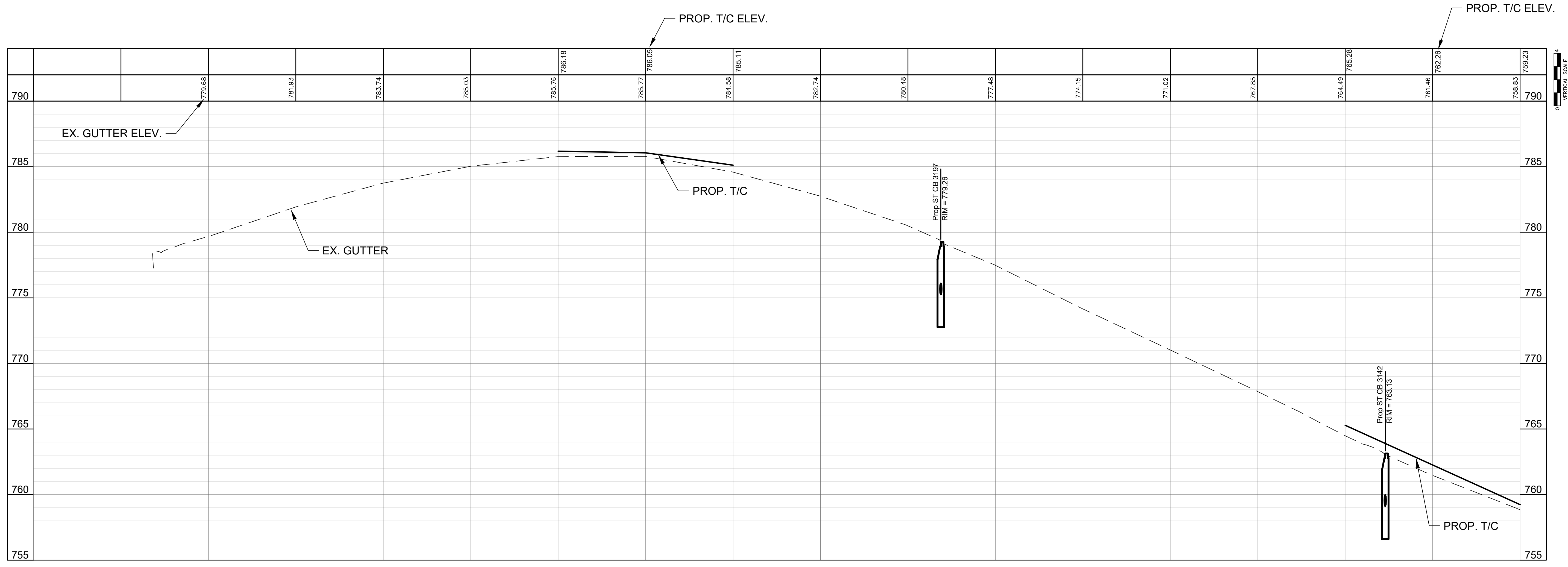
2020 STREET PROGRAM CONTRACT 2
DWRP PROJECT NUMBER 7457-01 PHASE 1
S CEDAR STREET
PROFILE SHEET

DATE: _____ PROJECT NO.: _____

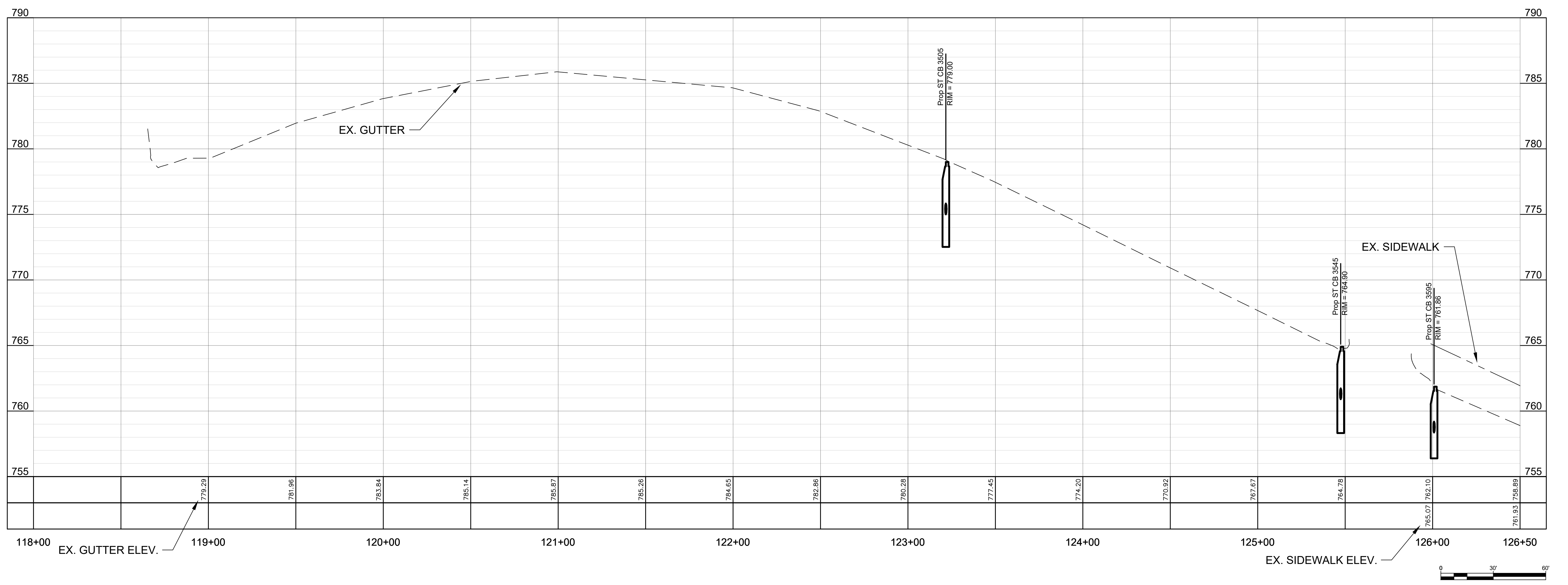
FIELD BOOK PG. _____

CD5

WEST PROFILE



EAST PROFILE



CITY OF OWOSSO, MICHIGAN
ENGINEERING DIVISION
DEPT. OF PUBLIC SERVICE

| NO. | REVISIONS | DATE | BY |
|-----|-----------|------|----|
| | | | |
| | | | |
| | | | |
| | | | |

ORIGINAL PLAN
CHECKED BY: _____ APPROVED BY: _____

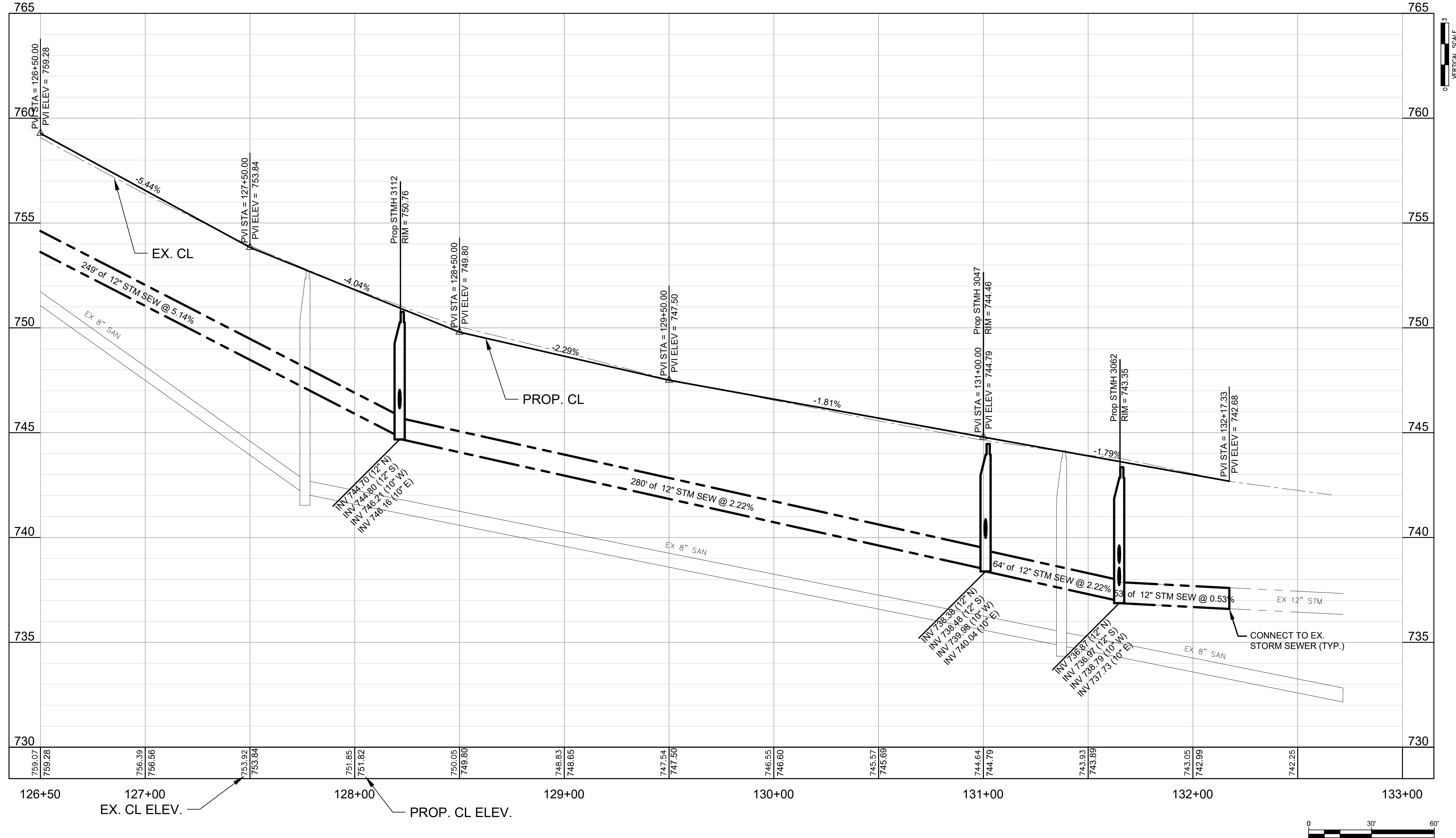
| BENCHMARK DATA | DESCRIPTION |
|----------------|-------------|
| ELEV. | |
| | |
| | |

2020 STREET PROGRAM CONTRACT 2
DWRP PROJECT NUMBER 7457-01 PHASE 1
S CEDAR STREET
PROFILE SHEET

DATE: _____ PROJECT NO.: _____ FIELD BOOK PG.: _____

CD6

CENTERLINE PROFILE



2020 STREET PROGRAM CONTRACT 2
 DWRP PROJECT NUMBER 7457-01 PHASE 1

S CEDAR STREET
 PROFILE SHEET

DATE PROJECT NO.
 CD8

FIELD BOOK
 PG.

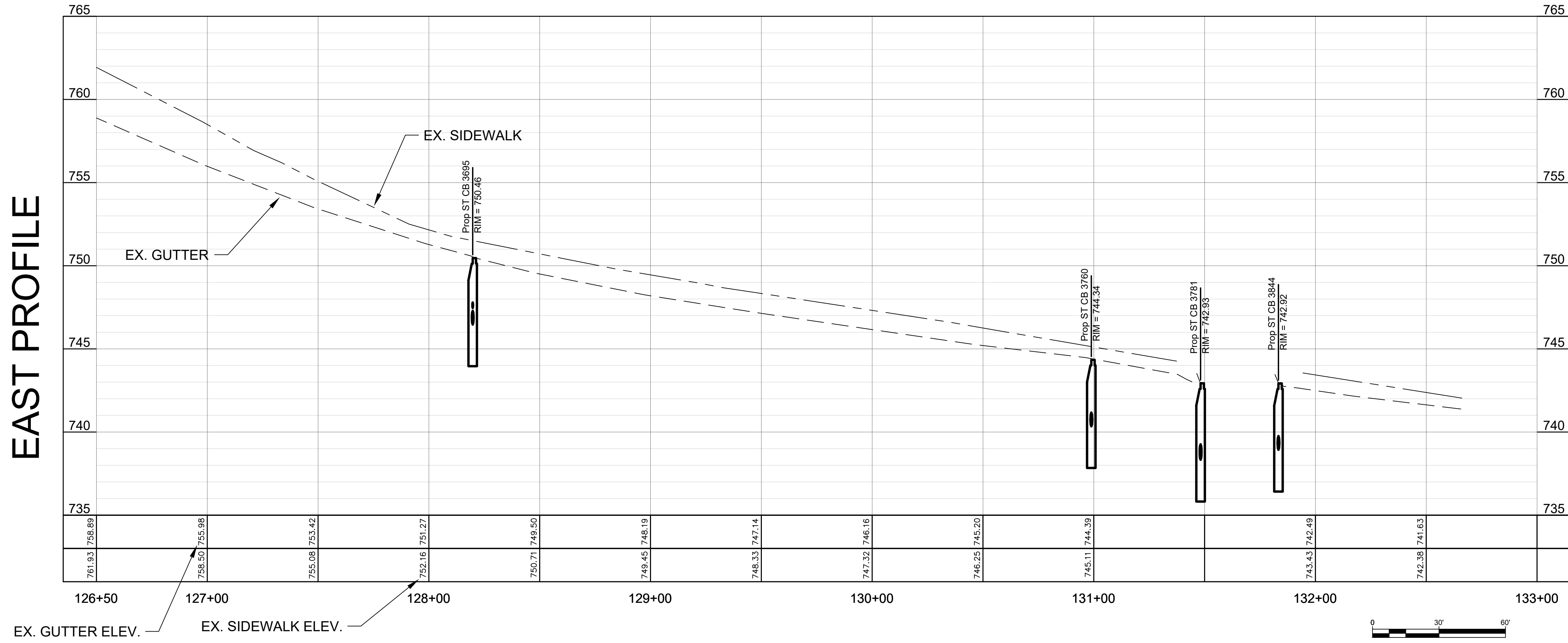
| BENCHMARK DATA | |
|----------------|-------------|
| ELEV. | DESCRIPTION |
| | |
| | |
| | |

| NO. | REVISIONS | DATE | BY |
|-----|-----------|------|----|
| | | | |
| | | | |
| | | | |

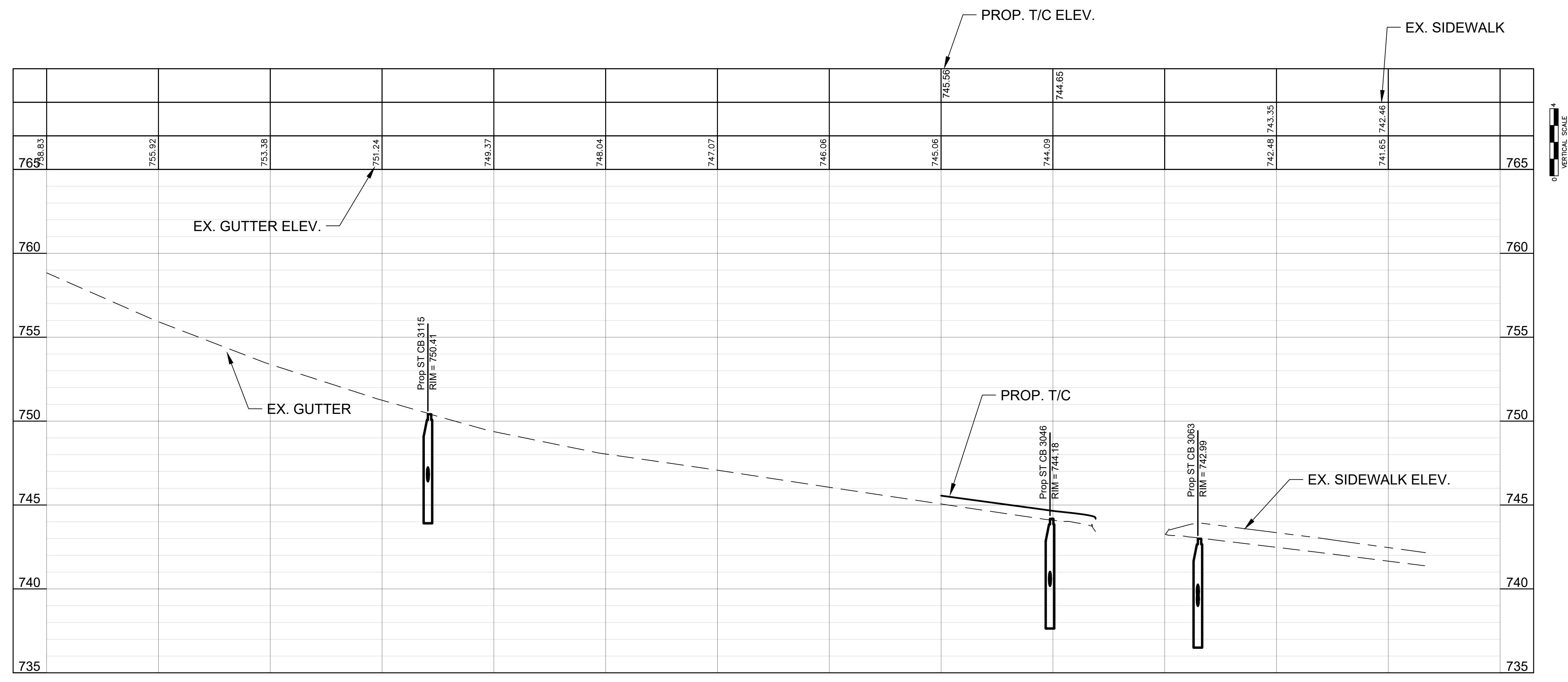
CHECKED BY: APPROVED BY: ORIGINAL PLAN

CITY OF OWOSSO, MICHIGAN
 ENGINEERING DIVISION
 DEPT. OF PUBLIC SERVICE

EAST PROFILE



WEST PROFILE



2020 STREET PROGRAM CONTRACT 2
DWRP PROJECT NUMBER 7457-01 PHASE 1

S CEDAR STREET
PROFILE SHEET

CD9

DATE PROJECT NO. FIELD BOOK PG.

| BENCHMARK DATA | |
|----------------|-------------|
| ELEV. | DESCRIPTION |
| | |
| | |
| | |

| NO. | REVISIONS | DATE | BY |
|-----|-----------|------|----|
| | | | |
| | | | |
| | | | |

| | |
|------------|-------------|
| CHECKED BY | APPROVED BY |
| | |

CITY OF OWOSSO, MICHIGAN
ENGINEERING DIVISION
DEPT. OF PUBLIC SERVICE



Construction Testing Services
 3300 E. Bristol Road, Burton, MI 48529
 PHONE: (810) 603-0766
 FAX: (810) 603-0786

JOB NO. S-18-245 LOG OF SOIL BORING NO. 6
 PROJECT: City of Owosso 2019 Street Program
 LOCATION: Owosso, Michigan
 DATE: 9/20/18 SURFACE ELEVATION: Existing

| Sample & Type | Depth | Legend | Soil Description | SPT Blows per 6" | Moisture % | Natural Wt. P.C.F. | Unc. Comp. Strength | Str. % |
|---------------|-------|--------|---|------------------|------------|--------------------|---------------------|--------|
| | 1 | | 6.5" Asphalt - Lower 1" Heavily Deteriorated | | | | | |
| 6A SS | 2 | | Clay - Firm, Moist, Sandy, Brown w/Pebble & occ/Stone | 1 | | | | |
| | 3 | | | 2 | | | | |
| | 4 | | | 4 | | | | |
| 6B SS | 5 | | Clay - Very Stiff, Moist, Sandy, Brown w/Pebble & occ/Stone | 4 | | | | |
| | 6 | | | 7 | | | | |
| | 7 | | | 8 | | | | |
| 6C SS | 7 | | 7'0" End of Boring | 5 | | | | |
| | 8 | | | 9 | | | | |
| | 9 | | | 14 | | | | |
| | 10 | | | | | | | |
| | 11 | | | | | | | |
| | 12 | | | | | | | |
| | 13 | | | | | | | |
| | 14 | | | | | | | |
| | 15 | | | | | | | |
| | 16 | | | | | | | |
| | 17 | | | | | | | |
| | 18 | | | | | | | |
| | 19 | | | | | | | |
| | 20 | | | | | | | |
| | 21 | | | | | | | |

| | | |
|--|--|---|
| TYPE OF SAMPLE D. - DISTURBED U.L. - UNDIST. LINER S.T. - SHELBY TUBE S.S. - SPLIT SPOON R.C. - ROCK CORE OTHER - | BORING PLUGGED WITH NATURAL SOIL * The soil descriptions shown on the logs are from visual observations. No classification tests were performed. Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30"; Count Made At 6" Intervals. | GROUND WATER OBSERVATIONS G.W. ENCOUNTERED AT FT. INS. G.W. ENCOUNTERED AT FT. INS. G.W. ON COMPLETION FT. INS. G.W. AFTER HOURS FT. INS. G.W. VOLUMES None |
|--|--|---|



Construction Testing Services
 3300 E. Bristol Road, Burton, MI 48529
 PHONE: (810) 603-0766
 FAX: (810) 603-0786

JOB NO. S-18-245 LOG OF SOIL BORING NO. 7
 PROJECT: City of Owosso 2019 Street Program
 LOCATION: Owosso, Michigan
 DATE: 9/20/18 SURFACE ELEVATION: Existing

| Sample & Type | Depth | Legend | Soil Description | SPT Blows per 6" | Moisture % | Natural Wt. P.C.F. | Unc. Comp. Strength | Str. % |
|---------------|-------|--------|--|------------------|------------|--------------------|---------------------|--------|
| | 1 | | 4" Asphalt | | | | | |
| | 2 | | 1'0" Sandy Gravel - Compact, Moist, Brown | | | | | |
| 7A SS | 3 | | | 2 | | | | |
| | 4 | | | 3 | | | | |
| | 5 | | 3'10" Sand - Medium Compact, Moist, Brown w/occ Pebble & Oxidation | | | | | |
| 7B SS | 6 | | | 4 | | | | |
| | 7 | | | 5 | | | | |
| | 8 | | Sand - Compact, Moist, Brown w/Pebble & occ/Stone | | | | | |
| 7C SS | 9 | | | 3 | | | | |
| | 10 | | | 7 | | | | |
| | 11 | | 7'0" End of Boring | | | | | |
| | 12 | | | 10 | | | | |
| | 13 | | | 8 | | | | |
| | 14 | | | 10 | | | | |
| | 15 | | | | | | | |
| | 16 | | | | | | | |
| | 17 | | | | | | | |
| | 18 | | | | | | | |
| | 19 | | | | | | | |
| | 20 | | | | | | | |
| | 21 | | | | | | | |

| | | |
|--|--|---|
| TYPE OF SAMPLE D. - DISTURBED U.L. - UNDIST. LINER S.T. - SHELBY TUBE S.S. - SPLIT SPOON R.C. - ROCK CORE OTHER - | BORING PLUGGED WITH NATURAL SOIL * The soil descriptions shown on the logs are from visual observations. No classification tests were performed. Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30"; Count Made At 6" Intervals. | GROUND WATER OBSERVATIONS G.W. ENCOUNTERED AT FT. INS. G.W. ENCOUNTERED AT FT. INS. G.W. ON COMPLETION FT. INS. G.W. AFTER HOURS FT. INS. G.W. VOLUMES None |
|--|--|---|

CITY OF OWOSSO, MICHIGAN
 ENGINEERING DIVISION
 DEPT. OF PUBLIC SERVICE

| NO. | REVISIONS | DATE | BY |
|-----|-----------|------|----|
| | | | |
| | | | |
| | | | |

APPROVED BY _____
 ORIGINAL PLAN
 CHECKED BY _____

| BENCHMARK DATA | DESCRIPTION |
|----------------|-------------|
| ELEV. | |
| | |
| | |

2020 STREET PROGRAM CONTRACT 2
 DWRF PROJECT NUMBER 7457-01 PHASE 1
 S CEDAR STREET
 SOIL BORINGS

FIELD BOOK
 PG. _____
 DATE PROJECT NO. _____

S CEDAR STREET WATER MAIN CITY OF OWOSSO

2020 STREET PROGRAM CONTRACT 2

| SHEET NO. | DESCRIPTION |
|-------------|--|
| CD11 | S CEDAR ST - WATER MAIN COVER SHEET & TRAFFIC CONTROL PLAN |
| CD12 - CD13 | S CEDAR ST - WATER MAIN PLAN AND PROFILE |

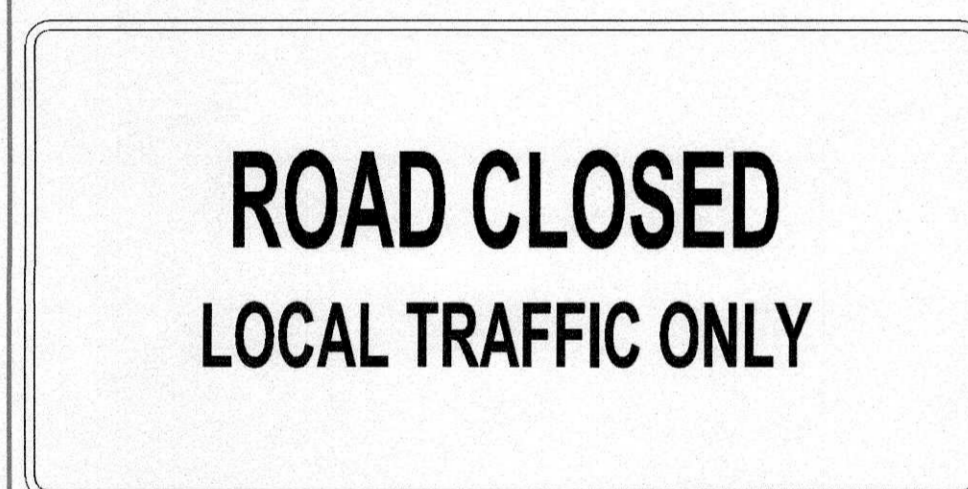
CITY OF OWOSSO, MICHIGAN
ENGINEERING DIVISION
DEPT. OF PUBLIC SERVICE



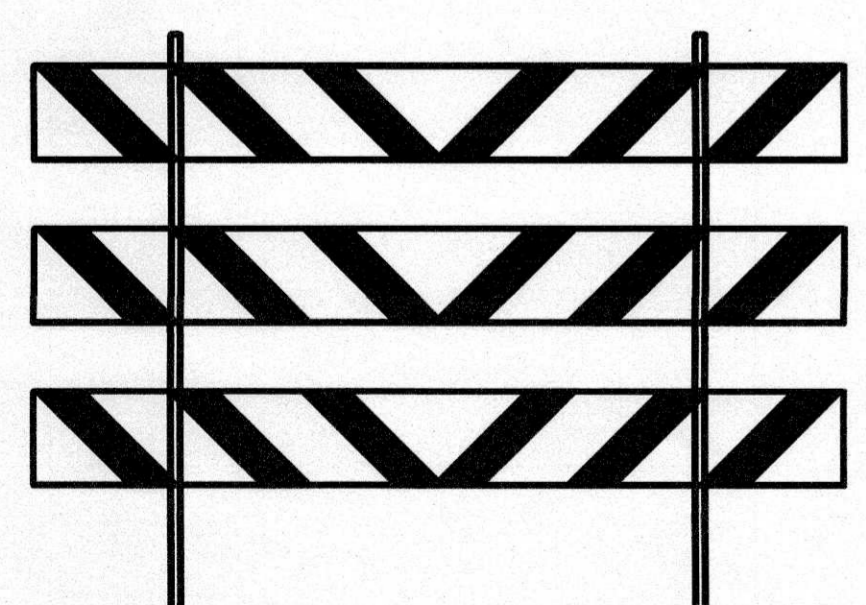
W20-1
48" x 48"

CEDAR ST

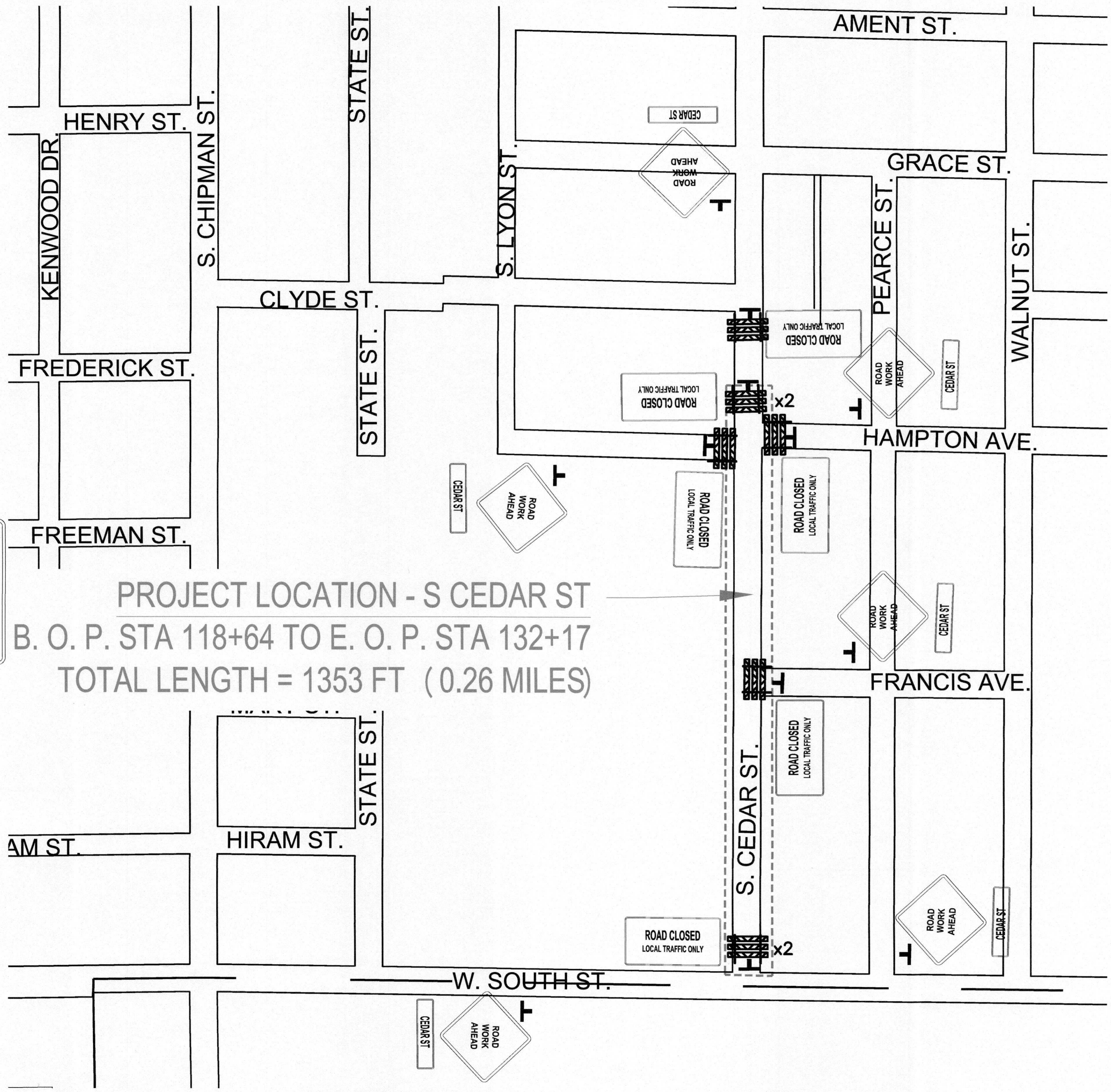
M4-8 (MOD)
30" x 8"



R11-3a
60" x 30"



TYPE III BARRICADE



PROJECT LOCATION - S CEDAR ST
B. O. P. STA 118+64 TO E. O. P. STA 132+17
TOTAL LENGTH = 1353 FT (0.26 MILES)

VICINITY MAP AND TRAFFIC CONTROL PLAN S CEDAR ST

THE MATERIAL AND METHODS FOR WATER MAIN CONSTRUCTION CONFORM TO THE STANDARDS OF THE AMERICAN WATER WORKS ASSOCIATION (AWWA) AND THE MICHIGAN SAFE DRINKING WATER ACT 1976 PA 399, AS AMENDED, AND THE ADMINISTRATIVE RULES.

CONTRACT FOR: 0.26 MILES OF WATER MAIN AND SERVICES REPLACEMENT.

CITY OF OWOSSO APPROVAL

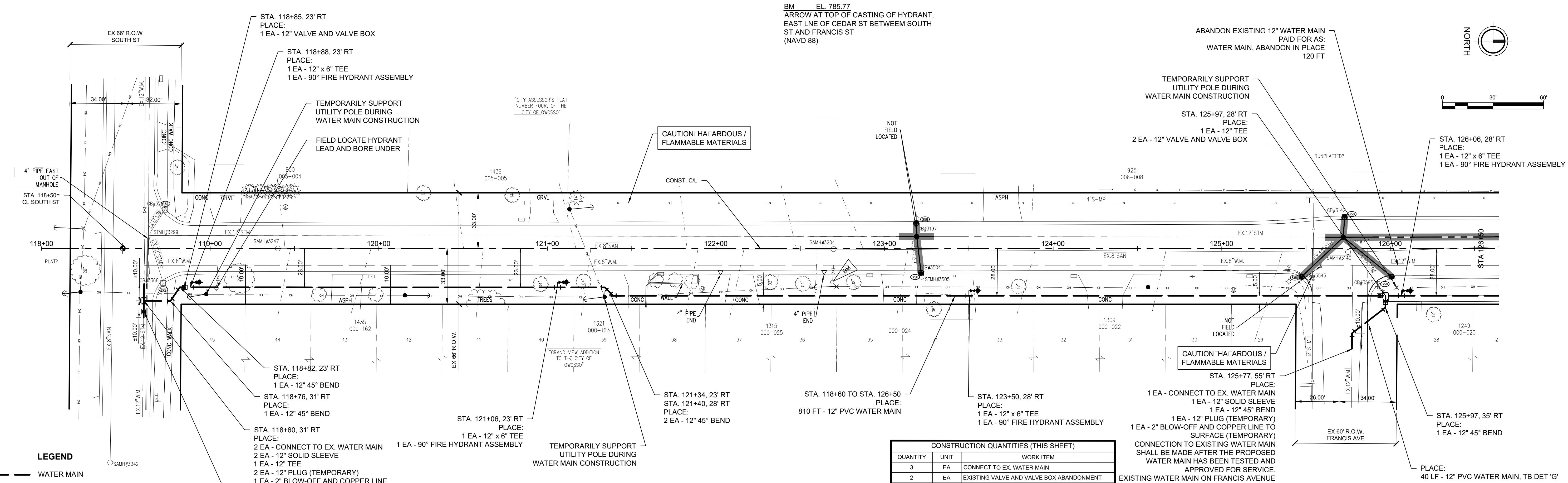


Randy Chesney

CITY ENGINEER *Randy Chesney* 33154 11-8-2019
REGISTRATION NUMBER DATE

| BENCHMARK DATA | NO. | REVISIONS | DATE | BY | |
|----------------|-----|-----------|------|----|-------|
| | | | | | ELEV. |
| | | | | | |
| | | | | | |
| | | | | | |

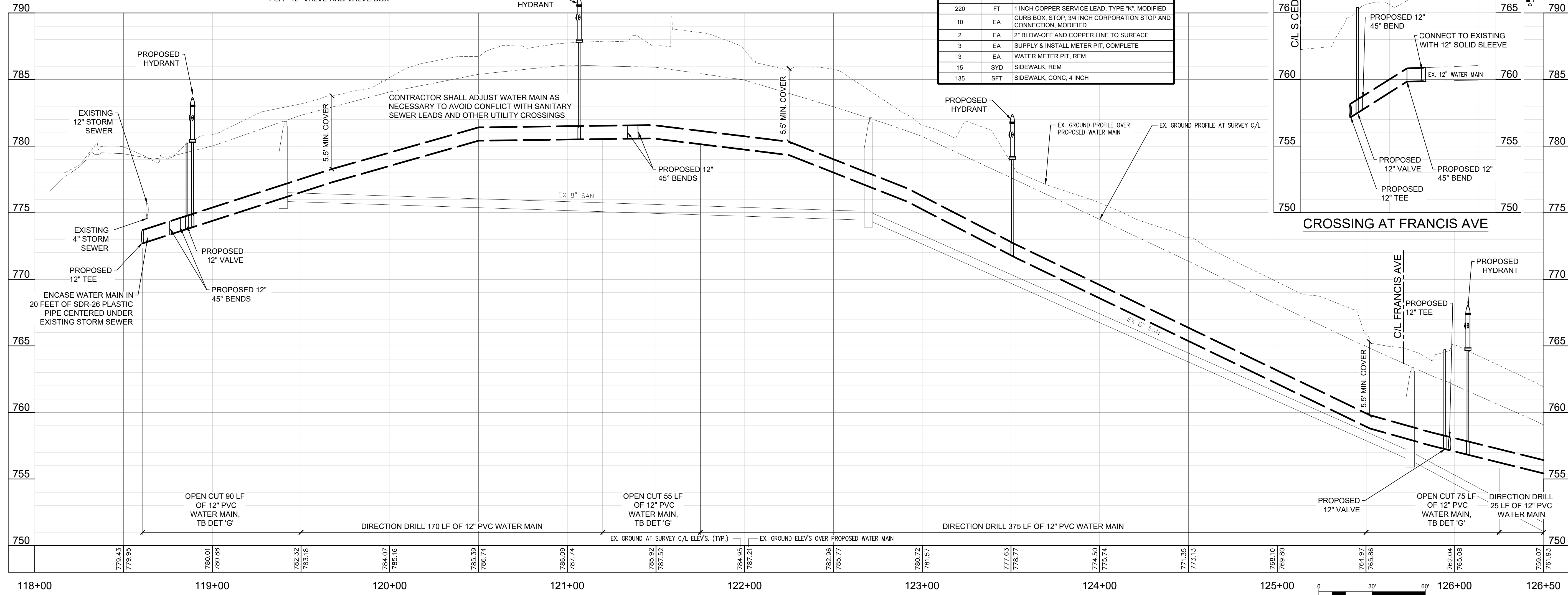
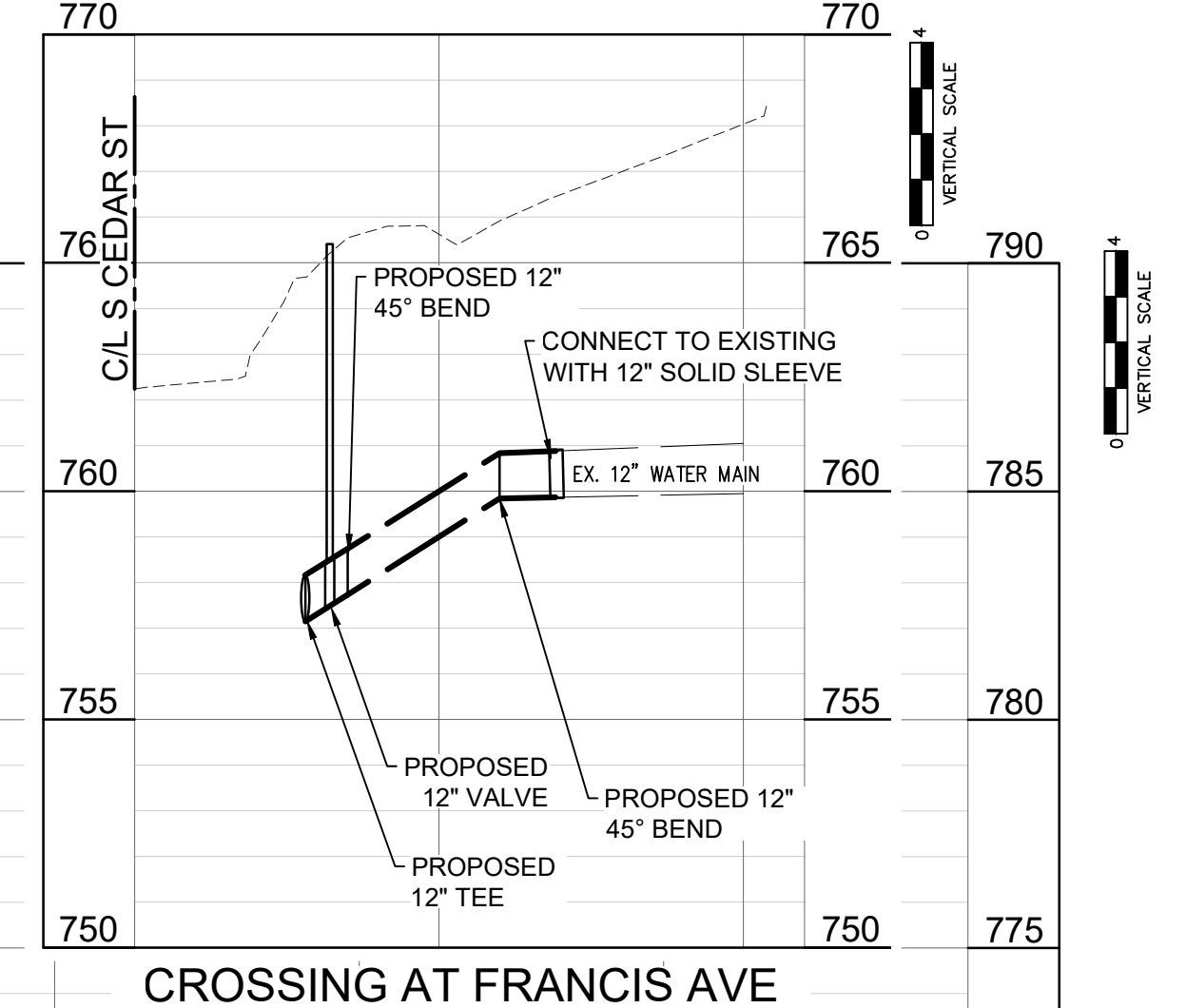
2020 STREET PROGRAM CONTRACT 2
DWRF PROJECT NUMBER 7457-01 PHASE 1
S CEDAR STREET
WATER MAIN COVER SHEET
& TRAFFIC CONTROL PLAN
FIELD BOOK PG.
DATE PROJECT NO.
CD11



- LEGEND**
- WATER MAIN
 - ✕ GATE VALVE AND BOX, .1 INCH
 - ▶ REDUCER
 - ⊕ HYDRANT / VALVE
 - ⊙ STANDARD SOIL EROSION KEY

**S CEDAR ST
CONSTRUCTION PLAN**

| CONSTRUCTION QUANTITIES (THIS SHEET) | | |
|--------------------------------------|------|--|
| QUANTITY | UNIT | WORK ITEM |
| 3 | EA | CONNECT TO EX. WATER MAIN |
| 2 | EA | EXISTING VALVE AND VALVE BOX ABANDONMENT |
| 3 | EA | HYDRANT, REM |
| 120 | FT | WATER MAIN, ABANDON IN PLACE |
| 570 | LF | WATER MAIN, C909 PVC, 12 INCH, BORE |
| 3 | EA | WATER MAIN, 12 INCH, CUT AND PLUG, MODIFIED |
| 4 | EA | GATE VALVE AND BOX, 12 INCH, MODIFIED |
| 4 | EA | FIRE HYDRANT AND VALVE ASSEMBLY |
| 220 | FT | 1 INCH COPPER SERVICE LEAD, TYPE "K", MODIFIED |
| 10 | EA | CURB BOX, STOP, 3/4 INCH CORPORATION STOP AND CONNECTION, MODIFIED |
| 2 | EA | 2" BLOW-OFF AND COPPER LINE TO SURFACE |
| 3 | EA | SUPPLY & INSTALL METER PIT, COMPLETE |
| 3 | EA | WATER METER PIT, REM |
| 15 | SYD | SIDEWALK, REM |
| 135 | SFT | SIDEWALK, CONC, 4 INCH |



CITY OF OWOSSO, MICHIGAN
ENGINEERING DIVISION
DEPT. OF PUBLIC SERVICE

| NO. | REVISIONS | DATE | BY |
|-----|-----------|------|----|
| | | | |
| | | | |

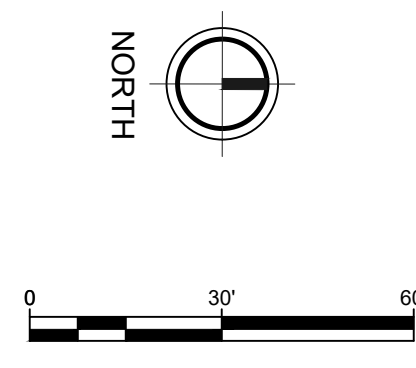
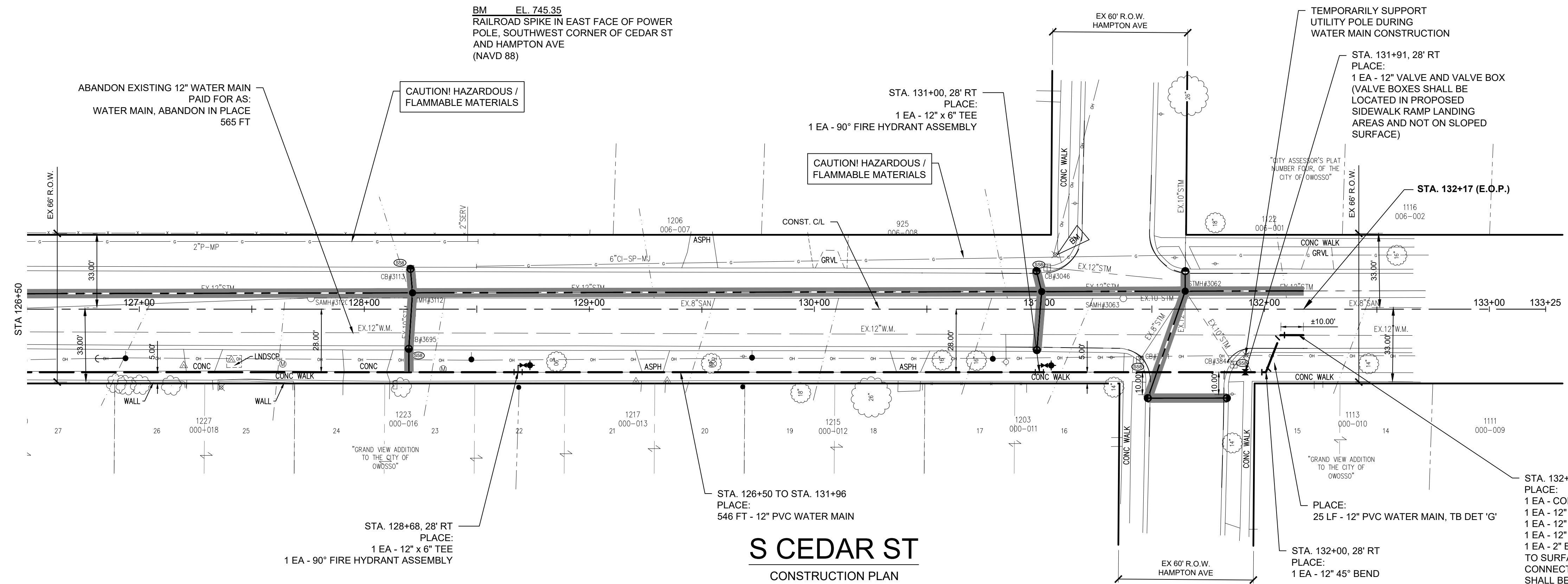
| BENCHMARK DATA | DESCRIPTION | ELEV. |
|----------------|-------------|-------|
| | | |
| | | |

2020 STREET PROGRAM CONTRACT 2
DWRP PROJECT NUMBER 7457-01 PHASE 1

**S CEDAR STREET
WATER MAIN CONSTRUCTION PLAN**

DATE PROJECT NO. FIELD BOOK PG. APPROVED BY

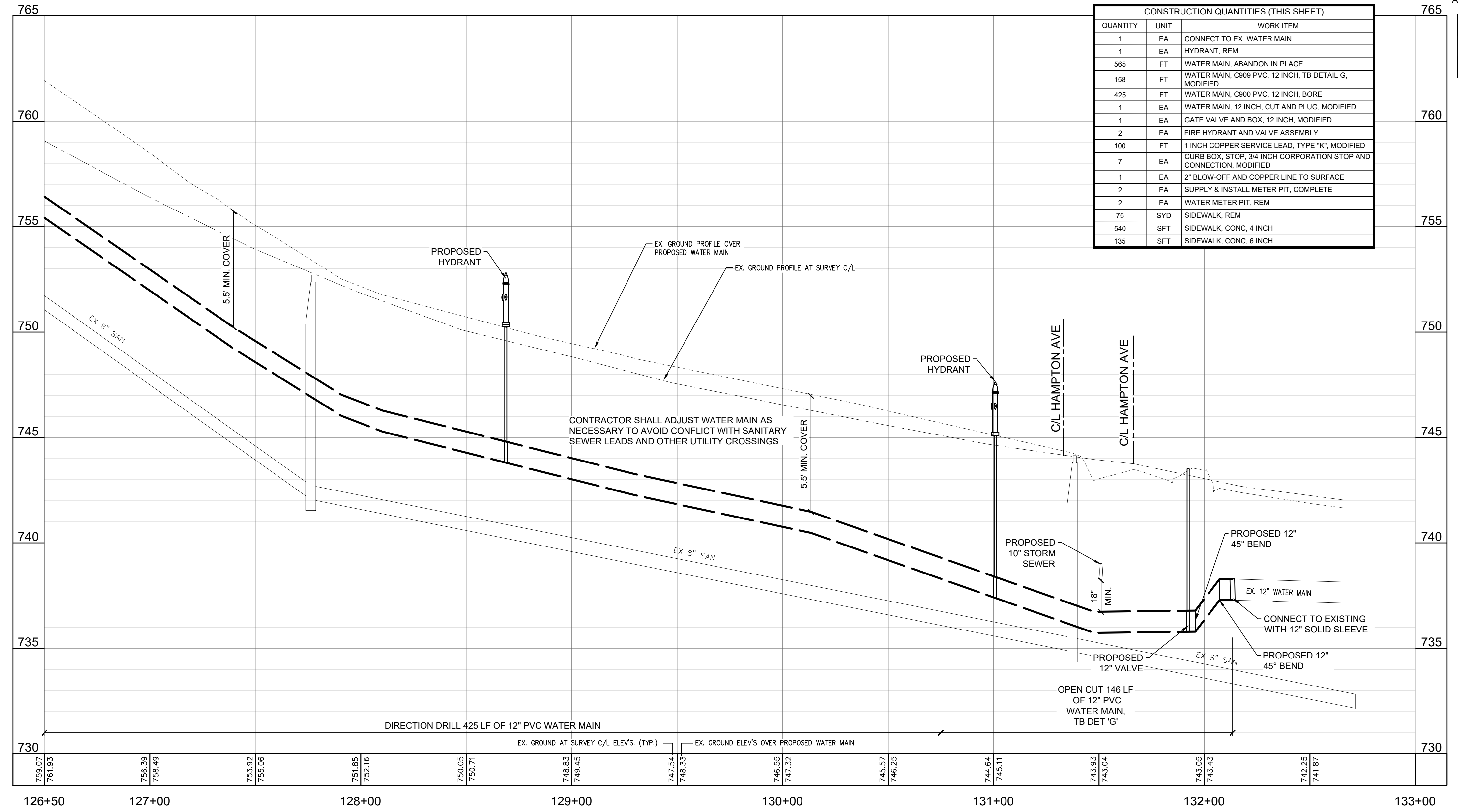
CD12



S CEDAR ST
CONSTRUCTION PLAN

- LEGEND**
- WATER MAIN
 - ✕ GATE VALVE AND BOX, _INCH
 - ▼ REDUCER
 - ⚡ HYDRANT / VALVE
 - ⊙ STANDARD SOIL EROSION KEY

| CONSTRUCTION QUANTITIES (THIS SHEET) | | |
|--------------------------------------|------|--|
| QUANTITY | UNIT | WORK ITEM |
| 1 | EA | CONNECT TO EX. WATER MAIN |
| 1 | EA | HYDRANT, REM |
| 565 | FT | WATER MAIN, ABANDON IN PLACE |
| 158 | FT | WATER MAIN, C909 PVC, 12 INCH, TB DETAIL G, MODIFIED |
| 425 | FT | WATER MAIN, C900 PVC, 12 INCH, BORE |
| 1 | EA | WATER MAIN, 12 INCH, CUT AND PLUG, MODIFIED |
| 1 | EA | GATE VALVE AND BOX, 12 INCH, MODIFIED |
| 2 | EA | FIRE HYDRANT AND VALVE ASSEMBLY |
| 100 | FT | 1 INCH COPPER SERVICE LEAD, TYPE "K", MODIFIED |
| 7 | EA | CURB BOX, STOP, 3/4 INCH CORPORATION STOP AND CONNECTION, MODIFIED |
| 1 | EA | 2" BLOW-OFF AND COPPER LINE TO SURFACE |
| 2 | EA | SUPPLY & INSTALL METER PIT, COMPLETE |
| 2 | EA | WATER METER PIT, REM |
| 75 | SYD | SIDEWALK, REM |
| 540 | SFT | SIDEWALK, CONC, 4 INCH |
| 135 | SFT | SIDEWALK, CONC, 6 INCH |



CITY OF OWOSSO, MICHIGAN
ENGINEERING DIVISION
DEPT. OF PUBLIC SERVICE

| NO. | REVISIONS | DATE | BY | APPROVED BY |
|-----|-----------|------|----|----------------|
| | | | | |
| | | | | ORIGINAL PLAN |
| | | | | CHECKED BY |
| | | | | FIELD BOOK PG. |

2020 STREET PROGRAM CONTRACT 2
DWRP PROJECT NUMBER 7457-01 PHASE 1
S CEDAR STREET
WATER MAIN CONSTRUCTION PLAN

DATE PROJECT NO.

CD13

CLARK AVENUE

ROAD AND STORM SEWER

CITY OF OWOSSO

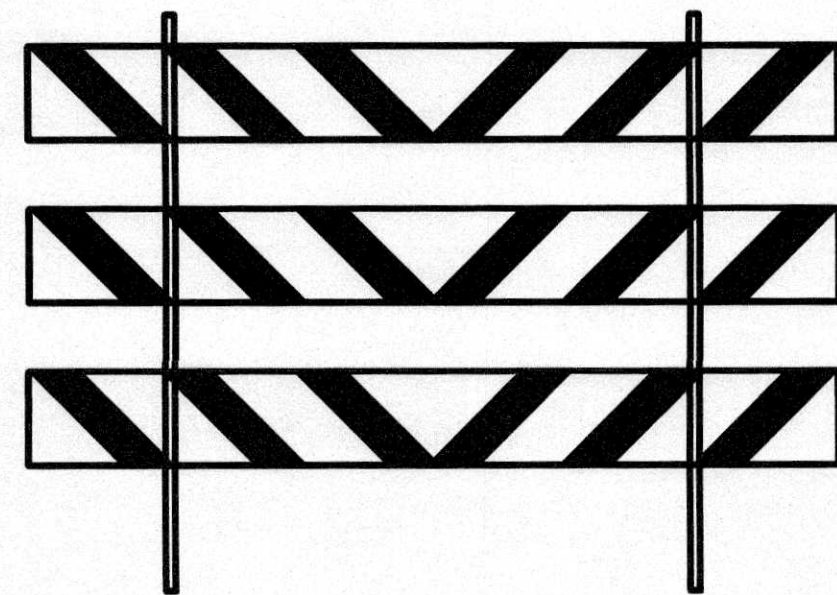
2020 STREET PROGRAM CONTRACT 2

| SHEET NO. | DESCRIPTION |
|-----------|---|
| CL1 | CLARK AVE - ROAD AND STORM SEWER COVER SHEET & TRAFFIC CONTROL PLAN |
| CL2 - CL3 | CLARK AVE - TYPICAL CROSS SECTIONS |
| CL4 | CLARK AVE - REMOVAL PLAN |
| CL5 - CL8 | CLARK AVE - ROAD PLAN AND PROFILE |
| CL9 | CLARK AVE - SOIL BORINGS |

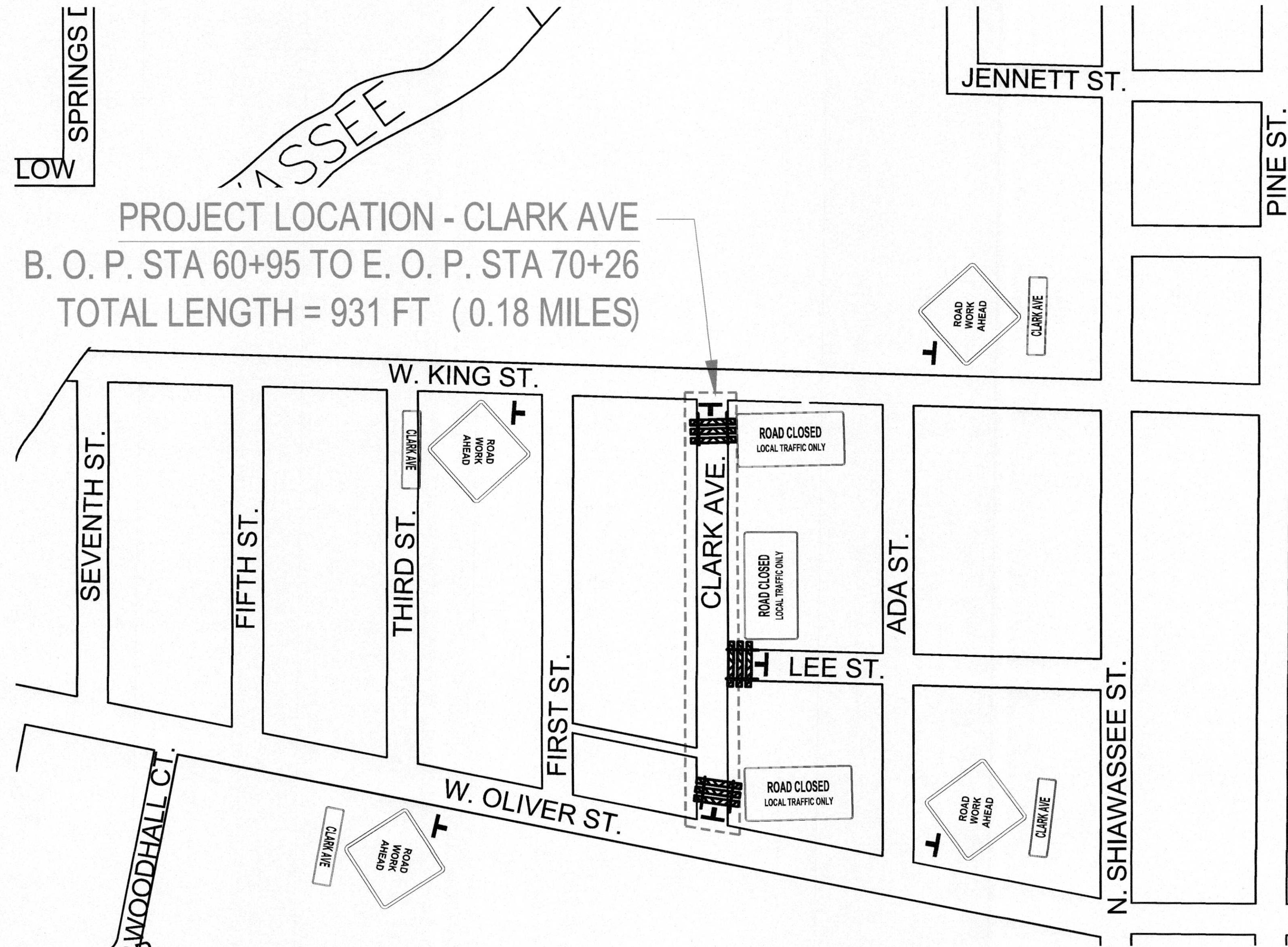
CITY OF OWOSSO, MICHIGAN
ENGINEERING DIVISION
DEPT. OF PUBLIC SERVICE

ROAD CLOSED
LOCAL TRAFFIC ONLY

R11-3a
60" x 30"



TYPE III BARRICADE



VICINITY MAP AND TRAFFIC CONTROL PLAN
CLARK AVENUE



W20-1
48" x 48"

CLARK AVE

M4-8 (MOD)
30" x 8"

THE DESIGN OF THIS ROAD IS BASED ON THE MICHIGAN DEPARTMENT OF TRANSPORTATION STAND SPECIFICATIONS OF CONSTRUCTION, 2012 EDITION, AND THE AASHTO A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, 2011 EDITION, AND THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, 2011 EDITION.

CONTRACT FOR: 0.18 MILES OF HMA RECONSTRUCTION, INTERSECTION IMPROVEMENTS, DRAINAGE IMPROVEMENTS, CURB AND GUTTER, AND ADA SIDEWALK RAMPS.

CITY OF OWOSSO APPROVAL

Randy Chesney

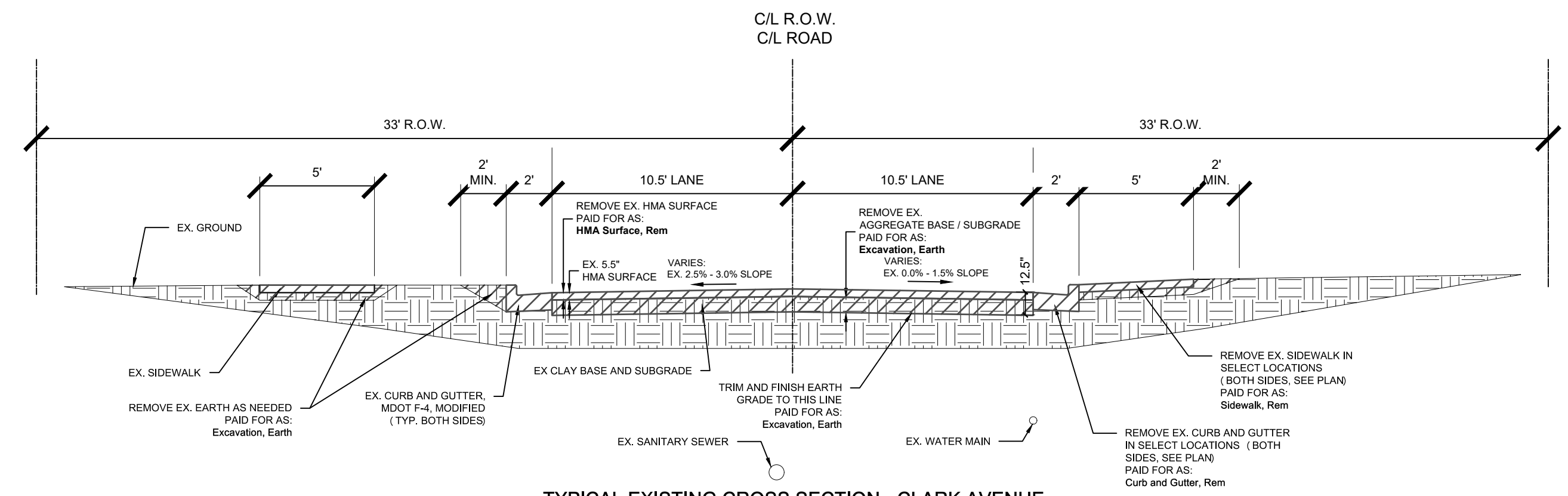
CITY ENGINEER RANDY CHESNEY, PE 33154 REGISTRATION NUMBER 11-8-2019 DATE

| NO. | REVISIONS | DATE | BY | |
|-----|-----------|------|----|-------------|
| | | | | APPROVED BY |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

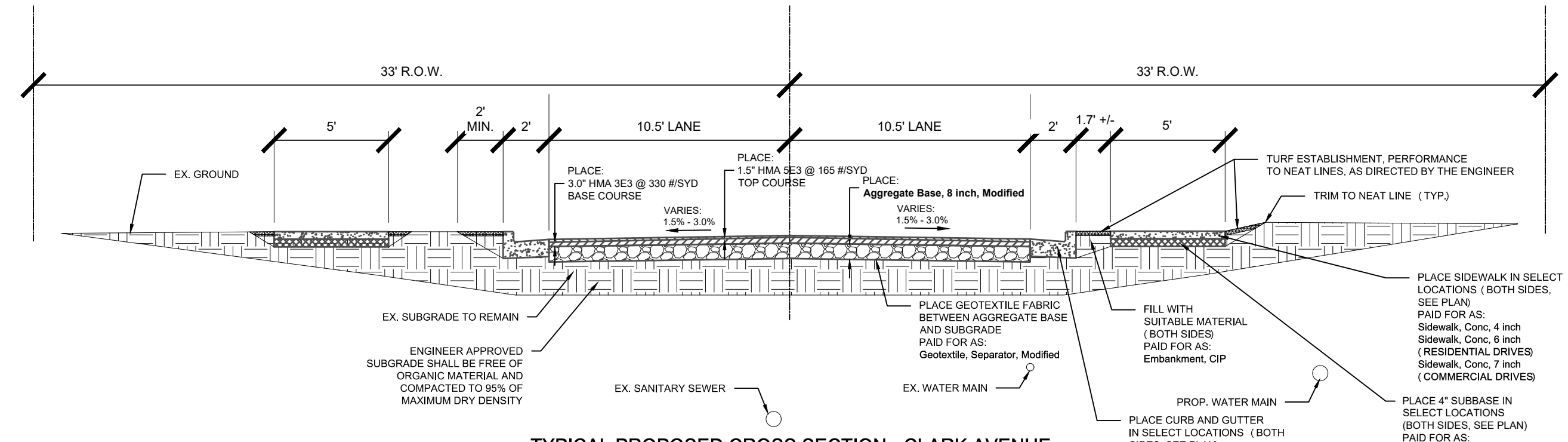
| BENCHMARK DATA | DESCRIPTION | ELEV. | FIELD BOOK | PG. |
|----------------|-------------|-------|------------|-----|
| | | | | |
| | | | | |
| | | | | |

2020 STREET PROGRAM CONTRACT 2
DWRP PROJECT NUMBER 7457-01 PHASE 1
CLARK AVENUE
ROAD AND STORM SEWER COVER SHEET
& TRAFFIC CONTROL PLAN

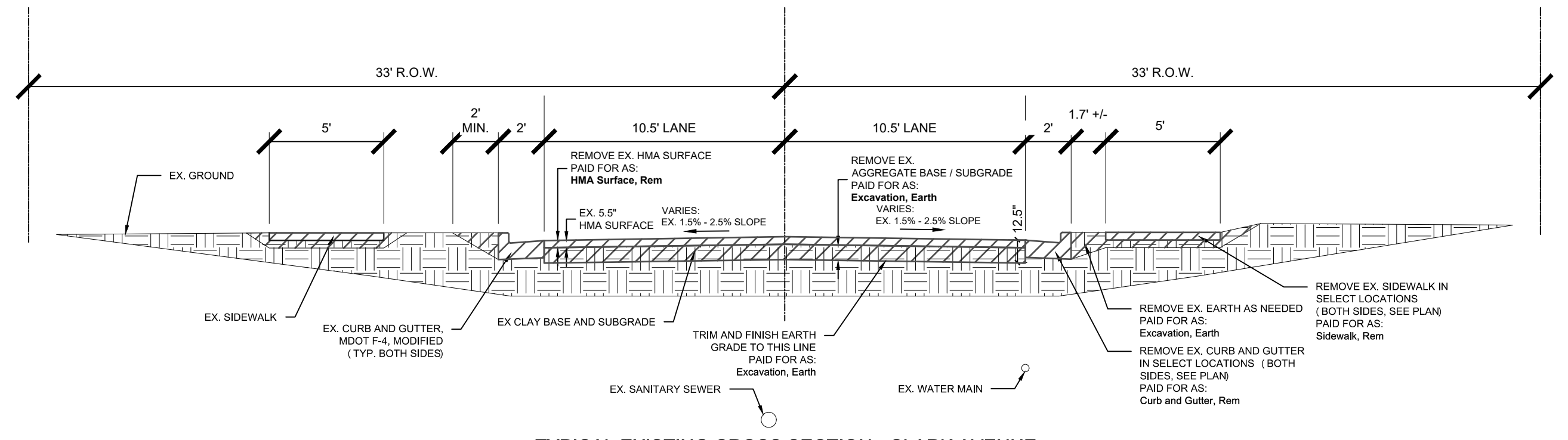
CL1



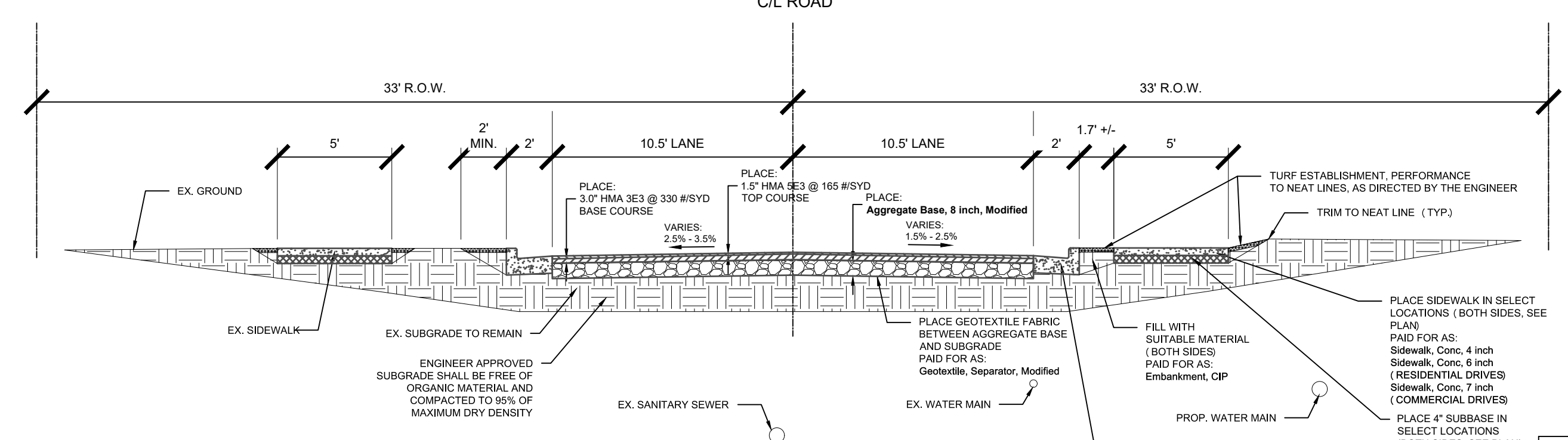
TYPICAL EXISTING CROSS SECTION - CLARK AVENUE
APPLIES TO STATIONS:
60+95 (B.O.P.) TO 61+67
SCALE: 1" = 5'



TYPICAL PROPOSED CROSS SECTION - CLARK AVENUE
APPLIES TO STATIONS:
60+95 (B.O.P.) TO 61+67
SCALE: 1" = 5'



TYPICAL EXISTING CROSS SECTION - CLARK AVENUE
APPLIES TO STATIONS:
61+67 TO 64+20
SCALE: 1" = 5'



TYPICAL PROPOSED CROSS SECTION - CLARK AVENUE
APPLIES TO STATIONS:
61+67 TO 64+20
SCALE: 1" = 5'

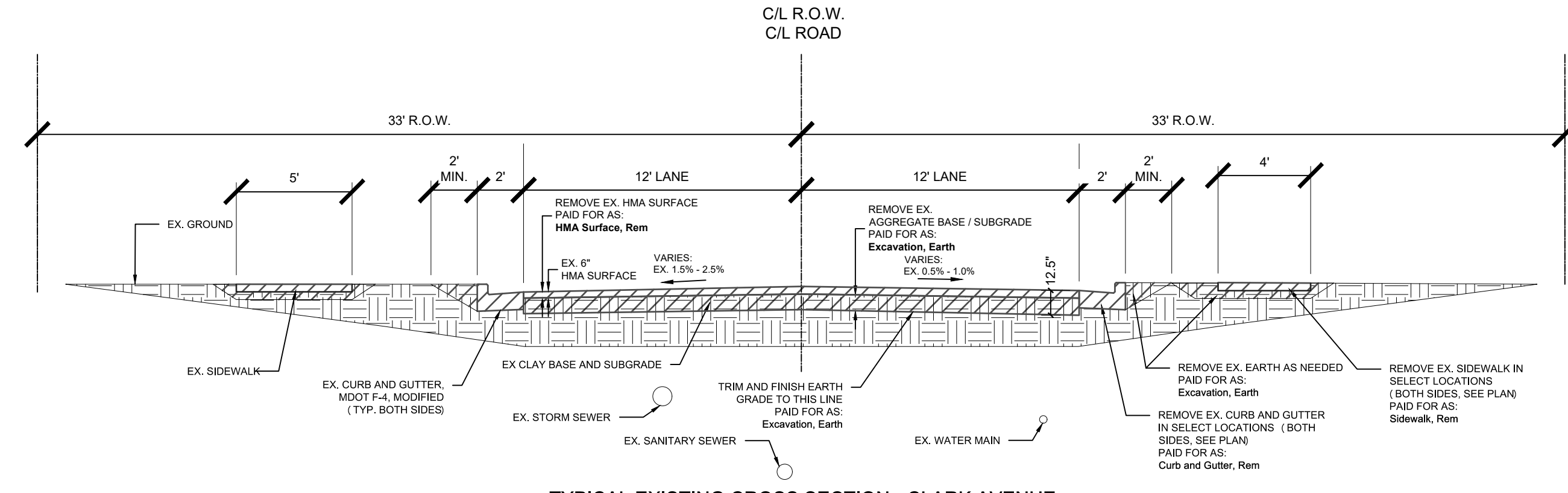
| CLARK AVENUE - HMA APPLICATION RATE | | | | | |
|-------------------------------------|--------------|--------------|-------------------|---------------------|--|
| ITEM | PAY ITEM | RATE PER SYD | PERFORMANCE GRADE | ESTIMATED THICKNESS | REMARKS |
| HMA | HMA, 5E3 | 165 LBS. | 64-28 | 1.5" | TOP COURSE - AWI = 220 (MIN) |
| | HMA, 3E3 | 330 LBS. | 64-28 | 3" | BASE COURSE |
| DRIVE APPROACH | HMA APPROACH | 220 LBS. | 58-28 | 2" | TOP COURSE - AWI = 220 (MIN) HMA, 5E3 |
| | HMA APPROACH | 330 LBS. | 58-28 | 3" | BASE COURSE HMA, 3E3 |
| BOND COAT | | 0.1 GAL. | | | SS-1H (FOR INFORMATION ONLY) |

| BENCHMARK DATA | | NO. | REVISIONS | DATE | BY |
|----------------|-------------|-----|-----------|------|----|
| ELEV. | DESCRIPTION | | | | |
| | | | | | |

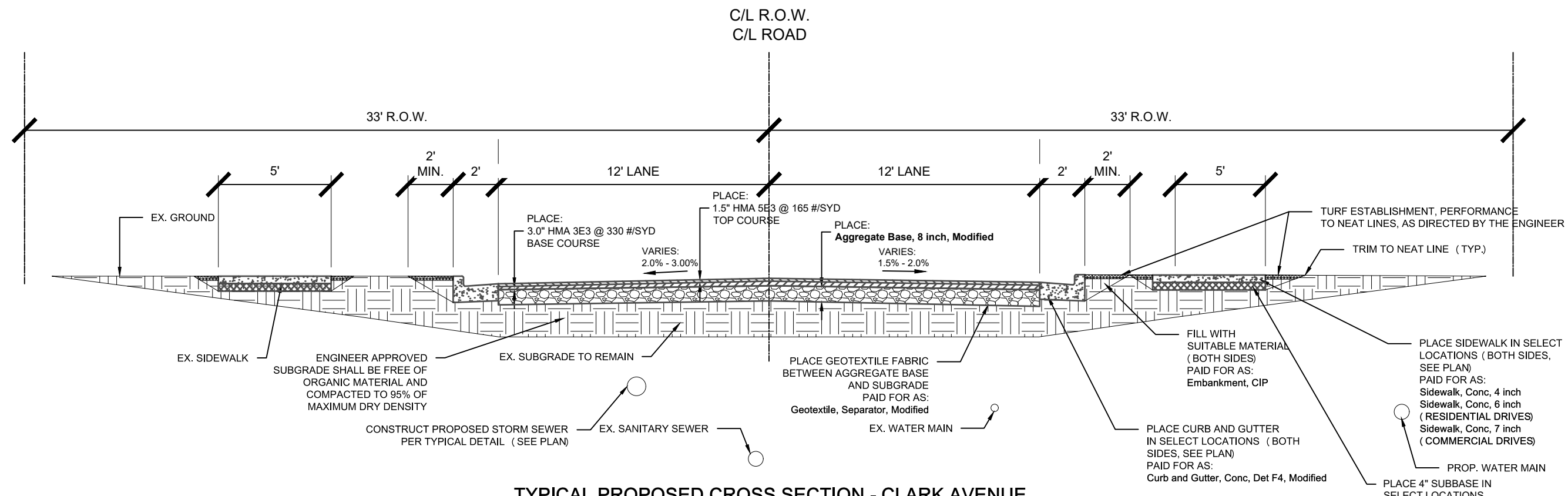
2020 STREET PROGRAM CONTRACT 2
DWRF PROJECT NUMBER 7457-01 PHASE 1
CLARK AVENUE
TYPICAL CROSS SECTIONS

DATE PROJECT NO.
FIELD BOOK PG.

APPROVED BY
CHECKED BY
ORIGINAL PLAN



TYPICAL EXISTING CROSS SECTION - CLARK AVENUE
 APPLIES TO STATIONS:
 64+20 TO 70+26 (E.O.P.)
 SCALE: 1" = 5'

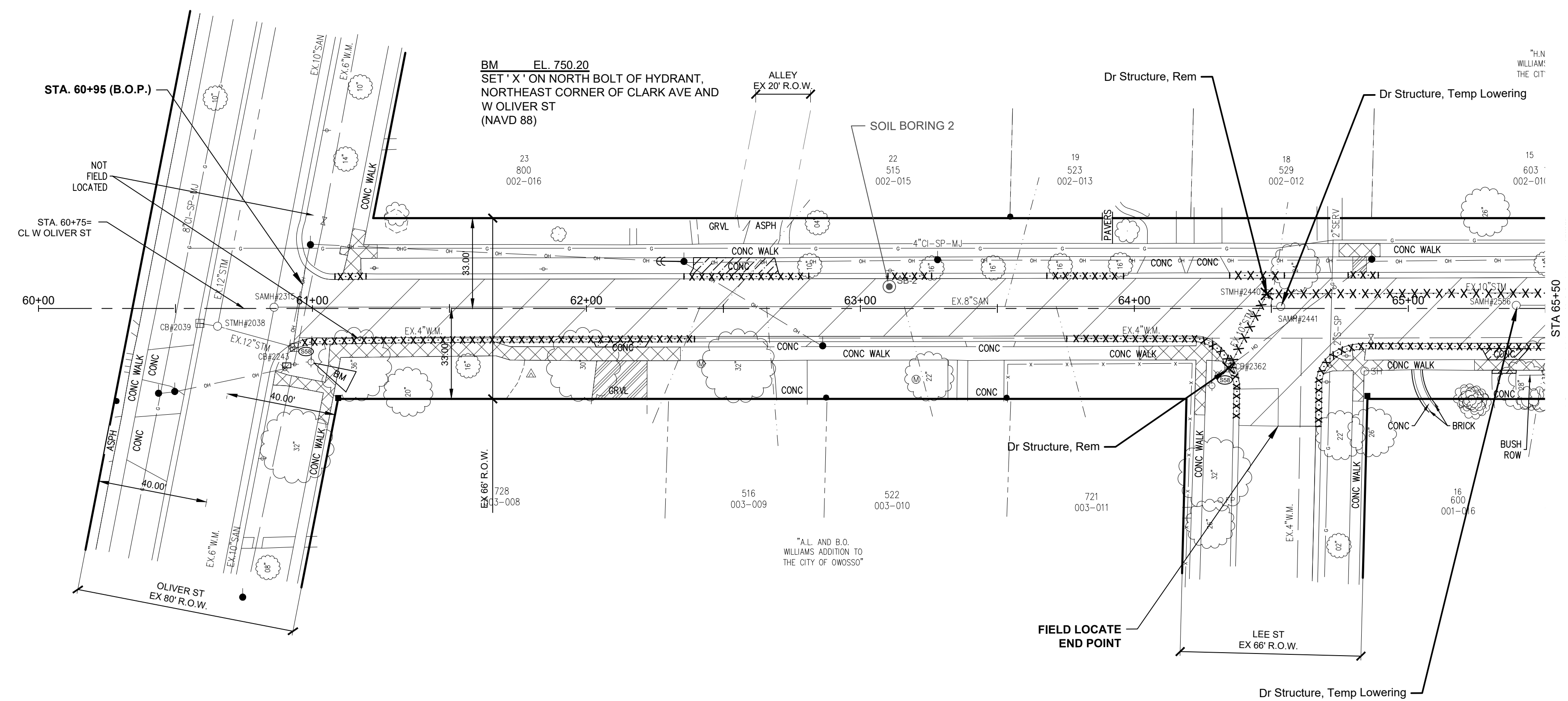
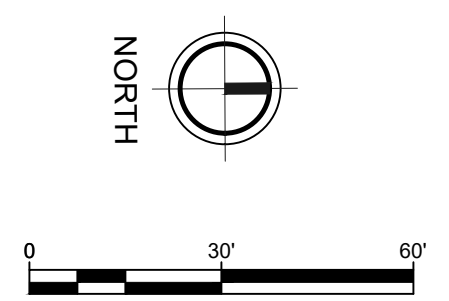


TYPICAL PROPOSED CROSS SECTION - CLARK AVENUE
 APPLIES TO STATIONS:
 64+20 TO 70+26 (E.O.P.)
 SCALE: 1" = 5'

| NO. | REVISIONS | DATE | BY |
|-----|-----------|------|----|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

APPROVED BY: _____
 CHECKED BY: _____

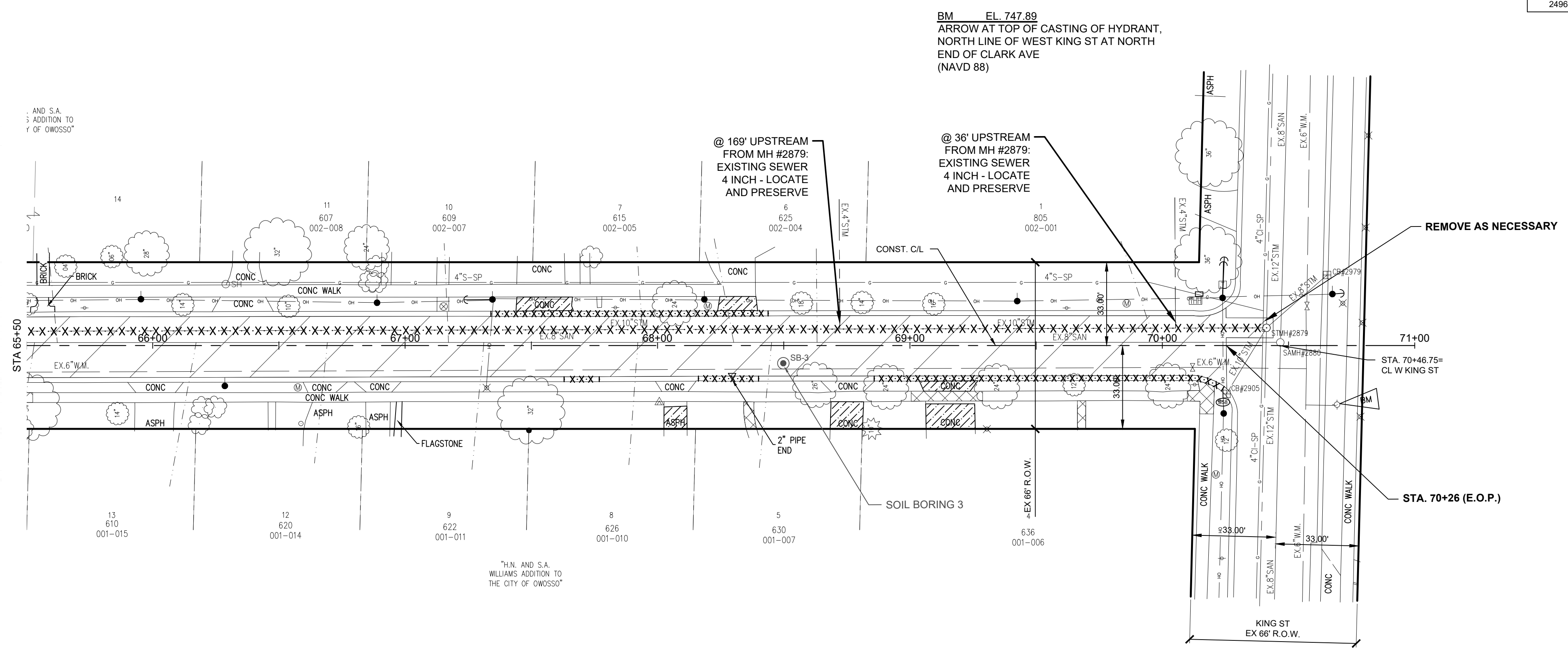
| BENCHMARK DATA | |
|----------------|-------------|
| ELEV. | DESCRIPTION |
| | |
| | |
| | |



CLARK AVE.
REMOVAL PLAN

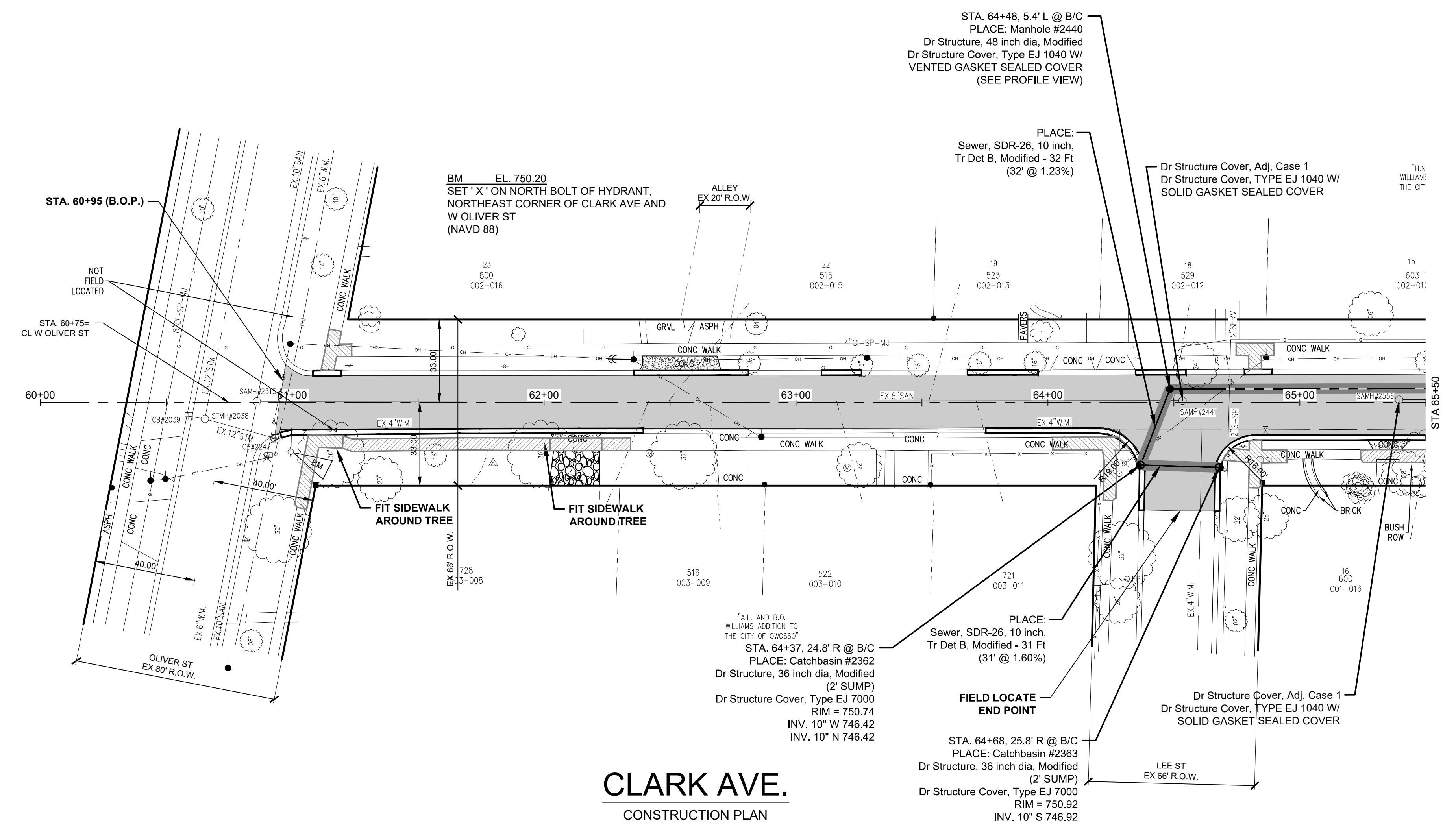
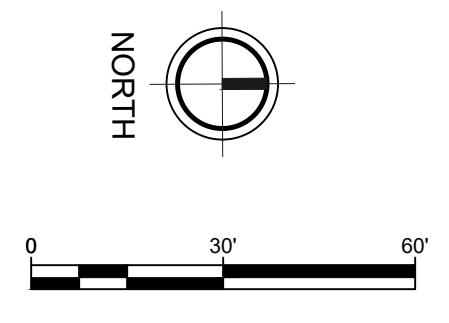
| REMOVAL QUANTITIES (THIS SHEET) | | |
|---------------------------------|------|--|
| QUANTITY | UNIT | WORK ITEM |
| 2 | Ea | Dr Structure, Rem |
| 0 | Ft | Sewer, Rem, Less than 24 inch |
| 755 | Ft | Curb and Gutter, Rem |
| 112 | Syd | Pavt, Rem |
| 181 | Syd | Sidewalk, Rem |
| 615 | Cyd | Excavation, Earth |
| 50 | Cyd | Subgrade Undercutting, Type II |
| 5 | Ea | Erosion Control, Inlet Protection, Fabric Drop |
| 2 | Ea | Dr Structure, Temp Lowering |
| 2496 | Syd | HMA Surface, Rem |

- LEGEND**
- Curb and Gutter, Rem
 - X-X- Sewer, Rem
 - XXX Dr Structure, Rem
 - HMA Surface, Rem
 - Pavt, Rem
 - Sidewalk, Rem
 - Excavation Earth (Cost inclusive to Machine Grading, Modified)
 - STANDARD SOIL EROSION KEY



| NO. | REVISIONS | DATE | BY | APPROVED BY | |
|-----|-----------|------|----|---------------|------------|
| | | | | ORIGINAL PLAN | CHECKED BY |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| BENCHMARK DATA | |
|----------------|-------------|
| ELEV. | DESCRIPTION |
| | |
| | |
| | |

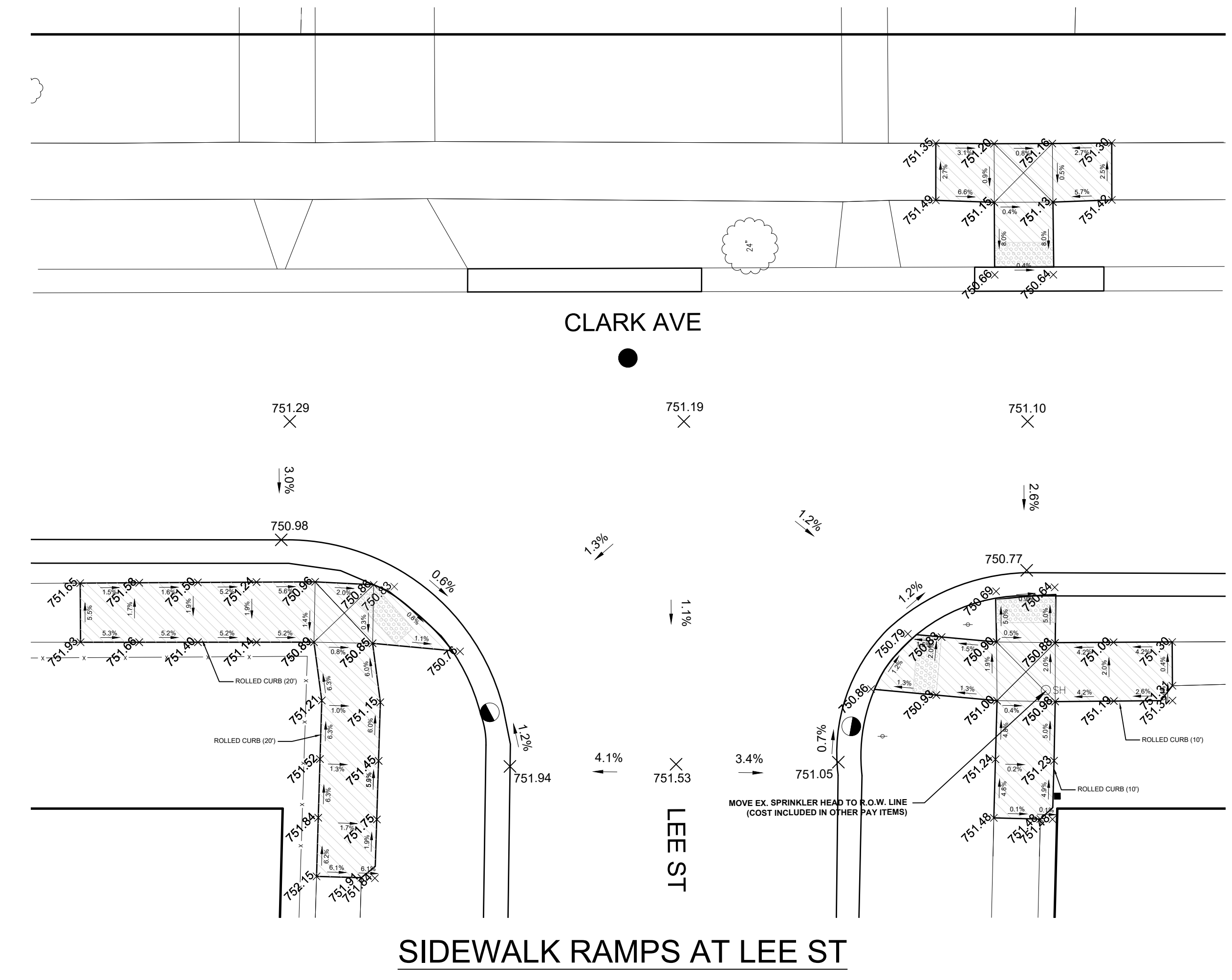
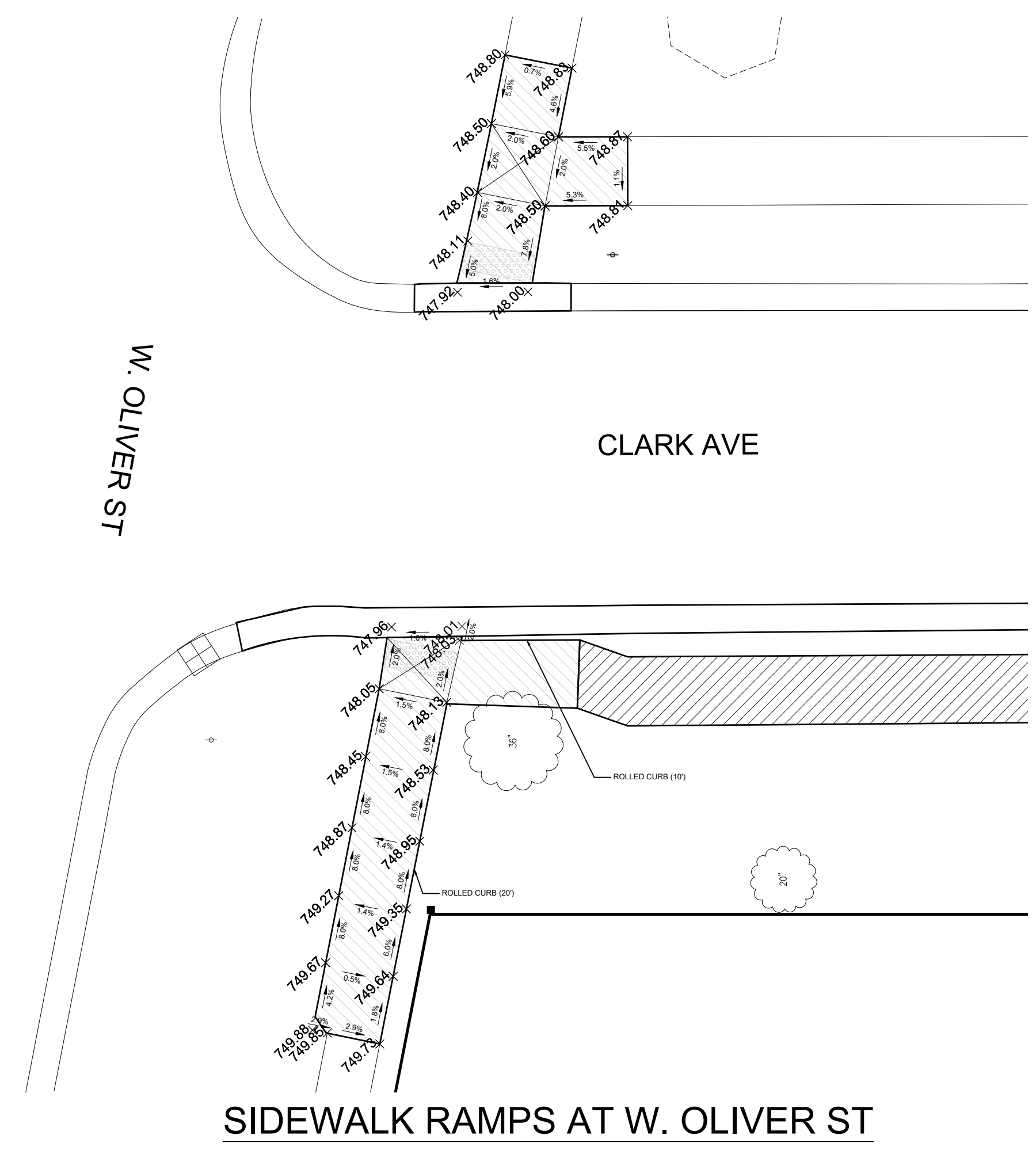


LEGEND

- Curb and Gutter, Conc, Det F4, Modified
- Sewer, SDR-26, ___ inch, Tr Det B, Modified
- HMA / HMA Approach
- Driveway, Nonreinf, Conc, ___ inch
- Approach, CI II
- Sidewalk, Conc, ___ inch
- Sidewalk, Ramp, Conc, ___ inch
- STANDARD SOIL EROSION KEY

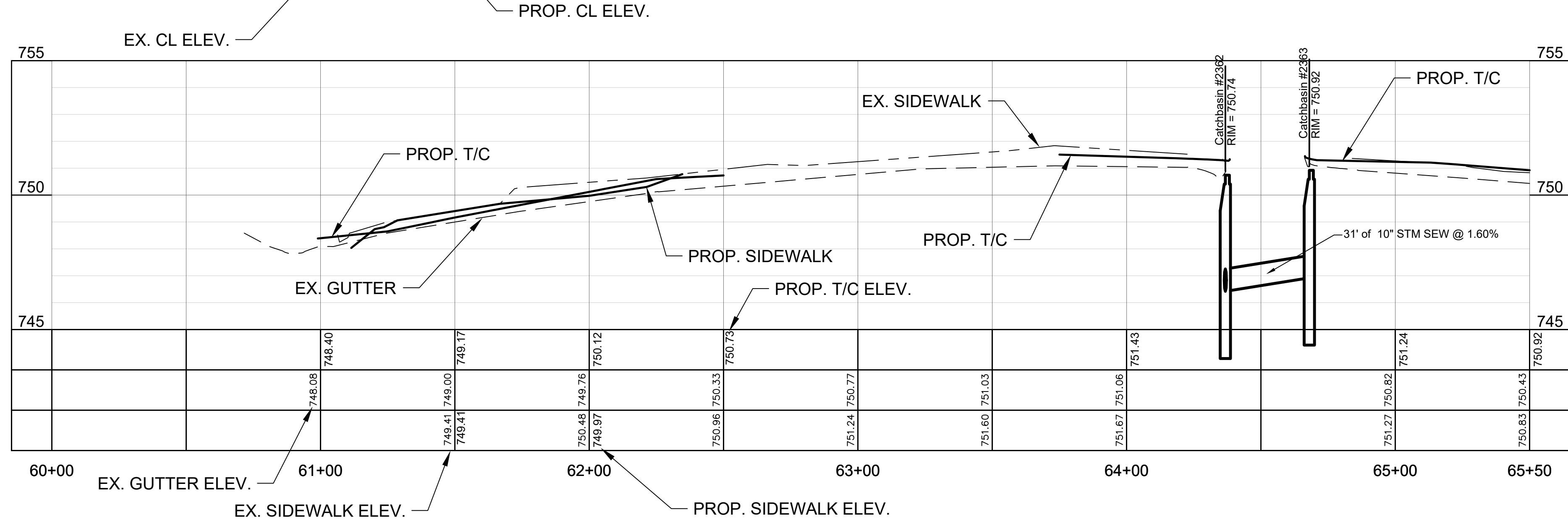
REMOVAL QUANTITIES (THIS SHEET)

| QUANTITY | UNIT | WORK ITEM |
|----------|------|--|
| 25 | Cyd | Embankment, CIP |
| 22 | Cyd | Subbase, CIP |
| 1213 | Syd | Aggregate Base, 8 inch, Modified |
| 5 | Ton | Approach, CI II |
| 1213 | Syd | Geotextile, Separator, Modified |
| 64 | Ft | Sewer, SDR-26, 10 inch, Tr Det B, Modified |
| 102 | Ft | Sewer, SDR-26, 12 inch, Tr Det B, Modified |
| 2 | Ea | Dr Structure Cover, Adj. Case 1 |
| 2 | Ea | Dr Structure, 36 inch dia, Modified |
| 1 | Ea | Dr Structure, 48 inch dia, Modified |
| 1 | Ea | Dr Structure Cover, Type EJ 1040 w/ Vented Gasket Sealed Cover |
| 2 | Ea | Dr Structure Cover, Type EJ 7000 |
| 2 | Ea | Dr Structure Cover, Type EJ 1040 w/ Solid Gasket Sealed Cover |
| 220 | Tons | HMA, SE3 |
| 110 | Tons | HMA, SE3 |
| 31 | Syd | Driveway, Nonreinf Conc, 6 inch |
| 468 | Ft | Curb and Gutter, Conc, Det F4, Modified |
| 30 | Ft | Detectable Warning Surface |
| 838 | Sft | Sidewalk Ramp, Conc, 7 inch |
| 466 | Sft | Sidewalk, Conc, 4 inch |
| 233 | Sft | Sidewalk, Conc, 6 inch |
| 208 | Syd | Turf Establishment, Performance |
| 15 | Tons | Maintenance Gravel |

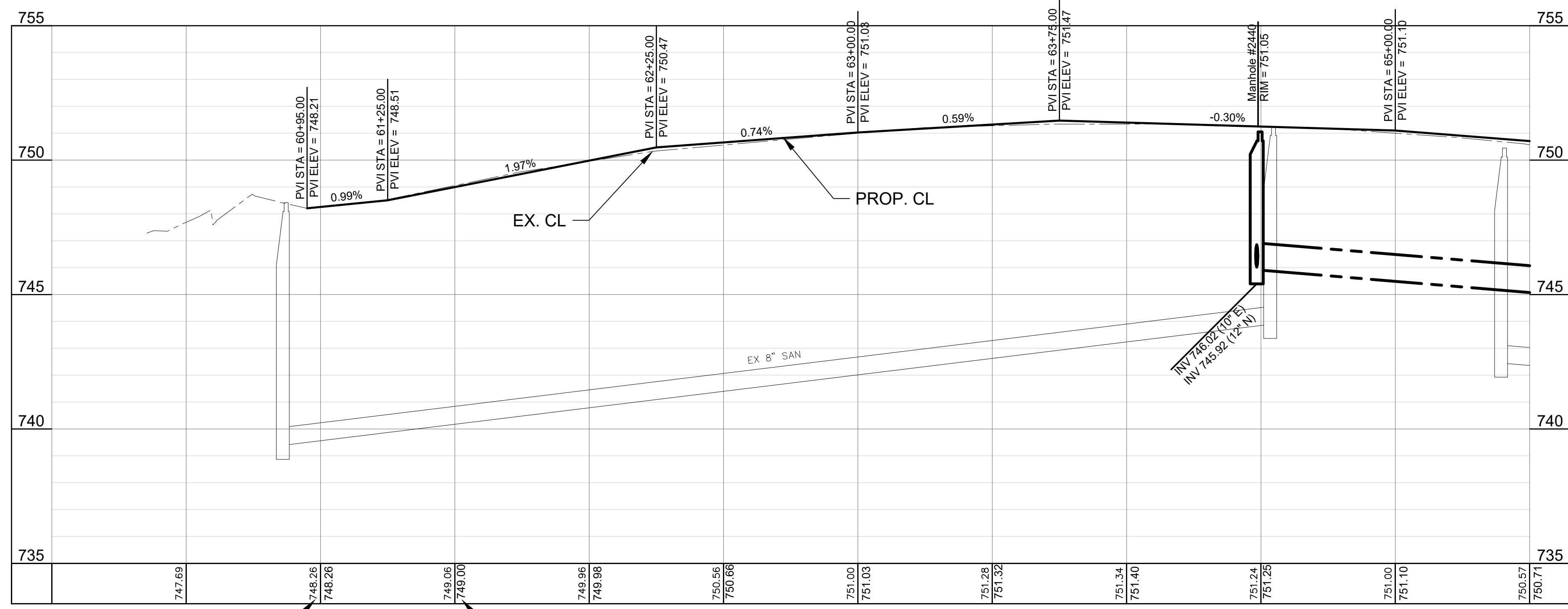


| NO. | REVISIONS | DATE | BY | BENCHMARK DATA | | APPROVED BY |
|-----|-----------|------|----|----------------|-------------|-------------|
| | | | | ELEV. | DESCRIPTION | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

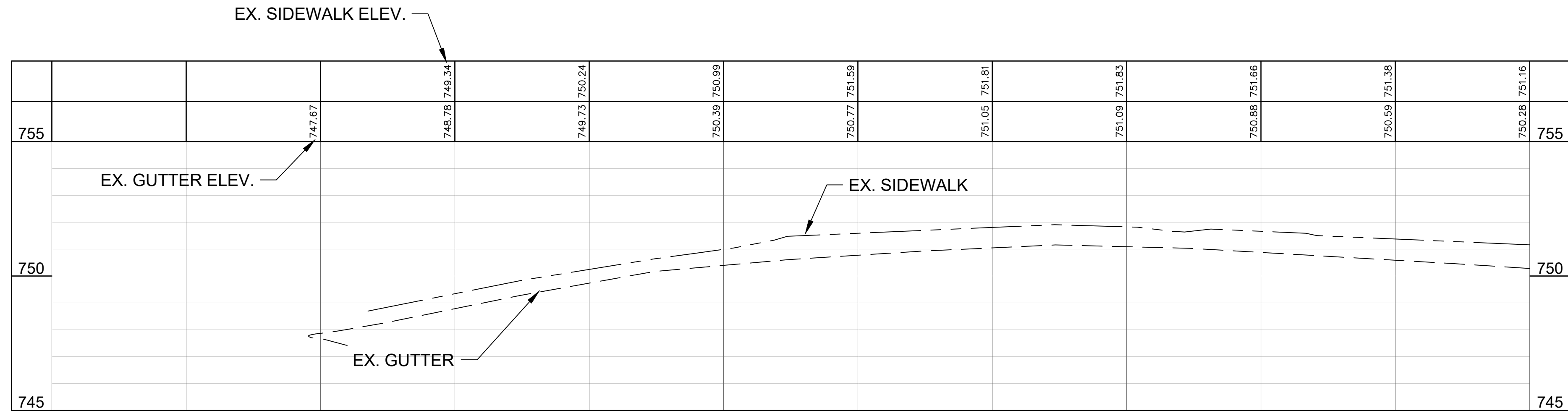
EAST PROFILE



CENTERLINE PROFILE



WEST PROFILE



2020 STREET PROGRAM CONTRACT 2
DWRP PROJECT NUMBER 7457-01 PHASE 1

CLARK AVE
ROAD PROFILE

CL6

FIELD BOOK
PG.

DATE
PROJECT NO.

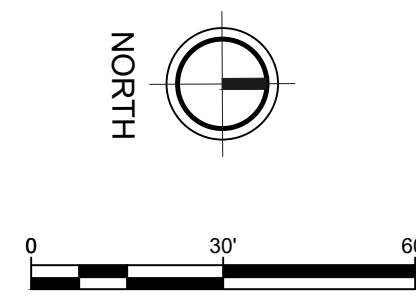
| BENCHMARK DATA | |
|----------------|-------------|
| ELEV. | DESCRIPTION |
| | |
| | |
| | |
| | |
| | |

| NO. | REVISIONS | DATE | BY |
|-----|-----------|------|----|
| | | | |
| | | | |
| | | | |
| | | | |

CHECKED BY
APPROVED BY

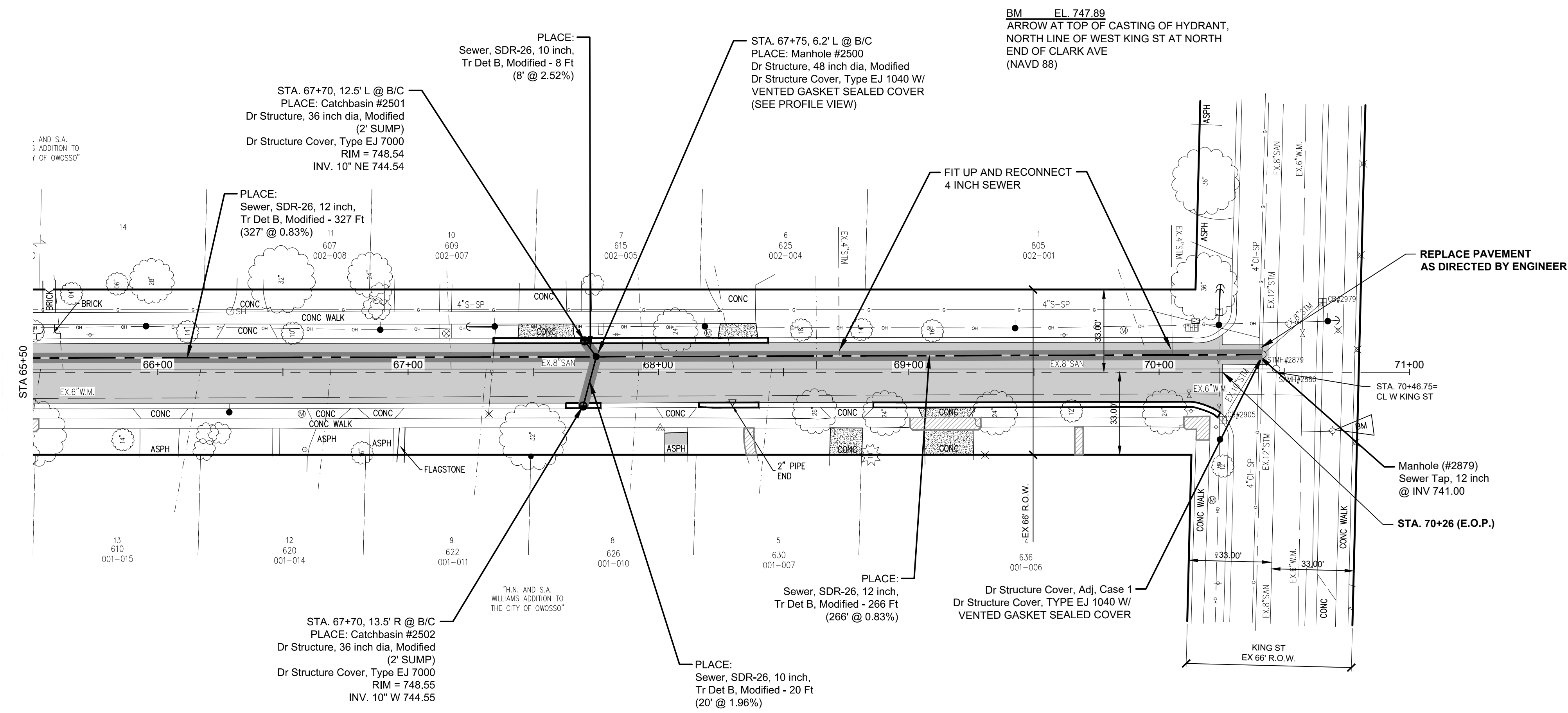
ORIGINAL PLAN

CITY OF OWOSSO, MICHIGAN
ENGINEERING DIVISION
DEPT. OF PUBLIC SERVICE



LEGEND

- Curb and Gutter, Conc, Det F4, Modified
- Sewer, SDR-26, ___ inch, Tr Det B, Modified
- HMA / HMA Approach
- Driveway, Nonrein, Conc, ___ inch
- Approach, Cl II
- Sidewalk, Conc, ___ inch
- Sidewalk, Ramp, Conc, ___ inch
- STANDARD SOIL EROSION KEY



REMOVAL QUANTITIES (THIS SHEET)

| QUANTITY | UNIT | WORK ITEM |
|----------|------|--|
| 20 | Cyd | Embankment, CIP |
| 12 | Cyd | Subbase, CIP |
| 1283 | Syd | Aggregate Base, 8 inch, Modified |
| 1283 | Syd | Geotextile, Separator, Modified |
| 1 | Ea | Sewer Tap, 12 inch |
| 29 | Ft | Sewer, SDR-26, 10 inch, Tr Det B, Modified |
| 491 | Ft | Sewer, SDR-26, 12 inch, Tr Det B, Modified |
| 1 | Ea | Dr Structure Cover, Adj, Case 1 |
| 2 | Ea | Dr Structure, 36 inch dia, Modified |
| 1 | Ea | Dr Structure, 48 inch dia, Modified |
| 2 | Ea | Dr Structure Cover, Type EJ 1040 w/ Vented Gasket Sealed Cover |
| 2 | Ea | Dr Structure Cover, Type EJ 7000 |
| 234 | Tons | HMA, 3E3 |
| 117 | Tons | HMA, 5E3 |
| 69 | Syd | Driveway, Nonrein Conc, 6 inch |
| 287 | Ft | Curb and Gutter, Conc, Det F4, Modified |
| 155 | Sft | Sidewalk, Conc, 4 inch |
| 153 | Sft | Sidewalk, Conc, 6 inch |
| 128 | Syd | Turf Establishment, Performance |
| 15 | Tons | Maintenance Gravel |

CLARK AVE.
CONSTRUCTION PLAN

| BENCHMARK DATA | NO. | ELEV. | DESCRIPTION | REVISIONS | DATE | BY | APPROVED BY | |
|----------------|-----|-------|-------------|-----------|------|----|-------------|---------------|
| | | | | | | | CHECKED BY | ORIGINAL PLAN |
| | | | | | | | | |

2020 STREET PROGRAM CONTRACT 2
DWRP PROJECT NUMBER 7457-01 PHASE 1

CLARK AVE
ROAD PLAN

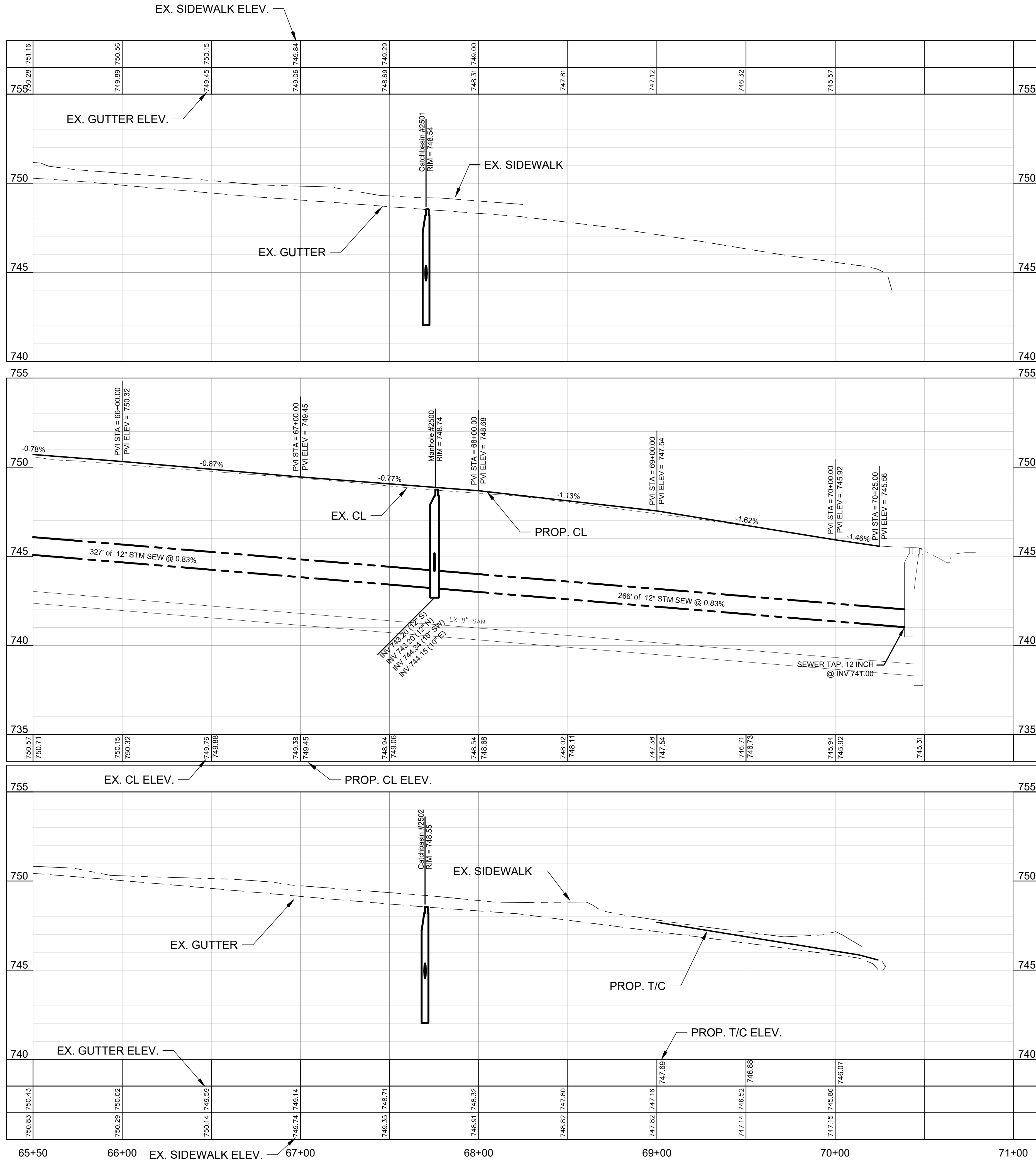
CL7

DATE PROJECT NO. FIELD BOOK PG.

EAST PROFILE

CENTERLINE PROFILE

WEST PROFILE



2020 STREET PROGRAM CONTRACT 2
 DWRP PROJECT NUMBER 7457-01 PHASE 1

CLARK AVE
 ROAD PROFILE

CL8

FIELD BOOK
 PG.

DATE
 PROJECT NO.

| BENCHMARK DATA | |
|----------------|-------------|
| ELEV. | DESCRIPTION |
| | |
| | |
| | |

| NO. | REVISIONS | DATE | BY |
|-----|-----------|------|----|
| | | | |
| | | | |
| | | | |

CITY OF OWOSSO, MICHIGAN
 ENGINEERING DIVISION
 DEPT. OF PUBLIC SERVICE

CHECKED BY
 ORIGINAL PLAN
 APPROVED BY



Construction Testing Services
 3300 E. Bristol Road, Burton, MI 48529
 PHONE: (810) 603-0766
 FAX: (810) 603-0786

JOB NO. S-18-245 LOG OF SOIL BORING NO. 2
 PROJECT: City of Owosso 2019 Street Program
 LOCATION: Owosso, Michigan
 DATE: 9/20/18 SURFACE ELEVATION: Existing

| Sample & Type | Depth | Legend | Soil Description | SPT Blows per 6" | Moisture % | Natural Wt. P.C.F. | Unc. Comp. Strength | Str. % |
|---------------|-------|--------|---|------------------|------------|--------------------|---------------------|--------|
| | 1 | | 5.5" Asphalt | | | | | |
| 2A SS | 2 | | Clay - Stiff, Moist, Sandy, Variegated w/Green Tint & Vegetation, Possible Swamp Bottom | 2 | | | | |
| | 3 | | | 4 | | | | |
| | 4 | | | 7 | | | | |
| 2B SS | 5 | | 4'0" Clay - Very Stiff, Moist, Variegated w/Pebble & Oxidation | 6 | | | | |
| | 6 | | | 7 | | | | |
| 2C SS | 7 | | | 11 | | | | |
| | 8 | | 7'0" End of Boring | 8 | | | | |
| | 9 | | | 14 | | | | |
| | 10 | | | 16 | | | | |
| | 11 | | | | | | | |
| | 12 | | | | | | | |
| | 13 | | | | | | | |
| | 14 | | | | | | | |
| | 15 | | | | | | | |
| | 16 | | | | | | | |
| | 17 | | | | | | | |
| | 18 | | | | | | | |
| | 19 | | | | | | | |
| | 20 | | | | | | | |
| | 21 | | | | | | | |

| | | |
|--|--|---|
| TYPE OF SAMPLE D. - DISTURBED U.L. - UNDIST. LINER S.T. - SHELBY TUBE S.S. - SPLIT SPOON R.C. - ROCK CORE OTHER - | BORING PLUGGED WITH NATURAL SOIL * The soil descriptions shown on the logs are from visual observations. No classification tests were performed. Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30"; Count Made At 6" Intervals. | GROUND WATER OBSERVATIONS G.W. ENCOUNTERED AT FT. INS. G.W. ENCOUNTERED AT FT. INS. G.W. ON COMPLETION FT. INS. G.W. AFTER HOURS FT. INS. G.W. VOLUMES None |
|--|--|---|



Construction Testing Services
 3300 E. Bristol Road, Burton, MI 48529
 PHONE: (810) 603-0766
 FAX: (810) 603-0786

JOB NO. S-18-245 LOG OF SOIL BORING NO. 3
 PROJECT: City of Owosso 2019 Street Program
 LOCATION: Owosso, Michigan
 DATE: 9/20/18 SURFACE ELEVATION: Existing

| Sample & Type | Depth | Legend | Soil Description | SPT Blows per 6" | Moisture % | Natural Wt. P.C.F. | Unc. Comp. Strength | Str. % |
|---------------|-------|--------|---|------------------|------------|--------------------|---------------------|--------|
| | 1 | | 6" Asphalt | | | | | |
| 3A SS | 2 | | 1'9" Clay - Firm, Moist, Sandy, Variegated w/Green Tint, Vegetation & occ/Pebble, Possible Swamp Bottom | 2 | | | | |
| | 3 | | | 3 | | | | |
| | 4 | | | 5 | | | | |
| 3B SS | 5 | | Clay - Stiff to Very Stiff, Moist, Sandy, Variegated w/occ Pebble | 6 | | | | |
| | 6 | | | 7 | | | | |
| 3C SS | 7 | | | 8 | | | | |
| | 8 | | 7'0" End of Boring | 9 | | | | |
| | 9 | | | 10 | | | | |
| | 10 | | | 11 | | | | |
| | 11 | | | 12 | | | | |
| | 12 | | | 13 | | | | |
| | 13 | | | 14 | | | | |
| | 14 | | | 15 | | | | |
| | 15 | | | 16 | | | | |
| | 16 | | | 17 | | | | |
| | 17 | | 18 | | | | | |
| | 18 | | 19 | | | | | |
| | 19 | | 20 | | | | | |
| | 20 | | 21 | | | | | |

| | | |
|--|--|---|
| TYPE OF SAMPLE D. - DISTURBED U.L. - UNDIST. LINER S.T. - SHELBY TUBE S.S. - SPLIT SPOON R.C. - ROCK CORE OTHER - | BORING PLUGGED WITH NATURAL SOIL * The soil descriptions shown on the logs are from visual observations. No classification tests were performed. Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30"; Count Made At 6" Intervals. | GROUND WATER OBSERVATIONS G.W. ENCOUNTERED AT FT. INS. G.W. ENCOUNTERED AT FT. INS. G.W. ON COMPLETION FT. INS. G.W. AFTER HOURS FT. INS. G.W. VOLUMES None |
|--|--|---|

CITY OF OWOSSO, MICHIGAN
 ENGINEERING DIVISION
 DEPT. OF PUBLIC SERVICE

| | | |
|----------------|---------------|--|
| BENCHMARK DATA | ELEV. | |
| | DESCRIPTION | |
| REVISIONS | NO. | |
| | DATE | |
| APPROVED BY | CHECKED BY | |
| | ORIGINAL PLAN | |

2020 STREET PROGRAM CONTRACT 2
 DWRF PROJECT NUMBER 7457-01 PHASE 1
 CLARK AVENUE
 SOIL BORINGS

DATE PROJECT NO.
 FIELD BOOK PG.

CLARK AVENUE

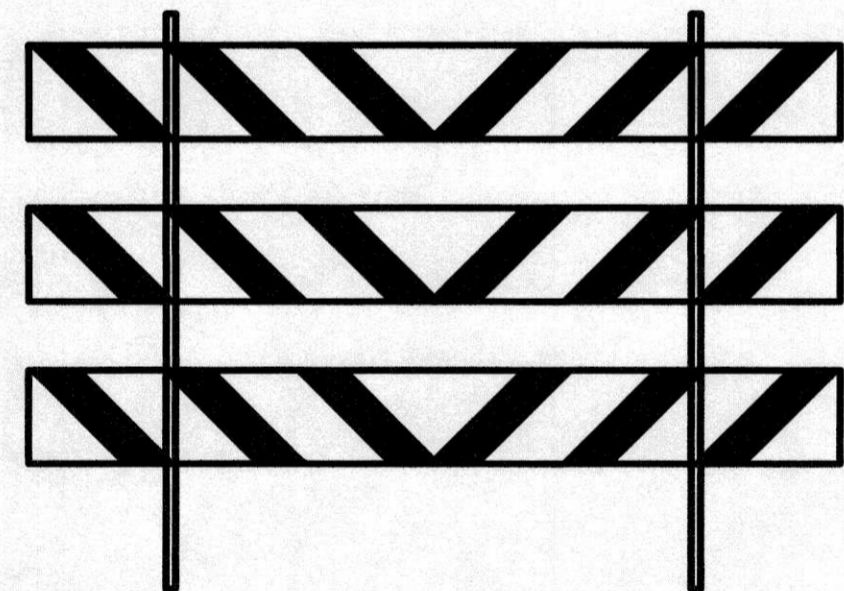
WATER MAIN CITY OF OWOSSO 2020 STREET PROGRAM CONTRACT 2

| SHEET NO. | DESCRIPTION |
|-------------|---|
| CL10 | CLARK AVE - WATER MAIN COVER SHEET & TRAFFIC CONTROL PLAN |
| CL11 - CL13 | CLARK AVE - WATER MAIN PLAN AND PROFILE |

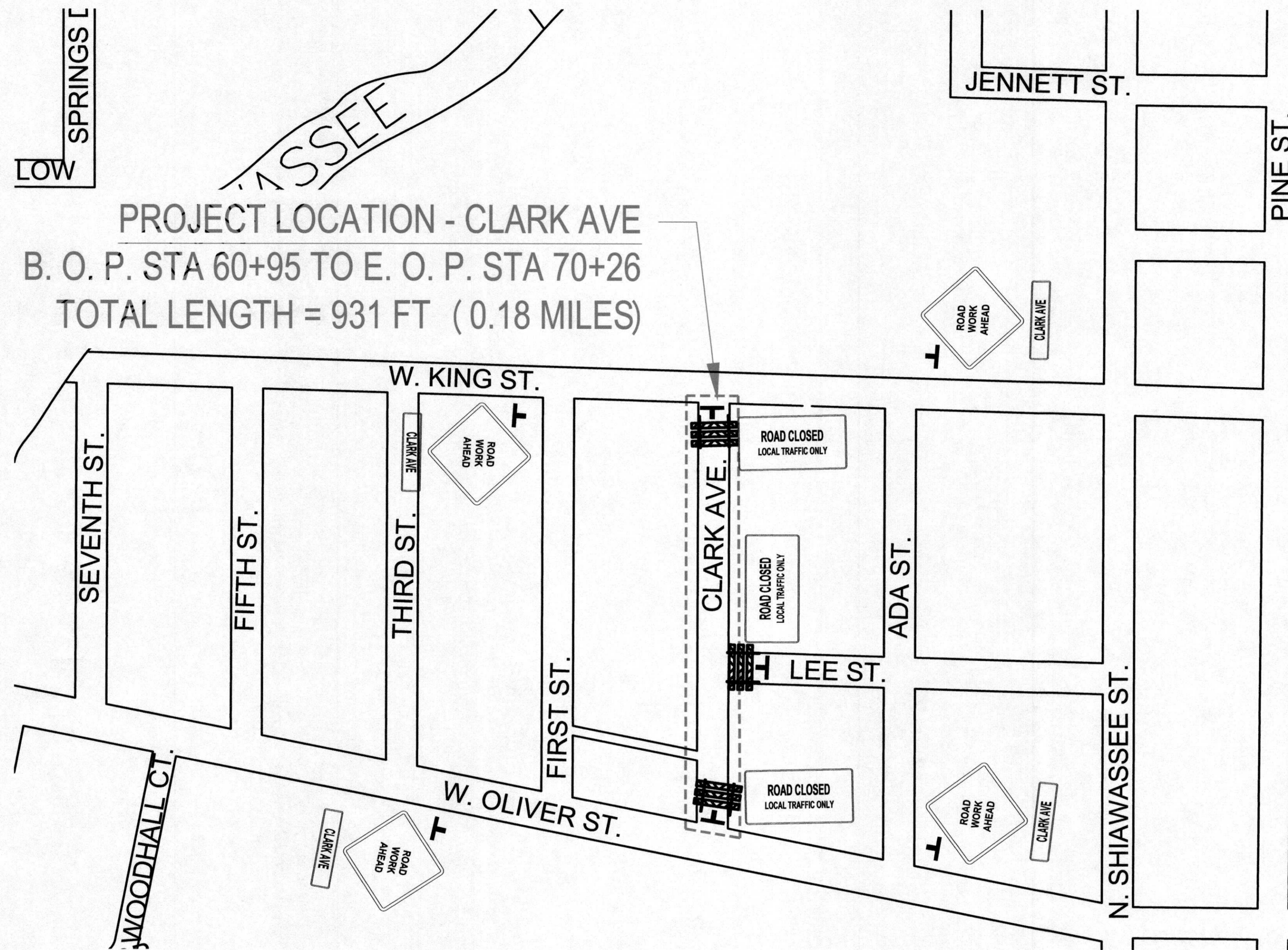
CITY OF OWOSSO, MICHIGAN
ENGINEERING DIVISION
DEPT. OF PUBLIC SERVICE

**ROAD CLOSED
LOCAL TRAFFIC ONLY**

R11-3a
60" x 30"



TYPE III BARRICADE



PROJECT LOCATION - CLARK AVE
B. O. P. STA 60+95 TO E. O. P. STA 70+26
TOTAL LENGTH = 931 FT (0.18 MILES)

**VICINITY MAP AND TRAFFIC CONTROL PLAN
CLARK AVE**



W20-1
48" x 48"

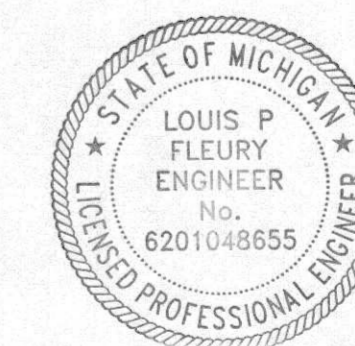
CLARK AVE

M4-8 (MOD)
30" x 8"

THE MATERIAL AND METHODS FOR WATER MAIN CONSTRUCTION CONFORM TO THE STANDARDS OF THE AMERICAN WATER WORKS ASSOCIATION (AWWA).

CONTRACT FOR: 0.18 MILES OF WATER MAIN AND SERVICES REPLACEMENT.

PREPARED FOR THE CITY OF OWOSSO BY:



[Signature]
LOU FLEURY, P.E.

6201048655
REGISTRATION NUMBER

11/7/19
DATE

| BENCHMARK DATA | ELEV. | DESCRIPTION | NO. | REVISIONS | DATE | BY | APPROVED BY |
|----------------|-------|-------------|-----|-----------|------|----|-------------|
| | | | | | | | |
| | | | | | | | |

2020 STREET PROGRAM CONTRACT 2
DWRP PROJECT NUMBER 7457-01 PHASE 1
CLARK AVENUE
WATER MAIN COVER SHEET
& TRAFFIC CONTROL PLAN
DATE PROJECT NO.
FIELD BOOK PG.

CL10

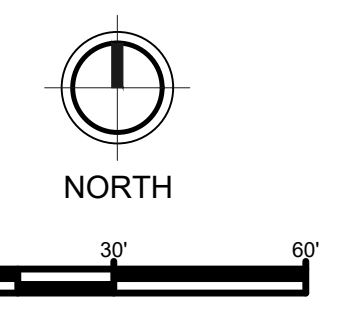


| NO. | REVISIONS | DATE | BY | APPROVED BY |
|-----|-----------|---------|----|-------------|
| 1 | DRAFT | 8/14/19 | XX | |

| BENCHMARK DATA | DESCRIPTION | ELEV. |
|----------------|-------------|-------|
| | | |

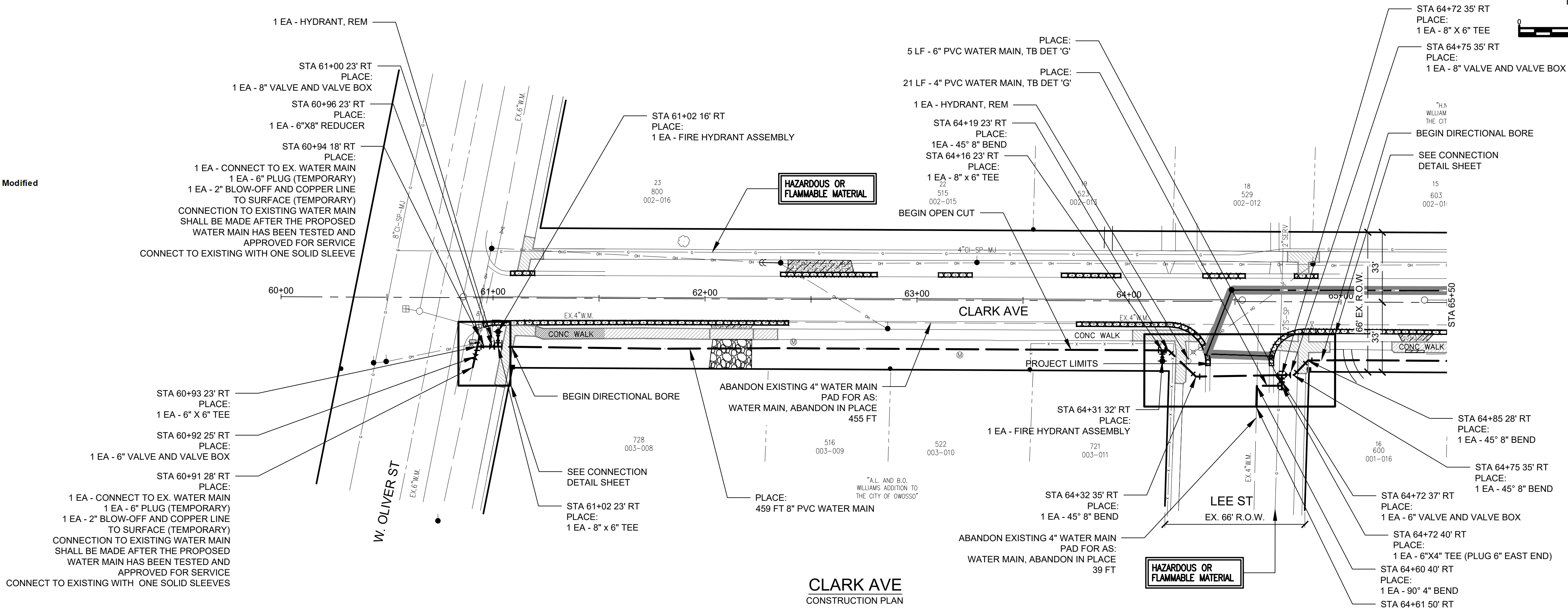
| | | | |
|---|------------------------------|------------------|----------------|
| 2020 STREET PROGRAM CONTRACT 2 DWRP PROJECT NUMBER 7457-01 | CLARK AVE WATER MAIN PLAN | DATE PROJECT NO. | FIELD BOOK PG. |
|---|------------------------------|------------------|----------------|

CL11



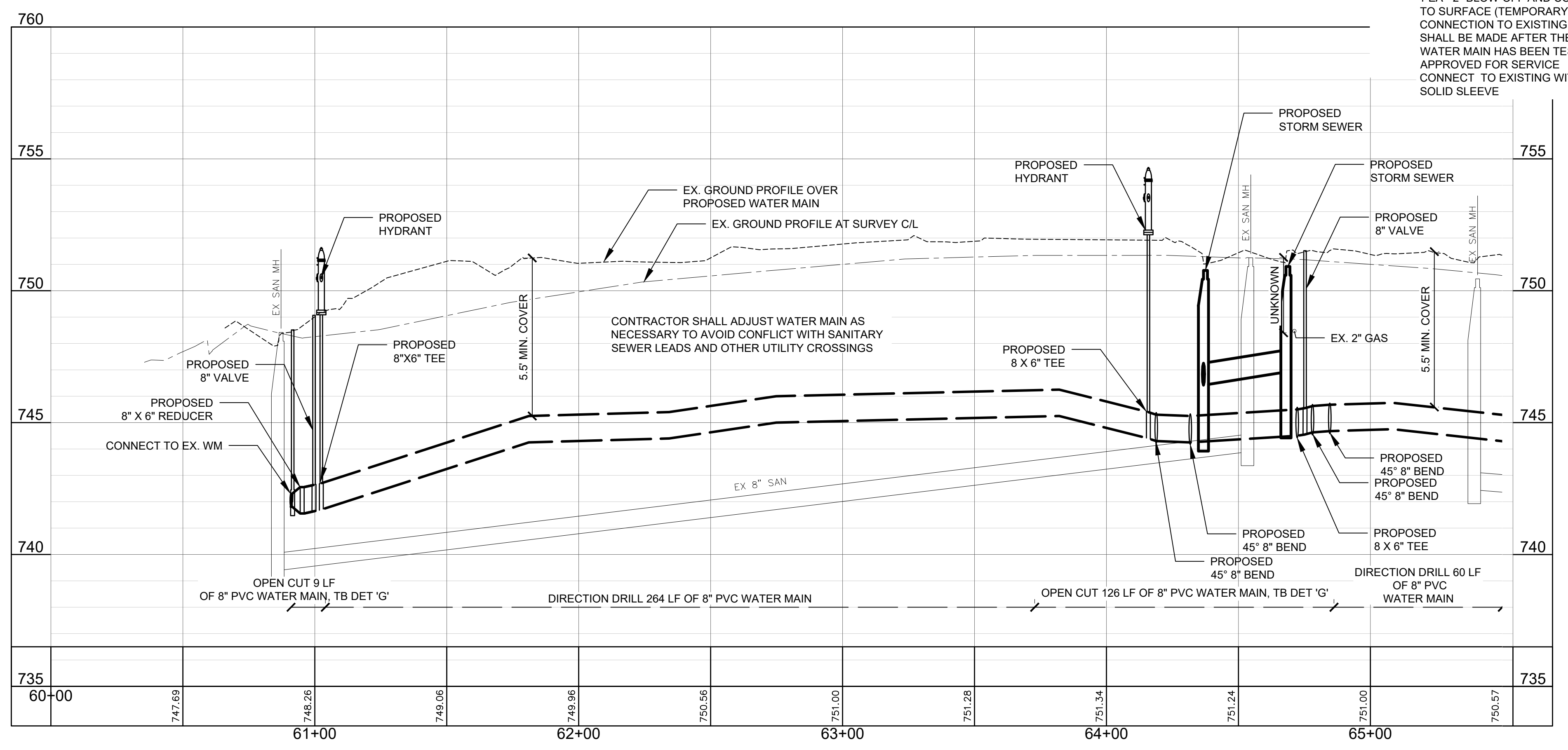
WATER MAIN QUANTITIES THIS SHEET

| TOTAL | UNIT | DESCRIPTION |
|-------|------|---|
| 340 | Ft | 1 inch Copper Service Lead, Type "K", Modified |
| 5 | Ft | Water Main C909 PVC, 6 inch, Tr Det G, Modified |
| 494 | Ft | Water Main, Abandon in Place |
| 324 | Ft | Water Main, C909 PVC, 8 inch, Directional Bore |
| 21 | Ft | Water Main, C909 PVC, 4 inch, Tr Det G, Modified |
| 135 | Ft | Water Main, C909 PVC, 8 inch, Tr Det G, Modified |
| 3 | Ea | Connect to Existing Water Main |
| 10 | Ea | Curb Box, Stop, 3/4 inch, Corporation Stop and Connection, Modified |
| 2 | Ea | Existing Valve and Valve Box Abandonment |
| 2 | Ea | Fire Hydrant and Valve Assembly |
| 2 | Ea | Gate Valve and Box, 6 inch, Modified |
| 2 | Ea | Gate Valve and Box, 8 inch, Modified |
| 2 | Ea | Hydrant, Rem |
| 1 | Ea | Water Main, 4 inch, Cut and Plug, Modified |
| 1 | Ea | Water Main, 6 inch, Cut and Plug, Modified |
| 1 | LSUM | Testing and Chlorination of Water Main |



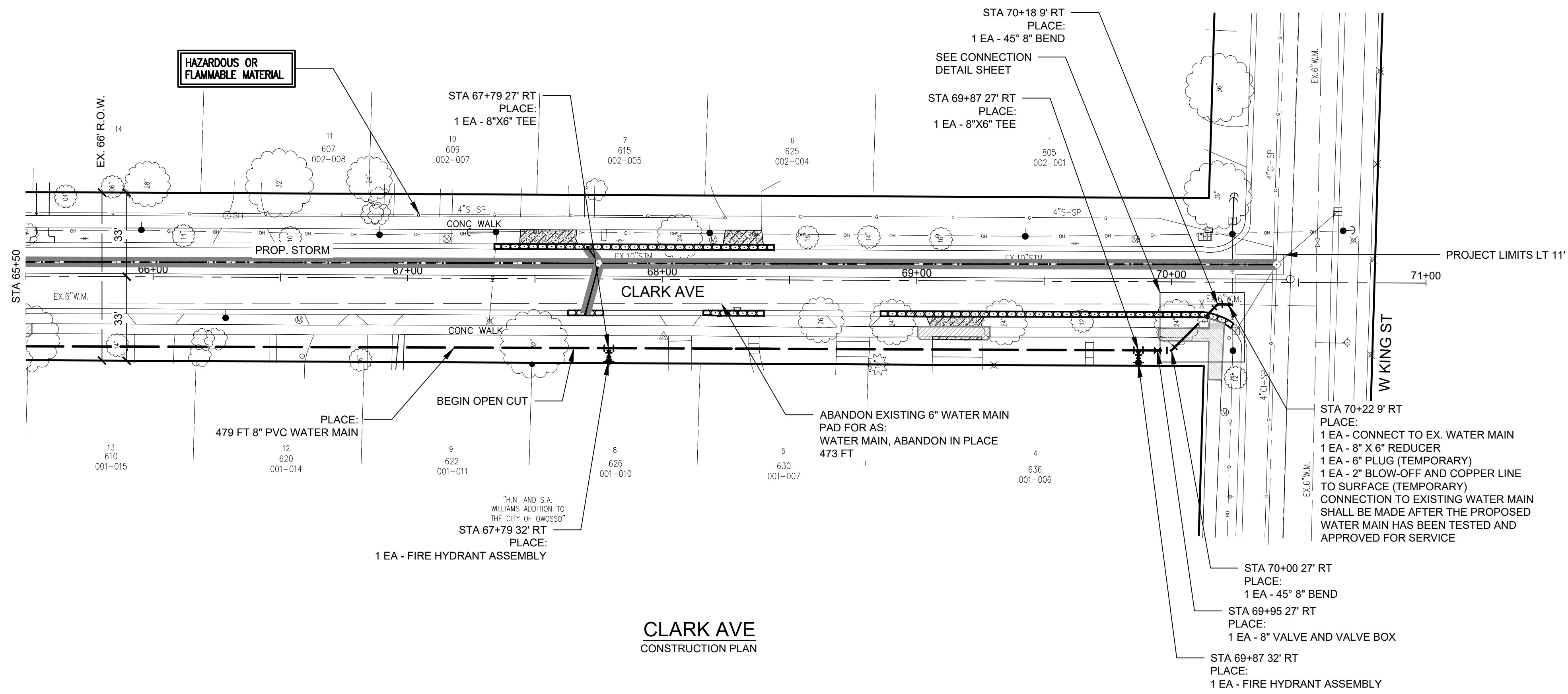
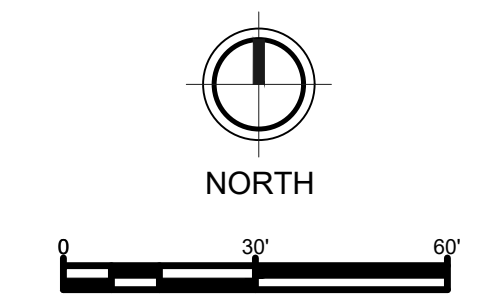
LEGEND

- WATER MAIN
- ✕ GATE VALVE AND BOX, .INCH
- ▶ REDUCER
- ⊕ HYDRANT / VALVE
- ⊙ STANDARD SOIL EROSION KEY



WATER MAIN QUANTITIES THIS SHEET

| TOTAL | UNIT | DESCRIPTION |
|-------|------|---|
| 275 | Ft | 1 inch Copper Service Lead, Type "K", Modified |
| 473 | Ft | Water Main, Abandon In Place |
| 215 | Ft | Water Main, C900 PVC, 8 inch, Directional Bore |
| 264 | Ft | Water Main, C909 PVC, 8 inch, Tr Det G, Modified |
| 1 | Ea | Connect to Existing Water Main |
| 12 | Ea | Curb Box, Stop, 3/4 inch, Corporation Stop and Connection, Modified |
| 1 | Ea | Existing Valve and Valve Box Abandonment |
| 2 | Ea | Fire Hydrant and Valve Assembly |
| 1 | Ea | Gate Valve and Box, 8 inch, Modified |
| 1 | Ea | Water Main, 6 inch, Cut and Plug, Modified |
| 1 | LSUM | Testing and Chlorination of Water Main |

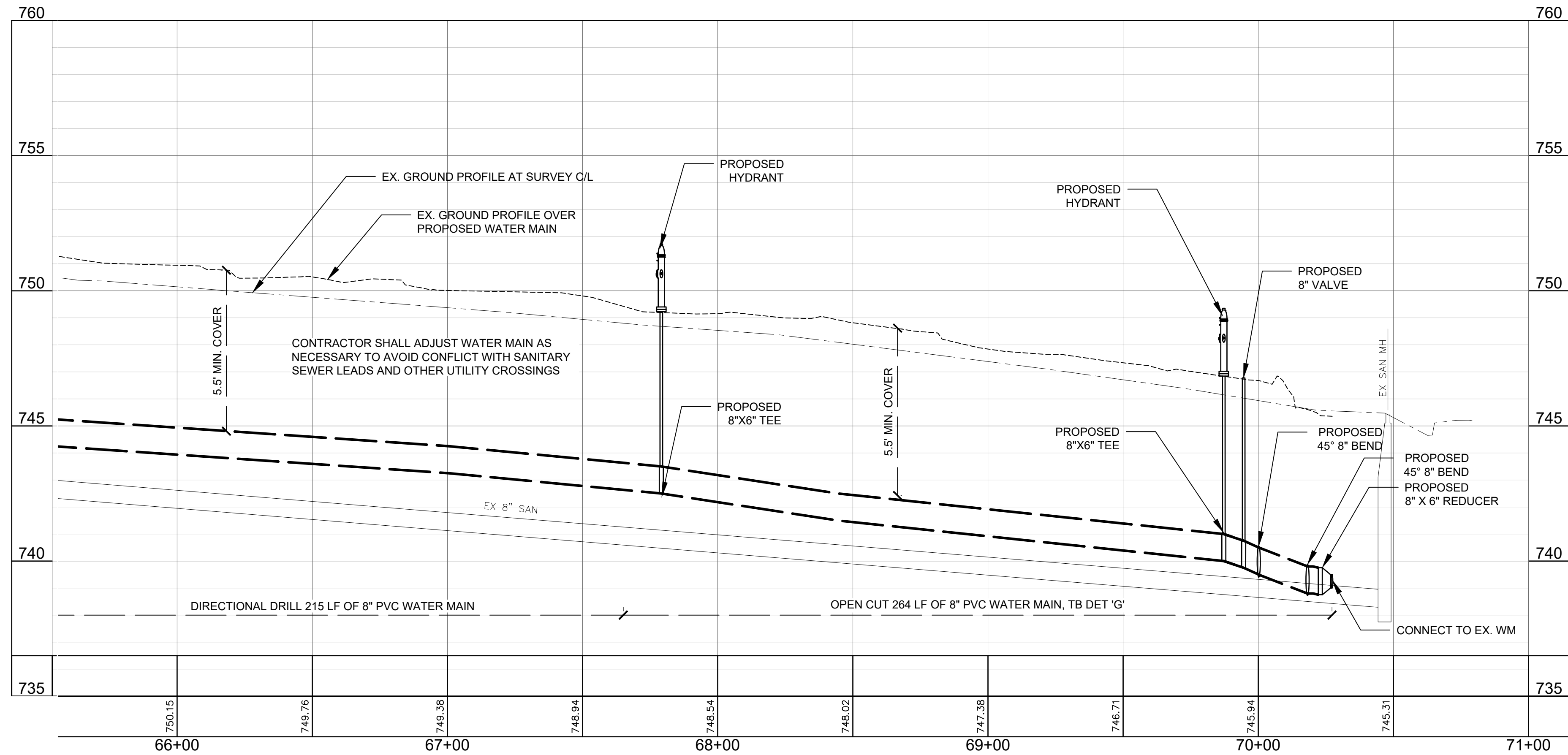


LEGEND

| | |
|--|---------------------------|
| | WATER MAIN |
| | GATE VALVE AND BOX, _INCH |
| | REDUCER |
| | HYDRANT / VALVE |
| | STANDARD SOIL EROSION KEY |



Know what's below.
Call before you dig.



CITY OF OWOSSO, MICHIGAN
ENGINEERING DIVISION
DEPT. OF PUBLIC SERVICE

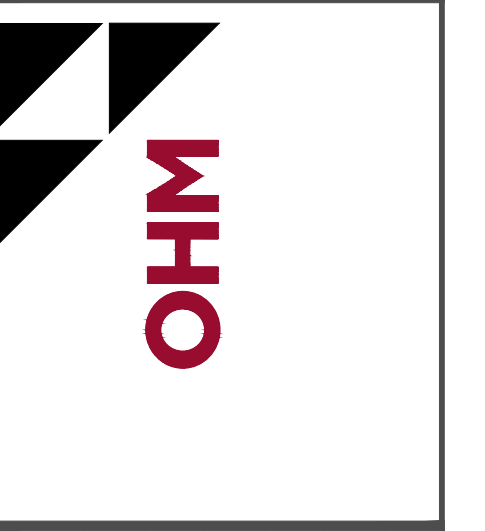
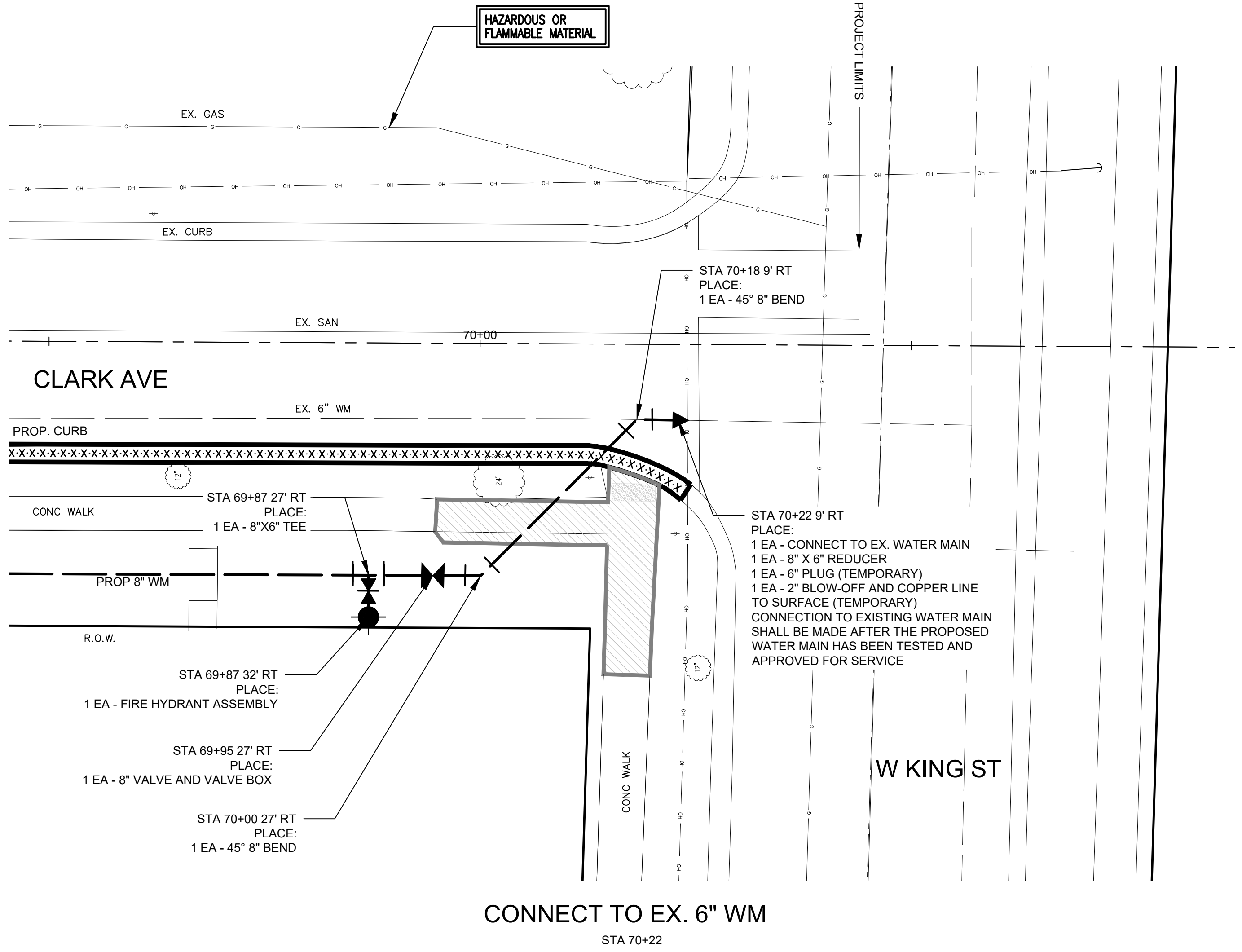
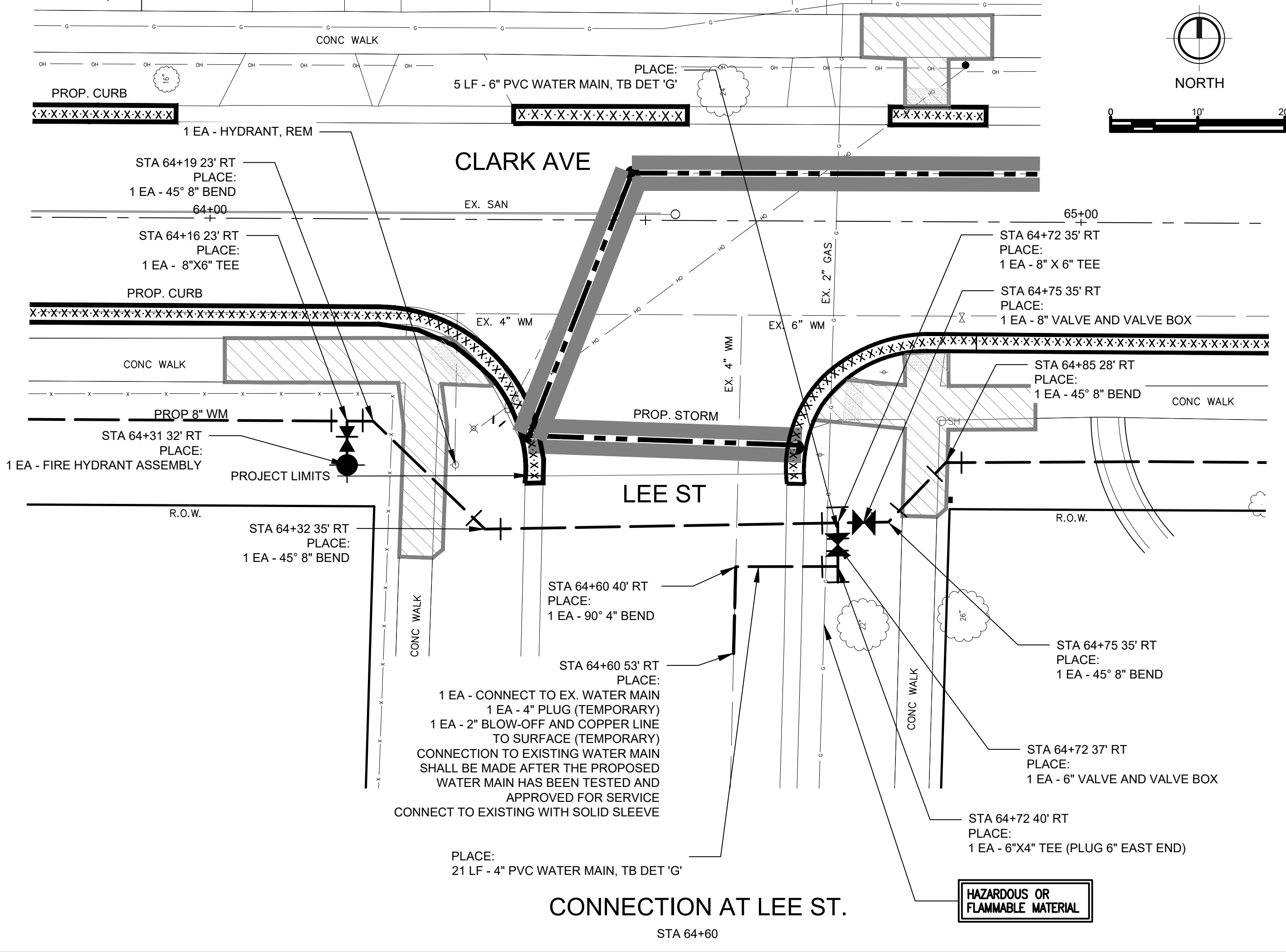
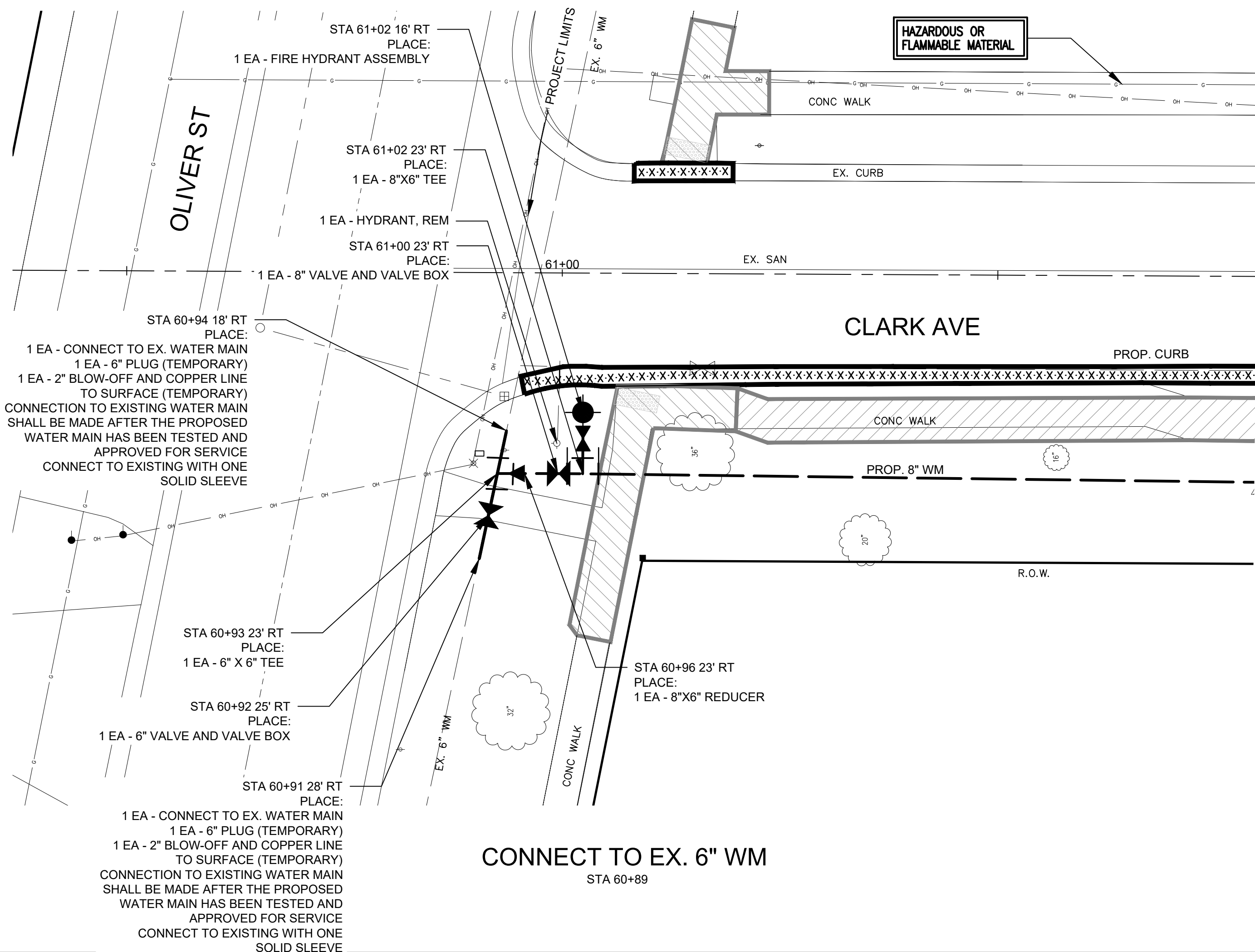


| NO. | REVISIONS | DATE | BY |
|-----|-----------|---------|----|
| 1 | DRAFT | 8/14/19 | XX |

| BENCHMARK DATA | DESCRIPTION |
|----------------|-------------|
| ELEV. | |

| | |
|---|---------------------|
| 2020 STREET PROGRAM CONTRACT 2 DWRP PROJECT NUMBER 7457-01 PHASE 1 | FIELD BOOK PG. |
| CLARK AVE WATER MAIN PLAN | DATE PROJECT NO. |

CL12



| NO. | REVISIONS | DATE | BY | APPROVED BY |
|-----|-----------|---------|----|---------------|
| 1 | DRAFT | 8/14/19 | XX | |
| | | | | ORIGINAL PLAN |
| | | | | CHECKED BY |

| BENCHMARK DATA | DESCRIPTION | ELEV. |
|----------------|-------------|-------|
| | | |