

# MARENGO 2018 WATER MAIN REPLACEMENT

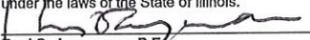
IL 23 (STATE STREET) NORTH OF 2ND AVENUE TO 8TH AVENUE  
 IDOT PENDING FILE - NO. 056-81439

CITY OF MARENGO  
 MARENGO, ILLINOIS

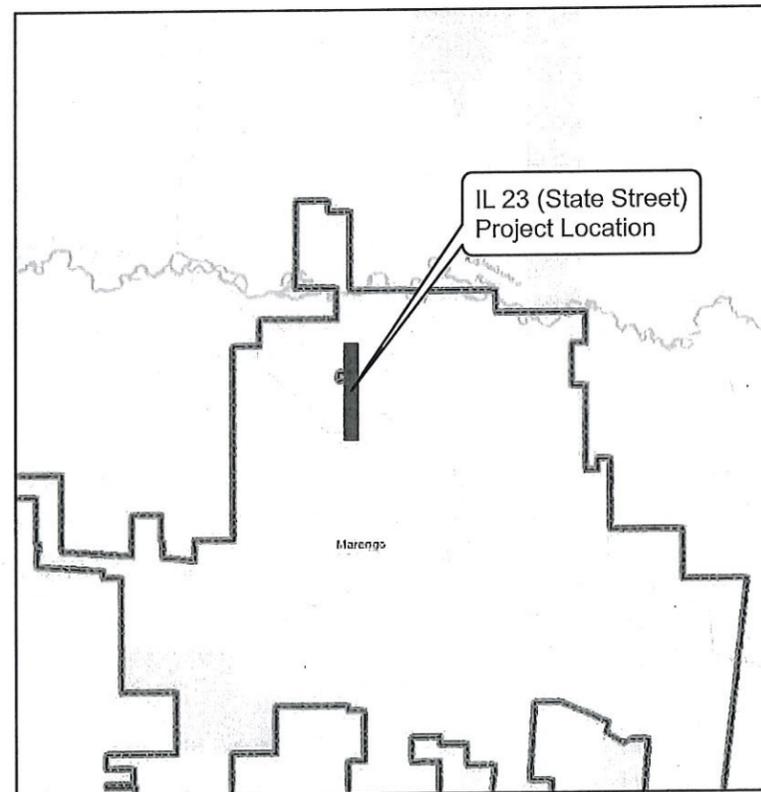
2018  
 FOR BID

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## CERTIFICATION

	I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Illinois.	
		Date: 6-14-18
	Ravi S. Jayaraman, P.E. License No. 062.052984 My renewal date is November 30, 2019	
	Pages or sheets covered by this seal: Entire Document	

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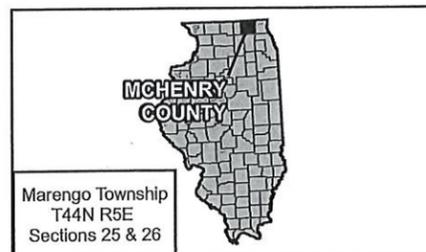
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Call 811 JULIE



FOR APPROVAL  
 JUNE 8, 2018



Drawn By: MSL Job Date: 2018  
 Approved: RSJ Job Number: 86140346.02  
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1	05/22/18	EW	PER CITY AND IDOT



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**GENERAL**  
 OVERVIEW KEY MAP



SHEET NO.  
 G.02

# Legend

- Bush
- Landscape Point
- Mailbox
- Miscellaneous Point
- Monument
- Pole
- ROW Marker
- Sanitary Manhole
- Sign
- Storm Manhole
- Storm Inlet
- Tree Stump
- Conifer 6"
- Conifer, 8"
- Conifer 12"
- Conifer, 15"
- Conifer, 18"
- Conifer, UNK
- Deciduous 2" - 6"
- Deciduous 7" - 12"
- Deciduous 13" - 18"
- Deciduous 19" - 30"; Deciduous, 24"
- Deciduous 31" - 60"
- Deciduous, Unk Size
- Telephone
- Telephone Flags
- Telephone Pedestal
- Traffic Control
- Utility Points
- Vegetation
- Abandoned Water System Valve
- Existing Water System Valve
- Existing Curb Stop
- Existing Curb Stop to be Abandoned
- Existing Fire Hydrant to be Removed
- Existing Fire Hydrant
- Proposed Water Fitting
- Proposed Fire Hydrant
- Proposed Curb Stop
- Proposed Water System Valve
- Existing Water Line to be Abandoned
- Existing Water Line
- Proposed 6" Fire Hydrant Lateral
- Proposed 1" or Smaller Water Lateral
- Proposed 1" Trenchless Water Lateral
- Proposed Water Main Bore
- Proposed Water Main Trench
- Proposed Casing
- Curb and Gutter Restoration
- Culvert
- Gas Line
- Storm Sewer Pipe
- Sanitary Gravity Main
- Fence
- Edge of Water
- Edge of Gravel
- Edge Concrete
- Edge Curb and Gutter
- Edge Pavement
- Edge Sidewalk
- Existing ROW
- Station Line
- Contours
- City Limits (2017)
- Erosion Barrier
- Inlet Filter
- Valve Vault
- Connection Detail Location
- Landscaping
- Seeding
- Bore Pit
- Permanent
- Existing Permanent
- Temporary
- Sidewalk Restoration
- Surface Restoration (Asphalt)
- Surface Restoration (Aggregate)
- Surface Restoration (Concrete)
- 100yr Floodplain
- 500yr Floodplain
- Parcels (2016)

## Abbreviations

- DI - Ductile Iron
- CI - Cast Iron
- Val - Valve
- Hyd - Hydrant
- FT - Fitting
- RJ - Restrained Joint Pipe
- CU SVC- Copper Water Service
- Sta - Station
- SAN - Sanitary
- STM - Storm
- G - Gas
- F - Fiber
- CTV - Cable TV
- T - Telephone
- UGE - Underground Electric
- W - Water
- RT - Right
- LT - Left
- PS - Proposed Seeding
- EB - Erosion Control Blanket
- BG - Inlet Filter
- PCC - Portland Cement Concrete
- HDD - Horizontal Directional Drill

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 MARENGO, ILLINOIS  
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**GENERAL**  
 LEGEND AND ABBREVIATIONS

SHEET NO.  
 G.03

1. ALL WATER MAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH PLANS SPECIFICATIONS, AND DETAILS, SPECIAL PROVISIONS AND IN ACCORDANCE WITH CODES AND ORDINANCES OF THE CITY OF MARENGO, STANDARDS SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST VERSION) AND SUPPLEMENTAL SPECIFICATIONS, AND IEPA TITLE 35F.
2. EXISTING AND FUTURE UTILITIES, STRUCTURES, TREES, AND PAVEMENT LOCATIONS SHOWN ARE APPROXIMATE. THE COMPLETENESS AND ACCURACY OF THIS INFORMATION AND THE AERIAL IMAGE ARE NOT GUARANTEED. CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATIONS OF THESE OR ANY OTHER EXISTING FACILITIES AS REQUIRED TO COMPLETE THE WORK. ANY CHANGES IN UTILITY LOCATIONS AND/OR NUMBER OF UTILITIES SHALL BE CONSIDERED INCIDENTAL AND ACCOMMODATED AT NO ADDITIONAL COST TO OWNER.
3. CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES AND UTILITY SERVICE LEADS TO VERIFY LOCATION AND DEPTH. **CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION, OR REPLACE DAMAGED UTILITIES WITH LIKE-KIND OR BETTER AT NO ADDITIONAL COST TO OWNER.** IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE PROPOSED WATER MAIN AND SERVICE LINE INSTALLATION CONFORMS TO ALL STATE, LOCAL, AND PROJECT-SPECIFIC REQUIREMENTS WITH REGARD TO MINIMUM COVER, SEPARATION, ETC.
4. LOCATIONS OF EXISTING CURB STOPS AND WATER SERVICE LINES ARE SHOWN ON THE DRAWINGS WHERE KNOWN. WHERE THESE EXISTING UTILITIES ARE NOT IDENTIFIED, CONTRACTOR SHALL FIELD LOCATE THE EXISTING CURB STOP AND INSTALL THE PROPOSED CURB STOP AS CLOSE AS FEASIBLE TO THE EXISTING CURB STOP WHILE REMAINING WITHIN THE PUBLIC RIGHT-OF-WAY. IN ORDER TO MINIMIZE SHUTDOWNS OF THE EXISTING WATER MAIN, THE CONTRACTOR SHALL INSTALL ALL NEW SERVICE LINES FROM THE PROPOSED MAIN TO THE PROPOSED CURB STOPS AND TIE IN THE EXISTING SERVICE LINES DOWNSTREAM OF THE EXISTING CURB STOPS TO THE PROPOSED CURB STOPS. EXISTING WATER SERVICE SIZE SHALL BE DETERMINED IN THE FIELD. THE PROPOSED SERVICE LEAD SIZE SHALL BE PROVIDED UP TO THE CURB BOX AND THEN REDUCED AS NECESSARY TO CONNECT TO EXISTING SERVICE LEAD. ALL MISCELLANEOUS FITTINGS, REDUCERS, AND OTHER MATERIALS RELATED TO THE CONNECTION OF THE EXISTING SERVICE LINE TO THE PROPOSED CURB STOP SHALL BE INCIDENTAL TO THE PROJECT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL SERVICES ALONG THE PROJECT CORRIDOR ARE TRANSFERRED FROM THE EXISTING MAIN TO THE PROPOSED MAIN, COMPENSATION FOR ALL SERVICE LINE WORK WILL BE PROVIDED BASED ON THE NUMBER OF SERVICE LINES AND THE UNIT PRICE BID. ALL CONNECTIONS AND FITTINGS USED FOR COPPER SERVICE LINE WORK SHALL BE COMPRESSION FITTINGS. COORDINATE WATER SERVICE WORK WITH THE OWNER.
5. TEMPORARY PLUGS, SLEEVES AND BLOWOFF TAPS MAY BE NEEDED FOR PRESSURE TESTING THE NEW MAIN PRIOR TO MAKING INTERCONNECTIONS TO THE EXISTING DISTRIBUTION SYSTEM. TEMPORARY PLUGS, SLEEVES, AND BLOWOFF TAPS ARE CONSIDERED INCIDENTAL AND SHALL BE RETURNED TO THE CONTRACTOR AFTER COMPLETION OF THE PROJECT.
6. CONTRACTOR SHALL CONFINE ALL ACTIVITIES TO THE RIGHT-OF-WAY UNLESS OTHERWISE NOTED. RIGHT-OF-WAY AND PARCEL LINES SHOWN ON THE PLANS ARE APPROXIMATE AND MEANT AS A REFERENCE ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE TRUE RIGHT-OF-WAY AND PARCEL BOUNDARIES. PRIOR TO PLACING, STORING, OR USING ANY MATERIALS, VEHICLES, EQUIPMENT, OR OTHER PROJECT-RELATED ITEMS OUTSIDE THE ABOVE MENTIONED AREAS, THE CONTRACTOR SHALL PROVIDE THE OWNER A COPY OF A WRITTEN AGREEMENT BETWEEN THE CONTRACTOR AND THE PROPERTY OWNER. THE AGREEMENT SHALL STATE THAT THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SURFACE RESTORATION AND ANY PROPERTY, CROP, OR OTHER DAMAGE TO THE SITE DUE TO STORAGE OF MATERIALS. IN RESIDENTIAL AREAS, THE CONTRACTOR MAY STORE MATERIALS AND EQUIPMENT IN A SINGLE LANE OF A PUBLIC STREET, BUT SHALL MAINTAIN MINIMUM SINGLE-LANE ACCESS THROUGH THE CONSTRUCTION ZONE.
7. REMOVAL AND DISPOSAL OF EXISTING PIPING, FITTINGS, ETC. SHALL BE CONSIDERED INCIDENTAL TO THE INSTALLATION OF THE WATER MAIN AND ALL MATERIALS SHALL BE DISPOSED OF PROPERLY BY THE CONTRACTOR.
8. **THE WATER MAIN SHALL BE INSTALLED TO A MINIMUM COVER OF FIVE AND ONE HALF (5.5) FEET.** SUCH CROSSINGS SHALL BE MADE USING NORMAL PIPE DEFLECTION WITHOUT USING FITTINGS IF POSSIBLE. THE INSTALLED VERTICAL PROFILE OF THE WATER MAIN SHALL NOT RESULT IN ANY ADDITIONAL HIGH POINTS OTHER THAN THOSE INDICATED. CONTRACTOR SHALL PERIODICALLY CHECK VERTICAL AND HORIZONTAL ALIGNMENT. SANITARY SEWER SERVICE CONNECTIONS WILL LIKELY BE IN CONFLICT WITH THE WATER MAIN SO PORTIONS OF THE WATERMAIN SHALL BE INSTALLED AT SEVEN AND ONE HALF (7.5) FEET. WATER MAINS AND SERVICE LINES MAY REQUIRE DEEPER BURY IN LOCATIONS NECESSARY TO CROSS UNDER UTILITY LINES, SANITARY SEWER, STORM SEWER, SERVICE CONNECTIONS OR STRUCTURES.
9. CONTRACTOR SHALL USE TRENCH BOX DURING WATER MAIN INSTALLATION TO MINIMIZE SURFACE RESTORATION.
10. INSTALLATION OF THE WATER MAIN IS CLOSE TO EXISTING TREES, SIGNS, EXISTING UTILITIES, AND UTILITY POLES IN MANY LOCATIONS. ALL REASONABLE ATTEMPTS SHALL BE MADE TO PREVENT DISTURBANCE OF THESE ITEMS DURING CONSTRUCTION. INCLUDING, BUT NOT LIMITED TO, USE OF TRENCH BOXES, USE OF HAND EXCAVATION, AND USE OF TEMPORARY SUPPORTS. THE GROUND WITHIN THE DRIP LINE OF EXISTING TREES SHALL NOT BE EXCAVATED OR COMPACTED. WHERE WATER MAIN INSTALLATION IS NEAR EXISTING TREES, CONTRACTOR SHALL USE PIPE JOINT DEFLECTION TO MAXIMIZE SEPARATION FROM TREES. THE CONTRACTOR SHALL USE REASONABLE MEASURES TO PROTECT TREES NOT IDENTIFIED TO BE REMOVED. ALL SIGNS AND UTILITY POLES SHALL BE REINSTALLED OR REPLACED AS REQUIRED AT NO ADDITIONAL COST TO THE CITY.
11. TEMPORARY SUPPORT OR RELOCATION OF EXISTING UTILITIES MAY BE REQUIRED AS A RESULT OF CONSTRUCTION OF THIS PROJECT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE REQUIRED WORK WITH THE RESPECTIVE UTILITY COMPANIES IN ORDER TO AVOID UNNECESSARY DELAYS TO CONSTRUCTION. THE CONTRACTOR SHALL WORK CLOSELY WITH THE UTILITIES TO LOCATE, PLAN, AND SUPPORT THESE FACILITIES IN A MANNER WHICH MINIMIZES UTILITY SHUT-OFF AND KEEPS THE PROJECT ON SCHEDULE.
12. ALL DUCTILE IRON FITTINGS SHALL BE ENCASED IN POLYETHYLENE WRAP. THE INSIDE SURFACE OF THE POLYETHYLENE WRAP SHALL BE INFUSED WITH A BLEND OF ANTI-MICROBIAL BIOCIDES TO MITIGATE MICROBIOLOGICALLY INFLUENCED CORROSION AND A VOLATILE CORROSION INHIBITOR TO CONTROL GALVANIC CORROSION.
13. THE CONTRACTOR SHALL PROVIDE THE LABOR AND EQUIPMENT NECESSARY TO DETERMINE THE EXACT LOCATION AND ELEVATION OF ALL UTILITY CROSSINGS WHICH MAY CAUSE CONFLICTS. THESE DETERMINATIONS SHALL BE MADE PRIOR TO THE START OF ACTUAL CONSTRUCTION. THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANY PRIOR TO BEGINNING EXCAVATION. THE CONTRACTOR SHALL ALSO THEN UNCOVER THE UTILITY, ASSIST THE ENGINEER IN DETERMINING THE ELEVATION AT THE PIPE, AND BACKFILL THE EXCAVATION.
14. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAUL AND PROPERLY DISPOSE OF EXCESS MATERIAL (INCLUDING EXCAVATED MATERIAL OR BROKEN CONCRETE) WHICH IS NOT DESIRABLE TO BE INCORPORATED INTO THE WORK INVOLVED ON THIS PROJECT. NO PAYMENT WILL BE ALLOWED FOR MATERIAL DISPOSED OF AND NOT INCORPORATED INTO THE WORK. NO MATERIAL SHALL BE PLACED OUTSIDE OF THE RIGHT-OF-WAY, UNLESS SPECIFICALLY STATED IN THE PLANS OR APPROVED BY THE ENGINEER. THE EXISTING MARENGO WASTEWATER TREATMENT PLANT SITE MAY BE USED FOR DISPOSAL OF MATERIALS AS DIRECTED BY THE CITY OR THE ENGINEER.
15. UNLESS OTHERWISE DIRECTED OR AUTHORIZED, ALL ASPHALTIC CEMENT CONCRETE AND OTHER BITUMINOUS MATERIALS WHICH ARE NOT SPECIFICALLY ADDRESSED OR DESCRIBED IN THE PLANS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL DISPOSE OF THESE MATERIALS IN ACCORDANCE WITH CURRENT RULES AND REGULATIONS OF THE ILLINOIS DEPARTMENT OF NATURAL RESOURCES.
16. ALL HOLES RESULTING FROM OPERATIONS OF THE CONTRACTOR, INCLUDING REMOVAL OF FENCE POSTS, UTILITY POLES, OR FOUNDATION STRUCTURES, SHALL BE FILLED AND CONSOLIDATED TO FINISHED GRADE AS DIRECTED BY THE ENGINEER TO PREVENT FUTURE SETTLEMENT. THE VOIDS SHALL BE FILLED AS SOON AS PRACTICAL — PREFERABLY THE DAY CREATED AND NOT LATER THAN THE FOLLOWING DAY. ANY PORTION OF THE RIGHT-OF-WAY OR PROJECT LIMITS (INCLUDING BORROW AREAS AND OPERATION AREAS) DISTURBED BY ANY SUCH OPERATIONS SHALL BE RESTORED TO AN ACCEPTABLE CONDITION. THIS OPERATION SHALL BE CONSIDERED INCIDENTAL TO OTHER BID ITEMS IN THIS PROJECT.
17. DURING REMOVAL AND CONSTRUCTION, THE CONTRACTOR SHALL USE ALL MEANS NECESSARY TO CONTROL DUST SPREADING FROM ALL WORK AND STAGING AREAS. DUST CONTROL MEASURES SHALL BE IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS AND APPROVED BY THE ENGINEER, AND SHALL BE INCIDENTAL.
18. THE CONTRACTOR SHALL IMPLEMENT STORMWATER POLLUTION PREVENTION PLAN (SWPPP FOUND WITHIN THIS PLAN SET) AND COMPLY WITH EROSION CONTROL REQUIREMENTS OF THE ILLINOIS CODE, SPECIFICATIONS AND LOCAL ORDINANCES. CONTRACTOR SHALL INSTALL AND MAINTAIN THE EROSION CONTROL AS SHOWN ON "SURFACE PLANNING & RESTORATION" PLANS AND PER EROSION CONTROL NOTES INCLUDED WITHIN THE PLAN SET. CONTRACTOR SHALL MAKE CHANGE OR ALTERATIONS TO EROSION AND SEDIMENTATION CONTROL MEASURES AS DIRECTED BY OWNER OR OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST TO OWNER.
19. THE TOP SIX (6) INCHES OF THE DISTURBED AREAS SHALL BE FREE OF ROCK AND DEBRIS AND SHALL BE SUITABLE FOR THE ESTABLISHMENT OF VEGETATION, SUBJECT TO THE APPROVAL OF THE ENGINEER.
20. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ACCESS TO INDIVIDUAL PROPERTIES DURING CONSTRUCTION. PROPERTY OWNERS SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF WORK THAT WOULD AFFECT OR ALTER THEIR ACCESS. ALL SIDEWALKS AND DRIVEWAYS ARE TO BE REPLACED IN KIND WITHIN THE TIMEFRAME OF THE PERMIT. A TEMPORARY WALK AND DRIVE MUST BE PROVIDED AND MAINTAINED DURING THE CONSTRUCTION PERIOD. EXISTING SIDEWALK RAMPS FOR THE HANDICAPPED REMOVED OR DISTURBED AS A RESULT OF THE PERMIT WORK SHALL BE RECONSTRUCTED IN ACCORDANCE WITH STATE STANDARDS. TEMPORARY ACCESS DRIVES SHALL CONSIST OF FULL-DEPTH CLEAN CRUSHED STONE PROPERLY COMPACTED.
21. THE LOCATION FOR STORAGE OF EQUIPMENT BY THE CONTRACTOR DURING NONWORKING HOURS SHALL BE AS APPROVED BY THE PROJECT ENGINEER, AND THE CONTRACTOR SHALL PROVIDE A WRITTEN AGREEMENT WITH ANY PROPERTY OWNER(S), AS REQUIRED.
22. **THE CONTRACTOR SHALL VIDEO RECORD THE ENTIRE PROJECT ROUTE PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES** FOR THE PURPOSE OF DOCUMENTING EXISTING CONDITIONS. THE CONTRACTOR SHALL PROVIDE ONE COPY TO THE OWNER AND ONE COPY TO THE ENGINEER.
23. OWNER WILL PROVIDE THE CONTRACTOR WATER FOR FLUSHING, DISINFECTION, AND PRESSURE TESTING OPERATIONS FREE OF CHARGE. WATER WILL BE MADE AVAILABLE THROUGH EXISTING WATER MAIN CONNECTIONS OR NEARBY FIRE HYDRANTS. THE CONTRACTOR SHALL PROVIDE BACKFLOW PREVENTION DEVICES FOR FIRE HYDRANT CONNECTIONS. THE CONTRACTOR SHALL TAKE REASONABLE PRECAUTIONS FOR WATER CONSERVATION.
24. ALL FIELD TILE CUT SHALL BE REPAIRED AT NO ADDITIONAL COST TO OWNER.
25. SANITARY AND STORM SEWER INVERTS ARE IDENTIFIED WITH AN ELEVATION AS BASED ON PRELIMINARY SURVEY. SEE SHEETS S.07 FOR SEPARATION OF WATER MAIN FROM STORM AND SANITARY SEWER REQUIREMENTS. CONTRACTOR SHALL FIELD VERIFY ALL SEWER ELEVATIONS AND MAINTAIN 18" VERTICAL SEPARATION.
26. CONTRACTOR SHALL USE SEWER CAMERA TO FILM SEWER OVER ENTIRE LENGTH OF PROJECT AREA UPON COMPLETION OF PROJECT. THE COST OF THE WORK IS INCIDENTAL TO WATER MAIN INSTALLATION.
27. SEWER FILMING
28. NO LIVING TREES SHALL BE REMOVED FROM STATE ROW WITHOUT WRITTEN PERMISSION FROM IDOT. THE INSTALLATION SHALL BE BORED UNDER THE ROOT SYSTEM OF ANY TREE IN CONFLICT WITH THE PROPOSED INSTALLATION ALIGNMENT. GORING LIMITS SHALL COINCIDE WITH THE TREE'S DRIP LINE. TREE TRUNK PROTECTION SHALL BE PROVIDED AS NEEDED.
29. ALL LANDSCAPING WITHIN ROW TO BE REPLACED IN ACCORDANCE WITH THE PERMIT SPECIAL PROVISIONS, SECTION L, PAGES 28 AND 29, LANDSCAPING. ALL SEEDED AREAS MUST BE COVERED WITH EXCELSIOR BLANKET AS SPECIFIED.

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**GENERAL**  
 GENERAL NOTES

SHEET NO.  
 G.04

## WATER MAIN CONSTRUCTION STAGING NOTES

29. A CONCRETE THRUST BLOCK SHALL BE POURED OR PRECAST AT ALL CONNECTION POINTS WITH EXISTING PIPING BETWEEN NEW CONNECTION FITTINGS AND EXISTING PIPING. CONCRETE THRUST BLOCKS ARE INCIDENTAL TO THE RESPECTIVE FITTING THAT THEY ARE POURED AGAINST.
30. CONTRACTOR SHALL INSTALL THE WATER MAIN AS FAR FROM THE EXISTING SANITARY AND STORM SEWER AS POSSIBLE WHILE STAYING IN THE RIGHT-OF-WAY.
31. CONTRACTOR SHALL ENSURE THAT FINAL GRADING IS DONE WITHIN 3 WEEKS OF FINISHING WATER MAIN AND ASSOCIATED WORK.
32. ALL SIDEWALK AREA BEING RECONSTRUCTED WITHIN DRIVEWAYS SHALL BE 6" THICK. ALL SIDEWALK CURB RAMPS SHALL BE 6" THICK. ALL SIDEWALKS AND CURB RAMPS SHALL MEET THE SPECIFICATIONS ON SHEET S.05.
33. BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "JULIE" (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION) AT 8-1-1 AND THE CITY OF MARENGO AT (815)568-2669 FOR FIELD LOCATIONS OF BURIED UTILITIES (48 HOURS NOTIFICATION IS REQUIRED).
34. ALL ELEVATIONS SHOWN ON THE PLANS ARE ON THE USGS (NAVD 88) DATUM.
35. OFFSET LOCATIONS GIVEN IN THE PLANS FOR STRUCTURES, EDGE OF PAVEMENT, ETC. ARE FROM THE ROADWAY CENTERLINE.
36. NO EXCAVATIONS WILL BE PERMITTED TO REMAIN OPEN OVER ANY WEEKEND AND NO EXCAVATIONS SHALL BE LEFT OPEN OVERNIGHT IN ANY RESIDENTIAL AREA.
37. THE ENGINEER AND CITY ARE NOT RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, TIME OF PERFORMANCE, PROGRAMS OR FOR ANY SAFETY PRECAUTIONS USED BY THE CONTRACTOR. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR EXECUTION OF HIS WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND SPECIFICATIONS.
38. CONSTRUCTION WORK MAY BE PERFORMED MONDAY THRU SATURDAY DURING THE HOURS OF 7:00 A.M. TO 7:00 P.M. NO WORK MAY BE PERFORMED PRIOR OR BEYOND THIS PERIOD WITHOUT PRIOR WRITTEN APPROVAL FROM THE CITY. NO COMPENSATION WILL BE PAID FOR ANY INCONVENIENCE, DELAY, OR LOSS EXPERIENCED BY THE CONTRACTOR BECAUSE OF ADJUSTMENTS TO THEIR NORMAL SCHEDULE.
39. CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING SEWER MAIN DURING CONSTRUCTION. ANY DAMAGE TO THE SEWER MAIN WHERE THE CONTRACTOR IS AT FAULT SHALL BE PAID FOR BY THE CONTRACTOR.
40. US RTE 20 AND IL RTE 23 LANE CLOSURES ARE LIMITED TO BETWEEN 9 A.M. AND 3 P.M.
41. CONTRACTOR TO VERIFY, IN CONJUNCTION WITH CITY PUBLIC WORKS STAFF, THAT ALL THE EXISTING WATER VALVES NEEDED FOR SHUTDOWNS ARE OPERABLE PRIOR TO CONSTRUCTIONS.
42. PROTECTION OF POWER POLES IS INCIDENTAL TO CONTRACT.
43. ALL RIGHT-OF-WAY MONUMENTS SHALL BE PROTECTED DURING CONSTRUCTION. PROTECTION OF ROW MONUMENTS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
44. ALL PAVEMENT MARKINGS WITHIN THE PROJECT AREA SHALL BE RESTORED IF DAMAGED DURING THE WORK. RESTORATION SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

1. CONSTRUCTION STAGING FOR THE PROJECT IS THE RESPONSIBILITY OF THE CONTRACTOR. HOWEVER, PRELIMINARY STAGING PLANS ARE PROVIDED WHICH WERE CONSIDERED DURING THE PROJECT'S DESIGN. COORDINATE ALL WATER MAIN TIE-IN'S AND GENERAL STAGING WITH CITY OF MARENGO:
  - A. CONTRACTOR SHALL SETUP TRAFFIC CONTROL PER IDOT STANDARDS.
  - B. INSTALL WATER MAIN ALONG THE LENGTH OF THE PROJECT, OR IN SUITABLE SHORTER INCREMENTS, WHILE KEEPING THE EXISTING WATER MAIN IN SERVICE. TEMPORARY PLUGS, BLOWOFFS, AND SLEEVES MAY BE NEEDED FOR PRESSURE TESTING THE NEW MAIN PRIOR TO MAKING INTERCONNECTIONS TO THE EXISTING DISTRIBUTION SYSTEM. TEMPORARY PLUGS, BLOWOFFS, AND SLEEVES ARE CONSIDERED INCIDENTAL AND SHALL BE RETURNED TO THE CONTRACTOR AFTER COMPLETION OF THE PROJECT.
  - C. PRESSURE TEST AND DISINFECT THE NEW MAIN PRIOR TO PUTTING ANY SEGMENT IN SERVICE.
  - D. OPEN NEW WATER VALVES.
  - E. SWITCH ALL INDIVIDUAL SERVICES FROM THE EXISTING WATER MAIN WHICH IS TO BE ABANDONED TO THE PROPOSED WATER MAIN. INDIVIDUAL SERVICE LINE CURB STOPS ARE TO BE ABANDONED IN PLACE IN THE CLOSED POSITION AND ALL CURB BOXES ARE TO BE REMOVED.
2. THE CONTRACTOR SHALL NOTIFY CITY OF MARENGO 48-HOURS IN ADVANCE OF ALL OPERATIONS REQUIRING ISOLATION OF ACTIVE WATER MAINS OR OPERATION OF VALVES. ONLY CITY OF MARENGO PERSONNEL SHALL OPERATE VALVES ON THE WATER SYSTEM. CONTRACTOR SHALL DIRECTLY NOTIFY AND COORDINATE WITH ADJACENT PROPERTY OWNERS WHOSE SERVICES WILL BE AFFECTED BY THE WORK. THE PROPERTY OWNER AND/OR RESIDENT SHALL NOT BE WITHOUT WATER LONGER THAN SIX (6) HOURS AND ONLY BETWEEN THE HOURS OF 9 A.M. AND 3 P.M. THE CONTRACTOR WILL BE ASSESSED A \$100 PER HOUR PENALTY AFTER SIX (6) HOURS, THEN \$300 PER HOUR AFTER EIGHT (8) HOURS. IF PROPERTY OWNER AND/OR RESIDENT IS WITHOUT WATER FOR LONGER THAN EIGHT (8) HOURS, CITY OF MARENGO WILL RECONNECT THE PROPERTY OWNER AND/OR RESIDENT AND BILL THE CONTRACTOR FOR ALL RELATED EXPENSES. CITY OF MARENGO WILL NOTIFY THE CONTRACTOR WHENEVER THE PENALTY IS IN EFFECT. THE PENALTY SHALL BE RECOVERED FROM THE FUNDS DUE THE CONTRACTOR BY A CHANGE ORDER DEDUCTION ON THE FINAL PAY REQUEST.
3. SERVICE LINES: **CONTRACTOR SHALL VERIFY SIZE AND LOCATION OF ALL SERVICE LEADS PRIOR TO INSTALLING TEES AND TAPS FROM NEW WATER MAIN.** CONTRACTOR SHALL NOTIFY CITY OF MARENGO IMMEDIATELY IF ACTUAL SERVICE SIZE IS DIFFERENT FROM THE SIZE SHOWN.
4. SANITARY SERVICE LINES: CONTRACTOR SHALL COORDINATE WITH PROPERTY OWNER VIA DOOR HANGERS, ETC., BEFORE AND DURING SANITARY SERVICE LINE REPAIR WORK. THE PROPERTY OWNER AND/OR RESIDENT SHALL NOT BE WITHOUT SEWER SERVICE LONGER THAN SIX (6) HOURS. SERVICE SHALL BE RESTORED BY THE END OF EACH WORKING DAY AND UNDER NO CIRCUMSTANCES SHALL BE DISCONNECTED OVERNIGHT.
5. IF LEAD WATER MAINS OR SERVICES ARE FOUND, THE FOLLOWING ACTIONS ARE REQUIRED: NOTIFY RESIDENTS IN THE BLOCK WHERE WATER MAIN REPAIR/REPLACEMENT IS PLANNED THAT THE WORK MAY RESULT IN SEDIMENT, POSSIBLY CONTAINING LEAD, GETTING INTO THEIR WATER. RESIDENTS SHOULD FLUSH THEIR LINES DURING AND AFTER THE COMPLETION OF WORK, AND SHOULD ALSO REMOVE/CLEAN FAUCET AERATOR SCREENS. NOTIFY RESIDENTS WHERE WATER METER OR PARTIAL LEAD SERVICE LINE REPLACEMENT OCCURS AND THE STEPS THEY CAN TAKE TO REDUCE LEAD EXPOSURE FOLLOWING REPLACEMENT. THE LENGTH OF TIME THAT LEAD LEVELS MAY BE ELEVATED IS VARIABLE (WEEKS, MONTHS, POSSIBLY YEARS) SO FULL REPLACEMENT OF LEAD SERVICE LINES AND LEAD-CONTAINING PLUMBING SHOULD ALSO BE RECOMMENDED.

**IMPORTANT: ALL WATER SERVICES SHALL MEET MINIMUM IEPA HORIZONTAL AND VERTICAL SEPARATION FROM SEWER MAIN AND SERVICES.**

Drawn By: MSL Job Date: 2018  
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NO.	DATE	BY	REVISION DESCRIPTION
1	05/22/18	EW	PER CITY AND IDOT



MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
 2018

**GENERAL**  
 GENERAL AND CONSTRUCTION STAGING NOTES

SHEET NO.  
**G.05**

Station	Northing	Easting
32+00	2036227.172	909760.7039
33+00	2036327.167	909761.7259
34+00	2036427.163	909762.5756
35+00	2036527.16	909763.3899
36+00	2036627.156	909764.2042
37+00	2036727.155	909764.5832
38+00	2036827.155	909764.5891
39+00	2036927.155	909764.5953
40+00	2037027.155	909764.6189
41+00	2037127.155	909764.7092
42+00	2037227.155	909764.7991
43+00	2037327.155	909764.8893
44+00	2037427.155	909765.0966
45+00	2037527.154	909765.3197
46+00	2037627.154	909765.5432
47+00	2037727.154	909765.7489
48+00	2037827.153	909765.8981
49+00	2037927.154	909765.8932
50+00	2038027.154	909765.889
51+00	2038127.153	909765.886
52+00	2038227.154	909765.883
53+00	2038327.153	909765.8801

CAD FILE WITH ALIGNMENT AND WATER MAIN FEATURE INFORMATION WILL BE AVAILABLE FOR CONTRACTOR'S STAKING PURPOSES UPON REQUEST.

THE SURVEY REFERENCES ILLINOIS STATE PLANE COORDINATE SYSTEM EAST ZONE NAD 83 (2011).

ELEVATIONS ARE BASED ON NAVD 88.

THE NORTHING & EASTING ARE GIVEN AT EVERY 100 FOOT INCREMENTS ALONG THE PROJECT.

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MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
 2018

**GENERAL**  
 STATION CONTROL

SHEET NO.  
 G.06

NO.	BID ITEM	UNIT	QTY	DESCRIPTION
1	MOBILIZATION	LS	1	INCLUDES MOBILIZATION AS DESCRIBED IN THE SPECIFICATIONS.
2	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS	CU YD	500	INCLUDES ALL LABOR AND EQUIPMENT COSTS FOR REMOVAL OF MATERIAL AND DISPOSAL IN ACCORANCE WITH IEPA GUIDELINES AND REGULATIONS AND SPECIFICATION SECTION 31 1000. INCLUDES REMOVAL AND DISPOSAL TO WASTEWATER TREATMENT PLANT SITE.
3	TREE PROTECTION	EACH	13	INCLUDES ALL LABOR AND EQUIPMENT COSTS FOR TEMPORARY FENCING, TREE TRUNK PROTECTION, PRUNING FOR SAFETY AND EQUIPMENT CLEARANCE, AND ANY OTHER WORK REQUIRED AS PART OF TREE PROTECTION.
4	TREE ROOT PRUNING	EACH	13	INCLUDES ALL LABOR AND EQUIPMENT COSTS FOR ROOT PRUNING AS NECESSARY IN LOCATIONS OF PROPOSED SIDEWALK REMOVAL AND REPLACEMENT, WATER MAIN INSTALLATION, AND OTHER WORK AS SPECIFIED IN SECTION 31 1000. WORK SHALL INCLUDE EXCAVATION, PRUNING, AND REMOVAL AND DISPOSAL TO SITE PROVIDED BY OWNER.
5	TREE REMOVAL	EACH	2	INCLUDES ALL LABOR AND EQUIPMENT COSTS FOR TREE REMOVAL AS NECESSARY. WORK SHALL INCLUDE REMOVAL, DISPOSAL AND RESTORATION.
6	TREES TO BE PLANTED	EACH	0	INCLUDES ALL LABOR AND EQUIPMENT COSTS FOR FURNISHING, TRANSPORTING, AND PLANTING TREES.
7	TREE STUMP REMOVAL	EACH	5	INCLUDES ALL LABOR AND EQUIPMENT COSTS FOR TREE STUMP REMOVAL AS NECESSARY. WORK SHALL INCLUDE REMOVAL, EXCAVATION TO 18", DISPOSAL AND RESTORATION.
8	SHRUB REMOVAL	EACH	1	INCLUDES ALL LABOR AND EQUIPMENT COSTS FOR REMOVAL AND DISPOSAL OF ALL SHRUBS WITHIN THE AREA OF CONSTRUCTION.
9	TRENCH BACKFILL	CU YD	300	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER RELATED COSTS TO FURNISH, PLACE, AND COMPACT TRENCH BACKFILL AS SPECIFIED IN SECTION 31 2316.13 AND SECTION 31 2323. SEE SECTION DETAILS FOR TRENCH BACKFILL DEPTHS. USE TRENCH BOX TO INSTALL ALL WATER MAIN TO REDUCE SURFACE RESTORATION. TRENCH BACKFILL UNDER PAVEMENT, CURB AND GUTTER AS INDICATED IN ROAD SUBGRADES AND WITHIN TWO FEET OF ANY PROPOSED CURB, GUTTER, OR SIDEWALK. USE COMPACTED GRANULAR MATERIAL CA-6 TO 4" ABOVE TOP OF PIPE AND 12" BELOW PIPE AS BEDDING IN ALL AREAS. IN GRASSED AREAS, FILL TRENCH FROM BACKFILL TO GRADE WITH NATIVE SOIL IN 9-12" LIFTS AND COMPACT USING VIBRATORY PLATE COMPACTOR 1' ABOVE TOP OF PIPE. SEE DRIVEWAY RESTORATION DETAIL FOR BACKFILL UNDER DRIVEWAYS.
10	DEWATERING	LS	1	INCLUDES ALL LABOR, EQUIPMENT, SUPPLIES, AND OTHER COSTS RELATED TO DEWATERING SOIL AT LEAST TWO (2) FEET BELOW BOTTOM OF TRNCH UNDER NEW WATER MAIN AS SPECIFIED IN SECTION 31 2319. INCLUDES PROPER DISPOSAL OF WATER REMOVED.
11	PERIMETER EROSION BARRIER	FOOT	100	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER COSTS RELATED TO INSTALLATION, MAINTENANCE, AND REMOVAL OF PERIMETER EROSION BARRIER AS SPECIFIED IN SECTION 31 2500 AND EROSION CONTROL NOTES IN PLANS, SWPP, AND TEMPORARY SILTATION FENCE DETAIL. WORK SHALL INCLUDE PLACEMENT AND MAINTENANCE OF BARRIER ON DOWNSLOPE END OF PROJECT SITE AS SHOWN ON THE DRAWINGS.
12	EROSION CONTROL BLANKET	SQ YD	1902	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER COSTS RELATED TO INSTALLATION, MAINTENANCE, AND REMOVAL OF EXCELSIOR EROSION CONTROL BLANKET AS SPECIFIED IN SECTION 31 2500 AND EROSION CONTROL NOTES IN PLANS AND SWPP. WORK SHALL INCLUDE PLACEMENT, MAINTENANCE, AND REMOVAL OF EXCELSIOR EROSION CONTROL BLANKET IN AREAS SPECIFIED ON PLANS.
13	SEEDING	ACRE	0.4	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER COSTS RELATED TO APPLYING AND MAINTAINING NEW SEEDING IN SELECTED AREAS AS SHOWN ON THE DRAWINGS AND AS SPECIFIED IN SECTION 32 9219. INCLUDES NITROGEN, PHOSPHOROUS, AND POTASSIUM FERTILIZER NUTRIENTS AND SUPPLEMENTAL WATERING, LABOR FOR APPLYING SEED, FERTILIZER NUTRIENTS, WATER, AND TOPSOIL, AND EQUIPMENT FOR APPLYING ALL MATERIALS. USE SALT TOLERANT LAWN MIXTURE (CLASS 1A) AND FERTILIZER RATE PER IDOT SECTION 250.
14	FURNISH AND PLACE TOPSOIL, 8"	SQ YD	1936	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER COSTS RELATED TO THE INSTALLATION OF TOPSOIL AS SHOWN ON THE DRAWINGS AND AS SPECIFIED IN SECTION 32 9219. INCLUDES TOPSOIL AND EQUIPMENT FOR APPLYING.
15	INLET FILTERS	EACH	20	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER COSTS RELATED TO REMOVAL AND REINSTALLATION OF INLET FILTERS AS SPECIFIED IN SECTION 31 2500 AND EROSION CONTROL NOTES IN PLANS AND SWPP. INCLUDES PLACEMENT, MAINTENANCE, REMOVAL, AND DISPOSAL OF PROECTION SURROUNDING STORM SEWER STRUCTURES, INLET BASKETS FOR DRAINAGE STRUCTURES OF PROPER SIZE AND TYPE, AND ANY EROSION CONTROL NECESSARY AT LOCATIONS SPECIFIED ON PLANS.
16	PCC SIDEWALK REMOVAL AND REPLACEMENT	SQ FT	3943	INCLUDES ALL LABOR, MATERIAL, EQUIPMENT, SUPPLIES, AND OTHER COSTS RELATED TO THE REMOVAL AND INSTALLATION OF SIDEWALK AS SPECIFIED IN SECTION 02 4100 AND SECTION 32 1313. INCLUDES SUB-GRADE PREPARATION, REMOVAL AND PROPER DISPOSAL OF EXISTING SIDEWALK IN ACCORDANCE WITH IEPA REGULATIONS, AND INSTALLATION OF NEW SIDEWALK ACCORDING TO DRAWINGS AT ORIGINAL LINE AND GRADE. CONTRACTOR SHALL USE HIGH EARLY STRENGTH CONCRETE FOR SIDEWALK REPLACEMENT AT DRIVEWAYS AT NO ADDITIONAL COST.
17	CLASS D PATCH TYPE IV, 4 INCH	SQ YD	0	INCLUDES ALL LABOR, MATERIAL, EQUIPMENT, AND OTHER COSTS RELATED TO THE INSTALLATION OF CLASS D PATCHING AS SPECIFIED IN SECTION 32 1216. CONTRACTOR SHALL USE CLASS D TYPE IV PATCHING ITEM AS SHOWN ON THE PLANS.
18	CLASS B CONCRETE PATCH	SQ YD	241	INCLUDES ALL LABOR, MATERIAL, EQUIPMENT, AND OTHER COSTS RELATED TO THE INSTALLATION OF CONCRETE TO PATCH STATE STREET AT STATIONING 21+50 AS SPECIFIED IN SECTION 32 1313. CONTRACTOR SHALL USE HIGH EARLY STRENGTH CONCRETE AT NO ADDITIONAL COST.
19	AGGREGATE BASE COURSE REMOVAL AND REPLACEMENT, 8 INCH	SQ YD	241	INCLUDES ALL LABOR, MATERIAL, EQUIPMENT, AND OTHER COSTS RELATED TO THE REMOVAL OF EXISTING BASE COURSE AND REPLACEMENT AS SPECIFIED IN SECTION 32 1123 TO A DEPTH OF 8 INCHES.
20	HMA DRIVEWAY PAVEMENT REMOVAL AND REPLACEMENT, 3 INCH	SQ FT	1452	INCLUDES ALL LABOR, MATERIAL, EQUIPMENT, AND OTHER COSTS RELATED TO THE INSTALLATION OF HMA DRIVEWAY PAVEMENT AS SPECIFIED IN SECTION 32 1216. PREPARED SUB-GRADE SHALL BE PAID FOR SEPARATELY. DRIVEWAY SURFACE SHALL PRODUCE TIGHT SURFACE CONFORMING TO GRADE OF ADJACENT AREA.
21	PCC DRIVEWAY PAVEMENT REMOVAL AND REPLACEMENT, 5 INCH	SQ FT	464	INCLUDES ALL LABOR, MATERIAL, EQUIPMENT, AND OTHER COSTS RELATED TO THE INSTALLATION OF PCC DRIVEWAY PAVEMENT AS SPECIFIED IN SECTION 32 1313. WHERE A VALVE BOX OR SERVICE VALVE EXISTS IN THE LIMITS OF THE DRIVEWAY PAVEMENT, CONTRACTOR SHALL SURROUND THE BOX WITH PLASTIC PIPE EXTENDING THE FULL DEPTH OF THE PAVEMENT. INCLUDES DRIVEWAY FINISH WITH BROOM DRAWN ACROSS DRIVEWAY AT RIGHT ANGLES WITH ADJACENT STROKES SLIGHTLY OVERLAPPING AFTER WATER SHEEN HAS DISAPPEARED.
22	AGGREGATE DRIVEWAY REMOVAL AND REPLACEMENT	SQ FT	594	AGGREGATE MATCHING EXISTING DRIVEWAY GRADATION. INCLUDES ALL LABOR, MATERIAL, EQUIPMENT, AND OTHER COSTS RELATED TO THE REMOVAL OF EXISTING AGGREGATE DRIVEWAY AND REPLACEMENT AS SPECIFIED IN SECTION 32 1123.
23	LIMESTONE DRIVEWAY REMOVAL AND REPLACEMENT	SQ FT	0	LIMESTONE AGGREGATE MATCHING EXISTING DRIVEWAY GRADATION
24	SITE AND LANDSCAPING RESTORATION	LS	1	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES AND OTHER RELATED COSTS TO REMOVE, RESET, AND/OR REPLACE ALL SMALL LANDSCAPING, SMALL TREES, LARGE ROCKS, RETAINING WALLS, MAILBOXES, STREET SIGNS, FENCES, AND OTHER ITEMS NOT CONTAINED WITHIN SEPARATE BID ITEMS THAT ARE DISTURBED DURING THE PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ALL ITEMS DAMAGED DURING CONSTRUCTION ACTIVITIES IN LIKE KIND AT NO ADDITIONAL COST TO OWNER. PAYMENT WILL BE MADE AS LUMP SUM.
25	REMOVE AND REPLACE CURB	FOOT	290	INCLUDES ALL LABOR, EQUIPMENT, AND OTHER RELATED COSTS TO REMOVE AND REPLACE CURB AS SPECIFIED IN SECTION 02 4100 AND SECTION 32 1313. INCLUDES SAW CUTTING ALONG BOTH ENDS OF CURB FOR CLEAN, STRAIGHT EDGE FOR REMOVAL. ANY DAMAGE TO EXISTING CURB SHALL BE REPAIRED BY CONTRACTOR AT NO COST TO OWNER. SAWING, REMOVAL, AND DISPOSAL SHALL BE INCLUDED IN COST.
26	PARKING LOT CURB AND GUTTER REMOVAL AND REPLACEMENT	FOOT	0	INCLUDES ALL LABOR, EQUIPMENT, AND OTHER RELATED COSTS TO REMOVE AND REPLACE CURB AS SPECIFIED IN SECTION 02 4100 AND SECTION 32 1313. INCLUDES SAW CUTTING ALONG BOTH ENDS OF CURB FOR CLEAN, STRAIGHT EDGE FOR REMOVAL. ANY DAMAGE TO EXISTING CURB SHALL BE REPAIRED BY CONTRACTOR AT NO COST TO OWNER. SAWING, REMOVAL, AND DISPOSAL SHALL BE INCLUDED IN COST.
27	PIPE CULVERT REMOVAL & REPLACEMENT, 30 INCH CMP	FOOT	0	INCLUDES ALL LABOR, MATERIAL, EQUIPMENT, AND OTHER COSTS RELATED TO THE REMOVAL, DISPOSAL, AND INSTALLATION OF NEW PIPE CULVERT. NEW CULVERT SHALL MATCH EXISTING SIZE AND TYPE. INCLUDES EXCAVATION AND BACKFILL AROUND PIPE AND ANY REGRADING NECESSARY DUE TO CONSTRUCTION ACTIVITIES.
28	FIRE HYDRANTS TO BE REMOVED	EACH	3	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER RELATED COSTS TO REMOVE THE EXISTING HYDRANT AND HYDRANT VALVE BOX AT THE LOCATIONS INDICATED IN THE DRAWINGS AND AS SPECIFIED IN SECTION 02 4100. AUXILIARY VALVE SHALL BE CLOSED AND VALVE BOX CUT, HYDRANT BARREL REMOVED, AND STEM FILLED WITH SAND.
29	DUCTILE IRON WATER MAIN TEE, 8" X 8"	EACH	5	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
30	DUCTILE IRON WATER MAIN TEE, 8" X 4"	EACH	1	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
31	DUCTILE IRON WATER MAIN CROSS, 8" X 8"	EACH	4	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
32	DUCTILE IRON WATER MAIN SLEEVE, 8"	EACH	1	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
33	DUCTILE IRON WATER MAIN SLEEVE, 4"	EACH	3	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
34	DUCTILE IRON WATER MAIN PLUG, 8"	EACH	5	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
35	DUCTILE IRON WATER MAIN PLUG, 6"	EACH	1	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
36	DUCTILE IRON WATER MAIN PLUG, 4"	EACH	5	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.

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MARENGO 2018 WATER MAIN REPLACEMENT  
MARENGO, ILLINOIS  
2018

**GENERAL**  
ESTIMATE OF QUANTITIES

SHEET NO.  
C.01

NO.	BID ITEM	UNIT	QTY	DESCRIPTION
37	DUCTILE IRON WATER MAIN REDUCER, 12" X 8"	EACH	0	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
38	DUCTILE IRON WATER MAIN REDUCER, 12" X 6"	EACH	1	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
39	DUCTILE IRON WATER MAIN REDUCER, 8" X 6"	EACH	0	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
40	DUCTILE IRON WATER MAIN REDUCER, 8" X 4"	EACH	2	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
41	DUCTILE IRON WATER MAIN 45 DEGREE ELBOW, 12"	EACH	0	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
42	DUCTILE IRON WATER MAIN 45 DEGREE ELBOW, 8"	EACH	14	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
43	DUCTILE IRON WATER MAIN 45 DEGREE ELBOW, 4"	EACH	0	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
44	DUCTILE IRON WATER MAIN 22.5 DEGREE ELBOW, 8"	EACH	0	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
45	C-900 PVC WATER MAIN, HDD, 12"	FOOT	0	INCLUDES MATERIAL AND INSTALLATION OF WATER MAIN MEASURED ALONG THE CENTERLINE OF PIPE AS SPECIFIED IN SECTION 33 1116.
46	C-900 PVC WATER MAIN 8"	FOOT	1436	INCLUDES MATERIAL AND INSTALLATION OF WATER MAIN MEASURED ALONG THE CENTERLINE OF PIPE AS SPECIFIED IN SECTION 33 1116.
47	C-900 PVC WATER MAIN, HDD, 8"	FOOT	677	INCLUDES MATERIAL AND INSTALLATION OF WATER MAIN MEASURED ALONG THE CENTERLINE OF PIPE AS SPECIFIED IN SECTION 33 1116.
48	C-900 PVC WATER MAIN 6"	FOOT	10	INCLUDES MATERIAL AND INSTALLATION OF WATER MAIN MEASURED ALONG THE CENTERLINE OF PIPE AS SPECIFIED IN SECTION 33 1116.
49	C-900 PVC WATER MAIN 4"	FOOT	23	INCLUDES MATERIAL AND INSTALLATION OF WATER MAIN MEASURED ALONG THE CENTERLINE OF PIPE AS SPECIFIED IN SECTION 33 1116.
50	WATER MAIN CASING 16"	FOOT	207	INCLUDES MATERIAL AND INSTALLATION OF DUCTILE IRON PIPE OR STEEL PIPE CASING AS SPECIFIED IN SECTION 33 1116 AT SEWER CROSSING WHERE WATER MAIN CROSSES BELOW SEWER. EACH CROSSING INCLUDES APPROXIMATELY 21 FEET OF DUCTILE IRON OR STEEL CASING PIPE, SPACERS, END SEALS, EXCAVATION, AND BACKFILL.
51	WATER VALVES 12"	EACH	0	INCLUDES MATERIAL AND INSTALLATION OF VALVE AS SPECIFIED IN SECTION 33 1116. GATE VALVES SHALL BE IN ACCORDANCE WITH AWWA C509. JOINTS SHALL BE MECHANICAL JOINT WITH MEGA LUGS.
52	WATER VALVES 8"	EACH	13	INCLUDES MATERIAL AND INSTALLATION OF VALVE AS SPECIFIED IN SECTION 33 1116. GATE VALVES SHALL BE IN ACCORDANCE WITH AWWA C509. JOINTS SHALL BE MECHANICAL JOINT WITH MEGA LUGS.
53	FIRE HYDRANT WITH AUXILIARY VALVE AND VALVE BOX	EACH	7	INCLUDES INSTALLATION OF COMPLETE FIRE HYDRANT ASSEMBLY AS SPECIFIED IN SECTION 33 1116 AND AS SHOWN IN PLAN DETAIL FOR STANDARD FIRE HYDRANT INSTALLATION. HYDRANT ASSEMBLY SHALL BE FULLY RESTRAINED AND SHALL CONTAIN AUXILIARY VALVE, VALVE BOX, 8" X 6" TEE, FITTINGS, SPOOLS, RETAINER GLANDS, AND OTHER MATERIALS AS SHOWN ON SHEET S.01. INCLUDES EXCAVATION AND BACKFILL.
54	VALVE VAULTS, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	13	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER RELATED COSTS TO INSTALL VALVE VAULT AS SPECIFIED IN SECTION 33 0513. INCLUDES CONCRETE, PIPING, FRAME, COVER, MANHOLE STEPS, FLEXIBLE PIPE CONNECTORS, AND OTHER RELATED MATERIALS. VAULT LID SHALL BE AT FINISHED GRADE. CONCRETE SUPPORT IN VAULT SHALL MAINTAIN 8" SEPARATION BETWEEN BOTTOM OF PIPE AND VAULT. STEPS SHALL BE 16" CENTER TO CENTER. PRECAST RINGS SHALL BE 8" MAX. CONCENTRIC CONE REQUIRED.
55	VALVE VAULTS, TYPE A, 5'-DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	0	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER RELATED COSTS TO INSTALL VALVE VAULT AS SPECIFIED IN SECTION 33 0513. INCLUDES CONCRETE, PIPING, FRAME, COVER, MANHOLE STEPS, FLEXIBLE PIPE CONNECTORS, AND OTHER RELATED MATERIALS. VAULT LID SHALL BE AT FINISHED GRADE. CONCRETE SUPPORT IN VAULT SHALL MAINTAIN 8" SEPARATION BETWEEN BOTTOM OF PIPE AND VAULT. STEPS SHALL BE 16" CENTER TO CENTER. PRECAST RINGS SHALL BE 8" MAX. CONCENTRIC CONE REQUIRED.
56	CONNECTION TO EXISTING 6" WATER MAIN (NON-PRESSURE)	EACH	1	INCLUDES COORDINATION, LABOR, EQUIPMENT, AND ALL OTHER COSTS RELATED FOR THE SHUTDOWN, TIE-IN, CUTTING, AND CAPPING OF EXISTING WATER MAIN AS SPECIFIED IN SECTION 33 1116. ALSO INCLUDES A CONCRETE THRUST BLOCK BETWEEN CONNECTION POINT FITTING AND EXISTING PIPE. INCLUDES ALL PIPING CONNECTION ELEMENTS SHOWN IN PLANS.
57	TAPPING VALVE AND SLEEVE, 8", 4' DIA WITH T1F CL (IL RTE 23 CONNECTION)	EACH	1	INCLUDES COORDINATION, LABOR, EQUIPMENT, AND ALL OTHER COSTS RELATED FOR THE CONNECTION OF EXISTING WATER MAIN AS SPECIFIED IN SECTION 33 1116. EXISTING WATER MAIN IS TO REMAIN IN SERVICE DURING INSTALLATION. INCLUDES ALL PIPING CONNECTION ELEMENTS SHOWN IN PLANS.
58	WATER SERVICE CONNECTION (SHORT)	EACH	23	INCLUDES TRENCH INSTALLATION OF COPPER SERVICE LINE AS SPECIFIED IN SECTION 33 1116. PAYMENT WILL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO INSTALL THE 1" SERVICE LINE USING OPEN TRENCH INSTALLATION METHODS. INCLUDES INSTALLATION OF TAPPING SADDLE, CORPORATION VALVE, CURB STOP, AND STOP BOX PER SPECIFICATION SECTION 33 1116 PLUS ALL MISCELLANEOUS FITTINGS REQUIRED TO CONNECT PROPOSED 1" SERVICE LINE TO THE EXISTING SERVICE LINE DOWNSTREAM OF THE NEW CURB STOP. REMOVAL OF THE EXISTING CURB VALVE BOX FOR EACH RESPECTIVE SERVICE LINE CONNECTION SHALL BE INCIDENTAL TO THIS ITEM. THE LOCATION OF THE PROPOSED CURB STOP SHALL BE COORDINATED WITH THE OWNER. SERVICE RESTORATION FOR EACH RESPECTIVE SERVICE LINE CONNECTION SHALL BE INCIDENTAL TO THIS ITEM INCLUDING STAGING AREA AND POINT OF CONNECTION.
59	WATER SERVICE CONNECTION (LONG)	EACH	8	INCLUDES TRENCHLESS INSTALLATION OF COPPER SERVICE LINE INSIDE CASING TO COMPLY WITH IEPA SEWER CROSSING CRITERIA AND AS SPECIFIED IN SECTION 33 1116. PAYMENT WILL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO INSTALL THE 1" SERVICE LINE AND CASING USING TRENCHLESS INSTALLATION METHODS. CASING PIPE SHALL BE MINIMUM 2" DIAMETER HDPE OR PVC PIPE. INCLUDES INSTALLATION OF TAPPING SADDLE, CORPORATION VALVE, CURB STOP, AND STOP BOX PER SPECIFICATION SECTION 33 1116 PLUS ALL MISCELLANEOUS FITTINGS REQUIRED TO CONNECT PROPOSED 1" SERVICE LINE TO THE EXISTING SERVICE LINE DOWNSTREAM OF THE NEW CURB STOP. REMOVAL OF THE EXISTING CURB VALVE BOX FOR EACH RESPECTIVE SERVICE LINE CONNECTION SHALL BE INCIDENTAL TO THIS ITEM. THE LOCATION OF THE PROPOSED CURB STOP SHALL BE COORDINATED WITH THE OWNER. SERVICE RESTORATION FOR EACH RESPECTIVE SERVICE LINE CONNECTION SHALL BE INCIDENTAL TO THIS ITEM INCLUDING STAGING AREA AND POINT OF CONNECTION.
60	SANITARY SERVICE CONNECTION REPAIR	EACH	31	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER RELATED COSTS TO REPAIR SANITARY SEWER CONNECTIONS DAMAGED DURING WATER MAIN INSTALLATION AS SPECIFIED IN SECTION 33 1116. INCLUDES ONE CONTINUOUS PIECE OF PVC PIPE WITH ONE FERNCO COUPLING AT EACH END (TWO PER CONNECTION). REPAIRS SHALL BE MADE WHERE SANITARY CONNECTION CROSSES OVER NEW WATER MAIN, AS SHOWN IN THE PLANS AND TYPICAL WATER MAIN AND SANITARY SEWER SERVICE CROSSING DETAIL ON SHEET S.07.
61	CUT AND CAP EXISTING 4" WATER MAIN	EACH	5	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER RELATED COSTS TO CUT AND CAP EXISTING WATER MAIN AT LOCATIONS SHOWN ON DRAWINGS AND AS SPECIFIED IN SECTION 33 1116. THIS WORK INCLUDES LOCATING EXISTING WATER MAIN, EXCAVATION, REMOVAL, AND DISPOSAL OF EXCAVATED MATERIAL, SHEETING AS REQUIRED, TEMPORARY FENCING OF THE WORK SITE AS REQUIRED, AND BACKFILLING OF THE EXCAVATION TO EXISTING SUBGRADE. CAPS, THRUST BLOCKS, AND PIPE REMOVAL SHALL BE INCLUDED IN COST.
62	CUT AND CAP EXISTING 6" WATER MAIN	EACH	1	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER RELATED COSTS TO CUT AND CAP EXISTING WATER MAIN AT LOCATIONS SHOWN ON DRAWINGS AND AS SPECIFIED IN SECTION 33 1116. THIS WORK INCLUDES LOCATING EXISTING WATER MAIN, EXCAVATION, REMOVAL, AND DISPOSAL OF EXCAVATED MATERIAL, SHEETING AS REQUIRED, TEMPORARY FENCING OF THE WORK SITE AS REQUIRED, AND BACKFILLING OF THE EXCAVATION TO EXISTING SUBGRADE. CAPS, THRUST BLOCKS, AND PIPE REMOVAL SHALL BE INCLUDED IN COST.
63	CUT AND CAP EXISTING 8" WATER MAIN	EACH	5	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER RELATED COSTS TO CUT AND CAP EXISTING WATER MAIN AT LOCATIONS SHOWN ON DRAWINGS AND AS SPECIFIED IN SECTION 33 1116. THIS WORK INCLUDES LOCATING EXISTING WATER MAIN, EXCAVATION, REMOVAL, AND DISPOSAL OF EXCAVATED MATERIAL, SHEETING AS REQUIRED, TEMPORARY FENCING OF THE WORK SITE AS REQUIRED, AND BACKFILLING OF THE EXCAVATION TO EXISTING SUBGRADE. CAPS, THRUST BLOCKS, AND PIPE REMOVAL SHALL BE INCLUDED IN COST.
64	ABANDON EXISTING WATER MAIN, FILL WITH CSLM	FOOT	1504	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER RELATED COSTS TO ABANDON AND FILL EXISTING WATER MAIN WITH CSLM AND ABANDON AND FILL VALVE VAULTS AS SPECIFIED IN SECTION 02 4100. CAPS, PLUGS, AND MATERIAL TO FILL VAULTS SHALL BE INCLUDED IN COST. PIPE SHALL BE COMPLETELY FILLED WITH CSLM. THIS ITEM ALSO INCLUDES REMOVAL OF EXISTING VALVE BOXES.
65	CONSTRUCTION LAYOUT	LSUM	1	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER RELATED COSTS FOR DESIGN AND EXECUTION OF CONSTRUCTION LAYOUT.
66	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	LSUM	1	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER RELATED COSTS FOR TRAFFIC CONTROL, INCLUDING BUT NOT LIMITED TO BARRICADES, LIGHTING, SIGNAGE, ETC. PAYMENT WILL BE MADE BASED ON ESTIMATED PERCENTAGE OF PROJECT COMPLETION AND SHALL COMPLY WITH TRAFFIC CONTROL PLANS.
67	MISC TRAFFIC CONTROL AND STREET SIGN REMOVAL AND REPLACEMENT	LSUM	1	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER RELATED COSTS FOR MICELLANEOUS TRAFFIC CONTROL AND STREET SIGN REMOVAL AND REPLACEMENT.

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1	05/22/18	EW	PER CITY AND IDOT



MARENGO 2018 WATER MAIN REPLACEMENT  
MARENGO, ILLINOIS  
2018

**GENERAL**  
ESTIMATE OF QUANTITIES

SHEET NO.  
C.02

NO.	ALT BID ITEM	UNIT	QTY	DESCRIPTION
1	MOBILIZATION	LS	1	INCLUDES MOBILIZATION AS DESCRIBED IN THE SPECIFICATIONS.
2	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS	CU YD	500	INCLUDES ALL LABOR AND EQUIPMENT COSTS FOR REMOVAL OF MATERIAL AND DISPOSAL IN ACCORANCE WITH IEPA GUIDELINES AND REGULATIONS AND SPECIFICATION SECTION 31 1000. INCLUDES REMOVAL AND DISPOSAL TO WASTEWATER TREATMENT PLANT SITE.
3	TREE PROTECTION	EACH	13	INCLUDES ALL LABOR AND EQUIPMENT COSTS FOR TEMPORARY FENCING, TREE TRUNK PROTECTION, PRUNING FOR SAFETY AND EQUIPMENT CLEARANCE, AND ANY OTHER WORK REQUIRED AS PART OF TREE PROTECTION.
4	TREE ROOT PRUNING	EACH	13	INCLUDES ALL LABOR AND EQUIPMENT COSTS FOR ROOT PRUNING AS NECESSARY IN LOCATIONS OF PROPOSED SIDEWALK REMOVAL AND REPLACEMENT, WATER MAIN INSTALLATION, AND OTHER WORK AS SPECIFIED IN SECTION 31 1000. WORK SHALL INCLUDE EXCAVATION, PRUNING, AND REMOVAL AND DISPOSAL TO SITE PROVIDED BY OWNER.
5	TREE REMOVAL	EACH	2	INCLUDES ALL LABOR AND EQUIPMENT COSTS FOR TREE REMOVAL AS NECESSARY. WORK SHALL INCLUDE REMOVAL, DISPOSAL AND RESTORATION.
6	TREES TO BE PLANTED	EACH	0	INCLUDES ALL LABOR AND EQUIPMENT COSTS FOR FURNISHING, TRANSPORTING, AND PLANTING TREES.
7	TREE STUMP REMOVAL	EACH	0	INCLUDES ALL LABOR AND EQUIPMENT COSTS FOR TREE STUMP REMOVAL AS NECESSARY. WORK SHALL INCLUDE REMOVAL, EXCAVATION TO 18", DISPOSAL AND RESTORATION.
8	SHRUB REMOVAL	EACH	0	INCLUDES ALL LABOR AND EQUIPMENT COSTS FOR REMOVAL AND DISPOSAL OF ALL SHRUBS WITHIN THE AREA OF CONSTRUCTION.
9	TRENCH BACKFILL	CU YD	0	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER RELATES COSTS TO FURNISH, PLACE, AND COMPACT TRENCH BACKFILL AS SPECIFIED IN SECTION 31 2316.3 AND SECTION 31 2323. SEE SECTION DETAILS FOR TRENCH BACKFILL DEPTHS. USE TRENCH BOX TO INSTALL ALL WATER MAIN TO REDUCE SURFACE RESTORATION. TRENCH BACKFILL UNDER PAVEMENT, CURB AND GUTTER AS INDICATED IN ROAD SUBGRADES AND WITHIN TWO FEET OF ANY PROPOSED CURB, GUTTER, OR SIDEWALK. USE COMPACTED GRANULAR MATERIAL CA6 TO 4" ABOVE TOP OF PIPE AND 12" BELOW PIPE AS BEDDING IN ALL AREAS. IN GRASSED AREAS, FILL TRENCH FROM BACKFILL TO GRADE WITH NATIVE SOIL IN 9-12" LIFTS AND COMPACT USING VIBRATORY PLATE COMPACTOR 1' ABOVE TOP OF PIPE. SEE DRIVEWAY RESTORATION DETAIL FOR BACKFILL UNDER DRIVEWAYS.
10	DEWATERING	LS	1	INCLUDES ALL LABOR, EQUIPMENT, SUPPLIES, AND OTHER COSTS RELATED TO DEWATERING SOIL AT LEAST TWO (2) FEET BELOW BOTTOM OF TRENCH UNDER NEW WATER MAIN AS SPECIFIED IN SECTION 31 2319. INCLUDES PROPER DISPOSAL OF WATER REMOVED.
11	PERIMETER EROSION BARRIER	FOOT	100	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER COSTS RELATED TO INSTALLATION, MAINTENANCE, AND REMOVAL OF PERIMETER EROSION BARRIER AS SPECIFIED IN SECTION 31 2500 AND EROSION CONTROL NOTES IN PLANS, SWPP, AND TEMPORARY SILTATION FENCE DETAIL. WORK SHALL INCLUDE PLACEMENT AND MAINTENANCE OF BARRIER ON DOWNSLOPE END OF PROJECT SITE AS SHOWN ON THE DRAWINGS.
12	EROSION CONTROL BLANKET	SQ YD	100	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER COSTS RELATED TO INSTALLATION, MAINTENANCE, AND REMOVAL OF EXCESIOR EROSION CONTROL BLANKET AS SPECIFIED IN SECTION 31 2500 AND EROSION CONTROL NOTES IN PLANS AND SWPP. WORK SHALL INCLUDE PLACEMENT, MAINTENANCE, AND REMOVAL OF EXCELSIOR EROSION CONTROL BLANKET IN AREAS SPECIFIED ON PLANS.
13	SEEDING	ACRE	0.1	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER COSTS RELATED TO APPLYING AND MAINTAINING NEW SEEDING IN SELETED AREAS AS SHOWN ON THE DRAWINGS AND AS SPECIFIED IN SECTION 32 9219. INCLUDES NITROGEN, PHOSPHOROUS, AND POTASSIUM FERTILIZER NUTRIENTS AND SUPPLEMENTAL WATERING, LABOR FOR APPLYING SEED, FERTILIZER NUTRIENTS, WATER, AND TOPSOIL, AND EQUIPMENT FOR APPLING ALL MATERIALS. USE SALT TOLERANT LAWN MIXTURE (CLASS 1A) AND FERTILIZER RATE PER IDOT SECTION 250.
14	FURNISH AND PLACE TOPSOIL, 8"	SQ YD	484	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER COSTS RELATED TO THE INSTALLATION OF TOPSOIL AS SHOWN ON THE DRAWINGS AND AS SPECIFIED IN SECTION 32 9219. INCLUDES TOPSOIL AND EQUIPMENT FOR APPLYING.
15	INLET FILTERS	EACH	20	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER COSTS RELATED TO REMOVAL AND REINSTALLATION OF INLET FILTERS AS SPECIFIED IN SECTION 31 2500 AND EROSION CONTROL NOTES IN PLANS AND SWPP. INCLUDES PLACEMENT, MAINTENANCE, REMOVAL, AND DISPOSAL OF PROECTION SURROUNDING STORM SEWER STRUCTURES, INLET BASKETS FOR DRAINAGE STRUCTURES OF PROPER SIZE AND TYPE, AND ANY EROSION CONTROL NECESSARY AT LOCATIONS SPECIFIED ON PLANS.
16	PCC SIDEWALK REMOVAL AND REPLACEMENT	SQ FT	394	INCLUDES ALL LABOR, MATERIAL, EQUIPMENT, SUPPLIES, AND OTHER COSTS RELATED TO THE REMOVAL AND INSTALLATION OF SIDEWALK AS SPECIFIED IN SECTION 02 4100 AND SECTION 32 1313. INCLUDES SUB-GRADE PREPARATION, REMOVAL AND PROPER DISPOSAL OF EXISTING SIDEWALK IN ACCORDANCE WITH IEPA REGULATIONS, AND INSTALLATION OF NEW SIDEWALK ACCORDING TO DRAWINGS AT ORIGINAL LINE AND GRADE. CONTRACTOR SHALL USE HIGH EARLY STRENGTH CONCRETE FOR SIDEWALK REPLACEMENT AT DRIVEWAYS AT NO ADDITIONAL COST.
17	CLASS D PATCH TYPE IV, 4 INCH	SQ YD	0	INCLUDES ALL LABOR, MATERIAL, EQUIPMENT, AND OTHER COSTS RELATED TO THE INSTALLATION OF CLASS D PATCHING AS SPECIFIED IN SECTION 32 1216. CONTRACTOR SHALL USE CLASS D TYPE IV PATCHING ITEM AS SHOWN ON THE PLANS.
18	CLASS B CONCRETE PATCH	SQ YD	241	INCLUDES ALL LABOR, MATERIAL, EQUIPMENT, AND OTHER COSTS RELATED TO THE INSTALLATION OF CONCRETE TO PATCH STATE STREET AT STATIONING 21+50 AS SPECIFIED IN SECTION 32 1313. CONTRACTOR SHALL USE HIGH EARLY STRENGTH CONCRETE AT NO ADDITIONAL COST.
19	AGGREGATE BASE COURSE REMOVAL AND REPLACEMENT, 8 INCH	SQ YD	241	INCLUDES ALL LABOR, MATERIAL, EQUIPMENT, AND OTHER COSTS RELATED TO THE REMOVAL OF EXISTING BASE COURSE AND REPLACEMENT AS SPECIFIED IN SECTION 32 1123 TO A DEPTH OF 8 INCHES.
20	HMA DRIVEWAY PAVEMENT REMOVAL AND REPLACEMENT, 3 INCH	SQ FT	145	INCLUDES ALL LABOR, MATERIAL, EQUIPMENT, AND OTHER COSTS RELATED TO THE INSTALLATION OF HMA DRIVEWAY PAVEMENT AS SPECIFIED IN SECTION 32 1216. PREPARED SUBGRADE SHALL BE PAID FOR SEPARATELY. DRIVEWAY SURFACE SHALL PRODUCE TIGHT SURFACE CONFORMING TO GRADE OF ADJACENT AREA.
21	PCC DRIVEWAY PAVEMENT REMOVAL AND REPLACEMENT, 5 INCH	SQ FT	46	INCLUDES ALL LABOR, MATERIAL, EQUIPMENT, AND OTHER COSTS RELATED TO THE INSTALLATION OF PCC DRIVEWAY PAVEMENT AS SPECIFIED IN SECTION 32 1313. WHERE A VALVE BOX OR SERVICE VALVE EXISTS IN THE LIMITS OF THE DRIVEWAY PAVEMENT, CONTRACTOR SHALL SURROUND THE BOX WITH PLASTIC PIPE EXTENDING THE FULL DEPTH OF THE PAVEMENT. INCLUDES DRIVEWAY FINISH WITH BROOM DRAWN ACROSS DRIVEWAY AT RIGHT ANGLES WITH ADJACENT STROKES SLIGHTLY OVERLAPPING AFTER WATER SHEEN HAS DISAPPEARED.
22	AGGREGATE DRIVEWAY REMOVAL AND REPLACEMENT	SQ FT	59	AGGREGATE MATCHING EXISTING DRIVEWAY GRADATION. INCLUDES ALL LABOR, MATERIAL, EQUIPMENT, AND OTHER COSTS RELATED TO THE REMOVAL OF EXISTING AGGREGATE DRIVEWAY AND REPLACEMENT AS SPECIFIED IN SECTION 32 1123.
23	LIMESTONE DRIVEWAY REMOVAL AND REPLACEMENT	SQ FT	0	LIMESTONE AGGREGATE MATCHING EXISTING DRIVEWAY GRADATION
24	SITE AND LANDSCAPING RESTORATION	LS	1	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES AND OTHER RELATED COSTS TO REMOVE, RESET, AND/OR REPLACE ALL SMALL LANDSCAPING, SMALL TREES, LARGE ROCKS, RETAINING WALLS, MAILBOXES, STREET SIGNS, FENCES, AND OTHER ITEMS NOT CONTAINED WITHIN SEPARATE BID ITEMS THAT ARE DISTURBED DURING THE PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ALL ITEMS DAMAGED DURING CONSTRUCTION ACTIVITIES IN LIKE KIND AT NO ADDITIONAL COST TO OWNER. PAYMENT WILL BE MADE AS LUMP SUM.
25	REMOVE AND REPLACE CURB	FOOT	290	INCLUDES ALL LABOR, EQUIPMENT, AND OTHER RELATED COSTS TO REMOVE AND REPLACE CURB AS SPECIFIED IN SECTION 02 4100 AND SECTION 32 1313. INCLUDES SAW CUTTING ALONG BOTH ENDS OF CURB FOR CLEAN, STRAIGHT EDGE FOR REMOVAL. ANY DAMAGE TO EXISTING CURB SHALL BE REPAIRED BY CONTRACTOR AT NO COST TO OWNER. SAWING, REMOVAL, AND DISPOSAL SHALL BE INCLUDED IN COST.
26	PARKING LOT CURB AND GUTTER REMOVAL AND REPLACEMENT	FOOT	0	INCLUDES ALL LABOR, EQUIPMENT, AND OTHER RELATED COSTS TO REMOVE AND REPLACE CURB AS SPECIFIED IN SECTION 02 4100 AND SECTION 32 1313. INCLUDES SAW CUTTING ALONG BOTH ENDS OF CURB FOR CLEAN, STRAIGHT EDGE FOR REMOVAL. ANY DAMAGE TO EXISTING CURB SHALL BE REPAIRED BY CONTRACTOR AT NO COST TO OWNER. SAWING, REMOVAL, AND DISPOSAL SHALL BE INCLUDED IN COST.
27	PIPE CULVERT REMOVAL & REPLACEMENT, 30 INCH CMP	FOOT	0	INCLUDES ALL LABOR, MATERIAL, EQUIPMENT, AND OTHER COSTS RELATED TO THE REMOVAL, DISPOSAL AND INSTALLATION OF NEW PIPE CULVERT. NEW CULVERT SHALL MATCH EXISTING SIZE AND TYPE. INCLUDES EXCAVATION AND BACKFILL AROUND PIPE AND ANY REGRADING NECESSARY DUE TO CONSTRUCTION ACTIVITIES.
28	FIRE HYDRANTS TO BE REMOVED	EACH	3	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER RELATED COSTS TO REMOVE THE EXISTING HYDRANT AND HYDRANT VALVE BOX AT THE LOCATIONS INDICATED IN THE DRAWINGS AND AS SPECIFIED IN SECTION 02 4100. AUXILIARY VALVE SHALL BE CLOSED AND VALVE BOX CUT, HYDRANT BARREL REMOVED, AND STEM FILLED WITH SAND.
29	DUCTILE IRON WATER MAIN TEE, 8" X 8"	EACH	5	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
30	DUCTILE IRON WATER MAIN TEE, 8" X 4"	EACH	1	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
31	DUCTILE IRON WATER MAIN CROSS, 8" X 8"	EACH	4	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
32	DUCTILE IRON WATER MAIN SLEEVE, 8"	EACH	1	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
33	DUCTILE IRON WATER MAIN SLEEVE, 4"	EACH	3	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
34	DUCTILE IRON WATER MAIN PLUG, 8"	EACH	5	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
35	DUCTILE IRON WATER MAIN PLUG, 6"	EACH	1	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
36	DUCTILE IRON WATER MAIN PLUG, 4"	EACH	5	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.

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MARENGO 2018 WATER MAIN REPLACEMENT  
MARENGO, ILLINOIS  
2018

**GENERAL**  
ALTERNATE BID ESTIMATE OF QUANTITIES

SHEET NO.  
C.03

NO.	ALT BID ITEM	UNIT	QTY	DESCRIPTION
37	DUCTILE IRON WATER MAIN REDUCER, 12" X 8"	EACH	0	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
38	DUCTILE IRON WATER MAIN REDUCER, 12" X 6"	EACH	1	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
39	DUCTILE IRON WATER MAIN REDUCER, 8" X 6"	EACH	0	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
40	DUCTILE IRON WATER MAIN REDUCER, 8" X 4"	EACH	2	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
41	DUCTILE IRON WATER MAIN 45 DEGREE ELBOW, 12"	EACH	0	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
42	DUCTILE IRON WATER MAIN 45 DEGREE ELBOW, 8"	EACH	14	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
43	DUCTILE IRON WATER MAIN 45 DEGREE ELBOW, 4"	EACH	0	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
44	DUCTILE IRON WATER MAIN 22.5 DEGREE ELBOW, 8"	EACH	0	INCLUDES MATERIAL AND INSTALLATION OF FITTING AS SPECIFIED IN SECTION 33 1116 FITTINGS SHALL BE DUCTILE IRON WITH POLYETHYLENE FILM OR PVC AS SELECTED BY OWNER.
45	C-900 PVC WATER MAIN, HDD, 12"	FOOT	0	INCLUDES MATERIAL AND INSTALLATION OF WATER MAIN MEASURED ALONG THE CENTERLINE OF PIPE AS SPECIFIED IN SECTION 33 1116.
46	C-900 PVC WATER MAIN 8"	FOOT	0	INCLUDES MATERIAL AND INSTALLATION OF WATER MAIN MEASURED ALONG THE CENTERLINE OF PIPE AS SPECIFIED IN SECTION 33 1116.
47	C-900 PVC WATER MAIN, HDD, 8"	FOOT	2113	INCLUDES MATERIAL AND INSTALLATION OF WATER MAIN MEASURED ALONG THE CENTERLINE OF PIPE AS SPECIFIED IN SECTION 33 1116.
48	C-900 PVC WATER MAIN 6"	FOOT	10	INCLUDES MATERIAL AND INSTALLATION OF WATER MAIN MEASURED ALONG THE CENTERLINE OF PIPE AS SPECIFIED IN SECTION 33 1116.
49	C-900 PVC WATER MAIN 4"	FOOT	23	INCLUDES MATERIAL AND INSTALLATION OF WATER MAIN MEASURED ALONG THE CENTERLINE OF PIPE AS SPECIFIED IN SECTION 33 1116.
50	WATER MAIN CASING 16"	FOOT	207	INCLUDES MATERIAL AND INSTALLATION OF DUCTILE IRON PIPE OR STEEL PIPE CASING AS SPECIFIED IN SECTION 33 1116 AT SEWER CROSSING WHERE WATER MAIN CROSSES BELOW SEWER. EACH CROSSING INCLUDES APPROXIMATELY 21 FEET OF DUCTILE IRON OR STEEL CASING PIPE, SPACERS, END SEALS, EXCAVATION, AND BACKFILL.
51	WATER VALVES 12"	EACH	0	INCLUDES MATERIAL AND INSTALLATION OF VALVE AS SPECIFIED IN SECTION 33 1116. GATE VALVES SHALL BE IN ACCORDANCE WITH AWWA C900. JOINTS SHALL BE MECHANICAL JOINT WITH MEGA LUGS.
52	WATER VALVES 8"	EACH	13	INCLUDES MATERIAL AND INSTALLATION OF VALVE AS SPECIFIED IN SECTION 33 1116. GATE VALVES SHALL BE IN ACCORDANCE WITH AWWA C900. JOINTS SHALL BE MECHANICAL JOINT WITH MEGA LUGS.
53	FIRE HYDRANT WITH AUXILIARY VALVE AND VALVE BOX	EACH	7	INCLUDES INSTALLATION OF COMPLETE FIRE HYDRANT ASSEMBLY AS SPECIFIED IN SECTION 33 1116 AND AS SHOWN IN PLAN DETAIL FOR STANDARD FIRE HYDRANT INSTALLATION. HYDRANT ASSEMBLY SHALL BE FULLY RESTRAINED AND SHALL CONTAIN AUXILIARY VALVE, VALVE BOX, 8" X 6" TEE, FITTINGS, SPOOLS, RETAINER GLANDS, AND OTHER MATERIALS AS SHOWN ON SHEET S.01. INCLUDES EXCAVATION AND BACKFILL.
54	VALVE VAULTS, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	13	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER RELATED COSTS TO INSTALL VALVE VAULT AS SPECIFIED IN SECTION 33 0513. INCLUDES CONCRETE, PIPING, FRAME, COVER, MANHOLE STEPS, FLEXIBLE PIPE CONNECTORS, AND OTHER RELATED MATERIALS. VAULT LID SHALL BE AT FINISHED GRADE. CONCRETE SUPPORT IN VAULT SHALL MAINTAIN 8" SEPARATION BETWEEN BOTTOM OF PIPE AND VAULT. STEPS SHALL BE 16" CENTER TO CENTER. PRECAST RINGS SHALL BE 8" MAX. CONCENTRIC CONE REQUIRED.
55	VALVE VAULTS, TYPE A, 5'-DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	0	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER RELATED COSTS TO INSTALL VALVE VAULT AS SPECIFIED IN SECTION 33 0513. INCLUDES CONCRETE, PIPING, FRAME, COVER, MANHOLE STEPS, FLEXIBLE PIPE CONNECTORS, AND OTHER RELATED MATERIALS. VAULT LID SHALL BE AT FINISHED GRADE. CONCRETE SUPPORT IN VAULT SHALL MAINTAIN 8" SEPARATION BETWEEN BOTTOM OF PIPE AND VAULT. STEPS SHALL BE 16" CENTER TO CENTER. PRECAST RINGS SHALL BE 8" MAX. CONCENTRIC CONE REQUIRED.
56	CONNECTION TO EXISTING 6" WATER MAIN (NONPRESSURE)	EACH	1	INCLUDES COORDINATION, LABOR, EQUIPMENT, AND ALL OTHER COSTS RELATED FOR THE SHUTDOWN, TIE-IN, CUTTING, AND CAPPING OF EXISTING WATER MAIN AS SPECIFIED IN SECTION 33 1116. ALSO INCLUDES A CONCRETE THRUST BLOCK BETWEEN CONNECTION POINT FITTING AND EXISTING PIPE. INCLUDES ALL PIPING CONNECTION ELEMENTS SHOWN IN PLANS.
57	TAPPING VALVE AND SLEEVE, 8", 4' DIA WITH T1F CL (IL RTE 23 CONNECTION)	EACH	1	INCLUDES COORDINATION, LABOR, EQUIPMENT, AND ALL OTHER COSTS RELATED FOR THE CONNECTION OF EXISTING WATER MAIN AS SPECIFIED IN SECTION 33 1116. EXISTING WATER MAIN IS TO REMAIN IN SERVICE DURING INSTALLATION. INCLUDES ALL PIPING CONNECTION ELEMENTS SHOWN IN PLANS.
58	WATER SERVICE CONNECTION (SHORT)	EACH	23	INCLUDES TRENCH INSTALLATION OF COPPER SERVICE LINE AS SPECIFIED IN SECTION 33 1116. PAYMENT WILL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO INSTALL THE 1" SERVICE LINE USING OPEN TRENCH INSTALLATION METHODS. INCLUDES INSTALLATION OF TAPPING SADDLE, CORPORATION VALVE, CURB STOP, AND STOP BOX PER SPECIFICATION SECTION 33 1116 PLUS ALL MISCELLANEOUS FITTINGS REQUIRED TO CONNECT PROPOSED 1" SERVICE LINE TO THE EXISTING SERVICE LINE DOWNSTREAM OF THE NEW CURB STOP. REMOVAL OF THE EXISTING CURB VALVE BOX FOR EACH RESPECTIVE SERVICE LINE CONNECTION SHALL BE INCIDENTAL TO THIS ITEM. THE LOCATION OF THE PROPOSED CURB STOP SHALL BE COORDINATED WITH THE OWNER. SERVICE RESTORATION FOR EACH RESPECTIVE SERVICE LINE CONNECTION SHALL BE INCIDENTAL TO THIS ITEM INCLUDING STAGING AREA AND POINT OF CONNECTION.
59	WATER SERVICE CONNECTION (LONG)	EACH	8	INCLUDES TRENCHLESS INSTALLATION OF COPPER SERVICE LINE INSIDE CASING TO COMPLY WITH IEPA SEWER CROSSING CRITERIA AND AS SPECIFIED IN SECTION 33 1116. PAYMENT WILL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO INSTALL THE 1" SERVICE LINE AND CASING USING TRENCHLESS INSTALLATION METHODS. CASING PIPE SHALL BE MINIMUM 2" DIAMETER HDPE OR PVC PIPE. INCLUDES INSTALLATION OF TAPPING SADDLE, CORPORATION VALVE, CURB STOP, AND STOP BOX PER SPECIFICATION SECTION 33 1116 PLUS ALL MISCELLANEOUS FITTINGS REQUIRED TO CONNECT PROPOSED 1" SERVICE LINE TO THE EXISTING SERVICE LINE DOWNSTREAM OF THE NEW CURB STOP. REMOVAL OF THE EXISTING CURB VALVE BOX FOR EACH RESPECTIVE SERVICE LINE CONNECTION SHALL BE INCIDENTAL TO THIS ITEM. THE LOCATION OF THE PROPOSED CURB STOP SHALL BE COORDINATED WITH THE OWNER. SERVICE RESTORATION FOR EACH RESPECTIVE SERVICE LINE CONNECTION SHALL BE INCIDENTAL TO THIS ITEM INCLUDING STAGING AREA AND POINT OF CONNECTION.
60	SANITARY SERVICE CONNECTION REPAIR	EACH	31	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER RELATED COSTS TO REPAIR SANITARY SEWER CONNECTIONS DAMAGED DURING WATER MAIN INSTALLATION AS SPECIFIED IN SECTION 33 1116. INCLUDES ONE CONTINUOUS PIECE OF PVC PIPE WITH ONE FERNCO COUPLING AT EACH END (TWO PER CONNECTION). REPAIRS SHALL BE MADE WHERE SANITARY CONNECTION CROSSES OVER NEW WATER MAIN, AS SHOWN IN THE PLANS AND TYPICAL WATER MAIN AND SANITARY SEWER SERVICE CROSSING DETAIL ON SHEET S.07.
61	CUT AND CAP EXISTING 4" WATER MAIN	EACH	5	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER RELATED COSTS TO CUT AND CAP EXISTING WATER MAIN AT LOCATIONS SHOWN ON DRAWINGS AND AS SPECIFIED IN SECTION 33 1116. THIS WORK INCLUDES LOCATING EXISTING WATER MAIN, EXCAVATION, REMOVAL, AND DISPOSAL OF EXCAVATED MATERIAL, SHEETING AS REQUIRED, TEMPORARY FENCING OF THE WORK SITE AS REQUIRED AND BACKFILLING OF THE EXCAVATION TO EXISTING SUBGRADE. CAPS, THRUST BLOCKS, AND PIPE REMOVAL SHALL BE INCLUDED IN COST.
62	CUT AND CAP EXISTING 6" WATER MAIN	EACH	1	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER RELATED COSTS TO CUT AND CAP EXISTING WATER MAIN AT LOCATIONS SHOWN ON DRAWINGS AND AS SPECIFIED IN SECTION 33 1116. THIS WORK INCLUDES LOCATING EXISTING WATER MAIN, EXCAVATION, REMOVAL, AND DISPOSAL OF EXCAVATED MATERIAL, SHEETING AS REQUIRED, TEMPORARY FENCING OF THE WORK SITE AS REQUIRED, AND BACKFILLING OF THE EXCAVATION TO EXISTING SUBGRADE. CAPS, THRUST BLOCKS, AND PIPE REMOVAL SHALL BE INCLUDED IN COST.
63	CUT AND CAP EXISTING 8" WATER MAIN	EACH	5	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER RELATED COSTS TO CUT AND CAP EXISTING WATER MAIN AT LOCATIONS SHOWN ON DRAWINGS AND AS SPECIFIED IN SECTION 33 1116. THIS WORK INCLUDES LOCATING EXISTING WATER MAIN, EXCAVATION, REMOVAL, AND DISPOSAL OF EXCAVATED MATERIAL, SHEETING AS REQUIRED, TEMPORARY FENCING OF THE WORK SITE AS REQUIRED, AND BACKFILLING OF THE EXCAVATION TO EXISTING SUBGRADE. CAPS, THRUST BLOCKS, AND PIPE REMOVAL SHALL BE INCLUDED IN COST.
64	ABANDON EXISTING WATER MAIN, FILL WITH CSLM	FOOT	1504	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER RELATED COSTS TO ABANDON AND FILL EXISTING WATER MAIN WITH CSLM AND ABANDON AND FILL VALVE VAULTS AS SPECIFIED IN SECTION 02 4100. CAPS, PLUGS, AND MATERIAL TO FILL VAULTS SHALL BE INCLUDED IN COST. PIPE SHALL BE COMPLETELY FILLED WITH CSLM. THIS ITEM ALSO INCLUDES REMOVAL OF EXISTING VALVE BOXES.
65	CONSTRUCTION LAYOUT	LSUM	1	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER RELATED COSTS FOR DESIGN AND EXECUTION OF CONSTRUCTION LAYOUT.
66	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	LSUM	1	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER RELATED COSTS FOR TRAFFIC CONTROL, INCLUDING BUT NOT LIMITED TO BARRICADES, LIGHTING, SIGNAGE, ETC. PAYMENT WILL BE MADE BASED ON ESTIMATED PERCENTAGE OF PROJECT COMPLETION AND SHALL COMPLY WITH TRAFFIC CONTROL PLANS.
67	MISC TRAFFIC CONTROL AND STREET SIGN REMOVAL AND REPLACEMENT	LSUM	1	INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, SUPPLIES, AND OTHER RELATED COSTS FOR MISCELLANEOUS TRAFFIC CONTROL AND STREET SIGN REMOVAL AND REPLACEMENT.

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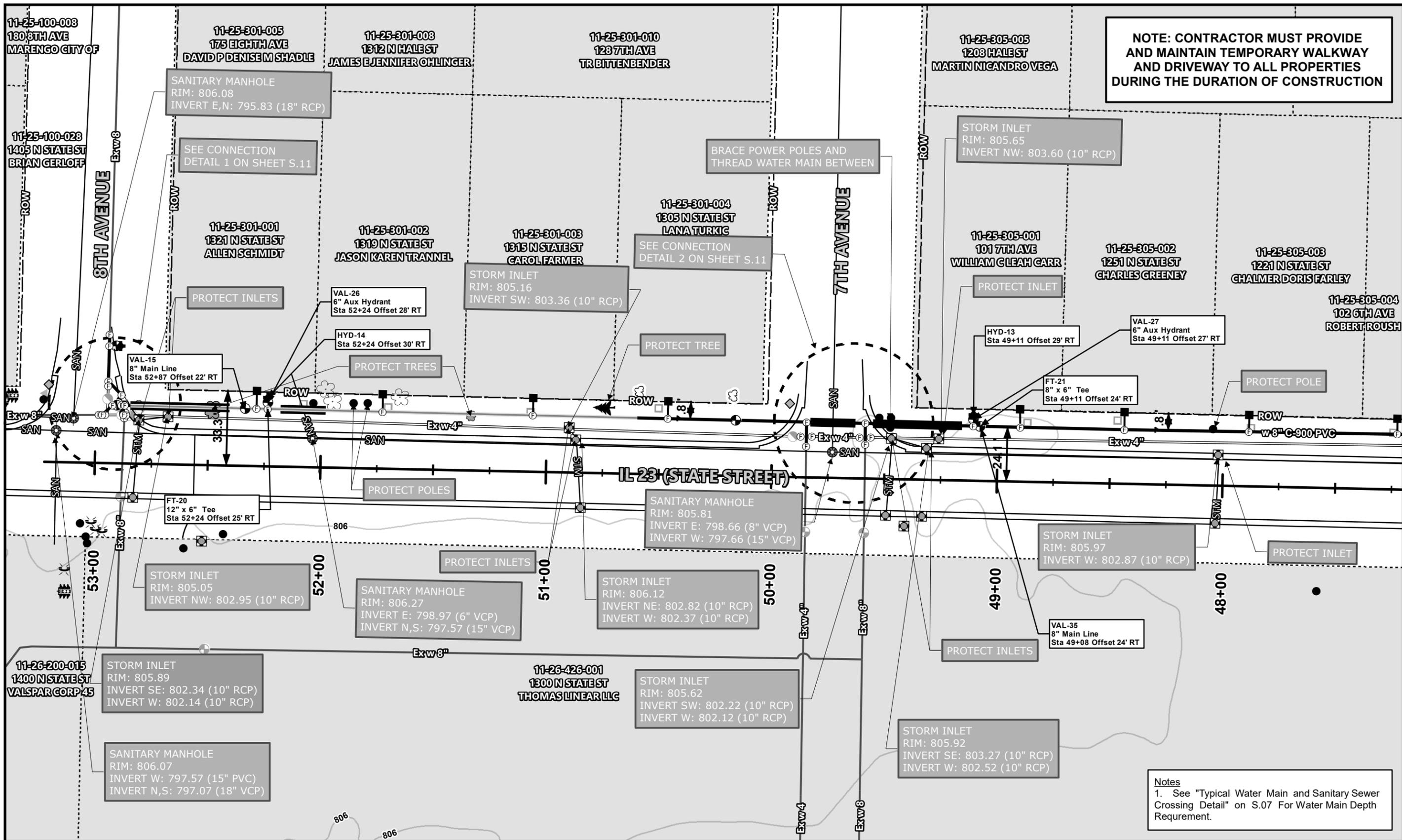
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MARENGO 2018 WATER MAIN REPLACEMENT  
MARENGO, ILLINOIS  
2018

**GENERAL**  
ALTERNATE BID ESTIMATE OF QUANTITIES

SHEET NO.  
C.04



**NOTE: CONTRACTOR MUST PROVIDE AND MAINTAIN TEMPORARY WALKWAY AND DRIVEWAY TO ALL PROPERTIES DURING THE DURATION OF CONSTRUCTION**

See Sheet D.010

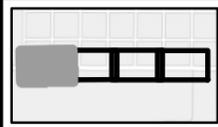
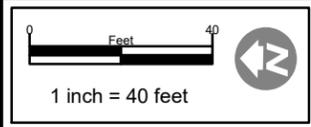
**Notes**  
 1. See "Typical Water Main and Sanitary Sewer Crossing Detail" on S.07 For Water Main Depth Requirement.

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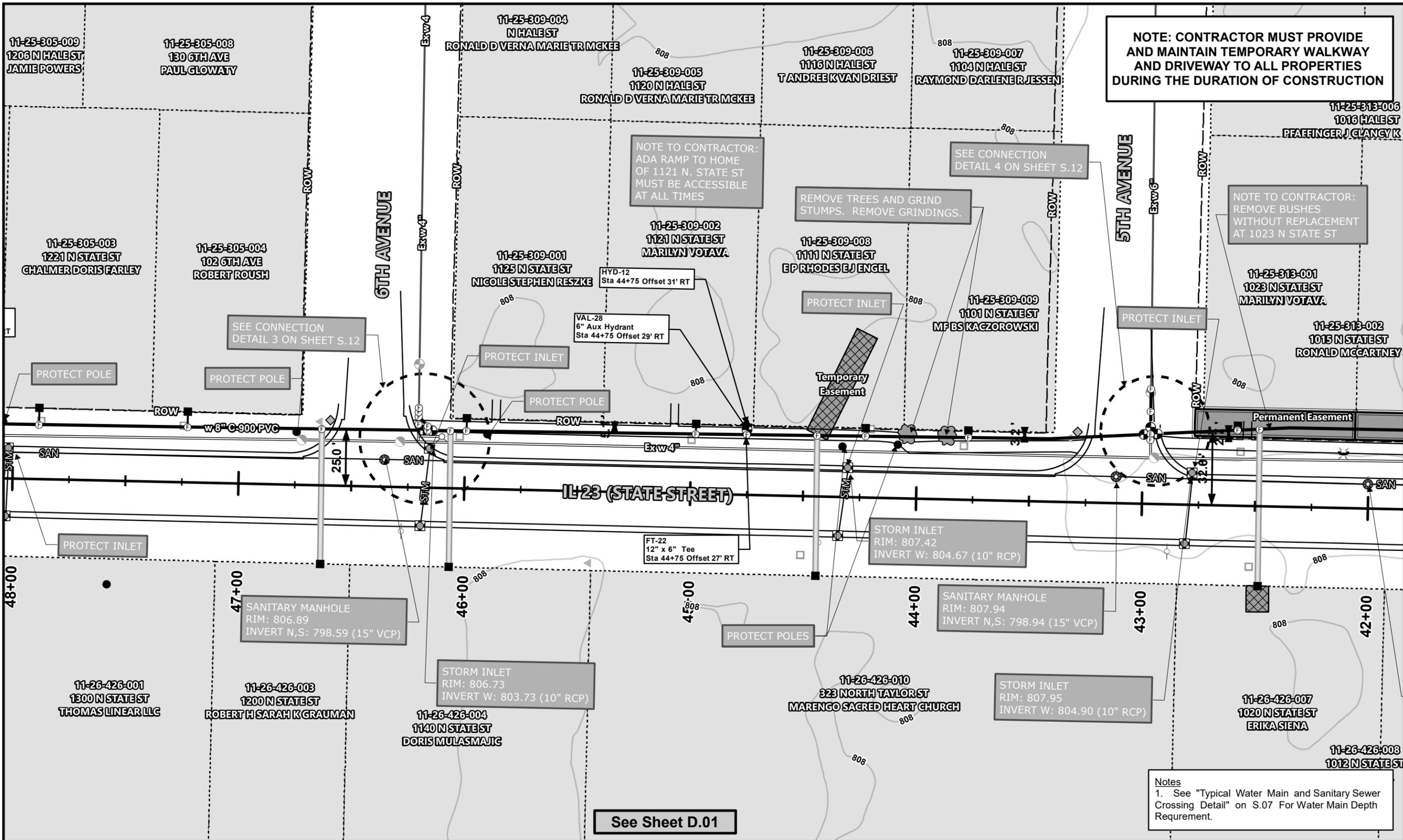
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MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
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SHEET NO.  
 D.01



**NOTE: CONTRACTOR MUST PROVIDE AND MAINTAIN TEMPORARY WALKWAY AND DRIVEWAY TO ALL PROPERTIES DURING THE DURATION OF CONSTRUCTION**

NOTE TO CONTRACTOR:  
ADA RAMP TO HOME  
OF 1121 N. STATE ST  
MUST BE ACCESSIBLE  
AT ALL TIMES

SEE CONNECTION  
DETAIL 4 ON SHEET S.12

REMOVE TREES AND GRIND  
STUMPS. REMOVE GRINDINGS.

NOTE TO CONTRACTOR:  
REMOVE BUSHES  
WITHOUT REPLACEMENT  
AT 1023 N STATE ST

SEE CONNECTION  
DETAIL 3 ON SHEET S.12

Permanent Easement

STORM INLET  
RIM: 807.42  
INVERT W: 804.67 (10" RCP)

SANITARY MANHOLE  
RIM: 806.89  
INVERT N,S: 798.59 (15" VCP)

SANITARY MANHOLE  
RIM: 807.94  
INVERT N,S: 798.94 (15" VCP)

STORM INLET  
RIM: 806.73  
INVERT W: 803.73 (10" RCP)

STORM INLET  
RIM: 807.95  
INVERT W: 804.90 (10" RCP)

Notes  
1. See "Typical Water Main and Sanitary Sewer Crossing Detail" on S.07 For Water Main Depth Requirement.

See Sheet D.01

See Sheet D.09

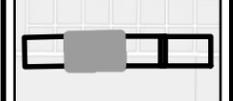
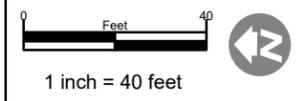
See Sheet D.011

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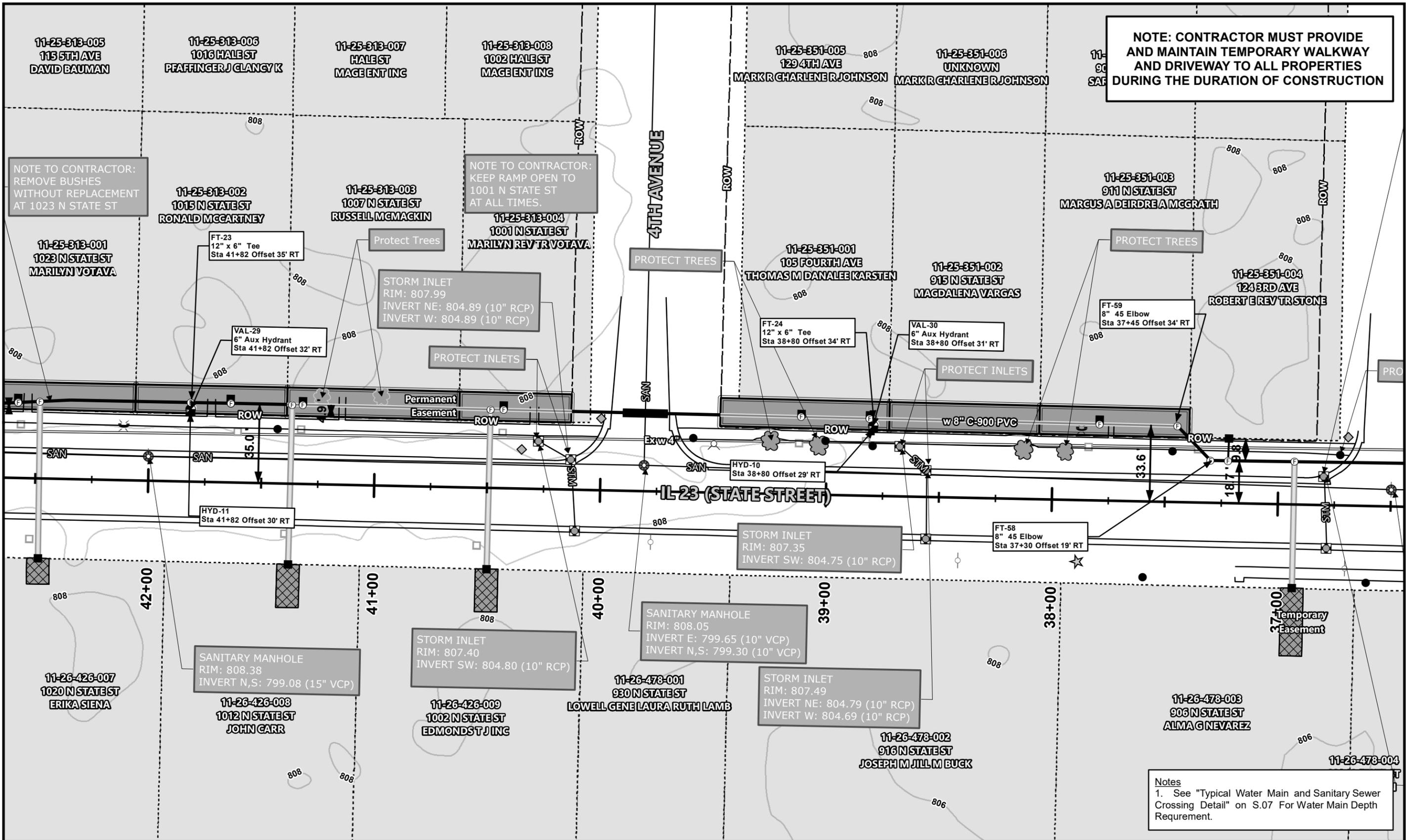
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MARENGO 2018 WATER MAIN REPLACEMENT  
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SHEET NO.  
D.02



**NOTE: CONTRACTOR MUST PROVIDE AND MAINTAIN TEMPORARY WALKWAY AND DRIVEWAY TO ALL PROPERTIES DURING THE DURATION OF CONSTRUCTION**

NOTE TO CONTRACTOR:  
REMOVE BUSHES  
WITHOUT REPLACEMENT  
AT 1023 N STATE ST

NOTE TO CONTRACTOR:  
KEEP RAMP OPEN TO  
1001 N STATE ST  
AT ALL TIMES.

Notes  
1. See "Typical Water Main and Sanitary Sewer Crossing Detail" on S.07 For Water Main Depth Requirement.

See Sheet D.010

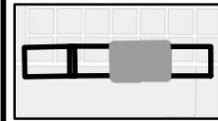
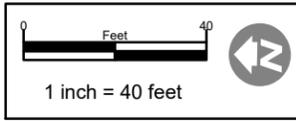
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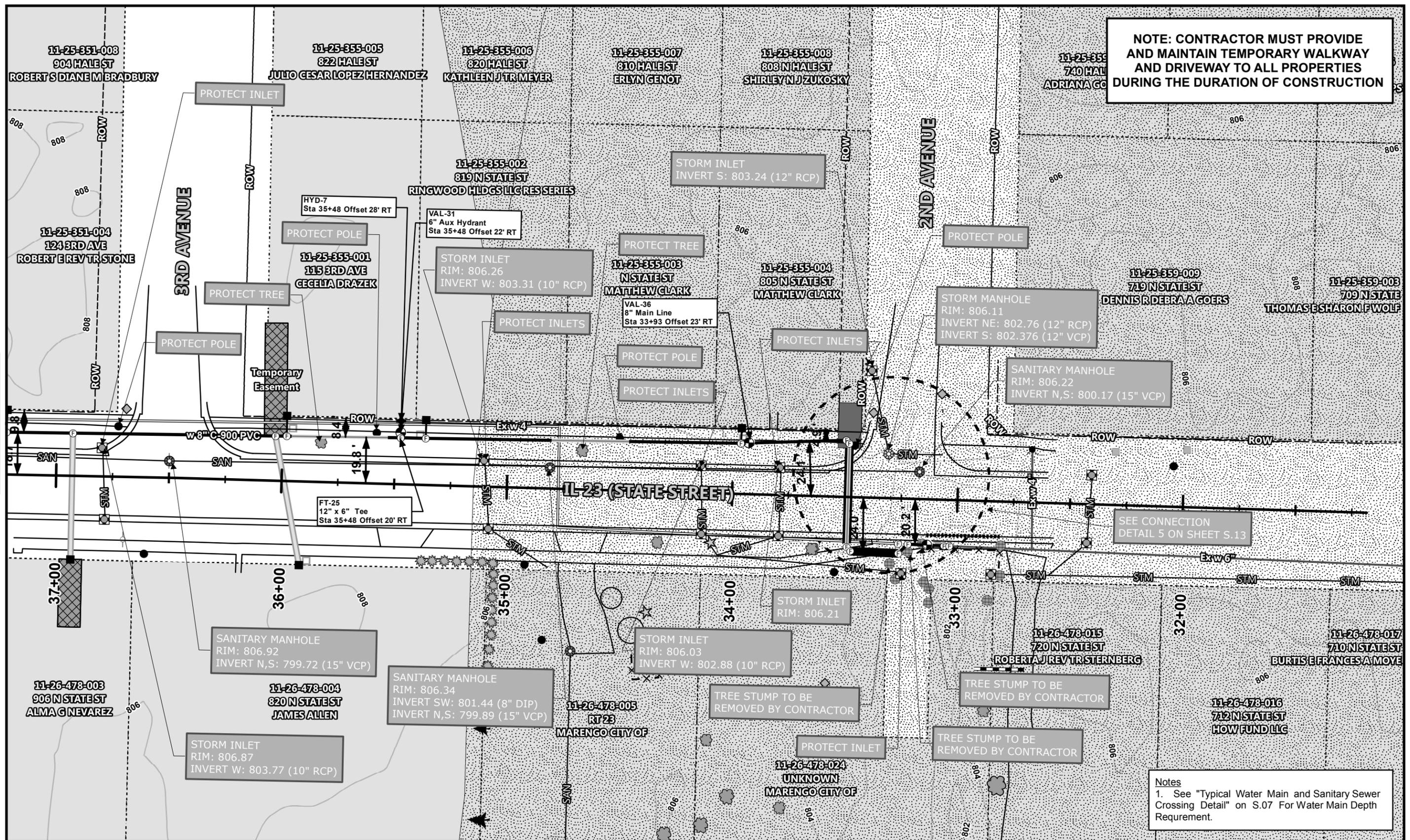
MARENGO 2018 WATER MAIN REPLACEMENT  
MARENGO, ILLINOIS  
2018



SHEET NO.  
D.03

**NOTE: CONTRACTOR MUST PROVIDE AND MAINTAIN TEMPORARY WALKWAY AND DRIVEWAY TO ALL PROPERTIES DURING THE DURATION OF CONSTRUCTION**

See Sheet D.011



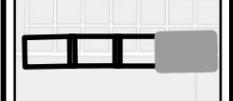
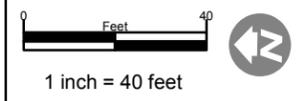
**Notes**  
 1. See "Typical Water Main and Sanitary Sewer Crossing Detail" on S.07 For Water Main Depth Requirement.

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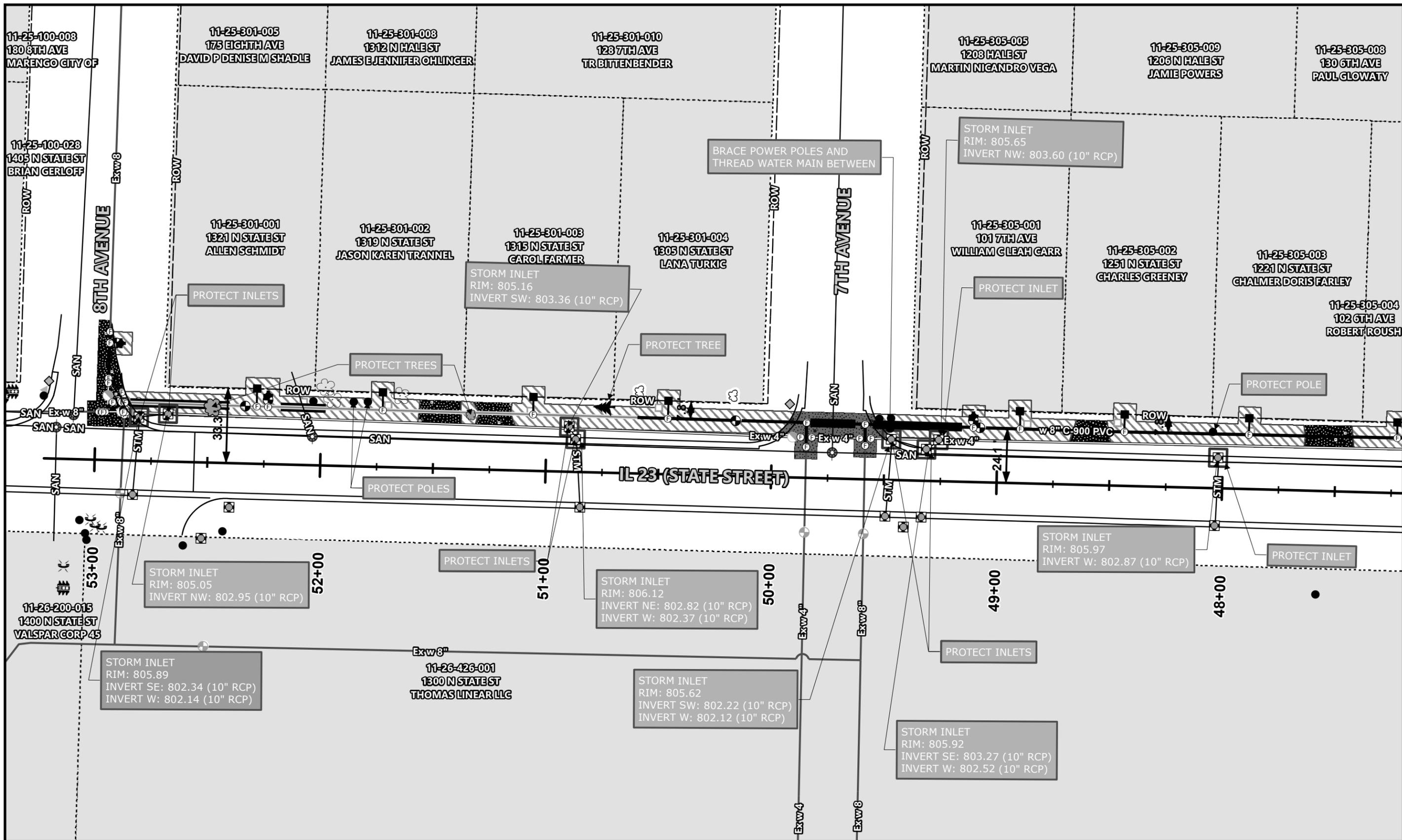
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MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
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SHEET NO.  
 D.04



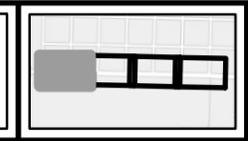
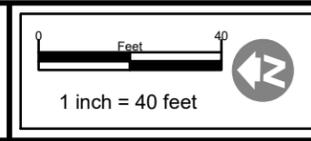
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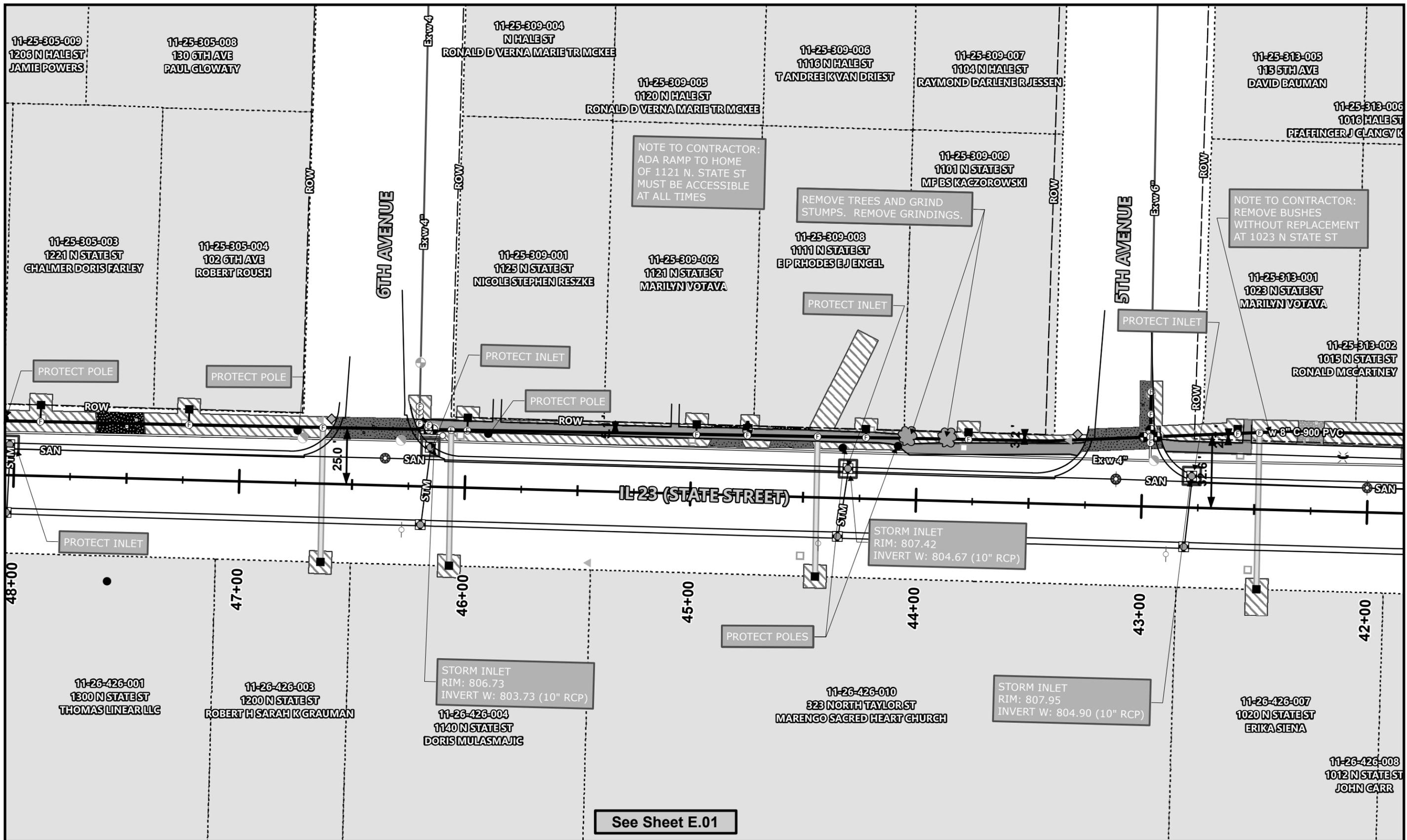
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 SURFACE PLANNING & RESTORATION  
 MARENGO, ILLINOIS  
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SHEET NO.  
 E.01



See Sheet E.013

See Sheet E.015

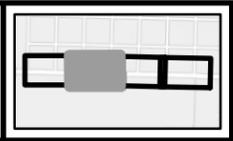
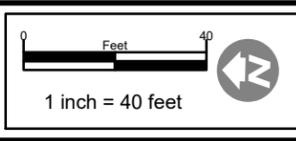
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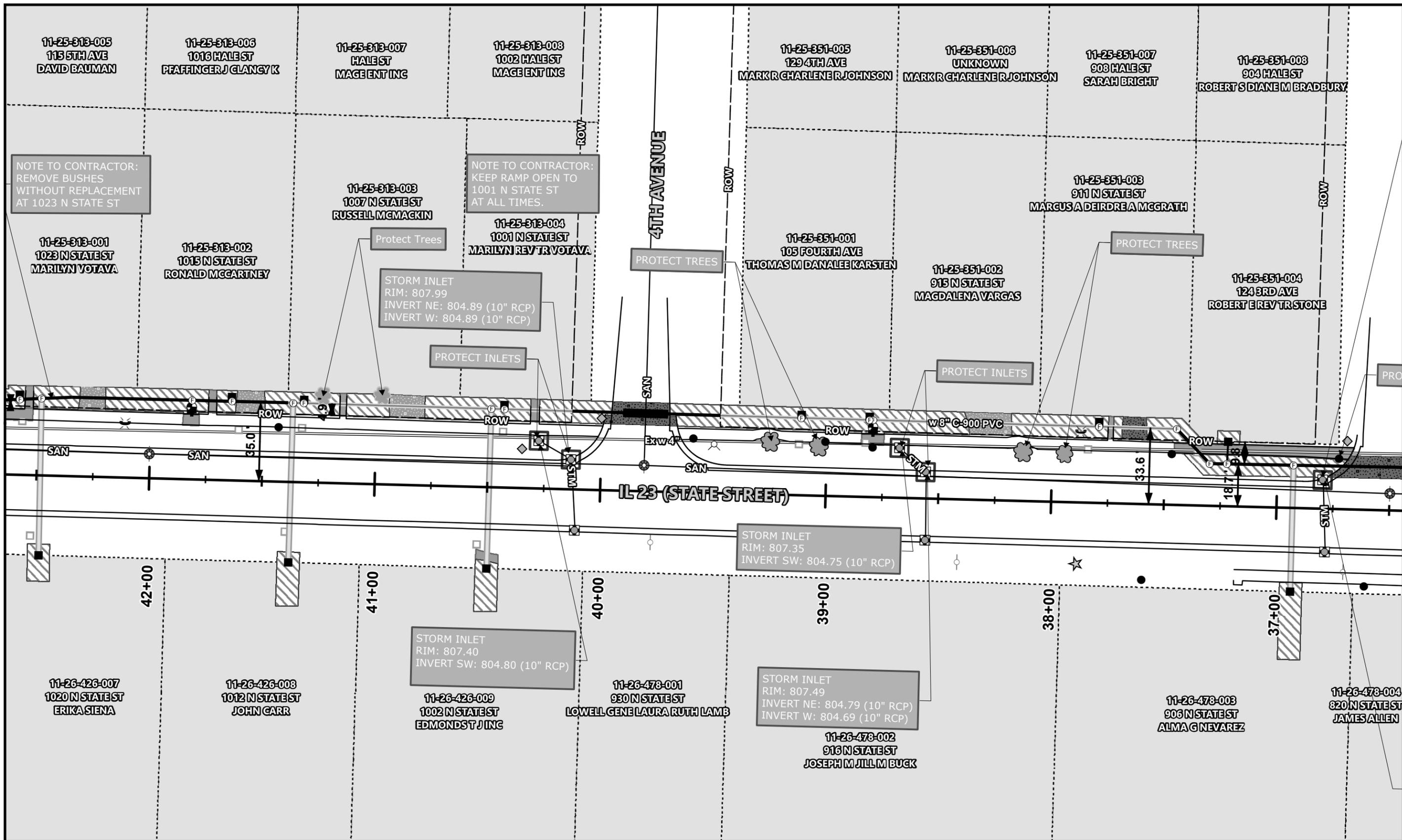
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 SURFACE PLANNING & RESTORATION  
 MARENGO, ILLINOIS  
 2018



SHEET NO.  
 E.02



See Sheet E.014

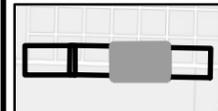
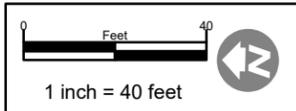
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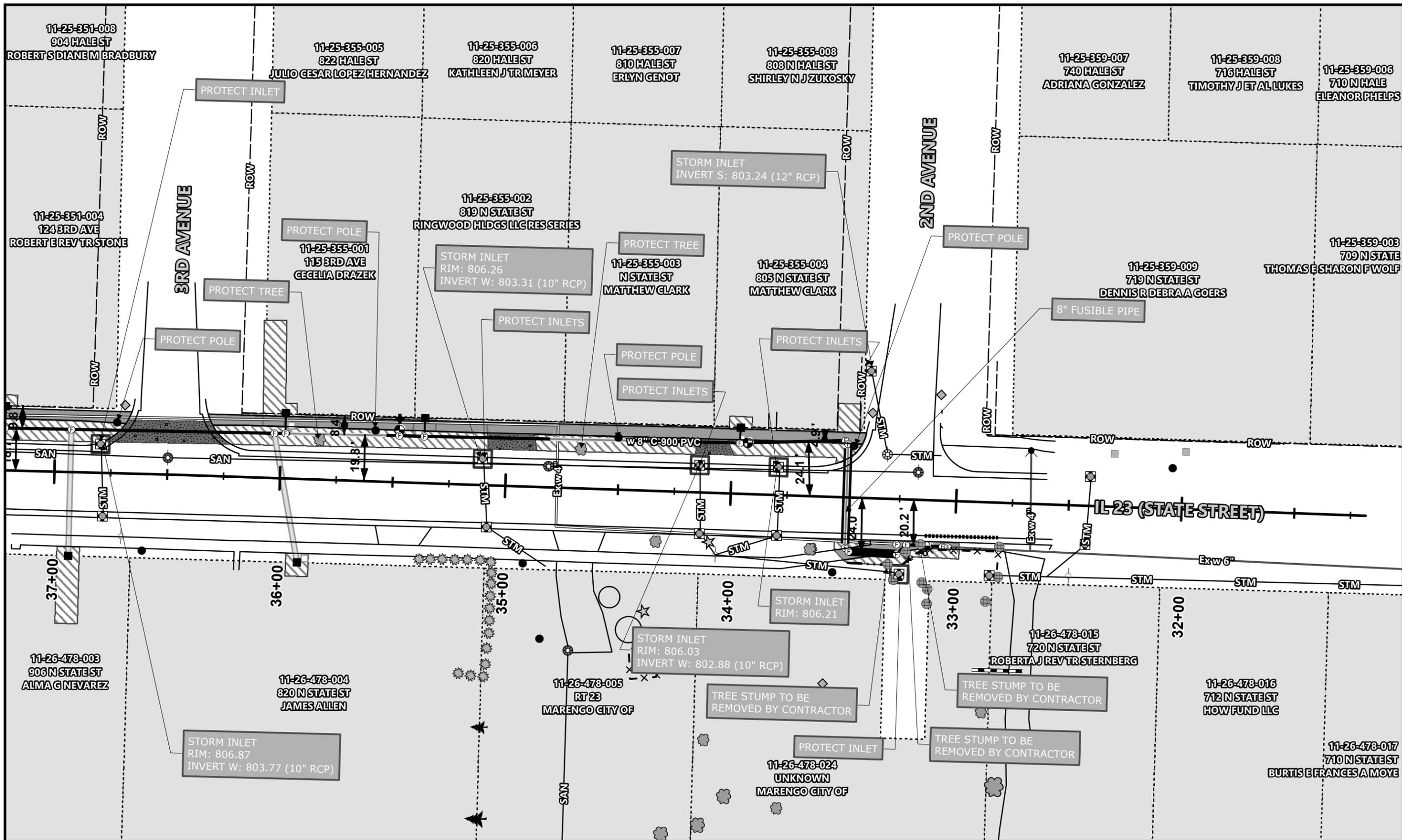
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 SURFACE PLANNING & RESTORATION  
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E.03



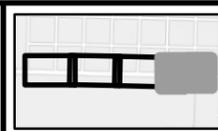
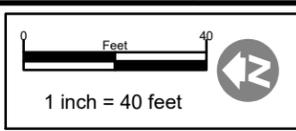
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MARENGO 2018 WATER MAIN REPLACEMENT  
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 MARENGO, ILLINOIS  
 2018



SHEET NO.  
E.04

## Standard Soil Erosion and Sediment Control Notes

1. Control measures shall meet the minimum standards and specifications of the Illinois Urban Manual ([www.aiswcd.org/IUM](http://www.aiswcd.org/IUM)) unless stated otherwise.
2. Soil disturbance shall be conducted in such a manner as to minimize erosion. Areas of the development site that are not to be disturbed shall be protected from construction traffic or other disturbance until final stabilization is achieved.
3. Soil stabilization measures shall consider the time of year, development site conditions and the use of temporary or permanent measures.
4. Stabilization by seeding shall include topsoil placement and fertilization, as necessary.
5. Native seed mixtures shall include rapid-growing annual grasses or small grains to provide initial, temporary soil stabilization.
6. Offsite property shall be protected from erosion and sedimentation. Velocity dissipation devices shall be placed at concentrated discharge locations and along the length of any outfall channel, as necessary to prevent erosion.
7. Sediment control measures shall be installed prior to the disturbance of tributary areas.
8. Stabilization of disturbed areas shall be initiated immediately whenever any clearing, grading, excavating or other earth disturbing activities have permanently ceased on any portion of the development site, or temporarily ceased on any portion of the development site and will not resume for a period exceeding 14 calendar days. Stabilization of disturbed areas shall be initiated within 1 working day of permanent or temporary cessation of earth disturbing activities and shall be completed as soon as possible, but not later than 14 calendar days from the initiation of stabilization work in an area. Exceptions to these time frames are specified below:
  - a. Where the initiation of stabilization measures is precluded by snow cover, stabilization measures shall be initiated as soon as practicable; and
  - b. In areas where construction activity has temporarily ceased and will resume after 14 days, a temporary stabilization method may be used.
9. Disturbance of steep slopes shall be minimized. Areas or embankments having slopes steeper than 3:1 shall be stabilized with staked in place sod, erosion control blanket in combination with seeding, or an equivalent control measure.
10. Perimeter control measures shall be provided downslope and perpendicular to the flow of runoff from disturbed areas, where the tributary area is greater than 5,000 square feet, and where runoff will flow in a sheet flow manner. Perimeter erosion control shall also be provided at the base of soil stockpiles.
11. The stormwater management system shall be protected from erosion and sedimentation downslope from disturbed areas. Inlet protection that reduces sediment loading, while allowing runoff to enter the inlet shall be required for all storm sewers. Check dams, or an equivalent control measure, shall be required for all channels. Filter fabric inlet protection and straw bale ditch checks are not acceptable control measures.
12. If dewatering services are used, discharges shall be routed through an effective sediment control measure (e.g., sediment trap or an equivalent control measure). The Enforcement Officer shall be notified prior to the commencement of dewatering activities.
13. All temporary soil erosion and sediment control measures shall be removed within 30 days after final stabilization of the development site is achieved or after the temporary measures are no longer necessary. Trapped sediment shall be removed and disturbed areas shall be permanently stabilized.
14. Stockpiled soil and materials shall be removed from flood hazard areas at the end of each work day. Soil and materials stockpiled in IWMC or buffer areas shall be placed on timber mats, or an equivalent control measure.
15. Effective control measures shall be utilized to minimize the discharge of pollutants from the development site. At a minimum, control measures shall be implemented in order to:
  - a. Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash water; and
  - b. Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, vehicle fluids, sanitary waste, and other materials present on the development site to precipitation and to stormwater.
16. Adequate receptacles shall be provided for the depositing of all construction material debris generated during the development process. The applicant shall not cause or permit the dumping, depositing, dropping, throwing, discarding or leaving of construction material debris upon or into any development site, channel, or IWMC. The development site shall be maintained free of construction material debris.
17. The Enforcement Officer may require additional or alternate soil erosion and sediment control measures, based on development site specific considerations and the effectiveness of the installed control measures.

### Standard Drain Tile Notes

1. Drain tiles disturbed during regulated development shall be reconnected by those responsible for their disturbance, unless the development plans specify abandonment of the drain tiles.
2. All abandoned drain tiles within disturbed areas shall be removed in their entirety.
3. Drain tiles within the disturbed area of a development site shall be replaced, bypassed around the development site or intercepted and connected to the stormwater management system for the development site. The size of the replaced or bypassed drain tile shall be equivalent to the existing drain tile.

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**GENERAL**  
 Erosion Control Notes

SHEET NO.  
**E.05**

CONTROL MEASURE GROUP	CONTROL MEASURE	APPL	KEY	CONTROL MEASURE CHARACTERISTICS	TEMP.	PERMIT
VEGETATIVE SOIL COVER	TEMPORARY SEEDING		(TS)	PROVIDES QUICK TEMPORARY COVER TO CONTROL EROSION WHEN PERMANENT SEEDING IS NOT DESIRED OR TIME OF YEAR IS INAPPROPRIATE.		
	PERMANENT SEEDING		(PS)	PROVIDES PERMANENT VEGETATIVE COVER TO CONTROL EROSION. VEGETATION SEEDING FROM WATER MAY BE PART OF FINAL LANDSCAPE PLAN.		
	DORMANT SEEDING	X	(DS)	SAME AS PERMANENT SEEDING EXCEPT IS DONE DURING DORMANT SEASON. HIGHER RATES OF SEED APPLICATION ARE REQUIRED.		X
	SODDING		(SO)	QUICK PERMANENT COVER TO CONTROL EROSION. QUICK WAY TO ESTABLISH VEGETATION FILTER STRIP. CAN BE USED ON STEEP SLOPES OR IN DRAINAGEWAYS WHERE SEEDING MAY BE DIFFICULT.		
	GROUND COVER		(GC)	PROVIDES GROUND COVER, SHRUBS AND TREES IN ADDITION TO PERMANENT VEGETATION. MAY BE USED AS PART OF A FINAL LANDSCAPE PLAN ALONG WITH SHRUBS AND TREES.		
NON VEGETATIVE SOIL COVER	MULCHING	X	(M)	ADDED INSURANCE OF A SUCCESSFUL TEMPORARY OR PERMANENT SEEDING. CONTROLS UNWANTED VEGETATION AND PRESERVES MOISTURE. PROVIDES COVER WHERE VEGETATION CANNOT BE ESTABLISHED.		X
	AGGREGATE COVER		(AG)	PROVIDES SOIL COVER ON ROADS AND PARKING LOTS AND AREAS WHERE VEGETATION CANNOT BE ESTABLISHED. PREVENTS MUD FROM BEING PICKED UP AND TRANSPORTED OFF-SITE.		
	PAVING		(P)	PROVIDES PERMANENT COVER ON PARKING LOTS AND ROADS OR OTHER AREAS WHERE VEGETATION CANNOT BE ESTABLISHED.		
DIVERSIONS	EROSION BLANKET	X	(EB)	PROVIDES QUICK TEMPORARY COVER TO CONTROL EROSION WHEN PERMANENT SEEDING TIME OF YEAR IS INAPPROPRIATE AND IN SLOPED AREAS.		X
	RIDGE DIVERSION		(RD)	TYPICALLY USED ABOVE SLOPES. USED WHERE AN EXCESS OF SOIL IS AVAILABLE.		
	CHANNEL DIVERSION		(CD)	TYPICALLY USED AT TOP OR BASE OF SLOPES. USED WHEN EXCESS SOIL IS NOT AVAILABLE.		
	COMBINATION DIVERSION		(DC)	TYPICALLY USED ANYWHERE ON A SLOPE. SOIL TAKEN OUT OF CHANNEL IS USED TO GRADE THE RIDGE.		
	CURB AND GUTTER		(CG)	SPECIAL CASE OF DIVERSION USED IN CONJUNCTION WITH A STREET TO DIVERT WATER FROM AN AREA NEEDING PROTECTION.		
WATERWAYS	BARE CHANNEL		(BC)	PROVIDES MEANS OF CONVEYING RUNOFF TO DESIRED LOCATION. MAY BE USED TO DIVERT PERMANENT AREAS. ONLY APPLICABLE WHEN VELOCITY OF FLOW IS VERY LOW.		
	VEGETATED CHANNEL		(VC)	PROVIDES ADDED STABILITY TO CHANNEL. USED WHEN VELOCITY OF FLOW IS NOT EXTREMELY FAST.		
	LINED CHANNEL		(LC)	USED WHEN VEGETATION WILL NOT PROTECT THE CHANNEL AGAINST HIGH VELOCITIES OF FLOW OR WHERE VEGETATION CANNOT BE ESTABLISHED.		
ENCLOSED DRAINAGE	ROCK CHECKS		(RC)	PROVIDES AN ENERGY DISSIPATOR ALONG A CHANNEL DRAINAGE TO REDUCE VELOCITY OF STORMWATER.		
	STORM SEWER		(SS)	CAN BE USED TO CONVEY SEDIMENT LADEN WATER TO SEDIMENT BASIN OR IN CONJUNCTION WITH A WATERWAY.		
SPILLWAYS	UNDERDRAIN		(UD)	USED TO LOWER WATER TABLE AND INTERCEPT GROUNDWATER FOR BETTER VEGETATION GROWTH AND SLOPE STABILITY. USED TO CARRY BASE FLOW IN WATERWAYS AND TO DRAINER SEDIMENT BASINS.		
	STRAIGHT PIPE SPILLWAY		(SPS)	USED FOR RELATIVELY SMALL VERTICAL DROPS AND SMALL FLOWS OF WATER.		
	DROP INLET PIPE SPILLWAY		(DIP)	SAME AS PIPE SPILLWAY EXCEPT LARGER FLOWS AND LARGE VERTICAL DROPS CAN BE ACCOMMODATED.		
	WEIR SPILLWAY		(W)	USED FOR RELATIVELY SMALL VERTICAL DROPS AND FLOWS MUCH GREATER THAN PIPE STRUCTURES.		
OUTLETS	BOX INLET WEIR SPILLWAY		(BS)	SAME AS WEIR SPILLWAY EXCEPT LARGER FLOWS CAN BE ACCOMMODATED BECAUSE OF LOWER WEIR LENGTH.		
	LINED APRON		(LA)	PROTECTS DOWNSTREAM CHANNEL FROM HIGH VELOCITY OF FLOW DISCHARGING FROM STRUCTURES.		
SEDIMENT BASINS	STONE RIP RAP		(RR)	USED AS AN ENERGY DISSIPATOR AT OUTLET STRUCTURES TO REDUCE VELOCITIES.		
	SEDIMENT TRAP		(ST)	USED WHERE TOPOGRAPHY LENDS ITSELF TO CONSTRUCTING A DAM AND EARTH FILL IS AVAILABLE. USED WHERE THERE IS NOT ENOUGH ROOM FOR A NET OR DIRT DETENTION BASIN OR IN A LOCATION WHERE DETENTION IS NOT REQUIRED.		
SEDIMENT FILTERS	SEDIMENTATION POND		(SP)	A NET OR DIRT DETENTION BASIN SIZED FOR THE POST DEVELOPMENT 100 YEAR STORM TEMPORARILY MODIFIED TO ENHANCE SEDIMENT REMOVAL DURING CONSTRUCTION.		
	BARRIER FILTER		(BF)	USED FOR SINGLE LOTS OR DRAINAGE AREAS LESS THAN 1/2 ACRE TO FILTER SEDIMENT FROM RUNOFF.		
	VEGETATIVE FILTER		(VF)	USED ALONG DRAINAGEWAYS OR PROPERTY LINES TO FILTER SEDIMENT FROM RUNOFF. SIZE MUST BE INCREASED IN PROPORTION TO DRAINAGE AREA.		
MUD AND DUST CONTROL	FILTER FABRIC		(FF)	USED FOR FILTERING SEDIMENT WITHIN THE ROADWAY BEFORE ENTERING THE STORM SEWER.		
	INLET PROTECTION	X	(IG)	USED FOR FILTERING SEDIMENT WITHIN GRASS AREAS BEFORE WATER ENTERS THE STORM SEWER.		X
	STABILIZED CONST. ENTRANCE		(SE)	PREVENTS MUD FROM BEING PICKED UP AND CARRIED OFF-SITE.		
	DUST AND TRAFFIC CONTROL	X	(DT)	PREVENTS DUST FROM LEAVING CONSTRUCTION SITE.		X

STABILIZATION TYPE	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
PERMANENT SEEDING			A,B,C									
SODDING												
TEMPORARY SEEDING			E									

SEEDING SPECS	WETLAND GRASS AND SEDGE MIXTURE
A (1) STANDARD LAWN MIXTURE	D (48)
KENTUCKY BLUEGRASS 50 LBS/ACRE	ANNUAL RYE GRASS 25 LBS/ACRE
MIXED WITH PERENNIAL RYEGRASS	CATS. SPRING 25 LBS/ACRE
30 LBS/ACRE AND CREEPING RED FESCUE	WETLAND GRASSES 6 LBS/ACRE
20 LBS/ACRE	
B (1A) BIRNYARD GRASS 6 LBS/ACRE	E
SALT TOLERANT MIXTURE	G
BRUE GRASS 36 LBS/ACRE	SOD
PERENNIAL RYEGRASS 10 LBS/ACRE	**
LARKSPURS HELD TO 10 LBS/ACRE	IRRIGATION NEEDED DURING JUNE AND JULY
SCALDIS HARD FESCUE 10 LBS/ACRE	**
FULTS SALT GRASS 36 LBS/ACRE	IRRIGATION NEEDED 1 TO 2 TO 3 WEEKS AFTER APPLYING SOD
C LOW PROFILE NATIVE GRASS MIXTURE	( )
ANDROPOGON SCOPARIUS (LITTLE BLUE STEM) 5 LBS/ACRE	IDOT STANDARD
LIRIODENDRON (SPRING DAISY) 5 LBS/ACRE	
ELIMUS CANADENSIS (MILD RICE) 1 LB/ACRE	
SPOROBOLEUS HETEROLEPIS (PRAIRIE DROPSEED) 0.5 LB/ACRE	
ANNUAL RYE GRASS 25 LBS/ACRE	
CATS. SPRING 25 LBS/ACRE	
PERENNIAL RYE GRASS 15 LBS/ACRE	

**EROSION CONTROL SPECS**

**NOTES:**  
This plan has been prepared to comply with the provisions of the NPDES Permit Number issued by the Illinois Environmental Protection Agency for Stormwater Discharges from Construction Site Activities. The implementation and maintenance of all soil erosion and sediment control measures shall be in accordance with the City of Marenco's Soil Erosion and Sediment Control Ordinance. If any of the cited provisions or standards specifications conflict, the stricter shall prevail.

1. Site Description.  
a. The following is a description of the construction activity which is the subject of this plan.  
The proposed project consists of installing watermain and appurtenances along IL RTE 23 and US HWY 20 in the City of Marenco.

b. The following is a description of the intended sequence of major activities which will disturb soils for major portions of the construction site such as grubbing, excavation and grading:  
The sequence of the construction activities may be as follows: 1) install silt barrier (silt) fence and stabilized construction entrance, 2) site clearing and grubbing and 3) grading.  
The soil erosion and sedimentation control items will be constructed as needed.

2. Controls.  
This plan addresses the various controls that will be implemented for each of the major construction activities described in 1.b above. For each measure discussed, the contractor will be responsible for its implementation as indicated. Each such contractor has signed the required certification on forms which are attached to, and are a part of, this plan.

a. Erosion and Sediment Controls  
(i) STABILIZATION PRACTICES. Provided below is a description of interim and permanent stabilization practices, including site-specific scheduling of the implementation of the practices. Site plans will ensure that existing vegetation is preserved where obtainable and disturbed portions of the site will be stabilized. Except as provided in 2.a (i) (A) and 2.b, stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 7 days after the construction activity in that portion of the site where construction activity will not occur for a period of 7 or more calendar days.  
(A) Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceases is precluded by snow cover, stabilization measures shall be initiated as soon as practicable thereafter.  
The following interim and permanent stabilization practices, as a minimum will be implemented to stabilize the disturbed area of the site:  
1. Permanent seeding  
2. Vegetative filter  
3. Vegetative channel  
4. Stabilized construction entrance  
5. Barrier filter  
6. Inlet protection  
7. Outlet protection  
(ii) STRUCTURAL PRACTICES. Provided below is a description of structural practices that will be implemented, to the degree attainable, to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. The installation of these devices may be subject to Section 404 of the Clean Water Act.  
1. Detention basins  
2. Storm sewer system  
3. Vegetated drainage swales  
4. Permanent seeding  
5. Outlet protection  
6. Inlet protection

b. Erosion Control. It shall be the Contractor's responsibility to provide adequate erosion control on the job site. The following erosion control sequence shall be adhered to.  
1. Install silt fence along site perimeter.  
2A. Mass grade using low points in road profile as sediment ponds.  
2B. If road low points are to be drained by pumping, a sump pit shall be installed per the typical detail.  
2C. Install silt fence per grading/erosion plan.  
3. Install silt fence around limits of construction.  
Any siltation of conduits, structures, or ditches shall be cleaned and maintained by the Contractor on a weekly basis, until the seeding has taken hold. All washouts, gullies, etc. will be regraded and reseeded by the Contractor, at the Contractor's expense.  
The Contractor's responsibility for erosion control shall extend throughout the construction process. The Contractor shall be responsible for cleanup of paved surfaces within and adjacent to the project.  
All erosion control practices shall be in compliance with the latest revision of the "Standard Specifications for Road and Bridge Construction," by the Illinois Department of Transportation and with "Standards and Specifications for Soil Erosion and Sedimentation Control" as published by the Illinois Environmental Protection Agency.

c. Stormwater Management.  
(i) Provided below is a description of measures that will be installed during the construction process to control pollutants in stormwater discharges that will occur after construction operations have been completed. The installation of these devices may be subject to Section 404 of the Clean Water Act.  
The practices selected for implementation were determined on the basis of the technical guidance contained in EPA's Standard Specifications for Soil Erosion and Sedimentation Control, and other ordinances listed in the Specifications.  
The stormwater pollutant control measures shall include:  
1. Silt filter fence  
2. Retention/detention ponds

(ii) Velocity dissipation devices will be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive velocity flow from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g., maintenance of hydrologic conditions, such as the hydroperiod and hydrodynamics present prior to the initiation of construction activities).  
Stormwater Management Control includes:  
1. Vegetative channels  
2. Outlet protection using rip-rap  
3. Inlet protection using filter fabric.

d. Maintenance.  
The following is a description of procedures that will be used to maintain, in good and effective operating conditions, vegetation, erosion and sediment control measures and other protective measures identified in this plan and Standard Specifications.  
Stabilized construction entrance: The entrance shall be maintained to prevent tracking of sediment onto public streets. This will be done by top dressing with additional stones, remove and replace top layer of stones or washing the entrance. The sediment washed on the public right of way will be removed immediately.  
Vegetative erosion control measures: The vegetative growth of temporary and permanent seeding, sodding, vegetative channels, vegetative filter, etc. shall be maintained periodically and supply adequate watering. The vegetative cover shall be reseeded as necessary.  
Sedimentation basins/traps: The sediments shall be removed when 40-50 percent of the total original capacity is occupied by the sediment. In no case shall the sediment be built up to remove that 1 foot below the crest elevation. At this stage, the basin shall be cleaned out to restore its original volume.  
Silt filter fence: The damaged silt filter fence shall be restored to meet the standards or removed and replaced as needed.  
Curlex sediment log filters: The sediment log filter shall be inspected frequently and shall be repaired or removed and replaced as needed.  
Rip-rap outlet protection: It shall be inspected after high flows for any scour beneath the rip-rap or for stones that have been dislodged. It shall be repaired immediately.  
Sedimentation basin riser pipe: The filter fabric wrapped around the perforated pipe shall be replaced with new filter fabric when the water elevation in the basin remains at the top of pipe for 24 hours after the end of a rainfall event.  
3. Other Controls.  
(i) Waste Disposal: The solid waste materials including trash, construction debris, excess construction materials, machinery, tools and other items will be collected and disposed off-site by the contractor. The contractor is responsible to acquire any permit required for such disposal. Burning on the site will not be permitted. No solid materials, including building materials, shall be discharged into waters of the State, except as authorized by a Section 404 permit.  
(ii) The provisions of this plan shall ensure and demonstrate compliance with applicable State and/or local waste disposal, sanitary sewer or septic system regulations.  
The sanitary sewage will be discharged to the proposed sanitary sewer constructed per ILPA and local standards.

4. Inspections.  
The Owner, or Owner's representative shall provide qualified personnel to inspect disturbed areas of the construction site which have not been fully stabilized, structural control measures and location where vehicles enter or exit the site. Such inspections shall be conducted at least once every seven (7) calendar days and within 24 hours of the end of a storm that is 0.5 inches or greater or equivalent amount.  
a. Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the plan shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles enter or exit the site shall be inspected within 7 calendar days following the inspection.  
b. Based on the results of the inspection, the description of potential pollutant sources identified in section 1 above and pollution prevention measures identified in section 2 above shall be revised as appropriate as soon as practicable after such inspection. Any changes to this plan resulting from the required inspections shall be implemented within 7 calendar days following the inspection.  
c. A report summarizing the scope of the inspection, names(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of this stormwater pollution prevention plan and actions taken in accordance with section 4.b, shall be made and retained as part of the plan for at least three (3) years after the date of the inspection. The report shall be signed in accordance with Part VI.G of the general permit.  
d. If any violation of the provisions of this plan is identified during the conduct of the construction work covered by this plan, the Resident Engineer or Resident Technician shall complete and file an "Incidence of Noncompliance" (INOC) report use forms provided by the Illinois Environmental Protection Agency and shall include specific information on the cause of noncompliance, actions which were taken to prevent any further causes of noncompliance, and a statement detailing any environmental impact which may have resulted from the noncompliance. At reports of noncompliance shall be signed by a responsible authority in accordance with Part VI.G of the general permit. The report of noncompliance shall be mailed to the following address:  
Illinois Environmental Protection Agency  
Division of Water Pollution Control  
Attn: Compliance Assurance Section  
2260 Churchill Road  
East Office Box 192/5  
Springfield, Illinois 62794-9276

5. Non-Stormwater Discharges.  
Except for flows from fire fighting activities, sources of non-stormwater that may be combined with stormwater discharges associated with the construction activity addressed in this plan are described below:  
1. Watering for dust control  
2. Irrigation drainage for vegetative growth for seeding, etc.  
The pollution prevention measures, as described below, will be implemented for non-stormwater components of the discharge.  
The erosion due to irrigation of seeding shall be considered minor.  
Contractor to provide the above non-stormwater discharge control to the standard specification required by the City or the approved equal.  
Street Cleaning:  
Each site shall have gravelled (or equivalent) entrance roads, access drives, and parking areas of sufficient length and width to prevent sediment from being tracked onto public or private roadways. Any sediment reaching a public or private road shall be removed by sweeping or street cleaning (not flushing) before the end of each workday and transported to a controlled sediment disposal area.  
Dust Control Temporary Methods:  
1. Mulches - Chemical or wood cellulose fiber binders may be used instead of asphalt to bind much material.  
2. Vegetative Cover - See practice standard TEMPORARY SEEDING 365.  
3. Spray-on Adhesives - These may be used on mineral soils. They are not effective on muck soils. Keep traffic off these areas after application.  
a. Anionic asphalt emulsion, water dilution = 7:1, coarse spray, 1,200 gal/acre.  
b. Latex emulsion, water dilution = 12.5:1, fine spray, 235 gal/acre.  
c. Resin-in-water emulsion, water dilution = 4:1, fine spray, 300 gal/acre.  
4. Tillage - Roughen the surface and bring clods to the surface. This is an emergency measure that should be used before soil blowing starts. Begin tillage on windward side of site. Chisel plows with shanks spaced about 12"-18" apart and spring, toothed narrow are examples of equipment that may produce the desired effect.  
5. Irrigation - This is commonly used and affords fast protection for haul roads and other heavy traffic roads. The site is sprinkled with water until the surface is moist. Repeat as needed.  
6. Barriers - Solid board fences, snow fences, burlap fences, crate walls and similar materials can be used to control or currents and blowing soil. Barriers placed at right angles to prevailing wind currents at intervals of about 10 times their height are effective in controlling soil blowing.  
7. Calcium Chloride - Apply at a rate that will keep the surface moist. This chemical may be applied by a mechanical spreader as loose, dry granules or flakes at a rate that keeps the surface moist but not so much as to cause water pollution or plant damage. Application rates should be strictly in accordance with the manufacturer's specified rates. Periodic re-treatment may be needed.  
8. Stone - Stone can be used to stabilize roads or other areas during construction using crushed stone or coarse gravel.  
9. Street cleaning - Paved areas that have soil on them from construction sites should be cleaned daily, or as needed, utilizing a street sweeper or bucket-type end loader or scraper.  
III. EROSION CONTROL MEASURES  
1. All erosion control measures shall be in compliance with the latest revision of the "Procedures and Standards for Soil Erosion and Sedimentation Control in Northeastern Illinois" (revised July 1986) as prepared by the Northeastern Illinois Erosion and Sedimentation Control Steering Committee, the Illinois Environmental Protection Agency's "Standards and Specifications for Soil Erosion and Sedimentation Control" (latest edition), Standards and Specifications for Soil Erosion and Sedimentation Control" by EPA-Illinois Urban Manual - a technical manual designed for Urban Ecosystem Protection and Enhancement, 1995 and in accordance with the erosion control plan.  
2. All erosion control measures must be checked by the developer/contractor on a weekly basis and after every storm of one half inch of rainfall or greater. Any repairs or sediment removal needed to ensure adequate erosion control must be completed immediately, at the expense of the developer/contractor.  
3. The work site shall be mass graded to provide for positive drainage of all lines during construction. Final grades shall be protected from erosion and accumulation of sediments.  
A. SOIL STABILIZATION  
1. Existing vegetation cover and topsoil - strip topsoil and remove existing vegetation. Stockpile on-site for future re-use at the location designated on the plan.  
2. Temporary seeding - temporary seeding shall be placed within 15 days to all disturbed areas that are scheduled to remain stripped for more than 60 days.  
3. Permanent seeding - install permanent seeding or sod immediately following the finished grading and topsoil placement.  
4. Slope protection - protect all seeding on slopes with mulch, secured excelsior blankets, or equal.  
B. SEDIMENT CONTROL  
1. Protect adjacent properties from encroaching sediments by preserving a vegetated buffer strip or with siltation fencing placed around the perimeter of the site.  
2. All stockpile areas shall be protected with erosion barriers around the perimeter of the stockpile base.  
3. All newly constructed storm sewer structures shall be provided with Curlex Sediment Log Barriers or filter fabric under the frames.  
4. Curlex sediment logs shall be placed a minimum of every 250' in all overland flow swales, rear yard swales, or other longitudinal swales.  
5. All construction traffic shall be restricted to enter and leave the construction site through one designated stabilized construction access road. Stabilized construction access shall consist of a minimum 150' x 30' crushed 3" stone strip that is intended to minimize the tracking of mud onto state, county, township, or municipal roadways. The developer/contractor is responsible for daily clearing or the roadways or as directed by the Village Engineer. Water flushing is not an acceptable method for removal of dirt and debris from the roadways.  
6. The developer/contractor must remove all erosion control measures within 30 days of final site stabilization.  
However, should after the initial testing the dislodged pipe fail to return to the original size (inside diameter) the line shall be replaced.

Drawn By: MSL Job Date: 2018  
Approved: RSJ Job Number: 86140346.02  
GIS Date: 6/13/2018 5:08:28 PM  
GIS File: Marenco Water Main Plan Set IL23

NO.	DATE	BY	REVISION DESCRIPTION
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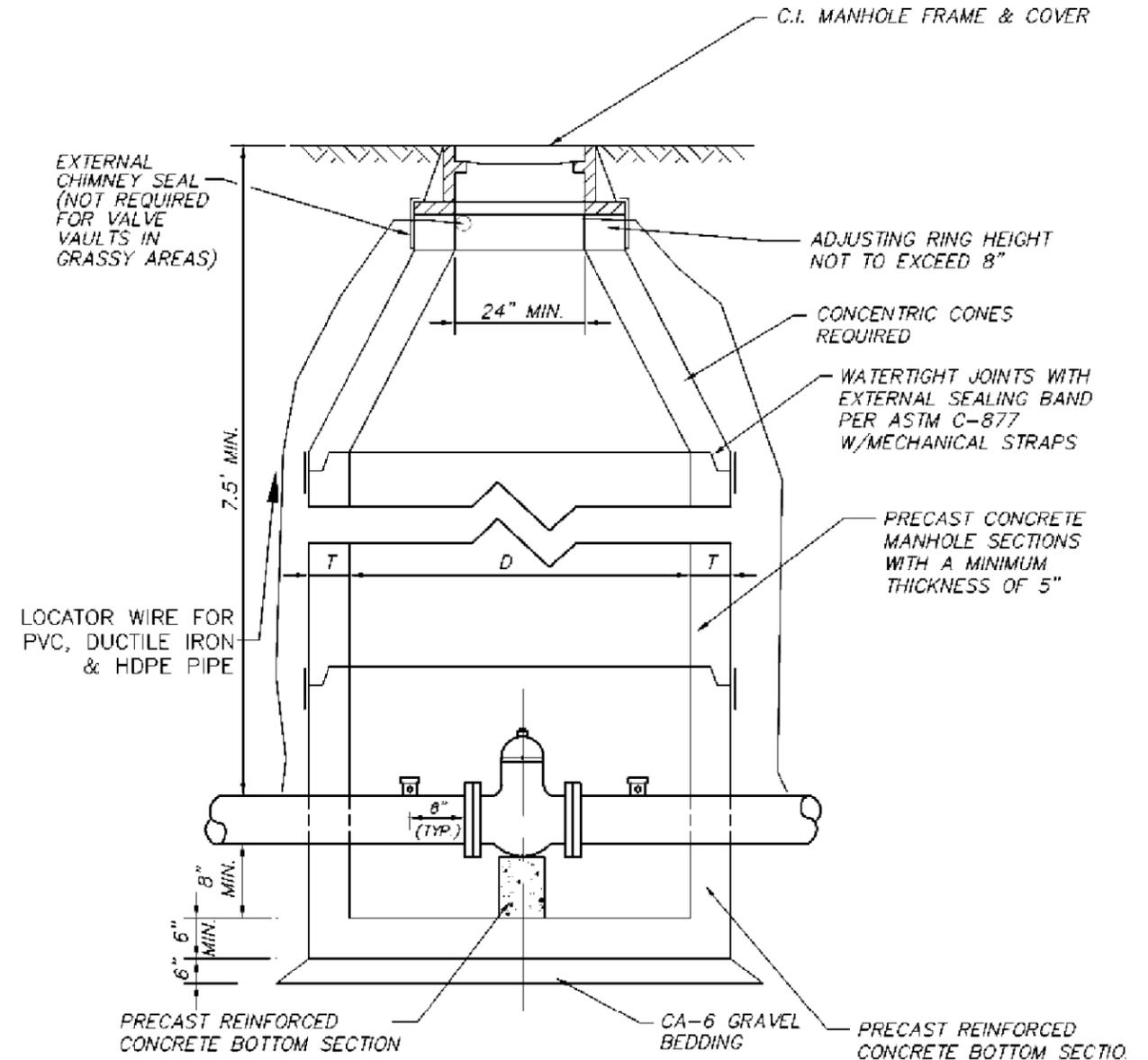
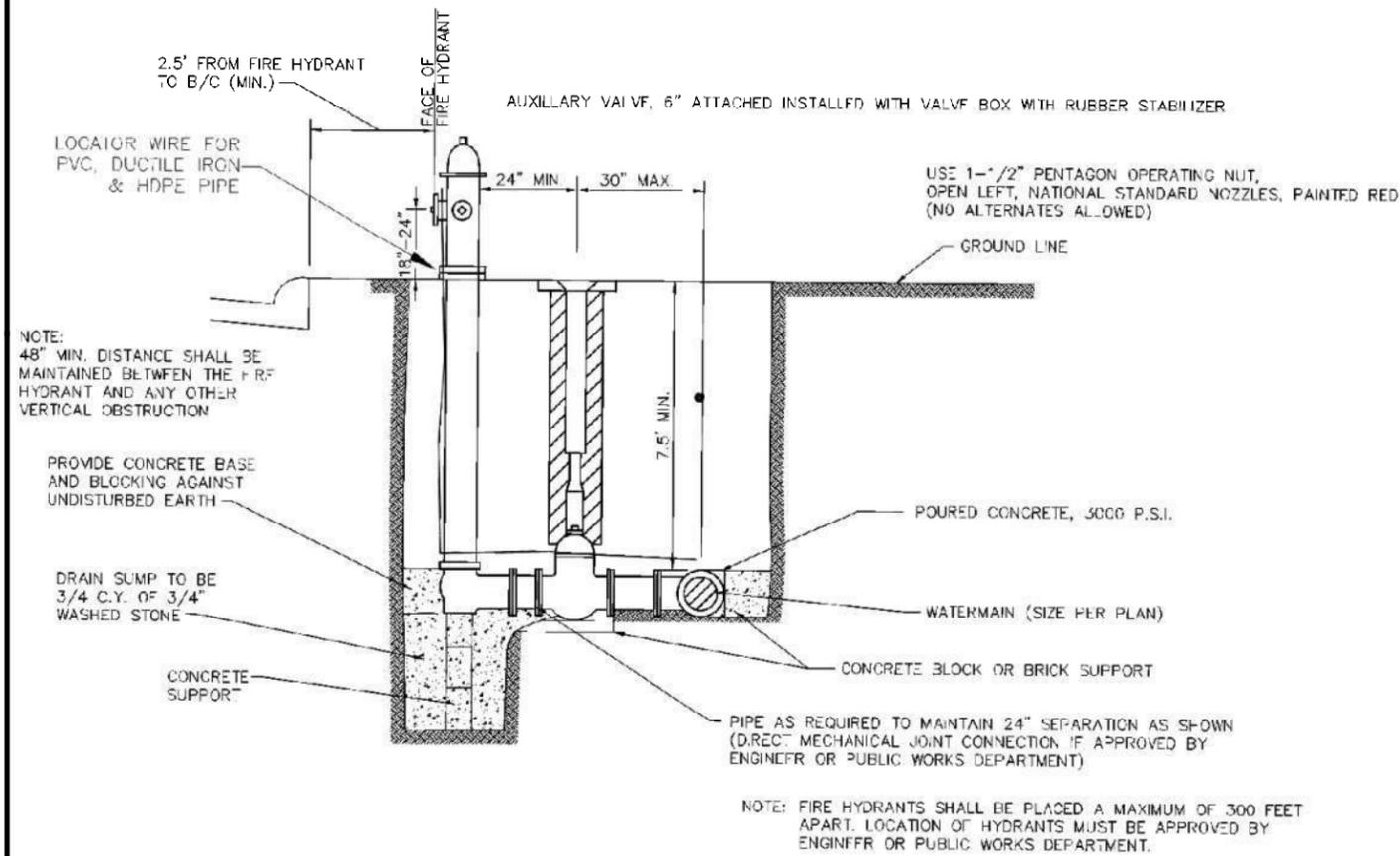
MARENGO 2018 WATER MAIN REPLACEMENT  
MARENGO, ILLINOIS  
2018

GENERAL SWPP

FOR CONSTRUCTION

SHEET NO. E.06

## FIRE HYDRANT INSTALLATION



**NOTES:**

1. DRAIN FOR VALVE VAULT SHALL BE CONSTRUCTED ONLY WHEN SHOWN ON PLANS.
2. FOR PRESSURE CONNECTION SEE SEPARATE DETAIL.

DIAMETER OF WATER MAIN	D	T
8 INCHES	4'-0"	5"
12 INCHES	5'-0"	5"

## STANDARD VALVE VAULT DETAIL

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 Approved: RSJ Job Number: 86140346.02  
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 GIS File: Marengo Water Main Plan Set IL23

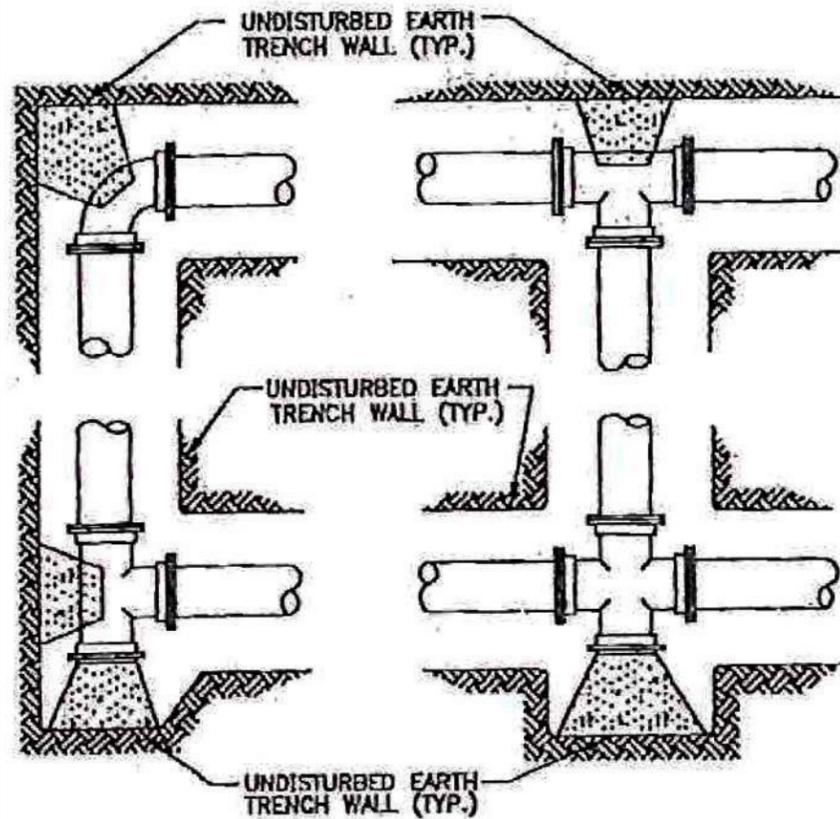
NO.	DATE	BY	REVISION DESCRIPTION
1	05/22/18	EW	PER CITY AND IDOT



MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
 2018

**STANDARD DETAILS**  
 STANDARD FIRE HYDRANT INSTALLATION &  
 STANDARD VALVE VAULT DETAIL

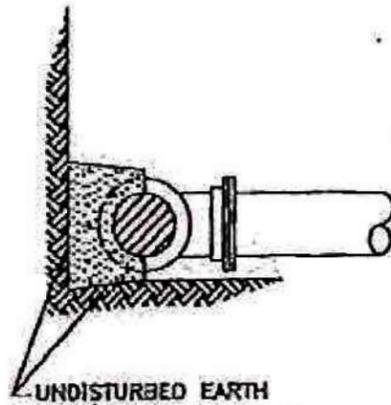
SHEET NO.  
 S.01



PLANS

TYPICAL THRUST BLOCK INSTALLATIONS

NO SCALE

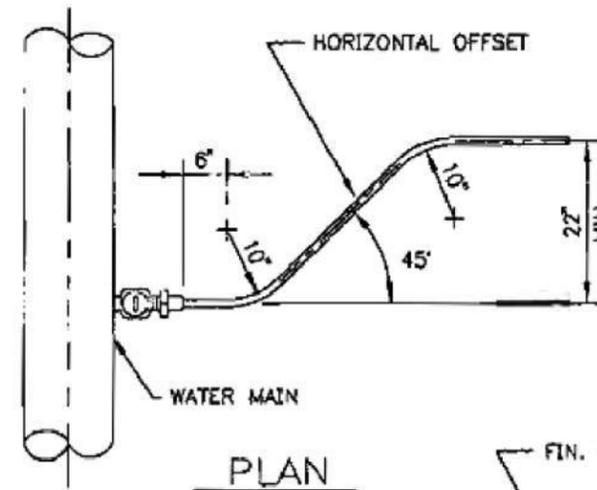


UNDISTURBED EARTH SECTIONS

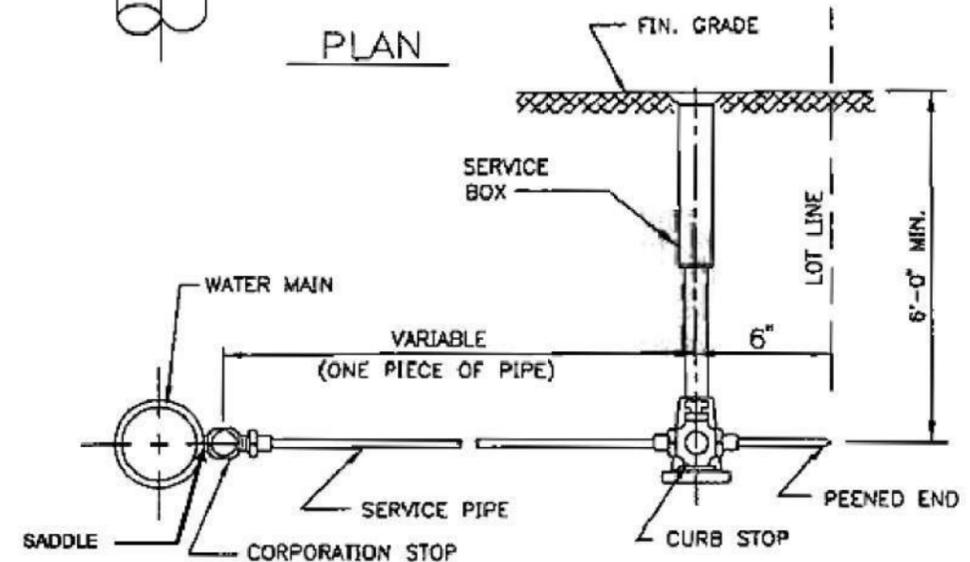
NOTES

1. PROVIDE PRECAST OR CAST-IN-PLACE CONCRETE THRUST BLOCKS OF ADEQUATE SIZE AND THRUST BEARING SURFACE TO PREVENT MOVEMENT OF PIPELINE UNDER PRESSURE.
2. PLACE THE BASE AND THRUST BEARING SIDES OF THRUST BLOCK DIRECTLY AGAINST UNDISTURBED EARTH.
3. PLACE THRUST BLOCKING SO THE FITTING JOINTS WILL BE ACCESSIBLE FOR REPAIR.

Wsrv



PLAN



SECTION

SERVICE PIPE	CORP. STOP	CURB STOP	SERVICE BOX
3/4"	3/4"	3/4"	2 1/2"
1"	1"	1"	2 1/2"
1 1/4"	1 1/4"	1 1/4"	3"
1 1/2"	1 1/4" X 1 1/2"	1 1/2"	3"
2"	1 1/2" X 2"	2"	3"

WATER SERVICE INSTALLATION

NO SCALE

6-24-02

Drawn By: MSL Job Date: 2018  
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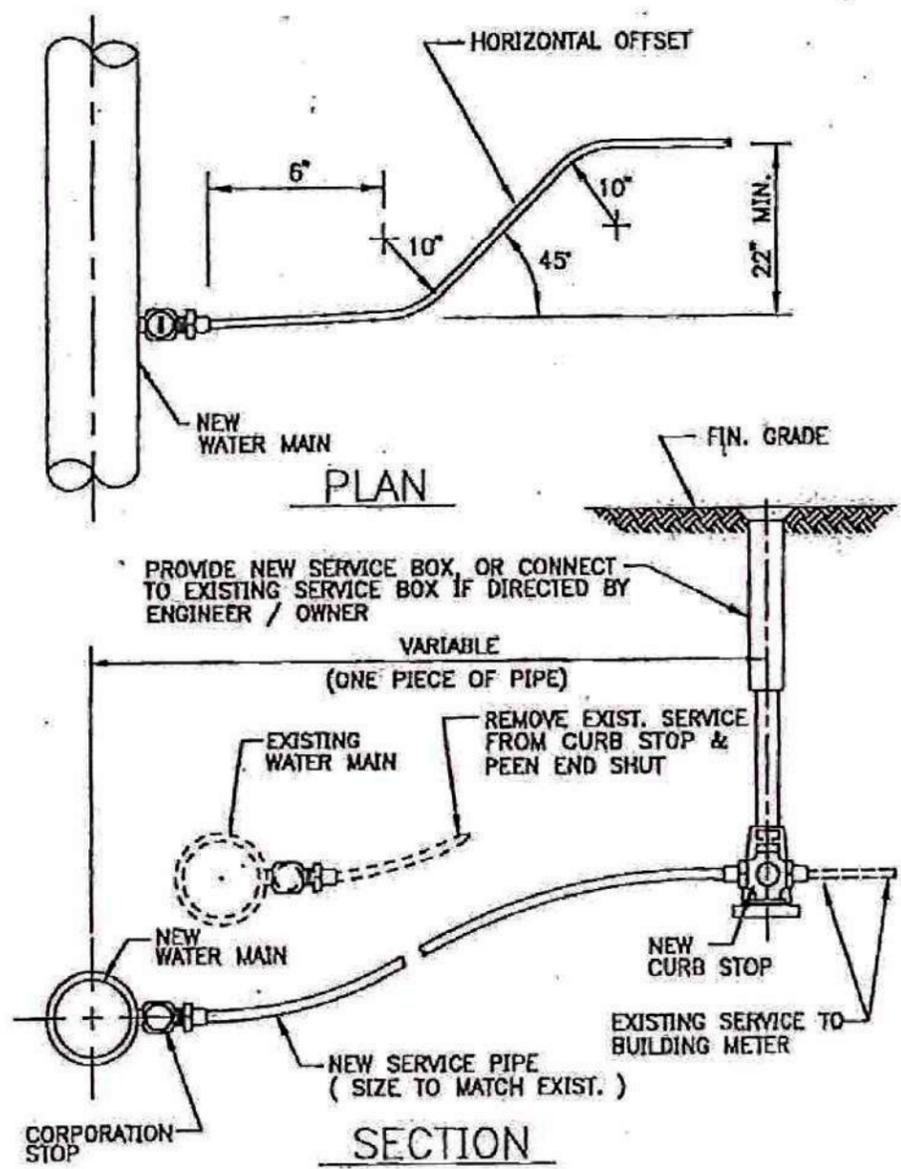
NO.	DATE	BY	REVISION DESCRIPTION
1	05/22/18	EW	PER CITY AND IDOT



MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
 2018

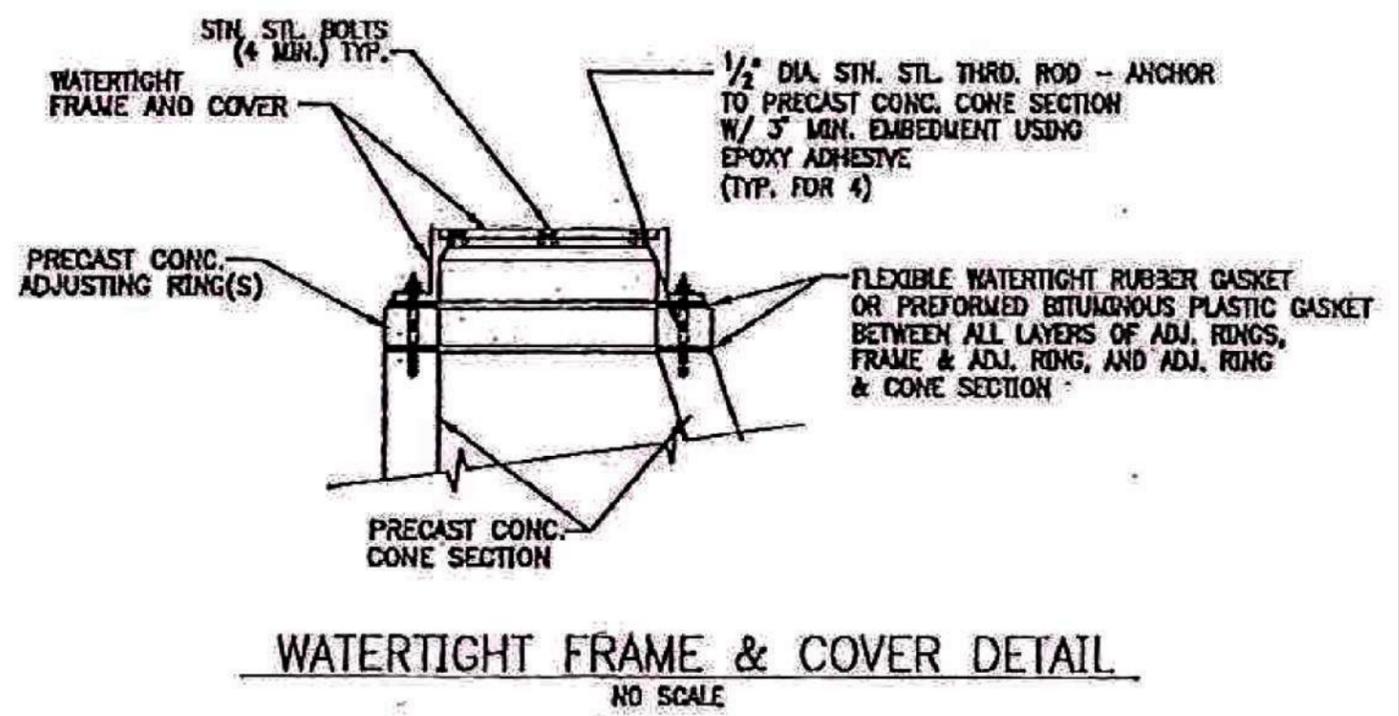
STANDARD DETAILS  
 TYPICAL THRUST BLOCK INSTALLATIONS &  
 WATER SERVICE INSTALLATION

SHEET NO.  
 S.02



SERVICE PIPE	CORP. STOP	CURB STOP	SERVICE BOX
3/4"	3/4"	3/4"	2 1/2"
1"	1"	1"	2 1/2"
1 1/4"	1 1/4"	1 1/4"	3"
1 1/2"	1 1/4" X 1 1/2"	1 1/2"	3"
2"	1 1/2" X 2"	2"	3"

**EXISTING WATER SERVICE RECONNECTION DETAIL**  
NO SCALE



**WATERTIGHT FRAME & COVER DETAIL**  
NO SCALE

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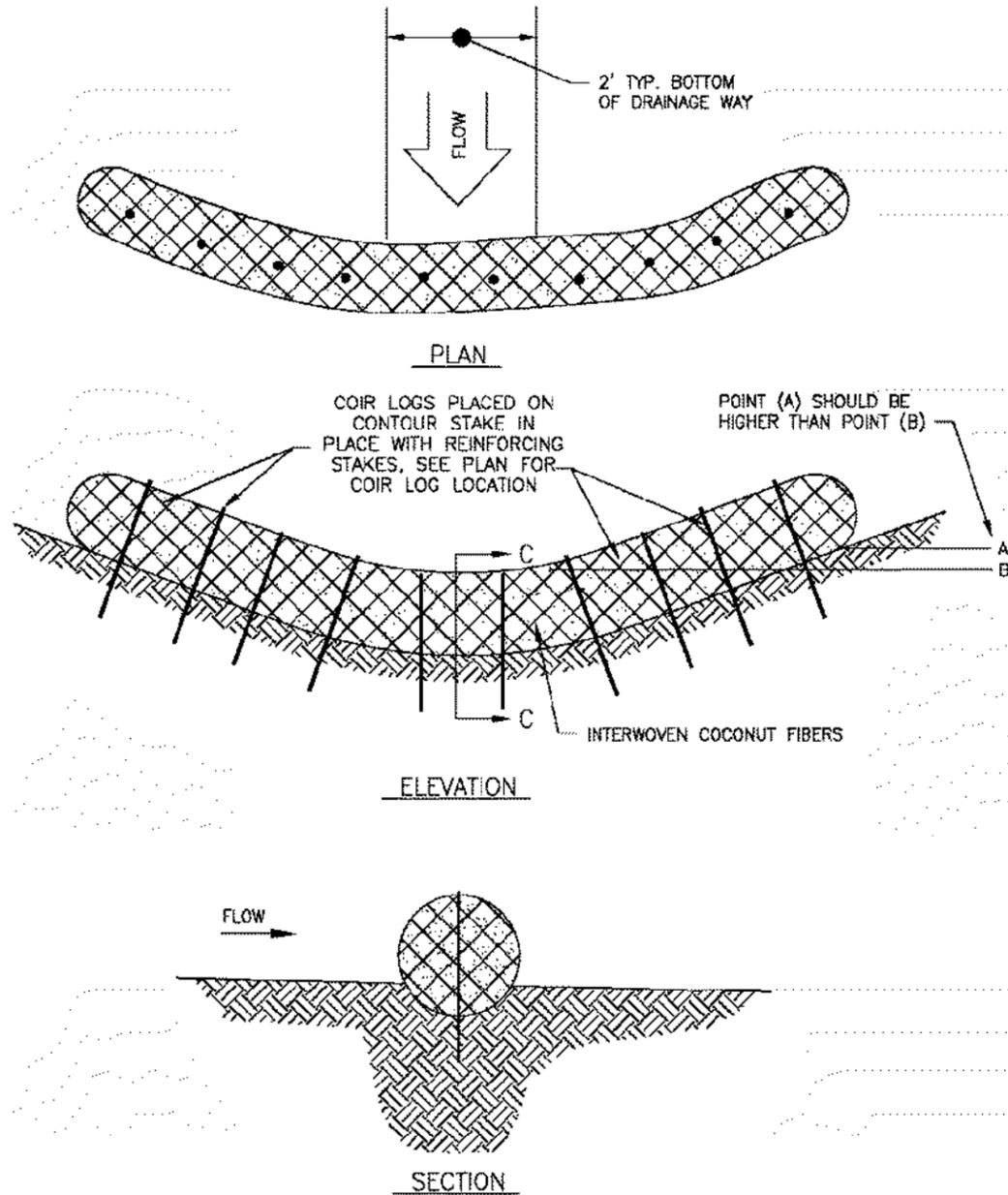


MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
 2018

**STANDARD DETAILS**  
 EXISTING WATER SERVICE RECONNECTION DETAIL  
 & WATERTIGHT FRAME AND COVER DETAIL

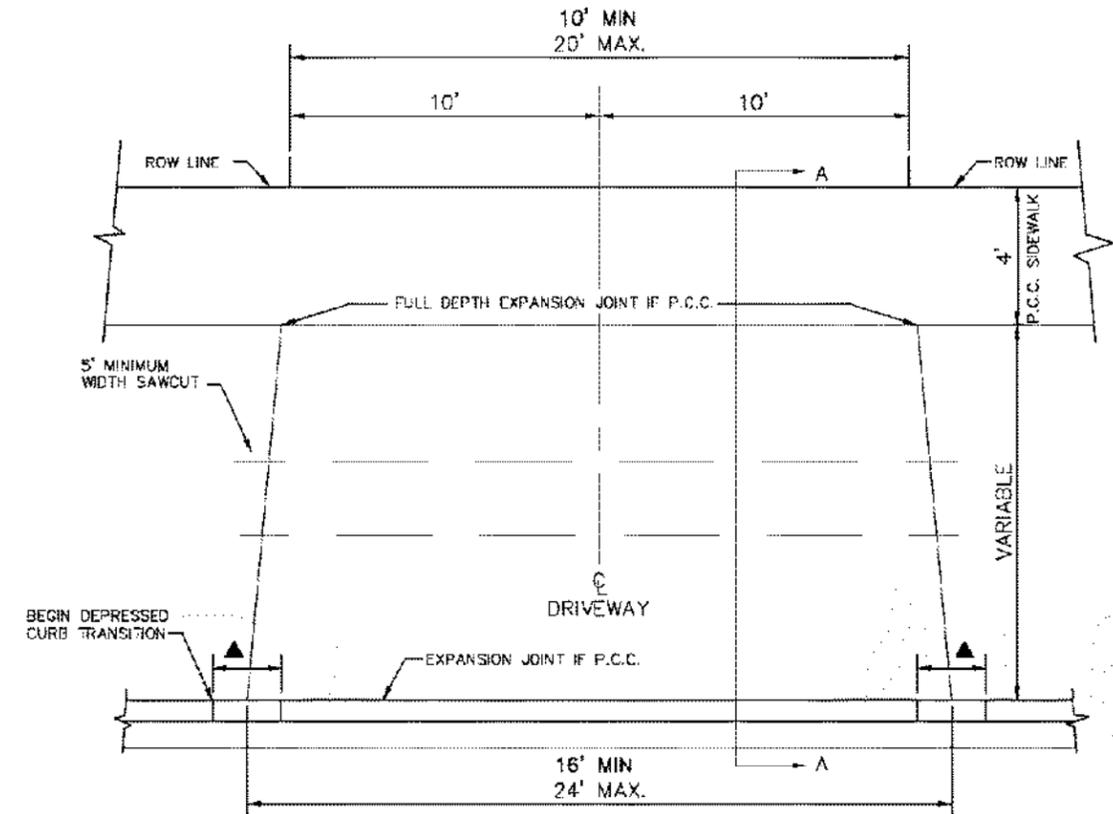
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### COIR LOG DETAIL

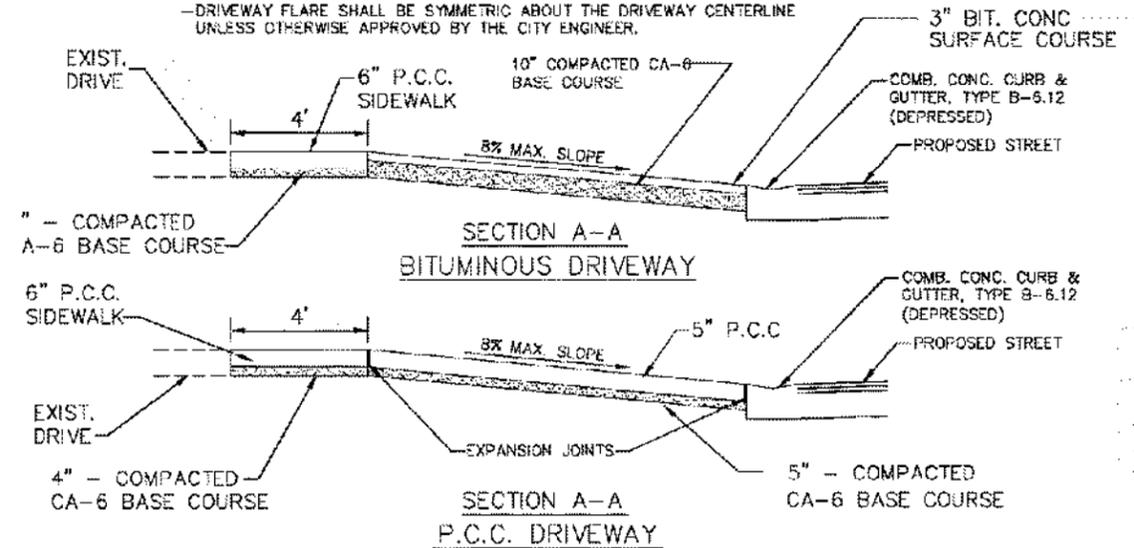


1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURE SPECIFICATIONS
2. SECURE LOG WITH WOODEN OR LIVE STAKES WOVEN THROUGH COIR LOG MESH AND DRIVEN INTO EARTH. STAKE LOG PER MANUFACTURE SPECIFICATIONS. TIE ADJACENT LOGS TOGETHER WITH BIODEGRADABLE TWINE. COMPACT SOIL AROUND LOGS. SECURE THE UPSTREAM AND DOWNSTREAM ENDS BY POSITIONING COIR LOGS SO THEY TRANSITION SMOOTHLY INTO A STABILIZED BANK
3. LENGTH OF STAKE SHOULD BE BASED ON SOIL TYPE
4. NOT RECOMMENDED FOR HIGH VELOCITY AREAS
5. AVAILABLE DIA. 6", 8", 12", 16", & 20"
6. AVAILABLE LENGTH. 10' & 20'

### RESIDENTIAL DRIVEWAY APPROACH DETAIL



- ▲ - TRANSITION FROM FULL CURB IN 2 LINEAL FEET.
- DRIVEWAY APPROACH SHALL MEET CURB AND GUTTER AT A POINT BETWEEN FULL CURB AND ONE-HALF CURB HEIGHT.
- DRIVEWAY FLARE SHALL BE SYMMETRIC ABOUT THE DRIVEWAY CENTERLINE UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.



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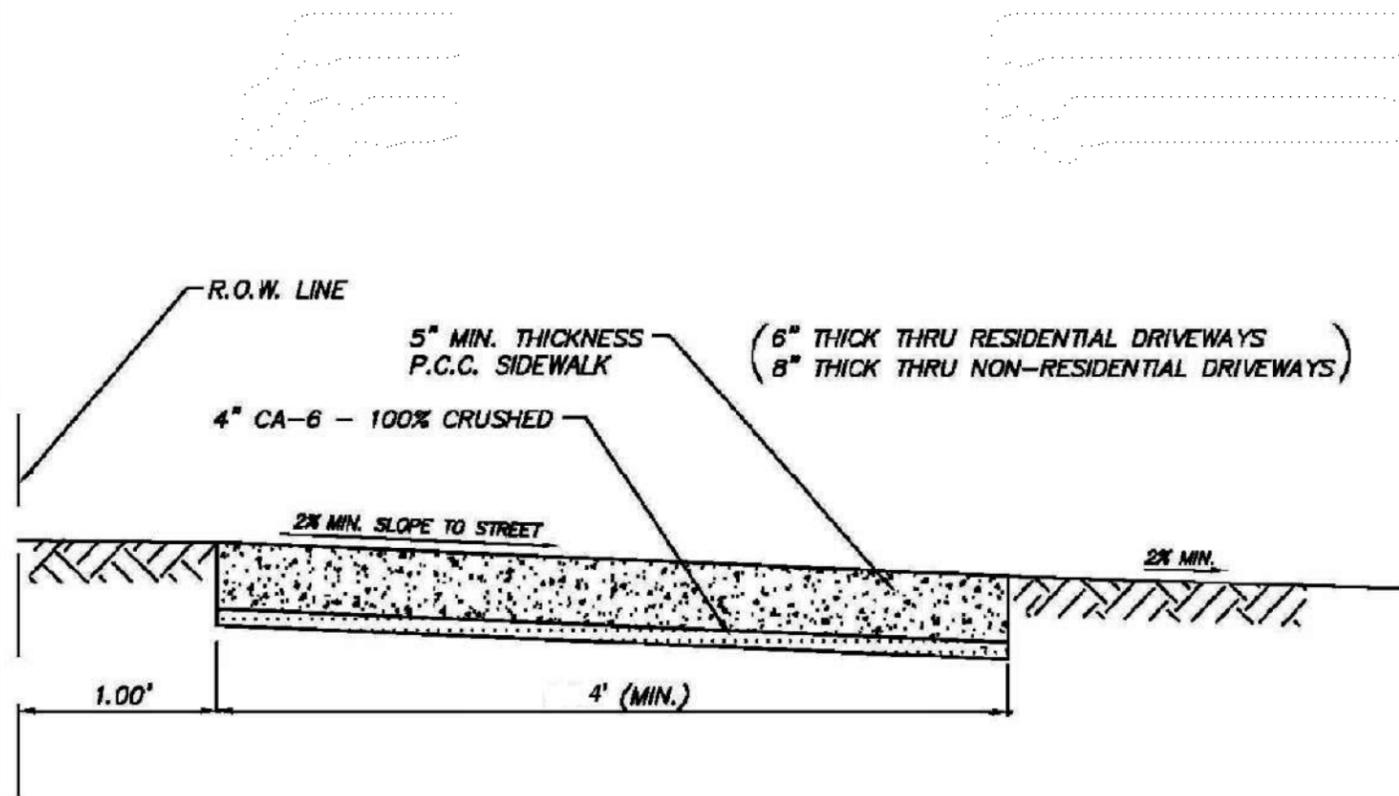


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 MARENGO, ILLINOIS  
 2018

**STANDARD DETAILS**  
 COIR LOG DETAIL &  
 RESIDENTIAL DRIVEWAY APPROACH DETAIL

SHEET NO.  
 S.04

# SIDEWALK DETAIL



**NOTES:**

ALL SIDEWALKS SHALL HAVE CONTRACTION JOINTS AT 4' INTERVALS AND EXPANSION JOINTS AT 40' INTERVALS.  
 MINIMUM SIDEWALKS AS PER VILLAGE OF OSWEGO SUBDIVISION CONTROL ORDINANCE - FIGURE 1

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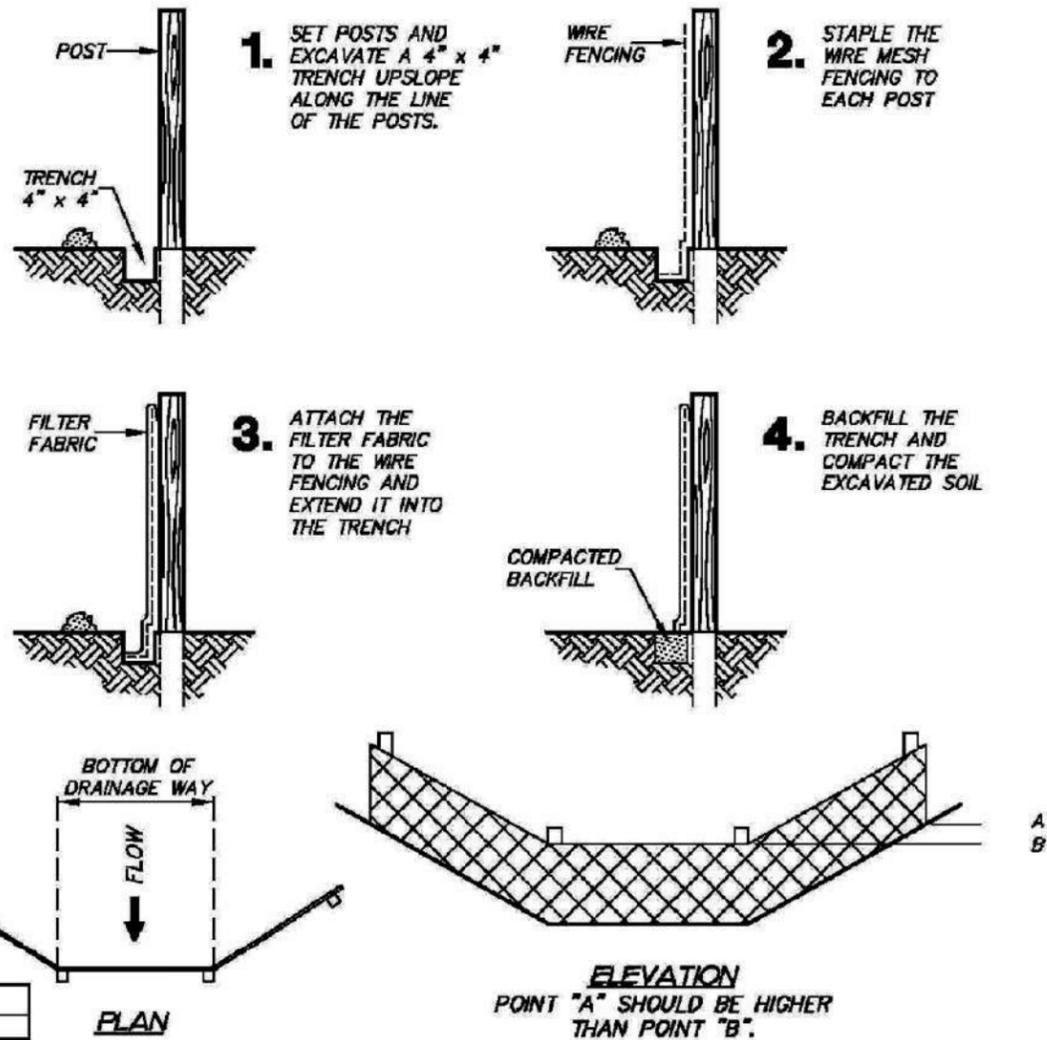
**STANDARD DETAILS**  
 SIDEWALK DETAIL

SHEET NO.  
 S.05

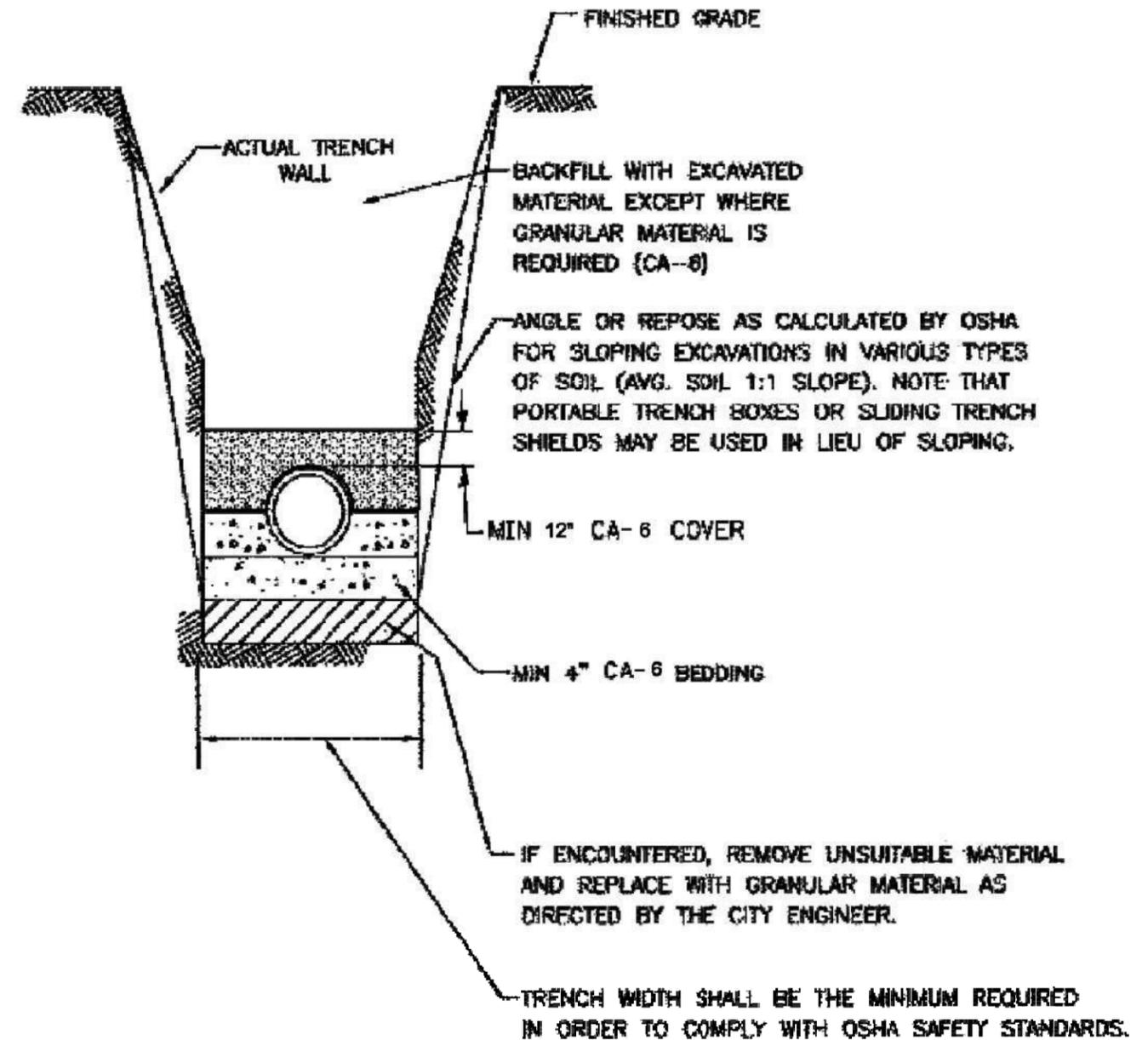
## TEMPORARY SILTATION FENCE DETAIL

### MAINTENANCE

1. Filter barriers shall be inspected immediately after each rainfall greater than 1/2" and at least daily during prolonged rainfall. Any required repairs shall be made immediately.
2. Should the fabric decompose or become ineffective prior to the end of the expected usable life and the barrier still be necessary, the fabric shall be replaced promptly.
3. Sediment deposits should be removed after each storm event. They must be removed when deposits reach approximately half the height of the barrier.
4. Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required shall be dressed to conform with the existing grade, prepared and seeded.



## TRENCH SECTION



### NOTES:

1. IN PAVED AREAS ALL TRENCHES SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 550.07 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
2. MAXIMUM WIDTH FOR TRENCH BACKFILL PAYMENT PURPOSES (4.5').
3. TRENCH BACKFILL CALCULATED FROM TOP OF PIPE COVER TO 12" BELOW SURFACE.

REVISIONS	
INITIAL	DATE
RH	MARCH 2007

NO.	DATE	BY	REVISION DESCRIPTION
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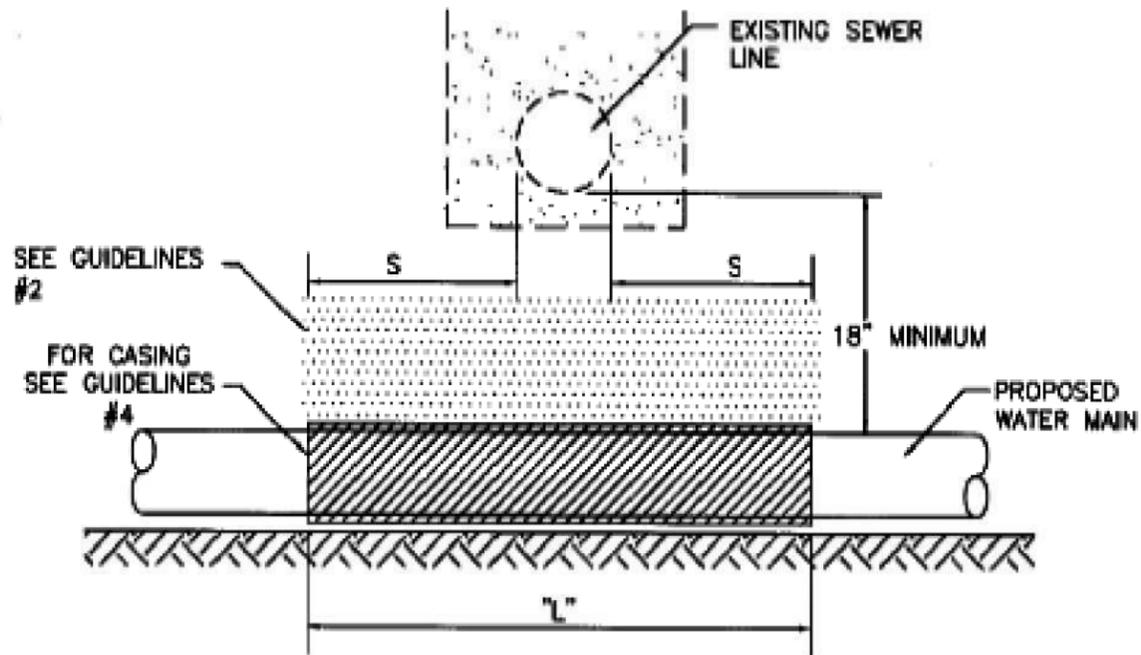
MARENGO 2018 WATER MAIN REPLACEMENT  
MARENGO, ILLINOIS  
2018

**STANDARD DETAILS**  
TEMPORARY SILTATION FENCE &  
TRENCH SECTION DETAIL

SHEET NO.  
S.06

PROPOSED WATER MAIN BELOW EXISTING SEWER LINE WITH 18" MINIMUM VERTICAL SEPARATION.

NOTE: COMPACTION REQUIREMENTS REFER TO ARTICLE 20-4



NOTE: "S" THE LENGTH NECESSARY TO PROVIDE 10 FEET OF SEPARATION AS MEASURED PERPENDICULAR TO THE EXISTING SEWER LINE

**GUIDELINES**

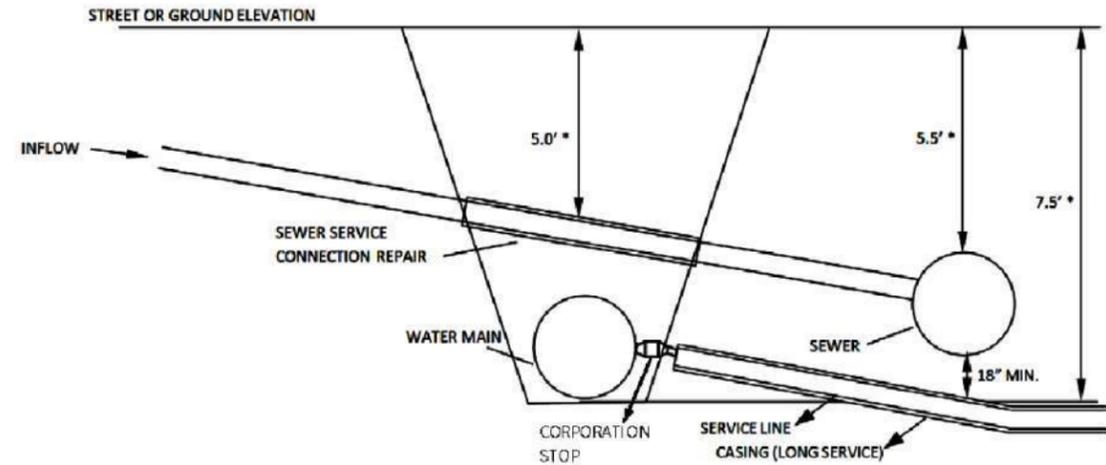
1. OMIT SELECT GRANULAR EMBEDMENT AND GRANULAR BACKFILL TO ONE (1) FOOT OVER TOP OF WATER MAIN AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT THE LENGTH OF "L".
2. IF SELECT GRANULAR BACKFILL EXISTS, REMOVE WITHIN WIDTH OF EXISTING SEWER LINE TRENCH AND REPLACE WITH SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT.
3. PROVIDE ADEQUATE SUPPORT FOR EXISTING SEWER LINE TO PREVENT DAMAGE DUE TO SETTLEMENT.
4. TO PREVENT DAMAGE DUE TO SETTLEMENT.

USE "L" FEET OF WATER MAIN MATERIAL FOR CASING OF PROPOSED WATER MAIN AND SEAL ENDS OF CASING.

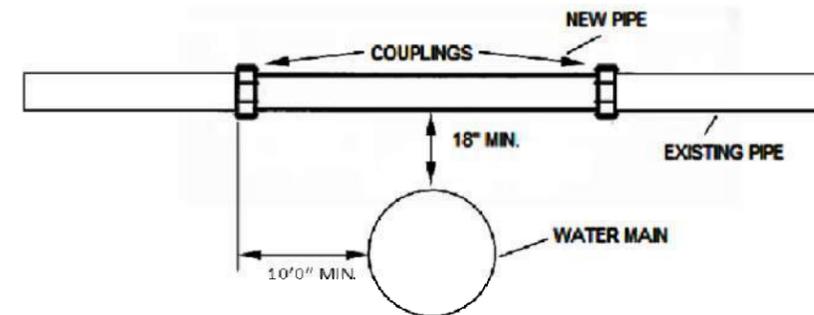
**WATER AND SEWER SEPARATION REQUIREMENTS**

**VERTICAL SEPARATION**

STANDARD DRAWING NO.23



**SEWER CROSSING LAYOUT**



**SEWER SERVICE CONNECTION REPAIR DETAIL**

**NOTES:**

1. BASED ON A TYPICAL SEWER DEPTH OF 5.5' AT CENTERLINE OF STREET, IT IS ESTIMATED THAT THE SERVICE LINE AT THE WATER MAIN CROSSING WILL BE APPROXIMATELY 5.0' DEEP. CORRESPONDING INVERT ELEVATION OF WATER MAIN WOULD BE APPROXIMATELY 7.5' DEEP TO MEET EPA CROSSING REQUIREMENTS. BASED ON ACTUAL SEWER ELEVATIONS, DEPTH OF WATER MAIN WILL VARY.
2. 18" VERTICAL SEPARATION BETWEEN SANITARY SERVICE LINE AND WATER MAIN AND BETWEEN WATER SERVICE LINE MUST BE MAINTAINED AT ALL TIMES.
3. SERVICE LINE PIPE SHALL BE REPLACED TO 10' ON EITHER SIDE OF WATER MAIN WITH SDR 26 PVC PIPE PER VERTICAL SEPARATION DETAIL, SHEET S.07. TOTAL LENGTH OF NEW PIPE SHALL BE 21'.
4. FERNCO COUPLINGS SHALL BE INSTALLED AT EITHER END OF SERVICE LINE REPLACEMENT PIPE.

**TYPICAL WATER MAIN AND SANITARY SEWER SERVICE CROSSING DETAIL**

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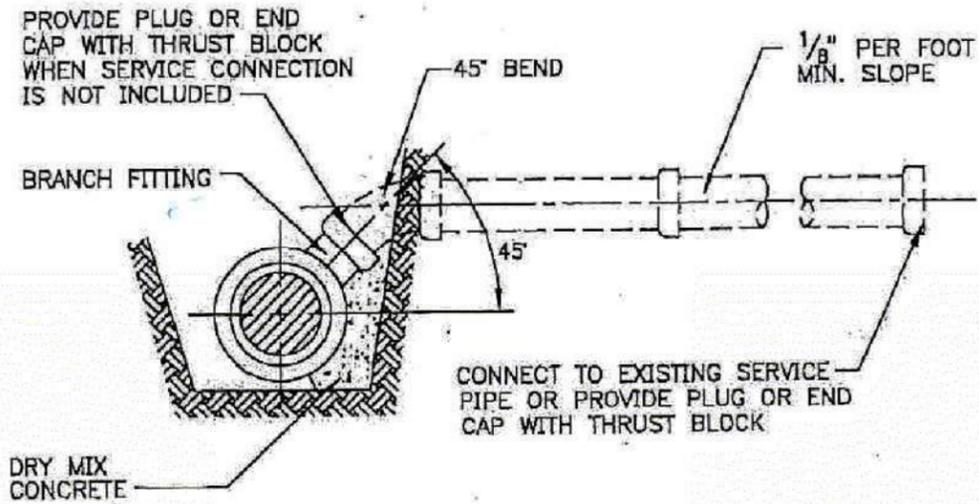


MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
 2018

**STANDARD DETAILS**  
 WATER AND SEWER SEPARATION REQUIREMENT &  
 TYPICAL WATER MAIN AND SANITARY SEWER  
 SERVICE CROSSING DETAIL

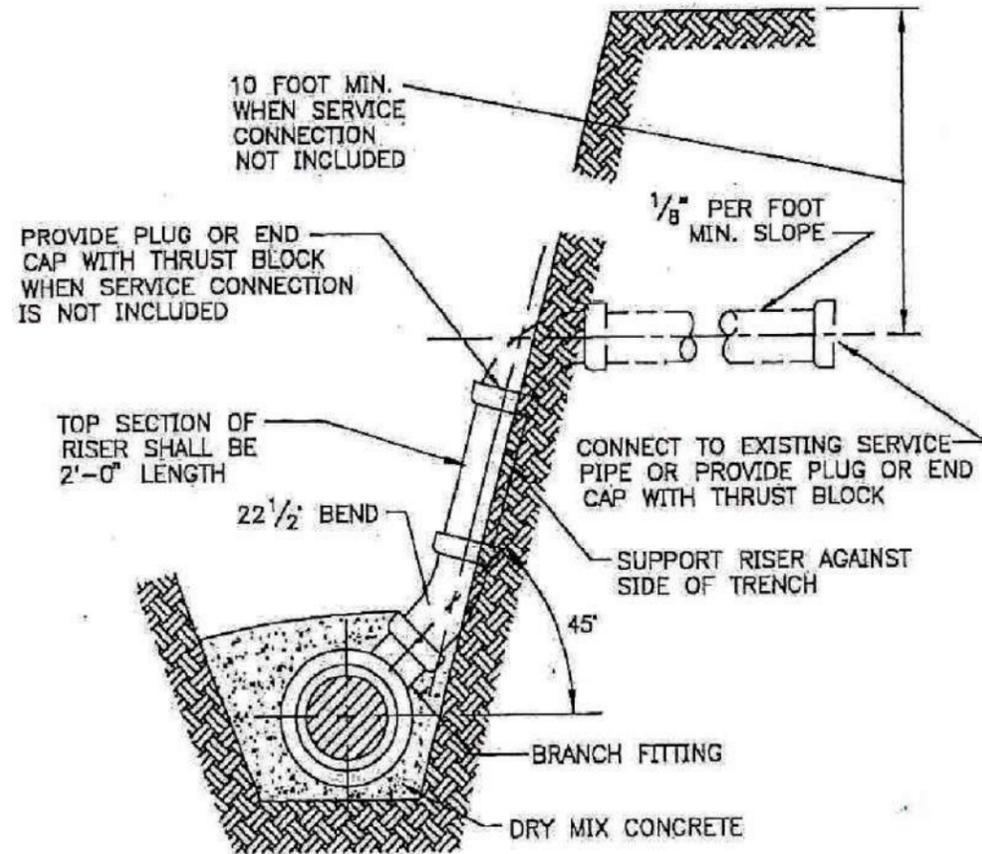
SHEET NO.  
 S.07

Bldsrsv



### BUILDING SERVICE DETAIL

FOR SEWER INVERT DEPTHS TO 12 FEET



### BUILDING SERVICE RISER DETAIL

FOR SEWER INVERT DEPTHS OVER 12 FEET

6-24-02

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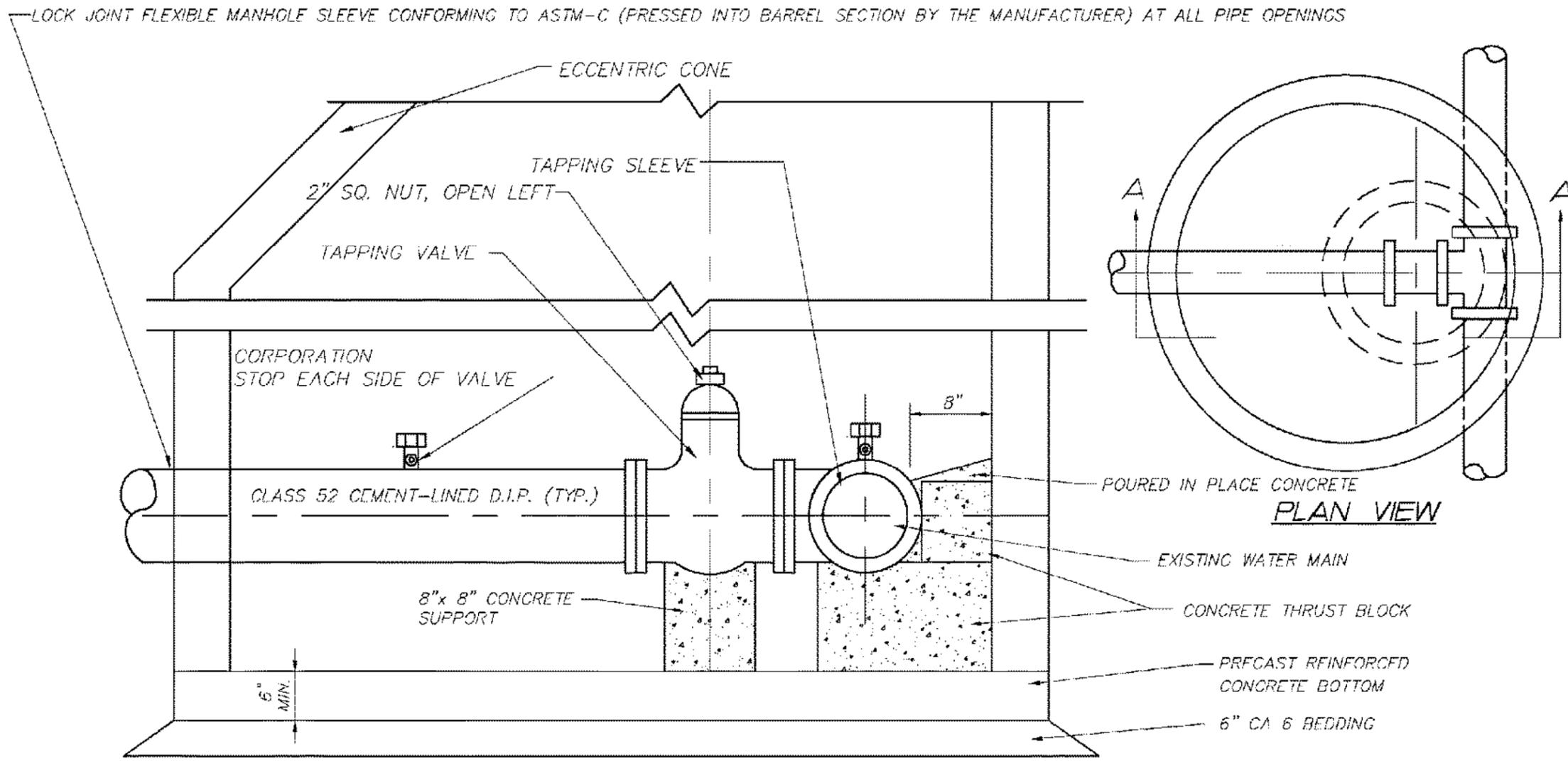
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MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
 2018

**STANDARD DETAILS**  
 SANITARY SEWER DETAIL  
 BUILDING SERVICE & BUILDING SERVICE RISER

SHEET NO.  
 S.08



SECTION A-A

NOTES:  
 ADJUSTING RING HEIGHT NOT TO EXCEED 8"  
 ALL JOINTS ARE TO BE MADE WATERTIGHT WITH EXTERNAL SEALING BANDS PER ASTM C-877 WITH MECHANICAL STRAPS (MAC WRAP OR EQUAL).  
 STANDARD VALVE VAULT SPECIFICATIONS REQUIRE CONCENTRIC CONES (SEE SEPARATE DETAIL).

PRESSURE CONNECTION DETAIL

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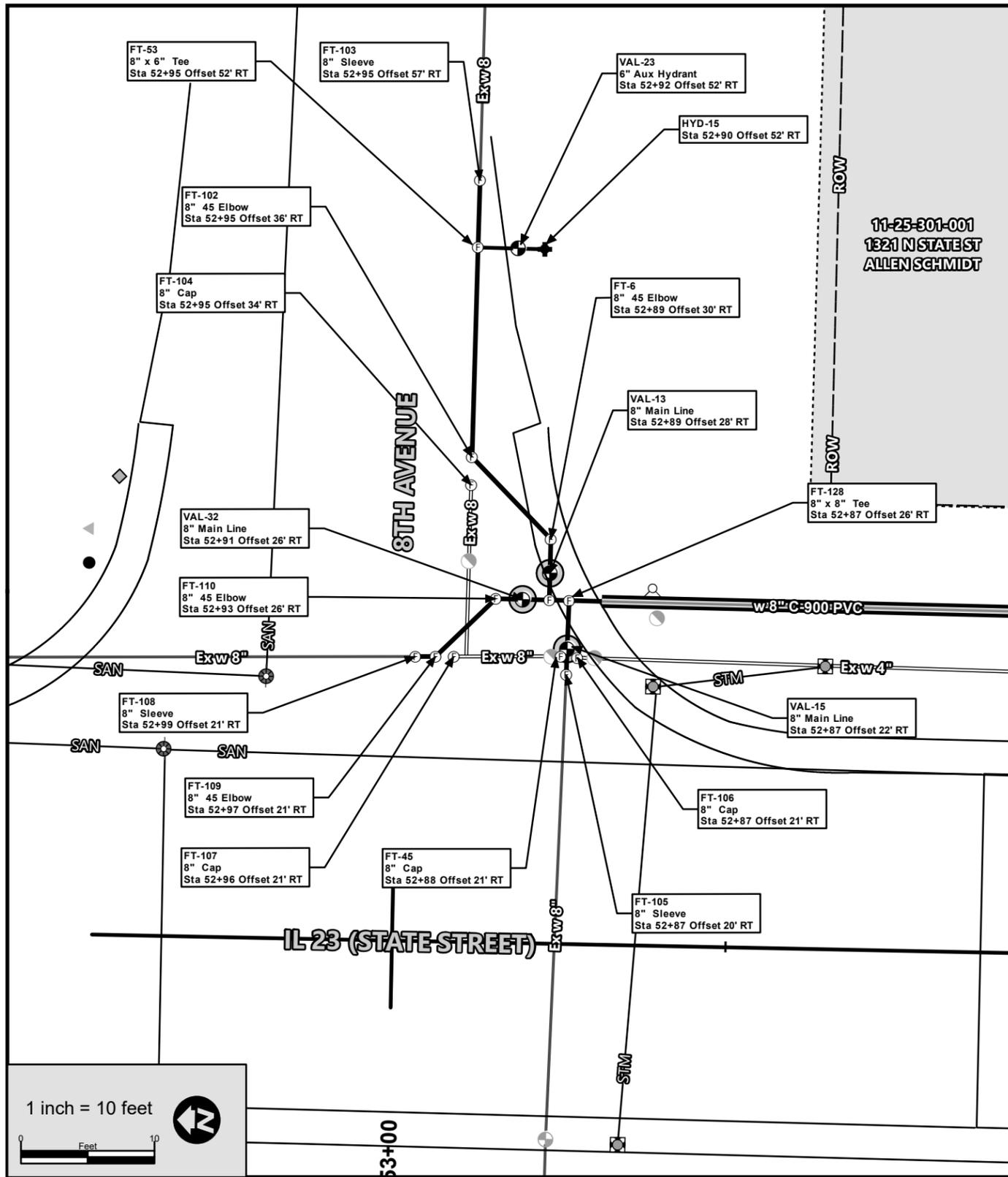


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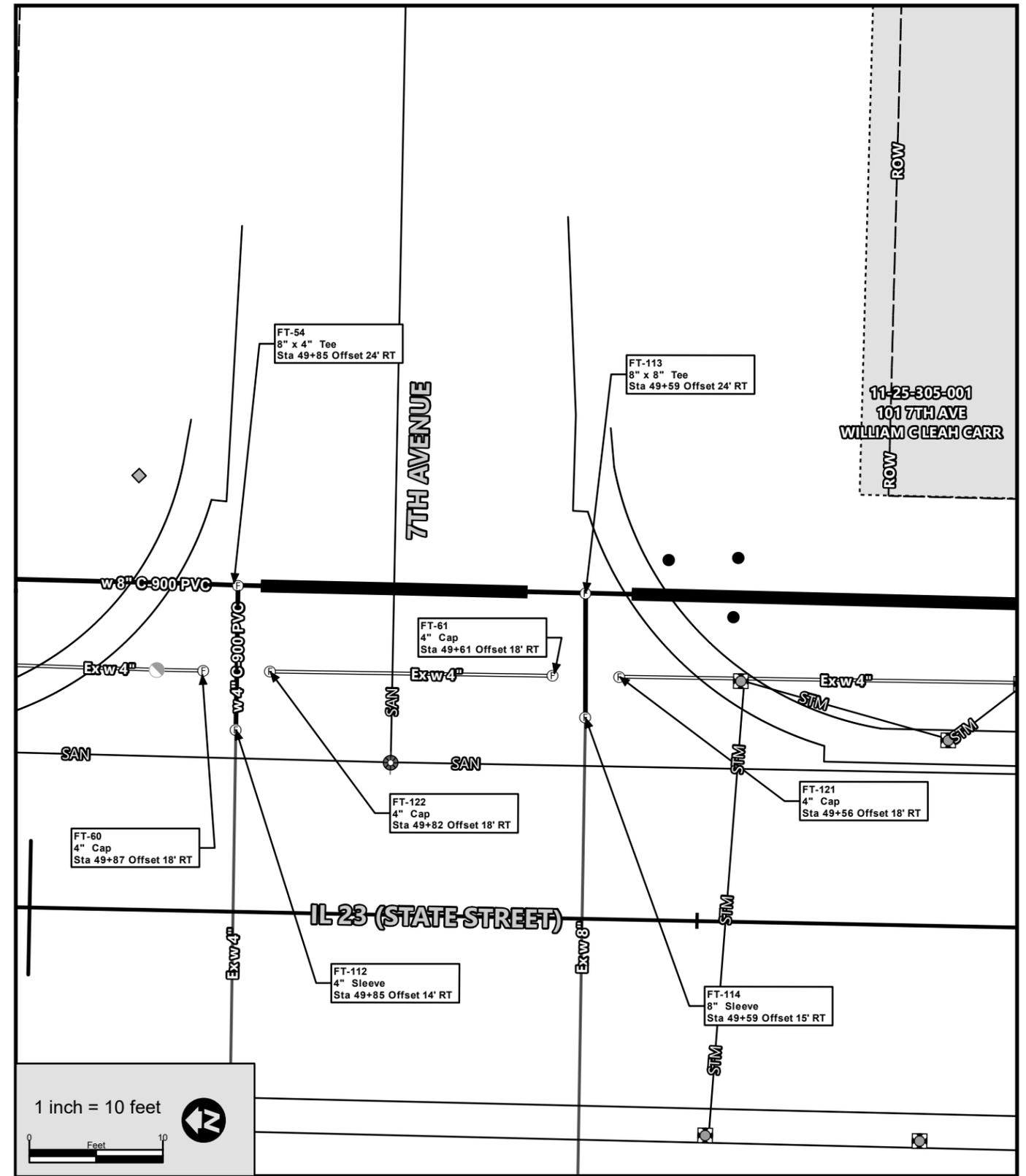
**STANDARD DETAILS**  
 PRESSURE CONNECTION DETAIL

SHEET NO.  
 S.09





**Connection Detail 1 - Sheet No. D.01**



**Connection Detail 2 - Sheet No. D.01**

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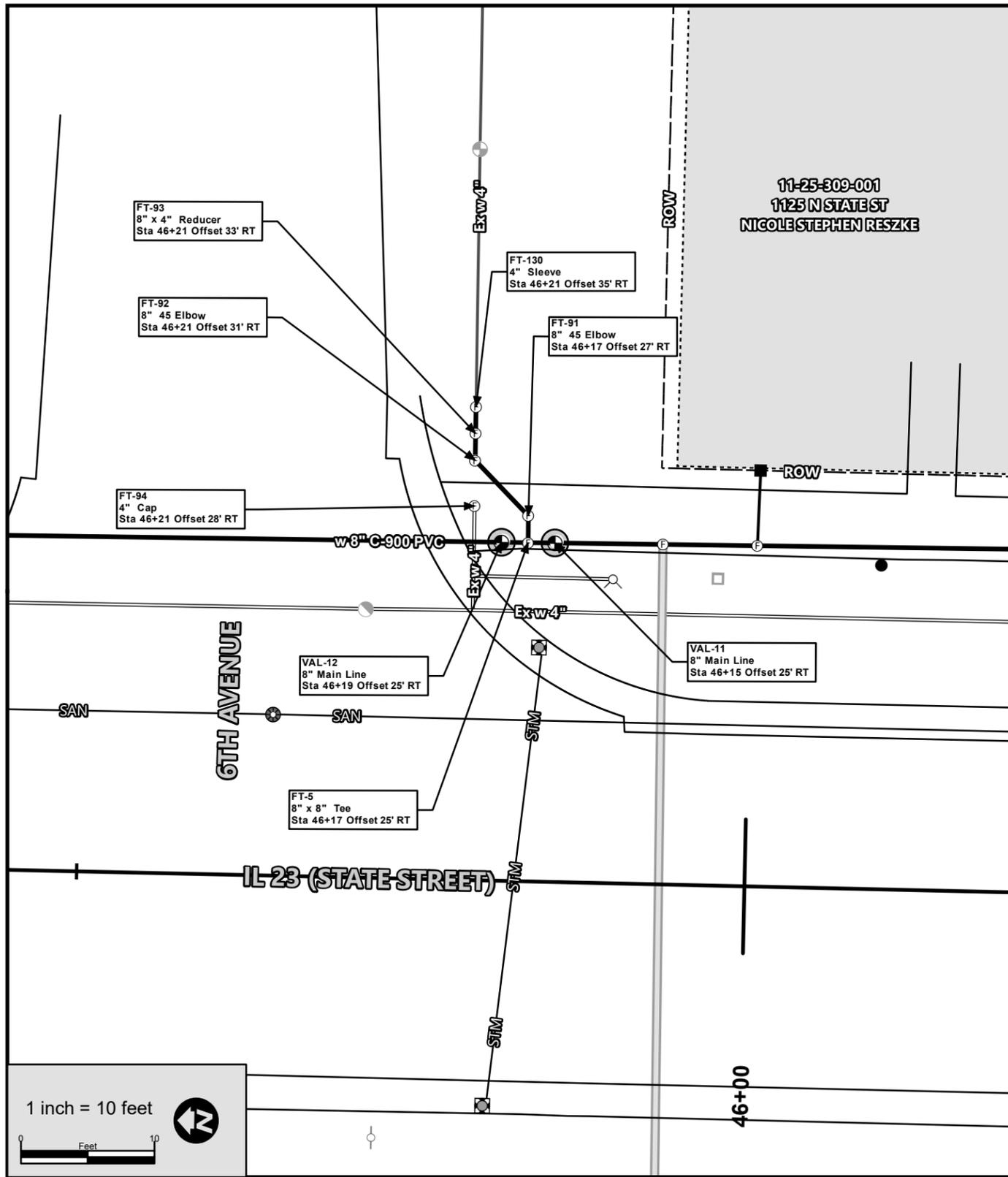
NO.	DATE	BY	REVISION DESCRIPTION
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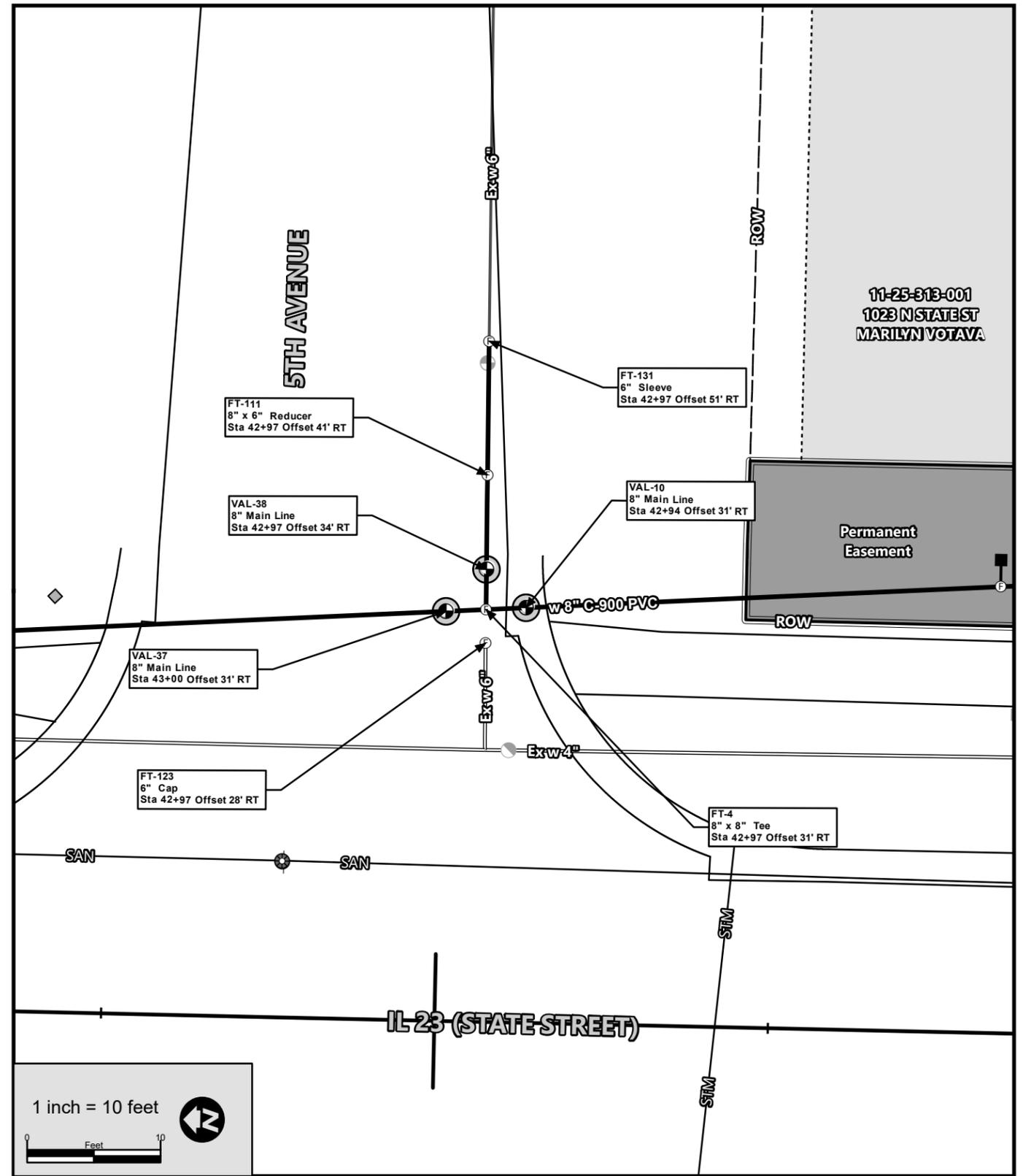
MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
 2018

**STANDARD DETAILS**  
 CONNECTION DETAILS 1 & 2

SHEET NO.  
 S.11



**Connection Detail 3 - Sheet No. D.02**



**Connection Detail 4 - Sheet No. D.02**

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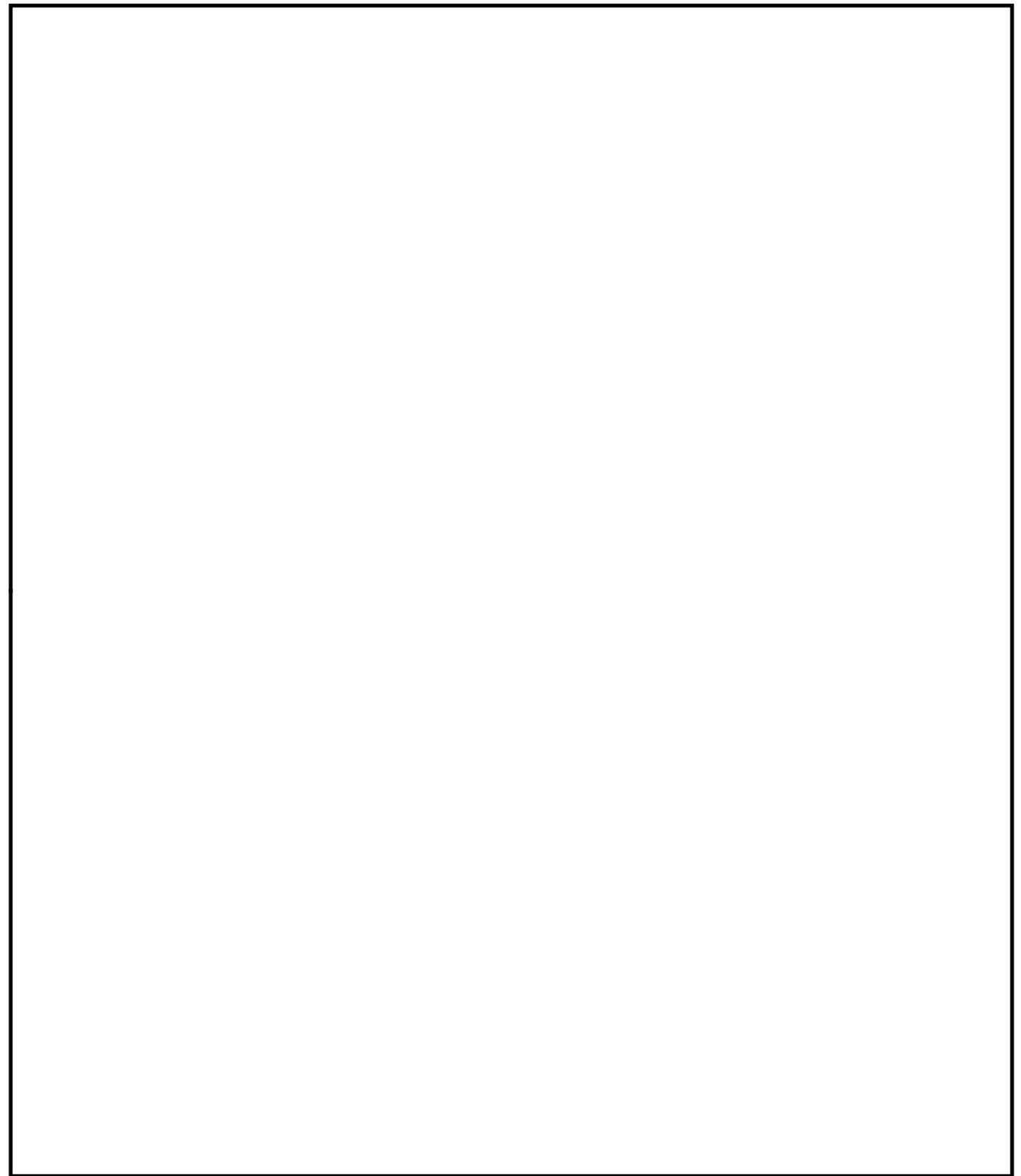
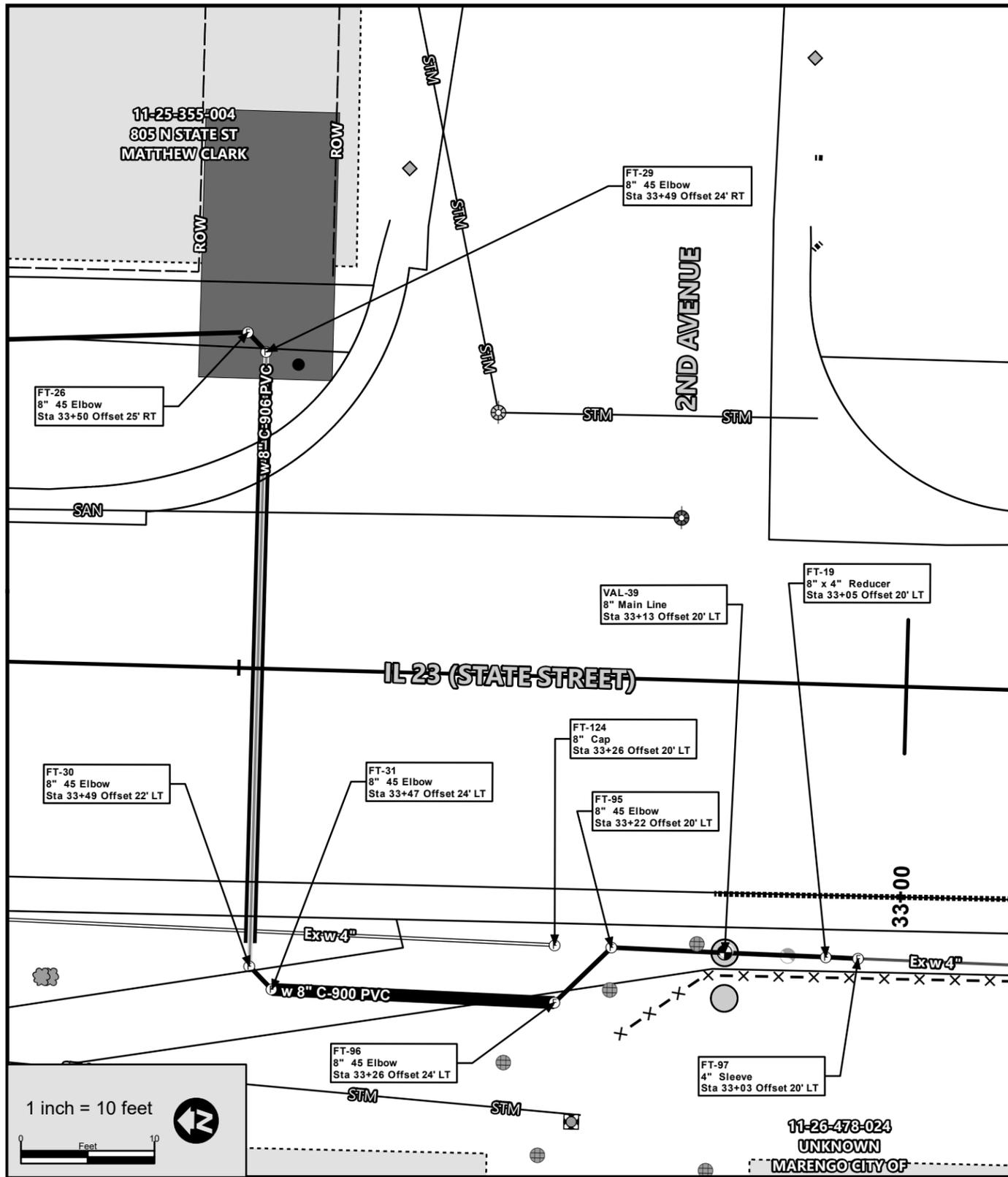
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MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
 2018

**STANDARD DETAILS**  
 CONNECTION DETAILS 3 & 4

SHEET NO.  
 S.12



**Connection Detail 5 - Sheet No. D.04**

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 MARENGO, ILLINOIS  
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**STANDARD DETAILS**  
 CONNECTION DETAIL 5

SHEET NO.  
 S.13

TRAFFIC CONTROL NOTES:

TRAFFIC CONTROL ON THIS PROJECT SHALL BE IN ACCORDANCE WITH SPECIFIC LAYOUTS SHOWN ON THESE PLANS, AS REQUIRED BY THE ENGINEER, AND SHALL MEET THE REQUIREMENTS OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION AND CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). TRAFFIC CONTROL DEVICES, PROCEDURES, AND LAYOUTS SHALL BE AS PER CURRENT PART VI OF THE MUTCD.

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**GENERAL**  
GENERAL NOTES

SHEET NO.  
T.01

ABV ABOVE	CU YD CUBIC YARD	HD HEAD	PED PEDESTAL	STD STANDARD
A/C ACCESS CONTROL	CULV CULVERT	HDW HEADWALL	PNT POINT	SBI STATE BOND ISSUE
AC ACRE	C&G CURB & GUTTER	HDUTY HEAVY DUTY	PC POINT OF CURVATURE	SR STATE ROUTE
ADJ ADJUST	D DEGREE OF CURVE	ha HECTARE	PI POINT OF INTERSECTION OF HORIZONTAL CURVE	STA STATION
AS AERIAL SURVEYS	DC DEPRESSED CURVE	HMA HOT MIX ASPHALT	PRC POINT OF REVERSE CURVE	SPBGR STEEL PLATE BEAM GUARDRAIL
AGG AGGREGATE	DET DETECTOR	HWY HIGHWAY	PT POINT OF TANGENCY	SS STORM SEWER
AH AHEAD	DIA DIAMETER	HORIZ HORIZONTAL	POT POINT ON TANGENT	STY STORY
APT APARTMENT	DIST DISTRICT	HSE HOUSE	PO YETH POLYETHYLENE	ST STREET
ASPH ASPHALT	DOM DOMESTIC	IL ILLINOIS	PCC PORTLAND CEMENT CONCRETE	STR STRUCTURE
AUX AUXILIARY	DBL DOUBLE	IMP IMPROVEMENT	PP POWER POLE OR PRINCIPAL POINT	e SUPERELEVATION RATE
AGS AUXILIARY GAS VALVE (SERVICE)	DSEL DOWNSTREAM ELEVATION	IN DIA INCH DIAMETER	PRM PRIME	S.E. RUN. SUPERELEVATION RUNOFF LENGTH
AVE AVENUE	DSFL DOWNSTREAM FLOWLINE	INL INLET	PE PRIVATE ENTRANCE	SURF SURFACE
AX AXIS OF ROTATION	DR DRAINAGE OR DRIVE	INST INSTALLATION	PROF PROFILE	SMK SURVEY MARKER
BK BACK	DI DRAINAGE INLET OR DROP INLET	IDS INTERSECTION DESIGN STUDY	PCL PROFIL GRADELINE	T TANGENT DISTANCE
B-B BACK TO BACK	DRV DRIVEWAY	INV INVERT	PRDJ PROJECT	T.R. TANGENT RUNOUT DISTANCE
BKP BACKPLATE	DCT DUCT	IP IRON PIPE	P.C. PROPERTY CORNER	TEL TELEPHONE
B BARN	EA EACH	IR IRON ROD	PL PROPERTY LINE	TB TELEPHONE BOX
BARR BARRICADE	EB EASTBOUND	JT JOINT	PR PROPOSED	TP TELEPHONE POLE
BCN BEGIN	EOP EDGE OF PAVEMENT	kg KILOGRAM	R RADIUS	TEMP TEMPORARY
BM BENCHMARK	E-CL EDGE TO CENTERLINE	km KILOMETER	RR RAILROAD	TBM TEMPORARY BENCH MARK
BIND BINDER	E-E EDGE TO EDGE	LS LANDSCAPING	RRS RAILROAD SPIKE	TD TILE DRAIN
BIT BITUMINOUS	EL ELEVATION	LN LANE	RPS REFERENCE POINT STAKE	TBE TO BE EXTENDED
BTM BOTTOM	ENR ENTRANCE	LT LEFT	REF REFLECTIVE	TBR TO BE REMOVED
BLVD BOULEVARD	EXC EXCAVATION	LP LIGHT POLE	RCCP REINFORCED CONCRETE CULVERT PIPE	TBS TO BE SAVED
BRK BRICK	EX EXISTING	LGT LIGHTING	REINF REINFORCEMENT	TWP TOWNSHIP
BBOX BUFFALO BOX	EXPWAY EXPRESSWAY	L LINEAL FEET OR LINEAR FEET	REM REMOVAL	TR TOWNSHIP ROAD
BLDG BUILDING	E EXTERNAL DISTANCE OF HORIZONTAL CURVE	L LITER OR CURVE LENGTH	RC REMOVE CROWN	TS TRAFFIC SIGNAL
CIP CAST IRON PIPE	E-F OFFSET DISTANCE TO VERTICAL CURVE	LC LONG CHORD	REP REPLACEMENT	TSCB TRAFFIC SIGNAL CONTROL BOX
CB CATCH BASIN	FA FACE TO FACE	LNG LONGITUDINAL	REST RESTAURANT	TSC TRAFFIC SYSTEMS CENTER
C-C CENTER TO CENTER	FAI FEDERAL AID	L SUM LUMP SUM	RESURF RESURFACING	TRVS TRANSVERSE
CL CENTERLINE OR CLEARANCE	FAP FEDERAL AID INTERSTATE	MACH MACHINE	RFT RETAINING	TRVL TRAVEL
CL-F CENTERLINE TO EDGE	FAS FEDERAL AID PRIMARY	MB MAIL BOX	RT RIGHT	TRN TURN
CL-F CENTERLINE TO FACE	FAS FEDERAL AID SECONDARY	MH MANHOLE	ROW RIGHT-OF-WAY	TY TYPE
CTS CENTERS	FAUS FEDERAL AID URBAN SECONDARY	MATL MATERIAL	RD ROAD	T-A TYPE A
CERT CERTIFIED	FP FENCE POST	MED MEDIAN	RDWY ROADWAY	TYP TYPICAL
CHSLD CHISELED	FE FIELD ENTRANCE	m METER	RTE ROUTE	UNDCND UNDERGROUND
CS CITY STREET	FH FIRE HYDRANT	METH METHOD	SAN SANITARY	USGS U.S. GEOLOGICAL SURVEY
CP CLAY PIPE	FL FLOW LINE	M MID-ORDINATE	SANS SANITARY SEWER	USEL UPSTREAM ELEVATION
CLSD CLOSED	FB FOOT BRIDGE	mm MILLIMETER	SEC SECTION	USFL UPSTREAM FLOWLINE
CLID CLOSED LID	FDN FOUNDATION	mm DIA MILLIMETER DIAMETER	SEED SEEDING	UTIL UTILITY
CT COAT OR COURT	FR FRAME	MIX MIXTURE	SHAP SHAPING	VBOX VALVE BOX
COMB COMBINATION	F&G FRAME & GRATE	NBH MOBILE HOME	S SHEED	VV VALVE VAULT
C COMMERCIAL BUILDING	FRWAY FREEWAY	MOD MODIFIED	SH SHEET	VLT VAULT
CE COMMERCIAL ENTRANCE	GAL GALLON	MFT MOTOR FUEL TAX	SHLD SHOULDER	VEH VEHICLE
CONC CONCRETE	GALV GALVANIZED	N & BC NAIL & BOTTLE CAP	SW SIDEWALK OR SOUTHWEST	VP VENT PIPE
CONST CONSTRUCT	G GARAGE	N & C NAIL & CAP	SIG SIGNAL	VERT VERTICAL
CONTD CONTINUED	GM GAS METER	N & W NAIL & WASHER	SOD SODDING	VC VERTICAL CURVE
CONT CONTINUOUS	GV GAS VALVE	NOAA NATIONAL OCEANIC ATMOSPHERIC ADMINISTRATION	SM SOLID MEDIAN	VPC VERTICAL POINT OF CURVATURE
COR CORNER	CRAN CRANULAR	NC NORMAL CROWN	SB SOUTHBOUND	VPI VERTICAL POINT OF INTERSECTION
CORR CORRUGATED	GR GRATE	NB NORTHBOUND	SE SOUTHEAST	VPT VERTICAL POINT OF TANGENCY
CMP CORRUGATED METAL PIPE	GRVL GRAVEL	NE NORTHEAST	SPL SPECIAL	WM WATER METER
CNTY COUNTY	GND GROUND	NW NORTHWEST	SD SPECIAL DITCH	WV WATER VALVE
CH COUNTY HIGHWAY	GUT GUTTER	OLID OPEN LID	SO FT SQUARE FEET	WMAIN WATER MAIN
CSE COURSE	GP GUY POLE	PAT PATTERN	m 2 SQUARE METER	WB WESTBOUND
XSECT CROSS SECTION	GW GUY WIRE	PVD PAVED	mm 2 SQUARE MILLIMETER	WILDFL WILDFLOWERS
m <sup>3</sup> CUBIC METER	HH HANDHOLE	PVMT PAVEMENT	SO YD SQUARE YARD	W WITH
mm <sup>3</sup> CUBIC MILLIMETER	HATCH HATCHING	PM PAVEMENT MARKING	STB STABILIZED	WO WITHOUT

Illinois Department of Transportation

DESIGNED BY: *Michael Beard* January 1, 2011

ENGINEER OF DESIGN AND SUPERVISION

APPROVED BY: *Scott Fisher* January 1, 2011

ENGINEER OF DESIGN AND ENVIRONMENT

DATE	REVISIONS	<b>STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS</b> (Sheet 1 of 8) <b>STANDARD 000001-06</b>
1-1-11	Updated abbreviations and symbols.	
1-1-08	Updated abbreviations and symbols.	

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**GENERAL**  
 STANDARD SYMBOLS, ABBREVIATIONS,  
 & PATTERNS

SHEET NO.  
 T.02

**ADJUSTMENT ITEMS**

**EX**

**PR**

Structure To Be Adjusted		
Structure To Be Cleaned		
Main Structure To Be Filled		
Structure To Be Filled		
Structure To Be Filled Special		
Structure To Be Removed		
Structure To Be Reconstructed		
Structure To Be Reconstructed Special		
Frame and Grate To Be Adjusted		
Frame and Lid To Be Adjusted		
Domestic Service Box To Be Adjusted		
Valve Vault To Be Adjusted		
Special Adjustment		
Item To Be Abandoned		
Item To Be Moved		
Item To Be Relocated		
Pavement Removal and Replacement		

Illinois Department of Transportation

PASSED: Michael Brand January 1, 2011

ENGINEER OF POLICY AND PROCEDURES

APPROVED: [Signature] January 1, 2011

ENGINEER OF DESIGN AND ENVIRONMENT

15-1-11

**ALIGNMENT ITEMS**

**EX**

**PR**

Baseline		
Centerline		
Centerline Break Circle		
Baseline Symbol		
Centerline Symbol		
PI Indicator		
Point Indicator		
Horizontal Curve Data (Half Size)	<p>CURVE</p> <p>P.I. STA=</p> <p>Δ=</p> <p>D=</p> <p>H=</p> <p>T=</p> <p>L=</p> <p>E=</p> <p>θ=</p> <p>T.P.=</p> <p>S.L. RUN=</p> <p>P.C. STA=</p> <p>P.T. STA=</p>	<p>CURVE</p> <p>P.I. STA=</p> <p>Δ=</p> <p>D=</p> <p>H=</p> <p>T=</p> <p>L=</p> <p>E=</p> <p>θ=</p> <p>T.P.=</p> <p>S.L. RUN=</p> <p>P.C. STA=</p> <p>P.T. STA=</p>

**BOUNDARIES ITEMS**

**EX**

**PR**

Dashed Property Line		
Solid Property/Lot Line		
Section/Grant Line		
Quarter Section Line		
Quarter/Quarter Section Line		
County/Township Line		
State Line		
Iron Pipe Found		
Iron Pipe Set		
Survey Marker		
Property Line Symbol		
Same Ownership Symbol (Half Size)		
Northwest Quarter Corner (Half Size)		
Section Corner (Half Size)		
Southeast Quarter Corner (Half Size)		

**CONTOUR ITEMS**

**EX**

**PR**

Approx. Index Line		
Approx. Intermediate Line		
Index Contour		
Intermediate Contour		

**DRAINAGE ITEMS**

**EX**

**PR**

Channel or Stream Line		
Culvert Line		
Grading & Shaping Ditches		
Drainage Boundary Line		
Paved Ditch		
Aggregate Ditch		
Pipe Underdrain		
Storm Sewer		
Flowline		
Ditch Check		
Headwall		
Inlet		
Manhole		
Summit		
Roadway Ditch Flow		
Swale		
Catch Basin		
Culvert End Section		
Water Surface Indicator		
Riprap		

**STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS**

(Sheet 2 of 8)

STANDARD 000001-06

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**GENERAL**  
 STANDARD SYMBOLS, ABBREVIATIONS,  
 & PATTERNS

SHEET NO.  
 T.03

**EROSION & SEDIMENT CONTROL ITEMS**

**EX**

**PR**

Cleaning & Grading Limits	
Dike	
Erosion Control Fence	
Perimeter Erosion Barrier	
Temporary Fence	
Ditch Check Temporary	
Ditch Check Permanent	
Inlet & Pipe Protection	
Sediment Basin	
Erosion Control Blanket	
Fabric Formed Concrete Revetment Mat	
Turf Reinforcement Mat	
Mulch Temporary	
Mulch Method 1	
Mulch Method 2 Stabilized	
Mulch Method 3 Hydraulic	

**NON-HIGHWAY IMPROVEMENT ITEMS**

**EX**

**PR**

Noise Attr./Levee	
Field Line	
Fence	
Base of Levee	
Mailbox	
Multiple Mailboxes	
Pay Telephone	
Advertising Sign	

**LANDSCAPING ITEMS**

**EX**

**PR**

Contour Mounding Line	
Fence	
Fence Post	
Shrubs	
Mowline	
Perennial Plants	
Seeding Class 2	
Seeding Class 2A	
Seeding Class 4	
Seeding Class 4 & 5 Combined	

**EXISTING LANDSCAPING ITEMS (contd.)**

**EX**

**PR**

Seeding Class 5	
Seeding Class 7	
Seedlings Type 1	
Seedlings Type 2	
Sodding	

Mowstake w/Sign	
Tree Trunk Protection	
Evergreen Tree	
Shade Tree	

**LIGHTING**

**EX**

**PR**

Duct		
Conduit		
Electrical Aerial Cable		
Electrical Buried Cable		
Controller		
Underpass Luminaire		
Power Pole		

**STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS**  
(Sheet 3 of 8)

**STANDARD 000001-06**

Illinois Department of Transportation  
 PASSED January 1, 2011  
 ENGINEER OF POLICY AND PROCEDURES  
 APPROVED January 1, 2011  
 ENGINEER OF DESIGN AND ENVIRONMENT

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MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
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**GENERAL**  
 STANDARD SYMBOLS, ABBREVIATIONS,  
 & PATTERNS

SHEET NO.  
 T.04

**LIGHTING**  
**(contd.)**

	<b>EX</b>	<b>PR</b>
Pull Point		
Handhole		
Heavy Duty Handhole		
Junction Box		
Light Unit Comb.		
Electrical Ground		
Traffic Flow Arrow		
High Mast Pole (Half Size)		
Light Unit-1		

**PAVEMENT (MISC.)**

	<b>EX</b>	<b>PR</b>
Keyed Long. Joint		
Keyed Long. Joint w/Tie Bars		
Sawed Long. Joint w/Tie Bars		
Bituminous Shoulder		
Bituminous Taper		
Stabilized Driveway		
Widening		

**PAVEMENT MARKINGS**

	<b>EX</b>	<b>PR</b>
Bike Lane Symbol		
Bike Lane Text		
Handicap Symbol		
RR Crossing		
Raised Marker Amber 1 Way		
Raised Marker Amber 2 Way		
Raised Marker Crystal 1 Way		
Two Way Turn Left		
Shoulder Diag. Pattern		
Skip-Dash White		
Skip-Dash Yellow		
Stop Line		
Solid Line		
Double Centerline		
Dotted Lines		
CL 2Ln 2Way RRPM 12.2 m (40') o.c.		
CL 2Ln 2Way RRPM 80' (24.4 m) o.c.		
CL Multilane Div. RRPM 40' (12.2 m) o.c.		
CL Multilane Div. RRPM 80' (24.4 m) o.c.		
CL Multilane Div. Dbl. RRPM 80' (24.4 m) o.c.		
CL Multilane Undiv.		
Two Way Turn Left Line		

**STANDARD SYMBOLS,  
ABBREVIATIONS  
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(Sheet 4 of 8)

**STANDARD 000001-06**

Illinois Department of Transportation

PASSED January 1, 2011  
*Michael Beard*  
ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2011  
*Scott Smith*  
ENGINEER OF DESIGN AND ENVIRONMENT

SCALE: 1"=1'-0"

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**GENERAL**  
STANDARD SYMBOLS, ABBREVIATIONS,  
& PATTERNS

SHEET NO.  
T.05

**PAVEMENT MARKINGS**  
(contd.)

- Urban Combination Left
- Urban Combination Right
- Urban Left Turn Arrow
- Urban Right Turn Arrow
- Urban Left Turn Only
- Urban Right Turn Only
- Urban Thru Only
- Urban U-Turn
- Urban Combined U-Turn
- Rural Combination Left
- Rural Combination Right
- Rural Left Turn Arrow
- Rural Right Turn Arrow
- Rural Left Turn Only
- Rural Right Turn Only
- Rural Thru Only

**EX**

**PR**

ONLY ONLY ONLY

ONLY ONLY ONLY

ONLY ONLY ONLY

Illinois Department of Transportation

PASSED January 1, 2011  
*Michael Beard*  
 ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2011  
*Scott Fisher*  
 ENGINEER OF DESIGN AND ENVIRONMENT

SCALE: 1"=1'-0"

**RAILROAD ITEMS**

**EX**

**PR**

- Abandoned Railroad
- Railroad
- Railroad Point
- Control Box
- Crossing Gate
- Flashing Signal
- Railroad Cont. Mast Arm
- Crossbuck

**REMOVAL ITEMS**

**EX**

**PR**

- Removal Tic
- Bituminous Removal
- Hatch Pattern
- Tree Removal Single

**RIGHT OF WAY ITEMS**

**EX**

**PR**

- Future ROW Corner Monument
- ROW Marker
- ROW Line
- Easement
- Temporary Easement

**STANDARD SYMBOLS,  
ABBREVIATIONS  
AND PATTERNS**

(Sheet 5 of 8)

STANDARD 000001-06

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**GENERAL**  
 STANDARD SYMBOLS, ABBREVIATIONS,  
 & PATTERNS

SHEET NO.  
 T.06

**RIGHT OF WAY ITEMS  
(contd.)**

	EX	PR
Access Control Line	— AC —	— AC —
Access Control Line & ROW	— AC —	— AC —
Access Control Line & ROW with Fence	— AR —	— AC —
Excess ROW Line		— XS —

**ROADWAY PLAN  
ITEMS**

	EX	PR
Cable Barrier	— □ — □ — □ — □ —	— □ — □ — □ — □ —
Concrete Barrier	— — — — —	— — — — —
Edge of Pavement	— — — — —	— — — — —
Bit Shoulders, Medians and C&G Line	— — — — —	— — — — —
Aggregate Shoulder	— — — — —	— — — — —
Sidewalks, Driveways	— — — — —	— — — — —
Guardrail	— □ — □ — □ — □ —	— □ — □ — □ — □ —
Guardrail Post	—	—
Traffic Sign	—	—
Corrugated Median	— — — — —	— — — — —
Impact Attenuator		— ○ — ○ — ○ — ○ —
North Arrow with District Office (Half Size)	—	—
Match Line		— STA. 45+00 —
Slope Limit Line	— — — — —	
Typical Cross-Section Line	— — — — —	— — — — —

Illinois Department of Transportation

PASSED: *Michael Brand* January 3, 2011

ENGINEER OF POLICY AND PROCEDURES

APPROVED: *[Signature]* January 3, 2011

ENGINEER OF DESIGN AND ENVIRONMENT

**ROADWAY PROFILES**

	EX	PR
P.I. Indicator	▲	▲
Point Indicator	○	○
Earthworks Balance Point		◐
Begin Point		◑
Vert. Curve Data	VPI = ELEV = L = E =	VPI = ELEV = L = E =
Ditch Profile Left Side	— — — — —	— — — — —
Ditch Profile Right Side	— — — — —	— — — — —
Roadway Profile Line	— — — — —	— — — — —
Storm Sewer Profile Left Side	— — — — —	— — — — —
Storm Sewer Profile Right Side	— — — — —	— — — — —

**SIGNING ITEMS**

	EX	PR
Cone, Drum or Barricade	○	○
Barricade Type II	—	—
Barricade Type III	—	—
Barricade With Edge Line	—	—
Flashing Light Sign	○	○
Panels I	—	—
Panels II	—	—
Direction of Traffic	→	→
Sign Flag (Half Size)	◊	◊

**SIGNING ITEMS  
(contd.)**

	EX	PR
Reverse Left W1-4L (Half Size)		◊
Reverse Right W1-4R (Half Size)		◊
Two Way Traffic Sign W6-3 (Half Size)		◊
Detour Ahead W20-2(D) (Half Size)		◊
Left Lane Closed Ahead W20-5(LD) (Half Size)		◊
Right Lane Closed Ahead W20-5(RD) (Half Size)		◊
Road Closed Ahead W20-3(D) (Half Size)		◊
Road Construction Ahead W20-1(D) (Half Size)		◊
Single Lane Ahead (Half Size)		◊
Transition Left W4-2L (Half Size)		◊
Transition Right W4-2R (Half Size)		◊

**STANDARD SYMBOLS,  
ABBREVIATIONS  
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(Sheet 6 of 6)

STANDARD 000001-06

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**GENERAL**  
 STANDARD SYMBOLS, ABBREVIATIONS,  
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 T.07

**SIGNING ITEMS**

(contd.)

**EX**

**PR**

One Way Arrow Lrg. W1-6-(0)  
(Half Size)



Two Way Arrow Large W1-7-(0)  
(Half Size)



Detour M4-10L-(0)  
(Half Size)



Detour M4-10R-(0)  
(Half Size)



One Way Left R6-1L  
(Half Size)



One Way Right R6-1R  
(Half Size)



Left Turn Lane R3-1100L  
(Half Size)



Keep Left R4-7AL  
(Half Size)



Keep Left R4-7BL  
(Half Size)



Keep Right R4-7AR  
(Half Size)



Keep Right R4-7BR  
(Half Size)



Stop Here On Red R10-6-AL  
(Half Size)



Stop Here On Red R10-6-AR  
(Half Size)



No Left Turn R3-2  
(Half Size)



No Right Turn R3-1  
(Half Size)



Road Closed R11-2  
(Half Size)



Road Closed Thru Traffic R11-2  
(Half Size)



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PASSED January 1, 2011  
Michael Beard  
ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2011  
Scott Smith  
ENGINEER OF DESIGN AND ENVIRONMENT

1-1-17

**STRUCTURES ITEMS**

**EX**

**PR**

Box Culvert Barrel



Box Culvert Headwall



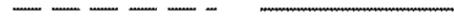
Bridge Pier



Bridge



Retaining Wall



Temporary Sheet Piling



**TRAFFIC SHEET ITEMS**

**EX**

**PR**

Cable Number



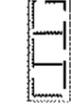
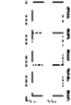
Left Turn Green



Left Turn Yellow



Signal Backplate



Signal Section 8" (200 mm)



Signal Section 12" (300 mm)



Walk/Don't Walk Letters



Walk/Don't Walk Symbols



**TRAFFIC SIGNAL ITEMS**

**EX**

**PR**

Galv. Steel Conduit



Underground Cable



Detector Loop Line



Detector Loop Large



Detector Loop Small



Detector Loop Quadrangle



**STANDARD SYMBOLS,  
ABBREVIATIONS  
AND PATTERNS**  
(Sheet 7 of 8)

STANDARD 000001-06

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2018

**GENERAL**  
STANDARD SYMBOLS, ABBREVIATIONS,  
& PATTERNS

SHEET NO.  
T.08

<b>TRAFFIC SIGNAL ITEMS (contd.)</b>		<b>EX</b>	<b>PR</b>	<b>UNDERGROUND UTILITY ITEMS</b>			<b>EX</b>	<b>PR</b>	<b>ABANDONED</b>	<b>UTILITY ITEMS (contd.)</b>		<b>EX</b>	<b>PR</b>
Detector Raceway				Cable TV					Traffic Signal				
Aluminum Mast Arm				Electric Cable					Traffic Signal Control Box				
Steel Mast Arm				Fiber Optic					Water Meter				
Veh. Detector Magnetic				Gas Pipe					Water Meter Valve Box				
Conduit Splice				Oil Pipe					Profile Line				
Controller				Sanitary Sewer					Aerial Power Line				
Gulfbbox Junction				Telephone Cable					<b>VEGETATION ITEMS</b>				
Wood Pole				Water Pipe					Deciduous Tree				
Temp. Signal Head				<b>UTILITIES ITEMS</b>			<b>EX</b>	<b>PR</b>	Bush or Shrub				
Handhole				Controller				Evergreen Tree					
Double Handhole				Double Handhole				Stump					
Heavy Duty Handhole				Fire Hydrant				Orchard/Nursery Line					
Junction Box				GuyWire or Deadman Anchor				Vegetation Line					
Ped. Pushbutton Detector				Handhole				Woods & Bush Line					
Ped. Signal Head				Heavy Duty Handhole				<b>WATER FEATURE ITEMS</b>					
Power Pole Service				Junction Box				Stream or Drainage Ditch					
Priority Veh. Detector				Light Pole				Waters Edge					
Signal Head				Manhole				Water Surface Indicator					
Signal Head w/Backplate				Pipeline Warning Sign				Water Point					
Signal Post				Power Pole				Disappearing Ditch					
Closed Circuit TV				Power Pole with Light				Marsh					
Video Detector System				Sanitary Sewer Cleanout				Marsh/Swamp Boundary					
				Splice Box Above Ground									
				Telephone Splice Box Above Ground									
				Telephone Pole									

Illinois Department of Transportation

PASSED January 1, 2011

Michael Beard  
ENGINEER OF PUBLIC AND PRIVATE WORKS

APPROVED January 1, 2011

ENGINEER OF DESIGN AND ENVIRONMENT

**STANDARD SYMBOLS,  
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(Sheet 8 of 8)

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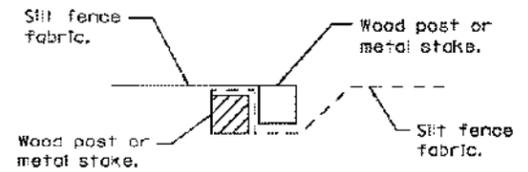
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 MARENGO, ILLINOIS  
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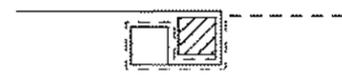
**GENERAL**  
 STANDARD SYMBOLS, ABBREVIATIONS,  
 & PATTERNS

SHEET NO.  
 T.09



Place end-post (stake) of first silt fence adjacent to end-post (stake) of second silt fence with fabric positioned as shown.

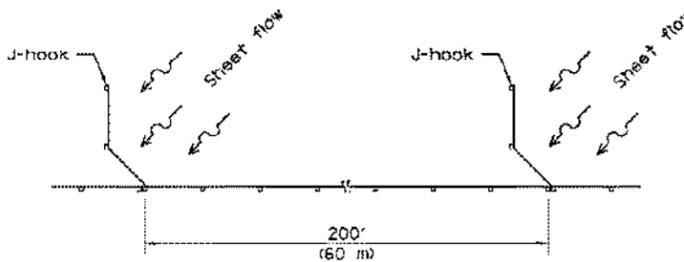
**STEP 1**



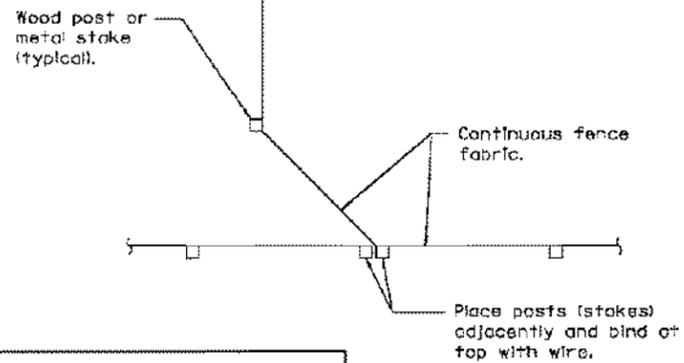
Rotate posts (stakes) together 180° clockwise and drive both posts (stakes) 18 (450) into ground.

**STEP 2**

**ATTACHING TWO SILT FILTER FENCES**  
(Not applicable for J-hooks)

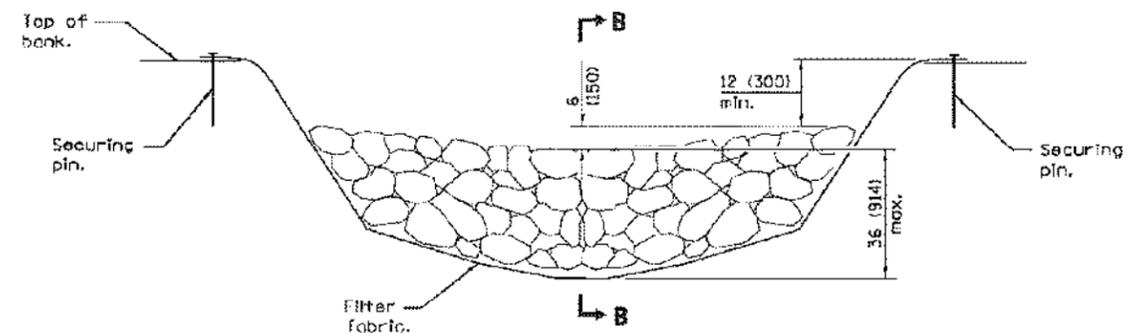


**SILT FILTER J-HOOK PLACEMENT**



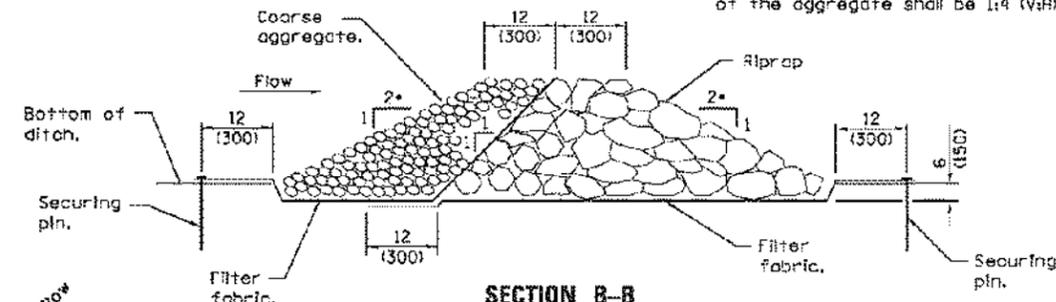
**J-HOOK**

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 PASSED: January 1, 2013  
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 APPROVED: January 1, 2013  
 ENGINEER OF DESIGN AND ENVIRONMENT



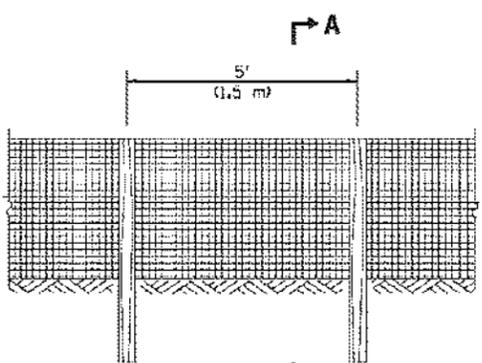
**ELEVATION**

When the ditch check is within the clear zone and the road is open to traffic, the traffic approach slope of the aggregate shall be 1:4 (V:H).



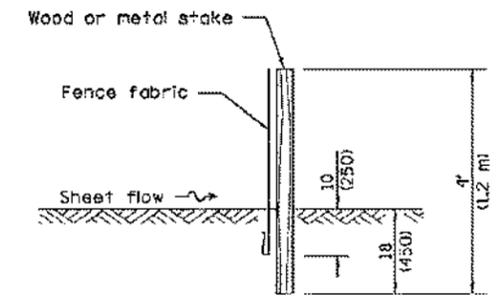
**SECTION B-B**

**AGGREGATE DITCH CHECK**

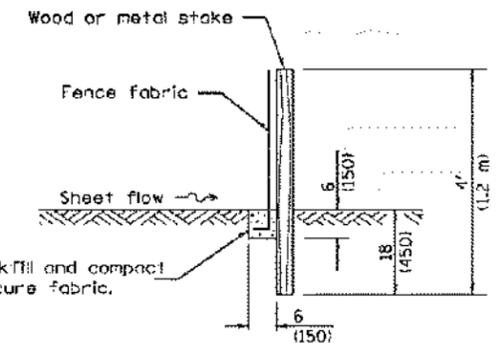


**ELEVATION**

**SILT FILTER FENCE AS A PERIMETER EROSION BARRIER**



**SLICE METHOD**



**TRENCH METHOD**

**SECTION A-A**

Excavate, backfill and compact trench to secure fabric.

**GENERAL NOTES**

The installation details and dimensions shown for perimeter erosion barriers shall also apply for inlet and pipe protection.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-13	Corrected notation for flowline (E) on sediment
	BASIN ELEVATION
1-1-12	Omitted hay/straw perimeter barrier. Added SLICE METHOD to SECTION A-A.

**TEMPORARY EROSION CONTROL SYSTEMS**  
(Sheet 1 of 2)

**STANDARD 280001-07**

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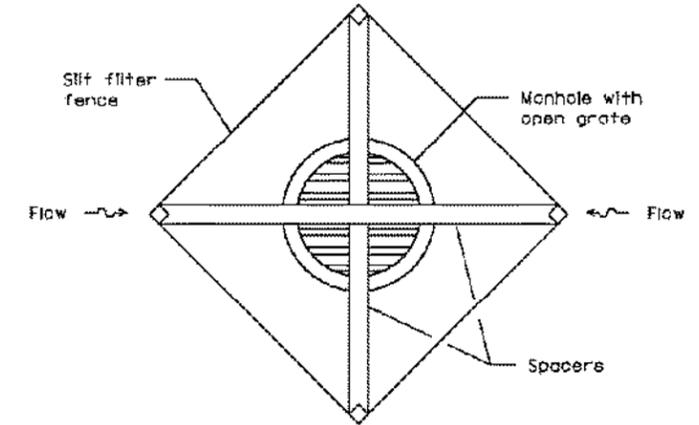
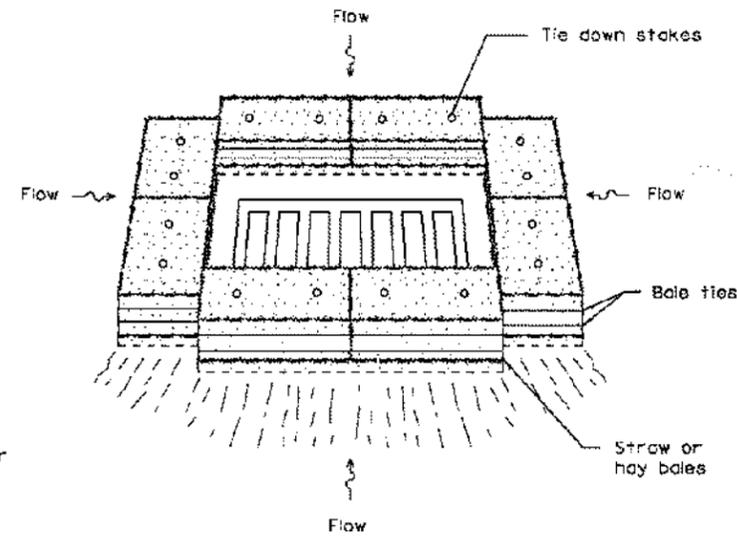
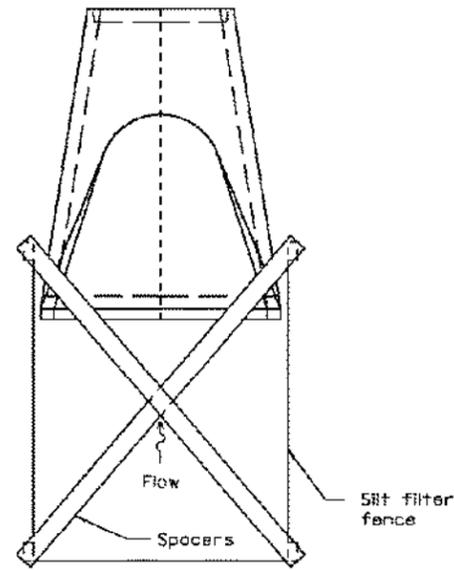
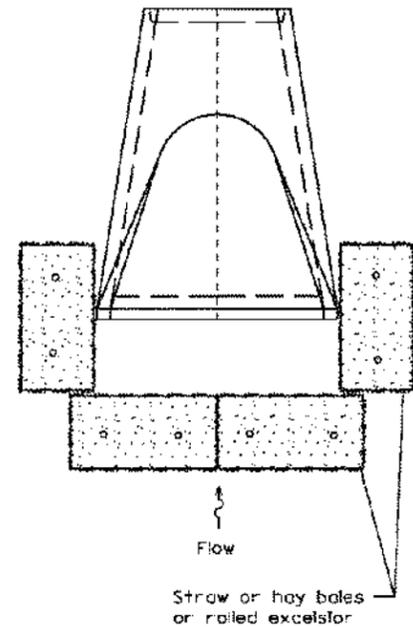
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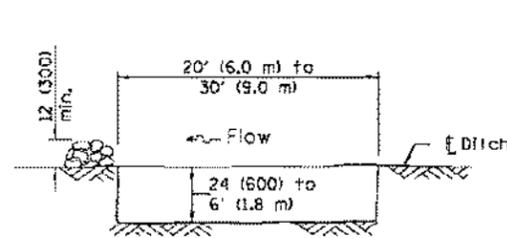
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 MARENGO, ILLINOIS  
 2018

**GENERAL**  
 TEMPORARY EROSION CONTROL SYSTEMS

SHEET NO.  
 T.10

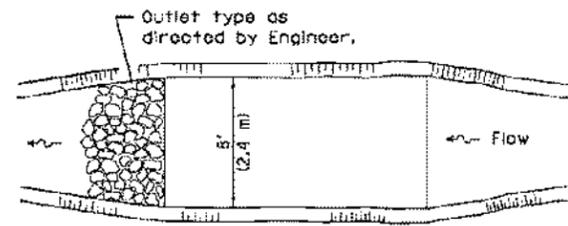


**INLET AND PIPE PROTECTION**



The performance of the basin will improve if put into a series.

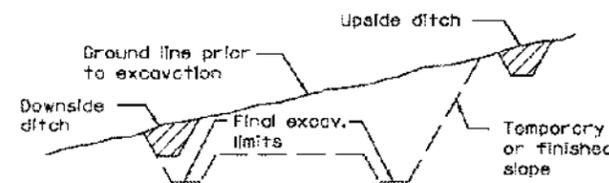
**ELEVATION**



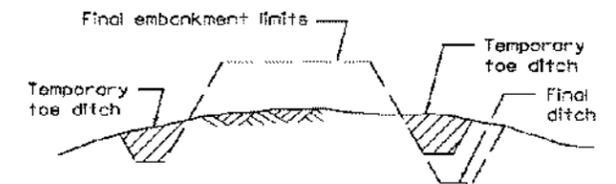
The long dimension should be parallel with the direction of the flow. Accumulated silt shall be removed anytime the basins become 75% filled.

**PLAN**

**SEDIMENT BASIN**



**TYPICAL CUT CROSS-SECTION**



**TYPICAL FILL CROSS-SECTION**

**TEMPORARY DITCHES FOR CUT & FILL SECTIONS**

**TEMPORARY EROSION CONTROL SYSTEMS**

(Sheet 2 of 2)

**STANDARD 280001-07**

Illinois Department of Transportation

PASSED January 1, 2013

Michael Brand  
ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2013

ENGINEER OF DESIGN AND ENVIRONMENT

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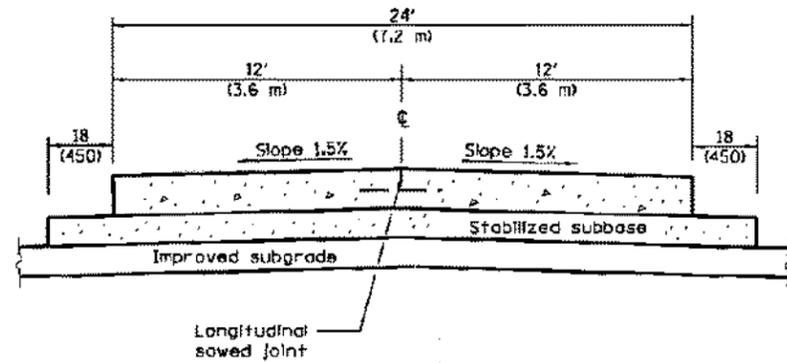
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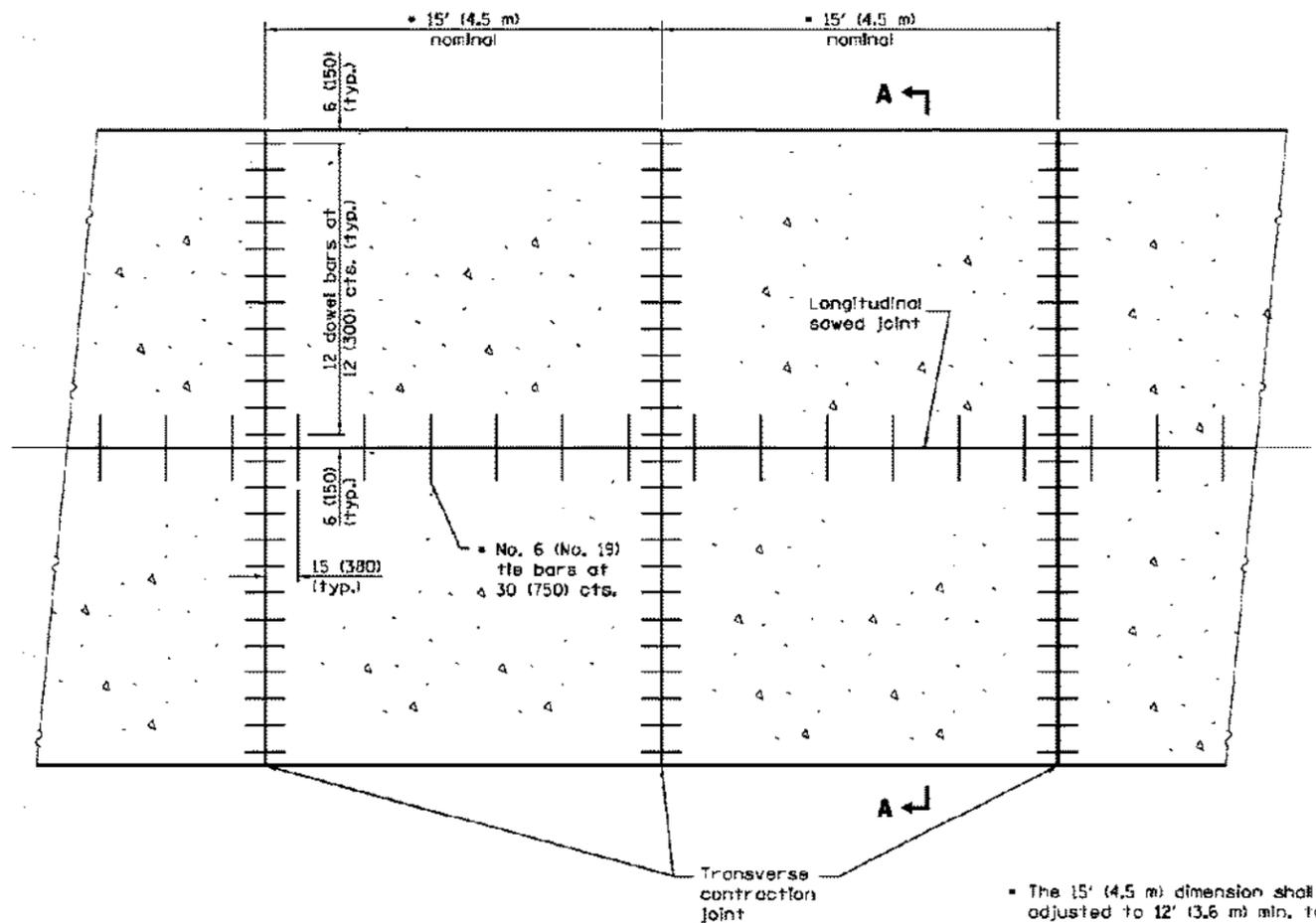
MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
 2018

**GENERAL**  
 TEMPORARY EROSION CONTROL SYSTEMS

SHEET NO.  
 T.11

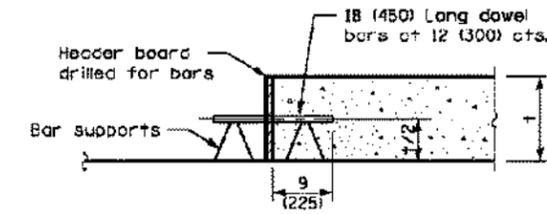


**SECTION A-A**  
(TYPICAL 2-LANE WITH SHOULDERS)

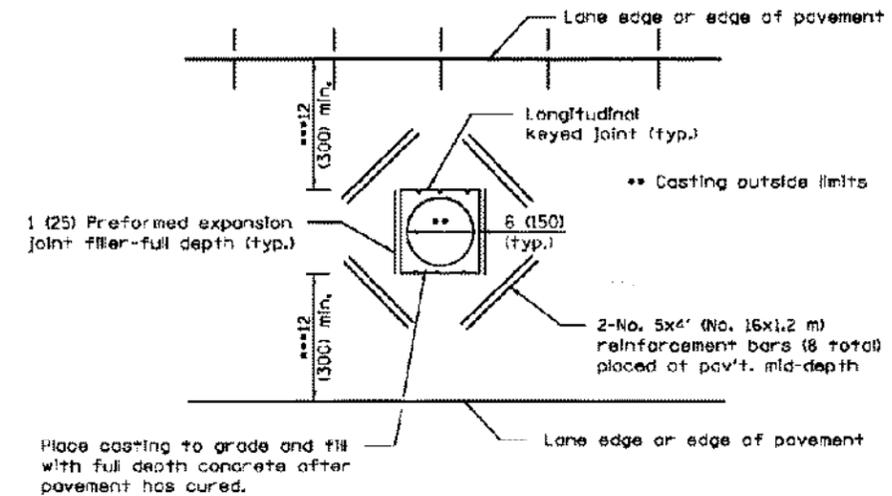


**PLAN**

The 15' (4.5 m) dimension shall be adjusted to 12' (3.6 m) min. to 18' (5.5 m) max. when placed adjacent to existing pcc pavement structure so that the joints are in prolongation. Adjust the tie bar spacing to maintain a clearance of 6 (150) from dowel bars.



**TRANSVERSE CONSTRUCTION JOINT**



**DETAIL OF ADDED REINFORCEMENT FOR PAVEMENT BLOCKS-OUTS**

\*\*\* When the 12 (300) minimum cannot be achieved, the transverse joints shall be extended to either the longitudinal joint or edge of pavement.

**GENERAL NOTES**

See Standard 420001 for details of joints not shown.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-15	Added dimension of tie bars from transverse contraction joints
1-1-08	Switched units to English (metric).

**24' (7.2 m) JOINTED PCC PAVEMENT**

**STANDARD 420101-05**

Illinois Department of Transportation  
 PASSED: January 1, 2018  
 ENGINEER OF POLICY AND PROCEDURES  
 APPROVED: January 1, 2018  
 ENGINEER OF DESIGN AND ENVIRONMENT

Drawn By: MSL Job Date: 2018  
 Approved: RSJ Job Number: 86140346.02  
 GIS Date: 6/13/2018 5:08:28 PM  
 GIS File: Marengo Water Main Plan Set IL23

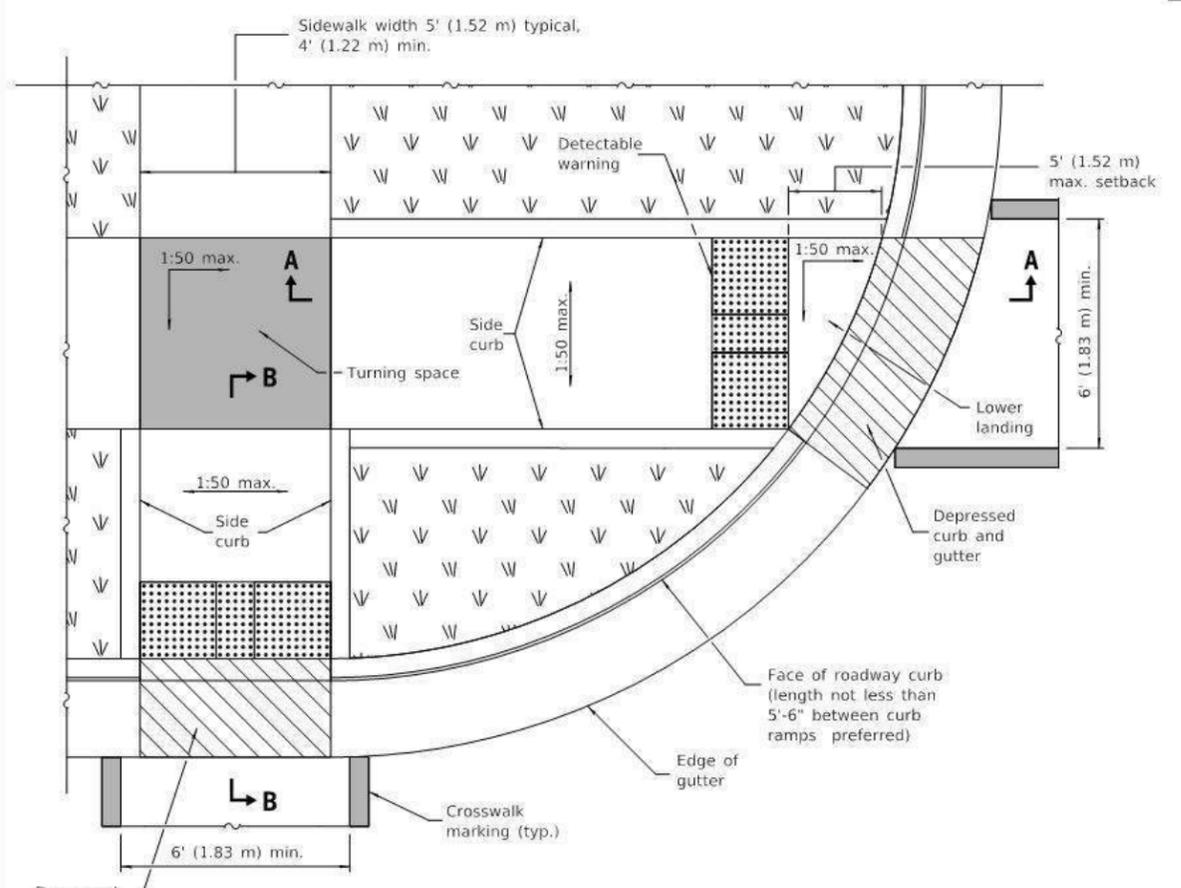
NO.	DATE	BY	REVISION DESCRIPTION
1	05/22/18	EW	PER CITY AND IDOT



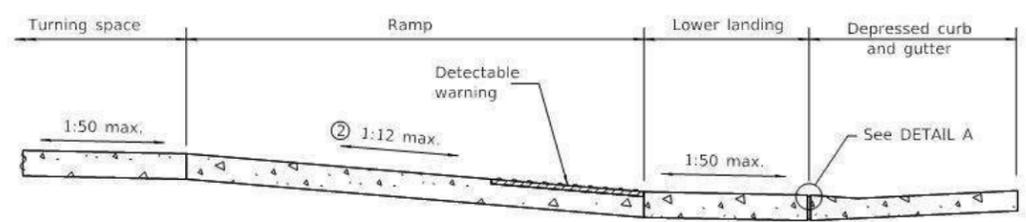
MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
 2018

**GENERAL**  
 24' JOINTED PCC PAVEMENT

SHEET NO.  
 T.12

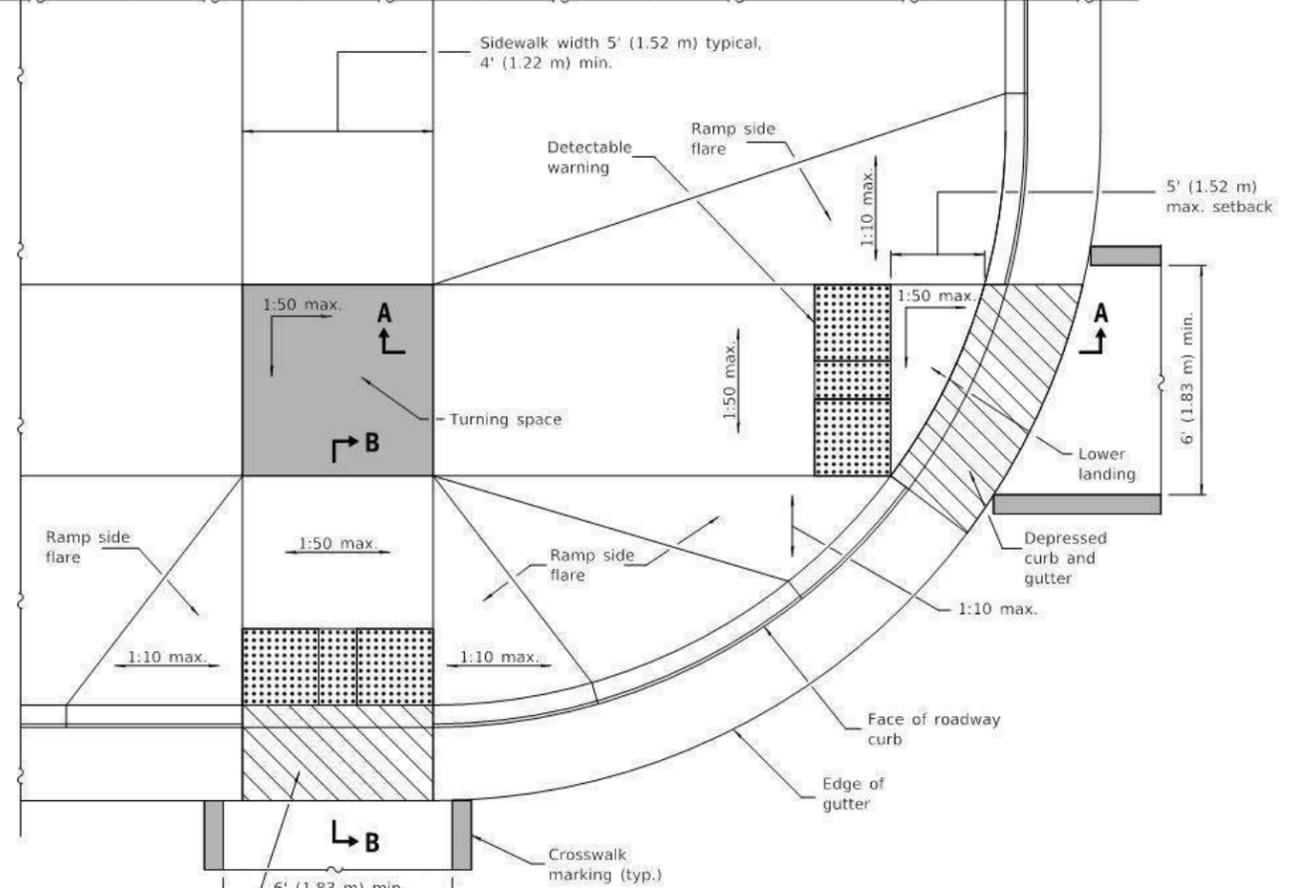


**RAMPS IN LANDSCAPED AREA  
SETBACK ≤ 5'**

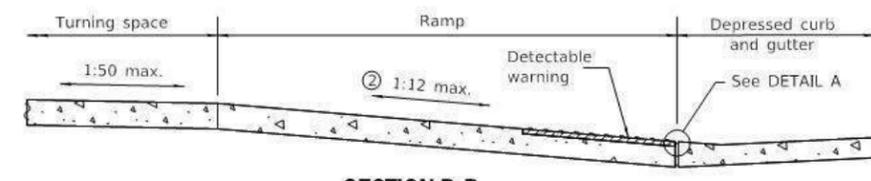


**SECTION A-A**

② The running slope of the curb ramp shall not require the ramp length to exceed 15' (4.5 m).

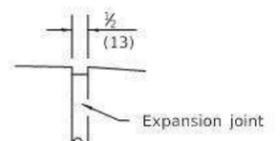


**RAMPS IN PAVED AREA  
SETBACK ≤ 5'**

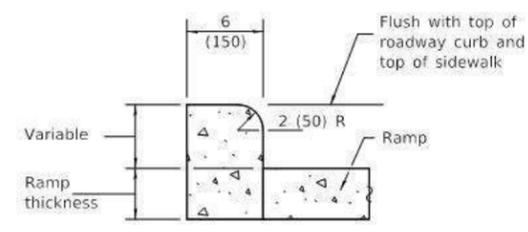


**SECTION B-B**

② The running slope of the curb ramp shall not require the ramp length to exceed 15' (4.5 m).



**DETAIL A**



**SIDE CURB DETAIL**

See Sheet 2 for GENERAL NOTES.

DATE	REVISIONS
1-1-18	Omitted diagonal slope at turning spaces and lower landings.
1-1-17	Added 2' dimension to det. warnings for setbacks greater than 5'.

**PERPENDICULAR CURB RAMPS  
FOR SIDEWALKS**  
(Sheet 1 of 2)

**STANDARD 424001-10**

Illinois Department of Transportation

PASSED January 1, 2018  
*Michael Beard*  
 ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2018  
*Haroon M. Akbar*  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-17

Drawn By: MSL Job Date: 2018  
 Approved: RSJ Job Number: 86140346.02  
 GIS Date: 6/13/2018 5:08:28 PM  
 GIS File: Marengo Water Main Plan Set IL23

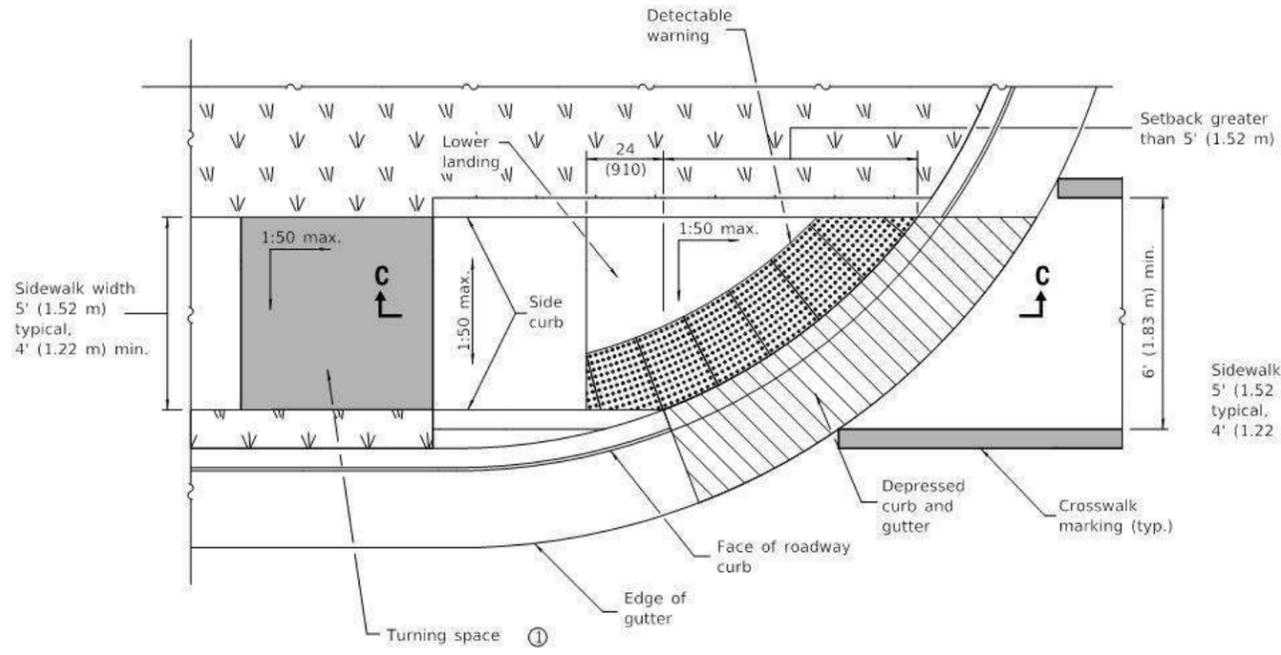
NO.	DATE	BY	REVISION DESCRIPTION
1	05/22/18	EW	PER CITY AND IDOT



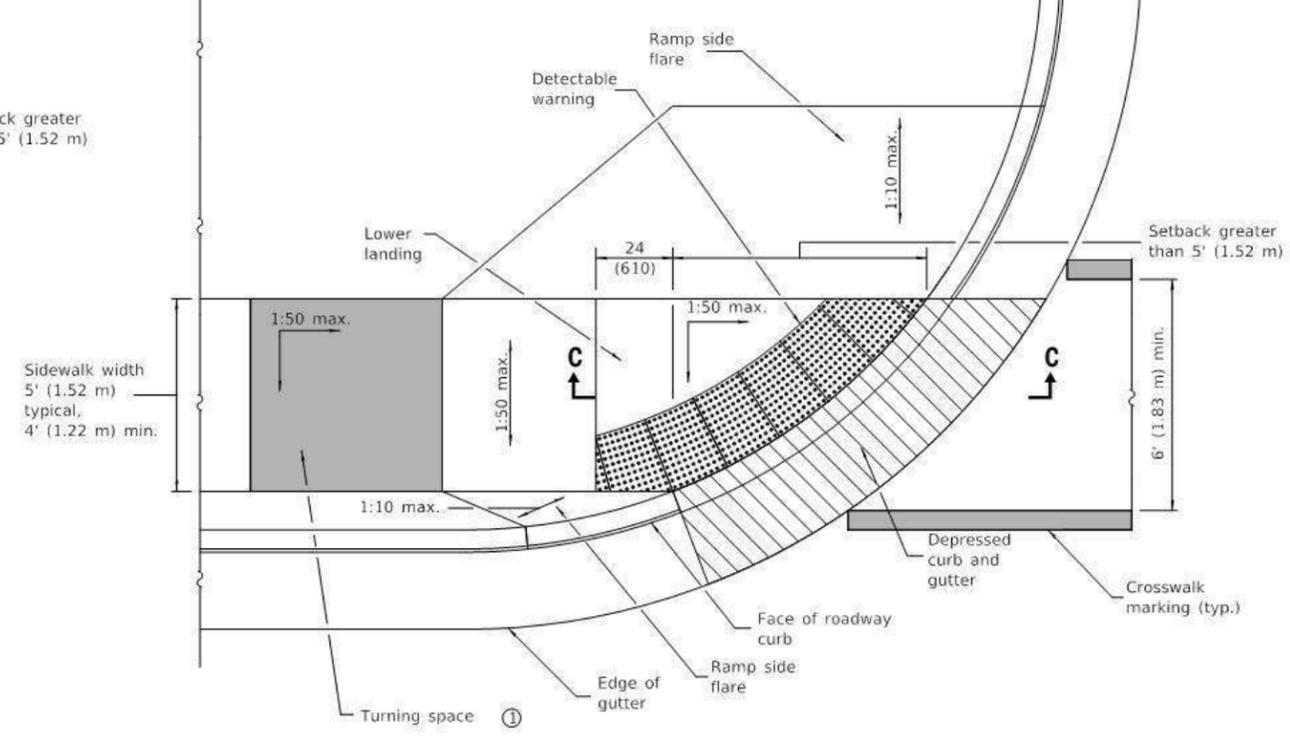
MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
 2018

**GENERAL**  
 PERPENDICULAR CURB RAMPS

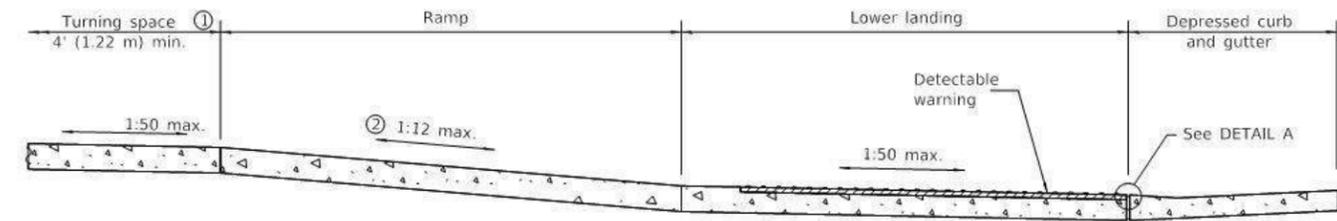
SHEET NO.  
 T.13



**RAMP IN LANDSCAPED AREA  
SETBACK > 5'**



**RAMP IN PAVED AREA  
SETBACK > 5'**



**SECTION C-C**

- ① Turning space not required for ramp slopes flatter than 1:20.
- ② The running slope of the curb ramp shall not require the ramp length to exceed 15' (4.5 m).

**GENERAL NOTES**

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

Where the turning space is constrained on a side opposite a ramp, the minimum length of the turning space in the direction of the ramp-run shall be 5' (1.52 m).

Where 1:50 maximum slope is shown, 1:64 is preferred.

See Standard 606001 for details of depressed curb adjacent to curb ramp.

All dimensions are in inches (millimeters) unless otherwise shown.

**PERPENDICULAR CURB RAMPS  
FOR SIDEWALKS**

(Sheet 2 of 2)

**STANDARD 424001-10**

Illinois Department of Transportation

PASSED January 1, 2018  
*Michael Beard*  
ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2018  
*Matthew R. Bels*  
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1.1.18  
16" x 11" 03/15/18

Drawn By: MSL Job Date: 2018  
Approved: RSJ Job Number: 86140346.02  
GIS Date: 6/13/2018 5:08:28 PM  
GIS File: Marengo Water Main Plan Set IL23

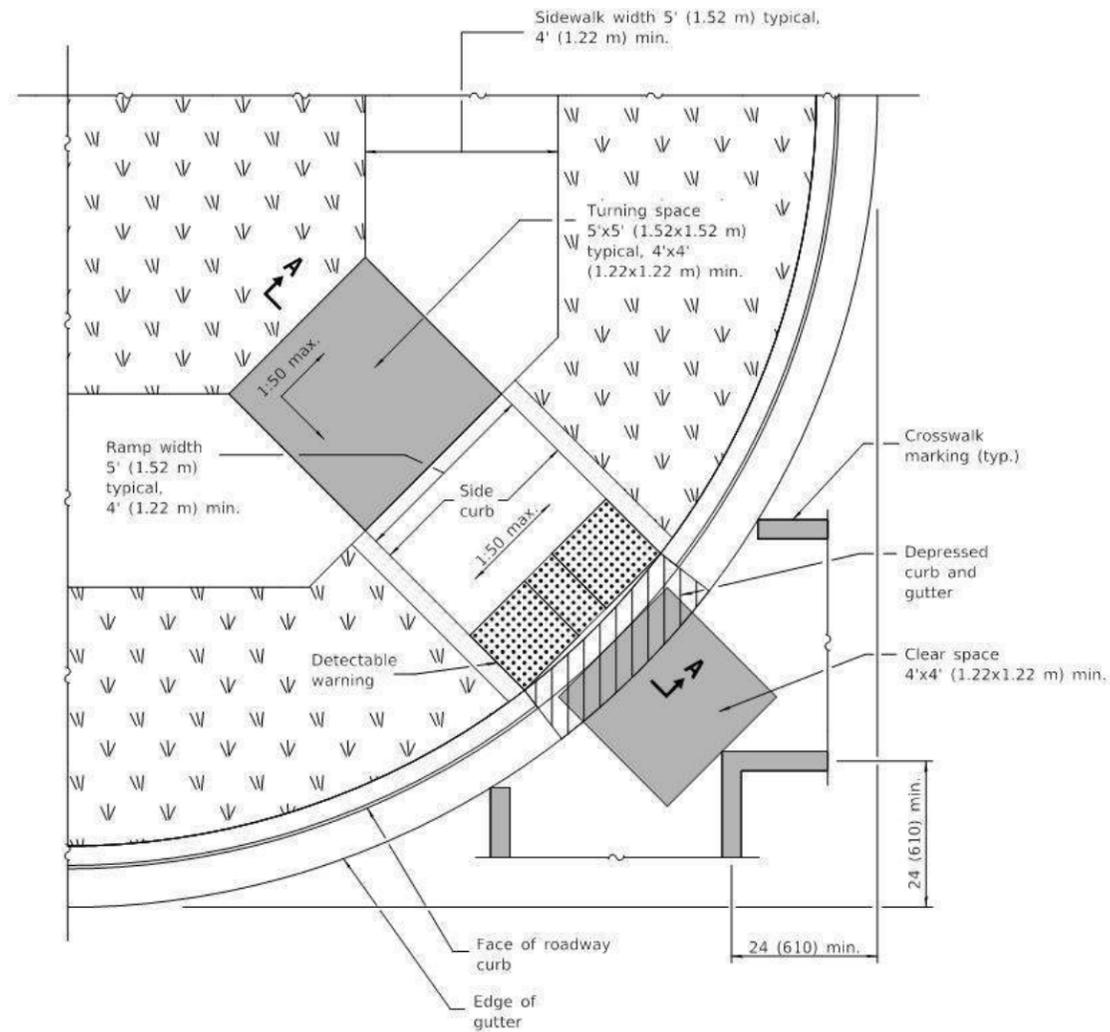
NO.	DATE	BY	REVISION DESCRIPTION
1	05/22/18	EW	PER CITY AND IDOT



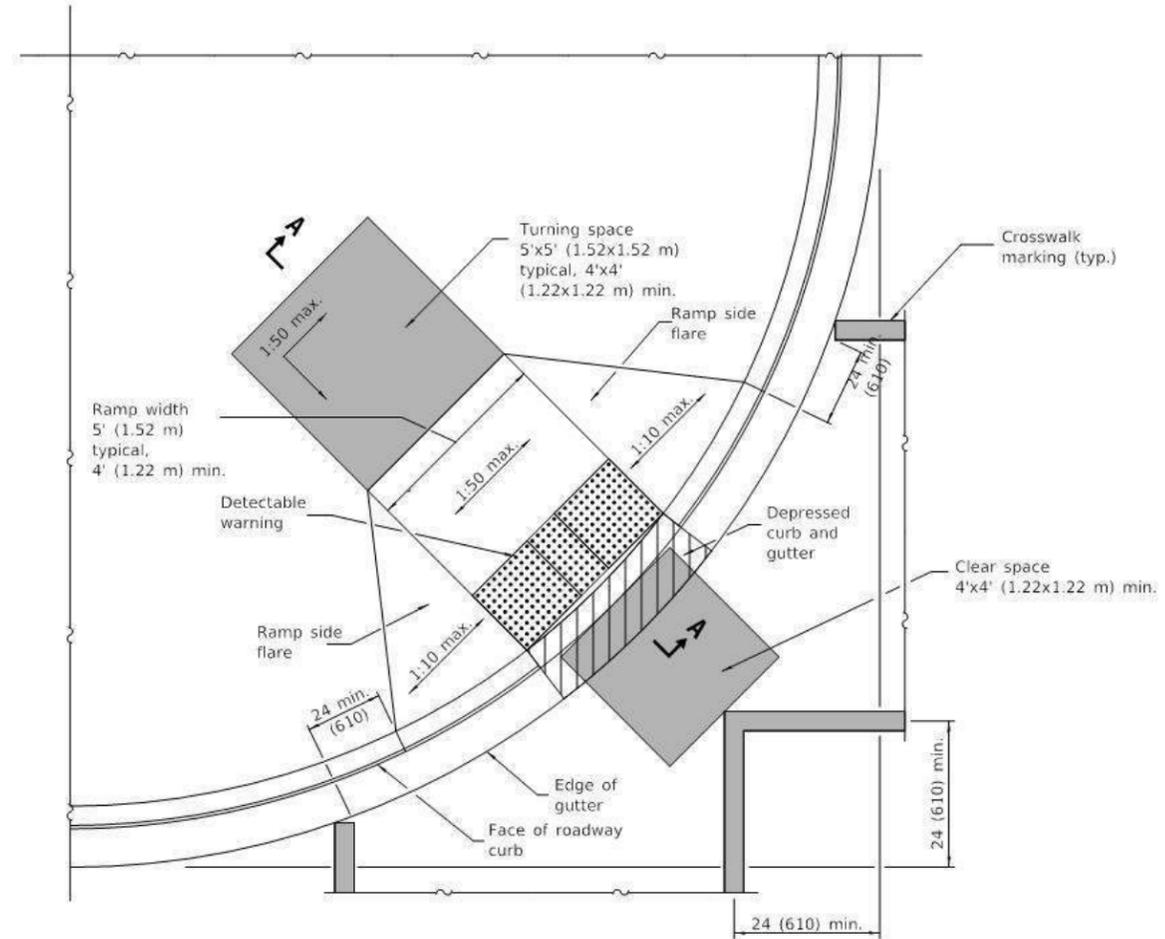
MARENGO 2018 WATER MAIN REPLACEMENT  
MARENGO, ILLINOIS  
2018

**GENERAL**  
PERPENDICULAR CURB RAMPS

SHEET NO.  
T.14



**RAMP IN LANDSCAPED AREA**



**RAMP IN PAVED AREA**

**GENERAL NOTES**

This Standard shall only be used for curb radii of 20 ft. (6.1 m) or greater.

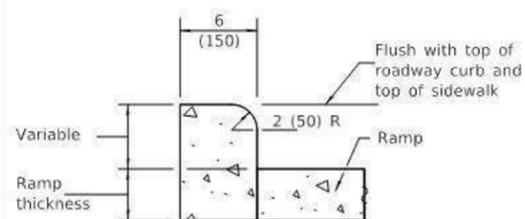
Where the turning space is constrained on a side opposite a ramp, the minimum length of the turning space in the direction of the ramp-run shall be 5' (1.52 m).

Where 1:50 maximum slope is shown, 1:64 is preferred.

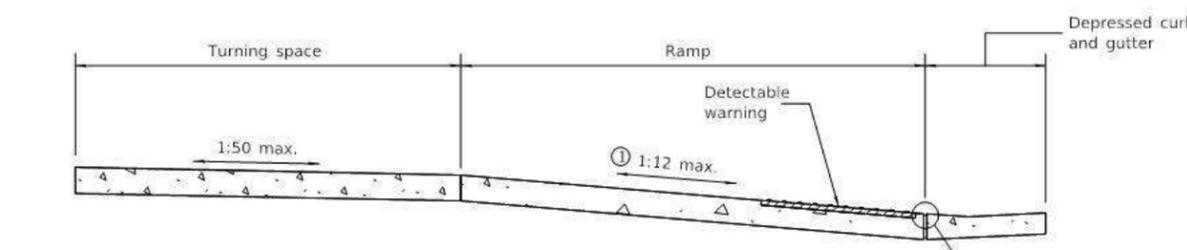
All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

See Standard 606001 for details of depressed curb adjacent to curb ramp.

All dimensions are in inches (millimeters) unless otherwise shown.

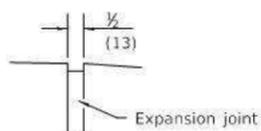


**SIDE CURB DETAIL**



**SECTION A-A**

① The running slope of the curb ramp shall not require the ramp length to exceed 15' (4.5 m).



**DETAIL A**

DATE	REVISIONS
1-1-18	Omitted diagonal slope at turning spaces.
1-1-15	Changed 'Upper landing' to 'Turning space'. Added note reg. const. turning space.

**DIAGONAL CURB RAMPS FOR SIDEWALKS**

**STANDARD 424006-03**

Illinois Department of Transportation

PASSED January 3, 2018  
*Michael Beard*  
 ENGINEER OF POLICY AND PROCEDURES

APPROVED January 3, 2018  
*Walter J. O'Neil*  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1.1.18

Drawn By: MSL Job Date: 2018  
 Approved: RSJ Job Number: 86140346.02  
 GIS Date: 6/13/2018 5:08:28 PM  
 GIS File: Marengo Water Main Plan Set IL23

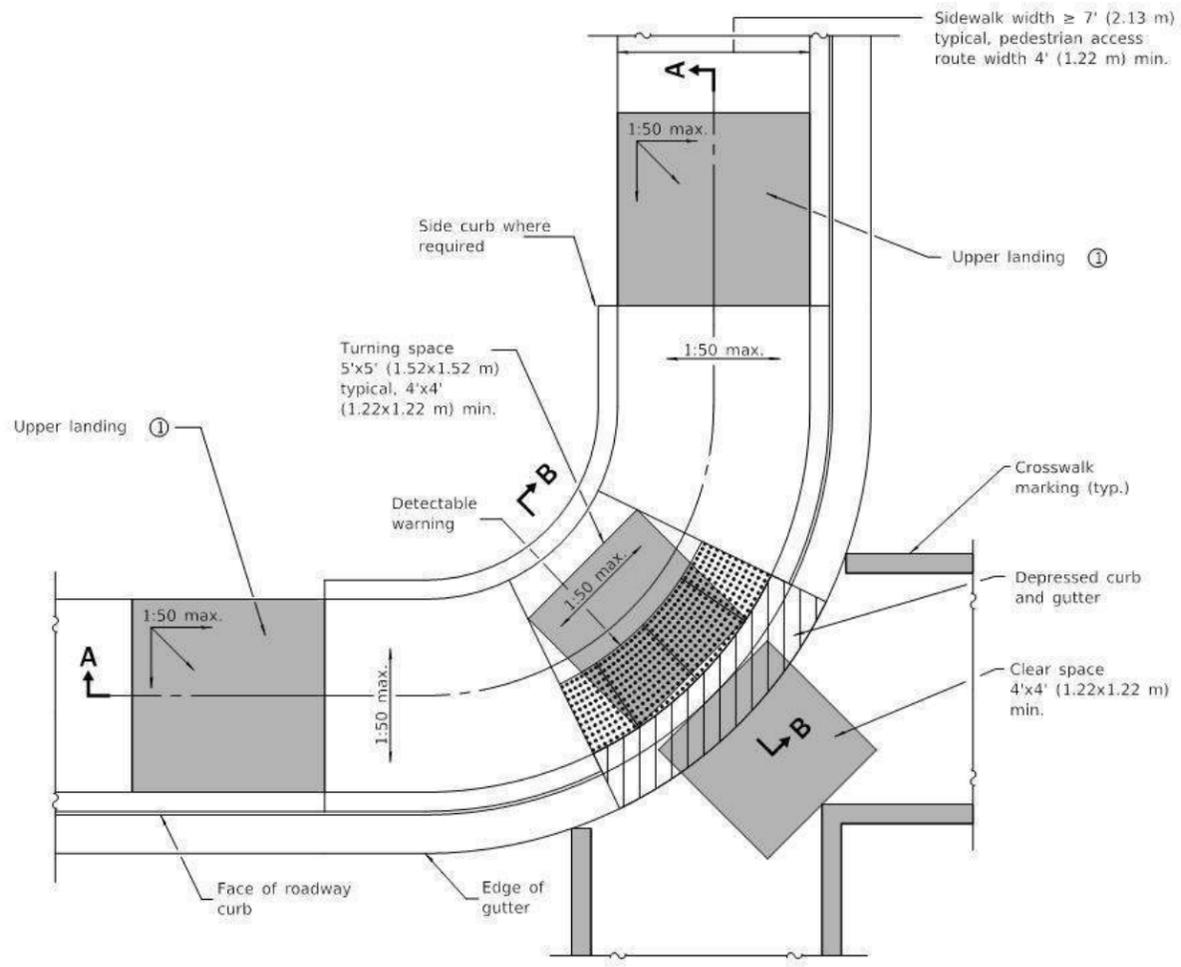
NO.	DATE	BY	REVISION DESCRIPTION
1	05/22/18	EW	PER CITY AND IDOT



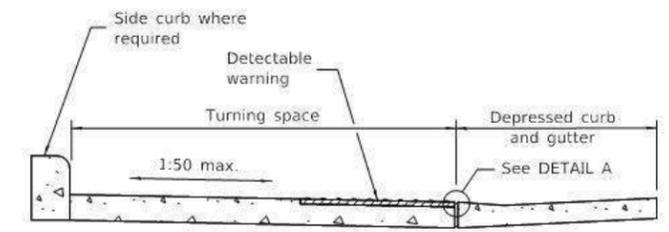
MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
 2018

**GENERAL**  
 DIAGONAL CURB RAMPS

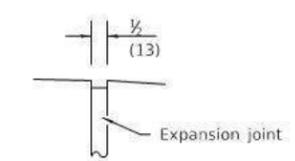
SHEET NO.  
 T.15



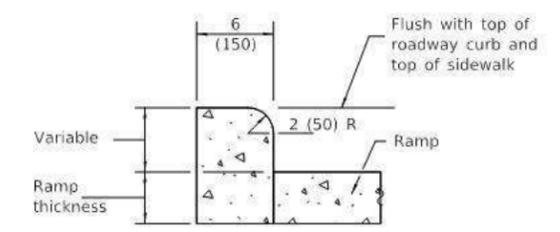
**CORNER PARALLEL CURB RAMP**



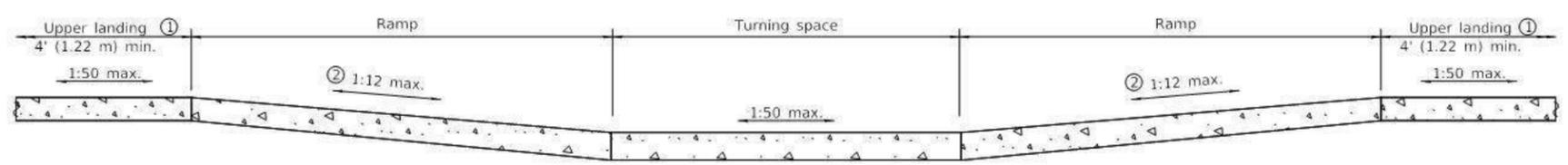
**SECTION B-B**



**DETAIL A**



**SIDE CURB DETAIL**



**SECTION A-A**

- ① Upper landing(s) not required for ramp slopes flatter than 1:20.
- ② The running slope of the curb ramp shall not require the ramp length to exceed 15' (4.5 m).

**GENERAL NOTES**

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement: (V:H).

Where the turning space is constrained on a side opposite a ramp, the minimum length of the turning space in the direction of the ramp-run shall be 5' (1.52 m).

Where 1:50 maximum slope is shown, 1:64 is preferred.

See Standard 606001 for details of depressed curb adjacent to curb ramp.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-17	Revised sidewalk width to include 24 (610) buffer behind curb.
1-1-15	Changed 'Lower landing' to 'Turning space'. Added x-walk markings. Added note ②.

**CORNER PARALLEL CURB RAMPS FOR SIDEWALKS**

**STANDARD 424011-03**

Illinois Department of Transportation

PASSED January 3, 2017  
*Michael Beard*  
 ENGINEER OF POLICY AND PROCEDURES

APPROVED January 3, 2017  
*Harvey M. Bels*  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 11-12-17

Drawn By: MSL Job Date: 2018  
 Approved: RSJ Job Number: 86140346.02  
 GIS Date: 6/13/2018 5:08:28 PM  
 GIS File: Marengo Water Main Plan Set IL23

NO.	DATE	BY	REVISION DESCRIPTION
1	05/22/18	EW	PER CITY AND IDOT

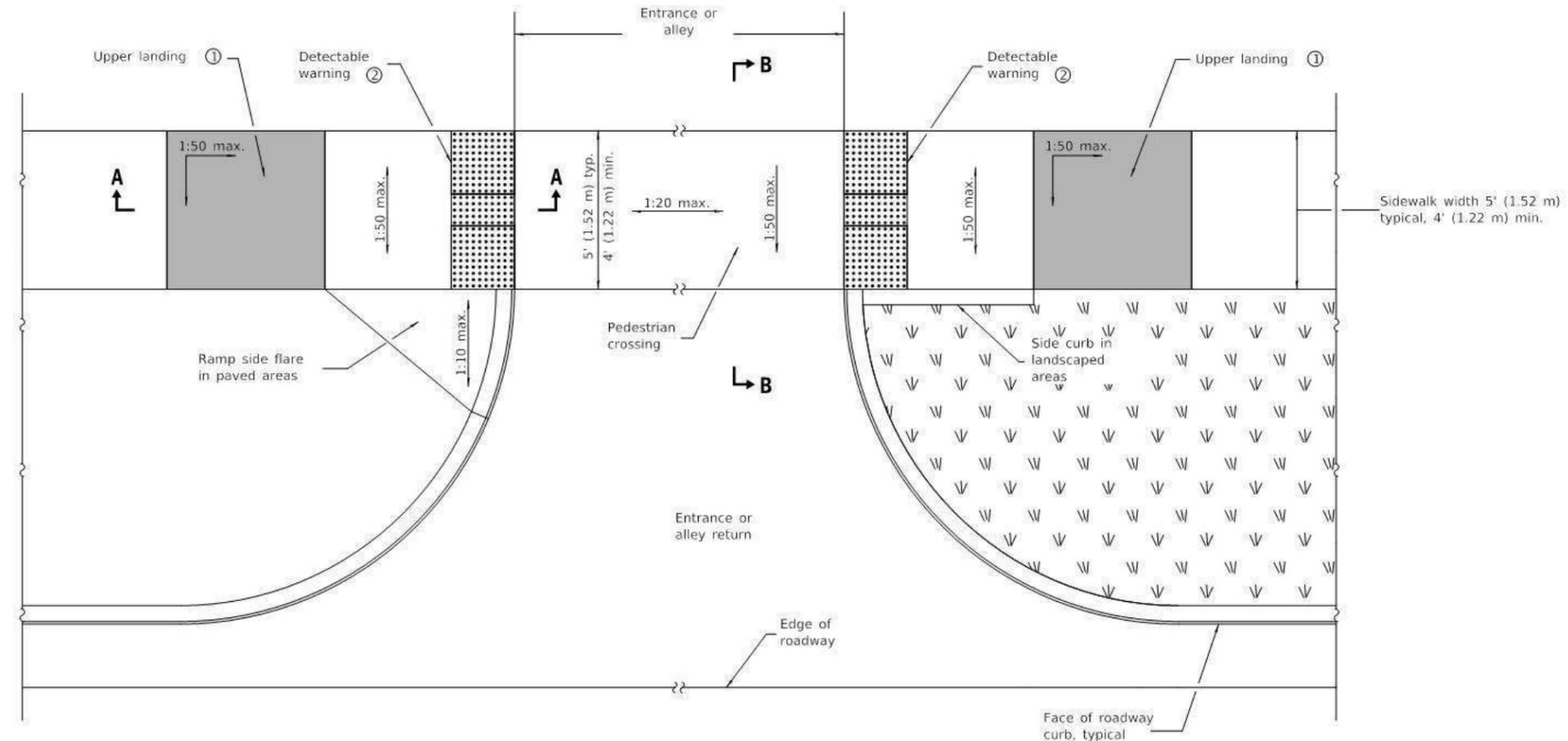


MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
 2018

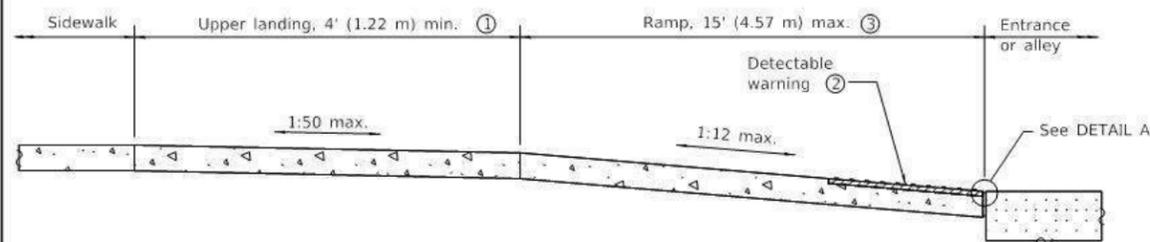
**GENERAL**  
 CORNER PARALLEL CURB RAMPS

SHEET NO.  
 T.16

- ② Detectable warning shall only be installed at entrances/alleys with permanent traffic control devices (i.e. stop signs, signals).
- ③ Where possible, maintain the grade of the sidewalk across the entrance/alley to avoid the need for ramps and upper landings.

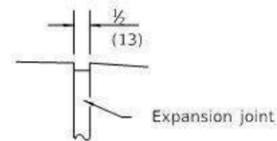


**ENTRANCE / ALLEY PEDESTRIAN CROSSING**

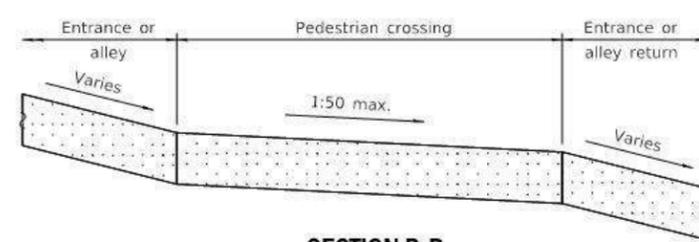


**SECTION A-A**

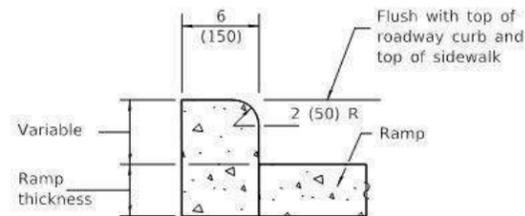
① Upper landing not required for ramp slopes flatter than 1:20.



**DETAIL A**



**SECTION B-B**



**SIDE CURB DETAIL**

**GENERAL NOTES**

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

Where 1:50 maximum slope is shown, 1:64 is preferred.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-18	Omitted diagonal slope at upper landings.
1-1-13	Revised General Notes.

**ENTRANCE / ALLEY PEDESTRIAN CROSSINGS**

**STANDARD 424026-02**

Illinois Department of Transportation

APPROVED January 3, 2018  
*Michael Beard*  
 ENGINEER OF POLICY AND PROCEDURES

APPROVED January 3, 2018  
*Maureen M. O'Neil*  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-12

Drawn By: MSL Job Date: 2018  
 Approved: RSJ Job Number: 86140346.02  
 GIS Date: 6/13/2018 5:58:28 PM  
 GIS File: Marengo Water Main Plan Set IL23

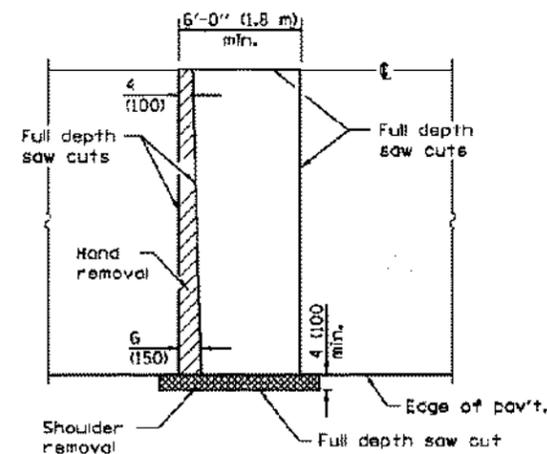
NO.	DATE	BY	REVISION DESCRIPTION
1	05/22/18	EW	PER CITY AND IDOT



MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
 2018

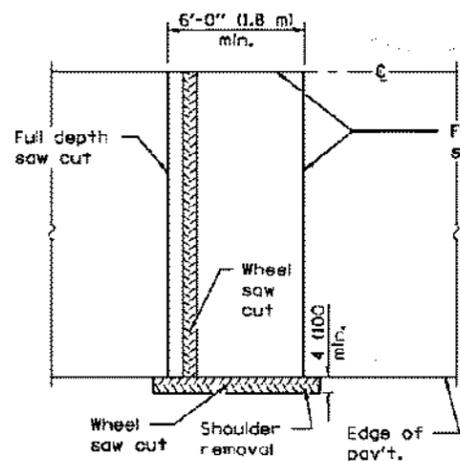
**GENERAL**  
 ENTRANCE ALLEY PEDESTRIAN CROSSINGS

SHEET NO.  
 T.17



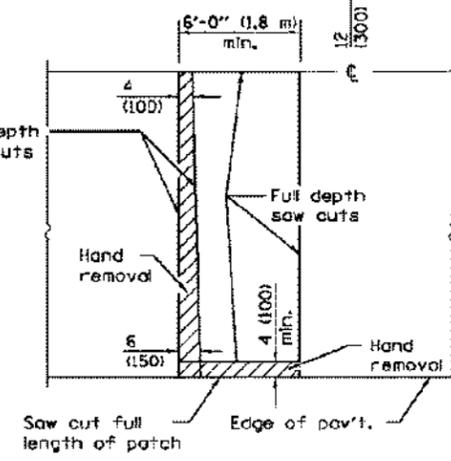
**PAVEMENT SAWING DETAIL**

(HMA SHOULDER)



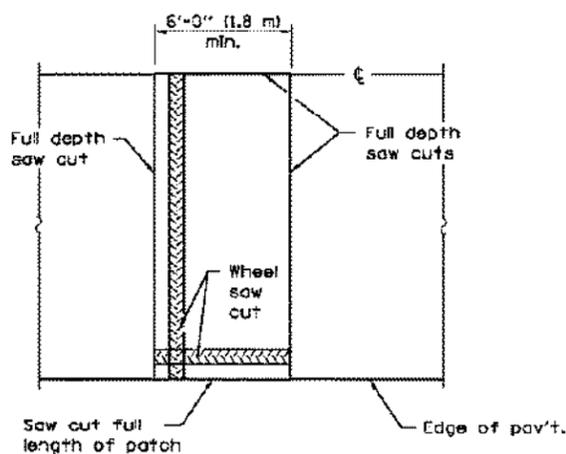
**ALTERNATE SAWING DETAIL**

(HMA SHOULDER)



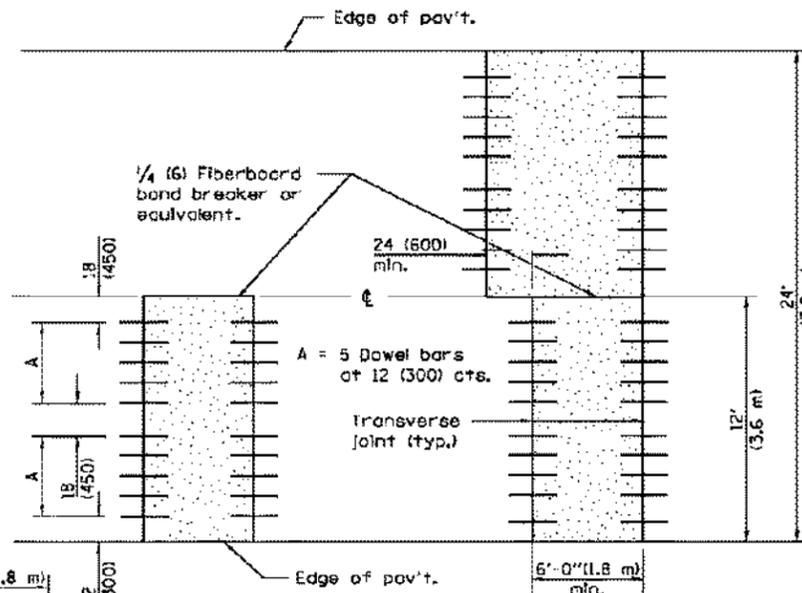
**PAVEMENT SAWING DETAIL**

(PCC SHOULDER)

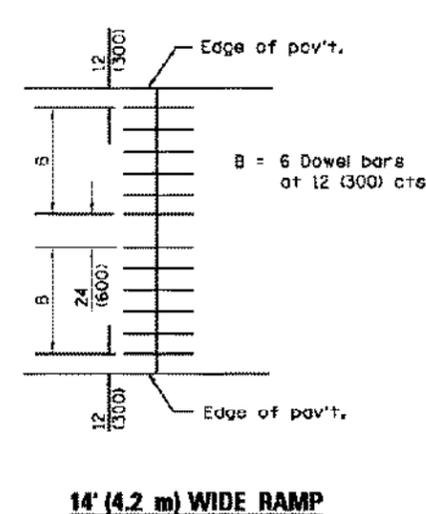


**ALTERNATE SAWING DETAIL**

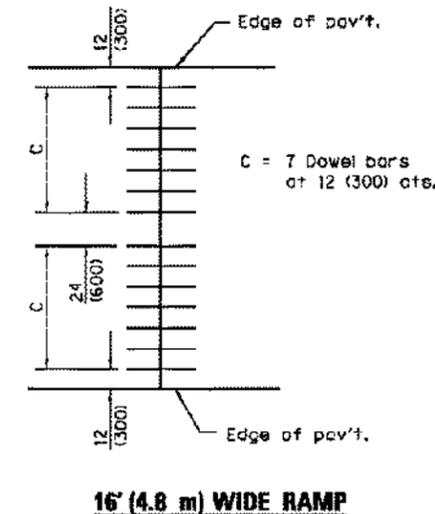
(PCC SHOULDER)



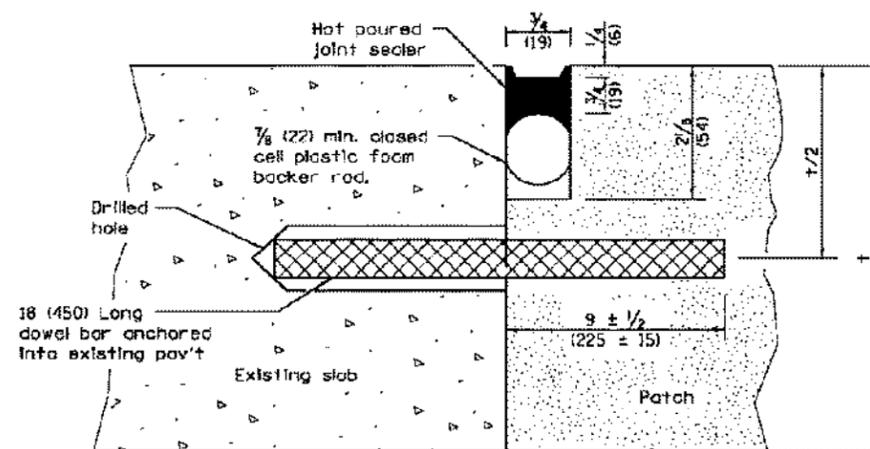
**12' (3.6 m) WIDE LANES**



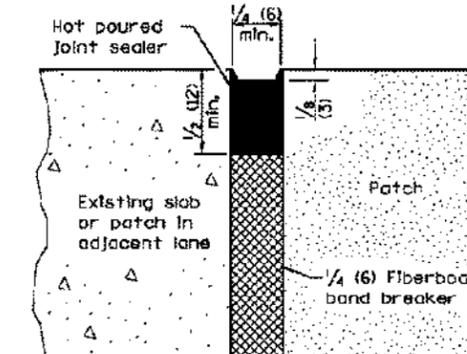
**14' (4.2 m) WIDE RAMP**



**16' (4.8 m) WIDE RAMP**



**TRANSVERSE JOINT**



**CENTERLINE JOINT**

DOWEL BAR TABLE		
PAVEMENT THICKNESS	DOWEL BAR DIAMETER	SOLE DIAMETER
8 (200) or greater	1/2 (38)	1 5/8 (41)
7 (180) thru 7.99 (199)	1/4 (32)	1 3/8 (35)
Less than 7 (180)	1 (25)	1 1/8 (29)

**GENERAL NOTES**

The transverse joints for Class B patches shall align with joints or cracks in the adjacent lane whenever possible.

See Standard 420701 for details of pavement fabric.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-08	Switched units to English (metric).
1-1-07	Revised General Notes.

**CLASS B PATCHES**

(Sheet 1 of 2)

**STANDARD 442101-07**

Illinois Department of Transportation  
 PASSED January 1, 2008  
 ENGINEER OF POLICY AND PROCEDURES  
 APPROVED January 1, 2008  
 ENGINEER OF DESIGN AND ENVIRONMENT

Drawn By: MSL Job Date: 2018  
 Approved: RSJ Job Number: 86140346.02  
 GIS Date: 6/13/2018 6:00:58 PM  
 GIS File: Marengo Water Main Plan Set IL23

NO.	DATE	BY	REVISION DESCRIPTION
1	05/22/18	EW	PER CITY AND IDOT

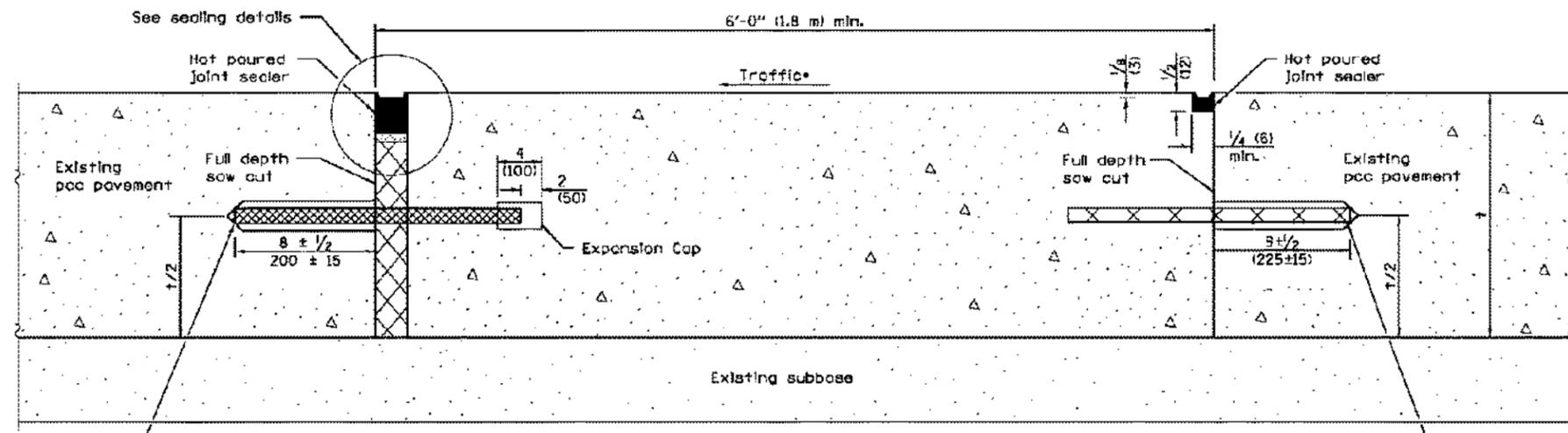


MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
 2018

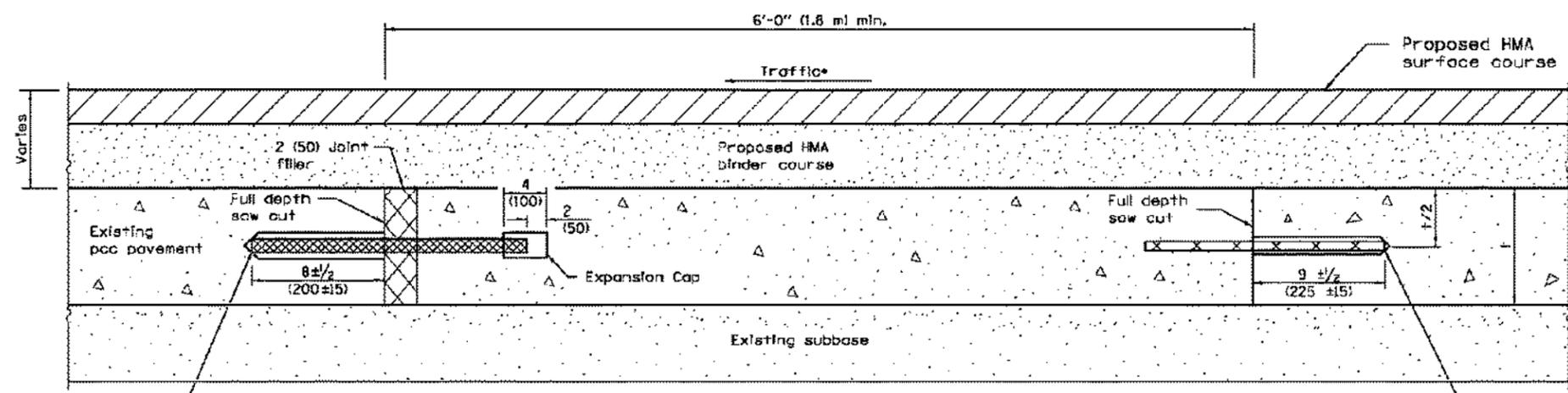
GENERAL  
 CLASS B PATCHES

SHEET NO.  
 T.18

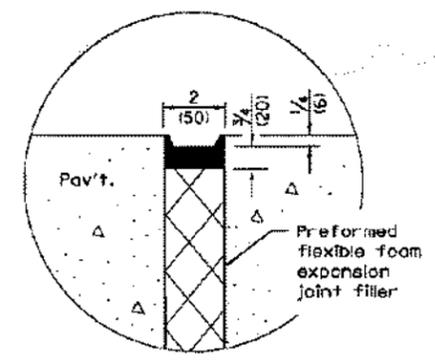
**TRANSVERSE EXPANSION JOINTS**



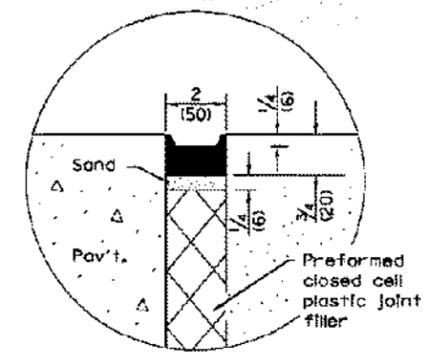
**METHOD I**  
(Without Resurfacing)



**METHOD II**  
(With Resurfacing)



**SEALING DETAIL**



**SEALING DETAIL**

**NOTE**

• When re-establishing a transverse expansion joint on a two-lane, two-way road, reverse the orientation of the dowel bars with respect to traffic for one of the patches such that the joint will be continuous across both lanes.

**CLASS B PATCHES**

(Sheet 2 of 2)

**STANDARD 442101-07**

Illinois Department of Transportation

PASSED: January 1, 2008  
 ENGINEER OF POLICY AND PROCEDURES  
 APPROVED: January 1, 2008  
 ENGINEER OF DESIGN AND ENVIRONMENT

Drawn By: MSL Job Date: 2018  
 Approved: RSJ Job Number: 86140346.02  
 GIS Date: 6/13/2018 6:00:58 PM  
 GIS File: Marengo Water Main Plan Set IL23

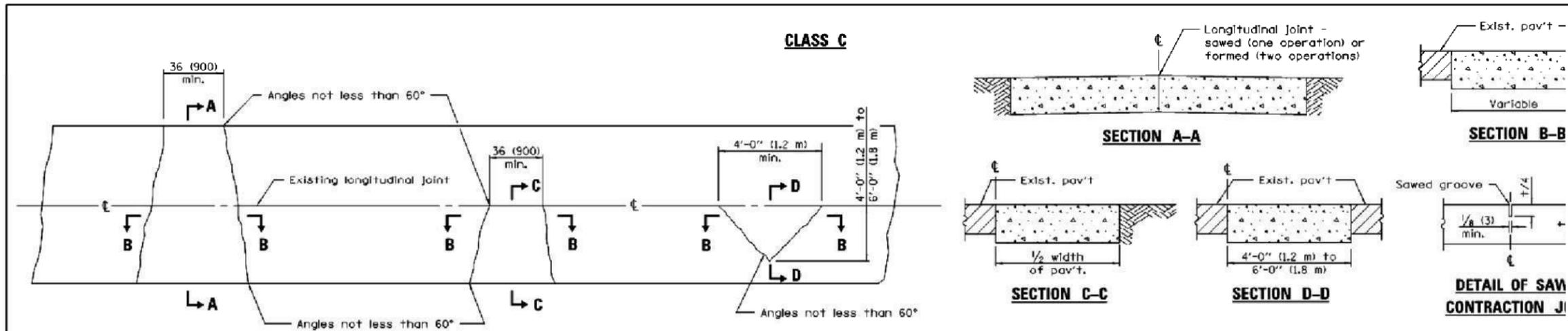
NO.	DATE	BY	REVISION DESCRIPTION
1	05/22/18	EW	PER CITY AND IDOT



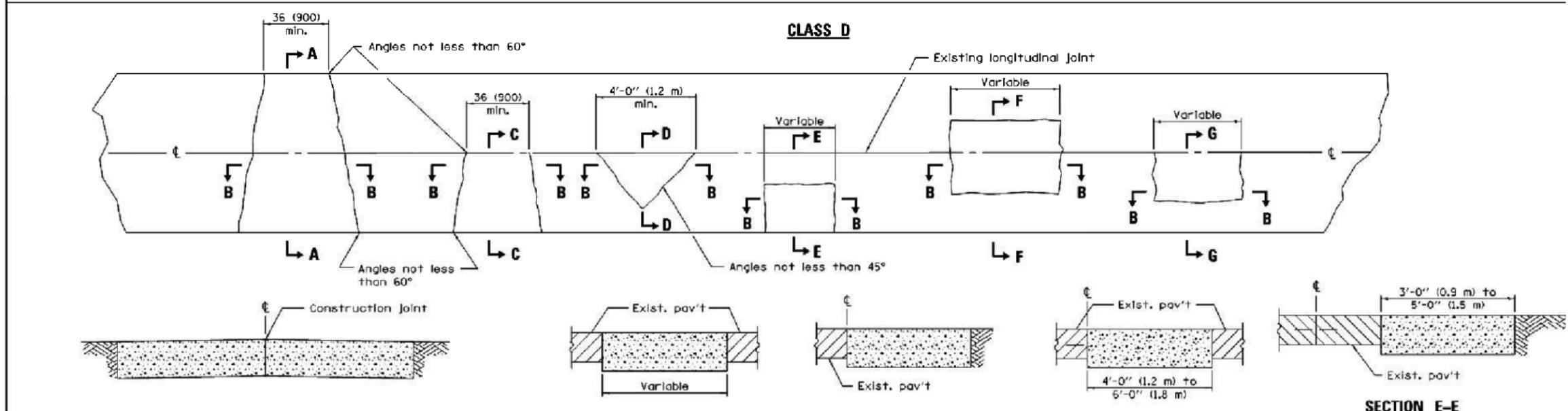
MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
 2018

**GENERAL**  
 CLASS B PATCHES

SHEET NO.  
 T.19



Note:  
Longitudinal joints shall be as detailed on Standard 420001, except tie bars are not required for patches 20'-0" (6.0 m) or less in length.



**GENERAL NOTES**  
Existing tie bars shall be either out or re Marginal bars shall be out.  
All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation  
PASSED January 1, 2008  
ENGINEER OF POLICY AND PROCEDURES  
APPROVED January 1, 2008  
ENGINEER OF DESIGN AND ENVIRONMENT

DATE	REVISIONS
1-1-08	Switched units to English (metric).
1-1-07	Revised Note for Class C patches.

**CLASS C and D PATCHES**  
**STANDARD 442201-03**

Drawn By: MSL Job Date: 2018  
Approved: RSJ Job Number: 86140346.02  
GIS Date: 6/13/2018 6:00:58 PM  
GIS File: Marengo Water Main Plan Set IL23

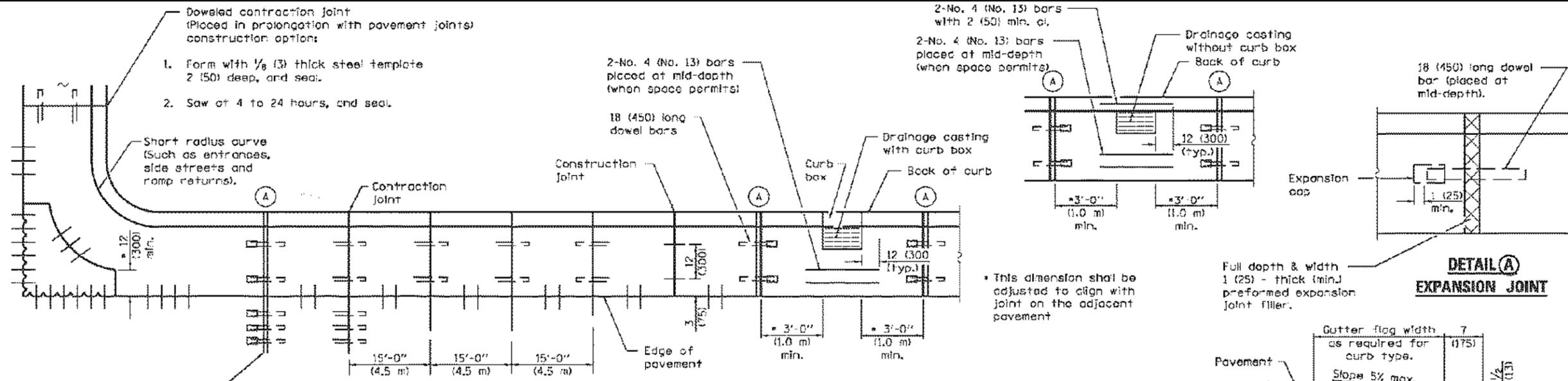
NO.	DATE	BY	REVISION DESCRIPTION
1	05/22/18	EW	PER CITY AND IDOT



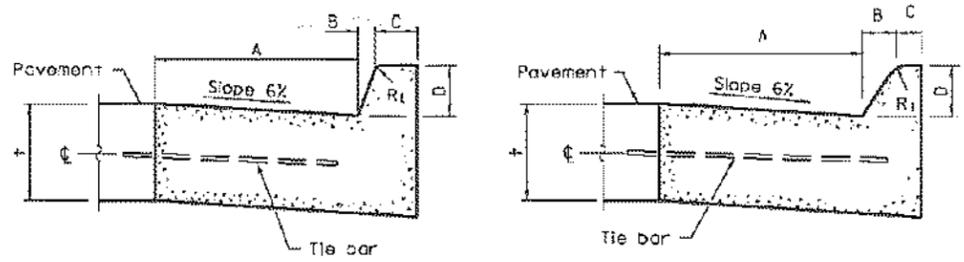
MARENGO 2018 WATER MAIN REPLACEMENT  
MARENGO, ILLINOIS  
2018

**GENERAL**  
CLASS D PATCH DETAIL

SHEET NO.  
T.20



**PLAN**  
**ADJACENT TO PCC PAVEMENT OR PCC BASE COURSE**



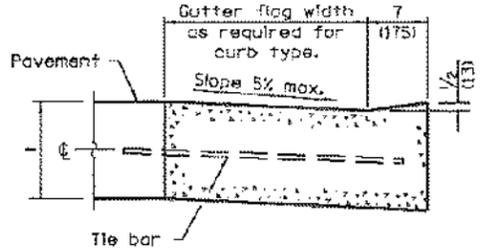
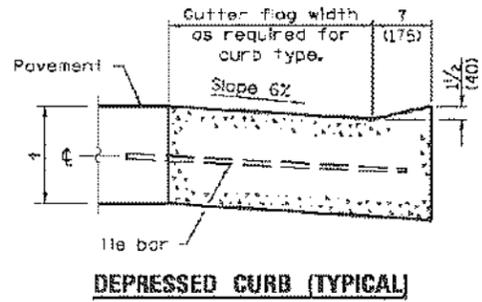
**BARRIER CURB**

**MOUNTABLE CURB**

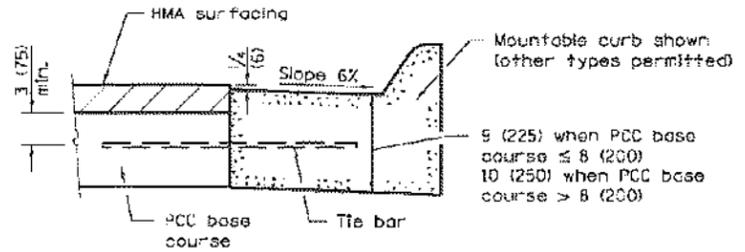
TYPE	A	B	C	D	R <sub>1</sub>
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(B-15.15)	(150)	(25)	(150)	(150)	(25)
B-6.12	12	1	6	6	1
(B-15.3)	(300)	(25)	(150)	(150)	(25)
B-6.18	18	1	6	6	1
(B-15.45)	(450)	(25)	(150)	(150)	(25)
B-6.24	24	1	6	6	1
(B-15.60)	(600)	(25)	(150)	(150)	(25)
B-9.12	12	2	5	9	1
(B-22.30)	(300)	(50)	(125)	(225)	(25)
B-9.18	18	2	5	9	1
(B-22.45)	(450)	(50)	(125)	(225)	(25)
B-9.24	24	2	5	9	1
(B-22.60)	(600)	(50)	(125)	(225)	(25)

\* For corner islands only.

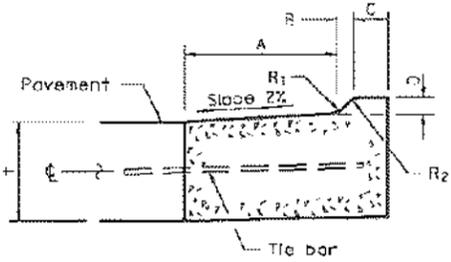
TYPE	A	B	C	D	R <sub>1</sub>	R <sub>2</sub>
M-2.06	6	2	4	2	3	2
(M-5.15)	(150)	(50)	(100)	(50)	(75)	(50)
M-2.12	12	2	4	2	3	2
(M-5.30)	(300)	(50)	(100)	(50)	(75)	(50)
M-4.06	6	4	3	4	3	NA
(M-10.15)	(150)	(100)	(75)	(100)	(75)	NA
M-4.12	12	4	3	4	3	NA
(M-10.30)	(300)	(100)	(75)	(100)	(75)	NA
M-4.18	18	4	3	4	3	NA
(M-10.45)	(450)	(100)	(75)	(100)	(75)	NA
M-4.24	24	4	3	4	3	NA
(M-10.60)	(600)	(100)	(75)	(100)	(75)	NA
M-6.06	6	6	2	6	2	NA
(M-15.15)	(150)	(150)	(50)	(150)	(50)	NA
M-6.12	12	6	2	6	2	NA
(M-15.30)	(300)	(150)	(50)	(150)	(50)	NA
M-6.18	18	6	2	6	2	NA
(M-15.45)	(450)	(150)	(50)	(150)	(50)	NA
M-6.24	24	6	2	6	2	NA
(M-15.60)	(600)	(150)	(50)	(150)	(50)	NA



**DEPRESSED CURB ADJACENT TO CURB RAMP ACCESSIBLE TO THE DISABLED**



**ADJACENT TO PCC BASE COURSE WITH HMA SURFACING**



**M-2.06 (M-5.15) and M-2.12 (M-5.30)**

**GENERAL NOTES**

The bottom slope of combination curb and gutter constructed adjacent to pcc pavement shall be the same slope as the subbase or 6% when subbase is omitted.

t = Thickness of pavement.

Longitudinal joint tie bars shall be No. 6 (No. 19) at 24 (600) centers in accordance with details for longitudinal construction joint shown on Standard 420001.

A minimum clearance of 2 (50) between the end of the tie bar and the back of the curb shall be maintained.

The dowel bars shown in contraction joints will only be required for monolithic construction.

See Standard 606301 for details of corner islands.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
11/15	Added B 6.06 (B 15.15) barrier curb and gutter to table (corner islands only).
11/13	Added general note regarding requirement for dowel bars.

**CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER**  
(Sheet 1 of 2)

**STANDARD 606001-06**

Illinois Department of Transportation  
 PASSED January 1, 2015  
 ENGINEER OF POLITY AND PROCEDURES  
 APPROVED January 1, 2015  
 ENGINEER OF DESIGN AND ENVIRONMENT

Drawn By: MSL Job Date: 2018  
 Approved: RSJ Job Number: 86140346.02  
 GIS Date: 6/13/2018 6:00:58 PM  
 GIS File: Marengo Water Main Plan Set IL23

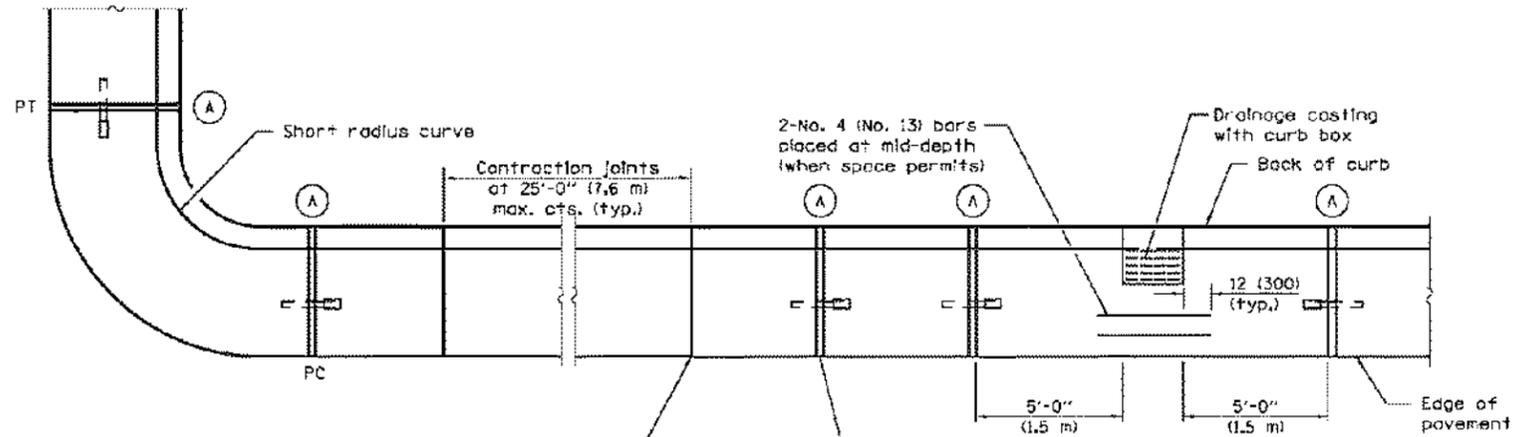
NO.	DATE	BY	REVISION DESCRIPTION
1	05/22/18	EW	PER CITY AND IDOT



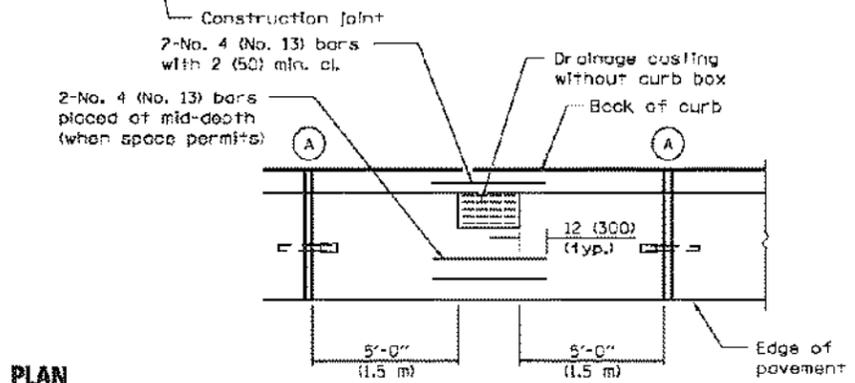
MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
 2018

**GENERAL**  
 CONCRETE CURB TYPE B AND COMBINATION  
 CONCRETE CURB AND GUTTER

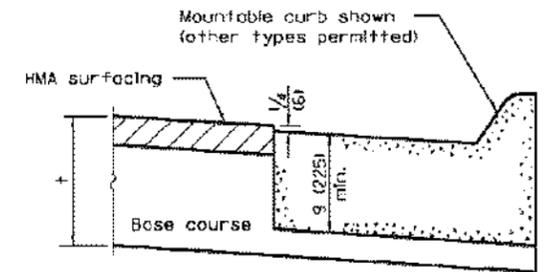
SHEET NO.  
 T.21



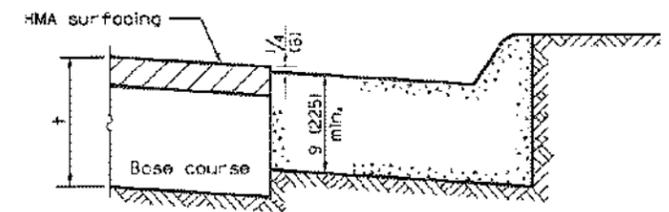
- Undeveloped contraction joint (typ.) construction options:
1. Form with 1/8" (3) thick steel template 2 (50) deep, and seal.
  2. Saw 2 (50) deep at 4 to 24 hours, and seal.
  3. Insert 3/4" (20) thick preformed joint filler full depth and width.



**PLAN**

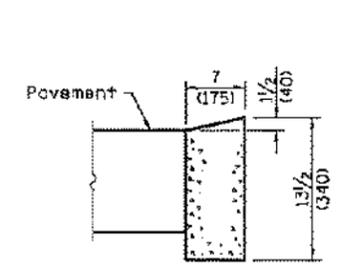


**ON DISTURBED SUBGRADE**

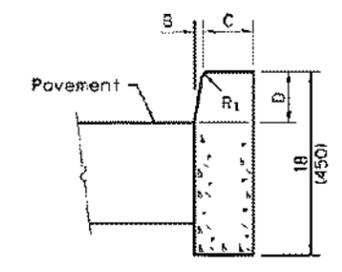


**ON UNDISTURBED SUBGRADE**

**ADJACENT TO FLEXIBLE PAVEMENT**

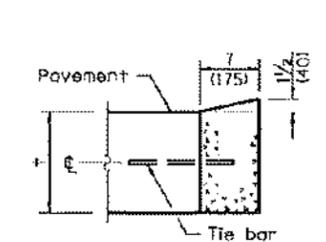


**DEPRESSED CURB**

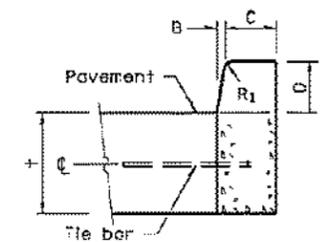


**BARRIER CURB**

**ADJACENT TO FLEXIBLE PAVEMENT**



**DEPRESSED CURB**



**BARRIER CURB**

**ADJACENT TO PCC PAVEMENT OR PCC BASE COURSE**

**CONCRETE CURB TYPE B**

**CONCRETE CURB TYPE B  
AND COMBINATION  
CONCRETE CURB AND GUTTER**  
(Sheet 2 of 2)

**STANDARD 606001-06**

Illinois Department of Transportation  
 PASSED January 1, 2018  
 ENGINEER OF POLICY AND PROCEDURES  
 APPROVED January 1, 2018  
 ENGINEER OF DESIGN AND ENVIRONMENT

Drawn By: MSL Job Date: 2018  
 Approved: RSJ Job Number: 86140346.02  
 GIS Date: 6/13/2018 6:00:58 PM  
 GIS File: Marengo Water Main Plan Set IL23

NO.	DATE	BY	REVISION DESCRIPTION
1	05/22/18	EW	PER CITY AND IDOT

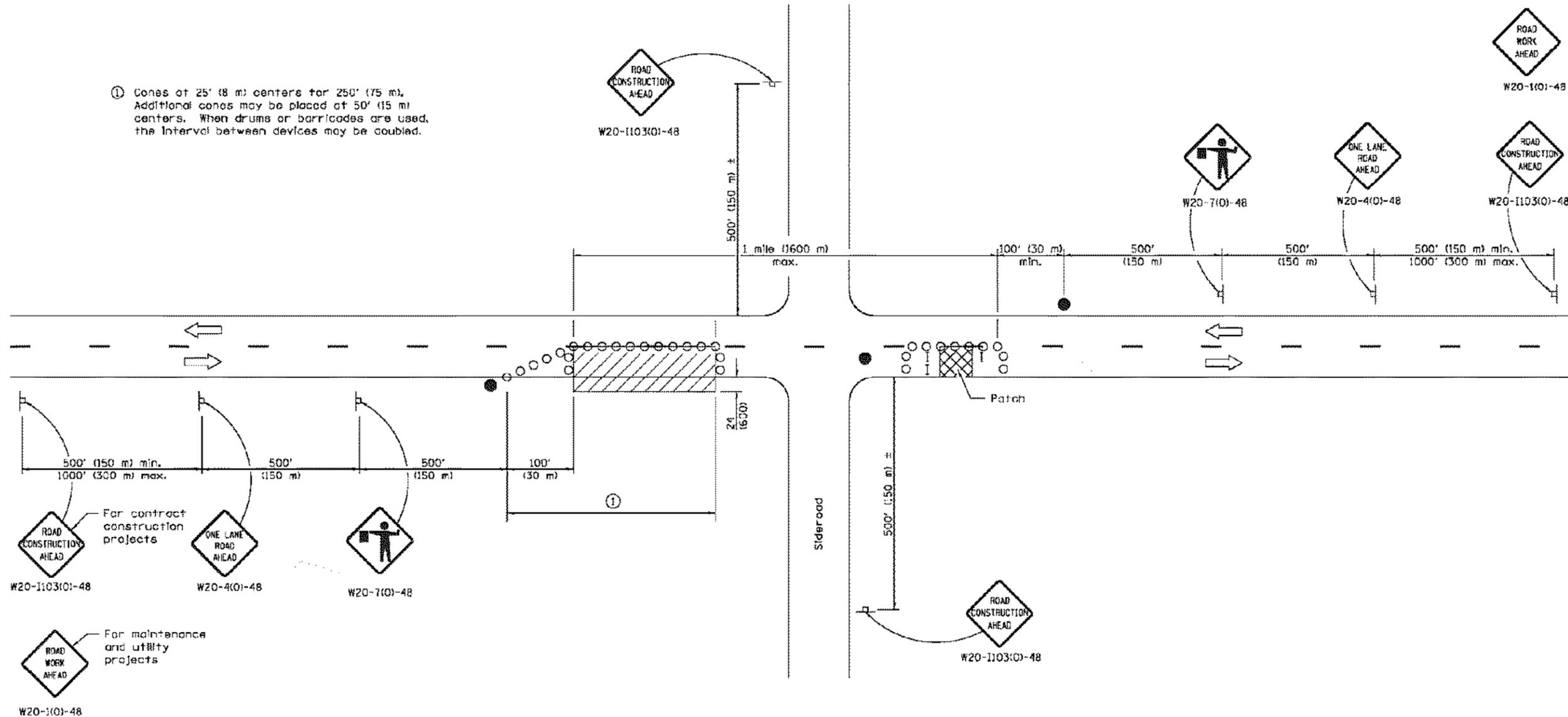


MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
 2018

**GENERAL**  
 CONCRETE CURB TYPE B AND COMBINATION  
 CONCRETE CURB AND GUTTER

SHEET NO.  
 T.22

① Cones of 25' (8 m) centers for 250' (75 m). Additional cones may be placed at 50' (15 m) centers. When drums or barricades are used, the interval between devices may be doubled.



**SYMBOLS**

- Work area
- Sign
- Barricade or drum
- Cone, drum or barricade
- Flagger with traffic control sign

**TYPICAL APPLICATIONS**

- Isolated patching
- Utility operations
- Storm sewer
- Cuiverts
- Cable placement

**GENERAL NOTES**

This Standard is used where at any time, any vehicles, equipment, workers or their activities will encroach in the area between the center line and a line 24 (600') outside the edge of pavement for daylight operation.

When the distance between successive work areas exceeds 2000' (600 m), additional warning signs, flaggers, and taper shall be placed as shown.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

APPROVED: *[Signature]* January 1, 2011  
ENGINEER OF SAFETY ENGINEERING

APPROVED: *[Signature]* January 1, 2011  
ENGINEER OF DESIGN AND ENVIRONMENT

DATE	REVISIONS
1-1-11	Revised flagger sign.
1-1-09	Switched units to English (metric). Corrected sign No.'s.

**LANE CLOSURE, 2L, 2W,  
DAY ONLY,  
FOR SPEEDS ≥ 45 MPH**

**STANDARD 701201-04**

Drawn By: MSL Job Date: 2018  
Approved: RSJ Job Number: 86140346.02  
GIS Date: 6/13/2018 6:00:58 PM  
GIS File: Marengo Water Main Plan Set IL23

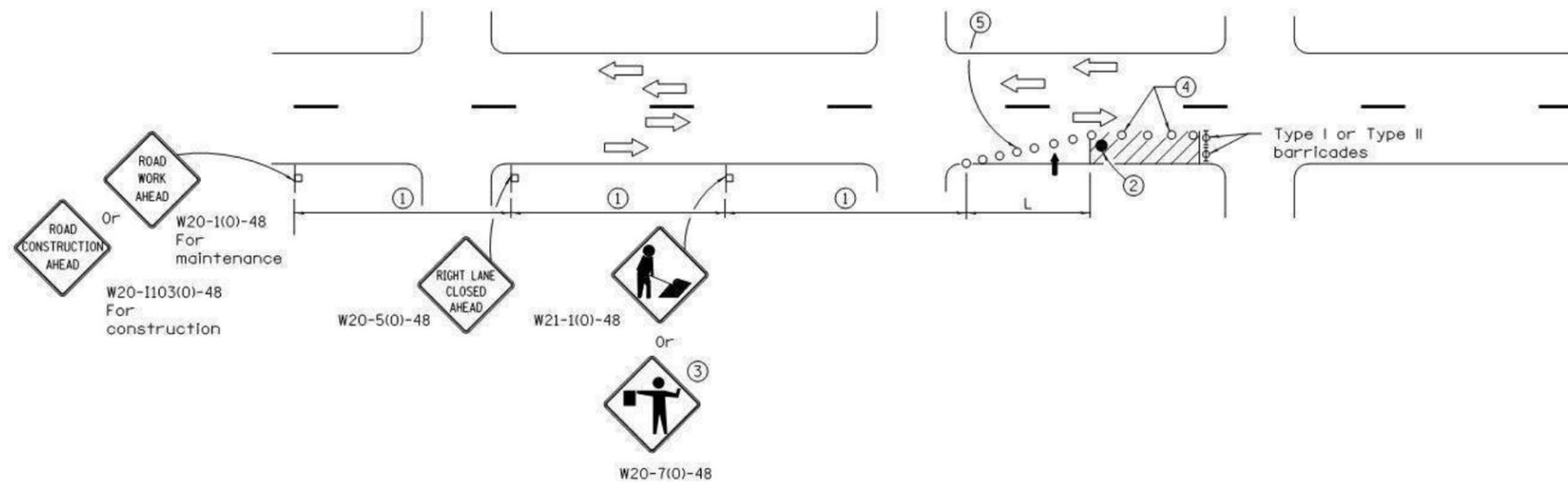
NO.	DATE	BY	REVISION DESCRIPTION
1	05/22/18	EW	PER CITY AND IDOT



MARENGO 2018 WATER MAIN REPLACEMENT  
MARENGO, ILLINOIS  
2018

**GENERAL**  
LANE CLOSURE

SHEET NO.  
T.23



SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

**SYMBOLS**

- Arrow board
- Cone, drum or barricade
- Sign on portable or permanent support
- Work area
- Barricade or drum with flashing light
- Flagger with traffic control sign.

- ① Refer to SIGN SPACING TABLE for distances.
- ② Required for speeds > 40 mph.
- ③ Use flagger sign only when flagger is present.
- ④ Cones at 25' (8 m) centers for 250' (75 m). Additional cones may be placed at 50' (15 m) centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.
- ⑤ Cones, drums or barricades at 20' (6 m) centers in taper.

**GENERAL NOTES**

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement requiring the closure of one traffic lane in an Urban area.

Calculate L as follows:

SPEED LIMIT	FORMULAS	
	English	(Metric)
40 mph (70 km/h) or less:	$L = \frac{WS^2}{60}$	$L = \frac{WS^2}{150}$
45 mph (80 km/h) or greater:	$L = (W)(S)$	$L = 0.65(W)(S)$

W = Width of offset in feet (meters).

S = Normal posted speed mph (km/h).

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

APPROVED January 1, 2015  
*James O'Neil*  
 ENGINEER OF SAFETY ENGINEERING

ISSUED 1-1-97

APPROVED January 1, 2015  
*[Signature]*  
 ENGINEER OF DESIGN AND ENVIRONMENT

DATE	REVISIONS
1-1-15	Renamed standard. Moved case on Sheet 2 to new Highway Standard.
1-1-14	Revised workers sign number to agree with current MUTCD.

**URBAN SINGLE LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN**

**STANDARD 701606-10**

Drawn By: MSL Job Date: 2018  
 Approved: RSJ Job Number: 86140346.02  
 GIS Date: 6/13/2018 6:00:58 PM  
 GIS File: Marengo Water Main Plan Set IL23

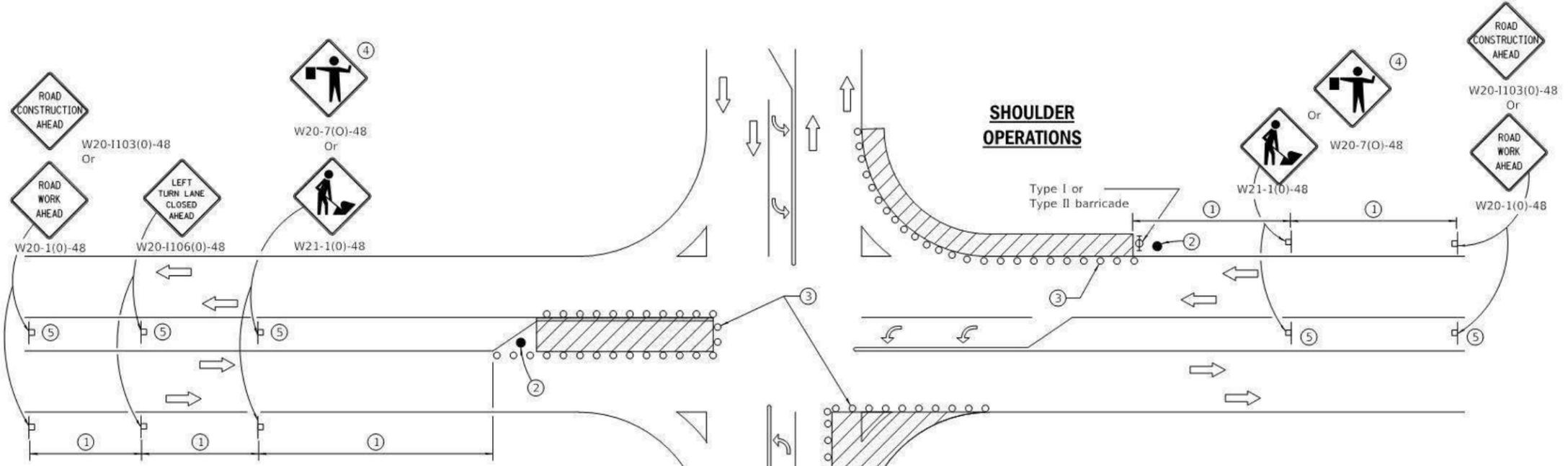
NO.	DATE	BY	REVISION DESCRIPTION
1	05/22/18	EW	PER CITY AND IDOT



MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
 2018

**GENERAL**  
 URBAN SINGLE LN CLOSURE MULTI LN 2W  
 W/ MOUNTABLE MED

SHEET NO.  
 T.24



**LEFT TURN LANE OR CENTER MEDIAN OPERATIONS**

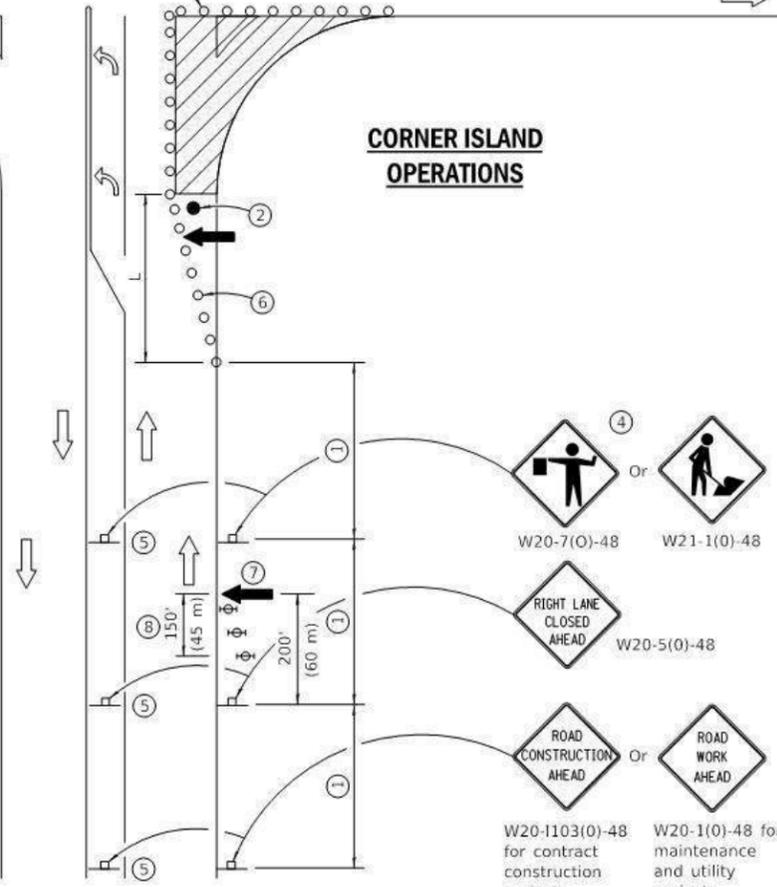
- ① Refer to SIGN SPACING TABLE for distance.
- ② Required for speed > 40 mph.
- ③ Cones at 25' (8 m) centers for 250' (75 m). Additional cones may be placed at 50' (15 m) centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.
- ④ Use flagger sign only when flagger is present.
- ⑤ Omit this sign when median is less than 10' (3 m) or for bi-directional turn lanes.
- ⑥ Cones, drums or barricades at 20' (6 m) centers in taper.
- ⑦ Advanced arrow board required for speeds > 45 mph.
- ⑧ Three Type II barricades, drums or vertical barricades at 50' (15 m) centers.

SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

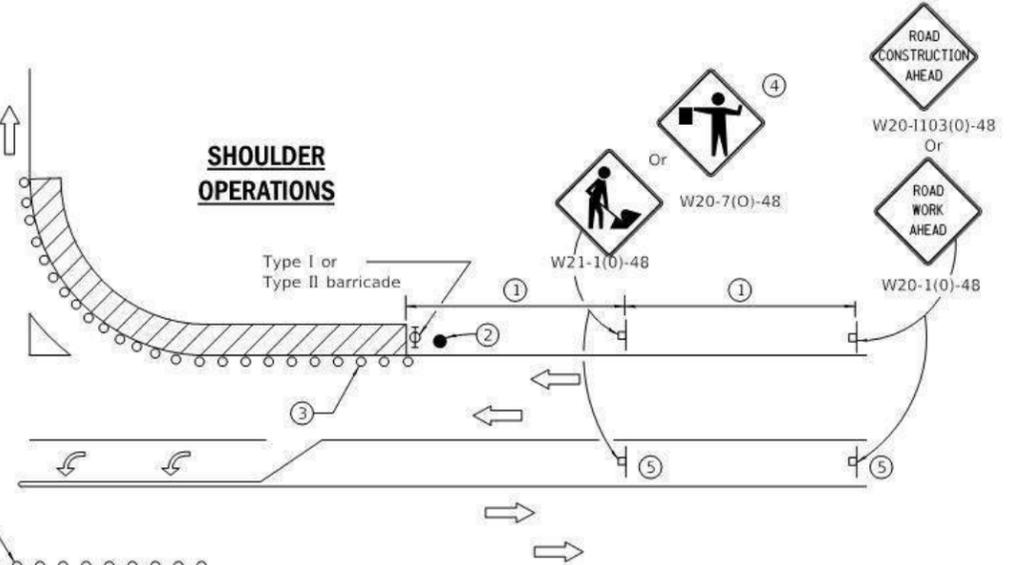
**SYMBOLS**

- Work area
- Cone, drum or barricade
- Sign on portable or permanent support
- Arrow board
- Barricade or drum with flashing light
- Flagger with traffic control sign

**CORNER ISLAND OPERATIONS**



**SHOULDER OPERATIONS**



**GENERAL NOTES**

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement during shoulder operations or where construction requires lane closures in an urban area.

Calculate L as follows:

SPEED LIMIT	FORMULAS	
	English	(Metric)
40 mph (70 km/h) or less:	$L = \frac{WS^2}{60}$	$L = \frac{WS^2}{150}$
45 mph (80 km/h) or greater:	$L = (W)(S)$	$L = 0.65(W)(S)$

W = Width of offset in feet (meters).

S = Normal posted speed mph (km/h).

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED April 1, 2016  
 ENGINEER OF SAFETY ENGINEERING  
 APPROVED April 1, 2016  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
4-1-16	Corrected sign number for LEFT TURN LANE CLOSED AHEAD.
1-1-14	Added devices at arrow board upstream from taper. Rev. workers sign number.

**URBAN LANE CLOSURE, MULTILANE INTERSECTION**

STANDARD 701701-10

Drawn By: MSL Job Date: 2018  
 Approved: RSJ Job Number: 86140346.02  
 GIS Date: 6/13/2018 6:00:58 PM  
 GIS File: Marengo Water Main Plan Set IL23

NO.	DATE	BY	REVISION DESCRIPTION
1	05/22/18	EW	PER CITY AND IDOT

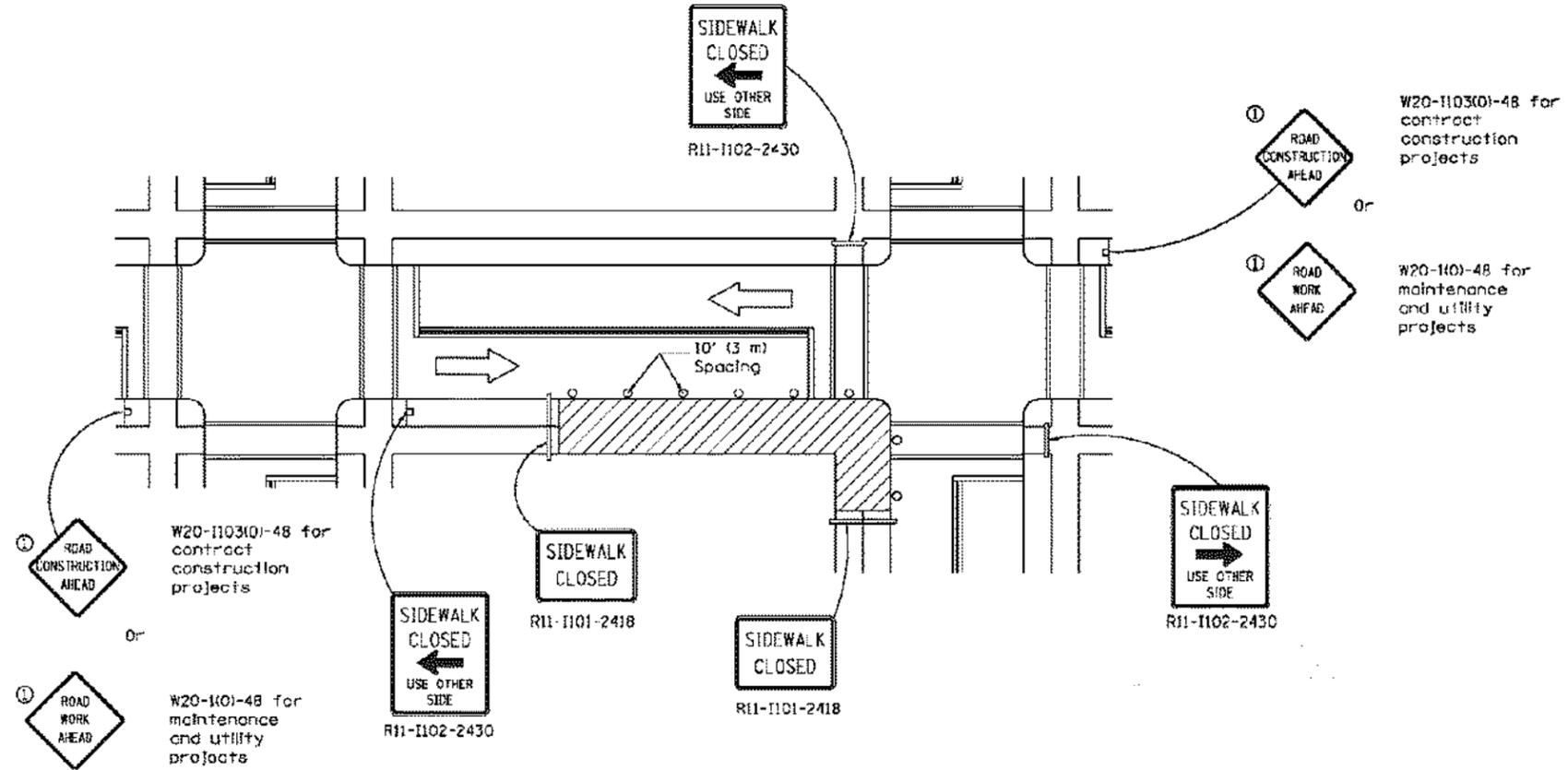


MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
 2018

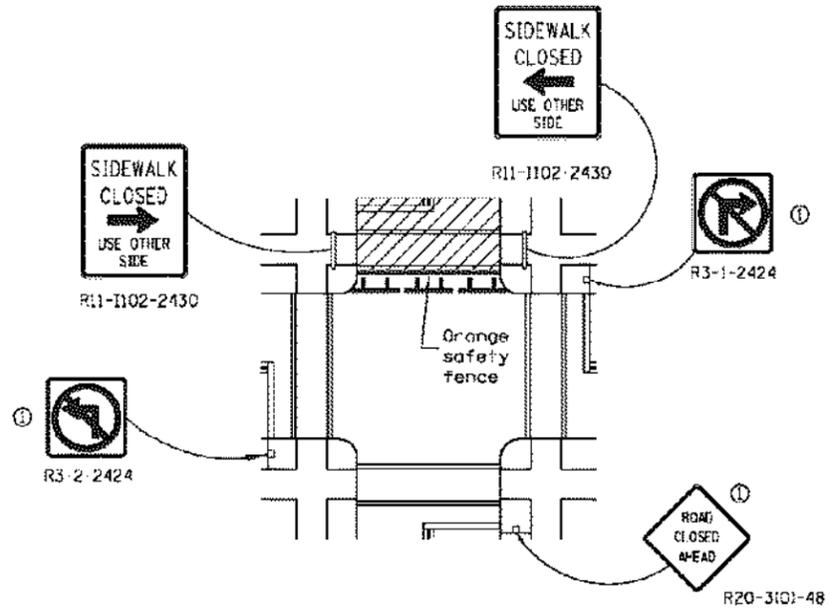
**GENERAL**  
 URBAN LN CLOSURE MULTI LN INTERSECTION

SHEET NO.  
 T.25





**CORNER CLOSURE**



**CROSSWALK CLOSURE**

**SIDEWALK, CORNER OR CROSSWALK CLOSURE**

(Sheet 2 of 2)

STANDARD 701801-05

Illinois Department of Transportation  
 APPROVED: [Signature] January 1, 2018  
 ENGINEER OF SAFETY ENGINEERING  
 APPROVED: [Signature] January 1, 2012  
 ENGINEER OF DESIGN AND ENVIRONMENT

Drawn By: MSL Job Date: 2018  
 Approved: RSJ Job Number: 86140346.02  
 GIS Date: 6/13/2018 6:00:58 PM  
 GIS File: Marengo Water Main Plan Set IL23

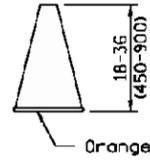
NO.	DATE	BY	REVISION DESCRIPTION
1	05/22/18	EW	PER CITY AND IDOT



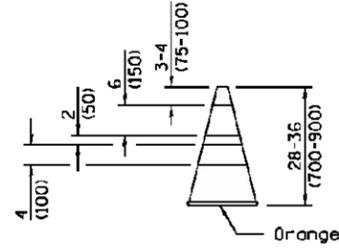
MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
 2018

**GENERAL**  
 SIDEWALK, CORNER OR CROSSWALK CLOSURE

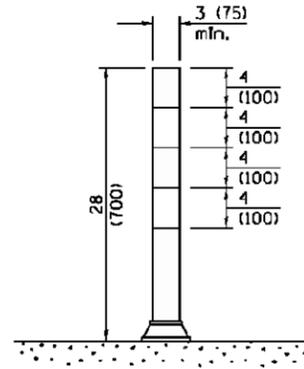
SHEET NO.  
 T.27



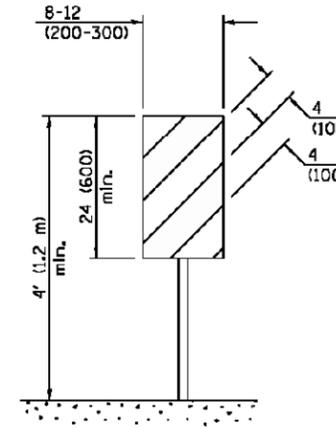
**CONE**



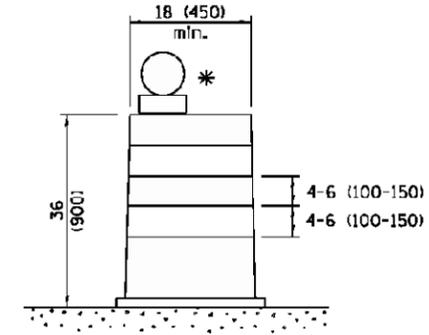
**REFLECTORIZED CONE**



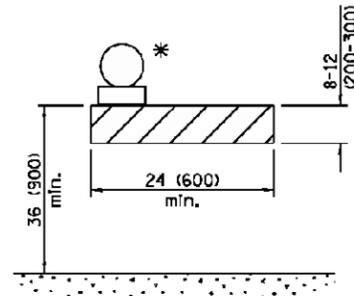
**FLEXIBLE DELINEATOR**



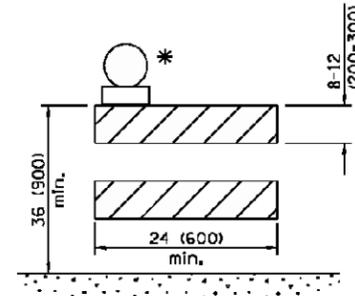
**VERTICAL PANEL  
POST MOUNTED**



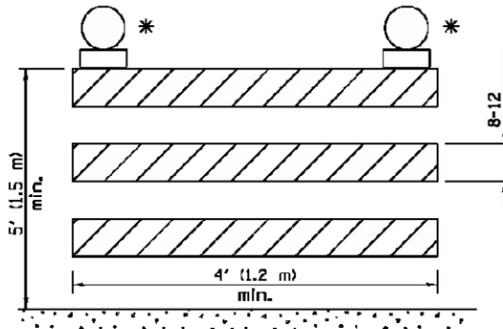
**DRUM**



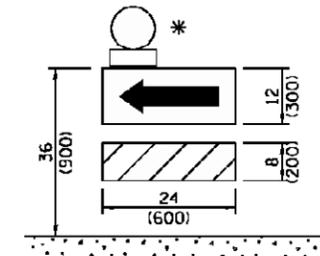
**TYPE I BARRICADE**



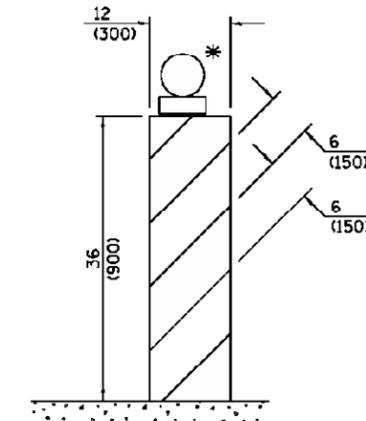
**TYPE II BARRICADE**



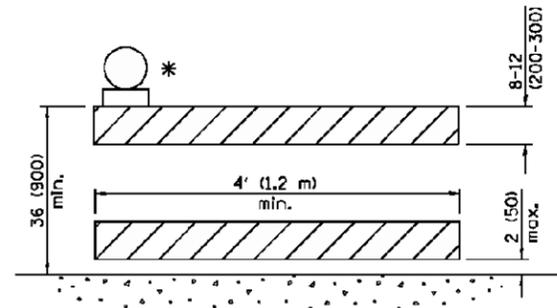
**TYPE III BARRICADE**



**DIRECTION INDICATOR  
BARRICADE**



**VERTICAL BARRICADE**



**DETECTABLE PEDESTRIAN  
CHANNELIZING BARRICADE**

\* Warning lights (if required)

**GENERAL NOTES**

All heights shown shall be measured above the pavement surface.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-15	Revised two sign numbers on sheet 2. Added note req. PHOTO ENFORCED plaque.
1-1-14	Modified flagger sign height. Added highway construction speed zone signs.

**TRAFFIC CONTROL  
DEVICES**

(Sheet 1 of 3)

**STANDARD 701901-04**

Illinois Department of Transportation

APPROVED January 4, 2018  
  
 ENGINEER OF OPERATIONS

APPROVED January 1, 2018  
  
 ENGINEER OF DESIGN AND ENVIRONMENT

Drawn By: MSL Job Date: 2018  
 Approved: RSJ Job Number: 86140346.02  
 GIS Date: 6/13/2018 6:00:58 PM  
 GIS File: Marengo Water Main Plan Set IL23

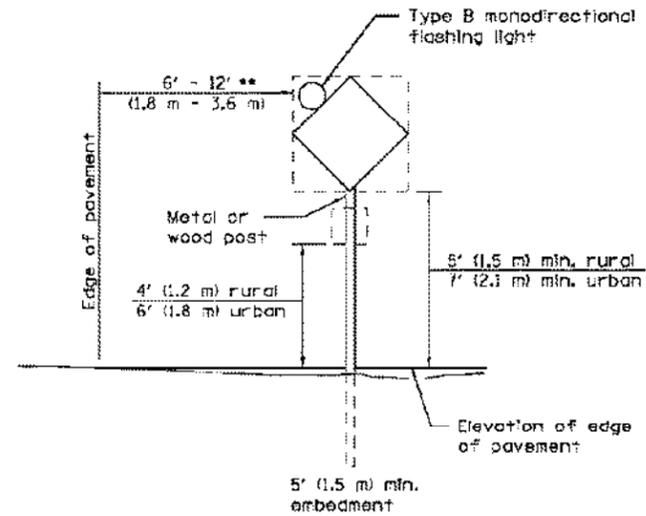
NO.	DATE	BY	REVISION DESCRIPTION
1	05/22/18	EW	PER CITY AND IDOT



MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
 2018

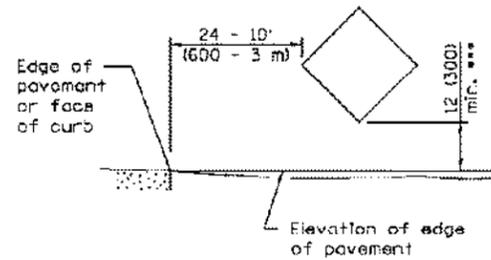
**GENERAL**  
 TRAFFIC CONTROL DEVICES

SHEET NO.  
 T.28



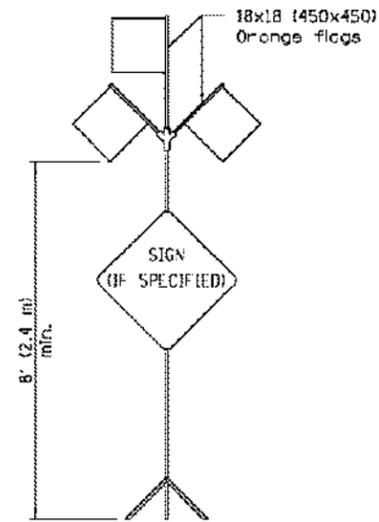
**POST MOUNTED SIGNS**

\*\* When curb or paved shoulder are present this dimension shall be 24 (600) to the face of curb or 6' (1.8 m) to the outside edge of the paved shoulder.



**SIGNS ON TEMPORARY SUPPORTS**

\*\*\* When work operations exceed four days, this dimension shall be 5' (1.5 m) min. If located behind other devices, the height shall be sufficient to be seen completely above the devices.



**HIGH LEVEL WARNING DEVICE**

ROAD CONSTRUCTION NEXT X MILES

END CONSTRUCTION

G20-1104(0)-6036

G20-1105(0)-6024

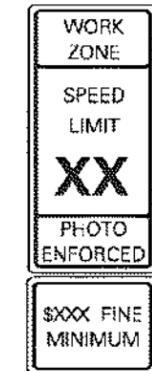
This signing is required for all projects 2 miles (3200 m) or more in length.

ROAD CONSTRUCTION NEXT X MILES sign shall be placed 500' (150 m) in advance of project limits.

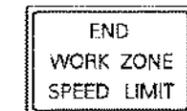
END CONSTRUCTION sign shall be erected at the end of the job unless another job is within 2 miles (3200 m).

Dual sign displays shall be utilized on multi-lane highways.

**WORK LIMIT SIGNING**



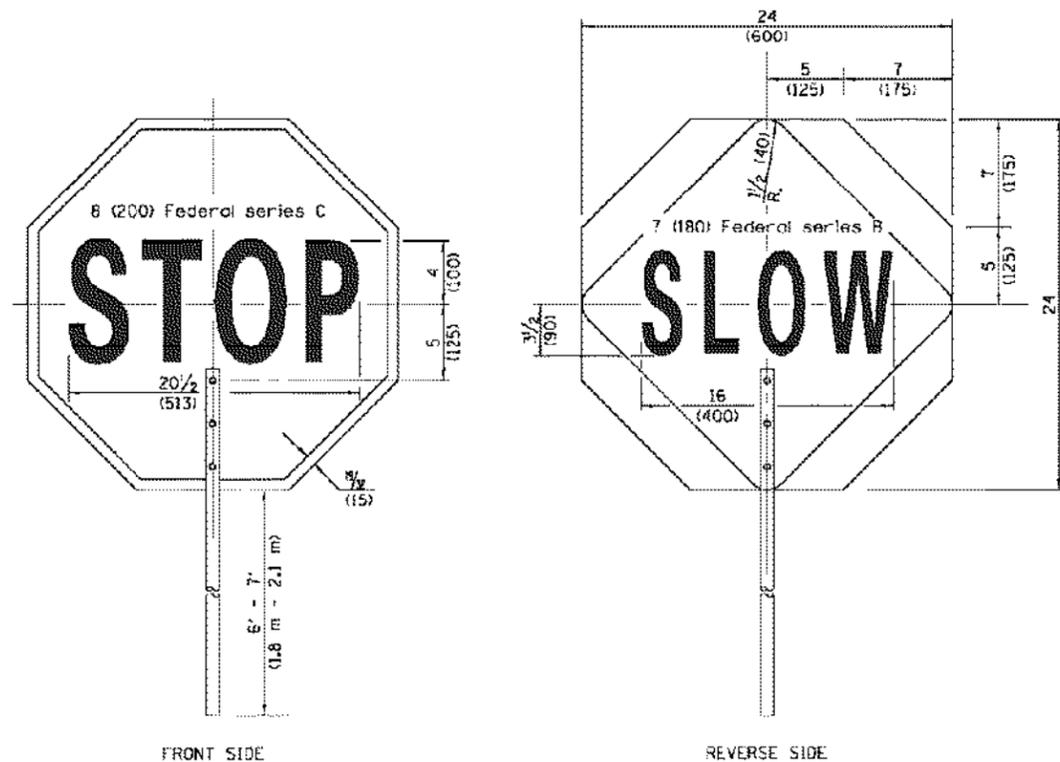
Sign assembly as shown on Standards or as allowed by District Operations.



This sign shall be used when the above sign assembly is used.

**HIGHWAY CONSTRUCTION SPEED ZONE SIGNS**

\*\*\*\* R10-1108p shall only be used along roadways under the jurisdiction of the State.



**FLAGGER TRAFFIC CONTROL SIGN**

Illinois Department of Transportation

APPROVED January 1, 2018

ENGINEER OF OPERATIONS

APPROVED January 1, 2018

ENGINEER OF DESIGN AND ENVIRONMENT

**TRAFFIC CONTROL DEVICES**

(Sheet 2 of 3)

STANDARD 701901-04

Drawn By: MSL Job Date: 2018  
 Approved: RSJ Job Number: 86140346.02  
 GIS Date: 6/13/2018 6:00:58 PM  
 GIS File: Marengo Water Main Plan Set IL23

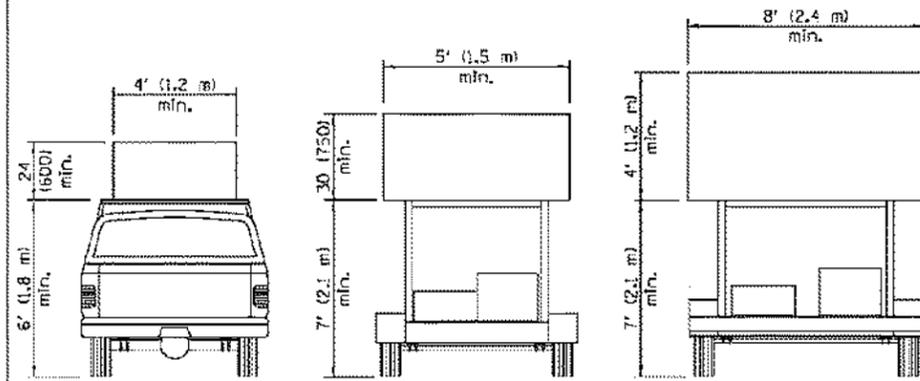
NO.	DATE	BY	REVISION DESCRIPTION
1	05/22/18	EW	PER CITY AND IDOT



MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
 2018

GENERAL  
 TRAFFIC CONTROL DEVICES

SHEET NO.  
 T.29

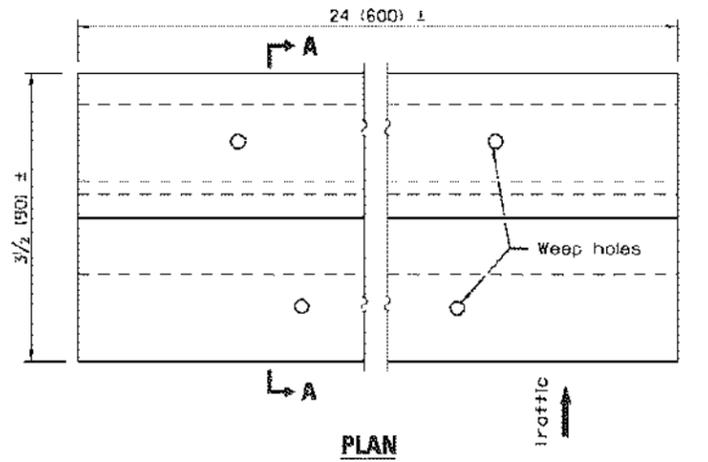


**TYPE A  
ROOF  
MOUNTED**

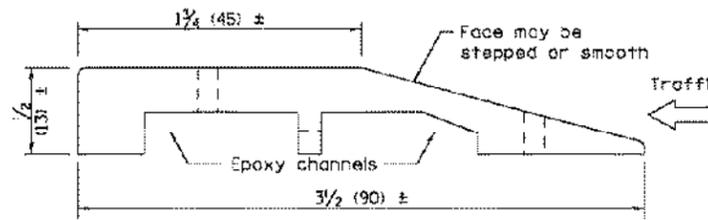
**TYPE B  
ROOF OR TRAILER  
MOUNTED**

**TYPE C  
TRAILER  
MOUNTED**

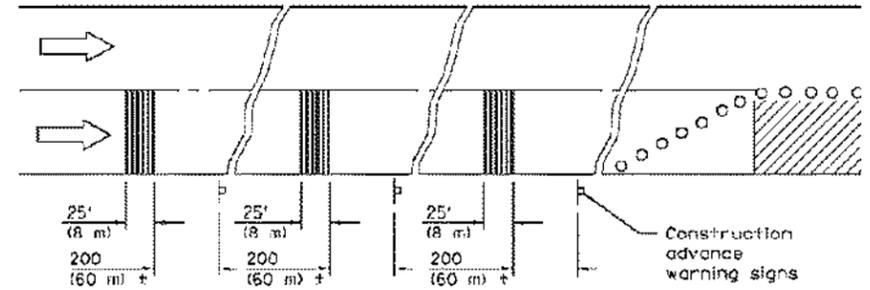
**ARROW BOARDS**



**PLAN**

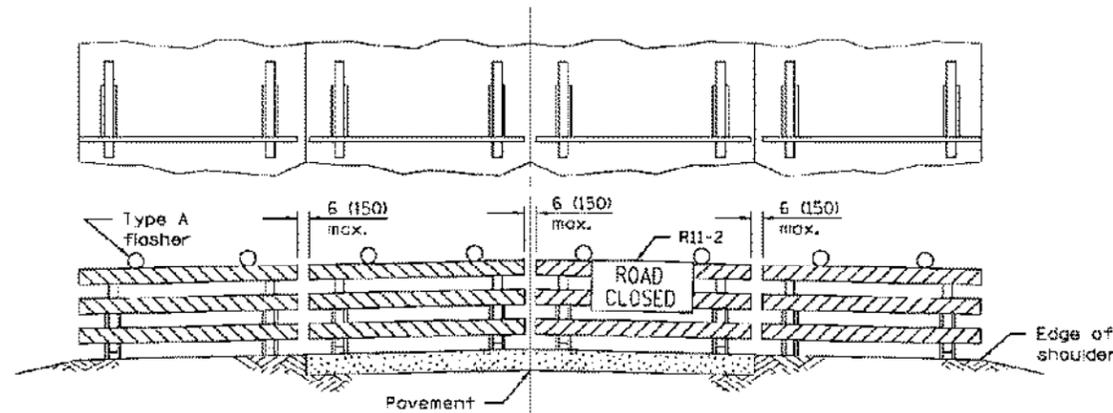


**SECTION A-A**



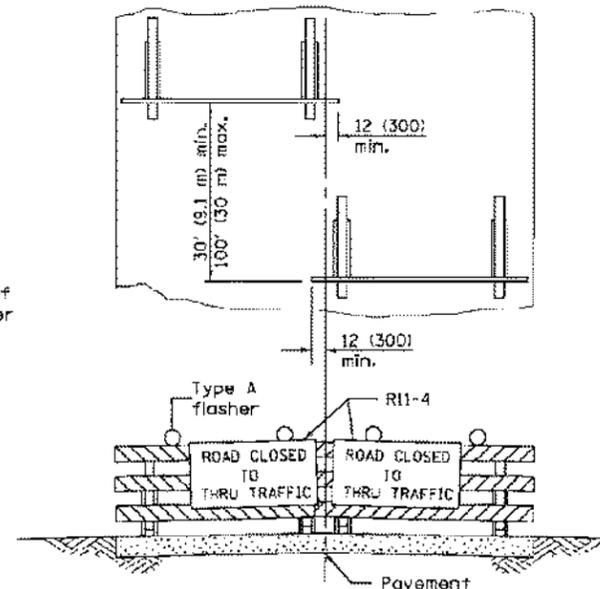
**TYPICAL INSTALLATION**

**TEMPORARY RUMBLE STRIPS**



**ROAD CLOSED TO ALL TRAFFIC**

Reflectorized striping may be omitted on the back side of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the sign may be mounted on an NCHRP 350 temporary sign support directly in front of the barricade.



**ROAD CLOSED TO THRU TRAFFIC**

Reflectorized striping shall appear on both sides of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the signs may be mounted on NCHRP 350 temporary sign supports directly in front of the barricade.

**TRAFFIC CONTROL DEVICES**

(Sheet 3 of 3)

**STANDARD 701901-04**

Illinois Department of Transportation	
APPROVED	January 1, 2015
ENGINEER OF OPERATIONS	
APPROVED	January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT	

**TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD**

Drawn By: MSL Job Date: 2018  
 Approved: RSJ Job Number: 86140346.02  
 GIS Date: 6/13/2018 6:00:58 PM  
 GIS File: Marengo Water Main Plan Set IL23

NO.	DATE	BY	REVISION DESCRIPTION
1	05/22/18	EW	PER CITY AND IDOT



MARENGO 2018 WATER MAIN REPLACEMENT  
 MARENGO, ILLINOIS  
 2018

**GENERAL**  
 TRAFFIC CONTROL DEVICES

SHEET NO.  
 T.30