

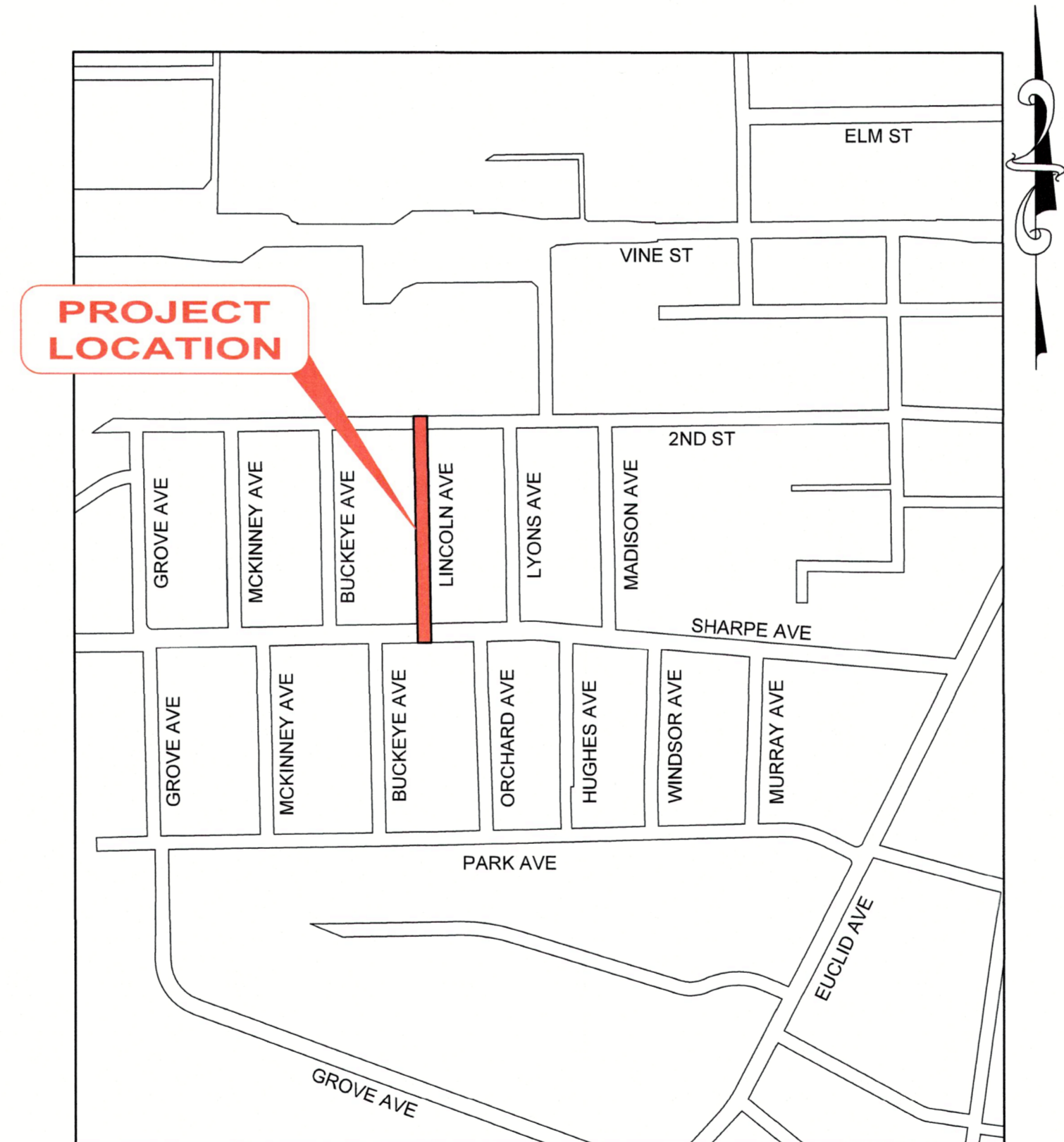
# CITY OF WILLOUGHBY

# LINCOLN AVENUE STORM SEWER REPLACEMENT

## OPWC PROJECT LAKE COUNTY, OHIO

JUNE, 2026

SHEET INDEX		
SHEET NUMBER	SHEET TITLE	SHEET NAME
1	COVER	CV-01
2	GENERAL NOTES	GN-01
3	MAINTENANCE OF TRAFFIC	MOT-01
4	SURVEY CONTROL	SC-01
5	PLAN & PROFILE - 1	P-01
6	PLAN & PROFILE - 2	P-02
7	TYPICAL SECTION & LEGEND	TL-01
8-12	STANDARD DETAILS	DET-01 - DET-05



**LOCATION MAP**  
1" = 500'

**CITY OFFICIALS:**

ROBERT A. FIALA . . . . . MAYOR

**CITY COUNCIL**

DANIEL J. ANDERSON, COUNCIL AT LARGE	ROBERT E. CARR, WARD 4
KRISTIE SIEVERS, WARD 1	LARRY LUCIANO, WARD 5
KEN J. KARY, WARD 2	DANIEL J. GARRY, WARD 6
JOHN M. TOMASELLI, WARD 3	ALISA NOVAK, CLERK OF COUNCIL

**CITY ADMINISTRATORS:**

DAN KNECHT . . . . .	SERVICE DIRECTOR
LUKE McCONVILLE . . . . .	LAW DIRECTOR
CHER HOFFMAN . . . . .	FINANCE DIRECTOR
DARRYL KELLER . . . . .	CHIEF BUILDING INSPECTOR
JUDEAN KELLER . . . . .	RECREATION DIRECTOR
TOM THIELMAN . . . . .	ECONOMIC DEVELOPMENT DIRECTOR
JAMES SCHULTZ . . . . .	POLICE CHIEF
TODD UNGAR . . . . .	FIRE CHIEF
TIM LANNON . . . . .	CITY ENGINEER

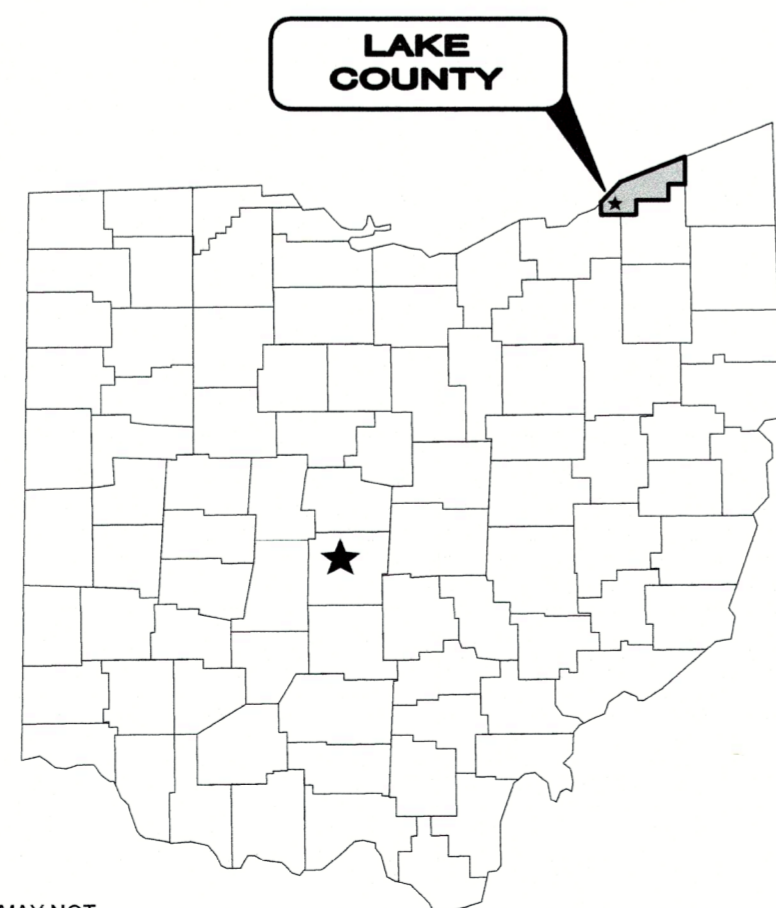
**UNDERGROUND UTILITIES**

CONTACT BOTH SERVICES  
CALL TWO WORKING DAYS  
**BEFORE YOU DIG**

CALL  
1-800-362-2764  
(TOLL FREE)

OHIO UTILITIES PROTECTION SERVICE  
NON-MEMBERS  
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS PROTECTIVE  
SERVICE CALL: 1-800-925-0988



*Peter J. Formica*  
PETER J. FORMICA

P.E. No. 58646

6/10/2026  
DATE



1. THE SURVEY SHOWN ON THESE PLANS WAS OBSERVED IN THE FIELD FOR CONSTRUCTION PURPOSES ONLY AND MAY NOT BE SUITABLE FOR PROPERTY LINE SURVEYS OR ANY OTHER PURPOSE.

2. UNDERGROUND BUILDING SERVICE UTILITY LINES ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, MAINTAINING AND REPLACING AS NECESSARY TO ENSURE CONTINUAL SERVICE TO BUILDINGS.

3. THE CONTRACTOR IS RESPONSIBLE TO CALL OHIO UTILITIES PROTECTION SERVICE @ 1-800-362-2764, THREE WORKING DAYS PRIOR TO CONSTRUCTION.

Z:\PROJECT FILES\WILLOUGHBY\32759 - LINCOLN AVE STORM SEWER\DWG\32759 - COVER.DWG - 6/5/2026 8:42:33 AM - PETER VRETTAS

- GENERAL NOTES**
- MATERIALS OF WORK FOR "AS DIRECTED" ITEMS SHALL NOT BE ORDERED FOR THE DELIVERY TO THE PROJECT OR WORK PERFORMED UNTIL AUTHORIZED BY THE ENGINEER.
  - MANHOLES, CATCH BASINS, MONUMENT BOXES, WATER VALVE BOXES AND OTHER CASTINGS SHALL BE RAISED OR LOWERED FLUSH WITH THE FINISHED SURROUNDING SURFACE. ANY METER OR VALVE BOX ENCOUNTERED WITHIN THE WORK SITE SHALL BE EXPOSED AND ADJUSTED TO GRADE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID.
  - BEFORE THE CITY WILL APPROVE AND ACCEPT THE WORK AND RELEASE THE GUARANTY RETAINER, THE CONTRACTOR SHALL FURNISH THE CITY A WRITTEN REPORT INDICATING THE RESOLUTION OF ANY AND ALL PROPERTY DAMAGE CLAIMS FILED WITH THE CONTRACTOR BY ANY PARTY DURING THE CONSTRUCTION PERIOD. THE INFORMATION TO BE SUPPLIED SHALL INCLUDE, BUT NOT BE LIMITED TO, NAME OF CLAIMANT, DATE FILED WITH CONTRACTOR, NAME OF INSURANCE COMPANY AND/OR ADJUSTOR HANDLING CLAIM, HOW CLAIM WAS RESOLVED AND, IF CLAIM WAS NOT RESOLVED FOR THE FULL AMOUNT, A STATEMENT INDICATING THE REASON FOR SUCH ACTION.
  - IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO APPLY WHEN NEEDED OR ORDERED BY THE OWNER WATER OR CALCIUM CHLORIDE PER ODOT 616 FOR THE ALLEVIATION OR PREVENTION OF DUST NUISANCE ORIGINATING FROM HIS CONSTRUCTION ACTIVITIES. SUFFICIENT QUANTITIES OF CALCIUM CHLORIDE SHALL BE STORED ON THE JOB SITE AT ALL TIMES TO BE USED FOR DUST CONTROL. THE COST OF DUST CONTROL SHALL BE INCLUDED IN THE UNIT BID PRICES FOR ALL ITEMS OF THE PROPOSAL.
  - THE CONTRACTOR SHALL PROVIDE A PRE-CONSTRUCTION VIDEO TAPE SURVEY OF THE ENTIRE PROJECT AREA. ANY DAMAGE DEEMED TO HAVE BEEN CAUSED BY THE CONTRACTOR SHALL BE REPAIRED AT HIS OWN EXPENSE. ALL COSTS ASSOCIATED FOR THIS WORK, INCLUDING THE VIDEO TAPE SURVEY, SHALL BE INCLUDED IN THE UNIT PRICES STIPULATED FOR THE VARIOUS ITEMS IN THE BID PROPOSAL.
  - THE CONTRACTOR SHALL PERFORM ALL OF THE WORK AND FURNISH ALL OF THE LABOR AND MATERIALS NECESSARY FOR THE FINAL COMPLETION OF THIS CONTRACT IN THE MANNER AND UNDER THE CONDITIONS HEREIN SPECIFIED AND PROVIDED AND IN ACCORDANCE WITH THE CONTRACT DRAWINGS.
  - A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED BY THE CITY OF WILLOUGHBY ENGINEER PRIOR TO THE COMMENCEMENT OF ANY WORK. IN ADDITION, THE CONTRACTOR SHALL PROVIDE 48 HOUR NOTICE TO THE CITY OF WILLOUGHBY PRIOR TO THE COMMENCEMENT OF WORK.
  - ACCESS TO ALL DRIVEWAYS WILL BE MAINTAINED AT ALL TIMES EXCEPT THE TIME WHEN SEWER INSTALLATION AND PAVEMENT REPLACEMENT WILL NOT PERMIT.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING A SITE FOR DISPOSAL OF ALL EXCAVATED MATERIAL THAT IS UNSUITABLE FOR USE AS BACKFILL AND ALL OTHER EXCESS EXCAVATED MATERIALS. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH THE LOCATION OF THE DISPOSAL SITE AND WRITTEN PERMISSION FOR USE OF THE SITE FROM THE PROPERTY OWNER. THE COST FOR SECURING AND MAINTAINING THE DISPOSAL SITE WILL BE INCLUDED IN THE UNIT PRICES STIPULATED PER LINEAR FOOT OF THE SEWER.
  - ALL OVER-THE-ROAD VEHICLES USED ON THE PROJECT BY ALL CONTRACTORS AND SUB-CONTRACTORS WILL BE CLEARLY MARKED SHOWING ITS COMPANY SYMBOL.
  - THE CONTRACTOR IS TO TAKE CARE DURING EXCAVATION, PIPE INSTALLATION AND BACKFILLING, IN AREAS IMMEDIATELY ADJACENT TO TREES, TO MINIMIZE THE DISTURBANCE OF ROOT SYSTEMS AND TREE LIMBS. THE COST OF ANY EXTRA EFFORT SUCH AS HAND EXCAVATION IS TO BE INCLUDED IN THE UNIT PRICE BID FOR PIPE INSTALLATION.
  - THE CONTRACTOR SHALL IMMEDIATELY PROVIDE A CELLULAR PHONE TO ANY RESIDENT OR BUSINESS WHICH MAY LOSE PHONE SERVICE DUE TO CONSTRUCTION ACTIVITIES.

**TRENCH EXCAVATION AND BACKFILL**

- ALL EXCAVATION SHALL BE CONSIDERED UNCLASSIFIED. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED THE CONTRACTOR FOR ROCK OR SHALE EXCAVATION.
  - BACKFILL FOR ALL UNDERGROUND UTILITIES INSTALLED UNDER PAVEMENT, OR WITHIN A 1:1 ZONE OF INFLUENCE PARALLEL OR TRANSVERSE TO PAVEMENT, SHALL BE "COMPACTED GRANULAR BACKFILL" AS DESCRIBED IN SPECIFICATION SECTION 02235 AND IN ACCORDANCE WITH THE PLANS. BACKFILL IN OTHER AREAS SHALL BE AS DESCRIBED IN SPECIFICATION SECTION 012323.13 - "COMPACTED BACKFILL" OR SECTION 02235 - "COMPACTED GRANULAR BACKFILL". THE OWNER AND THE ENGINEER DO NOT GUARANTEE NOR SUGGEST THE INSITU MATERIAL TO BE EXCAVATED WILL BE SUITABLE OR IN ITS PRESENT STATE WILL CONSIST OF THE PROPER MOISTURE CONTENT TO ACHIEVE THE COMPACTION REQUIREMENTS. THE CONTRACTOR SHALL MAKE HIS OWN DETERMINATION AS TO THE BACKFILL MATERIAL HE WILL USE. UPON REQUEST, THE OWNER WILL PROVIDE ACCESS TO THE SITE FOR THE CONTRACTOR TO CONDUCT SUCH INVESTIGATION AND TESTS DEEMED NECESSARY TO MAKE HIS DETERMINATION. NO EXTRA PAYMENT WILL BE MADE TO DISPOSE OF UNSUITABLE MATERIAL OR FURNISH AND PLACE SUITABLE MATERIAL MEETING THE REQUIREMENTS OF SECTION 312323.13 "COMPACTED BACKFILL" OR SECTION 02235 "COMPACTED GRANULAR BACKFILL".
  - SLAG PRODUCTS WILL NOT BE PERMITTED FOR BEDDING OR BACKFILL MATERIAL.
  - BACKFILL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 9" IN DEPTH. BACKFILL MATERIAL SHALL BE PLACED WITH 2% OF THE OPTIMUM MOISTURE. THE ENGINEER MAY ORDER THE REMOVAL, REFILLING, RECOMPACTION AND RETESTING OF ALL BACKFILL NOT MEETING THE REQUIREMENTS OF THE CONTRACT.
  - BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED USING MACHINE MOUNTED COMPACTION EQUIPMENT IN LAYERS SUFFICIENT TO MEET THE COMPACTION REQUIREMENT ODOT 203.
  - NO BACKFILLING OF ANY TRENCHES OR EXCAVATIONS WILL BE PERMITTED WITHOUT TAMPING EQUIPMENT BEING USED. FLOODING, JETTING OR PUDDLING OF BACKFILL WILL NOT BE PERMITTED.
  - ALL UTILITY LINES CROSSING THE NEW TRENCH, I.E. STORM SEWERS, STORM LATERALS, SANITARY SEWERS, SANITARY LATERALS, WATER MAINS, WATER SERVICE CONNECTIONS, GAS MAINS, GAS SERVICE CONNECTIONS, UNDERGROUND OBT CONDUITS, OR CABLE T.V. LINES SHALL BE PROTECTED AND SUPPORTED WITH HARDWOOD PLANKS OR REMOVED AND REPLACED, RECONNECTED AND SUPPORTED ACROSS THE ENTIRE WIDTH OF THE TRENCH. NO ADDITIONAL COMPENSATION WILL BE PAID FOR THE ABOVE WORK, EVEN IF NOT SHOWN ON THE PLANS.
  - ALL EXISTING SEWER CASTINGS REMOVED ON THIS PROJECT SHALL REMAIN THE PROPERTY OF THE CITY OF WILLOUGHBY AND SHALL BE DELIVERED BY THE CONTRACTOR TO A SITE DESIGNATED BY THE CITY.
  - ALL EXISTING TEST TEE MARKINGS ENCOUNTERED ON THE SIDEWALK AND/OR CURB DURING CONSTRUCTION SHALL BE REFERENCED AND RESTORED, MARKED WITH A SAW CUT SYMBOL ON THE SIDEWALK. (+) FOR STORM TEE AND ( Δ ) FOR SANITARY TEE.
  - ALL EXCESS EXCAVATION SHALL BE DISPOSED OF IN A LOCATION TO BE SELECTED BY THE CONTRACTOR. THE CONTRACTOR MUST OBTAIN A PERMIT FROM THE CITY IF THE MATERIAL IS TO BE DISPOSED OF WITHIN THE CITY LIMITS.
- ROADWAY EXCAVATION AND PAVEMENT**
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER FORTY-EIGHT (48) HOURS IN ADVANCE OF BEGINNING WORK WHICH REQUIRES PROOF ROLL TESTING AND/OR PRE-POUR INSPECTION PRIOR TO PLACEMENT OF PAVEMENT. WORK WILL NOT BEGIN UNTIL INSPECTION HAS BEEN COMPLETED AND APPROVED BY THE ENGINEER.
  - IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE BARRICADE DEVICES TO PREVENT VEHICULAR TRAFFIC ON NEW CONCRETE PAVEMENT AND APRONS UNTIL THE END OF THE CURE PERIOD OR

UNTIL THE SPECIMEN TEST BEAMS HAVE ATTAINED A MODULUS OF RUPTURE OF 600 PSI FOR QC MS CONCRETE.

- THE EXCAVATION, EMBANKMENT AND COMPACTION OF THE NEW ROADWAY SUBGRADES IS PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS 203. A MINIMUM OF TWO (2) PROOF ROLLINGS WILL BE REQUIRED AS DIRECTED BY THE ENGINEER BEFORE PAVING. THE FIRST PROOF ROLLING SHALL BE PERFORMED AFTER THE INSTALLATION OF ALL UNDERGROUND IMPROVEMENTS AND AFTER FINE GRADING JUST PRIOR TO PAVING. THE PROOF ROLLINGS SHALL BE COMPLETED AS FOLLOWS: EXCAVATION OR EMBANKMENT TO FINISHED SUBGRADE. EMBANKMENTS ARE COMPACTED AND TESTED FOR COMPACTION IN 6" LIFTS PER ODOT 203. THE SUBGRADE IS COMPACTED AND TESTED. THE SUBGRADE FOR THE NEW ROAD IS THEN PROOF ROLLED. AREAS EXHIBITING UNACCEPTABLE MOVEMENT UNDER PROOF ROLLING ARE UNDERCUT TO A DEPTH DIRECTED BY THE ENGINEER AND BACKFILLED WITH MATERIALS SPECIFIED IN THE PLANS. THE SUBGRADE IS RE-PROOF ROLLED TO VERIFY THE UTILITY OF THE UNDERCUT. UPON PASSING THE PROOF ROLL THE AREA IS APPROVED FOR THE INSTALLATION OF THE BASE MATERIAL. THE AGGREGATE BASE MATERIAL IS PLACED PER ODOT SPECIFICATIONS, COMPACTED, TESTED AND PROOF ROLLED. UPON PASSING THE PROOF ROLL THE SPECIFIED TOP COURSES OF RIGID PAVEMENT MAY BE INSTALLED. MOISTURE CONTENT OF THE SUBGRADE AT THE TIME OF PROOF ROLLING SHALL CONFORM TO SECTION 203.11 OF THE ODOT SPECIFICATIONS. THE MINIMUM EQUIPMENT SHALL CONSIST OF A SINGLE UNIT, TANDEM AXLE DUMP TRUCK CAPABLE OF BEING LOADED TO 30,000 POUND AXLE LOAD, 60,000 POUND GVW, TIRE PRESSURE SHALL BE MAINTAINED AT 90 PSI OR AS SPECIFIED UNDER SECTION 203.14 OF ODOT SPECIFICATIONS. ANY AREA PERMITTING TIRES TO LEAVE A GROOVE OF ONE (1) INCH OR MORE SHALL BE UNACCEPTABLE FOR PAVING. ANY AREA PERMITTING THE TEST VEHICLE TIRES TO LEAVE A GROOVE OF ZERO (0) TO ONE-HALF (1/2) INCH DEEP SHALL BE ACCEPTABLE. ANY AREA PERMITTING THE TEST VEHICLE TIRES TO LEAVE A GROOVE OF ONE-HALF (1/2) INCH TO ONE (1) INCH DEEP SHALL BE AT THE ENGINEER'S DISCRETION.
- JOINT AND CRACK SEALER FOR PAVEMENT SHALL MEET THE REQUIREMENTS OF ODOT ITEM 705.04 AND ASTM D 3405. A DOUBLE BOILER SHOULD BE USED FOR HEATING THE MATERIAL.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE SUFFICIENT SECURITY MEASURES AND/OR PERSONNEL TO PROTECT ALL NEW CONCRETE WORK FROM VANDALISM AT NO ADDITIONAL COST TO THE CITY. ANY VANDALIZED CONCRETE SHALL BE REPLACED IN FULL AT THE CONTRACTOR'S EXPENSE.

**EXISTING GAS MAINS**

- ONE FOOT MINIMUM VERTICAL AND HORIZONTAL CLEARANCE MUST BE MAINTAINED BETWEEN ENBRIDGE GAS OHIO'S (EGO) EXISTING PIPELINE(S) AND ALL OTHER IMPROVEMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE LATERAL AND SUBJACENT SUPPORT OF EGO'S PIPELINE(S), IN COMPLIANCE TO 29 CFR, PART 1926, SUBPART P, (SAFE EXCAVATION & SHORING). EXTREME CARE SHOULD BE TAKEN NOT TO HARM ANY EGO FACILITY OR APPURTENANCE. NOTIFY EGO IMMEDIATELY IF ANY HARM HAS BEEN INFLICTED UPON EGO'S FACILITIES (PIPELINES, ETC) OR APPURTENANCES THERETO (PIPE COATING, TRACER WIRE, CATHODIC PROTECTION WIRES AND DEVICES, TEST SITES, VALVE BOXES, ETC.).
- EGO SHALL BE RESPONSIBLE FOR ALL RELOCATION OF THEIR GAS MAIN FACILITIES AS REQUIRED, INCLUDING HOUSE CONNECTIONS AND VALVE BOX RELOCATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VALVE BOX AND ALL OTHER GAS MAIN APPURTENANCE ADJUSTMENTS TO GRADE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH EGO SO THAT COMPLETION OF HIS WORK IS NOT DELAYED BY THE EGO WORK. THE CONTRACTOR SHALL NOTIFY EGO AT LEAST 48 HOURS IN ADVANCE OF ANY WORK WHICH MAY AFFECT THEIR SYSTEM.

**EXISTING UTILITIES**

- THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY DILIGENT FIELD CHECKS AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE CITY OF WILLOUGHBY DOES NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS. PRIVATE UTILITY CONNECTIONS TO BUILDINGS MAY NOT BE SHOWN, I.E. GAS, WATER, STORM, ELECTRIC.
- BEFORE ANY WORK IS STARTED THAT WILL INTERFERE WITH THE EXISTING UTILITIES, THE CONTRACTOR SHALL CALL THE "OHIO UTILITIES PROTECTION SERVICE", AT 1-800-362-2764, FORTY-EIGHT (48) HOURS IN ADVANCE OF THE WORK. THE FOLLOWING REFERENCE NUMBERS HAVE BEEN ASSIGNED TO THIS PROJECT BY THE OHIO UTILITIES PROTECTION SERVICE. NON-MEMBER UTILITIES MUST BE CONTACTED DIRECTLY. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS, AT NO ADDITIONAL EXPENSE TO THE CITY OF WILLOUGHBY, TO AVOID DAMAGE TO EXISTING UNDERGROUND AND OVERHEAD UTILITY LINES DURING THE ENTIRE PROJECT. IN THE EVENT OF DAMAGE TO EXISTING PUBLIC AND/OR PRIVATE UTILITIES, THE AGENCY CONCERNED SHALL BE NOTIFIED IMMEDIATELY AND ALL REPAIR WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE RESPECTIVE AGENCY AT NO ADDITIONAL EXPENSE TO THE CITY OF WILLOUGHBY, INCLUDING ANY INSPECTION FEES OR MAINTENANCE CREWS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION OF THE EXISTING UTILITY OWNERS LISTED BELOW AND THE UTILITY PROTECTION SERVICE IN ACCORDANCE WITH SECTION 153.64 OF THE OHIO REVISED CODE AND OUTLINED IN PROJECT SPECIFICATIONS. THE UTILITY OWNERSHIPS ARE AS FOLLOWS:

OHIO UTILITY PROTECTION SERVICE 106 WEST RYEN, ROOM 427 YOUNGSTOWN, OHIO 44051 PHONE: (800) 362-2764	THE ILLUMINATING COMPANY 6896 MILLER ROAD BRECKSVILLE, OHIO 44141 PHONE: (440) 546-8706	ENBRIDGE GAS OHIO 320 SPRINGSIDE DRIVE, STE 320 AKRON, OHIO 44333 PHONE: (330) 664-2409
CITY OF WILLOUGHBY DAN KNECHT, PUBLIC SERVICE DIR. ONE PUBLIC SQUARE WILLOUGHBY, OHIO 44094 PHONE: (440) 953-4111	NORTHEAST OHIO NATURAL GAS CORP. 8470 STATION STREET MENTOR, OHIO 44060 PHONE: (440) 701-5100	CHARTER/SPECTRUM 578 TERNES LANE ELYRIA, OHIO 44035 PHONE: (216) 575-38016 EXT. 1
LAKE COUNTY DEPT. OF UTILITIES 105 MAIN STREET PAINESVILLE, OHIO 44077 PHONE: (440) 350-2645		AT&T 13630 LORAIN AVENUE CLEVELAND, OHIO 44111 PHONE: (216) 476-6142

- WHERE EXISTING POWER OR TELEPHONE POLES ARE IN CLOSE PROXIMITY TO WORK, THE CONTRACTOR SHALL COORDINATE HIS WORK EFFORTS WITH THOSE OF THE UTILITY COMPANIES SUCH THAT THEIR EXISTING FACILITIES CAN BE MAINTAINED AND PROTECTED DURING THE TIME WORK IS GOING ON ADJACENT TO THE POLE. THE COST AND COORDINATION FOR ANY REQUIRED PROTECTION OR RELOCATION OF EXISTING POWER OR TELEPHONE POLES SHALL NOT BE THE RESPONSIBILITY OF THE CITY OF WILLOUGHBY. DELAYS TO THE CONTRACTOR AS A RESULT OF TIMING OF POLE RELOCATION OR PROTECTION SHALL NOT BE CONSIDERED COMPENSABLE DELAYS, AS IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE HIS WORK IN CONFORMANCE TO THE UTILITY COMPANY'S SCHEDULE.
- THE CONTRACTOR SHALL COORDINATE WITH ALL UTILITIES AFFECTED BY THE PROPOSED CONSTRUCTION.

**SERVICE CONNECTIONS**

- ALL ACTIVE DRAINAGE PIPES ENCOUNTERED SHALL BE RECONNECTED TO EXISTING FACILITIES OR CONNECTED TO THE NEW FACILITIES.
- ALL EXISTING UTILITY SERVICE CONNECTIONS (SANITARY, STORM, WATER, GAS, ELECTRIC, TELEPHONE, ETC.) WHICH ARE DAMAGED DURING THE INSTALLATION OF PIPE SHALL BE REPAIRED WITH LIKE MATERIALS OR REPLACED, AS REQUIRED. THE COST OF UTILITY SERVICE CONNECTION REPAIR/REPLACEMENT SHALL BE INCLUDED IN THE UNIT PRICES FOR ALL ITEMS IN THE PROPOSAL.
- ALL UTILITY LINES CROSSING THE NEW TRENCH SHALL BE PROTECTED AND SUPPORTED WITH HARDWOOD PLANKS; OR REMOVED, REPLACED, RECONNECTED AND SUPPORTED ACROSS THE ENTIRE WIDTH OF THE TRENCH. IF ANY OF THESE LINES ARE DAMAGED DURING CONSTRUCTION, THEY SHALL BE REPLACED IN-KIND.
- THE CONTRACTOR SHALL BE REQUIRED TO BYPASS AND MAINTAIN THE FLOW TO/FROM ALL HOUSE UTILITY CONNECTIONS DURING CONSTRUCTION.
- THE CONTRACTOR SHALL EXPECT ONE UNDERGROUND SEWER, GAS AND WATER CONNECTION FOR EACH LOT

(INCLUDING VACANT LOTS) ON BOTH SIDES OF THE STREET FOR THE ENTIRE PROJECT LENGTH, EXCEPT AS NOTED ON PLANS.

- THE COST OF UTILITY RELOCATION, REPLACEMENT, AND/OR SUPPORT SHALL BE INCLUDED IN THE COST PER LINEAL FOOT OF PROPOSED STORM SEWER.

**GRASS RESTORATION**

- PRIOR TO START OF CONSTRUCTION THE CONTRACTOR SHALL INVENTORY TREELAWNS FOR EXISTING ORNAMENTAL LANDSCAPE FEATURES INCLUDING LAWN SPRINKLER SYSTEMS AND IRON PINS. ANY LANDSCAPE FEATURE DISTURBED OR DAMAGED BY THE CONTRACTOR'S ACTION SHALL BE RESTORED TO ITS ORIGINAL CONDITION. COST OF INVENTORY AND RESTORATION SHALL BE INCLUDED IN THE UNIT BID PRICE FOR LAWN RESTORATION.
- RESTORATION OF TREELAWNS AND GRASS AREAS IN EASEMENTS SHALL BE PERFORMED BY A LANDSCAPE CONTRACTOR TO BE APPROVED BY THE CITY ENGINEER AND SERVICE DIRECTOR. THE LANDSCAPE CONTRACTOR MUST BE EXPERIENCED IN COMMERCIAL INSTALLATIONS AND PROVIDE REFERENCES AND OTHER DETAILED INFORMATION TO ENABLE THE OWNER TO JUDGE HIS EXPERIENCE AND CAPABILITY TO PERFORM THE WORK. GRASS AREAS TO BE RESTORED SHALL BE SEEDED UNLESS OTHERWISE SHOWN ON THE CONTRACT DRAWINGS. THE SEED SHALL BE PLACED ON A FOUR (4) INCH BED OF COMPACTED TOPSOIL THAT HAS BEEN RAKED AND BROUGHT TO AN EVEN SURFACE. TOPSOIL SHALL BE SHREDDED AND BE FREE OF ROCKS, ROOTS, AND WEEDS. THE CONTRACTOR SHALL PROVIDE TOPSOIL SAMPLES AND SOURCES OF SUPPLY TO THE ENGINEER FOR APPROVAL PRIOR TO DELIVERY OF THE MATERIAL TO THE JOB SITE.

**SEWER INSTALLATION**

- THE MATERIAL SPECIFICATIONS ON THE PLANS REPRESENT THE MINIMUM REQUIRED FOR EACH APPLICATION. THE OWNER MAY REQUEST OF THE CONTRACTOR MAY DESIRE TO SUBSTITUTE ALTERNATE MATERIALS. ANY SUCH SUBSTITUTIONS MUST BE EQUIVALENT IN QUALITY TO THE MATERIAL CALLED FOR AND MUST BE APPROVED IN WRITING BY THE APPROVING AGENCIES AND THE ENGINEER.
  - ALL STORM SEWER SHALL BE HIGH DENSITY POLYETHYLENE PIPE (HDPE) SMOOTH INTERIOR, ST IB PIPE.
  - PIPE FITTINGS SHALL CONFORM TO AASHTO M252 AND M294.
  - RUBBER GASKETS SHALL MEET THE REQUIREMENTS OF ASTM F477 WITH JOINTS CONFORMING TO AASHTO M294, SILT-TIGHT OR WATERTIGHT DESIGNATIONS.
  - MAXIMUM PERMITTED DIAMETER IS 48-INCHES.
  - APPROVED PIPE MANUFACTURERS: ADVANCE DRAINAGE SYSTEMS, INC. & HANCOR, INC.
  - SANITARY SEWER LATERALS SHALL BE PVC SDR 26.
  - STORM SEWER LATERALS SHALL BE PVC SDR 26.
  - ALL LATERAL TIE-INS TO PROPOSED OR EXISTING SEWERS TO BE MADE WITH INSERTA-TEES.

- THE MAINLINE SANITARY AND STORM SEWERS SHALL BE VISUALLY INSPECTED TWICE BY MEANS OF TELEVISION AND RECORDING ON VHS FORMAT VIDEOTAPE ALONG WITH AUDIO COMMENTARY. THE TELEVISION AND VIDEOTAPE RECORDING SHALL BE PERFORMED ONCE BEFORE PAVING OPERATIONS BEGIN AND ONCE AFTER THE PAVEMENT IS IN PLACE AND OPENED TO TRAFFIC. TELEVISION SHALL BE AS PER SPECIFICATION 330130.11. ANY DEFECT IN MATERIAL OR WORKMANSHIP REVEALED BY THE VISUAL-AID INSPECTION MUST BE CORRECTED BY THE CONTRACTOR AT NO COST TO THE CITY AND TO THE FULL SATISFACTION OF THE CITY AND ENGINEER BEFORE ACCEPTANCE OF THE WORK AND RELEASE OF FINAL ESTIMATE AND PAYMENT THEREOF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TOTAL COST OF CLEANING ALL SEWERS PRIOR TO VISUAL INSPECTION. COST OF TELEVISION AND VIDEOTAPE OPERATION SHALL BE INCLUDED IN THE UNIT PRICES STIPULATED FOR THE VARIOUS ITEMS OF THE PROPOSAL.

- EXISTING STORM SEWER LATERAL CONNECTIONS TO BE TIED IN TO THE PROPOSED STORM SEWER SHALL BE TIED IN USING INSERTA-TEES AND RECONNECTED TO EXISTING LATERALS USING FERNCO TRI-BAND COUPLINGS OR APPROVED EQUAL. INSERTA-TEES AND COUPLINGS TO BE INCLUDED IN THE UNIT BID PRICE FOR 6" STORM SEWER.

- THE CONTRACTOR SHALL INFORM THE ENGINEER WHEN ENCOUNTERING EXISTING STORM AND SANITARY CONNECTIONS NOT SHOWN ON THE PLANS OR CONNECTIONS THAT MAY PRESENT A CONFLICT WITH THE INTENT OF THE PROPOSED SEWER LINES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE ENGINEER WITH INFORMATION ON ELEVATION AND NATURE OF CONNECTIONS IN QUESTION. ROOF DRAINS, FOUNDATION DRAINS AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.

- THE COST FOR FURNISHING ALL MATERIAL AND LABOR TO PERFORM ALL WORK STATED IN THE SEWER INSTALLATION NOTES SHALL BE INCLUDED IN THE BID PROCESS STIPULATED FOR VARIOUS ITEMS IN THE BID PROPOSAL.

**PROPERTY PINS AND MONUMENTS**

- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EMPLOY A REGISTERED SURVEYOR TO LOCATE, RECORD, AND MARK ALL EXISTING MONUMENTS AND PROPERTY CORNERS WITHIN THE CONSTRUCTION LIMITS. THIS COST SHALL BE DISTRIBUTED AMONG THE APPROPRIATE PROJECT PAY ITEMS. A LISTING OF THE PINS AND MONUMENTS SHALL BE SUPPLIED TO THE CITY ENGINEER PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL PROTECT ALL PINS AND MONUMENTS DURING CONSTRUCTION. IF PINS AND MONUMENTS ARE DISTURBED DURING CONSTRUCTION, THE CONTRACTOR SHALL HAVE THEM REPLACED BY THE REGISTERED SURVEYOR AT NO ADDITIONAL COST TO THE CITY.

**EROSION AND DUST CONTROL**

- SEDIMENT CONTROL SHALL BE ACCOMPLISHED BY HYDRO SEEDING AND MULCHING IMMEDIATELY UPON COMPLETION OF EXCAVATION OR FILL AND FINISH GRADING IN ACCORDANCE WITH ODOT ITEM 659 OR AS DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL BEGIN THE RESTORATION PROCESS AS SOON AS CONSTRUCTION IS COMPLETED. PERMANENTLY STABILIZING EACH DISTURBED AREA WITH PERENNIAL VEGETATION INSTALLED ACCORDING TO SOIL CONSERVATION SERVICE STANDARDS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL REMOVE DAILY ALL MUD, SOIL AND DEBRIS THAT MAY BE TRACKED ONTO EXISTING STREETS OR DRIVES BY HIS EQUIPMENT OR THAT OF SUBCONTRACTORS OR SUPPLIERS.
- ALL MATERIALS TO BE DISPOSED OF OFF-SITE MUST BE DISPOSED OF IN AN ENVIRONMENTALLY SOUND MANNER IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. NO EXCESS MATERIALS ARE TO BE DISPOSED OF IN ANY WETLAND, FLOOD PLAIN OR OTHER ENVIRONMENTALLY SENSITIVE AREA.
- EROSION CONTROL MEASURES AT THE DISPOSAL SITE MUST BE INSTALLED AND MAINTAINED UNTIL DISPOSAL IS COMPLETE AND THE DISPOSAL SITE IS PERMANENTLY STABILIZED.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO APPLY WHEN NEEDED OR ORDERED BY THE OWNER WATER OR CALCIUM CHLORIDE PER ODOT 616 FOR THE ALLEVIATION OR PREVENTION OF DUST NUISANCE ORIGINATING FROM HIS CONSTRUCTION ACTIVITIES. SUFFICIENT QUANTITIES OF CALCIUM CHLORIDE SHALL BE STORED ON THE JOB SITE AT ALL TIMES TO BE USED FOR DUST CONTROL. THE COST OF DUST CONTROL SHALL BE INCLUDED IN THE UNIT BID PRICES FOR ALL ITEMS OF THE PROPOSAL.
- OTHER EROSION AND SEDIMENT CONTROL PRACTICES SHALL MINIMIZE SEDIMENT LADEN WATER ENTERING ACTIVE STORM DRAIN SYSTEMS, UNLESS THE STORM DRAIN SYSTEM DRAINS TO A SEDIMENT POND. INLET PROTECTION IS MANDATORY WHERE SEDIMENT SETTLING PONDS WILL NOT BE IMPLEMENTED.

**EXCESS EXCAVATION**

- ALL EXCESS EXCAVATION SHALL BE DISPOSED OF IN A LOCATION TO BE SELECTED BY THE CONTRACTOR. THE CONTRACTOR MUST OBTAIN A PERMIT FROM THE CITY IF THE MATERIAL IS TO BE DISPOSED OF WITHIN THE CITY LIMITS.

**AIRNOISE CONTROL**

- CONSTRUCTION ACTIVITIES WILL BE LIMITED TO WEEKDAYS FROM 7:00AM TO 9:00PM, UNLESS APPROVED IN ADVANCE BY THE CITY.

**TREE PROTECTION**

- NO TREE REMOVAL WILL BE PERMITTED WITHOUT PERMISSION OF THE CITY OF WILLOUGHBY.
- TREES WHICH ARE NOT REMOVED SHALL BE PROTECTED.
- THE COST FOR REMOVAL AND/OR PROTECTION OF TREES THAT ARE IN CONFLICT WITH THE INSTALLATION OF THE SEWER AND LATERALS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR SEWER.
- THE CONTRACTOR'S ARBORIST SHALL REPAIR ALL INJURIES TO BARK, LIMBS AND ROOTS OF REMAINING VEGETATION BY PROPERLY DRESSING, CUTTING, BRACING AND PAINTING, USING ONLY APPROVED TREE SURGERY METHODS, TOOLS AND MATERIALS.

**MATERIAL AND TESTING PERMITS**

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF ALL MATERIAL AND EQUIPMENT TESTING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR THIS PROJECT. THE EXECUTED PROJECT CONTRACT SHALL SERVE TO FULFILL THE CITY OF WILLOUGHBY'S PERMITTING REQUIREMENTS.

**PROTECTION AND RESTORATION OF PROPERTY**

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION OF ALL PUBLIC AND PRIVATE PROPERTY.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE OR INJURY TO PROPERTY AND/OR PERSONS DURING THE PROSECUTION OF THE WORK, RESULTING FROM ANY ACT, OMISSION, NEGLIGENCE OR MISCONDUCT IN HIS MANNER OR METHOD OF EXECUTING THE WORK, OR AT ANY TIME DUE TO DEFECTIVE WORK OR MATERIALS, AND SAID RESPONSIBILITY WILL NOT BE RELEASED UNTIL THE PROJECT SHALL HAVE BEEN COMPETED AND ACCEPTED.
  - DUST NUISANCE ORIGINATING FROM ANY OF THE CONTRACTOR'S OPERATIONS EITHER INSIDE OR OUTSIDE THE RIGHT-OF-WAY SHALL BE CONTROLLED BY THE CONTRACTOR IN ACCORDANCE WITH LOCAL ORDINANCES AND REGULATIONS AT THE SOLE EXPENSE OF THE CONTRACTOR.
  - WHEN OR WHERE ANY DIRECT OR INDIRECT DAMAGE OR INJURY IS DONE TO PUBLIC OR PRIVATE PROPERTY BY OR ON ACCOUNT OF ANY ACT, OMISSION, NEGLIGENCE, OR MISCONDUCT IN THE EXECUTION OF THE WORK, OR IN CONSEQUENCE OF THE NONEXECUTION THEREOF BY THE CONTRACTOR, HE SHALL RESTORE, AT HIS OWN EXPENSE, SUCH PROPERTY TO A CONDITION SIMILAR OR EQUAL TO THAT OF EXISTING BEFORE SUCH DAMAGE OR INJURY WAS DONE BY REPAIRING, REBUILDING OR OTHERWISE RESTORING AS MAY BE DIRECTED, OR SHALL MAKE GOOD SUCH DAMAGE OR INJURY IN AN ACCEPTABLE MANNER.
- WHEN MAIL BOXES, ROAD OR STREET NAME SIGNS AND SUPPORTS INTERFERE WITH CONSTRUCTION, THE CONTRACTOR SHALL REMOVE AND RE-ERECT THEM IN A TEMPORARY LOCATION DURING CONSTRUCTION IN A MANNER SATISFACTORY TO AND AS DIRECTED BY THE ENGINEER. AFTER COMPLETION OF THE CONSTRUCTION AND BEFORE FINAL ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL ERECT THE MAIL BOXES, ROAD OR STREET NAME SIGNS AND SUPPORTS IN THEIR ORIGINAL LOCATION UNLESS OTHERWISE DIRECTED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR CLEARING AND GRUBBING.

**USE OF PROPERTY**

- THE CONTRACTOR CAN USE PRIVATE PROPERTY FOR THE STORAGE OF EQUIPMENT AND MATERIALS ONLY WITH A WRITTEN AGREEMENT WITH THE PROPERTY OWNER. THE CONTRACTOR SHALL PROVIDE THIS AGREEMENT TO THE ENGINEER PRIOR TO ANY USE OF PRIVATE PROPERTY.

**REMOVAL ITEMS**

- ALL ITEMS NOTED ON THE PLANS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF IN AN APPROPRIATE MANNER BY THE CONTRACTOR UNLESS OTHERWISE NOTED.

**SUBSURFACE INVESTIGATIONS**

- A LIMITED SUBSURFACE SOIL INVESTIGATION WAS PERFORMED FOR THIS PROJECT. HOWEVER, IT IS THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO MAKE HIS OWN INVESTIGATION OF SUBSURFACE CONDITIONS PRIOR TO SUBMITTING HIS PROPOSAL.

**DRIVEWAY AND ROADWAY PAVEMENT INSTALLATION**

- ALL PAVEMENT INSTALLATION SHOULD BE CONDUCTED UNDER SUITABLE WEATHER CONDITIONS. THE ENGINEER SHALL BE NOTIFIED IN ADVANCE OF ANY PROPOSED PAVEMENT INSTALLATION TO DETERMINE THE SUITABILITY OF WEATHER CONDITIONS FOR PAVEMENT INSTALLATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL ROADWAYS AND DRIVES PRIOR TO FINAL INSTALLATION. THE COST OF ANY TEMPORARY SURFACE MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE RESPECTIVE ITEM OF WORK.

**GARBAGE COLLECTION**

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE TRANSFER OF ALL GARBAGE, GARBAGE CANS, AND RECYCLE BINS FROM DRIVEWAYS WITHIN THE CONSTRUCTION ZONE TO THE OPPOSITE SIDE OF THE ROADWAY. ONCE THE GARBAGE AND RECYCLABLE MATERIALS HAVE BEEN COLLECTED, ALL GARBAGE CANS AND RECYCLE BINS SHALL BE RETURNED TO THE APPROPRIATE DRIVEWAYS AND OUTSIDE OF THE CONSTRUCTION LIMITS, OR AS DIRECTED BY THE ENGINEER. THE COST FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.



NO	REVISION	DATE

**CITY OF WILLOUGHBY**

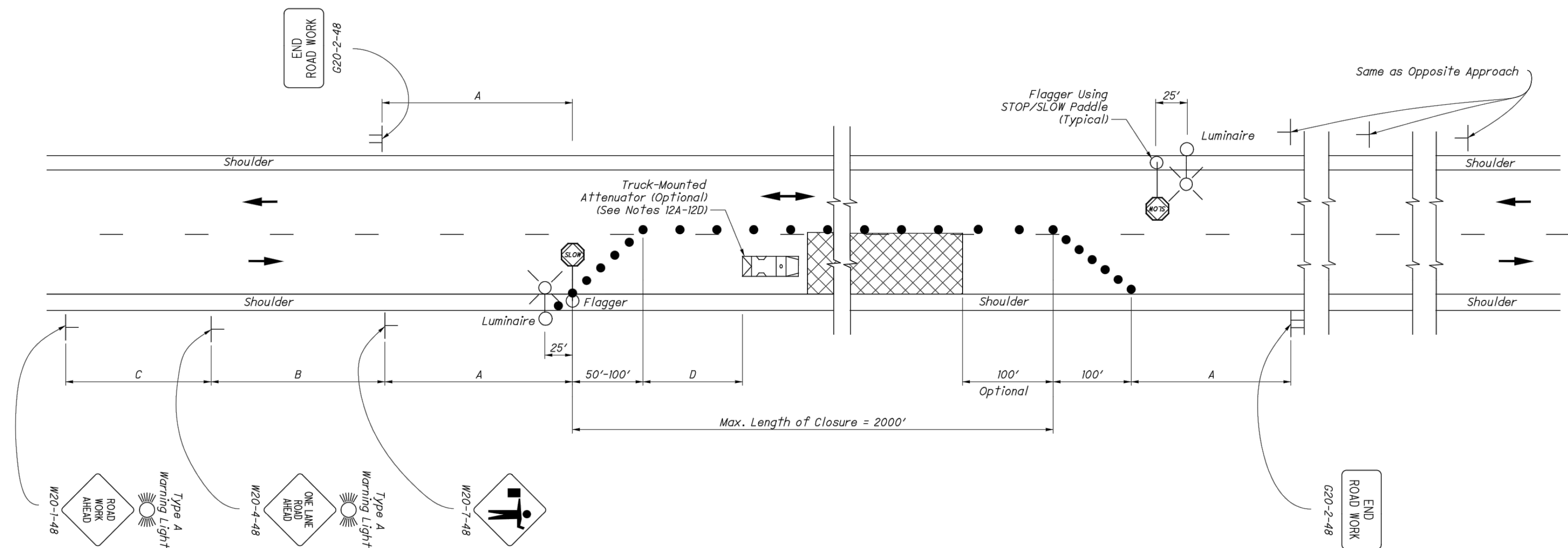
**LINCOLN AVENUE STORM SEWER REPLACEMENT**

**LAKE COUNTY, OHIO**

ISSUED FOR:	BID
ISSUE DATE:	6/5/2026
SCALE:	AS SHOWN
DESIGNED BY:	PJF/PTV
DRAWN BY:	PTV
CHECKED BY:	PJF

**GENERAL NOTES**

PROJECT NO.	
<b>32759</b>	
DISCIPLINE	
<b>CIVIL</b>	
SHEET NAME	
<b>GN-01</b>	
SHEET	OF
<b>2</b>	<b>12</b>

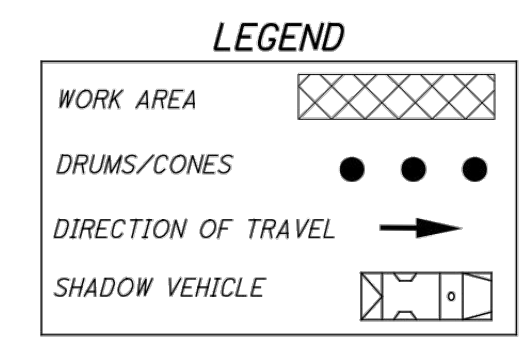


**TABLE I (SIGN SPACING)**

ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
Two-Lane (< 40 MPH)	100	100	100
Two-Lane (45-50 MPH)	350	350	350
Two-Lane (55-60 MPH)	500	500	500

**TABLE II**

SPEED LIMIT (MPH)	BUFFER (D) (FT) MIN.
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570



**NOTES:**

**FLAGGERS**

1. Flaggers, one for each direction, shall be used to control traffic continuously for as long as a one lane operation is in effect. The flaggers shall be able to communicate with each other at all times.

**LENGTH OF CLOSURE**

2. Several small work areas close together should be combined into one work zone. However, the closure shall not be more than 2000' long unless approved by the Engineer. The minimum length between closures shall be 2000'. Only one side of the road shall be closed in any one work zone.

**SIGN LOCATION AND SPACING**

3A. The minimum spacing between work zone signs is shown in Table I. Maximum spacing should not be greater than 1.5 times the distances shown in Table I.

3B. Sign spacing should be adjusted to avoid conflict with existing signs. Minimum spacing to existing signs shall be 200' for speeds of 45 mph or less and a minimum of 400' for speeds of 50 mph or greater.

3C. The location of the advance warning signs should be adjusted to provide for adequate sight distance for the existing vertical and horizontal roadway alignment.

**ADJUSTMENTS FOR SIGHT DISTANCE**

4. The location of the flagger station and the advance warning signs should be adjusted to provide for adequate sight distance for the existing vertical and horizontal roadway alignment.

**BASIC SIGNING**

5A. ROAD WORK AHEAD (W20-1) signs shall be provided on entrance ramps or roadways entering the work limits.

5B. END ROAD WORK (G20-2) signs are only required for lane closures of more than 1 day. If it is intended that these signs be placed on the mainline, on all exit ramps, and on roadways exiting the work limits.

5C. Overlapping of signing for adjacent projects should be avoided where the messages could be confusing. Any ROAD WORK AHEAD (W20-1) or END ROAD WORK (G20-2) sign which falls within the limits of another traffic control zone shall be omitted or covered during the period when both projects are active.

**SIGNING DETAILS**

6A. The Advisory Speed (W13-1P) plaque shall be used when specified in the plan.

6B. 36" warning signs may be used when the approach speed limit is 40 mph or less.

**FLASHING WARNING LIGHTS**

7. Type A flashing warning lights shown on the ROAD WORK AHEAD (W20-1) signs and on the LANE CLOSED AHEAD (W20-5) signs are required whenever a night lane closure is necessary.

**DRUMS / CONES**

8A. Drum spacing shall be as follows:

- a) Spacing along the closure shall be 40' center-to-center.
- b) Spacing along the approach taper shall be 10' center-to-center.

8B. Cones may be substituted for drums as follows:

- a) Cones used for daytime traffic control shall have a minimum height of 28".
- b) Cones used for nighttime traffic control shall have a minimum height of 42".
- c) Use of cones at night shall be prohibited along tapers.

8C. Provisions shall be made to stabilize the cones and drums to prevent them from blowing over.

8D. A minimum of two drums shall be used to close the paved shoulder.

**(RESERVED FOR FUTURE USE)**

9A. (intentionally blank)

**AREA ILLUMINATION**

10A. Adequate area illumination of each flagger station shall be provided at night. Use of portable flood lighting is acceptable. Luminaires shall be located adjacent to each flagger station.

10B. To ensure the adequacy of floodlight placement and the elimination of glare, the Contractor and the Engineer shall drive through the worksite each night when the lighting is in place. Light placement and shielding shall be adjusted to the satisfaction of the Engineer.

**INTERSECTION / DRIVEWAY ACCESS**

11. Within the length of closure, provision shall be made to control traffic entering from intersecting streets and major drives as necessary to prevent wrong-way movements and to keep vehicles off of new pavement not ready for traffic. The Contractor shall:

- a) Place across the closed lane, either three drums (cones) or barricades, and/or
- b) Provide an additional flagger at every public street intersection and major driveway.

Drums (cones) placed across the closed lane shall be located 25' beyond the projected pavement edges of the driveway or cross highway, as shown in Standard Construction Drawings (SCDs) MT-97.11 or MT-97.12. For barricades, see SCD MT-101.60.

Existing STOP signs shall be relocated as necessary to assure proper location for the traffic conditions.

The method of control shall be subject to the approval of the Engineer.

**SHADOW VEHICLE**

12A. The shadow vehicle shall be in place and unoccupied whenever workers are in the work area. This vehicle shall be removed from the pavement whenever workers are not in the work area.

12B. The shadow vehicle shall be equipped with a high-intensity yellow rotating, flashing, oscillating, or strobe lights.

12C. The vehicle shall be equipped with a truck-mounted attenuator when called for in the plans.

12D. Other protective devices may be used in lieu of the shadow vehicle shown when approved by the Engineer.

**CHIP SEAL OPERATIONS**

13. For chip seal operations, additional signing shall be incorporated in the advanced warning area.

- a) The LOOSE GRAVEL (W8-7) and FRESH TAR (W21-2) signs shall both be used in advance of the chip seal operation.
- b) Repeat the LOOSE GRAVEL sign with a 35 mph Advisory Speed (W13-1) plaque every half mile per CMS 422.09.
- c) The FRESH TAR and the LOOSE GRAVEL signs shall both be used for signing of side roads intersecting the work area.

**MAINTAINING TRAFFIC**

ONE-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES FOR LOCAL TRAFFIC AND EMERGENCY VEHICLES. LOCAL ACCESS TO ABUTTING PROPERTIES SHALL BE MAINTAINED AT ALL TIMES. ACCESS TO ALL DRIVEWAYS SHALL ALSO BE MAINTAINED AT ALL TIMES.

PART WIDTH CONSTRUCTION, ONE LANE WIDTH, SHALL BE USED DURING THE PERFORMANCE OF PAVING OPERATIONS.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN SAFE AND SATISFACTORY LOCAL ACCESS, VEHICULAR AND PEDESTRIAN, TO ALL ABUTTING PROPERTIES WITHIN THE PROJECT. THE CONTRACTOR SHALL FURNISH, MAINTAIN, AND SUBSEQUENTLY REMOVE ALL NECESSARY SAFEGUARDS SUCH AS BARRICADES, BARRIERS, TEMPORARY PAVEMENT, LIGHTING, FLAGMEN, TEMPORARY GUARDRAIL, DETOUR AND CONSTRUCTION SIGNING AND OTHER TRAFFIC CONTROLS SO AS TO AVOID DAMAGE AND/OR INJURY TO AND ENSURE THE SAFETY OF VEHICLES AND PERSONS USING THE ROADWAY DURING CONSTRUCTION BOTH WITHIN AND OUTSIDE OF THE PROJECT LIMITS.

MAINTAINING TRAFFIC SHALL BE IN ACCORDANCE WITH ODOT ITEM 614 AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. DETOUR ROUTES & SIGNAGE SHALL MEET THE APPROVAL OF THE CITY ENGINEER.

IN ORDER TO MAINTAIN LOCAL AND DRIVEWAY ACCESS, THE CONTRACTOR SHALL FURNISH AND INSTALL TRAFFIC COMPACTED SURFACE, TYPE A OR B IN ACCORDANCE WITH ODOT ITEM 410 LIMESTONE OR GRAVEL ONLY INCLUDING NECESSARY WATER AND CALCIUM CHLORIDE IN ACCORDANCE WITH ODOT ITEM 616 AS DIRECTED BY THE ENGINEER. NO SEPARATE PAYMENT WILL BE MADE FOR MAINTAINING TRAFFIC INCLUDING PROVIDING TRAFFIC COMPACTED SURFACES, OTHER TEMPORARY ROADWAYS, TRAFFIC CONTROL, AND ALL OTHER SAFEGUARDS. COST FOR MAINTAINING TRAFFIC INCLUDING ALL MATERIALS, LABOR AND EQUIPMENT FOR CONSTRUCTION, MAINTENANCE AND SUBSEQUENT REMOVAL SHALL BE INCLUDED IN THE UNIT PRICES STIPULATED FOR THE VARIOUS ITEMS OF THE PROPOSAL.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

NOTICE OF CLOSURE SIGNS, FOR SEVERAL SIDE ROADS, AS DETAILED IN THESE PLANS, SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. THEY SHOULD BE ERECTED AT THE POINT OF CLOSURE.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE III BARRICADES OF THE TYPE AND LOCATION AS SHOWN ON THE PLANS.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

**PAVEMENT REPLACEMENT**

TRENCH EXCAVATION FOR PAVEMENT REPLACEMENT SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF REPLACEMENT SECTION WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

**LAW ENFORCEMENT OFFICER WITH PATROL CAR**

IN ADDITION TO THE REQUIREMENTS OF 614 AND THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER AND OFFICIAL PATROL CAR WITH WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS SHALL BE PROVIDED FOR CONTROLLING TRAFFIC WITH THE CONCURRENCE OF THE PROJECT ENGINEER FOR THE FOLLOWING TASKS:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED.

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

LAW ENFORCEMENT OFFICERS (L.E.O.'S) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEO'S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES WITH:

WICKLIFFE POLICE DEPARTMENT  
28730 RIDGE ROAD  
WICKLIFFE, OH 44092  
(440) 943-1234

LAW ENFORCEMENT OFFICERS WITH PATROL CAR REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR UNDER THE MAINTENANCE OF TRAFFIC LUMP SUM BID ITEM.

**CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE**

THE CONTRACTOR'S EQUIPMENT SHALL BE OPERATED IN THE DIRECTION OF TRAFFIC. A QUALIFIED FLAGGER SHALL BE EMPLOYED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE AMBER FLASHING LIGHT. PAVERS, ROLLERS AND OTHER EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY WHEN PAVING OPERATIONS ARE SCHEDULED TO CONTINUE WITHIN THE NEXT WORKDAY. OTHERWISE THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA OUTSIDE THE RW. THE LOCATION OF WHICH SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. WHEN PARKING ALONG THE HIGHWAY THE EQUIPMENT SHALL BE PLACED AND DELINEATED AS PER 614.03. ALL EQUIPMENT AND STORED MATERIALS SHALL NOT CAUSE SIGNIFICANT SIGHT DISTANCE HAZARDS TO THE TRAVELING PUBLIC. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT THE APPROVED CONTRACTOR'S STORAGE AREA. NO EQUIPMENT SHALL BE PARKED ON PRIVATE PROPERTY UNLESS PRIOR APPROVAL OF THE OWNER AND THE PROJECT ENGINEER/SUPERVISOR HAS BEEN GRANTED.

**WINTER TRAFFIC LIMITATIONS**

TWO LANES IN EACH DIRECTION SHALL BE OPEN TO TRAFFIC.

**SUSPENSION OF WORK**

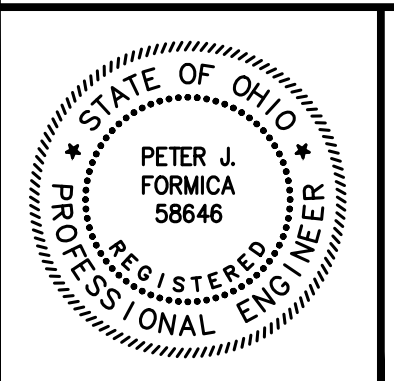
IF THE CONTRACTOR FAILS TO COMPLY WITH THE PROVISIONS FOR MAINTENANCE OF TRAFFIC AS SET FORTH IN THESE PLANS OR WITH PROVISIONS OF THE MANUAL, THE ENGINEER MAY SUSPEND WORK UNTIL THE CONTRACTOR COMPLIES WITH THE NECESSARY REQUIREMENTS. NO COMPENSATION WILL BE PAID FOR SUSPENSION OF WORK.

**METHOD OF PAYMENT**

PAYMENT FOR THE MAINTENANCE OF TRAFFIC ITEMS, UNLESS SPECIFIED SEPARATELY, SHALL BE AT THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS DETAILED IN THE PLANS.

**ALTERNATE MAINTENANCE OF TRAFFIC PLANS**

IF THE CONTRACTOR SO ELECTS, HE MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC, PROVIDED THE INTENT OF THE ABOVE PROVISIONS IS FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THEREFROM. NO ALTERNATIVE PLAN SHALL BE PLACED INTO EFFECT UNTIL APPROVAL HAS BEEN GRANTED IN WRITING BY THE ENGINEER.



NO	REVISION	DATE

**CITY OF WILLOUGHBY**

**LINCOLN AVENUE STORM SEWER REPLACEMENT**

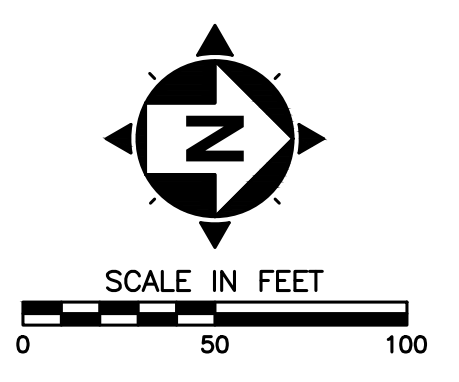
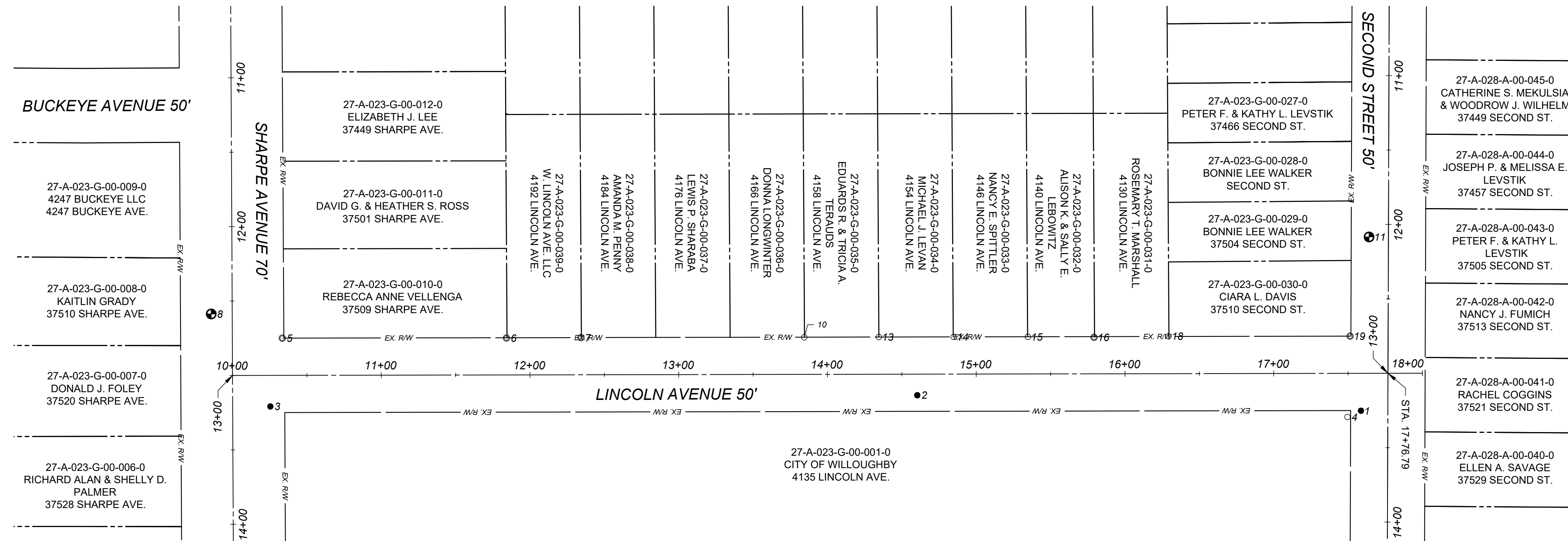
**LAKE COUNTY, OHIO**

ISSUED FOR:	BID
ISSUE DATE:	6/5/2026
SCALE:	AS SHOWN
DESIGNED BY:	PJF/PTV
DRAWN BY:	PTV
CHECKED BY:	PJF

**MAINTENANCE OF TRAFFIC**

PROJECT NO.	32759
DISCIPLINE	CIVIL
SHEET NAME	MOT-01
SHEET	OF
3	12

**CONTROL MAP**  
WILLOUGHBY, COUNTY OF LAKE, STATE OF OHIO



POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	270037.7351	118932.0732	636.14	Iron Pin (Set)
2	269739.4837	118921.6372	636.76	Iron Pin (Set)
3	269304.5643	118929.1741	639.79	Iron Pin (Set)
4	270028.6680	118936.3214	636.30	Iron Pin (Fnd) 5/8" I.PIN W/RED "CT
5	269312.5531	118883.3193	638.80	Iron Pipe (Fnd) +/-1.5" O.D. I.P.IPE 0.8'
6	269463.2561	118883.2158	638.37	Iron Pipe (Fnd) 1" O.D. I.P.IPE 0.1'
7	269513.4406	118882.9203	638.18	Iron Pipe (Fnd) 1" O.D. I.P.IPE AT
8	269264.8250	118866.9975	639.18	Benchmark (Set) CHISELED "X" IN BACL
10	269663.4873	118882.7154	636.92	Iron Pin (Fnd) 1/2" I.PIN W/YELLOW "WALKER
11	270043.2062	118815.2498	635.81	Benchmark (Set) CHISELED "X" IN BACK
13	269713.6188	118882.5302	636.92	Iron Pin (Fnd) 1-3/8" I.PIN AT GRADE
14	269763.9264	118882.4561	636.54	Iron Pin (Fnd) 3/4" I.PIN 0.1' BELOW
15	269813.7948	118882.3851	636.64	Iron Pin (Fnd) 5/8" I.PIN AT GRADE
16	269858.3026	118882.7246	636.08	Iron Pipe (Fnd) 1.5" I.P.IPE 0.1' BELOW
18	269908.3453	118882.0525	636.39	Iron Pin (Fnd) 5/8" I.PIN W/YELLOW "SKONIECZNY
19	270030.4549	118881.9353	635.68	Iron Pipe (Fnd) +/-1.5" I.P.IPE 0.2' BELOW

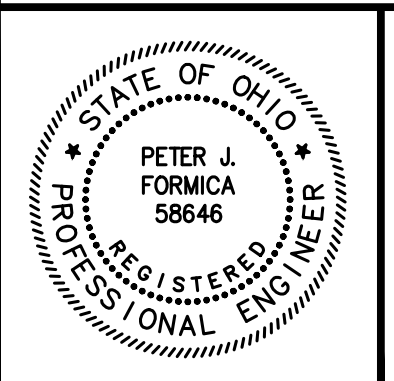
**NOTES:**

- THIS PLAN HAS BEEN PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND MAY BE SUBJECT TO EASEMENTS AND OTHER RESTRICTIONS, EITHER RECORDED OR UNRECORDED. THE SURVEYOR HAS MADE NO INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS, RECORD ENCUMBRANCES, RESTRICTIVE COVENANTS OR ANY OTHER FACTS THAT AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE.
- THESE PLANS MAY HAVE BEEN ALTERED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.
- THE PROJECT CONTROL COORDINATE SYSTEM IS BASED UPON THE FOLLOWING:
  - HORIZONTAL DATUM - PROJECT CONTROL COORDINATES FOR THIS PROJECT HAVE BEEN ESTABLISHED BY GPS/RTK OBSERVATIONS UTILIZING THE OHIO COORDINATE SYSTEM OF 1983 (ZONE 3401-OHIO NORTH). OHIO STATE PLANE GRID COORDINATE VALUES ARE EXPRESSED IN UNITS OF U.S. SURVEY FEET.
  - VERTICAL DATUM - NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- THE SURVEY AND STREET ALIGNMENTS SHOWN HEREON WERE OBSERVED IN THE FIELD FOR CONSTRUCTION PURPOSES ONLY AND MAY NOT BE SUITABLE FOR PROPERTY LINE SURVEYS OR OTHER PURPOSES. THE PROPERTY LINES SHOWN HEREON OUR SUBJECT TO AN ACCURATE BOUNDARY SURVEY AND ARE BASED ON FOUND MONUMENTS LOCATED IN THE FIELD BEST FIT TO THE RECORDS.
- AN ALTA/ NSPS LAND TITLE SURVEY WAS NOT PERFORMED.
- EASEMENTS, RECORD RESTRICTIONS AND SETBACKS WERE NOT ADDRESSED DURING THIS SURVEY.
- ALL DIMENSIONS GIVEN ARE EXPRESSED IN US SURVEY FEET.
- IRON PINS SET ARE 5/8" IRON PINS SET WITH A RED CAP INSCRIBED WITH "CT REF"

**LEGEND:**

- CENTERLINE MONUMENT
- I.PIN SET
- I.PIN FOUND
- I.P.IPE FOUND
- BENCH MARK
- LIMITS OF PUBLIC R/W
- CENTERLINE PUBLIC R/W
- PARCEL LINES
- SUBDIVISION LINES
- SUBDIVISION LINES
- WATER LINE

BASIS OF BEARINGS  
THE BEARINGS SHOWN HEREON ARE BASED ON GRID NORTH (N 0°00'00" E.) FROM GPS OBSERVATIONS UTILIZING THE OHIO COUNTY COORDINATE SYSTEM, LAKE COUNTY



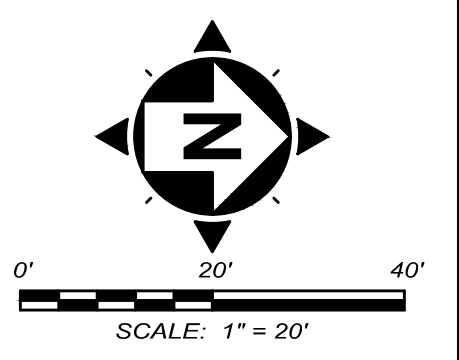
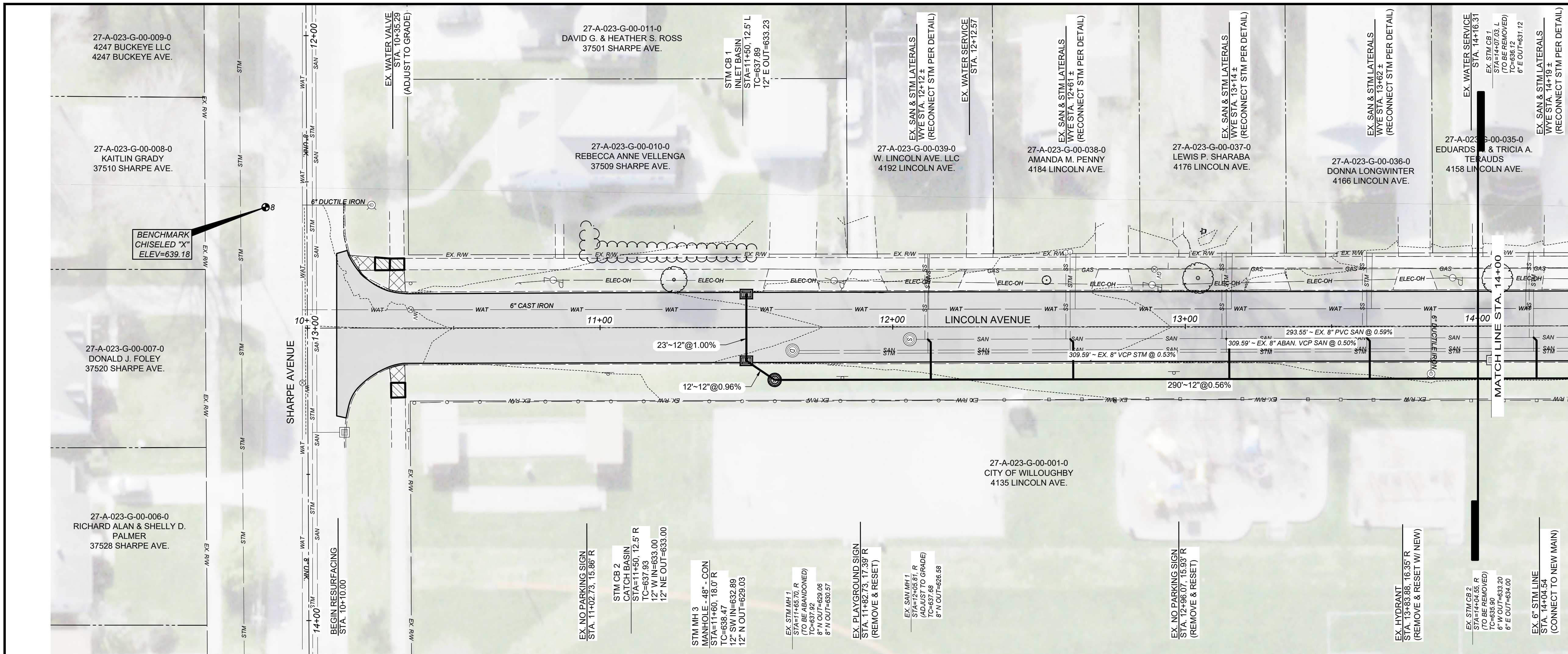
NO	REVISION	DATE

**CITY OF WILLOUGHBY**  
  
**LINCOLN AVENUE STORM SEWER REPLACEMENT**  
  
LAKE COUNTY, OHIO

ISSUED FOR:	BID
ISSUE DATE:	6/5/2026
SCALE:	AS SHOWN
DESIGNED BY:	PJF/PTV
DRAWN BY:	PTV
CHECKED BY:	PJF

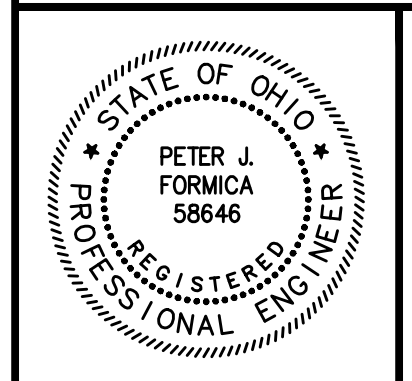
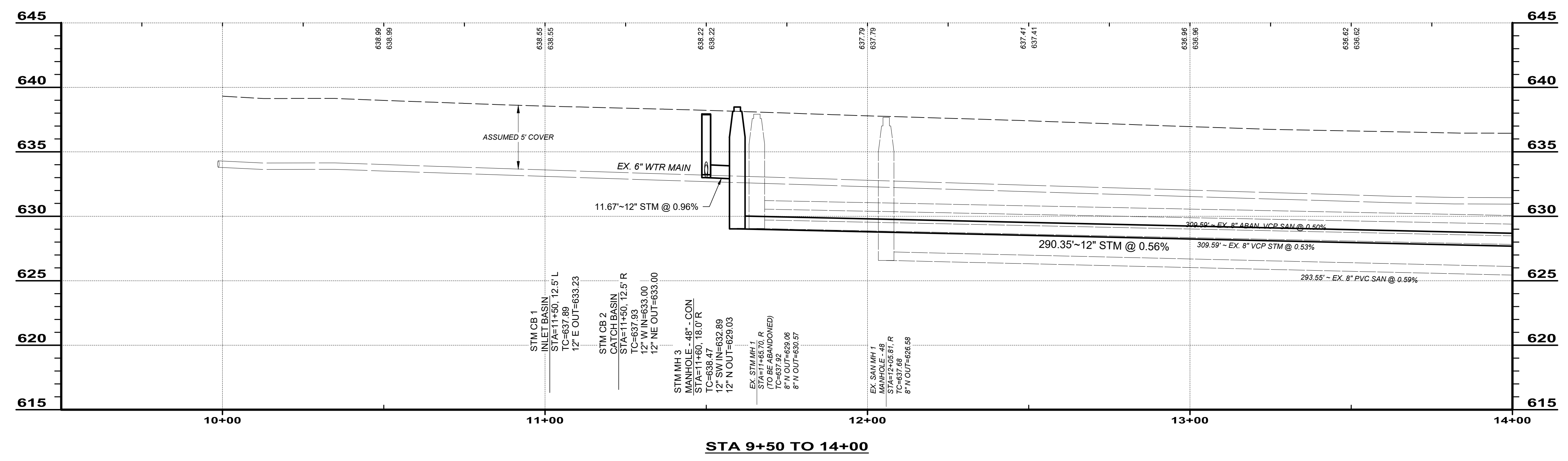
**SURVEY CONTROL**

PROJECT NO.	<b>32759</b>
DISCIPLINE	<b>CIVIL</b>
SHEET NAME	<b>SC-01</b>
SHEET	<b>4</b>
OF	<b>12</b>



- NOTES:
- EXISTING SERVICE CONNECTIONS ARE TO BE FIELD LOCATED.
  - CONTRACTOR SHALL ASSUME ONE GAS, WATER, SANITARY AND STORM CONNECTION EACH PER PARCEL.
  - CONTRACTOR SHALL INSTALL TEMPORARY 18" X 8" WYE AT STA 17+48, 8" R FOR CONNECTION TO THE EXISTING 8" STORM SEWER MAIN.

- LEGEND
- PAVEMENT REPLACEMENT LIMITS
  - CONCRETE DRIVE APRON REPLACEMENT
  - WALK RAMP REPLACEMENT
  - WALK REPLACEMENT



NO	REVISION	DATE

**CITY OF WILLOUGHBY**

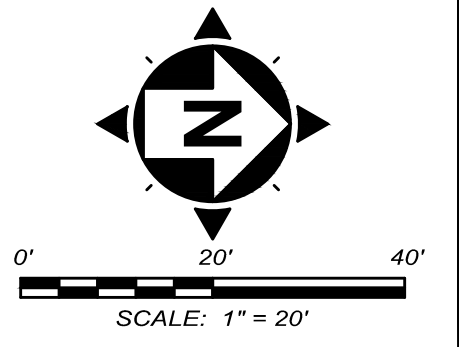
**LINCOLN AVENUE STORM SEWER REPLACEMENT**

**LAKE COUNTY, OHIO**

ISSUED FOR: BID  
 ISSUE DATE: 6/5/2026  
 SCALE: AS SHOWN  
 DESIGNED BY: PJF/PTV  
 DRAWN BY: PTV  
 CHECKED BY: PJF

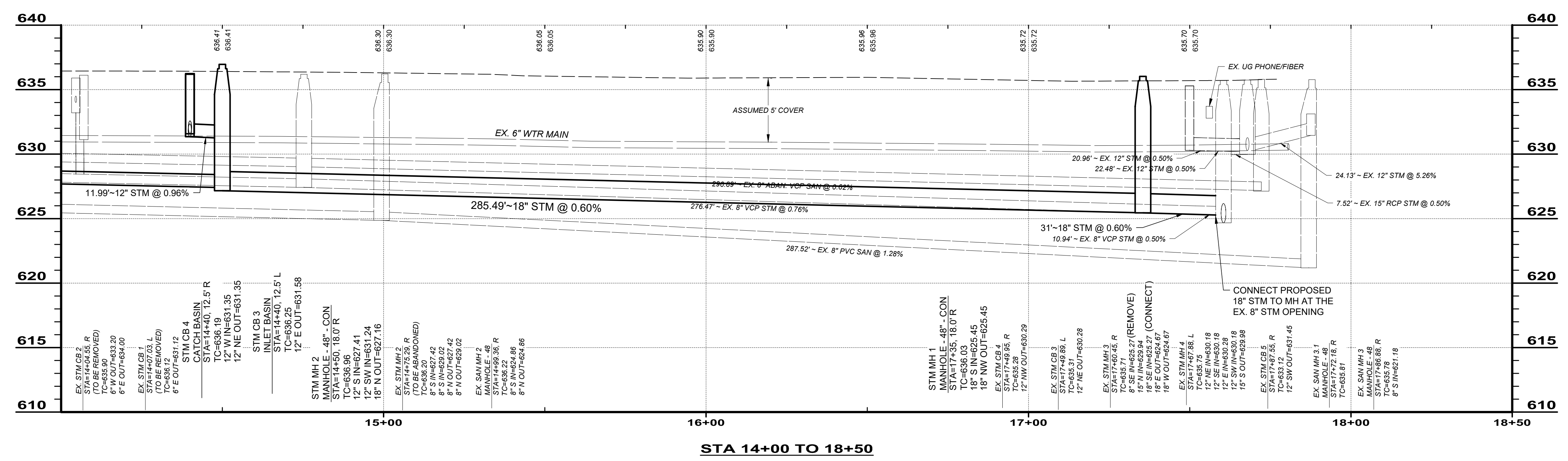
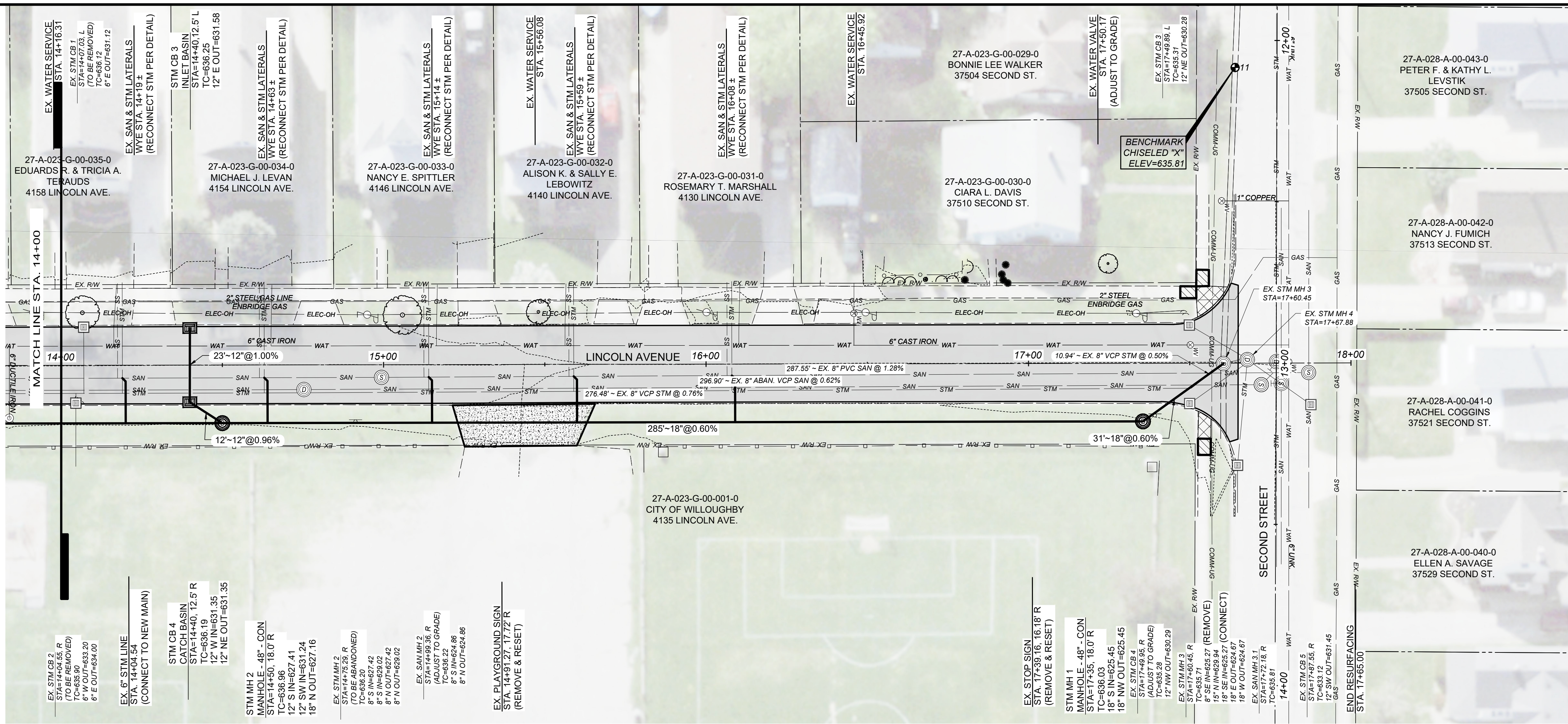
**PLAN & PROFILE - 1**

PROJECT NO.		<b>32759</b>
DISCIPLINE		<b>CIVIL</b>
SHEET NAME		<b>P-01</b>
SHEET	OF	
<b>5</b>	<b>12</b>	



- NOTES:
- EXISTING SERVICE CONNECTIONS ARE TO BE FIELD LOCATED.
  - CONTRACTOR SHALL ASSUME ONE GAS, WATER, SANITARY AND STORM CONNECTION EACH PER PARCEL.
  - CONTRACTOR SHALL INSTALL TEMPORARY 18" X 8" WYE AT STA 17+48, 8" R FOR CONNECTION TO THE EXISTING 8" STORM SEWER MAIN.

- LEGEND
- PAVEMENT REPLACEMENT LIMITS
  - CONCRETE DRIVE APRON REPLACEMENT
  - WALK RAMP REPLACEMENT
  - WALK REPLACEMENT



NO	REVISION	DATE

**CITY OF WILLOUGHBY**  
**LINCOLN AVENUE STORM SEWER REPLACEMENT**  
 LAKE COUNTY, OHIO

ISSUED FOR:	BID
ISSUE DATE:	6/5/2026
SCALE:	AS SHOWN
DESIGNED BY:	PJF/PTV
DRAWN BY:	PTV
CHECKED BY:	PJF

**PLAN & PROFILE - 2**

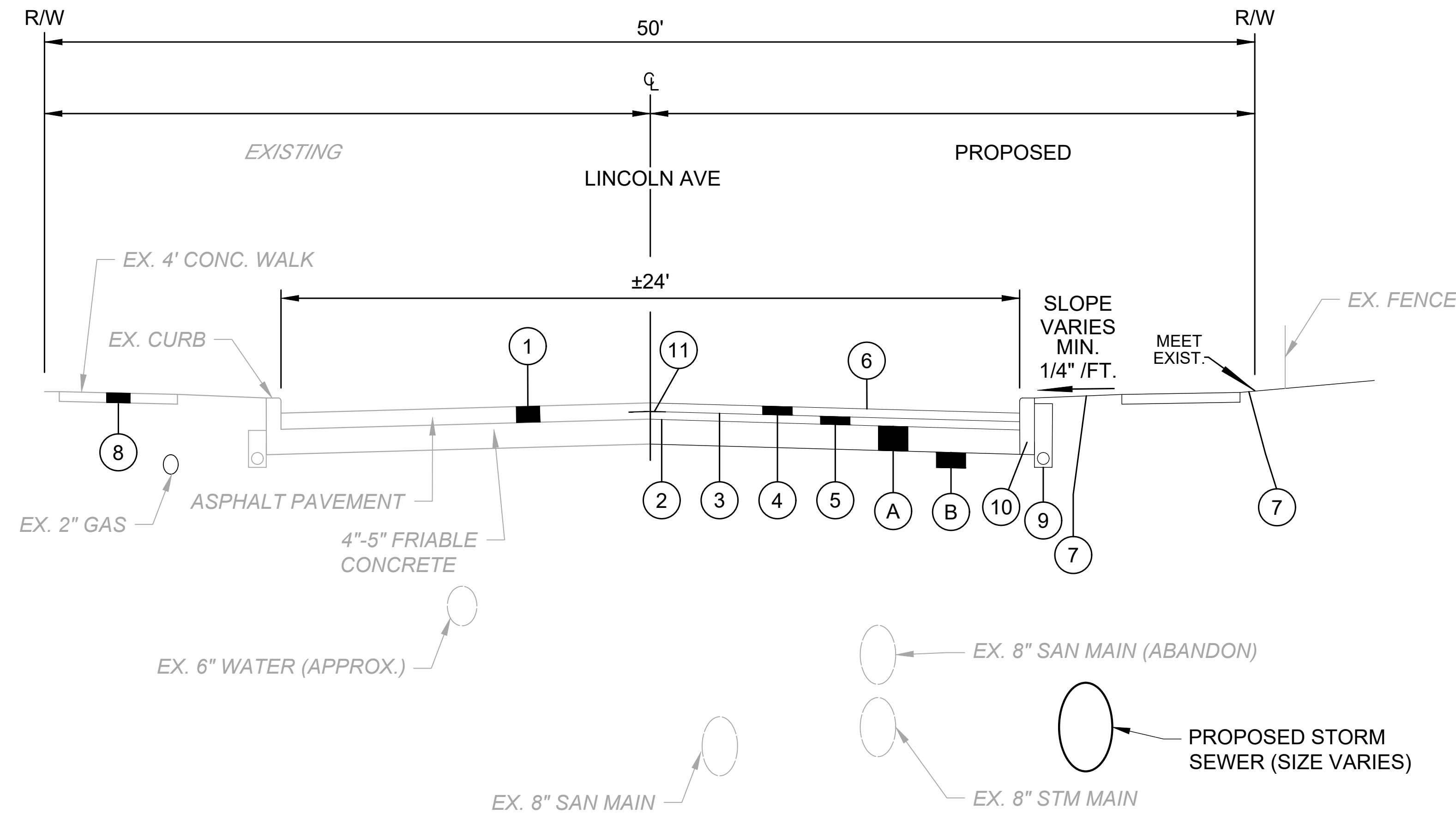
PROJECT NO.	<b>32759</b>
DISCIPLINE	<b>CIVIL</b>
SHEET NAME	<b>P-02</b>
SHEET	<b>6</b>
OF	<b>12</b>

**TYPICAL SECTION KEYNOTES**

- ① ASPHALT PLANING - 3"
- ② ITEM 407 TACK COAT, TRACKLESS TACK (APPLICATION RATE PER ODOT TABLE 407.06-1)
- ③ PAVEMENT REINFORCING FABRIC, AS SPECIFIED, INCL. TACK COAT
- ④ 1 1/2" ITEM 448 A.C. SURFACE COURSE, TYPE 1, PG 64-22 (ALL VIRGIN MATERIAL)
- ⑤ 1 1/2" ITEM 448 A.C. INTERMEDIATE COURSE, TYPE 1, PG 64-22 (MAXIMUM 25% R.A.P.)
- ⑥ APPLY CONSTRUCTION SEAL IMMEDIATELY AFTER SURFACE COURSE INSTALLATION
- ⑦ ITEM-SPECIAL LAWN RESTORATION, INCLUDING ITEM 653 4" TOPSOIL FURNISHED AND PLACED
- ⑧ ITEM 608 CONCRETE WALK INCLUDING ITEM 310 GRANULAR SUBBASE AND ITEM 202 WALK REMOVED, AS DIRECTED
- ⑨ UNDERDRAIN REPLACEMENT, AS DIRECTED
- ⑩ TYPE 2-B CURB, AS DIRECTED
- ⑪ ITEM 872 VOID REDUCING ASPHALT MEMBRANE

NOTE: PAVEMENT PLANING/GRINDING SHALL INCLUDE THE CLEANUP/REMOVAL OF THIN/LOOSE SHEETS OF ASPHALT (IF ANY). NO ADDITIONAL PAYMENT SHALL BE MADE FOR THIS REMOVAL REGARDLESS OF THE TIME PERIOD BETWEEN GRINDING AND RESURFACING.

- Ⓐ ITEM 255 FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS QC MS, T=8", AS PER PLAN, AS DIRECTED
- Ⓑ ITEM 204 EXCAVATION OF SUBGRADE AND EMBANKMENT WITH GRANULAR MATERIAL, CCS, AS DIRECTED



**LINCOLN AVENUE TYPICAL SECTION**

**UTILITIES - SYMBOLS LEDGEND:**

EX:	PROP:	
⊙	⊙	WATER MANHOLE - LID ONLY
⊙	⊙	WATER VALVE W/TEXT
⊙	⊙	WATER METER
⊙	⊙	WATER HYDRANT, FIRE
⊙	⊙	POLE - GENERAL
⊙	⊙	POLE - LIGHT
⊙	⊙	POLE - POWER / LIGHT
⊙	⊙	POLE - POWER / TELEPHONE
⊙	⊙	POLE - GUY ANCHOR
⊙	⊙	ELECTRIC LIGHT - GROUND
⊙	⊙	PIN - IRON
⊙	⊙	STORM CLEAN-OUT
⊙	⊙	CURB INLET - 2X3
⊙	⊙	CURB INLET - 2X3 - ADJUSTED
⊙	⊙	PIPE - IRON
⊙	⊙	STORM MANHOLE - 48"
⊙	⊙	CATCH BASIN - ROUND
⊙	⊙	SANITARY MANHOLE - 48"
⊙	⊙	GAS VALVE W/TEXT
⊙	⊙	GAS TEST BOX

**MISCELLANEOUS - SYMBOLS LEDGEND:**

EX:	PROP:	
⊙	⊙	BUSH
⊙	⊙	TREE, DECIDUOUS
⊙	⊙	TREE, EVERGREEN
⊙	⊙	TREE, STUMP
⊙	⊙	POST, SIGN
⊙	⊙	ROCK, LARGE
⊙	⊙	MISCELLANEOUS CLEAN-OUT
⊙	⊙	MISCELLANEOUS PULL BOX
⊙	⊙	SURVEY BENCHMARK

**LINE TYPE LEDGEND:**

---	CENTERLINES W/ STATIONING
---	RIGHT-OF-WAY
---	PROPERTY LINE
⊙	EX. WATERLINE, VALVE, HYDRANT ASSEMBLY
⊙	EX. SANITARY AND M.H.
⊙	EX. STORM AND M.H.
⊙	EX. GAS LINE, VALVE
---	EX. FENCE
---	EX. RETAINING WALL
---	EX. OVERHEAD POWERLINE
---	EX. UNDERGROUND ELECTRICAL
⊙	PROP. SANITARY & M.H.
⊙	PROP. STORM & M.H.
---	PROP. PERM. EASEMENT
---	PROP. TEMP. EASEMENT



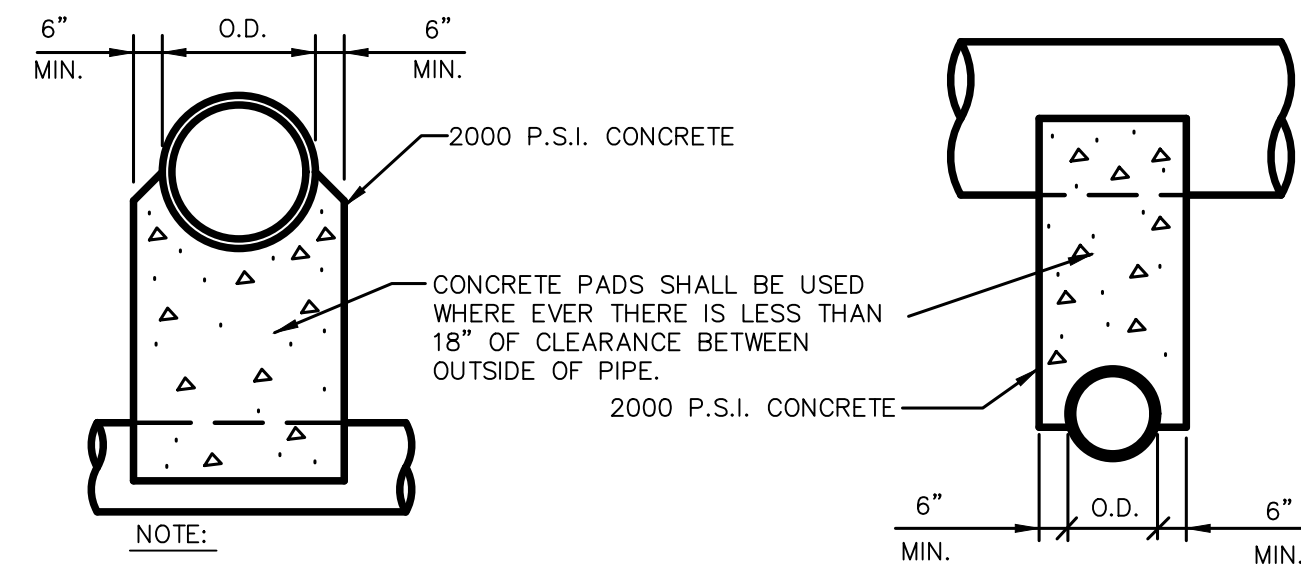
NO	REVISION	DATE

CITY OF WILLOUGHBY  
**LINCOLN AVENUE STORM SEWER REPLACEMENT**  
 LAKE COUNTY, OHIO

ISSUED FOR:	BID
ISSUE DATE:	6/5/2026
SCALE:	AS SHOWN
DESIGNED BY:	PJF/PTV
DRAWN BY:	PTV
CHECKED BY:	PJF

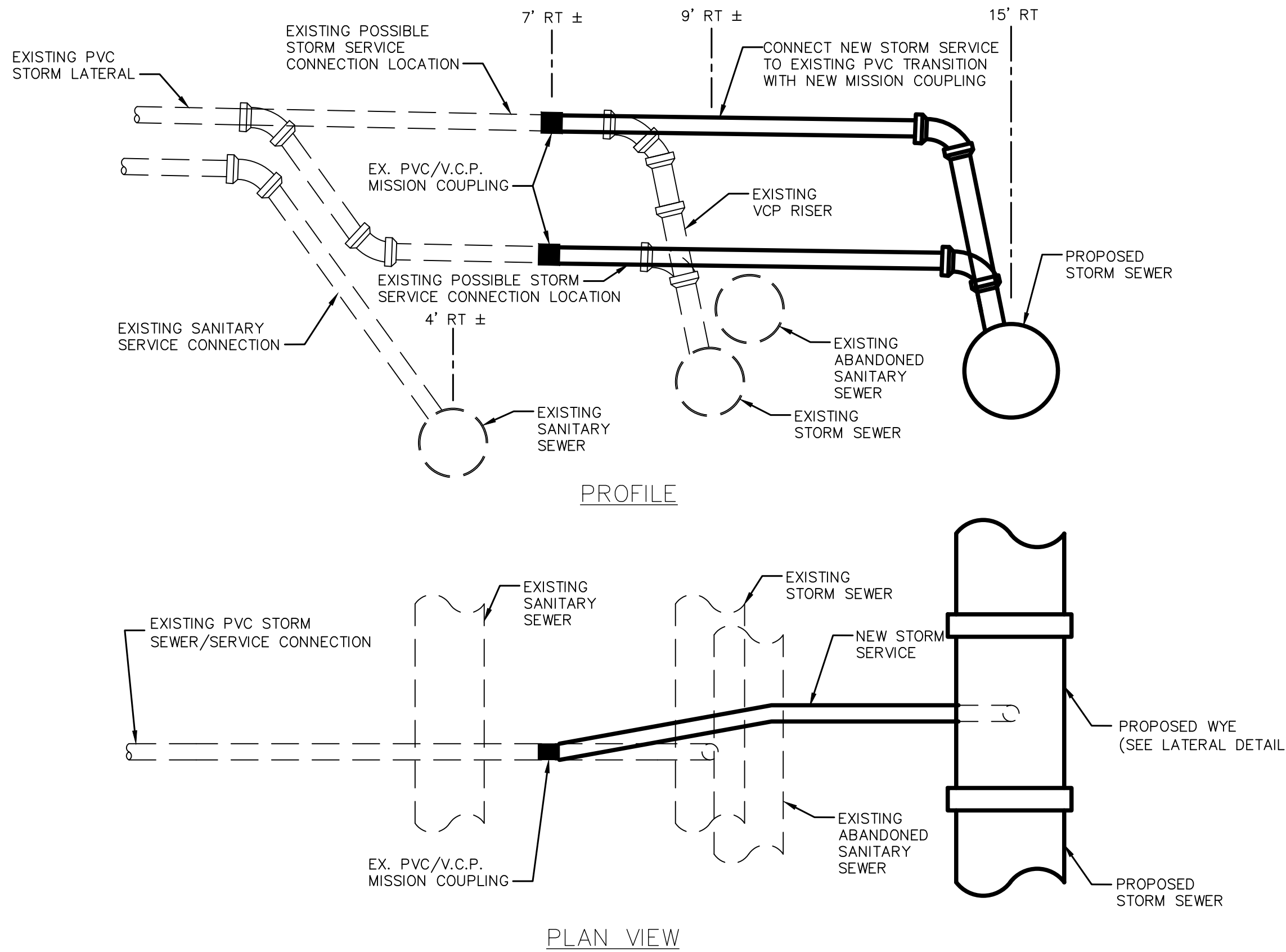
**TYPICAL SECTION & LEGEND**

PROJECT NO.		32759
DISCIPLINE		CIVIL
SHEET NAME		TL-01
SHEET	OF	
7	12	

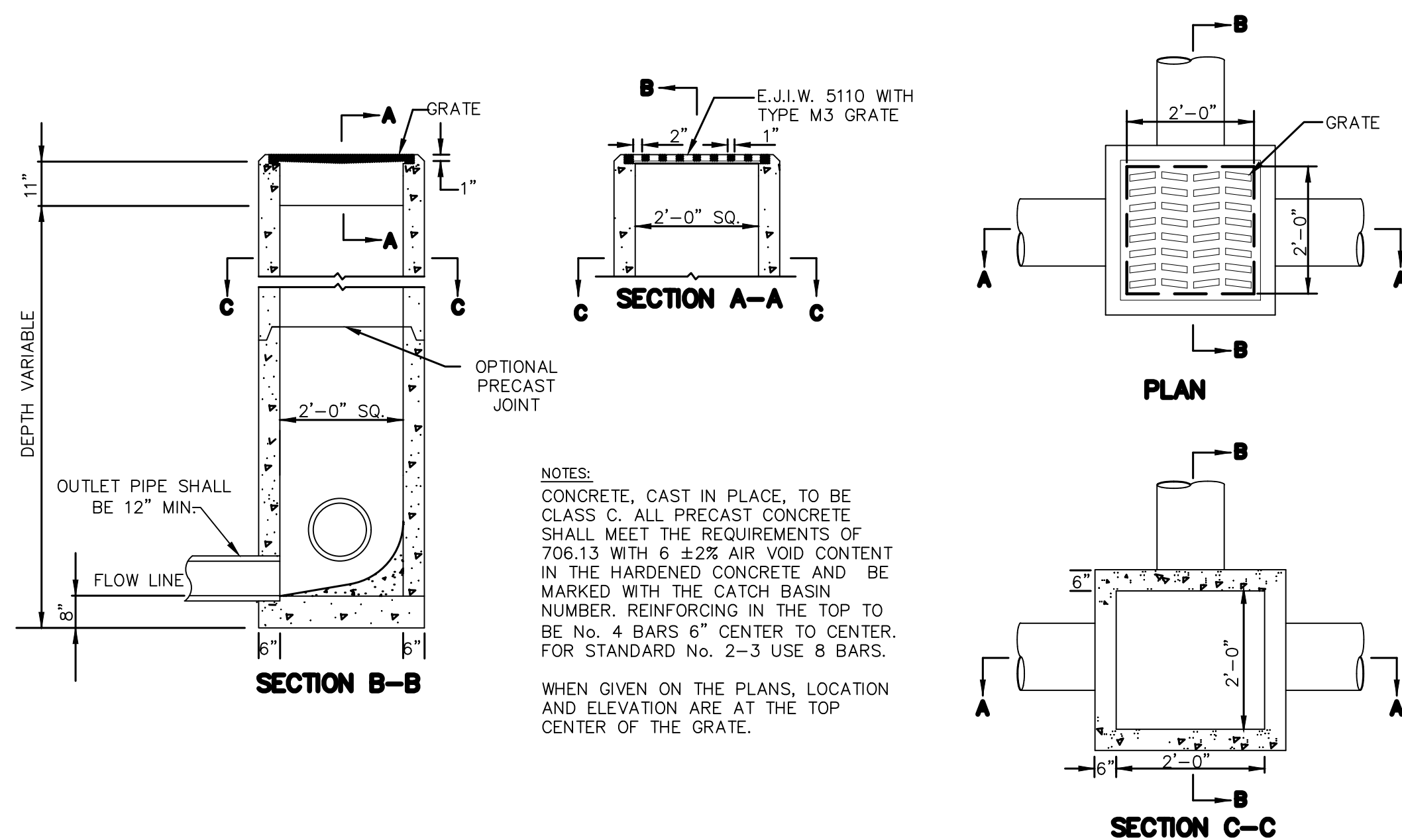


NOTE:  
UNLESS OTHERWISE DIRECTED BY THE ENGINEER, WHERE TWO PIPES (SEWER & WATER) CROSS EACH OTHER, A CONCRETE PAD AND CRADLE SEPARATOR SHALL BE PLACED BETWEEN THEM AS INDICATED ABOVE. WHERE PERMISSION IS GRANTED TO OMIT THE CONCRETE PADS, GRANULAR BACKFILL SHALL BE TAMPED IN 6" LAYERS AROUND BOTH PIPES. SUCH TAMPED BACKFILL SHALL BE CONTINUOUS FROM THE CRADLE OF THE LOWER PIPE TO THE TOP OF THE UPPER PIPE AND AT THE BOTTOM SHALL EXTEND IN BOTH DIRECTIONS, FOR THE FULL WIDTH OF THE TRENCH.

**PIPE CROSSING DETAIL**  
NOT TO SCALE

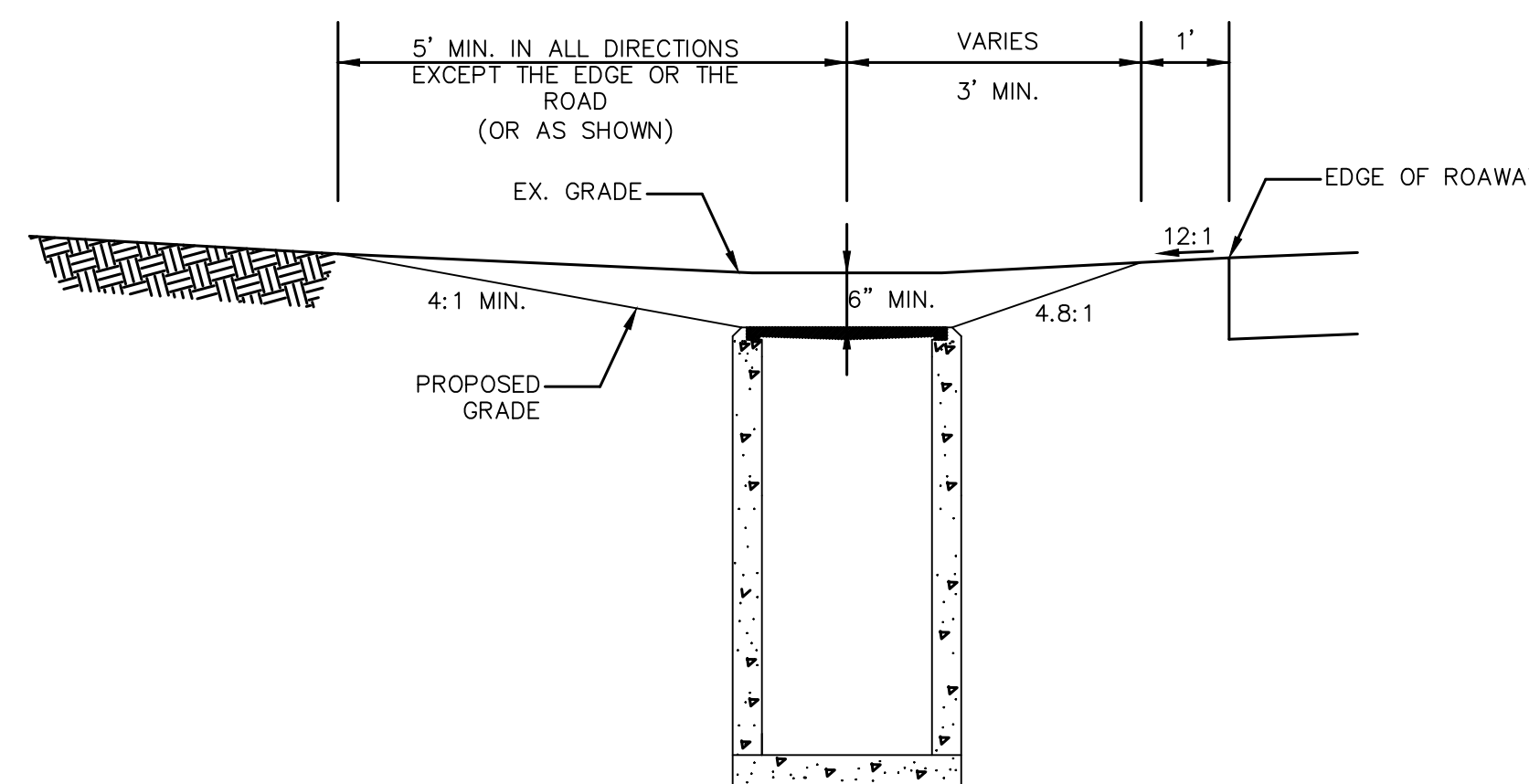


**STORM CONNECTION DETAIL**  
NOT TO SCALE

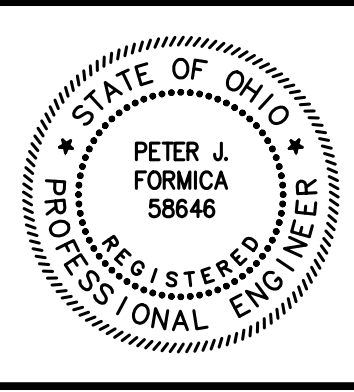


NOTES:  
CONCRETE, CAST IN PLACE, TO BE CLASS C. ALL PRECAST CONCRETE SHALL MEET THE REQUIREMENTS OF 706.13 WITH 6 ±2% AIR VOID CONTENT IN THE HARDENED CONCRETE AND BE MARKED WITH THE CATCH BASIN NUMBER. REINFORCING IN THE TOP TO BE NO. 4 BARS 6" CENTER TO CENTER. FOR STANDARD No. 2-3 USE 8 BARS.  
WHEN GIVEN ON THE PLANS, LOCATION AND ELEVATION ARE AT THE TOP CENTER OF THE GRATE.

**CATCH BASIN No. 2-2B**  
NOT TO SCALE



**TYPICAL GRADING AT CATCH BASIN**  
NOT TO SCALE



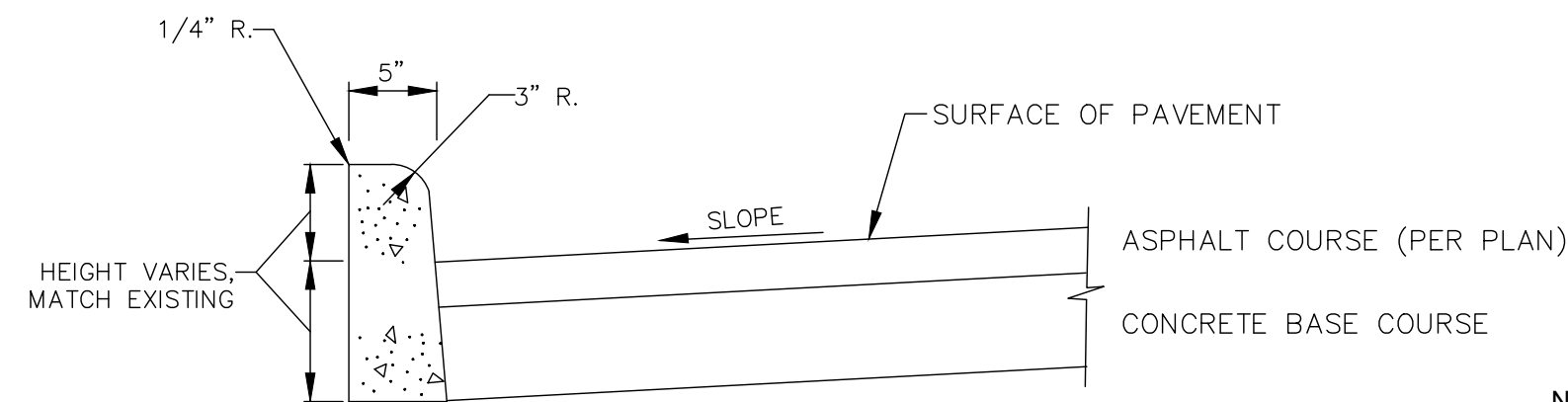
NO	REVISION	DATE

**CITY OF WILLOUGHBY**  
**LINCOLN AVENUE STORM SEWER REPLACEMENT**  
**LAKE COUNTY, OHIO**

ISSUED FOR: BID  
ISSUE DATE: 6/5/2026  
SCALE: AS SHOWN  
DESIGNED BY: PJF/PTV  
DRAWN BY: PTV  
CHECKED BY: PJF

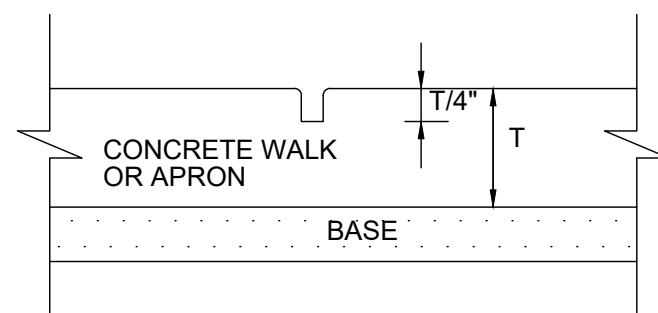
**STANDARD DETAILS**

PROJECT NO.	<b>32759</b>
DISCIPLINE	<b>CIVIL</b>
SHEET NAME	<b>DET-01</b>
SHEET	OF
<b>8</b>	<b>12</b>

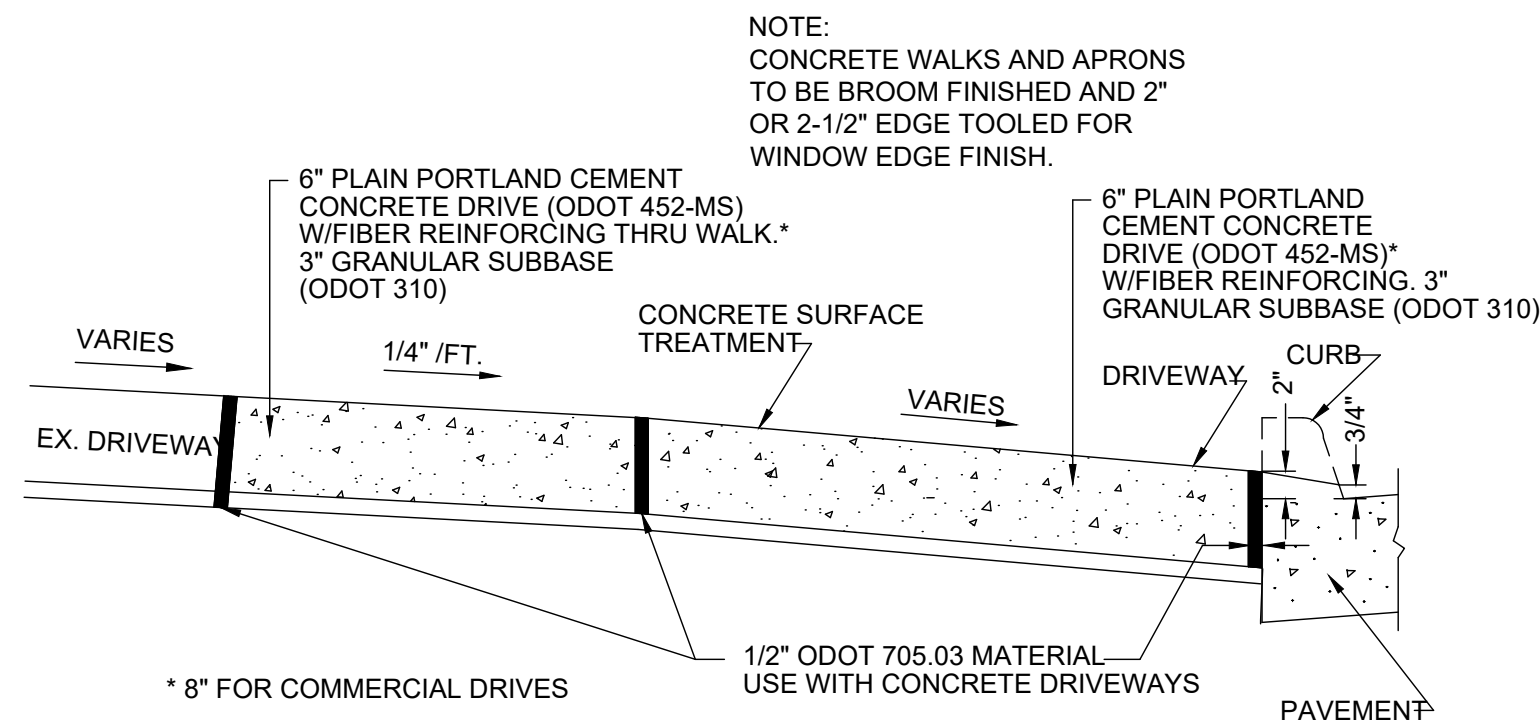


- NOTES:
1. ALL VOIDS BETWEEN THE EXISTING PAVEMENT AND THE CURB SHALL BE FILLED WITH CONCRETE WITHIN THE SAME DAY AS THE CURB INSTALLATION.
  2. NEAT SAW CUT ALONG EDGE OF CURB TO REMOVE EXISTING.
  3. NOTES FOR FULL DEPTH PAVEMENT REPLACEMENT AND RIGID REPLACEMENT SHALL APPLY.

**CURB, TYPE 2B**  
NOT TO SCALE

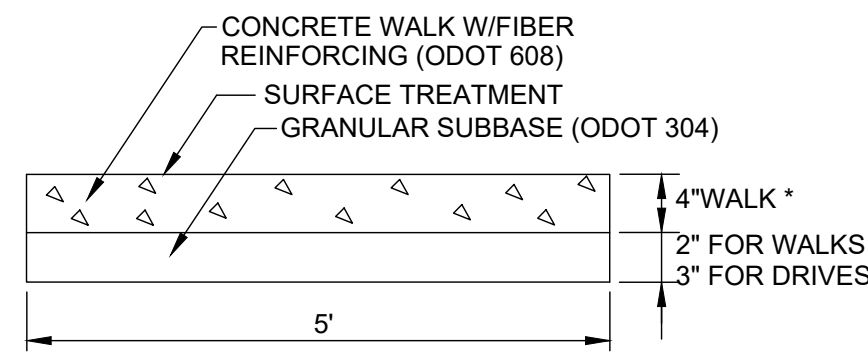


**IMPRESSION JOINT FORMED**



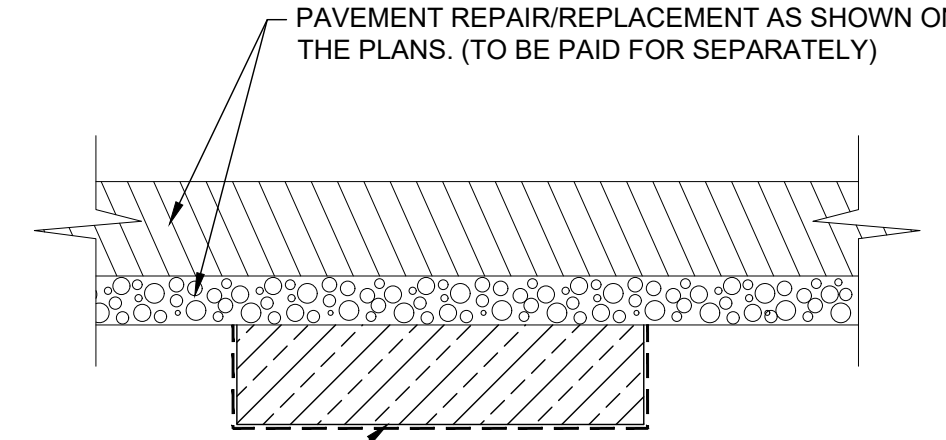
**DROP CURB DETAIL AT DRIVEWAY**  
NOT TO SCALE

NOTE: WIRE MESH REINFORCING SHALL BE FURNISHED & INSTALLED IN-KIND IF FOUND IN THE EXISTING APRON.



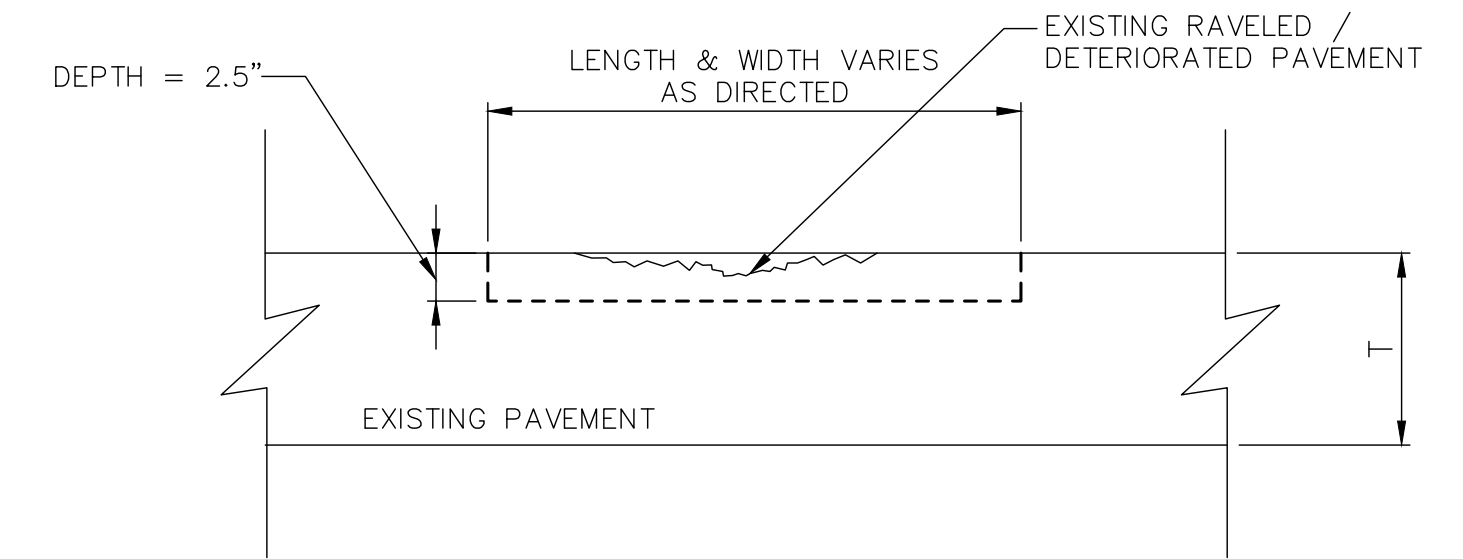
- NOTE: CONCRETE WALKS AND APRONS TO BE BROOM FINISHED AND 2" OR 2-1/2" EDGE TOOLED FOR WINDOW EDGE FINISH.
- \*WALK WITHIN DRIVE APRON LIMITS SHALL BE THE SAME THICKNESS AS THE DRIVE APRON (6" MIN.) AND PAID FOR SEPARATELY.
- 8" FOR COMMERCIAL DRIVES
  - 6" FOR RESIDENTIAL DRIVES

**CONCRETE WALK DETAIL**



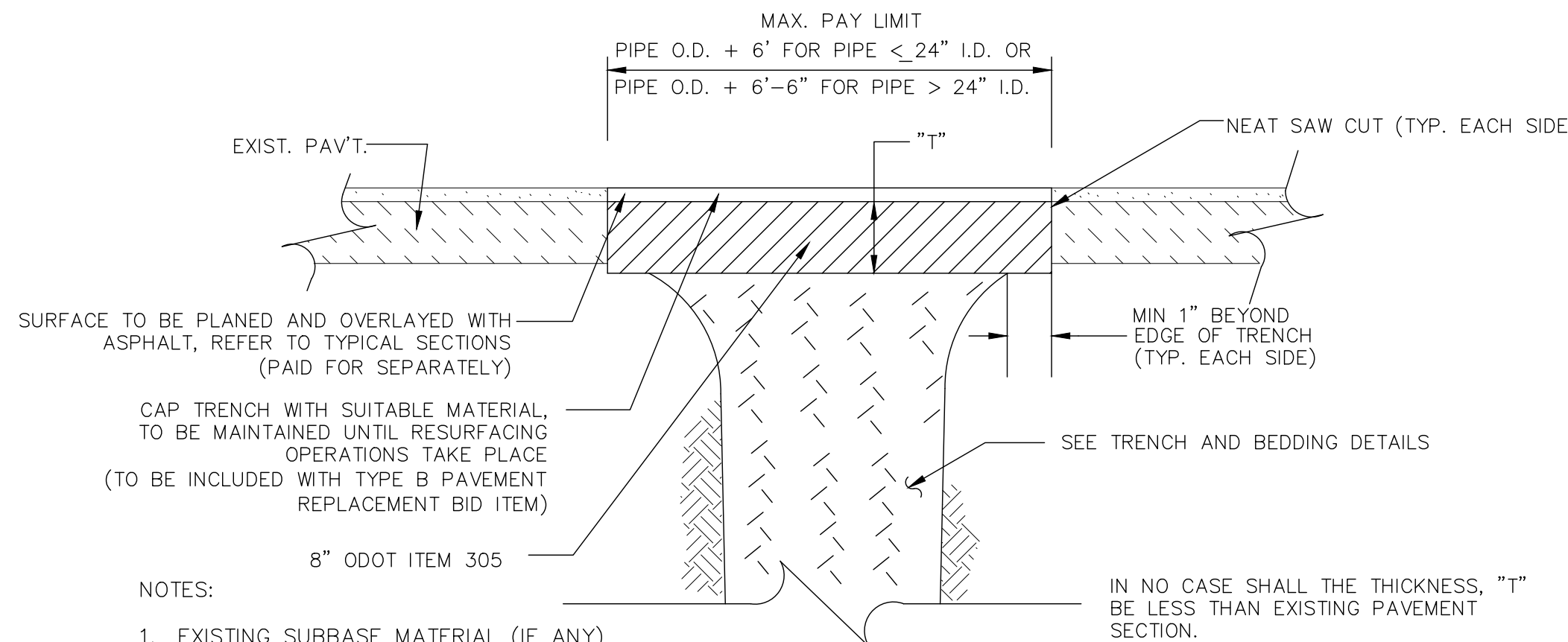
**ADDITIONAL SUBGRADE REPLACEMENT DETAIL (ITEM 304)**

NOTE: ITEM SHALL BE USED AS DIRECTED



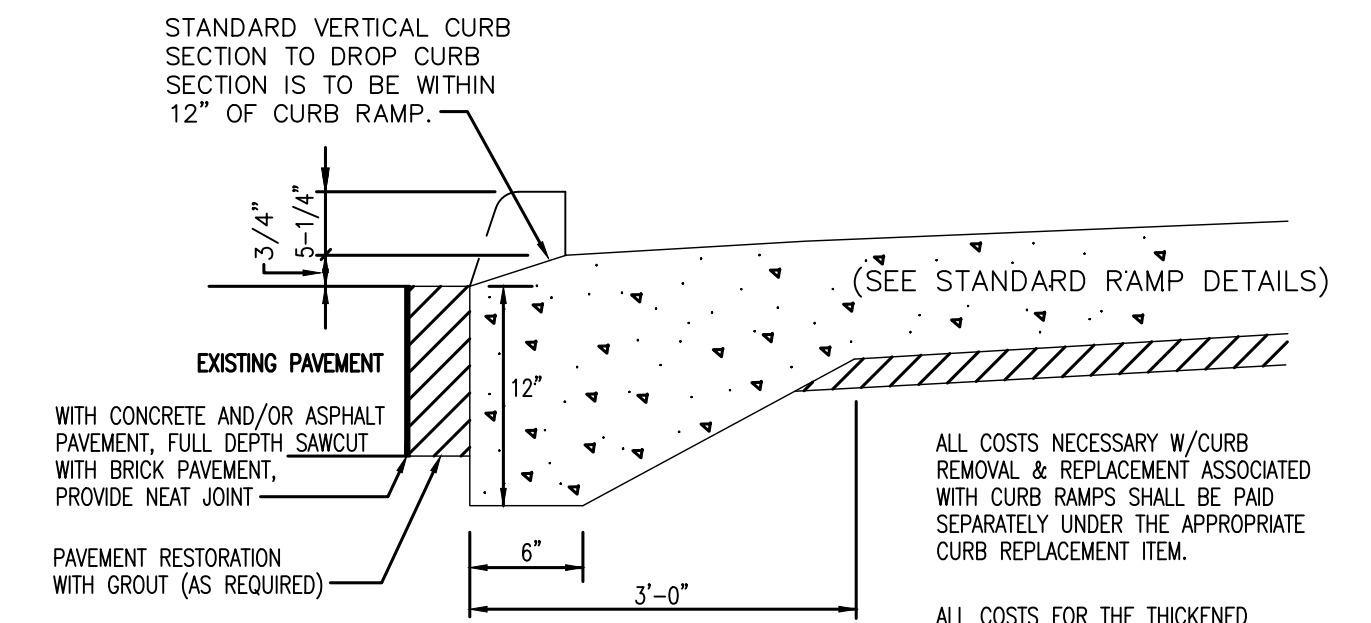
- NOTE: ALL LOOSE AND DETERIORATED MATERIAL SHALL BE MILLED OUT UNTIL STABLE PAVEMENT IS FOUND. THE RESULTING EDGE SHALL BE REASONABLY VERTICAL AND SQUARE TO THE BOTTOM AND SHALL BE TACK COATED PRIOR TO THE PLACEMENT AND COMPACTION OF ODOT ASPHALT CONCRETE SURFACE COURSE, TYPE I, (448), PG64-22

**PARTIAL DEPTH PAVEMENT REPAIR (ITEM 251)**



- NOTES:
1. EXISTING SUBBASE MATERIAL (IF ANY) SHALL BE REPLACED, AS DIRECTED BY ENGINEER.
  2. REPLACEMENT SHALL BE REINFORCED AS PER O.D.O.T. ITEM 709.10 OR 709.12 IF EXISTING PAVEMENT IS REINFORCED.
  3. 5/8" HOOKBOLT @ 30" O.C. MAY BE REQUIRED AS DIRECTED BY THE ENGINEER.

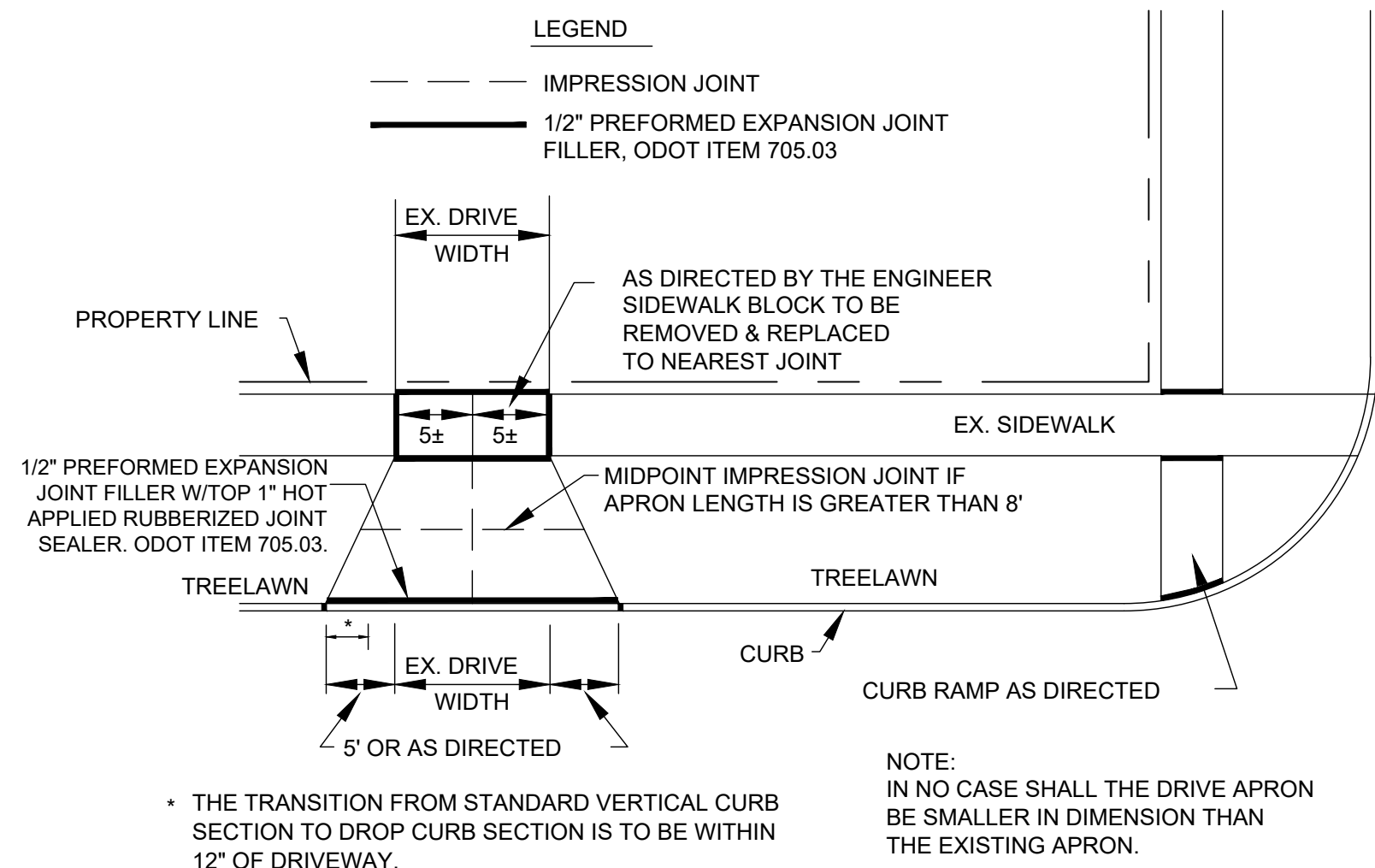
**TYPE "B" PAVEMENT REPLACEMENT (ASPHALT OVER CONCRETE, MODIFIED)**



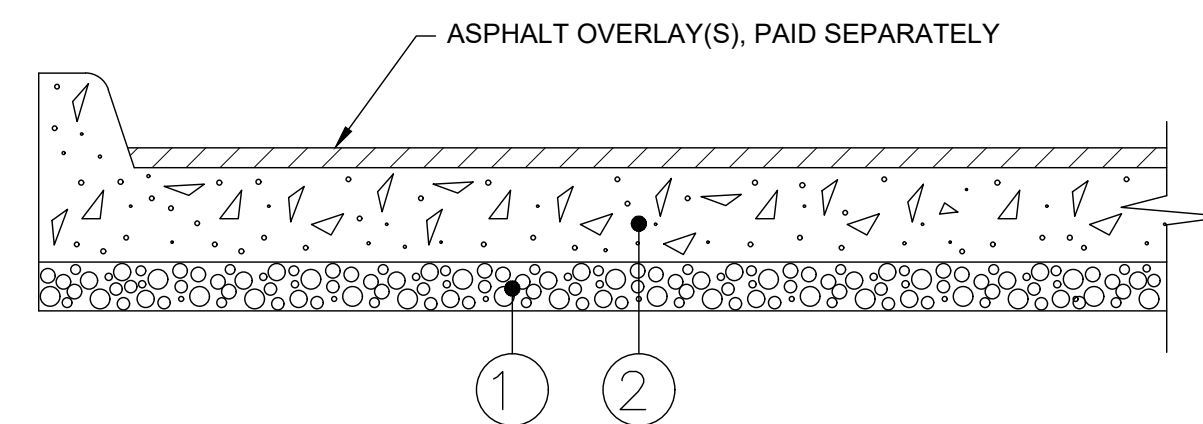
**DROP CURB DETAIL (CURB RAMP)**

ALL COSTS NECESSARY W/CURB REMOVAL & REPLACEMENT ASSOCIATED WITH CURB RAMPS SHALL BE PAID SEPARATELY UNDER THE APPROPRIATE CURB REPLACEMENT ITEM.

ALL COSTS FOR THE THICKENED EDGE SHALL BE INCLUDED IN THE S.F. COST FOR CURB RAMPS.



**DRIVEWAY APPROACH DETAIL**  
NOT TO SCALE



- NOTES:
1. 3" ODOT ITEM 304 COMPACTED LIMESTONE AGGREGATE BASE
  2. 8" MIN. ODOT ITEM 255 INCLUDING INTEGRAL CURB, DOWEL/HOOK BOLT INSTALLATION.

**FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT DETAIL (ITEM 255)**



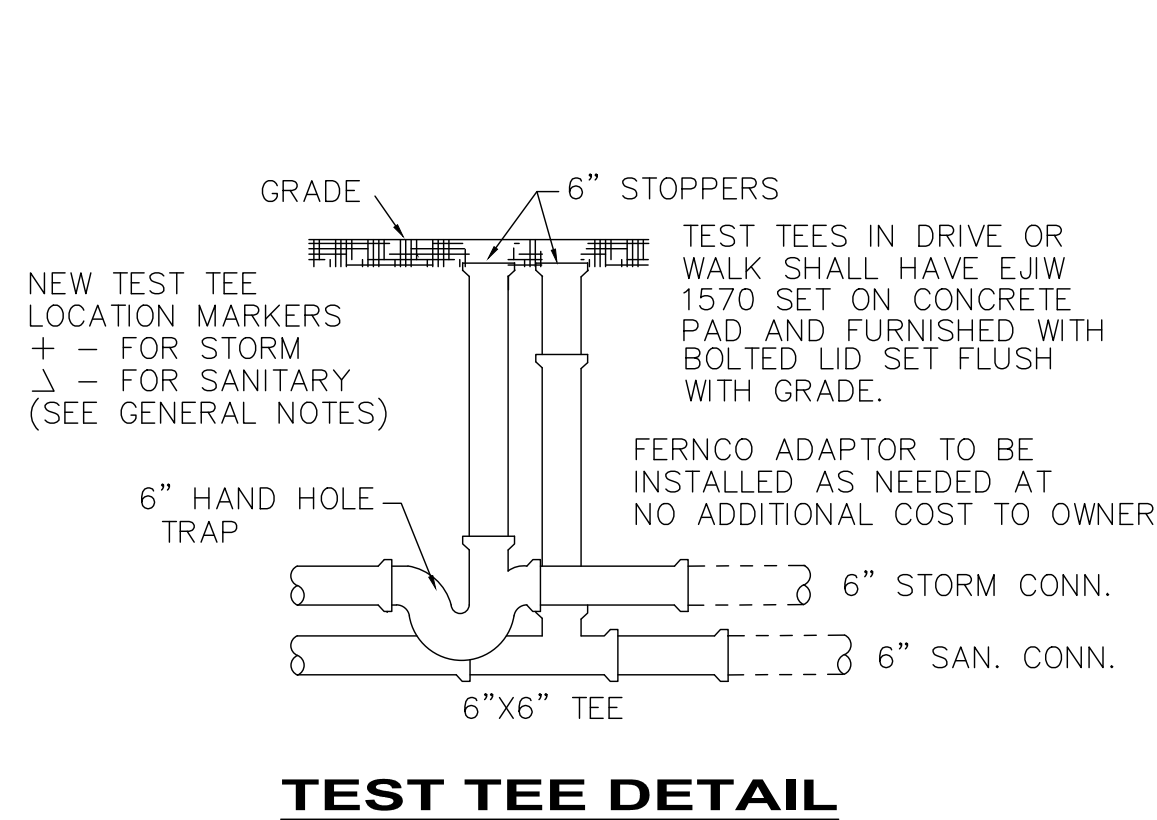
NO	REVISION	DATE

CITY OF WILLOUGHBY  
**LINCOLN AVENUE STORM SEWER REPLACEMENT**  
LAKE COUNTY, OHIO

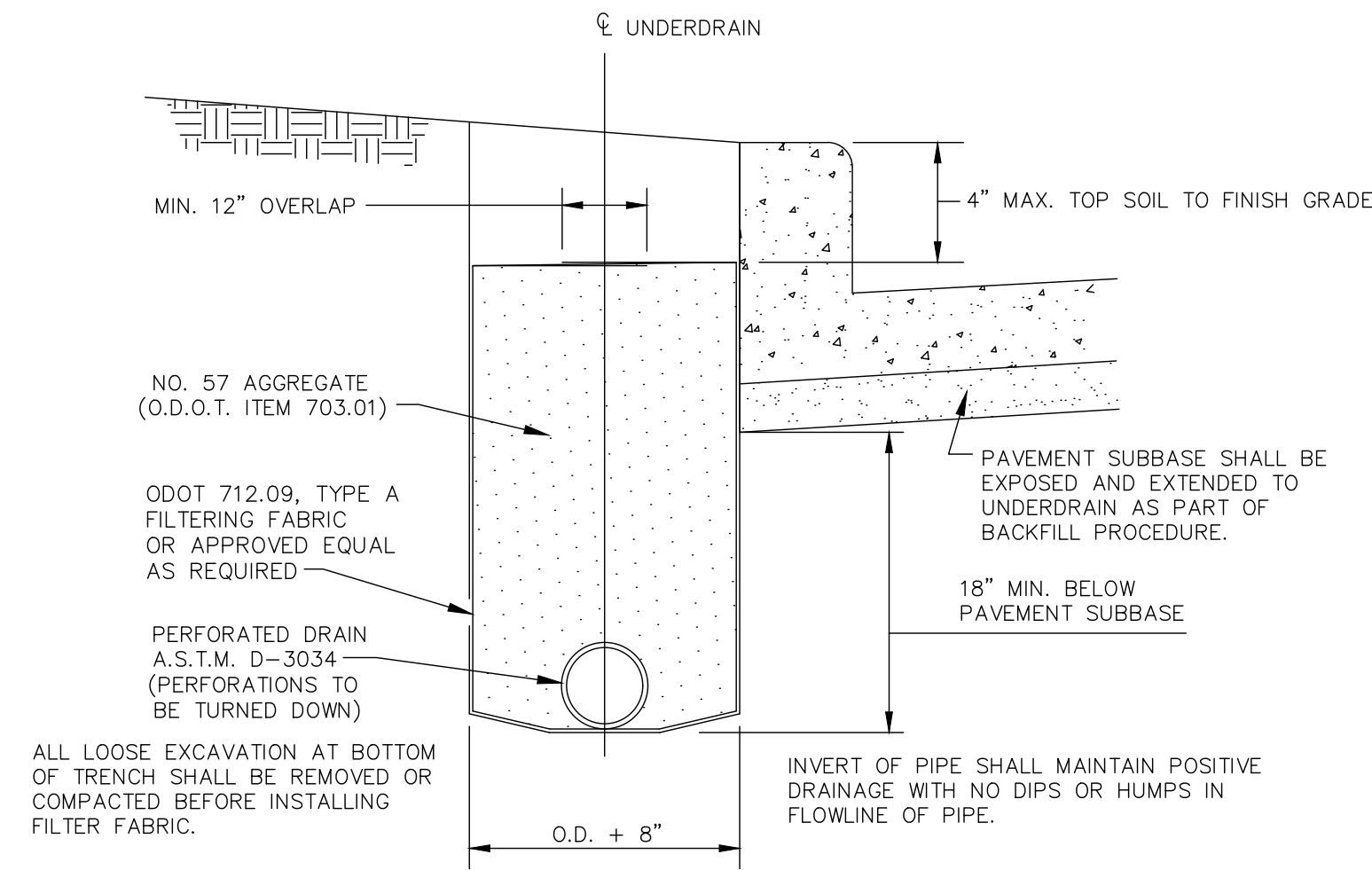
ISSUED FOR:	BID
ISSUE DATE:	6/5/2026
SCALE:	AS SHOWN
DESIGNED BY:	PJF/PTV
DRAWN BY:	PTV
CHECKED BY:	PJF

**STANDARD DETAILS**

PROJECT NO.	32759
DISCIPLINE	CIVIL
SHEET NAME	DET-02
SHEET	OF
9	12

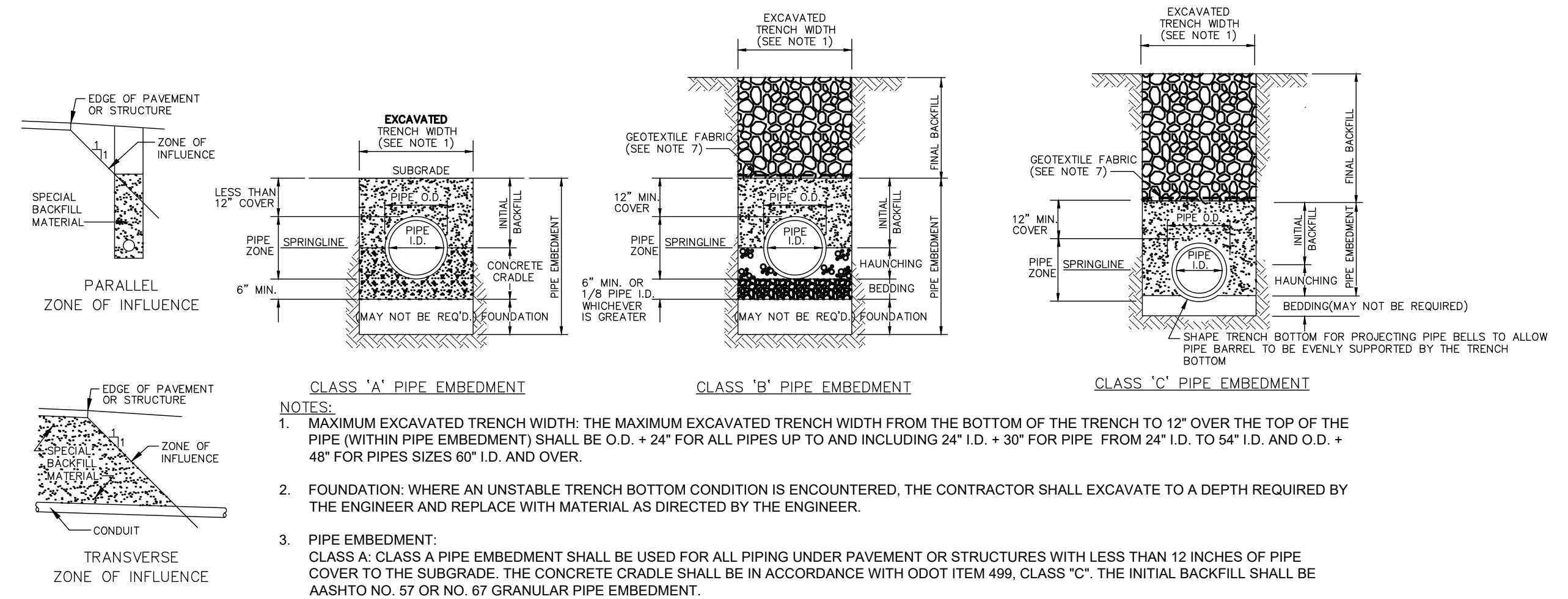


**TEST TEE DETAIL**



**UNDERDRAIN DETAIL**

NOTE: ITEM SHALL BE USED AS DIRECTED



**CLASS "A" PIPE EMBEDMENT**

**CLASS "B" PIPE EMBEDMENT**

**CLASS "C" PIPE EMBEDMENT**

NOTES:  
 1. MAXIMUM EXCAVATED TRENCH WIDTH: THE MAXIMUM EXCAVATED TRENCH WIDTH FROM THE BOTTOM OF THE TRENCH TO 12" OVER THE TOP OF THE PIPE (WITHIN PIPE EMBEDMENT) SHALL BE O.D. + 24" FOR ALL PIPES UP TO AND INCLUDING 24" I.D. + 30" FOR PIPE FROM 24" I.D. TO 54" I.D. AND O.D. + 48" FOR PIPES SIZES 60" I.D. AND OVER.

2. FOUNDATION: WHERE AN UNSTABLE TRENCH BOTTOM CONDITION IS ENCOUNTERED, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH MATERIAL AS DIRECTED BY THE ENGINEER.

3. PIPE EMBEDMENT:  
 CLASS A: CLASS A PIPE EMBEDMENT SHALL BE USED FOR ALL PIPING UNDER PAVEMENT OR STRUCTURES WITH LESS THAN 12 INCHES OF PIPE COVER TO THE SUBGRADE. THE CONCRETE CRADLE SHALL BE IN ACCORDANCE WITH ODOT ITEM 499, CLASS "C". THE INITIAL BACKFILL SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT.

CLASS B: CLASS B PIPE EMBEDMENT SHALL BE USED FOR ALL PIPING UNLESS OTHERWISE NOTED ON THE PLANS OR AUTHORIZED BY THE ENGINEER. THE BEDDING AND HAUNCHING SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT. IN ALL AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE, THE INITIAL BACKFILL SHALL BE AASHTO NO. 57 OR NO. 67 STONE GRANULAR PIPE EMBEDMENT. IN ALL AREAS OUTSIDE OF PAVEMENT, STRUCTURES OR THE ZONE OF INFLUENCE, THE INITIAL BACKFILL SHALL BE SUITABLE ON-SITE MATERIAL APPROVED BY THE ENGINEER FOR ONLY REINFORCED CONCRETE PIPE AND DUCTILE IRON PIPE. THE INITIAL BACKFILL FOR ALL OTHER PIPES SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT.

CLASS C: CLASS C PIPE EMBEDMENT SHALL ONLY BE USED FOR DUCTILE IRON WATER MAIN, DUCTILE IRON FORCE MAINS OR AS AUTHORIZED BY THE ENGINEER. THE PIPE EMBEDMENT SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT IN ALL AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE. THE PIPE EMBEDMENT SHALL BE SUITABLE ON-SITE MATERIAL APPROVED BY THE ENGINEER IN ALL AREAS OUTSIDE OF PAVEMENT, STRUCTURES OR THE ZONE OF INFLUENCE. WHERE ROCK OR SHALE IS ENCOUNTERED, A MINIMUM 6-INCHES OF AASHTO NO. 57 OR NO. 67 GRANULAR PIPE BEDDING OR SAND BEDDING SHALL BE PLACED AS DIRECTED BY THE ENGINEER.

4. FINAL BACKFILL: IN ALL AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE THE FINAL BACKFILL SHALL BE SPECIAL BACKFILL MATERIAL. IN ALL AREAS OUTSIDE OF PAVEMENT, STRUCTURES OR THE ZONE OF INFLUENCE, THE FINAL BACKFILL SHALL BE SUITABLE ON-SITE MATERIAL APPROVED BY THE ENGINEER.

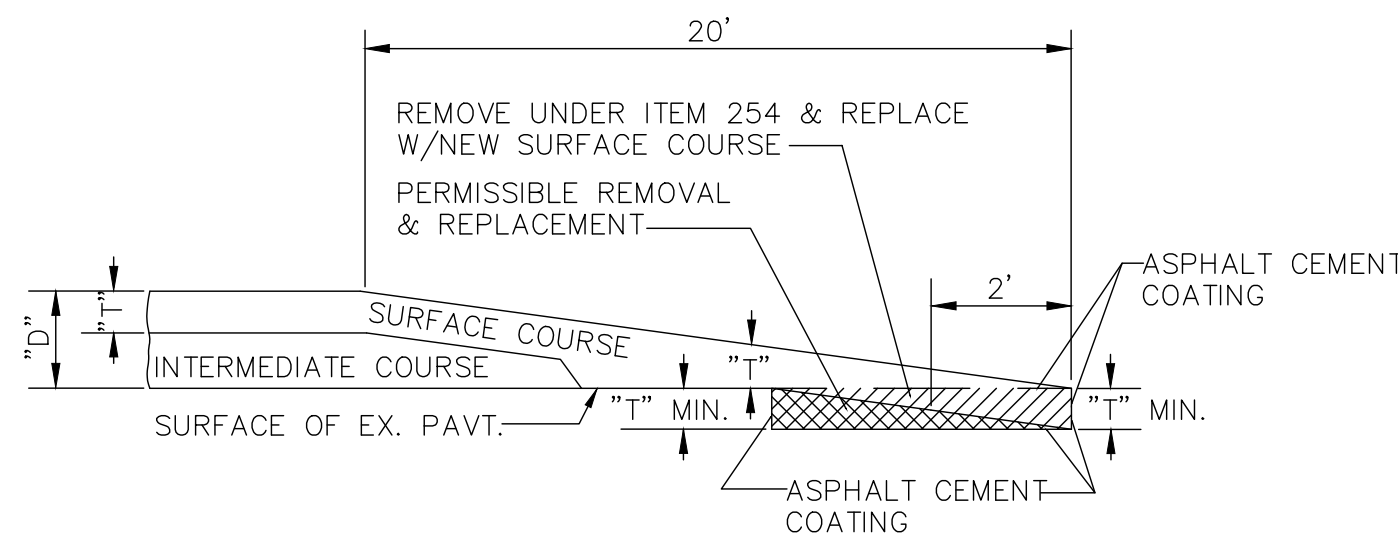
5. SPECIFICATIONS: ALL TRENCHING, PIPE EMBEDMENT AND BACKFILL MATERIALS SHALL BE IN ACCORDANCE WITH SPECIFICATION 023000 - EARTHWORK.

6. CLAY TRENCH DAMS: CLAY TRENCH DAMS SHALL BE REQUIRED AS SHOWN ON PLANS OR WHEN AND WHERE NECESSARY AS DIRECTED BY THE ENGINEER.

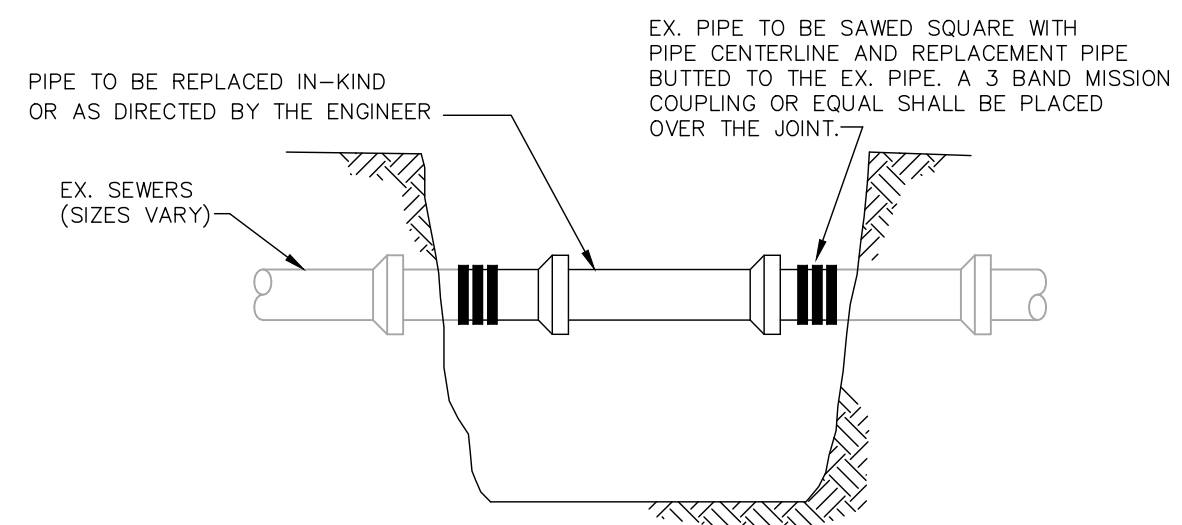
7. GEOTEXTILE FABRIC: INSTALL A GEOTEXTILE FABRIC IN ACCORDANCE WITH ODOT 712.09, TYPE A, AFTER ALL INITIAL BACKFILL CONSISTING OF AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT.

8. DETECTOR TAPE: IF REQUIRED IN THE SPECIFICATIONS, INSTALL DETECTABLE WARNING TAPE ABOVE UTILITIES, 12" BELOW FINISHED GRADE, EXCEPT 6 INCHES BELOW SUBGRADE UNDER PAVEMENT AND SLABS.

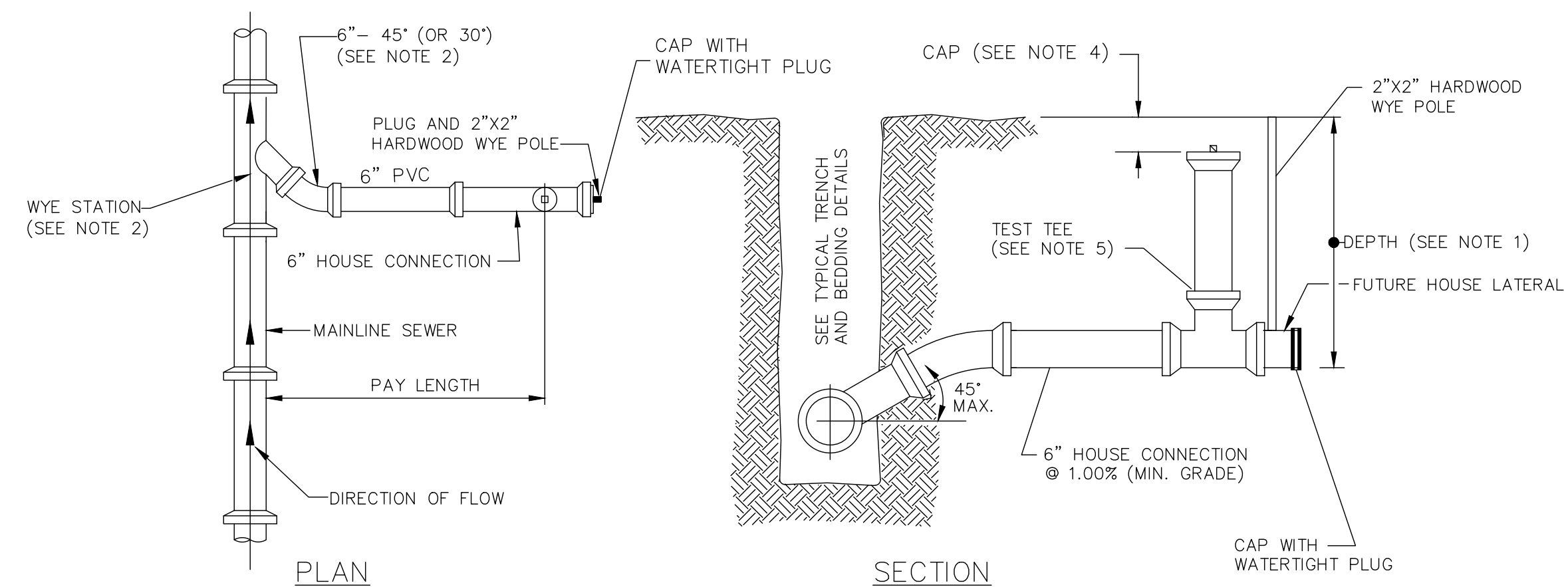
**TRENCHING, EMBEDMENT AND BACKFILL DETAIL**



**BUTT JOINT DETAIL**



**SEWER LATERAL REPAIR DETAIL**



NOTES:  
 1. SEWER LATERALS ARE TO BE INSTALLED AT A MINIMUM SLOPE OF 1%. ALL EXCEPTIONS AND DEPTH OF LATERALS SHALL BE APPROVED BY THE CITY PRIOR TO INSTALLATION.  
 2. WYES ONLY ARE TO BE PROVIDED FOR ALL SANITARY CONNECTIONS TO THE MAINLINE SEWERS. USE 45' OR 30' ELL AS REQUIRED TO REDIRECT LATERALS PERPENDICULAR TO MAINLINE SEWER.  
 3. PROVIDE THREADED, WATERTIGHT, PLASTIC CAP WITH 3/4" STEEL BOLT EMBEDDED IN THE CAP. TOP OF CAP TO BE 6" BELOW FINISHED GROUND GRADE. ALL TEST TEES INSTALLED IN ASPHALT, STONE, OR CONCRETE SHALL BE INSTALLED FLUSH WITH THE EXISTING GRADE.  
 4. TEST TEES ARE TO BE PROVIDED FOR ALL NEW SANITARY LATERALS CONNECTED DIRECTLY TO SANITARY SEWER MAIN.

**SEWER LATERAL DETAIL  
(FOR CONCEPT ONLY - SEE STORM CONNECTION DETAIL)**

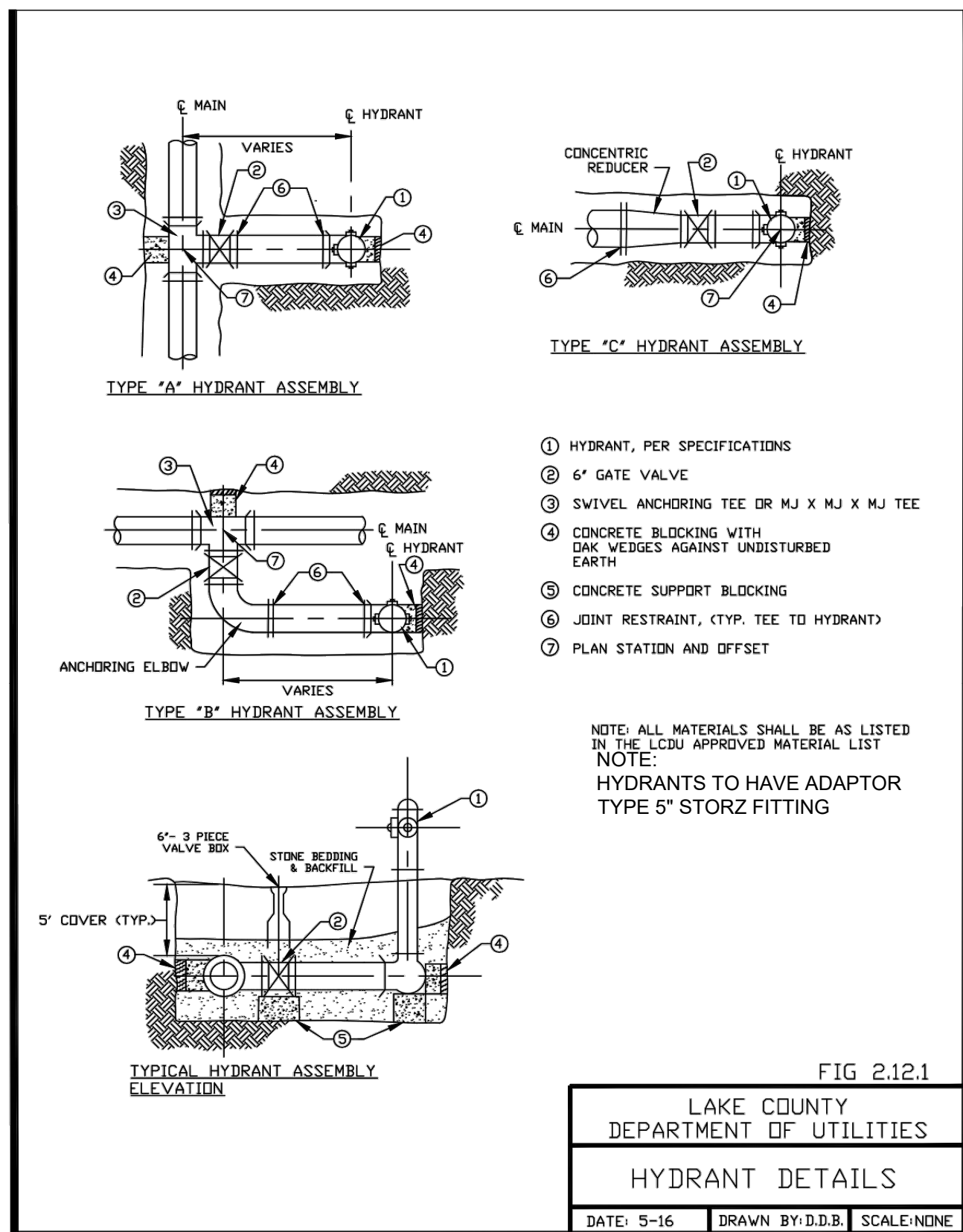


FIG 2.121

LAKE COUNTY  
 DEPARTMENT OF UTILITIES  
 HYDRANT DETAILS  
 DATE: 5-16 DRAWN BY: D.D.B. SCALE: NONE



NO	REVISION	DATE

CITY OF WILLOUGHBY  
**LINCOLN AVENUE STORM  
 SEWER REPLACEMENT**  
 LAKE COUNTY, OHIO

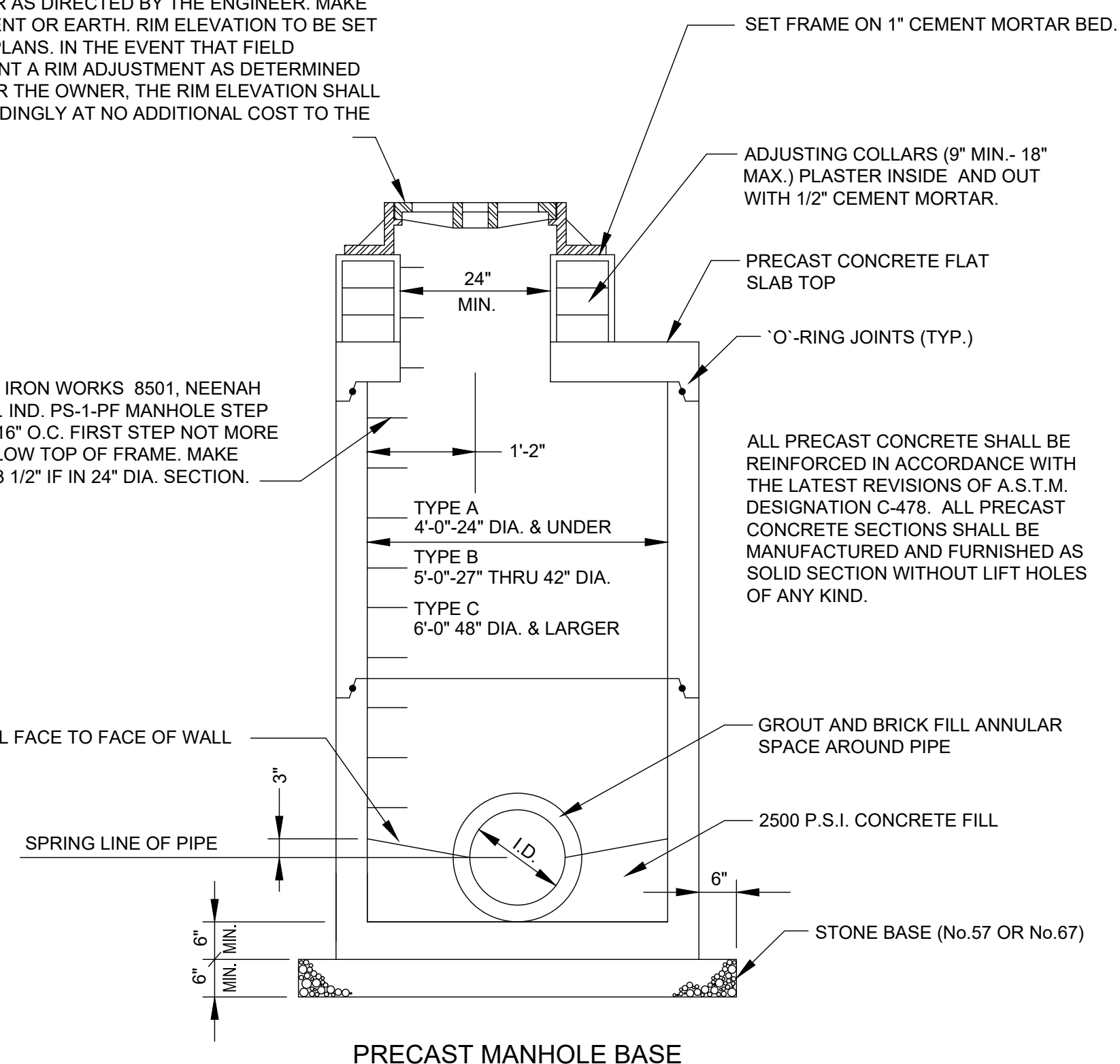
ISSUED FOR: BID  
 ISSUE DATE: 6/5/2026  
 SCALE: AS SHOWN  
 DESIGNED BY: PJF/PTV  
 DRAWN BY: PTV  
 CHECKED BY: PJF

**STANDARD DETAILS**

PROJECT NO.	32759
DISCIPLINE	CIVIL
SHEET NAME	DET-03
SHEET	OF
10	12

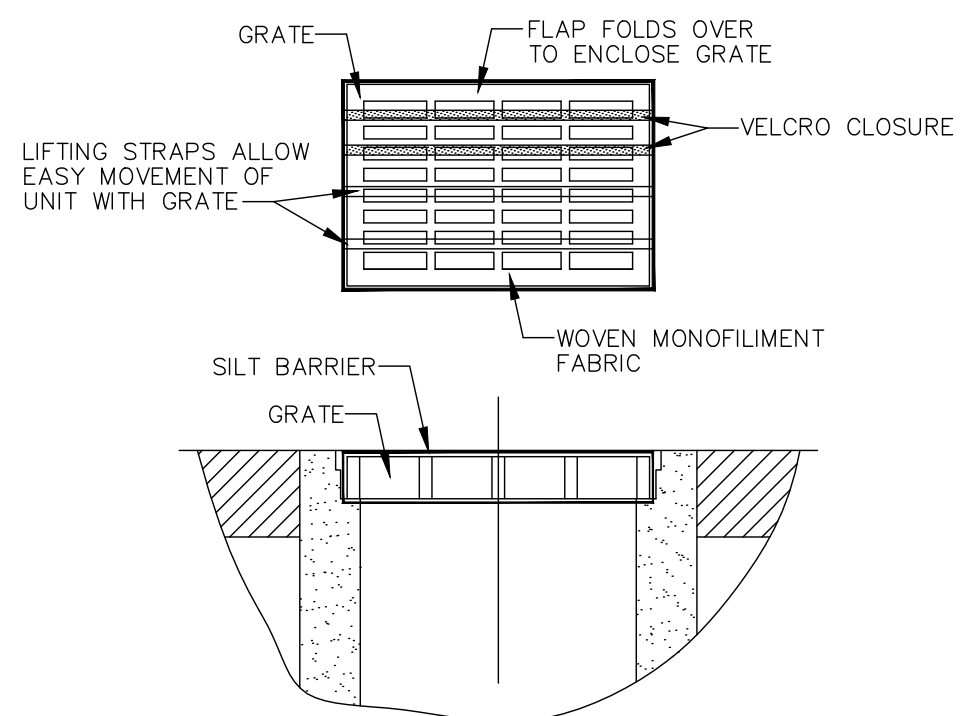
EAST JORDAN IRON WORKS 1710 FRAME OR APPROVED EQUAL W/TYPE M GRATE, OR AS DIRECTED BY THE ENGINEER. MAKE FLUSH WITH PAVEMENT OR EARTH. RIM ELEVATION TO BE SET AS SHOWN ON THE PLANS. IN THE EVENT THAT FIELD CONDITIONS WARRANT A RIM ADJUSTMENT AS DETERMINED BY THE ENGINEER OR THE OWNER, THE RIM ELEVATION SHALL BE MODIFIED ACCORDINGLY AT NO ADDITIONAL COST TO THE OWNER.

EAST JORDAN IRON WORKS 8501, NEENAH R-1980-C, M.A. IND. PS-1-PF MANHOLE STEP OR EQUAL @ 16" O.C. FIRST STEP NOT MORE THAN 2'-0" BELOW TOP OF FRAME. MAKE PROJECTION 3 1/2" IF IN 24" DIA. SECTION.



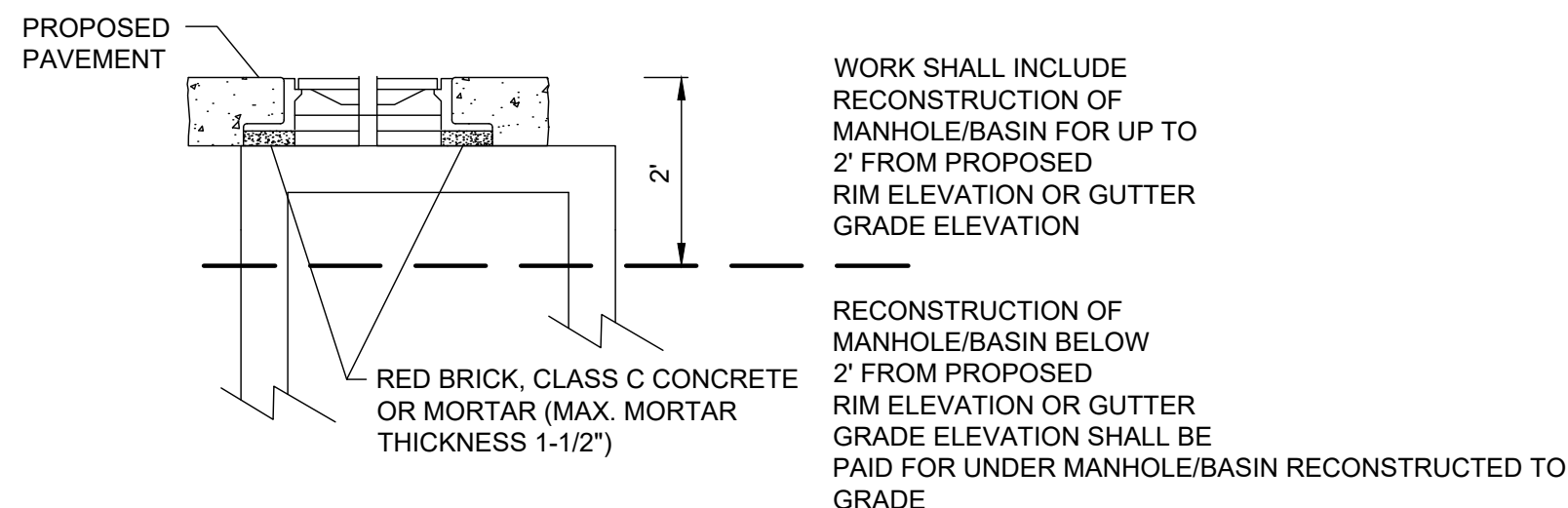
PRECAST MANHOLE BASE

**STORM MANHOLE**

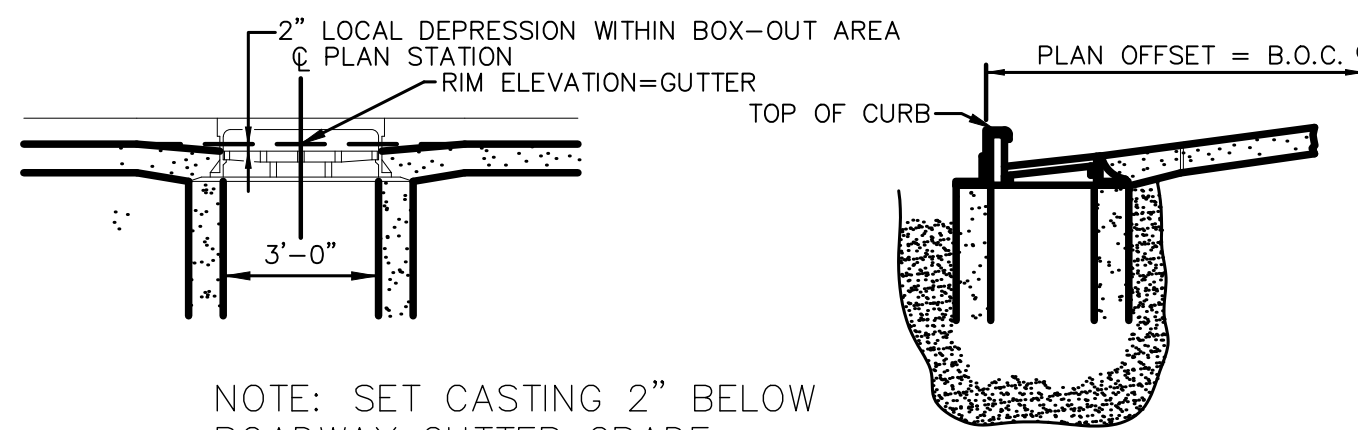


1. GEOTEXTILE SHALL HAVE AN EQUIVALENT OPENING SIZE OF 20-40 SIEVE AND BE RESISTANT TO SUNLIGHT.
2. MAINTENANCE: REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM SURFACE AND VICINITY OF UNIT AFTER EACH STORM EVENT. REMOVE SEDIMENT THAT HAS ACCUMULATED WITHIN THE CONTAINMENT AREA OF THE SILT BARRIER AS NEEDED.
3. TO INSTALL CATCH BASIN INLET SILT BARRIER: THE EMPTY SILT BARRIER SHOULD BE PLACED OVER THE GRATE AS THE GRATE STANDS ON END. TUCK THE ENCLOSURE FLAP INSIDE TO COMPLETELY ENCLOSE THE GRATE. HOLDING THE LIFTING DEVICES (DO NOT RELY ON LIFTING DEVICES TO SUPPORT THE ENTIRE WEIGHT OF THE GRATE), PLACE THE GRATE INTO ITS FRAME.

**INLET PROTECTION FOR CATCH BASIN IN ROADWAY**

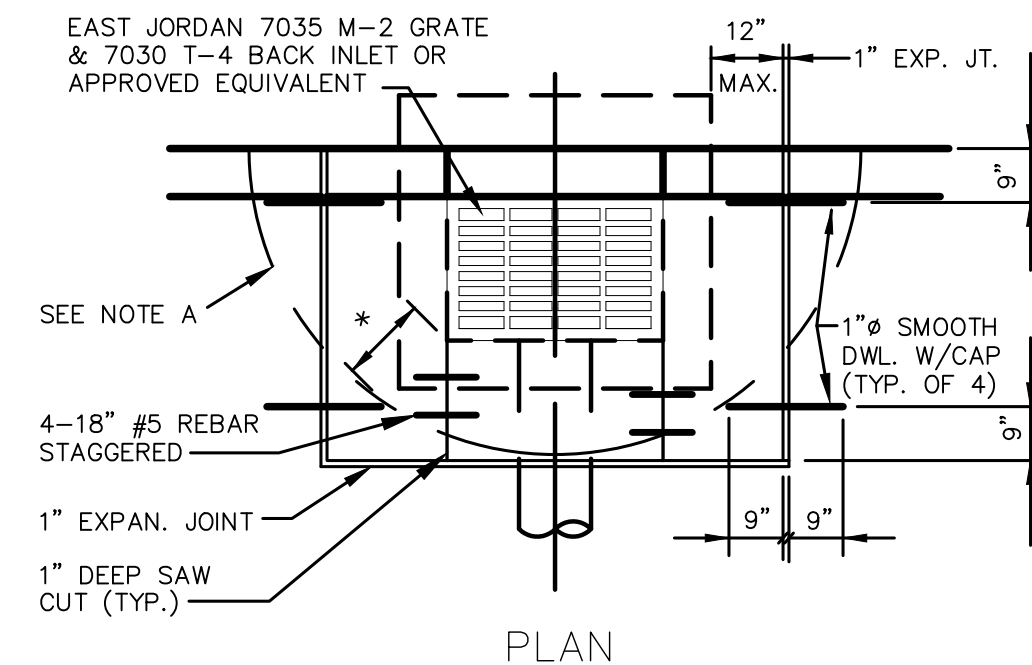


**M.H. ADJUSTED TO GRADE**



NOTE: SET CASTING 2" BELOW ROADWAY GUTTER GRADE.

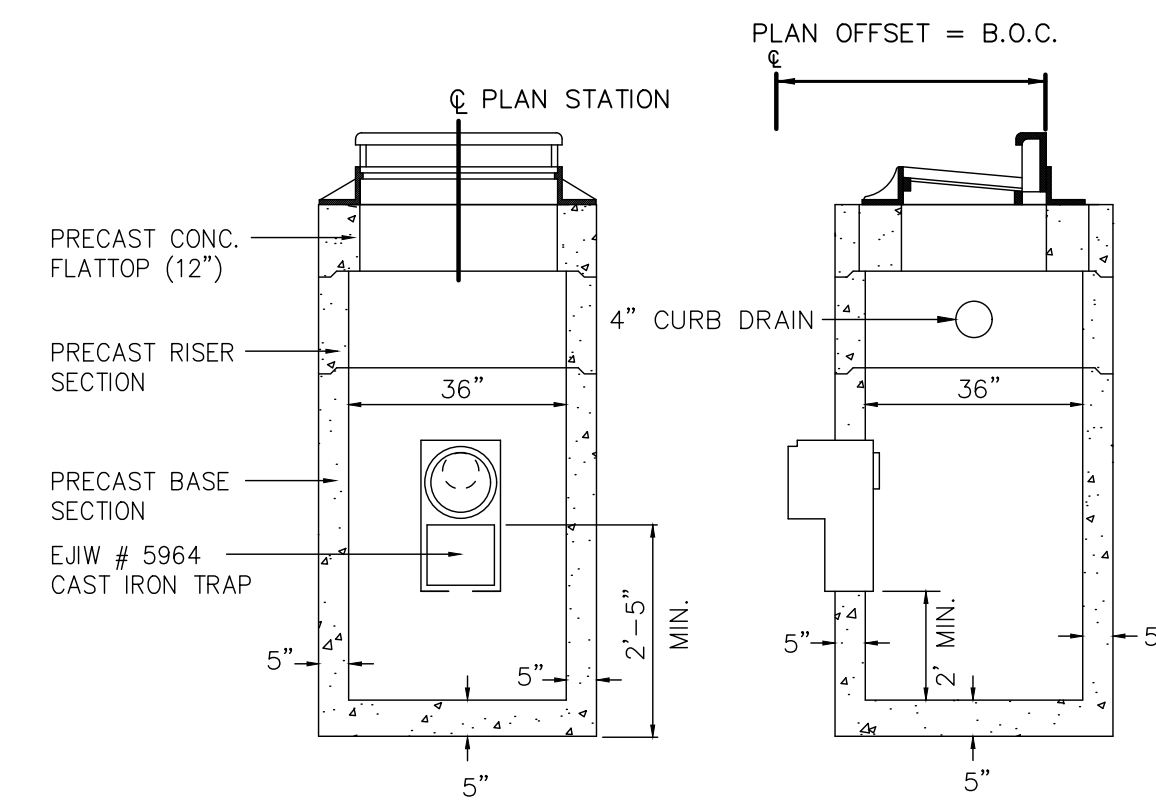
**INLET CASTING ADJUSTMENT AND GRADING DETAIL**



PLAN

NOTE A  
ALTERNATE INLET BOX-OUT TO BE USED WHERE RECTANGULAR BOX-OUT DOES NOT FIT PAVEMENT JOINT PATTERN OR WHERE DIRECTED BY ENGINEER. JOINT TO BE A SMOOTH BUTT JOINT WITH 1" EXPANSION MATERIAL. DELETE SMOOTH DOWEL BARS AND CAPS. \* = 12" TO 24", AS DIRECTED BY ENGINEER.

- GENERAL NOTES:
1. ALL WORK TO CONFORM TO O.D.O.T. ITEM 611.
  2. ALL BRICK SHALL BE CLAY OR SHALE BRICK CONFORMING TO O.D.O.T. ITEM 704.01 (A.S.T.M. C32), UNLESS APPROVED IN WRITING BY THE ENGINEER.
  3. IF PRECAST UNITS ARE USED, THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL. PRECAST UNITS SHALL CONFORM TO O.D.O.T. ITEM 706.13.
  4. ALL CONCRETE SHALL CONFORM TO O.D.O.T. 499, CLASS CQT (4000 PSI)
  5. THE ENTIRE AREA AROUND THE BASIN SHALL BE BACKFILLED WITH O.D.O.T. ITEM 310.02, MECHANICALLY COMPACTED IN 4" LIFTS.
  6. PRECAST UNITS SHALL BE SET ON 6" STONE BASE.
  7. INLET BASIN DOES NOT REQUIRE THE SUMP AND TRAP.



**PRECAST CATCH BASIN**

NOTE: EJIW 7460 CASTING SHALL BE USED FOR MANHOLE STYLE CURB INLETS



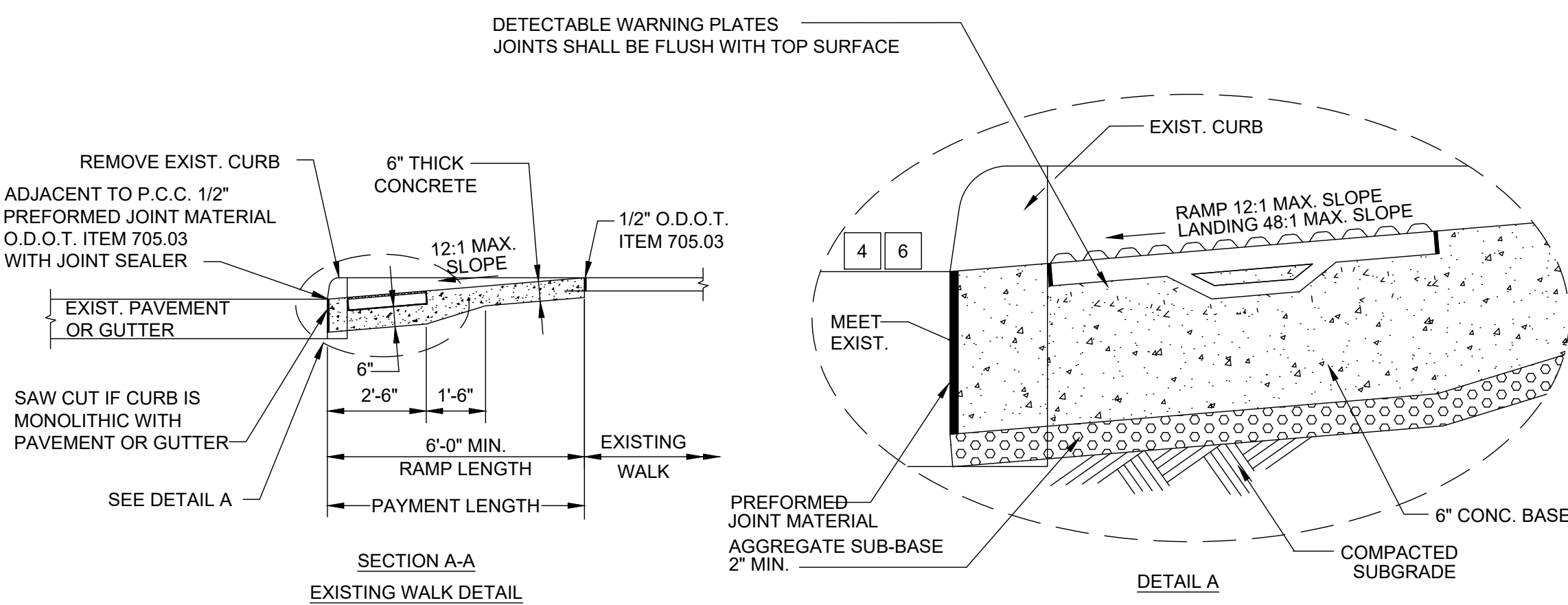
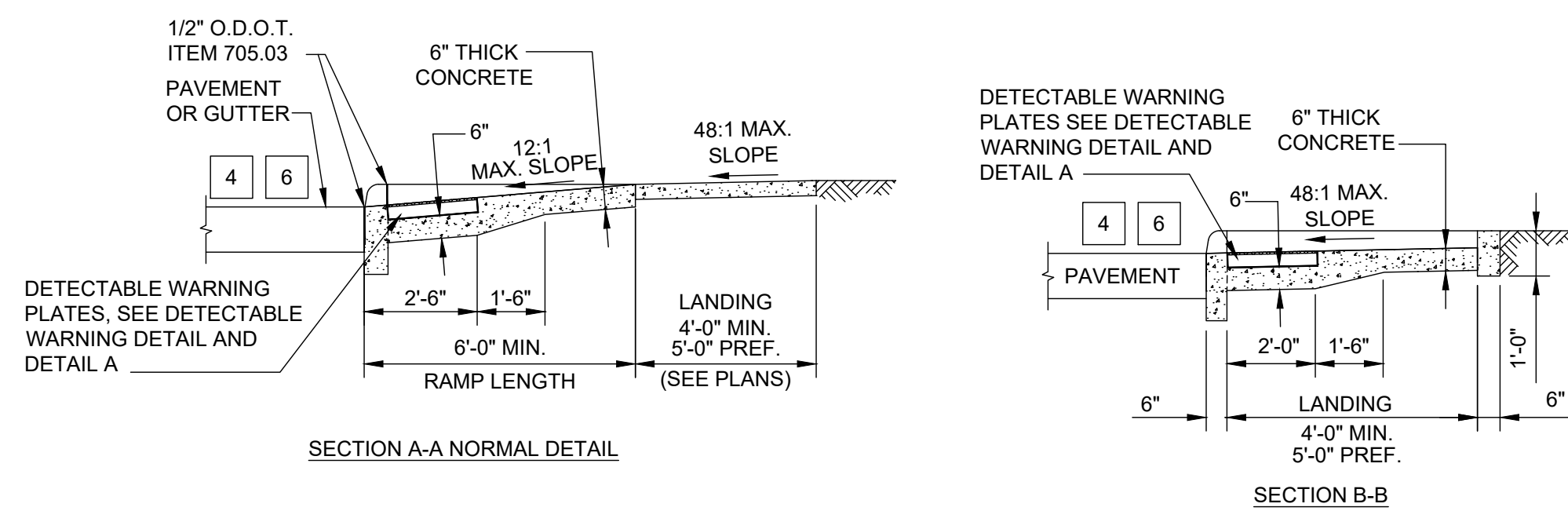
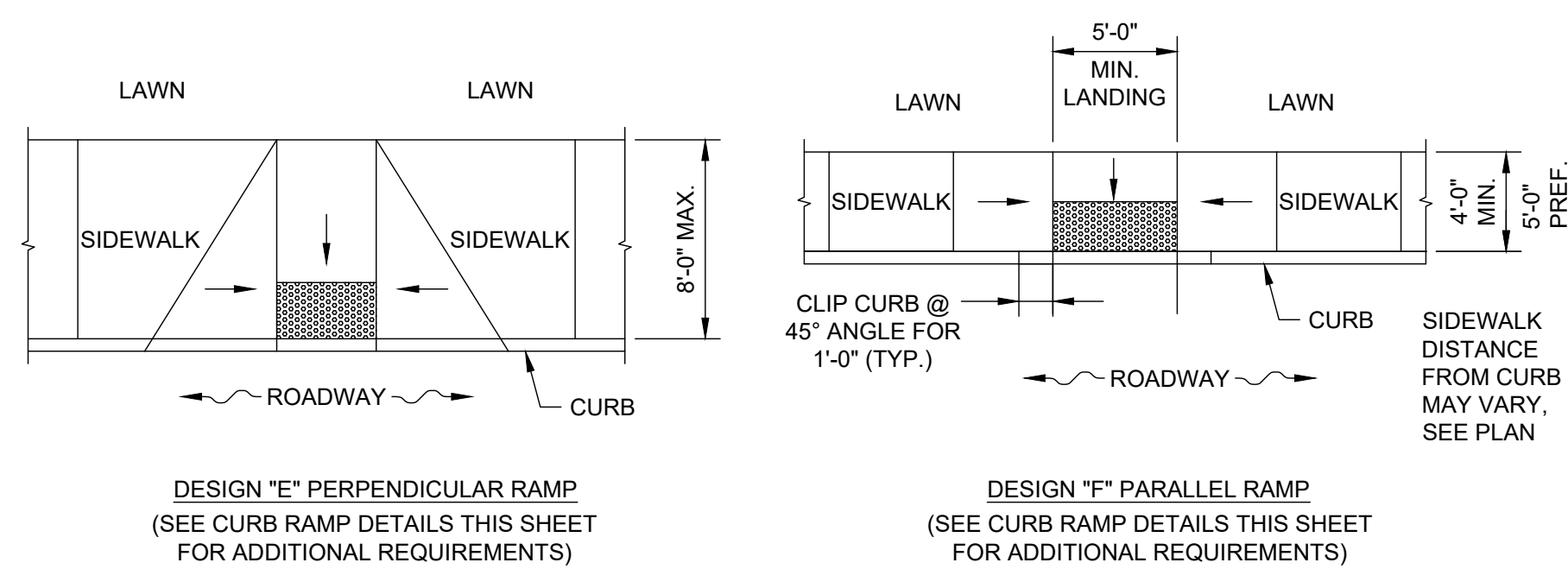
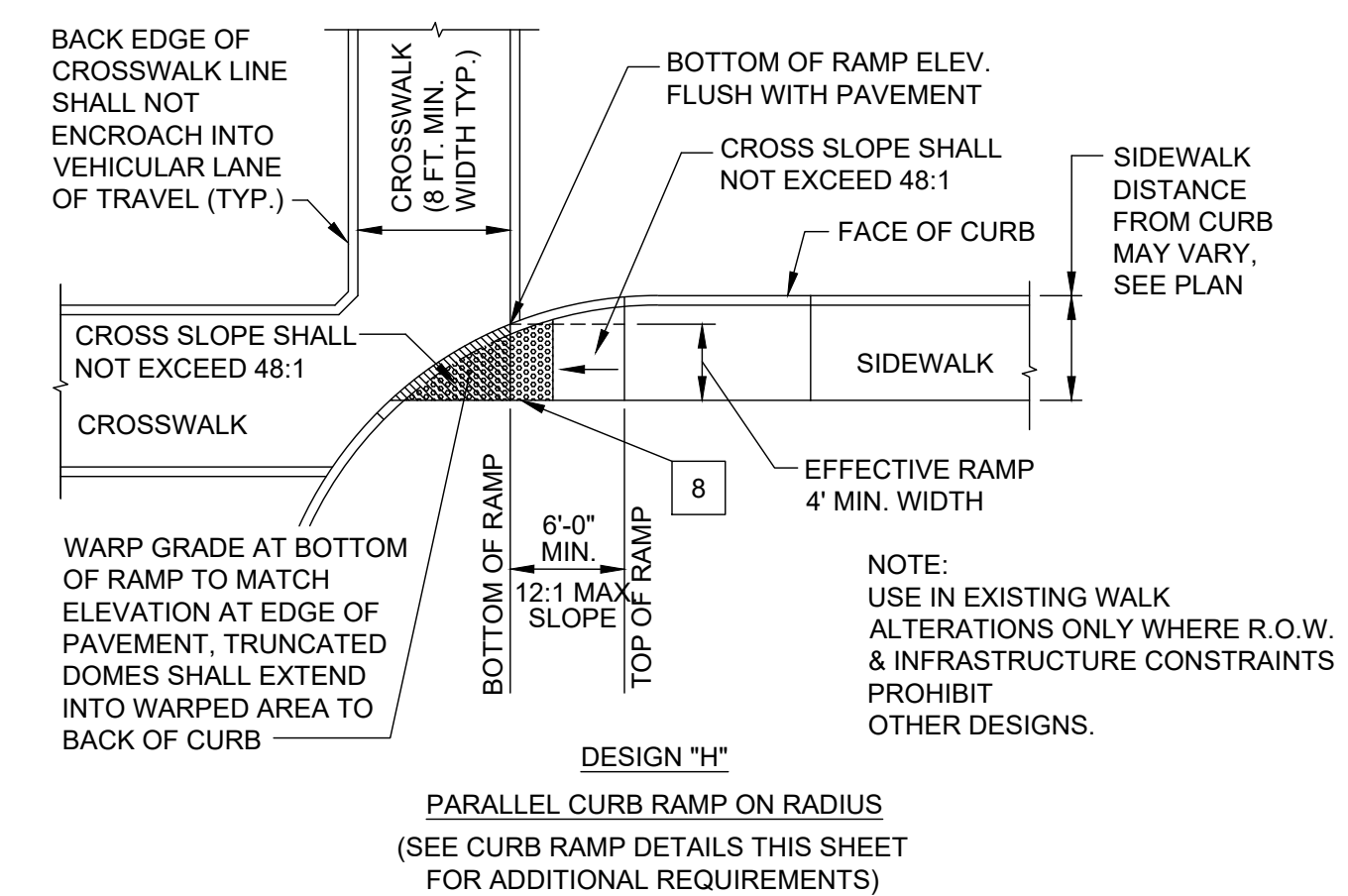
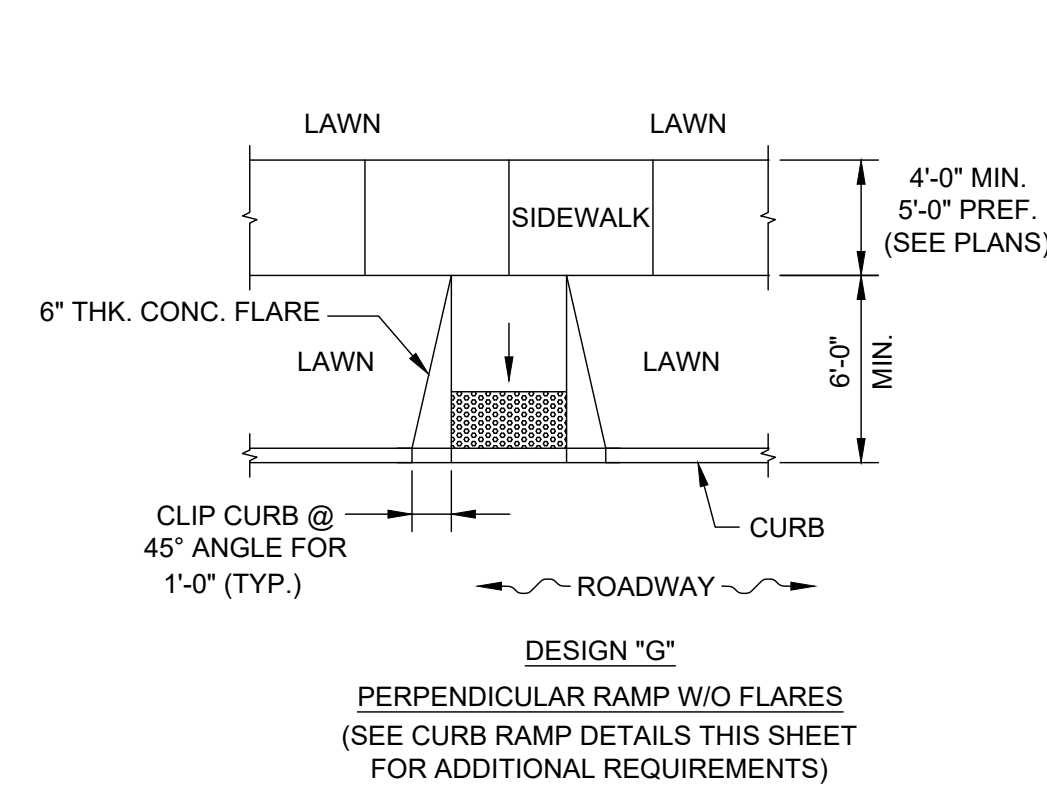
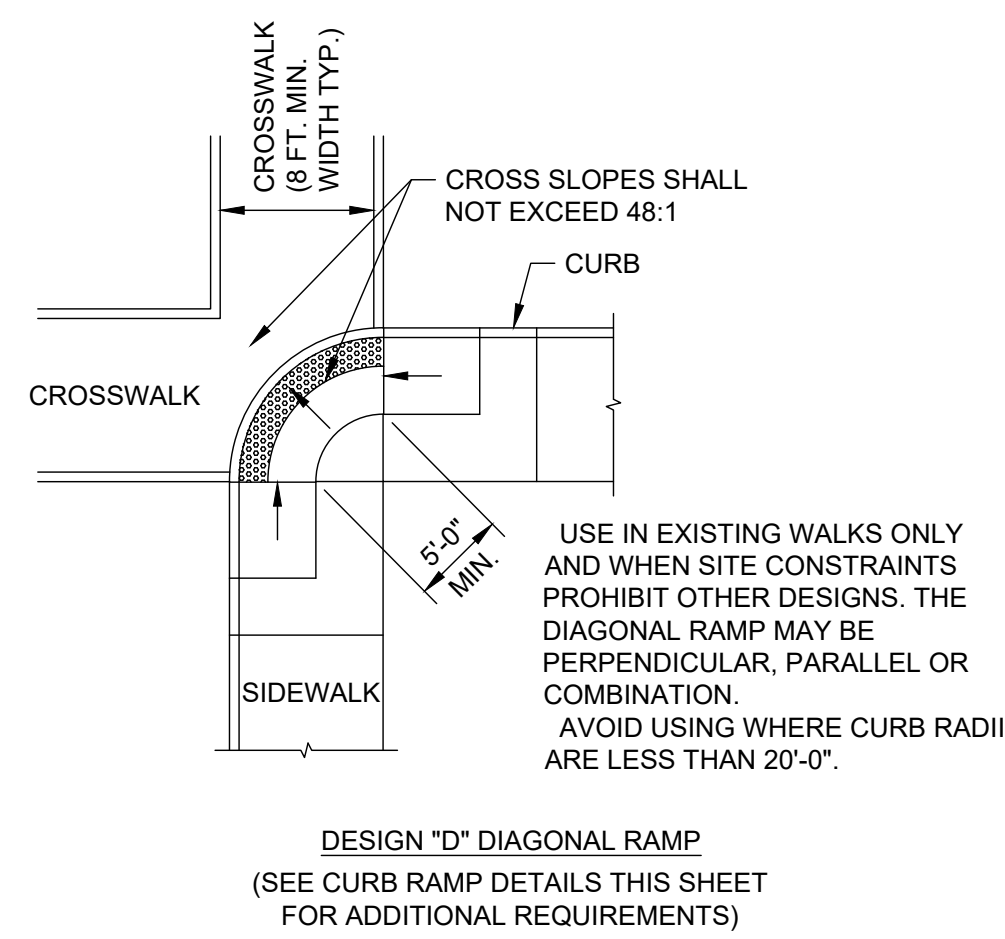
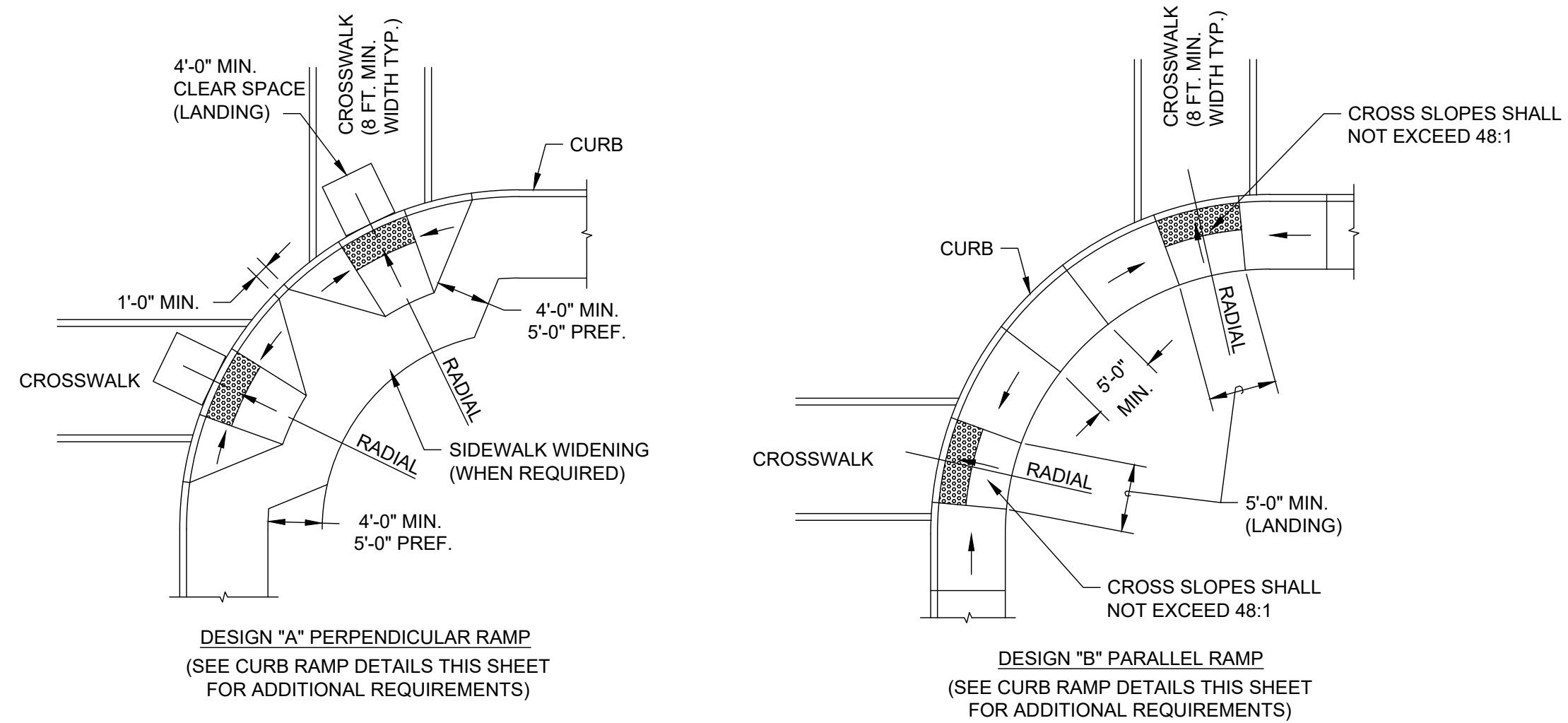
NO	REVISION	DATE

CITY OF WILLOUGHBY  
**LINCOLN AVENUE STORM SEWER REPLACEMENT**  
LAKE COUNTY, OHIO

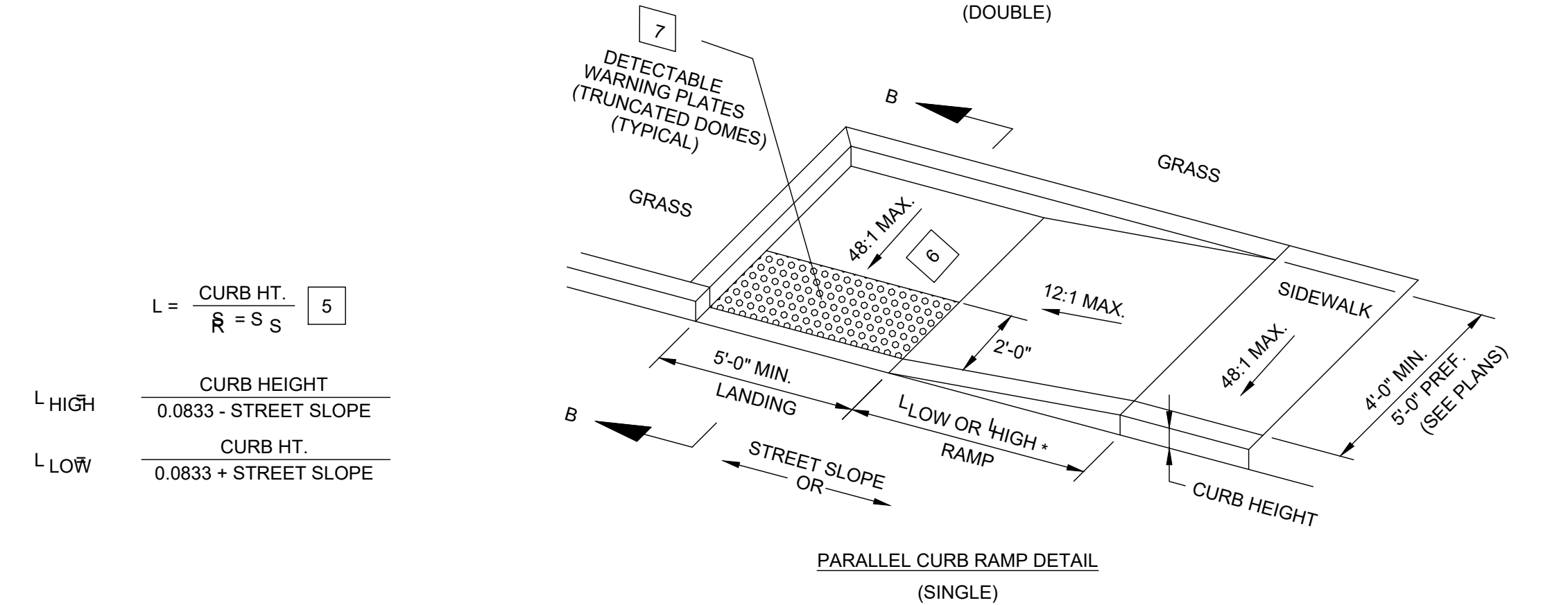
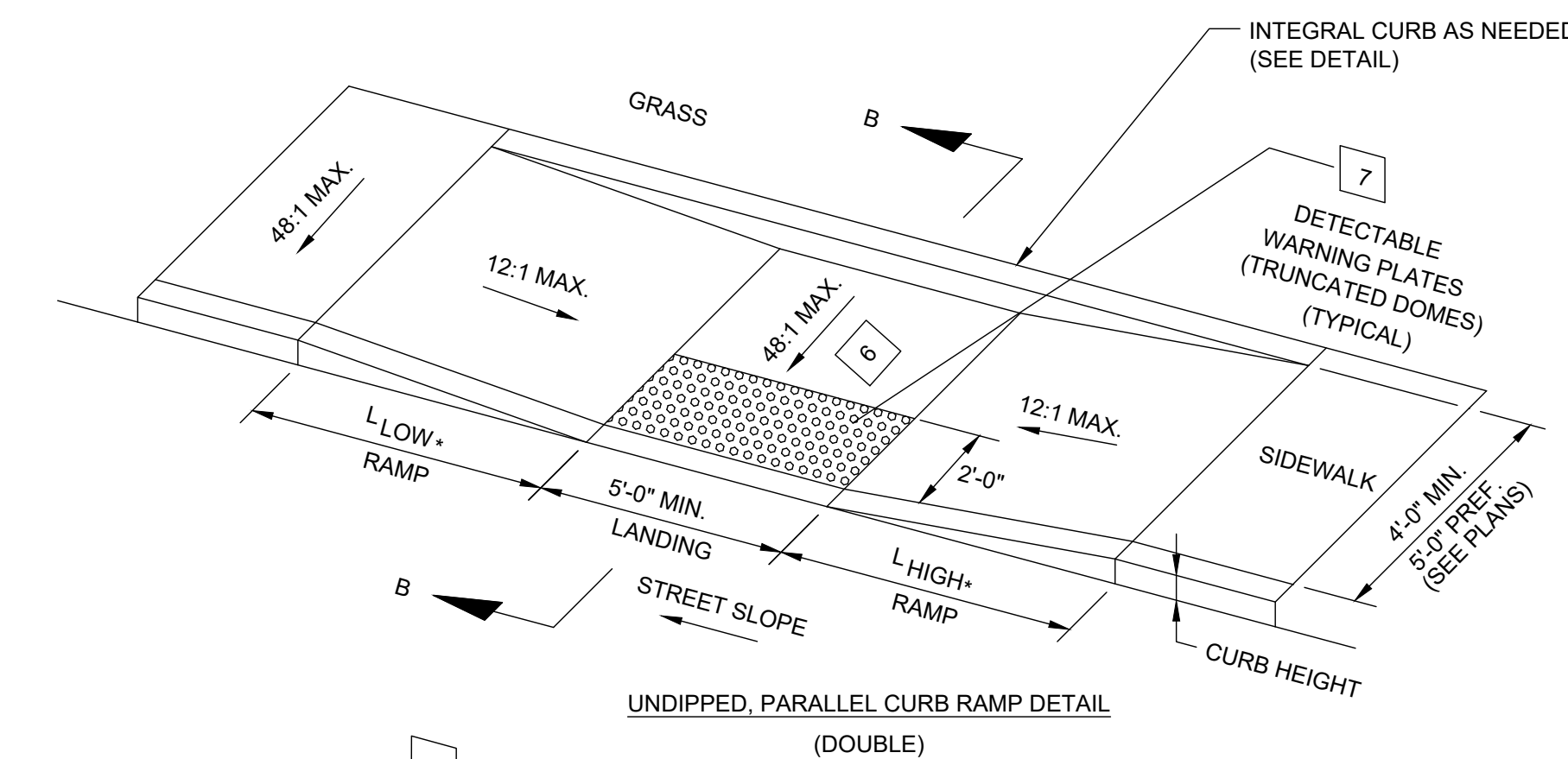
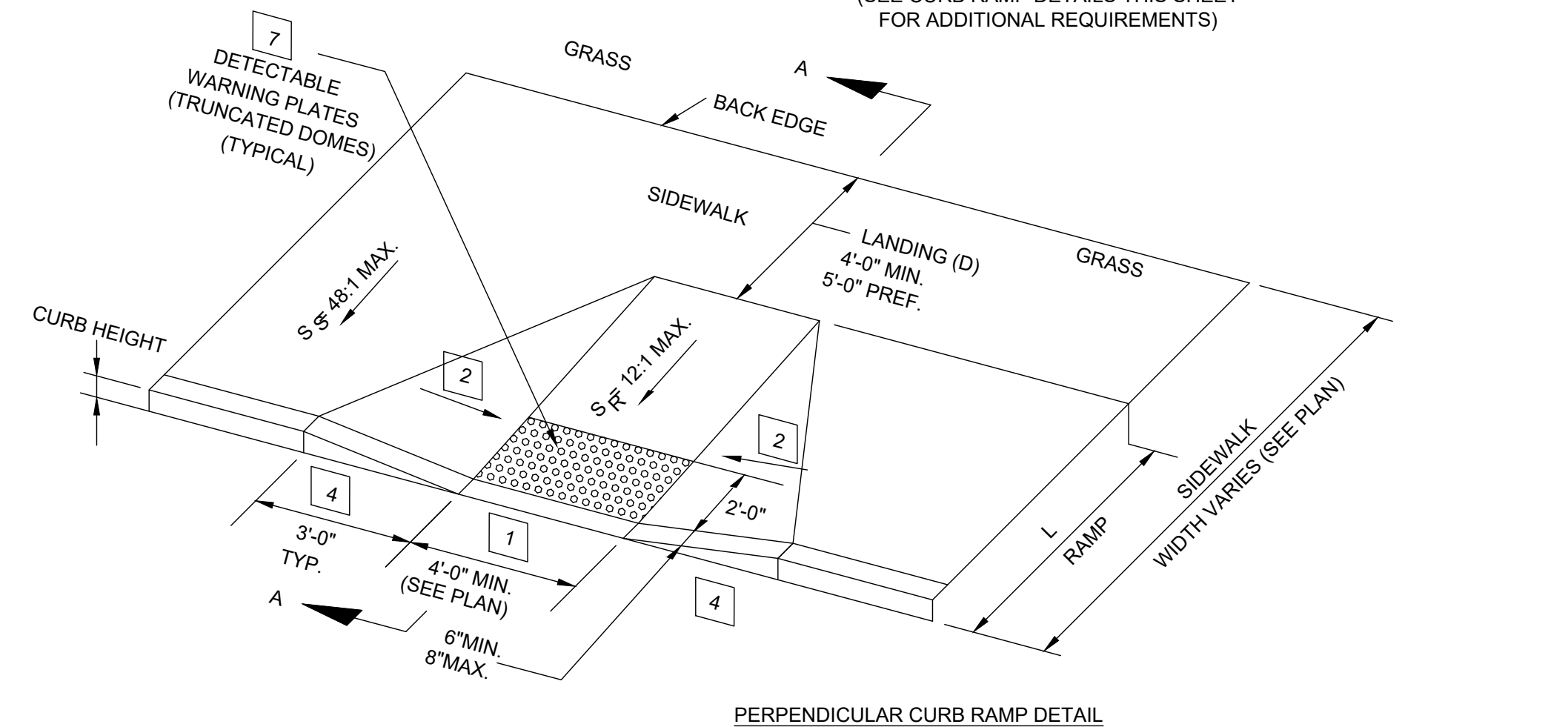
ISSUED FOR: BID  
ISSUE DATE: 6/5/2026  
SCALE: AS SHOWN  
DESIGNED BY: PJF/PTV  
DRAWN BY: PTV  
CHECKED BY: PJF

**STANDARD DETAILS**

PROJECT NO. <b>32759</b>	
DISCIPLINE <b>CIVIL</b>	
SHEET NAME <b>DET-04</b>	
SHEET <b>11</b>	OF <b>12</b>



- DETAIL NOTES**
- MAY BE REDUCED TO 3'-4" IN EXISTING SIDEWALKS TO BETTER FIT THE WALK CONFIGURATION OR WHERE SITE CONDITIONS ARE RESTRICTED BY NARROW WALKS, POLE FOUNDATIONS, DRAINAGE INLETS, ETC. THE WIDTH MAY BE TAPERED.
  - IF FLARED SIDES ARE USED IN AREAS OF CROSS TRAVEL, THE MINIMUM SLOPE SHALL BE 10:1 WITH A LANDING AND 12:1 WITHOUT A DEFINED LANDING.
  - THE SLOPE OF THE RAMP TOWARD THE CURB IS REQUIRED TO BE 12:1 [0.0833] OR LESS, RELATIVE TO THE HORIZONTAL, UNLESS APPROVED IN WRITING BY THE ENGINEER/ARCHITECT.  
THE MINIMUM LENGTH OF A PERPENDICULAR RAMP IS 6' FROM THE BACK OF A 6" CURB AND MAY BE INCREASED WHERE FEASIBLE TO OBTAIN A FLATTER RAMP SLOPE OR TO BETTER BLEND WITH THE WALK CONFIGURATION.
  - THE GRADE BREAK BETWEEN THE COUNTER SLOPES OF GUTTER AND/OR ROAD SURFACES, WITHIN 24 INCHES OF THE CURB RAMP AND THE RUNNING GRADE OF THE CURB RAMP, SHALL NOT EXCEED THE ALGEBRAIC DIFFERENCE OF 11 PERCENT. IF TWO OR MORE PLANE CHANGES ARE PRESENT, THEY SHALL BE SEPARATED BY 24 INCHES.
  - DIMENSIONS DERIVED FROM EQUATIONS ARE NOMINAL. CONSTRUCT RAMPS TO MEET REQUIRED SLOPES AND EXISTING CONDITIONS.
  - GRADES FOR LANDING SHALL PROMOTE POSITIVE DRAINAGE. WITHIN MAXIMUM ALLOWABLE SLOPE. NO PONDING OF WATER WILL BE ACCEPTABLE.
  - DETECTABLE WARNING PLATES SHALL CONSIST OF A SURFACE OF TRUNCATED DOMES ALIGNED ON A SQUARE GRID, IN THE PREDOMINANT DIRECTION OF TRAVEL, EXTENDING A DISTANCE OF 24" FROM THE BACK OF CURB AND SPANNING THE ENTIRE WIDTH OF THE RAMP OPENING.  
TRUNCATED DOMES SHALL HAVE A BASE DIAMETER OF 0.9", A TOP DIAMETER OF 0.56", A HEIGHT OF 0.2" AND CENTER TO CENTER SPACING OF 2.35".  
PLATES SHALL BE LAID SUCH THAT JOINTS ARE LEVEL WITH ADJOINING JOINTS SO AS TO PROVIDE A SMOOTH TRANSITION FROM PAVEMENT TO PAVEMENT AND PAVEMENT TO CONCRETE SURFACE. THE SURFACE OF ANY TWO ADJACENT UNITS SHOULD NOT DIFFER BY MORE THAN 1/8" IN HEIGHT. PLATES SHALL BE BOLTED TOGETHER IN REQUIRED LENGTH. FACE OF ALL PLATES SHALL BE CLEAN OF CEMENT AND PROTECTED SO AS TO AVOID DAMAGE DURING CONSTRUCTION.  
DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH ADJACENT WALKING SURFACES EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT.
  - WHERE PLATES ABUT LAWN, INSTALL RIGID PVC OR GALVANIZED STEEL EDGE RESTRAINT WITH MINIMUM 1 3/4" VERTICAL FACE, 1 1/4" TOE, AND 3 1/4" HEAL USING 10" X 3/8" LONG SPIKES AT 12" C-C.  
DETECTABLE WARNING PLATES SHALL BE ADVANTAGE TACTILE SYSTEMS STAINLESS STEEL COATED 2'X4' PLATE AT PERPENDICULAR CURB RAMPS AND CURB RAMPS ON THE RADIUS. 20' RADIUS PLATES SHALL BE INSTALLED AT DIAGONAL CURB RAMP. ALL SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.



**SURFACE TEXTURE:** TEXTURE SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE RAMP SLOPES AND SHALL BE ROUGHER THAN ADJACENT WALK. (DOES NOT APPLY TO TRUNCATED DOMES)

**JOINTS:** JOINTS SHALL BE PROVIDED IN THE CURB RAMP AS EXTENSIONS OF WALK JOINTS. A 1/2" O.D.O.T. ITEM 705.03 PREFORMED JOINT MATERIAL SHALL BE PROVIDED AROUND THE EDGE OF RAMPS BUILT IN EXISTING CONCRETE WALK. LINES SHOWN ON THIS DRAWING INDICATE THE RAMP EDGE AND SLOPE CHANGES AND ARE NOT NECESSARILY JOINT LINES.

SEE NOTE 3

STREET SLOPE	RAMP LENGTH @ 1 INCH PER FOOT [0.0833]	
	L LOW SIDE*	L HIGH SIDE*
0.01	5'-5"	6'-10"
0.02	4'-10"	7'-11"
0.03	4'-5"	9'-5"
0.04	4'-1"	11'-8"
0.05	3'-9"	15'-2"

\* - REFERENCE POINT FOR MEASURE IS FACE OF 6" HIGH CURB

$$L = \frac{CURB HT.}{R} = \frac{CURB HT.}{0.0833 + STREET SLOPE}$$



NO	REVISION	DATE

**CITY OF WILLOUGHBY**

**LINCOLN AVENUE STORM SEWER REPLACEMENT**

**LAKE COUNTY, OHIO**

ISSUED FOR: BID  
 ISSUE DATE: 6/5/2026  
 SCALE: AS SHOWN  
 DESIGNED BY: PJF/PTV  
 DRAWN BY: PTV  
 CHECKED BY: PJF

**STANDARD DETAILS**

PROJECT NO.	32759
DISCIPLINE	CIVIL
SHEET NAME	DET-05
SHEET	12
OF	12