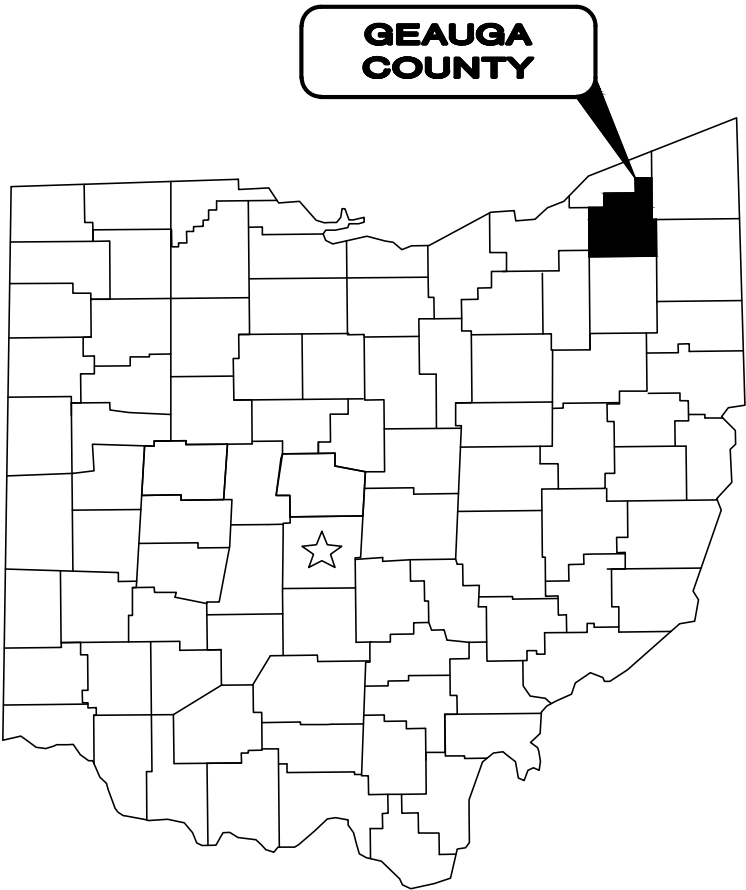


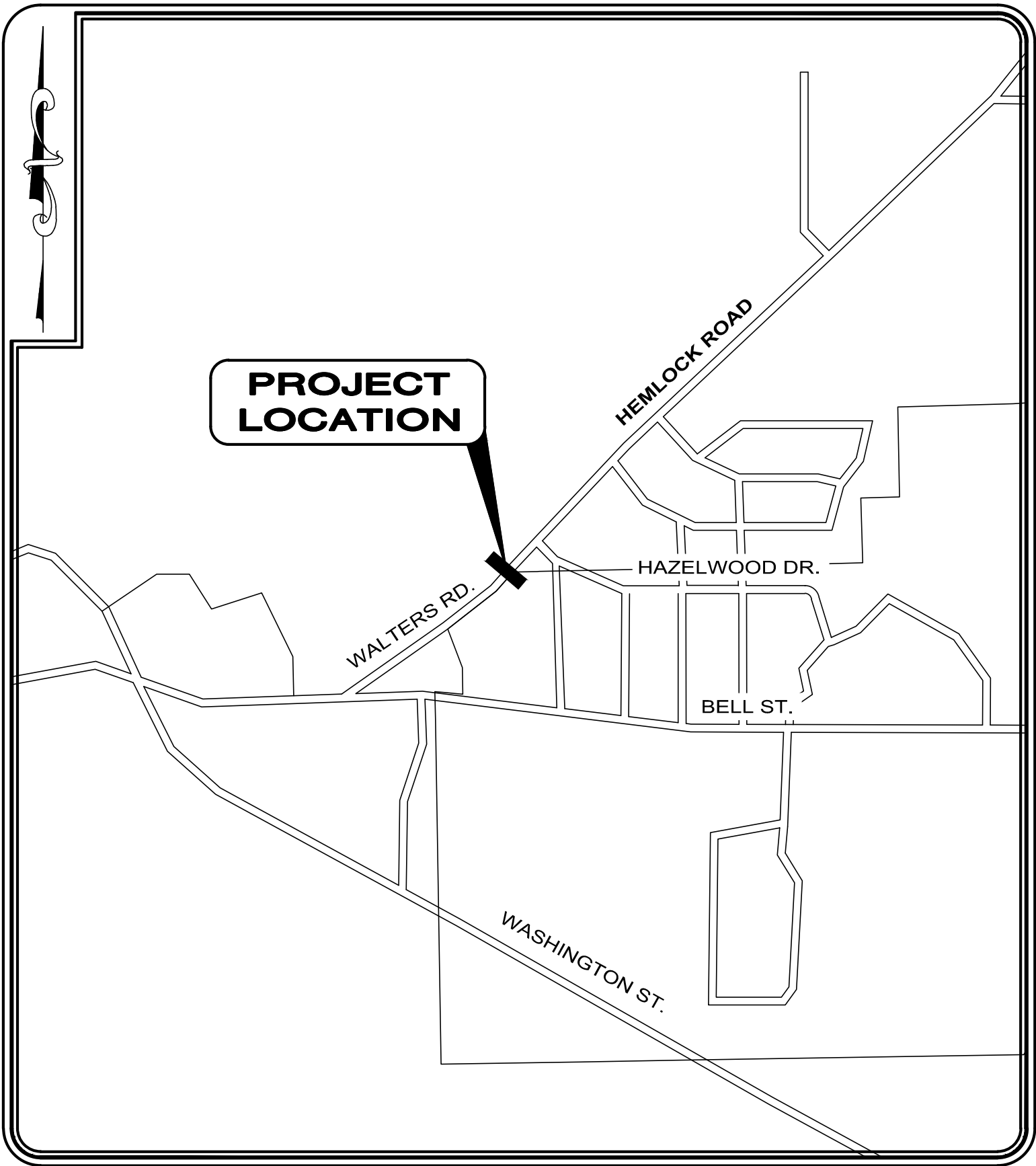
HEMLOCK ROAD CULVERT REPLACEMENT

Village of South Russell, Ohio
OPWC PROJECT NO. DGAC03

SEPTEMBER 2025



SHEET INDEX	
SHEET NUMBER	SHEET TITLE
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LOCATION MAP
1" = 1,000'

MEMBERS OF COUNCIL

MAYOR DR. WILLIAM KOONS
COUNCIL MEMBER CHRIS BERGER
COUNCIL MEMBER GERALD CANTON
COUNCIL MEMBER RUTH CAVANAGH
COUNCIL MEMBER DENNIS GALICKI
COUNCIL MEMBER CHRISTOPHER BELL
COUNCIL MEMBER MARK PORTER

OFFICIALS

STREET COMMISSIONER TIMOTHY ALDER
FISCAL OFFICER DANIELLE ROMANOWSKI
CHIEF OF POLICE MICHAEL RIZZO
FIRE PREVENTION SEAN DAVIS



1-800-362-2764

CALL TWO WORKING DAYS BEFORE YOU DIG
(NON MEMBERS MUST BE CALLED DIRECTLY)

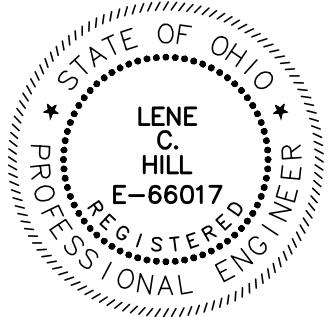
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OUPS confirmation for Ticket B033000562-00B

- 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.

John Hill

LENE HILL P.E. P.E. No. 66017

9/10/25
DATE



ENGINEER'S PROJECT No. 37849

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GENERAL

A PRECONSTRUCTION CONFERENCE SCHEDULED BY THE VILLAGE OF SOUTH RUSSELL ENGINEER SHALL BE HELD PRIOR TO ANY WORK STARTING. IN ADDITION, THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE TO THE SOUTH RUSSELL VILLAGE ENGINEER AND THE GEAUGA COUNTY ENGINEER PRIOR TO BEGINNING WORK TO ARRANGE FOR INSPECTION.

THE IMPROVEMENT PLANS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE APPLICABLE RULES AND REGULATIONS OF THE THE VILLAGE OF SOUTH RUSSELL, AS WELL AS THE CONSTRUCTION AND MATERIAL SPECIFICATIONS OF THE OHIO DEPARTMENT OF TRANSPORTATION, 2023 EDITION, INCLUDING ALL SUPPLEMENTAL SPECIFICATIONS AND DRAWINGS, SHALL GOVERN THIS PROJECT. FOR PURPOSES OF THIS PLAN, REFERENCES TO DIRECTOR OR ENGINEER SHALL BE CONSTRUED TO MEAN THE VILLAGE OF SOUTH RUSSELL ENGINEER AND/OR HIS REPRESENTATIVE.

ALL WORK CONTEMPLATED SHALL BE GOVERNED BY THE RULES, REGULATIONS AND SPECIFICATIONS OF THE VILLAGE OF SOUTH RUSSELL ENGINEER AND THE GEAUGA COUNTY ENGINEER AND AT ALL TIMES BE SUBJECT TO THEIR DIRECT SUPERVISION AND INSPECTION.

ALL WORK CONTEMPLATED UNDER THIS CONTRACT SHALL COMPLY WITH THE U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ACT.

MATERIAL TESTING AND 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 VILLAGE OF SOUTH RUSSELL PERMITTING REQUIREMENTS.

CLEARING AND GRUBBING

ALL TREES, STUMPS, ROOTS AND DEBRIS REMOVED FROM THE WORK LIMITS SHALL BE DISPOSED OF BY THE CONTRACTOR OFF-SITE AT A LOCATION ACCEPTABLE TO THE ENGINEER.

UTILITIES

THE LOCATION OF ALL EXISTING UTILITY FACILITIES ARE SHOWN ON THE PLANS FROM DATA AVAILABLE AT THE TIME OF THE FIELD SURVEY IN ACCORDANCE WITH SECTION 153.64 OF THE OHIO REVISED CODE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION OF THE EXISTING UTILITY OWNERS AND UTILITY PROTECTION SERVICE LISTED BELOW IN ACCORDANCE WITH SECTION 154.64 OF THE ORC AND AS OUTLINED IN THE PROJECT SPECIFICATIONS.

THE UTILITY OWNERSHIPS ARE AS FOLLOWS:

OHIO UTILITY PROTECTION SERVICE 106 WEST RYEN, ROOM 427 YOUNGSTOWN, OHIO 44051 PHONE: (800) 362-2746	ENBRIDGE GAS OHIO (FORMALLY DOMINION EAST OHIO) 320 SPRINGSIDE DRIVE, SUITE 320 AKRON, OHIO 44333 PHONE: (330) 664-2409	OPTIMUM 1 COURT SQUARE WEST, LONG ISLAND CITY, NY 11101 PHONE: (440) 350-2652
WINDSTREAM OHIO 245 N. MAIN ST HUDSON OHIO 44236 PHONE: 330-422-9128	GEAUGA CO WATER RESOURCES 12611 RAVENWOOD DR, SUITE 390 CHARDON, OHIO 44024 PHONE: (440) 279-1970	AT&T 13630 LORAIN AVE. ROOM 400 CLEVELAND, OHIO 44111 PHONE: (216) 476-6142
THE ILLUMINATING CO. 6896 MILLER ROAD BRECKSVILLE, OHIO 44141 PHONE: (440) 717-6845	CHARTER COMM 578 TERNES LN ELYRIA, OHIO 44035 PHONE: (440) 315-6010	DAVID R. HILL INC GAS 221 S 6TH ST, BYESVILLE, OH 43723 PHONE: (440) 974-5120

THE OWNER OF THE UNDERGROUND UTILITY FACILITY SHALL, WITHIN 48 HOURS, EXCLUDING SATURDAY, SUNDAYS AND LEGAL HOLIDAYS, AFTER NOTICE IS RECEIVED, STAKE, MARK OR OTHERWISE DESIGNATE THE LOCATION OF THE UNDERGROUND UTILITY FACILITIES IN THE CONSTRUCTION AREA IN SUCH A MANNER AS TO INDICATE THEIR COURSE TOGETHER WITH THE APPROXIMATE DEPTH AT WHICH THEY WERE INSTALLED. THE MARKING OR LOCATING SHALL BE COORDINATED TO STAY APPROXIMATELY TWO (2) DAYS AHEAD OF THE PLANNED CONSTRUCTION.

EXISTING WATER MAIN FACILITIES

THE PROPERTIES AROUND THE SITE ARE SERVICED BY WELL WATER. THERE ARE NO WATER MAIN LINES AROUND THE SITE ACCORDING TO THE ONECALL TICKET, VILLAGE OF SOUTH RUSSELL SERVICE DEPARTMENT, AND THE VILLAGE OF CHAGRIN FALLS UTILITIES DEPARTMENT.

CONTRACTORS RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICES

AT POINTS WHERE THE CONTRACTOR'S OPERATIONS ARE ADJACENT TO PROPERTIES OF TELEPHONE, CABLE, AND POWER COMPANIES, OR ARE ADJACENT TO OTHER PROPERTY, DAMAGE TO WHICH MIGHT RESULT IN CONSIDERABLE EXPENSE, LOSS, OR INCONVENIENCE, WORK SHALL NOT BE COMMENCED UNTIL ALL ARRANGEMENTS NECESSARY FOR THE PROTECTION THEREOF HAVE BEEN MADE.

THE CONTRACTOR SHALL COOPERATE WITH THE OWNERS OF ANY UNDERGROUND OR OVERHEAD UTILITY LINES IN THEIR REMOVAL AND REARRANGEMENT OPERATIONS IN ORDER THAT THESE OPERATIONS MAY PROGRESS IN A REASONABLE MANNER, THAT DUPLICATION OF REARRANGEMENT WORK MAY BE REDUCED TO A MINIMUM, AND THAT SERVICES RENDERED BY THOSE PARTIES WILL NOT BE UNNECESSARILY INTERRUPTED.

IN THE EVENT OF INTERRUPTION TO UNDERGROUND OR OVERHEAD UTILITY SERVICES AS A RESULT OF ACCIDENTAL BREAKAGE OR AS A RESULT OF BEING EXPOSED OR UNSUPPORTED, THE CONTRACTOR SHALL IMMEDIATELY ALERT THE OCCUPANTS OF NEARBY PREMISES AS TO ANY EMERGENCY AND/OR INTERRUPTION OF SERVICE THAT THE CONTRACTOR MAY CREATE OR DISCOVER AT OR NEAR SUCH PREMISES. THE CONTRACTOR SHALL THEN NOTIFY THE ENGINEER AND THE OWNER OR OPERATOR OF THE UTILITY FACILITY OF THE DISRUPTION AND SHALL COOPERATE WITH SAID UTILITY OWNER OR OPERATOR IN THE RESTORATION OF SERVICE. IF WATER SERVICE IS INTERRUPTED, REPAIR WORK SHALL BE CONTINUOUS UNTIL THE SERVICE IS RESTORED. NO WORK SHALL BE UNDERTAKEN AROUND FIRE HYDRANTS UNTIL PROVISIONS FOR CONTINUED SERVICE HAVE BEEN APPROVED BY THE LOCAL FIRE AUTHORITY.

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, NEGLECT 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 COMPLETED 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, NEGLECT 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 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 REERECT 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.

LANDSCAPING AND DRIVEWAY ITEMS

WHEN THE CONSTRUCTION OPERATIONS ARE IN CLOSE PROXIMITY TO LANDSCAPING FEATURES (TIMBERS, ROCKS, BOULDERS, ETC.), DRIVEWAY TIMBERS, DRIVEWAY CURBING, ETC. THE CONTRACTOR SHALL SAVE, REMOVE AND PLACE THESE ITEMS OUTSIDE THE WORK LIMITS AT A LOCATION ACCEPTABLE TO THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE STORM SEWER.

USE OF PRIVATE 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

IT IS THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO MAKE HIS OWN INVESTIGATION OF SUBSURFACE CONDITIONS PRIOR TO SUBMITTING HIS PROPOSAL.

CONNECTION TO EXISTING PIPE

WHERE THE PLANS PROVIDE FOR PROPOSED CONDUIT TO BE CONNECTED TO OR TO CROSS EITHER OVER OR UNDER AN EXISTING PIPE, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE THE EXISTING PIPE, BOTH AS TO LINE AND GRADE, AND ADJUST LINE AND/OR GRADE AS NECESSARY BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT CONDUIT ITEM.

EXISTING NATURAL GAS FACILITIES

IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE LATERAL AND SUBJACENT SUPPORT OF ENBRIDGE GAS OHIO (EGO) PIPELINE(S), IN COMPLIANCE TO 29 CFR, PART 1926, SUBPART P, (SAFE EXCAVATION & SHORING). ONE-FOOT MINIMUM VERTICAL AND HORIZONTAL CLEARANCE MUST BE MAINTAINED BETWEEN EGO'S EXISTING PIPELINE(S) AND ALL OTHER IMPROVEMENTS. EXTREME CARE SHOULD BE TAKEN NOT TO HARM ANY EGO FACILITY (PIPELINES, ETC.) OR APPURTENANCE (PIPE COATING, TRACER WIRE, CATHODIC PROTECTION TEST STATION WIRES & DEVICES, VALVE BOXES, ETC.). EGO FACILITIES MUST BE PROTECTED WITH A TARP DURING BRIDGE CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE AND LIABLE FOR ENSURING THAT ALL EGO EXISTING FACILITIES, ABOVE AND BELOW GROUND, REMAIN UNDAMAGED, ACCESSIBLE AND IN WORKING ORDER. THE CROSSING OF EGO'S PIPELINE WITH ANOTHER STEEL FACILITY MAY CREATE A POTENTIAL CORROSION ISSUE FOR THE PROPOSED FACILITY AND THE EXISTING EGO FACILITY. PLEASE CONTACT EGO'S CORROSION DEPARTMENT: DAVE CUTLIP (330-266-2121), RICK MCDONALD (330-266-2122), OR AL HUMRICHOUSER (330-478-3757).

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.

PROTECTION OF TREES

TREE PROTECTION MEASURES SHALL BE INSTALLED AS SPECIFIED PRIOR TO THE START OF CONSTRUCTION.

SPECIAL CARE SHALL BE TAKEN TO AVOID DAMAGE TO TREES AND THEIR ROOT SYSTEMS WHICH ARE NOT CALLED FOR REMOVAL. THE OPERATION OF ALL EQUIPMENT SHALL BE CONDUCTED IN A MANNER WHICH WILL NOT INJURE TREES, TRUNKS, BRANCHES OR THEIR ROOTS UNLESS SUCH TREES ARE DESIGNATED FOR REMOVAL. THE STORAGE OF MATERIALS, AND THE DEPOSITION OF EXCAVATION SHALL BE PROHIBITED WITHIN THE TREE CANOPY OF ANY TREE TO BE SAVED.

SHOULD THE CONTRACTOR'S OPERATIONS DAMAGE ANY TREE TO SUCH AN EXTENT THAT IT, IN THE OPINION OF THE VILLAGE OF SOUTH RUSSELL, WILL NOT LIVE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH REMOVING THE TREE AND ALL PAYMENTS TO THE PROPERTY OWNER FOR THE VALUE OF THE REMOVED TREE, AS DETERMINED BY AN ARBORIST MUTUALLY AGREED UPON BY THE VILLAGE OF SOUTH RUSSELL AND THE CONTRACTOR.

PLACEMENT OF TREE PROTECTIVE BARRIERS

PRIOR TO CONSTRUCTION, TREE PROTECTIVE BARRIERS SHALL BE PLACED AROUND ALL TREES TO BE PRESERVED AND ANY OTHER VEGETATION LOCATED NEAR CONSTRUCTION ACTIVITY WHICH IS TO BE SAVED. THESE BARRIERS WILL BE LOCATED JUST OUTSIDE OF THE TREE'S CANOPY.

PROTECTIVE BARRIERS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE AND FINAL ACCEPTANCE HAS BEEN ISSUED BY THE VILLAGE OF SOUTH RUSSELL.

AREAS WITHIN THE PROTECTIVE BARRIERS SHALL BE FREE OF ALL BUILDING MATERIALS, DIRT, CHEMICALS (INCLUDING GAS, OIL AND CONTAMINATED WATER), CONSTRUCTION DEBRIS, VEHICLES, AND DEVELOPMENT ACTIVITIES.

NO DISTURBANCE SHALL OCCUR WITHIN THE PROTECTIVE AREA OF A TREE DESIGNATED TO BE PRESERVED.

THE COST TO PROTECT TREES AND PROVIDE BARRIERS SHALL BE INCIDENTAL TO THE TOTAL PROJECT COST.

SPECIFICATIONS OF TREE PROTECTIVE BARRIERS

TREE PROTECTIVE BARRIERS WILL BE FLORESCENT POLYETHYLENE LAMINAR SAFETY FENCING, MINIMUM FOUR (4) FEET IN HEIGHT OR A SECURELY INSTALLED POST AND RAIL WOODEN FENCE, MINIMUM FOUR (4) FEET IN HEIGHT WITH A MINIMUM TWO (2) INCH X FOUR (4) INCH RAIL. THE FENCE SHALL BE MADE HIGHLY VISIBLE WITH A FLORESCENT ORANGE OR YELLOW PAINT. SUCH BARRIERS SHALL REMAIN INTACT THROUGHOUT THE ENTIRE CONSTRUCTION PROCESS, AND IF DISTURBED MUST BE RESTORED PRIOR TO THE END OF THE WORKING DAY.

CONTINGENCY ITEMS

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE FOR USE "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

18" STORM SEWER, TYPE C, AS PER PLAN	10 LF
24" STORM SEWER, TYPE A, AS PER PLAN	10 LF

VIDEOTAPING

THE CONTRACTOR SHALL PROVIDE ABOVE GROUND VIDEOTAPING OF ALL WORK AREAS PRIOR TO THE BEGINNING OF THE WORK. THE CONTRACTOR SHALL NOT START WORK UNTIL SUCH TIME AS THE ENGINEER HAS BEEN PROVIDED A COPY OF THE COMPLETE VIDEO.

MATERIAL SPECIFICATIONS

MATERIAL SPECIFICATIONS CALLED FOR ON THE PLANS REPRESENT THE MINIMUM REQUIRED FOR EACH APPLICATION. THE OWNER MAY REQUEST OR 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.

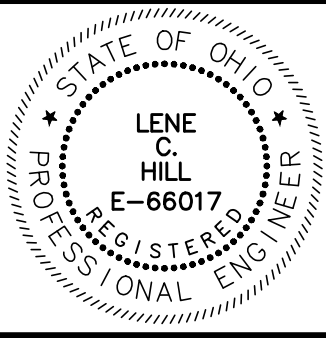
THE CONTRACTOR SHALL INCLUDE THE COST OF GRANULAR BACKFILL MATERIAL UNDER ALL EXISTING AND PROPOSED PAVEMENTS IN THE PRICE BID PER LINEAR FOOT OF PIPE.

SLAG SHALL NOT BE USED FOR BEDDING OR BACKFILL.

STORM SEWER PIPING 12" TO 36" IN DIAMETER SHALL BE HDPE PIPE WITH FITTINGS CONFORMING TO O.D.O.T. SPECIFICATION 707.33 (HDPE).

STORM SEWER CULVERT PIPES SHALL BE ODOT TYPE A REINFORCED CONCRETE PIPE.

STRUCTURE OPENING SHALL BE MANUFACTURED PER DETAIL AND PIPES SHALL BE GROUTED IN (NON SHRINK) TO MEET PIPE LOCATIONS AND ANGLES.



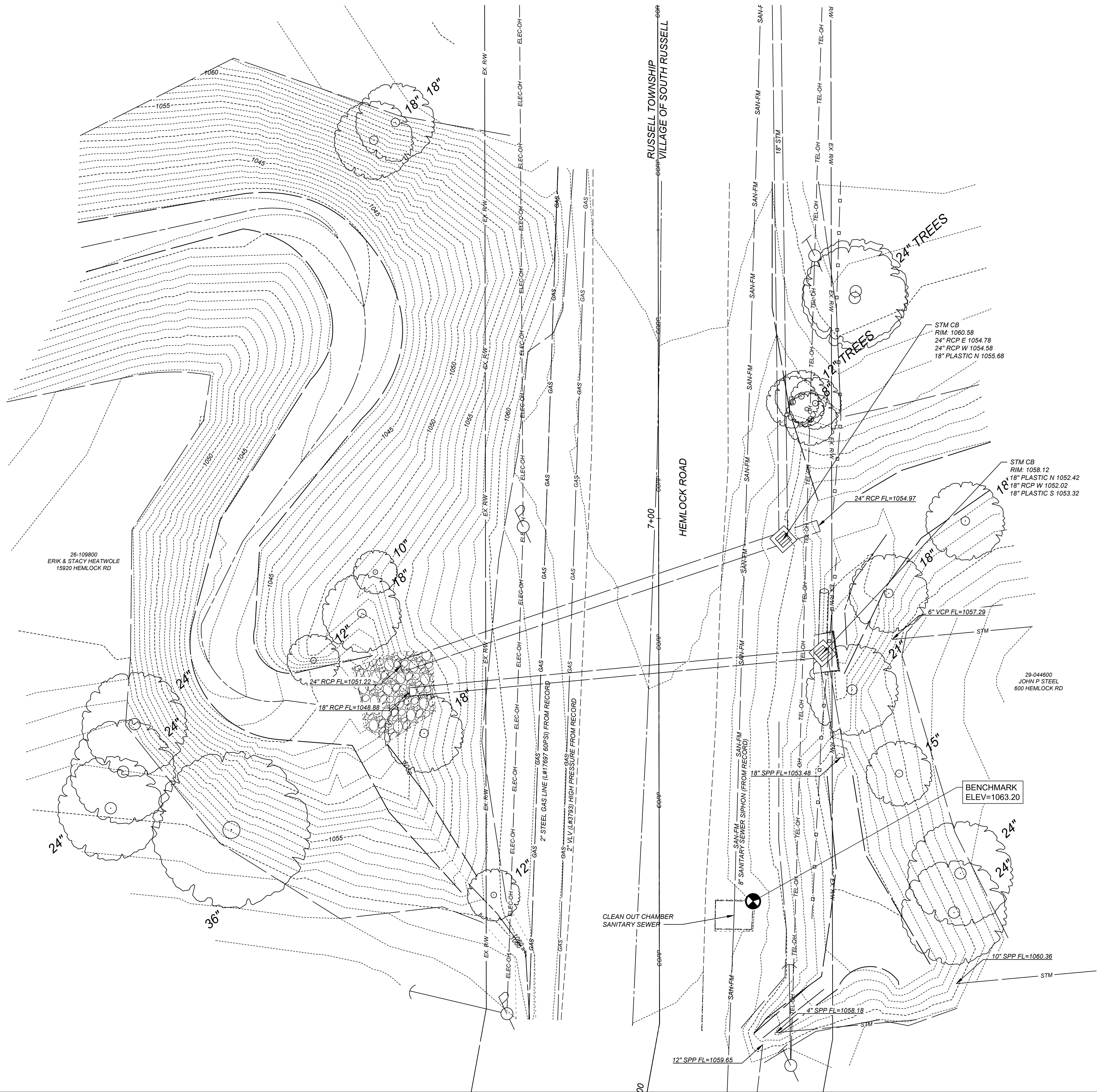
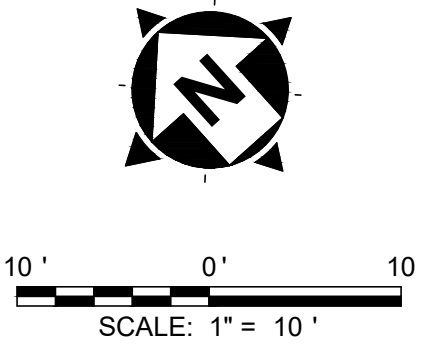
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HEMLOCK ROAD
CULVERT REPLACEMENT
SOUTH RUSSELL, OHIO

SCALE:	AS SHOWN
DATE:	9/10/25
DESIGNED BY:	PTV
DRAWN BY:	PTV
CHECKED BY:	LH

GENERAL NOTES

PROJECT NO:	
37849	
DRAWING NAME	
SHEET	OF
2	9



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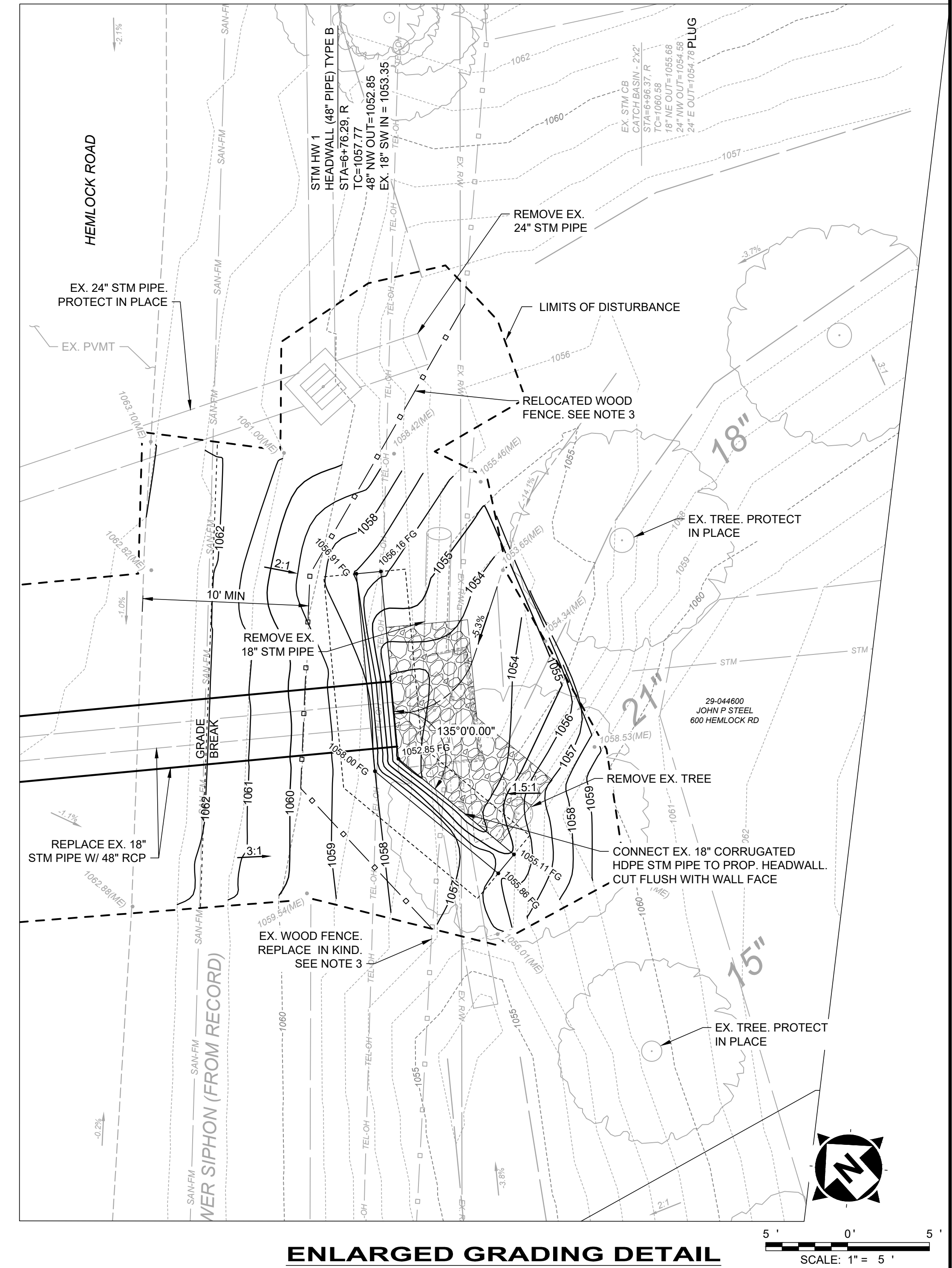
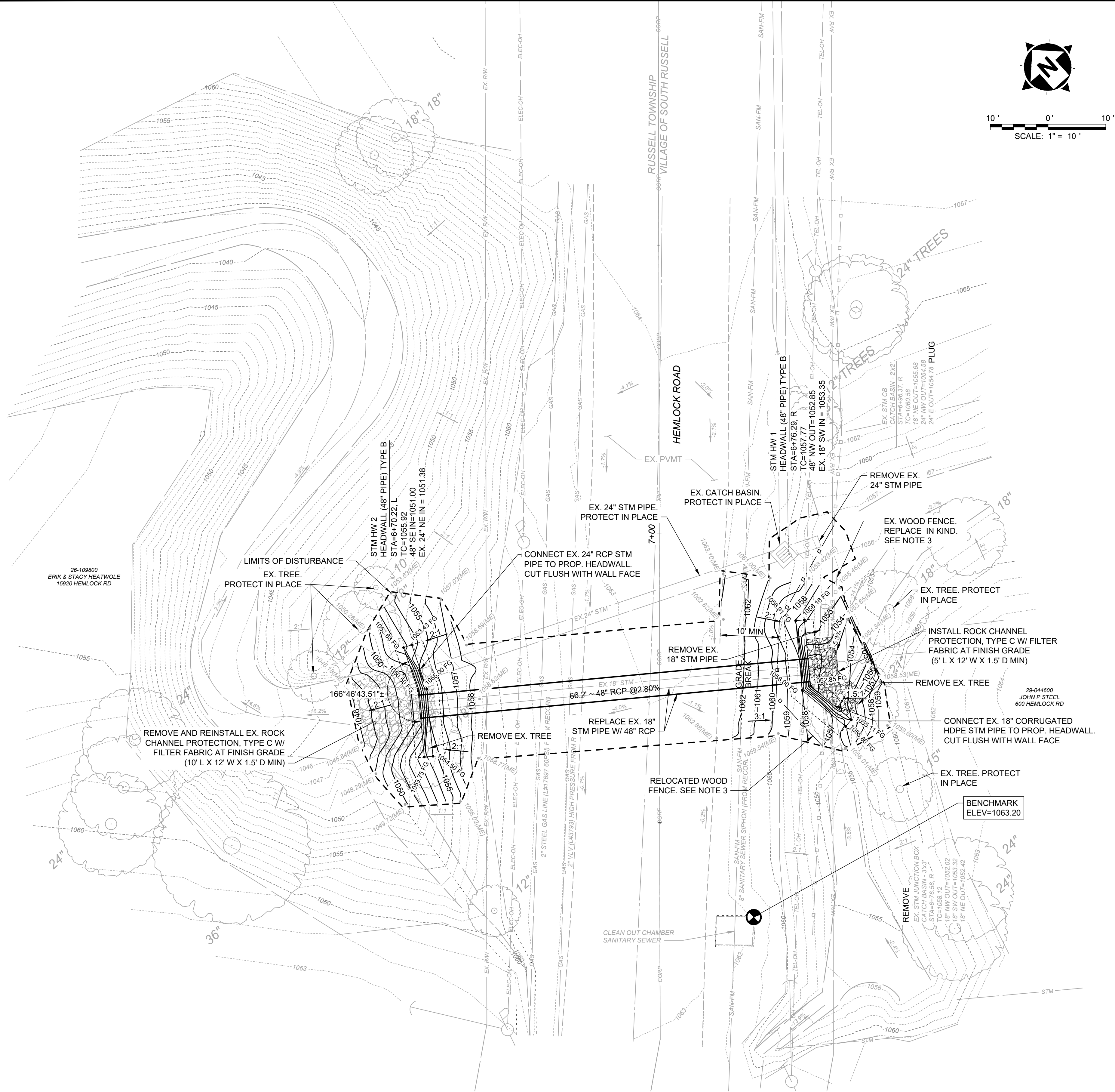
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HEMLOCK ROAD
CULVERT REPLACEMENT
SOUTH RUSSELL, OHIO

SCALE: AS SHOWN
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EXISTING CONDITIONS

PROJECT NO:	
37849	
DRAWING NAME	
SHEET	OF
3	9



- NOTES:
1. CONTRACTOR MUST STAY WITHIN THE LIMITS OF DISTURBANCE. NO IMPACTS TO THE STREAM BED ARE ALLOWED OUTSIDE THE LIMITS OF DISTURBANCE.
 2. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE EXISTENCE AS WELL AS THE ACTUAL LOCATION, ALIGNMENT, AND ELEVATIONS OF ALL EXISTING UTILITIES/FACILITIES WITHIN AND/OR ADJACENT TO THE GENERAL LIMITS OF THESE IMPROVEMENTS INCLUDING WATERLINES, SANITARY AND STORM SEWERS, GAS LINES, COMMUNICATION LINES/BANKS, ELECTRIC LINES, ETC. THIS MAY REQUIRE EXPLORATORY EXCAVATIONS TO BE PERFORMED BY THE CONTRACTOR FOR WHICH HE WILL NOT BE REIMBURSED. THE CONTRACTOR SHALL NOT ASSUME THAT EXISTING UTILITIES/CONDUITS WERE INSTALLED AT TYPICAL/STANDARD DEPTHS OR AT UNIFORM SLOPES/GRADES/DEPTHS BETWEEN ACCESS POINTS (CATCH BASINS, MANHOLES, JUNCTION CHAMBERS, ETC.)
 3. COORDINATE REPLACEMENT OF EXISTING WOOD FENCE WITH PROPERTY OWNER. COST OF FENCE REPLACEMENT SHALL BE INCIDENTAL TO ITEM 611E20701.

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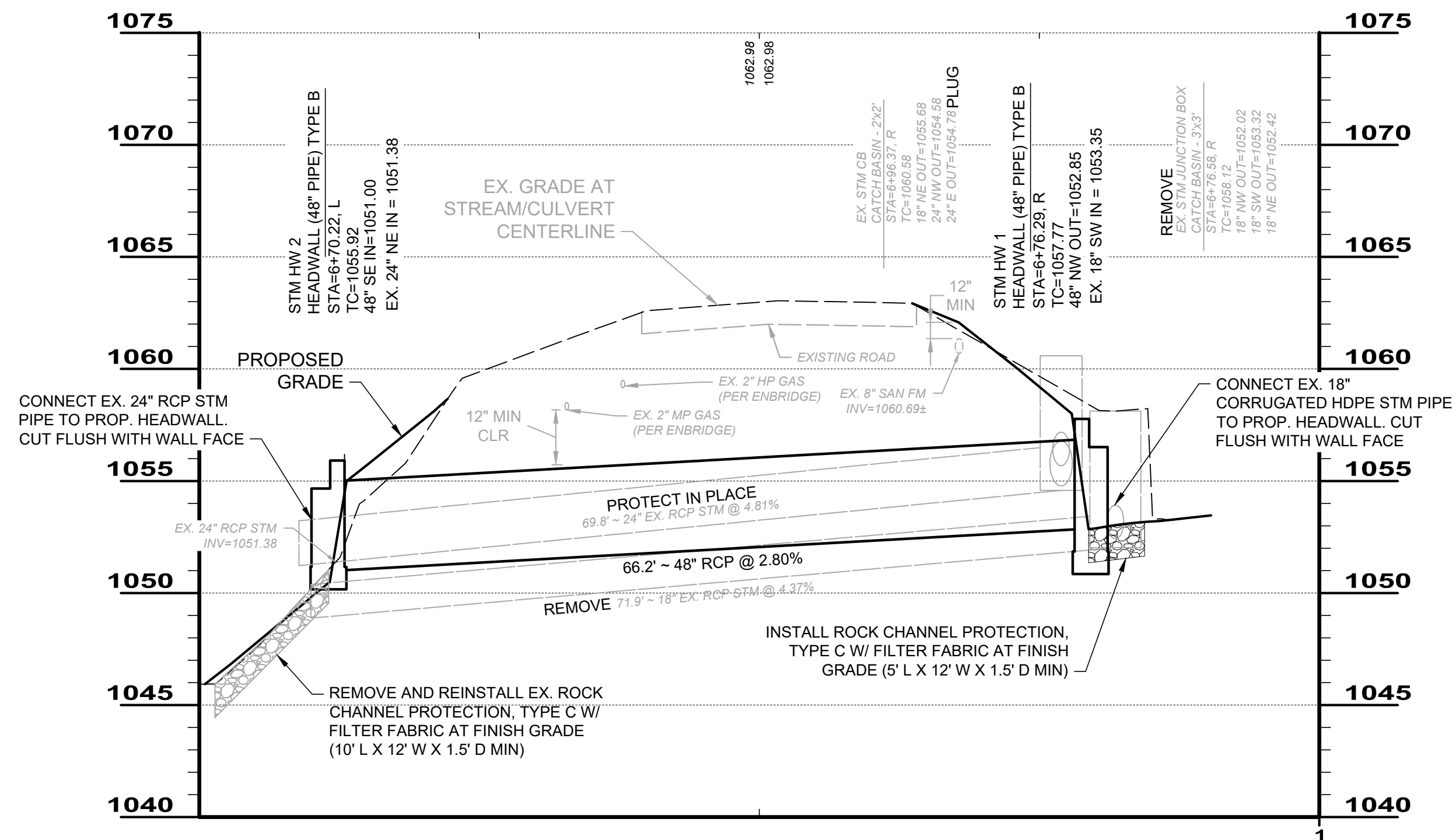
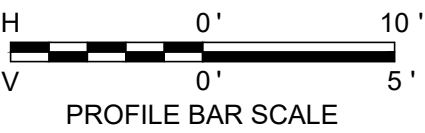
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HEMLOCK ROAD
CULVERT REPLACEMENT
SOUTH RUSSELL, OHIO

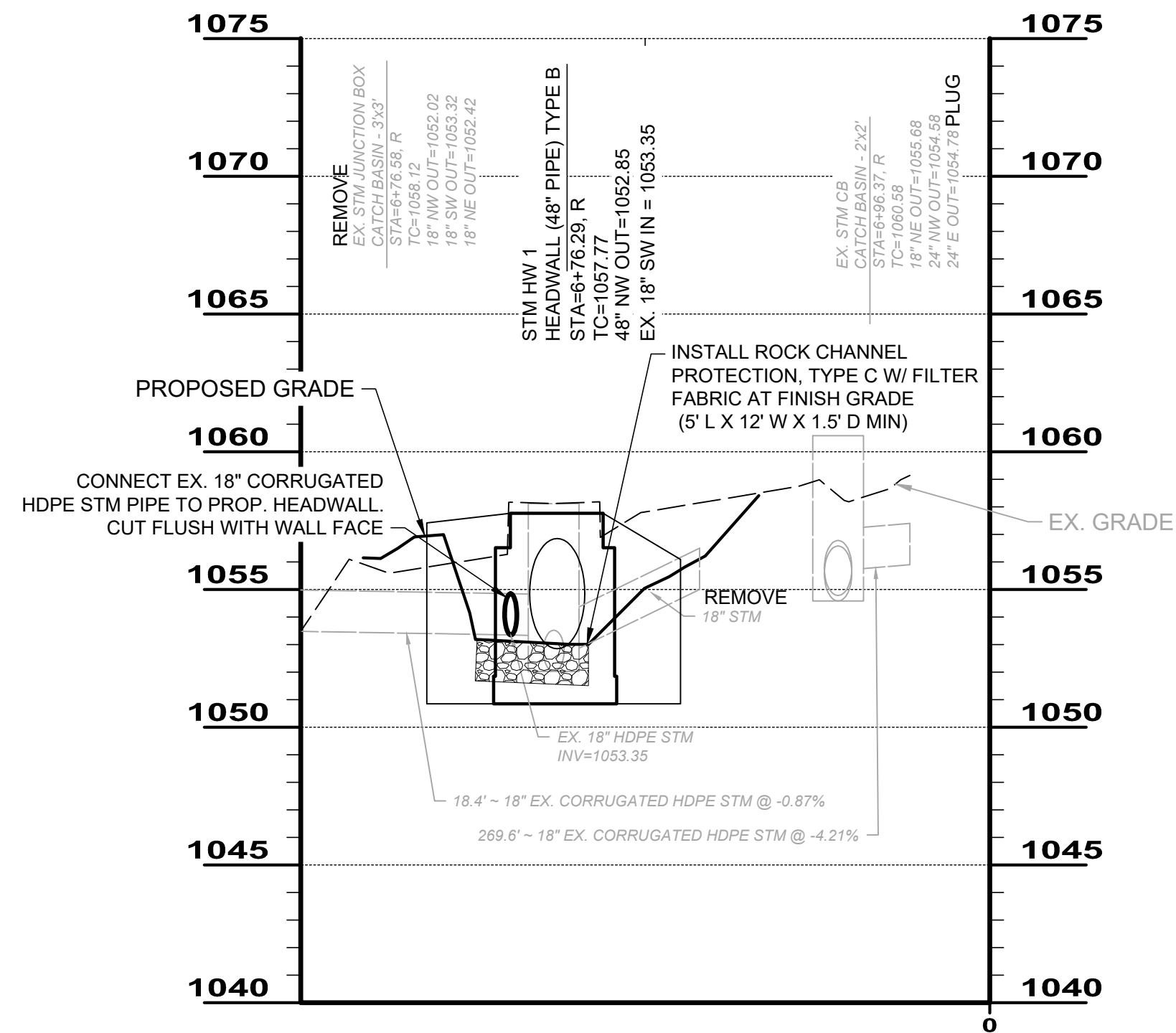
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SITE AND GRADING PLAN

PROJECT NO:	
37849	
DRAWING NAME	
SHEET	OF
4	9



PROPOSED 48-INCH CULVERT PROFILE



EXISTING 18-INCH STORM SEWER PROFILE

verdantas



NO	REVISION	DATE

HEMLOCK ROAD
CULVERT REPLACEMENT
SOUTH RUSSELL, OHIO

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PROFILES

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5	9

ITEM 614 – 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.

ALL CONSTRUCTION TRAFFIC CONTROL DEVICES USED FOR THIS PROJECT SHALL CONFORM TO THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, HEREINAFTER REFERRED TO AS THE MANUAL, AND SHALL BE FURNISHED, ERECTED, MAINTAINED, RELOCATED AND REMOVED BY THE CONTRACTOR.

THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY SAFEGUARDS, SUCH AS BARRICADES, LIGHTING, FLAGGERS, PLASTIC DRUMS, FLASHING ARROW PANELS AND SUCH OTHER TRAFFIC CONTROL DEVICES AS PROVIDED IN ITEM 614, MAINTAINING TRAFFIC, SO AS TO AVOID DAMAGE AND/OR INJURY TO VEHICLES AND PERSONS USING THE ROADWAY DURING CONSTRUCTION. WHENEVER THE ENGINEER DEEMS IT NECESSARY, HE MAY DIRECT THAT ADDITIONAL OR ALTERNATIVE DEVICES BE USED. ALSO, THE CONTRACTOR SHALL PROVIDE SUFFICIENT ADDITIONAL BARRICADES, ETC. TO PROTECT THE FRESH PAVEMENT DURING THE CURING PERIOD FROM VEHICLES WHICH MAY DRIVE AROUND OR THROUGH THE TRAFFIC CONTROL.

TRAFFIC CONTROL DEVICES SHALL BE SET UP PRIOR TO THE START OF CONSTRUCTION AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH SPECIAL CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS THEY ARE NEEDED AND SHALL BE IMMEDIATELY REMOVED THEREAFTER. WHERE OPERATIONS ARE PERFORMED IN PHASES, THERE SHALL BE IN PLACE ONLY THOSE DEVICES THAT APPLY TO THE CONDITION PRESENT DURING THE PHASE-IN PROGRESS. ALL SIGNS WITH MESSAGES WHICH DO NOT APPLY DURING A CERTAIN PERIOD SHALL BE COVERED OR SET ASIDE OUT OF THE VIEW OF TRAFFIC. CONFLICTING PAVEMENT MARKINGS SHALL BE REMOVED IN ACCORDANCE WITH SECTION 641.10 OF THE OHIO SPECIFICATIONS BEFORE ANY SECTION OF ROADWAY IS MADE AVAILABLE TO USE BY TRAFFIC.

ALL PERMANENT AND TEMPORARY PAVEMENT MARKINGS ARE TO BE MAINTAINED THROUGHOUT THE PROJECT. ANY DAMAGED OR FADED PAVEMENT MARKINGS SHALL BE CORRECTED WITHIN EIGHT HOURS AFTER THE CONTRACTOR'S NOTIFICATION OF THE PROBLEM. IF WEATHER IS NOT CONDUSIVE TO PAVEMENT MARKING INSTALLATION THEN REPAIRS SHALL BE MADE ON THE FIRST WEATHER PERMISSIVE DAY AFTER NOTIFICATION.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH ODOT ITEM 614 APPLICABLE SECTIONS OF THE SPECIFICATIONS AS WELL AS THE MANUAL. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, AS PER PLAN, UNLESS OTHERWISE SEPARATELY ITEMIZED IN THE PLANS.

WORK HOURS

NO WEEKEND WORK OR WORK BETWEEN THE HOURS OF 9:00 PM TO 7:00 AM SHALL BE PERMITTED UNLESS OTHERWISE SPECIFICALLY APPROVED BY THE ENGINEER.

PROVIDING CONTINUOUS ACCESS TO RESIDENCES AND BUSINESSES

TWO WEEKS PRIOR TO THE START OF WORK, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A COMPLETE SCHEDULE OF CONSTRUCTION OPERATIONS ALONG WITH PLANS SHOWING A TRAFFIC DETOUR PLAN AND TRAFFIC CONTROL FOR EACH PHASE OF CONSTRUCTION. INCLUDED SHALL BE DETAILS OF THE PROPOSED METHODS TO MAINTAIN SAFE AND CONTINUOUS ACCESS FOR PASSENGER VEHICLES, TRUCKS AND SAFETY EQUIPMENT TO ALL ADJOINING PROPERTIES AND INTERSECTING STREETS. THESE PLANS SHALL INCLUDE ALL TEMPORARY MATERIALS NECESSARY TO PROVIDE SAFE, ADEQUATE DRIVE SURFACES TO ALL ADJOINING PROPERTIES. THE COST FOR ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY TO PROVIDE CONTINUOUS ACCESS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ODOT ITEM 614, MAINTAINING TRAFFIC. PLANS MUST BE SUBMITTED TO THE ENGINEER AND APPROVED PRIOR TO COMMENCING ANY WORK

SHOULD THE ENGINEER, AT ANY TIME PRIOR TO OR DURING CONSTRUCTION, DEEM ANY PART OF THE CONTRACTOR'S PLANS FOR SAFE AND CONTINUOUS ACCESS TO RESIDENCES AND BUSINESSES INADEQUATE, ADDITIONAL MATERIALS, CLOSURES AND/OR DIVERSIONS SHALL BE REQUIRED AT NO ADDITIONAL COST TO THE CITY.

NOTIFICATION OF PROPERTY OWNERS

THE CONTRACTOR SHALL NOTIFY ALL RESIDENCES AND BUSINESSES ALONG THE PROJECT ROUTE IN WRITING AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO COMMENCING WORK. SUCH NOTICE SHALL INCLUDE, AT A MINIMUM, A BRIEF PROJECT DESCRIPTION, TENTATIVE CONSTRUCTION SCHEDULE, LIMITS OF CONSTRUCTION, THE CONTRACTOR'S NAME, ADDRESS AND PHONE NUMBER, AS WELL AS A CONTACT PERSON'S NAME AND EMERGENCY PHONE NUMBER WHERE HE COULD BE REACHED DURING NON-WORK HOURS. THE NOTICE SHALL ALSO REQUEST THAT THE PROPERTY OWNERS PROVIDE INFORMATION TO THE CONTRACTOR AND/OR CITY OF MENTOR REGARDING THE LOCATIONS OF ANY UNDERGROUND PET FENCING, LAWN SPRINKLER SYSTEMS, YARD LIGHTING, WIRING AND ANY OTHER FACILITIES THAT ARE UNDERGROUND IN THE VICINITY OF THE PROJECT. THE NOTICE SHALL BE REVIEWED AND APPROVED BY THE CITY OF MENTOR PRIOR TO BEING DISTRIBUTED. ALL COSTS ASSOCIATED WITH THE ABOVE SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ODOT ITEM 614, MAINTAINING TRAFFIC, AS PER PLAN.

FAILURE TO COMPLY

FOR ANY FAILURE TO COMPLY WITH PROVISIONS FOR TRAFFIC CONTROL SET OUT IN THESE PLANS AND NOTES OR WITH THE PROVISIONS OF THE MANUAL, THE HIGHWAY IN THE VICINITY OF THE WORK AREA SHALL BE CONSIDERED IN A CONDITION UNACCEPTABLE FOR THE SAFETY AND CONVENIENT USE BY THE TRAVELING PUBLIC. ANY FAILURE TO KEEP THE HIGHWAY IN THE VICINITY OF THE WORKING AREA IN A CONDITION ACCEPTABLE FOR THE SAFE AND CONVENIENT USE BY THE TRAVELING PUBLIC SHALL BE CONSIDERED A BREACH OF THIS CONTRACT. WORK SHALL BE SUSPENDED UNTIL THE CONTRACTOR COMPLIES WITH THE PROVISIONS OF THE AFOREMENTIONED ITEMS.

MATERIALS FOR MAINTAINING TRAFFIC

SIGNS

SIGN DIMENSION AND SPECIFICATIONS, INCLUDING LETTER SIZES, SHALL BE AS PROVIDED IN THE MANUAL OR SIGN DESIGN DRAWINGS PROVIDED IN THESE PLANS. THE SIGNS SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER PRIOR TO THE START OF THE PROJECT. ALL COST FOR INSTALLING, MAINTAINING AND SUBSEQUENT REMOVAL OF SAID SIGNS SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ODOT ITEM 614 – MAINTAINING TRAFFIC, AS PER PLAN.

NOTIFICATION

THE VILLAGE OF SOUTH RUSSELL POLICE, FIRE, PUBLIC WORKS DEPARTMENTS, CITY ENGINEER AND THE MENTOR EXEMPTED VILLAGE BOARD OF EDUCATION SHALL BE NOTIFIED AT LEAST ONE (1) WEEK PRIOR TO THE ACTUAL START OF CONSTRUCTION.

VILLAGE OF SOUTH RUSSELL POLICE DEPARTMENT: MICHAEL RIZZO, CHIEF	440-338-6700 ext 225
VILLAGE OF SOUTH RUSSELL FIRE DEPARTMENT SEAN DAVIS, FIRE PREVENTION OFFICER	440-338-6700 ext 233
VILLAGE OF SOUTH RUSSELL ENGINEER ERIC HAIBACH, P.E.	440-338-6700
VILLAGE OF SOUTH RUSSELL SERVICE DEPARTMENT TIM ALDER, STREET COMMISSIONER	440-388-6700 ext. 236
CHAGRIN FALLS EXEMPTED VILLAGE BOARD OF EDUCATION DIRECTOR OF TRANSPORTATION	440-893-4055
UNITED STATES POST OFFICE	800-275-8777

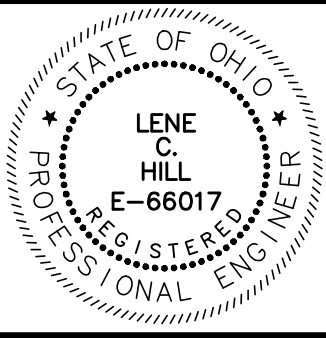
SIGN SUPPORTS

SIGN SUPPORTS SHALL BE OF SUFFICIENT SIZES AND HEIGHT TO SUPPORT THE SIGNS AT THE HEIGHT INDICATED IN THE MANUAL. SUPPORTS SHALL ALSO BE ADEQUATE IN MASS AND STABILITY TO PREVENT SIGNS FROM BEING BLOWN OVER BY WIND OR VECULAR-GENERATED AIR TURBULENCE. ALL COSTS FOR INSTALLING, MAINTAINING AND SUBSEQUENT REMOVAL OF SAID SIGNS SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614 – MAINTAINING TRAFFIC.

PROJECT PHASING

IT IS THE DESIRE OF THE VILLAGE OF SOUTH RUSSELL TO HAVE THE CONTRACT WORK PROCEED IN AN ORDERLY AND NEAT MANNER IN ORDER TO KEEP THE DISRUPTION TO THE RESIDENTS TO A MINIMUM. THUSLY THE CONTRACTOR IS TO PREPARE AND IMPLEMENT A WORK PHASING PLAN, APPROVED BY THE CITY ENGINEER, INCLUSIVE OF THE FOLLOWING REQUIREMENTS:

- ROADWAY RECONSTRUCTION WORK SHALL BE HALF WIDTH (MINIMUM 12 FT LANE). THE CONTRACTOR SHALL LIMIT THE WORK AREAS AND COORDINATE DAILY ACTIVITIES WHICH SHALL INCLUDE ROADWAY TRENCHING, PIPE AND STRUCTURE INSTALLATION, AND PAVEMENT REPAIR. DRIVEWAYS SHALL BE MAINTAINED WITH AGGREGATE BASE MATERIAL AS SOON AS PRACTICAL AND ON A DAILY BASIS.
- A MINIMUM OF A 11FT LANE SHALL BE USED TO MAINTAIN TRAFFIC.
- DURING WINTER TIME CONSTRUCTION ALL TRENCH EXCAVATIONS SHALL BE BACKFILLED IN ACCORDANCE WITH THE PLAN DETAILS AND SHALL BE CAPPED WITH COLD PATCH. THE CONTRACTOR SHALL MAINTAIN COLD PATCH THROUGH THE WINTER MONTHS.



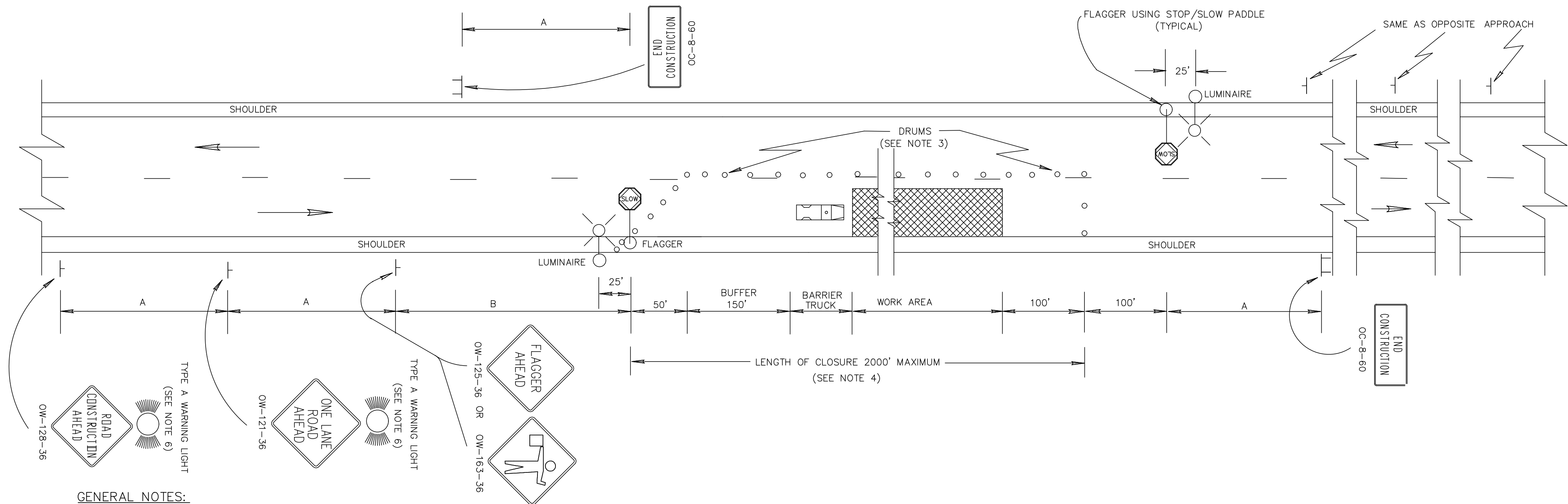
NO	REVISION	DATE

HEMLOCK ROAD
CULVERT REPLACEMENT
SOUTH RUSSELL, OHIO

SCALE:	AS SHOWN
DATE:	9/10/25
DESIGNED BY:	PTV
DRAWN BY:	PTV
CHECKED BY:	LH

MAINTENANCE OF TRAFFIC - 1

PROJECT NO:	
37849	
DRAWING NAME	
SHEET	OF
6	9



GENERAL NOTES:

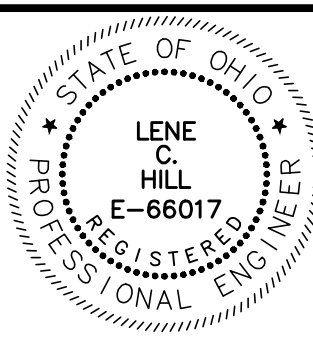
1. THE LOCATION OF THE ADVANCE WARNING SIGNS SHOULD BE ADJUSTED TO PROVIDE FOR ADEQUATE SIGHT DISTANCE FOR THE EXISTING VERTICAL AND HORIZONTAL ROADWAY ALIGNMENT. THE DISTANCES SHOWN ARE MINIMUMS. DISTANCE B MAY ALSO BE INCREASED, PRIOR TO IMPLEMENTATION OF THE CLOSURE OR AFTER IT IS IN EFFECT, AS DIRECTED BY THE ENGINEER FOR SUCH OCCURRENCES AS LONG TRAFFIC BACKUPS.
2. 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.
3. DRUMS SHALL BE SPACED AT 50' CENTER TO CENTER ALONG THE CLOSURE. DRUMS ON THE ADVANCE TAPER SHALL BE SPACED AT 10' CENTER TO CENTER. CONES HAVING A MINIMUM HEIGHT OF 28 INCHES MAY BE SUBSTITUTED FOR DRUMS FOR DAY-TIME LANE CLOSURES. PROVISIONS SHALL BE MADE TO STABILIZE THE CONES TO PREVENT THEM FROM BLOWING OVER.
4. SEVERAL SMALL WORK AREAS CLOSE TOGETHER SHALL BE COMBINED INTO ONE WORK ZONE. HOWEVER, THE CLOSURE SHALL NOT BE MORE THAN 2000 FEET LONG UNLESS APPROVED BY THE ENGINEER. THE MINIMUM LENGTH BETWEEN CLOSURES SHALL BE 2000 FEET. ONLY ONE SIDE OF THE ROAD SHALL BE CLOSED IN ANY ONE WORK ZONE.
5. THE BARRIER TRUCK SHOWN AT THE BEGINNING OF THE WORK AREA SHALL BE IN PLACE AND UNOCCUPIED WHENEVER WORKERS ARE IN THE WORK AREA. THIS BARRIER TRUCK SHALL BE REMOVED FROM THE PAVEMENT WHEN WORKERS ARE NOT IN THE WORK AREA. OTHER PROTECTIVE DEVICES MAY BE USED IN LIEU OF THE BARRIER TRUCK SHOWN WHEN APPROVED BY THE ENGINEER. THE VEHICLE SHALL BE EQUIPPED WITH A 360° ROTATION OR FLASHING AMBER BEACON CLEARLY VISIBLE A MINIMUM OF ONE-QUARTER MILE.
6. THE TYPE A FLASHING WARNING LIGHTS SHOWN ON THE "ROAD CONSTRUCTION AHEAD" (OW-128) AND THE "ONE LANE ROAD AHEAD" (OW-121) SIGNS ARE REQUIRED WHENEVER A NIGHT LANE CLOSURE IS NECESSARY.
7. TYPE C STEADY BURNING WARNING LIGHTS SHALL BE ERECTED ON EACH DRUM FOR NIGHT LANE CLOSURES.
8. ADEQUATE AREA ILLUMINATION OF EACH FLAGGER STATION SHALL BE PROVIDED AT NIGHT BY USING 150 WATT MINIMUM HIGH PRESSURE SODIUM LUMINAIRES OR 250 WATT MINIMUM MERCURY LUMINAIRES. LUMINAIRES SHALL BE LOCATED ADJACENT TO ONE FLAGGER STATION FOR EACH DIRECTION OF TRAFFIC AS SHOWN ABOVE. THE MOUNTING HEIGHT FOR LUMINAIRES SHALL BE A MINIMUM OF 27 FEET ABOVE THE PAVEMENT AND MOUNTED ON A SUPPORT OF ADEQUATE STRENGTH TO PROVIDE A SATISFACTORY INSTALLATION. THE OVERHEAD CONDUCTOR CLEARANCE SHALL BE A MINIMUM OF 18 FEET ABOVE THE PAVEMENT. THE LUMINAIRE ARM SHALL BE OF SUFFICIENT LENGTH TO EXTEND TO THE EDGE OF THE PAVEMENT. POLES SHALL BE ERECTED A MINIMUM OF 5.5' BEHIND FACE OF GUARDRAIL WHERE EXISTING, OR 12' FROM THE EDGE OF PAVEMENT, WHERE POSSIBLE LOCATE BEHIND DITCH. LIGHTING MATERIAL SHALL COMPLY WITH SPECIFICATION 713.
9. 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 METHOD OF CONTROL SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

MINIMUM DISTANCE	A	B
URBAN	200	200
RURAL	500	500

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE C & M SPECIFICATIONS AS WELL AS IN ACCORDANCE WITH PART 7 OF OMUTCD. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS TO PROVIDE THIS METHOD OF TRAFFIC CONTROL SHALL BE INCIDENTAL TO THE LUMP SUM BID FOR 614 MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

BUREAU OF DESIGN SERVICES DIVISION OF HIGHWAYS OHIO DEPARTMENT OF TRANSPORTATION	
MAINTENANCE OF TRAFFIC	DATE 04/29/88
FLAGGERS CLOSING 1 LANE OF A 2 LANE HIGHWAY STATIONARY OPERATION	
STANDARD CONSTRUCTION MT-97.10 DRAWING	
APPROVED	ENGR. OF DESIGN SERVICES

verdantas



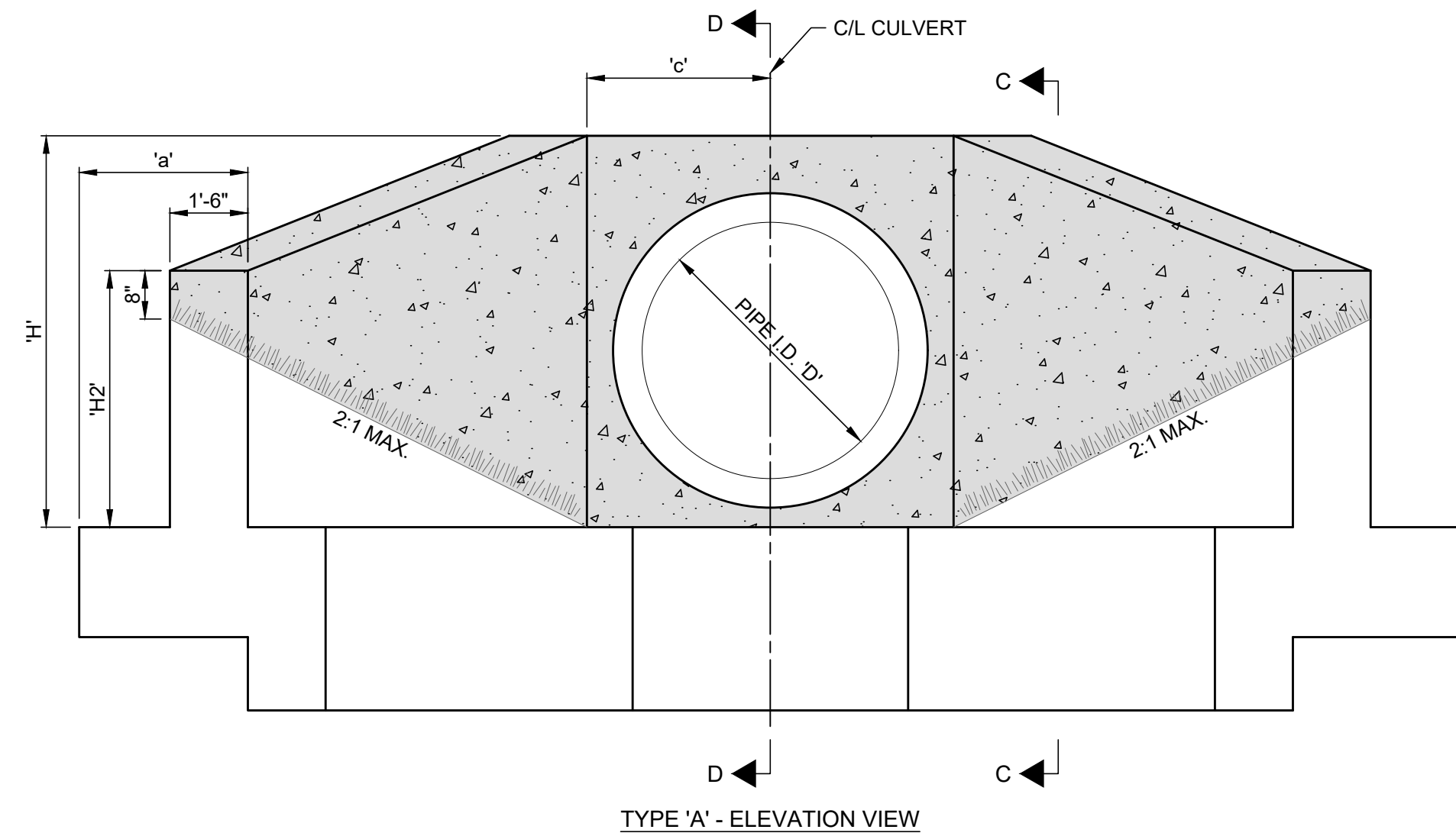
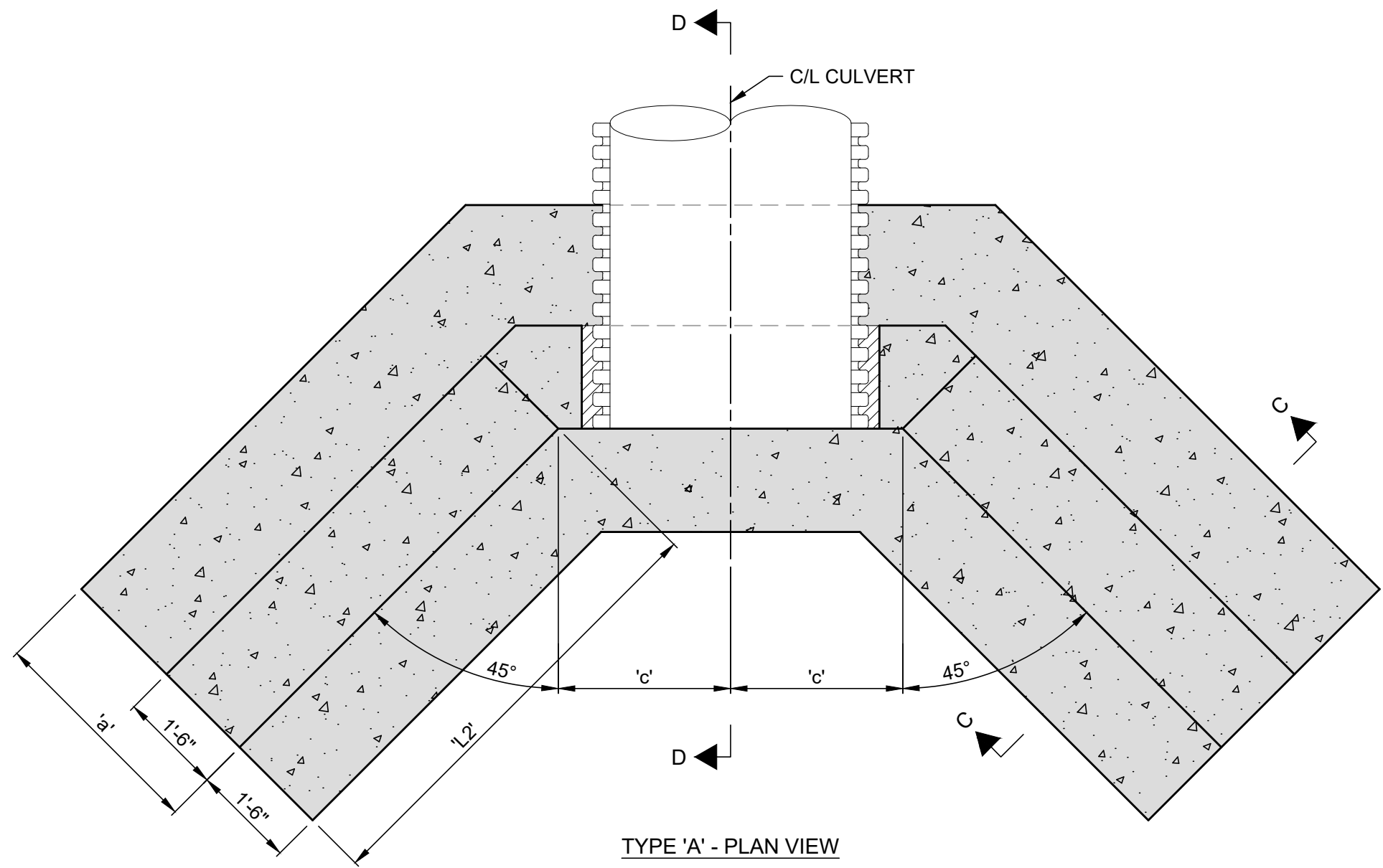
NO	REVISION	DATE

HEMLOCK ROAD
CULVERT REPLACEMENT
SOUTH RUSSELL, OHIO

SCALE:	AS SHOWN
DATE:	9/10/25
DESIGNED BY:	PTV
DRAWN BY:	PTV
CHECKED BY:	LH

MAINTENANCE OF TRAFFIC - 2

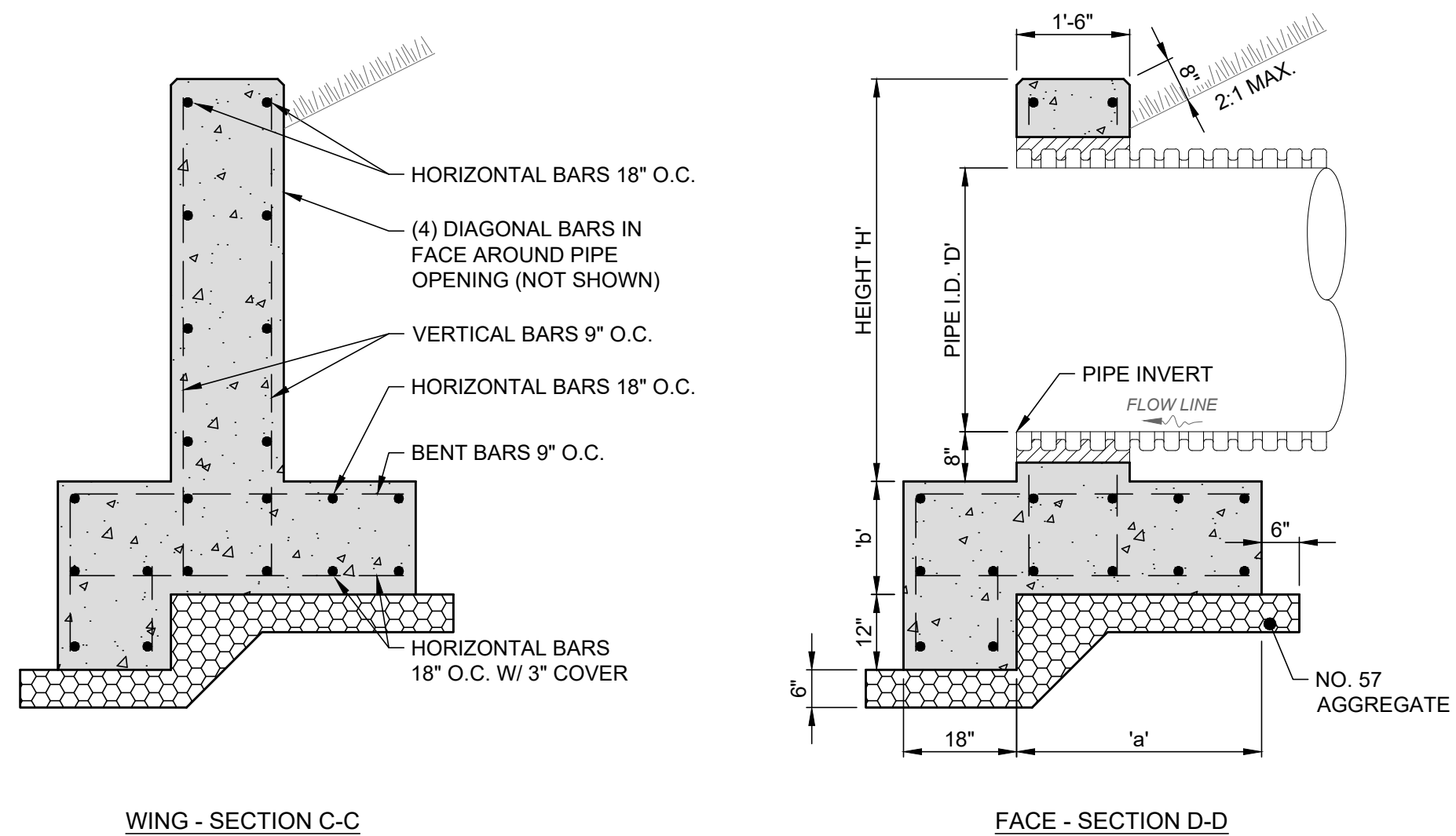
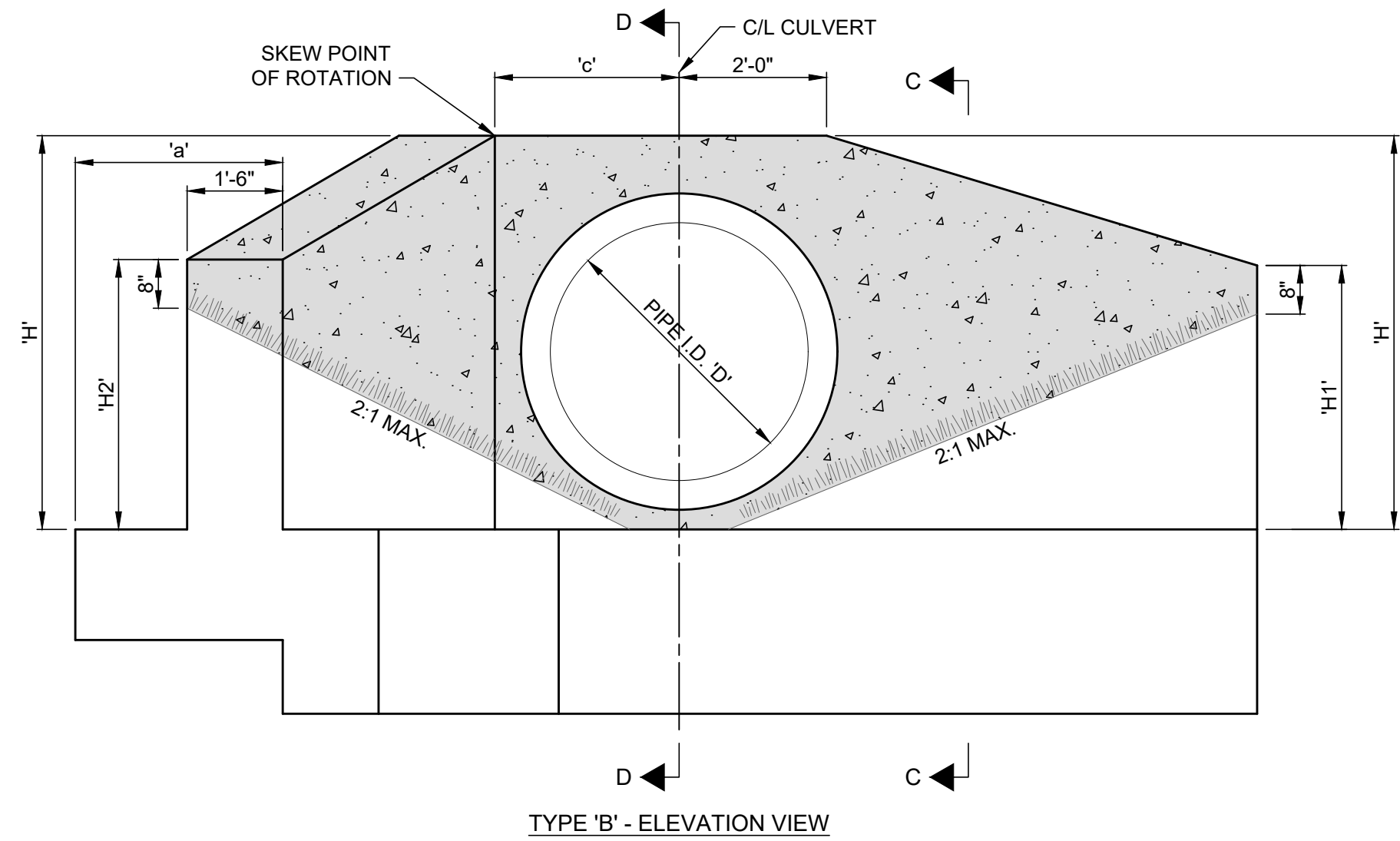
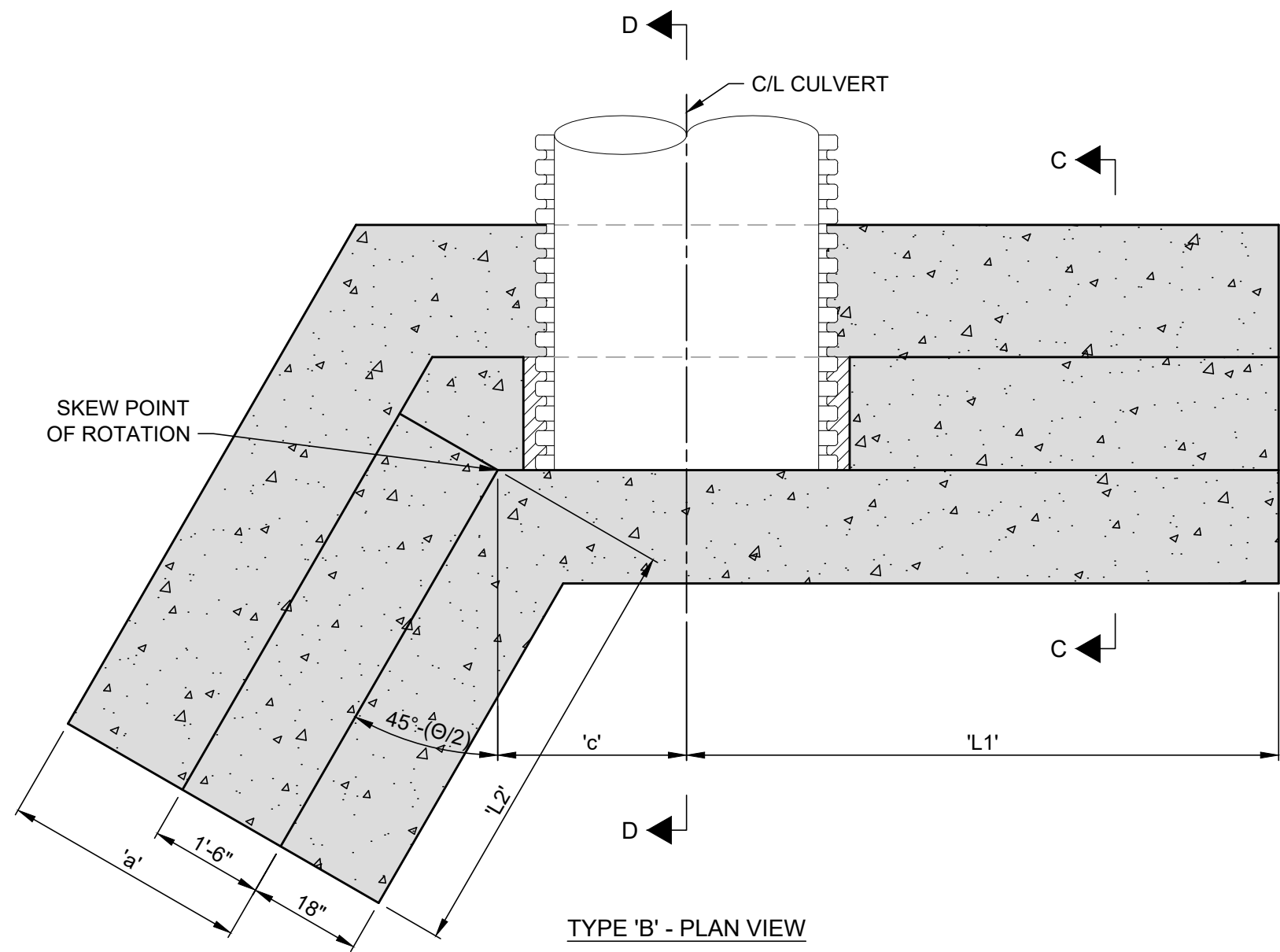
PROJECT NO: 37849	
DRAWING NAME	
SHEET 7	OF 9



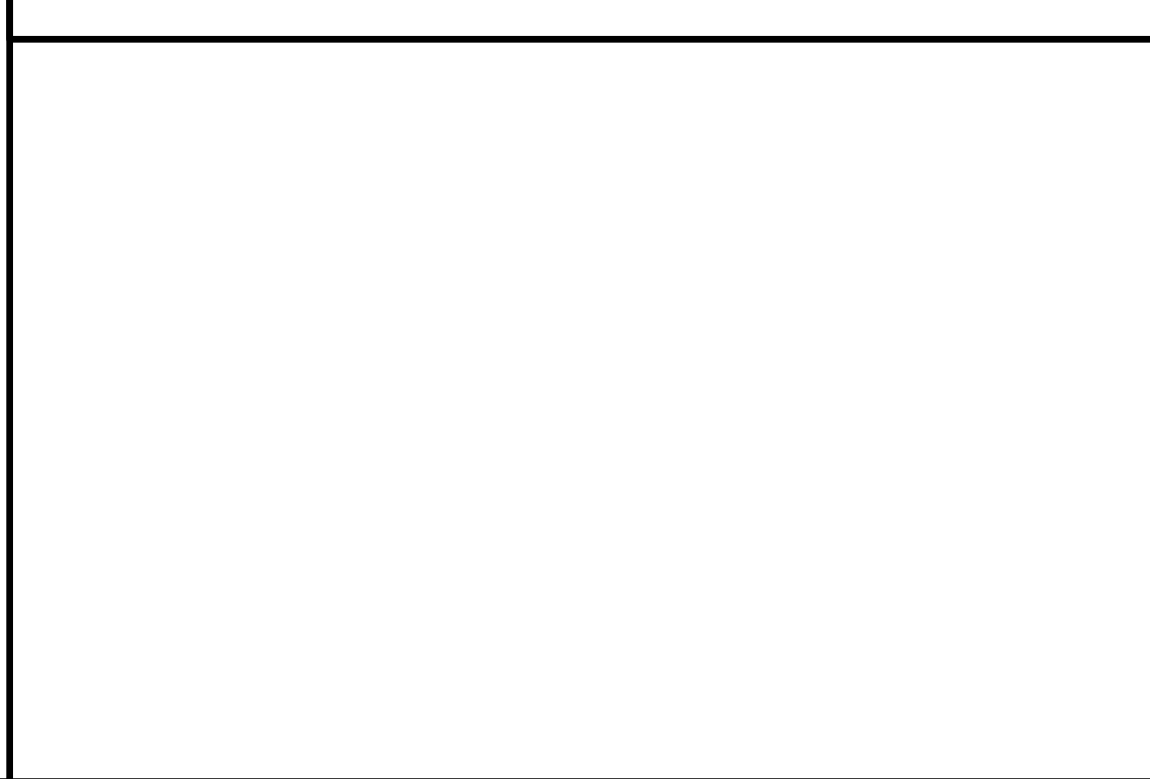
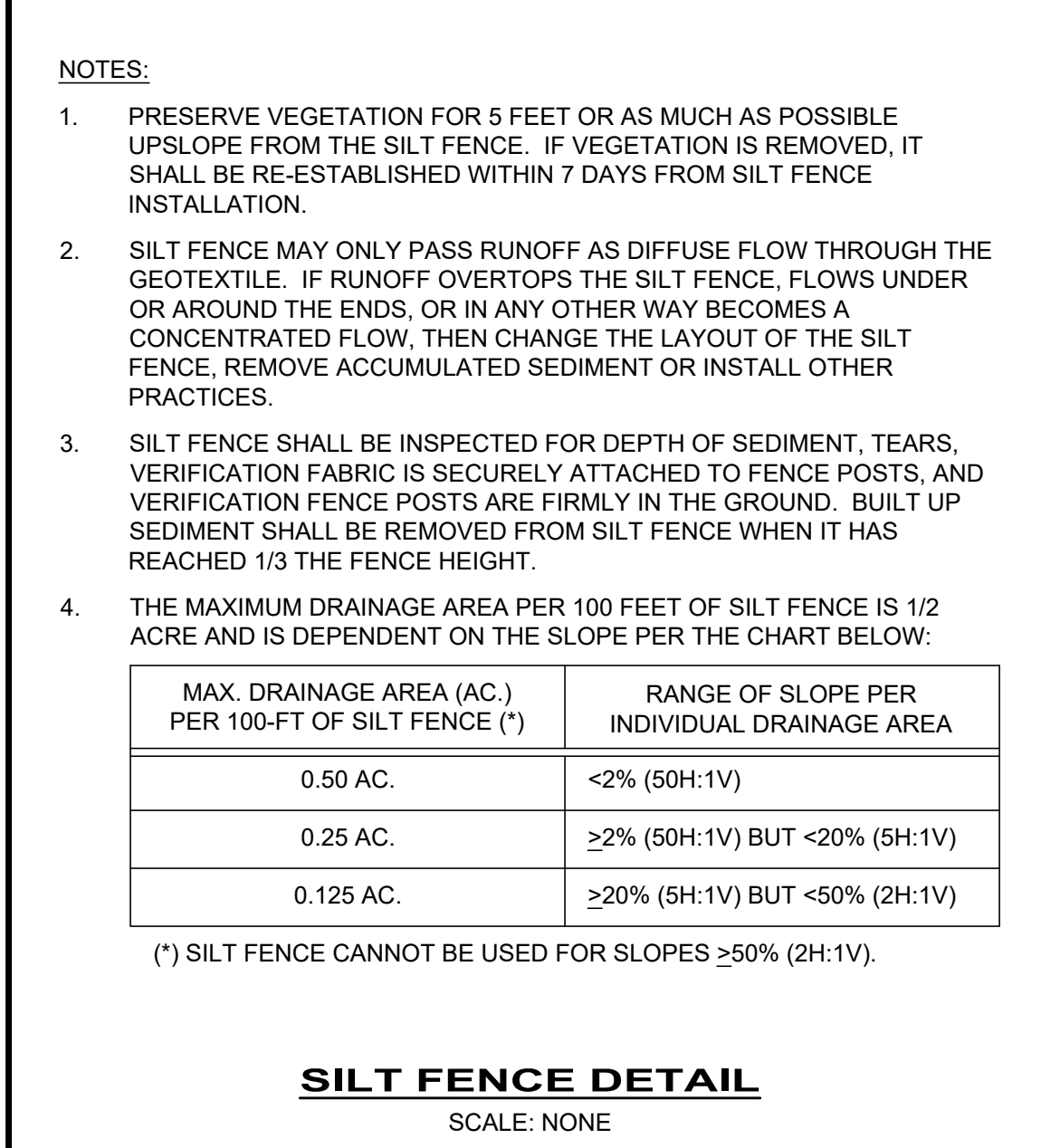
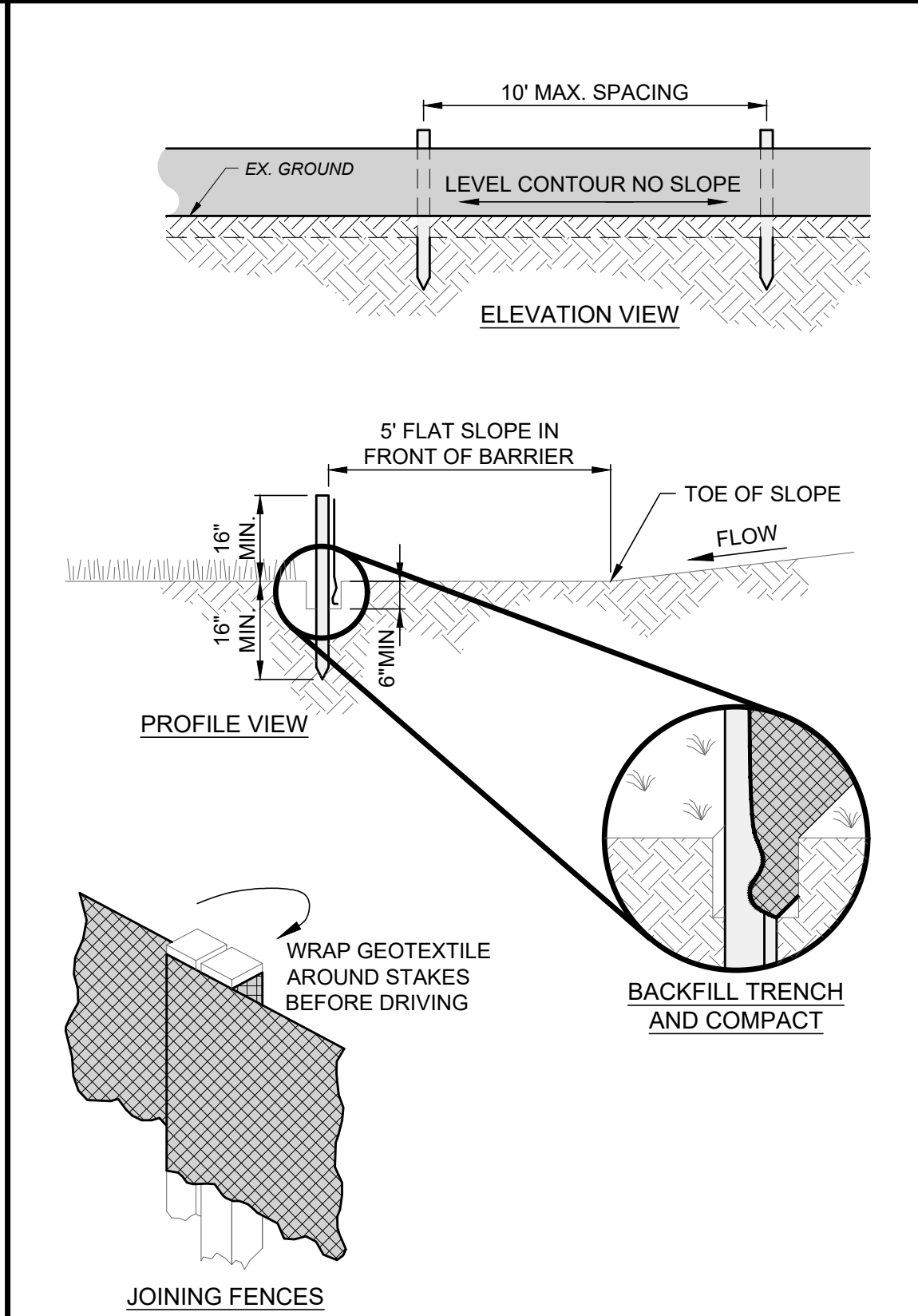
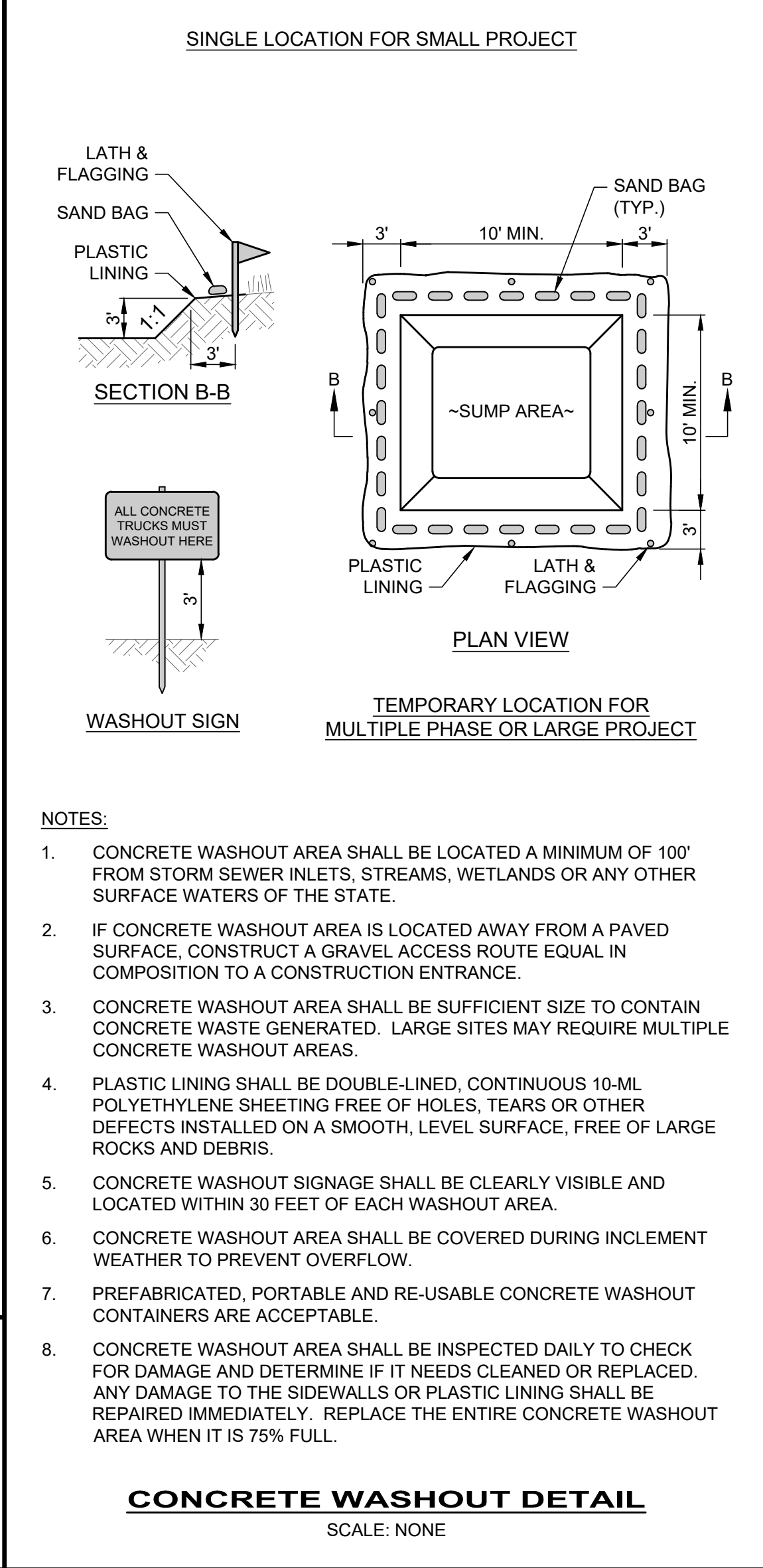
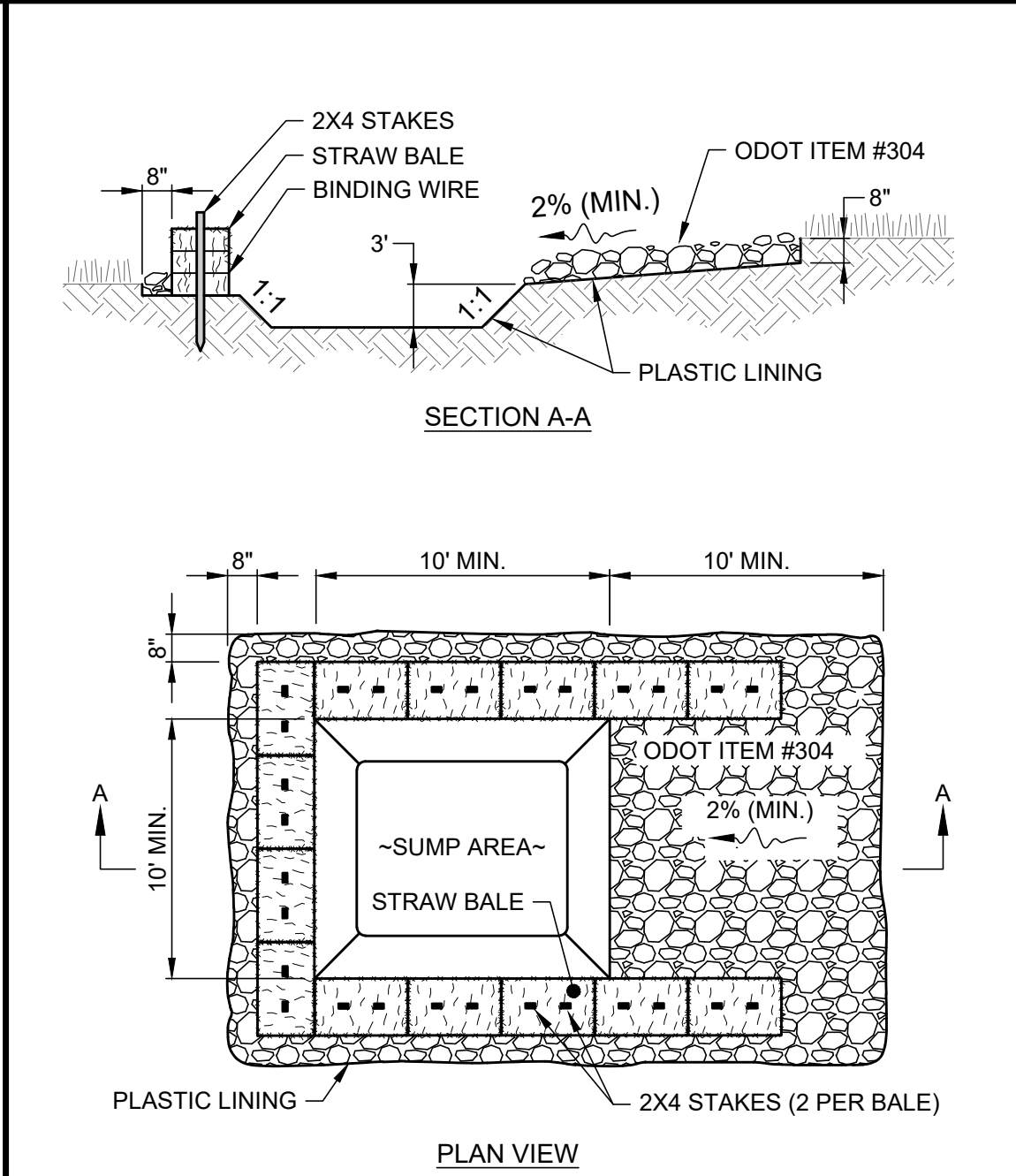
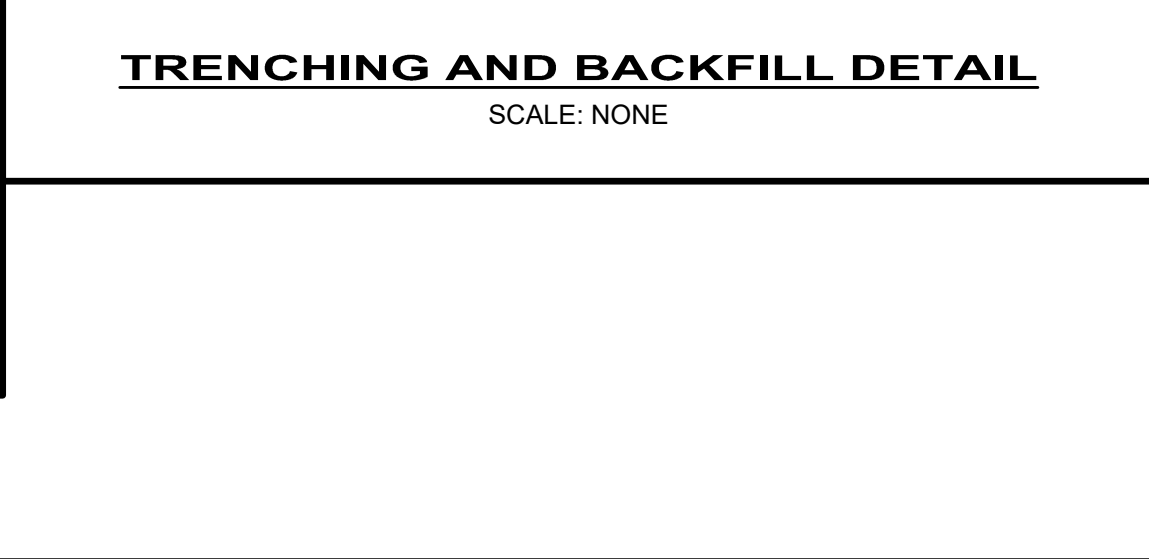
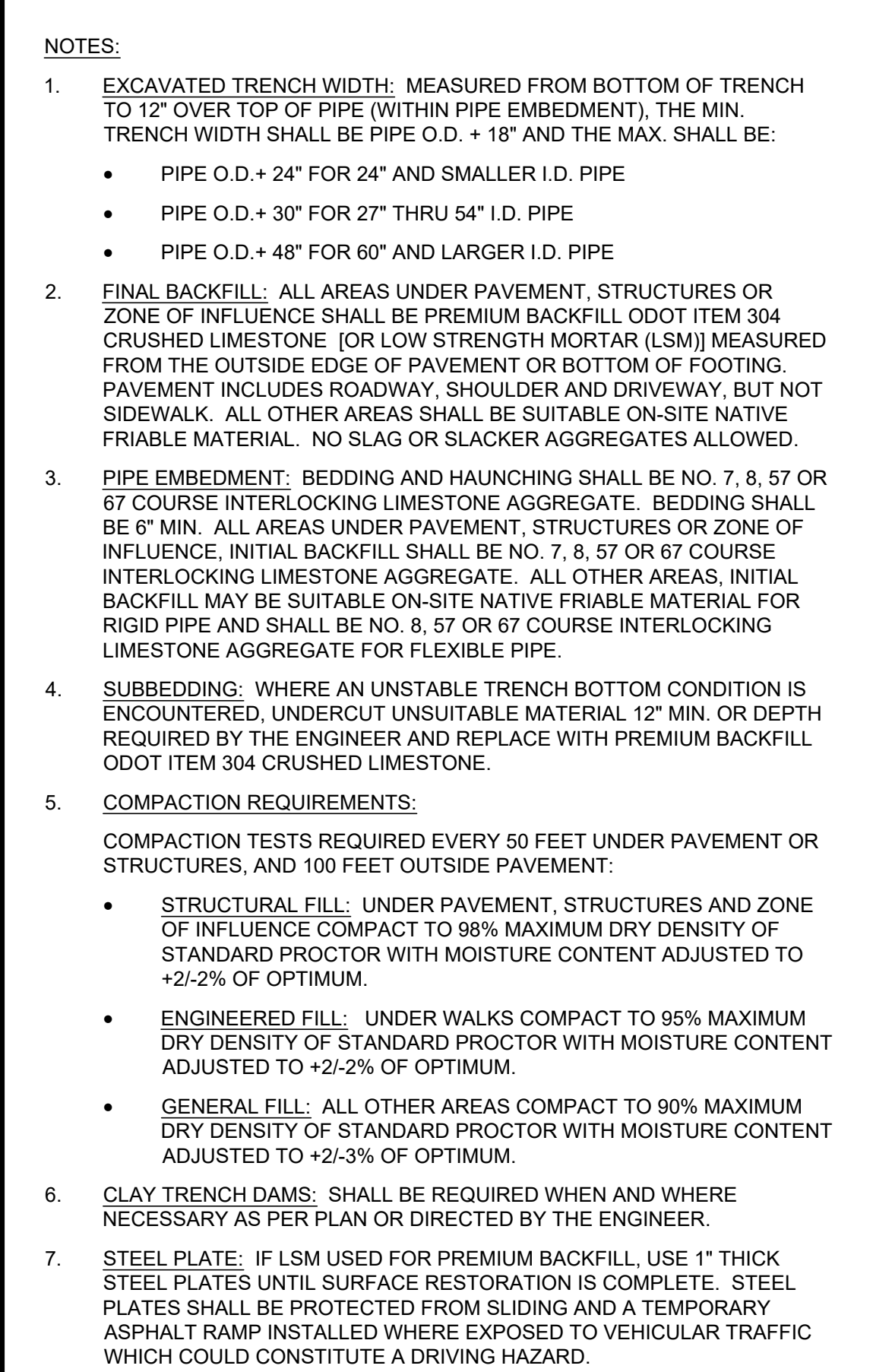
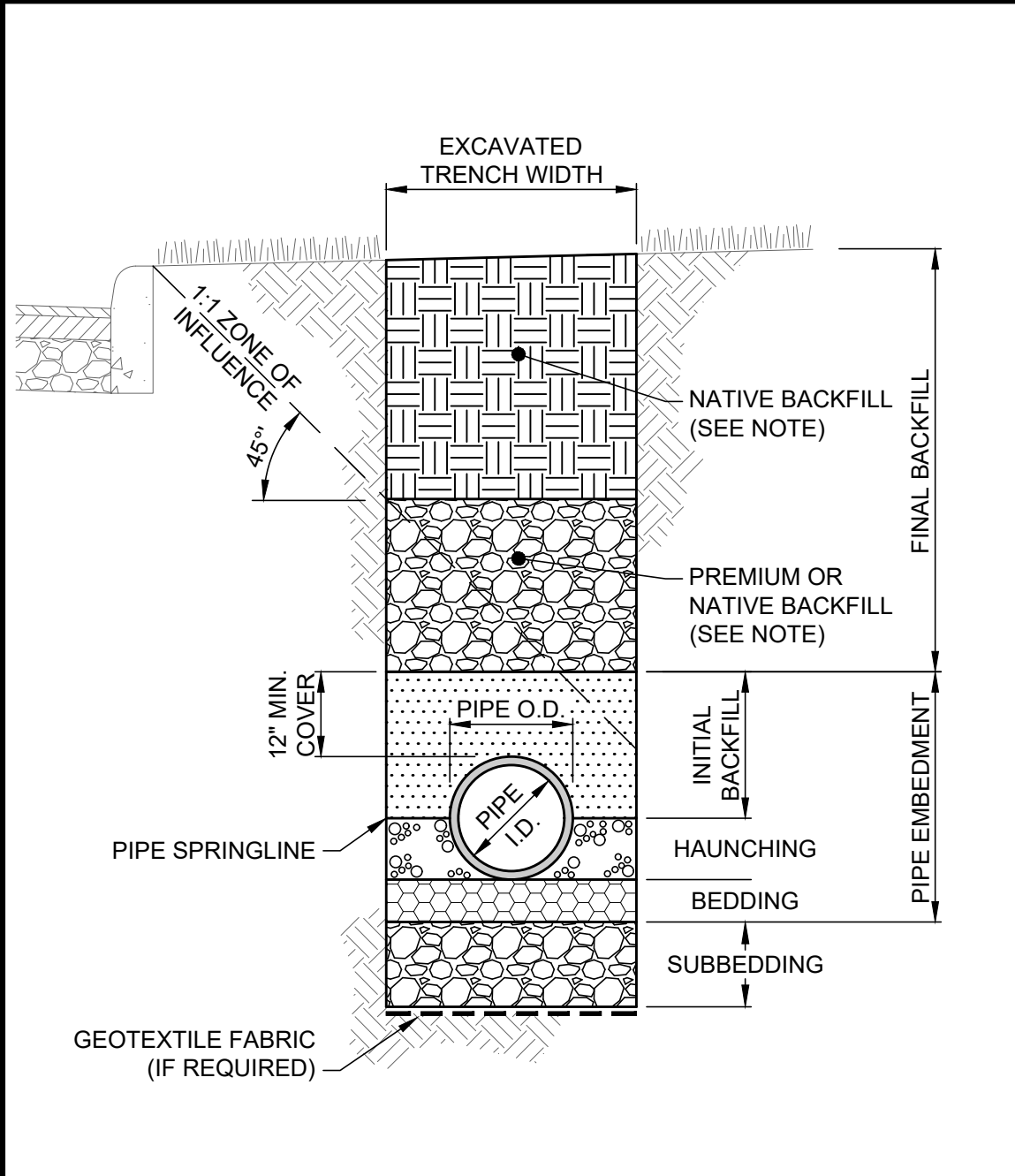
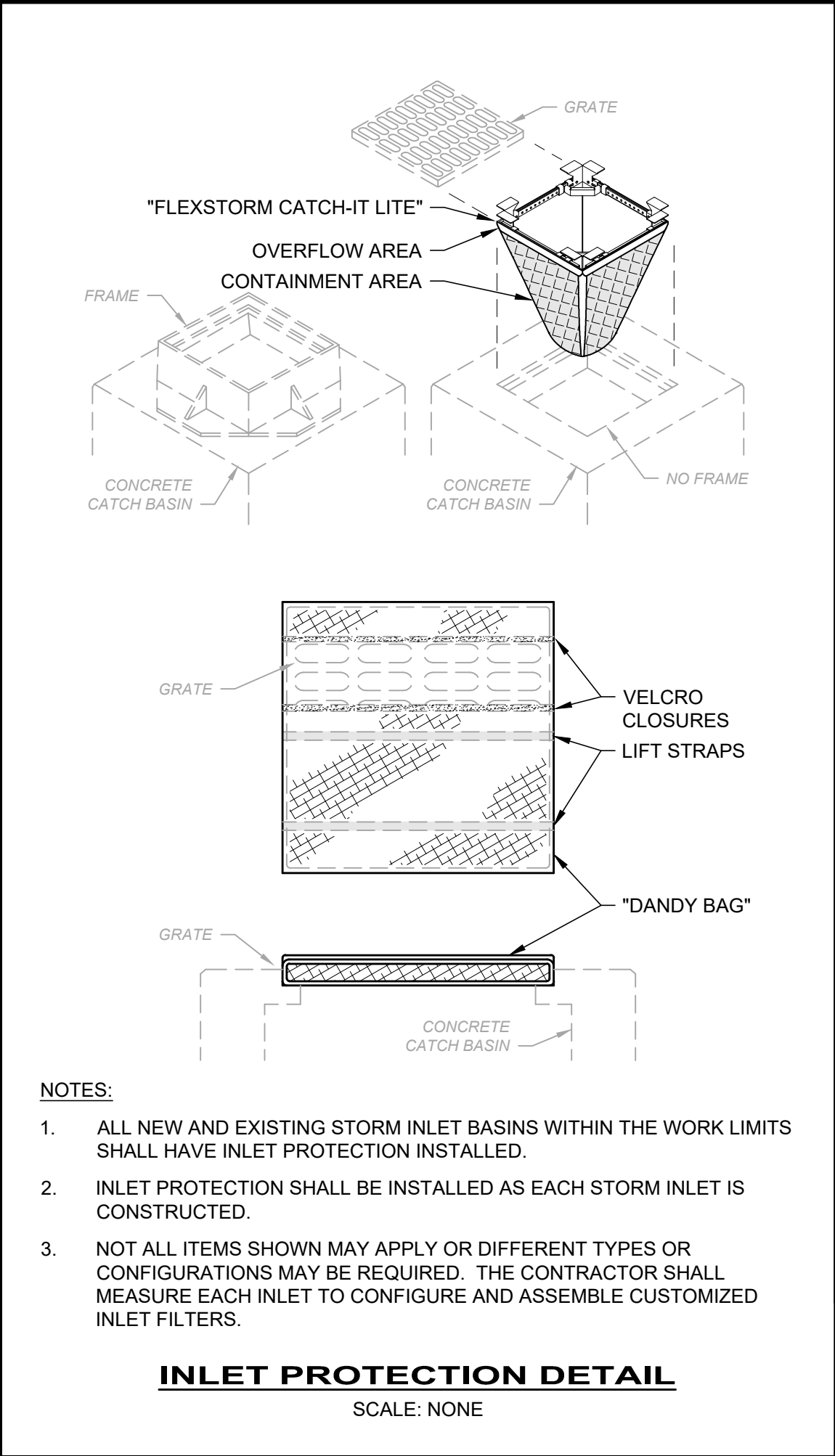
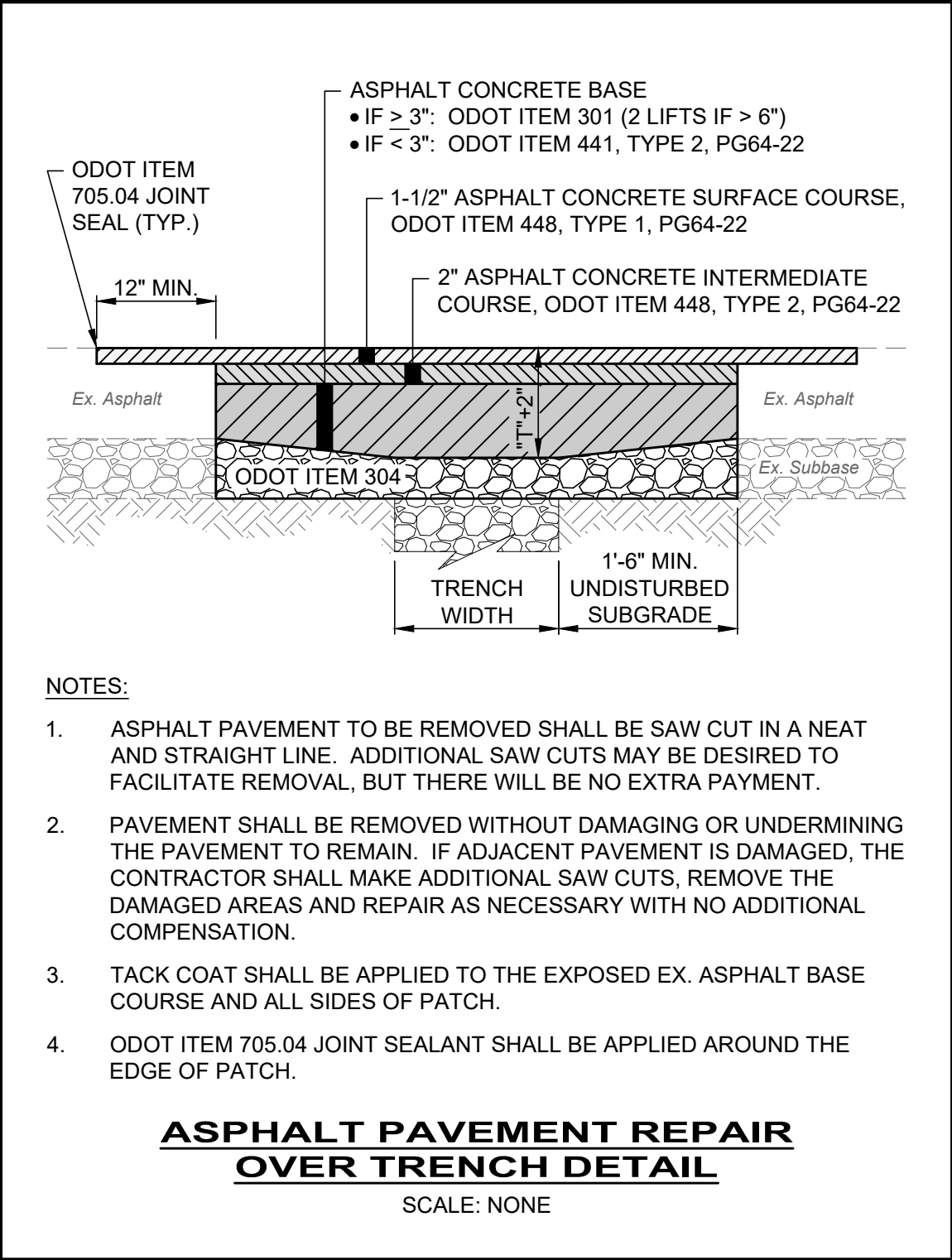
PIPE DIA. 'D'	'H'	'a'	'b'	'c'	$\Theta = 0^\circ$		$\Theta = 15^\circ$				$\Theta = 30^\circ$				$\Theta = 45^\circ$			
					'L2'	'H2'	'L1'	'L2'	'H1'	'H2'	'L1'	'L2'	'H1'	'H2'	'L1'	'L2'	'H1'	'H2'
42"	5'-4"	3'-3"	1'-6"	2'-6"	3'-7"	3'-6"	8'-9"	4'-6"	4'-1"	3'-7"	7'-10"	5'-9"	3'-7"	3'-8"	7'-10"	7'-9"	3'-7"	3'-8"
48"	5'-10"	3'-6"	1'-6"	2'-9"	4'-4"	3'-9"	10'-0"	5'-4"	4'-6"	3'-10"	8'-9"	6'-10"	3'-10"	3'-11"	8'-9"	9'-2"	3'-10"	4'-0"
54"	6'-5"	3'-9"	1'-6"	3'-0"	5'-2"	4'-2"	11'-4"	6'-3"	5'-0"	4'-2"	9'-8"	7'-11"	4'-2"	4'-3"	9'-8"	10'-7"	4'-2"	4'-4"
60"	7'-0"	4'-0"	1'-6"	3'-3"	5'-11"	4'-5"	12'-7"	7'-2"	5'-4"	4'-6"	10'-7"	9'-0"	4'-4"	4'-7"	10'-7"	12'-0"	4'-4"	4'-7"
72"	8'-2"	4'-6"	1'-7"	3'-9"	7'-5"	5'-0"	15'-1"	8'-11"	6'-2"	5'-1"	12'-5"	11'-2"	4'-10"	5'-2"	12'-5"	14'-10"	4'-10"	5'-3"
84"	9'-4"	5'-0"	1'-10"	4'-3"	9'-0"	5'-8"	17'-7"	10'-9"	7'-0"	5'-8"	14'-7"	13'-4"	5'-6"	5'-10"	14'-3"	17'-8"	5'-4"	5'-10"

NOTES:

1. PRECAST CONCRETE STRUCTURE AND REINFORCEMENT SHALL CONFORM TO ASTM C-913.
2. CONCRETE SHALL BE ODOT ITEM 499, CLASS QC-1.
3. REINFORCING BARS SHALL BE NO. 5 BARS PER ASTM A-615, GRADE 60, WITH 2" MINIMUM COVERAGE EXCEPT WHERE DIMENSIONED.
4. ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4".
5. REMOVE LIFTING HOLE STEEL WIRES AND SEAL LIFT HOLES WITH NON-SHRINK GROUT AT FACE OF HEADWALL.
6. PIPE OPENING SHALL BE PIPE O.D. + 2" AND INTERSTITIAL SPACE FILLED WITH GROUT. SPRAY FOAM, STONES, WOOD WEDGES AND LOOSE BRICKS ARE UNACCEPTABLE.
7. USE TYPE 'A' HEADWALL FOR SKEW ANGLE (Θ) BETWEEN 0° AND 10° . USE TYPE 'B' HEADWALL FOR SKEW ANGLE (Θ) GREATER THAN 10° .
8. THIS DETAIL IS FOR REFERENCE AND DIMENSION CONTROL ONLY; SEE PLANS FOR ACTUAL CONFIGURATION, LENGTH, WIDTH, ETC.



PRECAST HEADWALL FOR 42" THRU 84" DIA. PIPE DETAIL
SCALE: NONE



1.	SUBSOILING SHALL OCCUR WHEN SOIL MOISTURE IS LOW ENOUGH TO ALLOW THE SOIL TO CRACK OR FRACTURE. SUBSOILING IS NOT PERMITTED ON SLIP-PRONE AREAS.
2.	THE SEED BED SHALL BE PREPARED BY APPLYING AGRICULTURAL GROUND LIMESTONE OR FERTILIZER AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A SOIL TEST, APPLY LIME AT 2 TONS/AC. OR FERTILIZER AT 500 LB/AC. OF 10-10-10 OR 12-12-12 ANALYSIS. LIME AND FERTILIZER SHALL BE WORKED INTO THE SOIL TO A DEPTH OF 3".
3.	APPLY SEED UNIFORMLY ON FIRM, MOIST SEED BED BETWEEN MARCH 1 AND MAY 31 OR AUGUST 1 AND SEPTEMBER 30. TILLAGE FOR SEEDBED PREPARATION SHALL OCCUR WHEN THE SOIL IS DRY ENOUGH TO CRUMBLE AND NOT FORM RIBBONS WHEN COMPRESSED BY HAND. SEEDING SHOULD NOT BE APPLIED BETWEEN OCTOBER 1 AND NOVEMBER 20 BECAUSE SEEDS MAY GERMINATE, BUT WILL NOT SURVIVE THE WINTER. IF SEEDING MUST OCCUR, INCREASE THE SEEDING RATE BY 50% AND ANCHOR. APPLY ADDITIONAL MULCH AND IRRIGATION AS REQUIRED TO ENSURE GERMINATION.
4.	MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING.
5.	SEEDING SHALL INCLUDE IRRIGATION TO ESTABLISH VEGETATION DURING DRY OR HOT WEATHER OR ON ADVERSE SITE CONDITIONS.
6.	SEEDING SHALL NOT BE CONSIDERED ESTABLISHED FOR AT LEAST 1 FULL YEAR FROM THE TIME OF SEEDING. DURING THIS PERIOD INSPECT FOR SOIL EROSION OR VEGETATION LOSS AND REPAIR BARE OR SPARSE AREAS, FILL GULLIES, RE-FERTILIZE, RE-SEED AND RE-MULCH AS NEEDED.
7.	ADEQUATE PERMANENT VEGETATION SHALL BE GROUND COVER DENSE ENOUGH TO COVER 80% OF THE SOIL SURFACE BASED ON VISUAL INSPECTION.

PERMANENT SEEDING FERTILIZATION AND MOWING CHART				
MIXTURE	FORMULA	LB/AC.	TIME	MOW
CREeping RED FESCUE DOMESTIC RYEGRASS KENTUCKY BLUEGRASS	10-10-10	500	FALL, YEARLY, OR AS NEEDED	≥3"
TALL FESCUE	10-10-10	500		≥4"
TURF-TYPE FESCUE	10-10-10	500		
CROWN VETCH FESCUE	0-20-20	400	SPRING, AND YEARLY AFTER ESTABLISHED	DO NOT MOW
FLAT PEA FESCUE	0-20-20	400		

PERMANENT SEEDING SPECIES SELECTION		
SEED MIX	SEED RATE LB/AC.	NOTES:
GENERAL USE		
CREeping RED FESCUE DOMESTIC RYEGRASS KENTUCKY BLUEGRASS	20 - 40 10 - 20 20 - 40	FOR CLOSE MOWING AND WATERWAYS WITH <2.0 FT./SEC. VELOCITY
TALL FESCUE	40 - 50	
TURF-TYPE FESCUE	90	
STEEP BANKS OR CUT SLOPES		
TALL FESCUE	40 - 50	
CROWN VETCH TALL FESCUE	10 - 20 20 - 30	DO NOT SEED LATER THAN AUGUST
FLAT PEA TALL FESCUE	20 - 25 20 - 30	DO NOT SEED LATER THAN AUGUST
ROAD DITCHES AND SWALES		
TALL FESCUE	40 - 50	
TURF-TYPE FESCUE KENTUCKY BLUEGRASS	90 5	
LAWN		
KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	100 - 120 100 - 120	
KENTUCKY BLUEGRASS CREeping RED FESCUE	100 - 120 100 - 120	FOR SHADED AREAS

PERMANENT SEEDING NOTES