

**TUSCOLA COUNTY ROAD COMMISSION
REQUEST FOR PROPOSAL
FABRICATING AND SUPPLYING A BOX CULVERT
Mushroom Road over Mud Creek
Letting Date: February 27st, 2025 8:45am**

Consultant: _____

Address: _____

Sign & Print: _____

Date: _____

Phone: _____

Email: _____

Box Culvert:

Shop Drawings submitted and approved by April 1st, 2025

Completed Box Culvert delivered to the site by August 11th, 2025

Cost for Box Culvert Complete - Shop Drawings, Fabrication, and delivery:

Lump Sum \$ _____

Total Cost: \$ _____

Proposals shall be received no later than 8:45 AM Thursday February 27th, 2025, to Brent Dankert P.E., County Highway Engineer. Late proposals will not be considered. Proposals must be delivered in a plainly marked and seal envelope. No electronic bids will be accepted. Front cover page and signed agreement required with submittal of proposal.

Bids are to be submitted on the Road Commission forms in a plainly marked, sealed envelope. No faxed or emailed bids accepted. Plans and specifications are available online at www.tuscolaroad.org. Please contact Brent Dankert, Tuscola County Highway Engineer at 989-233-7472 or highwayengineer@tuscolaroad.org with any questions. Any addenda must be noted and initialed.

If you are interested in bidding and have downloaded plans from the website, please email highwayengineer@tuscolaroad.org to be added to the plan holders list to make sure you receive addendums.

The Contractor has examined the proposal, permits, plans, and the location of the work described here in and is fully informed as to the nature of the work and the conditions relating to its performance. All work will be done in accordance with the requirements of Section 402, 403, and 406 of 2020 MDOT Standard Specifications for Construction, ASTM C1577 and as modified herein. Shop drawings should be submitted for approval by April 1st, 2025. In the event that the fabrication or delivery of the box culvert plus materials is delayed past August 11th, 2025, the contractor will be fined \$100 per day.

Box Culvert – MDOT SSFC Section 406

To provide the necessary design and manufacturing of a 44' long by 14' span and 9' rise box culvert. All hardware/steel for the connection pours, manhole tees, precast footings, and joint wrap material, is also to be provided by the manufacturer and included in the price for lump sum price for the box culvert. The manufacture is responsible for delivery of box culvert, pipe, and materials to the project site. The manufacture shall coordinate delivery with the Tuscola County Road Commission. The Tuscola County Road Commission is responsible for the site preparation and installation of the said material.

The proposed box culvert must follow all MDOT Local Agency design standards and guidelines. The following are all included in the cost for the manufacturing of the box culvert:

- Box culvert sections must be mechanically connected.
- MDOT Standard Section 710 joints with joint waterproofing membrane and wrapped in fabric.
- 44' of 14' span by 9' rise box culvert
- Precast Footings
- Precast Wingwalls
- Precast Headwalls
- All hardware/steel for the connection pours is also to be provided by the manufacturer
- The loading is designated HL-93 MOD, live load plus dynamic load allowance deflection does not exceed 1/800 of span length
- All reinforced steel and threaded anchors to be included

Shop drawings will be sent to the engineer for approval. Please see the attached plan set for further details.

Precast Box Culvert – MDOT SSFC Section 406

To provide the necessary design, manufacturing, and delivery of 44’ of 14’ by 9’ concrete box culvert.

Measurement and Payment

The completed work will be paid for at the contract unit price for the following contract pay items and includes all material, equipment, and labor to manufacture and deliver these items completely.

<u>Pay Item</u>	<u>Unit</u>
Culv, Precast Conc Box, 14 foot by 9 foot	Lump Sum

Award will be made in the best interest of the Road Commission. On approval of the shop drawings, the TCRC will pay 10% of the total cost. Final payment will be made on delivery of all components. Manufacturer shall provide a detailed invoice. Any questions should be made to Brent Dankert at highwayengineer@tuscolaroad.org or 989-233-7472.

Attachments

- Agreement
- Title IV and VI Compliance
- Mushroom Road Crossing Plan Set

Warranty:

The Contractor hereby warrants his work and material for one year from the date of delivery. The Road Commission may choose to hold up to 10% of the project bid cost until the warranty expires.

LIABILITY

The consultant shall always exercise extreme care and shall assume all liability for any damages resulting from their operation. Furthermore, they shall hold the Tuscola County Road Commission harmless from any such claims or damages.

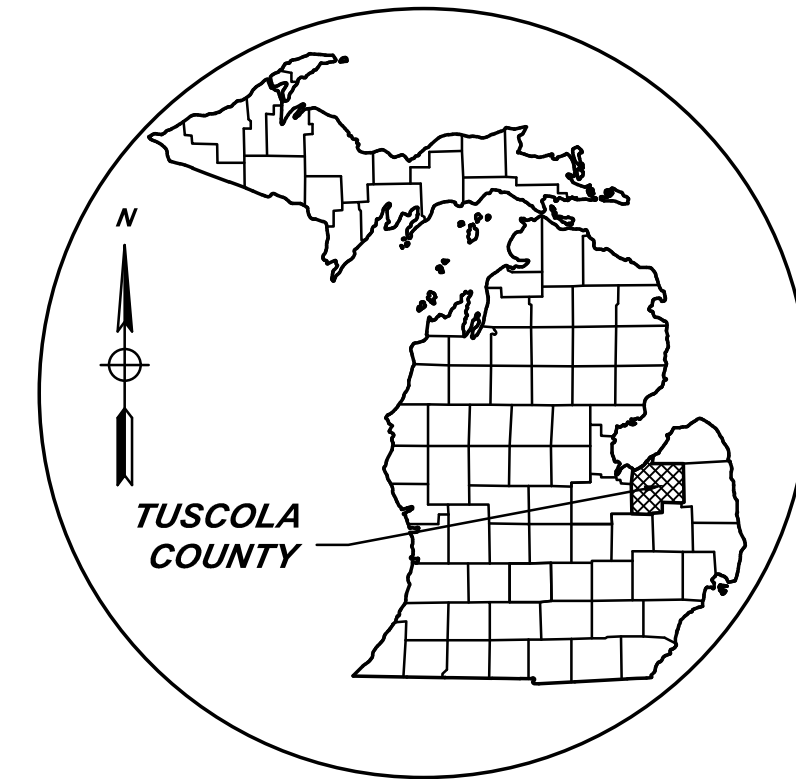
NON-COMPLIANCE WITH PROJECT SPECIFICATION PROVISIONS

Any variation from the specifications of the project herein without written approval from the Tuscola County Road Commission and/or its authorized representative may result in, at the discretion of the Tuscola County Road Commission, the voiding and/or cancelling of the acceptance of any contract, resulting from this project.

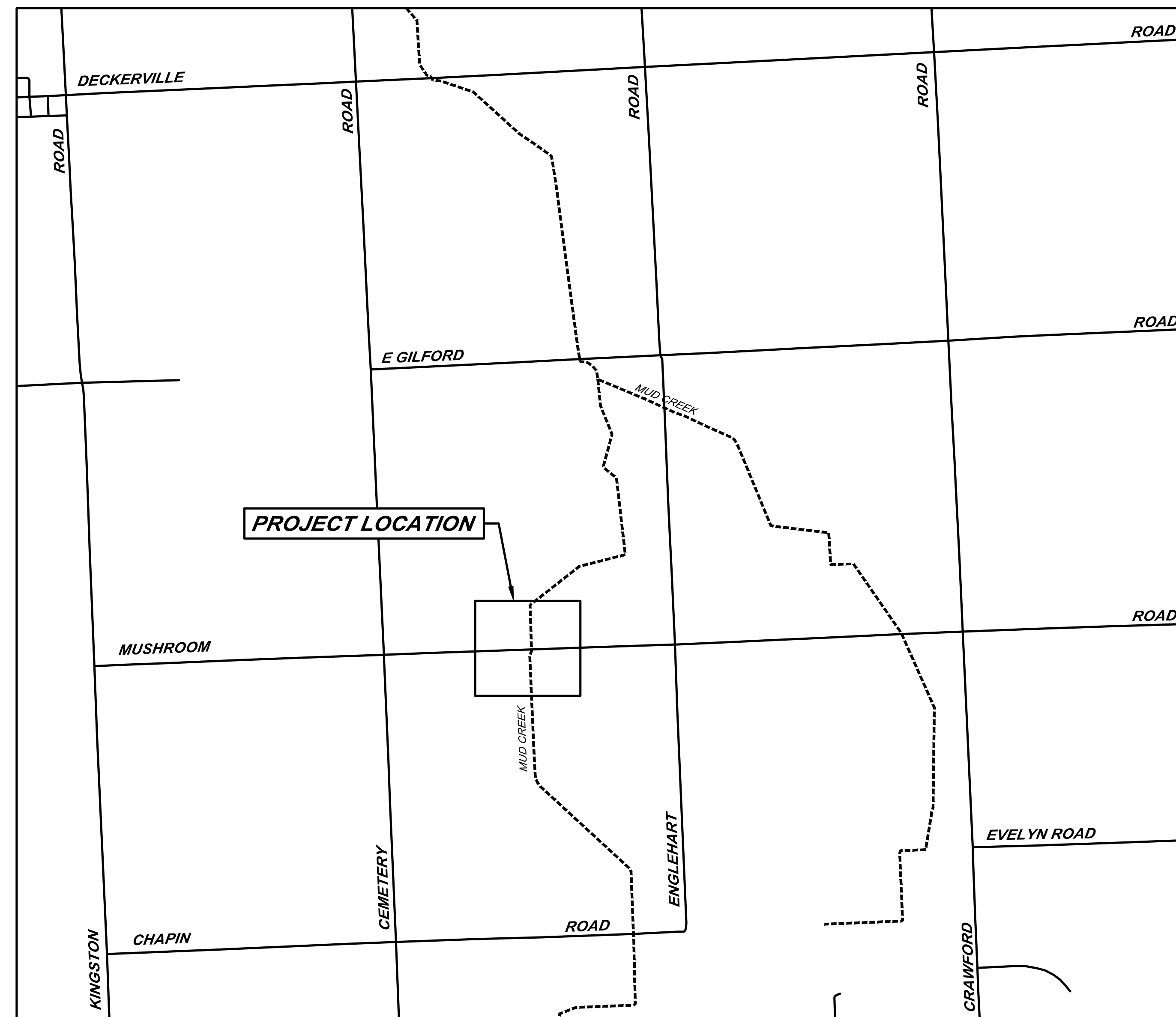
The Tuscola County Board of Road Commissioners reserves the right to accept or reject any or all proposals and to re-advertise or to accept the proposal, that in their opinion, is in the best interest of Tuscola County.

MUSHROOM ROAD CROSSING

TUSCOLA COUNTY ROAD COMMISSION



AREA MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE



SECTIONS 03, & 10, T12N-R11E,
KINGSTON TOWNSHIP,
TUSCOLA COUNTY, MICHIGAN

PLAN INDEX

FILE NO.	DESCRIPTION	NO.
DR-4868-01	COVER SHEET	1
DR-4868-02	CONTACTS, GENERAL NOTES, LINE TYPE LEGEND	2
DR-4868-03	SOIL EROSION AND SEDIMENTATION CONTROL PLAN	3
DR-4868-04	PLAN AND PROFILE MUD CREEK MUSHROOM ROAD CROSSING	4
DR-4868-05	MUSHROOM ROAD CROSSING STRUCTURE DETAILS	5
DR-4868-06	GUARDRAIL DETAILS MUD CREEK MUSHROOM ROAD CROSSING	6

APPROVED

By Brent Dankert, P.E.
at 02/04/2025, 8:28:07 AM

In Our Future
Tuscola County Road Commission
REVIEW IS FOR GENERAL COMPLIANCE WITH CONTRACT DOCUMENTS
NO RESPONSIBILITY IS ASSIGNED FOR CORRECTNESS OF DIMENSIONS OR DETAILS

BY	MARK	REVISIONS	DATE

THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.

MUSHROOM ROAD CROSSING
TUSCOLA COUNTY, MICHIGAN

COVER SHEET



SAGINAW OFFICE
230 S. Washington Ave.
Saginaw, MI 48607 Tel:
989-754-4717 Fax:
989-754-4440
www.SpicerGroup.com

DE. BY: POC/TMC	CH. BY: TMC	PROJECT NO.
DR. BY: POC	APP. BY: NDC	135873SG2024

STDS.	SHEET 01 OF 06	DR
DATE: DECEMBER, 2024	FILE NO.	01
SCALE: NOT TO SCALE	DR-4868-01	

GENERAL NOTES

NO WORK SHALL BE PERFORMED BEFORE 7:00 AM OR AFTER 7:00 PM MONDAY THROUGH SATURDAY. NO WORK SHALL HAPPEN ON SUNDAYS OR HOLIDAYS, UNLESS AUTHORIZED BY THE OWNER.

CONTRACTOR SHALL NOTIFY ENGINEER 48 HOURS PRIOR TO START OF CONSTRUCTION, CONSTRUCTION STAKING AND INSPECTION.

CONTRACTOR SHALL MAINTAIN ACCESS FOR MAIL DELIVERY AND GARBAGE PICKUP AT ALL PARCELS. IF THESE SERVICES CANNOT BE PERFORMED, CONTRACTOR IS RESPONSIBLE FOR TAKING THE NECESSARY MEASURES TO CARRY THEM OUT.

COORDINATE DRIVE CLOSURES AND MAIL BOX RELOCATION WITH LANDOWNERS A MINIMUM OF ONE DAY IN ADVANCE.

CONTRACTOR TO PROVIDE DUST CONTROL AND SWEEP ROADS DAILY.

ALL EXCAVATED MATERIAL NOT TO BE REUSED OR DISPOSED OF ON SITE SHALL BE REMOVED FROM SITE. THE CONTRACTOR IS RESPONSIBLE FOR DISPOSING OF MATERIALS ACCORDING TO LOCAL AND STATE REQUIREMENTS.

UNDERGROUND UTILITIES/MISS DIG

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

THE EXISTING UTILITIES ON THESE DRAWINGS HAVE BEEN SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION AND SHALL NOTIFY THE ENGINEER AS TO WHERE POSSIBLE CONFLICT EXISTS.

ALL CONSTRUCTION UNDER EXISTING UTILITIES, INCLUDING HOUSE SERVICES, SHALL BE COMPLETELY BACKFILLED WITH SAND, IN 12" LAYERS, AND COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM UNIT WEIGHT.

ANY UTILITIES ENCOUNTERED DURING CONSTRUCTION SHALL BE SUPPORTED, PER THE SPECIFICATIONS OF THE INDIVIDUAL UTILITY COMPANY CLAIMING OWNERSHIP OF THE UTILITY.

SOIL EROSION AND SEDIMENTATION CONTROL MEASURES

APPROPRIATE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO EARTH-DISTURBING ACTIVITIES. PLACE TURF ESTABLISHMENT ITEMS AS SOON AS POSSIBLE ON POTENTIAL ERODABLE SLOPES AS DIRECTED BY OWNER. CRITICAL DITCH GRADES SHALL BE PROTECTED WITH EITHER SOD, SEED/MULCH, OR SEED/MULCH BLANKET AS DIRECTED BY OWNER.

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

ALL CATCHBASINS AND SEDIMENTATION TRAPS/BASINS SHALL BE CLEANED OUT UPON COMPLETION OF THE PROJECT.

CONTRACTOR SHALL CONFORM TO SOIL EROSION AND SEDIMENTATION CONTROL ACT, PART 91 OF ACT 451 OF 1994.

PROPERTY OWNERS

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

ADJUSTING MONUMENT BOXES

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

TRAFFIC

THE CONTRACTOR SHALL MAINTAIN LOCAL TRAFFIC AT ALL TIMES. SIGNAGE MUST BE IN ACCORDANCE WITH THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND SHALL BE COORDINATED WITH THE ENGINEER AND GOVERNING ROAD AGENCY. PERMITS MAY BE REQUIRED.

PERMITS

PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED BY THE APPROPRIATE AGENCIES.

CONSTRUCTION PROCEDURES SHALL CONFORM TO THE REQUIREMENTS OF THE APPROPRIATE AGENCIES.

CONTACTS

TUSCOLA COUNTY ROAD COMMISSION ATT: BRENT DANKERT 1733 S. WIERTZ ROAD CARO, MI 48723 PHONE: (989) 673-2128	OWNER
SPICER GROUP ATT: TED M CHAMPAGNE, P.E. 230 S WASHINGTON AVENUE SAGINAW, MI 48607 PHONE: (989) 295-5029	ENGINEER
DTE ENERGY ATT: SARA KIPP 1100 CLARK ROAD LANSING, MI 48446 PHONE: (800)477-4747 EMAIL: SARA.FORCE@DTEENERGY.COM	ELECTRICAL
FRONTIER/VERIZON ATT: SANIYA HASHMI PHONE: (989) 871-5101 EMAIL: SANIYA.HASHMI@6466@PEARCE-SERVICES.COM	FIBER

GENERAL NOTES CONT.

ALL WORK SHALL BE CONFINED TO THE RIGHT-OF-WAY OR CONSTRUCTION LIMITS SHOWN ON THE PLANS. ANY WORK OUTSIDE OF THESE LIMITS SHALL BE AGREED TO BY THE CONTRACTOR AND THE LANDOWNER IN WRITING.

RESTORE ALL LAWN AREAS PER SPECIFICATIONS AND PLANS.

CONTRACTOR TO RESTORE INCIDENTAL DAMAGES ON THE PROJECT AS DIRECTED BY OWNER AND ENGINEER AT THE CONTRACTOR'S EXPENSE.

ALL DRAIN SIDE SLOPES SHALL BE 2H:1V OR FLATTER, UNLESS SPECIFIED OTHERWISE.

THE WORDS "RIGHT SIDE" OR "LEFT SIDE" IMPLY A REFERENCE TO THE DRAIN FACING UPSTREAM.

REMOVE EXISTING FENCES, LANDSCAPING, AND OTHER STRUCTURES IN RIGHT-OF-WAY OR CONSTRUCTION LIMITS AS-NEEDED FOR CONSTRUCTION. COST TO BE INCLUDED IN SITE CLEARING.

REINSTALLATION OF FENCES MUST BE COORDINATED WITH THE LANDOWNER AT THE LANDOWNER'S EXPENSE, UNLESS STATED OTHERWISE IN THE PLANS.

ALL SPRINKLER SYSTEMS DAMAGED SHALL BE REPAIRED BY CONTRACTOR. COST TO BE INCLUDED IN AMOUNT BID FOR THE PAY ITEM BEING INSTALLED, UNLESS OTHERWISE NOTED.

CONTRACTOR TO CLEAR TREES WITHIN THE RIGHT-OF-WAY OR CONSTRUCTION LIMITS AS NECESSARY TO CONSTRUCT PROJECT AND LEVEL SPOILS AS SHOWN IN DETAILS. COORDINATE REMOVALS WITH THE ENGINEER/LANDOWNER.

ROADS, DRIVEWAYS AND SIDEWALKS

ALL JOINTS AT INTERSECTION APPROACHES AND DRIVEWAYS SHALL BE SAW-CUT WITH BUTT-JOINTS.

FOR OPEN CUT PAVEMENT REMOVAL, CONTRACTOR SHALL SAW CUT THE EXISTING PAVEMENT FULL DEPTH PRIOR TO REMOVAL.

ALL DRIVING SURFACES ARE TO BE RESTORED TO IN-KIND DEPTH AND MATERIAL, UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROTECT ALL ROADS NOT SPECIFIED TO BE REMOVED DURING CONSTRUCTION. REPAIR ANY UNAUTHORIZED DAMAGE AT CONTRACTOR'S EXPENSE.

BROKEN CONCRETE AND DEBRIS SHALL BE CONSIDERED WASTE AND SHALL BE DISPOSED OF BY THE CONTRACTOR OFF-SITE. COST SHALL BE INCLUDED IN THE OTHER PAY ITEMS OF THE PROJECT.

MATCH EXISTING TYPE FOR CONCRETE CURB AND GUTTER RESTORATION.

CONTRACTOR SHALL REMOVE AND REPLACE ALL STREET AND TRAFFIC SIGNAGE AS NECESSARY FOR CONSTRUCTION. ALL COST SHALL BE INCLUDED IN THE BID PRICE FOR SITE CLEARING.

CONTRACTOR SHALL COORDINATE LOCATION OF ANY ACCESS ROADS WITH THE LANDOWNER AND THE ENGINEER. ANY ACCESS ROAD SHALL BE REPAIRED TO THE OWNER'S SATISFACTION.

ALL WORK WITHIN THE ROAD RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND GENERAL SPECIFICATIONS OF THE AGENCY WITH JURISDICTION OVER THE ROAD.

MAIL BOXES

CONTRACTOR SHALL REMOVE AND TEMPORARILY RELOCATE ALL EXISTING MAIL BOXES AS NEEDED FOR CONSTRUCTION. COSTS TO BE INCLUDED IN THE UNIT PRICE BID FOR SITE CLEARING.

ALL TEMPORARILY RELOCATED MAIL BOXES, STREET AND TRAFFIC SIGNS TO BE REINSTALLED TO ORIGINAL LOCATIONS AS CONSTRUCTION ALLOWS. COSTS TO BE INCLUDED IN THE UNIT PRICE BID FOR CLEANUP AND RESTORATION.

UTILITIES

UTILITIES LOCATED IN THE ROAD AND DRAIN RIGHTS-OF-WAY WILL BE RELOCATED BY OTHERS, UNLESS OTHERWISE NOTED ON THE PLANS.

THE COUNTY PUBLIC WORKS / DRAIN COMMISSIONER'S / WATER RESOURCES COMMISSIONER'S MINIMUM CLEARANCE STANDARDS SHALL BE MET WHENEVER RELOCATING EXISTING UTILITIES WITHIN THE DRAIN RIGHT-OF-WAY.

ALL WATER VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADE. COST SHALL BE INCLUDED IN THE PAY ITEM BEING INSTALLED.

ANY UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

ALL MANHOLE RIMS IN ROADWAYS AND DRIVES SHALL BE ADJUSTED PRIOR TO FINAL PAVING TO BE FLUSH WITH FINISHED GRADE.

GRADING AROUND MANHOLES/CATCHBASINS, FLARED END SECTIONS, AND OTHER INLETS SHALL BE SMOOTH AND SHAPED TO PROVIDE POSITIVE DRAINAGE INTO THE INLETS.

DEMOLISH EXISTING STRUCTURE(S) AND DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS. COST TO BE INCLUDED WITH THE ITEM BEING INSTALLED AS DIRECTED BY OWNER/ENGINEER.

CONTRACTOR SHALL CONNECT ANY AND ALL FIELD TILE OUTLETS AND OTHER STORM LEADS TO PROPOSED STORM SEWER WITH PREMANUFACTURED TEES, WYES, GASKETS, SEALS, COUPLERS, BOOTS, ETC. PER SPECIFICATIONS.

SOIL EROSION SEDIMENT CONTROL

ALL RIPRAP MATERIAL SHALL BE APPROVED BY THE ENGINEER. OWNER AND ENGINEER RESERVES THE RIGHT TO REJECT ANY AND ALL RIPRAP.

CONTRACTOR SHALL FINISH GRADE, SEED, FERTILIZE, AND MULCH DAILY ON ALL DISTURBED AREAS AS DESCRIBED IN THE SPECIFICATIONS.

PROJECT NOTES

1. PLANS WERE DESIGN BASED ON EGLE PERMIT WRP036261 V.1 ISSUED JANUARY 11, 2023.
2. SEE EGLE PERMIT FOR ADDITIONAL INSTRUCTIONS AND SPECIFICATIONS.

ABBREVIATIONS

- BC = BACK OF CURB
- BM = BENCH MARK
- CB = CATCH BASIN
- CC = CENTER TO CENTER
- CJ = CONSTRUCTION JOINT
- CL = CENTERLINE
- CMP = CORRUGATED METAL PIPE
- CONC = CONCRETE
- COBR = CORRUGATED
- CSP = CORRUGATED STEEL PIPE
- DI = DUCTILE IRON PIPE
- EF = EACH FACE
- ELEC = ELECTRIC
- EL OR ELEV = ELEVATION
- EOM = EDGE OF METAL
- EOP = EDGE OF PAVEMENT
- EQ/SP = EQUALLY SPACED
- ESMT = EASEMENT
- EW = EACH WAY
- EX OR EXIST = EXISTING
- FES = FLARED END SECTION
- FF = FINISH FLOOR
- FG = FINISH GROUND
- FL = FLOW LINE
- FS = FINISH SURFACE
- FT = FEET
- GALV = GALVANIZED
- G = GUTTER
- GA = GAUGE
- HDS = HOT DIP GALVANIZED
- HDPE = HIGH DENSITY POLYETHYLENE
- HMA = HOT MIX ASPHALT
- HOR = HORIZONTAL
- HP = HIGH POINT
- HYD = HYDRANT
- INV = INVERT
- LP = LOW POINT
- OC = ON CENTER
- OH = OVERHEAD
- GA = GAUGE
- HDG = HOT DIP GALVANIZED
- HDPE = HIGH DENSITY POLYETHYLENE
- HMA = HOT MIX ASPHALT
- HOR = HORIZONTAL
- HP = HIGH POINT
- HYD = HYDRANT
- INV = INVERT
- LP = LOW POINT
- OC = ON CENTER
- OH = OVERHEAD
- MM = MANHOLE
- MIN = MINIMUM
- MON = MONUMENT
- NFL = NOT FIELD LOCATED
- NTS = NOT TO SCALE
- PROP = PROPOSED
- PVC = POLYVINYL CHLORIDE
- RCP = REINFORCED CONCRETE PIPE
- ROW = RIGHT OF WAY
- SAN = SANITARY
- SB = SOIL BORING
- SS = STAINLESS STEEL
- STA = STATION
- STM = STORM
- SWR = SEWER
- T/B = TOP AND BOTTOM
- TC = TOP OF CURB
- TOB = TOP OF BANK
- TOS = TOE OF SLOPE
- TELE = TELEPHONE
- TRW = TOP OF RETAINING WALL
- TW = TOP OF WALK
- UG = UNDERGROUND
- UNO = UNLESS NOTED OTHERWISE
- VERT = VERTICAL
- WM = WATERMAIN
- WSEL = WATER SURFACE ELEVATION

LINE TYPE LEGEND

- EXISTING ROAD CENTERLINE
- EXISTING BRINE LINE
- EXISTING WATERMAIN
- EXISTING SANITARY SEWER OR FORCEMAIN
- EXISTING STORM SEWER
- EXISTING TELEPHONE CABLE
- EXISTING GAS MAIN
- EXISTING ELECTRIC
- EXISTING DRAINS (OTHER)
- PROPOSED UTILITY
- EXISTING CURB & GUTTER
- PROPOSED CURB & GUTTER
- FENCE LINE
- OVERHEAD UTILITY
- RAILROAD TRACKS
- STATION LINE
- LIMITS OF RIGHT OF WAY
- EASEMENT
- 100 YEAR FLOODPLAIN
- ORDINARY HIGH WATER MARK
- SILT FENCE
- REVERSE PAN CURB & GUTTER
- TREE LINE
- EXISTING CONTOURS
- PROPOSED CONTOURS

**SYMBOL LEGEND
EXISTING SYMBOLS**

- MANHOLE
- CATCH BASIN
- CURB CATCH BASIN
- FIRE HYDRANT
- GAS VALVE
- WATER VALVE
- TELEPHONE PEDESTAL
- POWER POLE
- TELEPHONE POLE
- POWER AND TELEPHONE POLE
- LIGHT POLE
- GUY ANCHOR AND POLE
- MAIL BOX
- WATER METER
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- MONITORING WELL
- HAND HOLE
- TRANSFORMER
- ELECTRICAL PEDESTAL
- BARRIER FREE PARKING
- SPRINKLER
- RAILROAD SIGNAL
- ANTENNA
- SATELLITE DISH
- AIR CONDITIONING UNIT
- SOIL BORING
- CONTROL POINT
- BENCH MARK
- FOUND SURVEY CORNER
- SET 1/2" IRON ROD
- 1/4 SECTION CORNER
- BREAK IN LINE
- EXISTING SIGN-1 POST
- EXISTING SIGN-2 POST
- STUMP
- WETLANDS
- PINE
- BUSH
- TREE

PROPOSED SYMBOLS

- MANHOLE
- CATCHBASIN
- FIRE HYDRANT
- WATER VALVE
- BARRIER FREE PARKING
- LIGHT POLES
- DRAINAGE FLOW
- SPOT ELEVATION LABELS
- G = GUTTER
- TW = WALK
- TC = TOP OF CURB
- FS = FINISH SURFACE

PROJECT DATUM			
HORIZONTAL:	STATE PLANE SOUTH/CENTRAL MI '83 2113		
VERTICAL:	NORTH AMERICAN VERTICAL DATUM '88		
BY	MARK	REVISIONS	DATE

THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.

**MUSHROOM ROAD CROSSING
TUSCOLA COUNTY, MICHIGAN**

**CONTACTS, GENERAL NOTES,
LINE TYPE LEGEND**



SAGINAW OFFICE
230 S. Washington Ave.
Saginaw, MI 48607
Tel: 989-754-4717
Fax: 989-754-4440
www.SpicerGroup.com

DE. BY: POC/TMC	CH. BY: TMC	PROJECT NO.
DR. BY: POC	APP. BY: NDC	135873SG2024
STDS.	SHEET 02 OF 06	DR 02
DATE: DECEMBER, 2024	FILE NO. DR-4868-02	
SCALE: NOT TO SCALE		

EROSION CONTROL MEASURES

KEY	SESC MEASURE	SYMBOL	WHERE USED
1	Seeding		When bare soil is exposed, temporarily or permanently, to erosive forces from wind and or water on flat areas, mild slopes, grassed waterways and spillways, diversion ditches and dikes, borrow and stockpile areas, and spoil piles.
2	Mulch		On flat areas, slopes, grassed waterways and spillways, diversion ditches and dikes, borrow and stockpile areas, and spoil piles when areas are subject to raindrop impact, and erosive forces from wind or water.
15	Riprap		Along drain banks, shorelines, or where concentrated flows occur. Slows velocity, reduces erosion and sediment load.
16	Riprap Toe of Slope		Riprap toe of slope protection is used in areas where velocities are causing drain bank erosion and are too high to stabilize using other methods.
23	Outfall Stabilization		In the stream or drain bank usually above the ordinary high water mark where an enclosed drain or tile discharges to an open drain.
26	Dust Control		As a temporary measure on exposed and unstabilized areas that must be protected from wind or water erosion.
28	Stone Construction Access		At locations where construction equipment will enter and exit the drain easement and tracking of soil is anticipated.

TUSCOLA COUNTY	
SOIL CLASS	SOIL COMPOSITION
35	Wolcott Loam

ROUTINE MAINTENANCE ACTIVITIES

KEY	BEST MANAGEMENT PRACTICE	SESC PLAN
A	Debris Removal	NO
B	Sediment Removal	> 100 FEET
C	Stormwater Basin Maintenance	NO
D	Drain Crossing Maintenance	NO
E	Enclosed Drain Maintenance	NO

DETAILED DRAWINGS AND SPECIFICATIONS ARE LOCATED IN THE MICHIGAN ASSOCIATION OF COUNTY DRAIN COMMISSIONERS SOIL EROSION AND SEDIMENTATION CONTROL AUTHORIZED PUBLIC AGENCY PROCEDURES MANUAL.

SYMBOLGY FOR INSERTION INTO CONSTRUCTION DRAWINGS:

= PERMANENT MEASURE

= TEMPORARY MEASURE

GENERAL TIMING & SEQUENCE

INSTALL TEMPORARY CONTROL MEASURES
SITE CLEARING
INSTALL CULVERT AND SLOPE / GRADING OF ADJACENT OPEN CHANNEL
RESTORATION
INSTALL AND ESTABLISH PERMANENT CONTROL MEASURES
REMOVE TEMPORARY CONTROL MEASURES

MAINTENANCE PROGRAM FOR SESC MEASURES

GENERAL MAINTENANCE

- CONTRACTOR SHALL MAINTAIN ALL PERMANENT SESC MEASURES FOR A PERIOD OF 1 YEAR FOLLOWING THEIR INSTALLATION.
- TEMPORARY SESC MEASURES MUST BE INSTALLED, MAINTAINED, AND REMOVED BY THE CONTRACTOR.
- TEMPORARY MEASURES MUST BE MAINTAINED AND IN PLACE UNTIL AREAS ARE PERMANENTLY STABILIZED.
- PERMANENT MEASURES MUST BE INSTALLED AND MAINTAINED BY THE CONTRACTOR UNTIL FINAL COMPLETION.
- DAILY MAINTENANCE IS THE CONTRACTOR'S RESPONSIBILITY.
- TEMPORARY SESC MEASURES MUST BE REMOVED AT THE END OF THE PROJECT ONCE PERMANENT MEASURES ARE ESTABLISHED.
- TEMPORARY SESC MEASURES MUST BE INSTALLED PRIOR TO OR AT THE TIME OF EARTH DISTURBANCE.
- INSPECT WEEKLY AND AFTER EACH RAIN EVENT UNTIL VEGETATION HAS BEEN ESTABLISHED.
- IF NECESSARY, REPAIR AND RE-SEED OR REPLANT ERODED AREAS IMMEDIATELY.

SEEDING AND MULCHING

- SEEDING PRACTICES INCLUDE TOPSOIL (AS DIRECTED BY ENGINEER), SEED, POLYMER, AND MULCH OR MULCH MATTING (AS DIRECTED BY ENGINEER OR WHERE SHOWN ON PLANS).
- WHERE NECESSARY, APPROPRIATE MULCH MUST BE APPLIED BASED ON SLOPE AND GROWING CONDITIONS AS APPROVED BY THE PROJECT MANAGER.
- ALL SLOPES AND HIGHLY ERODIBLE AREAS MUST BE SEEDED, POLYMER APPLIED, AND MULCHED AS NEEDED WHEN CONSTRUCTION ACTIVITY IS NOT TAKING PLACE.
- SEED AND MULCH IS TO BE INSPECTED DAILY FOLLOWING EACH RAIN EVENT TO DETERMINE IF CONCENTRATED FLOWS ARE PRESENT.
- IN THE EVENT THAT SEED AND MULCH ARE REMOVED BY ERODIVE RUNOFF, REPAIRS ARE TO BE MADE IMMEDIATELY.
- ALL AREAS DURING CONSTRUCTION MUST BE PERMANENTLY STABILIZED WITHIN 72 HOURS OF FINAL GRADE (GRADE LISTED ON PLAN).

STORM DRAIN INLET PROTECTION

- INSPECT ROUTINELY AND FOLLOWING A PRECIPITATION EVENT THAT RESULTS IN RUNOFF UNTIL SEDIMENT FILTER IS REMOVED.
- ROUTINELY REMOVE SEDIMENT ACCUMULATION.
- REPAIR AND REPLACE CONTROL MEASURES AS NEEDED.

SILT FENCE

- SILT FENCE IS TO BE TRENCHED IN NO LESS THAN 6 INCHES BELOW THE GROUND SURFACE.
- INSPECT SILT FENCE DAILY AND IMMEDIATELY FOLLOWING EACH RAINFALL.
- REPAIR WHEN SILT FENCE IS SAGGING OR HAS BEEN REMOVED/TORN DOWN.
- WHEN SILT COLLECTS TO HALF THE HEIGHT OF THE FENCE, ALL SILT IS TO BE REMOVED AND FENCE REPAIRED.
- REMOVE SILT FENCE WHEN PERMANENT SESC MEASURES ARE IN PLACE AND VEGETATION IS ESTABLISHED.

STABILIZED CONSTRUCTION ACCESS

- INSPECT WEEKLY AND AFTER EACH RAINFALL.
- WHEN CONSTRUCTION ACCESS IS NO LONGER EFFECTIVE, SCRAPE THE TOP LAYER AND ADD 2" OF AGGREGATE.

TURBIDITY CURTAIN

- INSPECT CURTAIN DAILY AND MAKE REQUIRED ADJUSTMENTS TO ENSURE THAT ANCHORS, TIE-DOWNS, OR OTHER MECHANISMS ARE SUFFICIENTLY ISOLATING CONSTRUCTION ACTIVITIES FROM THE WATERBODY.

COMPLIANCE WITH PART 91 OF PA 451

- RESPOND IMMEDIATELY TO STORMWATER OPERATOR AND/OR SOIL EROSION AND SEDIMENTATION CONTROL INSPECTOR'S CONCERNS. MAKE CORRECTIVE MEASURES AS REQUIRED IMMEDIATELY AS DETAILED BY THE APPROVED APA MANUAL(S).

CONTINUED MAINTENANCE PROGRAM FOR PERMANENT SESC MEASURES	
RESPONSIBLE PARTY:	TUSCOLA COUNTY ROAD COMMISSION
PERMANENT SESC MEASURE	MAINTENANCE PROCEDURE
SEEDING:	REPAIR BARE AREAS, APPLYING SUPPLEMENTAL SEED, MULCH, AND WATER AS NEEDED. MOWING CAN BE USED PERIODICALLY TO DISCOURAGE WEEDS.
RIPRAP:	REPAIR AREAS WHERE ROCK HAS BEEN DISPLACED. EXPAND RIPRAP AREA IF NEEDED.

SOIL EROSION AND SEDIMENTATION CONTROL NOTES

- INSTALL AND MAINTAIN ALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES IN ACCORDANCE WITH THE APPROVED PLAN PRIOR TO COMMENCEMENT OF CONSTRUCTION OR MASS GRADING. ALL SESC MEASURES MUST BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MUSHROOM ROAD CROSSING OVER MUD CREEK SESC PLAN AND PROJECT SPECIFICATIONS.
- SOIL EROSION CONTROL MEASURES MUST BE INSPECTED BY A STATE CERTIFIED INSPECTOR AFFILIATED WITH THE COUNTY PUBLIC WORKS / COUNTY DRAIN COMMISSIONER'S OFFICE PRIOR TO COMMENCEMENT OF CONSTRUCTION OR MASS GRADING.
- DAILY INSPECTION AND MAINTENANCE MUST BE MADE TO ENSURE ALL EROSION CONTROL MEASURES ARE FUNCTIONING PROPERLY AND INTACT. NECESSARY REPAIRS MUST BE PERFORMED WITHIN 24 HOURS.
- ADDITIONAL SOIL EROSION CONTROL MEASURES MUST BE PROVIDED THROUGHOUT CONSTRUCTION ACTIVITY AS NEEDED AND DETERMINED BY THE AP/ENGINEER. THE SOIL EROSION AND SEDIMENTATION CONTROL PLAN IS TO BE AMENDED TO INCLUDE ADDITIONAL EROSION CONTROL MEASURES IMPLEMENTED ON-SITE.
- SEDIMENT FROM WORK ON THIS SITE IS TO BE CONTAINED ON THE SITE AND IS NOT TO BE ALLOWED TO COLLECT ON ANY OFF-SITE AREAS OR IN WATERWAYS. WATERWAYS INCLUDE BOTH NATURAL AND MANMADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES, PONDS, AND WETLANDS.
- ALL VISUAL TRACKING INCLUDING MUD, DIRT, AND DEBRIS TRACKED ONTO EXISTING ROADWAYS MUST BE IMMEDIATELY REMOVED NO LESS THAN ON A DAILY BASIS BY SCRAPING AND SWEEPING AND/OR AS DIRECTED BY THE ENGINEER OR APA.
- DUST CONTROL MUST BE EXERCISED AT ALL TIMES DURING THE PROJECT AND AS DIRECTED BY THE ENGINEER OR APA. APPLY DUST SUPPRESSANT TO SURFACES USING A PRESSURE TYPE WATER DISTRIBUTOR TRUCK EQUIPPED WITH A SPRAY SYSTEM.
- ALL PERMANENT SOIL EROSION CONTROL MEASURES MUST BE IN PLACE WITHIN 24 HOURS OF FINAL GRADING (GRADE LISTED ON PLANS). THIS INCLUDES ALL VEGETATIVE STABILIZATION, VEGETATIVE STABILIZATION WILL BE ONGOING TOPSOIL, FERTILIZER, SEED, POLYMER, SILT STOP (OR EQUAL), MULCH AND OR RIPRAP MUST BE IN PLACE BEFORE PROCEEDING TO THE NEXT WORK AREA. ALL TEMPORARY MEASURES SUCH AS SILT FENCE AND INLET PROTECTION BAGS ARE TO BE REMOVED ONCE PERMANENT SESC MEASURES ARE IN PLACE AND VEGETATION IS ESTABLISHED. REMOVAL OF TEMPORARY MEASURES, FOLLOWING ACCEPTANCE OF THE PROJECT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- PRIOR TO WINTER CONSTRUCTION, ALL EXPOSED SOILS MUST BE STABILIZED WITH A COMBINATION OF SILT STOP 705 POLYMER BLEND, NORTH AMERICAN GREEN EROSION CONTROL BLANKETS, MULCH, OR OTHER APPROVED METHOD IF VEGETATION COULD NOT BE ESTABLISHED DURING THE GROWING SEASON AS DETERMINED BY THE APA OR ENGINEER.
- WORK AREAS MUST BE STABILIZED WITH TOPSOIL, SEED, FERTILIZER, AND MULCH WITHIN 24 HOURS FOLLOWING CONSTRUCTION. VEGETATIVE STABILIZATION IS ONGOING THROUGHOUT THE PROJECT.
- ALL SOIL EROSION CONTROL MEASURES MUST BE INSPECTED DAILY, THE STORM WATER OPERATOR IS TO MAKE A WEEKLY INSPECTION OR INSPECT AFTER EACH RAIN EVENT THAT RESULTED IN A DISCHARGE TO ENSURE PROPER MAINTENANCE OF THE SOIL EROSION CONTROL MEASURES. ANY DEFICIENCIES OR REPAIRS TO SOIL EROSION CONTROL MEASURES MUST BE CORRECTED IMMEDIATELY. INLET PROTECTION MEASURES, DANDY BAG II (OR EQUAL), FLEX STORM (OR EQUAL), MUST BE INSTALLED IN CATCHBASINS BEFORE ANY STORMWATER RUNOFF IS ALLOWED TO ENTER THE TOP OF THE STRUCTURES. THE SILT AND SEDIMENT MUST BE REMOVED FROM INLET PROTECTION MEASURES AS NEEDED TO ENSURE PROPER FUNCTION OF THE BAGS.
- THE NEED FOR TEMPORARY MEASURES SUCH AS SILT FENCE AND DANDY BAG II (OR EQUAL), FLEX STORM (OR EQUAL) FOR EXISTING OR NEW CATCHBASINS MUST BE ASSESSED ON A DAILY BASIS. PIPES ARE TO BE CAPPED AT THE END OF EACH WORKDAY. AT NO TIME SHOULD SEDIMENT COLLECT IN A CATCHBASIN OR AN OFF-SITE AREA. TEMPORARY MEASURES MUST BE REMOVED ONCE PERMANENT MEASURES ARE IN PLACE AND VEGETATION IS ESTABLISHED.
- IF DEWATERING IS NECESSARY, CONTRACTOR SHALL SUBMIT A DEWATERING PLAN TO THE ENGINEER OR APA FOR APPROVAL.
- THE NOTICE OF COVERAGE (IF REQUIRED), SOIL EROSION AND SEDIMENTATION CONTROL PLAN, AND STORMWATER OPERATOR LOGS MUST BE LOCATED ON SITE AT ALL TIMES.
- ALL RESTORATION TO OCCUR WITHIN 24 HOURS OF FINAL GRADING.

SOIL EROSION & SEDIMENTATION CONTROL PLAN

IN COMPLIANCE WITH SECTION 323.1703 OF PART 91, SOIL EROSION AND SEDIMENTATION CONTROL, OF THE NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT, 1994 PA 451, AS AMENDED.

BY	MARK	REVISIONS	DATE

THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.

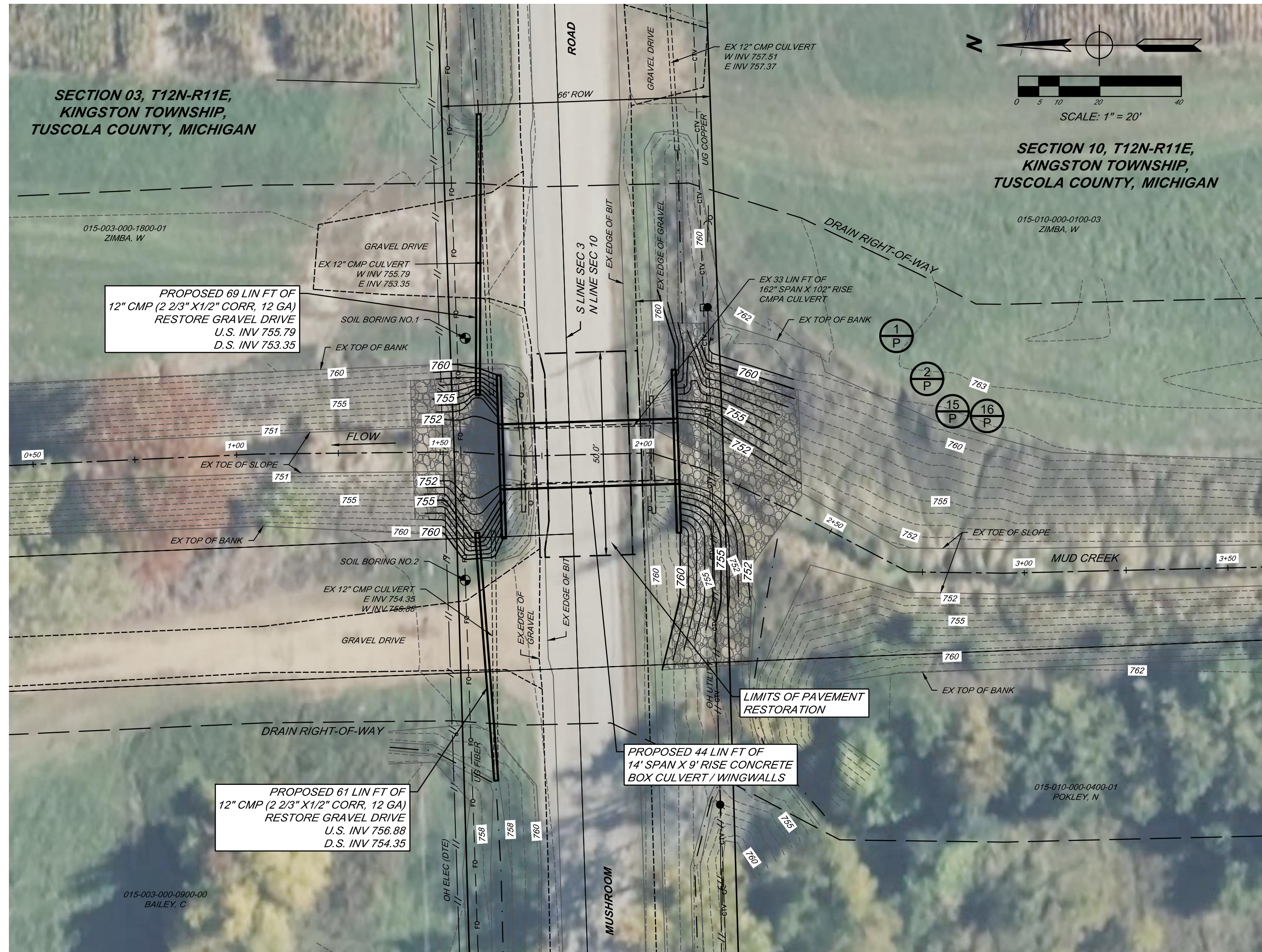
**MUSHROOM ROAD CROSSING
TUSCOLA COUNTY, MICHIGAN**

**SOIL EROSION AND
SEDIMENTATION CONTROL PLAN**

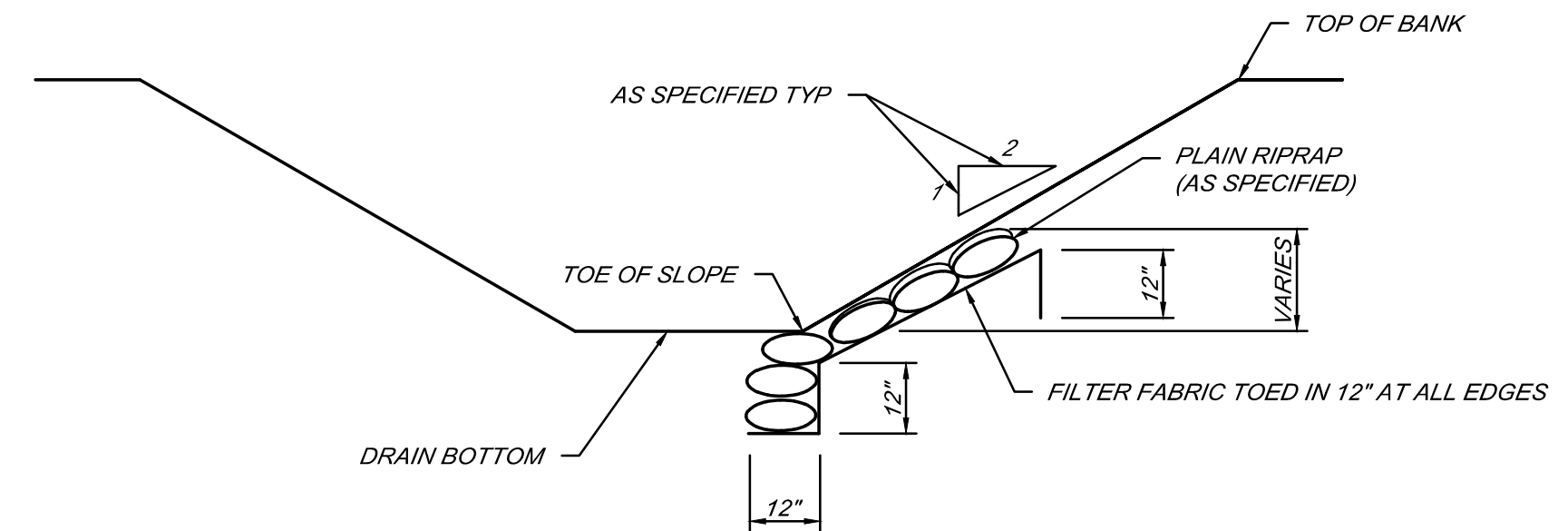
Spicer Group
SAGINAW OFFICE
230 S. Washington Ave.
Saginaw, MI 48607
Tel: 989-754-4717
Fax: 989-754-4440
www.SpicerGroup.com

DE. BY: POC/TMC	CH. BY: TMC	PROJECT NO.
DR. BY: POC	APP. BY: NDC	135873SG2024

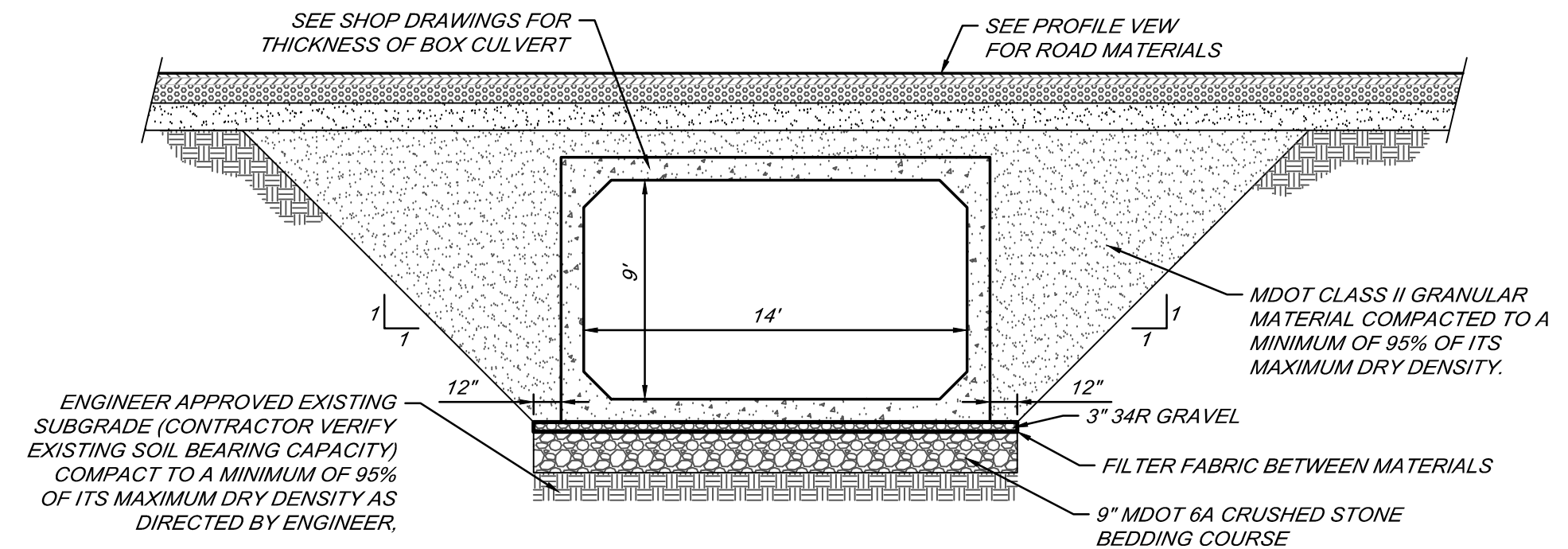
STDS.	SHEET 03 OF 06	DR 03
DATE: DECEMBER, 2024	FILE NO. DR-4868-03	
SCALE: NOT TO SCALE		



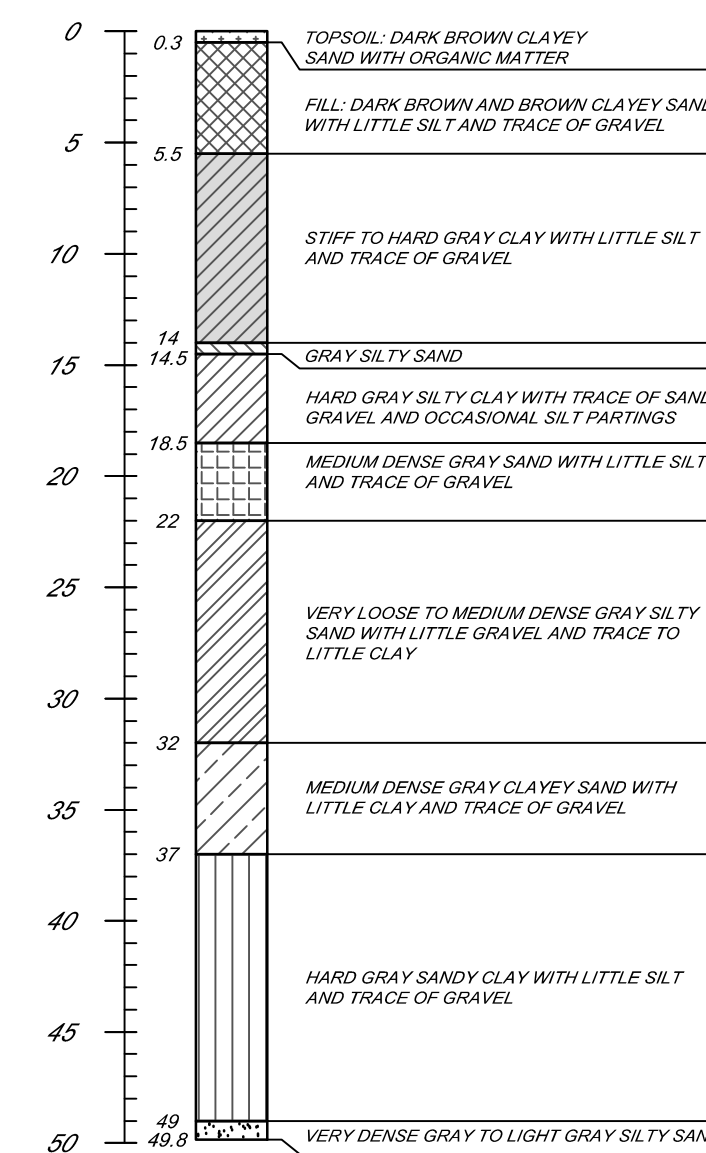
PLAN VIEW
MUSHROOM ROAD CROSSING
SCALE: 1" = 20'



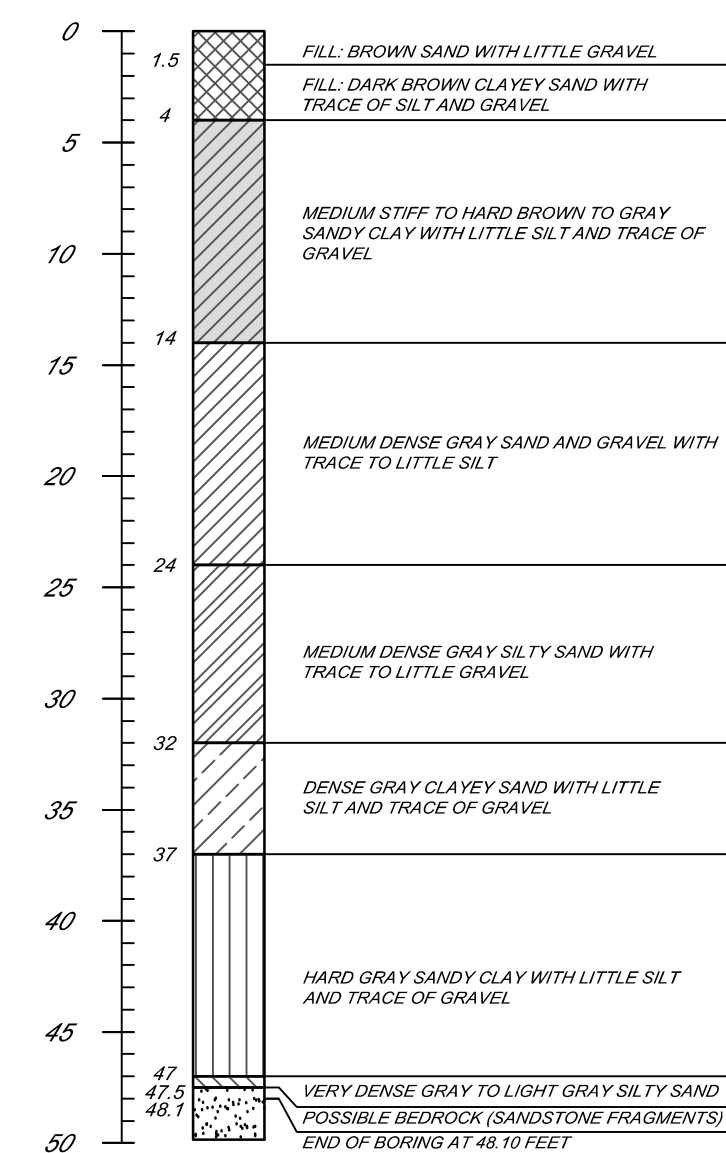
8 P **RIPRAP SLOPE PROTECTION**
TYPICAL CROSS-SECTION
NOT TO SCALE



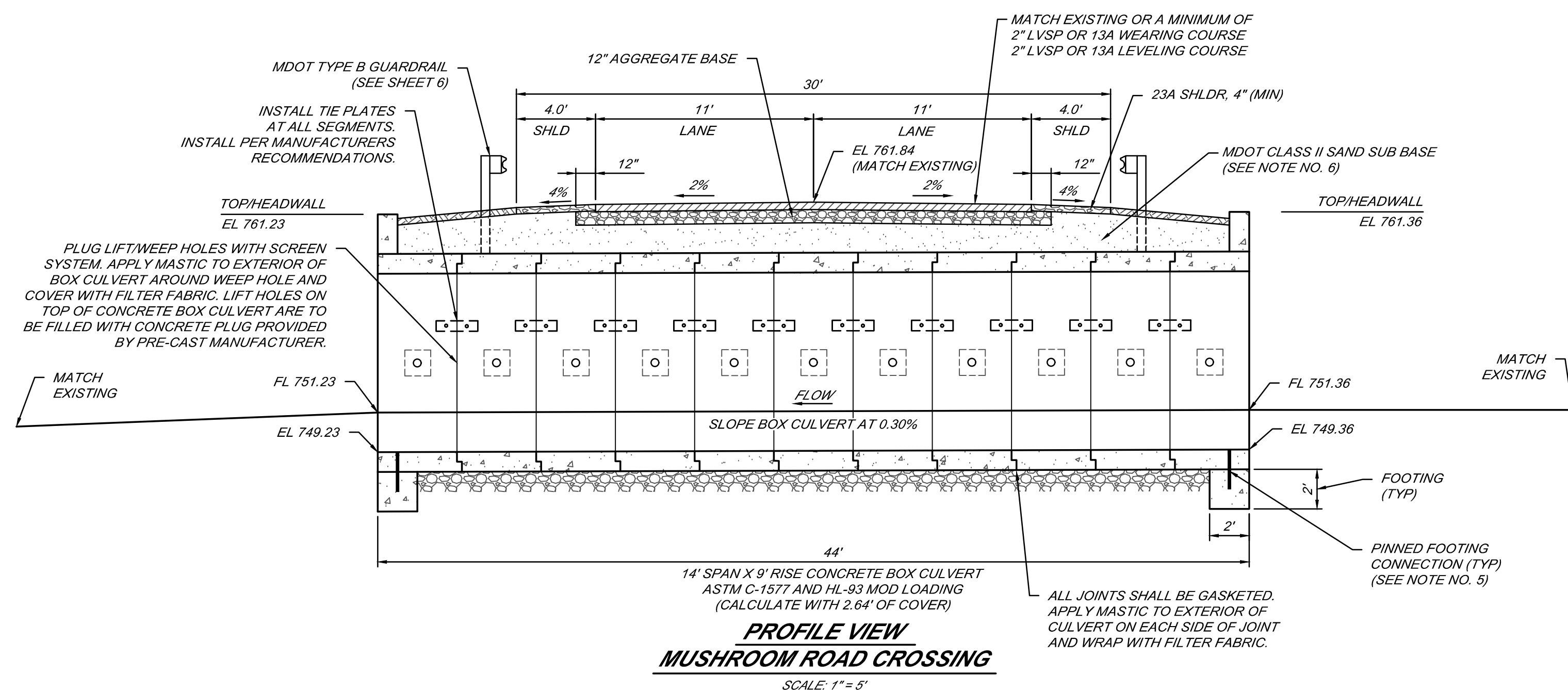
TYPICAL BOX CULVERT TRENCH DETAIL
NOT TO SCALE



BORING SB-1
LOG OF BORINGS
NOT TO SCALE



BORING SB-1
LOG OF BORINGS
NOT TO SCALE



PROFILE VIEW
MUSHROOM ROAD CROSSING
SCALE: 1" = 5'

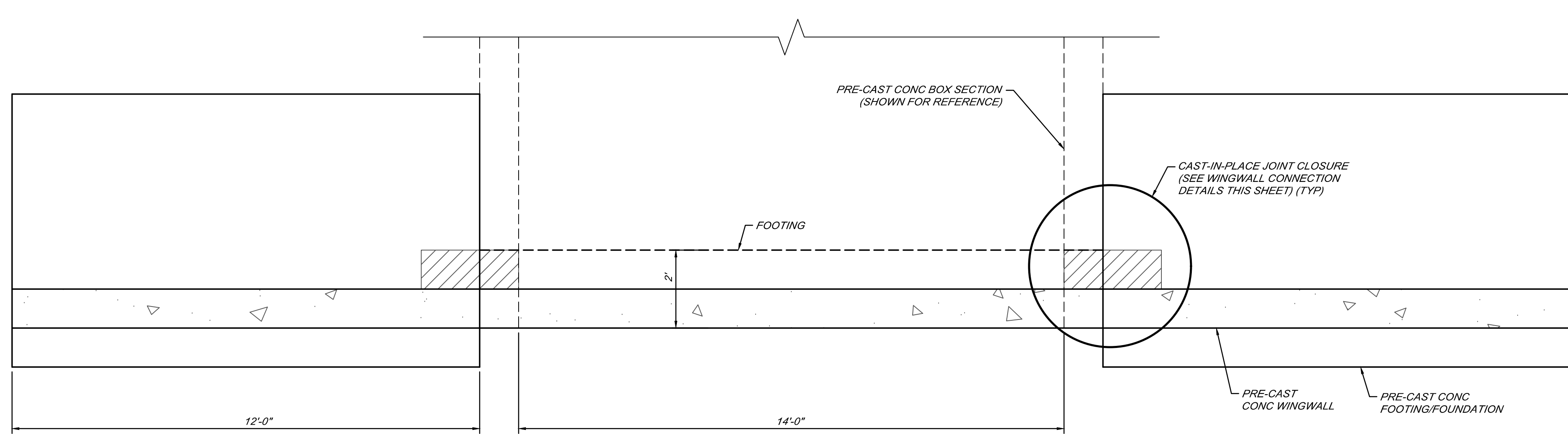
QUANTITIES THIS SHEET		
ITEM	UNIT	QTY.
14' SPAN X 9' RISE CONC BOX CULV	LIN FT	44
LVSP WEARING COURSE, 2"	TON	13
LVSP LEVELING COURSE, 2"	TON	13
12" AGGREGATE BASE	SQ YD	135
23A AGGREGATE SHOULDER	SQ YD	45
MISC RIPRAP	SQ YD	200
SEEDING AND MULCH	LUMP SUM	1
CLEANUP AND RESTORATION	LUMP SUM	1
RIPRAP SLOPE PROTECTION	SQ YD	100
SITE CLEARING	LUMP SUM	1
REMOVAL OF EXISTING STRUCTURE	LUMP SUM	1

BY	MARK	REVISIONS	DATE
<p>THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.</p>			
<p>MUSHROOM ROAD CROSSING TUSCOLA COUNTY, MICHIGAN</p>			
<p>PLAN AND PROFILE MUD CREEK MUSHROOM ROAD CROSSING</p>			
		<p>SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel: 989-754-4717 Fax: 989-754-4440 www.SpicerGroup.com</p>	
DE. BY: POC/TMC	CH. BY: TMC	PROJECT NO. 135873SG2024	
DR. BY: POC	APP. BY: NDC		
STDS.	SHEET 04 OF 06	DR	
DATE: JANUARY, 2025	FILE NO. DR-4868-04	04	
SCALE: AS SHOWN			

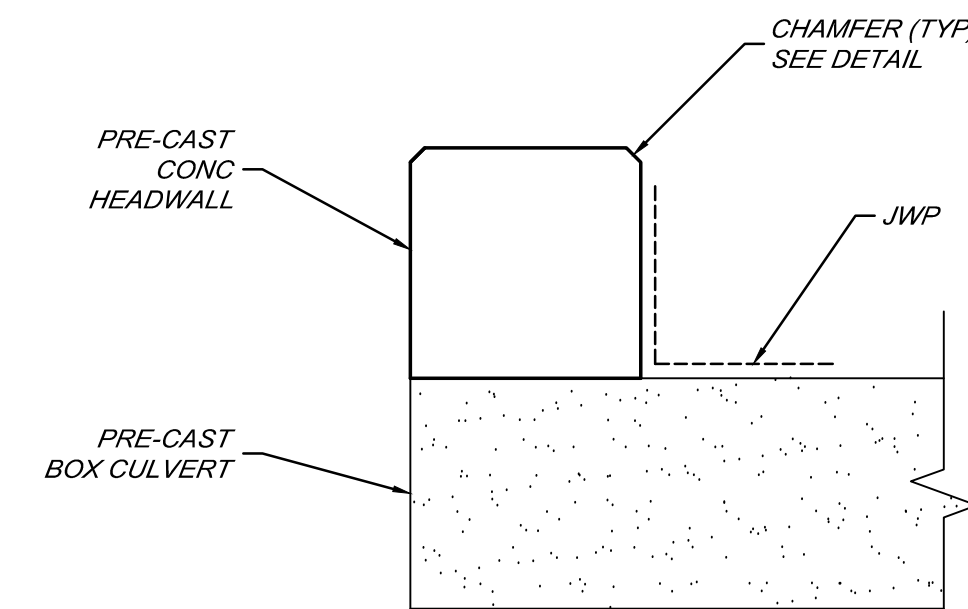
RIGHT OF WAY
MUD CREEK - DRAIN RIGHT-OF-WAY IS 66 FEET WIDE ON EACH SIDE OF CENTERLINE OF DRAIN.

BENCHMARKS
BM 200 - FOUND BOLT IN EAST FACE OF POWERPOLE NORTH OF MUSHROOM ROAD 150' WEST OF MUD CREEK. EL 761.05
BM 201 - FOUND RAILROAD SPIKE IN WEST FACE OF POWERPOLE NORTH OF MUSHROOM ROAD 150' EAST OF MUD CREEK. EL 760.97

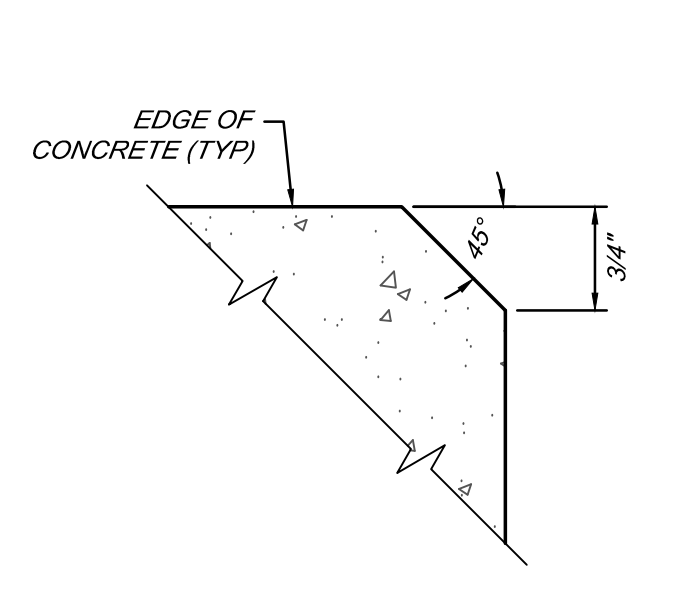
P:\proj\04\135873SG2024\135873SG2024.dwg - T:\C:\Users\jmc\OneDrive\Documents\SpicerGroup\135873SG2024\135873SG2024.dwg - P:\proj\04\135873SG2024\135873SG2024.dwg - 11/20/2024 7:58:20 AM - mwhrnc



**TYPICAL CONCRETE HEADWORKS
WINGWALL/HEADWALL PLAN VIEW**
NOT TO SCALE
** FINAL DESIGN/DETAILS BY PRE-CAST CONCRETE MANUFACTURER



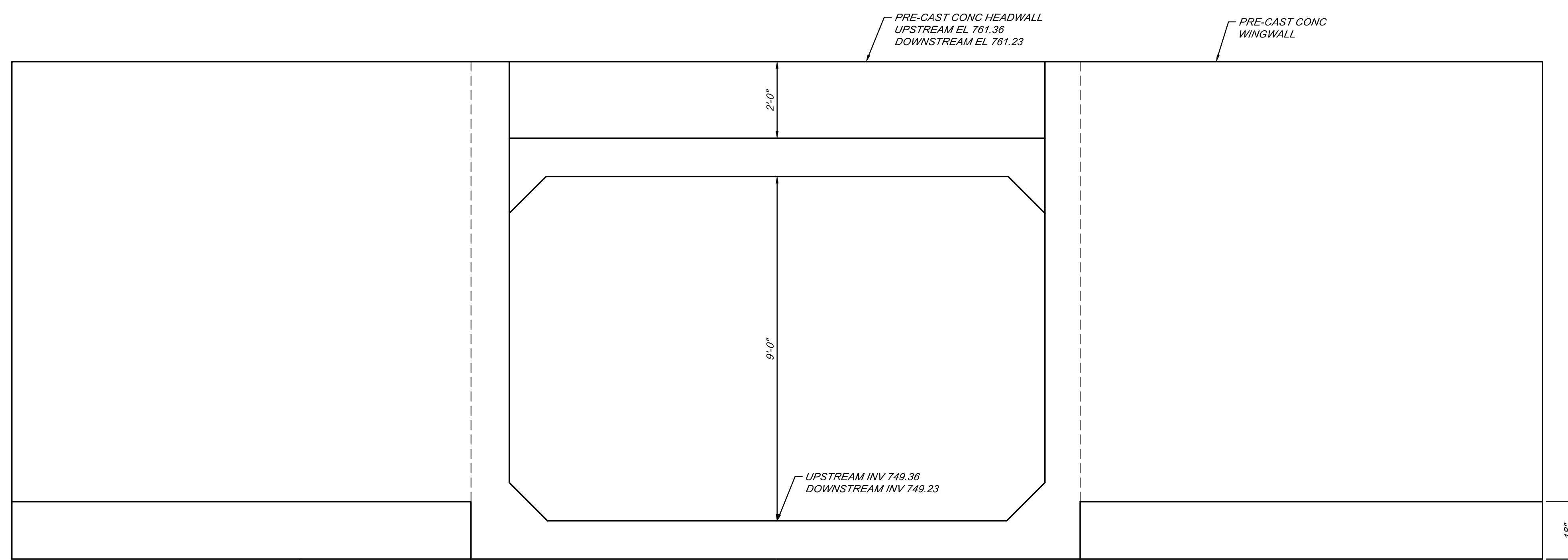
BOX CULVERT HEADWALL DETAIL
NOT TO SCALE



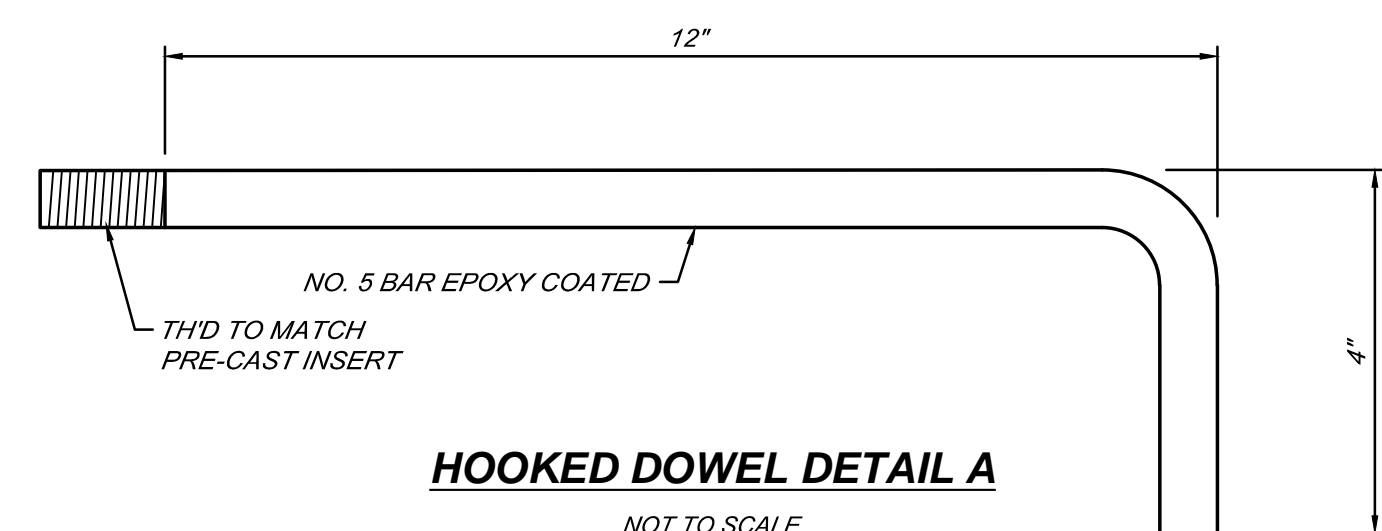
TYPICAL CHAMFER DETAIL
NOT TO SCALE
REQUIRED AT ALL EXPOSED CORNERS

GENERAL NOTES

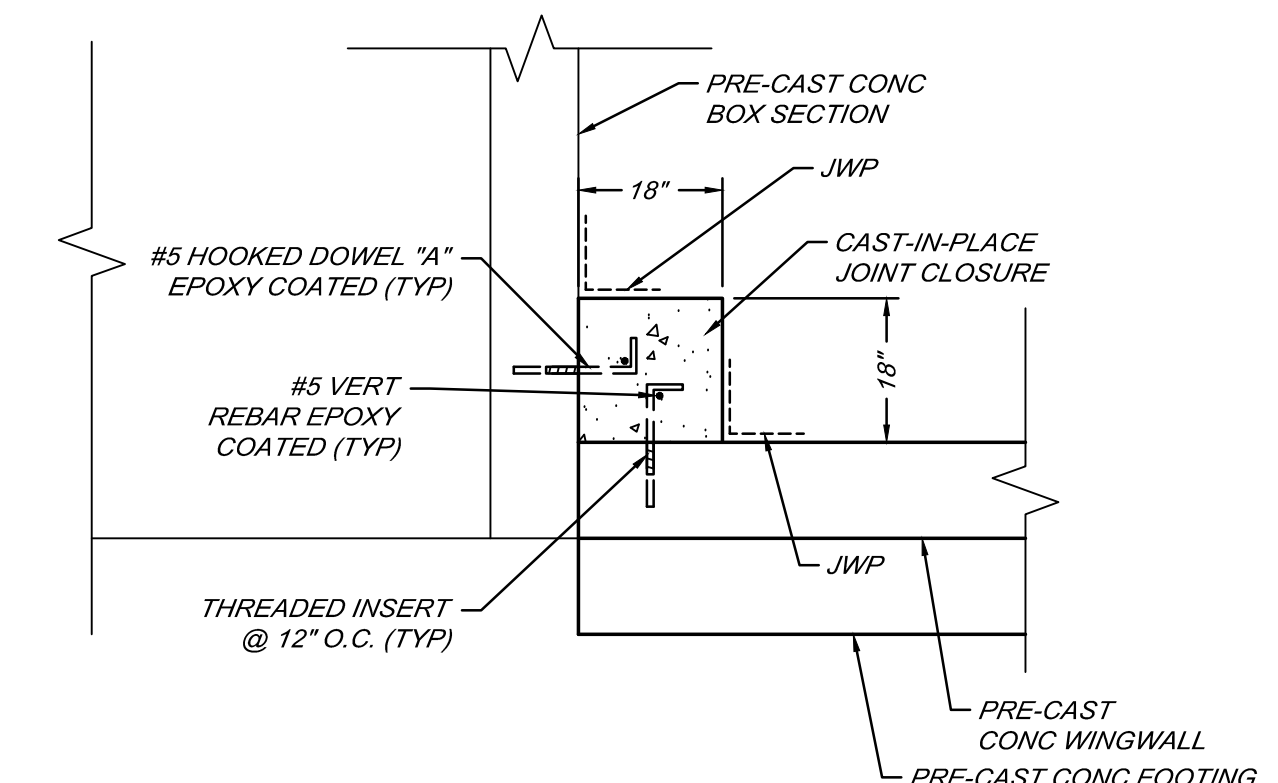
- JWP DENOTES JOINT WATERPROOFING
- NS DENOTES NEAR SIDE
- FS DENOTES FAR SIDE
- ES DENOTES EACH SIDE
- FOR BEVEL AND MOLDING DETAILS, SEE STANDARD PLAN B-103 SERIES



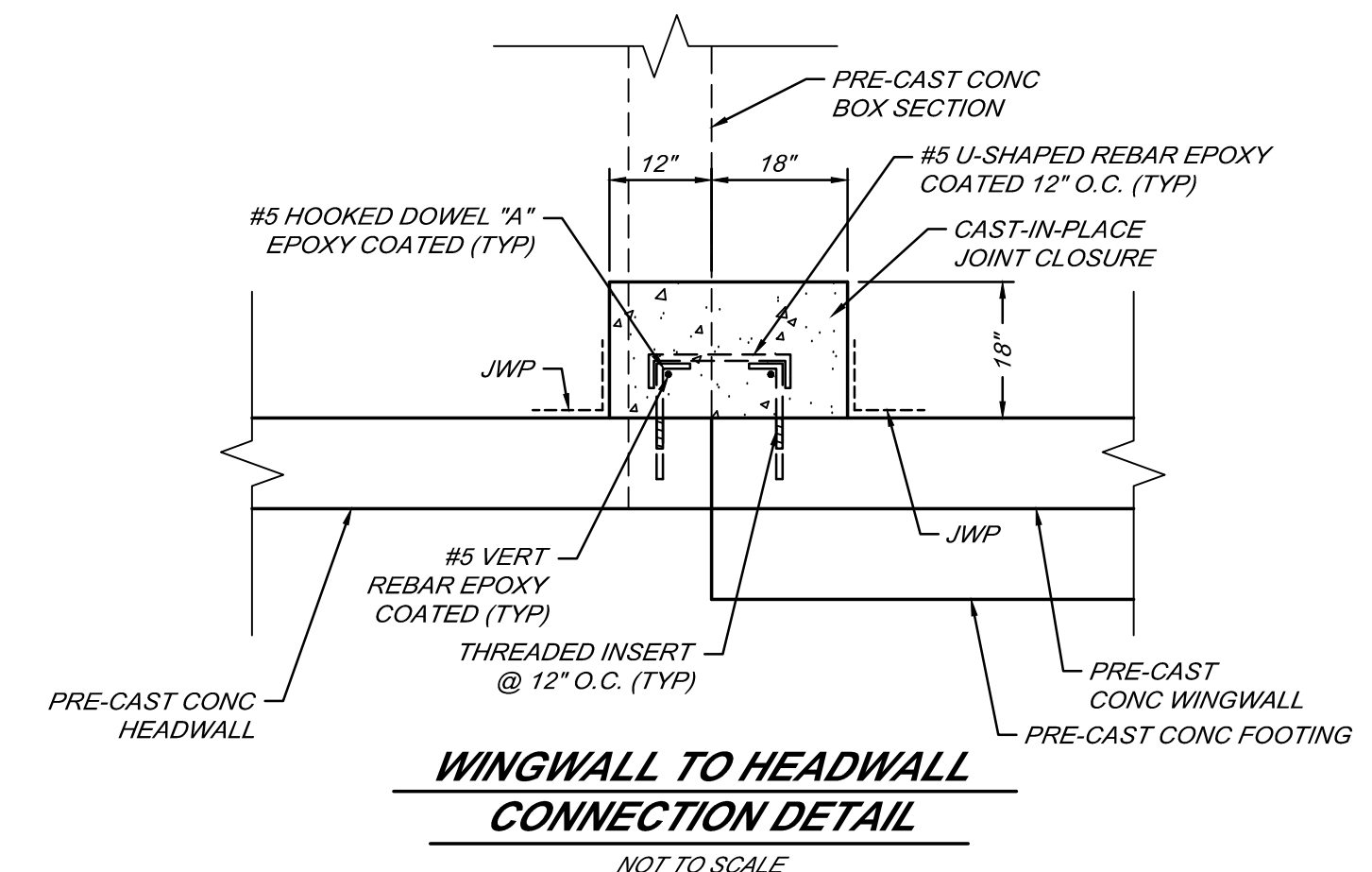
**TYPICAL CONCRETE HEADWORKS
WINGWALL/HEADWALL ELEVATION VIEW**
NOT TO SCALE
** FINAL DESIGN/DETAILS BY PRE-CAST CONCRETE MANUFACTURER



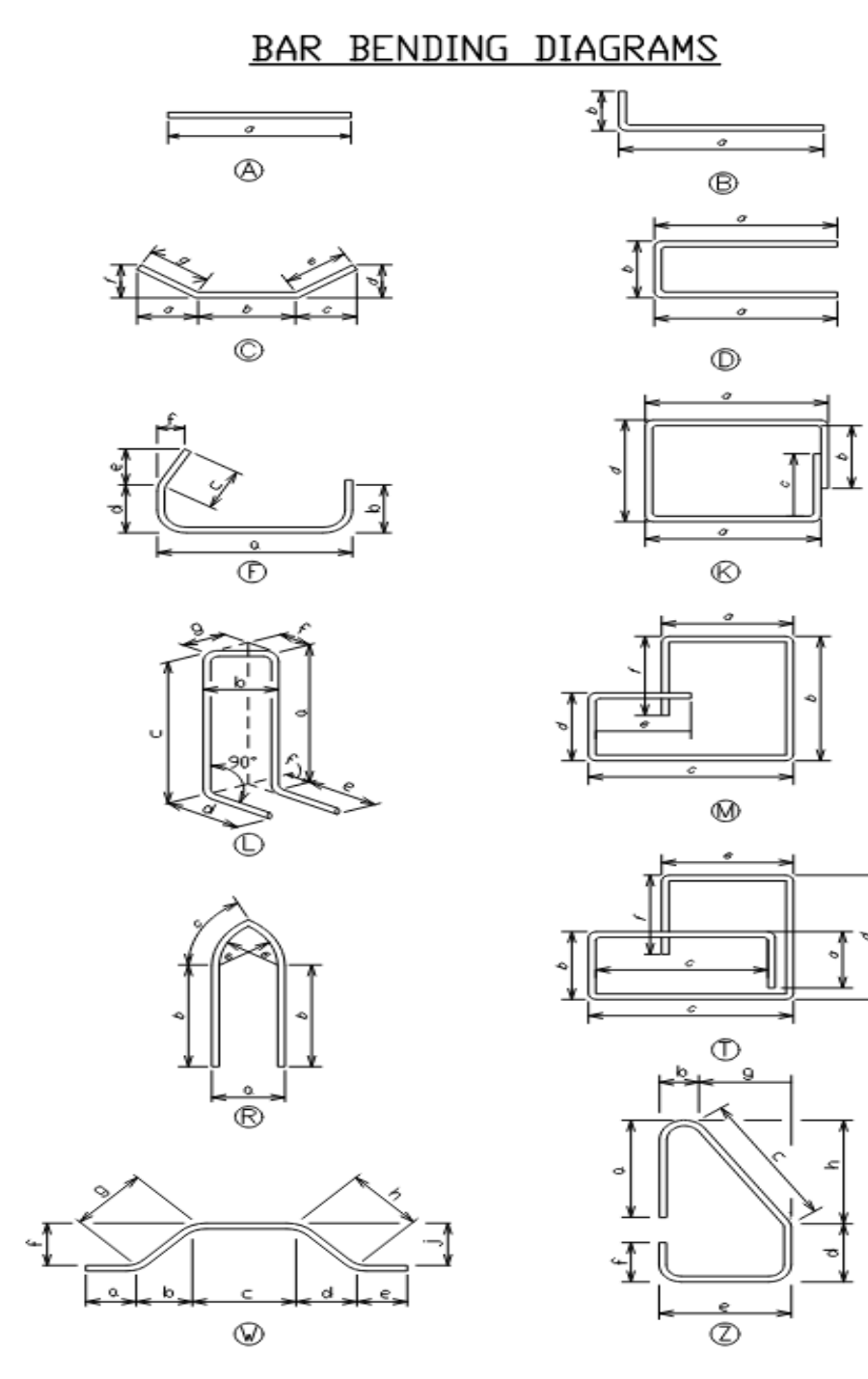
HOOKED DOWEL DETAIL A
NOT TO SCALE



WINGWALL TO BOX CULVERT CONNECTION DETAIL
NOT TO SCALE



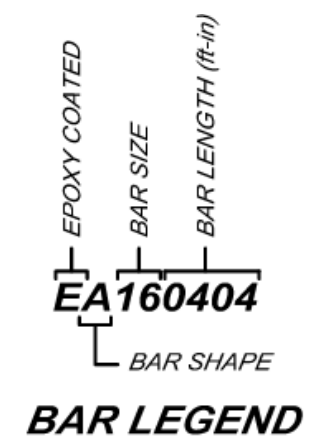
WINGWALL TO HEADWALL CONNECTION DETAIL
NOT TO SCALE



BAR WEIGHTS lb/ft

- #03 - .376
- #04 - .668
- #05 - 1.043
- #06 - 1.502
- #07 - 2.044
- #08 - 2.670
- #09 - 3.400
- #10 - 4.303
- #11 - 5.313

BAR	DIMENSIONS					NO. REQ.	TOTAL WEIGHT
	a	b	c	d	e		
WING WALL EA051200	12'-0"					4	50
ED050203	0'-06"	1'-03"				8	18
EB050104 threaded	1'-00"	0'-04"				48	70

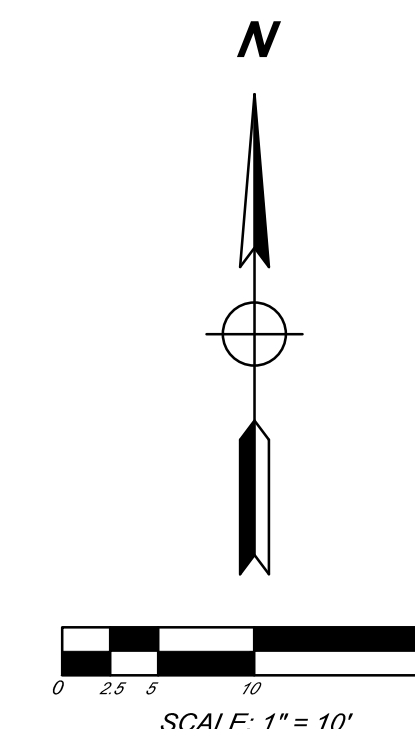


- NOTES:**
- REINFORCEMENT SHALL BE BUNDLED AND TAGGED AS TO THE LOCATION AS SHOWN ON THIS SHEET.
 - REINFORCEMENT IS TO BE SHOP CUT AS SHOWN. THE EPOXY COATING SHALL BE REPAIRED ACCORDING TO THE STANDARD SPECIFICATIONS.

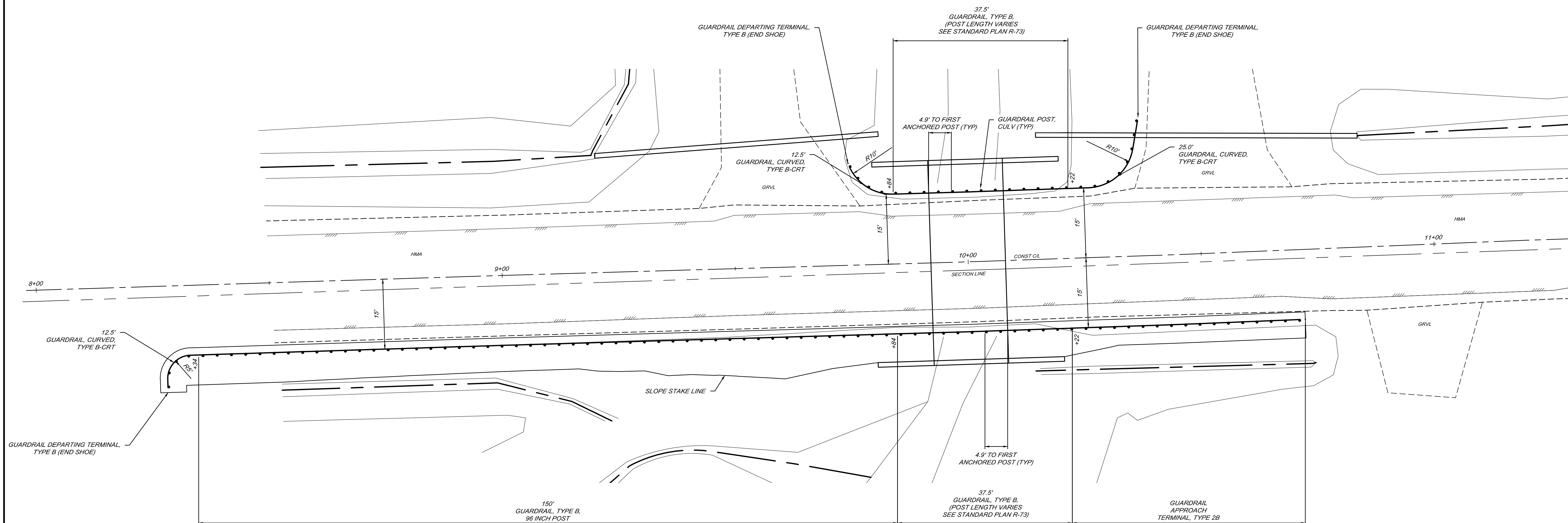
BY	MARK	REVISIONS	DATE
<p>THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.</p>			
<p>MUSHROOM ROAD CROSSING TUSCOLA COUNTY, MICHIGAN</p>			
<p>MUSHROOM ROAD CROSSING STRUCTURE DETAILS</p>			
		<p>SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel: 989-754-4717 Fax: 989-754-4440 www.SpicerGroup.com</p>	
DE. BY: POC/TMC	CH. BY: TMC	PROJECT NO. 135873SG2024	
DR. BY: POC	APP. BY: NDC		
STDS.		SHEET 05 OF 06	DR 05
DATE: DECEMBER, 2024	SCALE: AS SHOWN	FILE NO. DR-4868-05	

P:\Projects\135873SG2024 - TUSCOLA Co. - Mushroom Road Crossing\Drawings\DR-4868-05.dwg, PLOT: 12/13/2024 11:24:26 AM, cadpac

SECTION 03, T12N-R11E,
KINGSTON TOWNSHIP,
TUSCOLA COUNTY, MICHIGAN



MUD CREEK



MUD CREEK

SECTION 10, T12N-R11E,
KINGSTON TOWNSHIP,
TUSCOLA COUNTY, MICHIGAN

MDOT ROAD STANDARD PLANS

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

GUARDRAIL TYPES A, B, BD, T, TD, MGS-8, & MGS-8D
GUARDRAIL APPROACH TERMINAL TYPES 2B & 2T (SKT & ET-PLUS)
GUARDRAIL DEPARTING TERMINAL TYPES B, T & MGS
GUARDRAIL OVER BOX OR SLAB CULVERTS
GUARDRAIL AT INTERSECTIONS

R-60-J*
R-62-H-LAP*
R-66-E*
R-73-F*
21*

CONSTRUCTION QUANTITIES - THIS SHEET

1	Ea	Guardrail Approach Terminal, Type 2B
3	Ea	Guardrail Departing Terminal, Type B
4	Ea	Guardrail Post, Culv
14	Ea	Guardrail, Reflector
50	Ft	Guardrail, Curved, Type B-CRT
225	Ft	Guardrail, Type B, 96 inch Post

BY	MARK	REVISIONS	DATE

THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.

**MUSHROOM ROAD CROSSING
TUSCOLA COUNTY, MICHIGAN**

**GUARDRAIL DETAILS
MUD CREEK
MUSHROOM ROAD CROSSING**

Spicer Group
SAGINAW OFFICE
230 S. Washington Ave.
Saginaw, MI 48607
Tel: 989-754-4717
Fax: 989-754-4440
www.SpicerGroup.com

DE. BY: GCE	CH. BY: MGN	PROJECT NO.
DR. BY: GCE	APP. BY: MGN	135873SG2024

STDS.	SHEET 06 OF 06	DR 06
DATE: JANUARY, 2025	FILE NO.	
SCALE: AS SHOWN	DR-4868-06	

P:\proj\2024\135873SG2024\T12N-R11E-Kingston\Drawings\Road\Guardrail\DR-4868-06_GUARDRAIL.dwg, 1/14/2025 10:06:09 AM, ptable