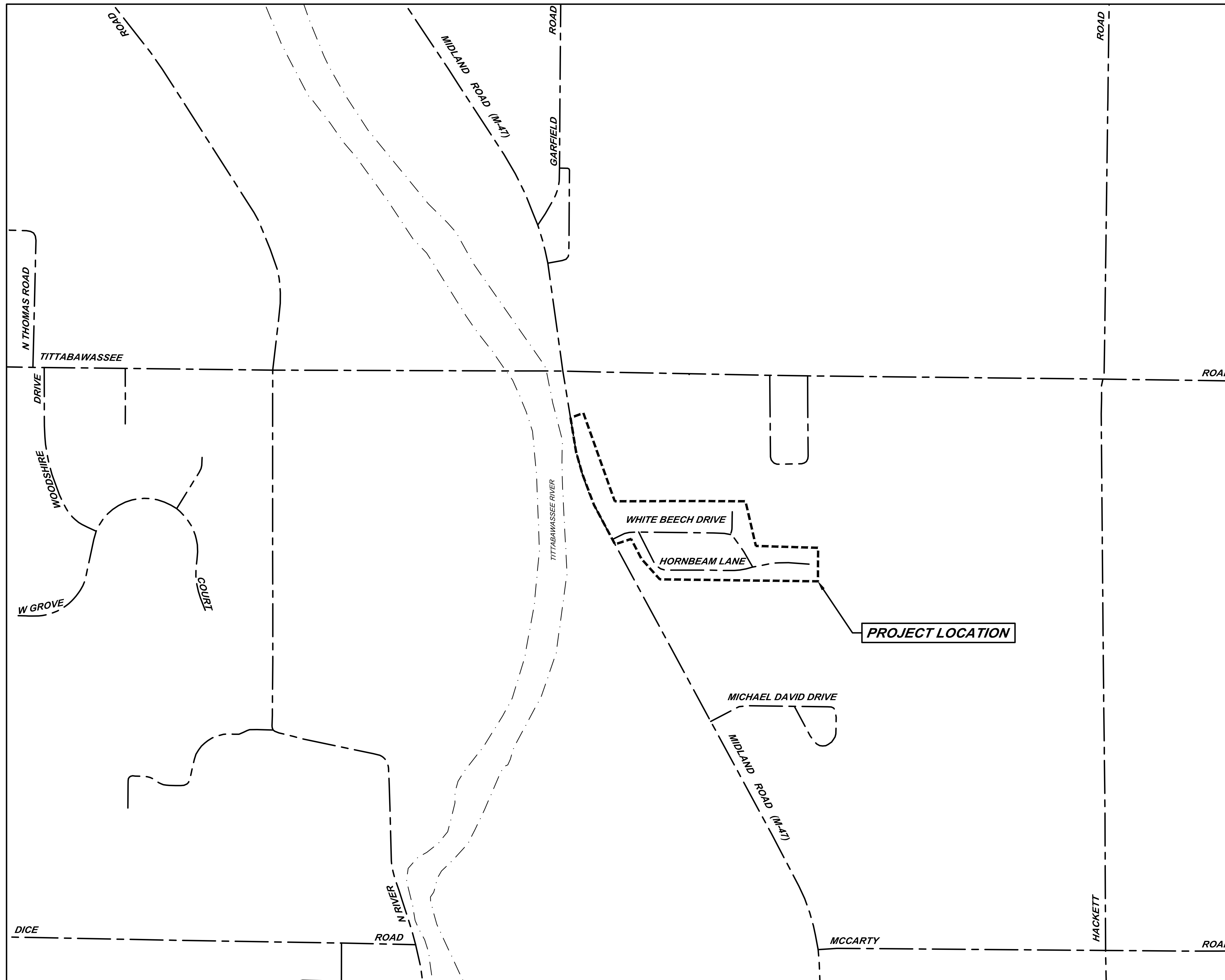


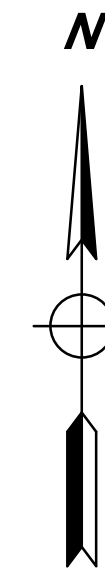
# WHITE BEECH DRAIN

SAGINAW COUNTY PUBLIC WORKS COMMISSIONER - BRIAN J. WENDLING

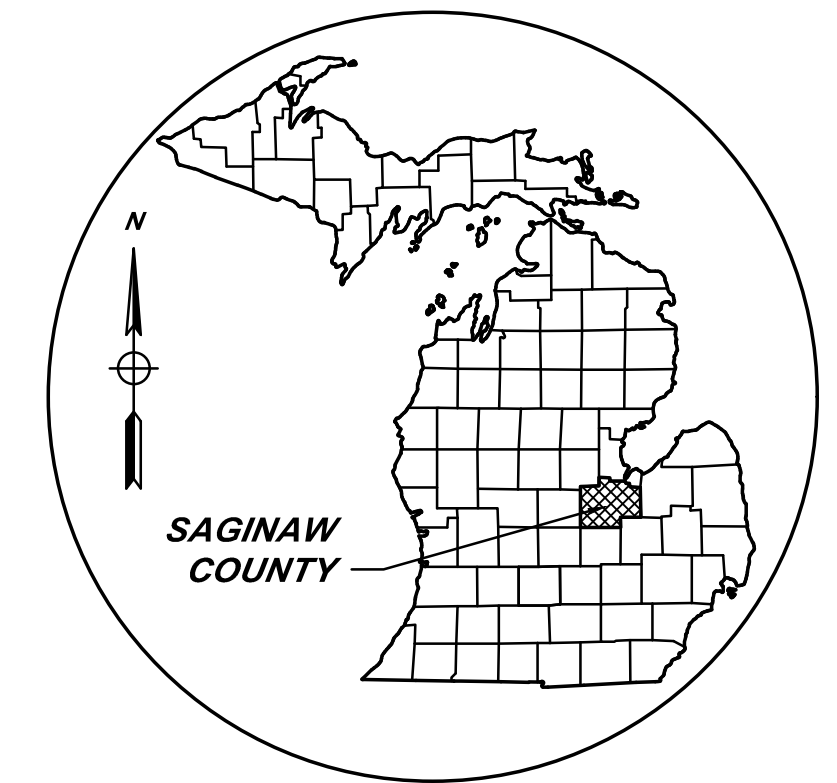


**LOCATION MAP**  
NOT TO SCALE


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SECTION 02, T12N-R03E,  
SAGINAW TOWNSHIP,  
SAGINAW COUNTY



**AREA MAP**  
NOT TO SCALE

BY	MARK	REVISIONS	DATE
<small>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.</small>			
<b>WHITE BEECH DRAIN</b> <b>SAGINAW COUNTY, MICHIGAN</b>			
<b>COVER SHEET</b>			
		<small>SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel: 989-754-4717 Fax: 989-754-4440 www.SpicerGroup.com</small>	
DE. BY: POC/TMC	CH. BY: TMC	PROJECT NO. <b>133895SG2023</b>	
DR. BY: CBS	APP. BY: NDC		
STDS.	SHEET <b>01</b> OF <b>13</b>	<b>DR</b>	
DATE: APRIL, 2024	FILE NO.	<b>01</b>	
SCALE: NOT TO SCALE	<b>DR-4530-01</b>		

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**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 THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

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

**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 LAND OWNER AT THE LAND OWNER'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.

THE PUBLIC WORKS 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.

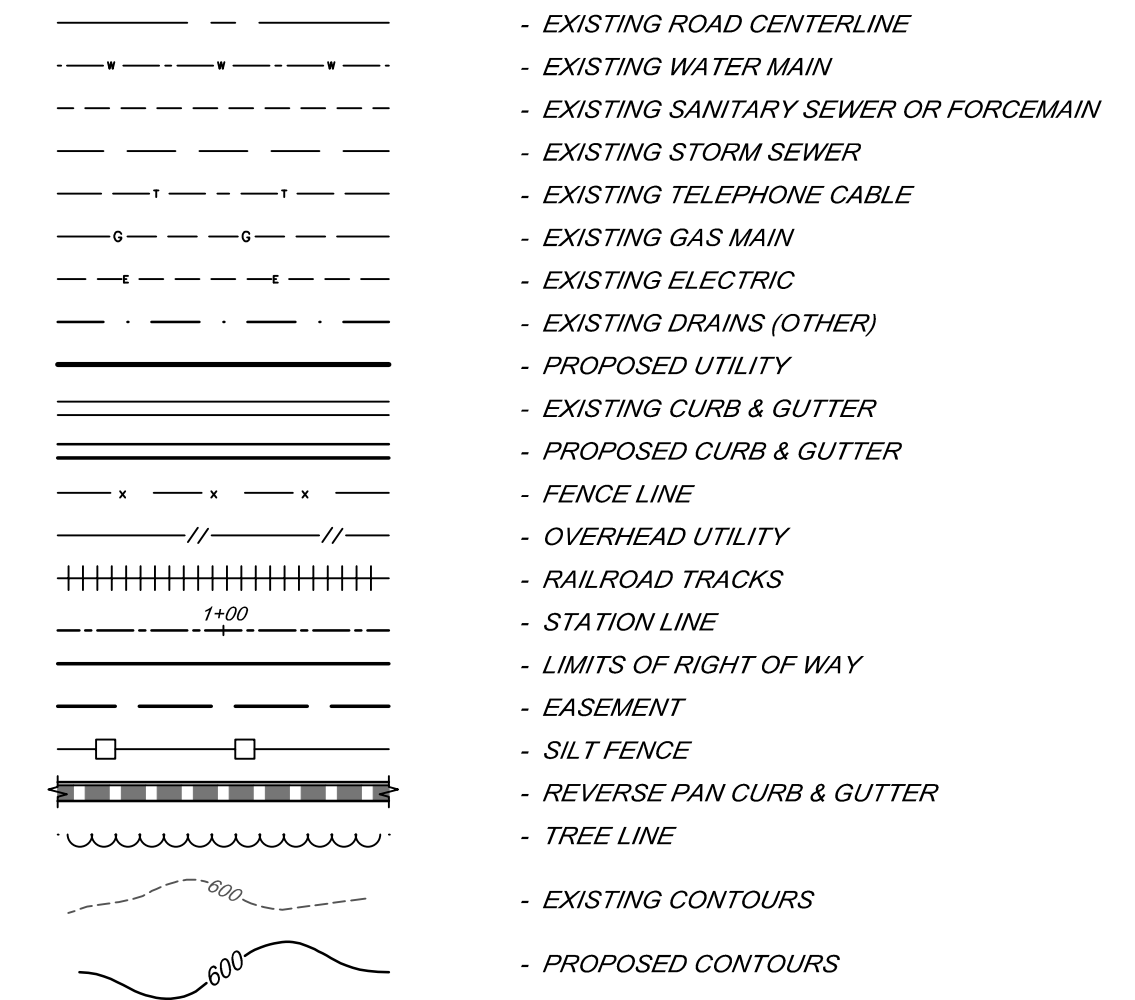
SOIL EROSION SEDIMENT CONTROL ALL RIPRAP MATERIAL SHALL BE APPROVED BY THE ENGINEER. OWNER AND ENGINEER RESERVES THE RIGHT TO REJECT ANY AND ALL RIPRAP.

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

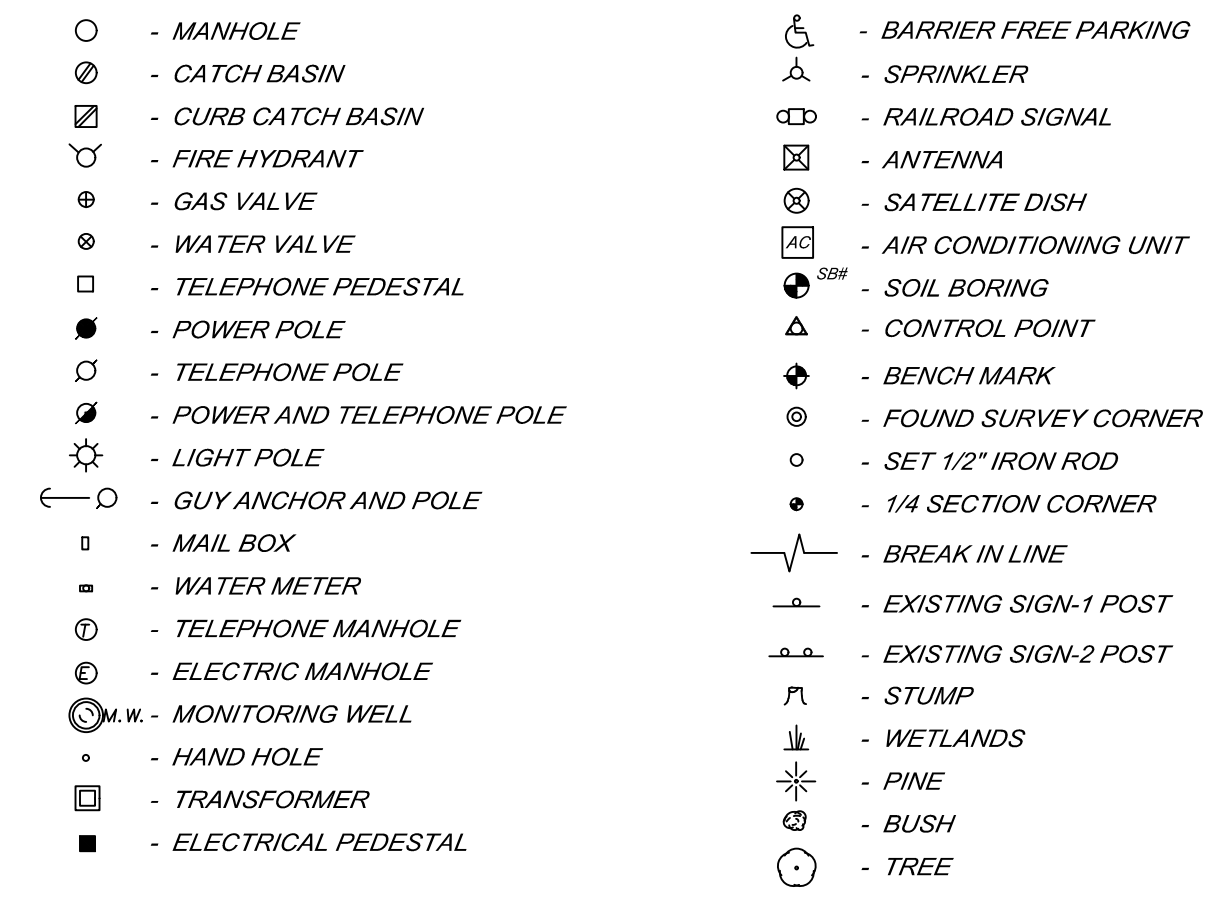
**ABBREVIATIONS**

- BC = BACK OF CURB
- BM = BENCH MARK
- CB = CATCH BASIN
- C/C = CENTER TO CENTER
- CJ = CONSTRUCTION JOINT
- CL = CENTERLINE
- CMP = CORRUGATED METAL PIPE
- CONC = CONCRETE
- CORR = 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
- MH = 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
- TB = 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 = WATER MAIN
- WSEL = WATER SURFACE ELEVATION

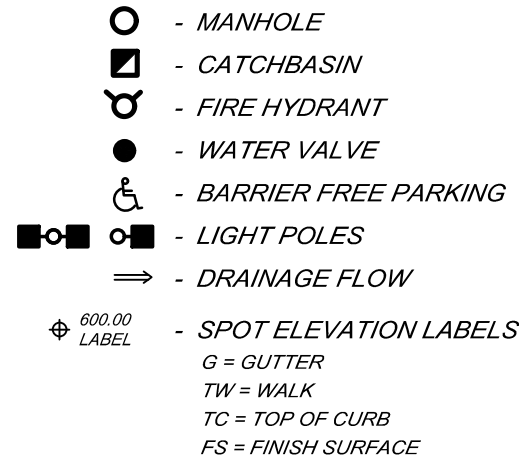
**LINE TYPE LEGEND**



**SYMBOL LEGEND EXISTING SYMBOLS**



**PROPOSED SYMBOLS**



**CONTACTS**

SAGINAW COUNTY PUBLIC WORKS COMMISSIONER ATT: BRIAN J. WENDLING 111 SOUTH WASHINGTON AVENUE SAGINAW, MI 48602 PHONE: (989) 790-5258	OWNER	CHARTER COMMUNICATIONS ATT: DAN BIELACZYK 1392 TRADE CENTRE DRIVE TRAVERSE CITY, MI 49696 PHONE: (231) 941-3819	CABLE/FIBER OPTIC
SPICER GROUP ATT: TED CHAMPAGNE, P.E. 230 SOUTH WASHINGTON AVENUE SAGINAW, MI 48602 PHONE: (989) 295-5029	ENGINEER	CONSUMERS ENERGY - GAS ATT: BENJAMIN LEWIS 2400 WEISS ST., SAGINAW, MI 48602 PHONE: (989) 791-5918	GAS
MICHIGAN DEPARTMENT OF TRANSPORTATION ATT: DON HUNDLEY 2690 E. WILDER ROAD BAT CITY, MI 48706 PHONE: (989) 233-7253	MDOT	CONSUMERS ENERGY - ELECTRIC ATT: VIRGIE DOWNS 2400 WEISS ST., SAGINAW, MI 48602 PHONE: (989) 860-5529	ELECTRIC
SAGINAW CHARTER TOWNSHIP ATT: DARYL GOTHAM 4870 SHATTUCK ROAD SAGINAW, MI 48603 PHONE: (989) 791-9870	WATER	PIGEON TELEPHONE ATT: CODY SOBIESKI P.O. BOX 650, PIGEON, MI PHONE: (989) 453-4343	TELEPHONE
A&T ATT: ROBERT AUGUSTINE 309 S. WASHINGTON AVENUE SAGINAW, MI 48607 PHONE: (989) 776-4038	TELEPHONE		

**PROJECT SPECIFIC NOTES**

- DISTURBED AREAS IN THE SUBDIVISION TO RECEIVE 4" OF IMPORTED SCREENED TOPSOIL.
- CONTRACTOR TO REPAIR IRRIGATION SYSTEM DAMAGED DURING CONSTRUCTION. CONTRACTOR TO COORDINATE WITH LANDOWNER TO LOCATE AND PROACTIVELY ISOLATE/SEVER IRRIGATION LINES TO PREVENT DAMAGE TO SYSTEM OUTSIDE OF THAT NECESSARY FOR CONSTRUCTION.

PROJECT DATUM			
HORIZONTAL:	STATE PLANE SOUTH MI 93 2113		
VERTICAL:	NORTH AMERICAN VERTICAL DATUM 98		
BY	MARK	REVISIONS	DATE
<small>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.</small>			
WHITE BEECH DRAIN SAGINAW COUNTY, MICHIGAN			
CONTACTS, GENERAL NOTES, AND 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: CBS	APP. BY: NDC	133895SG2023	
STDS.	SHEET 02 OF 13	DR	
DATE: APRIL 2024	FILE NO.	02	
SCALE: NOT TO SCALE	DR-4530-02		



**EROSION CONTROL MEASURES**

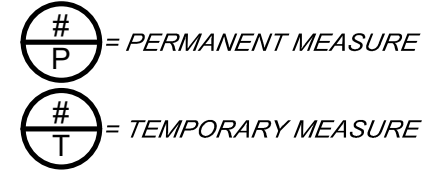
KEY	SESC MEASURE	SYMBOL	WHERE USED
1	Seeding		When bare soil is exposed, temporarily or permanently, to erosive forces from wind and/or water on flat areas, mild slopes, grassed waterways and spillways, diversion ditches and dikes, borrow and stockpile areas, and spoil piles.
2	Mulch		On flat areas, 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.
6	Catch Basin		Where surface water accumulates and needs an outlet or an open drain discharges to a stream or drain at erosive velocities. Within an enclosed drain system to provide an inlet and a sump.
7	Storm Drain Inlet Protection		Around the entrance to a catch basin or an inlet that will capture runoff from an earth change activity.
15	Riprap		Along drain banks, shorelines, or where concentrated flows occur. Slows velocity, reduces erosion and sediment load.
19	Armored Spillway		When concentrated flow must be conveyed down a drain bank or slope or discharge into another drain. Where slope failure or channel scour is observed or is likely to occur, or when runoff must be redirected around work in the drain.
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.

**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.

SYMBOLS FOR INSERTION INTO CONSTRUCTION DRAWINGS:



GENERAL TIMING & SEQUENCE
INSTALL TEMPORARY CONTROL MEASURES
SITE CLEARING
STORM SEWER SYSTEM
RESTORATION
INSTALL AND ESTABLISH PERMANENT CONTROL MEASURES
REMOVE TEMPORARY CONTROL MEASURES

SAGINAW COUNTY	
SOIL CLASS	SOIL COMPOSITION
BcA	Blount-Powarno loams, 0 to 2 percent slopes
BIA	Blount loam, Erie-Huron Lake Plain, 0 to 2 percent slopes
Cu	Cut and fill land
KnA	Kibby fine sandy loam, 0 to 3 percent slopes
Ma	Made land
MeA	Metamora sandy loam, 0 to 3 percent slopes
Pe	Pewamo loam
So	Sloan silt loam, wet

**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 ENGINEER.
- 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 ERODIBLE 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 EVEN THAT RESULTS IN RUNOFF UNTIL SEDIMENT FILTER IS REMOVED.
- ROUTINELY REMOVE SEDIMENT ACCUMULATION.
- REPAIR AND OR REPLACE CONTROL MEASURES AS NEEDED.

**STABILIZED CONSTRUCTION ACCESS**

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

**COMPLIANCE WITH PART 91 OF PA 451**

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

**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 WHITE BEECH DRAIN SESC PLAN AND PROJECT SPECIFICATIONS.
- SOIL EROSION CONTROL MEASURES MUST BE INSPECTED BY A STATE CERTIFIED INSPECTOR AFFILIATED WITH THE COUNTY PUBLIC WORKS 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.
- 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 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.

**CONTINUED MAINTENANCE PROGRAM FOR PERMANENT SESC MEASURES**

RESPONSIBLE PARTY:	SAGINAW COUNTY PUBLIC WORKS COMMISSIONER
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.

BY	MARK	REVISIONS	DATE

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**WHITE BEECH DRAIN  
SAGINAW COUNTY, MICHIGAN**

**SOIL EROSION AND SEDIMENTATION CONTROL PLAN**

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

**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.

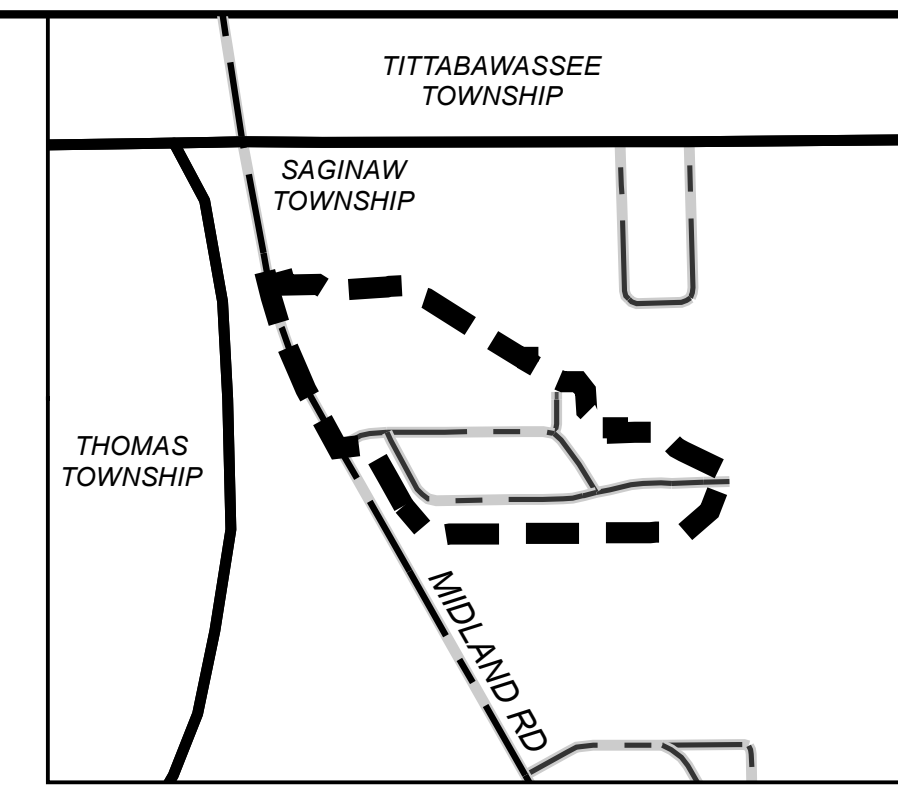
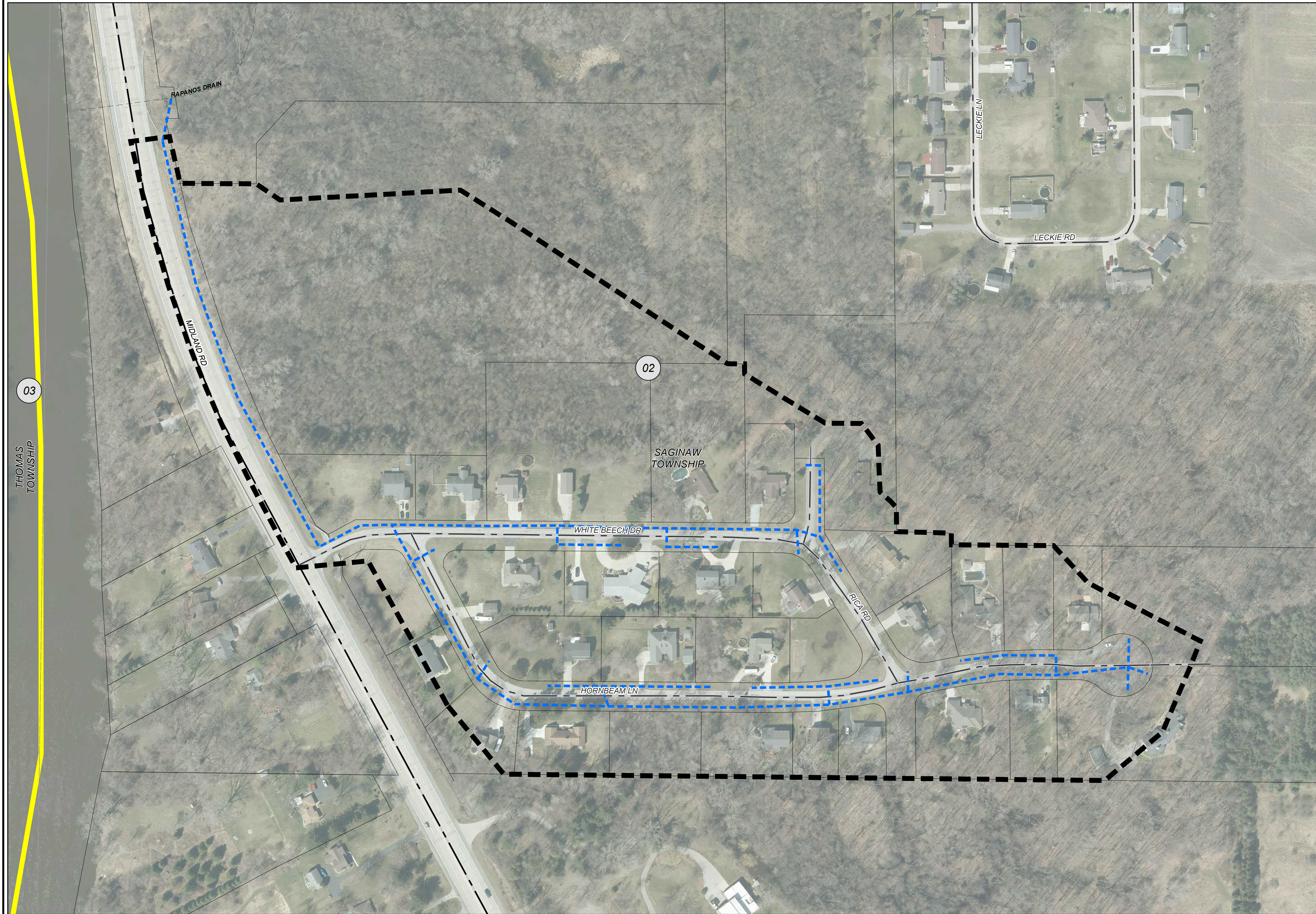
DE. BY: POC/TMC	CH. BY: TMC	PROJECT NO.
DR. BY: CBS	APP. BY: NDC	133895SG2023
STDS.	SHEET 03 OF 13	DR
DATE: APRIL, 2024	FILE NO.	03
SCALE: NOT TO SCALE	DR-4530-03	



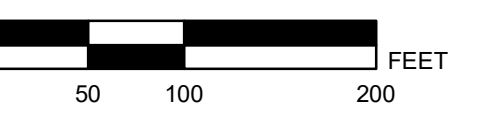
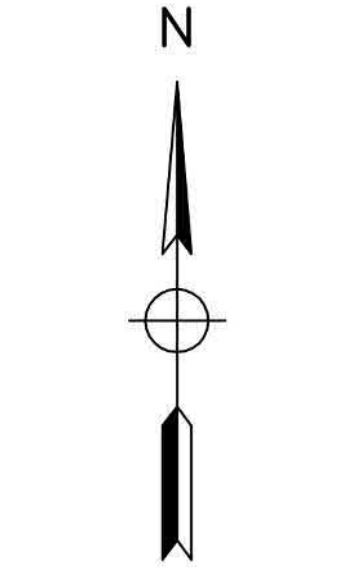
# WHITE BEECH DRAIN

## SAGINAW COUNTY, MICHIGAN

SAGINAW COUNTY PUBLIC WORKS COMMISSIONER - BRIAN J. WENDLING



AREA MAP  
NOT TO SCALE



**LEGEND**

- DRAINAGE DISTRICT BOUNDARY
- APPROXIMATE DRAIN CENTERLINE
- OUTLET WATERCOURSE
- SECTION

**DRAINAGE DISTRICT BREAKDOWN**

SAGINAW CHARTER TOWNSHIP	40.52 AC.
<b>TOTAL ACREAGE IN DISTRICT</b>	
	<b>40.52 AC.</b>
<b>LENGTH OF DRAIN</b>	
NEW TAMARACK DRAIN	6077.13 FT.

BY	MARK	REVISIONS	DATE

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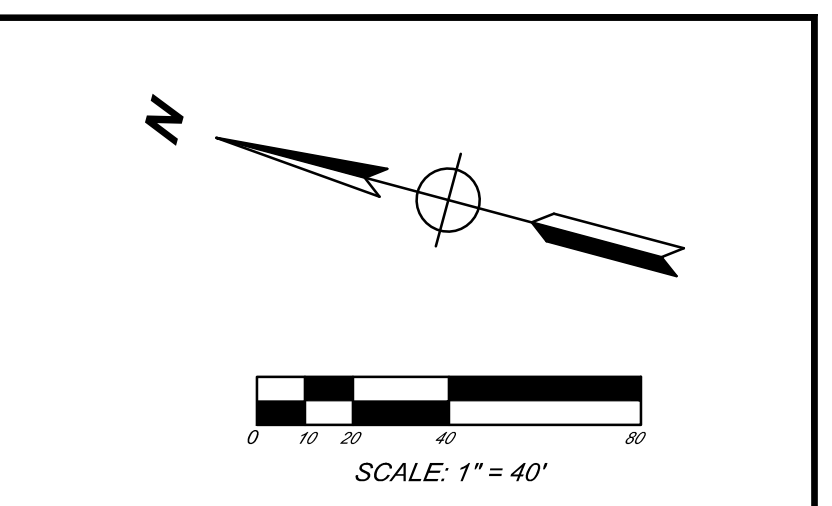
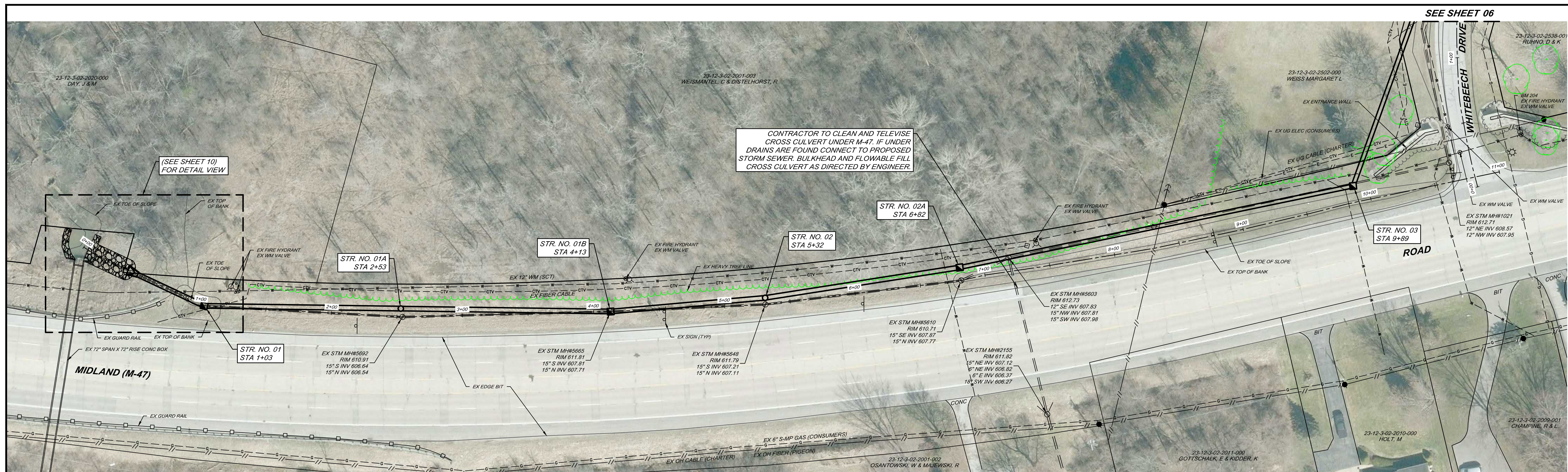
**WHITE BEECH DRAIN**  
SAGINAW COUNTY, MICHIGAN

**DRAINAGE DISTRICT MAP**

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

DE. BY: LDO	CH. BY: TMC	PROJECT NO.
DR. BY: JML	APP. BY: NDC	133895SG2023
STDS.	SHEET 04 OF 13	DR
DATE: APRIL 2024	FILE NO.	04
SCALE: 1" = 100'	DR - 4530 - 04	





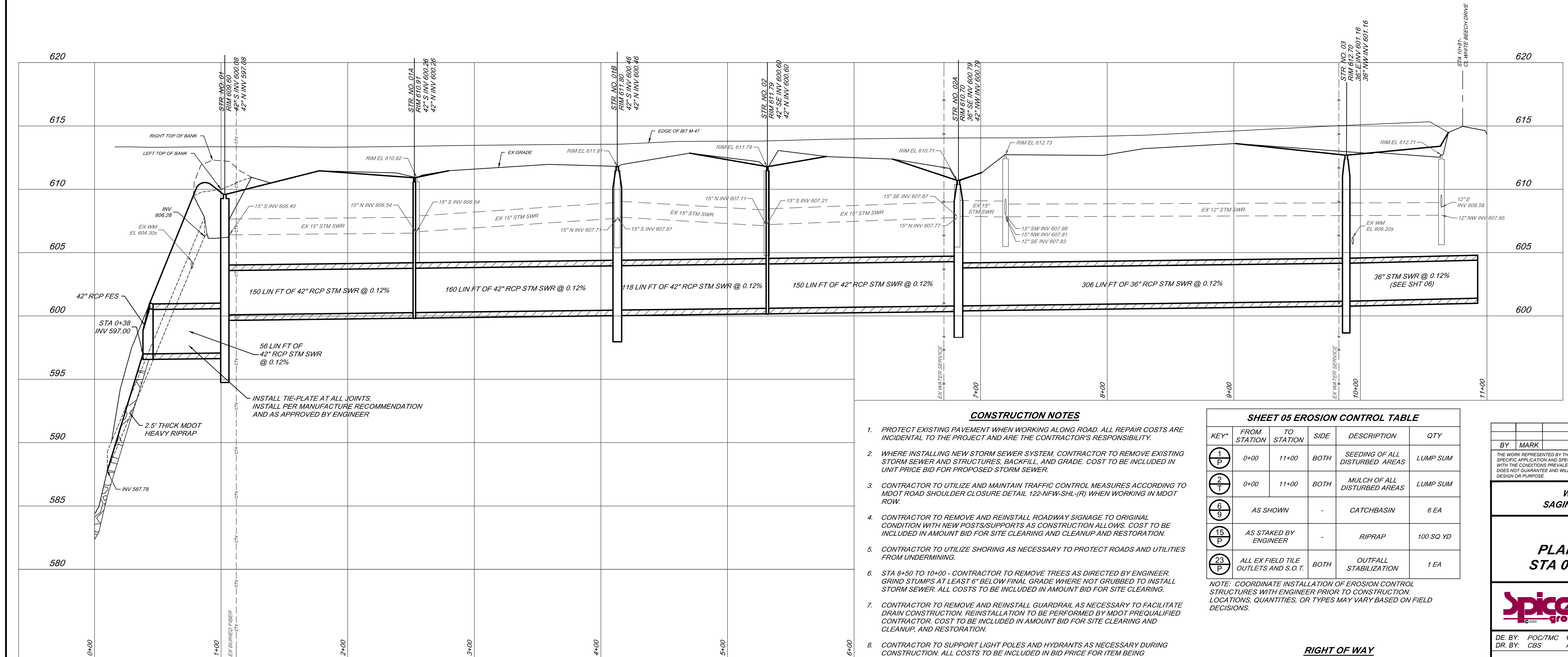
**SHEET 05 QUANTITIES**

ITEM	UNIT	QTY.
18" INLET TEE	EACH	2
5" DIA MH/CB	EACH	1
6" DIA MH/CB	EACH	3
36" RCP STORM SEWER	LIN FT	306
42" RCP STORM SEWER	LIN FT	634
42" RCP FLARED END SECTION	EACH	1

**BENCHMARKS**

BM 204 - SOUTHEAST FLANGE BOLT ON HYDRANT, SOUTHEAST QUADRANT OF M-47 AND WHITE BEECH DRIVE, ±74' EASTERLY OF CL M-47 AND ±42' SOUTHEASTERLY OF CL WHITE BEECH DRIVE.

EL 614.31



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.

**WHITE BEECH DRAIN**  
SAGINAW COUNTY, MICHIGAN

**M-47**  
**PLAN AND PROFILE**  
**STA 0+00 TO STA 11+00**

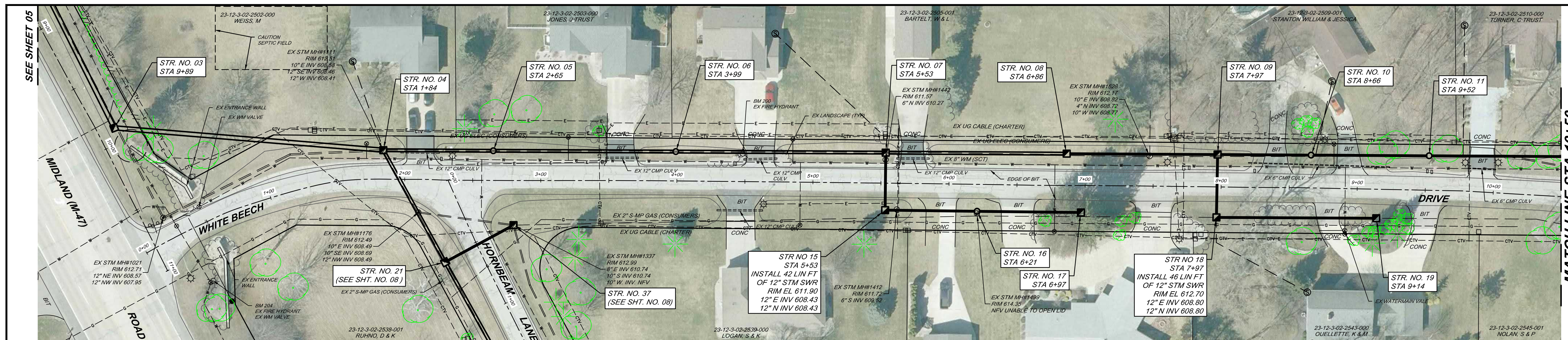
**Spicer Group**

SAGINAW OFFICE  
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DE. BY: POC/TMC CH. BY: TMC PROJECT NO. 133895SG2023  
DR. BY: CBS APP. BY: NDC

STDS. SHEET 05 OF 13 DR  
DATE: APRIL, 2024 FILE NO. DR-4530-05  
SCALE: H:1"=40' V:1"=4'





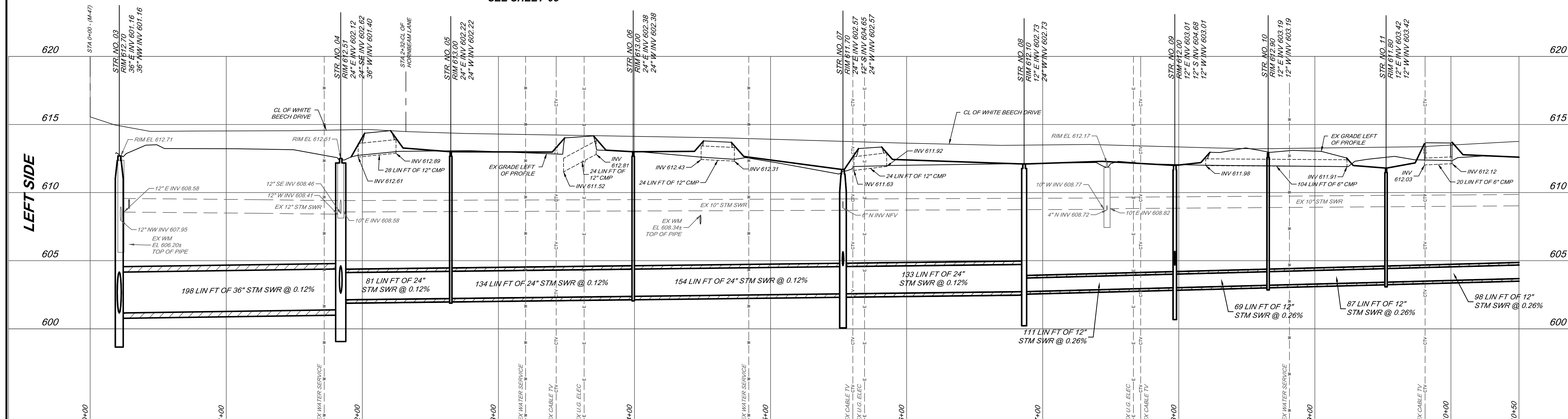
**SECTION 02, T12N-R03E,  
SAGINAW TOWNSHIP,  
SAGINAW COUNTY, MICHIGAN**

**LEGEND**

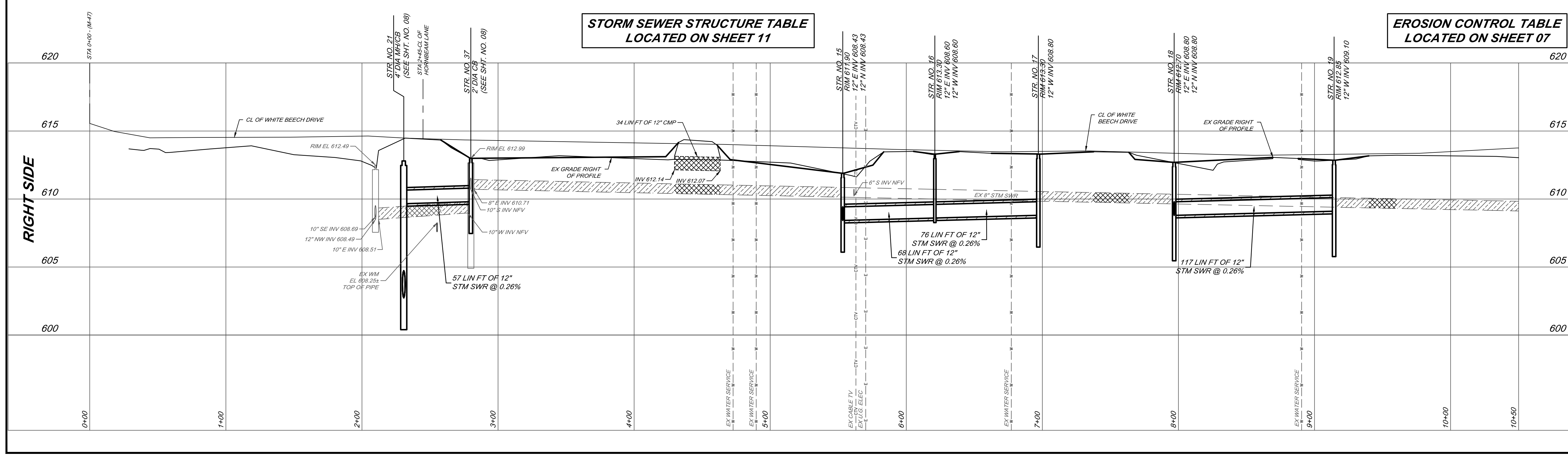
- REMOVE EXISTING STORM SEWER AS PAY ITEM
- FLOWABLE FILL EXISTING STORM SEWER / CULVERT
- SUMP LOCATION

**SHEET 06 QUANTITIES**

ITEM	UNIT	QTY.
12" INLET TEE	EACH	5
2" DIA CB	EACH	5
3" DIA CB	EACH	1
4" DIA MH/CB	EACH	1
7" DIA MH/CB	EACH	1
12" STM SWR	LIN FT	771
24" STM SWR	LIN FT	502
36" STM SWR	LIN FT	198



- CONSTRUCTION NOTES**
- PROTECT EXISTING PAVEMENT WHEN WORKING ALONG ROAD. ALL REPAIR COSTS ARE INCIDENTAL TO THE PROJECT AND ARE THE CONTRACTOR'S RESPONSIBILITY.
  - WHERE INSTALLING NEW STORM SEWER SYSTEM, CONTRACTOR TO REMOVE EXISTING STORM SEWER AND STRUCTURES, BACKFILL, AND GRADE. COST TO BE INCLUDED IN UNIT PRICE BID FOR PROPOSED STORM SEWER.
  - CONTRACTOR TO UTILIZE AND MAINTAIN TRAFFIC CONTROL MEASURES ACCORDING TO MDTOT ROAD SHOULDER CLOSURE DETAIL 122-NFW-SHL-(R) WHEN WORKING IN MDTOT ROW.
  - CONTRACTOR TO REMOVE AND REINSTALL ROADWAY SIGNAGE TO ORIGINAL CONDITION WITH NEW POSTS/SUPPORTS AS CONSTRUCTION ALLOWS. COST TO BE INCLUDED IN AMOUNT BID FOR SITE CLEARING AND CLEANUP AND RESTORATION.
  - CONTRACTOR TO UTILIZE SHORING AS NECESSARY TO PROTECT ROADS AND UTILITIES FROM UNDERMINING.
  - STA 0+00 TO 1+00 - CONTRACTOR TO REMOVE TREES AS DIRECTED BY ENGINEER. GRIND STUMPS AT LEAST 6" BELOW FINAL GRADE WHERE NOT GRUBBED TO INSTALL STORM SEWER. ALL COSTS TO BE INCLUDED IN AMOUNT BID FOR SITE CLEARING.
  - CONTRACTOR TO SUPPORT LIGHT POLES, STREET LIGHTS, AND HYDRANTS AS NECESSARY DURING CONSTRUCTION. ALL COSTS TO BE INCLUDED IN BID PRICE FOR ITEM BEING INSTALLED.



**BENCHMARKS**

BM 200 - NORTHWEST FLANGE BOLT ON HYDRANT, NORTH SIDE OF WHITE BEECH DRIVE, WEST OF DRIVEWAY TO HOUSE #8800 WHITE BEECH DRIVE. EL 614.24

BM 204 - SOUTHEAST FLANGE BOLT ON HYDRANT, SOUTHEAST QUADRANT OF M-47 AND WHITE BEECH DRIVE, ±7'4" EASTERLY OF CL M-47 AND ±42" SOUTHEASTERLY OF CL WHITE BEECH DRIVE. EL 614.31

**RIGHT OF WAY**

WHITE BEECH DRAIN - DRAIN RIGHT-OF-WAY IS WITHIN ROAD RIGHT-OF-WAY.

BY	MARK	REVISIONS	DATE

**WHITE BEECH DRAIN  
SAGINAW COUNTY, MICHIGAN**

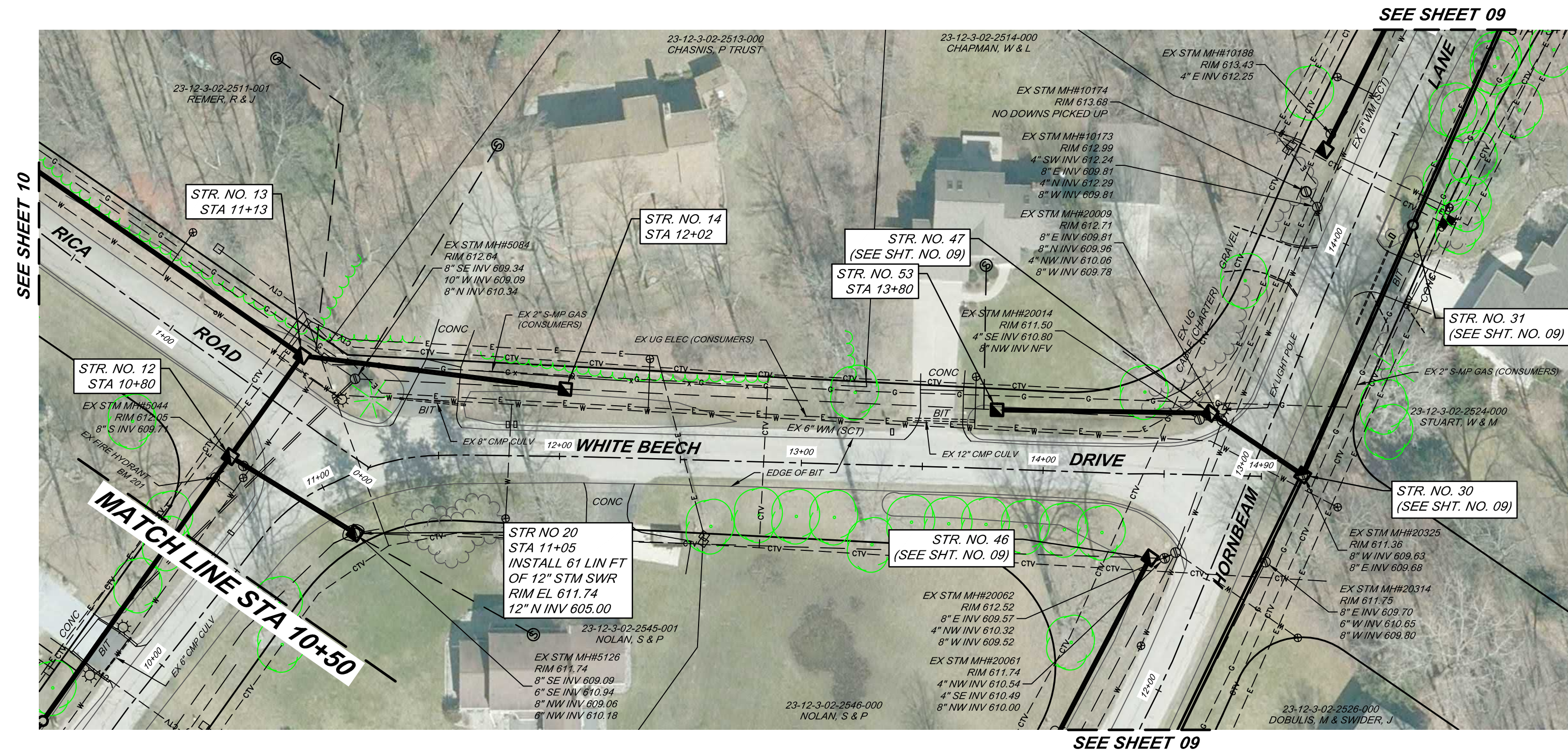
**WHITE BEECH DRIVE  
PLAN AND PROFILE  
STA 0+00 TO STA 10+50**

**Spicer Group**  
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230 S. Washington Ave.  
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Fax: 989-754-4440  
www.SpicerGroup.com

DE. BY: POC/TMC	CH. BY: TMC	PROJECT NO:
DR. BY: CBS	APP. BY: NDC	133895SG2023
STDS.	SHEET 06 OF 13	DR
DATE: APRIL, 2024	FILE NO. DR-4530-06	06
SCALE: H:1"=40' V:1"=4'		

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**SECTION 02, T12N-R03E,  
SAGINAW TOWNSHIP,  
SAGINAW COUNTY, MICHIGAN**

**LEGEND**

- REMOVE EXISTING STORM SEWER AS PAY ITEM
- FLOWABLE FILL EXISTING STORM SEWER / CULVERT
- SUMP LOCATION

**STORM SEWER STRUCTURE TABLE  
LOCATED ON SHEET 11**

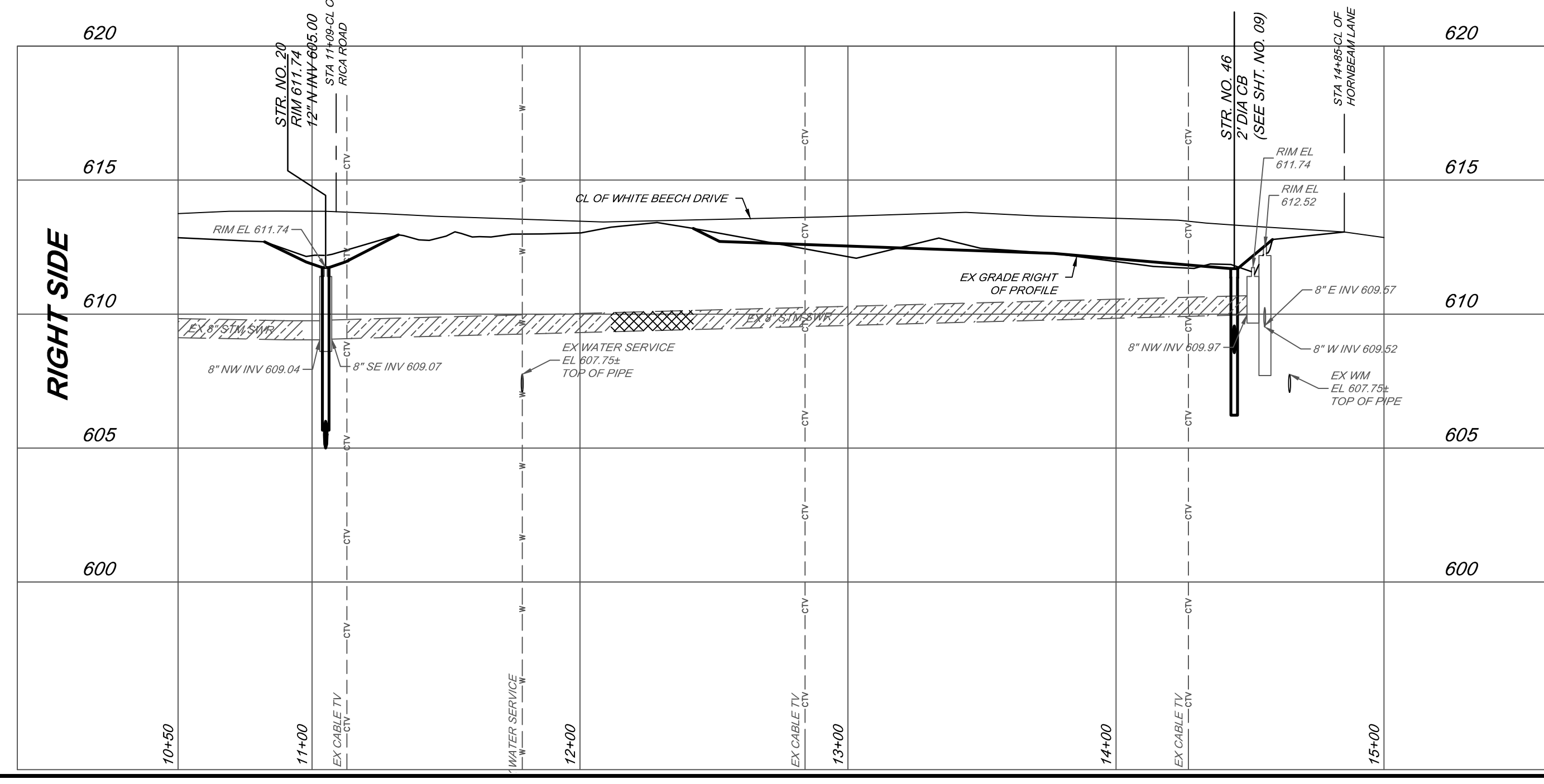
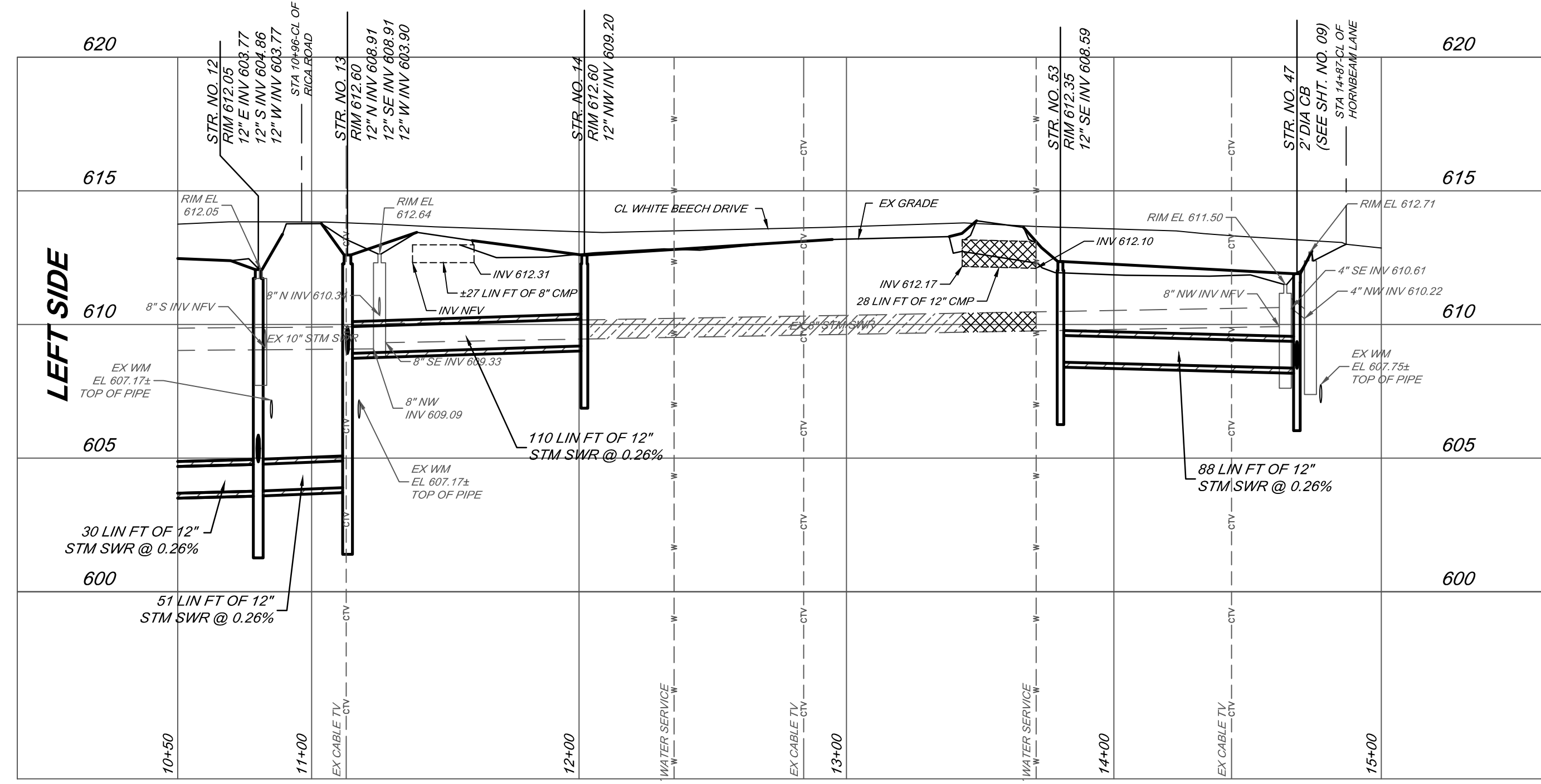
SHEET 07 QUANTITIES		
ITEM	UNIT	QTY.
2" DIA CB	EACH	3
3" DIA CB	EACH	2
12" STM SWR	LIN FT	340

SHEET 07 EROSION CONTROL TABLE				
KEY*	FROM STATION	TO STATION	DESCRIPTION	QTY
(1) P	10+00	14+90	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
(2) T	10+00	14+90	MULCH OF ALL DISTURBED AREAS	LUMP SUM
(6) P	AS SHOWN	-	CATCHBASIN	5 EA
(7) P	ALL CATCHBASINS AND DRAIN BASINS AFFECTED BY PROJECTS, BOTH EXISTING AND PROPOSED	-	STORM DRAIN INLET PROTECTION	5 EA
(26) P	ALL DISTURBED AREAS	-	DUST CONTROL	LUMP SUM

NOTE: COORDINATE INSTALLATION OF EROSION CONTROL STRUCTURES WITH ENGINEER PRIOR TO CONSTRUCTION. LOCATIONS, QUANTITIES, OR TYPES MAY VARY BASED ON FIELD DECISIONS.

SHEET 06 EROSION CONTROL TABLE				
KEY*	FROM STATION	TO STATION	DESCRIPTION	QTY
(1) P	0+00	10+50	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
(2) T	0+00	10+50	MULCH OF ALL DISTURBED AREAS	LUMP SUM
(6) P	AS SHOWN	-	CATCHBASIN	13 EA
(7) P	ALL CATCHBASINS AND DRAIN BASINS AFFECTED BY PROJECTS, BOTH EXISTING AND PROPOSED	-	STORM DRAIN INLET PROTECTION	13 EA
(26) P	ALL DISTURBED AREAS	-	DUST CONTROL	LUMP SUM

NOTE: COORDINATE INSTALLATION OF EROSION CONTROL STRUCTURES WITH ENGINEER PRIOR TO CONSTRUCTION. LOCATIONS, QUANTITIES, OR TYPES MAY VARY BASED ON FIELD DECISIONS.



- CONSTRUCTION NOTES**
- PROTECT EXISTING PAVEMENT WHEN WORKING ALONG ROAD. ALL REPAIR COSTS ARE INCIDENTAL TO THE PROJECT AND ARE THE CONTRACTOR'S RESPONSIBILITY.
  - WHERE INSTALLING NEW STORM SEWER SYSTEM, CONTRACTOR TO REMOVE EXISTING STORM SEWER AND STRUCTURES, BACKFILL, AND GRADE. COST TO BE INCLUDED IN UNIT PRICE BID FOR PROPOSED STORM SEWER.
  - CONTRACTOR TO UTILIZE SHORING AS NECESSARY TO PROTECT ROADS AND UTILITIES FROM UNDERMINING.
  - CONTRACTOR TO REMOVE AND REINSTALL ROADWAY SIGNAGE TO ORIGINAL CONDITION AS CONSTRUCTION ALLOWS. COST TO BE INCLUDED IN AMOUNT BID FOR SITE CLEARING AND CLEANUP AND RESTORATION.
  - CONTRACTOR TO SUPPORT LIGHT POLES AND HYDRANTS AS NECESSARY DURING CONSTRUCTION. ALL COSTS TO BE INCLUDED IN BID PRICE FOR ITEM BEING INSTALLED.

**BENCHMARKS**

BM 201 - NORTHWEST FLANGE BOLT ON HYDRANT, NORTHWEST QUADRANT OF WHITE BEECH DRIVE AND RICA ROAD INTERSECTION.

EL 613.84

**RIGHT OF WAY**

WHITE BEECH DRAIN - DRAIN RIGHT-OF-WAY IS WITHIN ROAD RIGHT-OF-WAY.

BY	MARK	REVISIONS	DATE

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**WHITE BEECH DRAIN  
SAGINAW COUNTY, MICHIGAN**

**WHITE BEECH DRIVE  
PLAN AND PROFILE  
STA 10+50 TO STA 14+90**

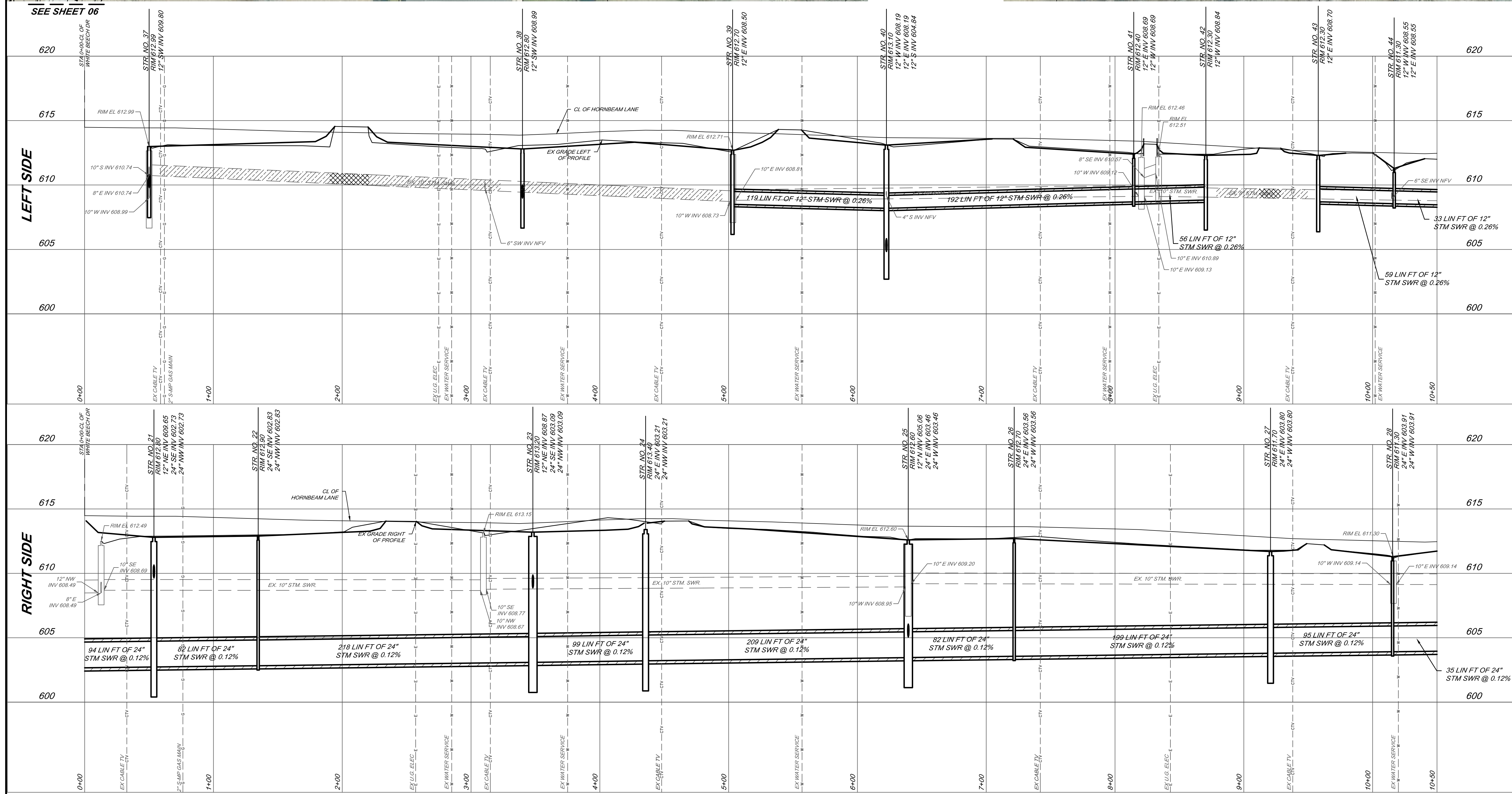
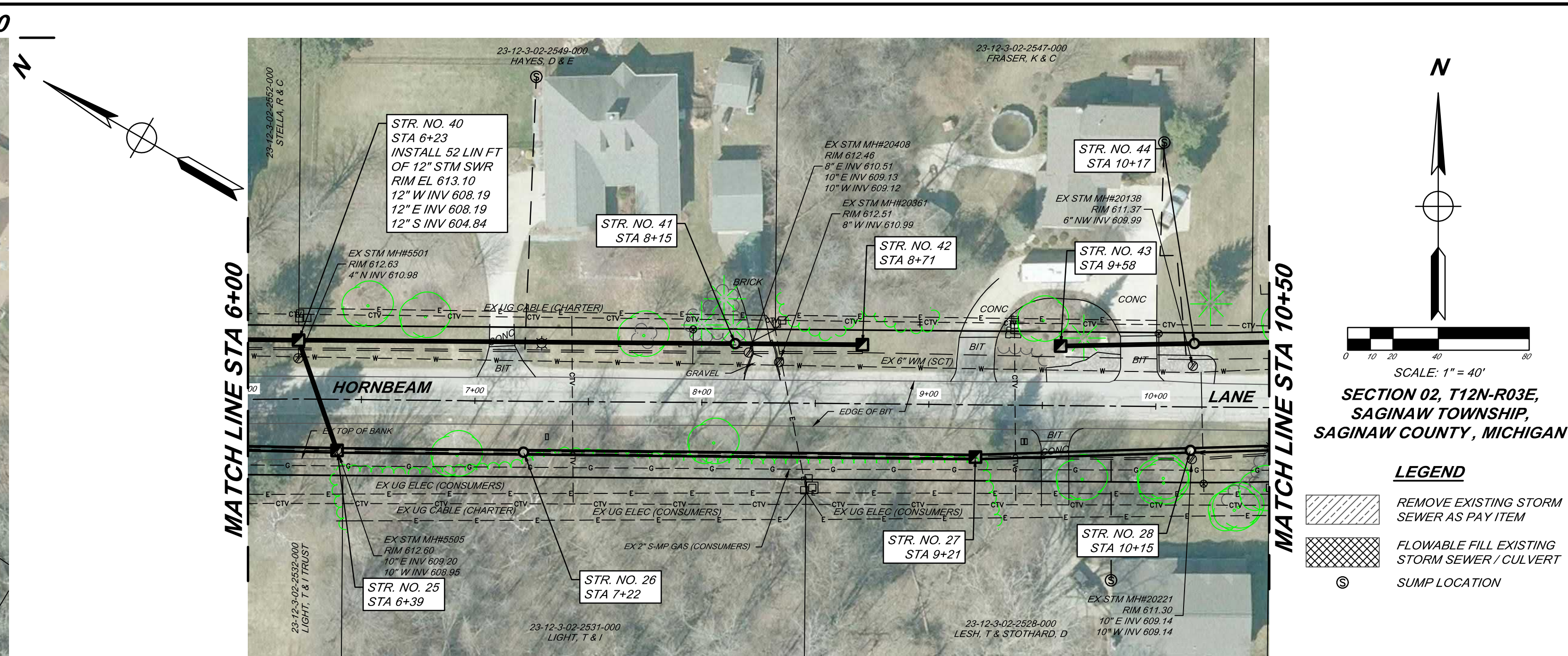
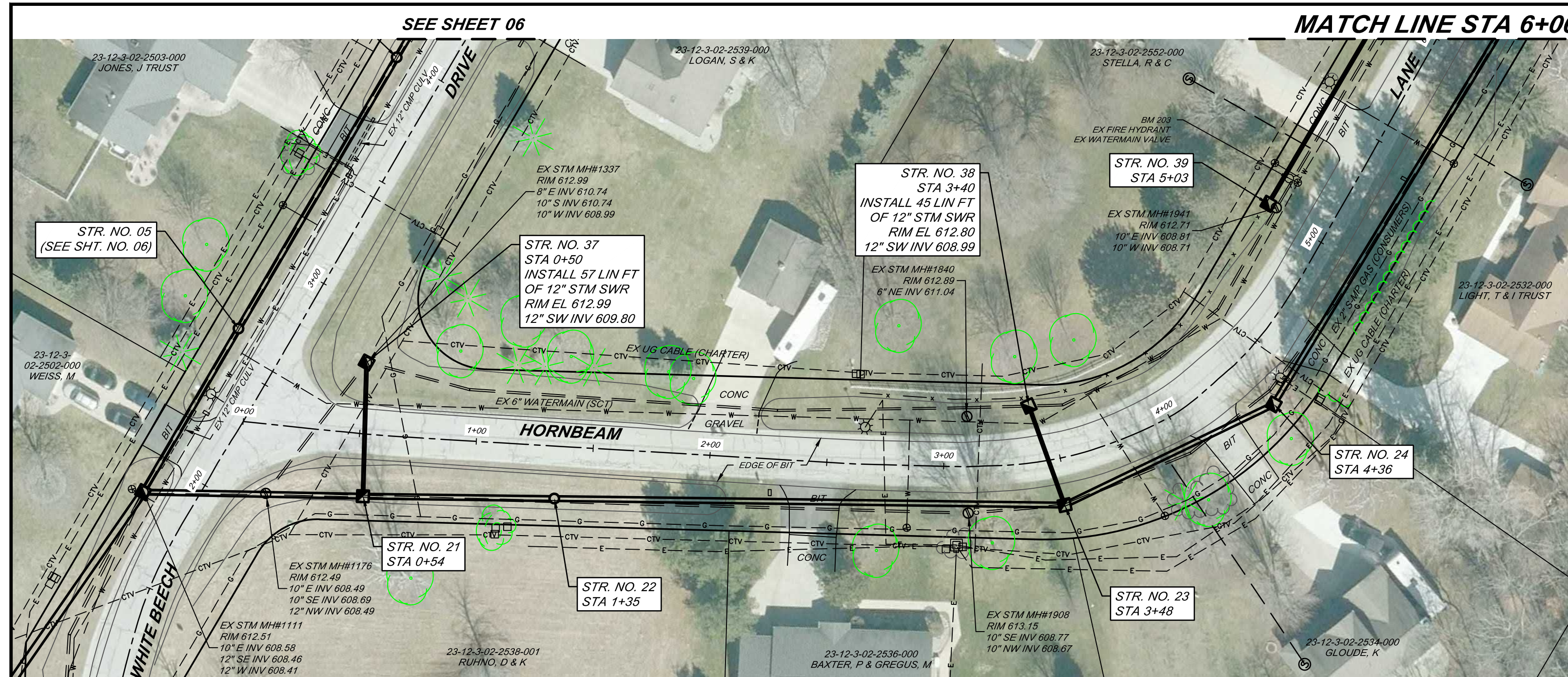
**Spicer Group**

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DE. BY: POC/TMC	CH. BY: TMC	PROJECT NO.
DR. BY: CBS	APP. BY: NDC	133895SG2023

STDS.	SHEET 07 OF 13	<b>DR</b>
DATE: APRIL, 2024	FILE NO. DR-4530-07	
SCALE		<b>07</b>





**STORM SEWER STRUCTURE TABLE LOCATED ON SHEET 11**

**EROSION CONTROL TABLE LOCATED ON SHEET 09**

**SHEET 08 QUANTITIES**

ITEM	UNIT	QTY.
12" INLET TEE	EACH	5
2" DIA CB	EACH	5
3" DIA CB	EACH	1
4" DIA MH/CB	EACH	3
6" DIA MH/CB	EACH	2
12" STM SWR	LIN FT	613
24" STM SWR	LIN FT	1113

- CONSTRUCTION NOTES**
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  - CONTRACTOR TO UTILIZE SHORING AS NECESSARY TO PROTECT ROADS AND UTILITIES FROM UNDERMINING.
  - CONTRACTOR TO REMOVE AND REINSTALL ROADWAY SIGNAGE TO ORIGINAL CONDITION AS CONSTRUCTION ALLOWS. COST TO BE INCLUDED IN AMOUNT BID FOR SITE CLEARING AND CLEANUP AND RESTORATION.
  - CONTRACTOR TO SUPPORT LIGHT POLES AND HYDRANTS AS NECESSARY DURING CONSTRUCTION. ALL COSTS TO BE INCLUDED IN BID PRICE FOR ITEM BEING INSTALLED.

**BENCHMARKS**  
 BM 203 - NORTHWEST FLANGE BOLT ON HYDRANT, NORTH SIDE OF HORNBEAM LANE, WEST OF DRIVEWAY TO HOUSE #8788 HORNBEAM LANE. EL 614.68

**RIGHT OF WAY**  
 WHITE BEECH DRAIN - DRAIN RIGHT-OF-WAY IS WITHIN ROAD RIGHT-OF-WAY.

BY	MARK	REVISIONS	DATE

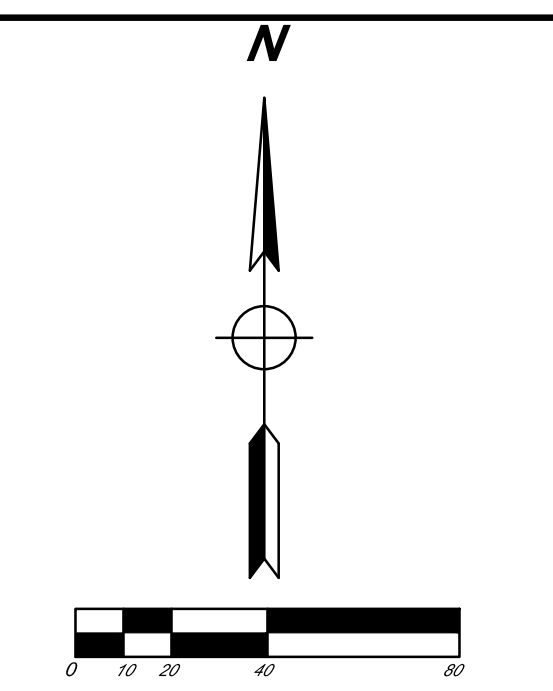
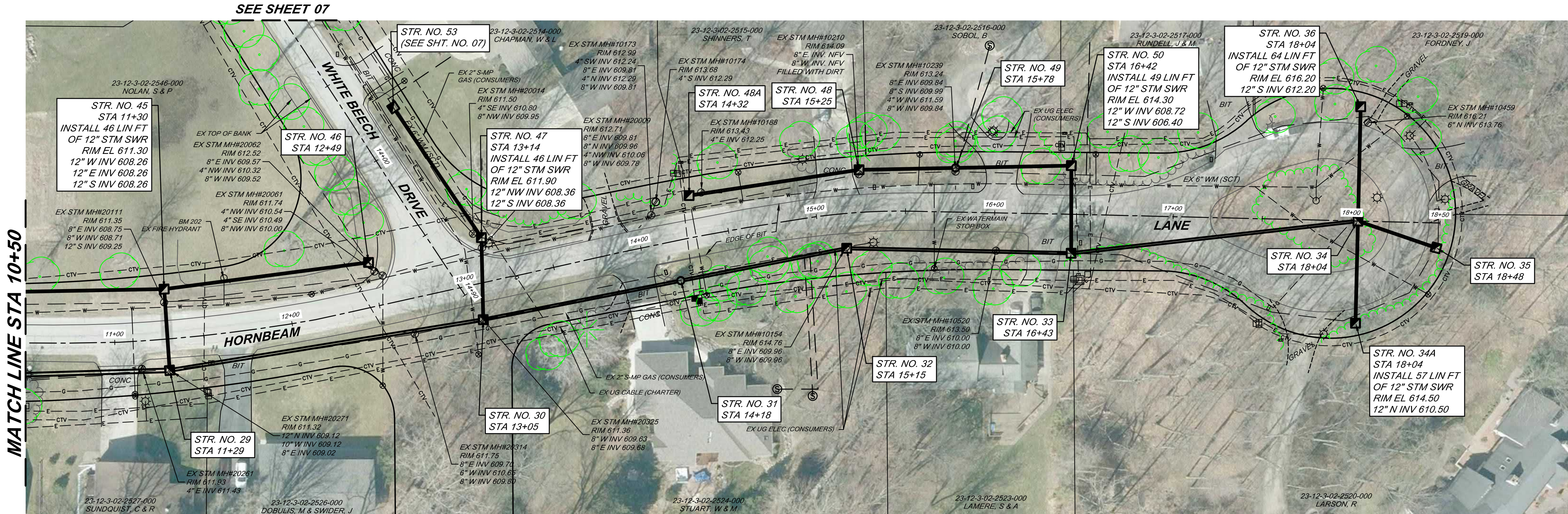
WHITE BEECH DRAIN  
 SAGINAW COUNTY, MICHIGAN

**HORNBEAM LANE  
 PLAN AND PROFILE  
 STA 0+00 TO STA 10+50**

**Spicer Group**  
 SAGINAW OFFICE  
 230 S. Washington Ave.  
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DR. BY: CBS	APP. BY: NDC	133895SG2023
STDS.	SHEET 08 OF 13	DR
DATE: APRIL, 2024	FILE NO.	08
SCALE: H:1"=40' V:1"=4'	DR-4530-08	





SECTION 02, T12N-R03E,  
SAGINAW TOWNSHIP,  
SAGINAW COUNTY, MICHIGAN

- LEGEND**
- REMOVE EXISTING STORM SEWER AS PAY ITEM
  - FLOWABLE FILL EXISTING STORM SEWER / CULVERT
  - SUMP LOCATION

**STORM SEWER STRUCTURE TABLE LOCATED ON SHEET 11**

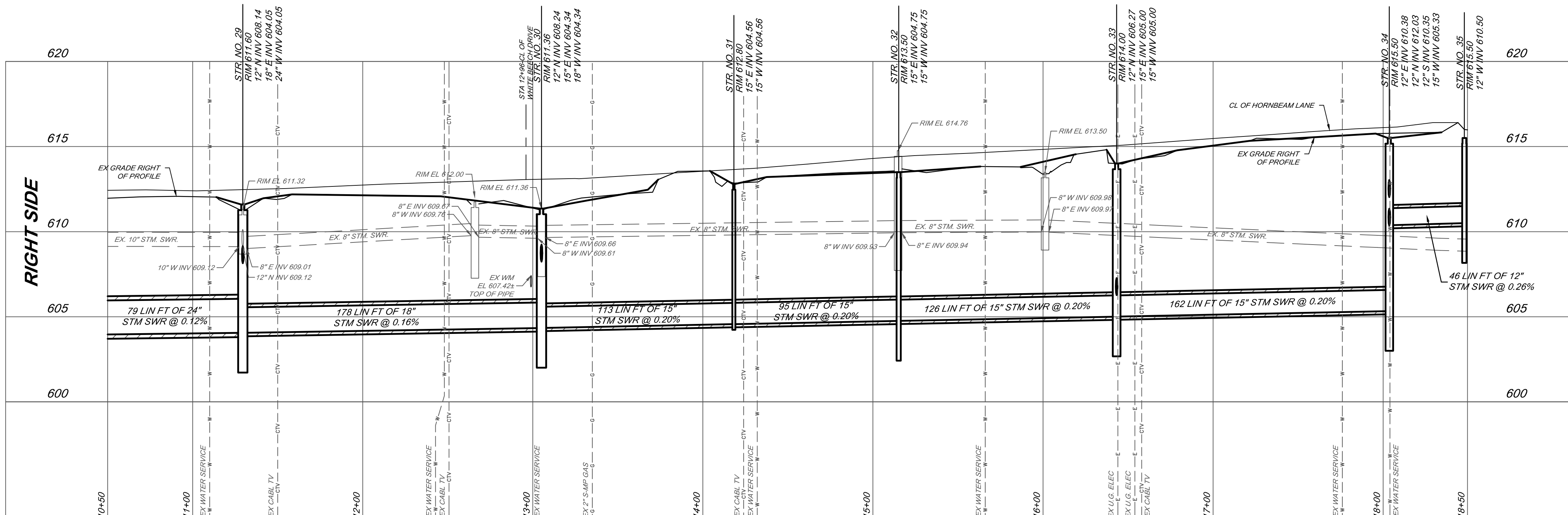
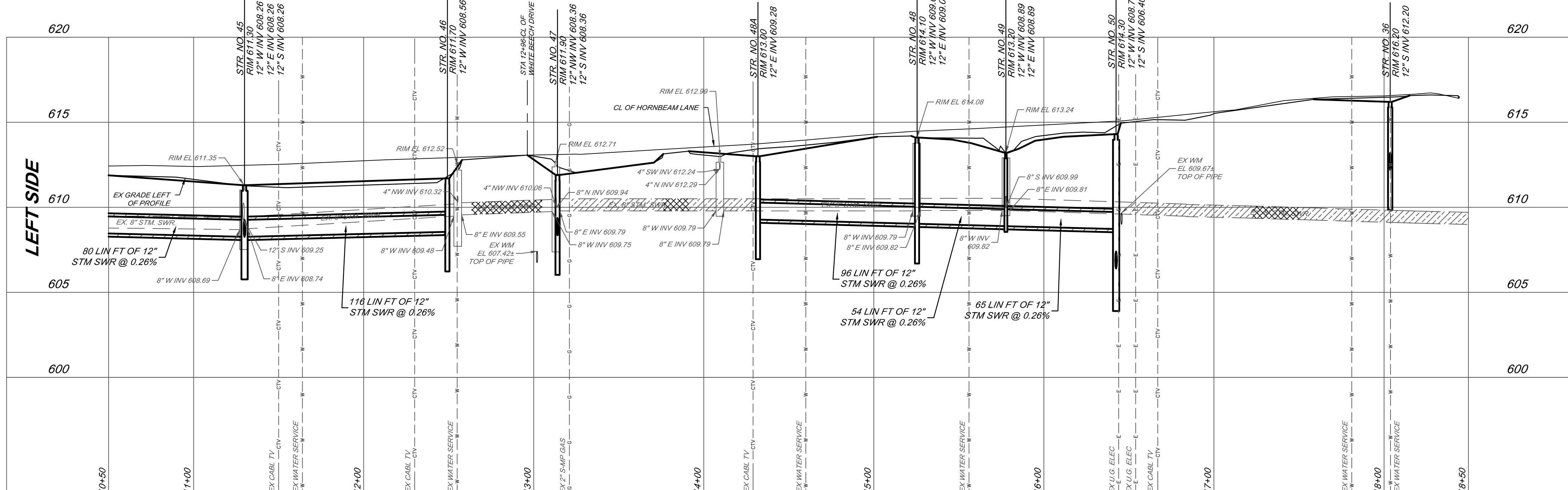
SHEET 08 EROSION CONTROL TABLE					
KEY*	FROM STATION	TO STATION	SIDE	DESCRIPTION	QTY
1 P	0+00	10+50	BOTH	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
2 T	0+00	10+50	BOTH	MULCH OF ALL DISTURBED AREAS	LUMP SUM
6 P	AS SHOWN	-	-	CATCHBASIN	16 EA
7 P	ALL CATCHBASINS AND DRAIN BASINS AFFECTED BY PROJECTS, BOTH EXISTING AND PROPOSED	-	-	STORM DRAIN INLET PROTECTION	16 EA
26 P	ALL DISTURBED AREAS	-	-	DUST CONTROL	LUMP SUM

NOTE: COORDINATE INSTALLATION OF EROSION CONTROL STRUCTURES WITH ENGINEER PRIOR TO CONSTRUCTION. LOCATIONS, QUANTITIES, OR TYPES MAY VARY BASED ON FIELD DECISIONS.

SHEET 09 QUANTITIES		
ITEM	UNIT	QTY.
12" INLET TEE	EACH	2
2" DIA CB	EACH	8
3" DIA CB	EACH	2
4" DIA MH/CB	EACH	2
5" DIA MH/CB	EACH	2
12" STM SWR	LIN FT	719
15" STM SWR	LIN FT	496
18" STM SWR	LIN FT	178
24" STM SWR	LIN FT	79

SHEET 09 EROSION CONTROL TABLE					
KEY*	FROM STATION	TO STATION	SIDE	DESCRIPTION	QTY
1 P	10+50	18+50	BOTH	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
2 T	10+50	18+50	BOTH	MULCH OF ALL DISTURBED AREAS	LUMP SUM
6 P	AS SHOWN	-	-	CATCHBASIN	16 EA
7 P	ALL CATCHBASINS AND DRAIN BASINS AFFECTED BY PROJECTS, BOTH EXISTING AND PROPOSED	-	-	STORM DRAIN INLET PROTECTION	16 EA
26 P	ALL DISTURBED AREAS	-	-	DUST CONTROL	LUMP SUM

NOTE: COORDINATE INSTALLATION OF EROSION CONTROL STRUCTURES WITH ENGINEER PRIOR TO CONSTRUCTION. LOCATIONS, QUANTITIES, OR TYPES MAY VARY BASED ON FIELD DECISIONS.



- CONSTRUCTION NOTES**
- PROTECT EXISTING PAVEMENT WHEN WORKING ALONG ROAD. ALL REPAIR COSTS ARE INCIDENTAL TO THE PROJECT AND ARE THE CONTRACTOR'S RESPONSIBILITY.
  - WHERE INSTALLING NEW STORM SEWER SYSTEM, CONTRACTOR TO REMOVE EXISTING STORM SEWER AND STRUCTURES, BACKFILL, AND GRADE. COST TO BE INCLUDED IN UNIT PRICE BID FOR PROPOSED STORM SEWER.
  - CONTRACTOR TO UTILIZE SHORING AS NECESSARY TO PROTECT ROADS AND UTILITIES FROM UNDERMINING.
  - CONTRACTOR TO REMOVE AND REINSTALL ROADWAY SIGNAGE TO ORIGINAL CONDITION AS CONSTRUCTION ALLOWS. COST TO BE INCLUDED IN AMOUNT BID FOR SITE CLEARING AND CLEANUP AND RESTORATION.
  - CONTRACTOR TO SUPPORT LIGHT POLES AND HYDRANTS AS NECESSARY DURING CONSTRUCTION. ALL COSTS TO BE INCLUDED IN BID PRICE FOR ITEM BEING INSTALLED.

**BENCHMARKS**

BM 202 - NORTHWEST FLANGE BOLT ON HYDRANT, NORTH SIDE OF HORNBEAM LANE, ±115' WEST OF CL RICA ROAD.

**RIGHT OF WAY**

WHITE BEECH DRAIN - DRAIN RIGHT-OF-WAY IS WITHIN ROAD RIGHT-OF-WAY.

BY	MARK	REVISIONS	DATE

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**WHITE BEECH DRAIN  
SAGINAW COUNTY, MICHIGAN**

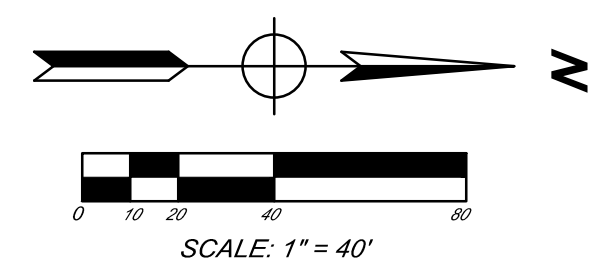
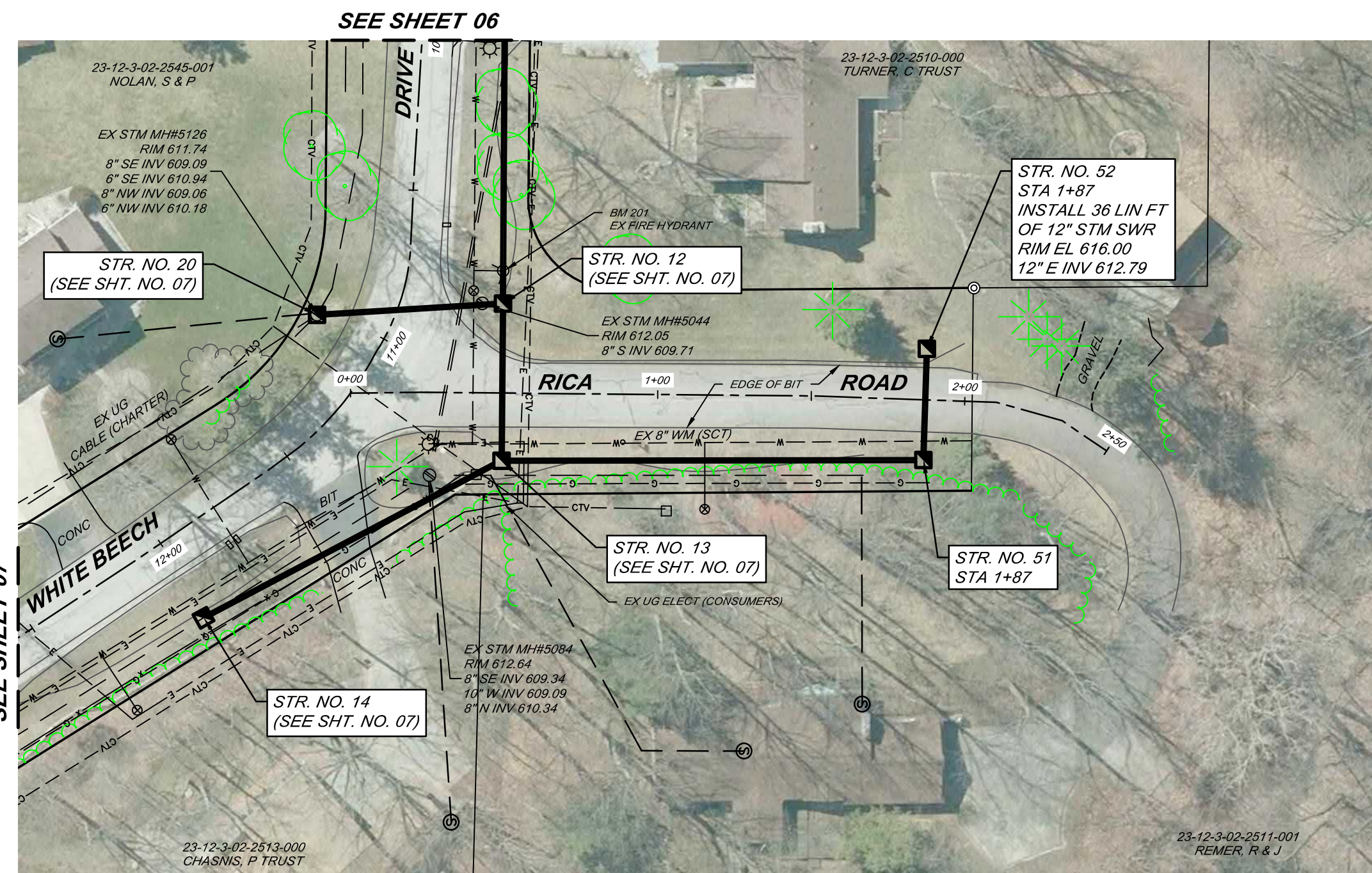
**HORNBEAM LANE  
PLAN AND PROFILE  
STA 10+50 TO STA 18+50**

**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. 133895SG2023  
DR. BY: CBS APP. BY: NDC

SHEET 09 OF 13 DR 09  
DATE: APRIL, 2024 FILE NO. DR-4530-09  
SCALE: H:1"=40' V:1"=4'



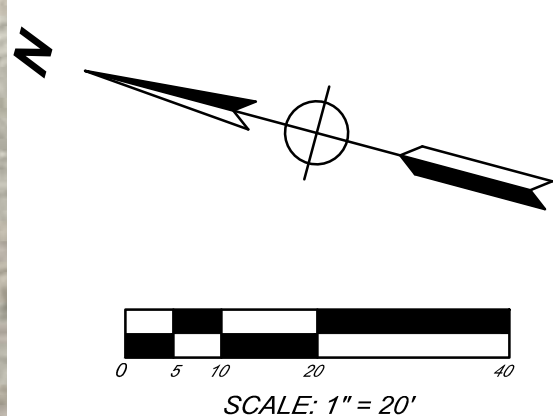
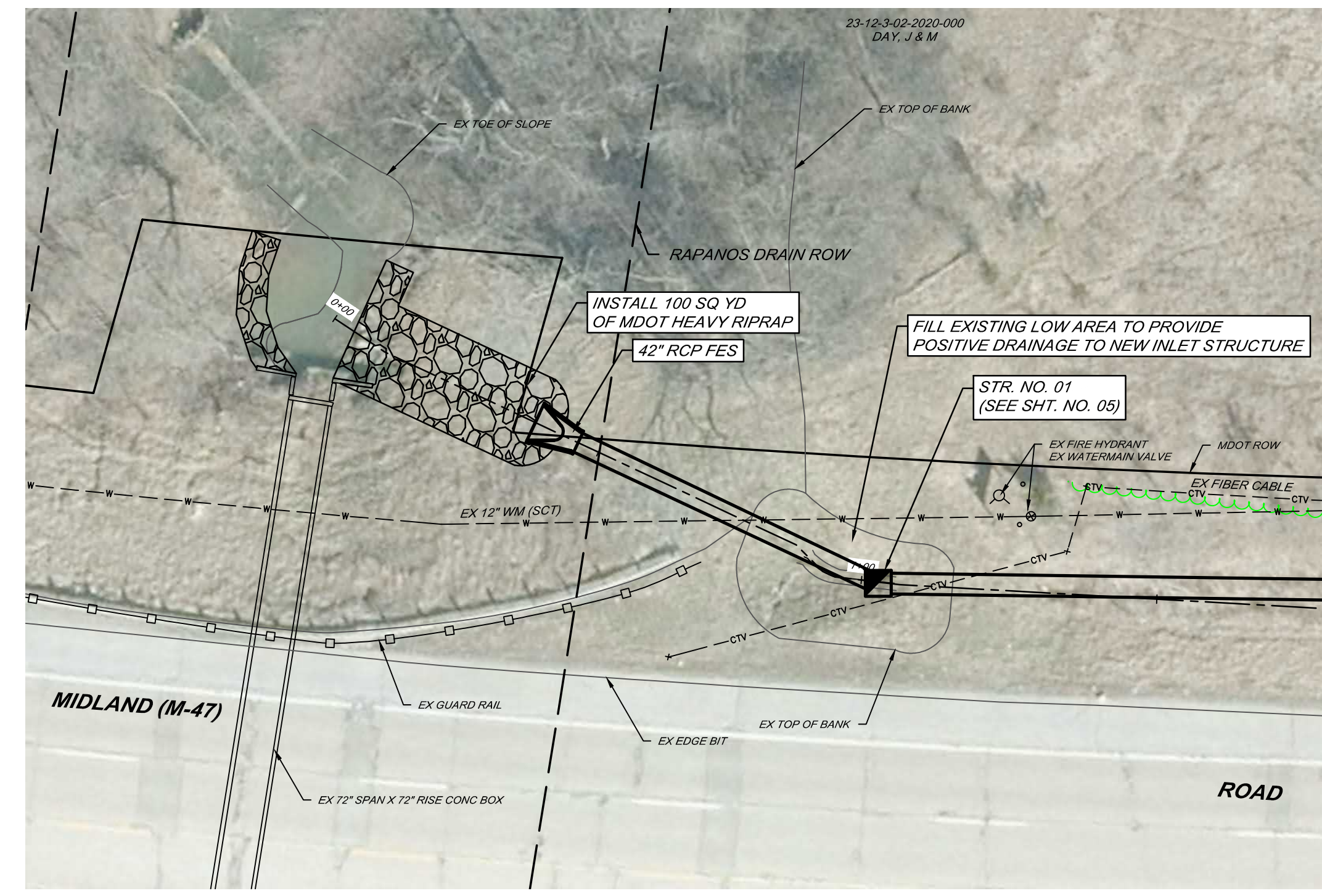


**SECTION 02, T12N-R03E,  
SAGINAW TOWNSHIP,  
SAGINAW COUNTY, MICHIGAN**

**LEGEND**

⊙ SUMP LOCATION

**STORM SEWER STRUCTURE TABLE  
LOCATED ON SHEET 11**



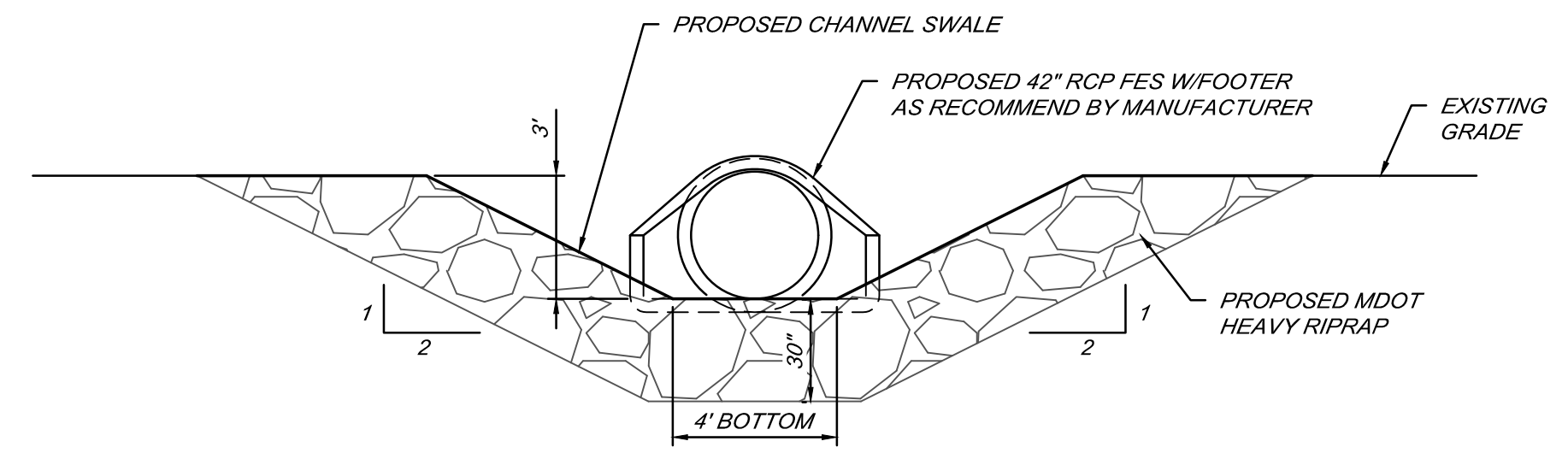
**SECTION 02, T12N-R03E,  
SAGINAW TOWNSHIP,  
SAGINAW COUNTY, MICHIGAN**

**STR. NO. 01 DROP STRUCTURE PLAN VIEW**

SCALE: 1" = 20'

**RIGHT OF WAY**

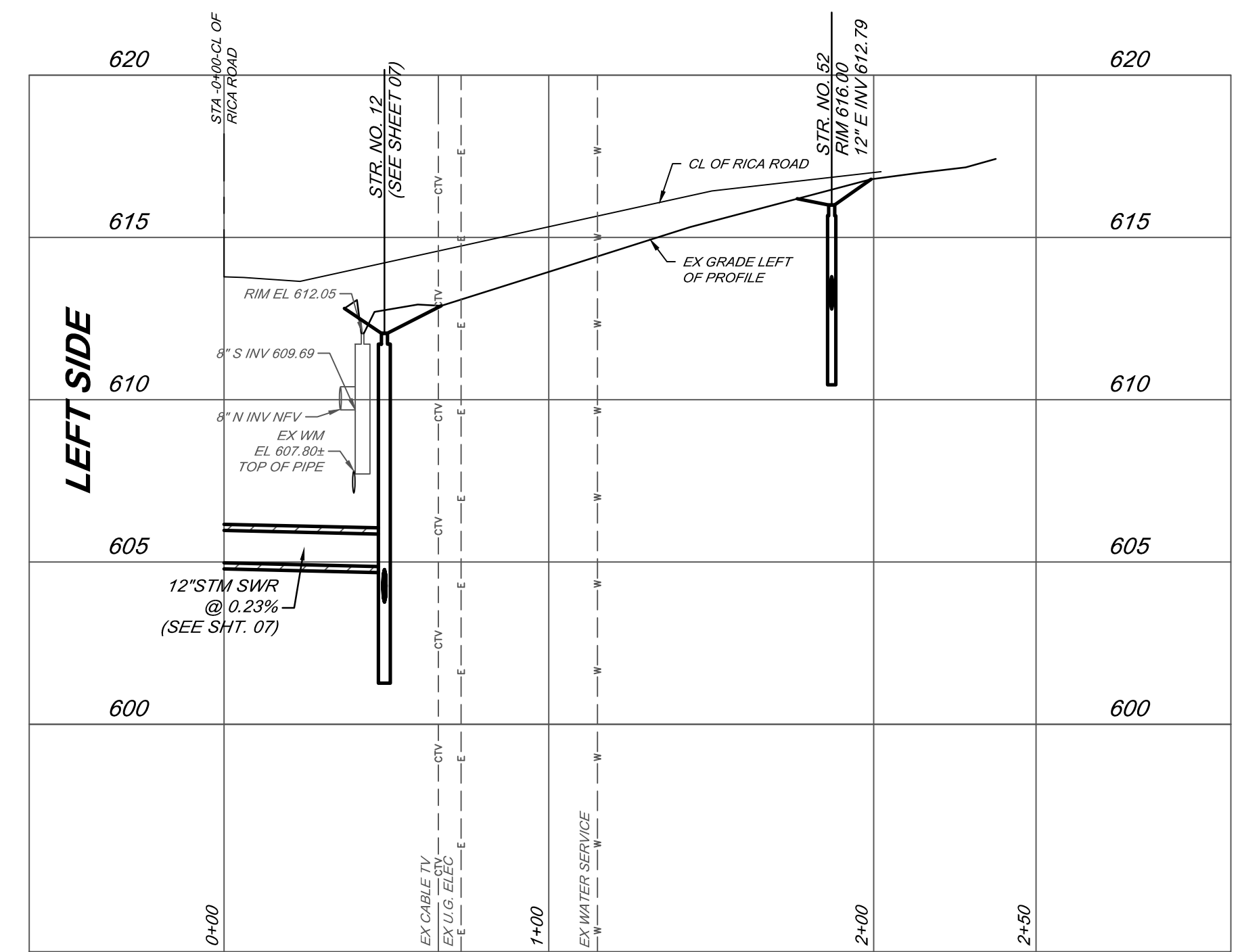
WHITE BEECH DRAIN - DRAIN RIGHT-OF-WAY IS WITHIN ROAD RIGHT-OF-WAY.



**TYPICAL RIPRAP CHANNEL SWALE  
STA 0+10 TO STA 0+40**

NOT TO SCALE

NOTE:  
ALL DISTURBED AREAS WITHIN MDOT ROW TO BE RESEEDED WITH MDOT APPROVED SEED MIX AND STABILIZED WITH MDOT APPROVED STRAW MULCH BLANKETS.



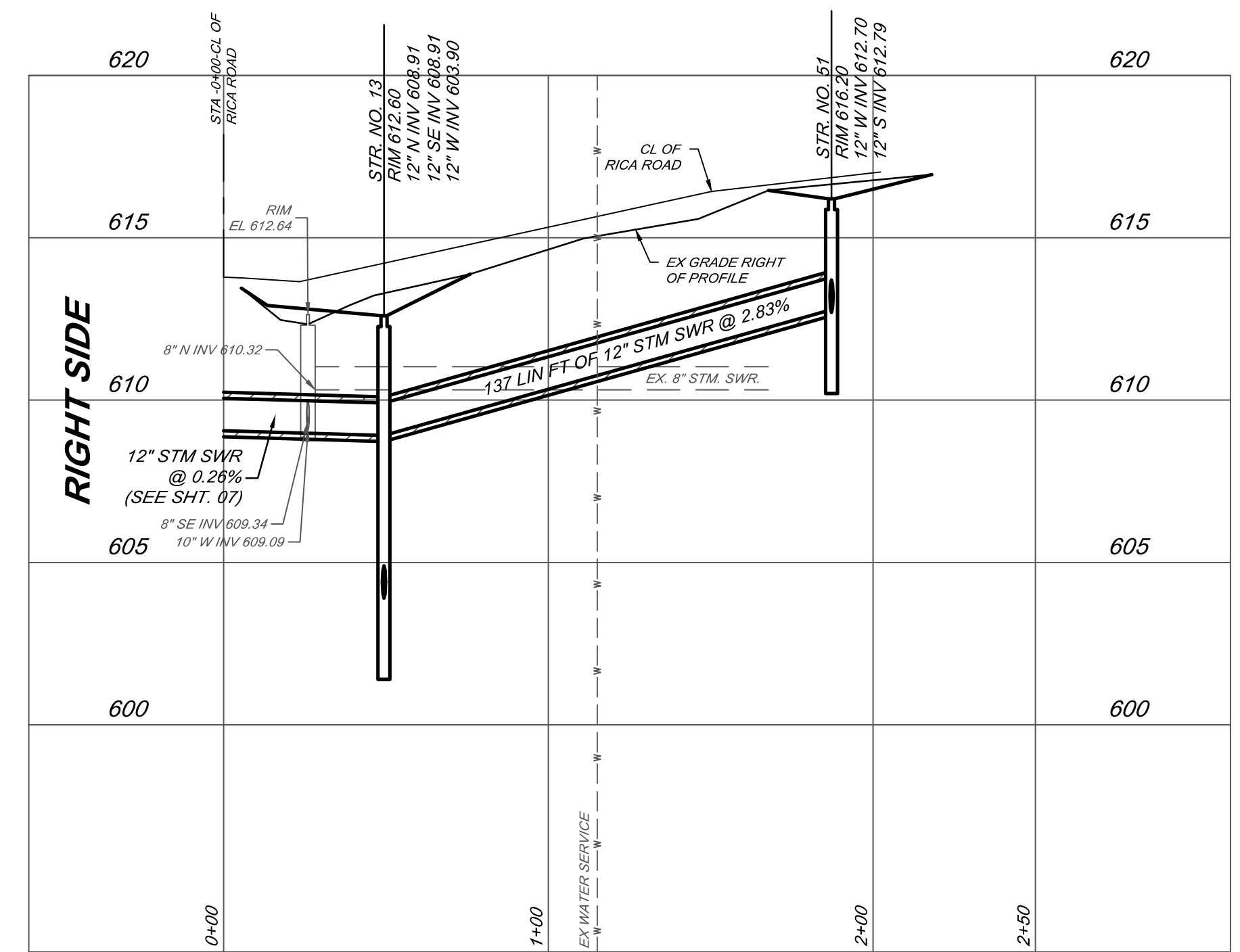
**SHEET 10 QUANTITIES**

ITEM	UNIT	QTY.
2" DIA CB	EACH	1
3" DIA CB	EACH	1
12" STM SWR	LIN FT	173

**SHEET 10 EROSION CONTROL TABLE**

KEY*	FROM STATION	TO STATION	SIDE	DESCRIPTION	QTY
1 P	0+00	2+50	BOTH	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
2 T	0+00	2+50	BOTH	MULCH OF ALL DISTURBED AREAS	LUMP SUM
6 P	AS SHOWN	-	-	CATCHBASIN	2 EA
7 P	ALL CATCHBASINS AND DRAIN BASINS AFFECTED BY PROJECTS, BOTH EXISTING AND PROPOSED	-	-	STORM DRAIN INLET PROTECTION	2 EA
26 P	ALL DISTURBED AREAS	-	-	DUST CONTROL	LUMP SUM

NOTE: COORDINATE INSTALLATION OF EROSION CONTROL STRUCTURES WITH ENGINEER PRIOR TO CONSTRUCTION. LOCATIONS, QUANTITIES, OR TYPES MAY VARY BASED ON FIELD DECISIONS.



- CONSTRUCTION NOTES**
1. PROTECT EXISTING PAVEMENT WHEN WORKING ALONG ROAD. ALL REPAIR COSTS ARE INCIDENTAL TO THE PROJECT AND ARE THE CONTRACTOR'S RESPONSIBILITY.
  2. WHERE INSTALLING NEW STORM SEWER SYSTEM, CONTRACTOR TO REMOVE EXISTING STORM SEWER AND STRUCTURES, BACKFILL, AND GRADE. COST TO BE INCLUDED IN UNIT PRICE BID FOR PROPOSED STORM SEWER.
  3. CONTRACTOR TO UTILIZE SHORING AS NECESSARY TO PROTECT ROADS AND UTILITIES FROM UNDERMINING.
  4. CONTRACTOR TO REMOVE AND REINSTALL ROADWAY SIGNAGE TO ORIGINAL CONDITION AS CONSTRUCTION ALLOWS. COST TO BE INCLUDED IN AMOUNT BID FOR SITE CLEARING AND CLEANUP AND RESTORATION.
  5. CONTRACTOR TO SUPPORT LIGHT POLES AND HYDRANTS AS NECESSARY DURING CONSTRUCTION. ALL COSTS TO BE INCLUDED IN BID PRICE FOR ITEM BEING INSTALLED.

**BENCHMARKS**

BM 201 - NORTHWEST FLANGE BOLT ON HYDRANT, NORTHWEST QUADRANT OF WHITE BEECH DRIVE AND RICA ROAD INTERSECTION.  
EL 613.84

**RIGHT OF WAY**

WHITE BEECH DRAIN - DRAIN RIGHT-OF-WAY IS WITHIN ROAD RIGHT-OF-WAY.

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><b>WHITE BEECH DRAIN SAGINAW COUNTY, MICHIGAN</b></p>			
<p><b>RICA ROAD PLAN AND PROFILE STA 0+00 TO STA 2+50</b></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
DR. BY:	CBS	APP. BY:	NDC
		PROJECT NO.	133895SG2023
STDS.		SHEET 10 OF 13	DR 10
DATE	APRIL, 2024	FILE NO.	DR-4530-10
SCALE	H:1"=40' V:1"=4'		



SHEET 05 PROPOSED STORM SEWER STRUCTURE TABLE				
STRUCTURE NO.	LOCATION	OFFSET	SIZE/TYPE	E.J.I.W. FRAME W/ TYPE COVER GRATE
01B	4+13	0.0' T.	6' DIA MH/CB	1045 W/N OVAL GRATE
01A	2+53	6.4' LT.	18" INLET TEE	6115N GRATE
01	1+03	0.2' RT.	6' DIA MH/CB	1045 W/N OVAL GRATE
02A	6+82	9.9' LT.	6' DIA MH/CB	1045 W/N OVAL GRATE
02	5+32	5.0' LT.	18" INLET TEE	6115N GRATE
03	9+89	12.5' LT.	5' DIA MH/CB	1045 W/N OVAL GRATE


SHEET 06 PROPOSED STORM SEWER STRUCTURE TABLE				
STRUCTURE NO.	LOCATION	OFFSET	SIZE/TYPE	E.J.I.W. FRAME W/ TYPE COVER GRATE
04	1+94	21.2' LT.	7' DIA MH/CB	1045 W/N OVAL GRATE
05	2+65	21.8' LT.	12" INLET TEE	6110N GRATE
06	3+99	21.5' LT.	12" INLET TEE	6110N GRATE
07	5+53	22.4' LT.	4' DIA MH/CB	1045 W/N OVAL COVER
08	6+86	23.4' LT.	3' DIA CB	1045 W/N OVAL GRATE
09	7+97	23.8' LT.	2' DIA CB	6121N GRATE
10	8+66	24.1' LT.	12" INLET TEE	6110N GRATE
11	9+52	25.3' LT.	12" INLET TEE	6110N GRATE
15	5+53	19.8' RT.	2' DIA CB	6121N GRATE
16	6+21	19.8' RT.	12" INLET TEE	6110N GRATE
17	6+97	19.8' RT.	2' DIA CB	6121N GRATE
18	7+97	22.4' RT.	2' DIA CB	6121N GRATE
19	9+14	21.3' RT.	2' DIA CB	6121N GRATE

SHEET 07 PROPOSED STORM SEWER STRUCTURE TABLE				
STRUCTURE NO.	LOCATION	OFFSET	SIZE/TYPE	E.J.I.W. FRAME W/ TYPE COVER GRATE
12	10+80	32.4' LT.	3' DIA CB	1045 W/N OVAL GRATE
13	11+13	53.1' LT.	3' DIA CB	1045 W/N OVAL GRATE
14	12+02	27.9' LT.	2' DIA CB	6121N GRATE
20	11+05	22.7' RT.	2' DIA CB	6121N GRATE
53	13+80	24.4' LT.	2' DIA CB	6121N GRATE

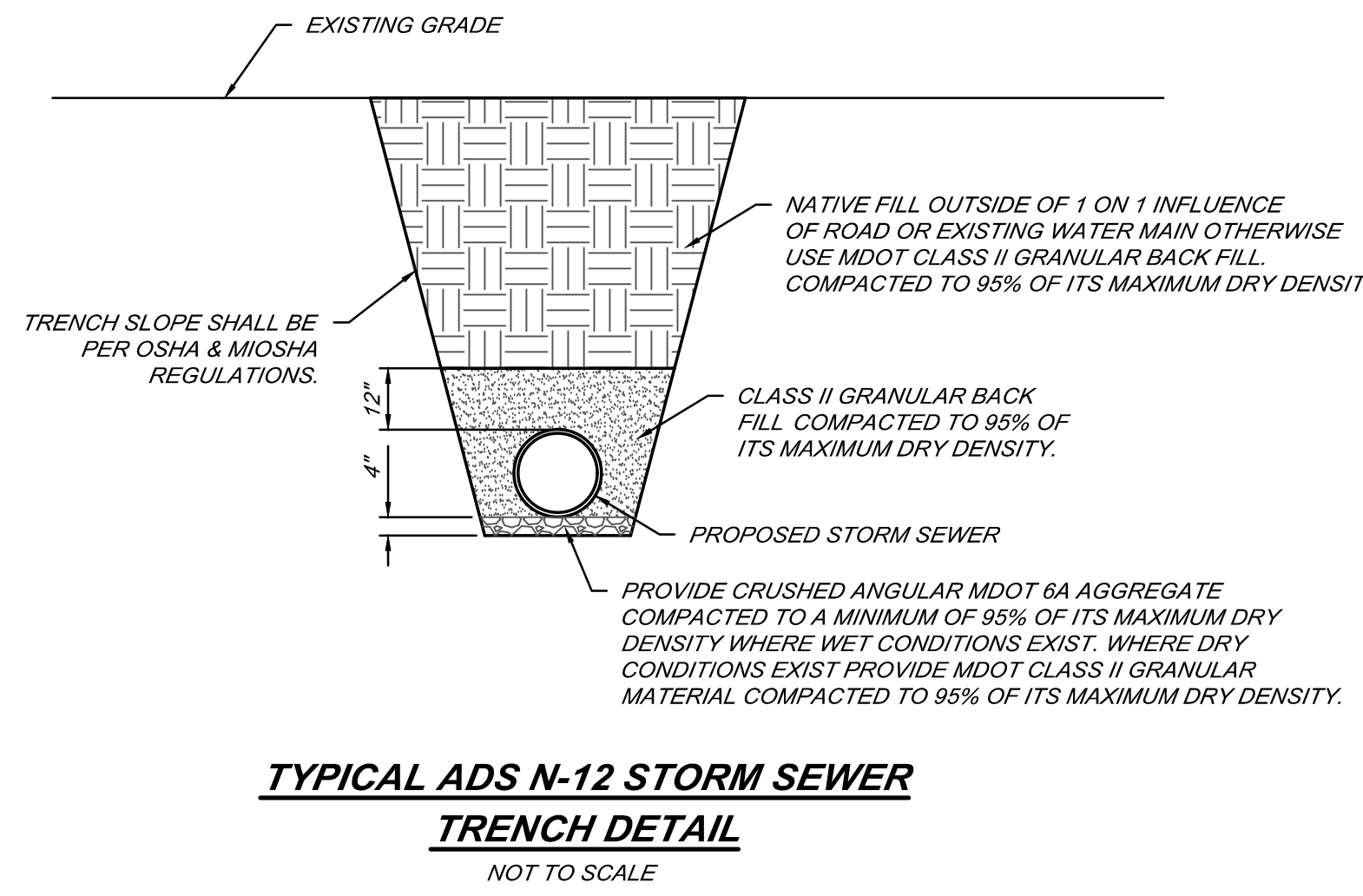
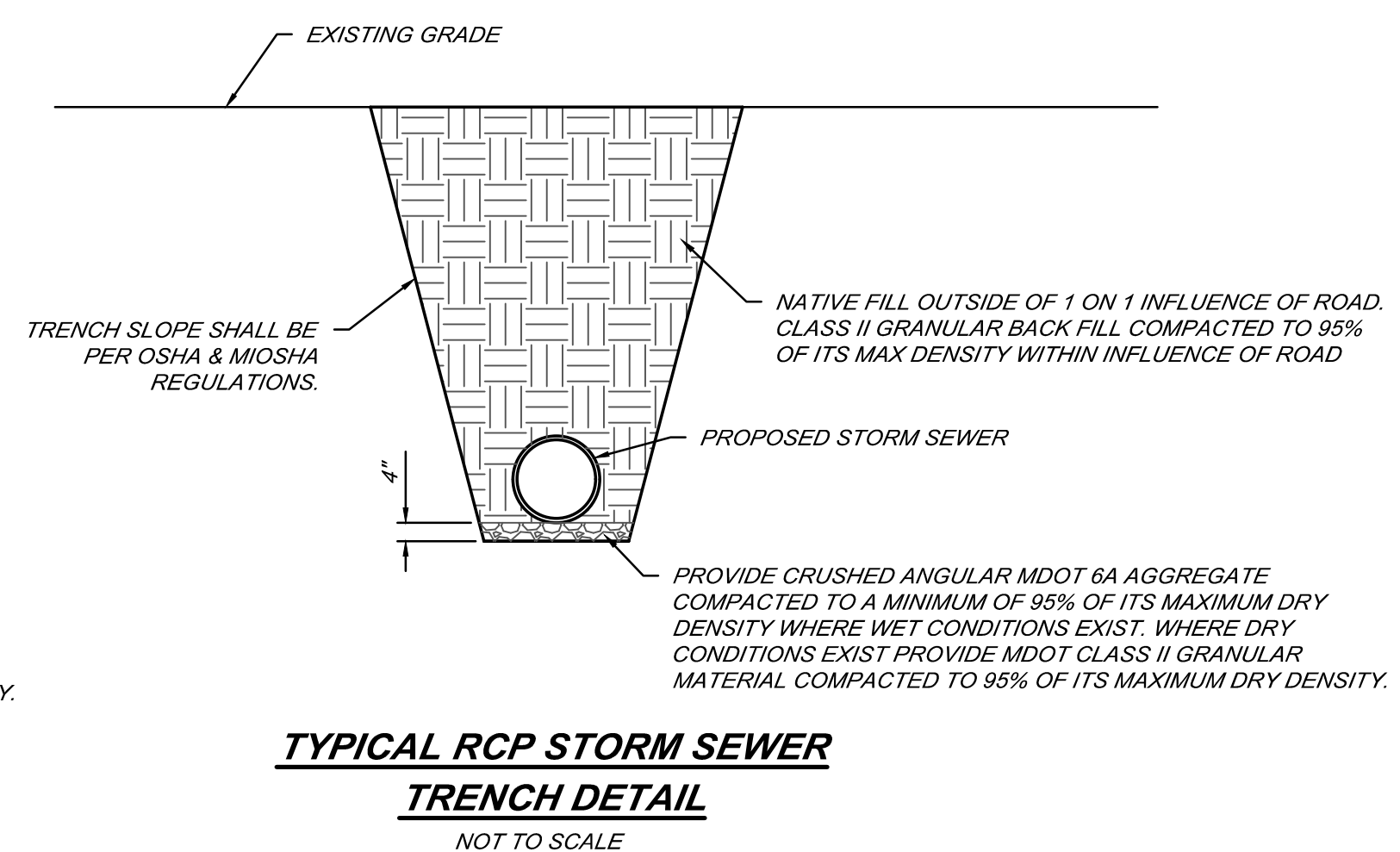
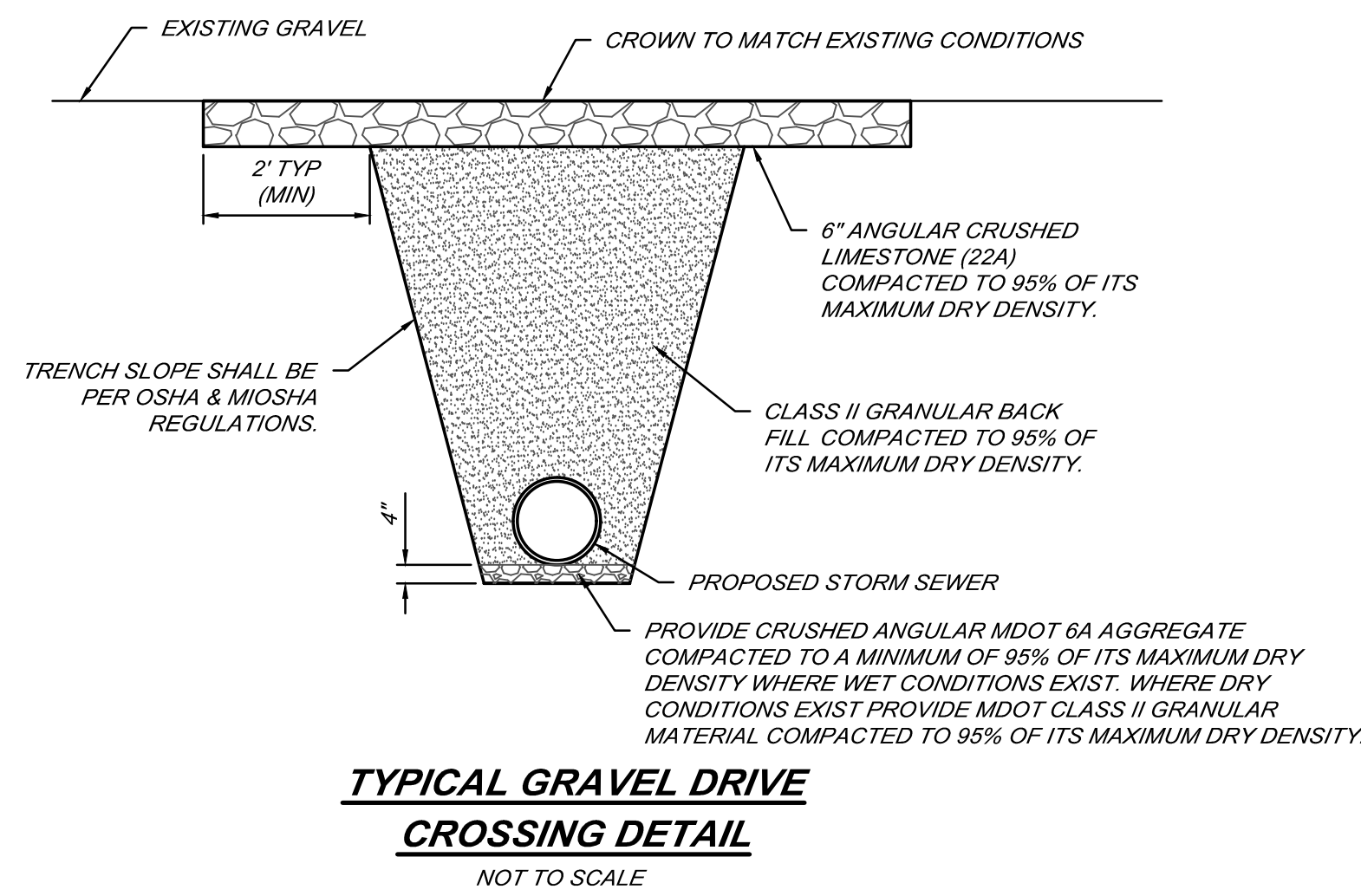
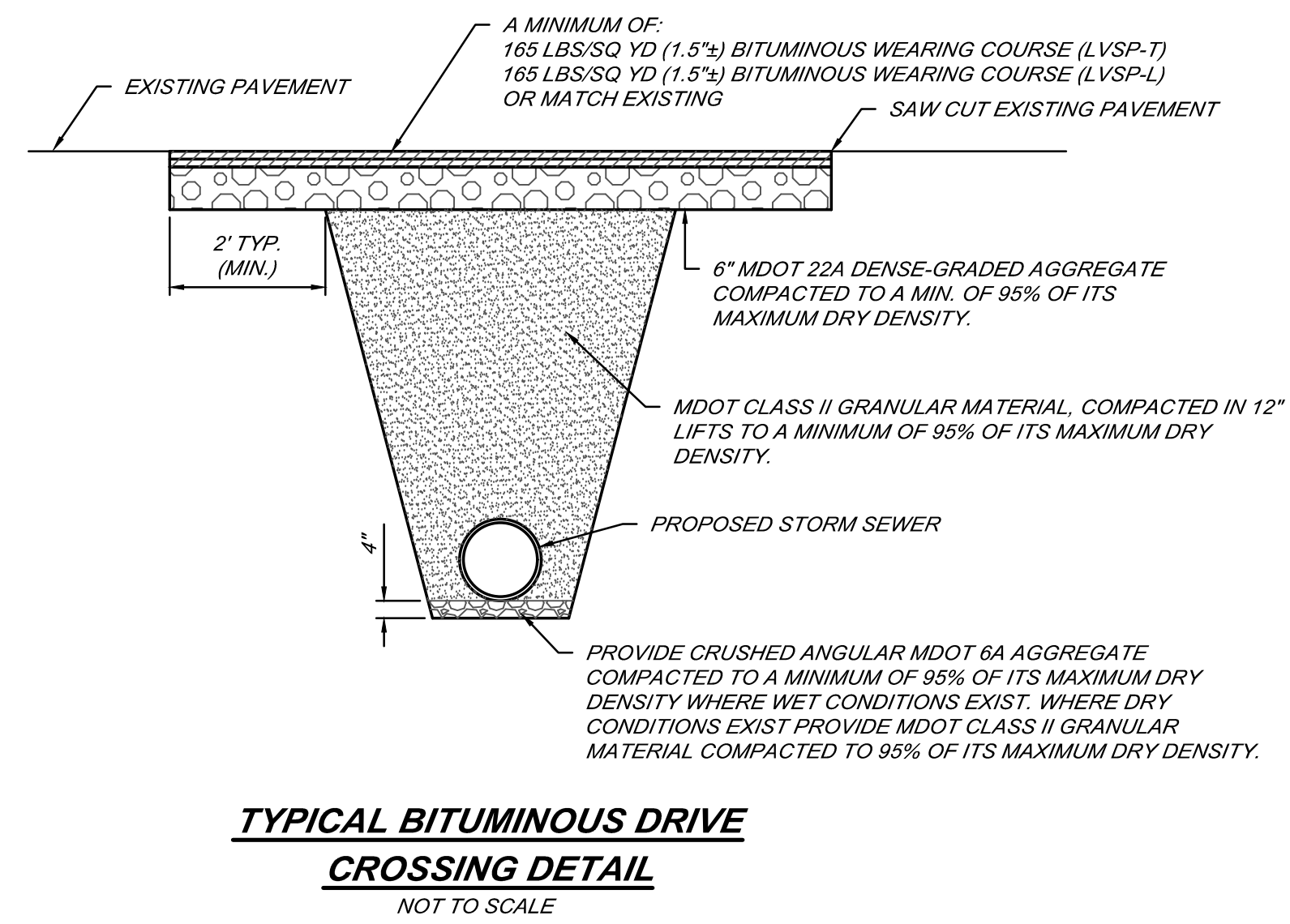
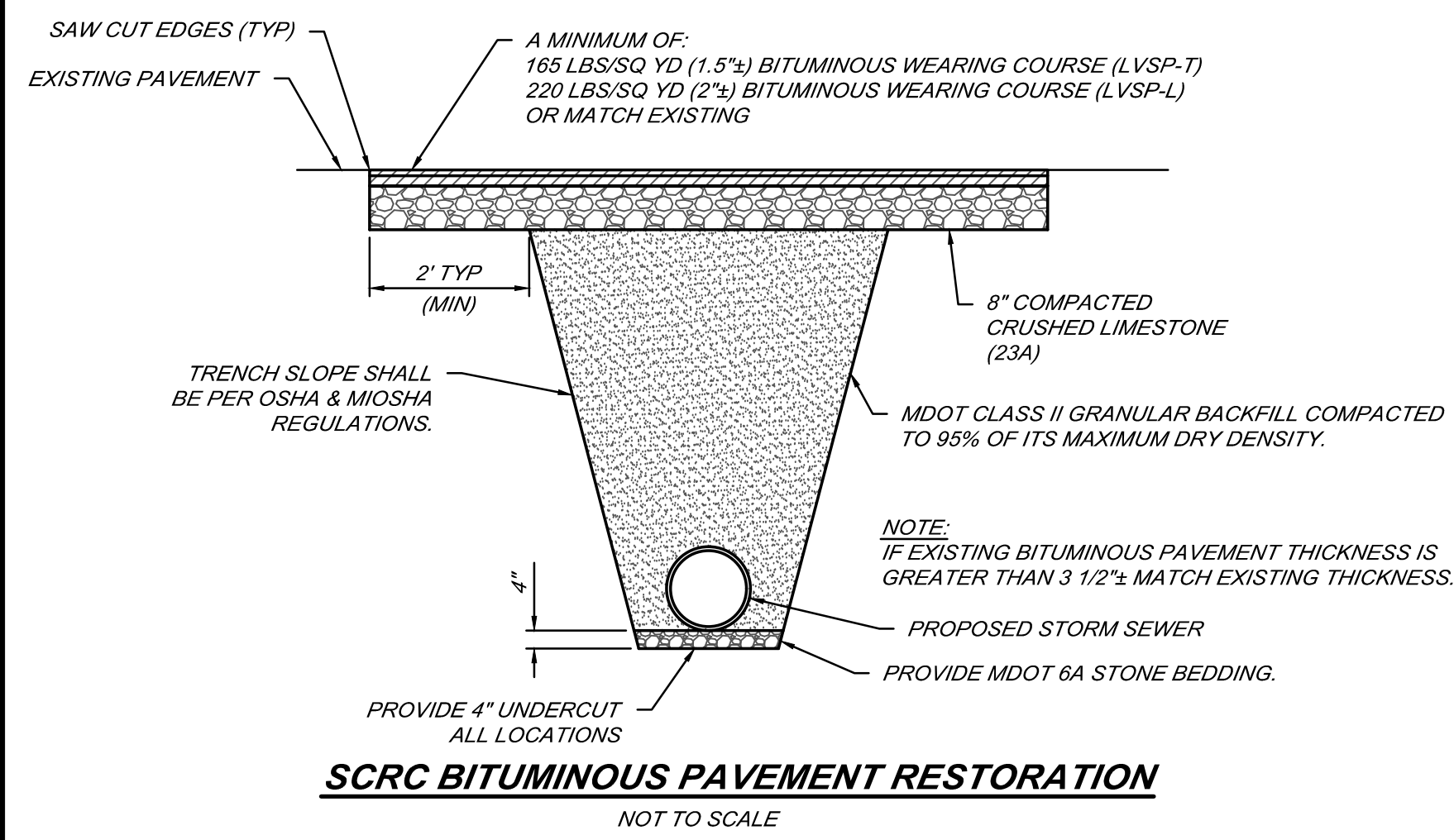
SHEET 08 PROPOSED STORM SEWER STRUCTURE TABLE				
STRUCTURE NO.	LOCATION	OFFSET	SIZE/TYPE	E.J.I.W. FRAME W/ TYPE COVER GRATE
21	0+54	26.6' RT.	4' DIA MH/CB	1045 W/N OVAL GRATE
22	1+35	22.4' RT.	12" INLET TEE	6110N GRATE
23	3+48	20.1' RT.	6' DIA MH/CB	1045 W/N OVAL GRATE
24	4+36	23.8' RT.	4' DIA MH/CB	1045 W/N OVAL GRATE
25	6+39	22.5' RT.	6' DIA MH/CB	1045 W/N OVAL GRATE
26	7+22	22.5' RT.	12" INLET TEE	6110N GRATE
27	9+21	23.0' RT.	4' DIA MH/CB	1045 W/N OVAL GRATE
28	10+15	19.2' RT.	12" INLET TEE	6110N GRATE
37	0+50	30.5' LT.	2' DIA CB	6121N GRATE
38	3+40	24.2' LT.	2' DIA CB	6121N GRATE
39	5+03	27.7' LT.	2' DIA CB	6121N GRATE
40	6+23	25.9' LT.	3' DIA CB	1045 W/N OVAL GRATE
41	8+15	26.0' LT.	12" INLET TEE	6110N GRATE
42	8+71	26.0' LT.	2' DIA CB	6121N GRATE
43	9+58	26.3' LT.	2' DIA CB	6121N GRATE
44	10+17	27.9' LT.	12" INLET TEE	6110N GRATE

SHEET 09 PROPOSED STORM SEWER STRUCTURE TABLE				
STRUCTURE NO.	LOCATION	OFFSET	SIZE/TYPE	E.J.I.W. FRAME W/ TYPE COVER GRATE
29	11+29	17.6' RT.	5' DIA MH/CB	1045 W/N OVAL GRATE
30	13+05	20.3' RT.	5' DIA MH/CB	1045 W/N OVAL GRATE
31	14+18	22.4' RT.	12" INLET TEE	6110N GRATE
32	15+15	19.5' RT.	2' DIA CB	6121N GRATE
33	16+43	21.9' RT.	4' DIA MH/CB	1045 W/N OVAL GRATE
34	18+04	0.0' T.	4' DIA MH/CB	1045 W/N OVAL GRATE
34A	18+04	57.2' RT.	2' DIA CB	6121N GRATE
35	18+48	14.0' RT.	2' DIA CB	6121N GRATE
36	18+04	64.1' LT.	2' DIA CB	6121N GRATE
45	11+30	28.0' LT.	3' DIA CB	1045 W/N OVAL GRATE
46	12+49	24.9' LT.	2' DIA CB	6121N GRATE
47	13+14	24.9' LT.	2' DIA CB	6121N GRATE
48	15+25	23.9' LT.	2' DIA CB	6121N GRATE
48A	14+32	23.4' LT.	2' DIA CB	6121N GRATE
49	15+78	24.8' LT.	12" INLET TEE	6110N GRATE
50	16+42	27.3' LT.	3' DIA CB	1045 W/N OVAL GRATE

SHEET 10 PROPOSED STORM SEWER STRUCTURE TABLE				
STRUCTURE NO.	LOCATION	OFFSET	SIZE/TYPE	E.J.I.W. FRAME W/ TYPE COVER GRATE
51	1+87	19.6' RT.	3' DIA CB	1045 W/N OVAL GRATE
52	1+87	16.7' LT.	2' DIA CB	6121N GRATE

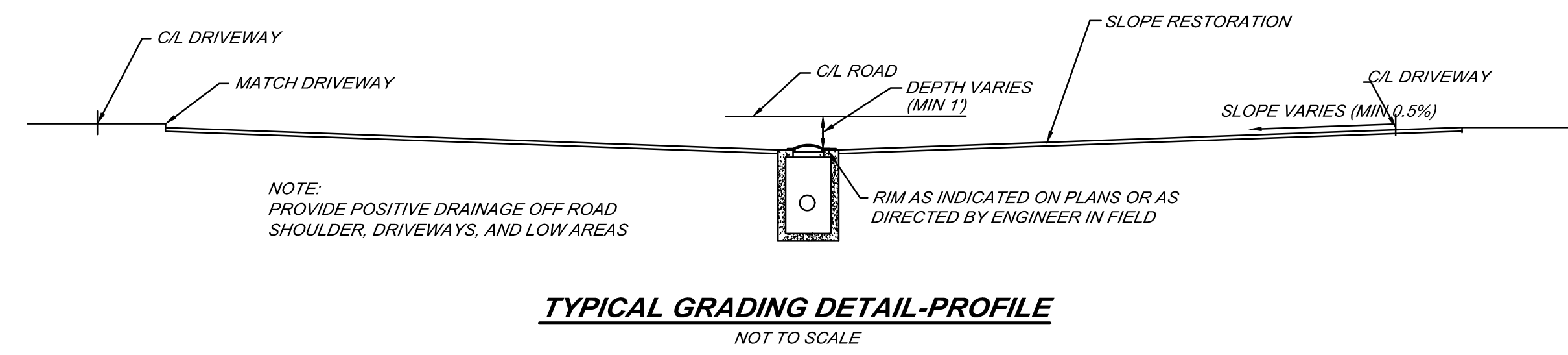
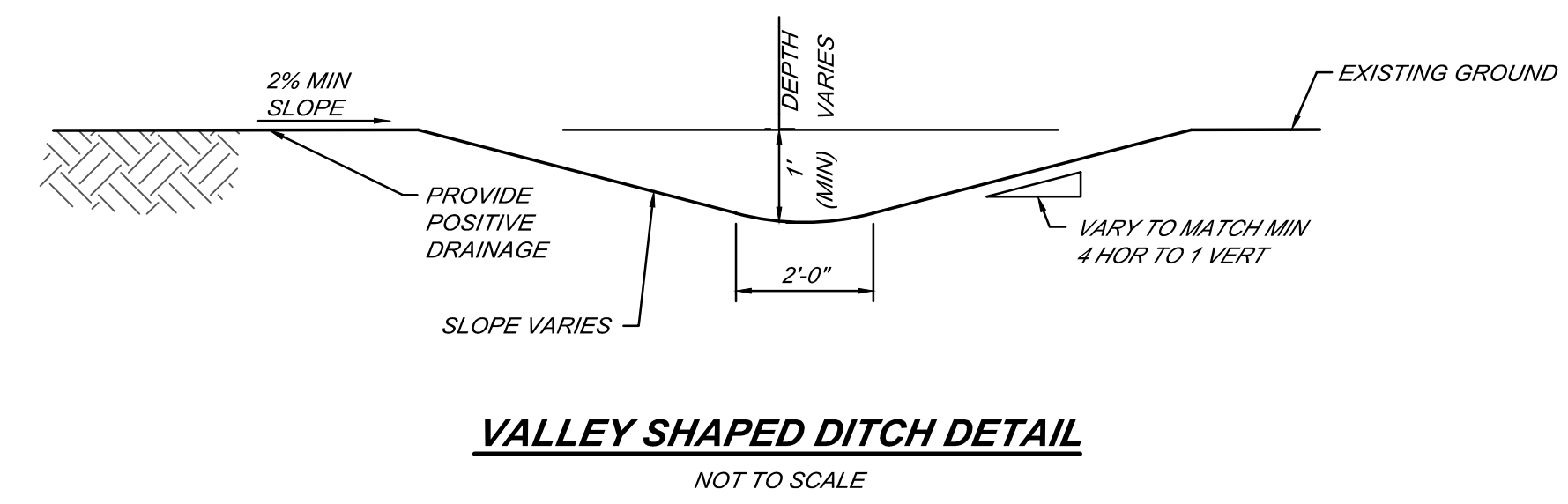
BY	MARK	REVISIONS	DATE
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<b>WHITE BEECH DRAIN SAGINAW COUNTY, MICHIGAN</b>			
<b>PROPOSED STORM SEWER STRUCTURE TABLES</b>			
		<small>SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel: 989-754-4717 Fax: 989-754-4440 www.SpicerGroup.com</small>	
DE. BY:	POC/TMC	CH. BY:	TMC
DR. BY:	CBS	APP. BY:	NDC
			PROJECT NO. <b>133895SG2023</b>
STDS.	SHEET <b>11</b> OF <b>13</b>		<b>DR</b> <b>11</b>
DATE SCALE	APRIL, 2024 SCALE		
			FILE NO. <b>DR-4530-11</b>





**TRENCH WIDTH CHART**

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



BY	MARK	REVISIONS	DATE
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<p><b>WHITE BEECH DRAIN</b> SAGINAW COUNTY, MICHIGAN</p>			
<p><b>STANDARD DETAILS</b></p>			
<p>DE. BY: POC/TMC DR. BY: CBS</p>		<p>CH. BY: TMC APP. BY: NDC</p>	
		<p>PROJECT NO. <b>133895SG2023</b></p>	
STDS.	SHEET 12 OF 13	<p><b>DR 12</b></p>	
DATE SCALE	APRIL, 2024 SCALE		
		<p>FILE NO. <b>DR-4530-12</b></p>	

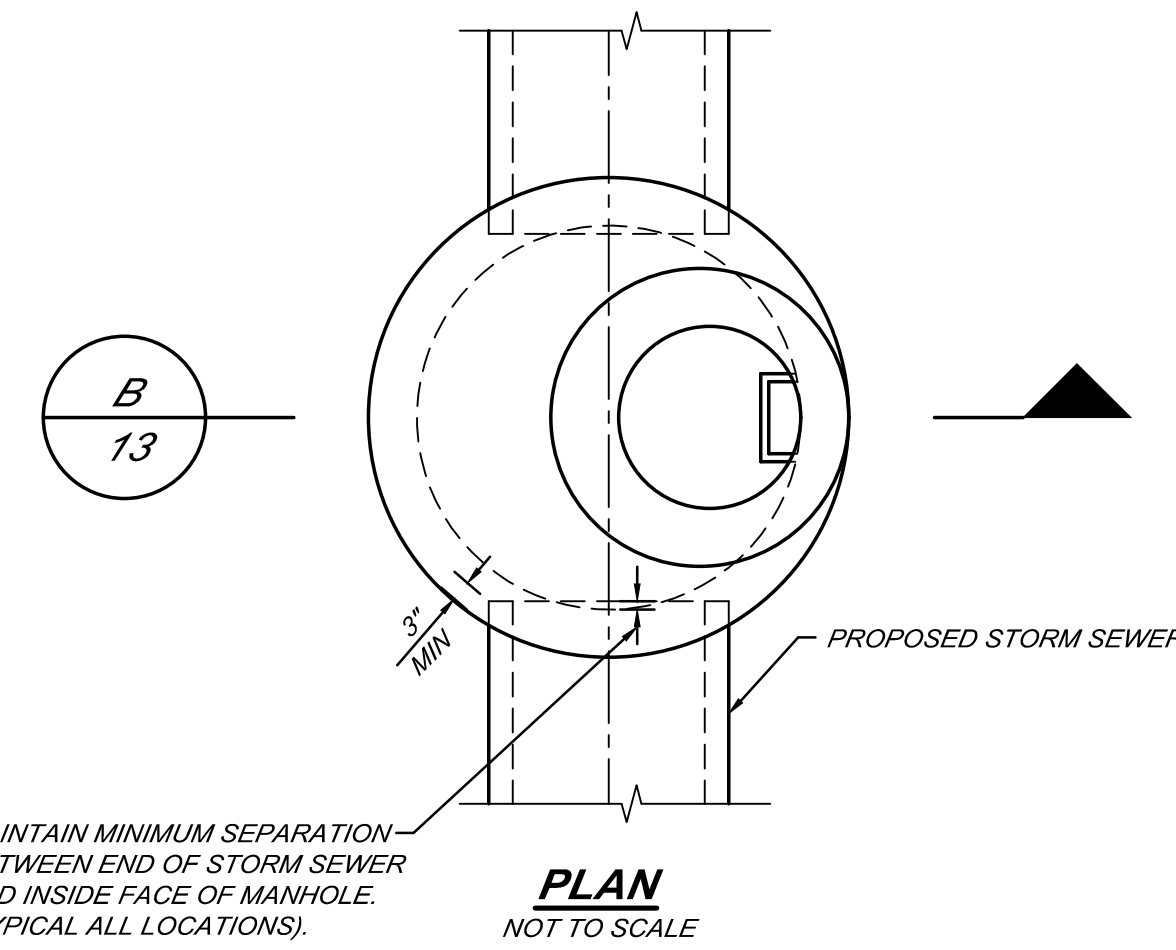
SAGINAW OFFICE  
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www.SpicerGroup.com

**Spicer Group**

P:\Proj\2023\133895SG2023 - White Beech Drain\DWG\DR-4530-12\_12\_DETAILS.dwg, 4/12/2024, 12:43:42 PM, gshdsk

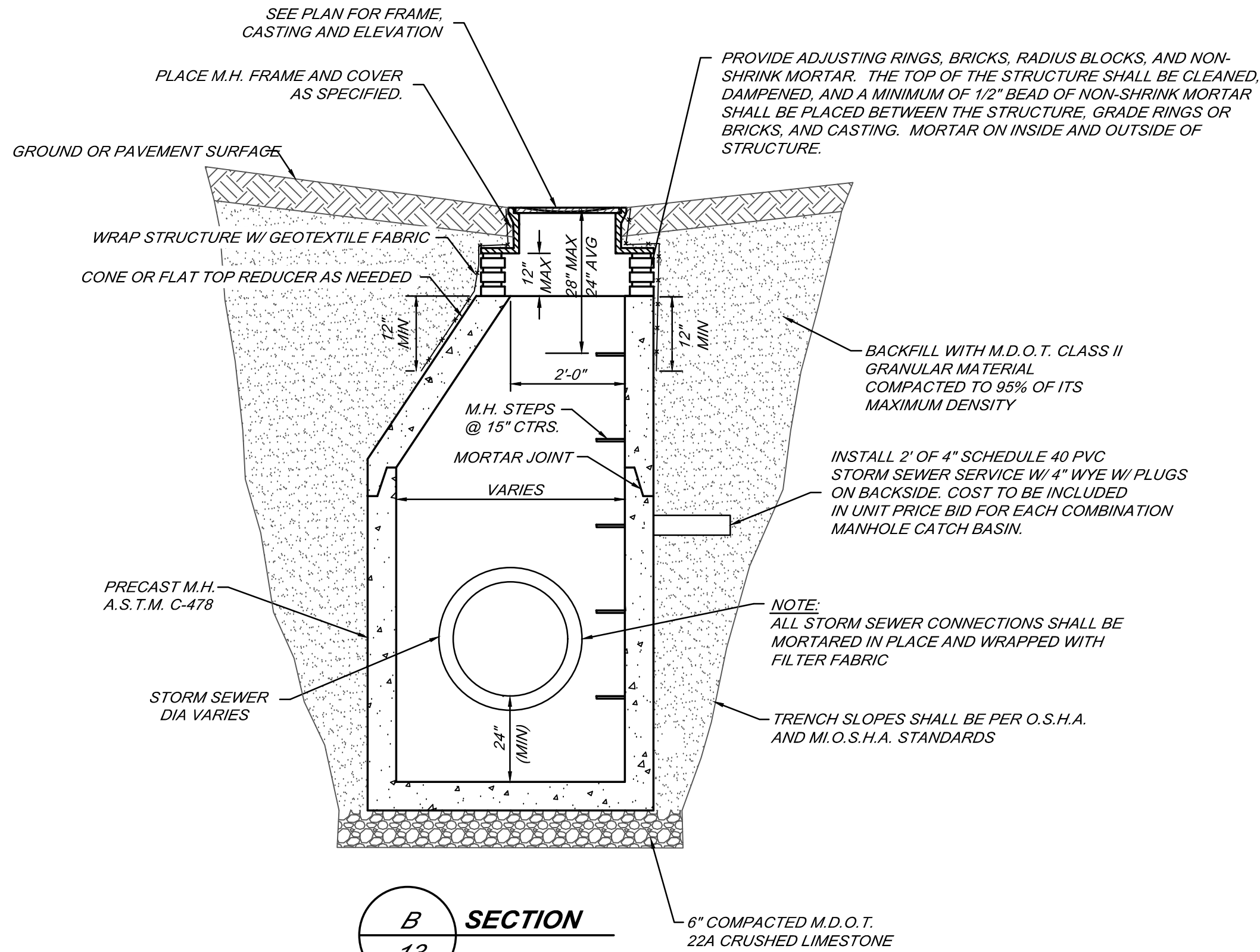
1/24/2024





MAINTAIN MINIMUM SEPARATION BETWEEN END OF STORM SEWER AND INSIDE FACE OF MANHOLE. (TYPICAL ALL LOCATIONS).

**PLAN**  
NOT TO SCALE



SEE PLAN FOR FRAME, CASTING AND ELEVATION.  
PLACE M.H. FRAME AND COVER AS SPECIFIED.

PROVIDE ADJUSTING RINGS, BRICKS, RADIUS BLOCKS, AND NON-SHRINK MORTAR. THE TOP OF THE STRUCTURE SHALL BE CLEANED, DAMPENED, AND A MINIMUM OF 1/2" BEAD OF NON-SHRINK MORTAR SHALL BE PLACED BETWEEN THE STRUCTURE, GRADE RINGS OR BRICKS, AND CASTING. MORTAR ON INSIDE AND OUTSIDE OF STRUCTURE.

BACKFILL WITH M.D.O.T. CLASS II GRANULAR MATERIAL COMPACTED TO 95% OF ITS MAXIMUM DENSITY

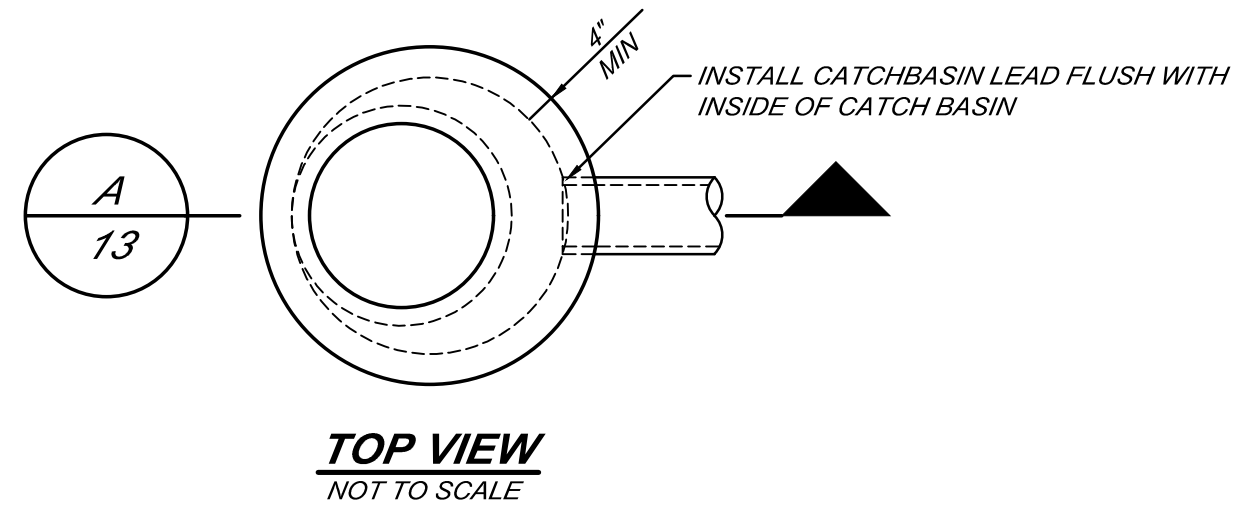
INSTALL 2' OF 4" SCHEDULE 40 PVC STORM SEWER SERVICE W/ 4" WYE W/ PLUGS ON BACKSIDE. COST TO BE INCLUDED IN UNIT PRICE BID FOR EACH COMBINATION MANHOLE CATCH BASIN.

NOTE: ALL STORM SEWER CONNECTIONS SHALL BE MORTARED IN PLACE AND WRAPPED WITH FILTER FABRIC

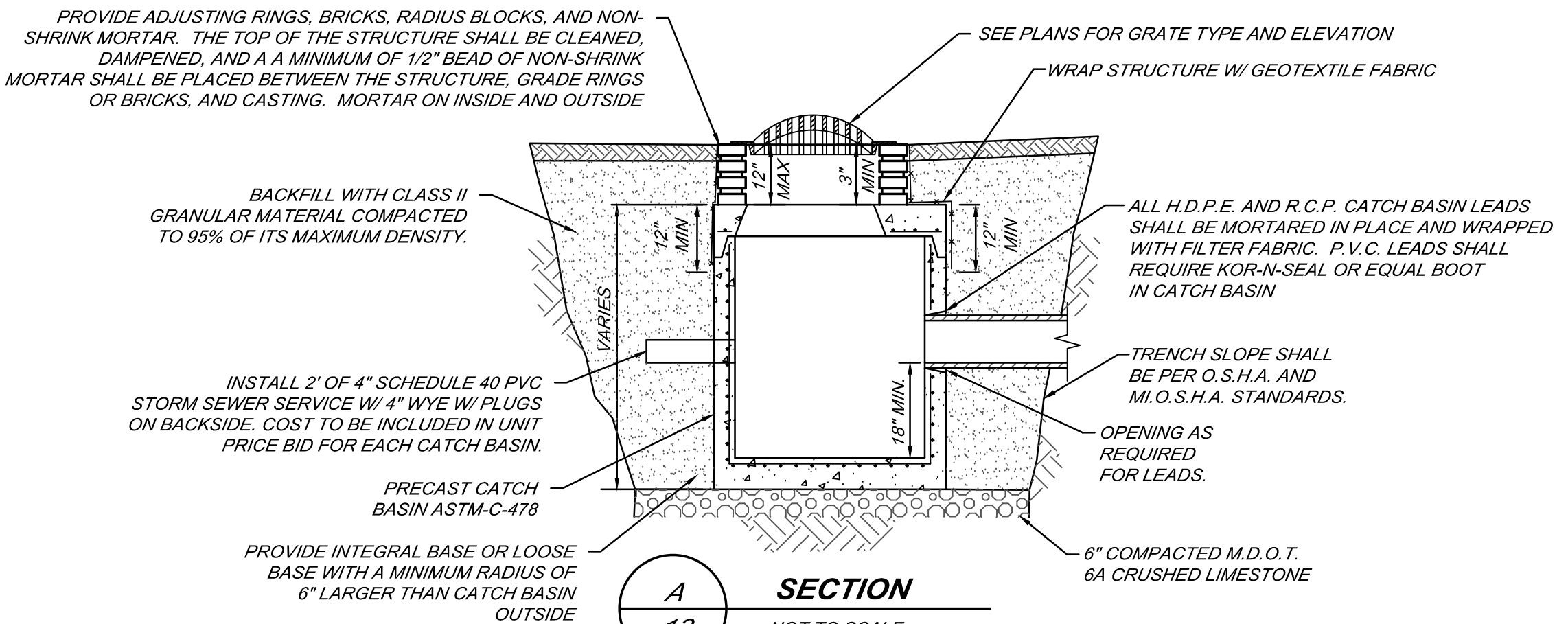
TRENCH SLOPES SHALL BE PER O.S.H.A. AND MI.O.S.H.A. STANDARDS

**B SECTION**  
13

**4' - 7' DIA COMBINATION MH-CB**  
NOT TO SCALE



**TOP VIEW**  
NOT TO SCALE



BACKFILL WITH CLASS II GRANULAR MATERIAL COMPACTED TO 95% OF ITS MAXIMUM DENSITY.

INSTALL 2' OF 4" SCHEDULE 40 PVC STORM SEWER SERVICE W/ 4" WYE W/ PLUGS ON BACKSIDE. COST TO BE INCLUDED IN UNIT PRICE BID FOR EACH CATCH BASIN.

PRECAST CATCH BASIN ASTM-C-478

PROVIDE INTEGRAL BASE OR LOOSE BASE WITH A MINIMUM RADIUS OF 6" LARGER THAN CATCH BASIN OUTSIDE

SEE PLANS FOR GRATE TYPE AND ELEVATION

WRAP STRUCTURE W/ GEOTEXTILE FABRIC

ALL H.D.P.E. AND R.C.P. CATCH BASIN LEADS SHALL BE MORTARED IN PLACE AND WRAPPED WITH FILTER FABRIC. P.V.C. LEADS SHALL REQUIRE KOR-N-SEAL OR EQUAL BOOT IN CATCH BASIN

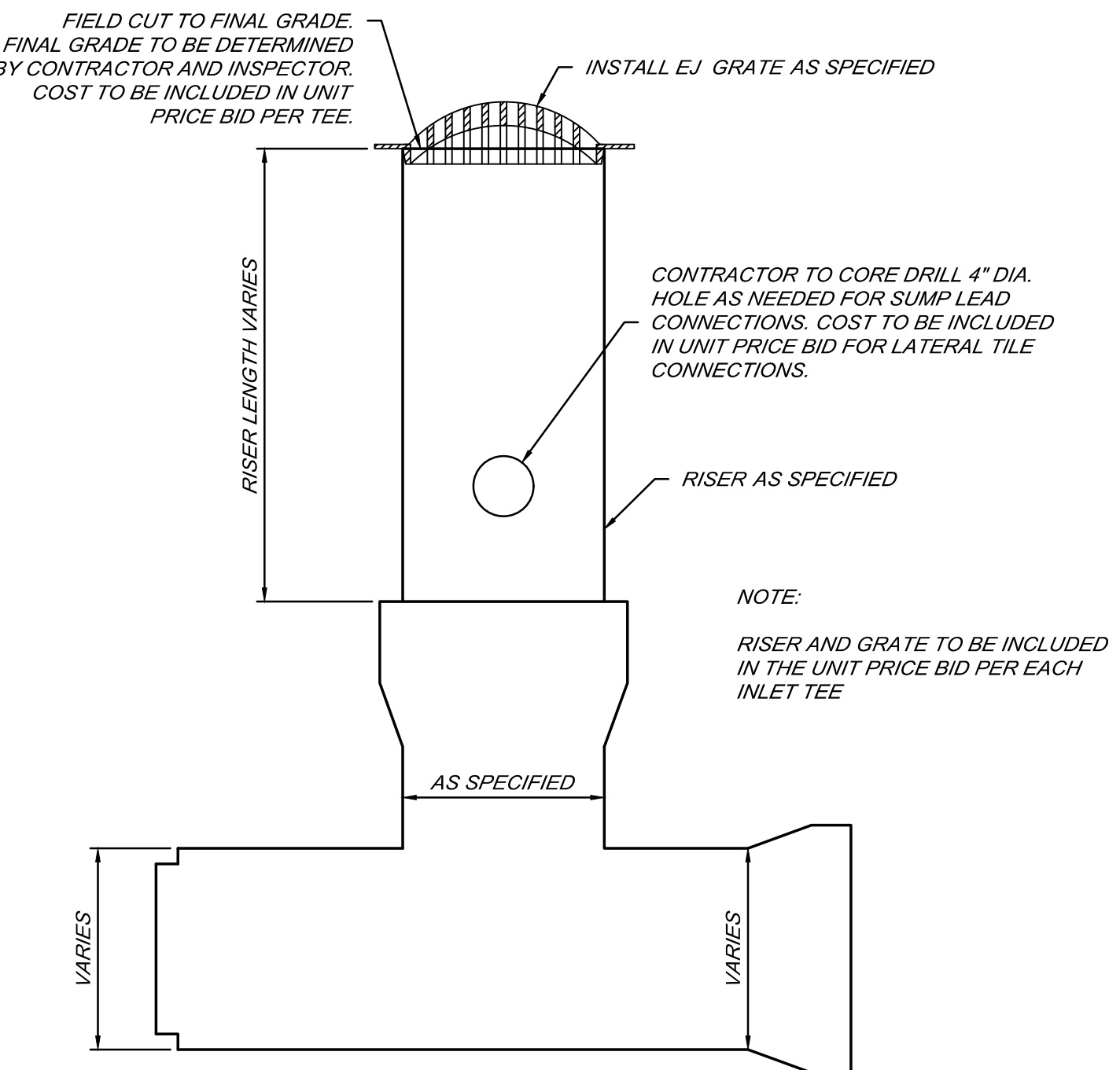
TRENCH SLOPE SHALL BE PER O.S.H.A. AND MI.O.S.H.A. STANDARDS.

OPENING AS REQUIRED FOR LEADS.

6" COMPACTED M.D.O.T. 6A CRUSHED LIMESTONE

**A SECTION**  
13

**2' - 3' DIA CATCH BASIN DETAIL**  
NOT TO SCALE



FIELD CUT TO FINAL GRADE. FINAL GRADE TO BE DETERMINED BY CONTRACTOR AND INSPECTOR. COST TO BE INCLUDED IN UNIT PRICE BID PER TEE.

INSTALL EJ GRATE AS SPECIFIED

CONTRACTOR TO CORE DRILL 4" DIA. HOLE AS NEEDED FOR SUMP LEAD CONNECTIONS. COST TO BE INCLUDED IN UNIT PRICE BID FOR LATERAL TILE CONNECTIONS.

RISER AS SPECIFIED

NOTE: RISER AND GRATE TO BE INCLUDED IN THE UNIT PRICE BID PER EACH INLET TEE

**INLET TEE DETAIL**  
NOT TO SCALE

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<b>STANDARD DETAILS</b>			
		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. 133895SG2023	
DR. BY: CBS	APP. BY: NDC		
STDS.	SHEET 13 OF 13	<b>DR</b>	
DATE SCALE	APRIL 2024 SCALE	FILE NO. DR-4530-13	<b>13</b>

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