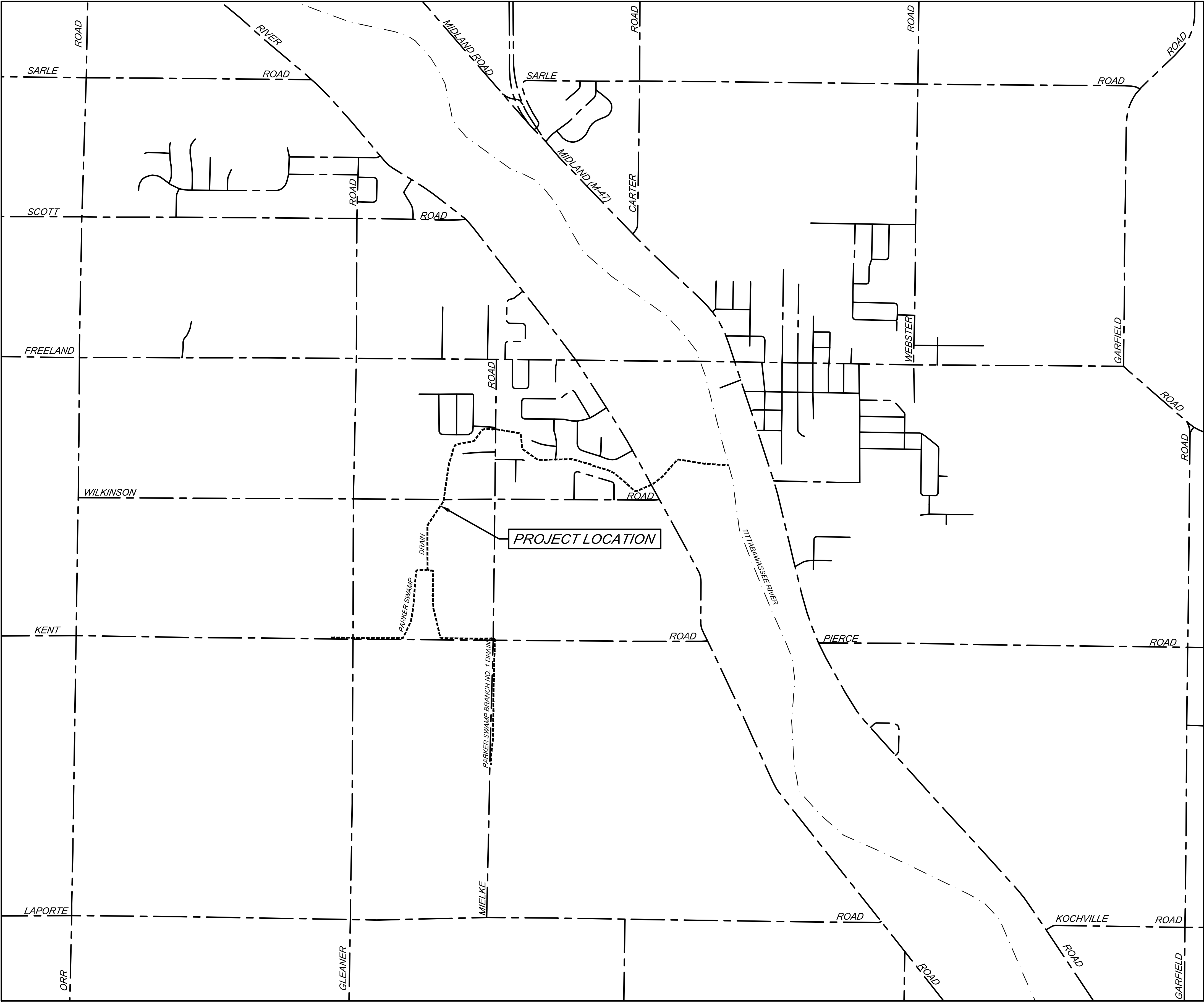


# PARKER SWAMP DRAIN

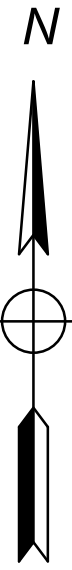
SAGINAW COUNTY PUBLIC WORKS COMMISSIONER - BRIAN J. WENDLING



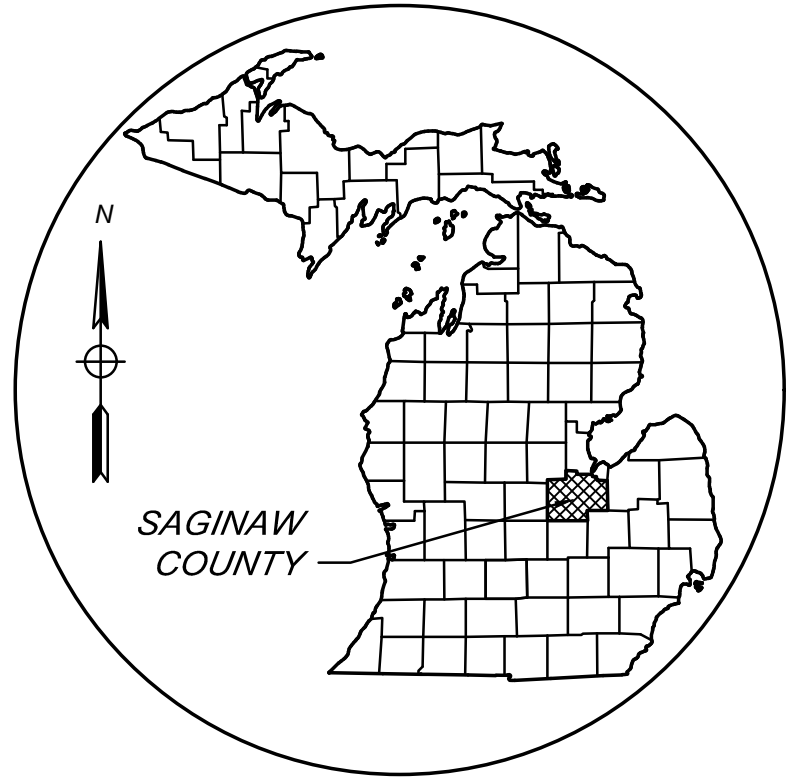
LOCATION MAP  
NOT TO SCALE

## PLAN INDEX


FILE NO.	DESCRIPTION	NO.
DR-4246-01	COVER SHEET	1
DR-4246-02	CONTACTS, GENERAL NOTES, LINE TYPE LEGEND, SYMBOLS, AND ABBREVIATIONS	2
DR-4246-03	SOIL EROSION AND SEDIMENTATION CONTROL PLAN	3
DR-4246-04	DRAINAGE DISTRICT MAP	4
DR-4246-05	PARKER SWAMP DRAIN - PLAN AND PROFILE - STA 0+00 TO STA 30+00	5
DR-4246-06	PARKER SWAMP DRAIN - PLAN AND PROFILE - STA 30+00 TO STA 60+00	6
DR-4246-07	PARKER SWAMP DRAIN - PLAN AND PROFILE - STA 60+00 TO STA 82+31 POE	7
DR-4246-08	PARKER SWAMP DRAIN - PLAN AND PROFILE - STA 82+31 TO STA 111+24	8
DR-4246-09	PARKER SWAMP DRAIN BRANCH NO. 1 - PLAN AND PROFILE - 0+00 TO 48+00	9
DR-4246-10	PARKER SWAMP DRAIN - CROSS SECTIONS - STA 2+25 TO STA 57+17	10
DR-4246-11	PARKER SWAMP DRAIN CROSS SECTIONS - STA 61+05 TO STA 110+89	11
DR-4246-12	PARKER SWAMP DRAIN BRANCH NO. 1 - CROSS SECTIONS - STA 0+99 TO STA 46+33	12
DR-4246-13	STANDARD DETAILS	13
DR-4246-14	STANDARD DETAILS	14



SECTION 19, 20, 21, & 29, T13N-R03E,  
TITTABAWASSEE TOWNSHIP,  
SAGINAW COUNTY, MICHIGAN



AREA MAP  
NOT TO SCALE

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.			
PARKER SWAMP DRAIN SAGINAW 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/DSV	CH. BY: DSV	PROJECT NO.	
DR. BY: POC	APP. BY: RBH	131052SG2021	
STDs.	SHEET 01 OF 14	DR	
DATE MAY, 2022	FILE NO. DR-4246-01	01	
SCALE NOT TO SCALE			



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 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

BRIAN J. WENDLING  
SAGINAW COUNTY DRAIN COMMISSIONER  
111 SOUTH AVENUE  
SAGINAW COUNTY, MI 48602  
(989) 790-5258

OWNER

DAVE VALLIER  
SPICER GROUP, INC.  
230 S. WASHINGTON AVENUE  
SAGINAW, MI 48605  
(989) 233-0136

PROJECT MANAGER

CHRISTIAN VALESANO  
SPICER GROUP, INC.  
230 S. WASHINGTON AVENUE  
SAGINAW, MI 48605  
(906) 284-1862

ENGINEER

HALEY SHEPHERD  
SAGINAW COUNTY  
3020 SHERIDAN AVENUE  
SAGINAW, MI 48601  
(989) 399-3751

ROAD COMMISSION

TRACY AINSWORTH  
TITABAWASSEE TOWNSHIP  
4870 SHATTUCK ROAD  
SAGINAW, MI 48603  
(989) 695-6517

WATER

GREG SQUANDA  
CONSUMERS ENERGY  
2400 WEISS STREET  
SAGINAW, MI 48602  
(989) 529-2720

ELECTRIC

BENJAMIN LEWIS  
CONSUMERS ENERGY  
2400 WEISS STREET  
SAGINAW, MI 48602  
(989) 791-5918  
(517) 581-1424

GAS

DIRK WELTE  
CONSUMERS ENERGY  
2400 WEISS STREET  
SAGINAW, MI 48602  
(517) 416-3269  
DIRK.WELTE@CMSENERGY.COM

GAS TRANSMISSION

KATHY HENDERSON  
AT&T  
309 S. WASHINGTON AVENUE  
SAGINAW, MI 48607  
(989) 771-5412  
(248) 425-1859

TELEPHONE

WINDSTREAM COMMUNICATIONS  
1450 N. CENTER POINT ROAD,  
HIAWATHA, IA 52233  
(800) 695-1901

CABLE

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 OF 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 DRAIN 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 CONSTRUCTION NOTES:

1. ROUND CULVERTS SHALL BE EITHER RCP (C-76, CL-111) OR ADS HP STORM OR UNLESS OTHERWISE SPECIFIED.

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  
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  
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

EXISTING ROAD CENTERLINE  
EXISTING WATER MAIN  
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  
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  
STUMP  
WETLANDS  
PINE  
BUSH  
TREE  
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 MI 93 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 PREVALANT 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.			
PARKER SWAMP DRAIN SAGINAW COUNTY, MICHIGAN			
CONTACTS, GENERAL NOTES, LINE TYPE LEGEND, SYMBOLS, AND ABBREVIATIONS			
		SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel. 989-754-4717 Fax. 989-754-4440 www.SpicerGroup.com	
DE. BY:	POC/DSV	CH. BY:	DSV
DR. BY:	POC	APP. BY:	RBH
PROJECT NO.			131052SG2021
STDS.	SHEET 02 OF 14	DR 02	
DATE	MAY, 2022		
SCALE	NOT TO SCALE	FILE NO.	DR-4246-02



EROSION CONTROL MEASURES

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.
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.
18	Reinforced Vegetated Spillway		When slope failure at eroded outfalls are observed or are likely to occur from concentrated runoff on very shallow slopes (where flow velocities will be low enough not to undermine the reinforced grass root structure).
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.
28	Stone Construction Access		At locations where construction equipment will enter and exit the drain easement and tracking of soil is anticipated.
40	Turbidity Curtain		Within a stream or drain parallel to flow when a slack water area is necessary to isolate earth change activities from a lake or channel.

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

ALL PROPOSED CHANNEL EXCAVATION ACTIVIES FOR THIS PROJECT MUST ADHERE TO THE FOLLOWING SEQUENCE.

- CONTRACTOR MUST CLEAR THE DRAIN CHANNEL AND RIGHT-OF-WAY AS NOTED ON PLANS. THIS INCLUDES ALL DEBRIS AND STUMP REMOVAL MAINTENANCE LANE ONLY, AND SPRAYING OF STUMPS. CONTRACTOR MUST VERIFY WITH ENGINEER THAT CLEARING REQUIREMENTS HAVE BEEN MET PRIOR TO MOVING FORWARD WITH EXCAVATION.
- DRAIN EXCAVATION STAKES WILL BE PLACED FOLLOWING APPROVAL OF SITE CLEARING.
- CONTRACTOR IS TO PERFORM PROPOSED EXCAVATION ACTIVITIES REQUIRED TO OBTAIN PROPOSED GRADES AND SIDE SLOPES AS DESIGNATED ON PLANS.
- CONTRACTOR MUST PERFORM DAILY RAKING, SEEDING, AND MULCHING OF DRAIN BANKS AND SPOILS.
- ENGINEER WILL STAKE ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES ALONG PORTIONS OF DRAIN THAT HAVE BEEN EXCAVATED DURING ROUTINE INSPECTIONS.
- CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING SOIL EROSION AND SEDIMENT CONTROL MEASURES THROUGHOUT THE ENTIRE PROJECT.
- FINAL PAYMENT WILL BE MADE ONCE ALL DRAIN BANKS, SPOILS, AND DISTURBED AREAS HAVE ESTABLISHED VEGETATION GROWING. ALL LAWN AREAS MUST BE RESTORED TO IN KIND CONDITIONS PRIOR TO FINAL PAYMENT.

GENERAL TIMING & SEQUENCE
INSTALL TEMPORARY CONTROL MEASURES
SITE CLEARING
OPEN CHANNEL CONSTRUCTION
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 ENGINEER.
- ALL SLOPES AND HIGHLY EROSION 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 EROSION 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.

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 LONG 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 CONCERNS. MAKE CORRECTIVE MEASURES AS REQUIRED IMMEDIATELY AS DETAILED BY THE APPROVED APA MANUAL(S).

CONTINUED MAINTENANCE PROGRAM FOR PERMANENT SESC MEASURES	
RESPONSIBLE PARTY:	SAGINAW COUNTY DRAIN 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.

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 BELL CREEK DRAIN SESC PLAN AND PROJECT SPECIFICATIONS.
- SOIL EROSION CONTROL MEASURES MUST BE INSPECTED BY A STATE CERTIFIED INSPECTOR AFFILIATED WITH THE 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 APA/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.

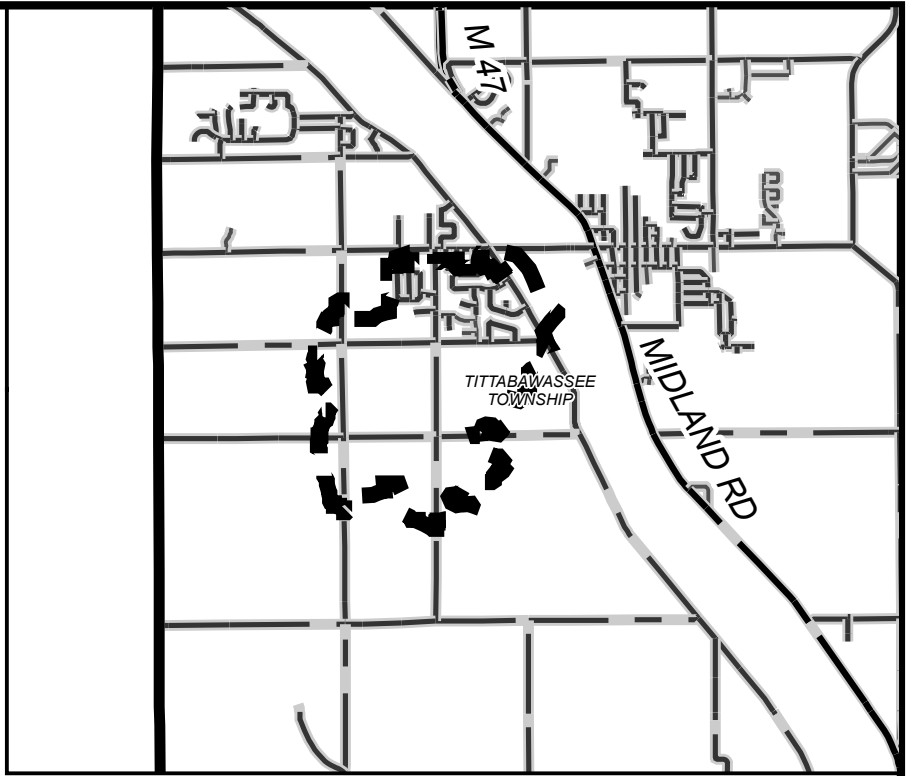
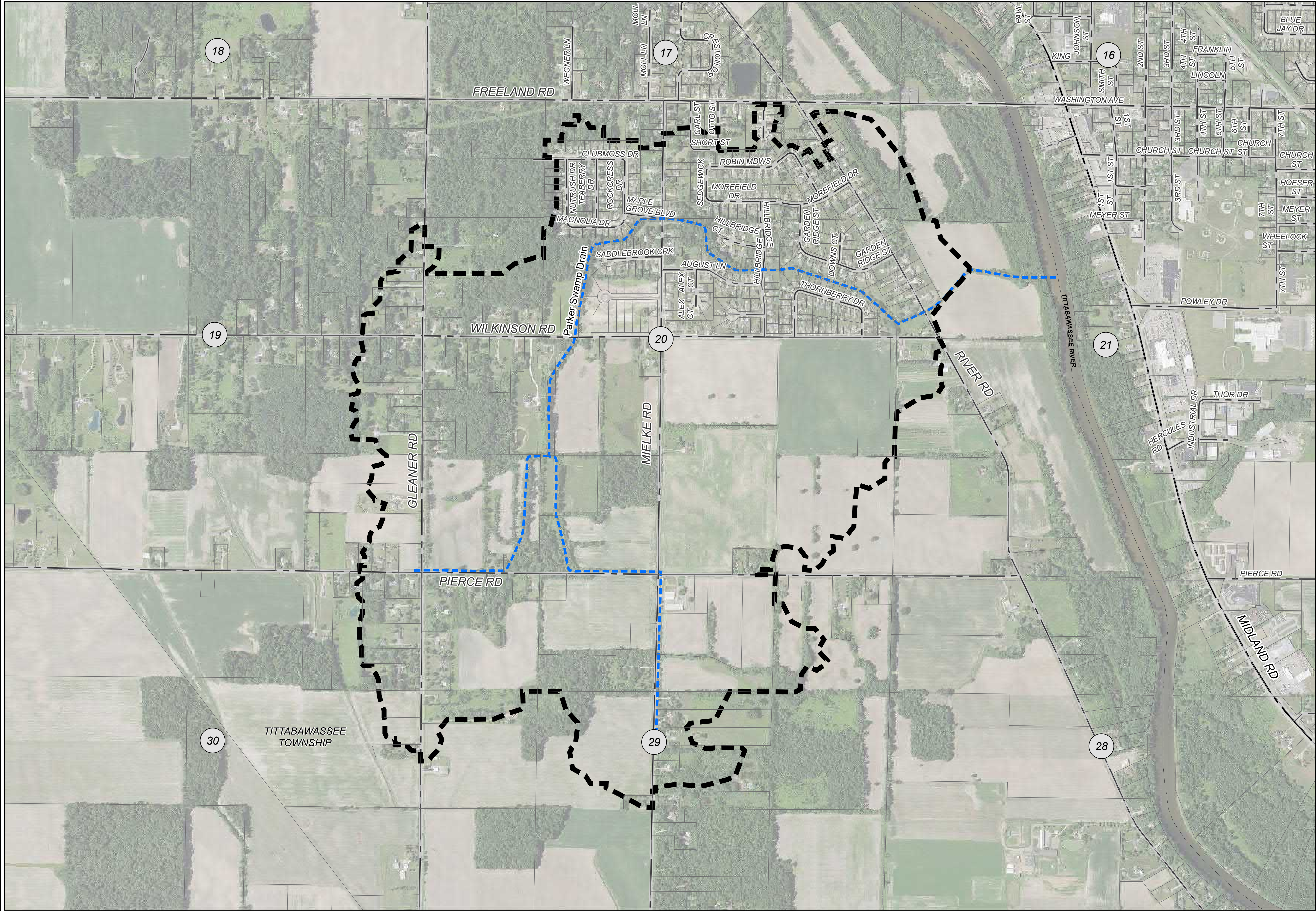
SOIL EROSION & SEDIMENTATION CONTROL PLAN

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.

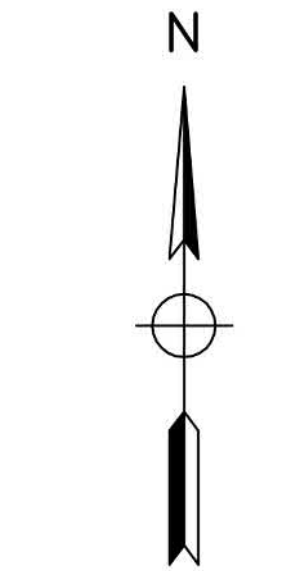
BY	MARK	REVISIONS	DATE
THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.			
PARKER SWAMP DRAIN SAGINAW COUNTY, MICHIGAN			
SOIL EROSION AND SEDIMENTATION CONTROL PLAN			
		DUNDEE OFFICE 125 Helle Blvd., Suite 2 Dundee, MI 48131 Tel. 734-623-3308 www.SpicerGroup.com	
DE. BY: POC/DSV	CH. BY: DSV	PROJECT NO.	
DR. BY: POC	APP. BY: RBH	131052SG2021	
STDs.	SHEET 03 OF 14	DR	
DATE MAY, 2022	FILE NO.	03	
SCALE NOT TO SCALE	DR-4246-03		



PARKER SWAMP DRAIN  
SAGINAW COUNTY, MICHIGAN  
SAGINAW COUNTY PUBLIC WORKS COMMISSIONER - BRIAN J. WENDLING



AREA MAP  
NOT TO SCALE



0 250 500 1,000 FEET

LEGEND

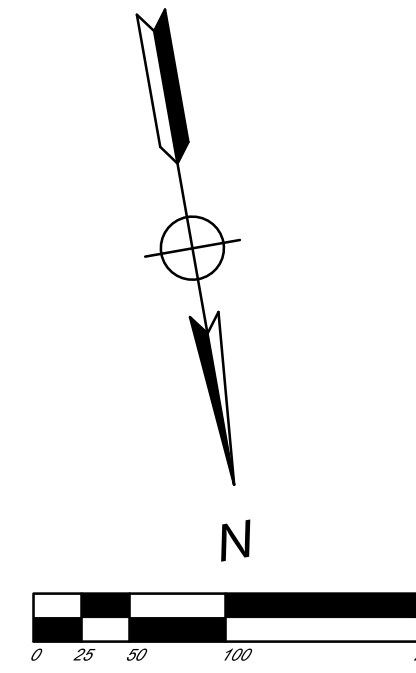
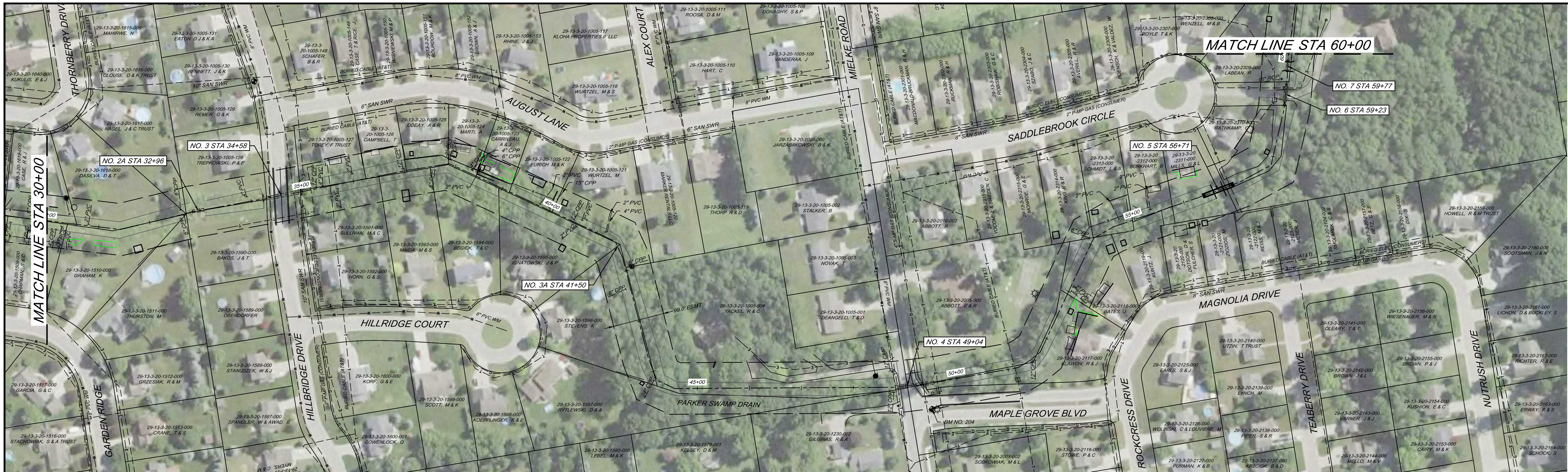
- DRAINAGE DISTRICT BOUNDARY
- APPROXIMATE DRAIN CENTERLINE
- OUTLET WATERCOURSE
- SECTION

BY	MARK	REVISIONS	DATE
THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREIN 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.			
PARKER SWAMP 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: CDV	CH. BY: CDV	PROJECT NO.	
DR. BY: MKB	APP. BY: RBH	131052SG2021	
STDS.		SHEET 04 OF 14	DR
DATE MAY 2022		FILE NO. DR - 4246 - 04	04
SCALE 1" = 500'			

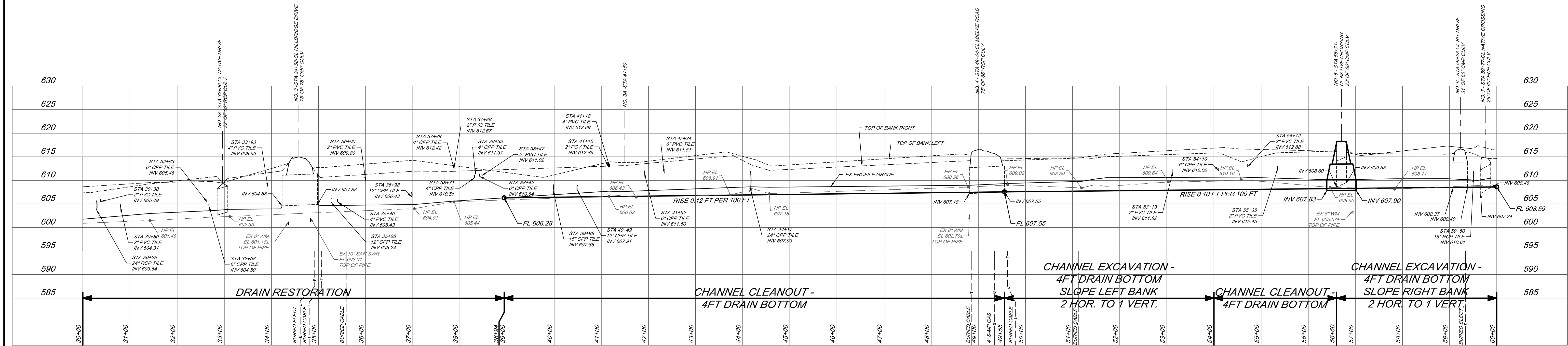








SECTION 21, T13N-R03E,  
TITTABAWASSEE TOWNSHIP,  
SAGINAW COUNTY, MICHIGAN



NO. 2A - STA 32+96 - TREPKOWSKI, P & E  
REMOVE EXISTING CROSSING.

NO. 5 - STA 56+71 - MILLS, G & L  
REMOVE EXISTING CROSSING. INSTALL 62 LIN FT  
OF 8" SPAN X 63" RISE CMPA (3" X 1" CORR, 12  
GA.). BEVEL CULVERT ENDS 2 HOR. TO 1 VERT.  
RESTORE NATIVE DRIVE.

NO. 3 - STA 34+58 - HILLBRIDGE DRIVE  
CLEANOUT EXISTING CROSSING.

NO. 6 - STA 59+23 - DOBULIS, J & M  
CLEANOUT EXISTING CROSSING.

NO. 3A - STA 41+50 - STEVENS, K  
INSTALL ROCKFORD CROSSING.

NO. 7 - STA 59+77 - LABEAN, R  
REMOVE EXISTING CROSSING.

NO. 4 - STA 49+04 - MIELKE ROAD  
CLEANOUT EXISTING CROSSING.

SPOIL LEVELING TABLE				
STATION FROM	STATION TO	DETAIL	SIDE TO EXCAVATE FROM	
30+00	37+00	HAUL	RIGHT	
37+00	41+75	"B"	RIGHT	
41+75	44+50	"B"	LEFT	
44+50	56+71	HAUL	LEFT	
56+71	59+23	"B"	RIGHT	
59+23	60+00	HAUL	RIGHT	

NOTE:  
USE SPOIL LEVELING DETAIL "A" THROUGH FIELD AREA.  
USE SPOIL LEVELING DETAIL "B" THROUGH WOODED AREA.  
SPOILS TO BE HAULED IN LAWN AREAS.

EROSION CONTROL TABLE					
KEY*	FROM STATION	TO STATION	SIDE	DESCRIPTION	QTY
1 P	30+00	60+00	BOTH	SEEDING OF ALL DISTURBED	LUMP SUM
2 T	30+00	60+00	BOTH	MULCH OF ALL DISTURBED AREAS	LUMP SUM
16 P	AS STAKED BY ENGINEER	-	-	RIPRAP TOE OF SLOPE PROTECTION	800 LIN FT
18 P	AS STAKED BY ENGINEER	-	-	GRASS SPILLWAY	0 LIN FT
19 P	AS STAKED BY ENGINEER	-	-	RIPRAP SPILLWAY	25 LIN FT
23 P	ALL EX FIELD TILE OUTLETS AND S.O.T.	BOTH	-	OUTFALL STABILIZATION	30 EA
15 P	CROSSINGS 3-6	BOTH	-	INSTALL RIPRAP PROTECTION AT INLET & OUTLET OF CROSSING	110 SQ YDS TOTAL

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

- CONSTRUCTION NOTES**
- PAYMENT FOR LINEAL FOOT OF DRAIN RESTORATION INCLUDES: REMOVAL OF DEADFALL AND DEBRIS FROM THE DRAIN, REMOVAL OF SEDIMENT BARS TO STRAIGHTEN MEANDERS IN THE DRAIN, FILLING AND GRADING TO REPAIR ERODED AREAS OF THE DRAIN AND HAULING AND LEVELING OF SPOILS. REMOVAL AND DISPOSAL OF TREES, REMOVAL AND DISPOSAL OF EXISTING CROSSINGS, PLACEMENT OF RIPRAP AND EROSION CONTROL BLANKETS AND FINAL RESTORATION WILL BE PAID FOR IN OTHER PAY ITEMS.
  - CONTRACTOR TO SALVAGE CONCRETE BLOCK HEADWALL FROM CROSSING NO. 5 AND STACK BLOCKS OUTSIDE OF THE DRAIN RIGHT OF WAY. COST TO BE INCLUDED IN UNIT PRICE BID PER LIN FEET FOR CROSSING NO. 5.
  - STA 39+40 TO STA 39+80 REMOVE 40 LIN FT OF WOOD FENCE AND PLACE RIPRAP BANK PROTECTION AS DIRECTED BY FIELD ENGINEER. COST FOR REMOVAL OF WOOD FENCE TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR SITE CLEARING.

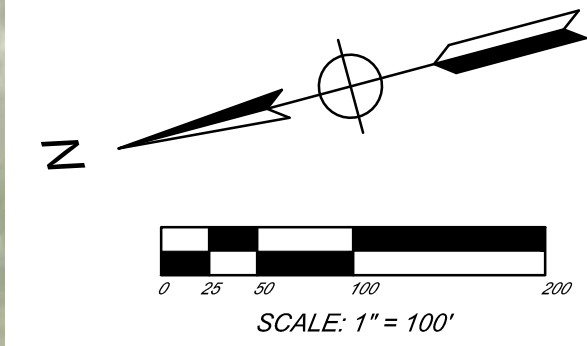
**BENCHMARKS**

BM NO. 204 - SET P.K. NAIL IN TOP OF CURB AT EAST END OF MAPLE GROVE CENTER CURB ISLAND IN MIDPOINT OF END.  
EL 616.35

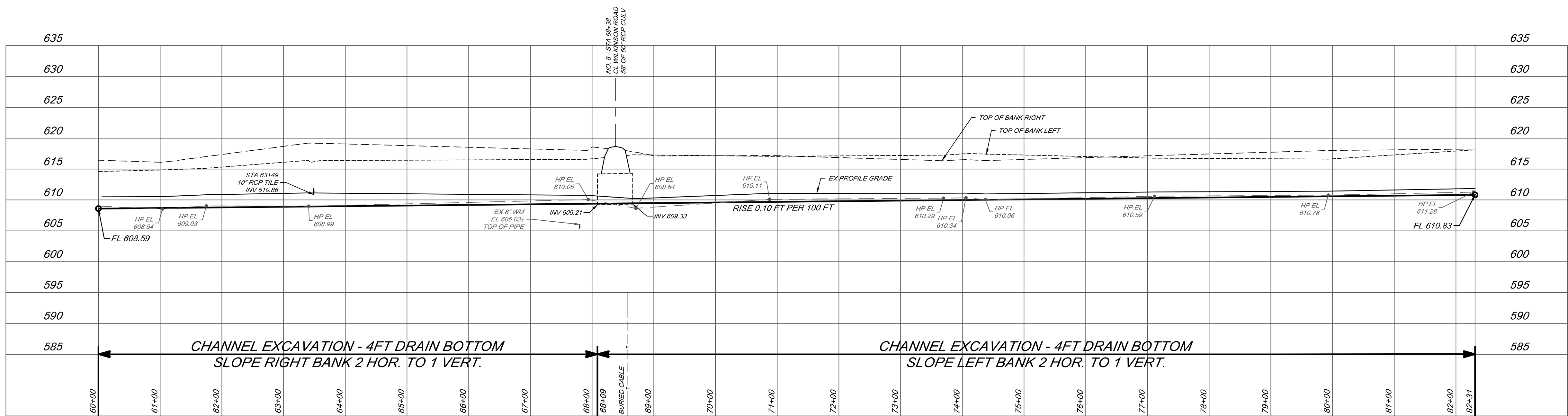
**RIGHT OF WAY**  
PARKER SWAMP DRAIN - DRAIN RIGHT-OF-WAY IS 99' WIDE 49.5' ON EACH SIDE OF CENTERLINE OF DRAIN.

BY	MARK	REVISIONS	DATE
PARKER SWAMP DRAIN SAGINAW COUNTY, MICHIGAN			
PARKER SWAMP DRAIN PLAN AND PROFILE STA 30+00 TO STA 60+00			
SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel: 989-754-4717 Fax: 989-754-4440 www.SpicerGroup.com			
DE. BY: POC/DSV DR. BY: POC	CH. BY: DSV APP. BY: RBH	PROJECT NO. 131052SG2021	DR 06
STDS.	SHEET 06 OF 14	FILE NO. DR-4246-06	
DATE SCALE: H:1"=100' V:1"=10'	MAY, 2022		





SECTION 21, T13N-R03E,  
TITTABAWASSEE TOWNSHIP,  
SAGINAW COUNTY, MICHIGAN



NO. 8 - STA 68+38 - WILKINSON ROAD  
CLEANOUT EXISTING CROSSING.

SPOIL LEVELING TABLE			
STATION FROM	STATION TO	DETAIL	SIDE TO EXCAVATE FROM
60+00	61+62	HAULED	RIGHT
61+62	68+38	"A"	RIGHT
68+38	82+31	"A"	LEFT

NOTE:  
USE SPOIL LEVELING DETAIL "A" THROUGH FIELD AREA.  
USE SPOIL LEVELING DETAIL "B" THROUGH WOODED AREA.  
SPOILS TO BE HAULED IN LAWN AREAS.

MAINTENANCE ACCESS			
STATION	SIDE	SIZE/TYPE	LENGTH
67+95	RIGHT	30" STORM SEWER	40 LIN FT

NOTE:  
COORDINATE INSTALLATION OF ACCESS CULVERTS WITH ENGINEER PRIOR TO CONSTRUCTION.  
INSTALL RIPRAP PROTECTION AT INLET AND OUTLET.

EROSION CONTROL TABLE					
KEY*	FROM STATION	TO STATION	SIDE	DESCRIPTION	QTY
1 P	60+00	82+31	BOTH	SEEDING OF ALL DISTURBED	LUMP SUM
2 T	60+00	82+31	BOTH	MULCH OF ALL DISTURBED AREAS	LUMP SUM
16 P	AS STAKED BY ENGINEER	-	-	RIPRAP TOE OF SLOPE PROTECTION	50 LIN FT
18 P	AS STAKED BY ENGINEER	-	-	GRASS SPILLWAY	25 LIN FT
19 P	AS STAKED BY ENGINEER	-	-	RIPRAP SPILLWAY	50 LIN FT
23 P	ALL EX FIELD TILE OUTLETS AND S.O.T.	BOTH	-	OUTFALL STABILIZATION	6 EA
15 P	CROSSINGS 8	BOTH	-	INSTALL RIPRAP PROTECTION AT INLET & OUTLET OF CROSSING	20 SQ YDS TOTAL

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

#### BENCHMARKS

BM NO. 203 - MARKED TOP ARROW OF HYDRANT NORTH OF WILKINSON ACROSS FROM HOUSE 11645.

EL 620.68

#### RIGHT OF WAY

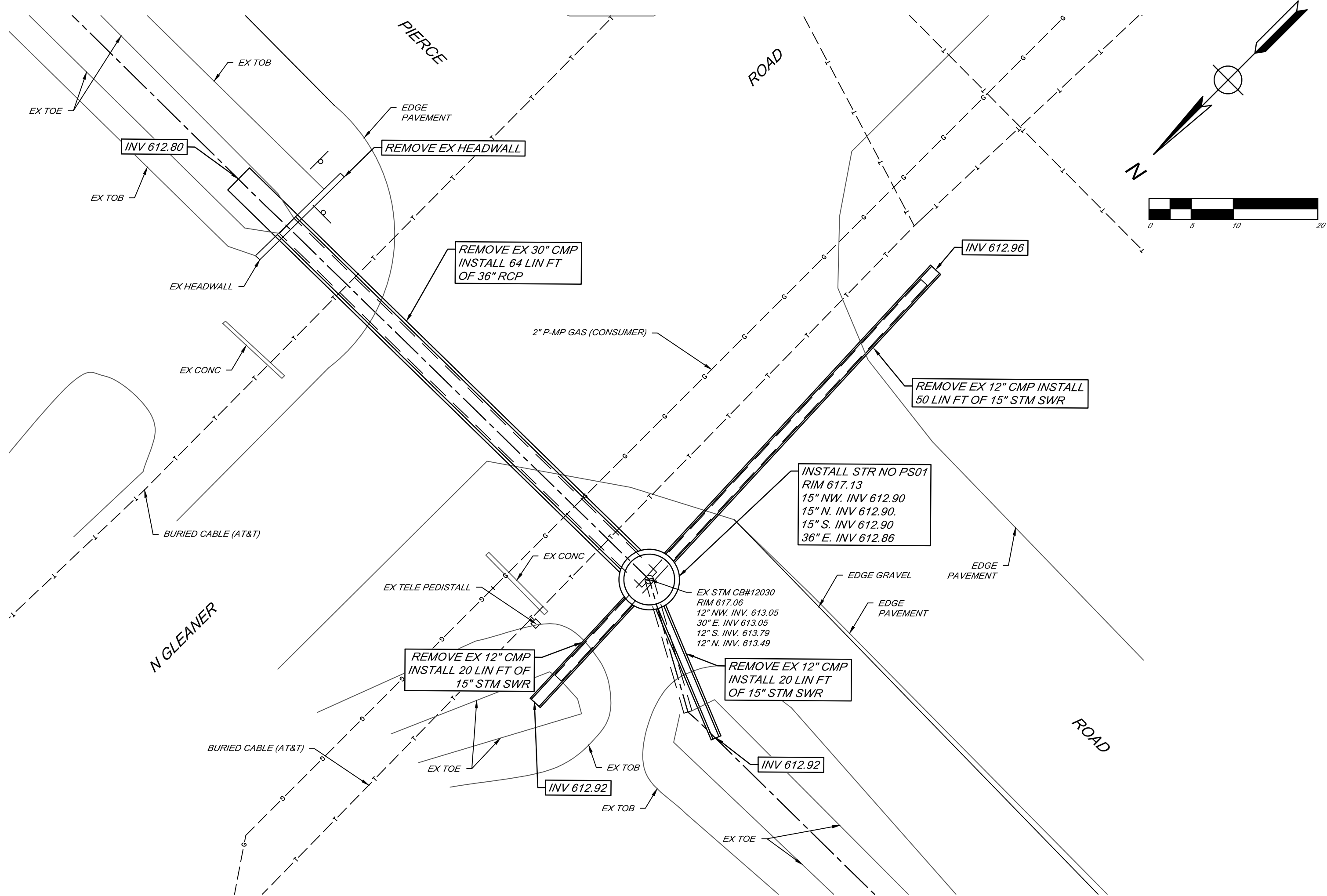
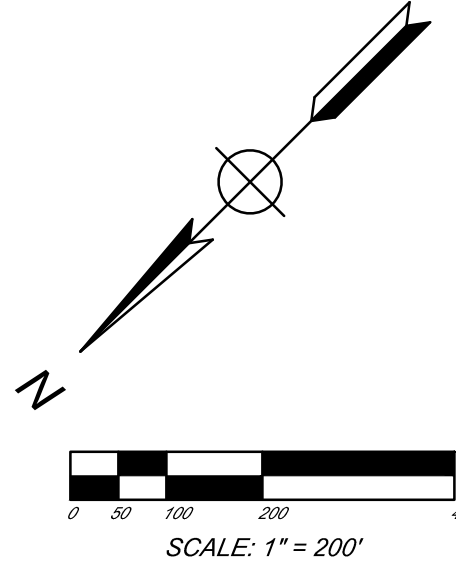
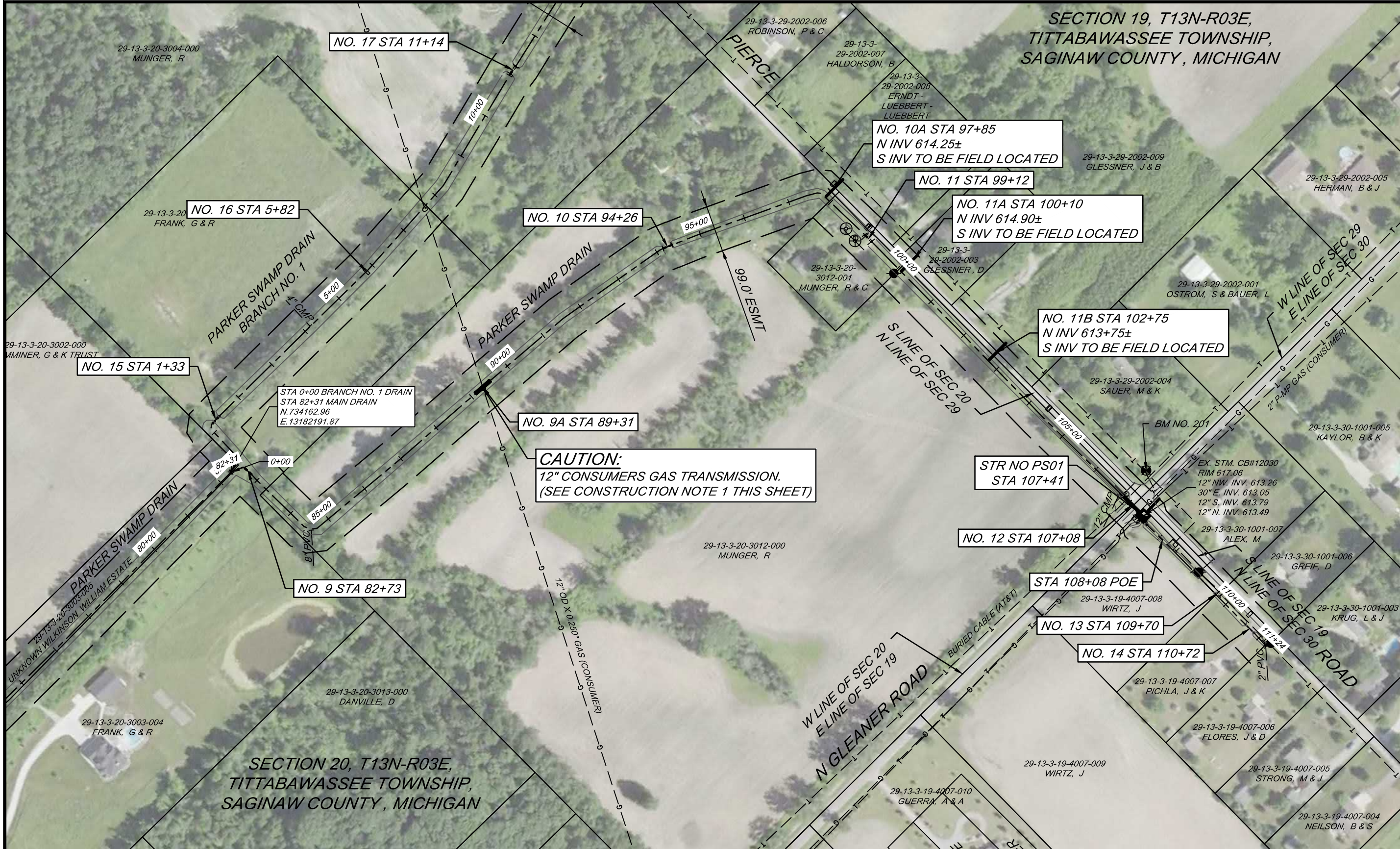
PARKER SWAMP DRAIN - DRAIN RIGHT-OF-WAY IS 99' WIDE 49.5' ON EACH SIDE OF CENTERLINE OF DRAIN.

REVISIONS			
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.			
PARKER SWAMP DRAIN SAGINAW COUNTY, MICHIGAN			
PARKER SWAMP DRAIN PLAN AND PROFILE STA 60+00 TO STA 82+31 POE			
DE. BY: POC/DSV DR. BY: POC		CH. BY: DSV APP. BY: RSH	PROJECT NO. 131052SG2021
STDS.		SHEET 07 OF 14	DR 07
DATE: MAY, 2022 SCALE: H:1"=100' V:1"=10'		FILE NO. DR-4246-07	



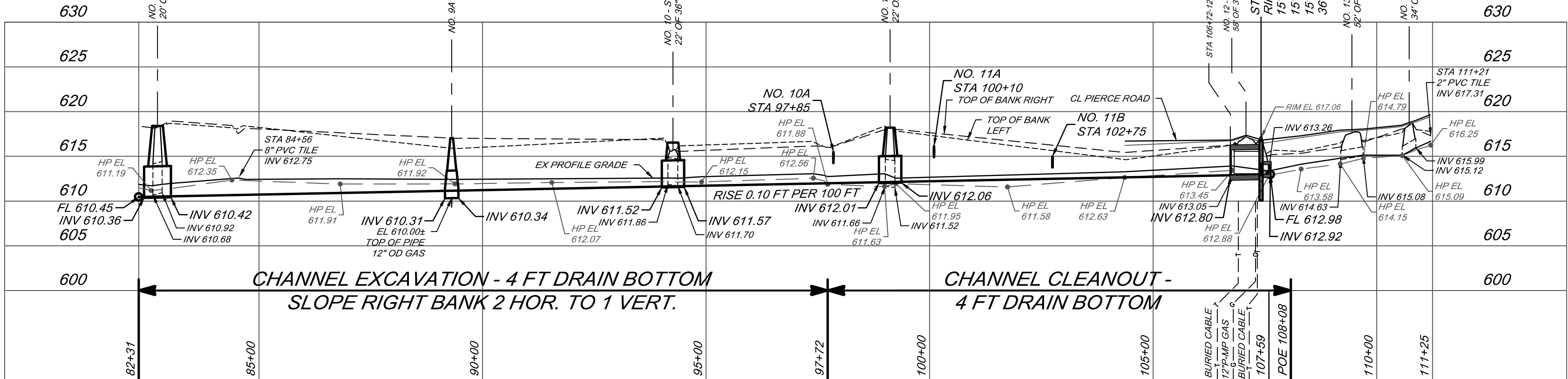
SAGINAW OFFICE  
230 S. Washington Ave.  
Saginaw, MI 48607  
Tel: 989-754-4717  
Fax: 989-754-4440  
www.SpicerGroup.com





GLEANER AND PIERCE ROAD  
CROSSING NO. 12 DETAIL

SCALE 1" = 10'



NO. 9 - STA 82+73 - FRANK, G & R  
REMOVE EXISTING CROSSING, INSTALL 60 LIN FT  
OF 42" STORM SEWER.  
RESTORE NATIVE DRIVE.

NO. 11A - STA 100+10 - PIERCE ROAD  
REMOVE EXISTING CROSSING, INSTALL 50 LIN FT  
OF 15" STORM SEWER.  
RESTORE BITUMINOUS ROAD

NO. 9A - STA 89+31 - CONSUMERS ENERGY.  
INSTALL 30 LIN FT OF 57" SPAN X 38" RISE CMPA  
(2 23" X 12" CORR., 12 GA.). BEVEL CULVERT ENDS  
2 HOR. TO 1 VERT.  
CONSTRUCT NATIVE DRIVE

NO. 11B - STA 102+75 - PIERCE ROAD  
REMOVE EXISTING CROSSING, INSTALL 50 LIN FT  
OF 15" STORM SEWER.  
RESTORE BITUMINOUS ROAD

NO. 10 - STA 94+26 - MUNGER, R  
REMOVE EXISTING CROSSING, INSTALL 50 LIN FT  
OF 36" STORM SEWER.  
RESTORE NATIVE DRIVE.

NO. 12 - STA 107+08 - NORTH GLEANER ROAD  
REMOVE EXISTING CROSSING, INSTALL PROPOSED  
RCP PER CROSSING NO. 12 DETAIL.  
RESTORE BITUMINOUS ROAD.

NO. 10A - STA 97+85 - PIERCE ROAD  
REMOVE EXISTING CROSSING, INSTALL 50 LIN FT  
OF 15" STORM SEWER.  
RESTORE BITUMINOUS ROAD

NO. 13 - STA 109+45 - WIRTZ, J  
NO WORK.

NO. 11 - STA 99+12 - MUNGER, R & C  
REMOVE EXISTING CROSSING, INSTALL 50 LIN FT  
OF 36" STORM SEWER.  
RESTORE GRAVEL DRIVE.

NO. 14 - STA 110+72 - PICHLA, J & K  
NO WORK.

EROSION CONTROL TABLE

KEY*	FROM STATION	TO STATION	SIDE	DESCRIPTION	QTY
1 P	82+31	108+08	BOTH	SEEDING OF ALL DISTURBED	LUMP SUM
2 T	82+31	108+08	BOTH	MULCH OF ALL DISTURBED AREAS	LUMP SUM
16 P	AS STAKED BY ENGINEER	-	-	RIPRAP TOE OF SLOPE PROTECTION	170 LIN FT
18 P	AS STAKED BY ENGINEER	-	-	GRASS SPILLWAY	0 LIN FT
19 P	AS STAKED BY ENGINEER	-	-	RIPRAP SPILLWAY	0 LIN FT
23 P	ALL EX FIELD TILE OUTLETS AND S.O.T.	BOTH	BOTH	OUTFALL STABILIZATION	5 EA
15 P	CROSSINGS 9-12	BOTH	BOTH	INSTALL RIPRAP PROTECTION AT INLET & OUTLET OF CROSSING	90 SQ YDS TOTAL

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

SPOIL LEVELING TABLE

STATION FROM	STATION TO	DETAIL	SIDE TO EXCAVATE FROM
82+31	94+26	"A"	RIGHT
94+26	97+75	"B"	LEFT
97+75	100+50	HAUL	ROAD
100+50	108+80	"A"	RIGHT

NOTE:  
USE SPOIL LEVELING DETAIL "A" THROUGH FIELD AREA.  
USE SPOIL LEVELING DETAIL "B" THROUGH WOODED AREA.  
SPOILS TO BE HAULED IN LAWN AREAS.

CONSTRUCTION NOTES

- STA 89+31 - CONTRACTOR TO NOTIFY DIRK WELTE (517-416-3269) WITH CONSUMERS ENERGY 48 HR PRIOR TO WORKING OVER 12" TRANSMISSION LINE. CONTRACTOR SHALL FIELD LOCATE GAS TRANSMISSION LINE PRIOR TO CULVERT INSTALLATION.

BENCHMARKS

BM 201 - SET GEAR SPIKE IN WEST FACE OF POWER POLE IN SOUTHEAST QUADRANT OF GLEANER AND PIERCE ROAD.

EL 617.94

RIGHT OF WAY

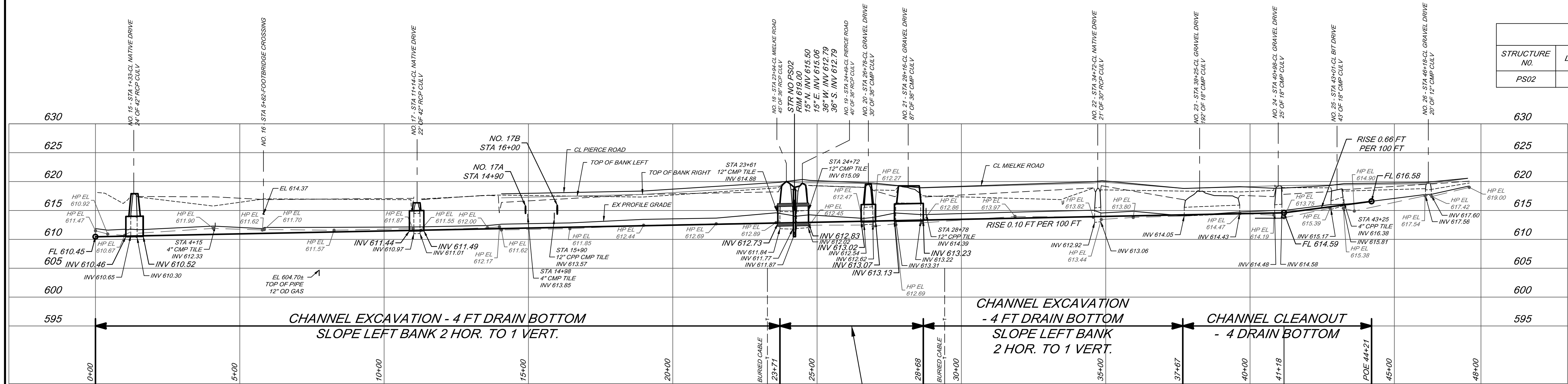
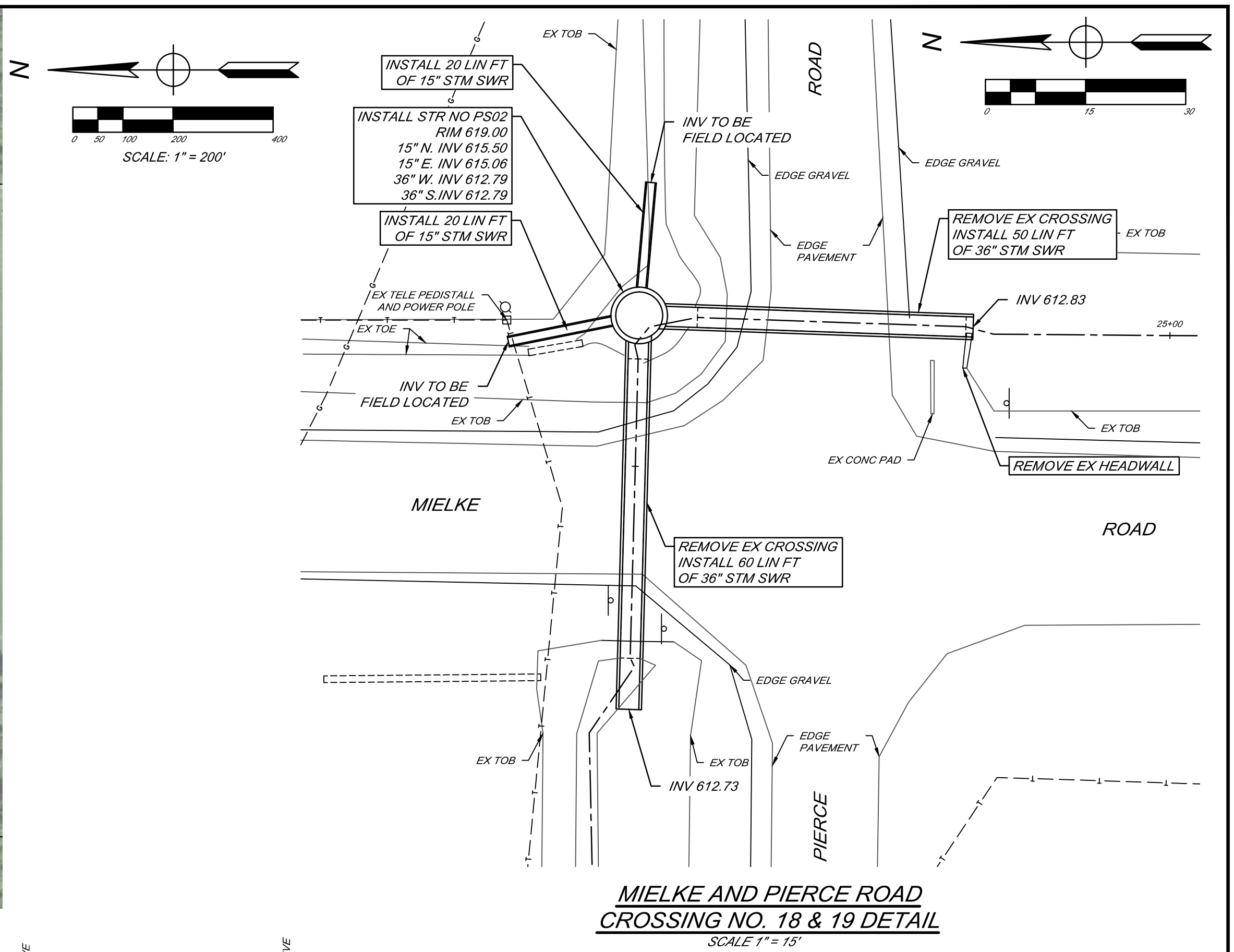
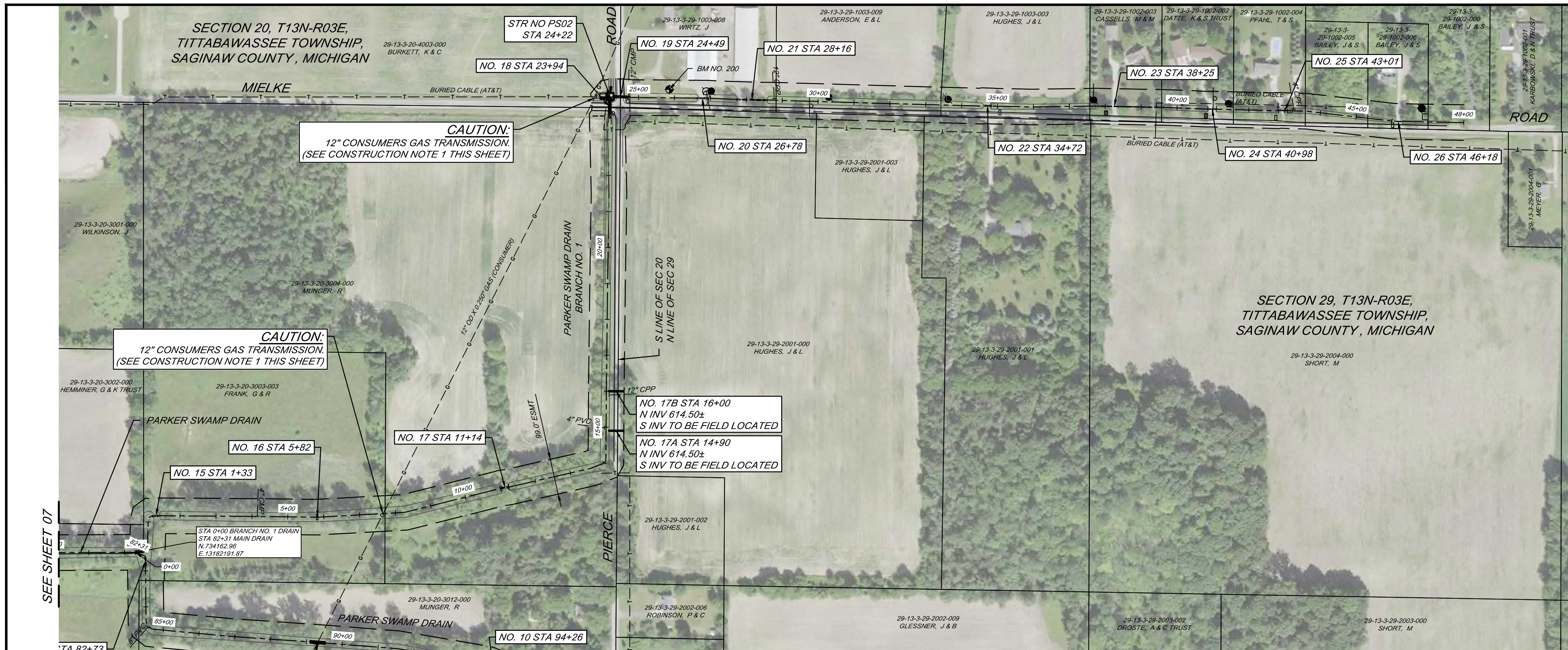
PARKER SWAMP DRAIN - DRAIN RIGHT-OF-WAY IS 99' WIDE 49.5' ON EACH SIDE OF CENTERLINE OF DRAIN.

PROPOSED STORM SEWER STRUCTURE TABLE

STRUCTURE NO.	LOCATION	OFFSET	SIZE/TYPE	E.I.W. FRAME W/ TYPE COVER GRATE
PS01	107+41	0.0' T.	6' DIA MH/CB	1045 W/B SOLID COVER

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.			
PARKER SWAMP DRAIN SAGINAW COUNTY, MICHIGAN			
PARKER SWAMP DRAIN PLAN AND PROFILE STA 82+31 TO STA 111+24			
SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel: 989-754-4717 Fax: 989-754-4440 www.SpicerGroup.com		PROJECT NO. 131052SG2021	
DE. BY: POC/DSV DR. BY: POC	CH. BY: DSV APP. BY: RSH	STDS.	DR
DATE: MAY, 2022 SCALE: H:1"=200' V:10'	SHEET 08 OF 14 FILE NO. DR-4246-08	DR	08





NO. 15 - STA 1+33 - FRANK, G & R REMOVE EXISTING CROSSING, INSTALL 60 LIN FT OF 42" STORM SEWER. RESTORE NATIVE DRIVE.	NO. 18 - STA 23+94 - MIELKE ROAD REMOVE EXISTING CROSSING, INSTALL PROPOSED STORM SEWER PER CROSSING NO. 18 & 19 DETAIL. RESTORE BITUMINOUS ROAD.	NO. 23 - STA 38+25 - CASSELLS, M & M CLEANOUT EXISTING CROSSING.
NO. 16 - STA 5+82 - FRANK, G & R CLEANOUT UNDER EXISTING FOOTBRIDGE.	NO. 19 - STA 24+49 - PIERCE ROAD REMOVE EXISTING CROSSING, INSTALL PROPOSED STORM SEWER PER CROSSING NO. 18 & 19 DETAIL. RESTORE BITUMINOUS ROAD.	NO. 24 - STA 40+98 - DATTE, K & S TRUST CLEANOUT EXISTING CROSSING.
NO. 17 - STA 11+14 - MUNGER, R REMOVE EXISTING CROSSING, INSTALL 50 LIN FT OF 42" STORM SEWER. RESTORE NATIVE DRIVE.	NO. 20 - STA 26+78 - WIRTZ, J REMOVE EXISTING CROSSING, INSTALL 50 LIN FT OF 36" STORM SEWER. RESTORE GRAVEL DRIVE.	NO. 25 - STA 43+01 - PFAHL, T & S CLEANOUT EXISTING CROSSING.
NO. 17A - STA 14+90 - PIERCE ROAD REMOVE EXISTING CROSSING, INSTALL 50 LIN FT OF 18" STORM SEWER. RESTORE BITUMINOUS ROAD	NO. 21 - STA 28+16 - WIRTZ, J REMOVE EXISTING CROSSING, INSTALL 100 LIN FT OF 36" STORM SEWER. RESTORE GRAVEL DRIVE.	NO. 26 - STA 46+18 - BAILEY, J & S NO WORK.
NO. 17B - STA 16+00 - PIERCE ROAD REMOVE EXISTING CROSSING, INSTALL 50 LIN FT OF 18" STORM SEWER. RESTORE BITUMINOUS ROAD	NO. 22 - STA 34+72 - HUGHES, J & L REMOVE EXISTING CROSSING, INSTALL 50 LIN FT OF 30" STORM SEWER. RESTORE NATIVE DRIVE.	

SPOIL LEVELING TABLE			
STATION FROM	STATION TO	DETAIL	SIDE TO EXCAVATE FROM
0+00	23+94	"A"	LEFT
23+94	28+60	HAUL	ROAD
28+60	37+50	"A"	LEFT
37+50	44+21	HAUL	ROAD

NOTE: USE SPOIL LEVELING DETAIL "A" THROUGH FIELD AREA.  
USE SPOIL LEVELING DETAIL "B" THROUGH WOODED AREA.  
SPOILS TO BE HAULED IN LAWN AREAS.

MAINTENANCE ACCESS			
STATION	SIDE	SIZE/TYPE	LENGTH
33+40	LEFT	24" STORM SEWER	40 LIN FT

COORDINATE INSTALLATION OF ACCESS CULVERTS WITH ENGINEER PRIOR TO CONSTRUCTION.

NOTE: INSTALL RIPRAP PROTECTION AT INLET AND OUTLET.

EROSION CONTROL TABLE					
KEY*	FROM STATION	TO STATION	SIDE	DESCRIPTION	QTY
1 P	0+00	44+21	BOTH	SEEDING OF ALL DISTURBED	LUMP SUM
2 T	0+00	44+21	BOTH	MULCH OF ALL DISTURBED AREAS	LUMP SUM
16 P	AS STAKED BY ENGINEER	-	-	RIPRAP TOE OF SLOPE PROTECTION	50 LIN FT
18 P	AS STAKED BY ENGINEER	-	-	GRASS SPILLWAY	0 LIN FT
19 P	AS STAKED BY ENGINEER	-	-	RIPRAP SPILLWAY	50 LIN FT
23 P	ALL EX FIELD TILE OUTLETS AND S.O.T.	BOTH	-	OUTFALL STABILIZATION	6 EA
15 P	CROSSINGS 15-24	BOTH	-	INSTALL RIPRAP PROTECTION AT INLET & OUTLET OF CROSSING	130 SQ YDS TOTAL

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

PROPOSED STORM SEWER STRUCTURE TABLE				
STRUCTURE NO.	LOCATION	OFFSET	SIZE/TYPE	E.J.I.W. FRAME W/TYPE COVER GRATE
PS02	24+22	2.3' LT.	7' DIA MH/CB	1045 W/N OVAL GRATE

CONSTRUCTION NOTES

1. STA 7+66 - CONTRACTOR TO NOTIFY DIRK WELTE (517-416-3269) WITH CONSUMERS ENERGY 48 HR PRIOR TO WORKING OVER 12" TRANSMISSION LINE. CONTRACTOR SHALL FIELD LOCATE GAS TRANSMISSION LINE PRIOR TO CULVERT INSTALLATION.


#### BENCHMARKS

BM 200 - SET GEAR SPIKE IN WEST FACE POWER POLE IN SOUTHEAST QUADRANT OF PIERCE AND MIELKE ROAD.

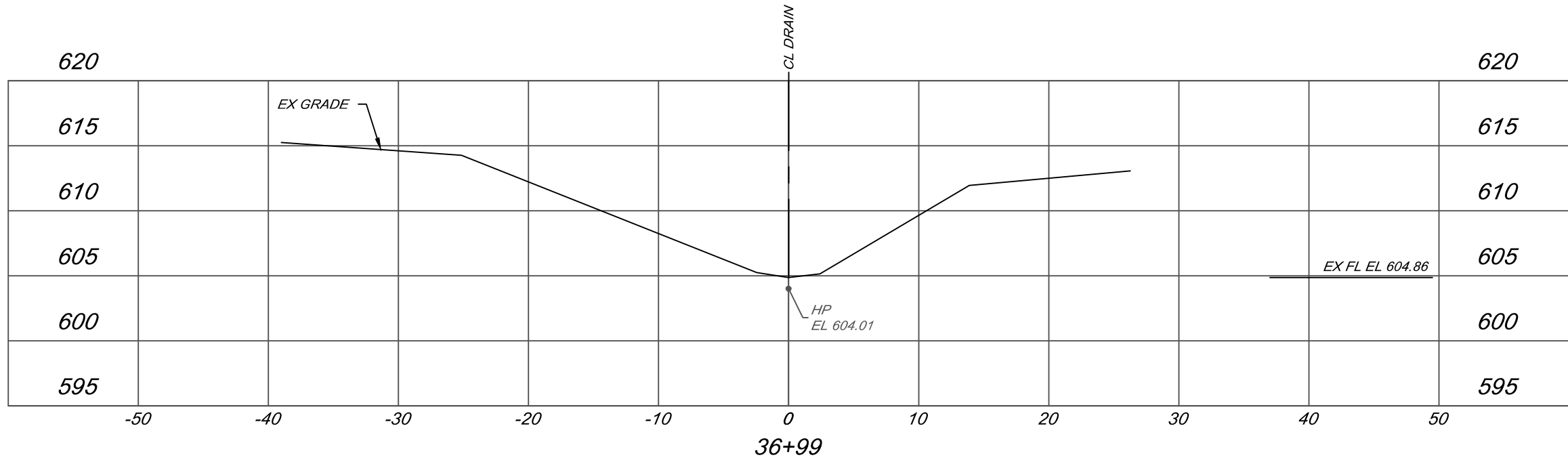
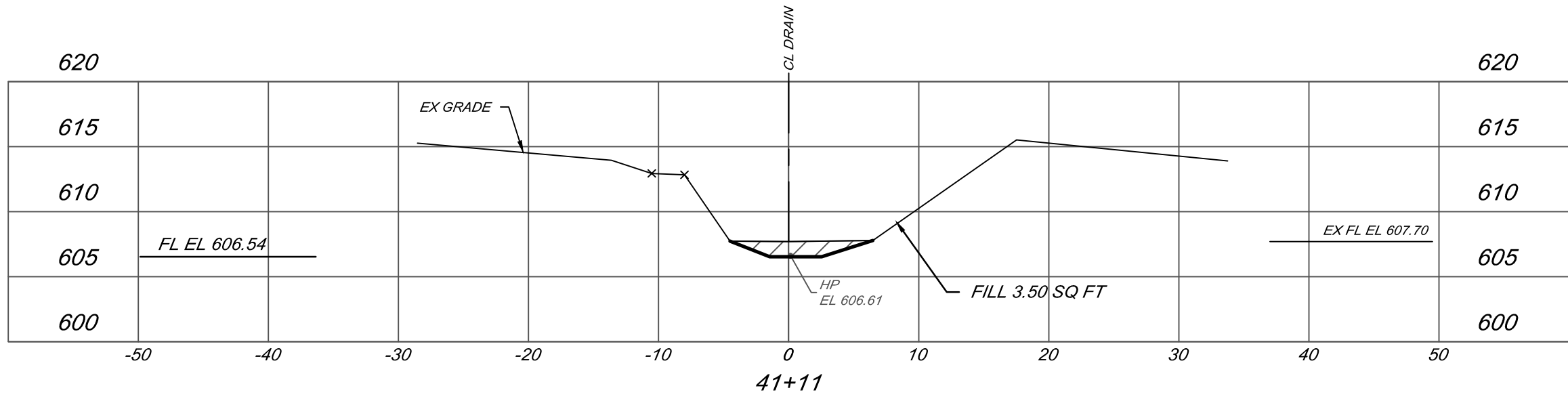
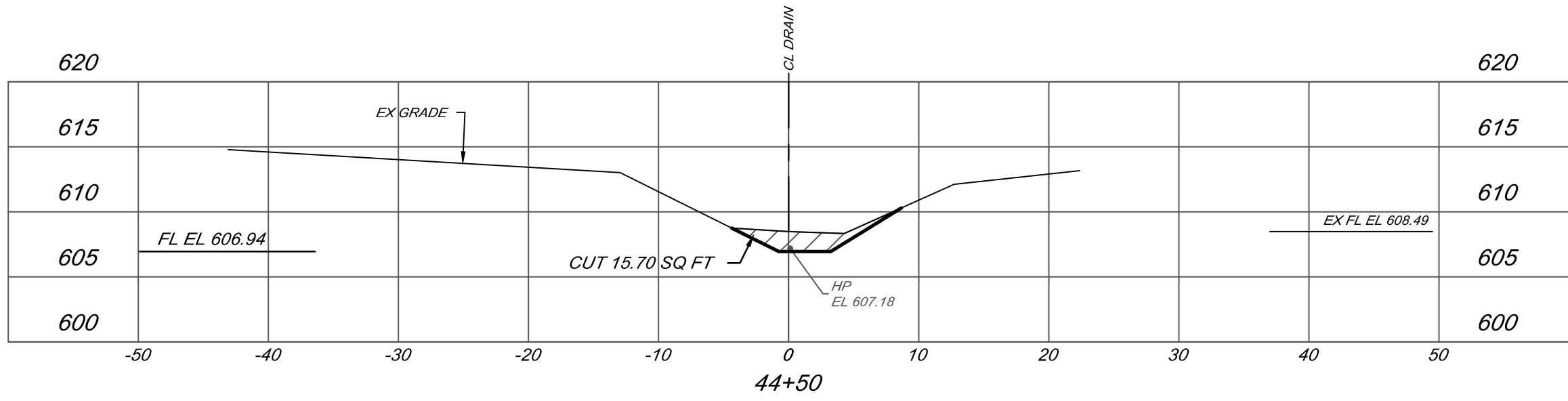
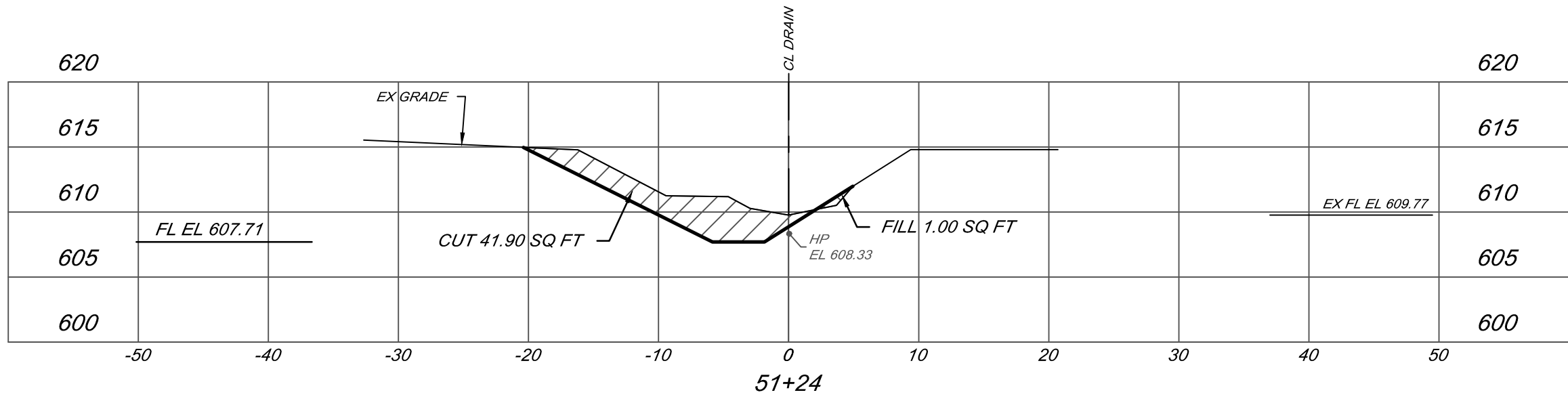
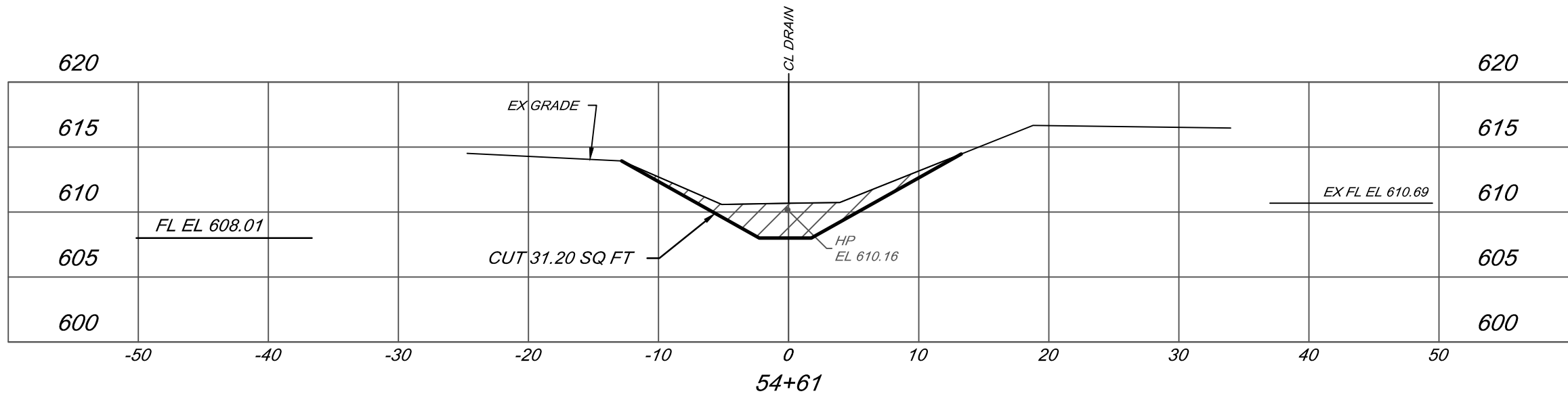
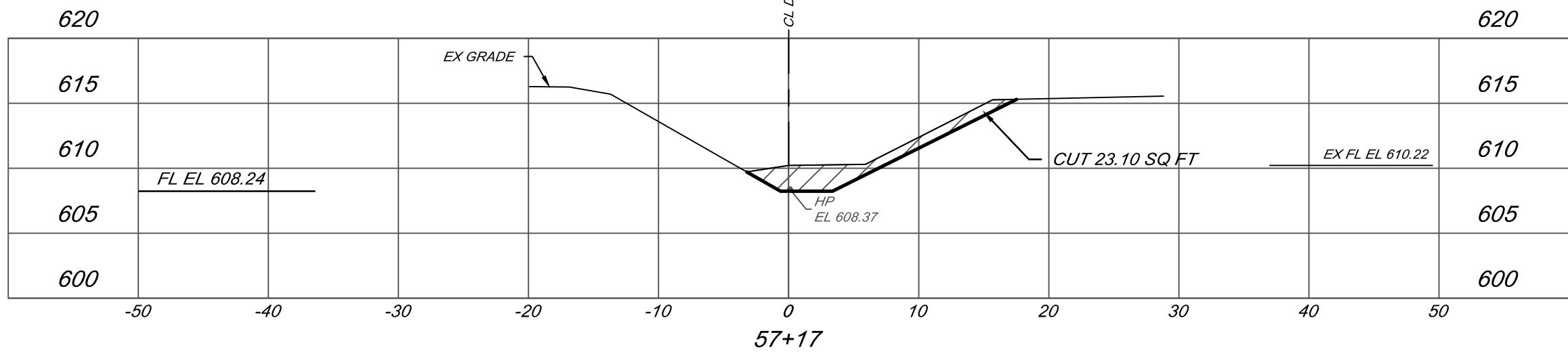
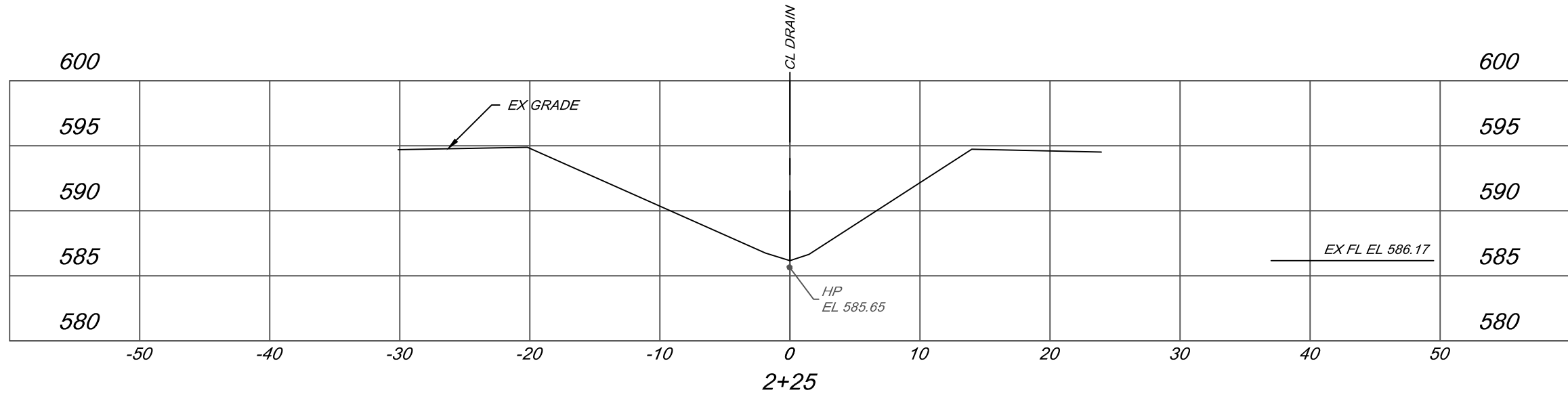
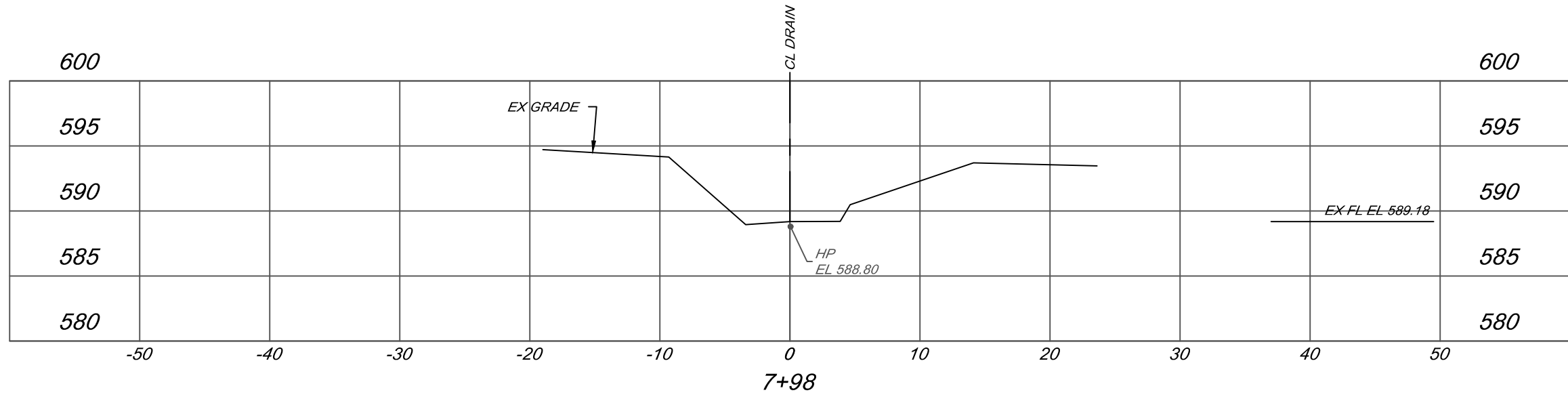
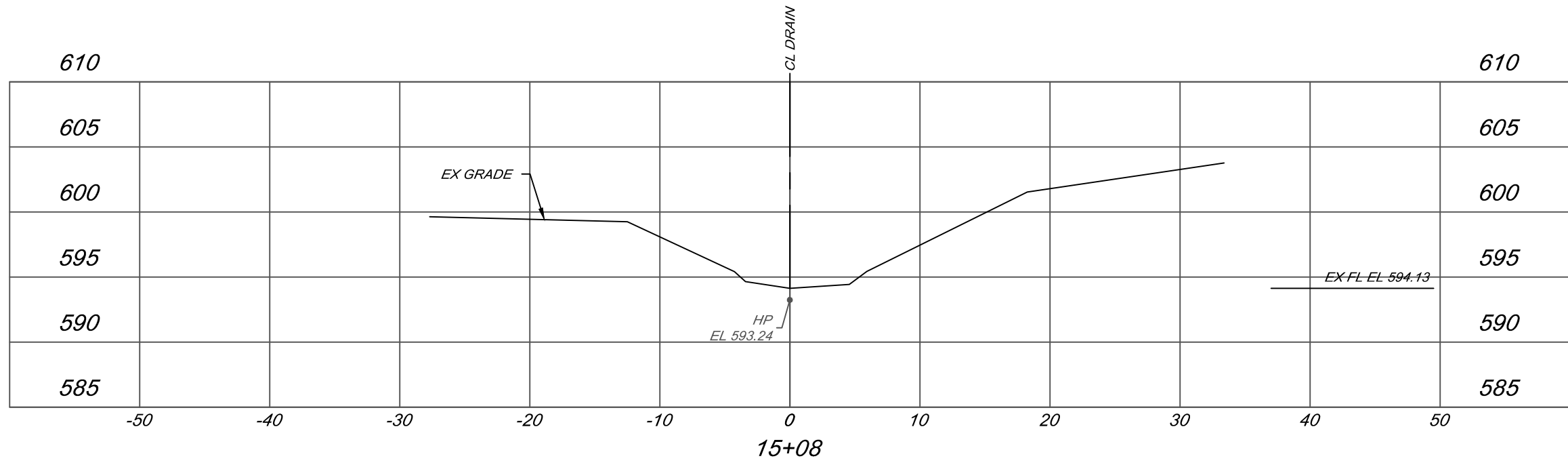
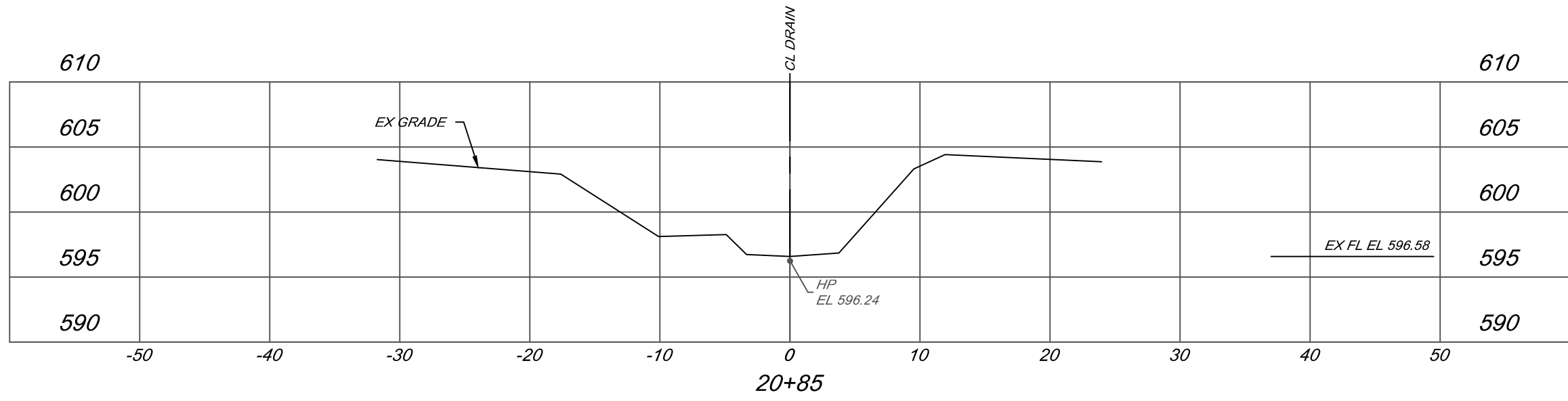
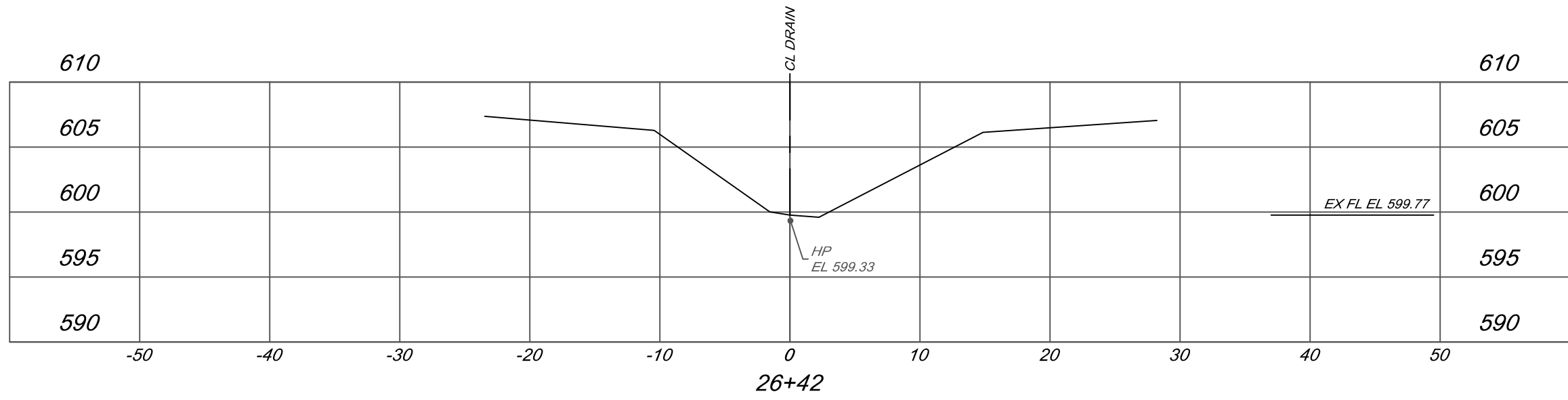
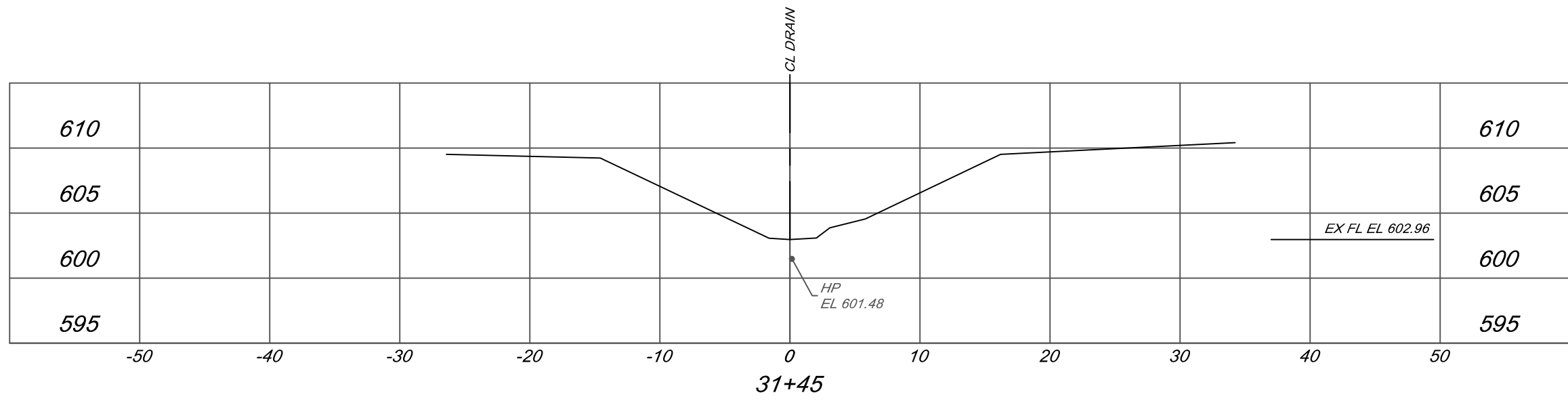
EL 620.64


#### RIGHT OF WAY

PARKER SWAMP DRAIN - DRAIN RIGHT-OF-WAY IS 99' WIDE 49.5' ON EACH SIDE OF CENTERLINE OF DRAIN.

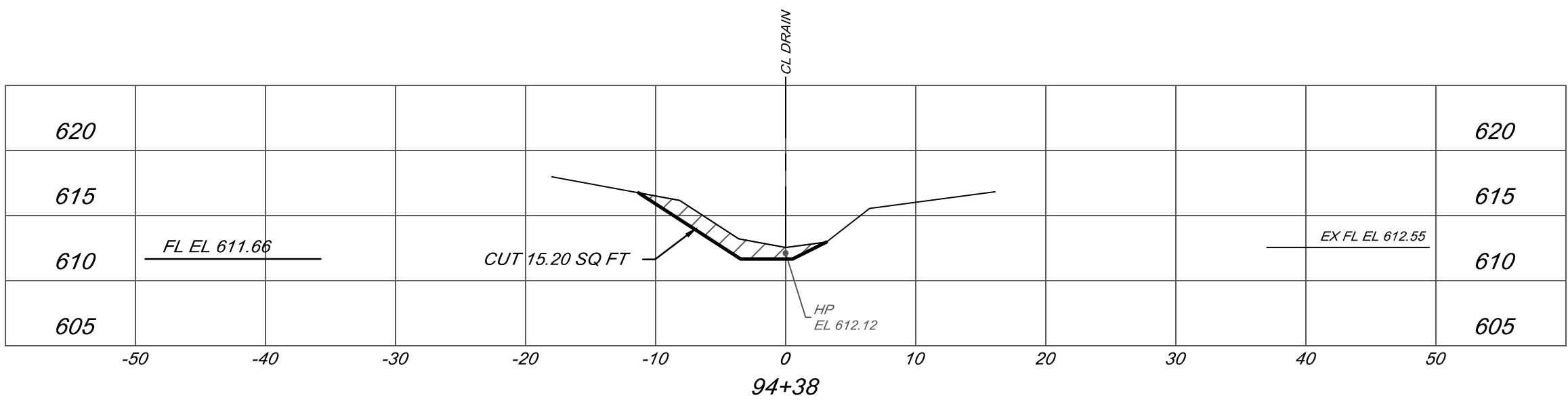
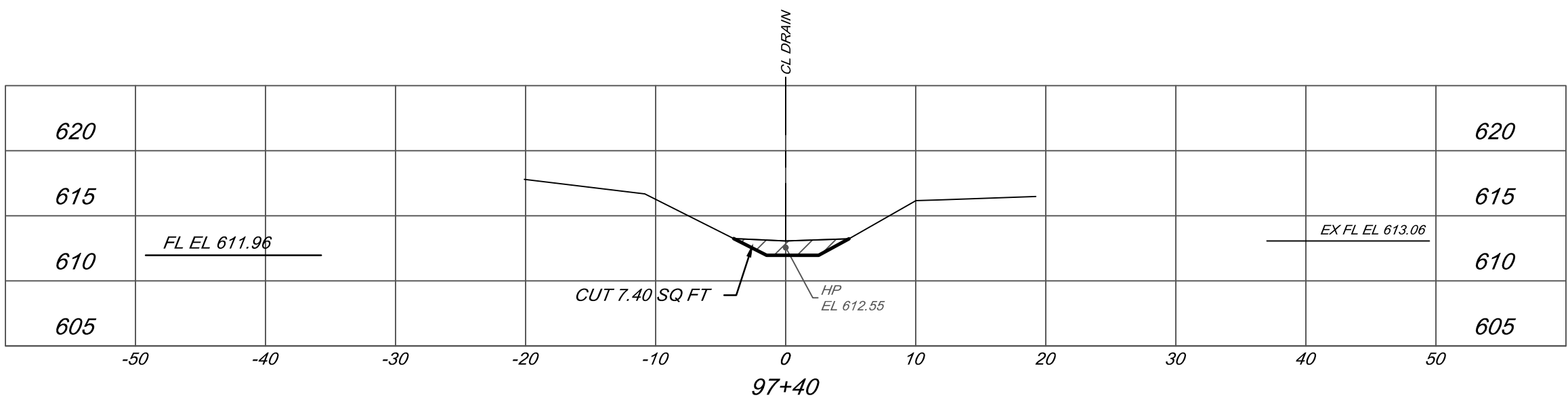
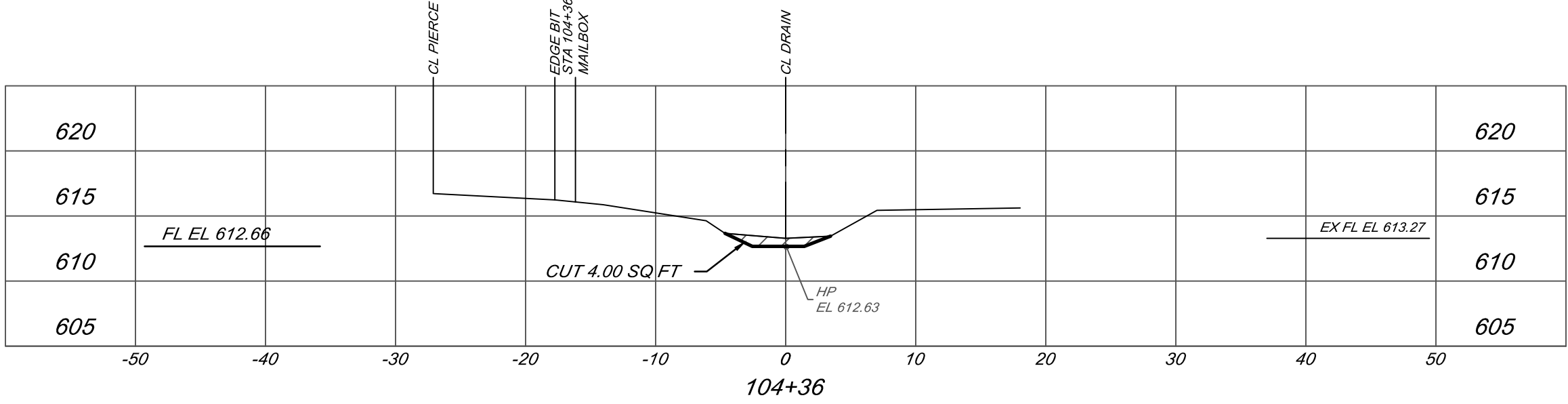
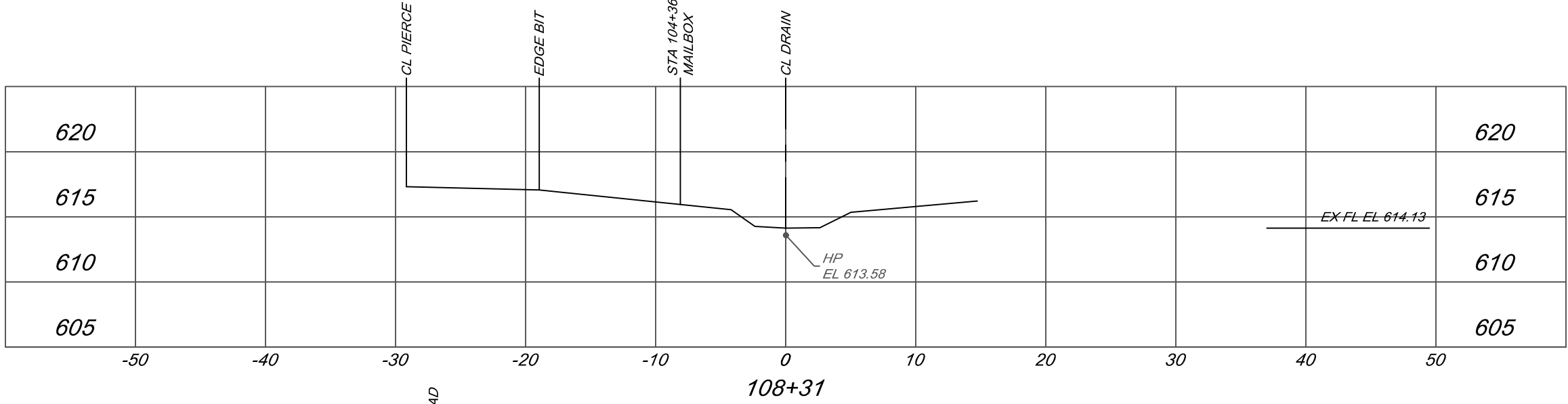
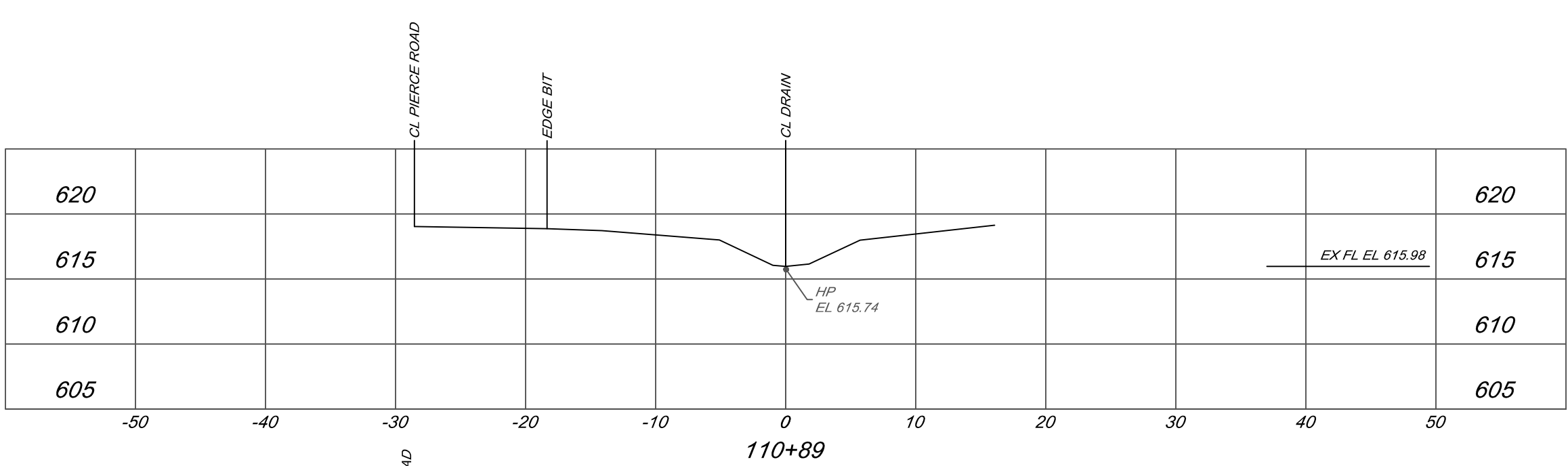
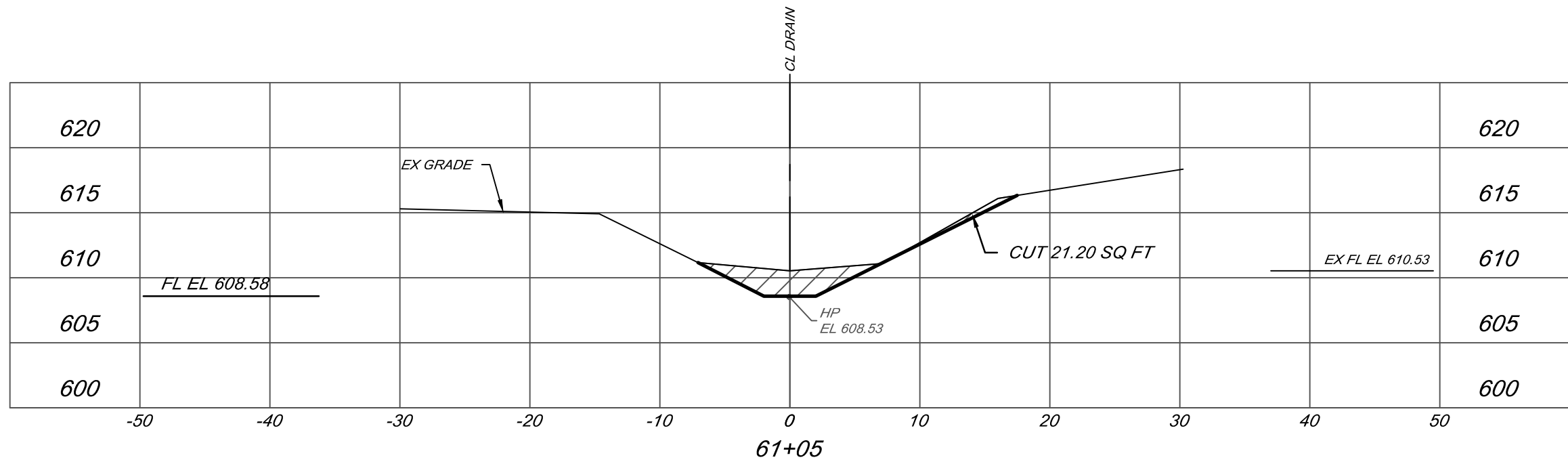
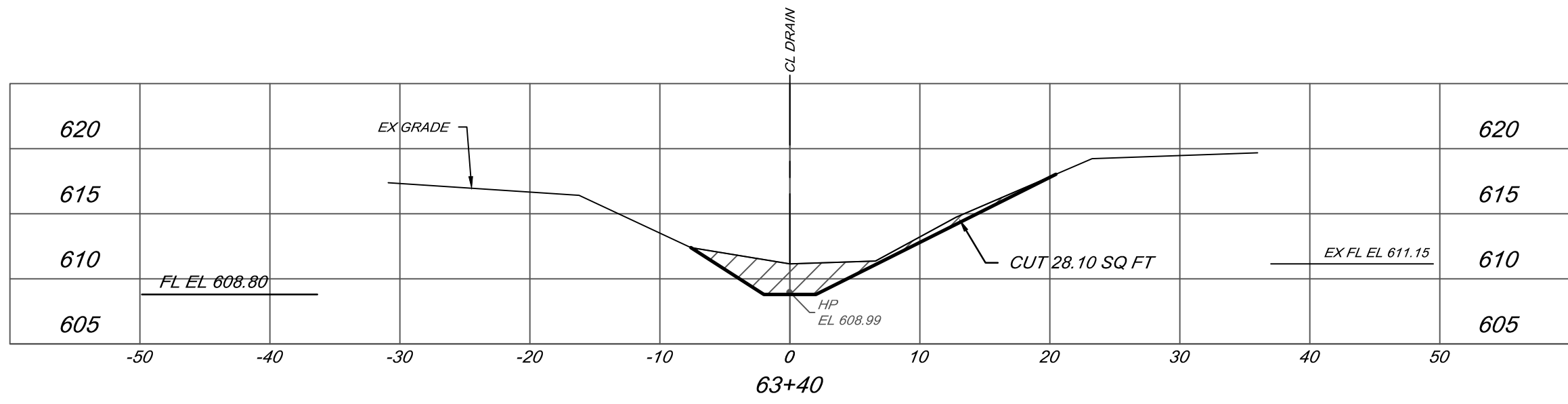
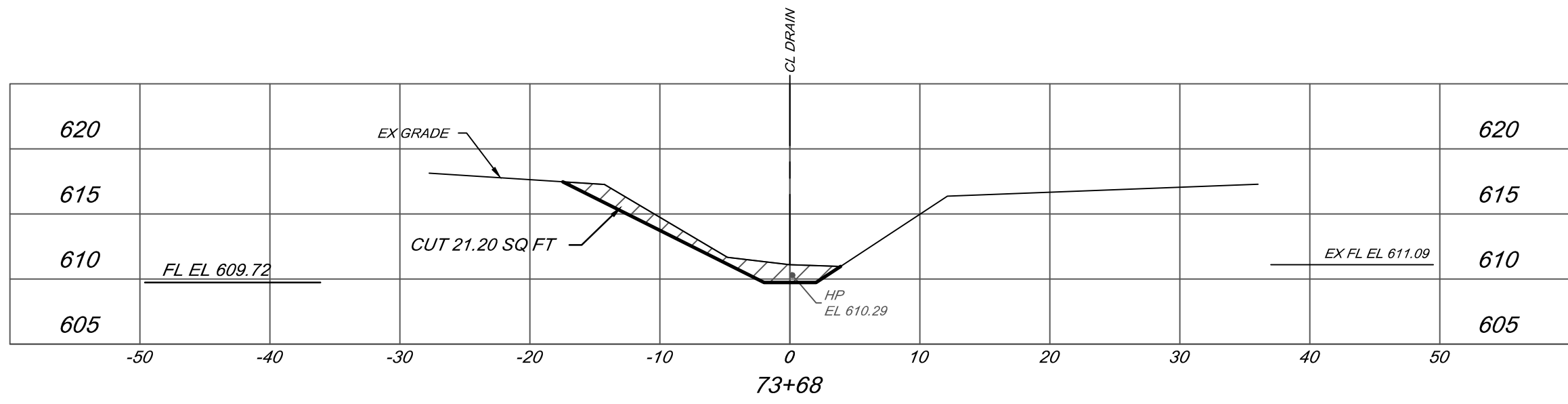
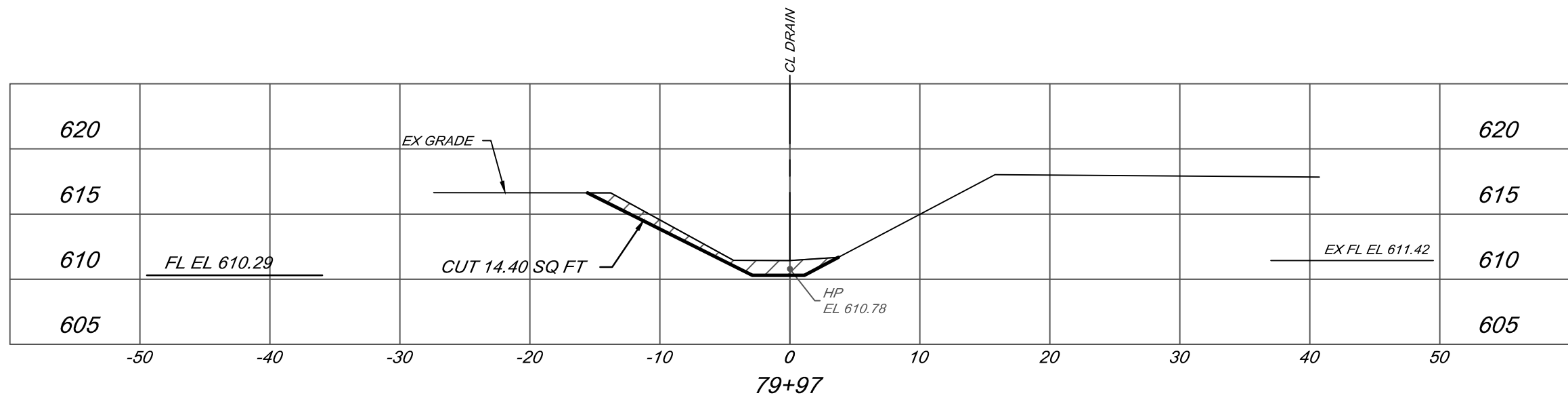
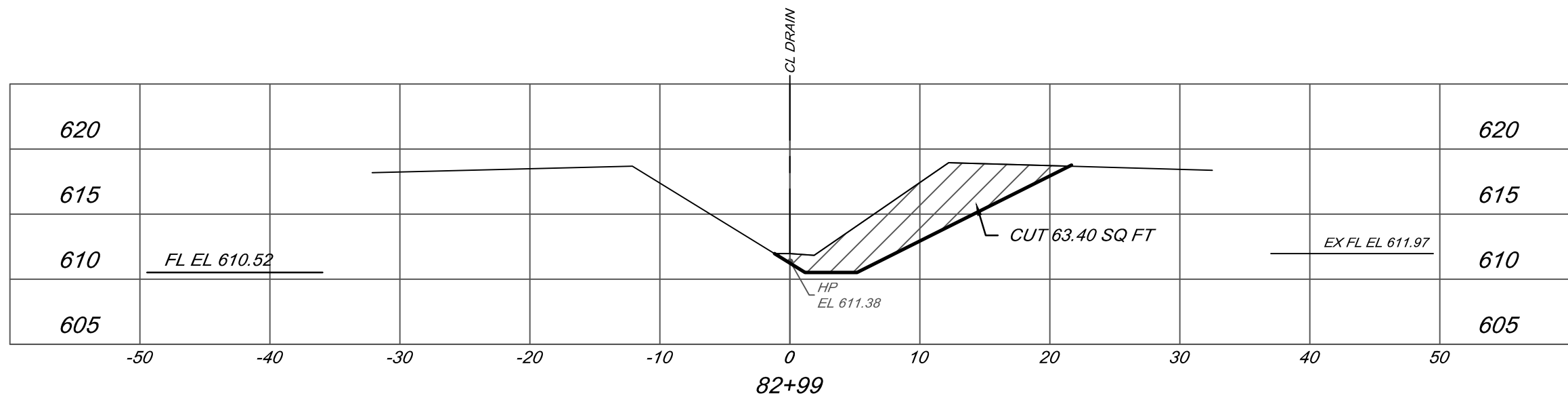
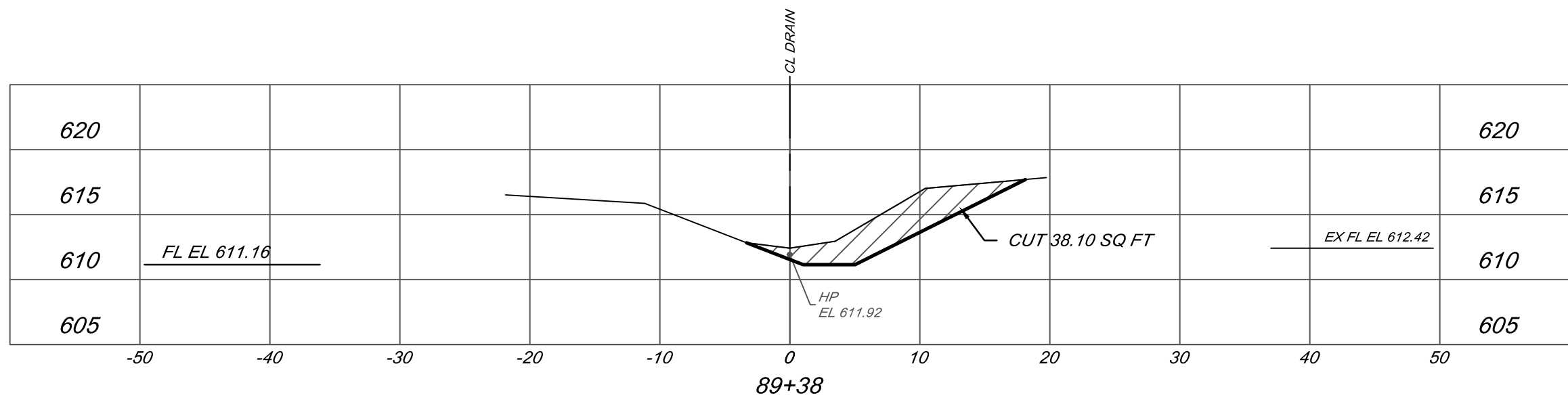
BY	MARK	REVISIONS	DATE
THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.			
PARKER SWAMP DRAIN SAGINAW COUNTY, MICHIGAN			
PARKER SWAMP DRAIN BRANCH NO. 1 PLAN AND PROFILE STA 0+00 TO STA 48+00			
			
SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel: 989-754-4717 Fax: 989-754-4440 www.SpicerGroup.com			
DE. BY: POC/DSV	CH. BY: DSV	PROJECT NO. 131052SG2021	
DR. BY: POC	APP. BY: RSH	STDS. SHEET 09 OF 14	
STDS.	MAY 2022	FILE NO. DR-4246-09	DR 09
SCALE	H:1"=200'V:1"=10'		






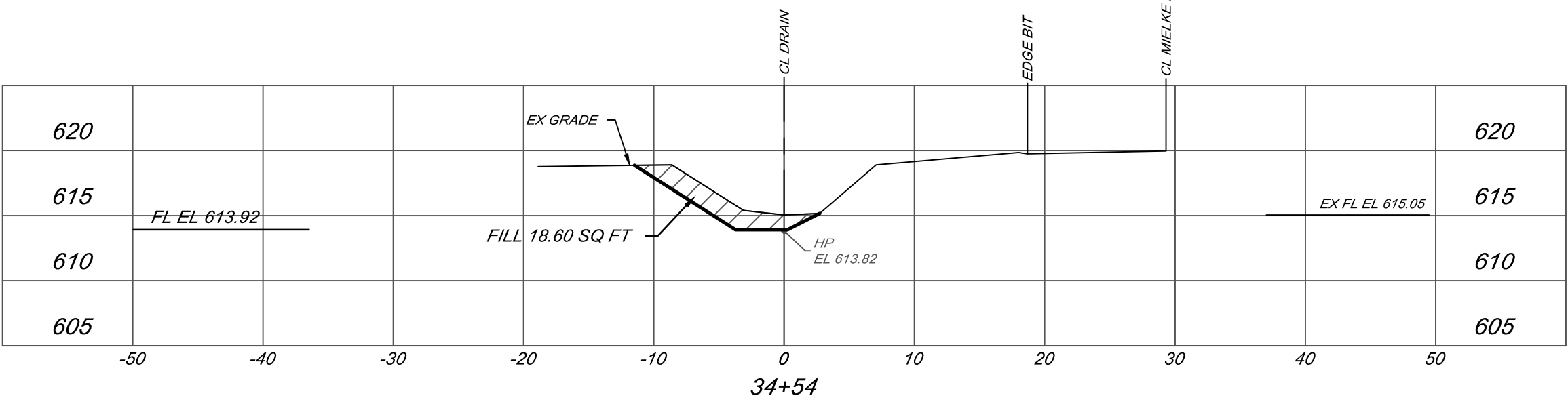
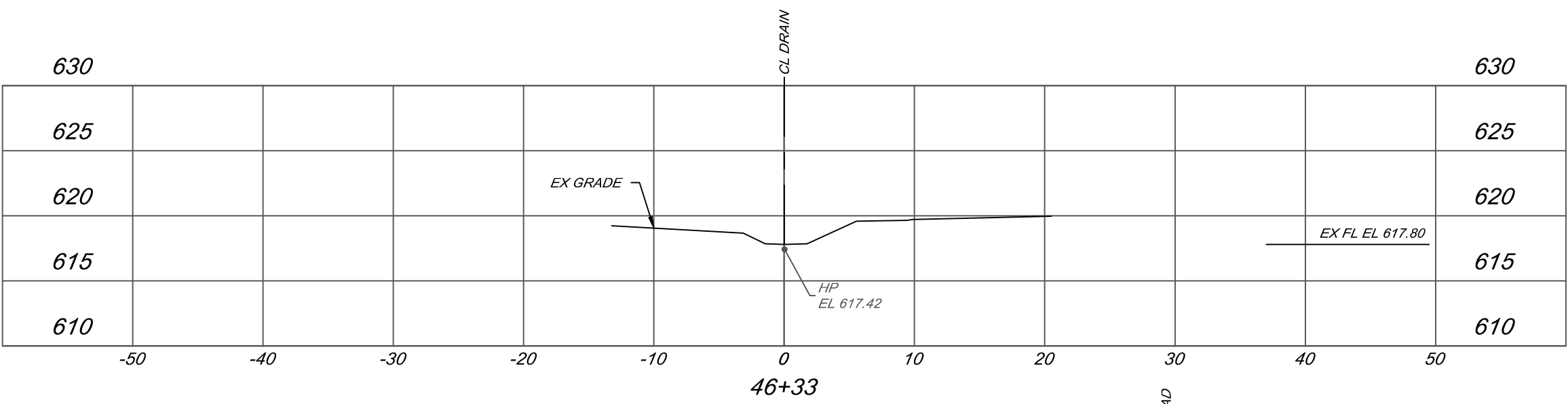
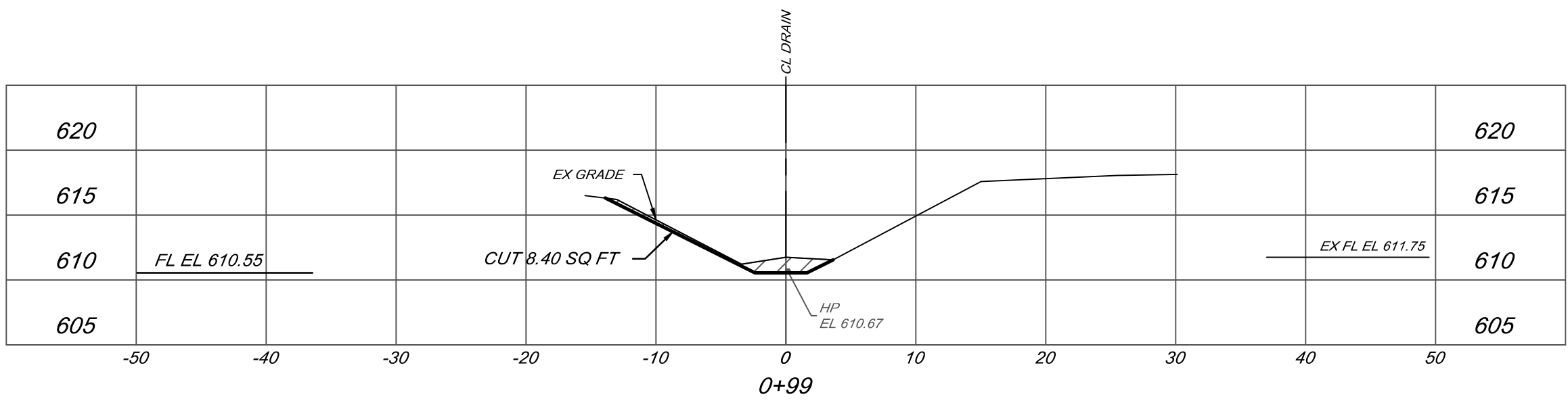
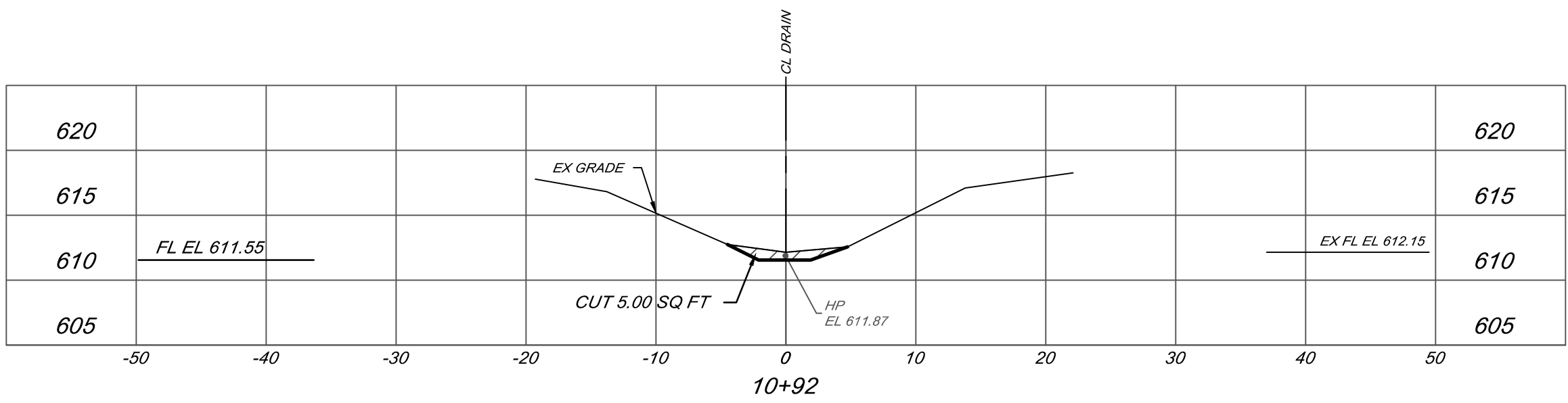
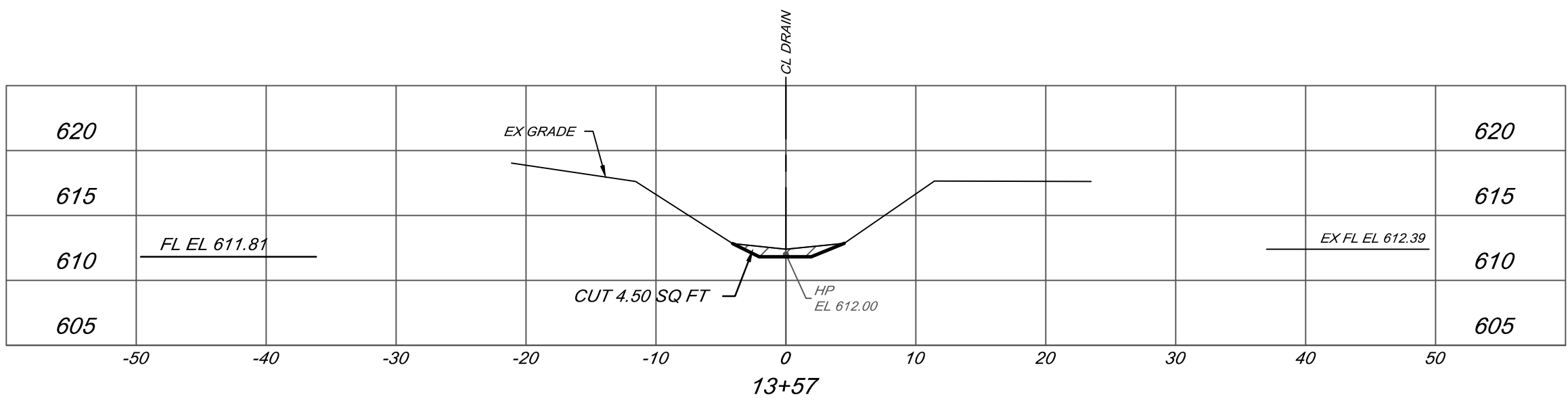
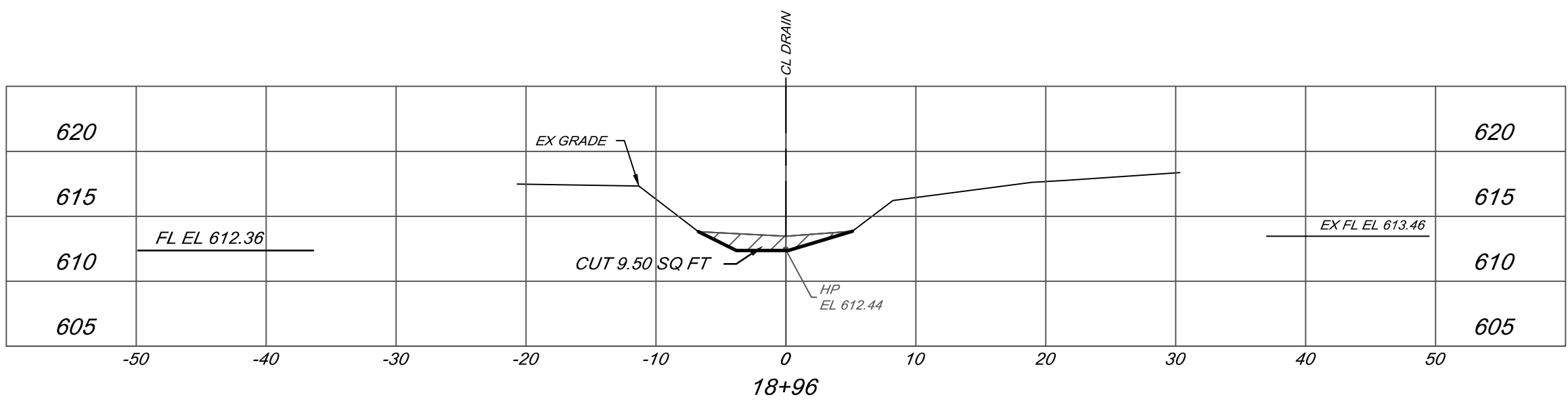
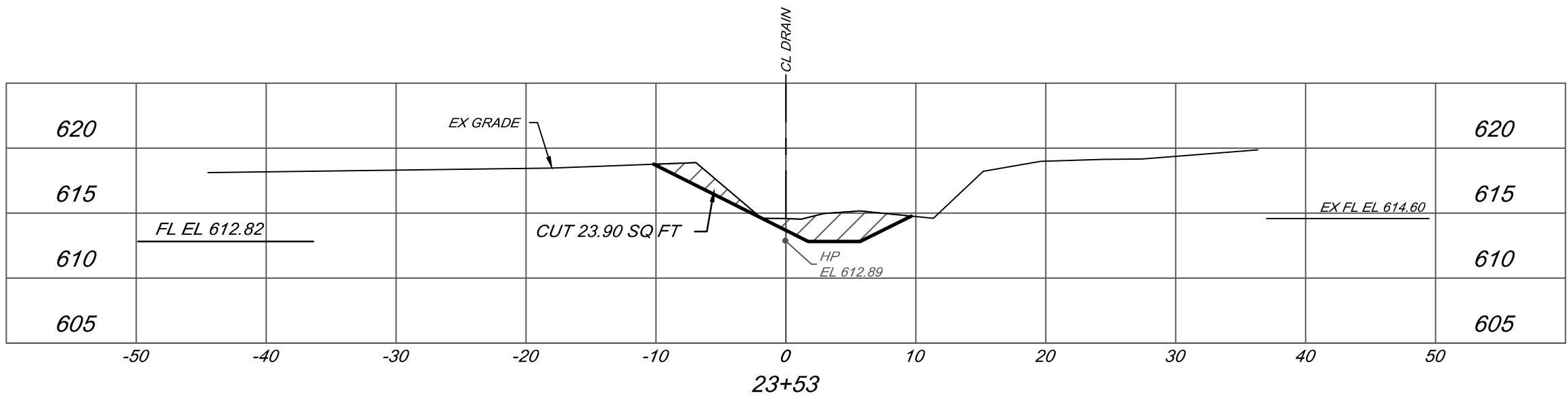
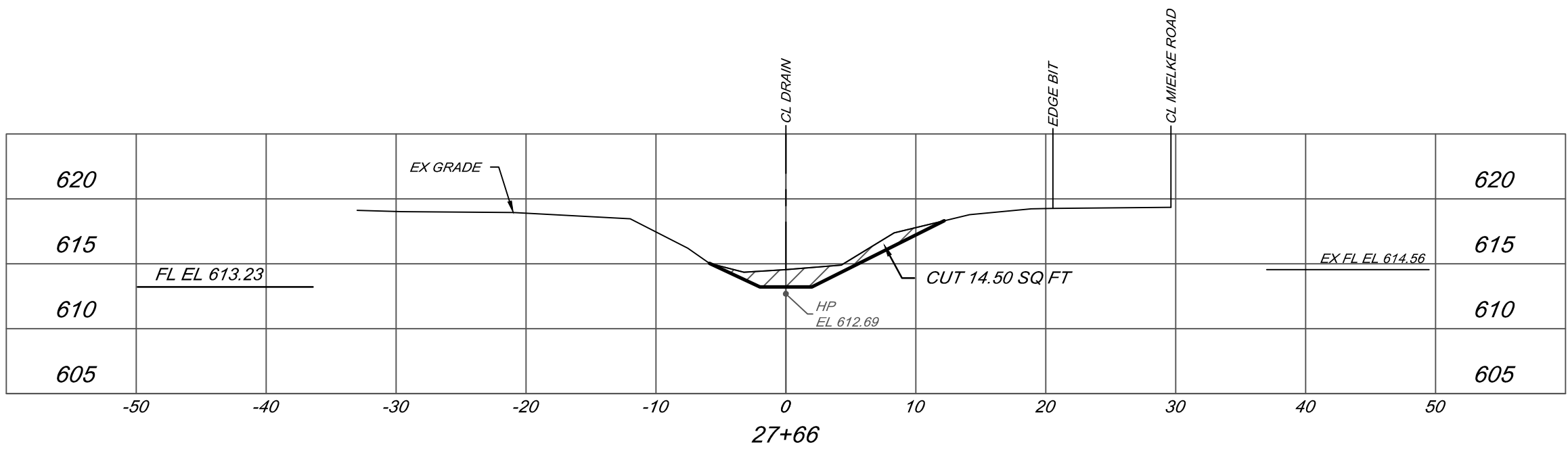
BY	MARK	REVISIONS	DATE
THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.			
PARKER SWAMP DRAIN SAGINAW COUNTY, MICHIGAN			
PARKER SWAMP DRAIN CROSS SECTIONS STA 2+25 TO STA 57+17			
		SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel: 989-754-4717 Fax: 989-754-4440 www.SpicerGroup.com	
DE. BY: POC/DSV	CH. BY: DSV	PROJECT NO. 131052SG2021	
DR. BY: POC	APP. BY: RSH		
STDs.	SHEET 10 OF 14	DR 10	
DATE MAY, 2022	FILE NO. DR-4246-10		
SCALE	SCALE		





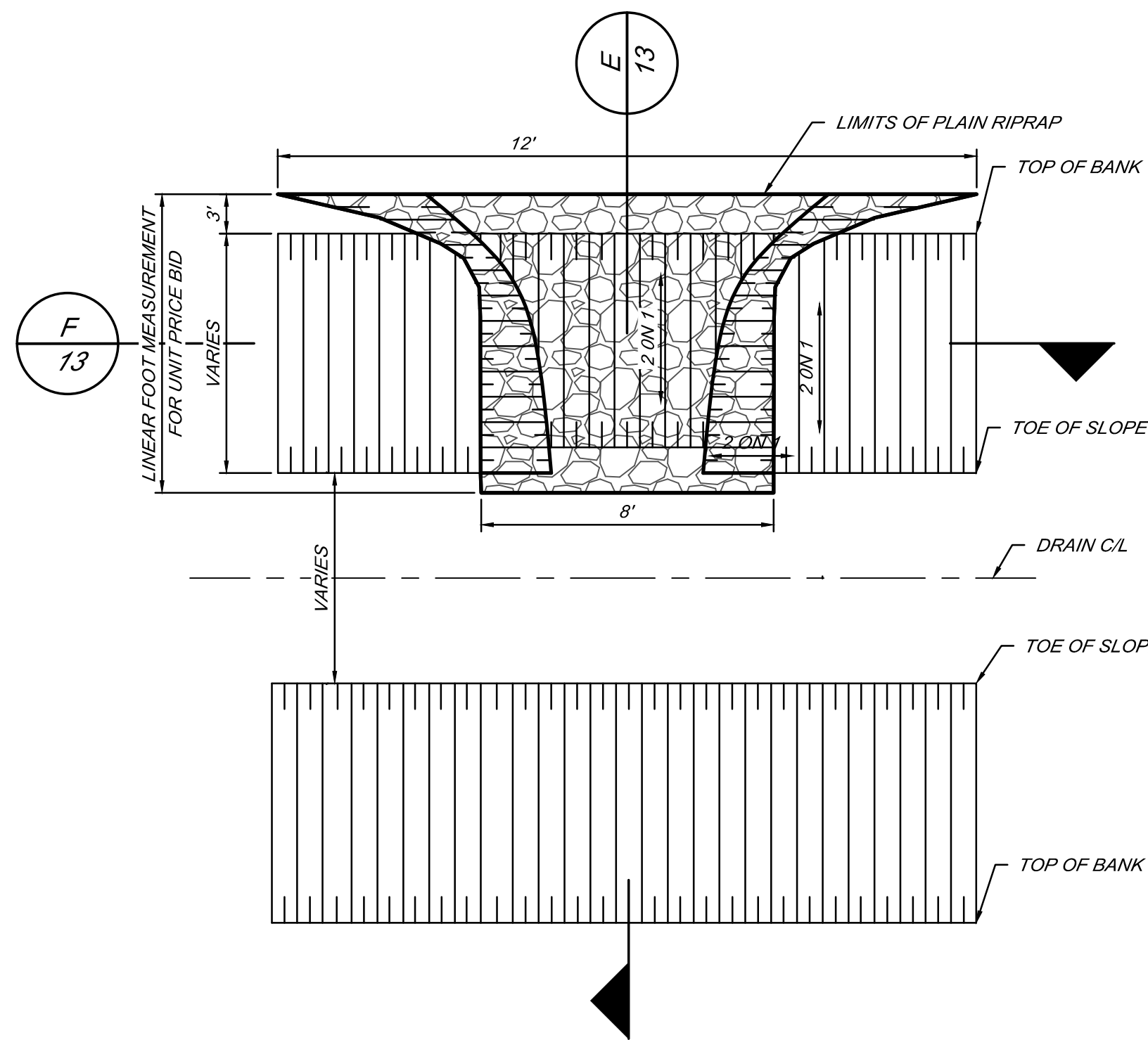
BY	MARK	REVISIONS	DATE
THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.			
PARKER SWAMP DRAIN SAGINAW COUNTY, MICHIGAN			
PARKER SWAMP DRAIN CROSS SECTIONS STA 61+05 TO STA 110+89			
		SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel: 989-754-4717 Fax: 989-754-4440 www.SpicerGroup.com	
DE. BY:	POC/DSV	CH. BY:	DSV
DR. BY:	POC	APP. BY:	RSH
PROJECT NO.			131052SG2021
STDs.	SHEET 11 OF 14		DR 11
DATE	MAY, 2022	FILE NO.	
SCALE	SCALE	DR-4246-11	



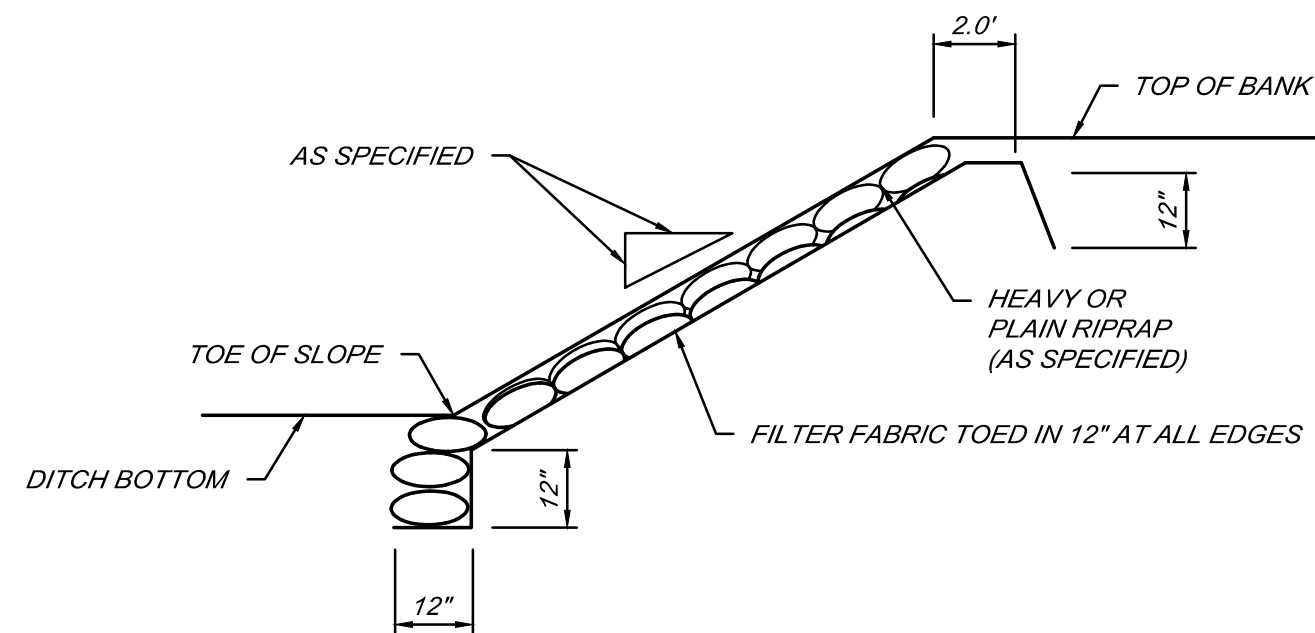
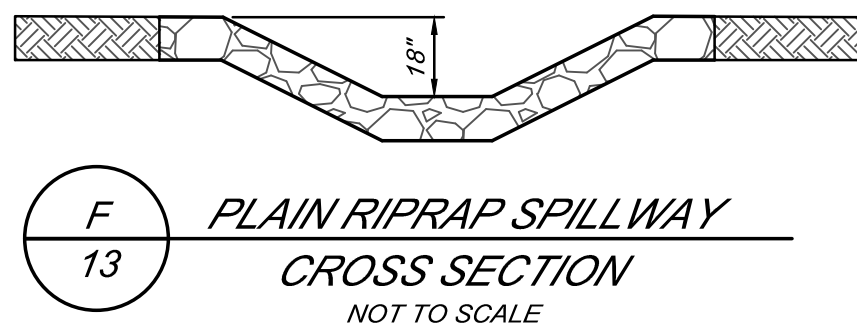
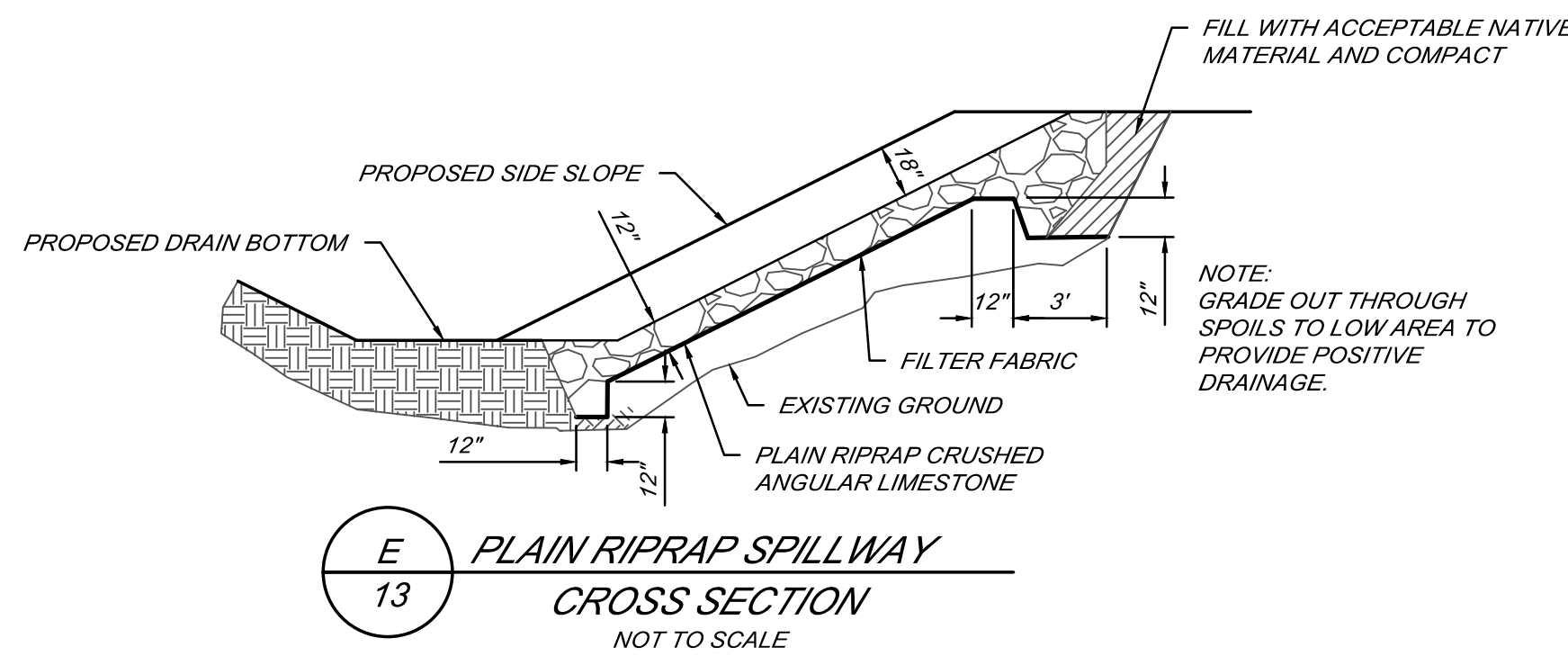


BY	MARK	REVISIONS	DATE
THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.			
PARKER SWAMP DRAIN SAGINAW COUNTY, MICHIGAN			
PARKER SWAMP DRAIN BRANCH NO. 1 CROSS SECTIONS STA 0+99 TO STA 46+33			
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/DSV	CH. BY:	DSV
DR. BY:	POC	APP. BY:	RSH
PROJECT NO.			131052SG2021
STDS.	SHEET 12 OF 14		DR 12
DATE SCALE	MAY, 2022 SCALE	FILE NO. DR-4246-12	

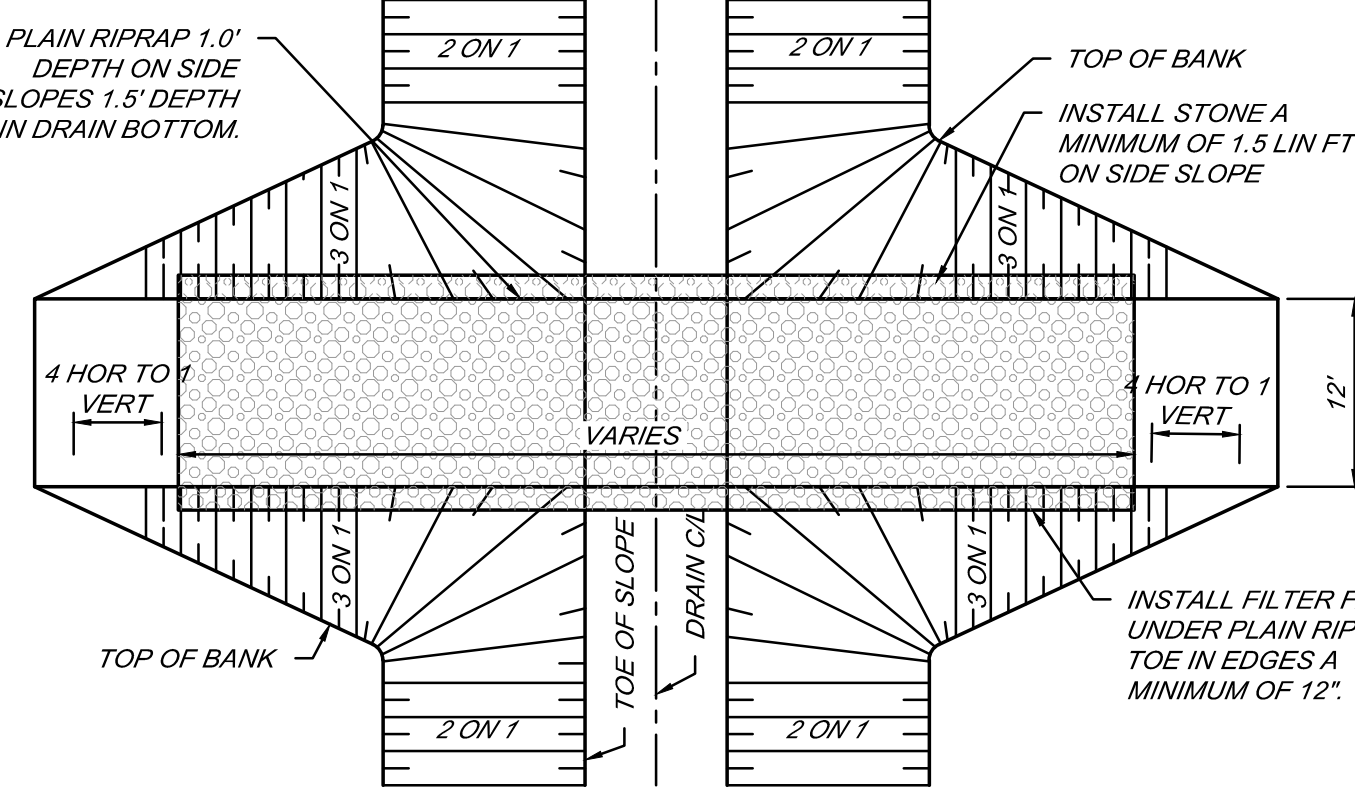




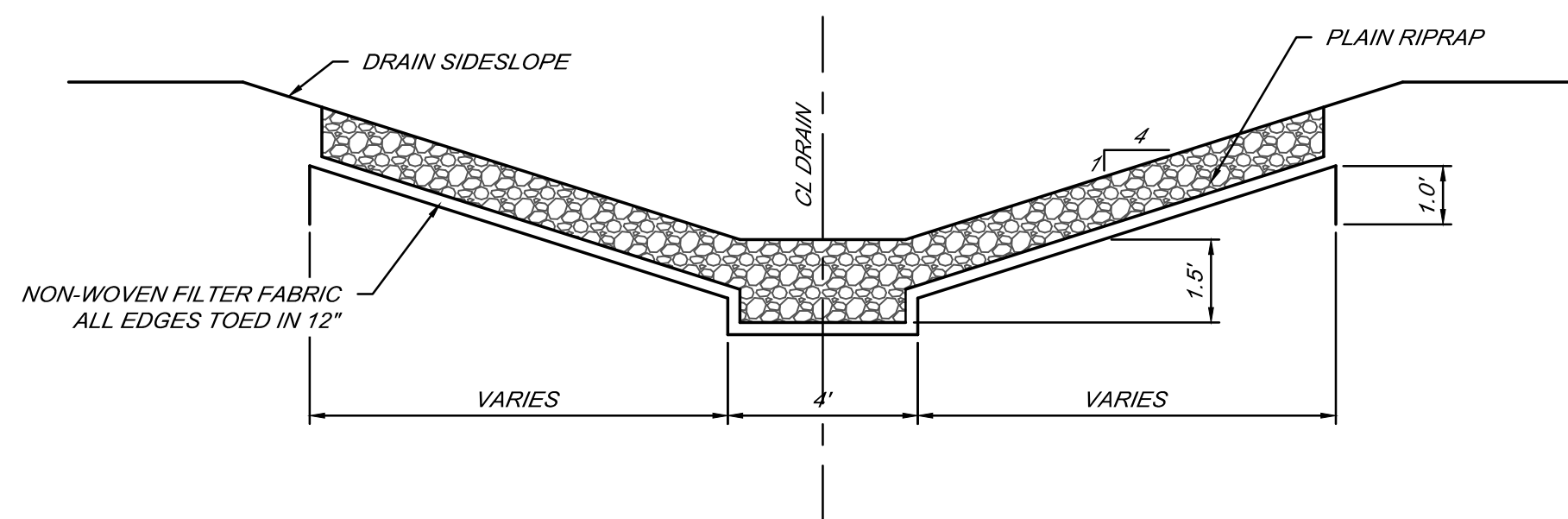
**PLAIN RIPRAP SPILLWAY**  
**PLAN VIEW**  
NOT TO SCALE



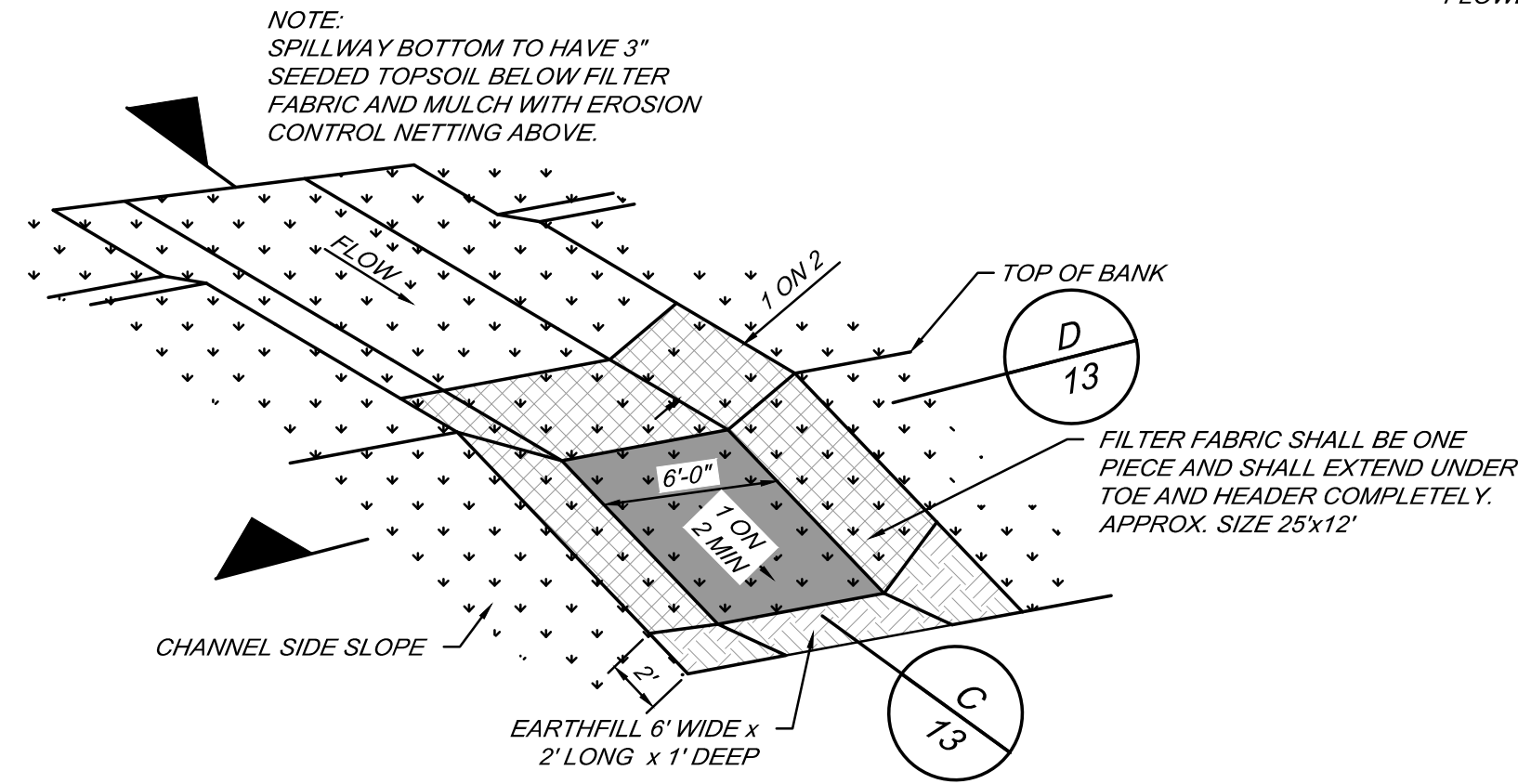
**RIPRAP BANK PROTECTION**  
NOT TO SCALE



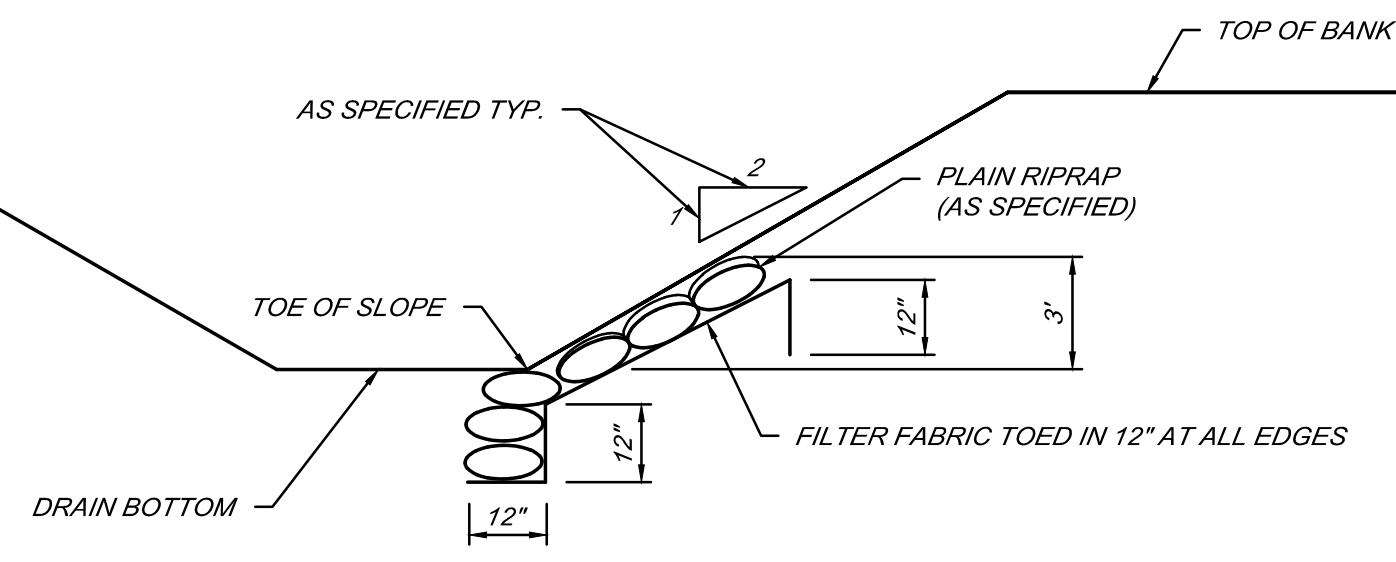
**PLAN VIEW**  
NOT TO SCALE



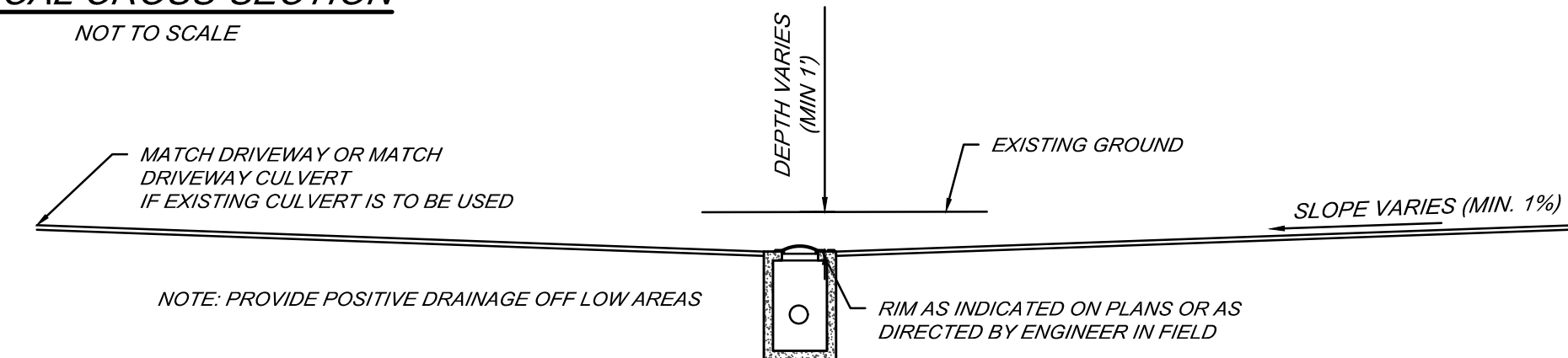
**CROSS SECTION**  
**ROCK FORD CROSSING DETAIL**  
NOT TO SCALE



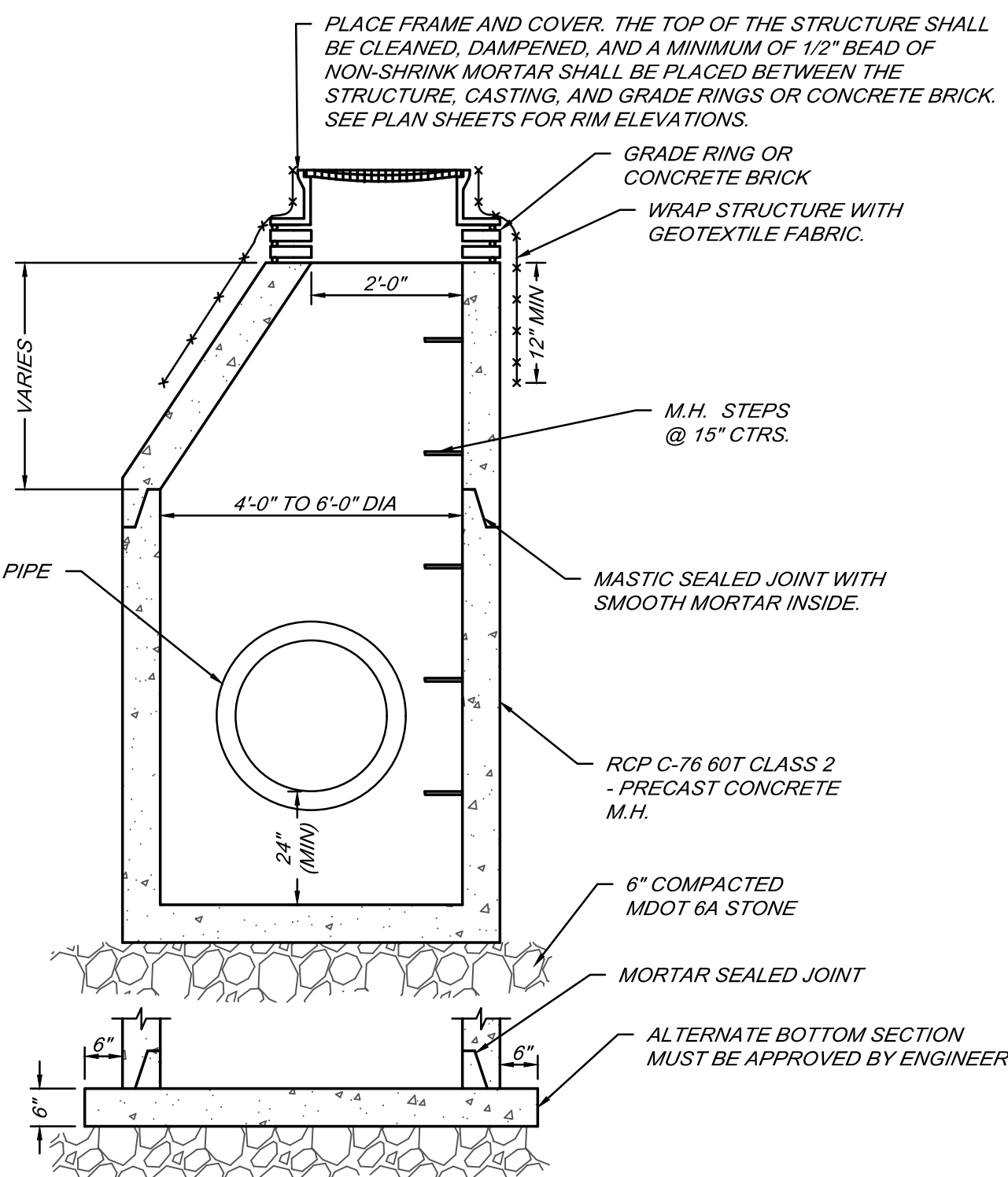
**REINFORCED GRASS**  
**SPILLWAY DETAIL**  
NOT TO SCALE



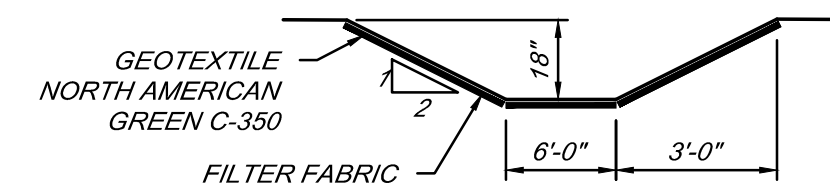
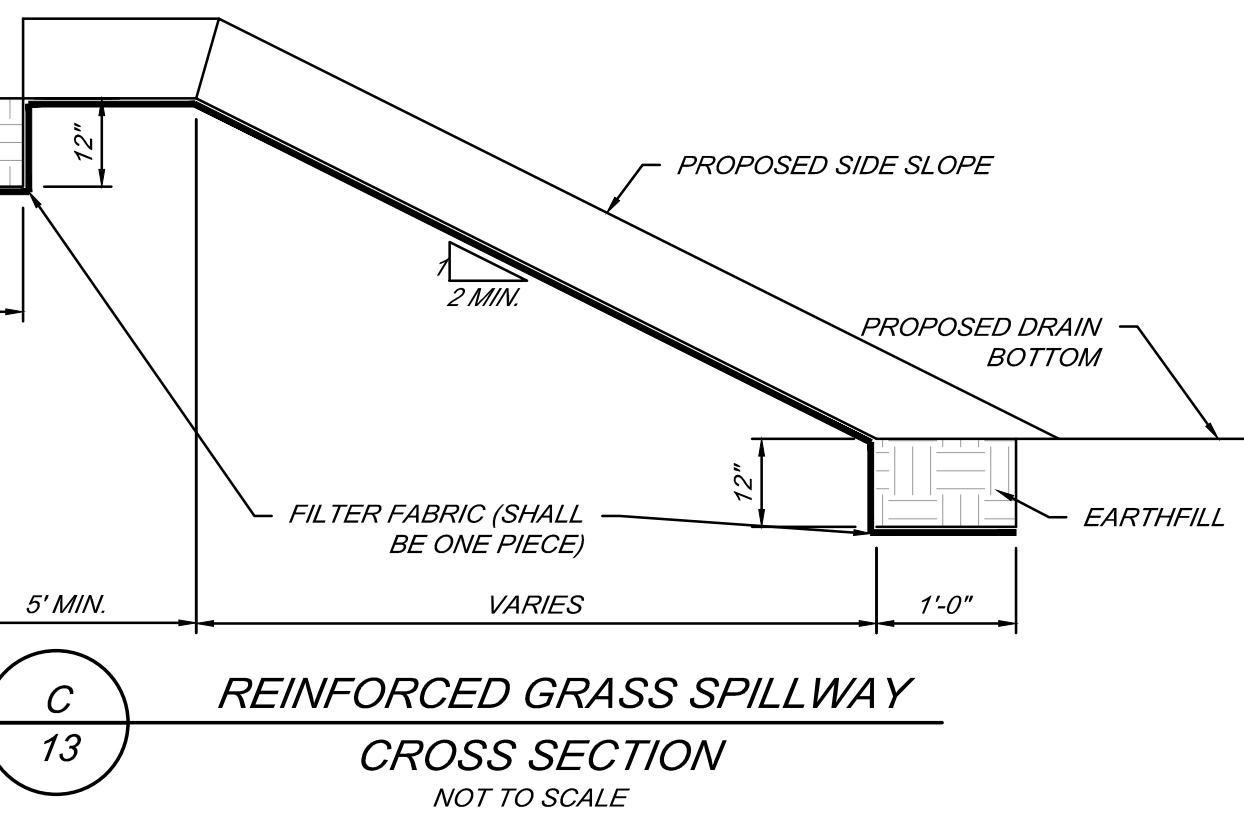
**RIPRAP TOE OF SLOPE PROTECTION**  
**TYPICAL CROSS-SECTION**  
NOT TO SCALE



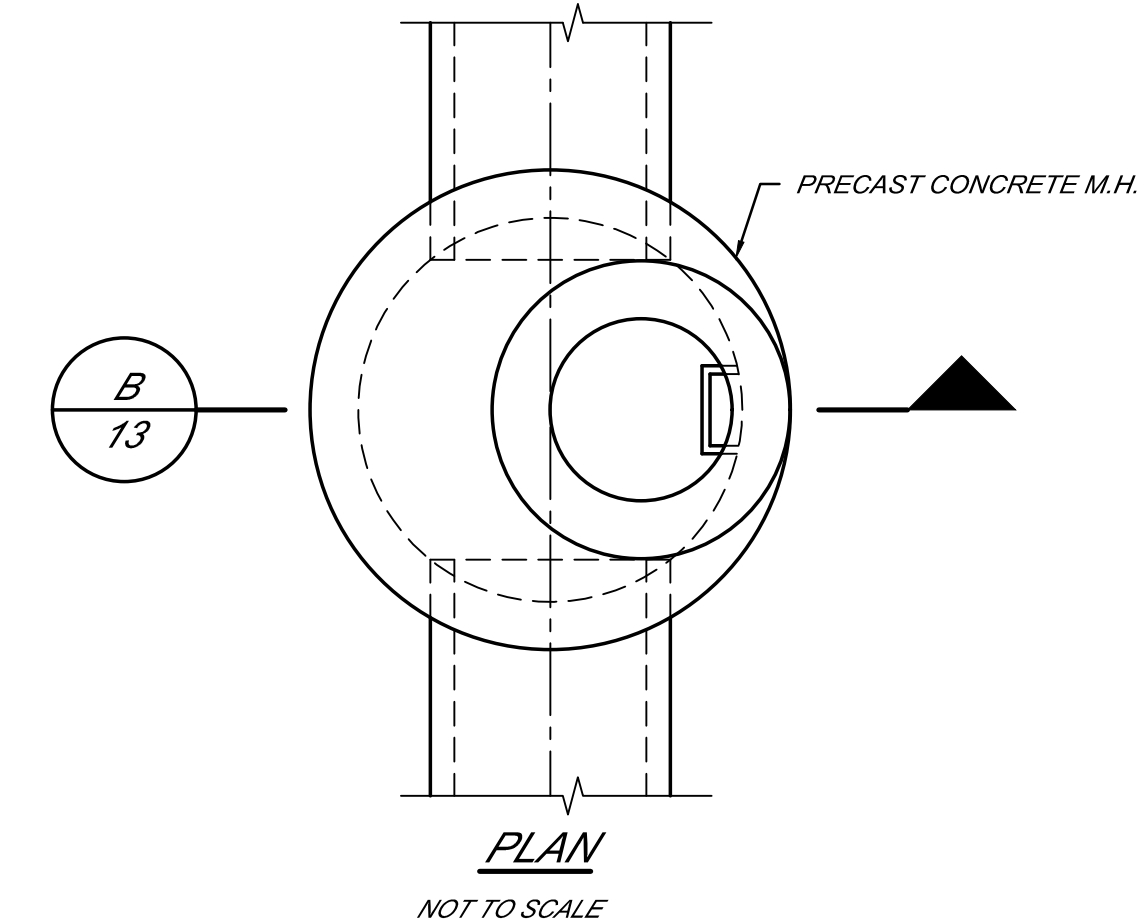
**CATCH BASIN GRADING DETAIL**  
NOT TO SCALE



**4'-6" DIA. COMBINATION M.H.-C.B.**  
**SECTION**  
NOT TO SCALE



**REINFORCED GRASS SPILLWAY**  
**CROSS SECTION**  
NOT TO SCALE



BY	MARK	REVISIONS	DATE
DE. BY:	POC/DSV	CH. BY:	DSV
DR. BY:	POC	APP. BY:	RBH
STDS.		SHEET	13 OF 14
DATE	MAY, 2022	FILE NO.	DR-4246-13
SCALE	SCALE		

**PARKER SWAMP DRAIN**  
**SAGINAW COUNTY, MICHIGAN**

**STANDARD DETAILS**

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

**PROJECT NO.**  
**131052SG2021**

**DR**  
**13**



