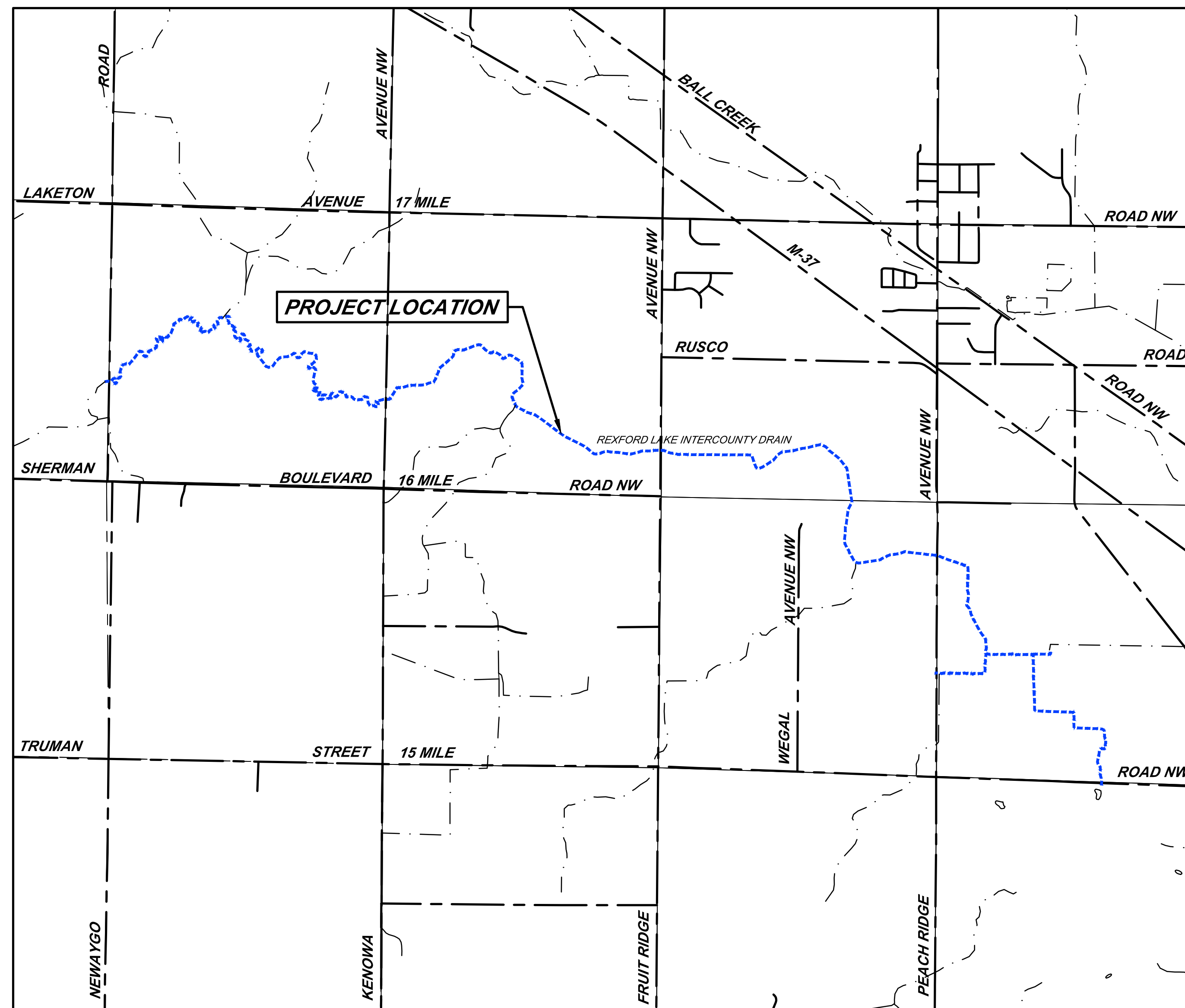


REXFORD LAKE INTERCOUNTY DRAIN

MDARD INTERCOUNTY DRAIN PROGRAM - BRADY HARRINGTON, P.E.



AREA MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE




SECTION 4, 5 & 9, T09N-R12W,
SPARTA TOWNSHIP,
KENT COUNTY, MICHIGAN
SECTION 31 & 32, T10N-R12W,
TYRONE TOWNSHIP,
KENT COUNTY, MICHIGAN
SECTION 35 & 36, T10N-R13W,
CASNOVIA TOWNSHIP,
MUSKEGON COUNTY, MICHIGAN

LEGEND

- PROJECT DRAIN
- MAJOR ROAD
- OTHER WATERCOURSES
- SECTION LINES

PLAN INDEX

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DR-4695-03	SOIL EROSION AND SEDIMENTATION CONTROL PLAN	3
DR-4695-04	PLAN AND PROFILE - STA 0+00 TO STA 50+00	4
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DR-4695-11	PLAN AND PROFILE - BRANCH 1 - STA 0+00 TO STA 13+43 PLAN AND PROFILE - BRANCH 2 - STA 0+00 TO STA 3+70	11
DR-4695-12	CROSS SECTIONS - STA 0+04 TO STA 106+12	12
DR-4695-13	CROSS SECTIONS - STA 110+86 TO STA 287+68	13
DR-4695-14	CROSS SECTIONS - STA 292+40 TO STA 326+46 CROSS SECTIONS - BRANCH 1 - 4+38 TO STA 12+68 CROSS SECTIONS - BRANCH 2 - 2+67	14
DR-4695-15	STANDARD DETAILS	15

MMS	BID SET	05/30/2024
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>		
REXFORD LAKE INTERCOUNTY DRAIN KENT, MUSKEGON & OTTAWA COUNTIES, MICHIGAN		
COVER SHEET		
		
<small>BYRON CENTER OFFICE 2464 Byron Station Drive, SW Suite C Byron Center, MI 49315 Tel: 616-458-8550 www.SpicerGroup.com</small>		
DE BY: MMS	CH BY: MMS	PROJECT NO: 135614SG2023
DR BY: MMS	APP BY: PLF	
STDS.	SHEET 01 OF 15	DR 01
DATE: MAY 2024	FILE NO: DR-4695-01	
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 1-800-482-7111 OR 911 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 THIS 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.

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.

ABBREVIATIONS

- BC = BACK OF CURB
- BM = BENCH MARK
- CB = CATCH BASIN
- CIC = 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
- EM = EDGE OF METAL
- EOP = EDGE OF PAVEMENT
- EQSP = 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
- HDB = HOT DIP GALVANIZED
- HDBE = 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
- TIB = 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
- WM = WATER MAIN
- WSEL = WATER SURFACE ELEVATION

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

LINE TYPE LEGEND


- EXISTING ROAD CENTERLINE
- EXISTING WATER MAIN
- EXISTING SANITARY SEWER OR FORCEMAIN
- EXISTING STORM SEWER
- EXISTING TELEPHONE
- EXISTING GAS MAIN
- EXISTING ELECTRIC
- EXISTING FIBER OPTIC
- EXISTING CABLE TV
- 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
- ⊕ - MINIMUM
- ⊕ - MONUMENT
- ⊕ - NOT FIELD LOCATED
- ⊕ - NOT TO SCALE
- ⊕ - PROPOSED
- ⊕ - POLYVINYL CHLORIDE
- ⊕ - REINFORCED CONCRETE PIPE
- ⊕ - RIGHT OF WAY
- ⊕ - SANITARY
- ⊕ - SOIL BORING
- ⊕ - STAINLESS STEEL
- ⊕ - STATION
- ⊕ - STORM
- ⊕ - SEWER
- ⊕ - TOP AND BOTTOM
- ⊕ - TOP OF CURB
- ⊕ - TOP OF BANK
- ⊕ - TOE OF SLOPE
- ⊕ - TELEPHONE POLE
- ⊕ - POWER AND TELEPHONE POLE
- ⊕ - LIGHT POLE
- ⊕ - GUY ANCHOR AND POLE
- ⊕ - MAIL BOX
- ⊕ - WATER METER
- ⊕ - TELEPHONE MANHOLE
- ⊕ - ELECTRIC MANHOLE
- ⊕ - MONITORING WELL
- ⊕ - HAND HOLE
- ⊕ - TRANSFORMER
- ⊕ - ELECTRICAL PEDESTAL
- ⊕ - BARRIER FREE PARKING
- ⊕ - SPRINKLER
- ⊕ - RAILROAD SIGNAL
- ⊕ - ANTENNA
- ⊕ - SATELLITE DISH
- ⊕ - AIR CONDITIONING UNIT
- ⊕ - SOIL BORING
- ⊕ - 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

CONTACTS

BRADY L. HARRINGTON, P.E. MICHIGAN DEPARTMENT OF AGRICULTURE AND RURAL DEVELOPMENT 111 S. CAPITOL AVENUE LANSING, MI 48933 (877) 932-6424	OWNER
KEN YONKER KENT COUNTY DRAIN COMMISSIONER 775 BALL AVENUE NE GRAND RAPIDS, MI 49503 (616) 632-7911	OWNER
BRENDA MOORE MUSKEGON COUNTY WATER RESOURCES COMMISSIONER CENTRAL SERVICES BUILDING 141 EAST APPLE AVENUE MUSKEGON, MI 49442 (231) 724-6219	OWNER
JOE BUSH OTTAWA COUNTY WATER RESOURCES COMMISSIONER 12220 FILLMORE STREET ROOM 141 WEST OLIVE, MI 49480 (616) 994-4530	OWNER
PAUL L. FORTON, P.E. SPICER GROUP, INC. 2464 BYRON STATION DRIVE SW, SUITE C BYRON CENTER, MI 49315 (616) 458-8580 CELL: (989) 529-8612	ENGINEER

PROJECT DATUM			
HORIZONTAL:	STATE PLANE, NORTH/SOUTH/CENTRAL, MI 83 2113		
VERTICAL:	NORTH-AMERICAN VERTICAL DATUM 88		
MMS	BID SET	05/30/2024	
BY	MARK	REVISIONS	DATE
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REXFORD LAKE INTERCOUNTY DRAIN KENT, MUSKEGON & OTTAWA COUNTIES, MICHIGAN			
CONTACTS, GENERAL NOTES, AND LINE TYPE LEGEND			
		BYRON CENTER OFFICE 2464 Byron Station Drive, SW Suite C Byron Center, MI 49315 Tel: 616-458-8580 www.SpicerGroup.com	
DE BY: MMS	CH BY: MMS	PROJECT NO 135614SG2023	
DR BY: MMS	APP BY: PLF		
STDS.	SHEET 02 OF 15	DR 02	
DATE MAY 2024	FILE NO DR-4695-02		
SCALE NOT TO SCALE			

EROSION CONTROL MEASURES

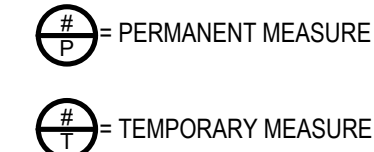
KEY	SESC MEASURE	SYMBOL	WHERE USED
1	Seeding		When bare soil is exposed, temporarily or permanently, to erosive forces from wind and or water on flat areas, mild slopes, grassed waterways and spillways, diversion ditches and dikes, borrow and stockpile areas, and spoil piles when areas are subject to concentrated flows occur. Slows velocity, reduces erosion and sediment load.
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 concentrated flows occur. Slows velocity, reduces erosion and sediment load.
15	Riprap		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.
16	Riprap Toe of Slope		

ROUTINE MAINTENANCE ACTIVITIES

KEY	BEST MANAGEMENT PRACTICE	SESC PLAN
A	Debris Removal	NO
B	Sediment Removal	> 100 FEET
D	Drain Crossing 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

ALL PROPOSED CHANNEL EXCAVATION ACTIVITIES 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 AS NOTED ON PLANS. 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

DISTURBANCE/MEASURE	MONTH 1				MONTH 2				MONTH 3				
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13
ANTICIPATED START DATE: JUNE 1, 2024													
INSTALL TEMPORARY CONTROL MEASURES	■												
SITE CLEARING		■											
OPEN CHANNEL CONSTRUCTION		■											
DRAIN CULVERT CONSTRUCTION		■											
ENCLOSED DRAIN CONSTRUCTION		■											
INSTALL AND ESTABLISH PERMANENT CONTROL MEASURES		■											
REMOVE TEMPORARY CONTROL MEASURES		■											
TOTAL DISTURBED AREA: X.XX ACRES													

* SCHEDULE MAY BE ADJUSTED DEPENDING ON CONTRACTORS MEANS & METHODS.

KENT COUNTY

SOIL CLASS	SOIL COMPOSITION
2B	OAKVILLE FINE SAND, MODERATELY WET, 0 TO 4 PERCENT SLOPES
4B	PERRIN GRAVELLY LOAMY SAND, 0 TO 4 PERCENT SLOPES
6	GLENDORA LOAMY SAND
7	COHOCTAH LOAM
9B	RIMER LOAMY FINE SAND, 0 TO 4 PERCENT SLOPES
11B	OWOSSO-MARLETTE SANDY LOAMS, 2 TO 6 PERCENT SLOPES
11C	OWOSSO-MARLETTE SANDY LOAMS, 6 TO 12 PERCENT SLOPES
12B	TUSTIN LOAMY FINE SAND, 2 TO 6 PERCENT SLOPES
13A	METAMORA SANDY LOAM, 0 TO 3 PERCENT SLOPES
15	SLOAN LOAM
16	CERESCO LOAM
17B	CHELSEA LOAMY FINE SAND, 0 TO 6 PERCENT SLOPES
22B	OSHTEMO SANDY LOAM, 0 TO 6 PERCENT SLOPES
22C	OSHTEMO SANDY LOAM, 6 TO 12 PERCENT SLOPES
23A	THETFORD LOAMY SAND, 0 TO 3 PERCENT SLOPES
30B	SPINKS LOAMY SAND, 0 TO 6 PERCENT SLOPES
30C	SPINKS LOAMY SAND, 6 TO 12 PERCENT SLOPES
31	WALLKILL SILT LOAM
36B	FILER LOAM, 2 TO 6 PERCENT SLOPES
36C	FILER LOAM, 6 TO 12 PERCENT SLOPES
36D	FILER LOAM, 12 TO 18 PERCENT SLOPES
38	PARKHILL LOAM, NON DENSE TILL SUBSOIL, 0 TO 2 PERCENT SLOPES
43	GRANBY LOAMY FINE SAND, 0 TO 2 PERCENT SLOPES
45B	ONEKAMA LOAM, LAKE MICHIGAN LOBE, 2 TO 6 PERCENT SLOPES
45C	ONEKAMA LOAM, LAKE MICHIGAN LOBE, 6 TO 12 PERCENT SLOPES
45D	PERRINTON LOAM, 12 TO 18 PERCENT SLOPES
46B	ITHACA LOAM, 1 TO 6 PERCENT SLOPES
47	PEWAMO LOAM
48B	METEA LOAMY SAND, 2 TO 6 PERCENT SLOPES
49B	SELFRIDGE LOAMY SAND, 0 TO 4 PERCENT SLOPES
52	BELLEVILLE LOAMY SAND
68D	BOYER LOAMY SAND, 12 TO 18 PERCENT SLOPES
73	SEBEWA LOAM, 0 TO 2 PERCENT SLOPES
75	UDORTHENTS, LOAMY
84B	DIXBORO LOAMY FINE SAND, 0 TO 4 PERCENT SLOPES
EdwacA	EDWARDS MUCK, LAKE MODERATED, 0 TO 1 PERCENT SLOPES
HgltacA	HOUGHTON MUCK, LAKE MODERATED, 0 TO 1 PERCENT SLOPES
W	WATER

MUSKEGON COUNTY

SOIL CLASS	SOIL COMPOSITION
NeB	ONEKAMA LOAM, LAKE MICHIGAN LOBE, 2 TO 6 PERCENT SLOPES
NeC	ONEKAMA LOAM, LAKE MICHIGAN LOBE, 6 TO 12 PERCENT SLOPES
NiD	NESTER SOILS, 12 TO 25 PERCENT SLOPES, LAKE MODERATED
NsE	NESTER SOILS, 25 TO 45 PERCENT SLOPES
Sa	SARANAC LOAM
SO	SLOAN SOILS

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 SEED, 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).

SILT FENCE

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

STABILIZED CONSTRUCTION ACCESS

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

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:	MICHIGAN DEPARTMENT OF AGRICULTURE AND RURAL DEVELOPMENT
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.

GENERAL MAINTENANCE PROCEDURES

- PERFORM MAINTENANCE ACTIVITIES DURING LOW FLOW PERIODS.
- START MAINTENANCE AT DOWNSTREAM END OF PROJECT.
- REMOVE SEDIMENT WITH LIMITED DISTURBED BANK AREA.
- APPLY SEED AND MULCH DAILY TO DISTURBED AREAS.
- MAINTAIN VEGETATIVE BUFFER BY PLACING SEDIMENT SPOILS AS CLOSE TO EASEMENT BOUNDARY AS POSSIBLE.
- LEVEL SPOILS WITH SLOPE AWAY FROM DRAIN.
- APPLY SEED AND MULCH IMMEDIATELY AFTER LEVELING SPOILS.

PROJECT DESCRIPTION

THE REXFORD LAKE INTERCOUNTY DRAIN PROJECT IS A PROJECT CONSISTING OF OPEN CHANNEL DRAIN CLEANOUT, THE PURPOSE OF THIS PROJECT IS TO PROVIDE DRAINAGE RELIEF TO RESIDENTIAL AND AGRICULTURAL AREAS AND TO PREVENT FURTHER SOIL EROSION, SEDIMENTATION, AND POLLUTION.

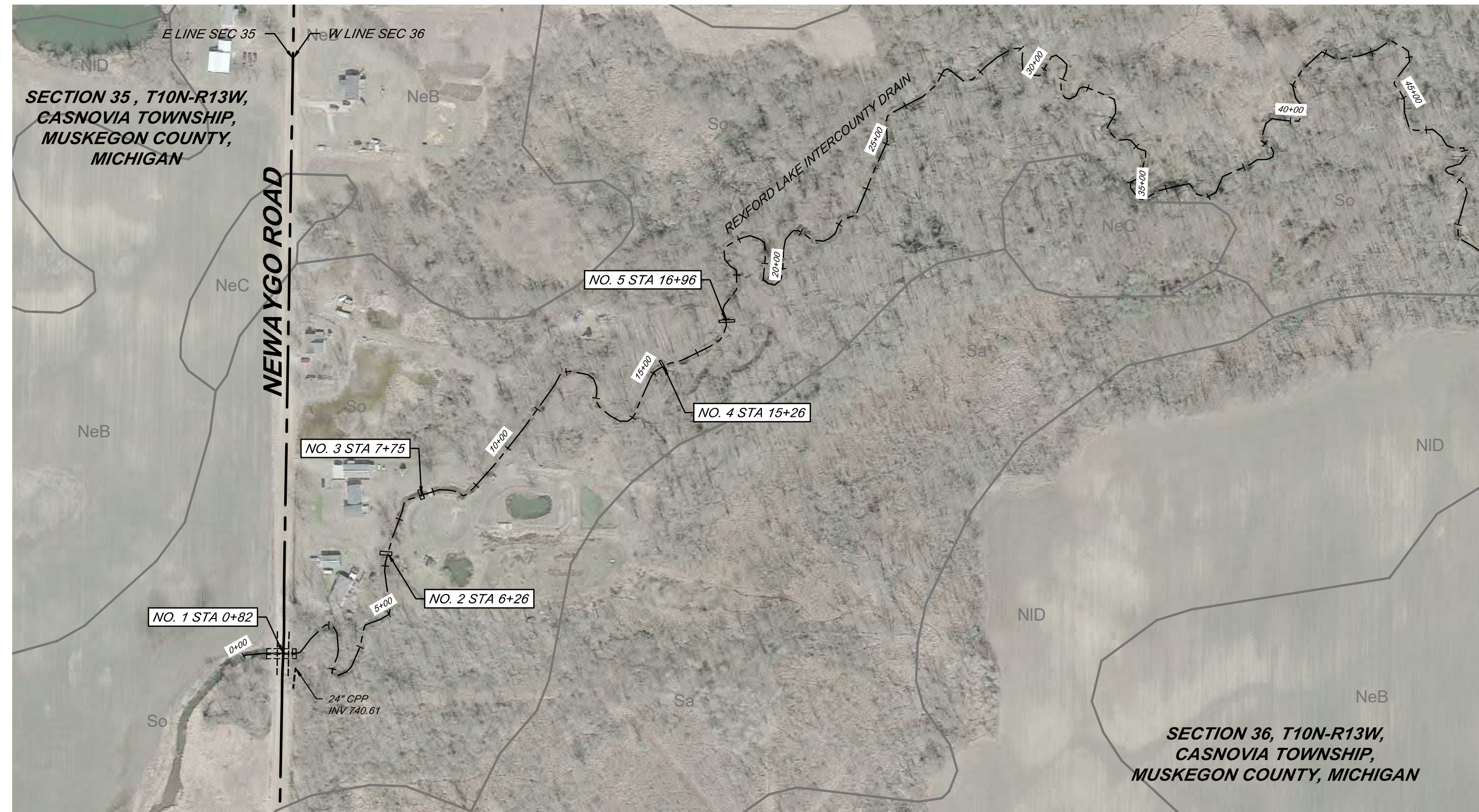
SOIL EROSION AND SEDIMENTATION CONTROL NOTES

- 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 REXFORD LAKE INTERCOUNTY 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 APPEAS 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.

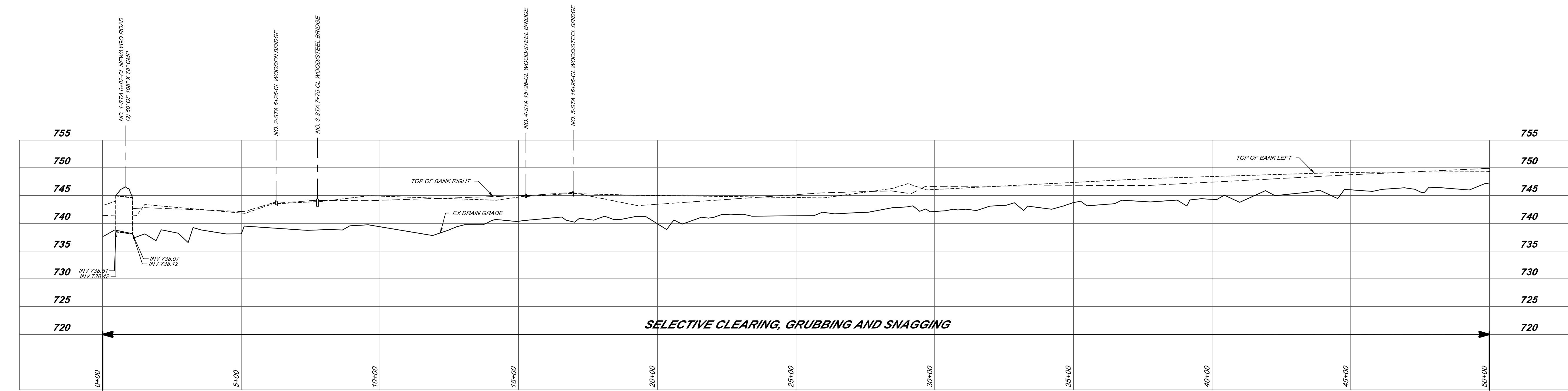
SOIL EROSION & SEDIMENTATION CONTROL PLAN

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.

MKS	REVISED		DATE
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 PREVIOUSLY 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.			
REXFORD LAKE INTERCOUNTY DRAIN KENT, MUSKEGON & OTTAWA COUNTIES, MICHIGAN			
SOIL EROSION & SEDIMENTATION CONTROL MEASURES			
BYRON CENTER OFFICE 2484 Byron Station Drive, SW Suite C Byron Center, MI 49315 Tel: 616-458-6580 www.SpicerGroup.com		PROJECT NO. 135614SG2023	
DE BY: MKS	CH BY: MKS	PROJECT NO.	
DR BY: MKS	APP BY: FLF	135614SG2023	
STDS.	SHEET 03 OF 15	DR	
DATE: MAY 2024	FILE NO:	03	
SCALE: NOT TO SCALE	DR-4695-03		



- CONSTRUCTION NOTES**
- CONTRACTOR SHALL NOT CLEAR CUT THE DRAIN RIGHT OF WAY. THE SELECTIVE CLEARING, GRUBBING, AND SNAGGING PAY ITEM IS TO REMOVE ONLY DEAD/DYING TREES AND REMOVE PROBLEMATIC WOODY DEBRIS FROM THE FLOWLINE.



NO. 1 - STA 0+82 - NEWAYGO ROAD
NO. 2 - STA 6+26 - OWNER/ROAD NAME
NO. 3 - STA 7+75 - OWNER/ROAD NAME

NO. 4 - STA 15+26 - OWNER/ROAD NAME
NO. 5 - STA 16+96 - OWNER/ROAD NAME

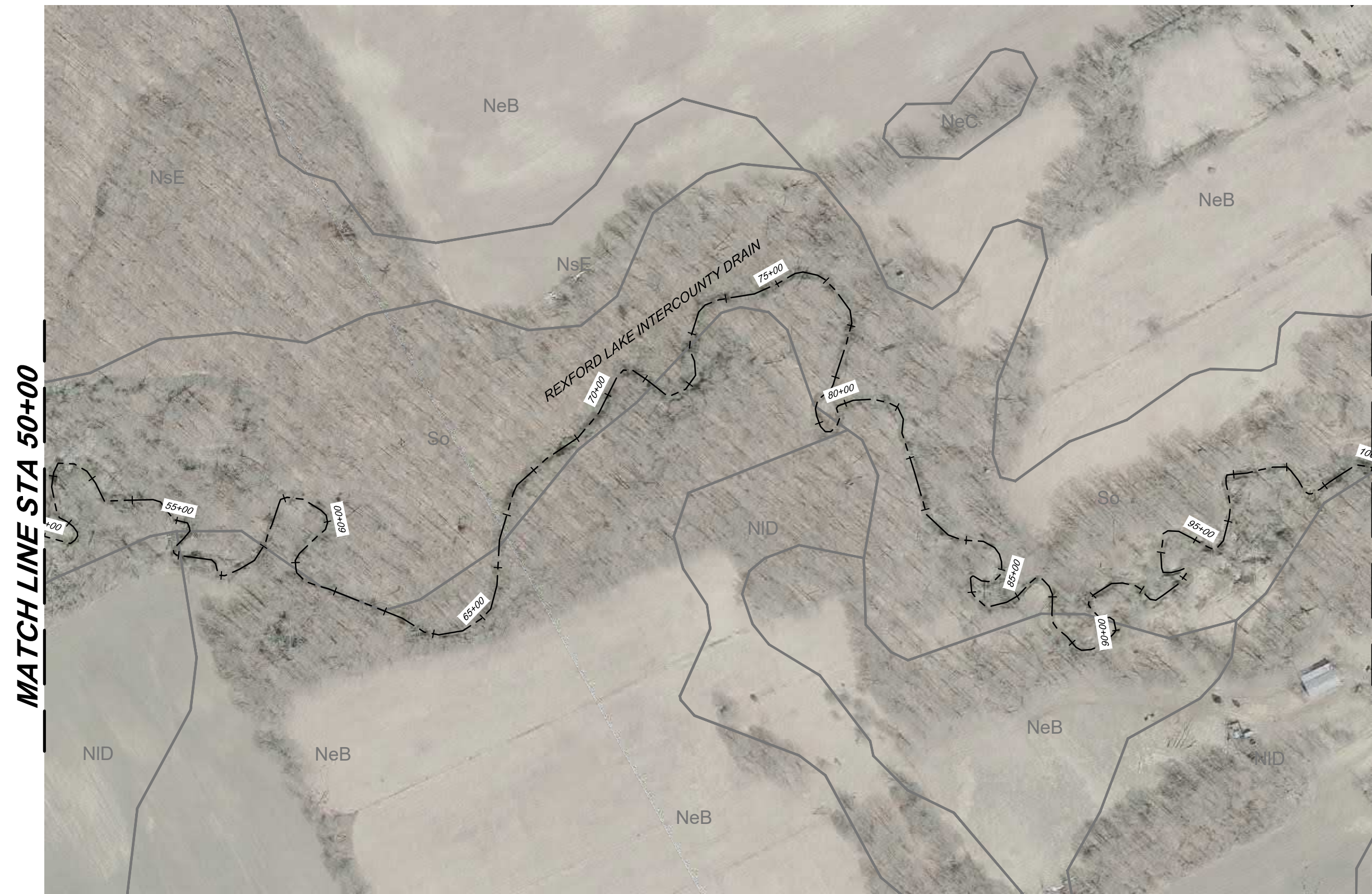
TOTAL EARTH DISTURBANCE:
0.00 ACRES OR LESS.

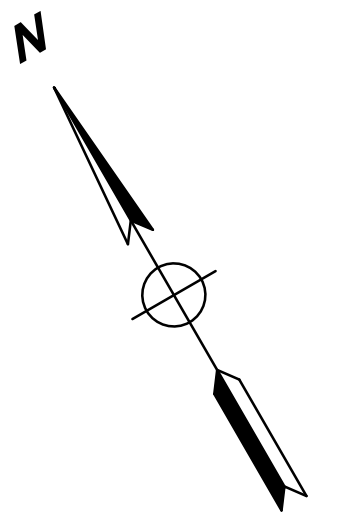
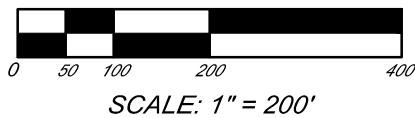
MUSKEGON COUNTY	
SOIL CLASS	SOIL COMPOSITION
NeB	ONEKAMA LOAM, LAKE MICHIGAN LOBE, 2 TO 6 PERCENT SLOPES
NeC	ONEKAMA LOAM, LAKE MICHIGAN LOBE, 6 TO 12 PERCENT SLOPES
NID	NESTER SOILS, 12 TO 25 PERCENT SLOPES, LAKE MODERATED
Sa	SARANAC LOAM
SO	SLOAN SOILS

MMS	BIO SET	05/30/2024
BY	MARK	REVISIONS
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REXFORD LAKE INTERCOUNTY DRAIN KENT, MUSKEGON & OTTAWA COUNTIES, MICHIGAN		
PLAN AND PROFILE STA 0+00 TO STA 50+00		
BYRON CENTER OFFICE 2464 Byron Station Drive, SW Suite C Byron Center, MI 49315 Tel. (616) 458-8580 www.SpicerGroup.com		
DE. BY: MMS	CH. BY: MMS	PROJECT NO. 135614SG2023
DR. BY: MMS	APP. BY: PLF	
STDS.	SHEET 04 OF 15	DR 04
DATE: MAY, 2024	FILE NO. DR-4695-04	
SCALE: H: 1"=200' V: 1"=10'		

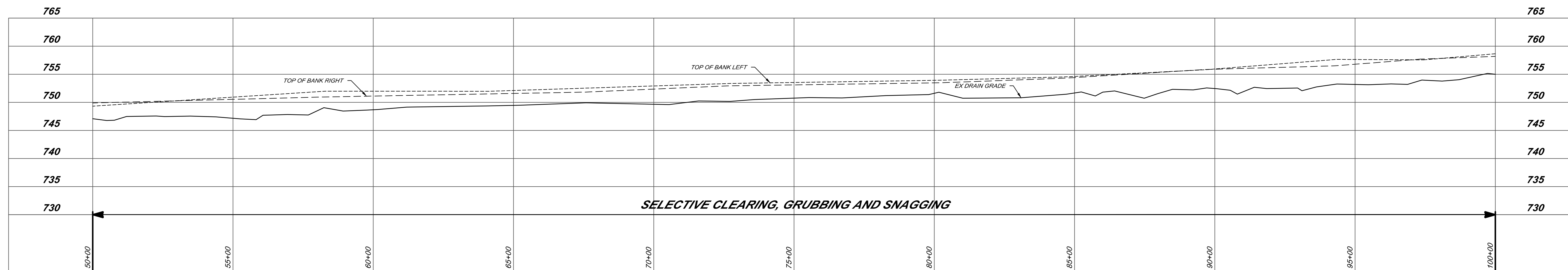
RIGHT OF WAY
REXFORD LAKE INTERCOUNTY DRAIN - DRAIN RIGHT-OF-WAY IS 33' WIDE ON EACH SIDE OF CENTERLINE OF DRAIN.

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**SECTION 36, T10N-R13W,
CASNOVIA TOWNSHIP,
MUSKEGON COUNTY, MICHIGAN**

- CONSTRUCTION NOTES**
- CONTRACTOR SHALL NOT CLEAR CUT THE DRAIN RIGHT OF WAY. THE SELECTIVE CLEARING, GRUBBING, AND SNAGGING PAY ITEM IS TO REMOVE ONLY DEAD/DYING TREES AND REMOVE PROBLEMATIC WOODY DEBRIS FROM THE FLOWLINE.



MUSKEGON COUNTY	
SOIL CLASS	SOIL COMPOSITION
NeB	ONEKAMA LOAM, LAKE MICHIGAN LOBE, 2 TO 6 PERCENT SLOPES
NeC	ONEKAMA LOAM, LAKE MICHIGAN LOBE, 6 TO 12 PERCENT SLOPES
NID	NESTER SOILS, 12 TO 25 PERCENT SLOPES, LAKE MODERATED
NeE	NESTER SOILS, 25 TO 45 PERCENT SLOPES
SO	SLOAN SOILS

EROSION CONTROL TABLE		
KEY*	DESCRIPTION	LOCATION
1 P	SEEDING OF ALL DISTURBED	ALL GRASS AREAS DISTURBED DURING CONSTRUCTION
2 T	MULCH OF ALL DISTURBED AREAS	ALL GRASS AREAS DISTURBED DURING CONSTRUCTION
15 P	INSTALL RIPRAP PROTECTION AT INLET & OUTLET OF CROSSING	AS SHOWN
16 P	RIPRAP TOE OF SLOPE PROTECTION	AS STAKED BY ENGINEER

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

**TOTAL EARTH DISTURBANCE:
0.00 ACRES OR LESS.**

MMS		BID SET	05/30/2024
BY	MARK	REVISIONS	DATE

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**REXFORD LAKE INTERCOUNTY DRAIN
KENT, MUSKEGON & OTTAWA COUNTIES, MICHIGAN**

**PLAN AND PROFILE
STA 50+00 TO STA 100+00**



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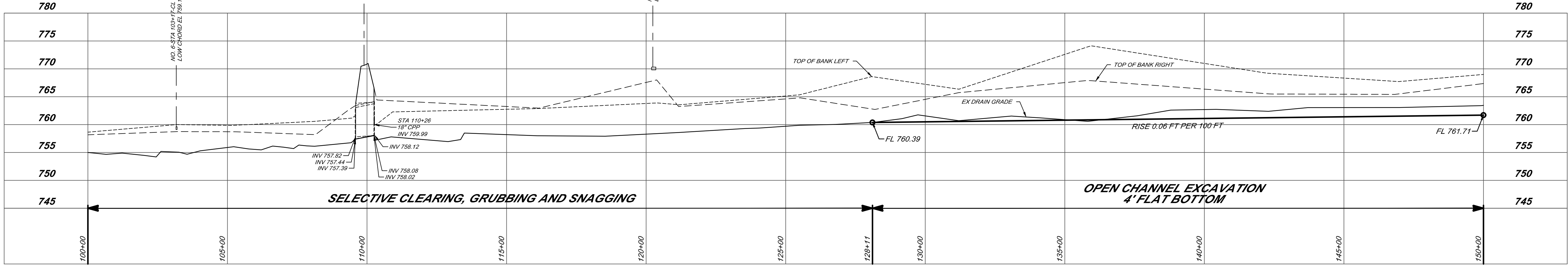
DE. BY: NMS	CH. BY: NMS	PROJECT NO.
DR. BY: MMS	APP. BY: PLF	135614SG2023

STDS.	SHEET 05 OF 15	DR 05
DATE: MAY, 2024	FILE NO. DR-4695-05	
SCALE: H: 1"=200' V: 1"=10'		

RIGHT OF WAY
REXFORD LAKE INTERCOUNTY DRAIN - DRAIN RIGHT-OF-WAY IS 33' WIDE ON EACH SIDE OF CENTERLINE OF DRAIN.



- CONSTRUCTION NOTES**
- CONTRACTOR SHALL NOT CLEAR CUT THE DRAIN RIGHT OF WAY. THE SELECTIVE CLEARING, GRUBBING, AND SNAGGING PAY ITEM IS TO REMOVE ONLY DEAD/DYING TREES AND REMOVE PROBLEMATIC WOODY DEBRIS FROM THE FLOWLINE.



NO. 6 - STA 103+17 - OWNER/ROAD NAME
NO. 7 - STA 109+90 - KENOWA AVENUE NW
NO. 8 - STA 120+24 - SMITH, R

MUSKEGON COUNTY	
SOIL CLASS	SOIL COMPOSITION
NeB	ONEKAMA LOAM, LAKE MICHIGAN LOBE, 2 TO 6 PERCENT SLOPES
NeC	ONEKAMA LOAM, LAKE MICHIGAN LOBE, 6 TO 12 PERCENT SLOPES
SO	SLOAN SOILS

TOTAL EARTH DISTURBANCE:
1.01 ACRES OR LESS.

KENT COUNTY	
SOIL CLASS	SOIL COMPOSITION
7	COHOCTAH LOAM
12B	TUSTIN LOAMY FINE SAND, 2 TO 6 PERCENT SLOPES
15	SLOAN LOAM
16	CERESCO LOAM
22B	OSHTEMO SANDY LOAM, 0 TO 6 PERCENT SLOPES
45B	ONEKAMA LOAM, LAKE MICHIGAN LOBE, 2 TO 6 PERCENT SLOPES
45C	ONEKAMA LOAM, LAKE MICHIGAN LOBE, 6 TO 12 PERCENT SLOPES
45D	PERRINTON LOAM, 12 TO 18 PERCENT SLOPES
46B	ITHACA LOAM, 1 TO 6 PERCENT SLOPES
49B	SELFRIDGE LOAMY SAND, 0 TO 4 PERCENT SLOPES
66D	BOYER LOAMY SAND, 12 TO 18 PERCENT SLOPES

EROSION CONTROL TABLE		
KEY*	DESCRIPTION	LOCATION
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2 T	MULCH OF ALL DISTURBED AREAS	ALL GRASS AREAS DISTURBED DURING CONSTRUCTION
15 P	INSTALL RIPRAP PROTECTION AT INLET & OUTLET OF CROSSING	AS SHOWN
16 P	RIPRAP TOE OF SLOPE PROTECTION	AS STAKED BY ENGINEER

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

MMS	BY	MARK	REVISED	DATE
				05/30/2024

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**REXFORD LAKE INTERCOUNTY DRAIN
KENT, MUSKEGON & OTTAWA COUNTIES, MICHIGAN**

**PLAN AND PROFILE
STA 100+00 TO STA 150+00**

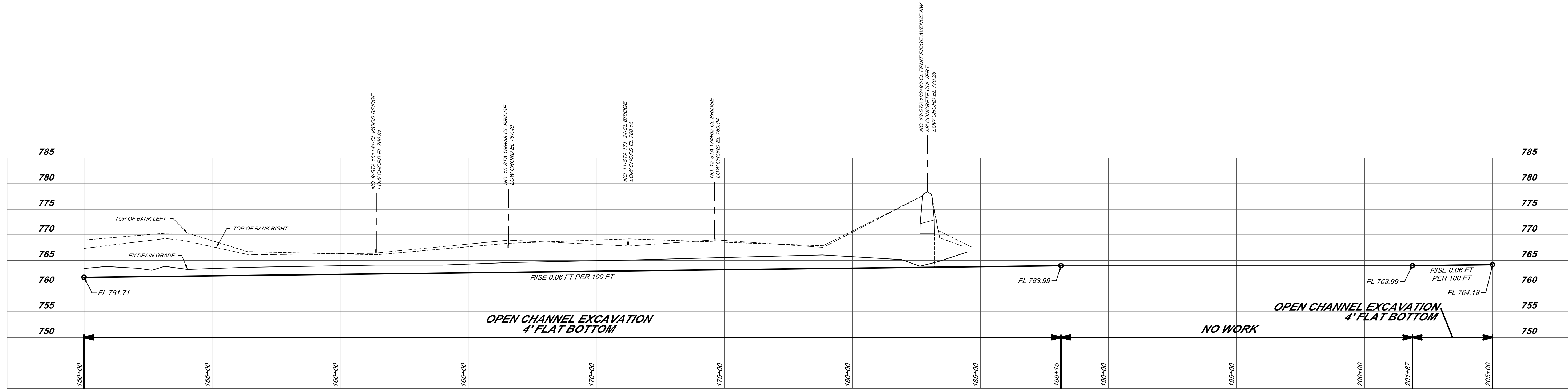
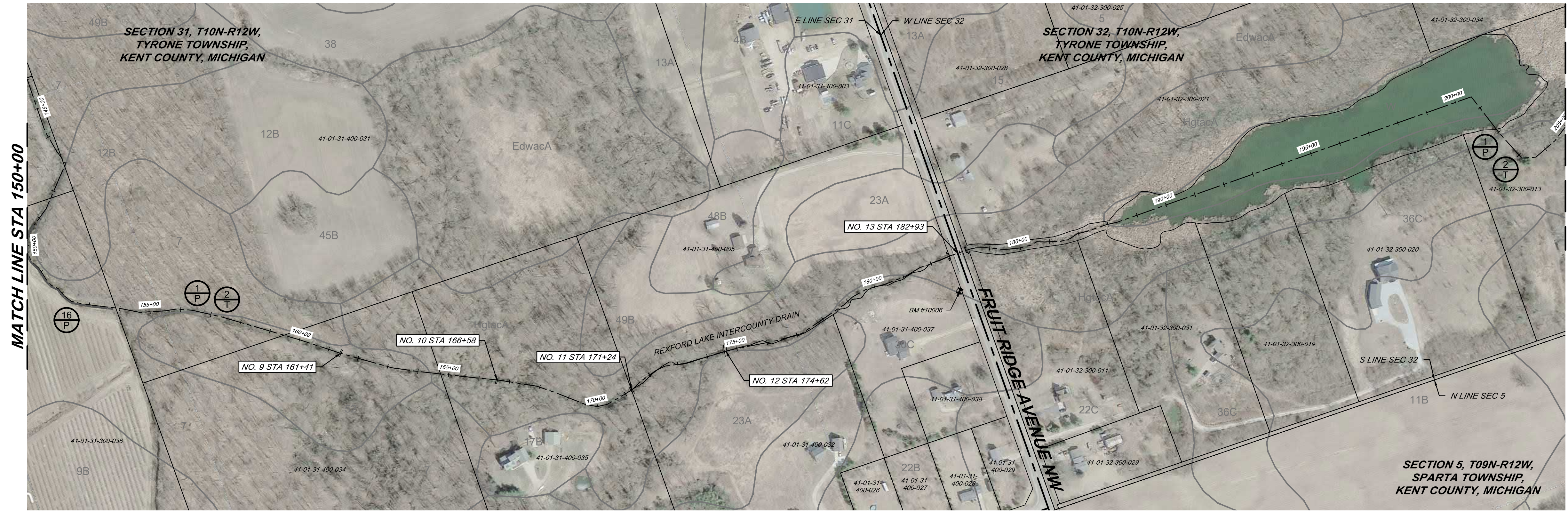
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DR. BY: MMS	APP. BY: PLF	

STDS.	SHEET 06 OF 15	DR 06
DATE: MAY, 2024	FILE NO. DR-4695-06	
SCALE: H: 1"=200' V: 1"=10'		

RIGHT OF WAY
REXFORD LAKE INTERCOUNTY DRAIN - DRAIN RIGHT-OF-WAY IS 33' WIDE ON EACH SIDE OF CENTERLINE OF DRAIN.

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NO. 9 - STA 161+41 - CLEMENT, J
NO. 10 - STA 166+58 - YELDA, M
NO. 11 - STA 171+24 - HOUSEMAN, N & A

NO. 12 - STA 174+62 - HOUSEMAN, N & A
NO. 13 - STA 182+93 - FRUIT RIDGE AVENUE NW

TOTAL EARTH DISTURBANCE:
1.90 ACRES OR LESS.

KENT COUNTY	
SOIL CLASS	SOIL COMPOSITION
4B	PERRIN GRAVELLY LOAMY SAND, 0 TO 4 PERCENT SLOPES
7	COHOCTAH LOAM
9B	RIMER LOAMY FINE SAND, 0 TO 4 PERCENT SLOPES
11B	OWOSSO-MARLETTE SANDY LOAMS, 2 TO 6 PERCENT SLOPES
11C	OWOSSO-MARLETTE SANDY LOAMS, 6 TO 12 PERCENT SLOPES
12B	TUSTIN LOAMY FINE SAND, 2 TO 6 PERCENT SLOPES
13A	METAMORA SANDY LOAM, 0 TO 3 PERCENT SLOPES
15	SLOAN LOAM
17B	CHELSEA LOAMY FINE SAND, 0 TO 6 PERCENT SLOPES
22B	OSHTIMO SANDY LOAM, 0 TO 6 PERCENT SLOPES
22C	OSHTIMO SANDY LOAM, 6 TO 12 PERCENT SLOPES

23A	THETFORD LOAMY SAND, 0 TO 3 PERCENT SLOPES
30C	SPINKS LOAMY SAND, 6 TO 12 PERCENT SLOPES
36C	FILER LOAM, 6 TO 12 PERCENT SLOPES
38	PARKHILL LOAM, NON DENSE TILL SUBSOIL, 0 TO 2 PERCENT SLOPES
45B	ONEKAMA LOAM, LAKE MICHIGAN LOBE, 2 TO 6 PERCENT SLOPES
48B	METEA LOAMY SAND, 2 TO 6 PERCENT SLOPES
49B	SELFRIDGE LOAMY SAND, 0 TO 4 PERCENT SLOPES
52	BELLEVILLE LOAMY SAND
EdwacA	EDWARDS MUCK, LAKE MODERATED, 0 TO 1 PERCENT SLOPES
HgltacA	HOUGHTON MUCK, LAKE MODERATED, 0 TO 1 PERCENT SLOPES
W	WATER

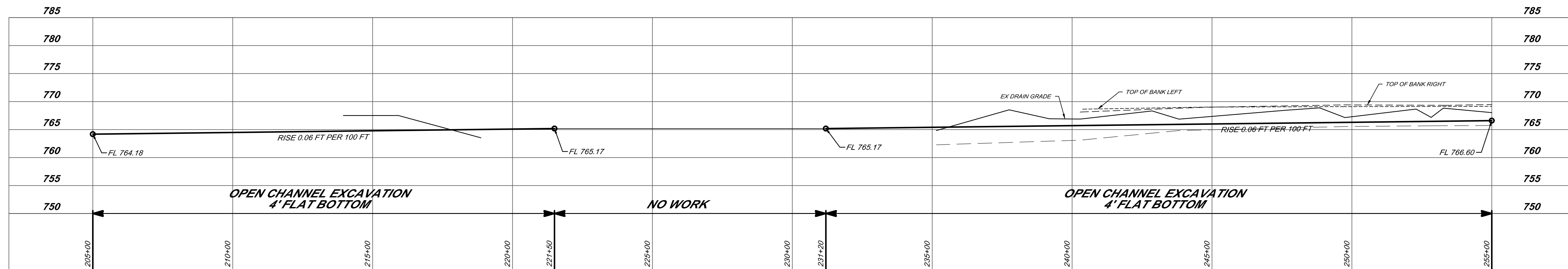
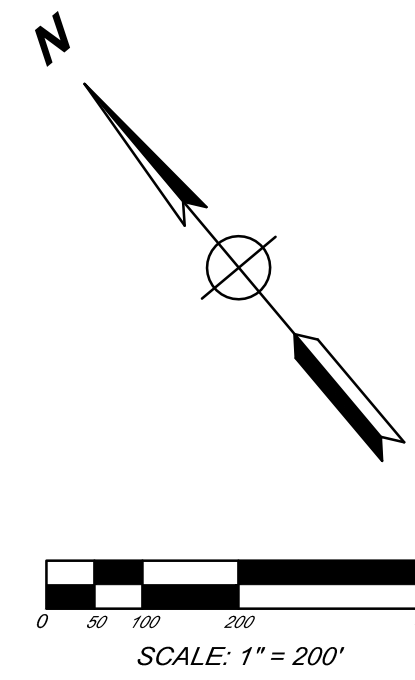
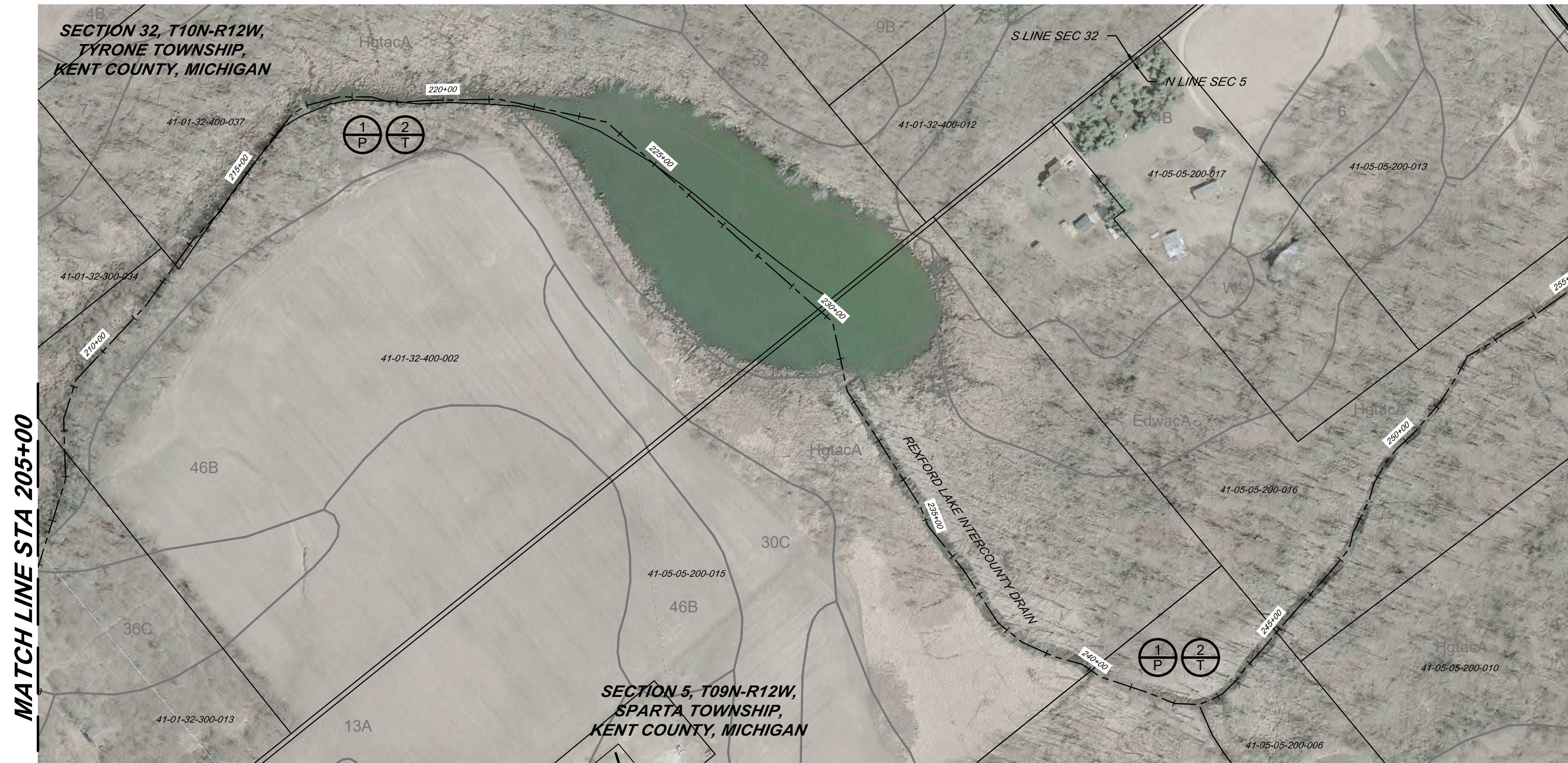
EROSION CONTROL TABLE		
KEY*	DESCRIPTION	LOCATION
1 P	SEEDING OF ALL DISTURBED	ALL GRASS AREAS DISTURBED DURING CONSTRUCTION
2 T	MULCH OF ALL DISTURBED AREAS	ALL GRASS AREAS DISTURBED DURING CONSTRUCTION
15 P	INSTALL RIPRAP PROTECTION AT INLET & OUTLET OF CROSSING	AS SHOWN
16 P	RIPRAP TOE OF SLOPE PROTECTION	AS STAKED BY ENGINEER

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

BENCHMARKS
BM 10016 - SET GEARSPIKE ON NORTHEAST FACE OF POWER POLE ± 40' WEST OF FRUITRIDGE AVENUE, ± 125' SOUTH OF DRAIN, ± 125' NORTH OF CL DRIVE OF HOUSE # 13291.
EL 773.91

RIGHT OF WAY
REXFORD LAKE INTERCOUNTY DRAIN - DRAIN RIGHT-OF-WAY IS 33' WIDE ON EACH SIDE OF CENTERLINE OF DRAIN.

MMS	BIO SET	05/30/2024
BY	MARK	DATE
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REXFORD LAKE INTERCOUNTY DRAIN KENT, MUSKOGON & OTTAWA COUNTIES, MICHIGAN		
PLAN AND PROFILE STA 150+00 TO STA 205+00		
BYRON CENTER OFFICE 2464 Byron Station Drive, SW Suite C Byron Center, MI 49315 Tel. (616) 458-8580 www.SpicerGroup.com		PROJECT NO. 135614SG2023
DE. BY: MMS	CH. BY: MMS	PROJECT NO.
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STDS.	SHEET 07 OF 15	DR
DATE: MAY, 2024	FILE NO.	07
SCALE: H: 1"=200' V: 1"=10'	DR-4695-07	



KENT COUNTY	
SOIL CLASS	SOIL COMPOSITION
4B	PERRIN GRAVELLY LOAMY SAND, 0 TO 4 PERCENT SLOPES
6	GLENDORA LOAMY SAND
7	COHOCTAH LOAM
9B	RIMER LOAMY FINE SAND, 0 TO 4 PERCENT SLOPES
13A	METAMORA SANDY LOAM, 0 TO 3 PERCENT SLOPES
30C	SPINKS LOAMY SAND, 6 TO 12 PERCENT SLOPES
36C	FILER LOAM, 6 TO 12 PERCENT SLOPES
46B	ITHACA LOAM, 1 TO 6 PERCENT SLOPES
52	BELLEVILLE LOAMY SAND
EdwacA	EDWARDS MUCK, LAKE MODERATED, 0 TO 1 PERCENT SLOPES
HgtacA	HOUGHTON MUCK, LAKE MODERATED, 0 TO 1 PERCENT SLOPES
W	WATER

EROSION CONTROL TABLE		
KEY*	DESCRIPTION	LOCATION
(1) P	SEEDING OF ALL DISTURBED	ALL GRASS AREAS DISTURBED DURING CONSTRUCTION
(2) T	MULCH OF ALL DISTURBED AREAS	ALL GRASS AREAS DISTURBED DURING CONSTRUCTION

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

TOTAL EARTH DISTURBANCE:
1.85 ACRES OR LESS.

MMS	BIO SET	05/30/2024
BY	MARK	REVISIONS
		DATE

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REXFORD LAKE INTERCOUNTY DRAIN
KENT, MUSKEGON & OTTAWA COUNTIES, MICHIGAN

PLAN AND PROFILE
STA 205+00 TO STA 255+00

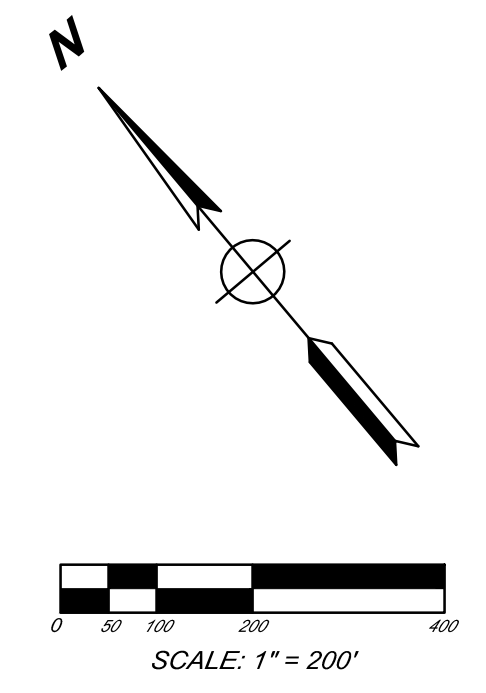


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2464 Byron Station Drive, SW
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Tel. (616) 458-8580
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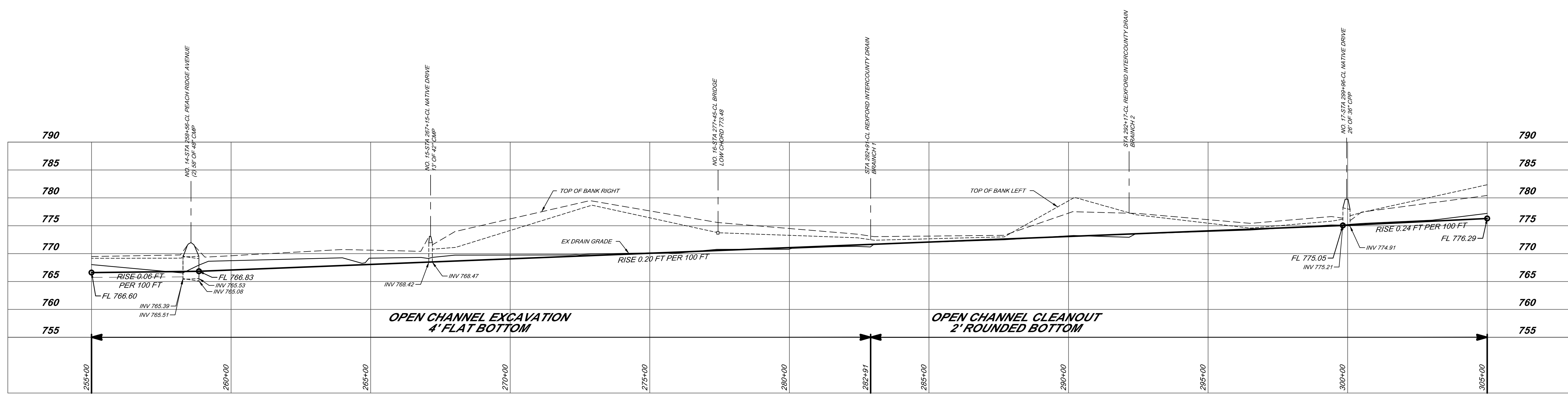
DE. BY: MMS	CH. BY: MMS	PROJECT NO.
DR. BY: MMS	APP. BY: PLF	135614SG2023

STDS.	SHEET 08 OF 15	DR
DATE: MAY, 2024	FILE NO.	08
SCALE: H: 1"=200' V: 1"=10'	DR-4695-08	

RIGHT OF WAY
REXFORD LAKE INTERCOUNTY DRAIN - DRAIN RIGHT-OF-WAY IS 33' WIDE ON EACH SIDE OF CENTERLINE OF DRAIN.



SEE SHEET 11



NO. 14 - STA 258+56 - PEACH RIDGE AVENUE NW

NO. 17 - STA 299+96 - ANDERSON, D & K

NO. 15 - STA 267+15 - VARGAS, R & VARGAS-DELIRA, J

NO. 16 - STA 277+45 - OBIEDZINSKI, V

TOTAL EARTH DISTURBANCE:
2.30 ACRES OR LESS.

KENT COUNTY	
SOIL CLASS	SOIL COMPOSITION
2B	OAKVILLE FINE SAND, MODERATELY WET, 0 TO 4 PERCENT SLOPES
4B	PERRIN GRAVELLY LOAMY SAND, 0 TO 4 PERCENT SLOPES
6	GLENORA LOAMY SAND
7	COHOCTAH LOAM
23A	THETFORD LOAMY SAND, 0 TO 3 PERCENT SLOPES
30B	SPINKS LOAMY SAND, 0 TO 6 PERCENT SLOPES
43	GRANBY LOAMY FINE SAND, 0 TO 2 PERCENT SLOPES
84B	DIXBORO LOAMY FINE SAND, 0 TO 4 PERCENT SLOPES
EdwacA	EDWARDS MUCK, LAKE MODERATED, 0 TO 1 PERCENT SLOPES
HgtacA	HOUGHTON MUCK, LAKE MODERATED, 0 TO 1 PERCENT SLOPES

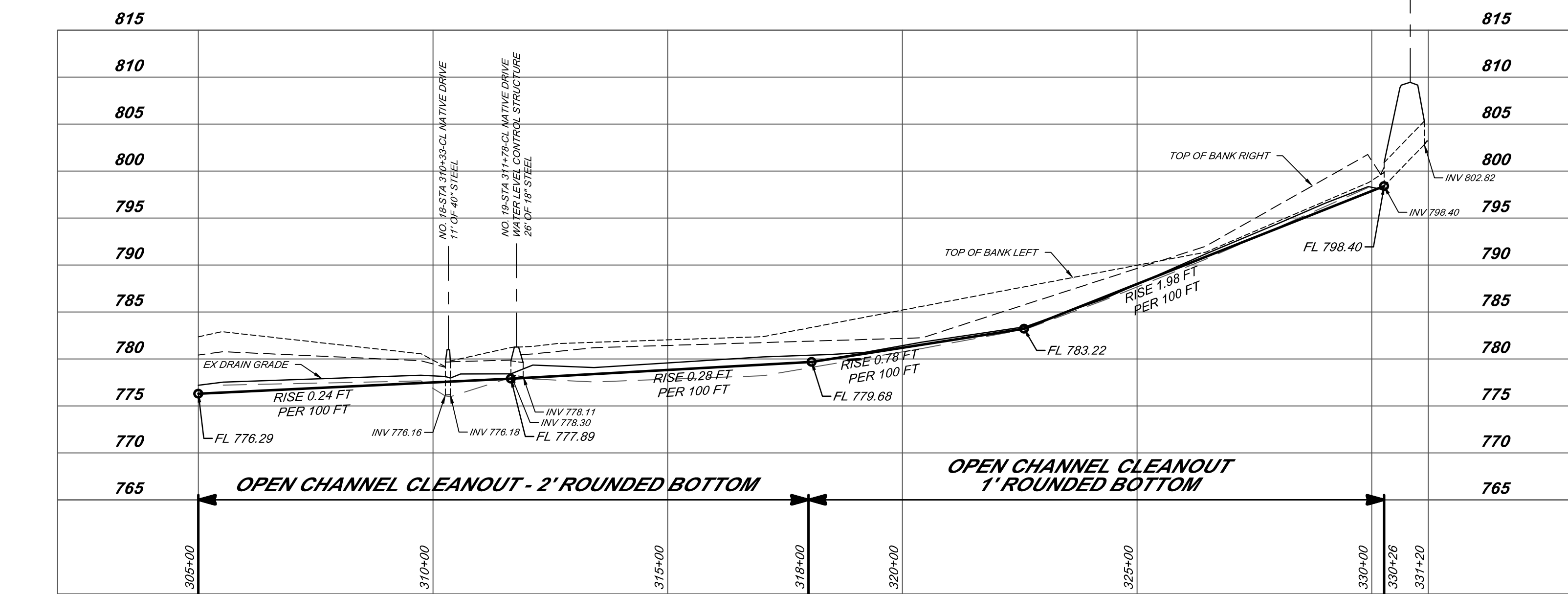
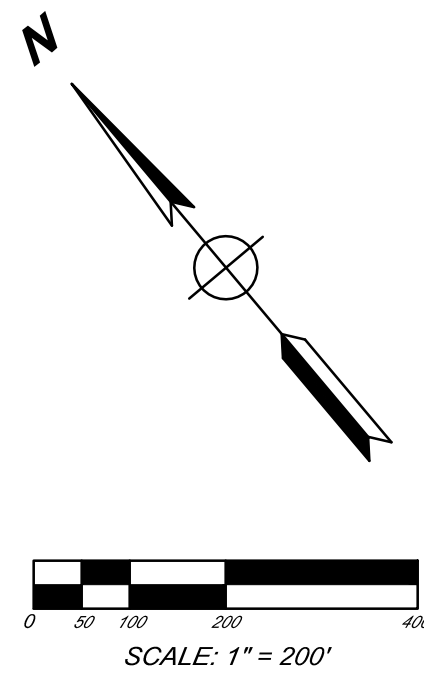
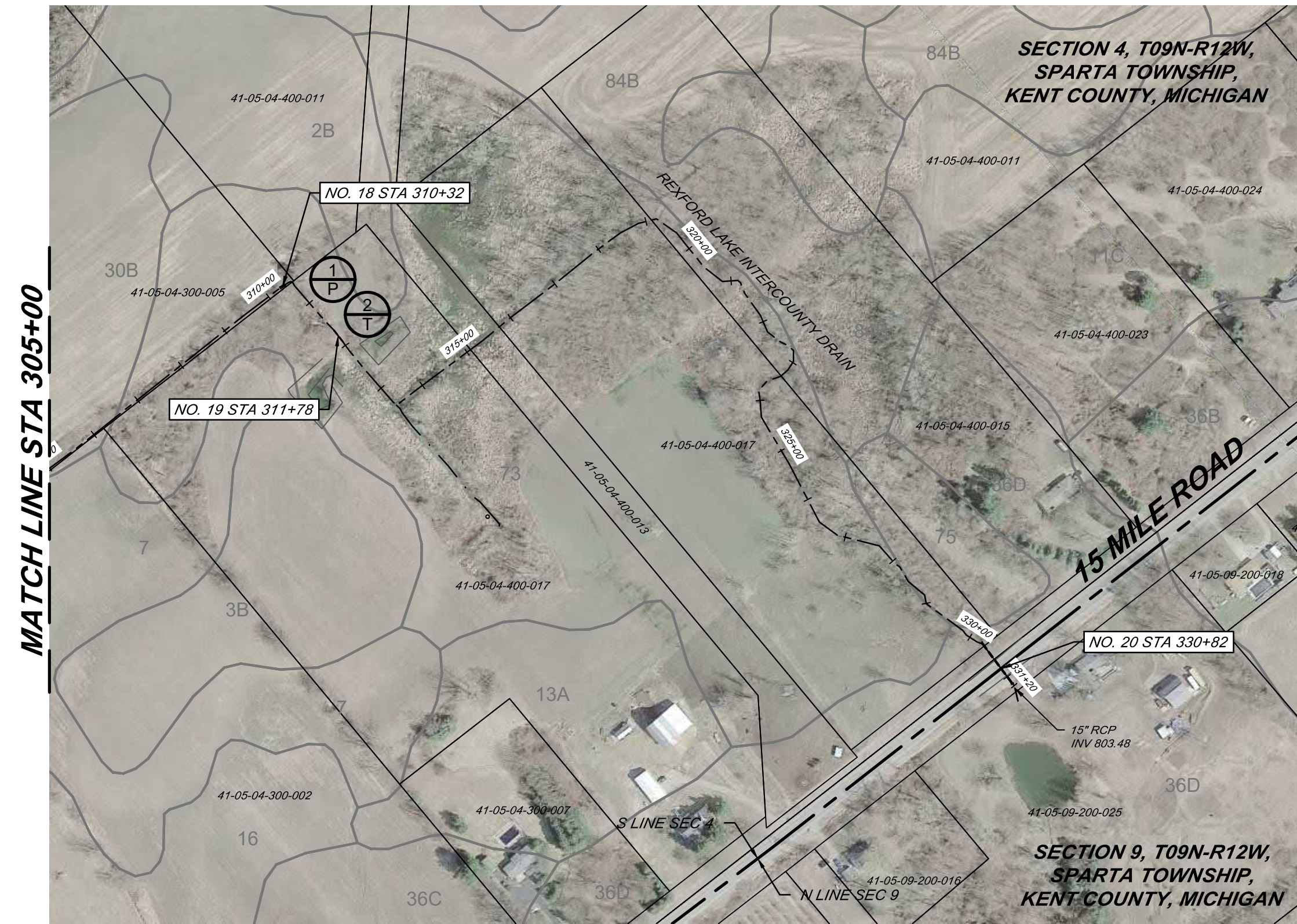
EROSION CONTROL TABLE		
KEY*	DESCRIPTION	LOCATION
1 P	SEEDING OF ALL DISTURBED	ALL GRASS AREAS DISTURBED DURING CONSTRUCTION
2 T	MULCH OF ALL DISTURBED AREAS	ALL GRASS AREAS DISTURBED DURING CONSTRUCTION

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

BENCHMARKS
BM 10003 - SET GEARSPIKE ON WEST FACE OF 12" BIRCH TWIN STUMP, ± 60' SOUTH OF CL OF DRAIN, ± 20' EAST OF CL OF FRUITRIDGE AVENUE NW, ± 430' NORTHEAST OF CL DRIVE OF HOUSE # 12957.
EL 770.84

RIGHT OF WAY
REXFORD LAKE INTERCOUNTY DRAIN - DRAIN RIGHT-OF-WAY IS 33' WIDE ON EACH SIDE OF CENTERLINE OF DRAIN.

MMS	BIO SET	05/09/2024
BY	MARK	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>		
REXFORD LAKE INTERCOUNTY DRAIN KENT, MUSKOGON & OTTAWA COUNTIES, MICHIGAN		
PLAN AND PROFILE STA 255+00 TO STA 305+00		
		<small>BYRON CENTER OFFICE 2464 Byron Station Drive, SW Suite C Byron Center, MI 49315 Tel. (616) 458-8580 www.SpicerGroup.com</small>
DE. BY: MMS	CH. BY: MMS	PROJECT NO. 135614SG2023
DR. BY: MMS	APP. BY: PLF	
STDS.	SHEET 09 OF 15	DR 09
DATE: MAY, 2024	FILE NO. DR-4695-09	
SCALE: H: 1"=200' V: 1"=10'		



NO. 18 - STA 310+32 - ANDERSON, D & K

NO. 19 - STA 311+78 - SLATKOWSKI, R


NO. 20 - STA 330+82 - 15 MILE ROAD

TOTAL EARTH DISTURBANCE:
1.16 ACRES OR LESS.

KENT COUNTY	
SOIL CLASS	SOIL COMPOSITION
2B	OAKVILLE FINE SAND, MODERATELY WET, 0 TO 4 PERCENT SLOPES
7	COHOCTAH LOAM
11C	OWOSSO-MARLETTE SANDY LOAMS, 6 TO 12 PERCENT SLOPES
13A	METAMORA SANDY LOAM, 0 TO 3 PERCENT SLOPES
16	CERESCO LOAM
31	WALLKILL SILT LOAM
36B	FILER LOAM, 2 TO 6 PERCENT SLOPES
36C	FILER LOAM, 6 TO 12 PERCENT SLOPES
36D	FILER LOAM, 12 TO 18 PERCENT SLOPES
73	SEBEWA LOAM, 0 TO 2 PERCENT SLOPES
75	UDORTMENTS, LOAMY
84B	DIXBORO LOAMY FINE SAND, 0 TO 4 PERCENT SLOPES

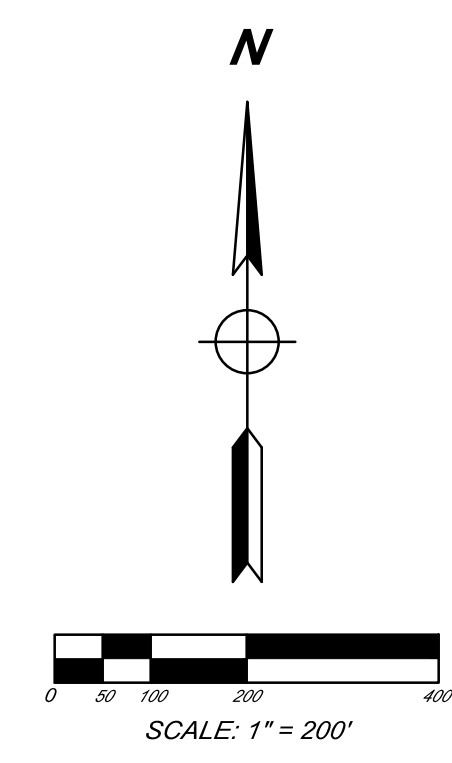
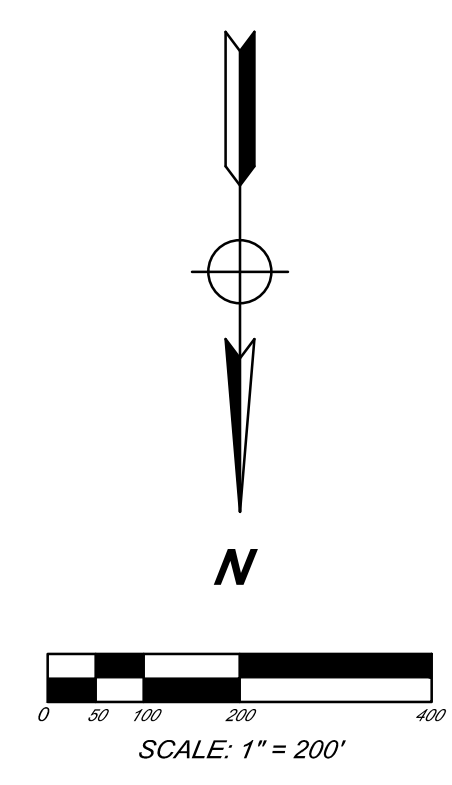
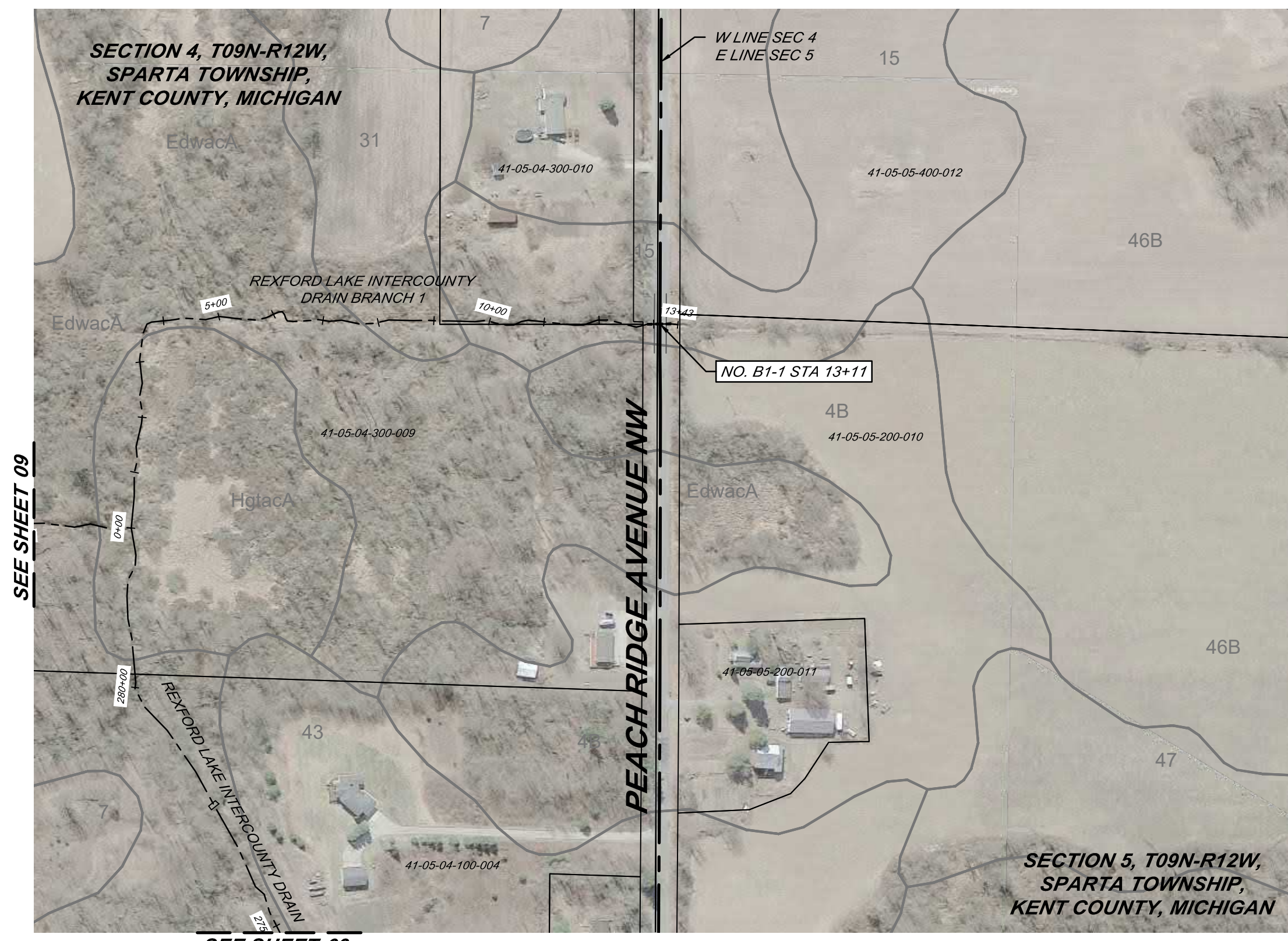
EROSION CONTROL TABLE		
KEY*	DESCRIPTION	LOCATION
(1) P	SEEDING OF ALL DISTURBED	ALL GRASS AREAS DISTURBED DURING CONSTRUCTION
(2) T	MULCH OF ALL DISTURBED AREAS	ALL GRASS AREAS DISTURBED DURING CONSTRUCTION

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

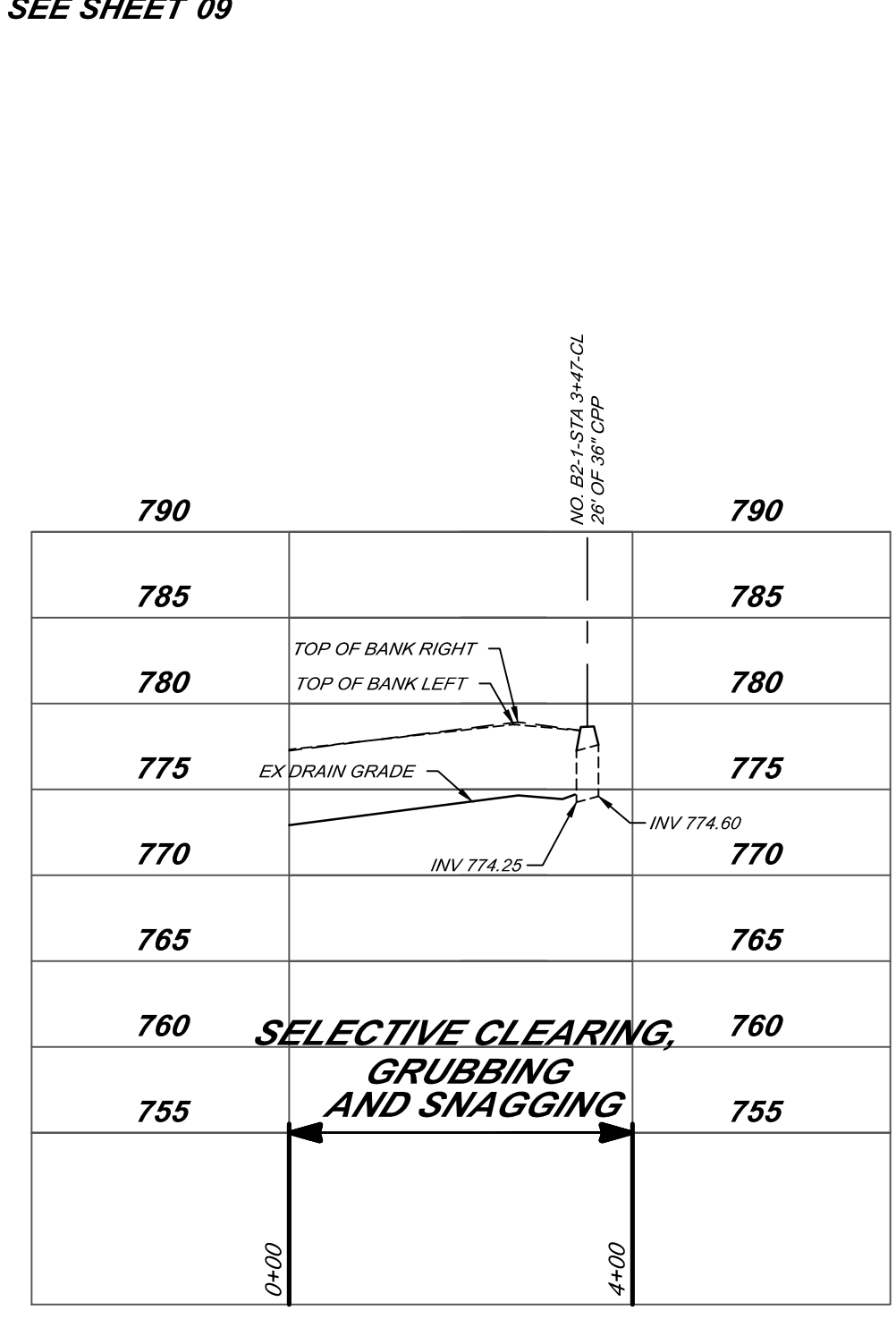
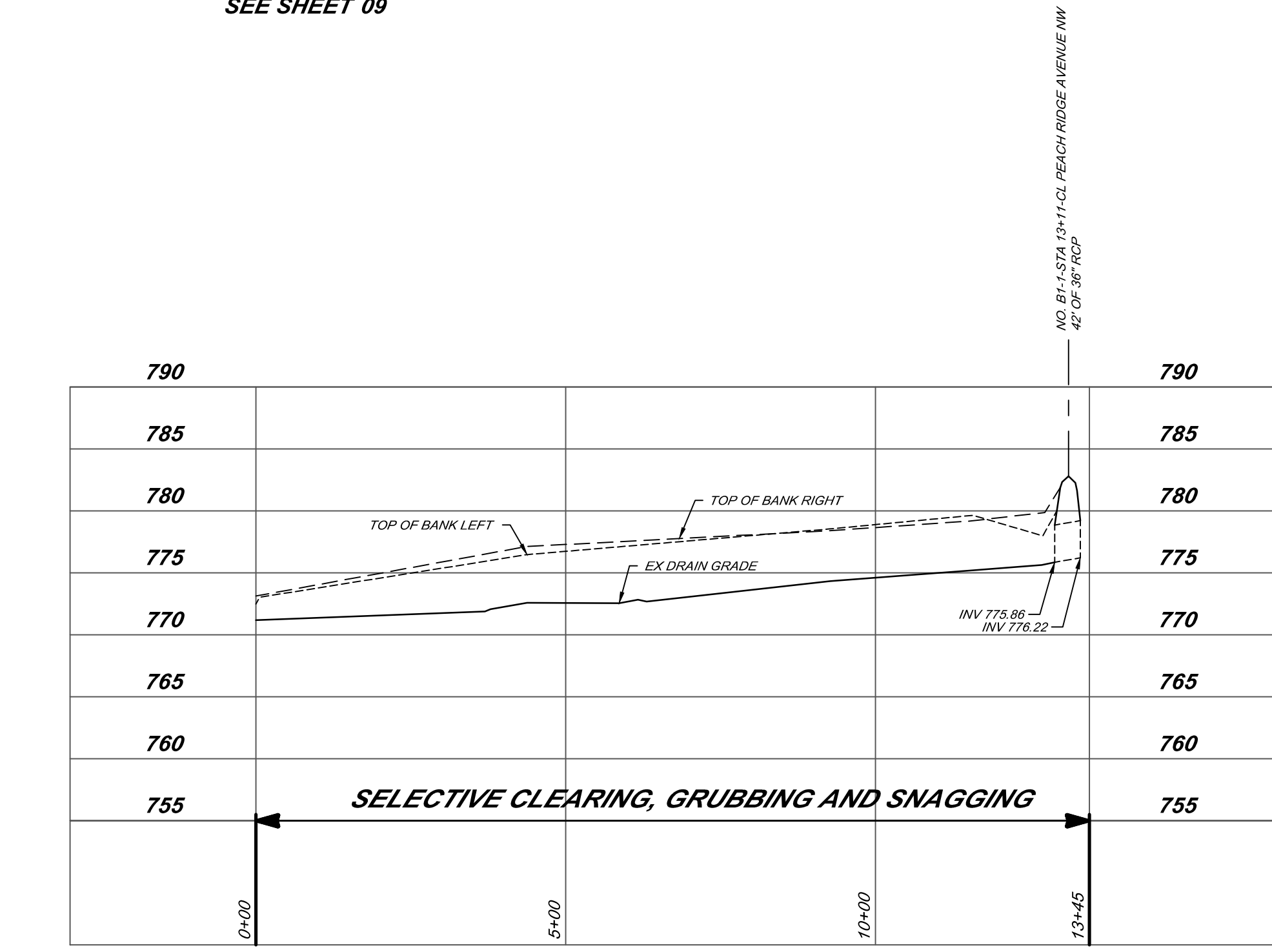
MMS	BIO SET	05/30/2024
BY	MARK	DATE
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REXFORD LAKE INTERCOUNTY DRAIN KENT, MUSKOGON & OTTAWA COUNTIES, MICHIGAN		
PLAN AND PROFILE STA 305+00 TO STA 330+82		
		
BYRON CENTER OFFICE 2464 Byron Station Drive, SW Suite C Byron Center, MI 49315 Tel. (616) 458-8580 www.SpicerGroup.com		
DE. BY: NMS	CH. BY: NMS	PROJECT NO. 135614SG2023
DR. BY: MMS	APP. BY: PLF	
STDS.	SHEET 10 OF 15	DR 10
DATE: MAY, 2024	FILE NO. DR-4695-10	
SCALE: H: 1"=200' V: 1"=10'		

RIGHT OF WAY
REXFORD LAKE INTERCOUNTY DRAIN - DRAIN RIGHT-OF-WAY IS 33' WIDE ON EACH SIDE OF CENTERLINE OF DRAIN.

P:\Projects\2023\135614SG2023 - REXFORD LAKE INTERCOUNTY DRAIN - CHAINING\Drawings\DR-4695-10-10.dwg, 5/21/2024, 10:25:22 AM, Mike, mmmmm



- CONSTRUCTION NOTES**
- CONTRACTOR SHALL NOT CLEAR CUT THE DRAIN RIGHT OF WAY. THE SELECTIVE CLEARING, GRUBBING, AND SNAGGING PAY ITEM IS TO REMOVE ONLY DEAD/DYING TREES AND REMOVE PROBLEMATIC WOODY DEBRIS FROM THE FLOWLINE.




NO. B1-1 - STA 13+11 - PEACH RIDGE AVENUE NW

NO. B2-1 - STA 3+47 - ANDERSON, D & K

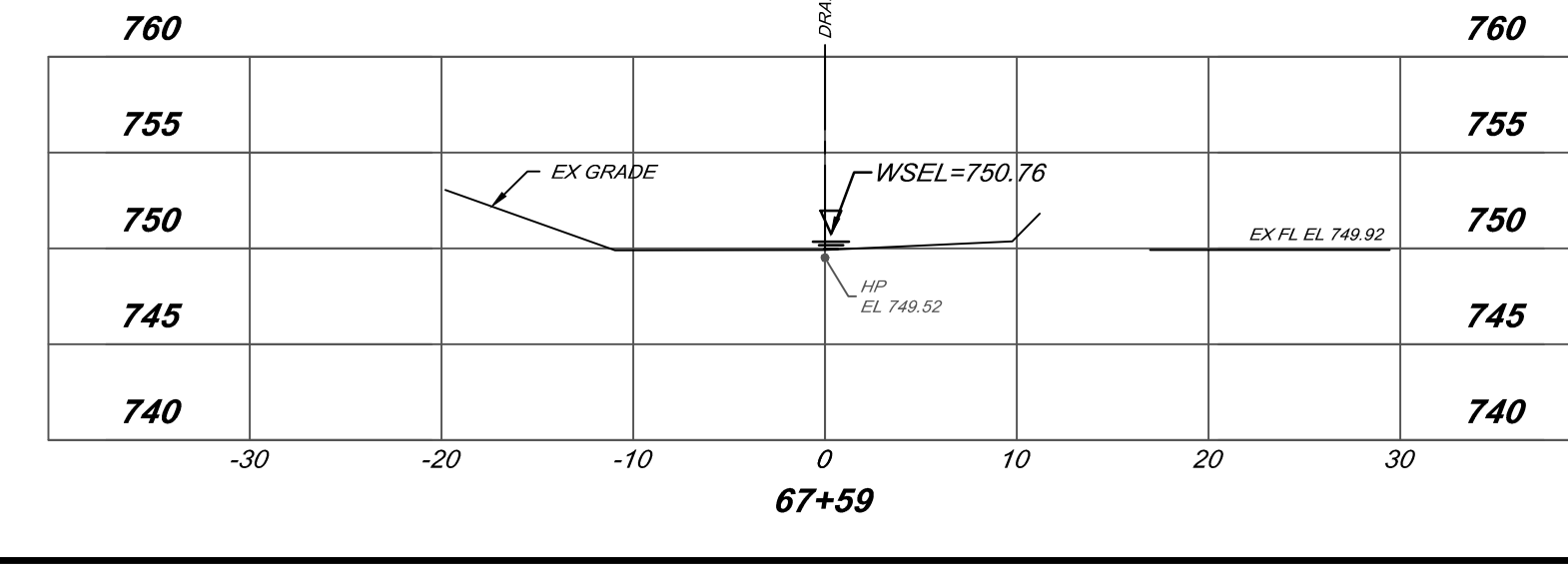
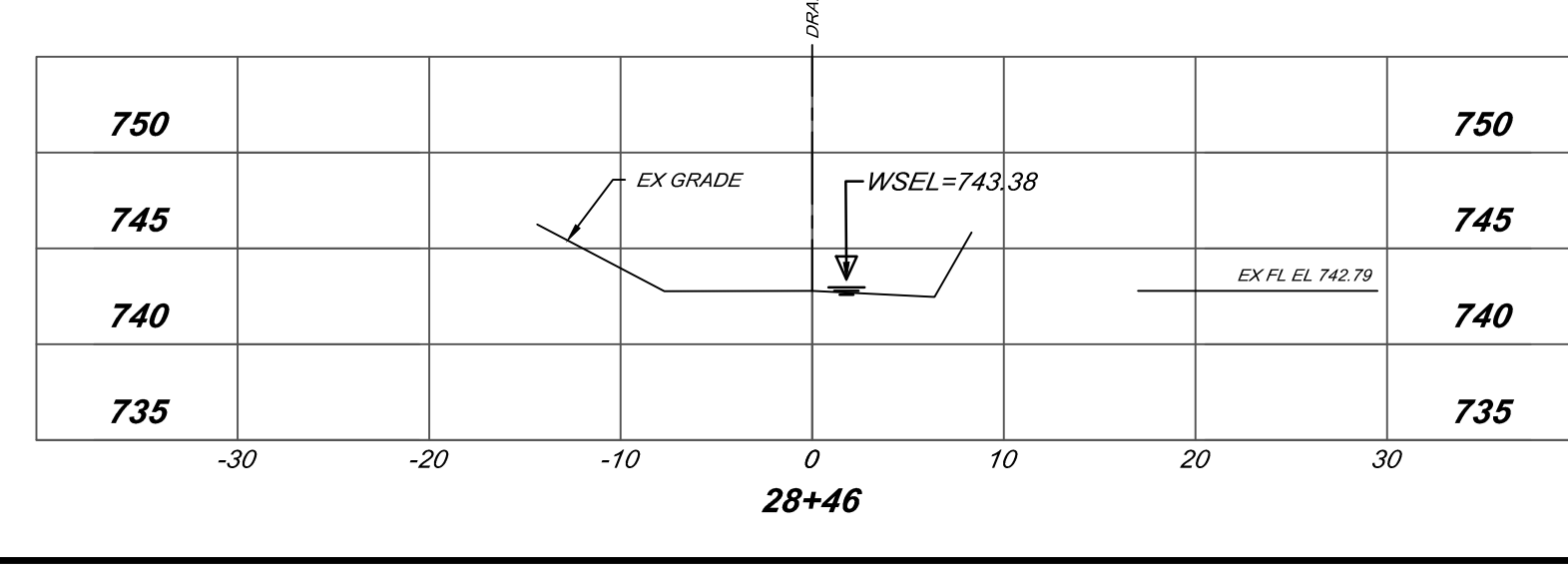
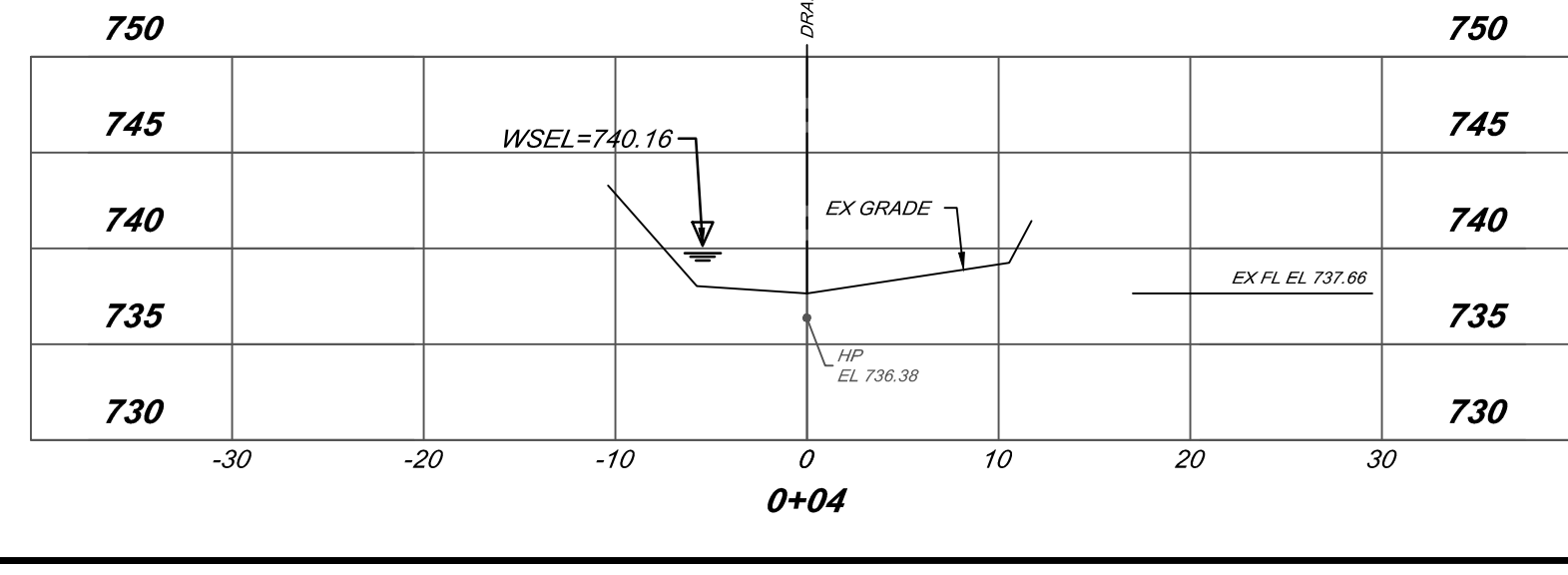
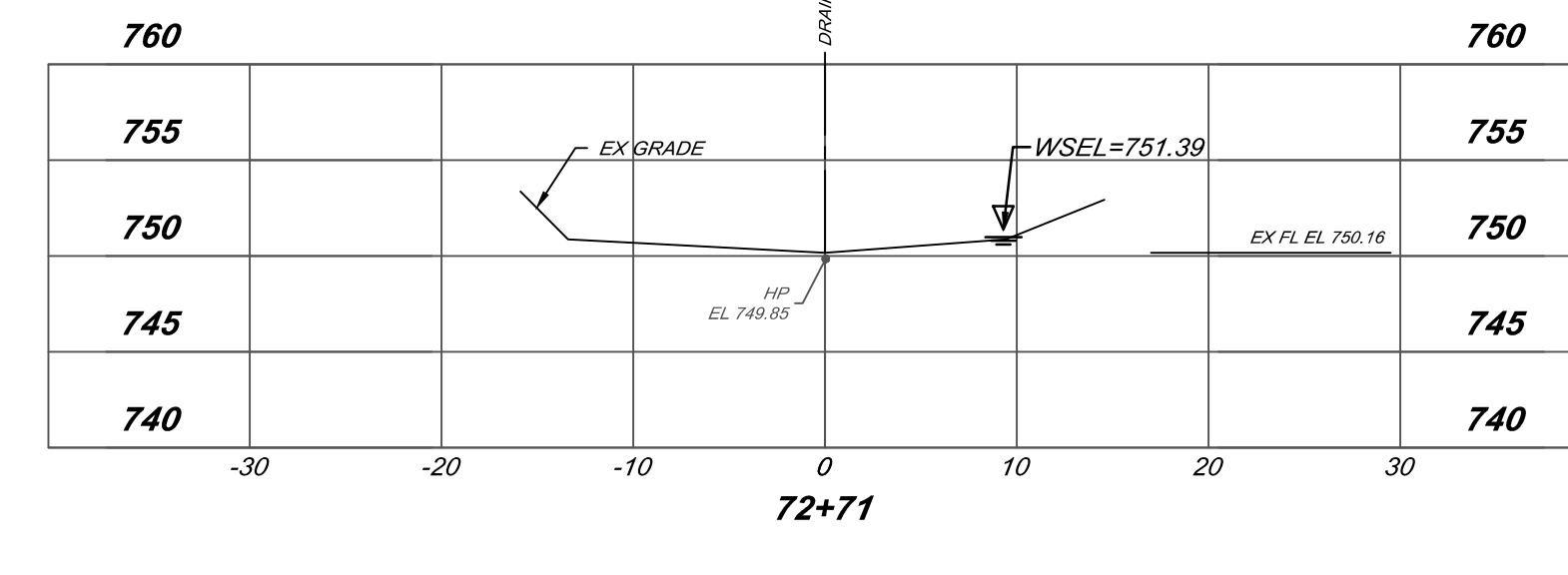
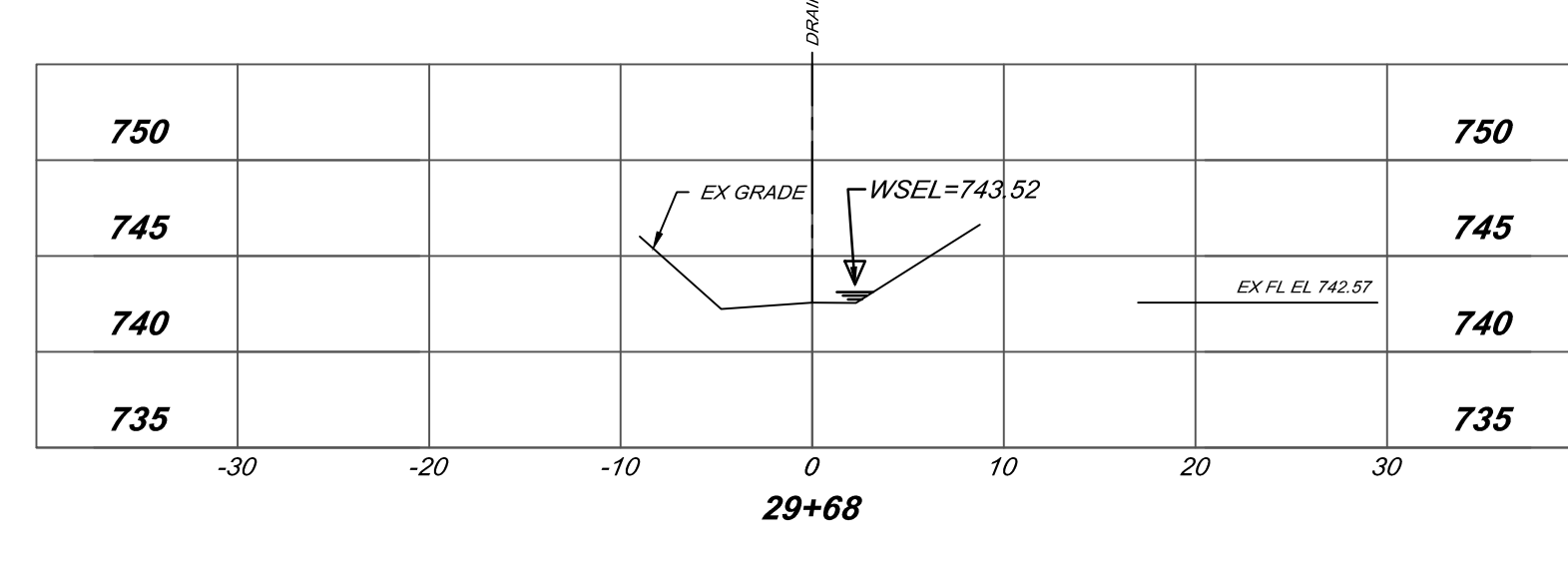
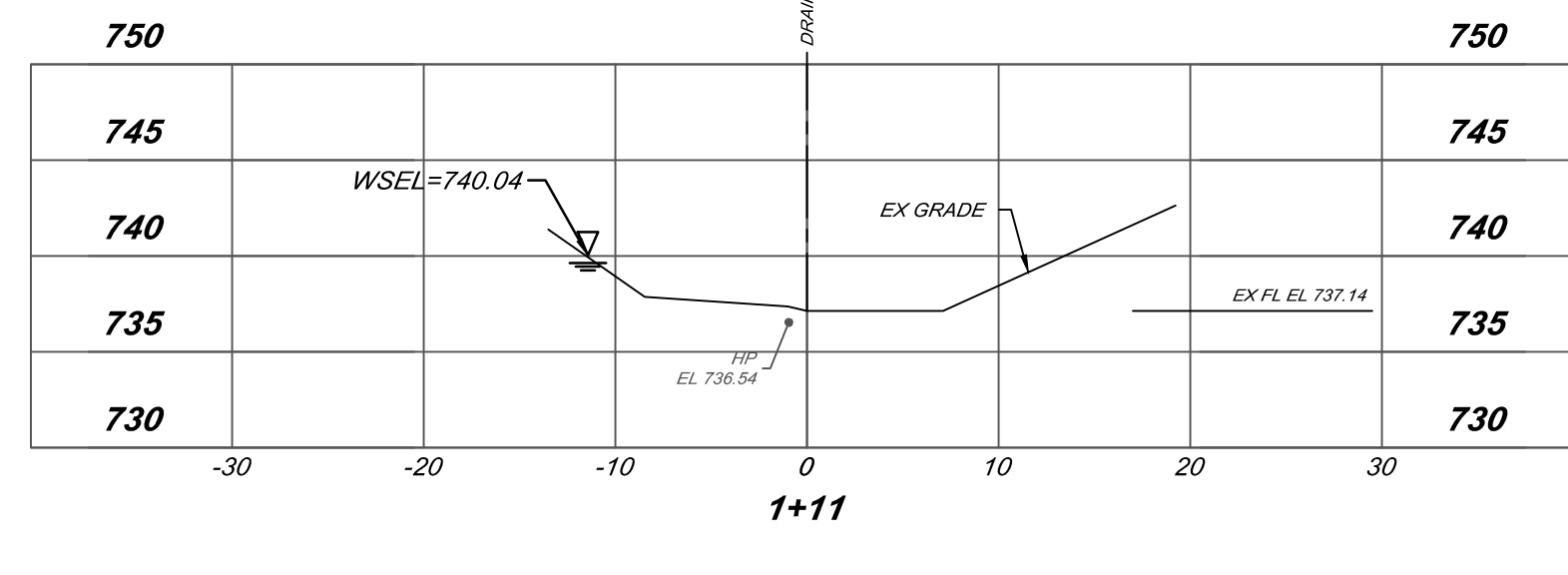
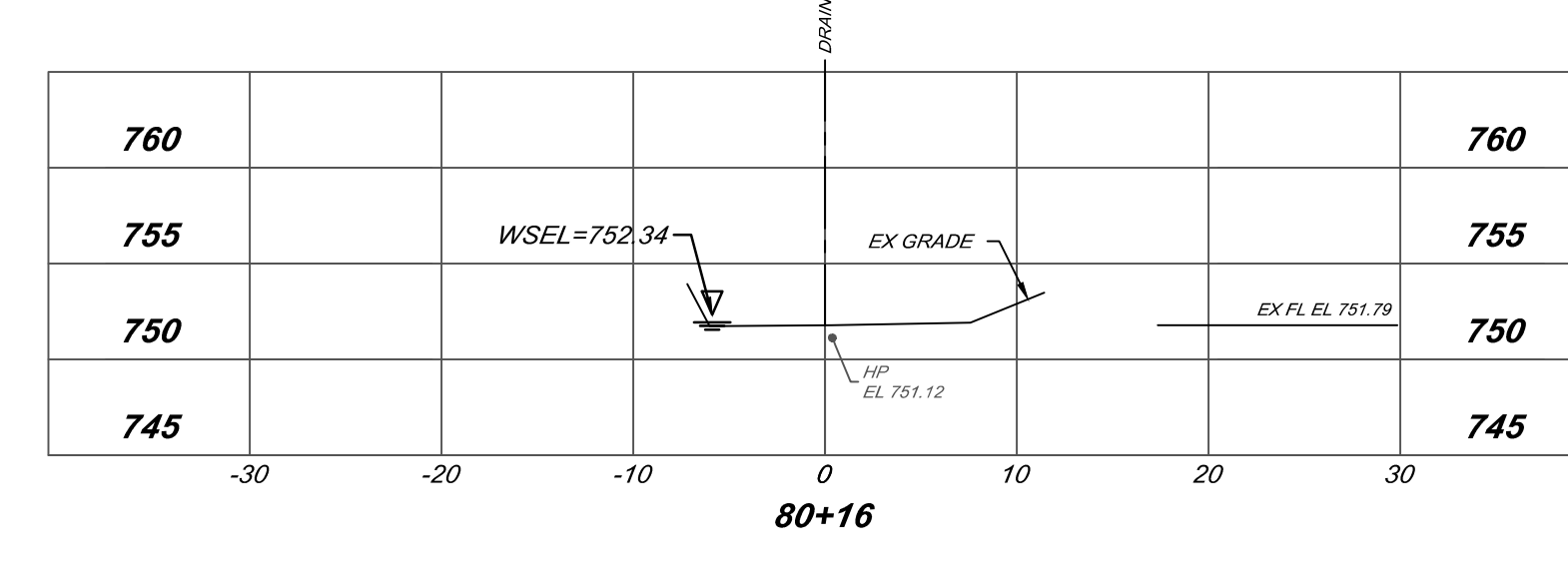
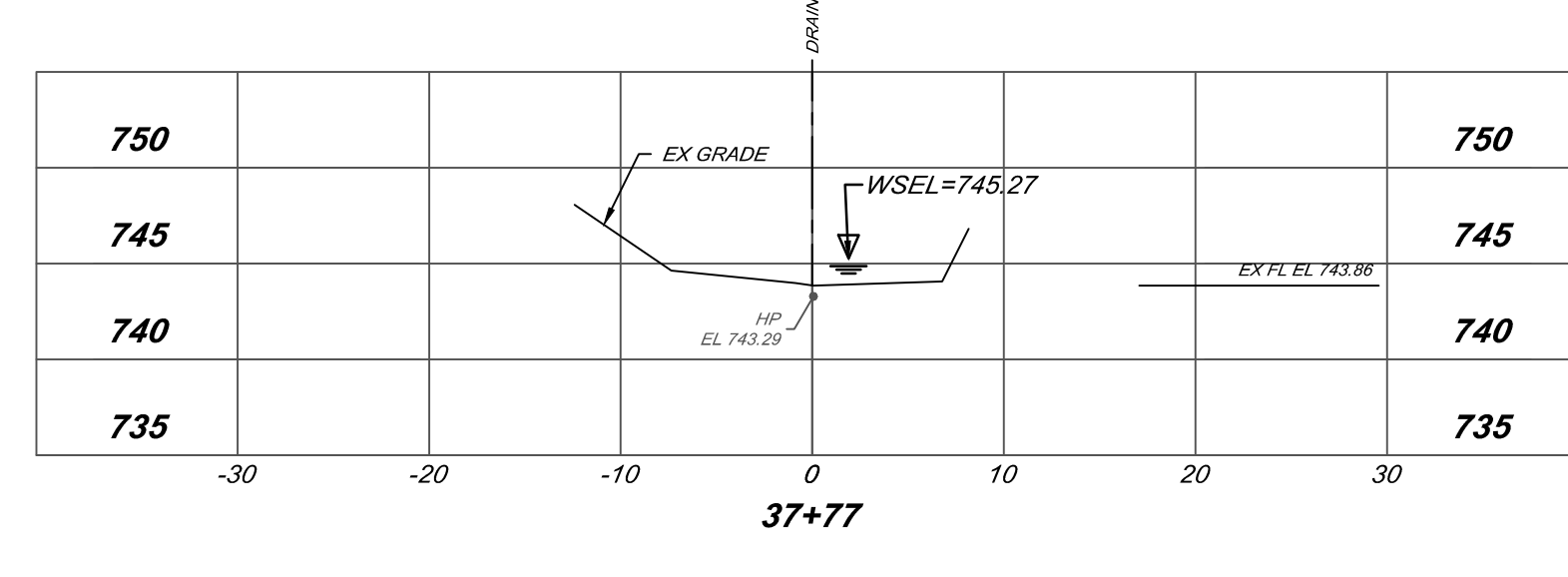
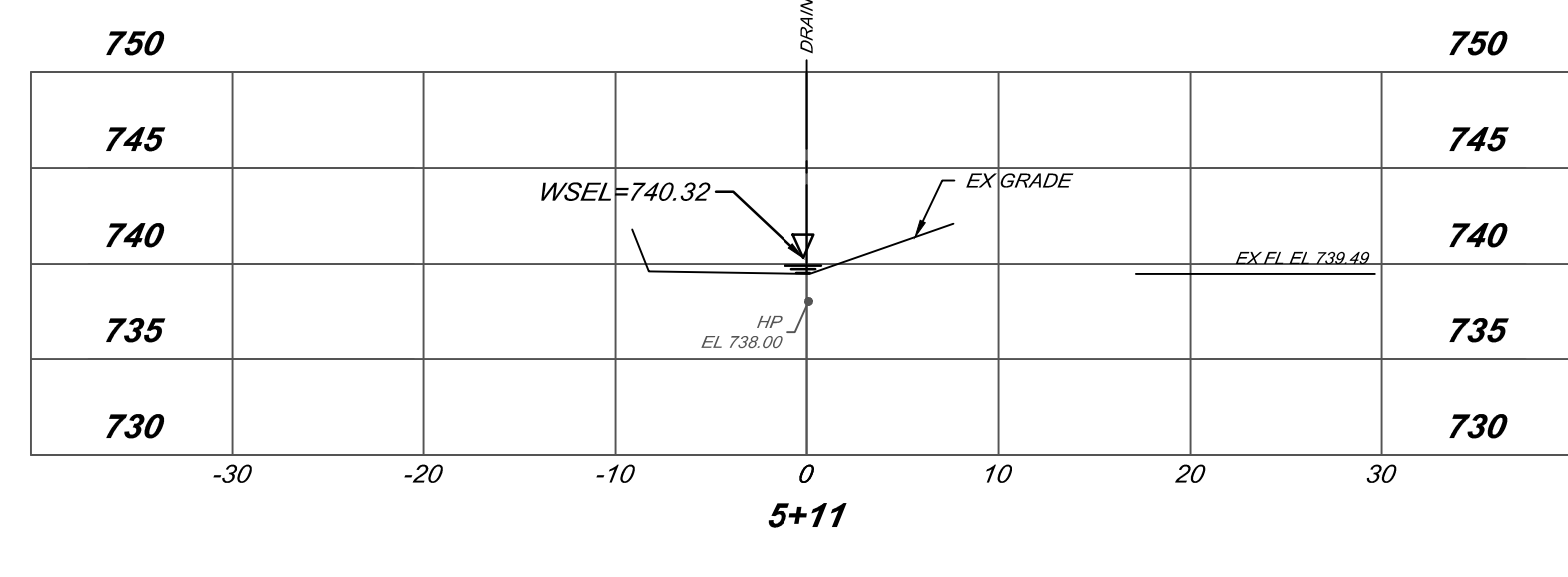
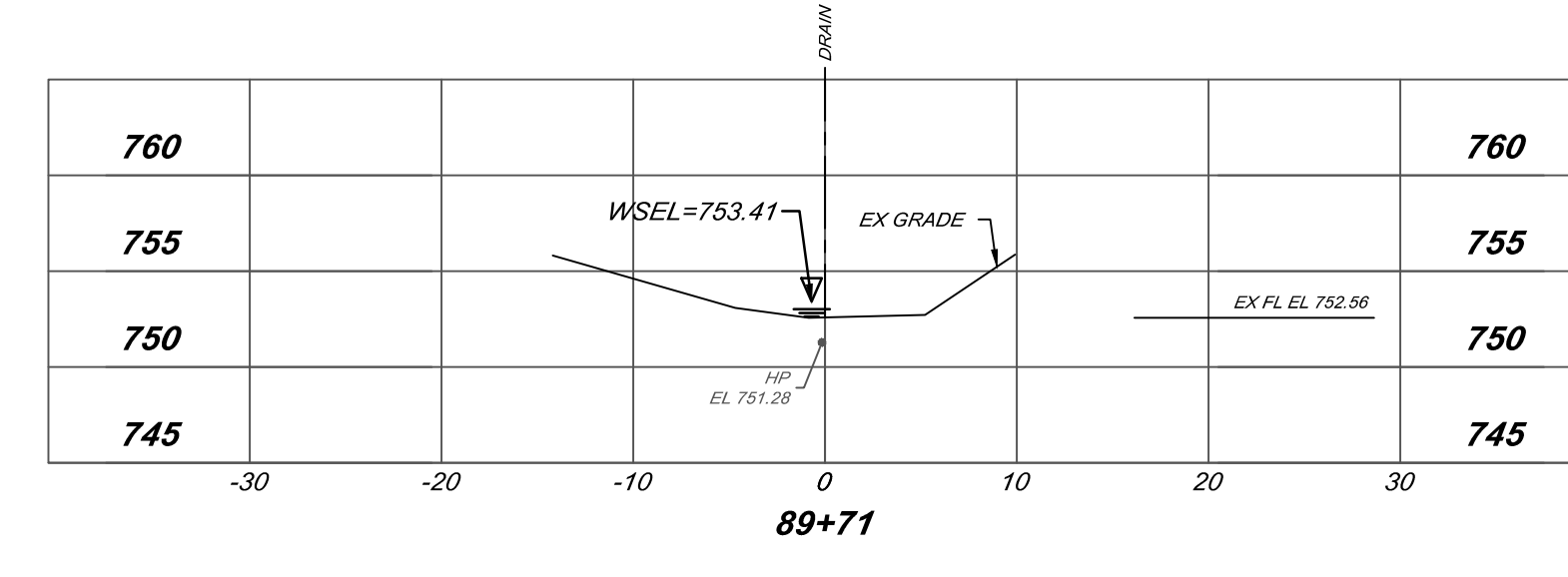
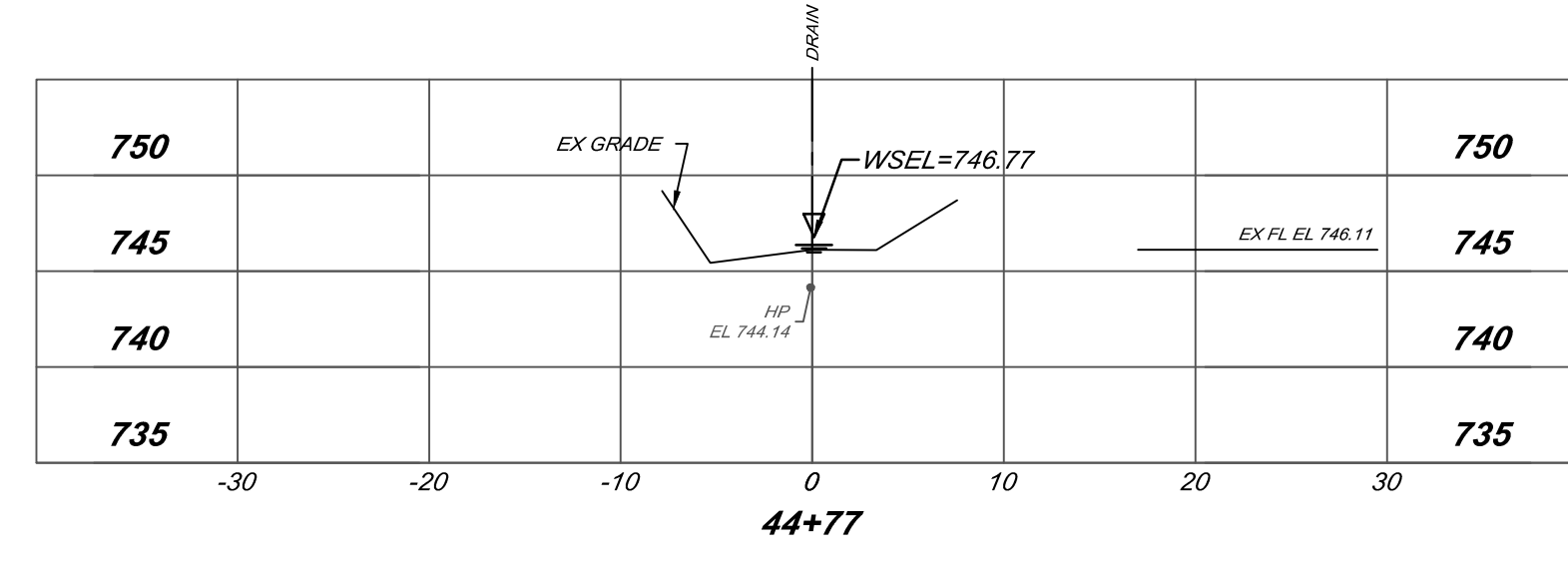
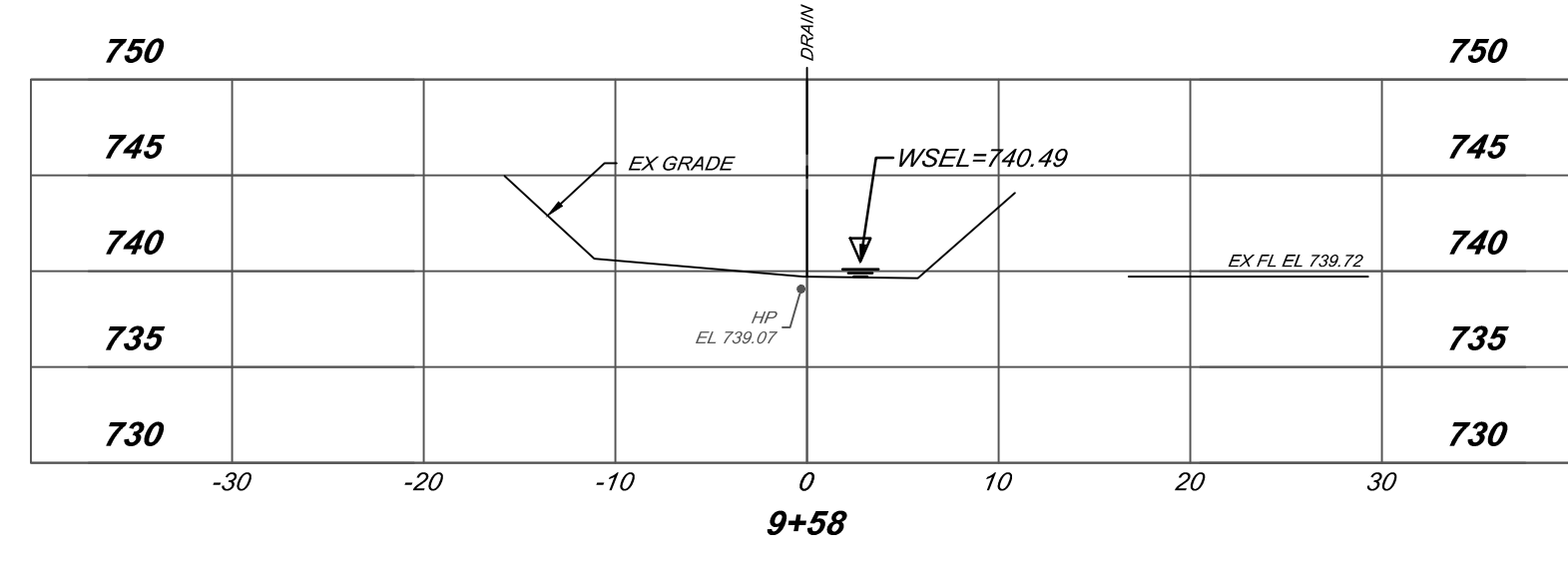
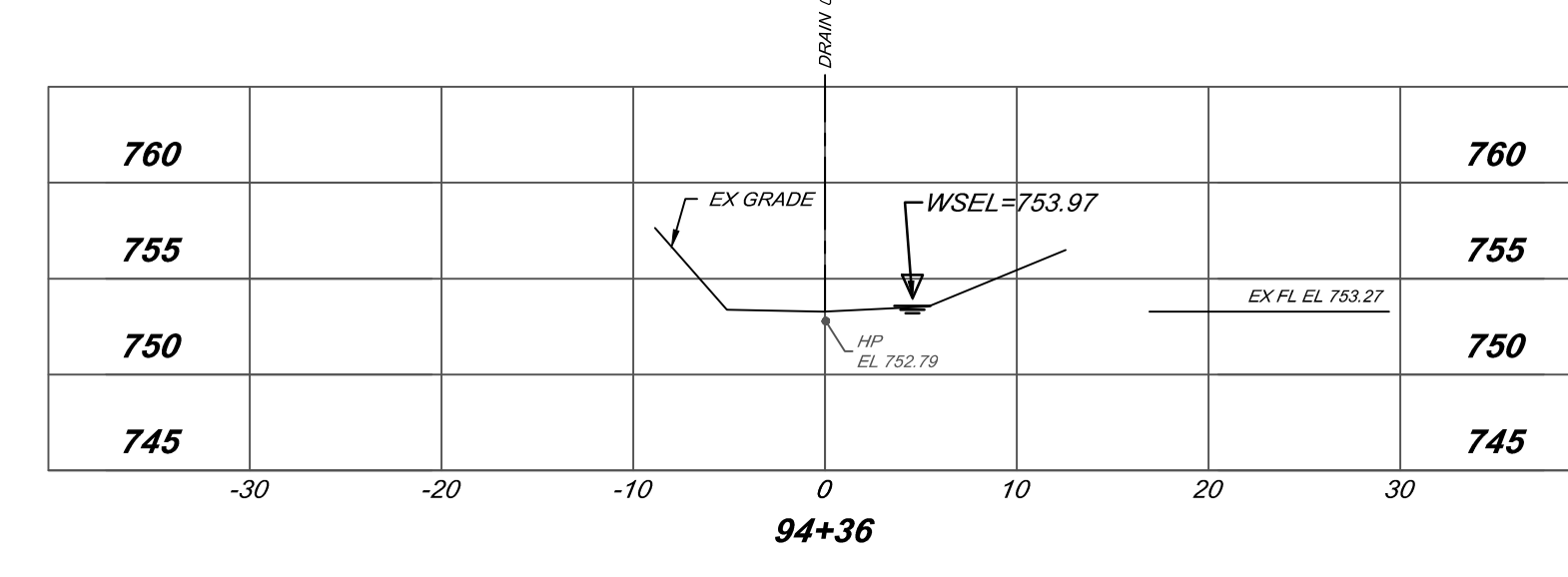
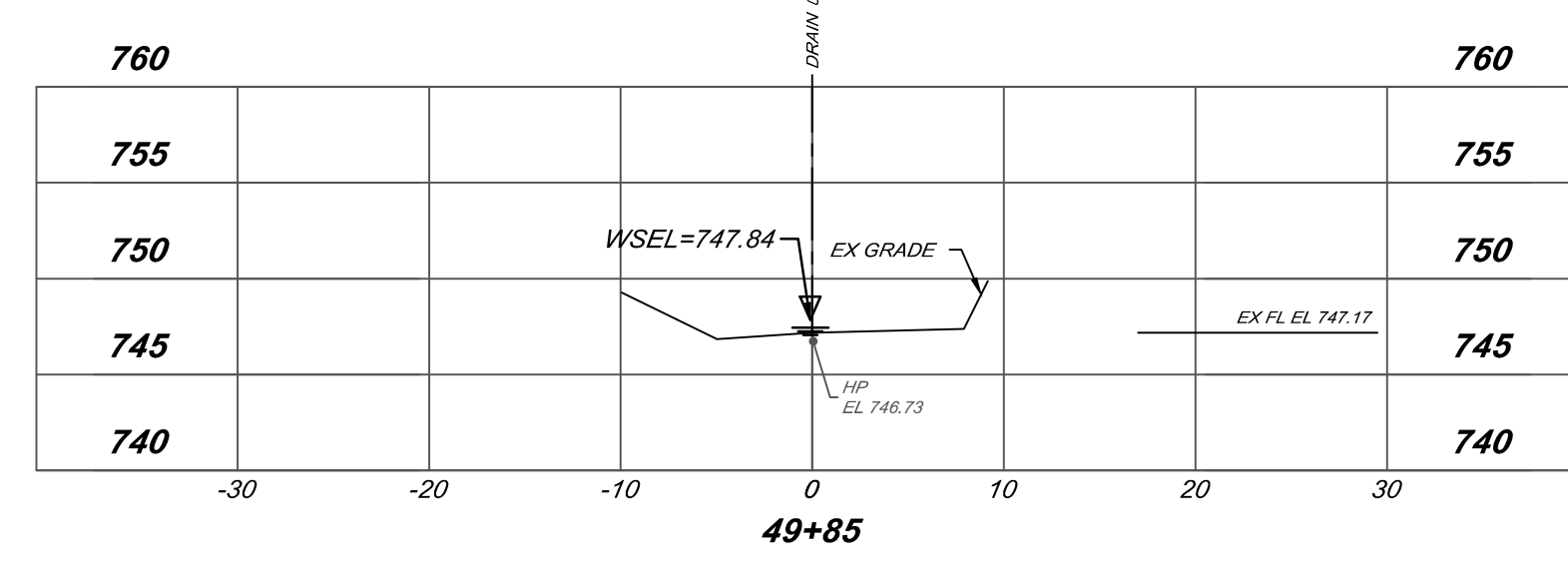
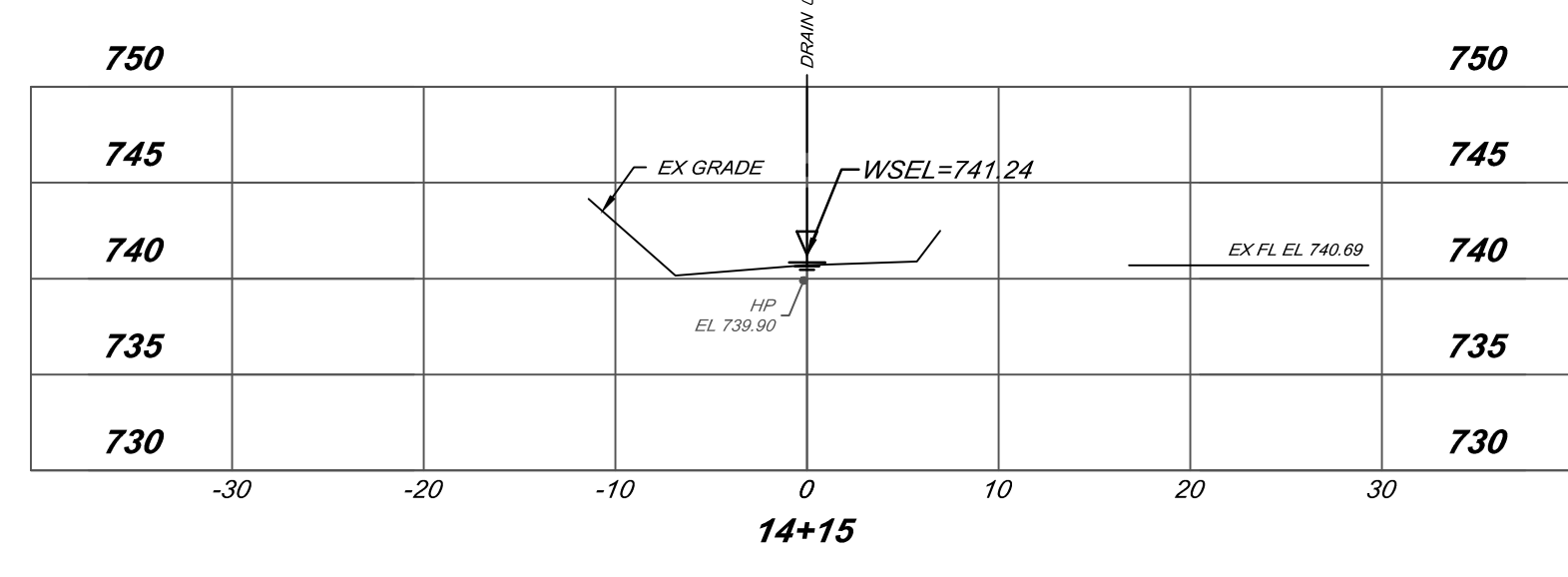
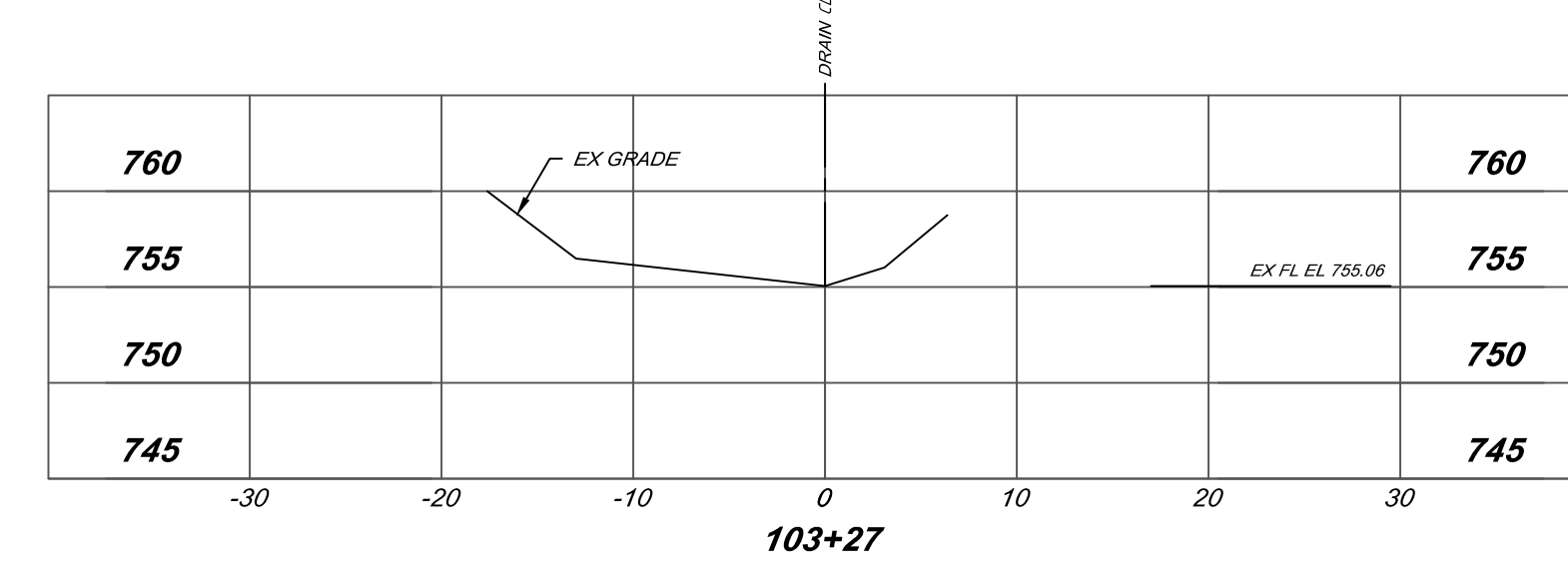
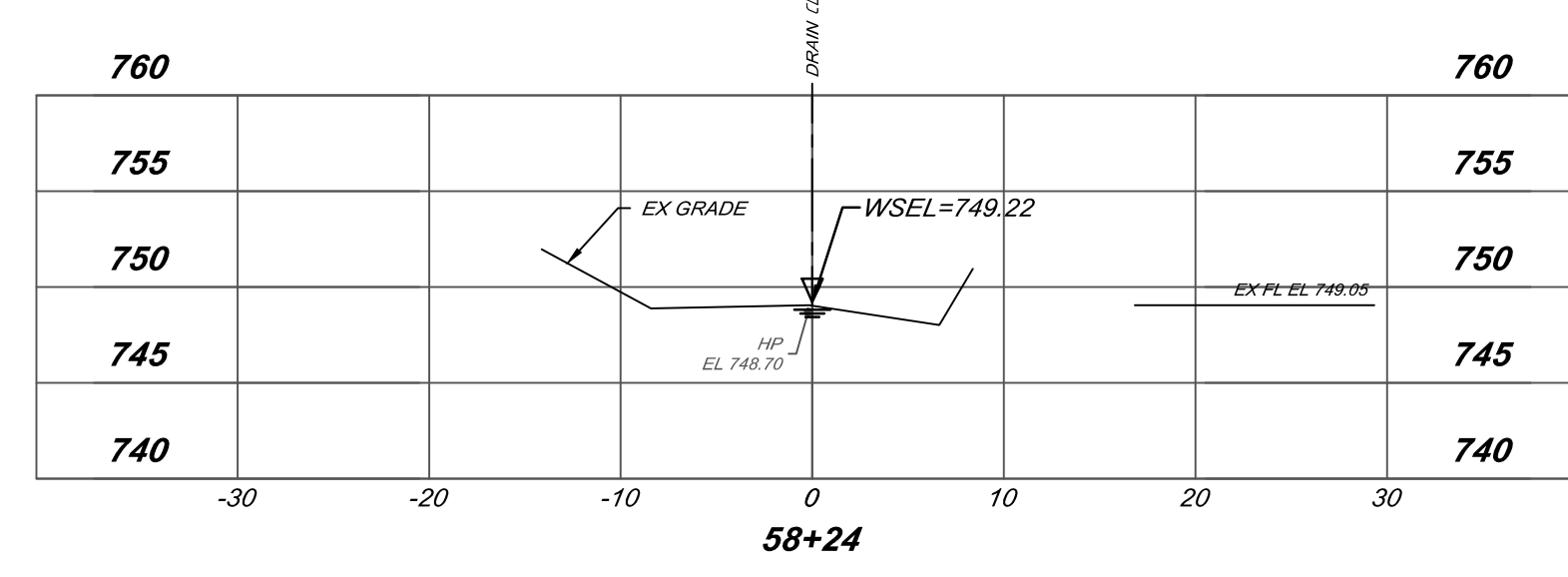
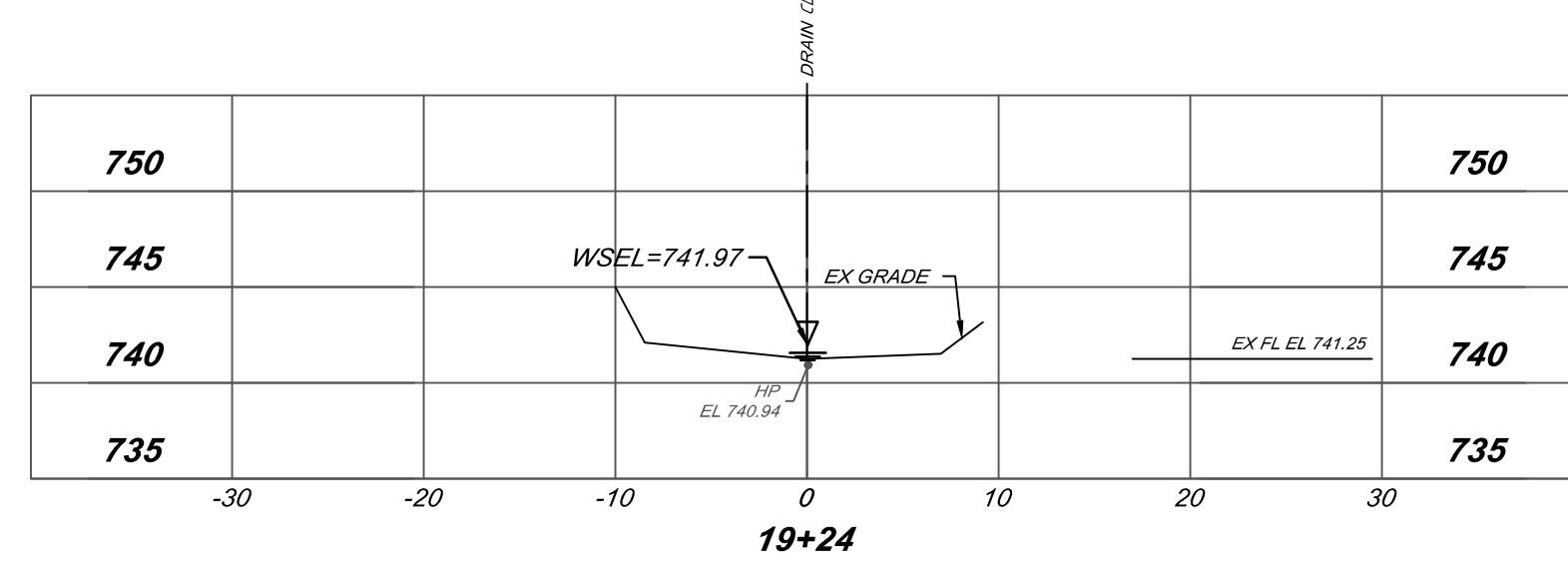
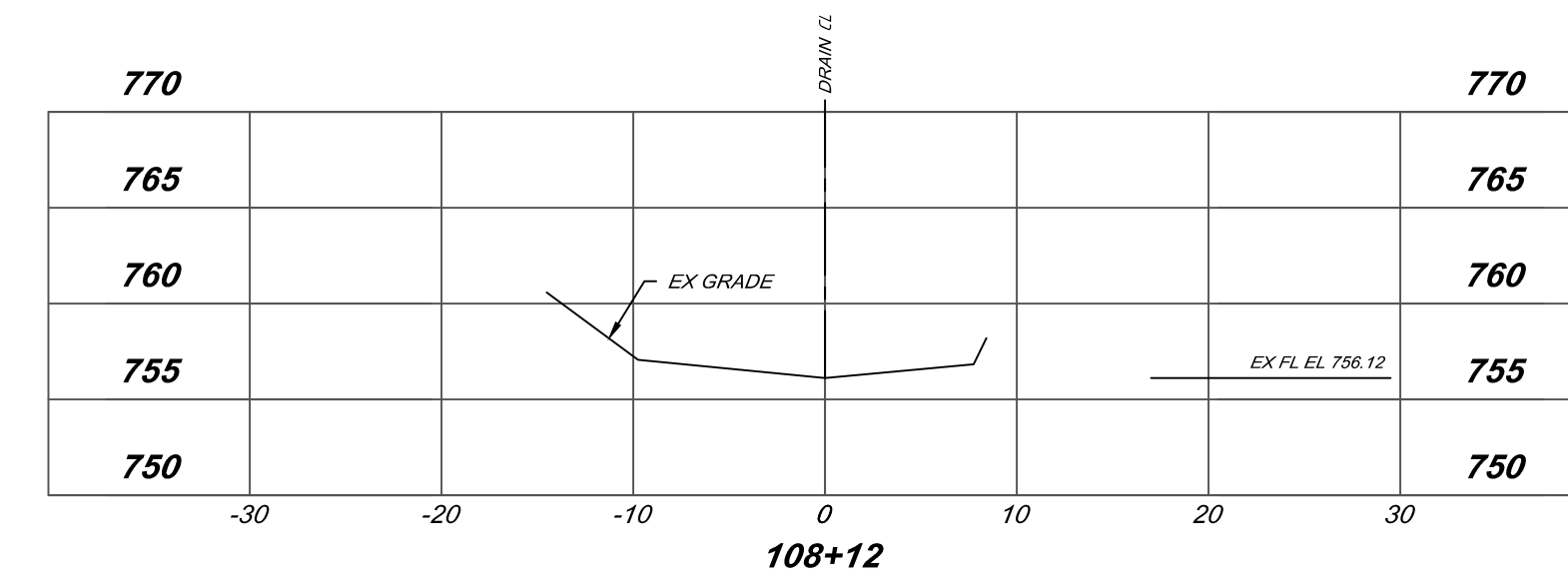
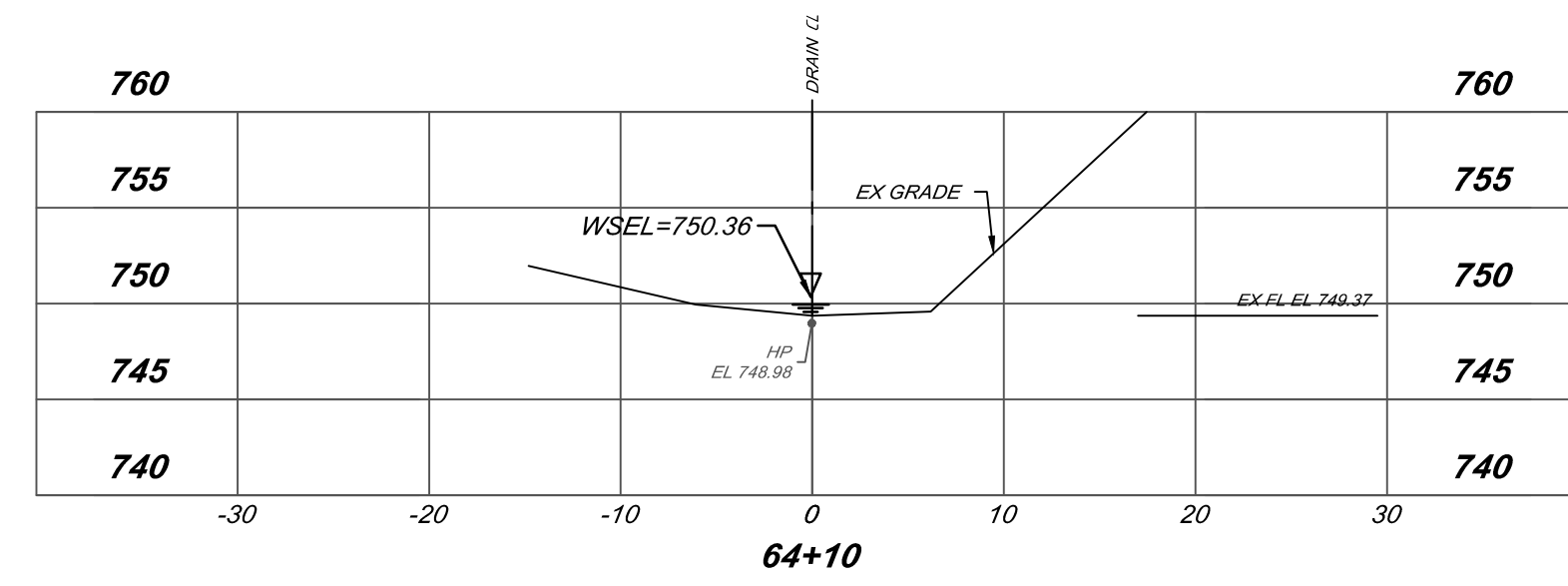
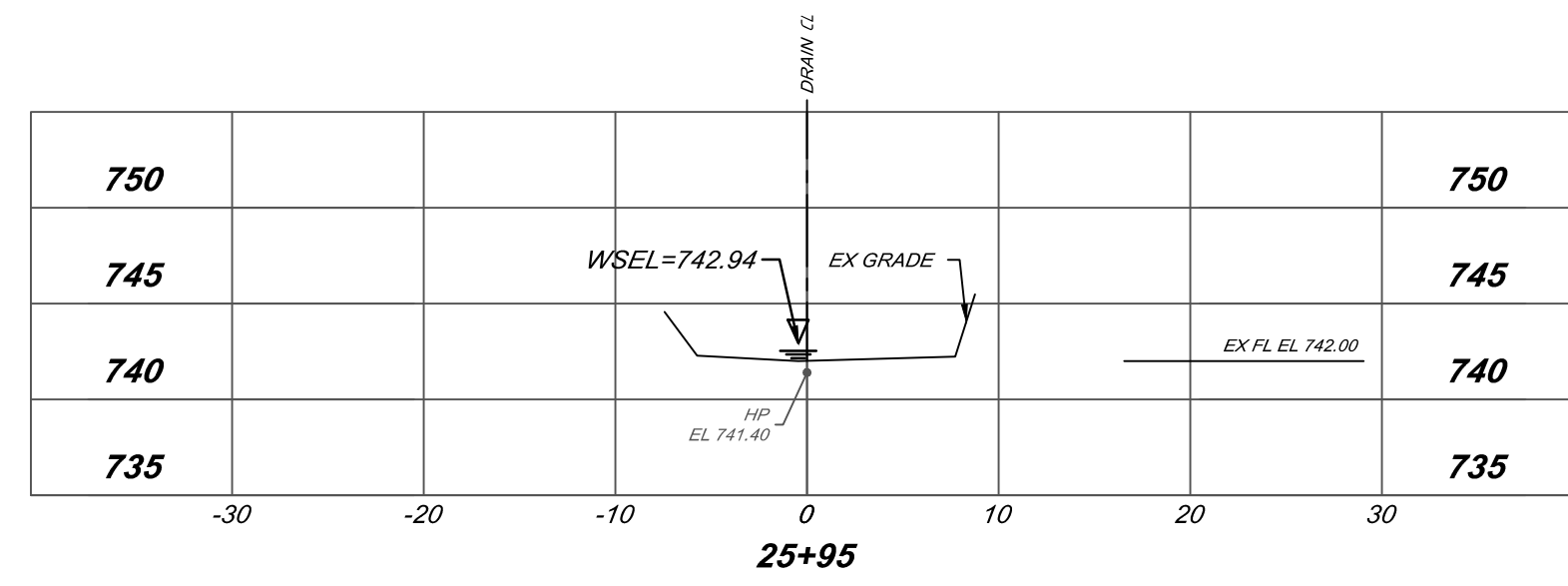
TOTAL EARTH DISTURBANCE:
0.00 ACRES OR LESS.

KENT COUNTY	
SOIL CLASS	SOIL COMPOSITION
2B	OAKVILLE FINE SAND, MODERATELY WET, 0 TO 4 PERCENT SLOPES
4B	PERRIN GRAVELLY LOAMY SAND, 0 TO 4 PERCENT SLOPES
7	COHOCTAH LOAM
15	SLOAN LOAM
30B	SPINKS LOAMY SAND, 0 TO 6 PERCENT SLOPES
43	GRANBY LOAMY FINE SAND, 0 TO 2 PERCENT SLOPES
46B	ITHACA LOAM, 1 TO 6 PERCENT SLOPES
47	PEWAMO LOAM
84B	DIXBORO LOAMY FINE SAND, 0 TO 4 PERCENT SLOPES
EdwacA	EDWARDS MUCK, LAKE MODERATED, 0 TO 1 PERCENT SLOPES
HgtacA	HOUGHTON MUCK, LAKE MODERATED, 0 TO 1 PERCENT SLOPES

MMS	BIO SET	05/30/2024
BY	MARK	REVISIONS
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REXFORD LAKE INTERCOUNTY DRAIN KENT, MUSKOGON & OTTAWA COUNTIES, MICHIGAN		
PLAN AND PROFILE BRANCH 1 & BRANCH 2 STA 0+00 TO STA 13+43 STA 0+00 TO STA 3+70		
 BYRON CENTER OFFICE 2464 Byron Station Drive, SW Suite C Byron Center, MI 49315 Tel: (616) 458-8580 www.SpicerGroup.com		
DE. BY: MMS	CH. BY: MMS	PROJECT NO. 135614SG2023
DR. BY: MMS	APP. BY: PLF	
STDS.	SHEET 11 OF 15	DR
DATE: MAY, 2024	FILE NO. DR-4695-11	11
SCALE: H: 1"=200' V: 1"=10'		

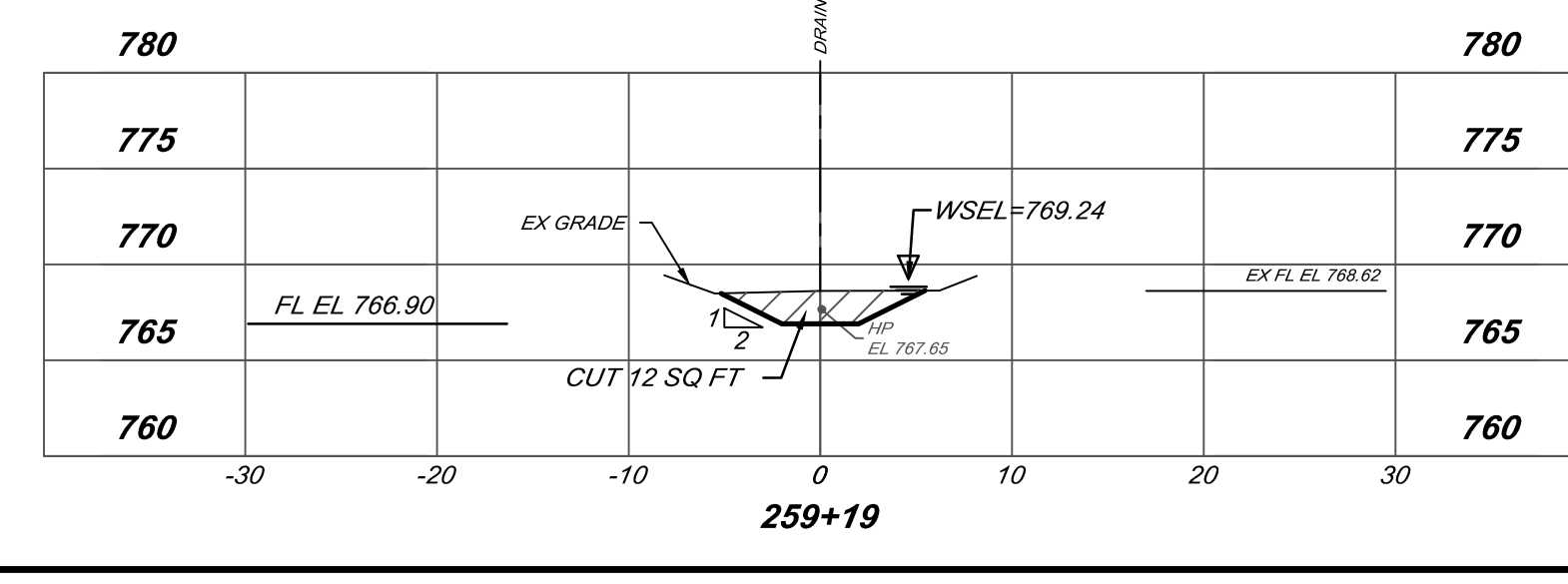
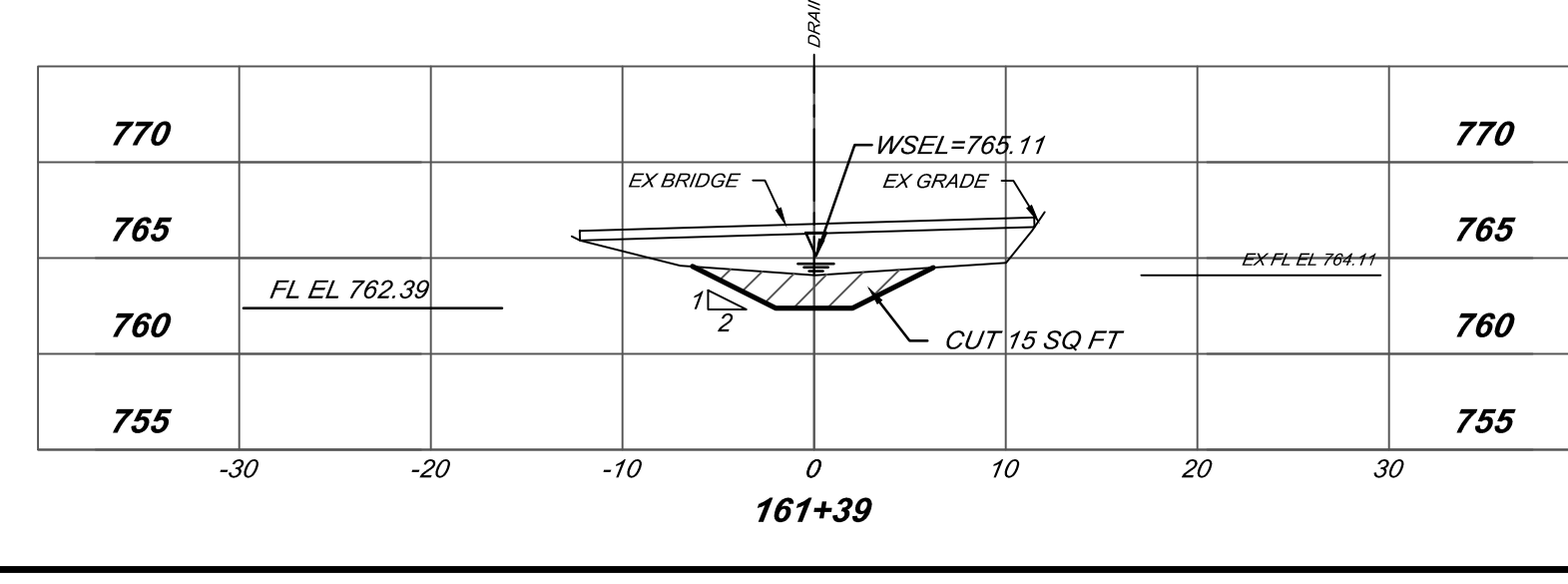
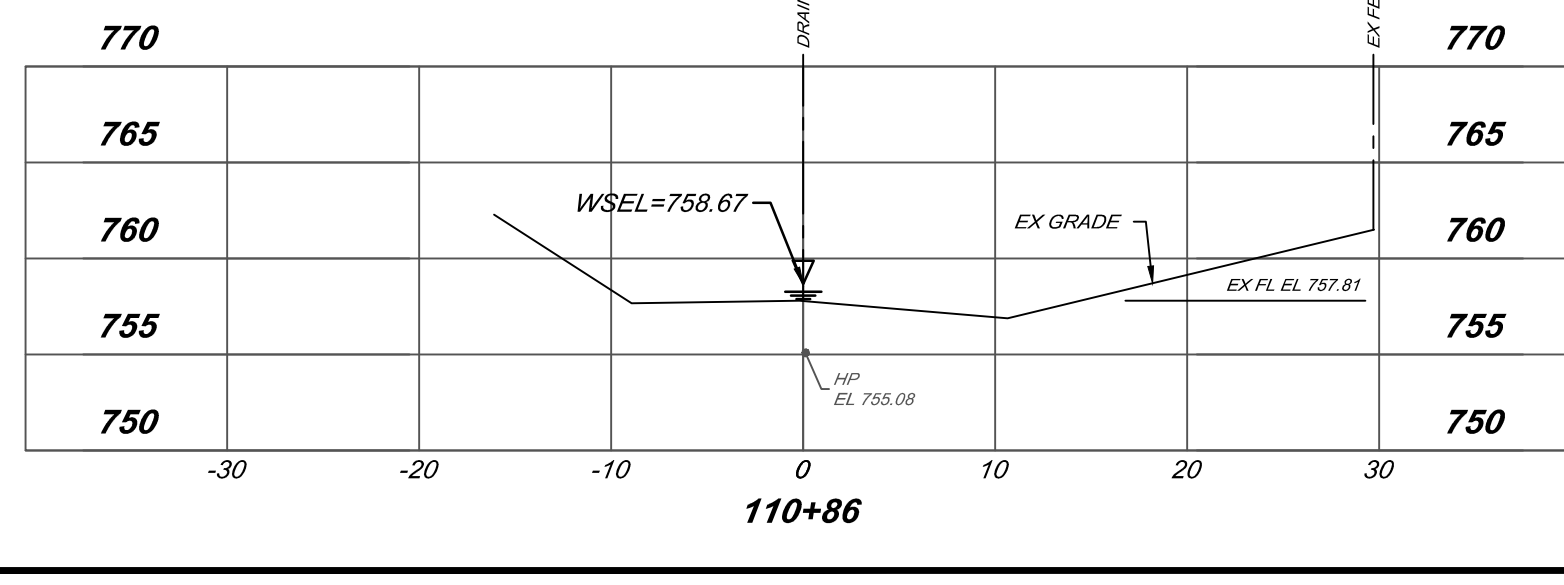
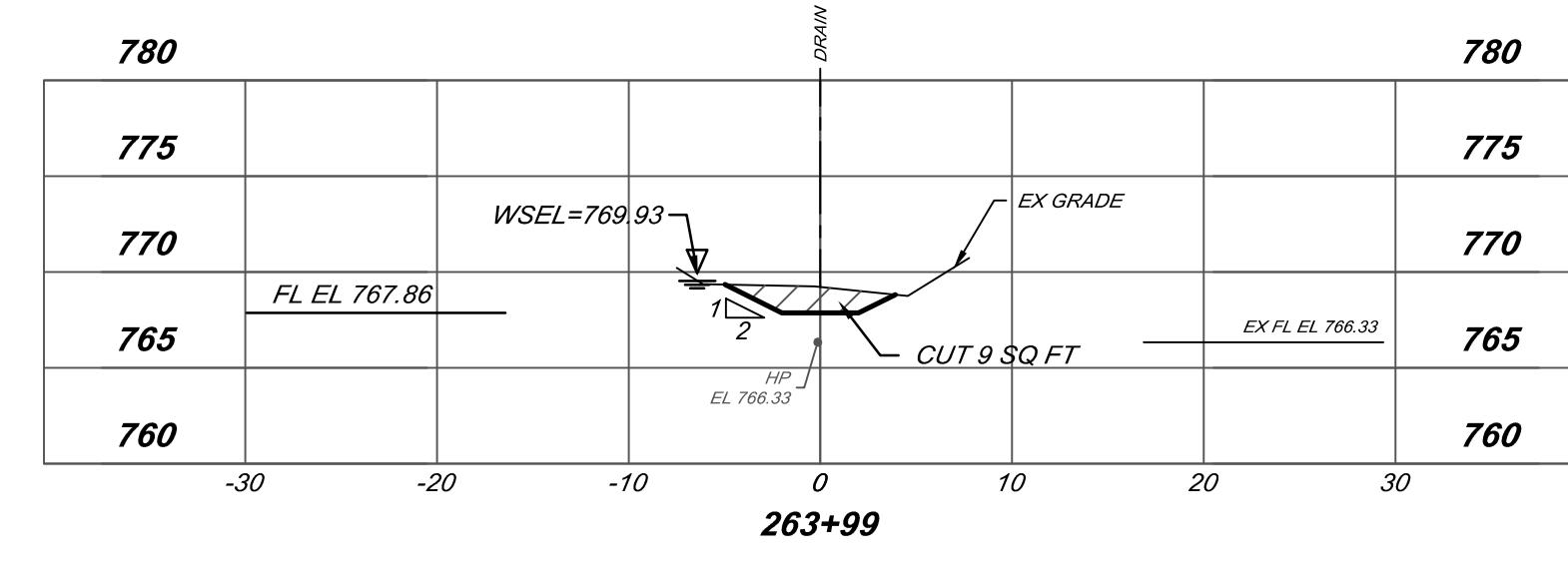
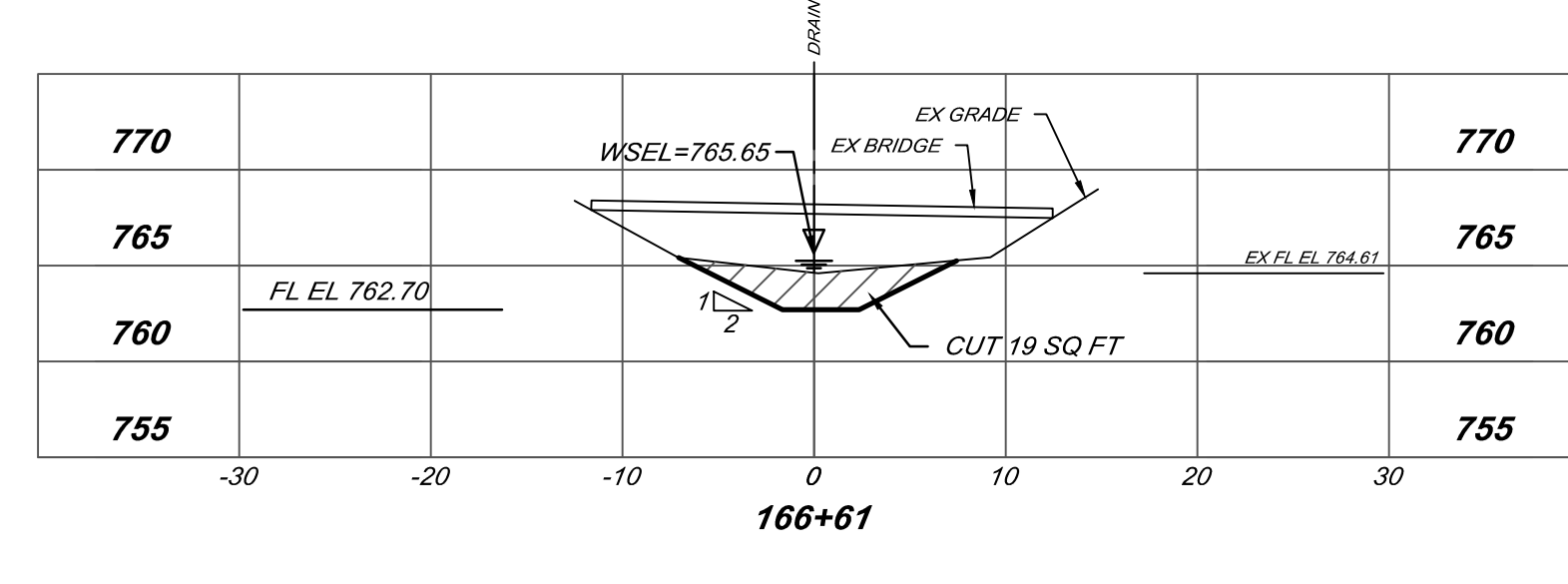
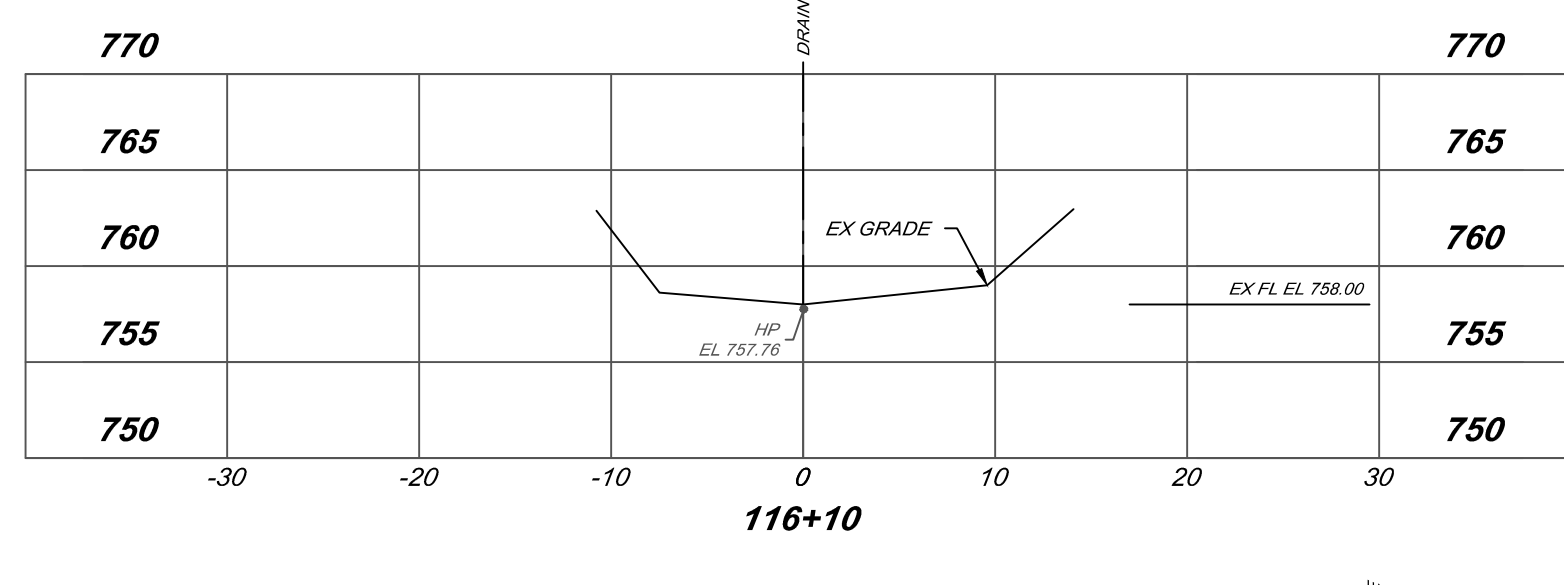
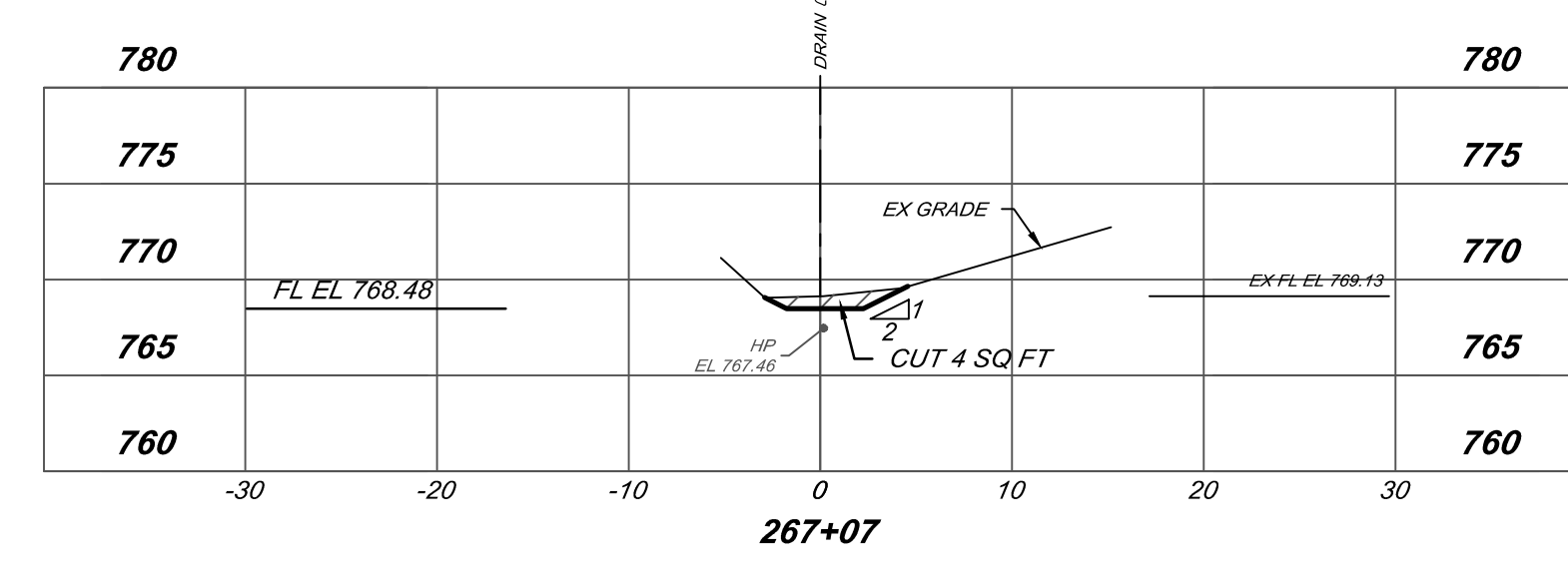
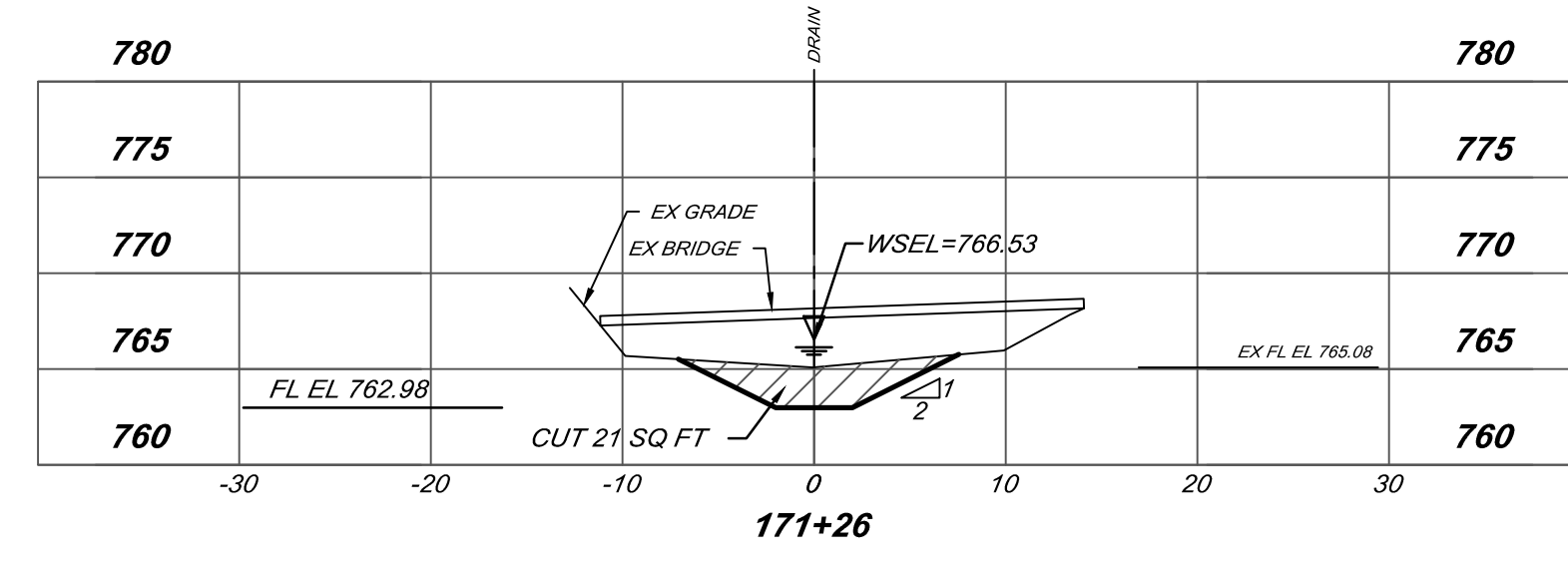
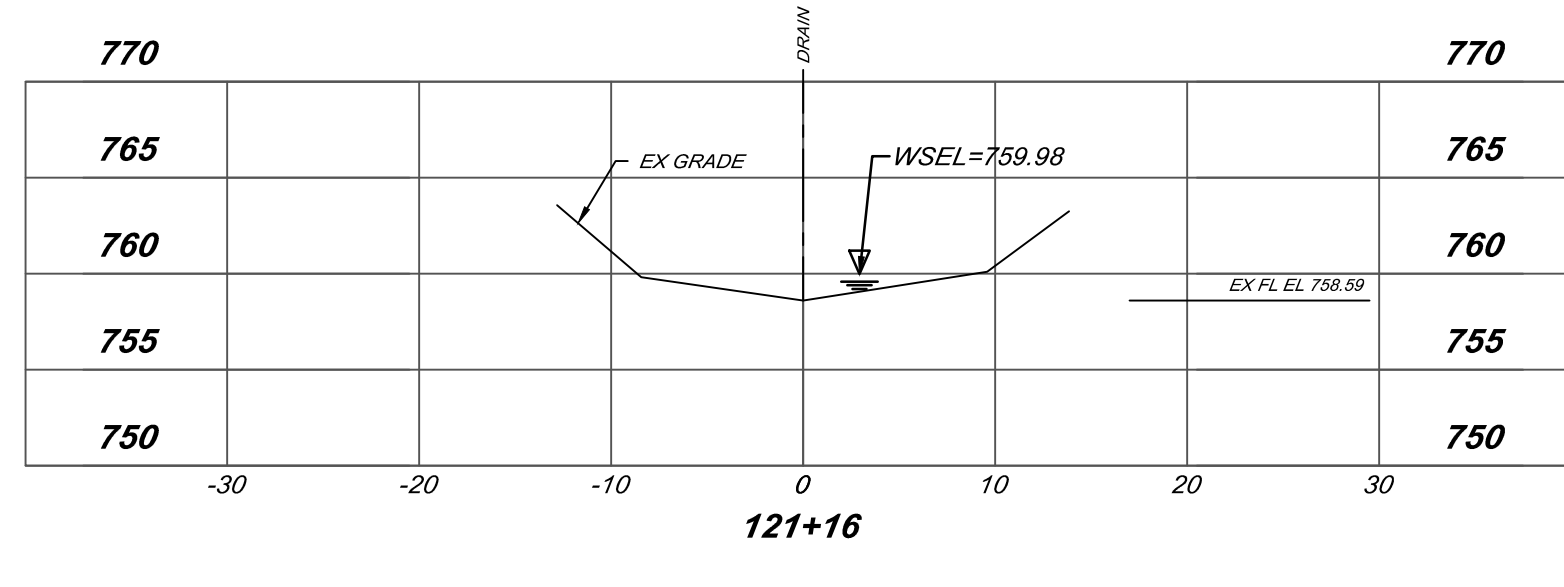
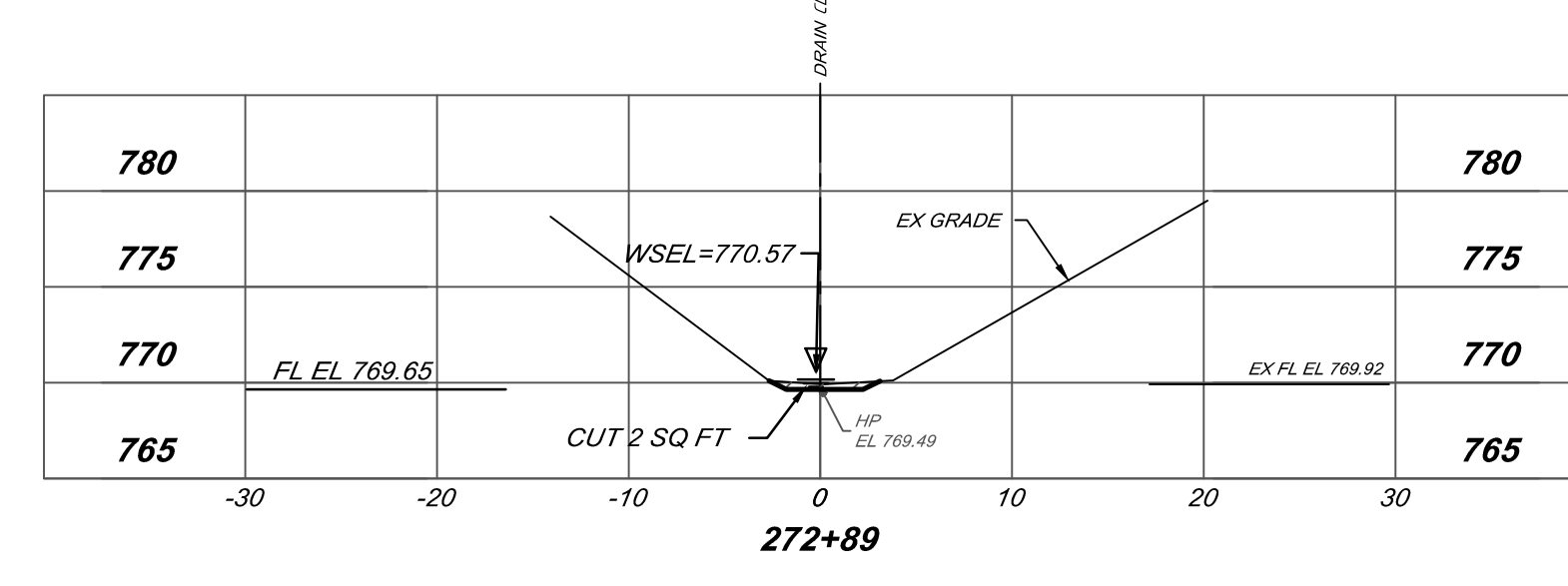
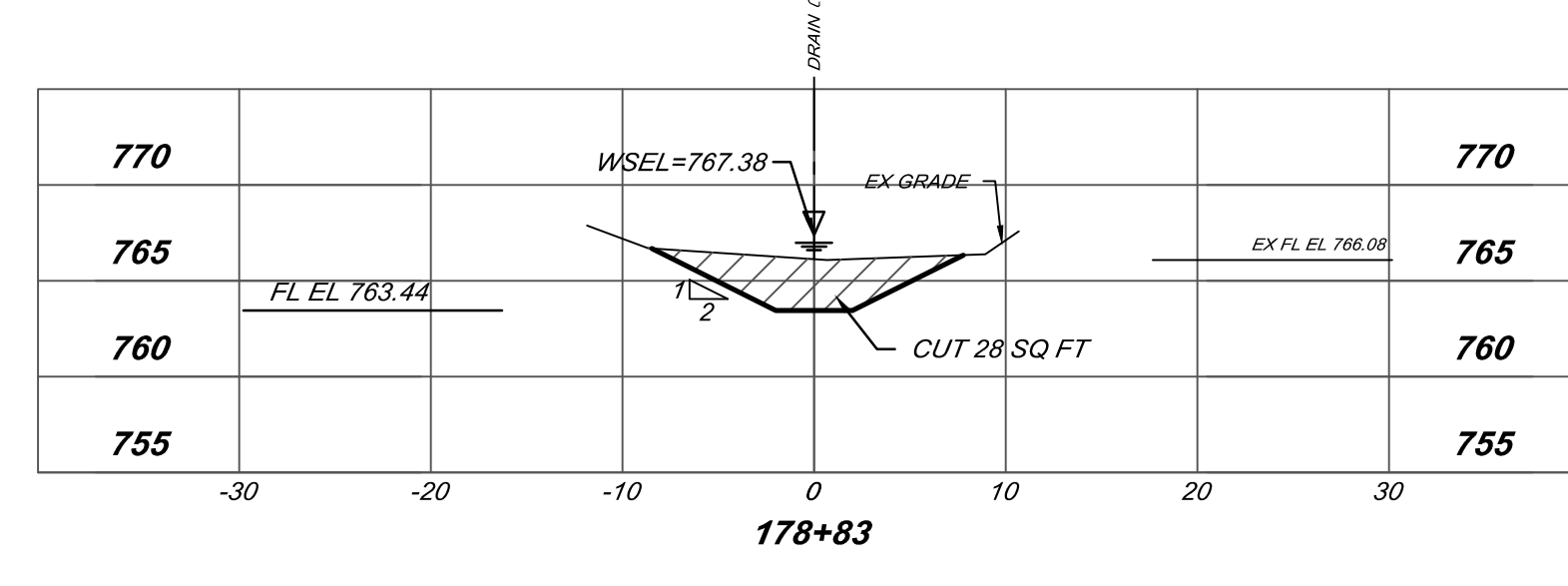
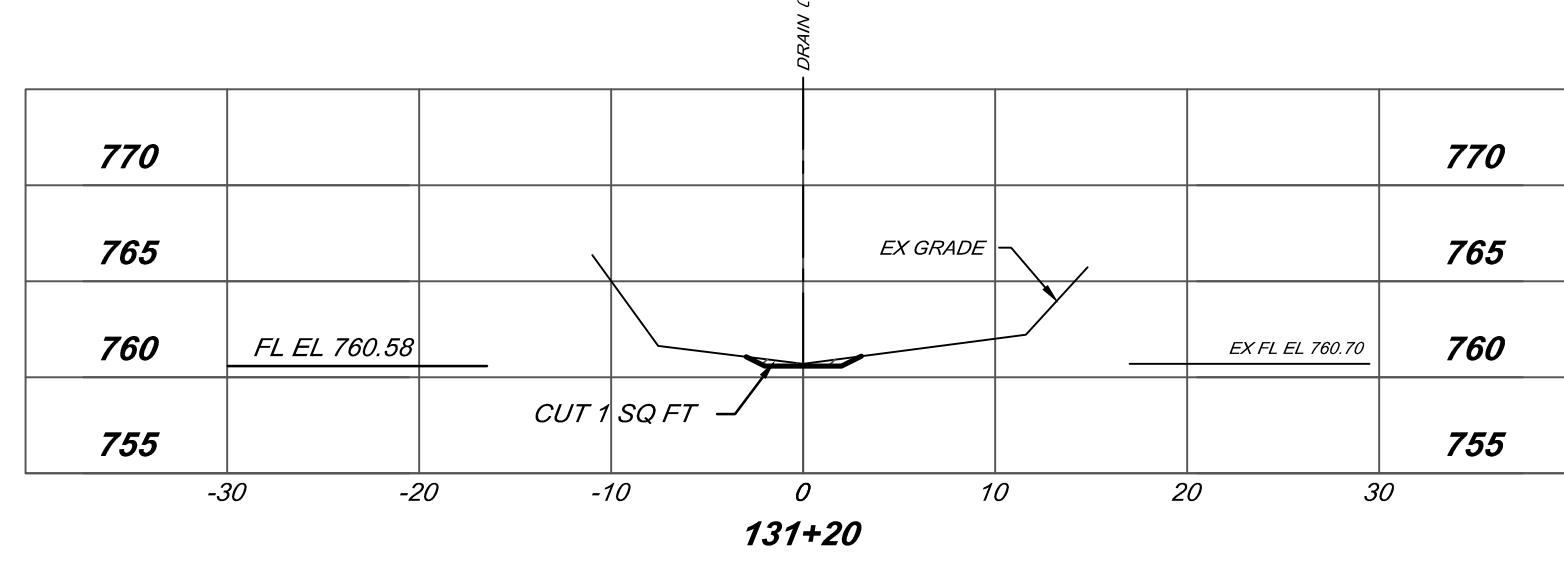
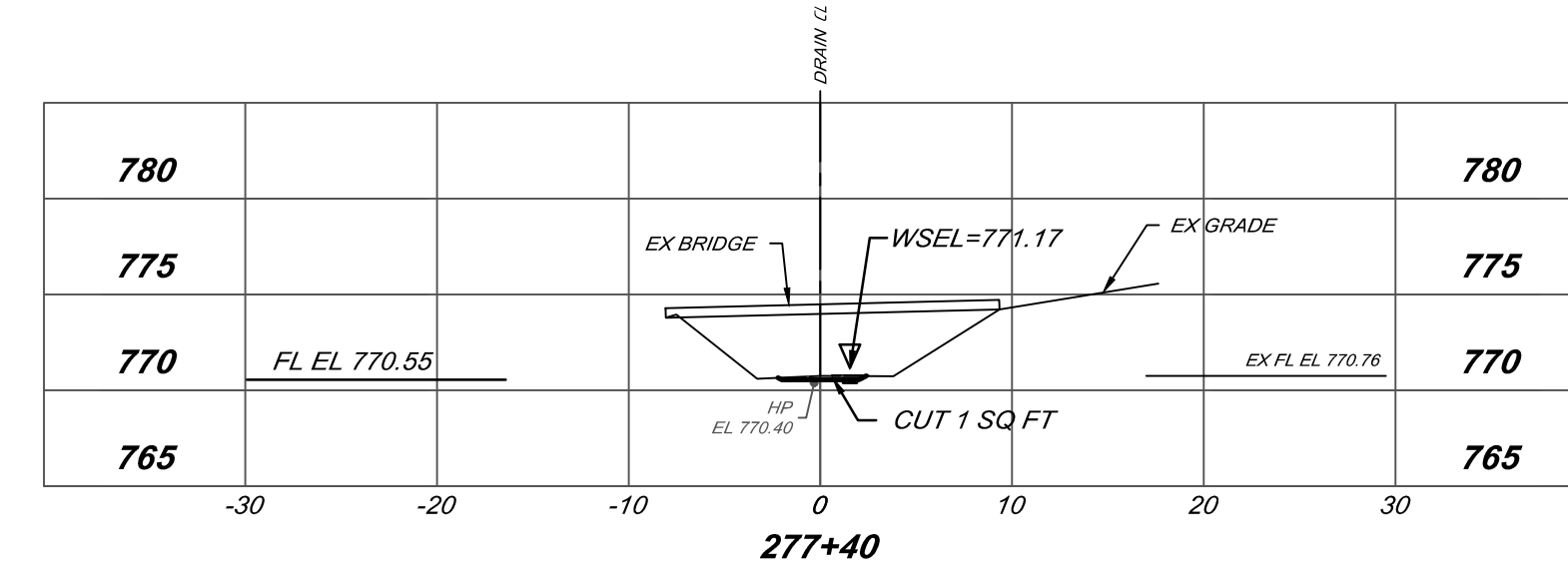
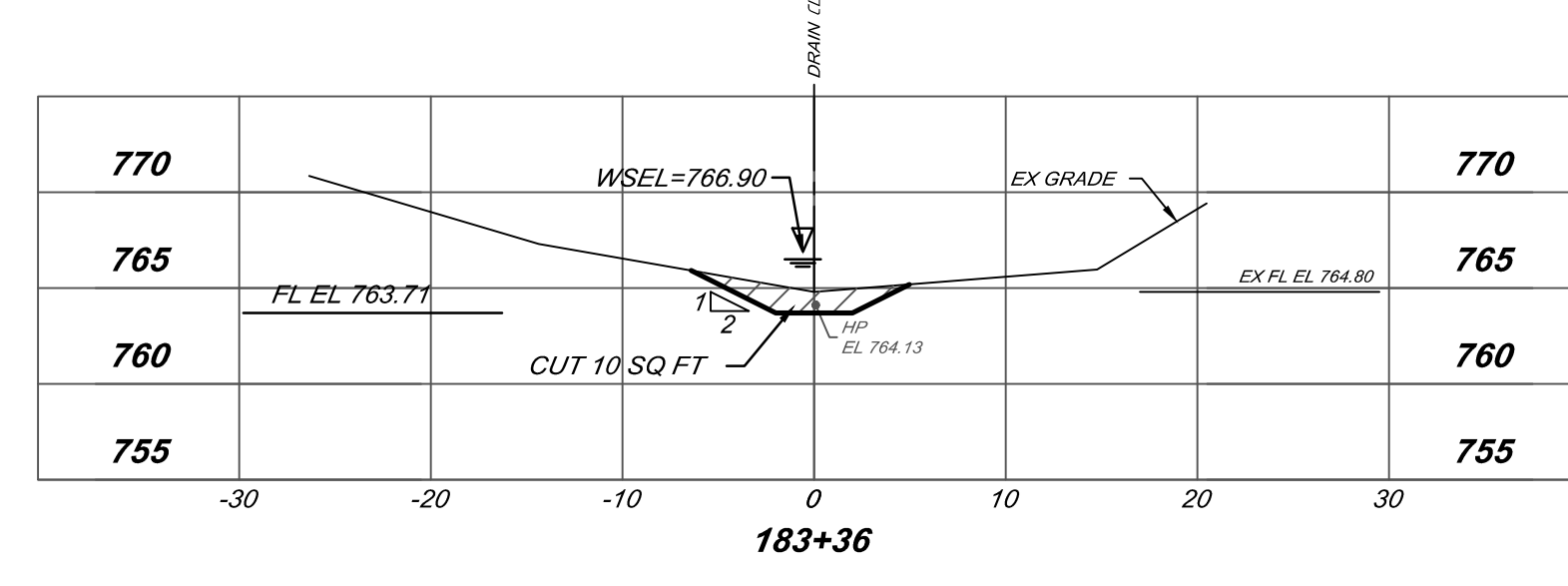
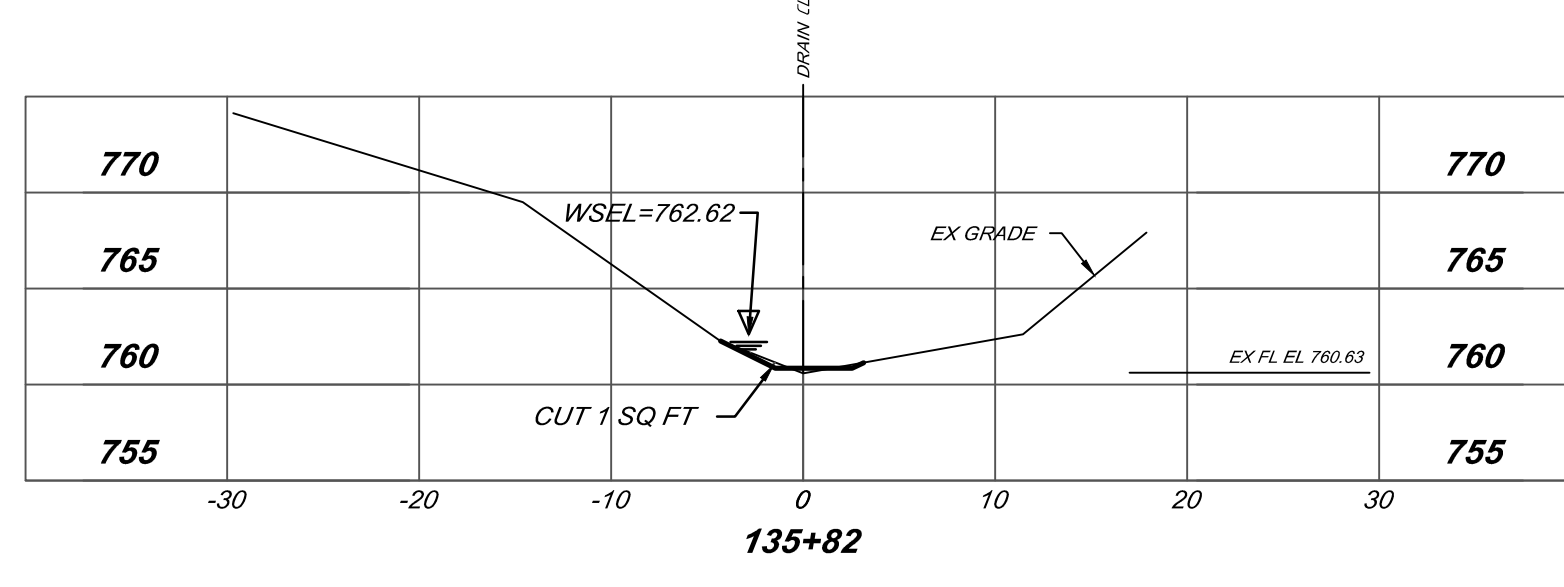
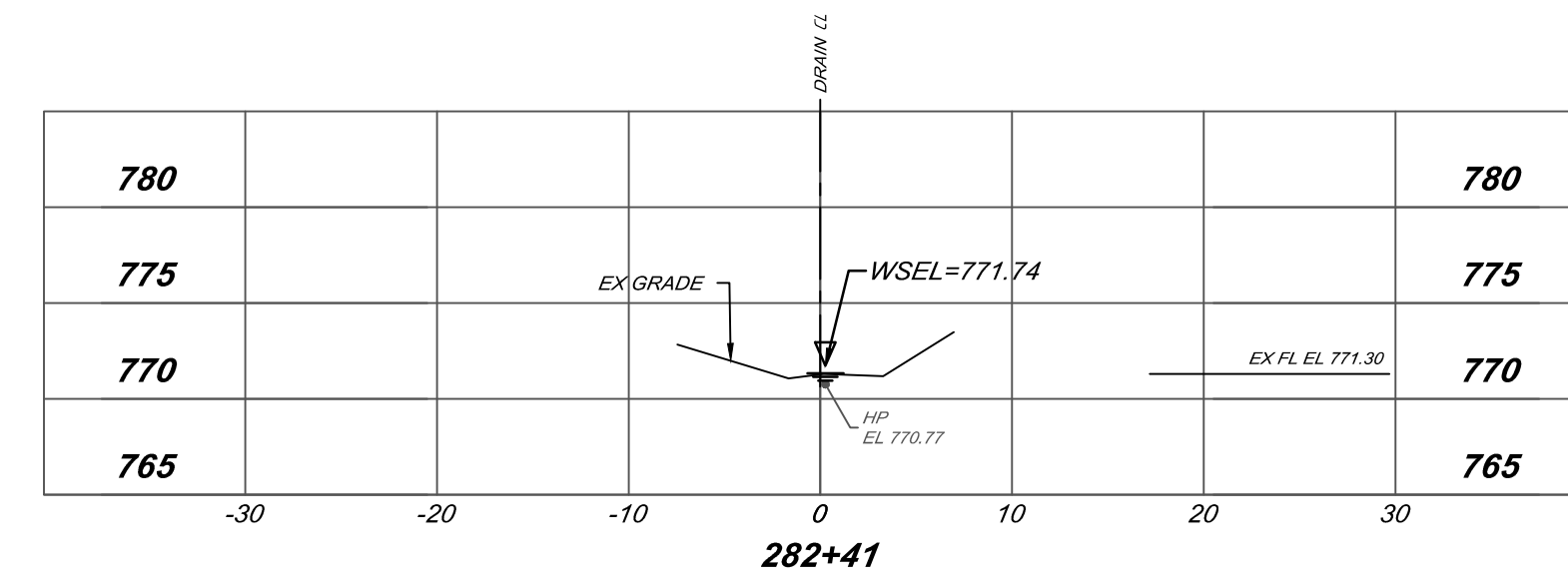
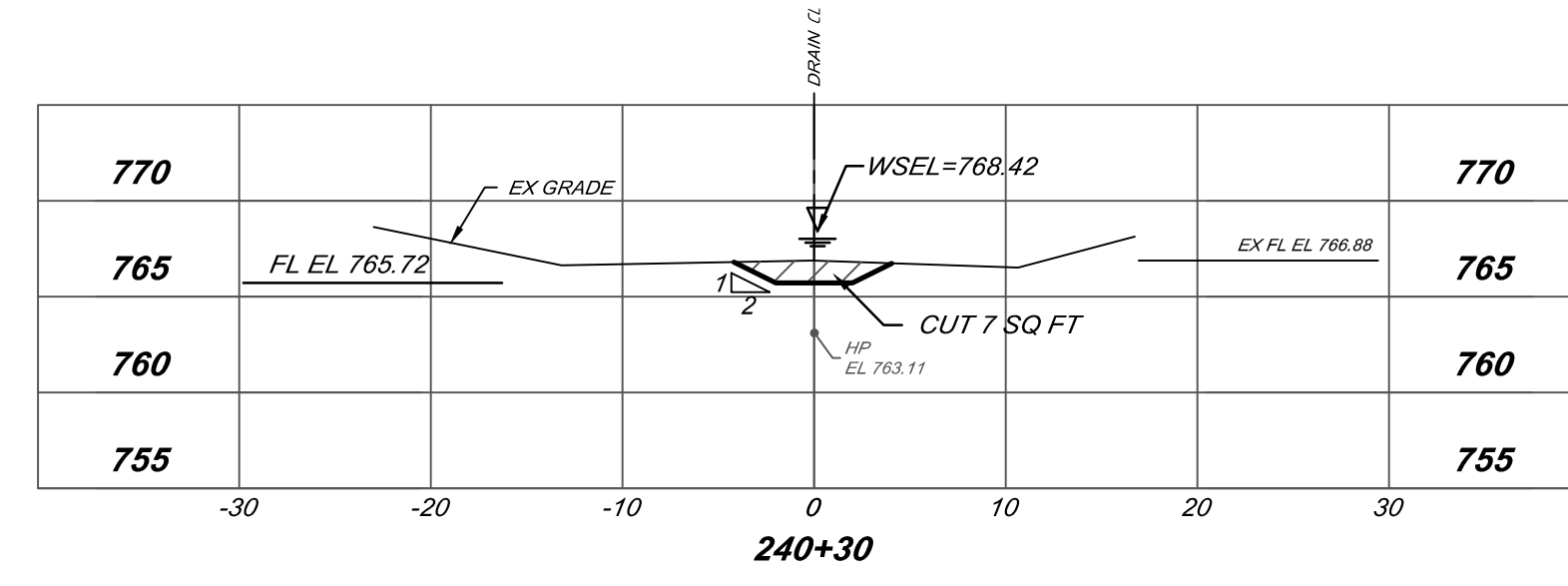
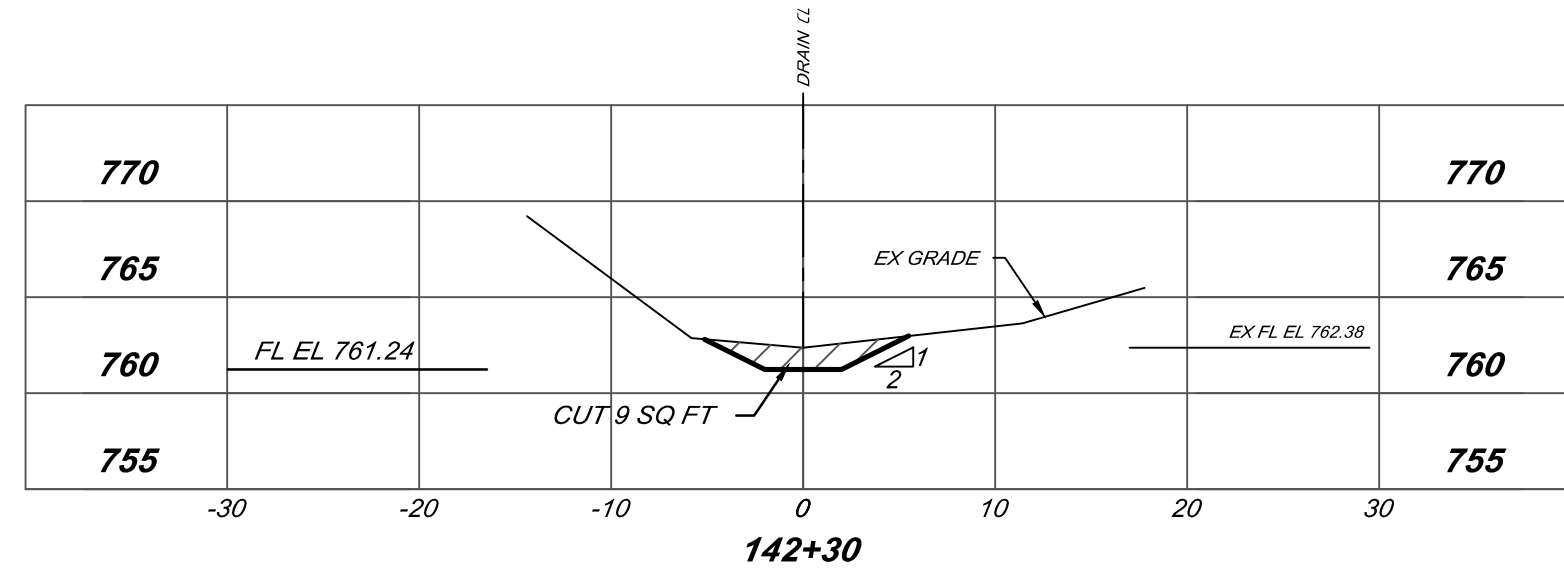
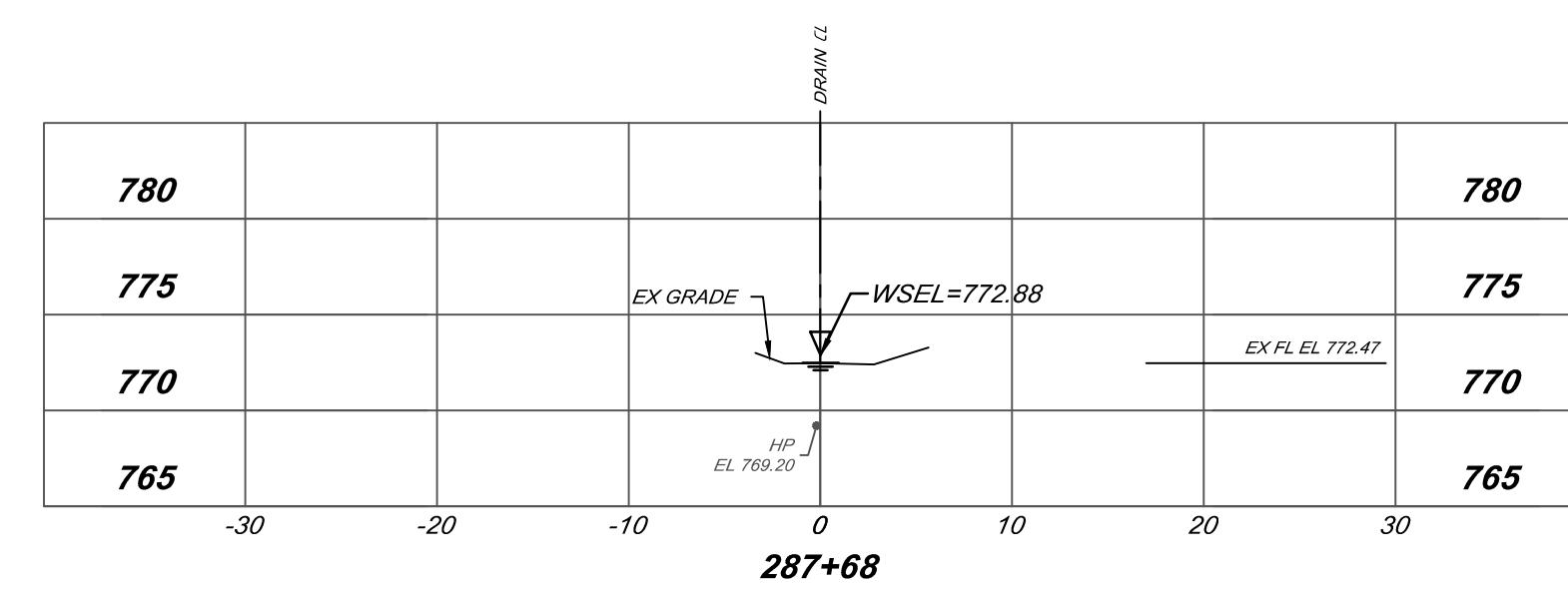
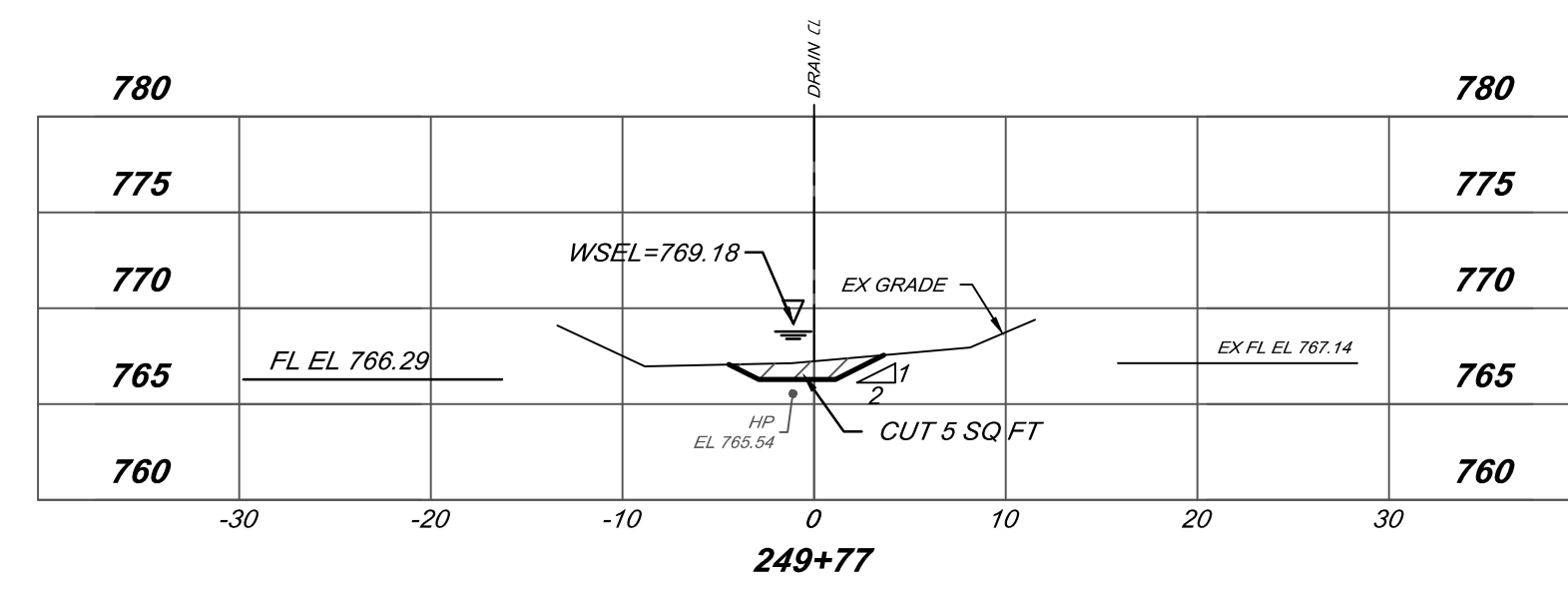
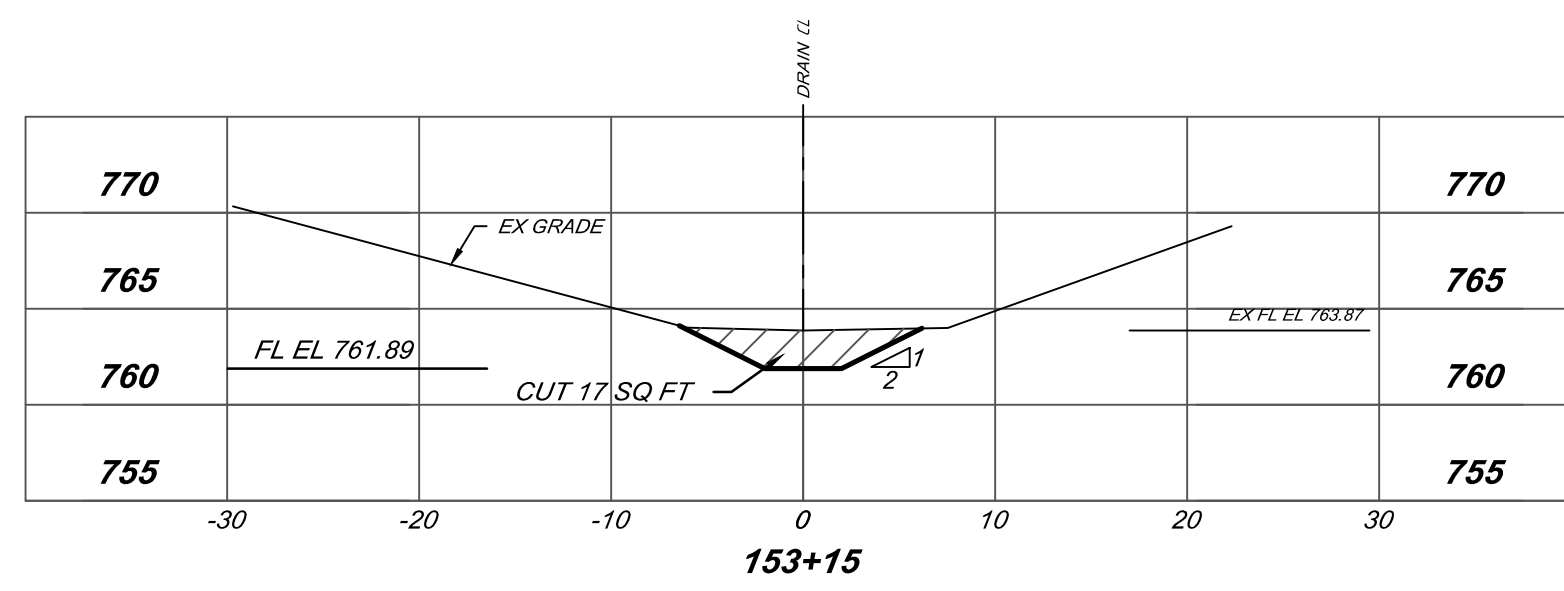
RIGHT OF WAY
REXFORD LAKE INTERCOUNTY DRAIN - DRAIN RIGHT-OF-WAY IS 33' WIDE ON EACH SIDE OF CENTERLINE OF DRAIN.

P:\Projects\2023\13614SG2023 - REXFORD LAKE INTERCOUNTY DRAIN - DRAIN RIGHT-OF-WAY IS 33' WIDE ON EACH SIDE OF CENTERLINE OF DRAIN - PLAN AND PROFILE - STA 0+00 TO STA 13+43 - STA 0+00 TO STA 3+70 - 11 OF 15 - 11



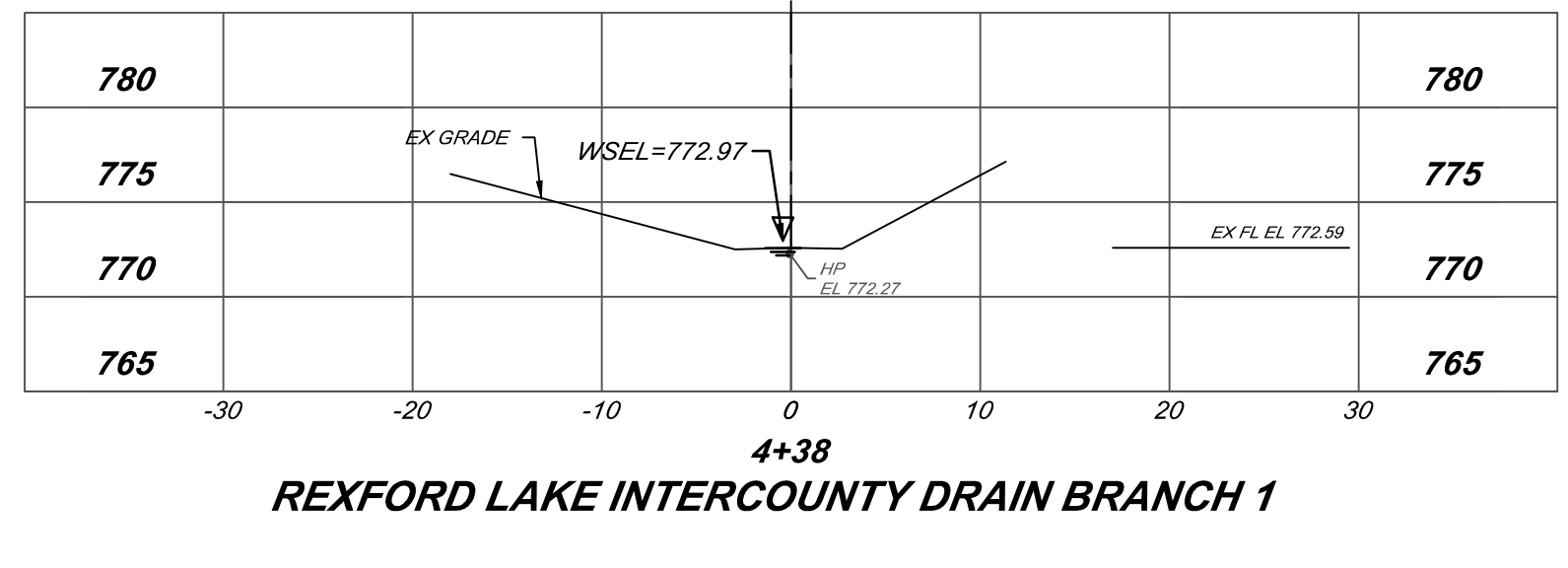
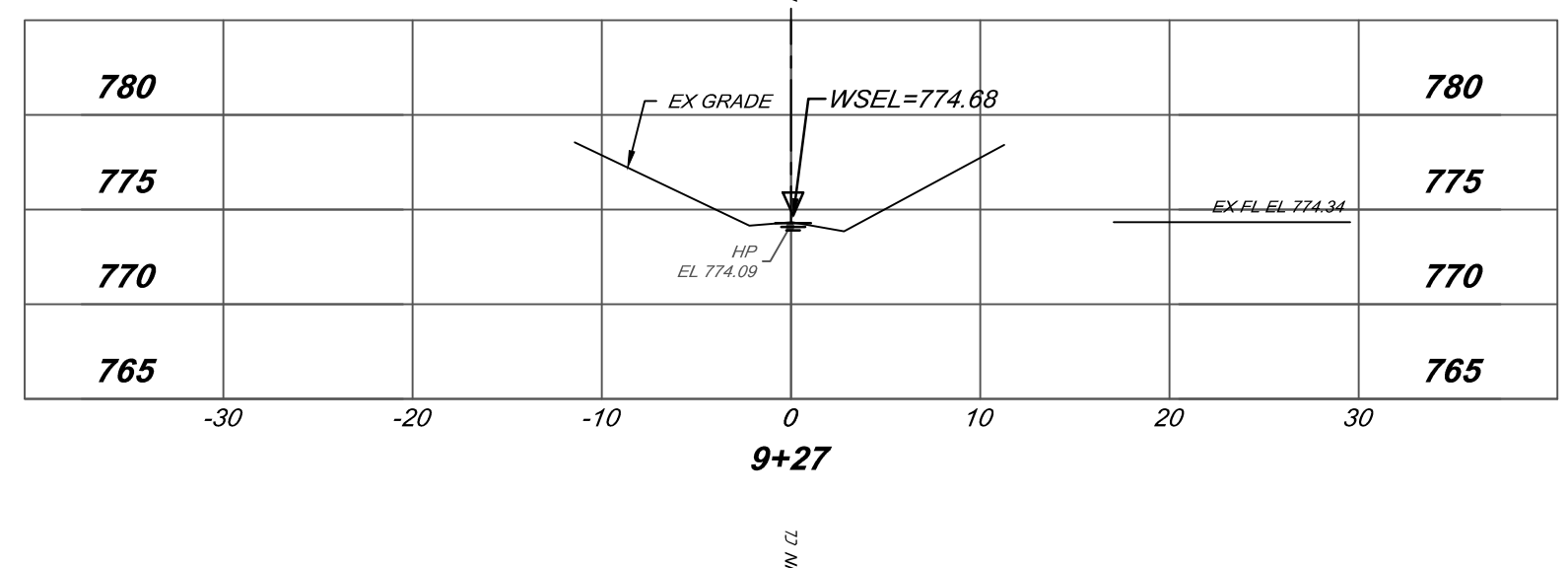
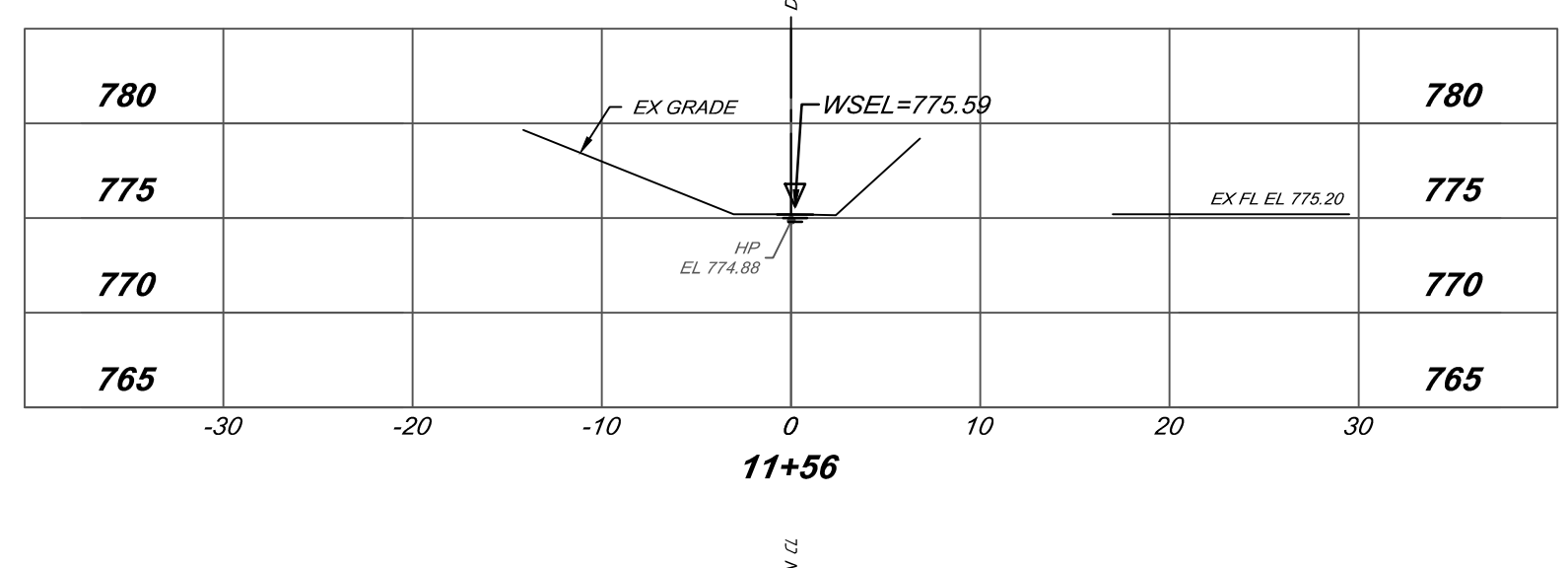
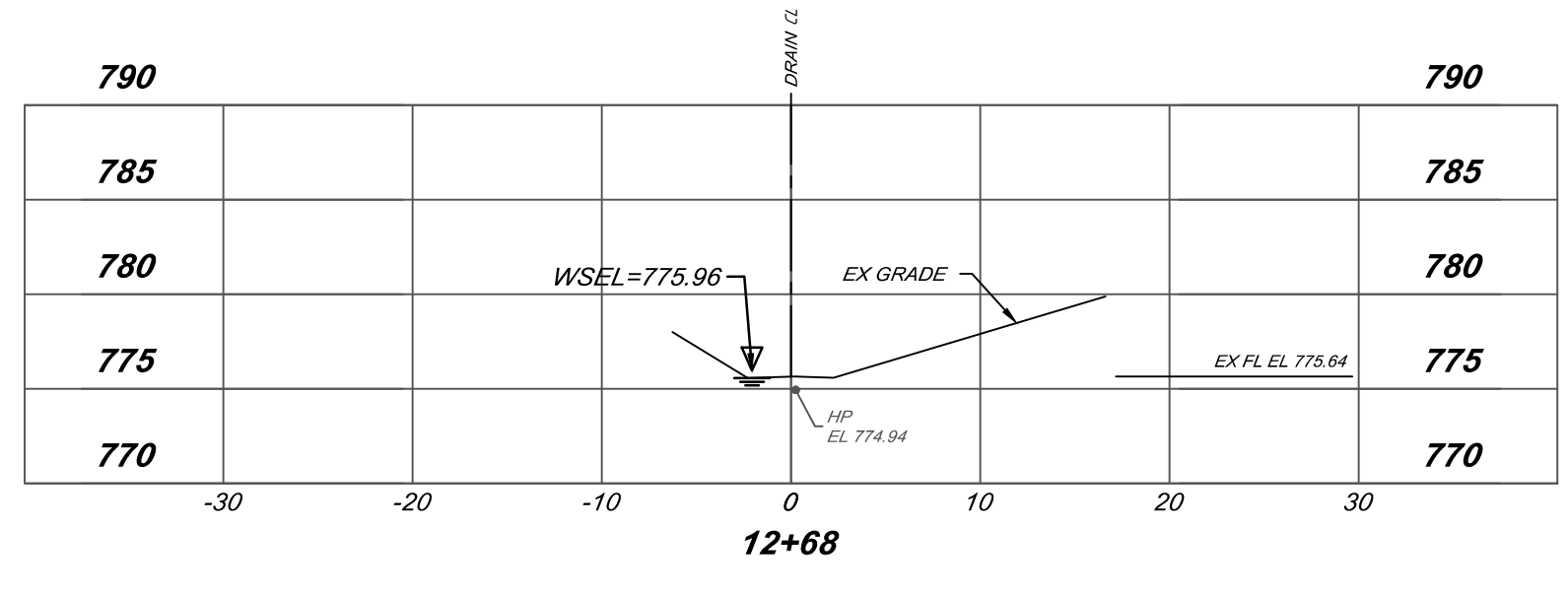
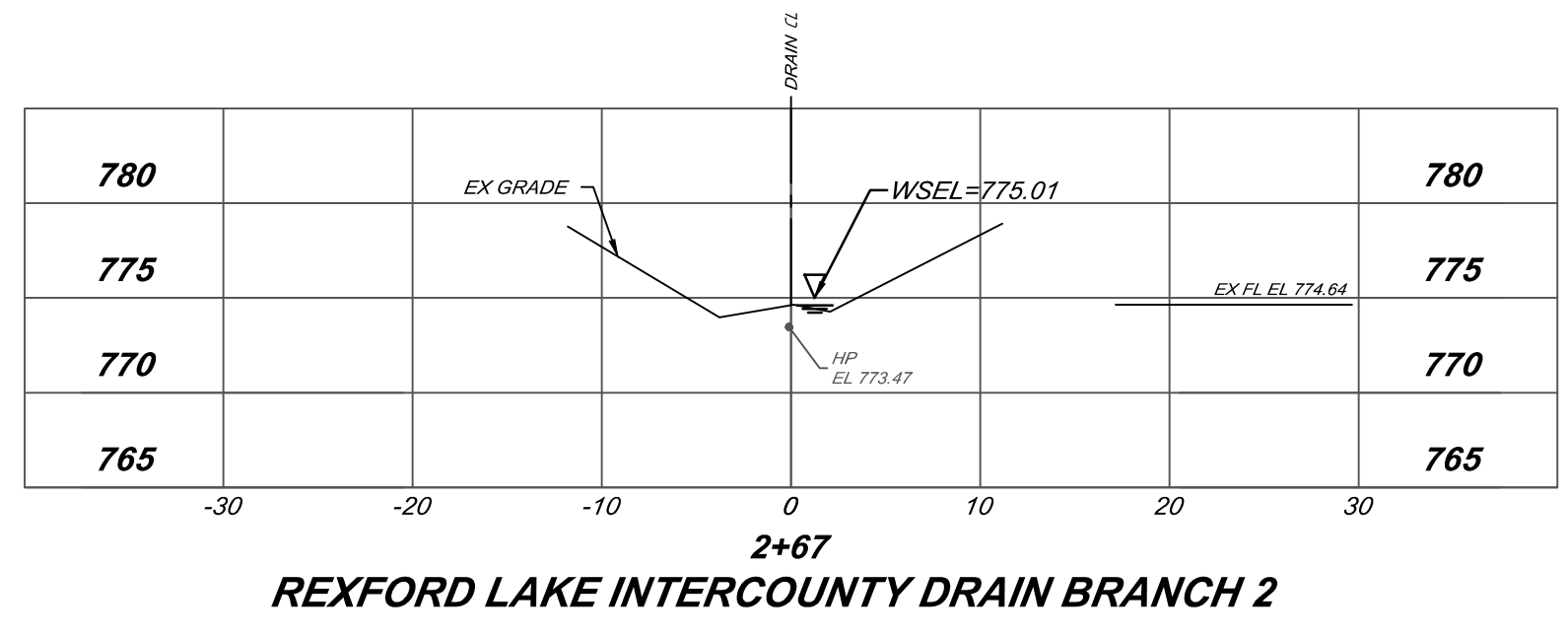
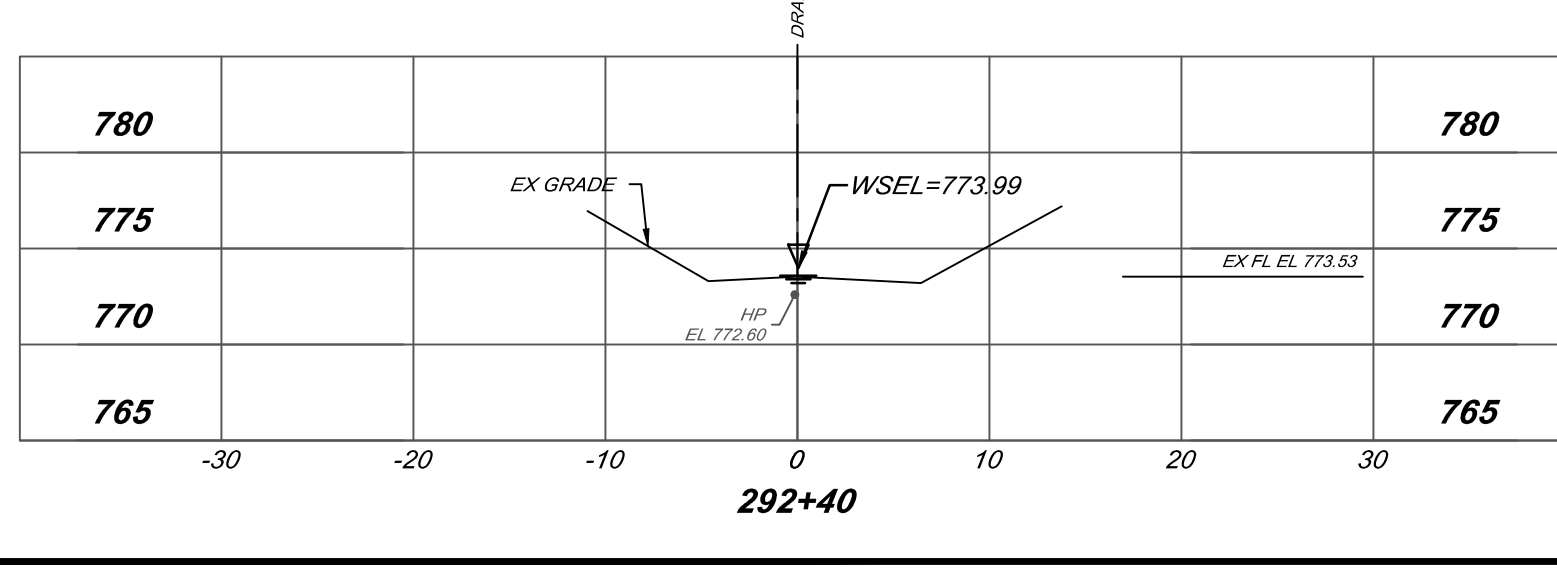
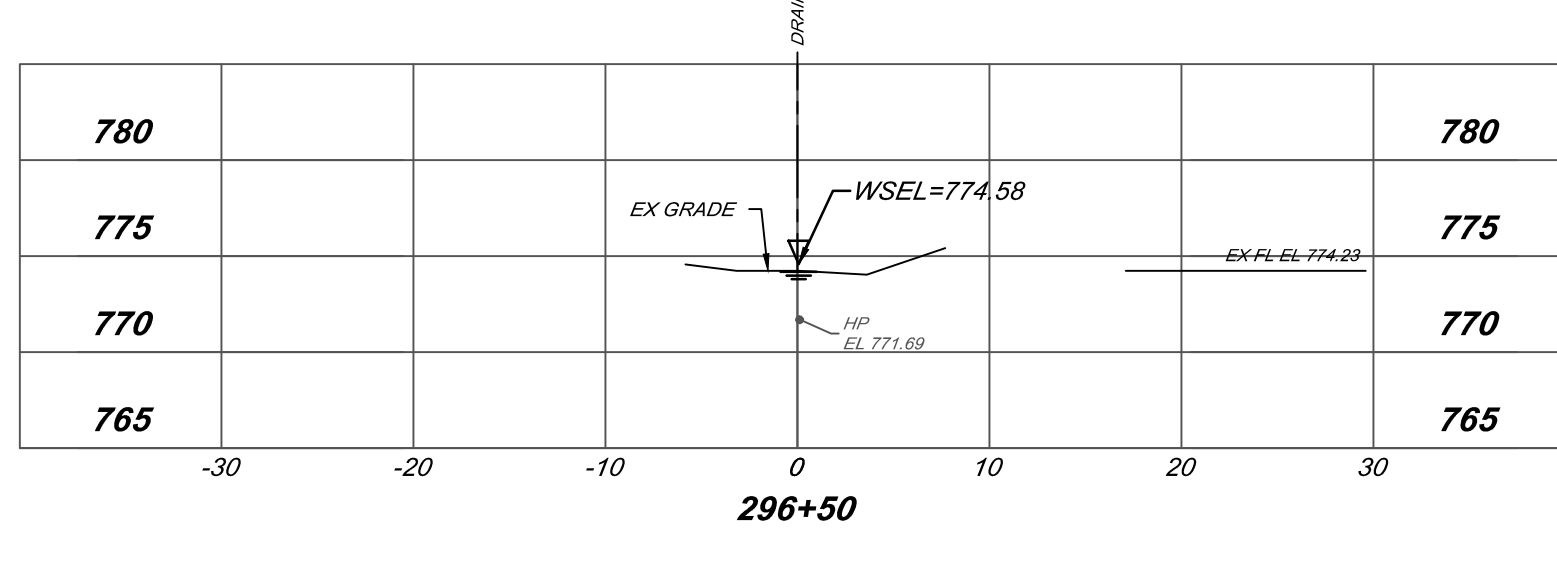
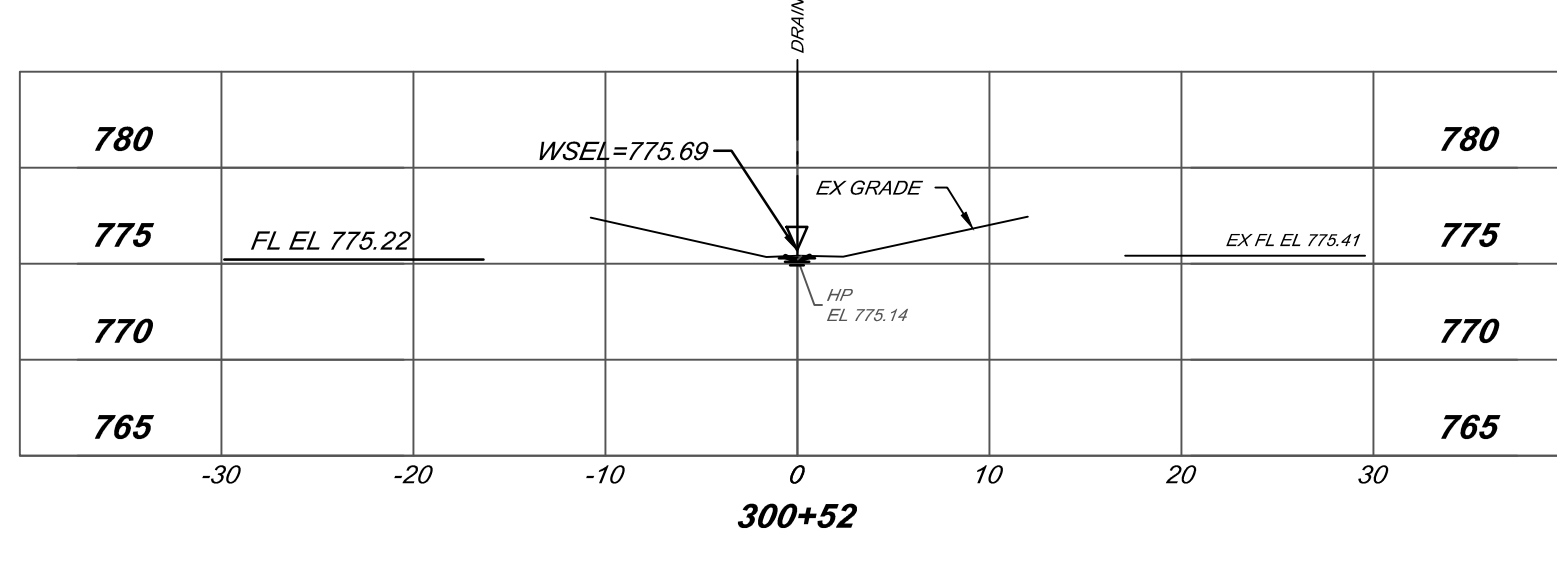
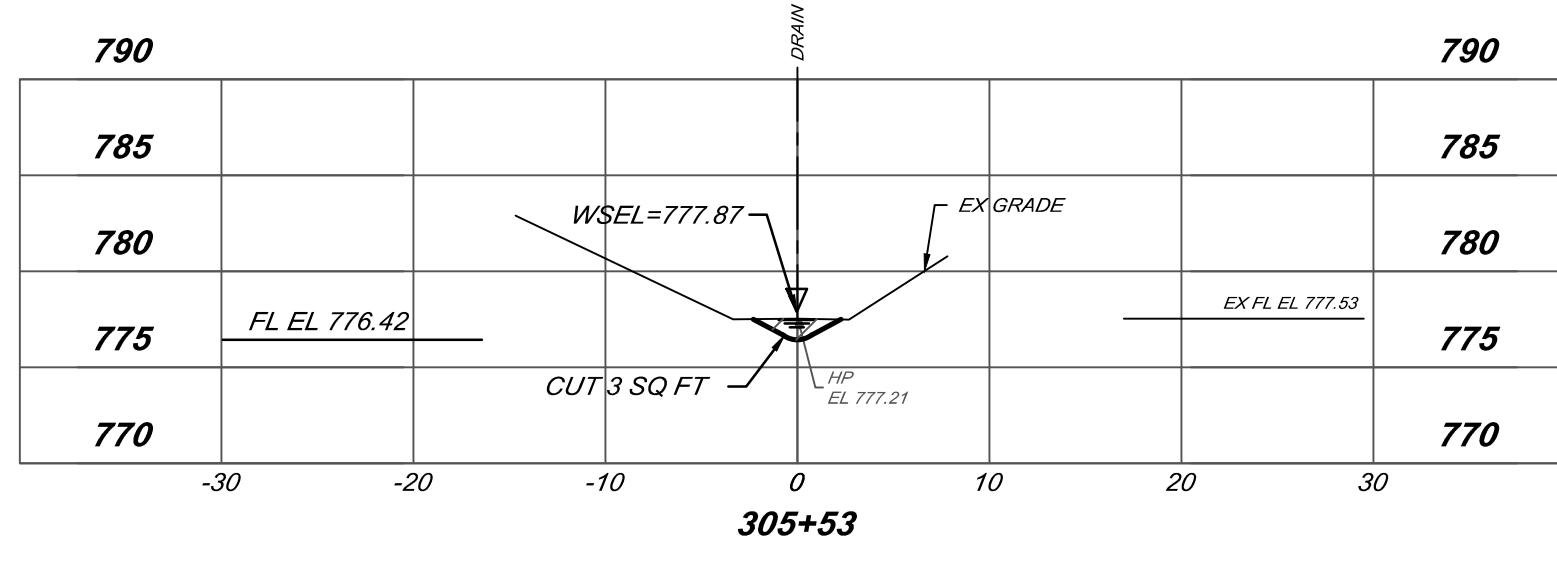
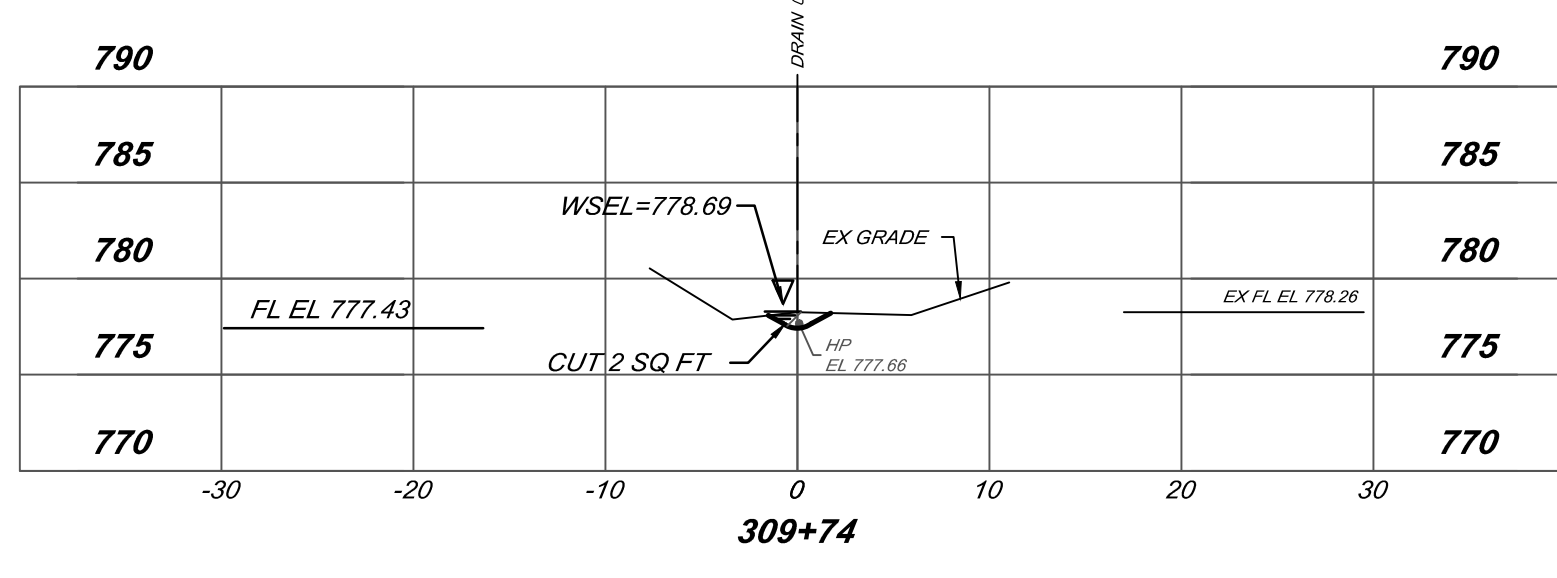
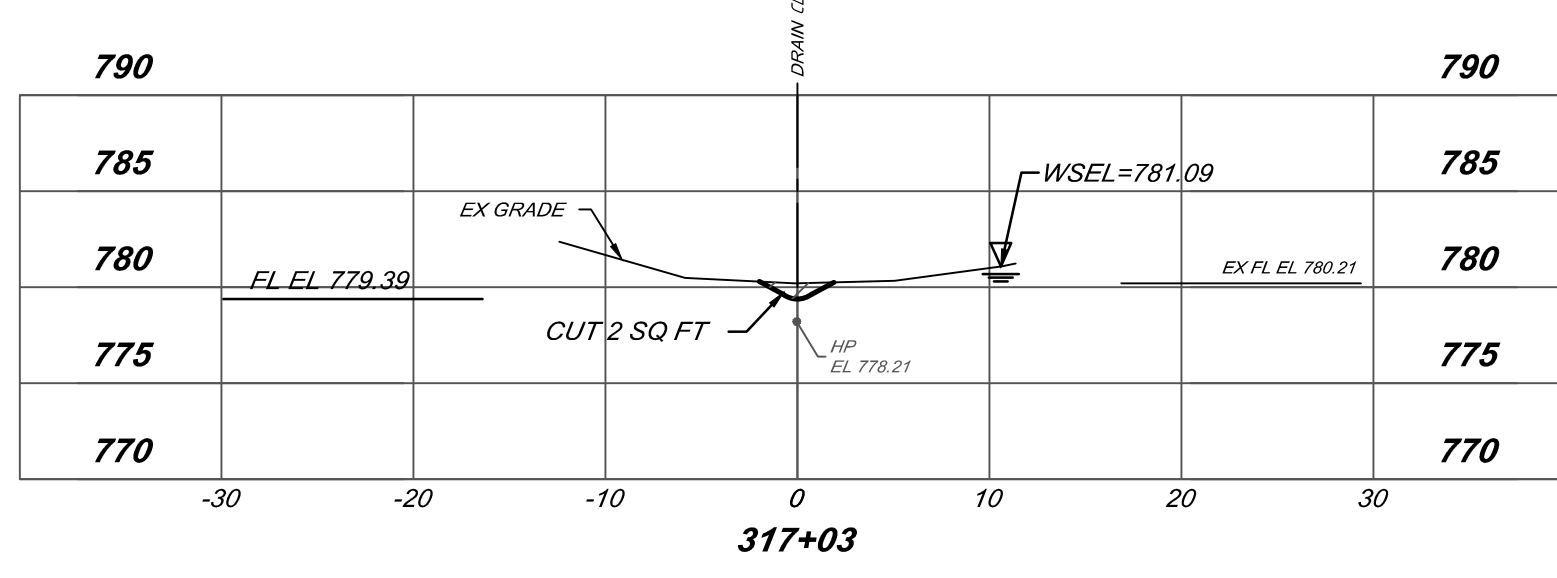
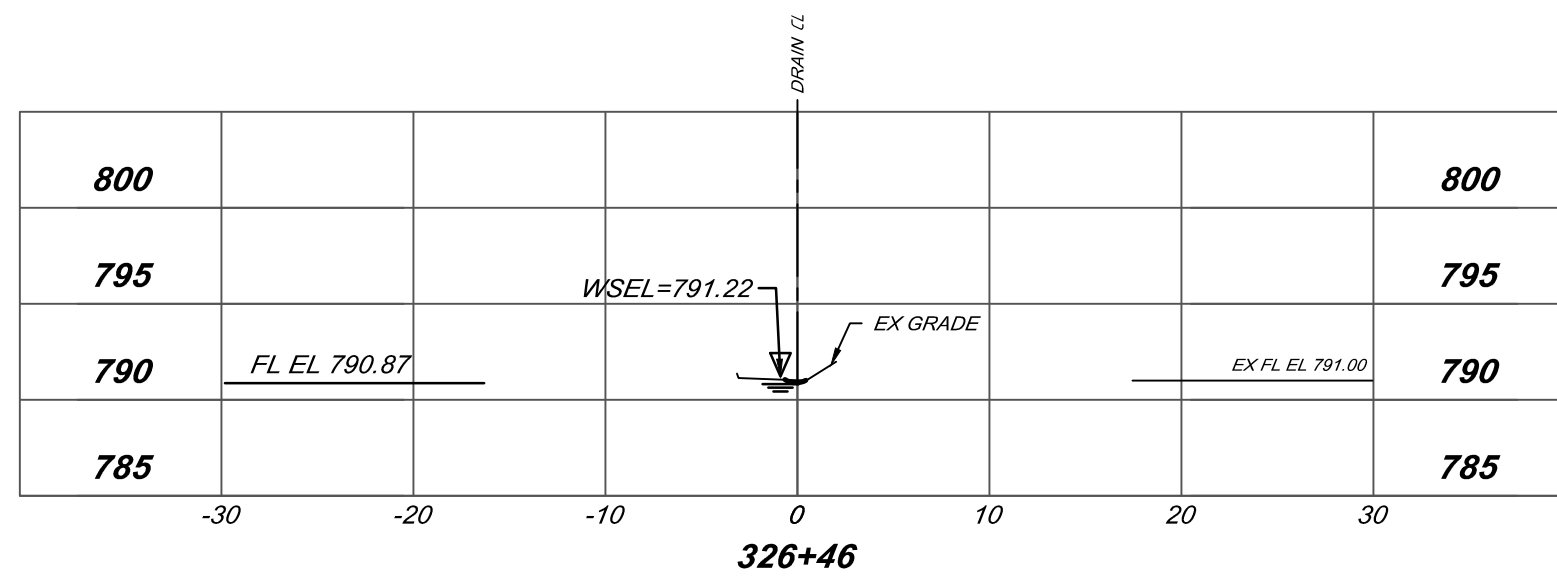
MMS	BIO SET	05/30/2024
BY	MARK	REVISIONS
<small>THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.</small>		
REXFORD LAKE INTERCOUNTY DRAIN KENT, MUSKOGON & OTTAWA COUNTIES, MICHIGAN		
CROSS SECTIONS STA 0+04 TO STA 106+12		
		<small>BYRON CENTER OFFICE 2464 Byron Station Drive, SW Suite C Byron Center, MI 49315 Tel. (616) 458-8580 www.SpicerGroup.com</small>
DE. BY: MMS	CH. BY: MMS	PROJECT NO. 135614SG2023
DR. BY: MMS	APP. BY: PLF	
STDS.	SHEET 12 OF 15	DR 12
DATE: MAY, 2024	FILE NO. DR-4695-12	
SCALE: 1"=10'		

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MMS	BIO SET	05/30/2024
BY	MARK	REVISIONS
<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>		
REXFORD LAKE INTERCOUNTY DRAIN KENT, MUSKOGON & OTTAWA COUNTIES, MICHIGAN		
CROSS SECTIONS STA 110+86 TO STA 287+68		
		<small>BYRON CENTER OFFICE 2464 Byron Station Drive, SW Suite C Byron Center, MI 49315 Tel. (616) 458-8580 www.SpicerGroup.com</small>
DE. BY: MMS	CH. BY: MMS	PROJECT NO. 135614SG2023
DR. BY: MMS	APP. BY: PLF	
STDS.	SHEET 13 OF 15	DR 13
DATE SCALE	MAY, 2024 1"=10'	

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MMS		BIO SET	05/30/2024
BY	MARK	REVISIONS	DATE

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**REXFORD LAKE INTERCOUNTY DRAIN
KENT, MUSKOGON & OTTAWA COUNTIES, MICHIGAN**

**CROSS SECTIONS
STA 292+40 TO STA 326+46
BR 1 - STA 4+38 TO STA 12+68
BR 2 - STA 2+67**

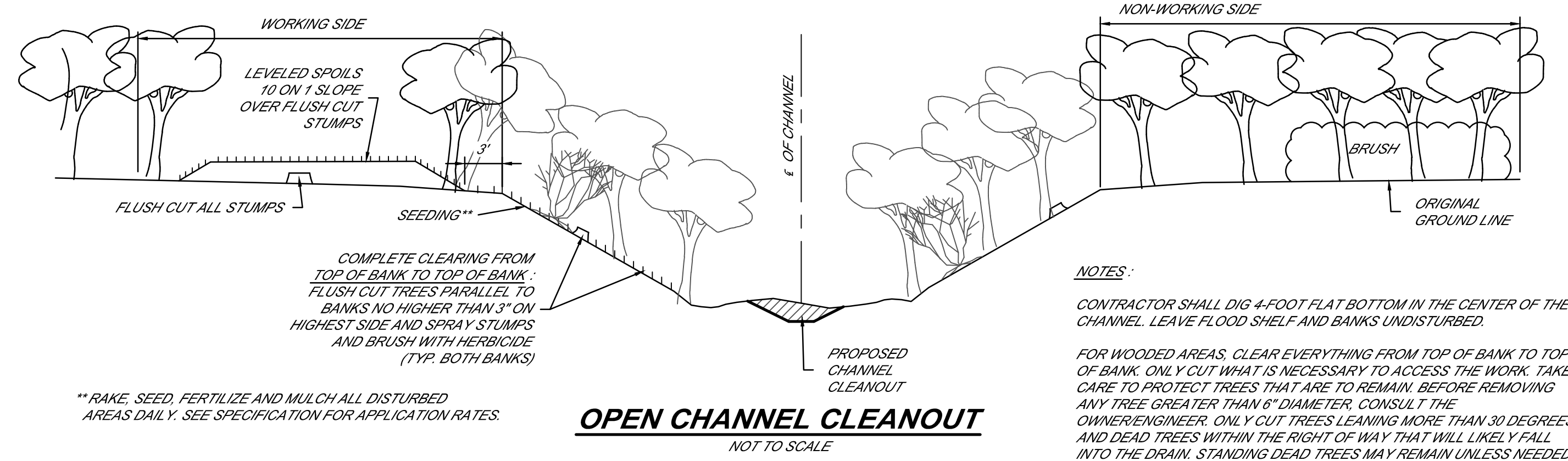
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BYRON CENTER OFFICE
2464 Byron Station Drive, SW
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DR. BY:	MMS	APP. BY:	PLF		

STDS.	SHEET 14 OF 15	DR
DATE	MAY, 2024	FILE NO.
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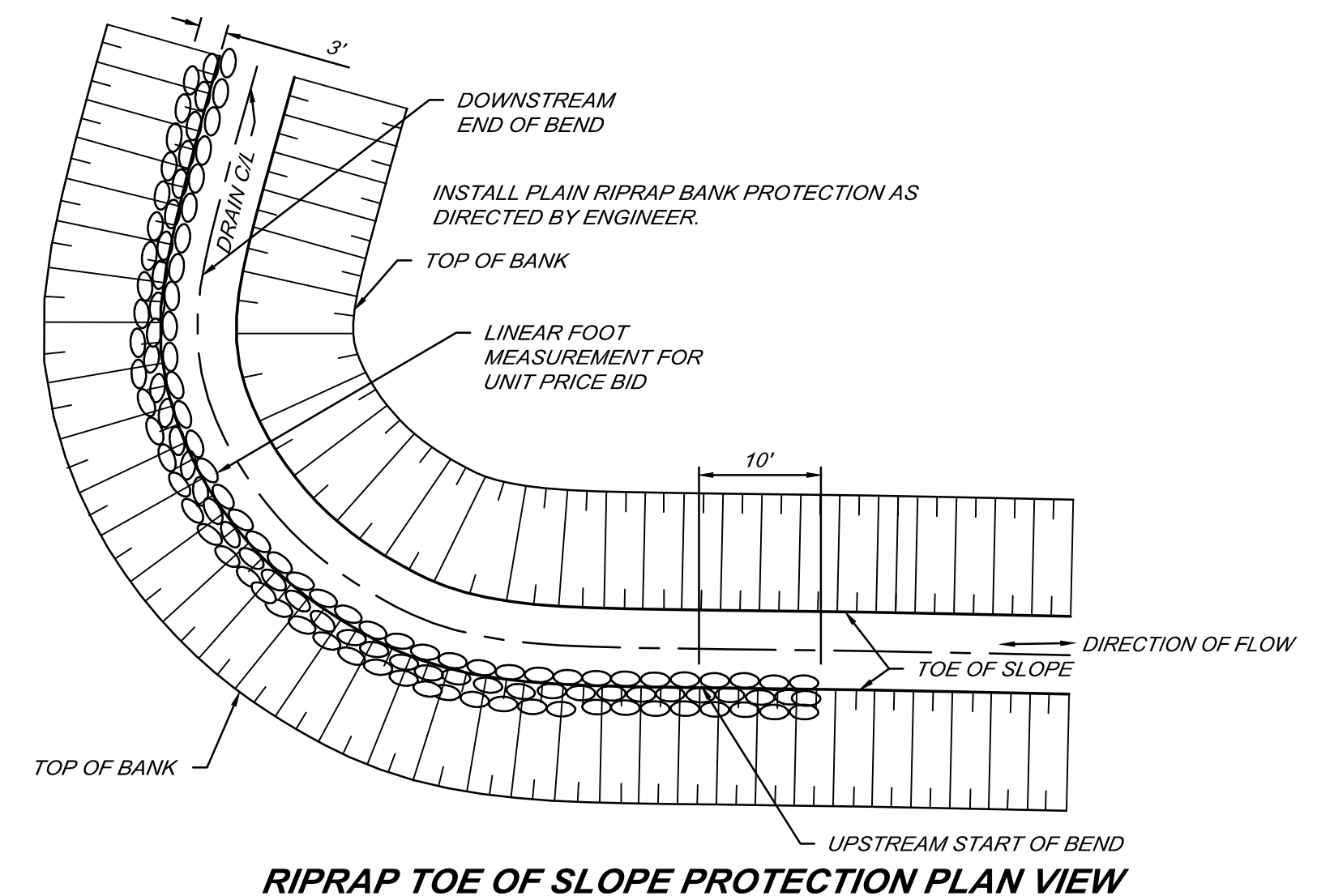
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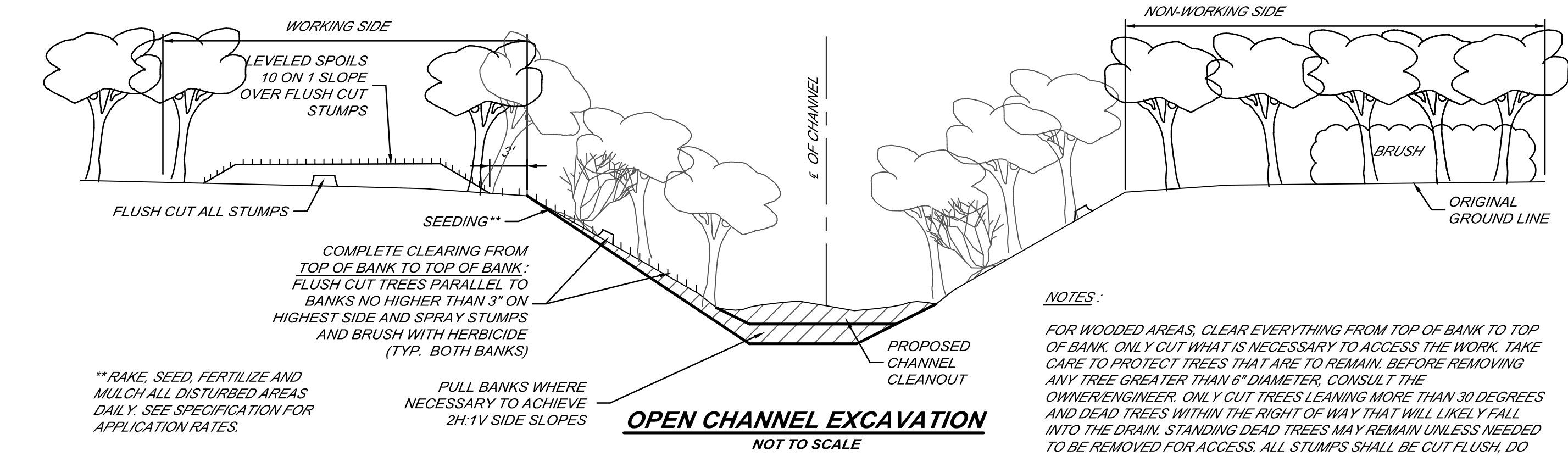


OPEN CHANNEL CLEANOUT
NOT TO SCALE

NOTES:
CONTRACTOR SHALL DIG 4-FOOT FLAT BOTTOM IN THE CENTER OF THE CHANNEL. LEAVE FLOOD SHELF AND BANKS UNDISTURBED.
FOR WOODED AREAS, CLEAR EVERYTHING FROM TOP OF BANK TO TOP OF BANK. ONLY CUT WHAT IS NECESSARY TO ACCESS THE WORK. TAKE CARE TO PROTECT TREES THAT ARE TO REMAIN. BEFORE REMOVING ANY TREE GREATER THAN 6" DIAMETER, CONSULT THE OWNER/ENGINEER. ONLY CUT TREES LEANING MORE THAN 30 DEGREES AND DEAD TREES WITHIN THE RIGHT OF WAY THAT WILL LIKELY FALL INTO THE DRAIN. STANDING DEAD TREES MAY REMAIN UNLESS NEEDED TO BE REMOVED FOR ACCESS. ALL STUMPS SHALL BE CUT FLUSH. DO NOT GRUB STUMPS. DO NOT BURY STUMPS. CUT ALL WOOD GREATER THAN 8" DIAMETER INTO 8-10 FOOT LENGTHS AND STACK IN PILES ON THE BACK OF THE RIGHT OF WAY. CHIP OR BURN ALL BRUSH IN AREAS APPROVED BY THE OWNER.
WORK FROM ONE SIDE ONLY.

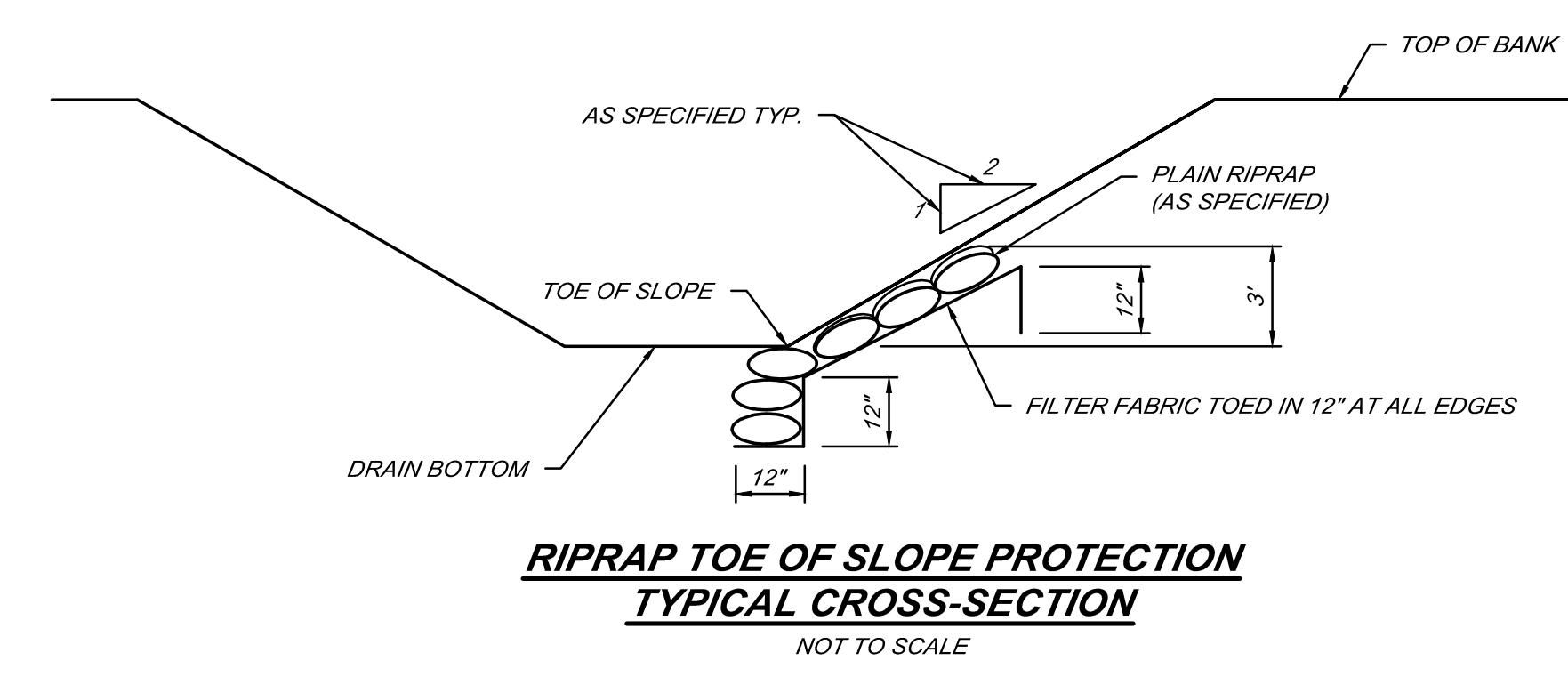


RIPRAP TOE OF SLOPE PROTECTION PLAN VIEW
NOT TO SCALE

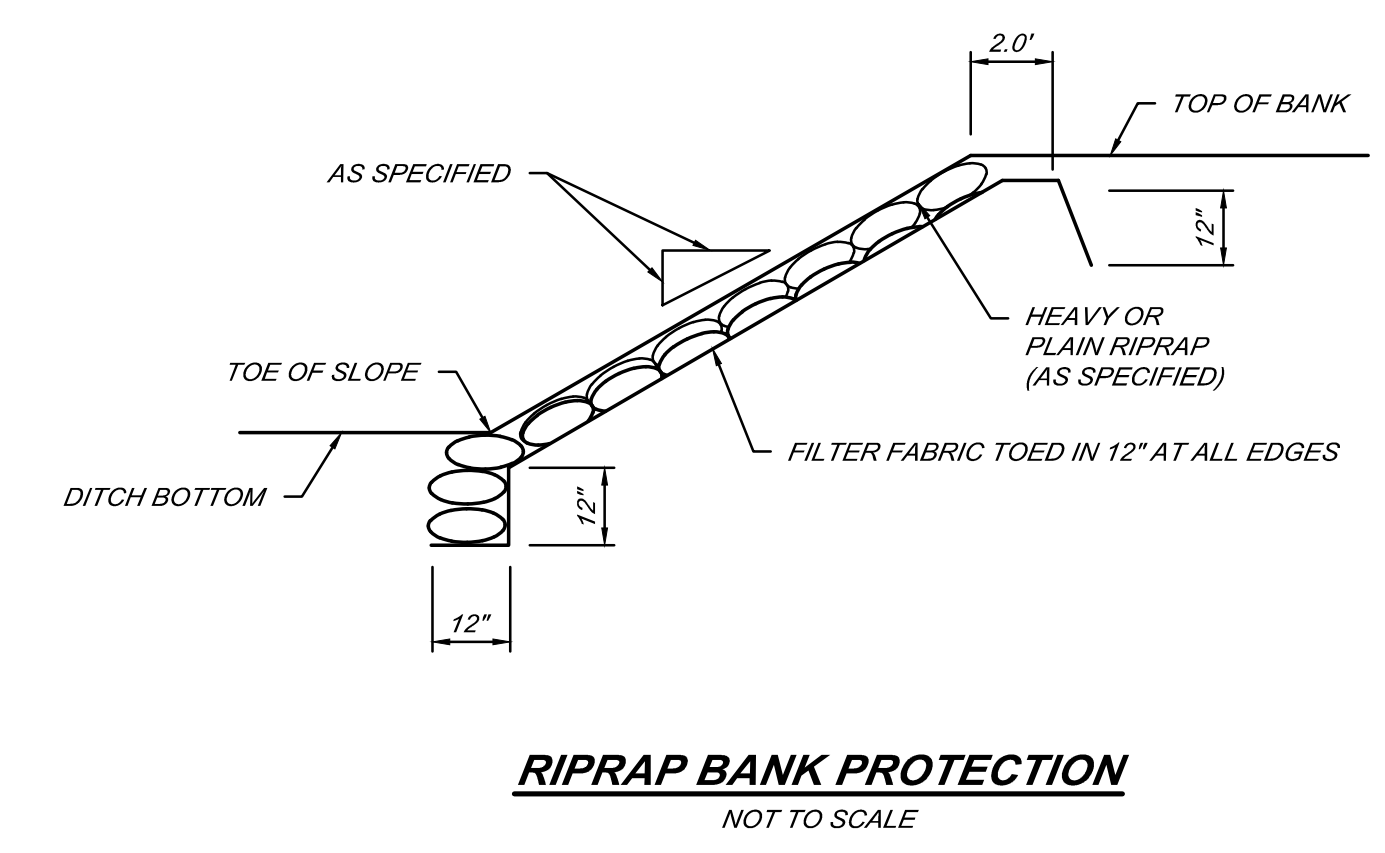


OPEN CHANNEL EXCAVATION
NOT TO SCALE

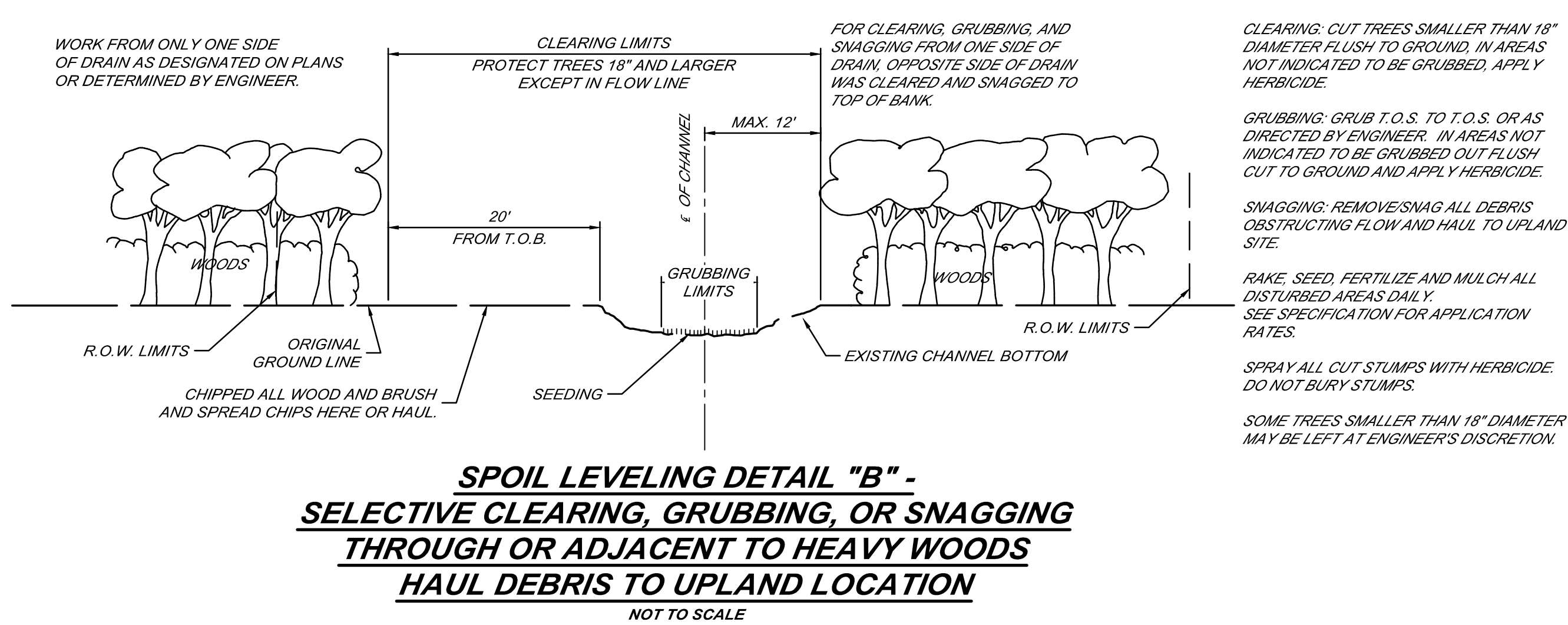
NOTES:
FOR WOODED AREAS, CLEAR EVERYTHING FROM TOP OF BANK TO TOP OF BANK. ONLY CUT WHAT IS NECESSARY TO ACCESS THE WORK. TAKE CARE TO PROTECT TREES THAT ARE TO REMAIN. BEFORE REMOVING ANY TREE GREATER THAN 6" DIAMETER, CONSULT THE OWNER/ENGINEER. ONLY CUT TREES LEANING MORE THAN 30 DEGREES AND DEAD TREES WITHIN THE RIGHT OF WAY THAT WILL LIKELY FALL INTO THE DRAIN. STANDING DEAD TREES MAY REMAIN UNLESS NEEDED TO BE REMOVED FOR ACCESS. ALL STUMPS SHALL BE CUT FLUSH. DO NOT GRUB STUMPS. DO NOT BURY STUMPS. CUT ALL WOOD GREATER THAN 8" DIAMETER INTO 8-10 FOOT LENGTHS AND STACK IN PILES ON THE BACK OF THE RIGHT OF WAY. CHIP OR BURN ALL BRUSH IN AREAS APPROVED BY THE OWNER.
WORK FROM ONE SIDE ONLY.



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



RIPRAP BANK PROTECTION
NOT TO SCALE



SPOIL LEVELING DETAIL "B" - SELECTIVE CLEARING, GRUBBING, OR SNAGGING THROUGH OR ADJACENT TO HEAVY WOODS HAUL DEBRIS TO UPLAND LOCATION
NOT TO SCALE

MMS	BIO SET	05/30/2024
BY	MARK	REVISIONS
		DATE

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**REXFORD LAKE INTERCOUNTY DRAIN
KENT, MUSKEGON & OTTAWA COUNTIES, MICHIGAN**

STANDARD DETAILS

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DE. BY: MMS	CH. BY: MMS	PROJECT NO.
DR. BY: MMS	APP. BY: PLF	135614SG2023
STDS.	SHEET 15 OF 15	DR
DATE: MAY, 2024	FILE NO.	15
SCALE: AS SHOWN	DR-4695-15	

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