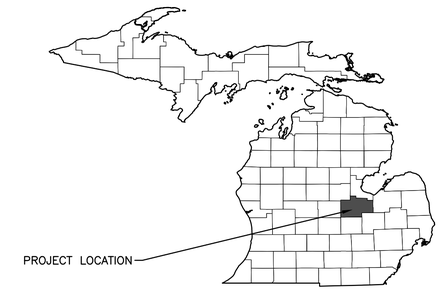
CONSTRUCTION PLANS
FOR
SHORTS CREEK DRAIN IMPROVEMENTS
SAGINAW COUNTY PUBLIC WORKS COMMISSIONER
BRIAN J. WENDLING
FREMONT TOWNSHIP, RICHLAND TOWNSHIP



KEY MAP
NOT TO SCALE

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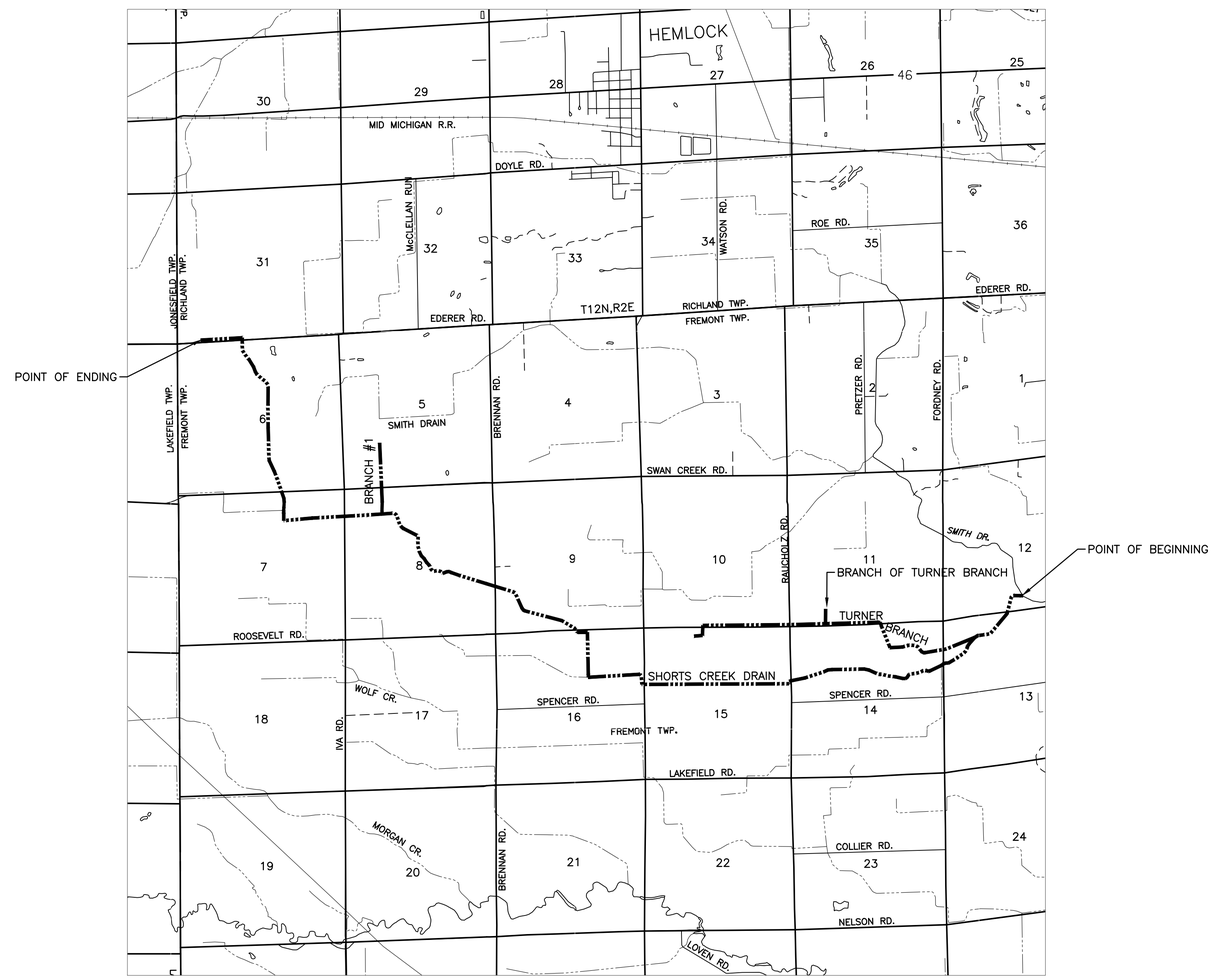

LOCATION MAP
SCALE: 1"=2640'

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ISSUED FOR BIDDING MARCH 22, 2021

JOB NO. SPW2007.01F

SHEET 1.0

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PREPARED UNDER THE SUPERVISION OF:

STATE OF MICHIGAN
JASON KENYON
ENGINEER
No. 47446
LICENSED PROFESSIONAL ENGINEER

Know what's **below.**
Call before you dig.

PROJECT MANAGER:JASON KENYON
C:\PW_WORK2\D1026189\GCS-PLTS-COVER.DWG - 1.0 - PLOTTED 3/23/2021 4:31 PM BY KRAGENBRINK, TANNER
FIELD BOOK INFORMATION:

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SHORTS CREEK DRAIN IMPROVEMENTS

EXISTING PROPOSED

CABLE TV
- CABLE TV POLE
- CABLE TV PEDESTAL
- OVERHEAD CABLE TELEVISION
- UNDERGROUND CABLE TELEVISION

ELECTRICAL
- CIRCUIT BREAKER PANEL
- HANDHOLE
- MANHOLE
- OUTLET
- PEDESTAL
- TRANSFORMER BOX
- METER
- POWER POLE
- TRANSFORMER TOWER
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC

GAS
- VENT
- BLOW OFF
- FILLER PIPE
- MANHOLE
- METER
- STOP BOX
- SHUTOFF VALVE
- GAS

MONUMENTS
- IRON (FOUND)
- IRON (SET)
- BENCH MARK
- BRASS PLATE
- CONCRETE NAIL
- DRILL HOLE
- GOVERNMENT CORNER
- GPS MONUMENT
- IRON PIPE
- MONUMENT BOX
- MONUMENT
- MERE STONE
- NGS MONUMENT
- NAIL & TAG
- PINCH IRON
- PK NAIL
- RAILROAD SPIKE
- RIGHT-OF-WAY MARKER
- SPIKE
- SHIPS SPIKE
- T-IRON
- USGS MONUMENT
- CROSS CUT
- CROSS CUT IN MONUMENT
- WOOD STAKE

OVERHEAD UTILITIES
- DEADMAN ANCHOR
- FLOOD LIGHT
- GUY WIRE ANCHOR
- GUY POLE
- LAMP POLE
- METAL LIGHT POLE
- ORNAMENTAL LIGHT
- POLE BOX
- POWER & LIGHT POLE
- POWER & TELEPHONE POLE
- TELE, CTV, PWR & LIGHT POLE
- TELE, CTV, & POWER POLE
- TELE, & CTV POLE
- TELE, CTV, & LIGHT POLE
- TELE,. & LIGHT POLE
- TELE, POWER, & LIGHT POLE
- UTILITY POLE
- OVERHEAD CABLE TV & TELEPHONE
- OVERHEAD ELECTRIC & CABLE TV
- OVERHEAD ELECTRIC, CABLE TV AND TELEPHONE

EXISTING PROPOSED

SANITARY SEWER
- CLEAN OUT
- PUMPSTATION MANHOLE
- SANITARY MANHOLE
- SEPTIC TANK
- SEWER VENT
- SEWER VALVE
- FORCEMAIN
- SANITARY SEWER

SITE (MISCELLANEOUS)
- ABANDON ITEM
- ACCESSIBLE SYMBOL
- ADJUST ITEM
- FINISH GRADE
- FLOW ARROW
- PARKING COUNT
- RECONSTRUCT ITEM
- RELOCATE ITEM
- REMOVE ITEM
- SLOPE LABEL
- SPOT GRADE
- FLOOD LIGHT
- LAMP POLE
- LIGHT POLE (SINGLE LAMP)
- LIGHT POLE (DOUBLE LAMP 180°)
- LIGHT POLE (DOUBLE LAMP 90°)
- LIGHT POLE (THREE LAMP)
- LIGHT POLE (FOUR LAMP)
- ORNAMENTAL LIGHT POLE
- METAL LIGHT POLE

STORM SEWER/DRAINAGE
- CATCH BASIN (ROUND GRATE)
- CATCH BASIN (SQUARE GRATE)
- CISTERN
- BOX CULVERT
- CULVERT HEADWALL
- CULVERT END SECTION
- DOWN SPOUT
- ROUND INLET
- SQUARE INLET
- STORM MANHOLE
- STORM SEWER STUB
- DITCH CENTERLINE
- FLOOD PLAIN
- STORM SEWER

TELEPHONE
- TELEPHONE POLE
- TELEPHONE MANHOLE
- TELEPHONE PEDESTAL
- COMMUNICATIONS HANDHOLE
- FIRE CALL
- POLICE CALL
- PHONE BOOTH
- OVERHEAD TELEPHONE
- UNDERGROUND TELEPHONE

TOPOGRAPHIC FEATURES
- AIR CONDITION UNIT UNIT
- ANTENNA
- BASKET BALL POST
- BATTERY BOX
- BILLBOARD SIGN BASE
- CAMERA TOWER
- CLIMBING BARS
- COLUMN
- FENCE CORNER
- FILL PORT
- FLAG POLE
- FOUNTAIN
- GAS PUMP
- GAS TANK (UNDERGROUND)
- HEAT PUMP

EXISTING PROPOSED

TOPOGRAPHIC FEATURES (CONT.)
- HIGHWAY DELINEATOR
- LIGHT POLE BASE
- MAIL BOX
- MERRY-GO-ROUND
- MONITORING WELL
- NEWSPAPER BOX
- OIL WELL
- PARKING METER
- PIER
- PILING
- POST (ROUND)
- POST (SQUARE)
- ROCK
- RAILROAD SIGNAL
- SATELLITE DISH
- SIGN POST
- SLIDE (SPIRAL)
- SLIDE (STRAIGHT)
- SLIDE END
- SLIDE STEPS
- SPRINKLER HEAD
- SPRINKLER JUNCTION BOX
- STATUE
- SWING SET END
- TETHER BALL POLE
- TRAFFIC SIGNAL
- UNDERGROUND MARKER
- U/G MARKER CABLE
- U/G MARKER ELECTRIC
- U/G MARKER FIBER OPTIC
- U/G MARKER GAS
- U/G MARKER TELEPHONE
- VOLLEY BALL POST
- WOOD STAKE

UNDERGROUND UTILITIES
- UTILITY MANHOLE
- FIBER OPTIC
- OIL
- UNDERGROUND CTV & TELEPHONE
- UNDERGROUND ELEC. & CABLE TV
- UNDERGROUND ELEC. & TELEPHONE
- UNDERGROUND ELECTRIC, CABLE TV AND TELEPHONE

VEGETATION
- CONIFEROUS BUSH
- CONIFEROUS TREE
- DECIDUOUS BUSH
- DECIDUOUS TREE
- MULTI-STEM CONIFEROUS TREE
- MULTI-STEM DECIDUOUS TREE
- PALM TREE
- STUMP
- BRUSH LINE
- EDGE OF WOODS
- HEDGE
- TREE ROW

EXISTING PROPOSED

WATER (DOMESTIC)
- BACKFLOW PREVENTER
- BLOW-OFF VALVE
- FAUCET
- FIRE DEPARTMENT CONNECTION
- FIRE HYDRANT
- GATE VALVE & BOX
- GATE VALVE & WELL
- GATE VALVE & WELL (DETROIT)
- INDICATOR VALVE POST
- METER
- METER PIT
- VALVE
- WATER LINE STUB
- WATER TOWER BASE
- WELL
- SHUT OFF VALVE
- DOMESTIC WATER

WATER (MISCELLANEOUS)
- RECLAIM WATER GATE VALVE
- SPRINKLER HEAD
- SPRINKLER JUNCTION BOX
- RECLAIM WATER

LINE WORK
- BOUNDARY LINE
- BUILDING
- BUILDING SETBACK
- CHAIN LINK FENCE
- FIELD
- GARDEN
- GRAVEL
- GUARDRAIL
- LANDSCAPE
- ORNAMENTAL FENCE
- PROPERTY LINE
- RAILROAD TRACK CENTERLINE
- RIGHT OF WAY
- SECTION LINE
- SHORE LINE
- SILT FENCE
- TO BE DEMOLISHED
- TOP OF BANK
- UTILITY/DRAINAGE EASEMENT
- WALL
- WETLAND
- WOOD FENCE

EXISTING PROPOSED

PATTERNS
- CONCRETE
- GRAVEL
- PAVEMENT
- HEAVY DUTY PAVEMENT
- EARTH (CROSS SECTION)
- ADA DETECTABLE WARNING
- ADA RAMP
- CONCRETE REMOVAL
- PAVEMENT REMOVAL

REV#	DATE	DESCRIPTION	BY

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SAGINAW COUNTY PUBLIC WORKS COMMISSIONER SHORTS CREEK DRAIN

LEGEND SHEET

ISSUED FOR:	DATE:	BY:
BIDDING	3/22/21	TJK

JOB NO. SPW2007.01F

SHEET 2.0

SHORTS CREEK DRAIN IMPROVEMENTS

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PROJECT MANAGER:JASON KENYON
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FIELD BOOK INFORMATION:-

GENERAL CONSTRUCTION NOTES:

1. THREE (3) WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT MISS DIG UTILITY PROTECTION SERVICE (1-800-482-7171) OR 811 TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR THE PROTECTION OF ALL EXISTING UTILITIES DURING CONSTRUCTION. ALL UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS.
2. CONTRACTOR IS RESPONSIBLE TO OBTAIN ALL STATE AND LOCAL PERMITS REQUIRED TO WORK WITHIN THE ROAD, UTILITY OR DRAIN RIGHT OF WAYS.
3. ALL PROPOSED DRAIN SLOPES SHALL BE 2 HORIZONTAL TO 1 VERTICAL OR FLATTER UNLESS OTHERWISE SPECIFIED.
4. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL LOCATE AND EXPOSE ALL EXISTING UTILITIES TO BE CROSSED BY THE DRAIN FOR VERIFICATION OF DEPTH AND HORIZONTAL LOCATION. THIS SHALL INCLUDE TELEPHONE CABLE AND CONDUIT, ELECTRIC LINES, CABLE TV, GAS MAINS, SANITARY AND STORM SEWERS, AND WATER MAINS. CONTRACTOR SHALL NOTIFY THE ENGINEER WHERE CONFLICTS MAY EXIST. THE OWNER RESERVES THE OPTION TO ADJUST THE LOCATION AND GRADE OF PROPOSED DRAIN BOTTOM TO FIT THE CONDITION FOUND. ALL COSTS FOR LOCATING AND UNCOVERING EXISTING UTILITIES AND ADJUSTING LOCATION AND GRADE OF PROPOSED DRAIN SHALL BE INCIDENTAL TO THE DRAIN EXCAVATION PAY ITEMS.
5. IN CASES WHERE EXISTING SEWERS, DRAINS, GAS SERVICE CONNECTION, TELEPHONE OR ELECTRICAL FACILITIES, AND WATER SERVICE CONNECTIONS ARE ENCOUNTERED, THE CONTRACTOR SHALL PERFORM HIS OPERATIONS IN SUCH A MANNER THAT THE SERVICE WILL BE UNINTERRUPTED AND THE COST THEREOF SHALL BE AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS CONSTRUCTION OPERATIONS WITH THE USERS OF THE UTILITIES AND UTILITY ITSELF. THE METHODS USED BY THE CONTRACTOR FOR MAINTAINING AND SUPPORTING UTILITIES AND THEIR SERVICE CONNECTIONS SHALL BE SUCH AS TO AVOID SETTLEMENT OF SUCH UTILITIES BEFORE AND AFTER PLACING BACKFILL. SUPPORT DETAILS SHALL MEET THE APPROVAL OF THE UTILITY INVOLVED.
6. ALL COST AND FEES CHARGED BY ANY UTILITY (I.E. GAS, ELECTRIC, TELEPHONE, CABLE TV.) PURSUANT TO CONSTRUCTION OF THE DRAIN SHALL BE PAID FOR BY THE CONTRACTOR. THIS SHALL INCLUDE, BUT NOT NECESSARILY BE LIMITED TO, TEMPORARY SUPPORT OF POLES; TEMPORARY SUPPORT OF UNDERGROUND PIPE, CONDUITS, AND CABLES; RELOCATION, REPAIR, AND/OR REPLACEMENT OF SERVICE LEADS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL EXISTING UTILITIES DURING CONSTRUCTION. IF ANY EXISTING UTILITY IS DAMAGED BY THE CONTRACTOR'S OPERATION, IT SHALL BE REPAIRED IN ACCORDANCE WITH THE RELATED UTILITIES STANDARDS AT THE CONTRACTOR'S EXPENSE.
8. THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR COMPLETENESS OR ACCURACY. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANIES TO OBTAIN ONSITE LOCATIONS OF EXISTING UTILITIES.
9. ALL EXISTING SEWERS, WATER MAIN PIPING AND OTHER UTILITIES SHOWN ARE NOT TO BE INTERPRETED AS THE EXACT LOCATION, OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. VERIFY EXISTING CONDITIONS AND PROCEED WITH CAUTION AROUND ANY ANTICIPATED FEATURES. GIVE NOTICE TO ALL UTILITY COMPANIES REGARDING DESTRUCTION AND REMOVAL OF ALL SERVICE LINES AND CAP ALL LINES BEFORE PROCEEDING WITH THE WORK.
10. CONTRACTOR MUST PROTECT THE PUBLIC AND THEIR WORKERS AT ALL TIMES WITH FENCING, BARRICADES, ENCLOSURES, ETC., TO THE BEST PRACTICES PER MIOSHA GUIDELINES.
11. DAMAGE TO ANY EXISTING FEATURE THAT IS TO REMAIN IN PLACE SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.
12. THE CONTRACTOR SHALL VISIT THE SITE TO VERIFY THE SIZE AND QUANTITY OF ITEMS TO BE REMOVED PRIOR TO BID.
13. THE CONTRACTOR MUST COMPLY WITH ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SPECIFIED ON THE PLANS OR BY THE OWNER.
14. THE CONTRACTOR MUST CONFORM TO THE SOIL EROSION AND SEDIMENTATION CONTROL ACT, PART 91 OF ACT 451 OF 1994.
15. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL FURNISH MATERIAL CERTIFICATES TO THE OWNER AND THE OWNERS REPRESENTATIVE, VERIFYING THAT ALL MATERIALS USED ON THE PROJECT ARE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. SHOP DRAWINGS AND/OR CATALOG CUTS SHALL BE REQUIRED FOR MAJOR MATERIAL.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INVESTIGATING AND DETERMINING FOR HIMSELF THE EXISTING SOIL CONDITIONS. IF THE CONTRACTOR ELECTS TO TAKE SOIL BORINGS PRIOR TO CONSTRUCTION, HE SHALL SUBMIT ONE COPY TO THE OWNER.
17. ALL STREET AND DRIVEWAY PAVEMENTS SHALL BE SAW CUT PRIOR TO REMOVAL. ALL CURBS AND WALKS SHALL BE REMOVED AT THE NEAREST JOINT.
18. MINOR TREES, BRUSH AND VEGETATION MAY NOT BE SHOWN ON PLANS. THE CONTRACTOR SHALL BE REQUIRED TO REMOVE THEM IF NECESSARY. COSTS SHALL BE INCLUSIVE TO THE DRAIN EXCAVATION OR CLEARING AND GRUBBING PAY ITEMS.
19. CONTRACTOR SHALL MAINTAIN HIS CONSTRUCTION OPERATIONS WITHIN THE PRESENTLY EXISTING ROAD RIGHTS OF WAY AND DRAIN RIGHT OF WAY THROUGHOUT THE PROJECT AREA. IN THE EVENT THE CONTRACTOR DEEMS IT NECESSARY OR ADVISABLE TO OPERATE BEYOND THE LIMITS OF THE EXISTING RIGHTS OF WAY, HE SHALL BE RESPONSIBLE FOR MAKING SPECIAL WRITTEN AGREEMENTS WITH THE PROPERTY OWNERS PRIOR TO WORKING ON THAT PROPERTY AND SHALL FURNISH SUCH COPIES OF AGREEMENT TO THE OWNER AND ENGINEER PRIOR TO PROCEEDING.
20. THE CONTRACTOR SHALL BE REQUIRED TO DISPOSE OF ALL EXCAVATED MATERIAL NOT TO BE REUSED OR DISPOSED OF ON SITE. CONTRACTOR SHALL DISPOSE OF THIS MATERIAL ACCORDING TO STATE AND LOCAL REQUIREMENTS.
21. IN AREAS OF UNSTABLE ORGANIC SOILS, SPECIAL METHODS OF EXCAVATION AND SPOIL DISPOSAL SHALL BE USED TO INSURE THAT THE LEVELED SOILS WILL NOT ENDANGER THE STABILITY OF THE EXCAVATED DRAIN.
22. THE CONTRACTOR SHALL MAINTAIN DITCH DRAINAGE DURING CONSTRUCTION AND SHALL NOT BLOCK ANY SUMP PUMP LEADS DISCHARGING TO THE DITCH OR SEWER.
23. INSTALL FILTER FABRIC PER THE PLANS AND SPECIFICATIONS UNDERNEATH ALL RIPRAP CALLED FOR ON THE PLANS.
24. UPON COMPLETION OF CHANNEL EXCAVATION, CONTRACTOR SHALL CLEAN OUT ALL DEBRIS AND SEDIMENT FROM EXISTING AND PROPOSED CULVERTS, INCLUSIVE TO PAY ITEM FOR CULVERT CLEANOUT PER LUMP SUM.
25. ALL PAVED ROADS NOT DESIGNATED FOR REMOVAL SHALL BE PROTECTED BY THE CONTRACTOR. ANY UNAUTHORIZED DAMAGE SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.
26. AT ALL LOCATIONS THAT A UTILITY INCLUDING SERVICE CONNECTIONS IS TO BE INSTALLED UNDER A PROPOSED OR EXISTING PAVED SURFACE THE CONTRACTOR SHALL BACKFILL WITH MDOT CLASS II GRANULAR MATERIAL COMPACTED TO 95% OF MAXIMUM DENSITY.
27. ALL JOINTS IN PAVEMENT BETWEEN EXISTING AND PROPOSED SURFACES SHALL BE SAW CUT FOR BUT JOINTS.
28. CONTRACTOR SHALL NOT REUSE BROKEN CONCRETE REMOVED FROM EXISTING CULVERT CROSSING LOCATIONS WITHOUT APPROVAL BY THE OWNER/ ENGINEER.
29. CONTRACTOR SHALL DISPOSE OF BROKEN CONCRETE AND DEBRIS WASTE AT AN OFFSITE LOCATION.
30. RIPRAP FOR THIS PROJECT SHALL ALL BE LIMESTONE MATERIAL AS APPROVED BY THE PROJECT ENGINEER. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT SAMPLES TO THE ENGINEER FOR APPROVAL. OWNER/ENGINEER RESERVES THE RIGHT TO REJECT ANY AND ALL RIP RAP.
31. THE CONTRACTOR SHALL PROVIDE PROPERTY OWNERS/RESIDENTS A MINIMUM OF 24 HOURS ADVANCE NOTICE PRIOR TO REPLACING DRIVEWAY CULVERTS.
32. ACCESS FOR MAIL DELIVERY AND GARBAGE PICKUP SHALL BE MAINTAINED AT ALL TIMES TO ALL PROPERTIES WITHIN THE INFLUENCE OF THE PROJECT. IN THE EVENT THAT PICKUP AND DELIVERIES ARE BLOCKED. THE CONTRACTOR SHALL TAKE THE NECESSARY MEASURES TO CARRY THEM OUT.
33. ALL MAILBOXES AND POSTS SHALL BE PROTECTED BY THE CONTRACTOR. ALL DAMAGED MAILBOXES AND POSTS SHALL BE REPLACED WITH NEW MATERIALS AT THE CONTRACTORS EXPENSE.
34. PROJECT RELATED WORK SHALL BE PERFORMED BETWEEN THE HOURS OF 7:00 AM AND 7:00 PM MONDAY THROUGH SATURDAY. NO WORK SHALL BE PERMITTED ON SUNDAYS OR HOLIDAYS.
35. TRAFFIC AND ACCESS TO HOMES IN THE PROJECT AREA SHALL BE MAINTAINED AT ALL TIMES DURING PROJECT CONSTRUCTION INCLUDED IN PAYMENT FOR TRAFFIC CONTROL.
36. ALL POWER POLES AND TELEPHONE PEDESTALS/RISERS SHALL BE PROTECTED BY THE CONTRACTOR. IF DESIGNATED ON THE PLANS THESE FACILITIES SHALL BE RELOCATED BY OTHERS TO A LOCATION OUTSIDE OF DRAIN BANKS.
37. CONTRACTOR SHALL INSTALL RIPRAP SPLASH PADS AT ALL TILE OUTLETS, CROSS CULVERTS AND SURFACE WATER INLET LOCATIONS AS DESIGNATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. COST TO BE INCLUDED WITH THE BID ITEM FOR PLAIN RIPRAP SPLASH PAD.
38. ANY OLD SPOIL PILES THAT MAY REMAIN ALONG THE BANKS OF THE DRAIN SHALL BE LEVELED AS NEEDED INCLUDED IN PAYMENT FOR OPEN CHANNEL EXCAVATION.
39. CONTRACTOR SHALL CLEAN ALL SIDE DITCHES TO THE LIMITS OF THE DRAIN RIGHT OF WAY.
40. ALL TREES BRUSH AND STUMPS SHALL BE CHIPPED, CUT AND STOCKPILED AS DIRECTED BY PROPERTY OWNER OR DISPOSED OF AT AN OFFSITE LOCATION. NO TREES, BRUSH OR STUMPS SHALL BE BURNED IN WOODED AREAS. TREES BRUSH AND STUMPS MAY BE BURNED IN OPEN AG AREAS WITH PERMISSION FROM THE PROPERTY OWNER AND A BURN PERMIT FROM THE TOWNSHIP.
41. CONTRACTOR SHALL STRIP TOPSOIL AND STOCKPILE FOR USE AS TOPSOIL AS DIRECTED BY THE ENGINEER.
42. ALL YARD AREAS DISTURBED OR DAMAGED DURING CONSTRUCTION SHALL BE RESTORED WITH A MINIMUM OF 4" OF TOPSOIL.
43. ALL DISTURBED AREAS SHALL BE FINISH GRADED, SEEDED AND MULCHED DAILY PER THE PROJECT SPECIFICATIONS.

MICHIGAN ASSOCIATION OF COUNTY DRAIN COMMISSIONERS SOIL EROSION AND SOIL EROSION CONTROL KEYING SYSTEM

EROSION CONTROL MEASURES

KEY	SESC MEASURE	SYMBOL	WHERE USED
1	SEEDING		When bare soil is exposed, temporarily or permanently, to erosive forces from wind and or water on flat areas, mild slopes, grassed waterways and spillways, diversion ditches and dikes, borrow and stockpile areas, and spoil piles.
2	MULCH		On flat areas, mild 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.
3	SODDING		When a temporary or permanent vegetative cover is necessary or desired to prevent soil erosion and filter sediment in residential, commercial or high traffic areas; or on steep slopes, auxiliary spillways, and grassed swales
4	TREES, SHRUBS, VINES, AND GROUND COVER		When bare soil or recently vegetated slopes are exposed to erosive forces from wind and/or water
5	PERIMETER SEDIMENT CONTROL MEASURES (SILT FENCE, STRAW WATTLES, ETC.)		As a temporary measure used to capture sediment from sheet flow. May also divert small volumes of sheet flow to protected outlets.
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 newly constructed catch basin or an inlet that will capture runoff from an earth change activity.
8	LIVE STAKING		Slopes and drain banks, wetland buffer and reservoir drawdown areas. In areas requiring stabilization but with limited access for equipment or when little site disturbance is required.
9	VEGETATION REMOVAL WITHOUT GRUBBING	Grubbing Omitted	Retains existing root mat which assists in stabilizing slopes. Assists in the revegetation process by providing sprout growth. Reduces sheet flow velocities preventing rilling and gullying. Discourages off-road vehicle use.
10	SOIL BINDING POLYMERS	Erosion Control	Over all exposed soil surfaces or prepared seed beds that need protection from precipitation impact, sheet flow, rill flow or wind prior to erosive force impact.
11	POLYMER FLOCCULANTS	Sediment Control	Where turbid water can be collected and suspended sediments removed prior to discharging runoff to a lake, stream, drain, or a wetland or runoff leaves the drain easement.
12	PLASTIC SHEETING OR GEOTEXTILE COVER		As a temporary measure to line a channel, cover stockpile areas or to provide immediate cover on exposed slopes
13	SLOPE STABILIZATION		Slope stabilization measures provide an immediate and effective cover over raw erodible slopes affording excellent protection against rain and wind erosion.
14	SLOPE ROUGHENING AND SCARIFICATION		On disturbed slopes and stream or drain banks when site grading or construction activities result in grades that may cause increased erosive velocities or off-site sedimentation.
15	RIPRAP		Along drain banks, shorelines, or where concentrated flows occur. Slows velocity, reduces erosion and sediment load.
16	RIPRAP TOE OF SLOPE		Riprap and toe of slope protection is used in areas where velocities are causing drain bank erosion and are too high to stabilize using other methods
17	WATTLES		Where a slope or streambank requires stabilization and minimal disturbance is preferred or the site has limited access.

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

SYMBOLOGY FOR INSERTION INTO CONSTRUCTION DRAWINGS:

/ P = PERMANENT MEASURE

/ T = TEMPORARY MEASURE

EROSION CONTROL MEASURES

KEY	SESC MEASURE	SYMBOL	WHERE USED
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.
20	TOE DRAIN		Were piping is causing erosion and unstable drain banks.
21	PIPE DROP SPILLWAY		Where surface runoff accumulates at the top of a slope and must be conveyed, either temporarily or permanently, from a higher to lower elevation within a short horizontal distance, down steep slopes, or when soils are highly erodible or excessively wet. Also used when velocities must be reduced to prevent channel scour or drain bank erosion at the outlet.
22	SLOPED PIPE SPILLWAY		Where surface runoff accumulates at the top of a slope and must be conveyed to a lower elevation without causing slope erosion, gully formation, slope failure, or channel scour.
23	OUTFALL STABILIZATION		In the stream or drain bank usually above the ordinary high water mark where an endosed drain or tile discharges to an open drain.
24	ENERGY DISSIPATORS		Where the discharge velocity of concentrated flow exceeds the erosive velocity of the receiving area or channel.
25	SAND OR STONE FILLED BAGS		Within or adjacent to a stream to isolate or divert flow during construction. Can also be used to temporarily impound water for very short time periods.
26	DUST CONTROL		As a temporary measure on exposed and unstabilized areas that must be protected from wind or water erosion.
27	STABILIZED SURFACE COVER		Can be used in any area where a stable condition is needed for construction operations, equipment storage or in heavy traffic areas. Reduces potential soil erosion and fugitive dust by stabilizing raw areas.
28	STABILIZED CONSTRUCTION ACCESS		At locations where construction equipment will enter and exit the drain easement and tracking of soil is anticipated.
29	CHECK DAM		In constructed and existing flow corridors to reduce flow velocities.
30	VEGETATED BUFFER STRIPS		Along stream and drain corridors, sensitive areas, and shorelines when earth changes will occur during a drain maintenance or improvement project or when an eroding bank or drain easement area needs to be stabilized.
31	DIVERSION DIKE		Runoff needs to be diverted around sensitive areas, unstable or easily eroded soils, bare soils, away from steep banks, or around earth change activities.
32	DIVERSION DITCH		Runoff needs to be intercepted and or diverted around sensitive areas, unstable or easily eroded soils, bare soils, away from steep banks, or around earth change activities.
33	STONE FILTER BERM		When runoff must be filtered prior to entering a lake, stream, drain or wetland. Never use in place of a check dam in a flowing stream.
34	SAND FENCE		In areas susceptible to wind erosion, particularly where the soil has not yet been stabilized by other means. To re-build a slope.

EROSION CONTROL MEASURES

KEY	SESC MEASURE	SYMBOL	WHERE USED
35	TEMPORARY BYPASS CHANNEL		In and adjacent to a stream when flow conditions prevent completing work activity without diverting flow around a work area
36	SEDIMENT BASIN		When working in the drain, or drain easement. In streams or drains where sediment sumps are inadequate.
37	SEDIMENT SUMP (TRAP)		When working in the drain, or drain easement and the soil disturbance and anticipated sediment is limited.
38	SHEET PILING		As a permanent measure in locations where a vertical bank is required and other erosion control measures have failed. As a weir. As a temporary cofferdam during construction.
39	DEWATERING		When construction or maintenance activities are limited by the presence of water and a dry work area is required.
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.

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SAGINAW COUNTY
PUBLIC WORKS COMMISSIONER
SHORTS CREEK DRAIN

GENERAL CONSTRUCTION NOTES AND SOIL EROSION CONTROL DETAILS

SHORTS CREEK DRAIN IMPROVEMENTS

ISSUED FOR: BIDDING | DATE: 3/22/21 | BY: TJK

JOB NO. SPW2007.01F

SHEET 3.0

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C:\PW_WORK2\D1026189\CD1-PLTS-LEGEND-NOTES.DWG - 3.0 - PLOTTED 3/23/2021 4:31 PM BY KRAGENBRINK, TANNER
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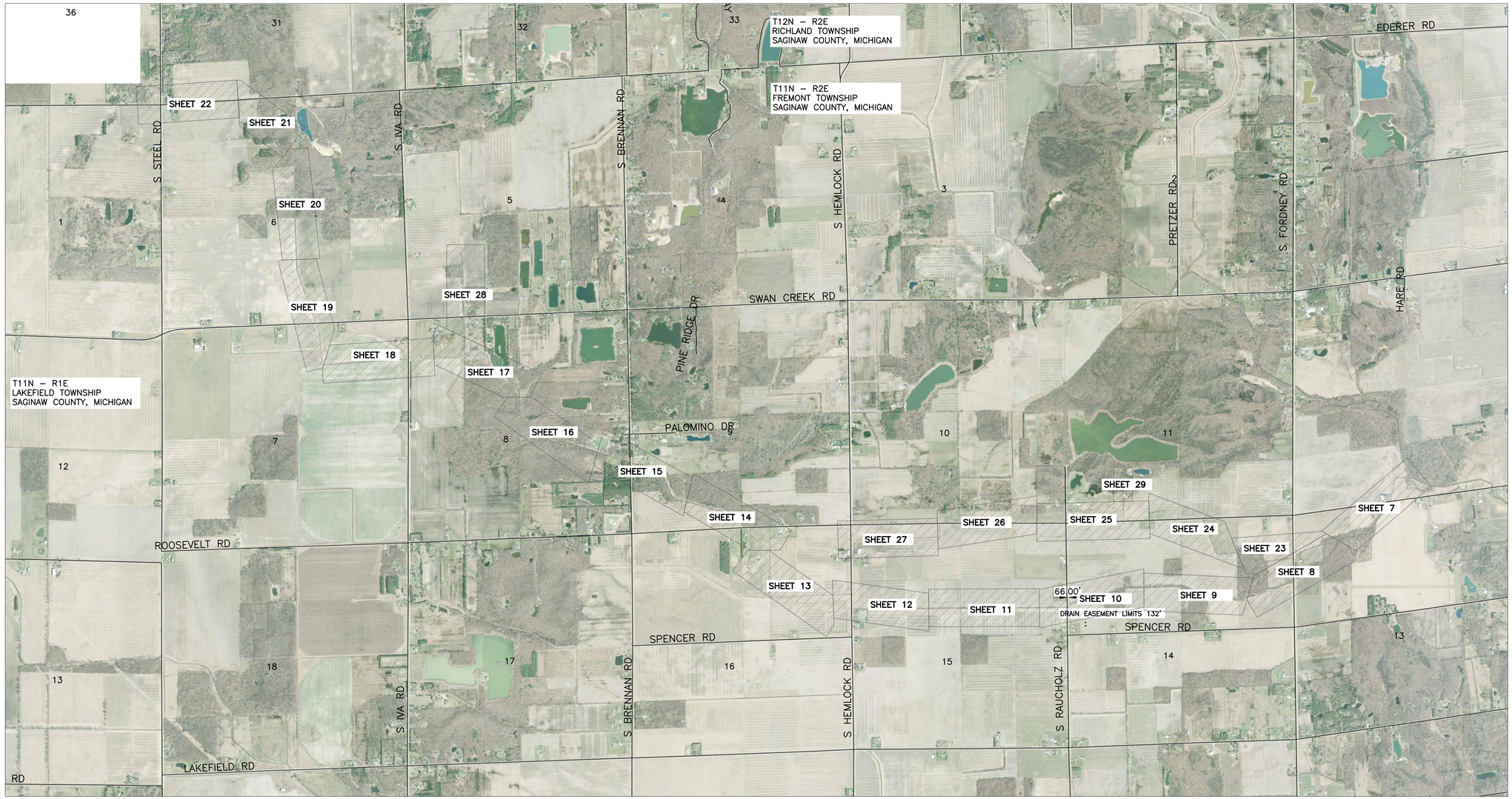

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SAGINAW COUNTY PUBLIC WORKS COMMISSIONER SHORTS CREEK DRAIN

PLAN INDEX SHEET

ISSUED FOR:	DATE:	BY:
BIDDING	3/22/21	TJK

JOB NO. SPW2007.01F

SHEET 4.0

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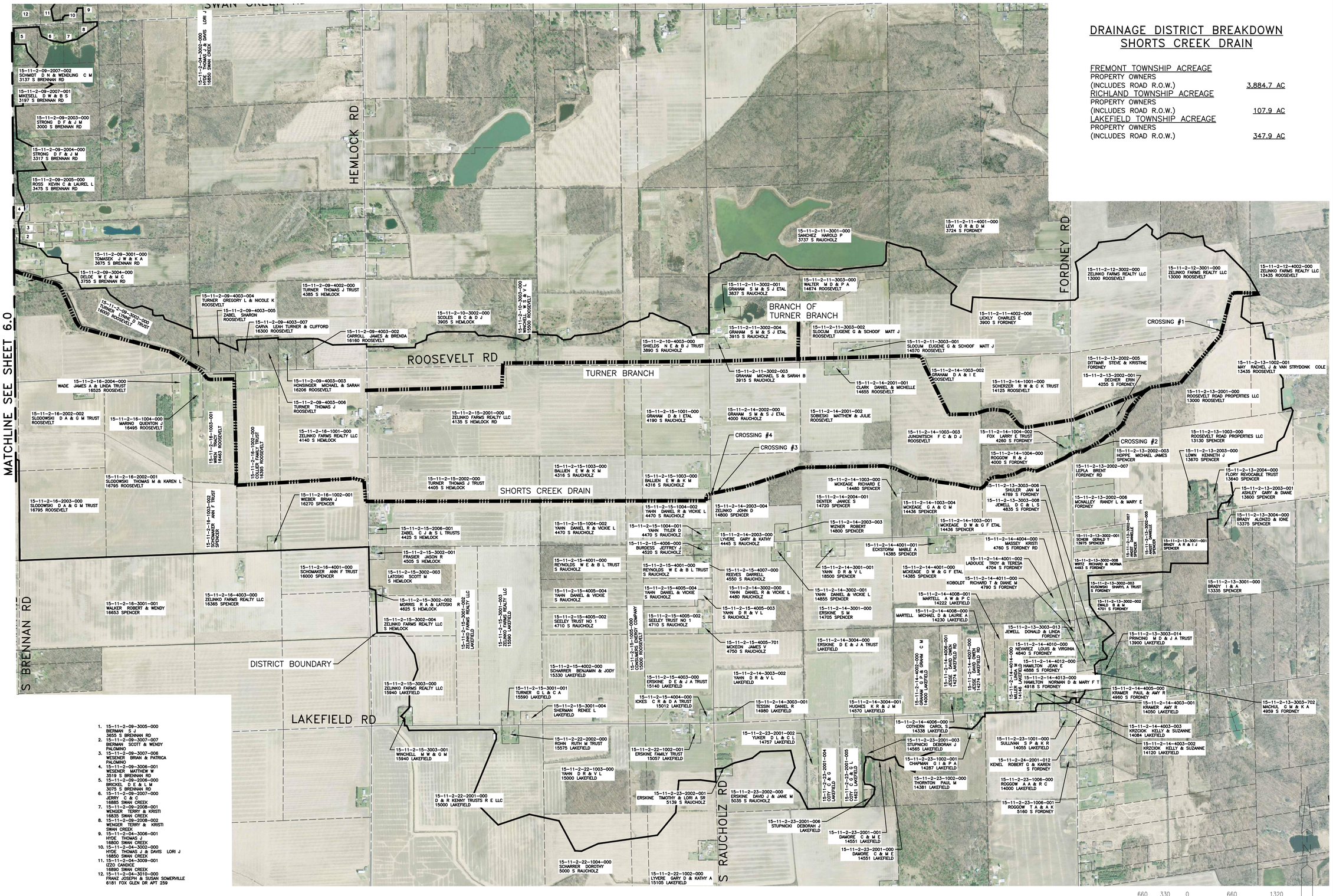

DRAINAGE DISTRICT BREAKDOWN
SHORTS CREEK DRAIN

FREMONT TOWNSHIP ACREAGE	
PROPERTY OWNERS	
(INCLUDES ROAD R.O.W.)	3,884.7 AC
RICHLAND TOWNSHIP ACREAGE	
PROPERTY OWNERS	
(INCLUDES ROAD R.O.W.)	107.9 AC
LAKEFIELD TOWNSHIP ACREAGE	
PROPERTY OWNERS	
(INCLUDES ROAD R.O.W.)	347.9 AC

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SAGINAW COUNTY
PUBLIC WORKS COMMISSIONER
SHORTS CREEK DRAIN

DISTRICT MAP

ISSUED FOR:	DATE:	BY:
BIDDING	3/22/21	TJK

JOB NO. SPW2007.01F

SHEET 5.0

SHORTS CREEK DRAIN IMPROVEMENTS

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C:\PW_WORK2\D1026189\GDM-PLTS-DISTRICT MAP.DWG - 5.0 - PLOTTED 3/25/2021 11:40 AM BY KRAGENBRINK, TANNER
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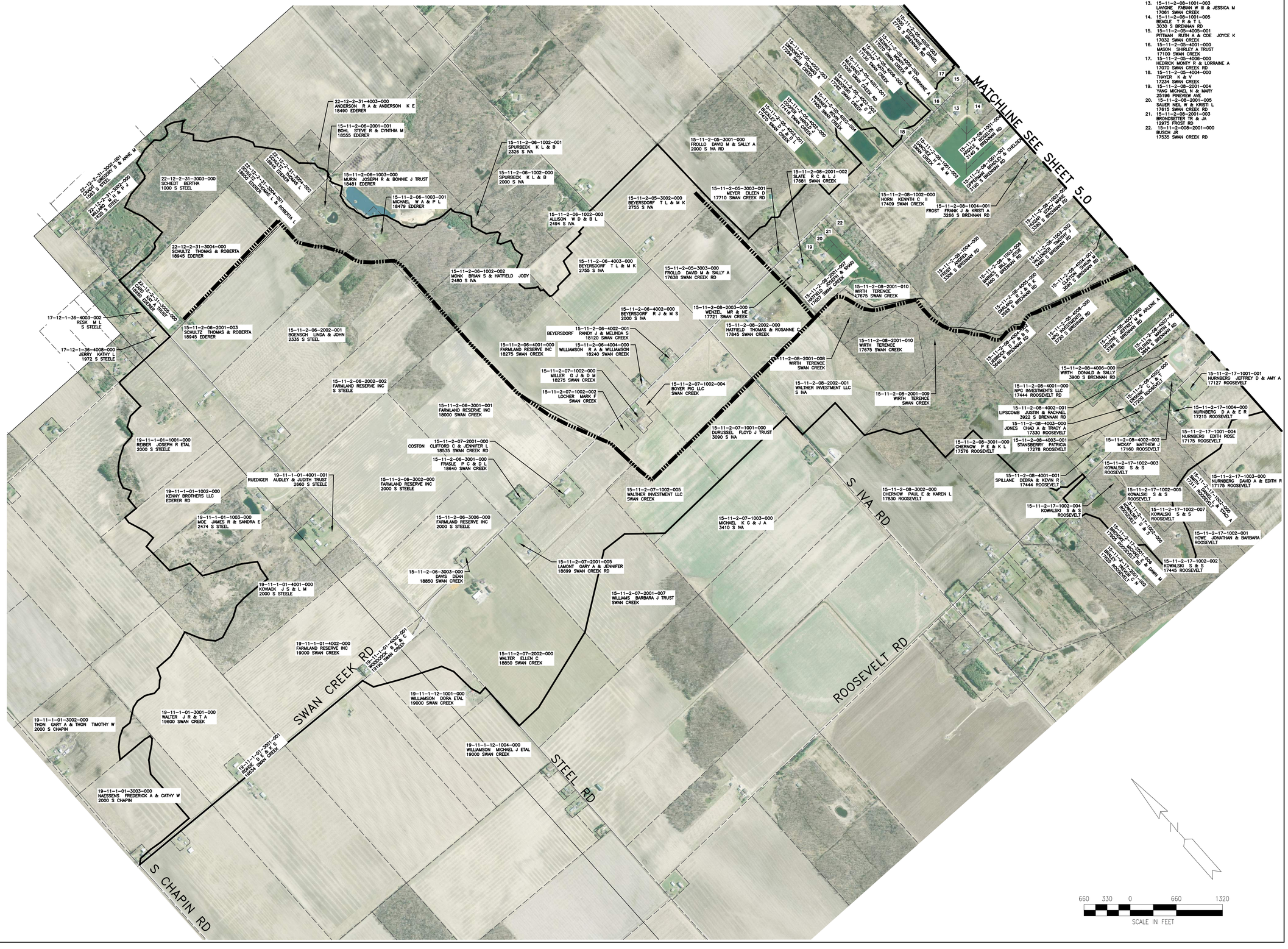

13. 15-11-2-08-1001-003
LAWGNE FABIAN W III & JESSICA M
17061 SWAN CREEK
14. 15-11-2-08-1001-005
BEAGLE T R & T L
3030 S BRENNAN RD
15. 15-11-2-05-4005-001
PITTMAN RUTH A & COE JOYCE K
17032 SWAN CREEK
16. 15-11-2-05-4001-000
MASON SHIRLEY A TRUST
17100 SWAN CREEK
17. 15-11-2-05-4006-000
HEDRICK MONTY R & LORRAINE A
17070 SWAN CREEK RD
18. 15-11-2-05-4004-000
THAYER K & V
17234 SWAN CREEK
19. 15-11-2-08-2001-004
YANG MICHAEL N & MARY
23196 PINEVIEW AVE
20. 15-11-2-08-2001-005
SAUER NEIL W & KRISTI L
17615 SWAN CREEK RD
21. 15-11-2-08-2001-003
BRONDSEITER TR & JA
12975 FROST RD
22. 15-11-2-008-2001-000
BUSCH JR
17535 SWAN CREEK RD

REV#	DATE	DESCRIPTION	BY

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SAGINAW COUNTY PUBLIC WORKS COMMISSIONER SHORTS CREEK DRAIN

DISTRICT MAP

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JOB NO. SPW2007.01F

SHEET 6.0

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ELEV:608.79
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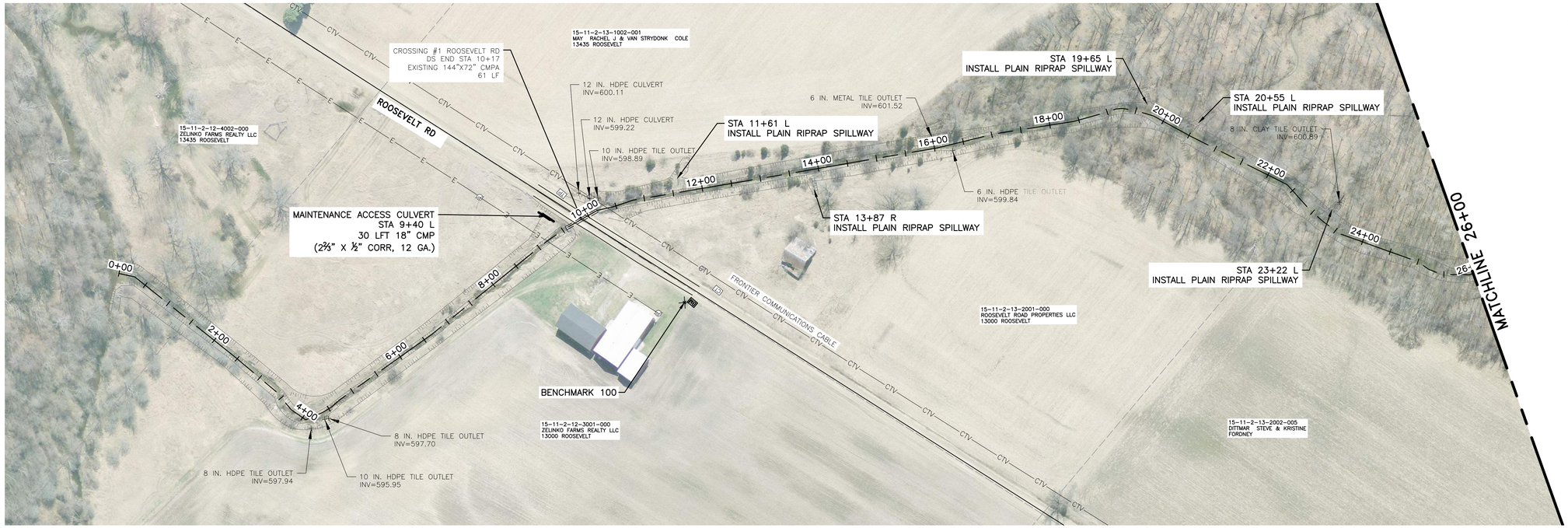


SPOIL LEVELING TABLE

FROM STATION	TO STATION	DETAIL	SIDE TO EXCAVATE FROM
P.O.B.	1+80	TYPE D	LEFT
1+80	10+00	TYPE C	LEFT
10+00	26+00	TYPE B	RIGHT

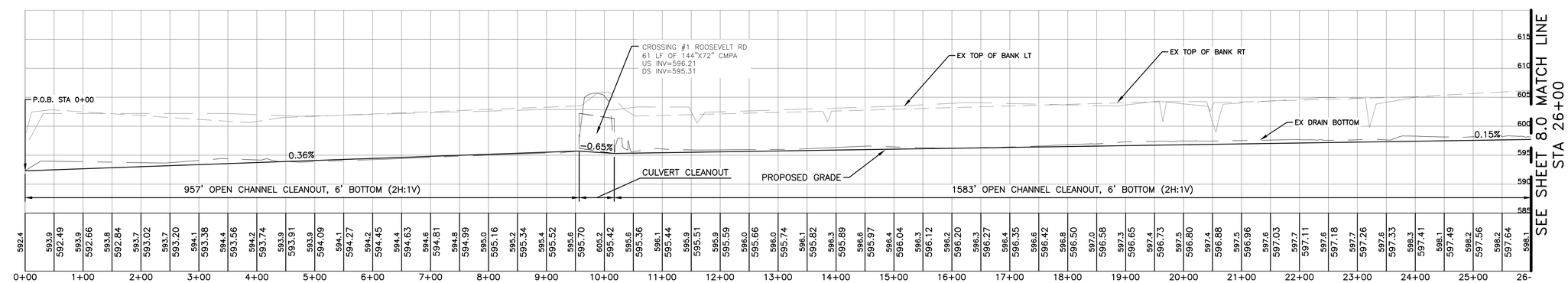
CLEARING AND GRUBBING TABLE

FROM STATION	TO STATION	CLEAR AND GRUB LEFT	CLEAR AND GRUB RIGHT
P.O.B.	1+80	℄ TO 40'	℄ TO 10'
1+80	10+00	℄ TO 10'	℄ TO 10'
10+00	26+00	℄ TO 10'	℄ TO 40'

EROSION CONTROL TABLE

KEY	FROM STATION	TO STATION	SIDE	DESCRIPTION	QUANTITY
1/T	P.O.B.	26+00	BOTH	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
2/T	P.O.B.	26+00	BOTH	MULCHING OF ONLY DISTURBED LAWN AREAS	LUMP SUM
19/P	P.O.B.	26+00	BOTH	RIPRAP SPILLWAY WHERE BANK EROSION EXISTS	7 EA
16/P	3+50	4+50	RIGHT	TOE OF SLOPE RIPRAP	100 LFT

100 50 0 100 200
SCALE IN FEET



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C:\FW_WORK2\D1026189\CSP-PLTS-SHORTS CREEK MAIN PLAN PROFILE.DWG - 7.0 - PLOTTED 3/23/2021 4:35 PM BY KRAGENBRINK, TANNER
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PUBLIC WORKS COMMISSIONER
SHORTS CREEK DRAIN

PLAN AND PROFILE

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BIDDING	3/22/21	TJK

SHORTS CREEK DRAIN IMPROVEMENTS

JOB NO.
SPW2007.01F

SHEET
7.0

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BENCHMARK #103
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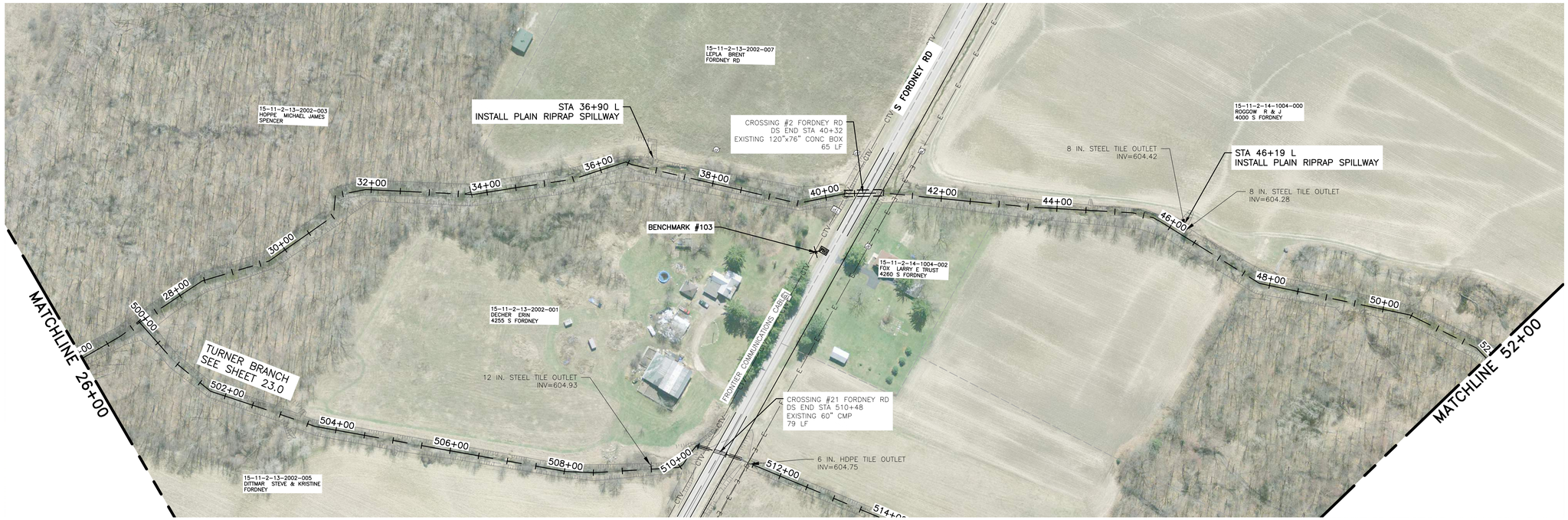
E:13170310.65
ELEV:610.50
IRON ROD WITH CAP



SPOIL LEVELING TABLE

FROM STATION	TO STATION	DETAIL	SIDE TO EXCAVATE FROM
26+00	34+30	TYPE D	LEFT
34+30	40+20	TYPE C	LEFT
40+20	43+00	HAUL	RIGHT
43+00	47+50	TYPE A	RIGHT
47+50	52+00	TYPE B	RIGHT

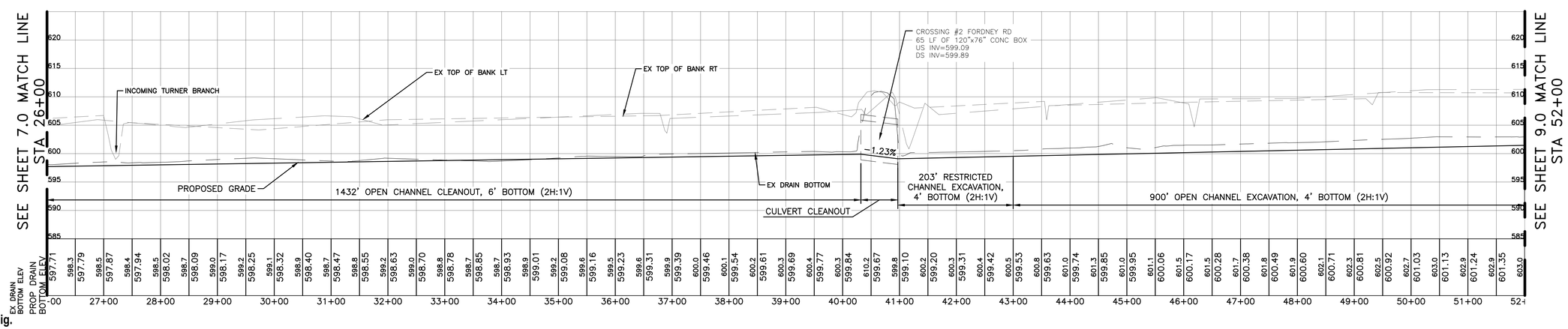
CLEARING AND GRUBBING TABLE

FROM STATION	TO STATION	CLEAR AND GRUB LEFT	CLEAR AND GRUB RIGHT
26+00	36+86	℄ TO 40'	℄ TO 10'
36+86	47+50	℄ TO 10'	℄ TO 10'
47+50	52+00	℄ TO 10'	℄ TO 40'

EROSION CONTROL TABLE

KEY	FROM STATION	TO STATION	SIDE	DESCRIPTION	QUANTITY
1/T	26+00	52+00	BOTH	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
2/T	26+00	52+00	BOTH	MULCHING OF ONLY DISTURBED LAWN AREAS	LUMP SUM
19/P	26+00	52+00	BOTH	RIPRAP SPILLWAY WHERE BANK EROSION EXISTS	4 EA

100 50 0 100 200
SCALE IN FEET



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SHORTS CREEK DRAIN

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SHORTS CREEK DRAIN IMPROVEMENTS

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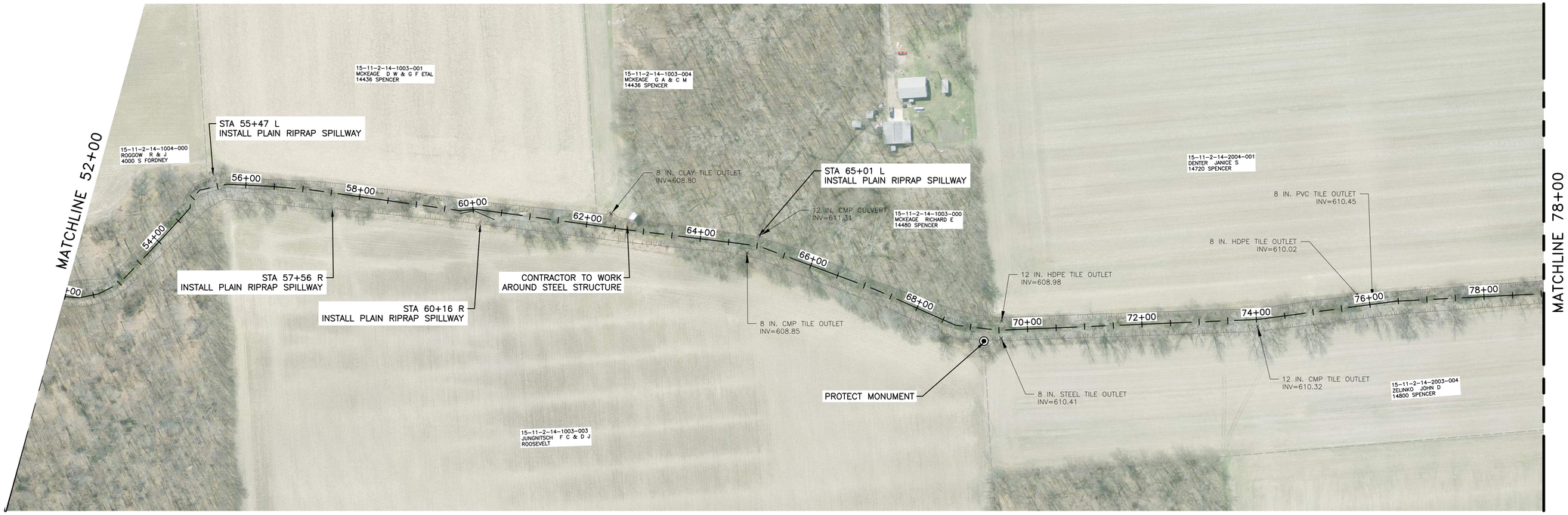


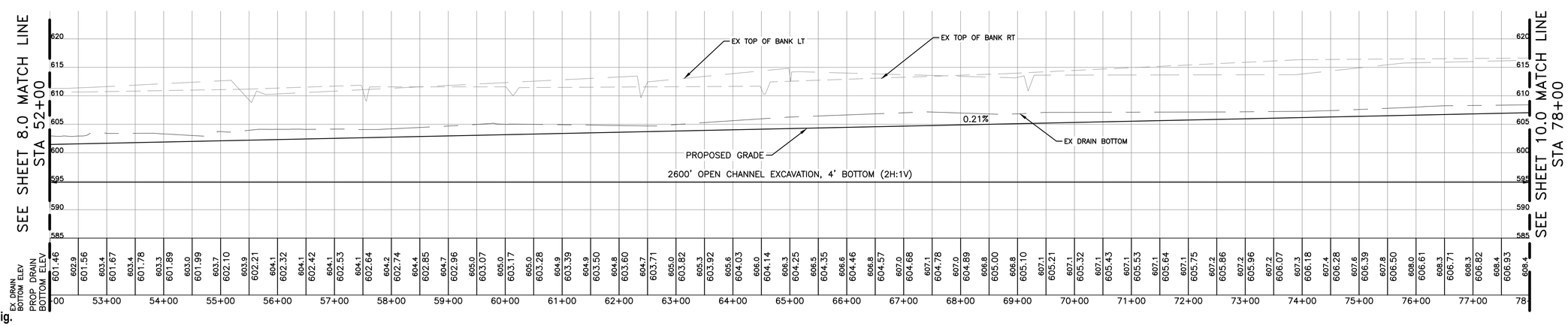
SPOIL LEVELING TABLE			
FROM STATION	TO STATION	DETAIL	SIDE TO EXCAVATE FROM
52+00	55+51	TYPE B	RIGHT
55+51	69+21	TYPE A	RIGHT
69+21	78+00	TYPE B	RIGHT

CLEARING AND GRUBBING TABLE			
FROM STATION	TO STATION	CLEAR AND GRUB LEFT	CLEAR AND GRUB RIGHT
52+00	55+51	℄ TO 10'	℄ TO 40'
55+51	69+21	℄ TO 10'	℄ TO 10'
69+21	78+00	℄ TO 10'	℄ TO 40'

EROSION CONTROL TABLE					
KEY	FROM STATION	TO STATION	SIDE	DESCRIPTION	QUANTITY
1/T	52+00	78+00	BOTH	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
2/T	52+00	78+00	BOTH	MULCHING OF ONLY DISTURBED LAWN AREAS	LUMP SUM
19/P	52+00	78+00	BOTH	RIPRAP SPILLWAY WHERE BANK EROSION EXISTS	6 EA

100 50 0 100 200
SCALE IN FEET

N



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SHEET 9.0

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BENCHMARK #107
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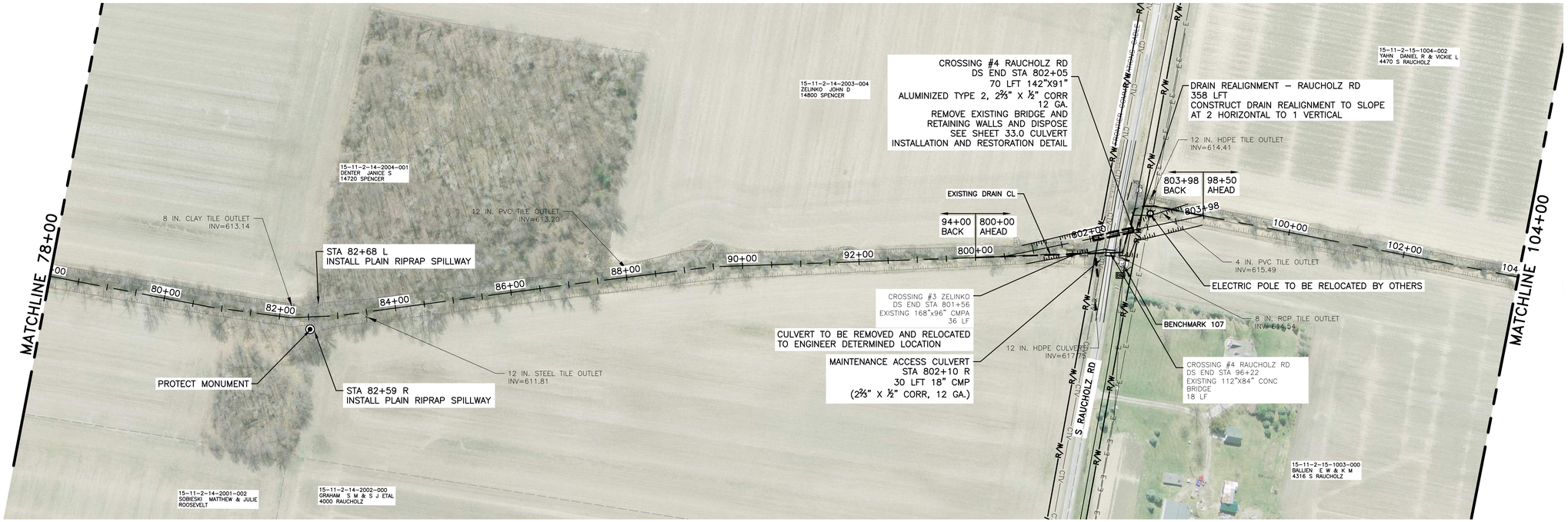
E:13164932.87
ELEV:619.54
IRON ROD WITH CAP



SCALE IN FEET

SPOIL LEVELING TABLE

FROM STATION	TO STATION	DETAIL	SIDE TO EXCAVATE FROM
78+00	104+00	TYPE B	RIGHT

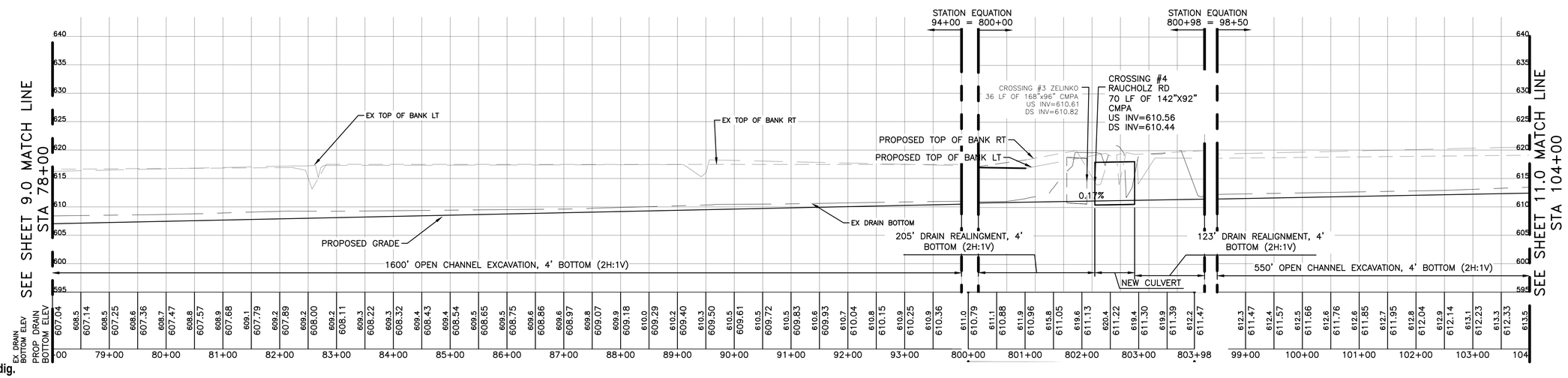
STA 802+05
CONTRACTOR TO CLOSE ROAD FOR CONSTRUCTION. TRAFFIC CONTROL SHALL BE AS STIPULATED BY THE CURRENT ISSUE OF THE MMUTCD AS AMENDED. CONTRACTOR SHALL OBTAIN PERMIT TO WORK WITHIN ROAD RIGHT-OF-WAY FROM SAGINAW COUNTY ROAD COMMISSION PRIOR TO WORK. SPOIL HAULING TO BE INCLUDED IN THE UNIT PRICE FOR OPEN CHANNEL EXCAVATION.

CLEARING AND GRUBBING TABLE

FROM STATION	TO STATION	CLEAR AND GRUB LEFT	CLEAR AND GRUB RIGHT
78+00	96+30	℄ TO 10'	℄ TO 40'
96+30	104+00	℄ TO 10'	℄ TO 10'

EROSION CONTROL TABLE

KEY	FROM STATION	TO STATION	SIDE	DESCRIPTION	QUANTITY
1/T	78+00	104+00	BOTH	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
2/T	78+00	104+00	BOTH	MULCHING OF ONLY DISTURBED LAWN AREAS	LUMP SUM
19/P	78+00	104+00	BOTH	RIPRAP SPILLWAY WHERE BANK EROSION EXISTS	5 EA
16/P	96+72	96+87	RIGHT	TOE OF SLOPE RIPRAP	15 LFT
16/P	97+32	97+62	LEFT	TOE OF SLOPE RIPRAP	30 LFT



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PUBLIC WORKS COMMISSIONER
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PLAN AND PROFILE

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JOB NO. SPW2007.01F

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SPOIL LEVELING TABLE

FROM STATION	TO STATION	DETAIL	SIDE TO EXCAVATE FROM
104+00	130+00	TYPE A	RIGHT

CLEARING AND GRUBBING TABLE

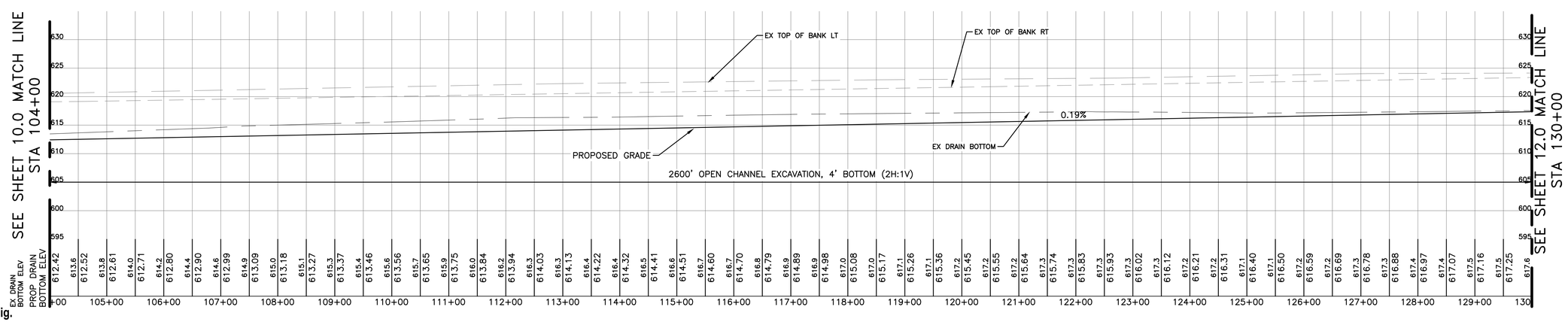
FROM STATION	TO STATION	CLEAR AND GRUB LEFT	CLEAR AND GRUB RIGHT
104+00	130+00	℄ TO 10'	℄ TO 10'

EROSION CONTROL TABLE

KEY	FROM STATION	TO STATION	SIDE	DESCRIPTION	QUANTITY
1/T	104+00	130+00	BOTH	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
2/T	104+00	130+00	BOTH	MULCHING OF ONLY DISTURBED LAWN AREAS	LUMP SUM
19/P	104+00	130+00	BOTH	RIPRAP SPILLWAY WHERE BANK EROSION EXISTS	2 EA

100 50 0 100 200
SCALE IN FEET

N



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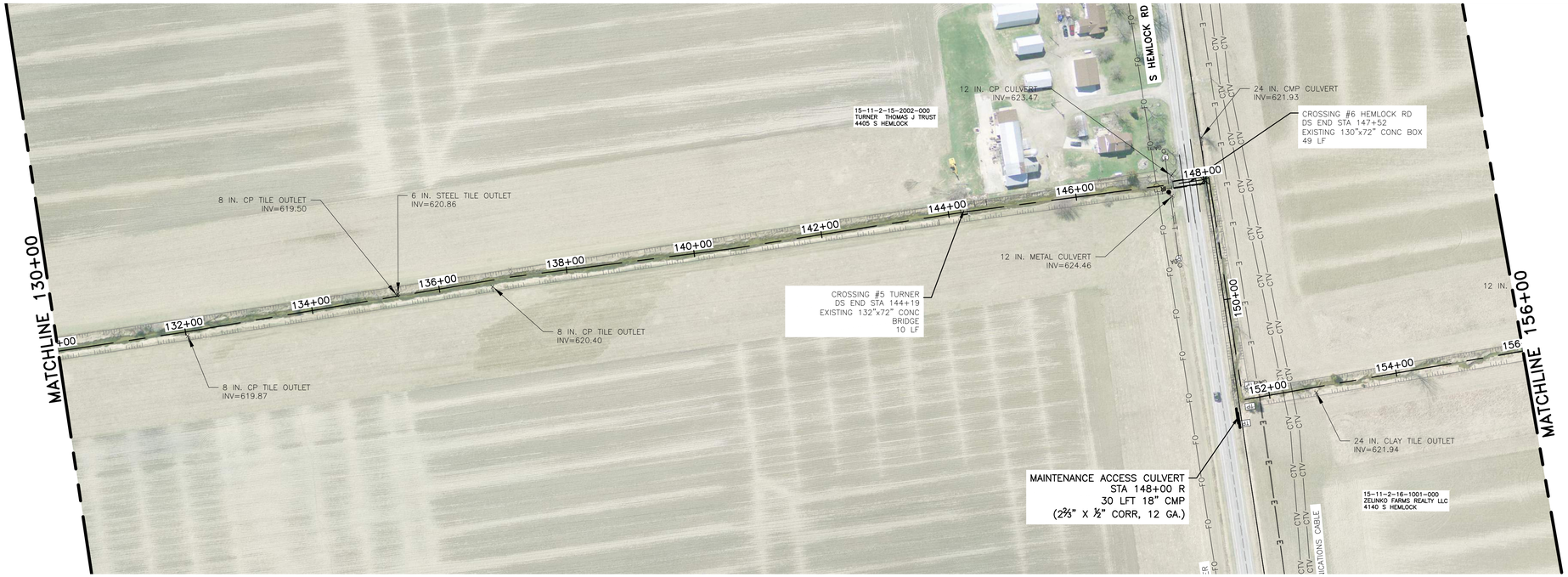


SPOIL LEVELING TABLE

FROM STATION	TO STATION	DETAIL	SIDE TO EXCAVATE FROM
130+00	156+00	TYPE A	RIGHT

CLEARING AND GRUBBING TABLE

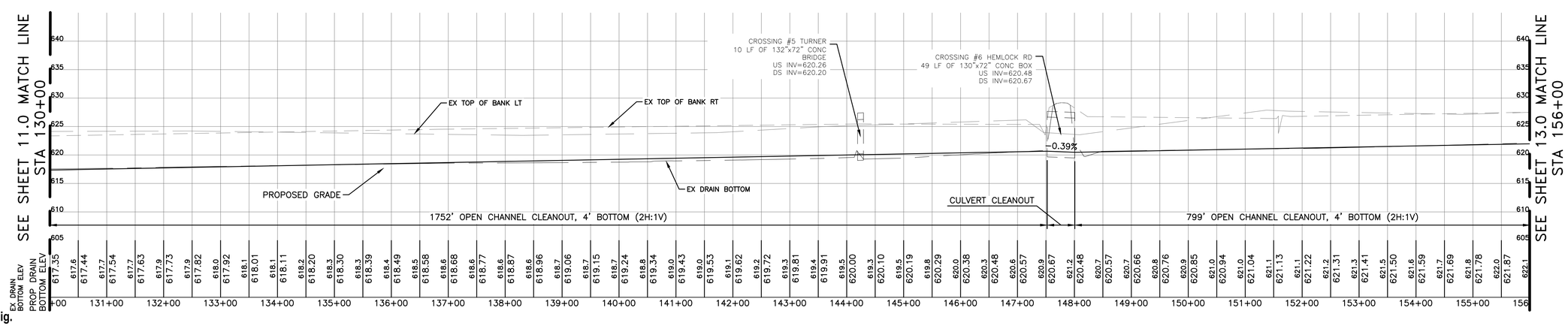
FROM STATION	TO STATION	CLEAR AND GRUB LEFT	CLEAR AND GRUB RIGHT
130+00	156+00	℄ TO 10'	℄ TO 10'

EROSION CONTROL TABLE

KEY	FROM STATION	TO STATION	SIDE	DESCRIPTION	QUANTITY
1/T	130+00	156+00	BOTH	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
2/T	130+00	156+00	BOTH	MULCHING OF ONLY DISTURBED LAWN AREAS	LUMP SUM
19/P	130+00	156+00	BOTH	RIPRAP SPILLWAY WHERE BANK EROSION EXISTS	2 EA
16/P	148+05	148+25	LEFT	TOE OF SLOPE RIPRAP	20 LFT
16/P	151+50	151+70	RIGHT	TOE OF SLOPE RIPRAP	20 LFT

100 50 0 100 200
SCALE IN FEET

N



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FIELD BOOK INFORMATION:—
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SHORTS CREEK DRAIN IMPROVEMENTS

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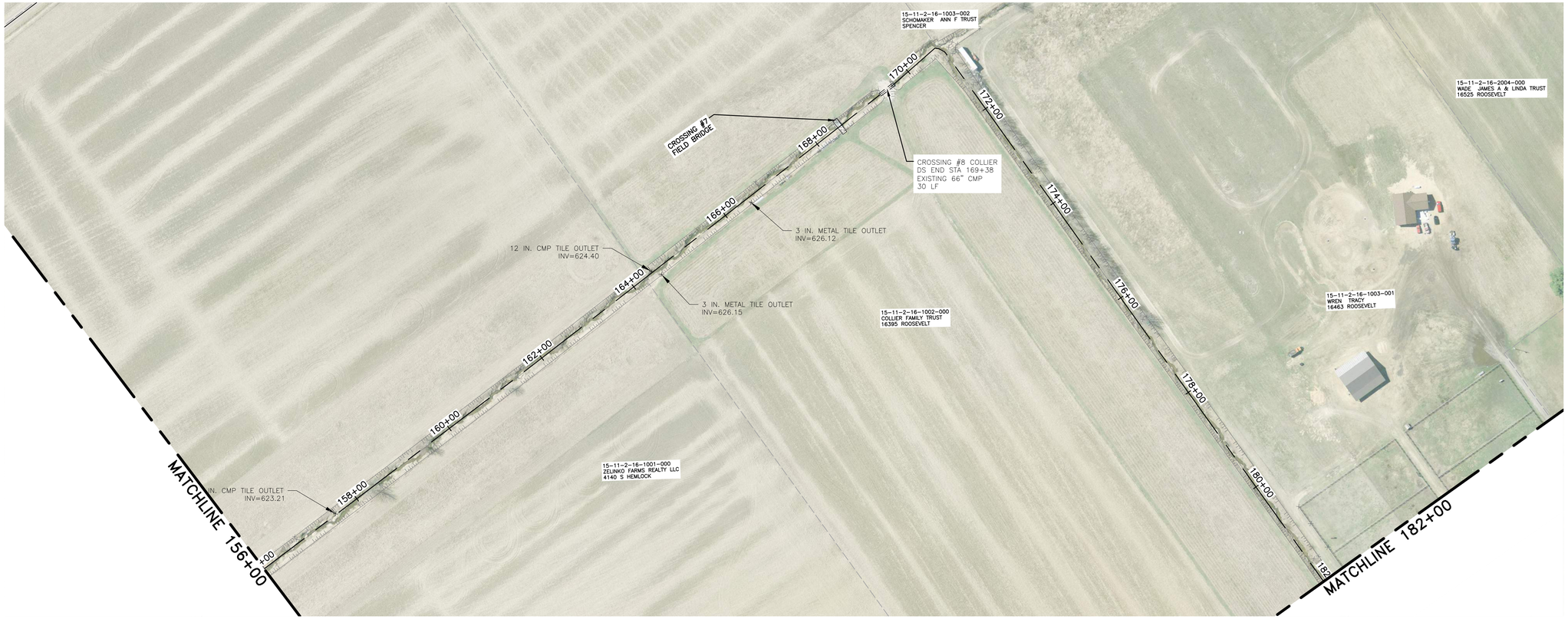


100 50 0 100 200
SCALE IN FEET

SPOIL LEVELING TABLE

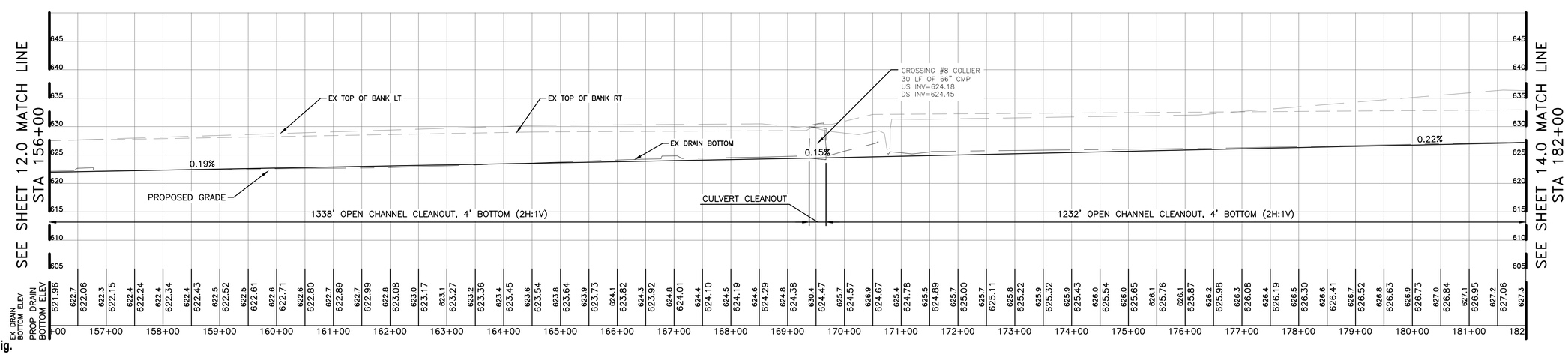
FROM STATION	TO STATION	DETAIL	SIDE TO EXCAVATE FROM
156+00	182+00	TYPE A	RIGHT

CLEARING AND GRUBBING TABLE

FROM STATION	TO STATION	CLEAR AND GRUB LEFT	CLEAR AND GRUB RIGHT
156+00	182+00	℄ TO 10'	℄ TO 10'

EROSION CONTROL TABLE

KEY	FROM STATION	TO STATION	SIDE	DESCRIPTION	QUANTITY
1/T	156+00	182+00	BOTH	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
2/T	156+00	182+00	BOTH	MULCHING OF ONLY DISTURBED LAWN AREAS	LUMP SUM
19/P	156+00	182+00	BOTH	RIPRAP SPILLWAY WHERE BANK EROSION EXISTS	3 EA
16/P	170+50	170+70	LEFT	TOE OF SLOPE RIPRAP	20 LFT



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REV#	DATE	DESCRIPTION	BY

WADE TRIM
565 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
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SAGINAW COUNTY PUBLIC WORKS COMMISSIONER SHORTS CREEK DRAIN

PLAN AND PROFILE

ISSUED FOR:	DATE:	BY:
BIDDING	3/22/21	TJK

JOB NO. SPW2007.01F

SHEET 13.0

SHORTS CREEK DRAIN IMPROVEMENTS

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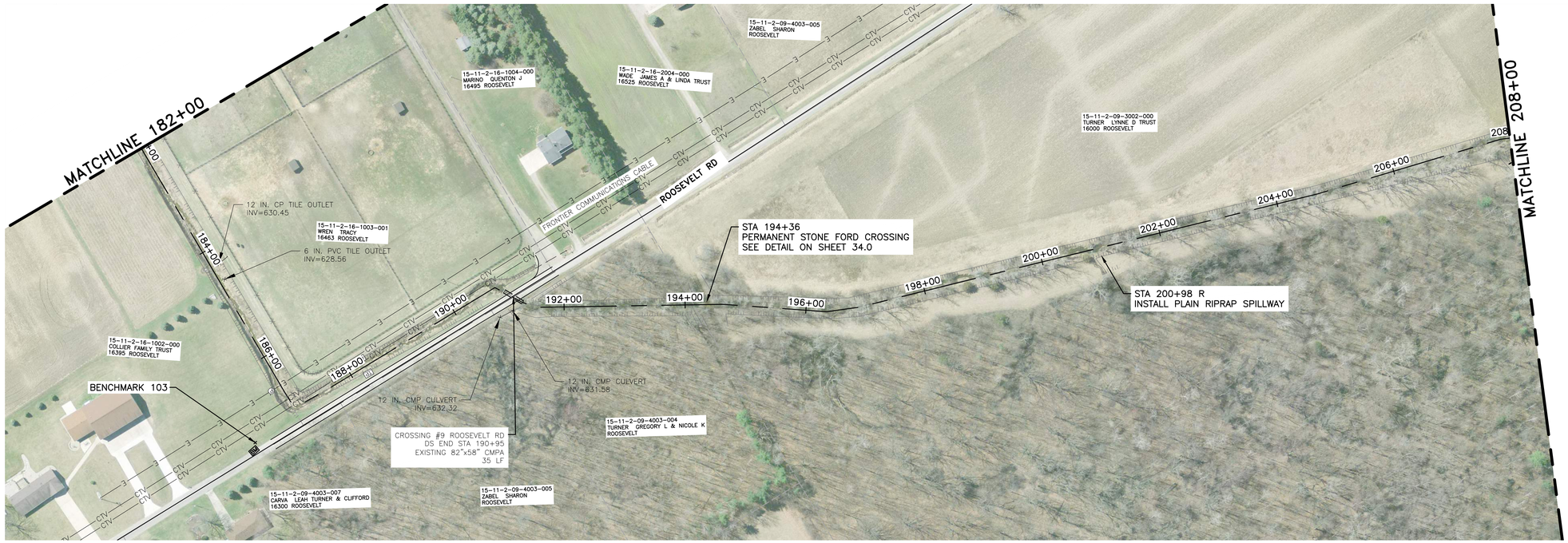
PROJECT MANAGER:JASON KENYON
C:\PW_WORK2\D1026189\CSP-PLTS-SHORTS CREEK MAIN PLAN PROFILE.DWG - 13.0 - PLOTTED 3/23/2021 4:39 PM BY KRAGENBRINK, TANNER
FIELD BOOK INFORMATION:-

BENCHMARK #103
N:678914.62
E:131158016.49
ELEV:634.97
IRON ROD WITH CAP



SPOIL LEVELING TABLE

FROM STATION	TO STATION	DETAIL	SIDE TO EXCAVATE FROM
182+00	191+00	TYPE A	RIGHT
191+00	208+00	TYPE B	RIGHT

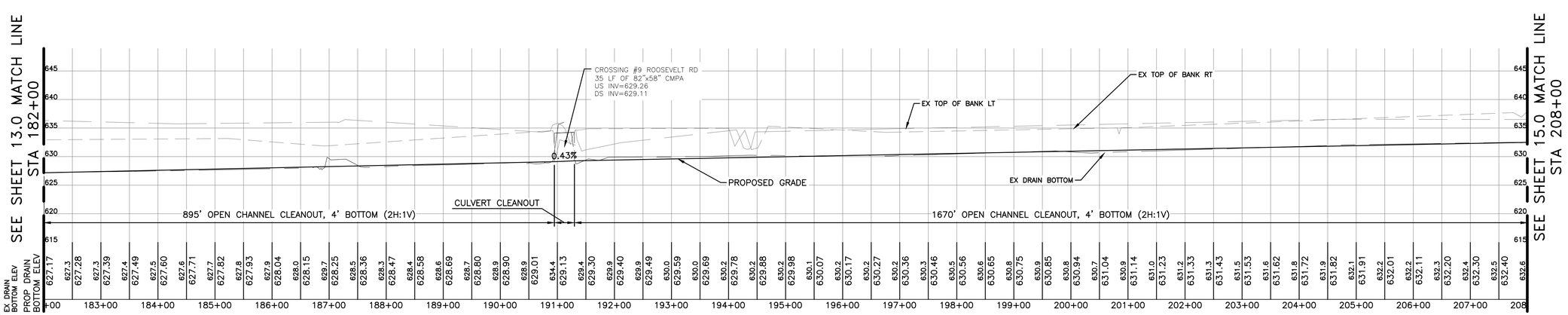
CLEARING AND GRUBBING TABLE

FROM STATION	TO STATION	CLEAR AND GRUB LEFT	CLEAR AND GRUB RIGHT
182+00	208+00	℄ TO 10'	℄ TO 10'

EROSION CONTROL TABLE

KEY	FROM STATION	TO STATION	SIDE	DESCRIPTION	QUANTITY
1/T	182+00	208+00	BOTH	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
2/T	182+00	208+00	BOTH	MULCHING OF ONLY DISTURBED LAWN AREAS	LUMP SUM
19/P	182+00	208+00	BOTH	RIPRAP SPILLWAY WHERE BANK EROSION EXISTS	2 EA
16/P	176+75	177+10	RIGHT	TOE OF SLOPE RIPRAP	35 LFT
16/P	190+60	190+90	LEFT	TOE OF SLOPE RIPRAP	30 LFT

100 50 0 100 200
SCALE IN FEET



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PROJECT MANAGER:JASON KENYON
C:\PW_WORK2\D1026189\CSP-PLTS-SHORTS CREEK MAIN PLAN PROFILE.DWG - 14.0 - PLOTTED 3/23/2021 4:40 PM BY KRAGENBRINK, TANNER
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PUBLIC WORKS COMMISSIONER
SHORTS CREEK DRAIN

PLAN AND PROFILE

ISSUED FOR: DATE: BY:
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JOB NO. SPW2007.01F

SHEET 14.0

SHORTS CREEK DRAIN IMPROVEMENTS

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BENCHMARK #108
N:680300.29
E:13154707.18
ELEV:643.21
IRON ROD WITH CAP

SPOIL LEVELING TABLE

FROM STATION	TO STATION	DETAIL	SIDE TO EXCAVATE FROM
208+00	234+00	TYPE B	RIGHT

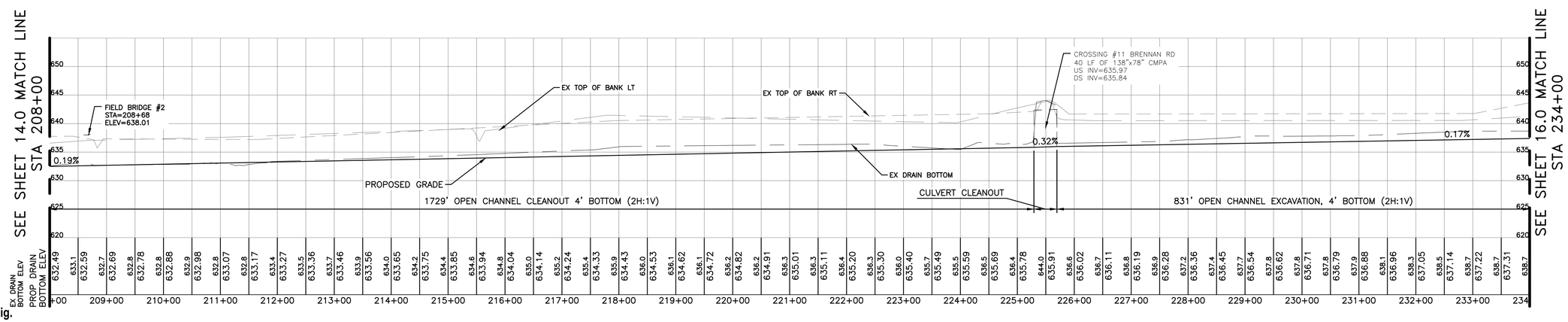
CLEARING AND GRUBBING TABLE

FROM STATION	TO STATION	CLEAR AND GRUB LEFT	CLEAR AND GRUB RIGHT
208+00	234+00	℄ TO 10'	℄ TO 40'

EROSION CONTROL TABLE

KEY	FROM STATION	TO STATION	SIDE	DESCRIPTION	QUANTITY
1/T	208+00	234+00	BOTH	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
2/T	208+00	234+00	BOTH	MULCHING OF ONLY DISTURBED LAWN AREAS	LUMP SUM
19/P	208+00	234+00	BOTH	RIPRAP SPILLWAY WHERE BANK EROSION EXISTS	4 EA

100 50 0 100 200
SCALE IN FEET



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SHORTS CREEK DRAIN IMPROVEMENTS

JOB NO. SPW2007.01F

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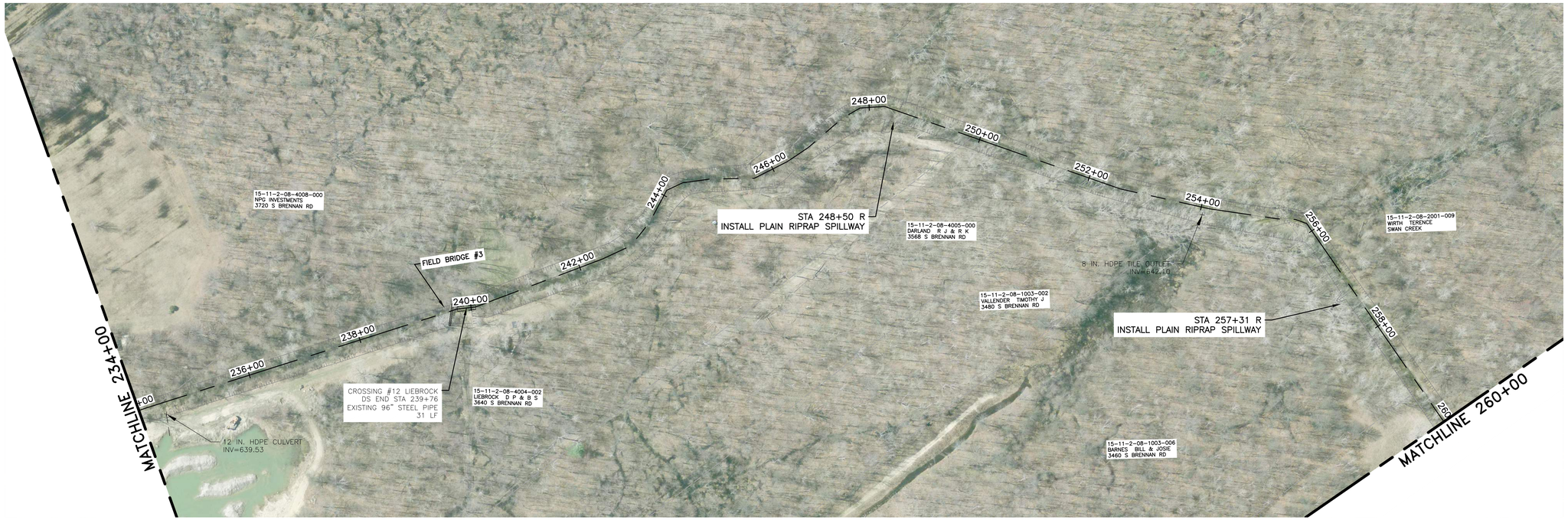
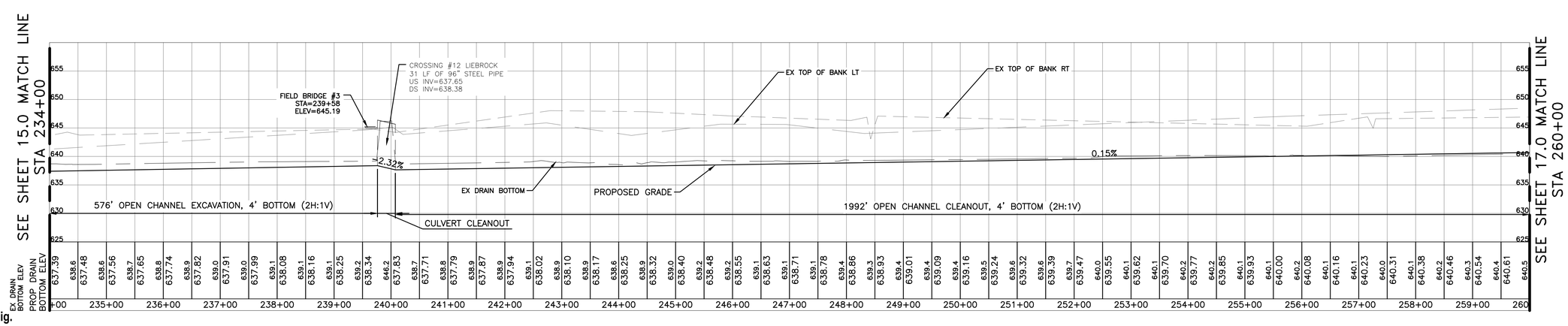


SPOIL LEVELING TABLE			
FROM STATION	TO STATION	DETAIL	SIDE TO EXCAVATE FROM
234+00	260+00	TYPE B	RIGHT

CLEARING AND GRUBBING TABLE			
FROM STATION	TO STATION	CLEAR AND GRUB LEFT	CLEAR AND GRUB RIGHT
234+00	260+00	℄ TO 10'	℄ TO 40'

EROSION CONTROL TABLE					
KEY	FROM STATION	TO STATION	SIDE	DESCRIPTION	QUANTITY
1/T	234+00	260+00	BOTH	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
2/T	234+00	260+00	BOTH	MULCHING OF ONLY DISTURBED LAWN AREAS	LUMP SUM
19/P	234+00	260+00	BOTH	RIPRAP SPILLWAY WHERE BANK EROSION EXISTS	4 EA

100 50 0 100 200
SCALE IN FEET



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SHORTS CREEK DRAIN IMPROVEMENTS

JOB NO. SPW2007.01F

SHEET 16.0

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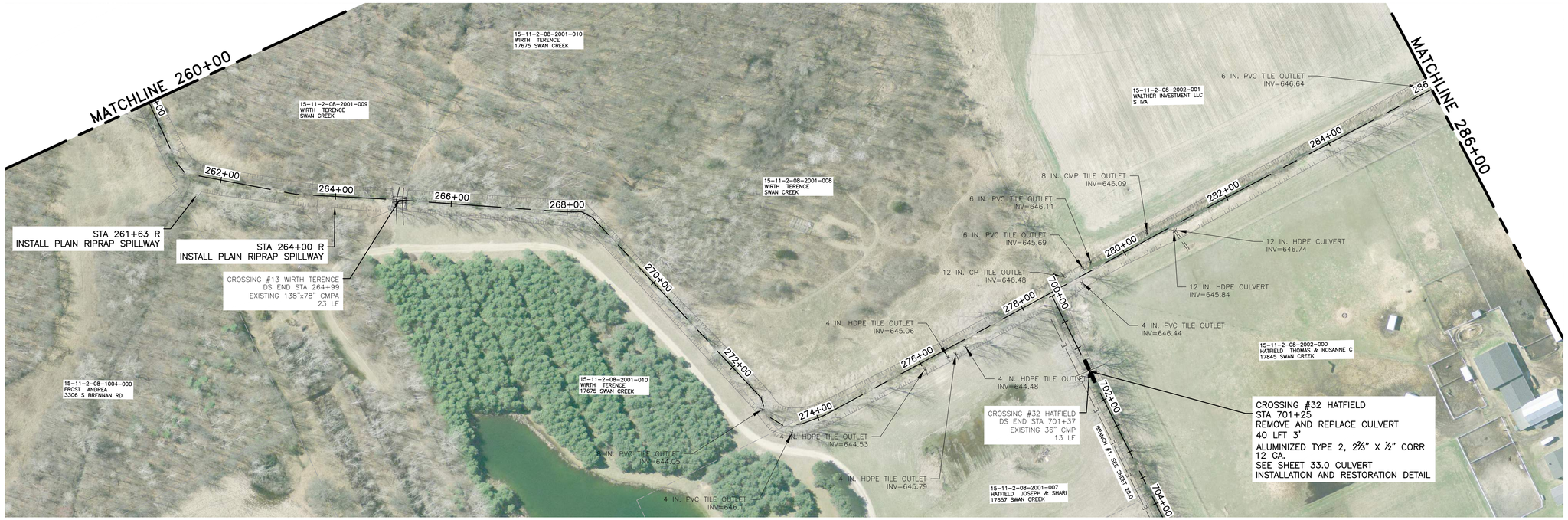


SPOIL LEVELING TABLE

FROM STATION	TO STATION	DETAIL	SIDE TO EXCAVATE FROM
260+00	265+00	TYPE B	RIGHT
265+00	286+00	TYPE A	RIGHT

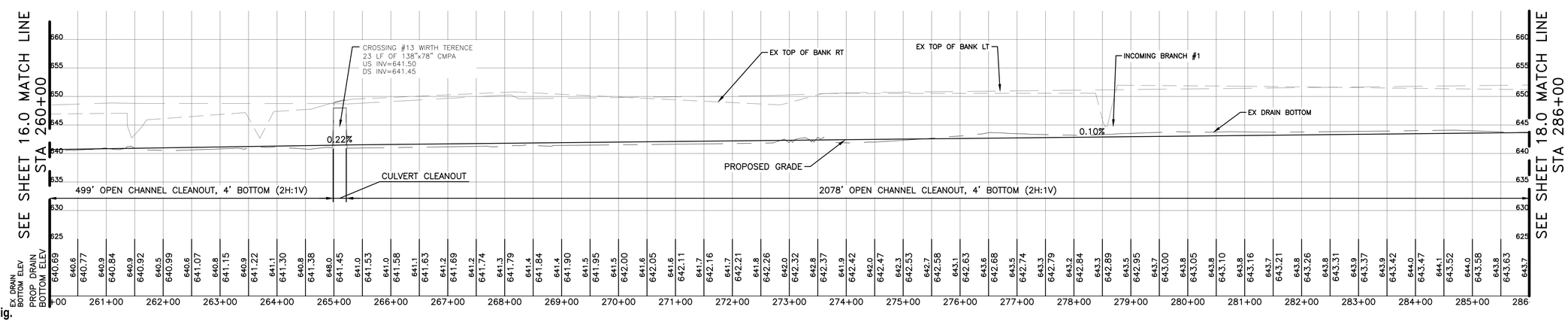
CLEARING AND GRUBBING TABLE

FROM STATION	TO STATION	CLEAR AND GRUB LEFT	CLEAR AND GRUB RIGHT
260+00	265+00	℄ TO 10'	℄ TO 40'
265+00	286+00	℄ TO 10'	℄ TO 10'

EROSION CONTROL TABLE

KEY	FROM STATION	TO STATION	SIDE	DESCRIPTION	QUANTITY
1/T	260+00	286+00	BOTH	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
2/T	260+00	286+00	BOTH	MULCHING OF ONLY DISTURBED LAWN AREAS	LUMP SUM
19/P	260+00	286+00	BOTH	RIPRAP SPILLWAY WHERE BANK EROSION EXISTS	4 EA

100 50 0 100 200
SCALE IN FEET



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PUBLIC WORKS COMMISSIONER
SHORTS CREEK DRAIN

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BIDDING	3/22/21	TJK

SHORTS CREEK DRAIN IMPROVEMENTS

JOB NO. SPW2007.01F

SHEET 17.0

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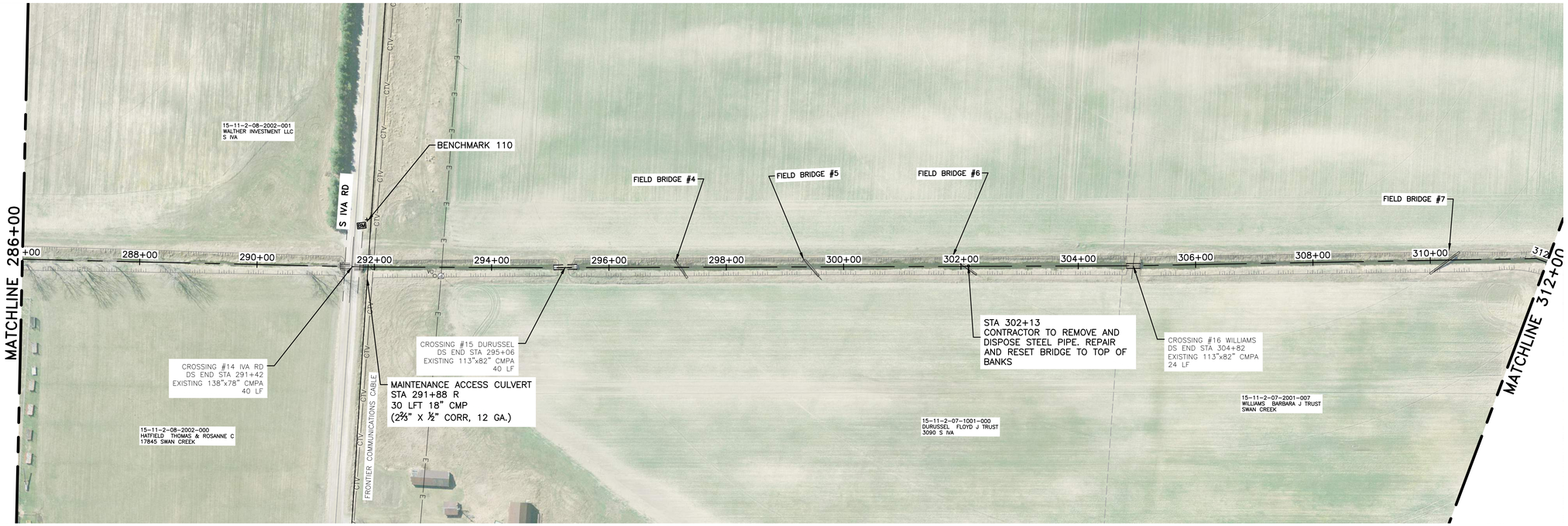
BENCHMARK #110
N:682813.47
E:13148451.54
ELEV:652.13
IRON ROD WITH CAP



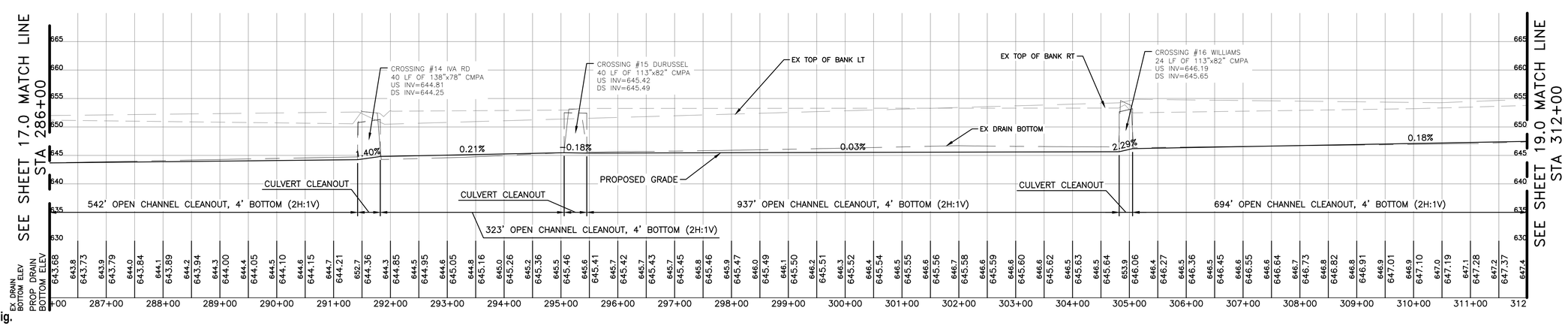
SPOIL LEVELING TABLE			
FROM STATION	TO STATION	DETAIL	SIDE TO EXCAVATE FROM
286+00	312+00	TYPE C	RIGHT

CLEARING AND GRUBBING TABLE			
FROM STATION	TO STATION	CLEAR AND GRUB LEFT	CLEAR AND GRUB RIGHT
286+00	312+00	℄ TO 10'	℄ TO 10'

EROSION CONTROL TABLE					
KEY	FROM STATION	TO STATION	SIDE	DESCRIPTION	QUANTITY
1/T	286+00	312+00	BOTH	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
2/T	286+00	312+00	BOTH	MULCHING OF ONLY DISTURBED LAWN AREAS	LUMP SUM
19/P	286+00	312+00	BOTH	RIPRAP SPILLWAY WHERE BANK EROSION EXISTS	2 EA

100 50 0 100 200
SCALE IN FEET

N



811
Know what's below.
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PROJECT MANAGER:JASON KENYON
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FIELD BOOK INFORMATION:-

REV#	DATE	DESCRIPTION	BY

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SAGINAW COUNTY
PUBLIC WORKS COMMISSIONER
SHORTS CREEK DRAIN

PLAN AND PROFILE

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BIDDING	3/22/21	TJK

SHORTS CREEK DRAIN IMPROVEMENTS

JOB NO.
SPW2007.01F

SHEET
18.0

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BENCHMARK #111
N:683697.07
E:13147345.49
ELEV:6156.27
IRON ROD WITH CAP

100 50 0 100 200
SCALE IN FEET

SPOIL LEVELING TABLE

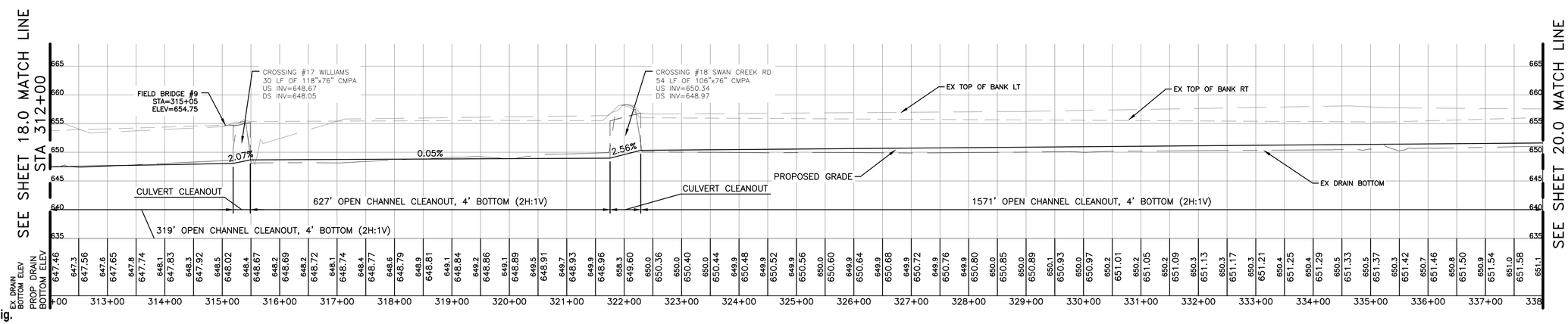
FROM STATION	TO STATION	DETAIL	SIDE TO EXCAVATE FROM
312+00	322+00	TYPE A	RIGHT
322+00	338+00	TYPE C	LEFT

CLEARING AND GRUBBING TABLE

FROM STATION	TO STATION	CLEAR AND GRUB LEFT	CLEAR AND GRUB RIGHT
312+00	338+00	℄ TO 10'	℄ TO 10'

EROSION CONTROL TABLE

KEY	FROM STATION	TO STATION	SIDE	DESCRIPTION	QUANTITY
1/T	312+00	338+00	BOTH	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
2/T	312+00	338+00	BOTH	MULCHING OF ONLY DISTURBED LAWN AREAS	LUMP SUM
19/P	312+00	338+00	BOTH	RIPRAP SPILLWAY WHERE BANK EROSION EXISTS	3 EA



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SHORTS CREEK DRAIN IMPROVEMENTS

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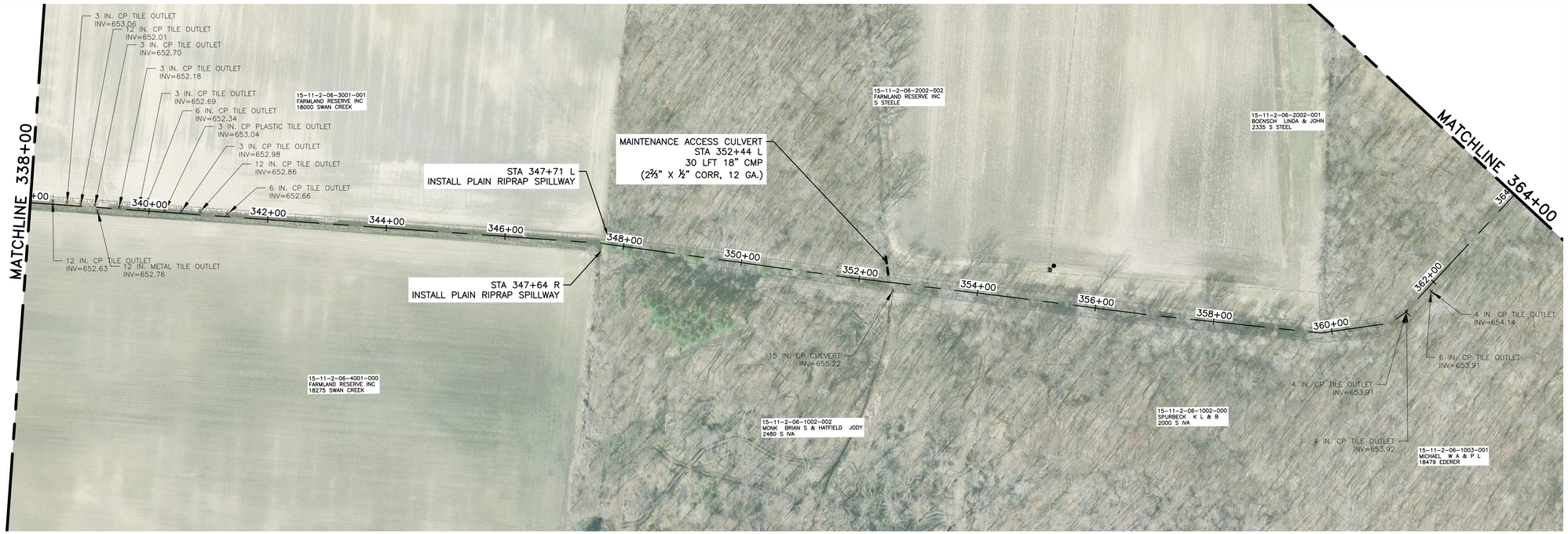


SPOIL LEVELING TABLE

FROM STATION	TO STATION	DETAIL	SIDE TO EXCAVATE FROM
338+00	348+00	TYPE C	LEFT
348+00	352+50	TYPE D	LEFT
352+50	361+00	TYPE C	LEFT
361+00	364+00	TYPE D	LEFT

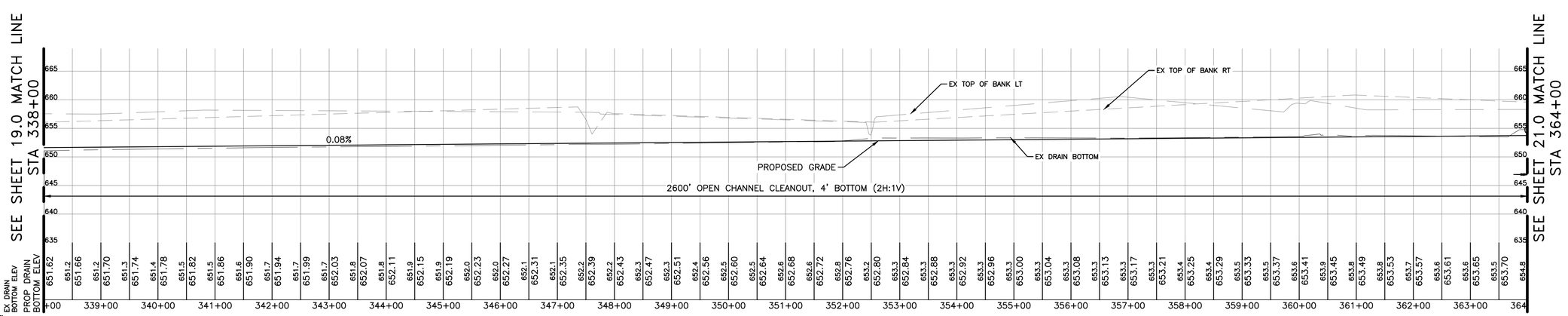
CLEARING AND GRUBBING TABLE

FROM STATION	TO STATION	CLEAR AND GRUB LEFT	CLEAR AND GRUB RIGHT
338+00	348+00	℄ TO 10'	℄ TO 10'
348+00	352+50	℄ TO 40'	℄ TO 10'
352+50	361+00	℄ TO 10'	℄ TO 10'
361+00	364+00	℄ TO 40'	℄ TO 10'

EROSION CONTROL TABLE

KEY	FROM STATION	TO STATION	SIDE	DESCRIPTION	QUANTITY
1/T	338+00	364+00	BOTH	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
2/T	338+00	364+00	BOTH	MULCHING OF ONLY DISTURBED LAWN AREAS	LUMP SUM
19/P	338+00	364+00	BOTH	RIPRAP SPILLWAY WHERE BANK EROSION EXISTS	3 EA

100 50 0 100 200
SCALE IN FEET



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FIELD BOOK INFORMATION:–
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SAGINAW COUNTY PUBLIC WORKS COMMISSIONER SHORTS CREEK DRAIN

PLAN AND PROFILE

ISSUED FOR: BIDDING
DATE: 3/22/21
BY: TJK

JOB NO. SPW2007.01F

SHEET 20.0

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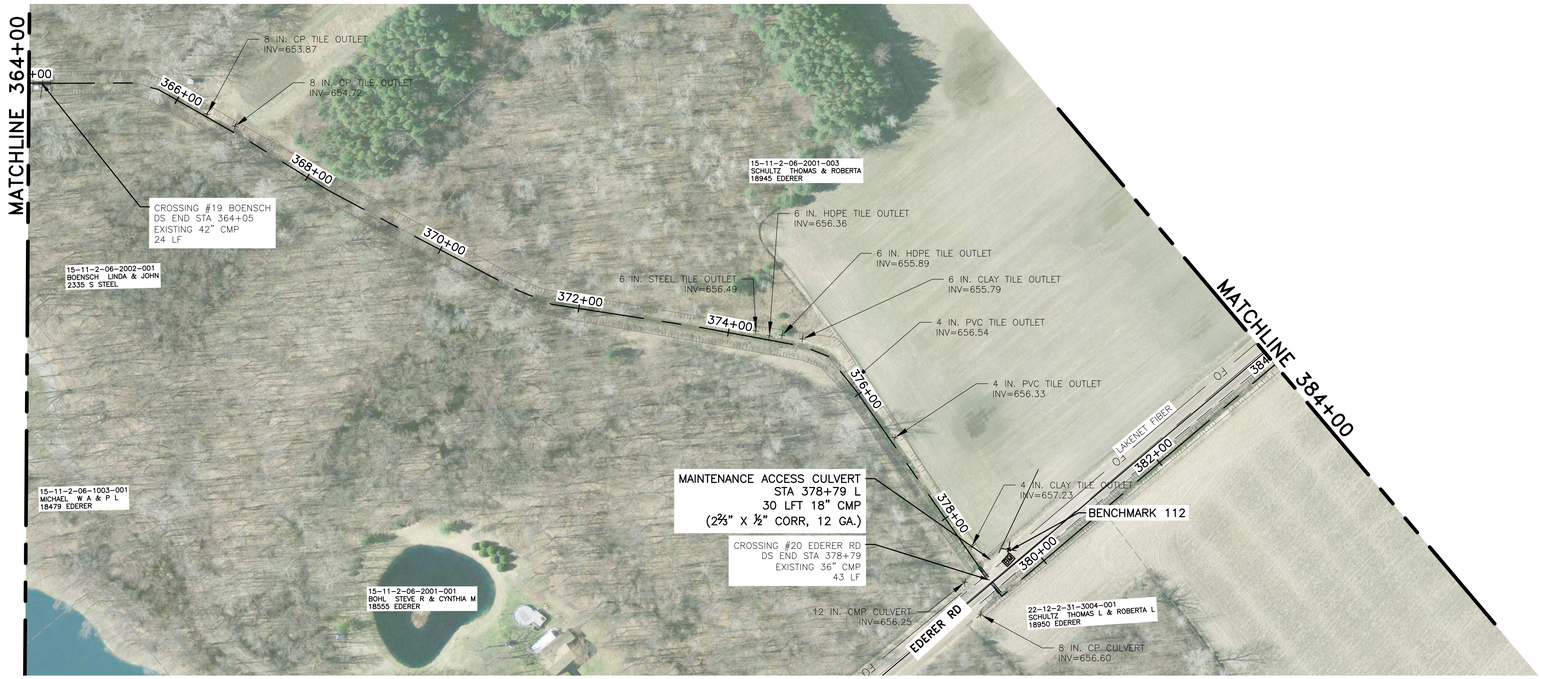
BENCHMARK #112
N:688978.43
E:13145854.66
ELEV:659.41
IRON ROD WITH CAP



100 50 0 100 200
SCALE IN FEET

SPOIL LEVELING TABLE

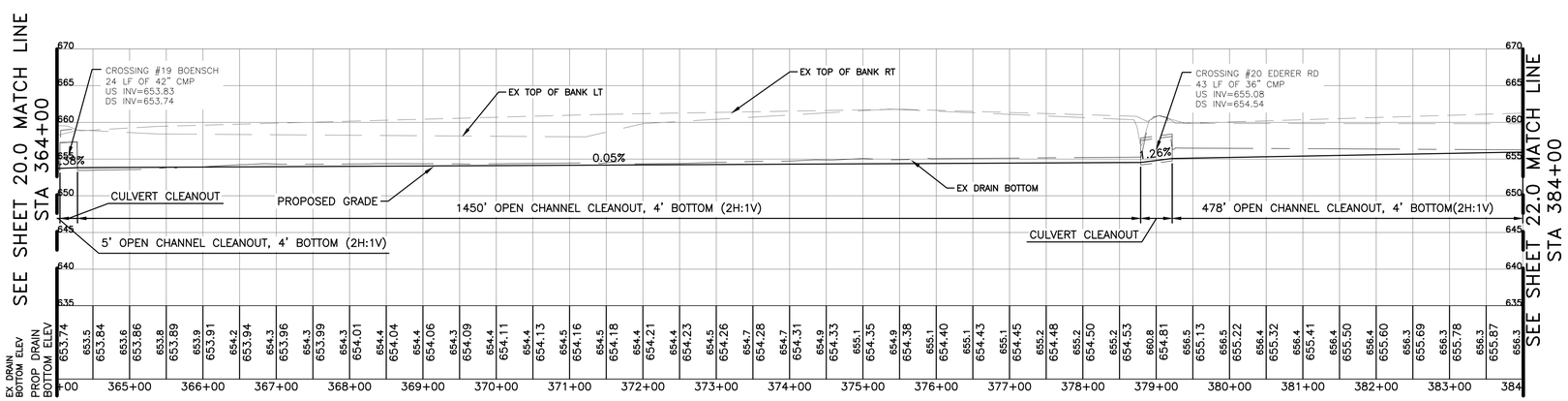
FROM STATION	TO STATION	DETAIL	SIDE TO EXCAVATE FROM
364+00	375+00	TYPE D	LEFT
375+00	379+10	TYPE C	LEFT
379+10	384+00	TYPE A	RIGHT

CLEARING AND GRUBBING TABLE

FROM STATION	TO STATION	CLEAR AND GRUB LEFT	CLEAR AND GRUB RIGHT
364+00	375+00	℄ TO 40'	℄ TO 10'
375+00	384+00	℄ TO 10'	℄ TO 10'

EROSION CONTROL TABLE

KEY	FROM STATION	TO STATION	SIDE	DESCRIPTION	QUANTITY
1/T	364+00	384+00	BOTH	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
2/T	364+00	384+00	BOTH	MULCHING OF ONLY DISTURBED LAWN AREAS	LUMP SUM
19/P	364+00	384+00	BOTH	RIPRAP SPILLWAY WHERE BANK EROSION EXISTS	2 EA



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SPW2007.01F

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21.0

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SPOIL LEVELING TABLE

FROM STATION	TO STATION	DETAIL	SIDE TO EXCAVATE FROM
384+00	P.O.E.	TYPE A	RIGHT

CLEARING AND GRUBBING TABLE

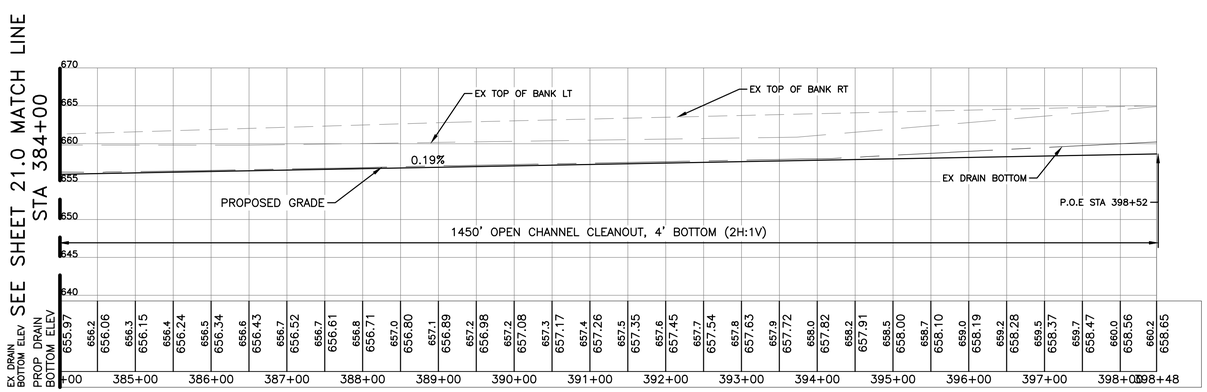
FROM STATION	TO STATION	CLEAR AND GRUB LEFT	CLEAR AND GRUB RIGHT
384+00	P.O.E.	℄ TO 10'	℄ TO 10'

EROSION CONTROL TABLE

KEY	FROM STATION	TO STATION	SIDE	DESCRIPTION	QUANTITY
1/T	384+00	P.O.E.	BOTH	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
2/T	384+00	P.O.E.	BOTH	MULCHING OF ONLY DISTURBED LAWN AREAS	LUMP SUM
19/P	384+00	P.O.E.	BOTH	RIPRAP SPILLWAY WHERE BANK EROSION EXISTS	1 EA

100 50 0 100 200
SCALE IN FEET

N



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PROJECT MANAGER:JASON KENYON
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SHORTS CREEK DRAIN

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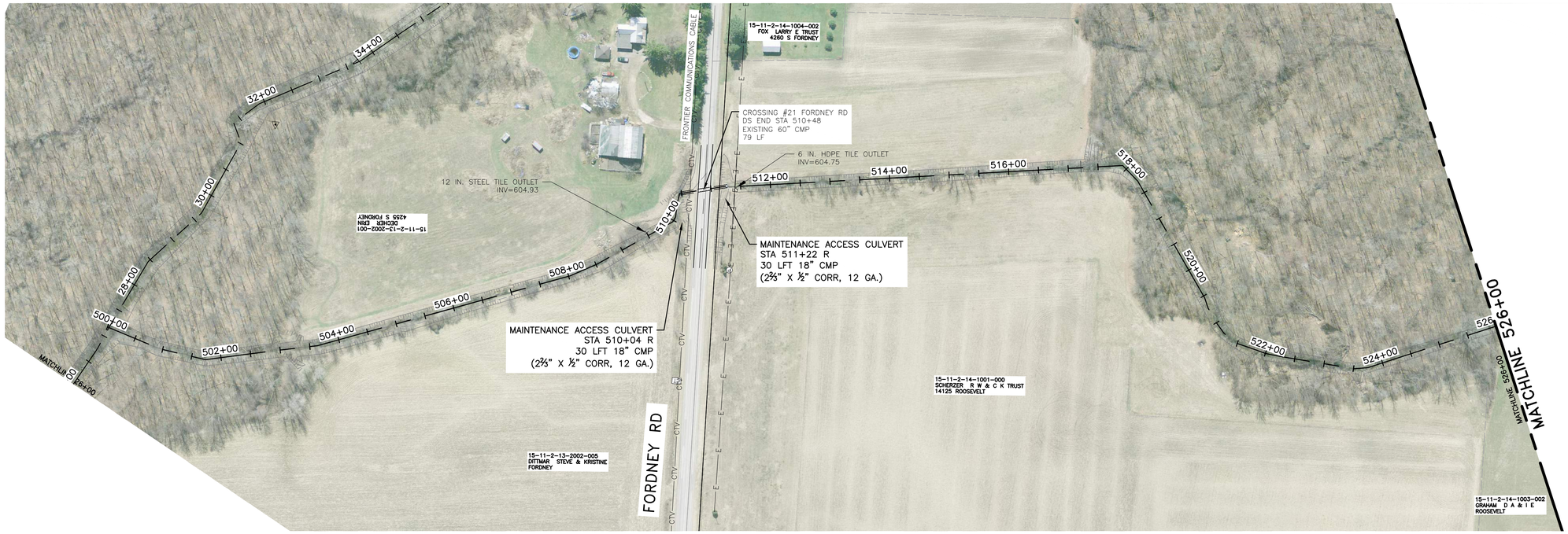


SPOIL LEVELING TABLE

FROM STATION	TO STATION	DETAIL	SIDE TO EXCAVATE FROM
P.O.B.	503+33	TYPE B	RIGHT
503+33	518+00	TYPE A	RIGHT
518+00	526+00	TYPE B	RIGHT

CLEARING AND GRUBBING TABLE

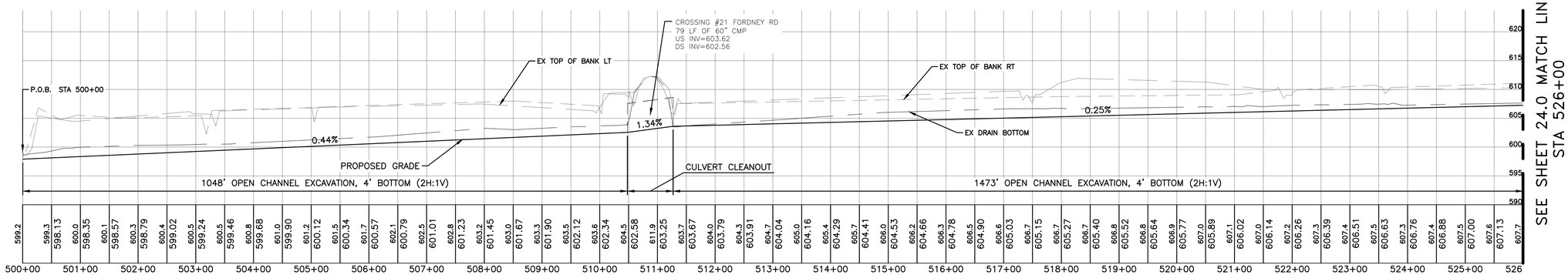
FROM STATION	TO STATION	CLEAR AND GRUB LEFT	CLEAR AND GRUB RIGHT
P.O.B.	503+33	℄ TO 10'	℄ TO 10'
503+33	510+85	℄ TO 10'	℄ TO 40'
510+85	523+00	℄ TO 10'	℄ TO 10'
523+00	526+00	℄ TO 10'	℄ TO 40'

EROSION CONTROL TABLE

KEY	FROM STATION	TO STATION	SIDE	DESCRIPTION	QUANTITY
1/T	P.O.B.	526+00	BOTH	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
2/T	P.O.B.	526+00	BOTH	MULCHING OF ONLY DISTURBED LAWN AREAS	LUMP SUM
19/P	P.O.B.	526+00	BOTH	RIPRAP SPILLWAY WHERE BANK EROSION EXISTS	6 EA

100 50 0 100 200
SCALE IN FEET

N



SEE SHEET 24.0 MATCH LINE STA 526+00

811 Know what's below. Call before you dig.

PROJECT MANAGER:JASON KENYON
C:\FW_WORK2\D1026189\CSP-PLTS-TURNER BRANCH PLAN PROFILE.DWG - 23.0 - PLOTTED 3/23/2021 4:48 PM BY KRAGENBRINK, TANNER
FIELD BOOK INFORMATION:-

REV#	DATE	DESCRIPTION	BY

WADE TRIM
565 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
www.wadetrim.com

SAGINAW COUNTY
PUBLIC WORKS COMMISSIONER
SHORTS CREEK DRAIN

PLAN AND PROFILE

ISSUED FOR:	DATE:	BY:
BIDDING	3/22/21	TJK

SHORTS CREEK DRAIN IMPROVEMENTS

JOB NO. SPW2007.01F

SHEET 23.0

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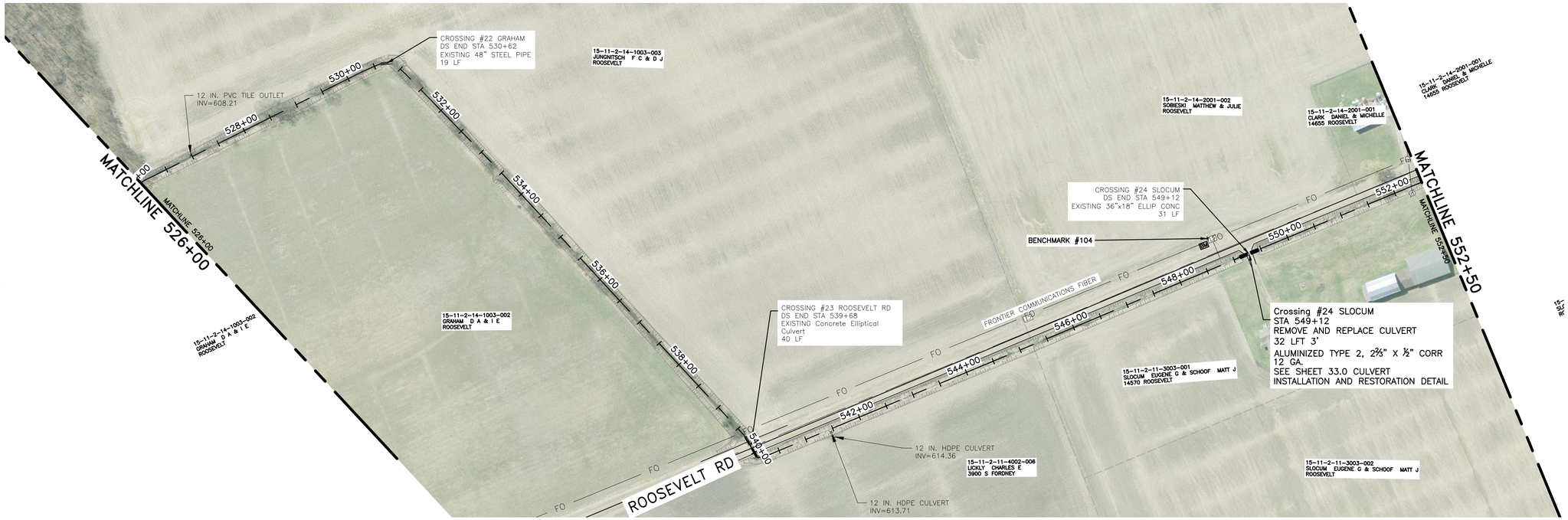
BENCHMARK #104
N:679069.10
E:13167252.51
ELEV:617.35
IRON ROD WITH CAP



SPOIL LEVELING TABLE

FROM STATION	TO STATION	DETAIL	SIDE TO EXCAVATE FROM
526+00	578+77	TYPE A	RIGHT
578+77	552+50	HAUL	RIGHT

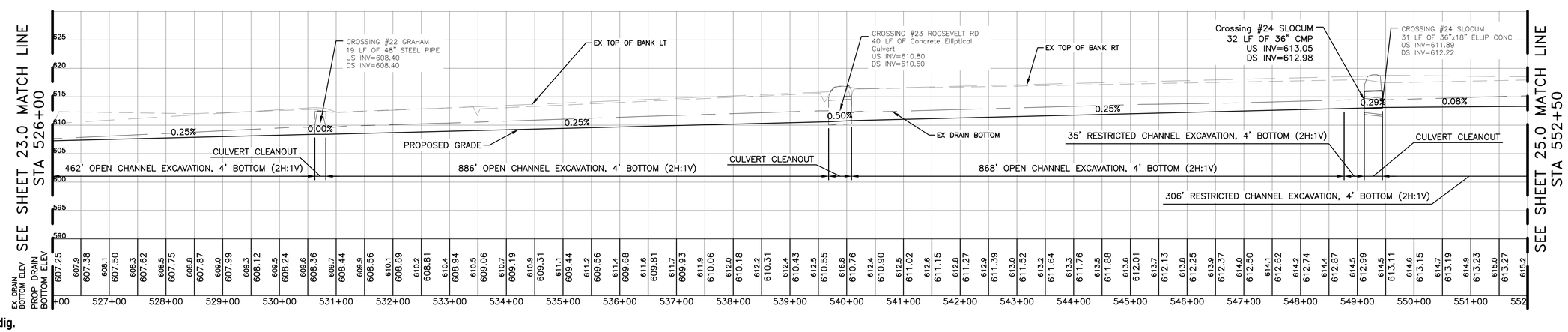
CLEARING AND GRUBBING TABLE

FROM STATION	TO STATION	CLEAR AND GRUB LEFT	CLEAR AND GRUB RIGHT
526+00	555+15	℄ TO 10'	℄ TO 10'

EROSION CONTROL TABLE

KEY	FROM STATION	TO STATION	SIDE	DESCRIPTION	QUANTITY
1/T	526+00	552+50	BOTH	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
2/T	526+00	552+50	BOTH	MULCHING OF ONLY DISTURBED LAWN AREAS	LUMP SUM
19/P	526+00	552+50	BOTH	RIPRAP SPILLWAY WHERE BANK EROSION EXISTS	1 EA

100 50 0 100 200
SCALE IN FEET



Know what's below. Call before you dig.

PROJECT MANAGER:JASON KENYON
C:\PW_WORK2\D1026189\CSP-PLTS-TURNER BRANCH PLAN PROFILE.DWG – 24.0 – PLOTTED 3/23/2021 4:49 PM BY KRAGENBRINK, TANNER
FIELD BOOK INFORMATION:–

REV#	DATE	DESCRIPTION	BY

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SHORTS CREEK DRAIN

PLAN AND PROFILE

ISSUED FOR:	DATE:	BY:
BIDDING	3/22/21	TJK

SHORTS CREEK DRAIN IMPROVEMENTS

JOB NO.
SPW2007.01F

SHEET
24.0

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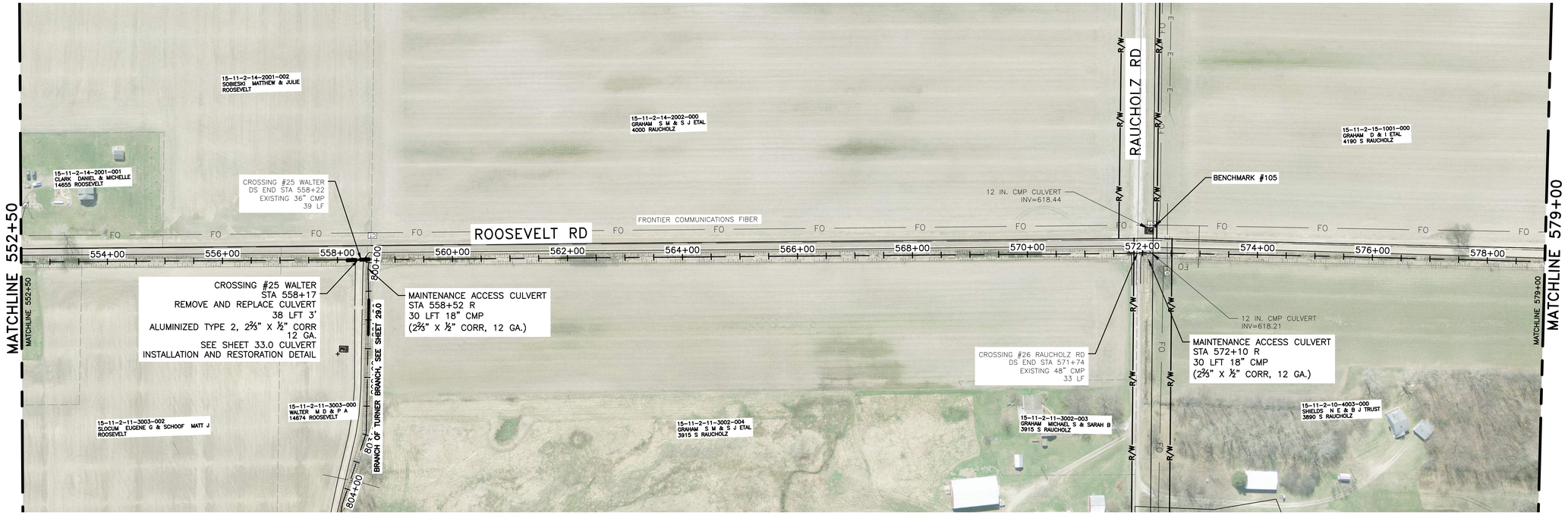
BENCHMARK #105
N:678994.89
E:13164903.02
ELEV:620.02
IRON ROD WITH CAP



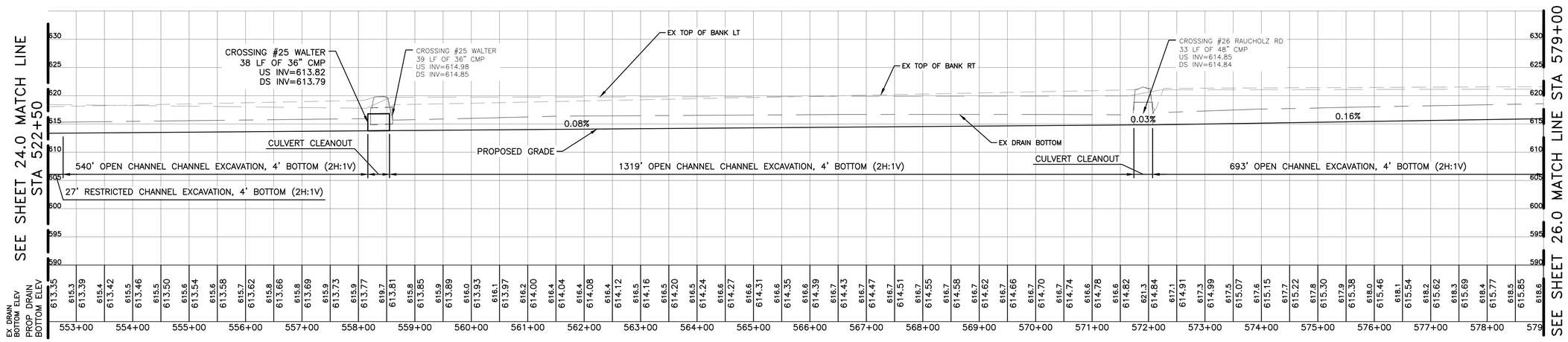
SPOIL LEVELING TABLE			
FROM STATION	TO STATION	DETAIL	SIDE TO EXCAVATE FROM
552+50	552+83	HAUL	RIGHT
552+83	579+00	TYPE A	RIGHT

CLEARING AND GRUBBING TABLE			
FROM STATION	TO STATION	CLEAR AND GRUB LEFT	CLEAR AND GRUB RIGHT
552+50	579+00	℄ TO 10'	℄ TO 10'

EROSION CONTROL TABLE					
KEY	FROM STATION	TO STATION	SIDE	DESCRIPTION	QUANTITY
1/T	552+50	579+00	BOTH	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
2/T	552+50	579+00	BOTH	MULCHING OF ONLY DISTURBED LAWN AREAS	LUMP SUM
19/P	552+50	579+00	BOTH	RIPRAP SPILLWAY WHERE BANK EROSION EXISTS	2 EA

100 50 0 100 200
SCALE IN FEET

N



811
Know what's below.
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PROJECT MANAGER:JASON KENYON
C:\PW_WORK2\D1026189\CSP-PLTS-TURNER BRANCH PLAN PROFILE.DWG – 25.0 – PLOTTED 3/23/2021 4:49 PM BY KRAGENBRINK, TANNER
FIELD BOOK INFORMATION:–

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ISSUED FOR: DATE: BY:
BIDDING 3/22/21 TJK

SHORTS CREEK DRAIN IMPROVEMENTS

JOB NO.
SPW2007.01F

SHEET
25.0

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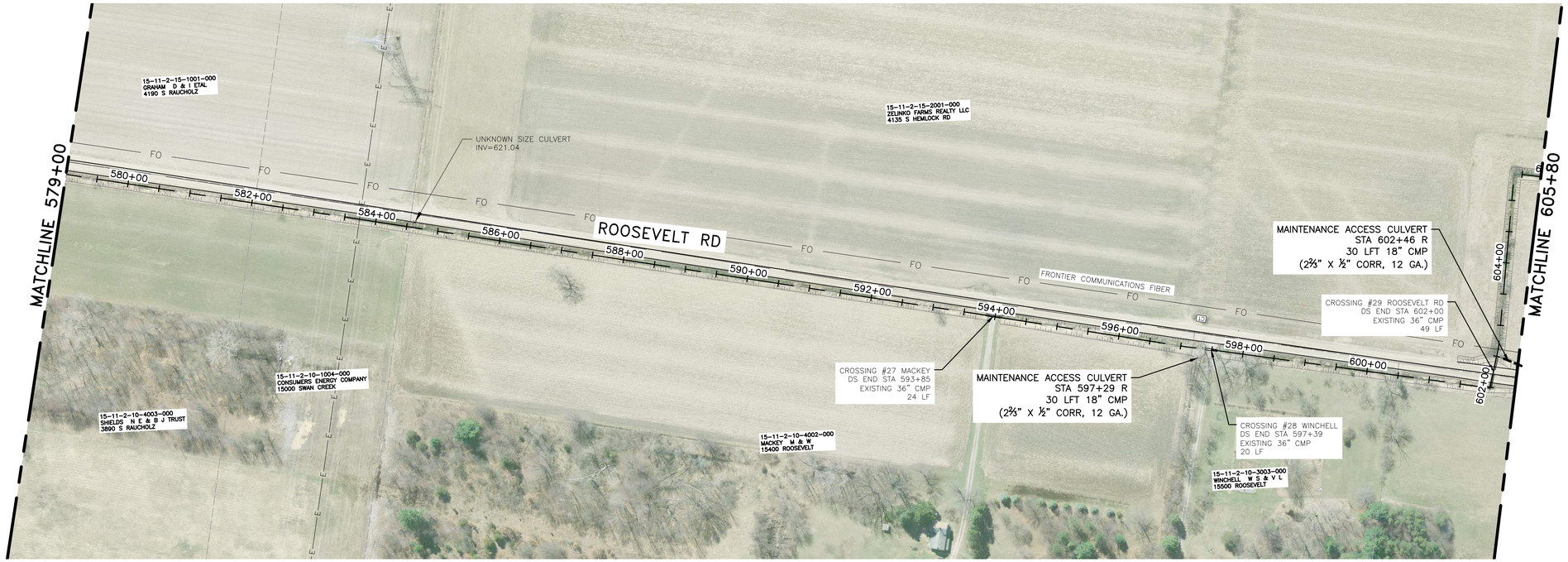


SPOIL LEVELING TABLE

FROM STATION	TO STATION	DETAIL	SIDE TO EXCAVATE FROM
579+00	597+39	TYPE A	RIGHT
597+39	600+50	HAUL	RIGHT
600+50	605+50	TYPE A	RIGHT

CLEARING AND GRUBBING TABLE

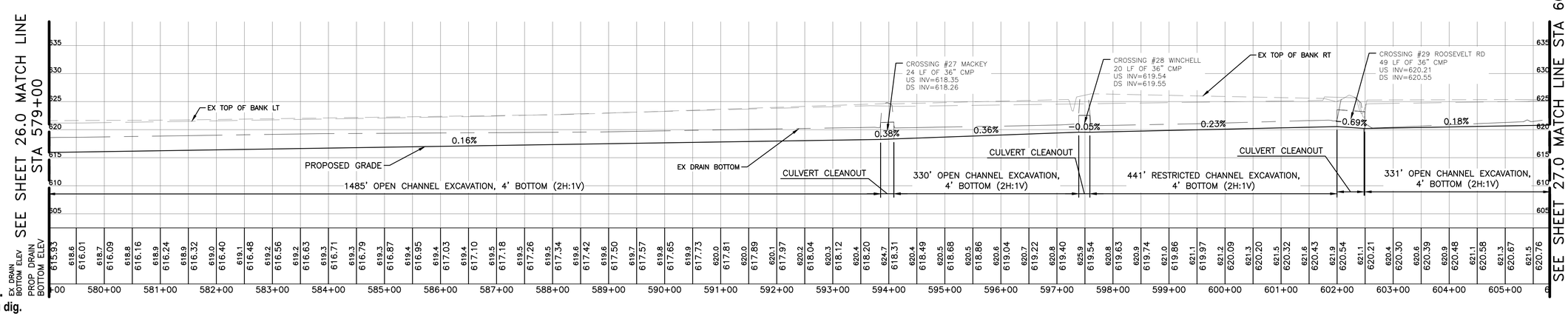
FROM STATION	TO STATION	CLEAR AND GRUB LEFT	CLEAR AND GRUB RIGHT
579+00	605+80	℄ TO 10'	℄ TO 10'

EROSION CONTROL TABLE

KEY	FROM STATION	TO STATION	SIDE	DESCRIPTION	QUANTITY
1/T	579+00	605+80	BOTH	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
2/T	579+00	605+80	BOTH	MULCHING OF ONLY DISTURBED LAWN AREAS	LUMP SUM
19/P	579+00	605+80	BOTH	RIPRAP SPILLWAY WHERE BANK EROSION EXISTS	2 EA

100 50 0 100 200
SCALE IN FEET

N



Know what's below. Call before you dig.

PROJECT MANAGER:JASON KENYON
C:\PW_WORK2\D1026189\CSP-PLTS-TURNER BRANCH PLAN PROFILE.DWG - 26.0 - PLOTTED 3/23/2021 4:50 PM BY KRAGENBRINK, TANNER
FIELD BOOK INFORMATION:-

REV#	DATE	DESCRIPTION	BY

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ISSUED FOR:	DATE:	BY:
BIDDING	3/22/21	TJK

SHORTS CREEK DRAIN IMPROVEMENTS

JOB NO. SPW2007.01F

SHEET 26.0

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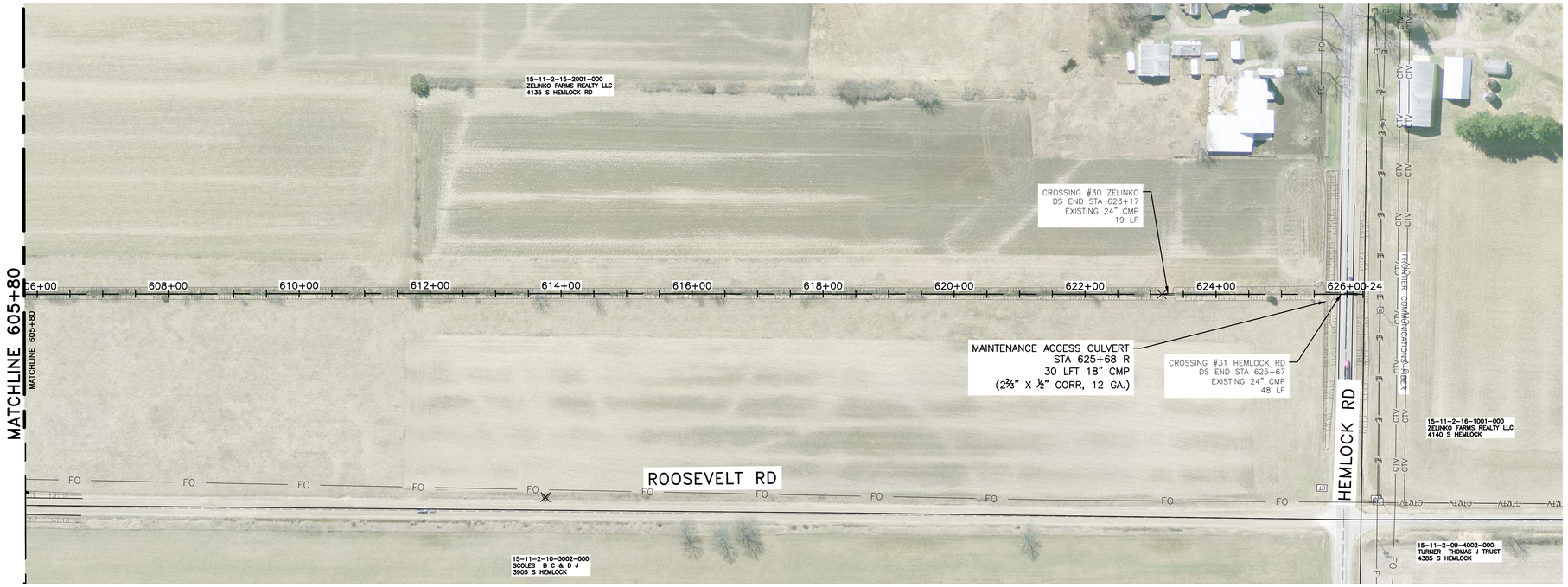


100 50 0 100 200
SCALE IN FEET

N

SPOIL LEVELING TABLE

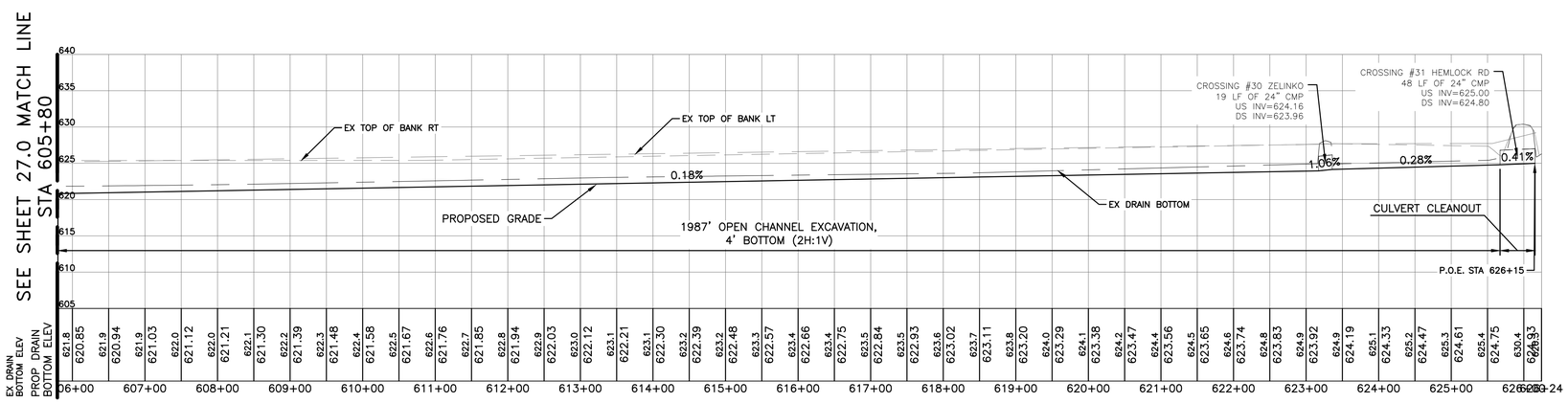
FROM STATION	TO STATION	DETAIL	SIDE TO EXCAVATE FROM
605+80	P.O.E.	TYPE A	RIGHT

CLEARING AND GRUBBING TABLE

FROM STATION	TO STATION	CLEAR AND GRUB LEFT	CLEAR AND GRUB RIGHT
608+50	P.O.E.	℄ TO 10'	℄ TO 10'

EROSION CONTROL TABLE

KEY	FROM STATION	TO STATION	SIDE	DESCRIPTION	QUANTITY
1/T	605+50	P.O.E.	BOTH	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
2/T	605+50	P.O.E.	BOTH	MULCHING OF ONLY DISTURBED LAWN AREAS	LUMP SUM
19/P	605+50	P.O.E.	BOTH	RIPRAP SPILLWAY WHERE BANK EROSION EXISTS	2 EA



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PROJECT MANAGER:JASON KENYON
C:\PW_WORK2\D1026189\CSP-PLTS-TURNER BRANCH PLAN PROFILE.DWG - 27.0 - PLOTTED 3/23/2021 4:51 PM BY KRAGENBRINK, TANNER
FIELD BOOK INFORMATION:-

REV#	DATE	DESCRIPTION	BY

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ISSUED FOR:	DATE:	BY:
BIDDING	3/22/21	TJK

JOB NO.
SPW2007.01F

SHEET
27.0

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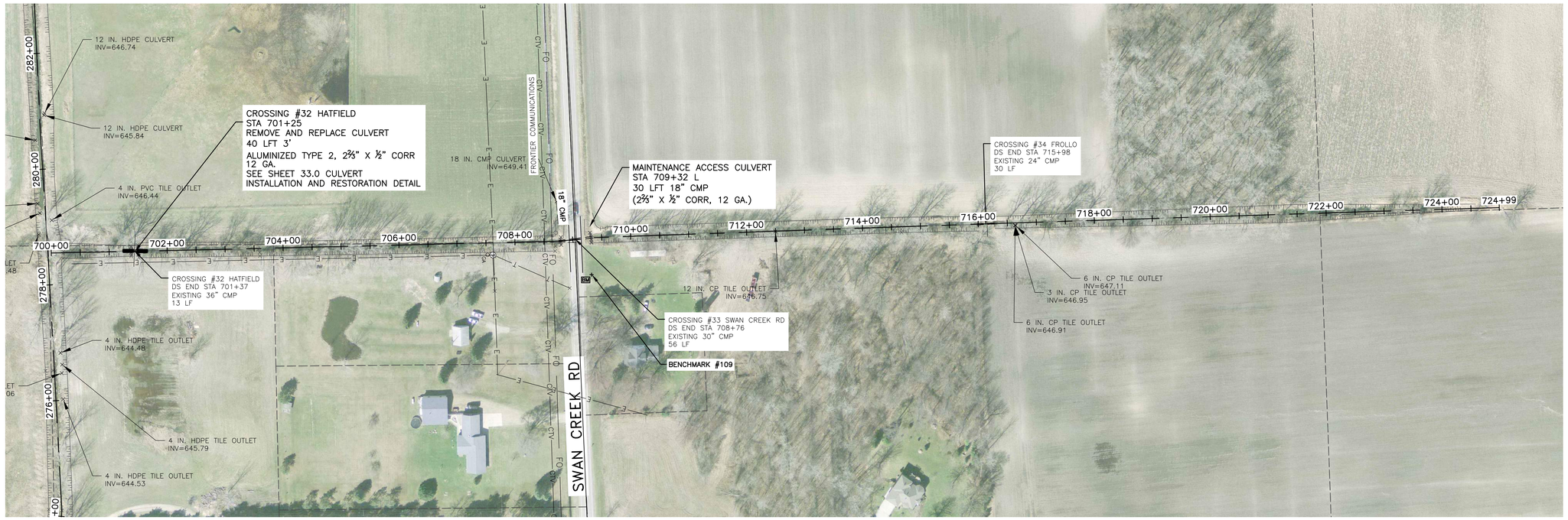
BENCHMARK #109
N:683895.25
E:13150814.14
ELEV:651.98
IRON ROD WITH CAP



SPOIL LEVELING TABLE

FROM STATION	TO STATION	DETAIL	SIDE TO EXCAVATE FROM
700+00	708+76	TYPE A	RIGHT
708+76	724+58	TYPE C	LEFT

CLEARING AND GRUBBING TABLE

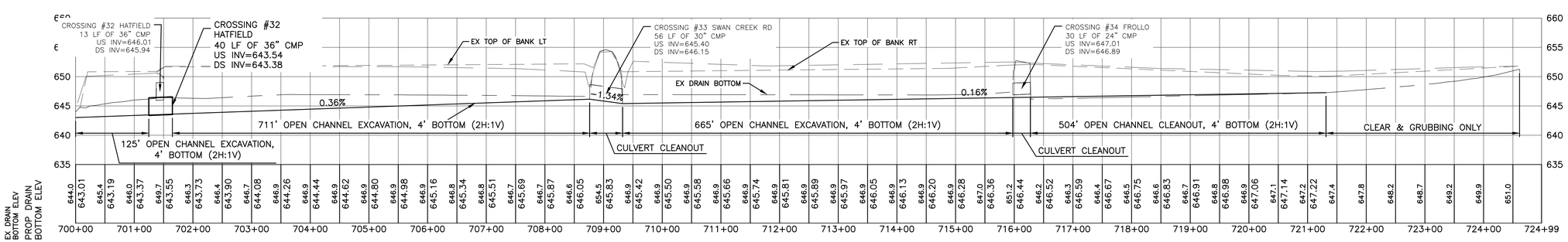
FROM STATION	TO STATION	CLEAR AND GRUB LEFT	CLEAR AND GRUB RIGHT
700+00	724+58	℄ TO 10'	℄ TO 10'

EROSION CONTROL TABLE

KEY	FROM STATION	TO STATION	SIDE	DESCRIPTION	QUANTITY
1/T	700+00	724+99	BOTH	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
2/T	700+00	724+99	BOTH	MULCHING OF ONLY DISTURBED LAWN AREAS	LUMP SUM
19/P	700+00	724+99	BOTH	RIPRAP SPILLWAY WHERE BANK EROSION EXISTS	2 EA

100 50 0 100 200
SCALE IN FEET

N



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REV#	DATE	DESCRIPTION	BY

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SHORTS CREEK DRAIN

PLAN AND PROFILE

ISSUED FOR:	DATE:	BY:
BIDDING	3/22/21	TJK

SHORTS CREEK DRAIN IMPROVEMENTS

JOB NO. SPW2007.01F

SHEET 28.0

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PROJECT MANAGER-JASON KENYON
C:\PW_WORK2\D1026189\CSP-PLTS-TURNER BRANCH PLAN PROFILE.DWG - 28.0 - PLOTTED 3/23/2021 5:18 PM BY KRAGENBRINK, TANNER
FIELD BOOK INFORMATION:--

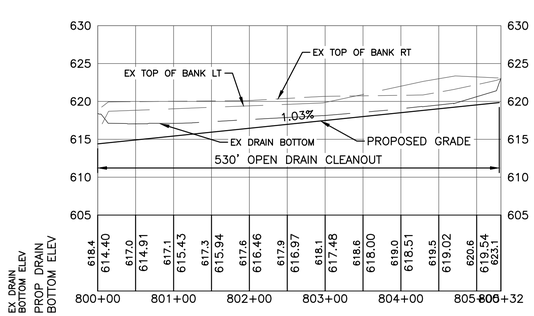
SPOIL LEVELING TABLE			
FROM STATION	TO STATION	DETAIL	SIDE TO EXCAVATE FROM
800+00	806+32	TYPE C	LEFT

CLEARING AND GRUBBING TABLE			
FROM STATION	TO STATION	CLEAR AND GRUB LEFT	CLEAR AND GRUB RIGHT
800+00	806+32	℄ TO 10'	℄ TO 10'

EROSION CONTROL TABLE					
KEY	FROM STATION	TO STATION	SIDE	DESCRIPTION	QUANTITY
1/T	800+00	806+32	BOTH	SEEDING OF ALL DISTURBED AREAS	LUMP SUM
2/T	800+00	806+32	BOTH	MULCHING OF ONLY DISTURBED LAWN AREAS	LUMP SUM

50 25 0 50 100
SCALE IN FEET

N



Know what's **below.**
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PROJECT MANAGER-JASON KENYON
C:\PW_WORK2\D1026189\CSP-PLTS-TURNER BRANCH PLAN PROFILE.DWG - 29.0 - PLOTTED 3/23/2021 5:18 PM BY KRAGENBRINK, TANNER
FIELD BOOK INFORMATION:--

REV#	DATE	DESCRIPTION	BY

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Flint, MI 48502
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SAGINAW COUNTY
PUBLIC WORKS COMMISSIONER
SHORTS CREEK DRAIN

PLAN AND PROFILE

ISSUED FOR: BIDDING DATE: 3/22/21 BY: TJK

JOB NO. SPW2007.01F

SHEET 29.0

SHORTS CREEK DRAIN IMPROVEMENTS

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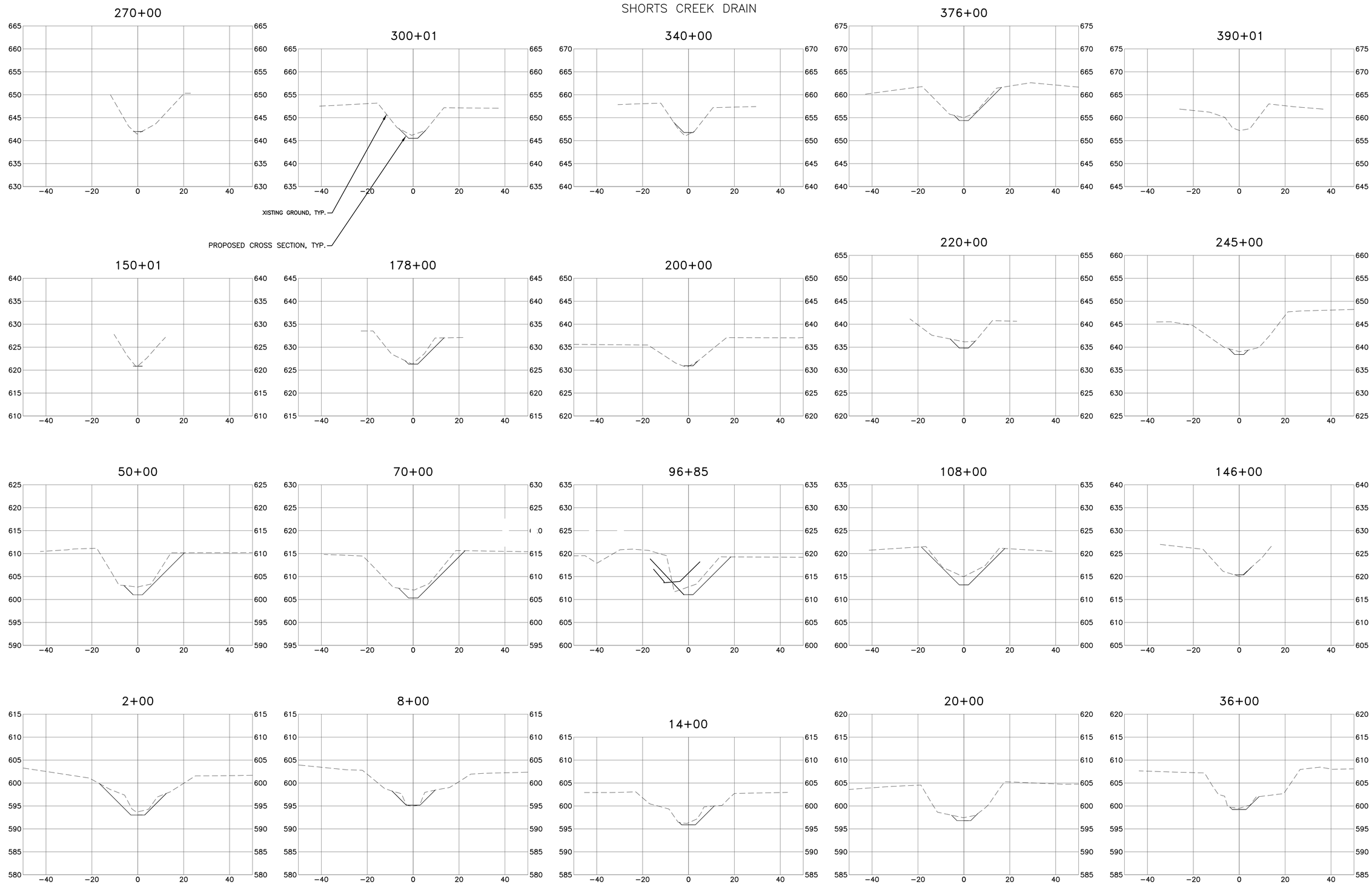
SHORTS CREEK DRAIN



CROSS SECTION VIEWS

VERTICAL SCALE: 1"=10'

HORIZONTAL SCALE: 1"=20'

REV#	DATE	DESCRIPTION	BY

WADE TRIM

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SAGINAW COUNTY
PUBLIC WORKS COMMISSIONER
SHORTS CREEK DRAIN

CROSS SECTIONS

SHORTS CREEK DRAIN IMPROVEMENTS

ISSUED FOR:	DATE:	BY:
BIDDING	3/22/21	TJK

JOB NO. SPW2007.01F

SHEET 30.0

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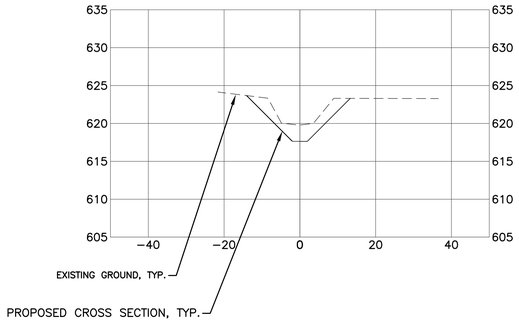
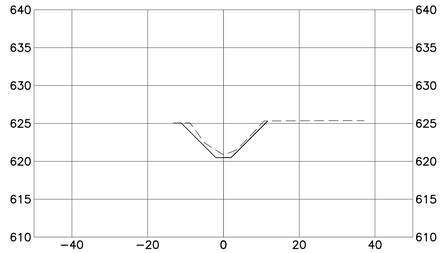
C:\PW_WORK2\D1026189\CCS-PLTS-CROSS SECTIONS.DWG - 30.0 - PLOTTED 3/23/2021 4:52 PM BY KRAGENBRINK, TANNER
FIELD BOOK INFORMATION:-

TURNER BRANCH

590+00



604+00



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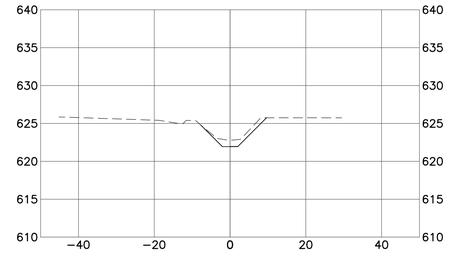

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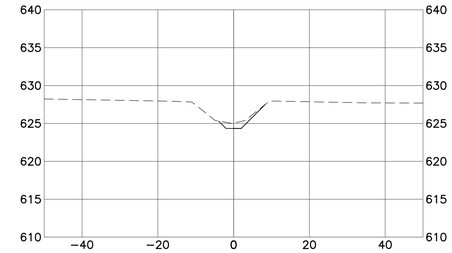

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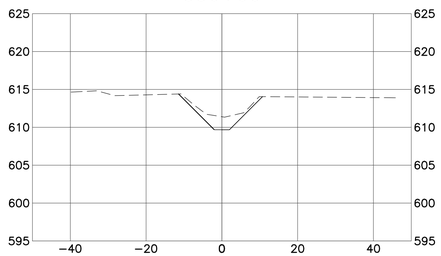
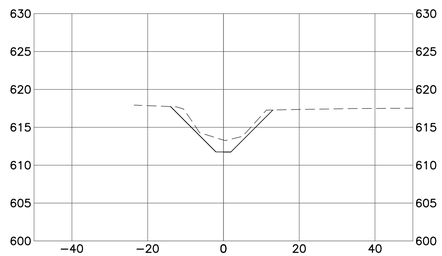


544+00



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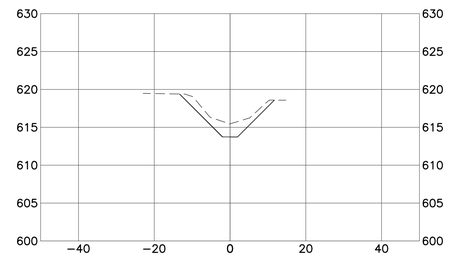

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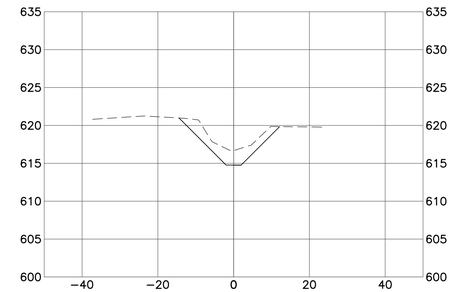
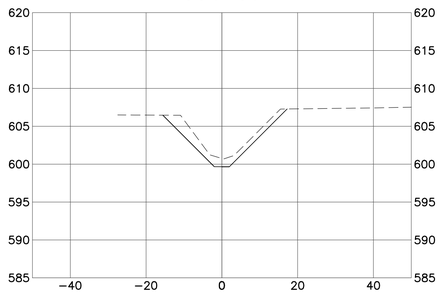


504+00



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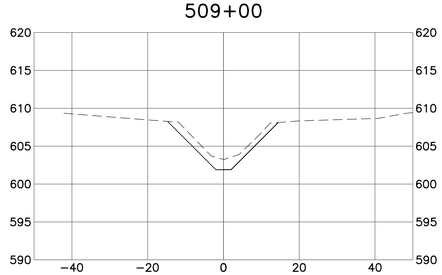
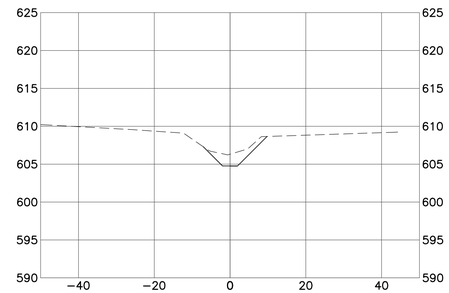


516+00



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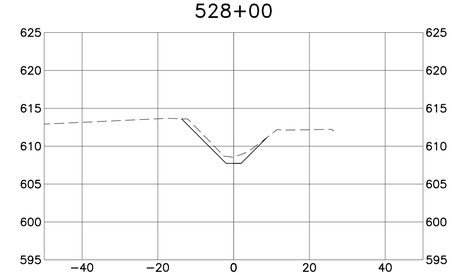
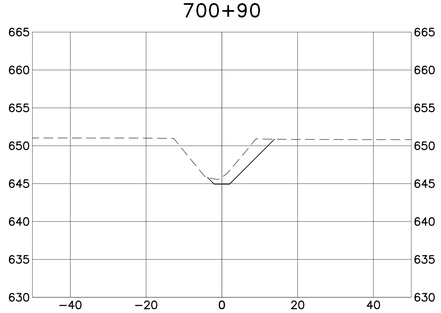
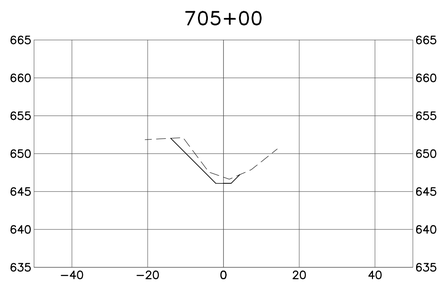


BRANCH #1

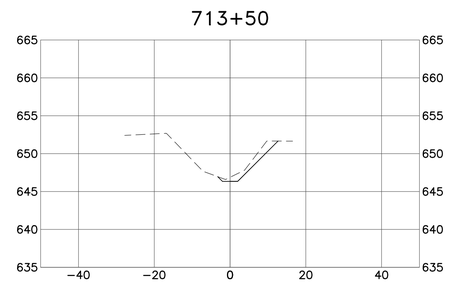
700+90



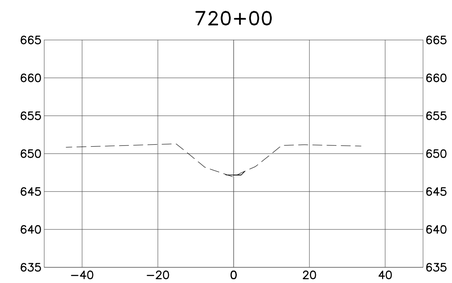
705+00



713+50



720+00



CROSS SECTION VIEWS

VERTICAL SCALE: 1"=10'
HORIZONTAL SCALE: 1"=20'

REV#	DATE	DESCRIPTION	BY

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555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
www.wadetrim.com

SAGINAW COUNTY
PUBLIC WORKS COMMISSIONER
SHORTS CREEK DRAIN

ISSUED FOR: BIDDING DATE: 3/22/21 BY: TJK

JOB NO. SPW2007.01F

SHEET 31.0

SHORTS CREEK DRAIN IMPROVEMENTS

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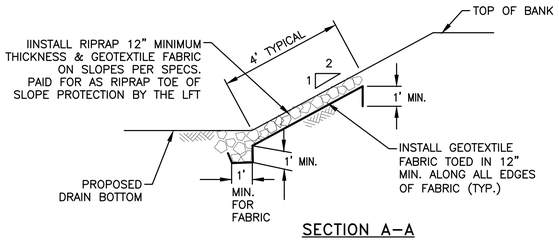
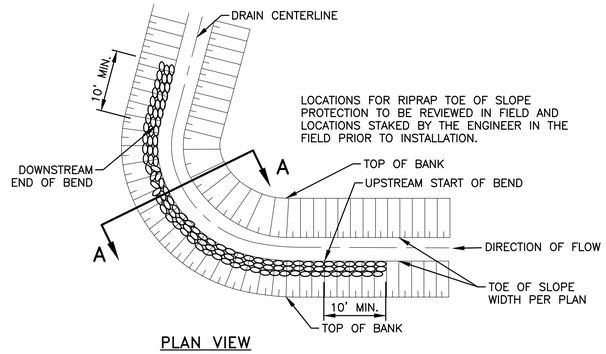
PROJECT MANAGER-JASON KENYON
C:\PW_WORK2\D1026189\CCS-PLTS-CROSS SECTIONS.DWG - 31.0 - PLOTTED 3/23/2021 4:52 PM BY KRAGENBRINK, TANNER
FIELD BOOK INFORMATION:-



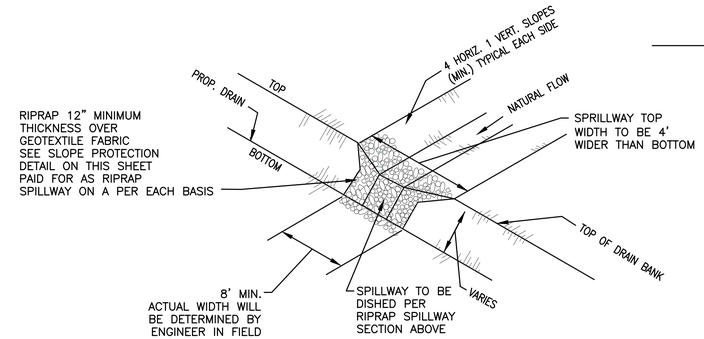
SECTION A–A



PLAN VIEW

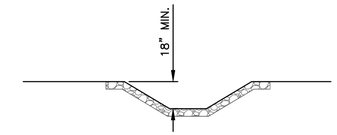
RIPRAP TOE OF SLOPE PROTECTION AT CURVES

NO SCALE



PLAIN RIPRAP SPILLWAY DETAIL

AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER IN THE FIELD
NO SCALE

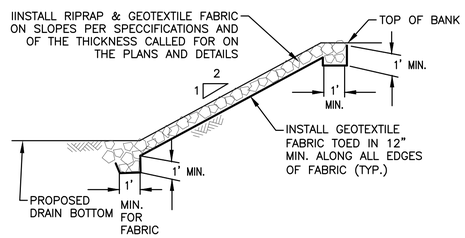


RIPRAP SPILLWAY SECTION
NO SCALE

NOTE

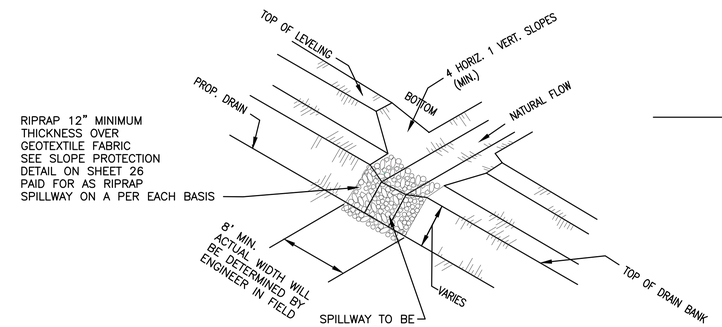
1. PAYMENT FOR CONSTRUCTION OF SPILLWAYS IS INCLUDED IN THE CONTRACT PRICE FOR THE CONTRACT ITEM OF LEVELING.

2. PAYMENT FOR EXCAVATION NECESSARY FOR THE INSTALLATION OF GEOTEXTILE FABRIC AND RIP RAP IS INCLUDED IN THE CONTRACT UNIT PRICE FOR RIPRAP



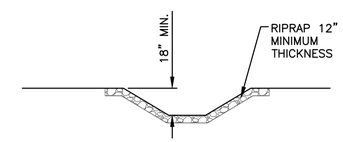
CROSS SECTION FOR RIPRAP SLOPE PROTECTION AREAS

NO SCALE



LEVELING SPILLWAY DETAIL

AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER IN THE FIELD
NO SCALE



RIPRAP SPILLWAY SECTION
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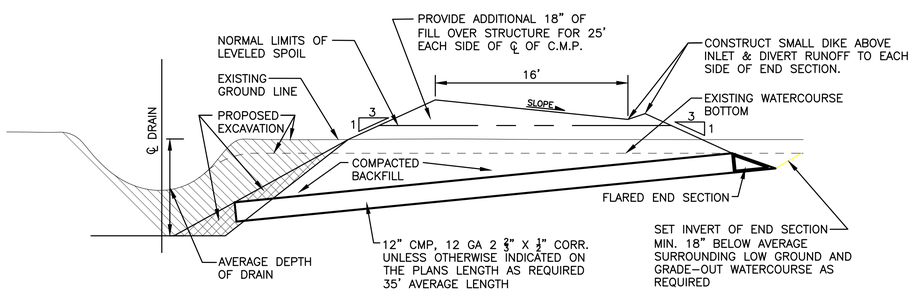
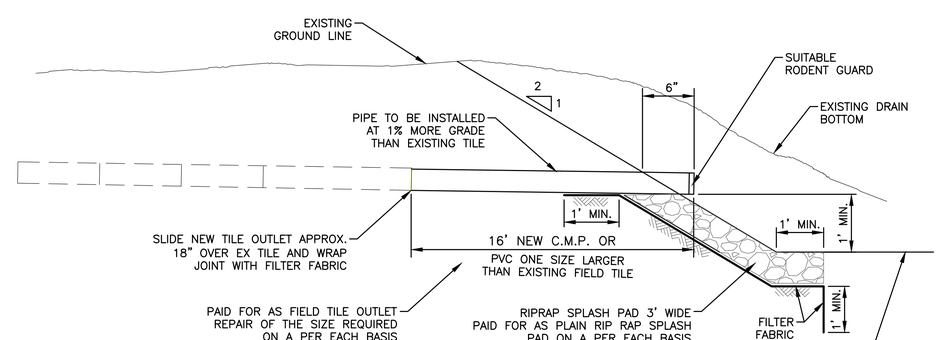


SURFACE WATER INLET DETAIL

PLACE WHERE SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER IN THE FIELD
NO SCALE



FIELD TILE OUTLET REPAIR AND SPLASH PAD DETAIL

NO SCALE

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SAGINAW COUNTY
PUBLIC WORKS COMMISSIONER
SHORTS CREEK DRAIN

DETAILS

ISSUED FOR:	DATE:	BY:
BIDDING	3/22/21	TJK

SHORTS CREEK DRAIN IMPROVEMENTS

JOB NO. SPW2007.01F

SHEET 32.0

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PROJECT MANAGER:JASON KENYON
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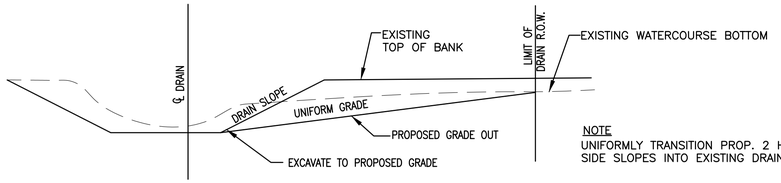
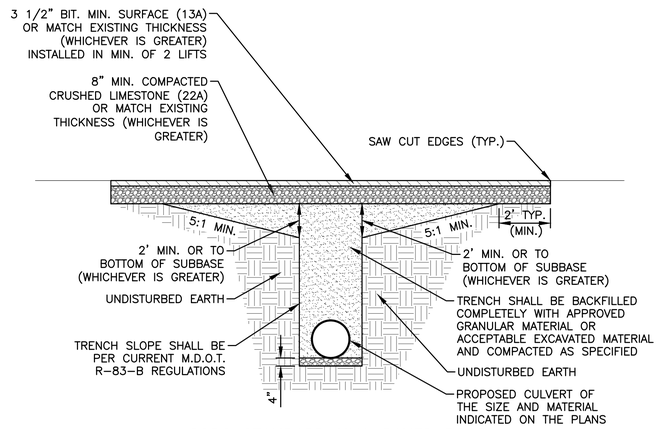
FIELD BOOK INFORMATION:–

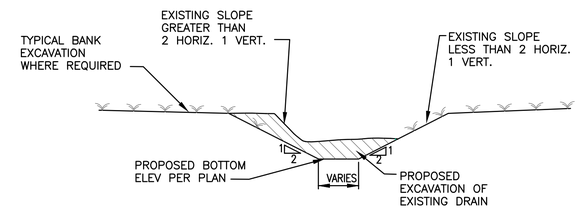


NOTE
UNIFORMLY TRANSITION PROP. 2 HORIZ. 1 VERT. SIDE SLOPES INTO EXISTING DRAIN SIDE SLOPES.

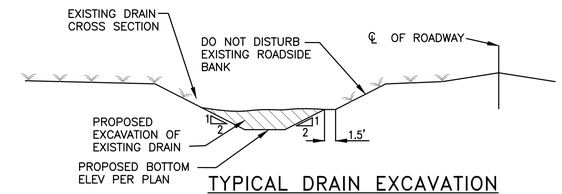
INTERSECTING WATERCOURSE GRADE OUT DETAIL
NO SCALE



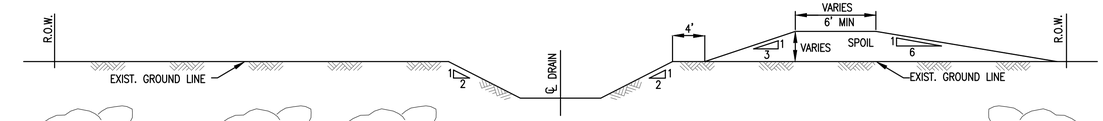
SCRC STANDARD HMA PAVED ROAD OR DRIVEWAY CROSSING RESTORATION PLATE XVI



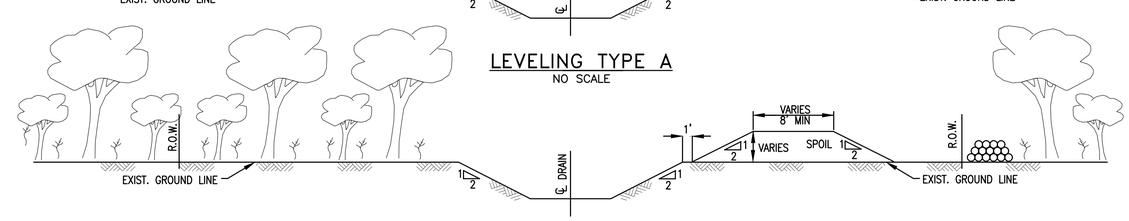
TYPICAL DRAIN EXCAVATION NOT ALONG A ROAD
NO SCALE



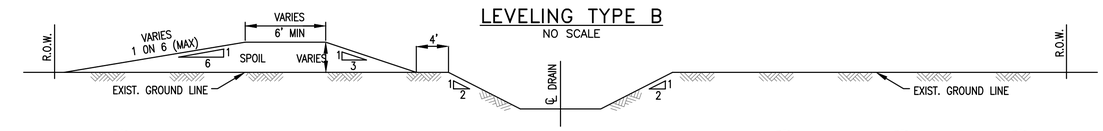
TYPICAL DRAIN EXCAVATION ALONG COUNTY ROAD
NO SCALE



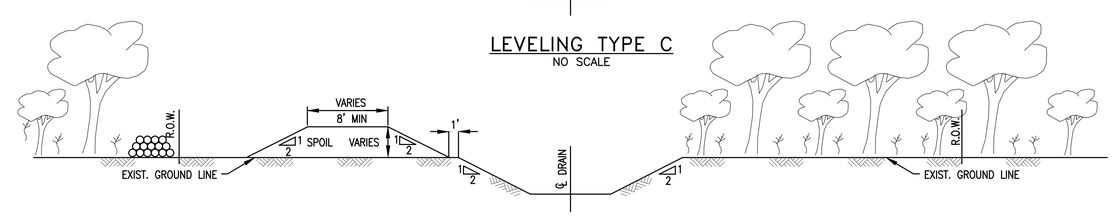
LEVELING TYPE A
NO SCALE



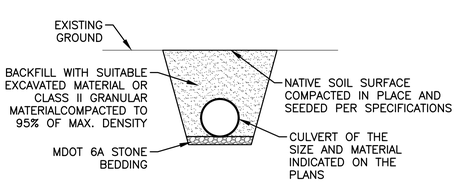
LEVELING TYPE B
NO SCALE



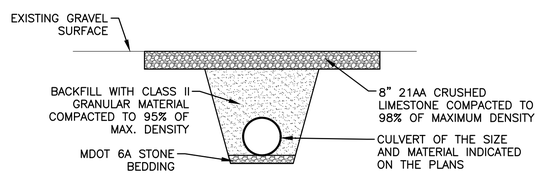
LEVELING TYPE C
NO SCALE



LEVELING TYPE D
NO SCALE

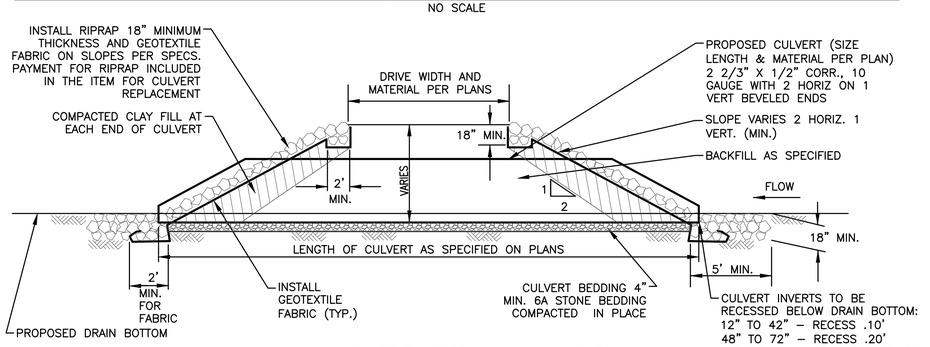


NATIVE MATERIAL DRIVEWAY CROSSING



GRAVEL ROAD OR DRIVEWAY CROSSING

CULVERT INSTALLATION – BEDDING, BACKFILL AND SURFACE RESTORATION DETAILS
NO SCALE



CULVERT INSTALLATION DETAIL
NO SCALE

DRAIN CONSTRUCTION AND SPOIL LEVELING NOTES

1. OPENINGS SHALL BE CONSTRUCTED IN SPOIL LEVELING PILES TO ALLOW DRAINAGE OF THE ADJACENT LANDS AT LOCATIONS DESIGNATED BY THE ENGINEER OR PROPERTY OWNER. PAYMENT FOR THE OPENING IS INCLUDED IN THE PRICE PAID FOR THE BID ITEM OF LEVELING. SEE LEVELING SPILLWAY DETAIL THIS SHEET.
2. CONTRACTOR SHALL EXCAVATE FROM THE SIDE OF DRAIN DESIGNATED ON THE PLANS. WHEN EXCAVATING FROM ONE SIDE OF THE DRAIN THE CONTRACTOR SHALL CLEAR THE OPPOSITE SIDE OF THE DRAIN TO 10' FROM THE TOP OF BANK AND MAINTAIN 2 HORIZONTAL TO 1 VERTICAL SIDE SLOPES ON BOTH SIDES OF THE DRAIN.
3. UNLESS OTHERWISE NOTED ON THE PLANS THE CONTRACTOR SHALL NOT LEVEL SPOIL IN LAWN AREAS WITHOUT WRITTEN PERMISSION FROM THE OWNER.
4. IF A LAWN AREA IS DISTURBED FOR ANY REASON, THE CONTRACTOR SHALL PROVIDE 6" OF TOPSOIL AND SEED AND MULCH PER THE SPECIFICATIONS.
5. WHEN WORKING IN A WOODED AREA, IF THE PROPERTY OWNER IS INTERESTED IN THE WOOD, THE CONTRACTOR SHALL PILE THE ENTIRE TREE EXCLUDING THE STUMP APPROXIMATELY 20 FEET OUTSIDE OF THE DRAIN RIGHT OF WAY WITH THE OWNERS WRITTEN PERMISSION. IF OWNER IS NOT INTERESTED IN THE WOOD, THE CONTRACTOR SHALL CHIP AND SPREAD WITHIN THE DRAIN RIGHT OF WAY OR HAUL AWAY AND DISPOSE OF.
6. ALL WOOD LESS THAN 6" DIA. SHALL BE CHIPPED AND SPREAD WITHIN THE DRAIN RIGHT OF WAY OR DISPOSED OF OFF SITE. CONTRACTOR SHALL NOT BURN STUMPS OR DEBRIS IN WOODED AREAS.

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SAGINAW COUNTY
PUBLIC WORKS COMMISSIONER
SHORTS CREEK DRAIN

DETAILS

ISSUED FOR:	DATE:	BY:
BIDDING	3/22/21	TJK

JOB NO. SPW2007.01F

SHEET 33.0

SHORTS CREEK DRAIN IMPROVEMENTS

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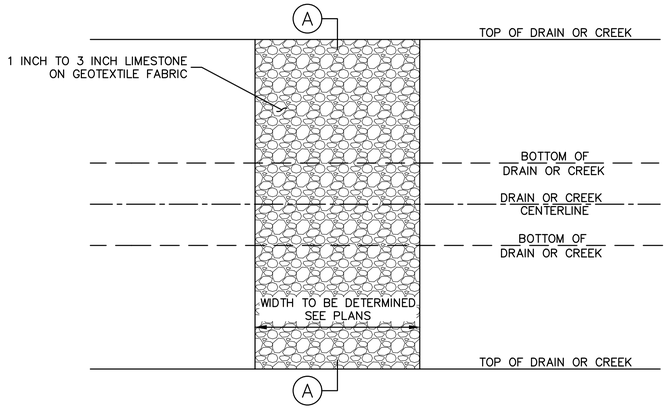
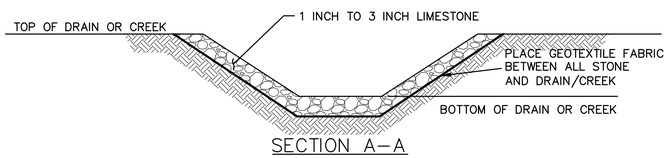
FIELD BOOK INFORMATION:–



PLAN VIEW



SECTION A–A

NOTES:

1. FORDING, DRIVING OR MOVING CONSTRUCTION EQUIPMENT OR VEHICLES THROUGH THE BED OF A DRAIN OR CREEK IS NOT PERMITTED AT ANY TIME.

2. IF TEMPORARY CROSSINGS SHALL BE REMOVED WITHIN TWO WEEKS OF THE WORK REACHING THE NEXT CROSS ROAD.

3. THE BOTTOM OR INVERT ELEVATION OF THE DRAIN/CREEK SHALL BE MAINTAINED AFTER STONE PLACEMENT.

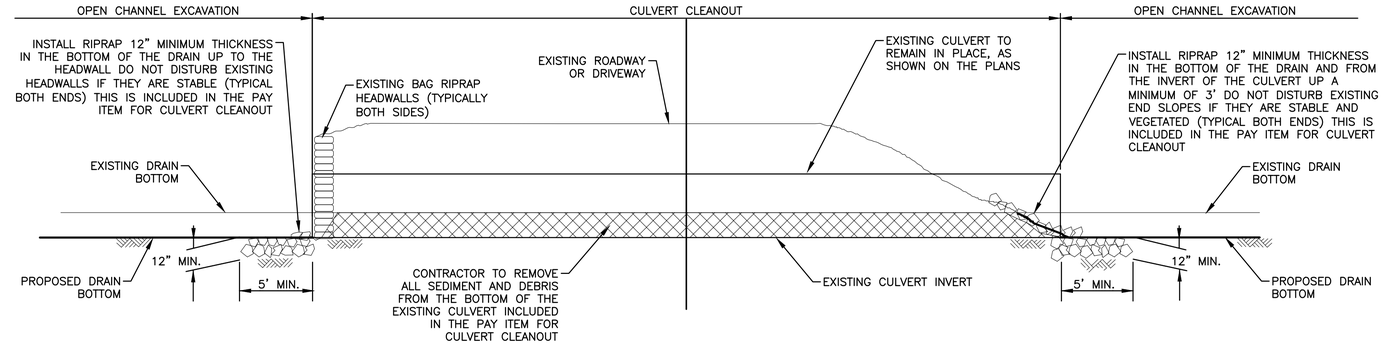
4. ALL STONE USED FOR ANY TEMPORARY CROSSING SHALL BE REMOVED FROM THE DRAIN/CREEK.

5. SEED AND HIGH VELOCITY MULCH BLANKETS SHALL BE USED TO RESTORE DRAIN/CREEK BANKS. 3 TO 6 INCH SIZE STONE SHALL BE USED TO RESTORE THE BOTTOM OF THE DRAIN/CREEK.

6. CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR DAMAGE DUE TO WET WEATHER FLOWS.

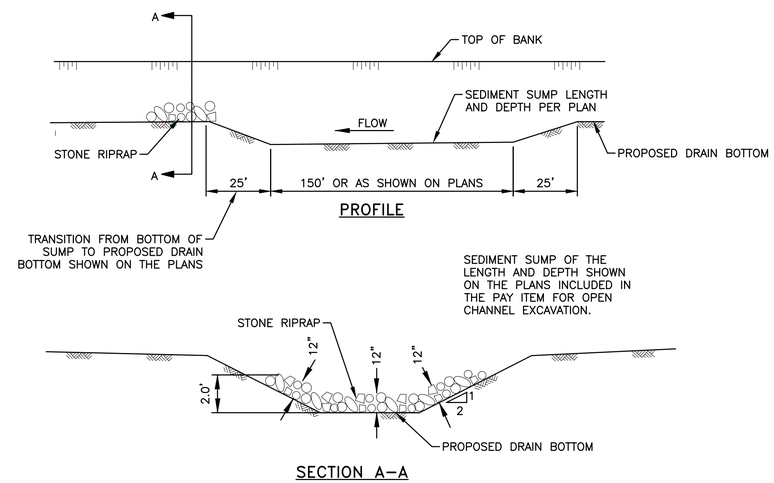
STONE FORD CROSSING DETAILS

NO SCALE



EXISTING CULVERT CROSSING
BAG RIPRAP HEADWALLS AND SLOPED ENDS
CLEANOUT AND ENDSLOPE RIPRAP REINFORCEMENT

NO SCALE



SEDIMENT SUMP DETAIL

NO SCALE

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JOB NO. SPW2007.01F

SHEET 34.0

SHORTS CREEK DRAIN IMPROVEMENTS

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FIELD BOOK INFORMATION:-