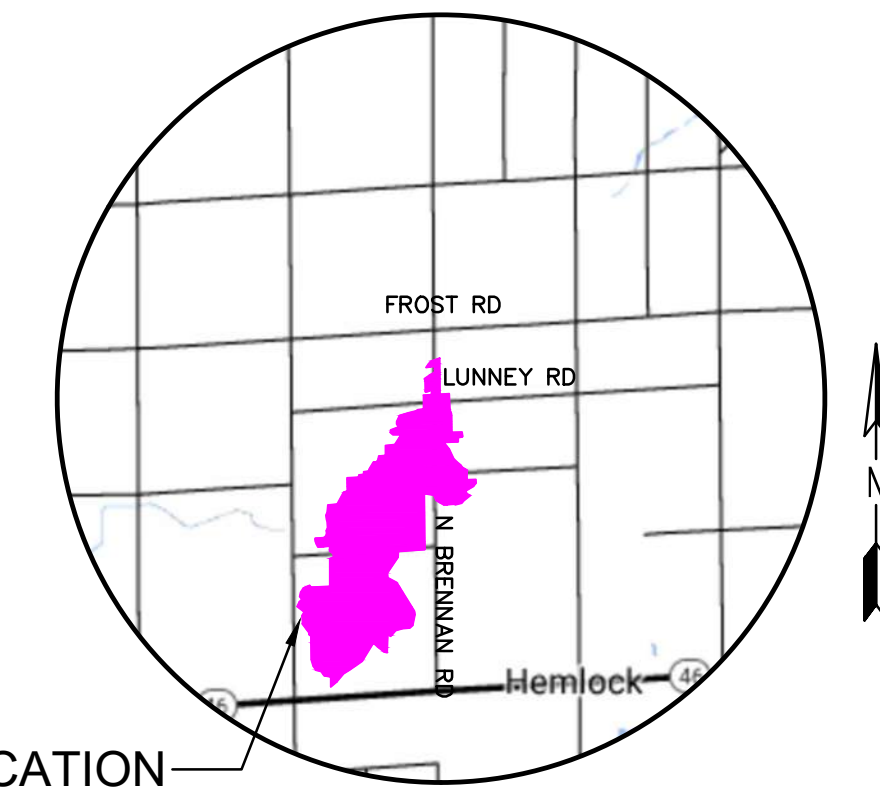




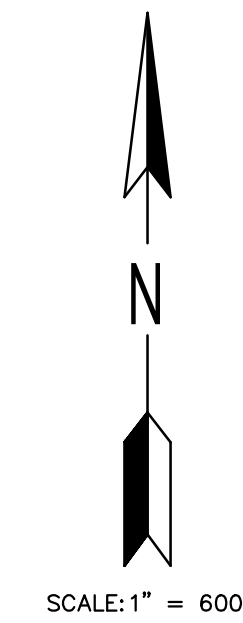
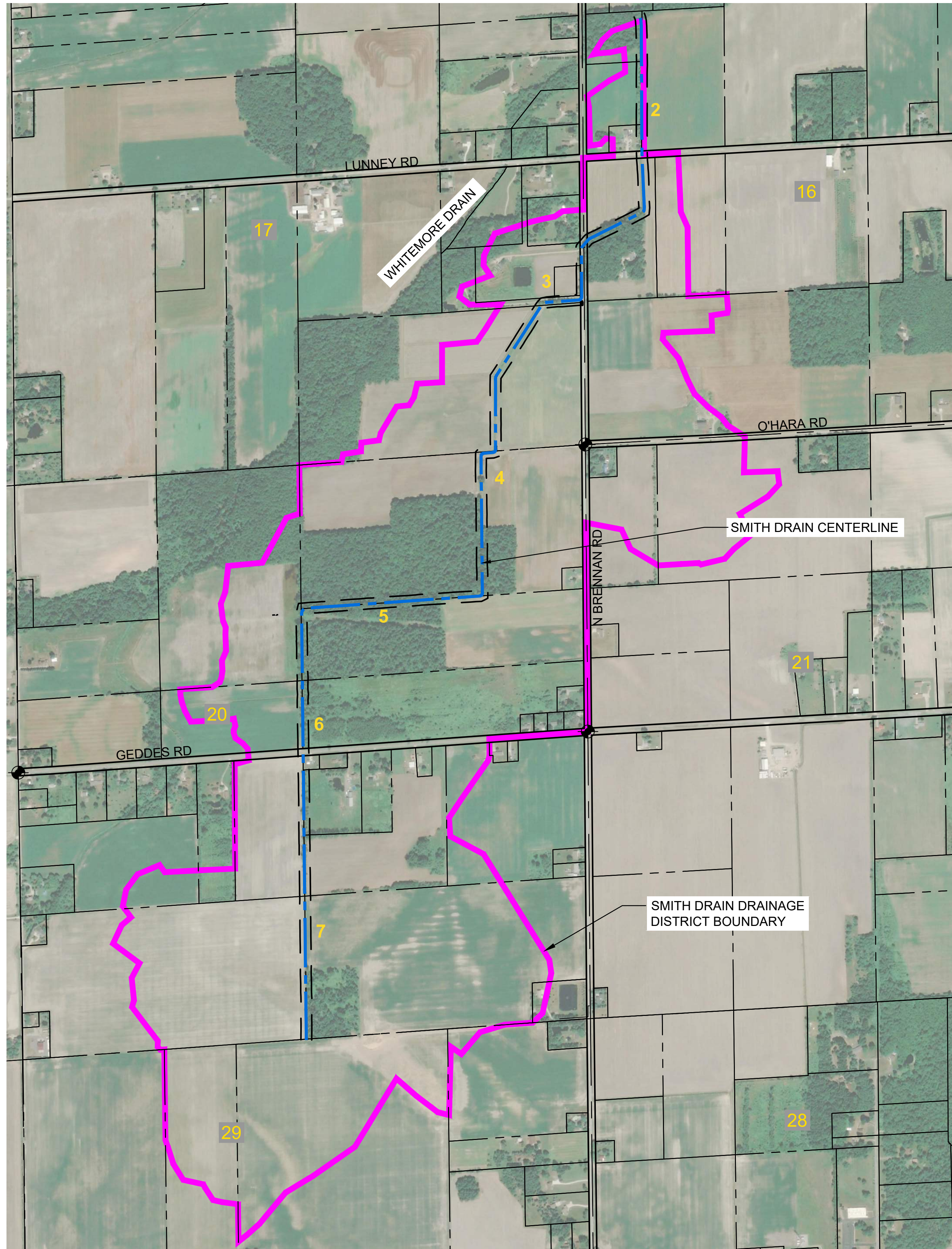
# BRIAN J. WENDLING SAGINAW COUNTY PUBLIC WORKS COMMISSIONER SMITH DRAIN

PART OF SECTIONS 16, 17, 20, 21, AND 29 OF RICHLAND TOWNSHIP, T12N, R2E,  
SAGINAW COUNTY, MICHIGAN



SITE LOCATION

LOCATION MAP  
NO SCALE



SCALE: 1" = 600'

LEGEND	
	SMITH DRAIN DRAINAGE DISTRICT BOUNDARY
	SMITH DRAIN CENTERLINE
	PARCEL LINE
	SECTION LINE OR QUARTER SECTION LINE
	SECTION NUMBER
	SECTION CORNER
	SHEET LOCATION

SHEET INDEX	
1.	COVER SHEET
2.	SMITH DRAIN PLAN & PROFILE STA 1+00 TO STA 21+00
3.	SMITH DRAIN PLAN & PROFILE STA 21+00 TO STA 41+00
4.	SMITH DRAIN PLAN & PROFILE STA 41+00 TO STA 61+00
5.	SMITH DRAIN PLAN & PROFILE STA 61+00 TO STA 81+00
6.	SMITH DRAIN PLAN & PROFILE STA 81+00 TO STA 101+00
7.	SMITH DRAIN PLAN & PROFILE STA 101+00 TO STA 119+30
8.	SOIL EROSION AND SEDIMENTATION CONTROL PLAN
9.	DETAILS

### LIST OF CONTACTS

THE EXISTING UTILITIES LISTED BELOW AND SHOWN ON THESE PLANS REPRESENT THE BEST INFORMATION AVAILABLE. THIS INFORMATION DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO BE SATISFIED AS TO ITS ACCURACY AND THE LOCATION OF THE EXISTING UTILITIES.

<b>SAGINAW COUNTY PUBLIC WORKS COMMISSIONER - COUNTY DRAINS</b> ATTN: BRIAN WENDLING 111 SOUTH MICHIGAN AVE. SAGINAW, MI 48602 ATTN: (989) 790-5258	<b>ROAD &amp; STORM SEWER SAGINAW COUNTY ROAD COMMISSION</b> ATTN: HALEY CHRISTIANSON 3020 SHERIDAN AVE SAGINAW, MI 48601 PHONE: (989) 752-6140	<b>FIBER FRONTIER COMMUNICATIONS</b> ATTN: DOUG HOVEY 305 S MAIN ST MT PLEASANT, MI 48858 PHONE: (989) 463-5497	<b>ENGINEER</b> ENG., INC. RYAN C MCGENHILL, PE 16930 ROBBINS ROAD SUITE 105 GRAND HAVEN, MI 49417 PHONE: 616-743-7070 mcenhillr@engdot.com
<b>ELECTRIC CONSUMERS ENERGY</b> ATTN: VIRGIE DOWNS 2400 WEISS ST. SAGINAW, MI 48602 PHONE: (989) 529-2720 virgie.downs@cmsenergy.com	<b>CABLE WINDSTREAM COMMUNICATIONS</b> 1450 N CENTER POINT RD HIAWATHA, IA 52233 PHONE (800) 695-1901	<b>GAS TRANSMISSION CONSUMERS ENERGY</b> ATTN: DIRK WELTE 2400 WEISS ST SAGINAW, MI 48602 PHONE (517) 416 3269 EMAIL: DIRK.WELTE@CMSENERGY.COM	
<b>GAS CONSUMERS ENERGY</b> ATTN: BENJAMIN LOUIS PHONE: (989) 791-5918 CELL: (517) 581-1424 EMAIL: BENJAMIN.LEWIS@CMSENERGY.COM	<b>TELEPHONE AT&amp;T</b> ATTN: KATHY HENDERSON 309 S. WASHINGTON AVE SAGINAW, MI 48607 PHONE (989) 771-5412 (248)425-1859		



*Ryan C. McEnhill*

RYAN C. MCENHILL, P.E. #56096

9-11-2023

DATE

COVER SHEET

NO.	REVISIONS	DATE	BY	APPROVED BY

4063 Grand Oak Drive, Suite A101  
Lansing, MI 48911  
517.887.1100

16930 Robbins Road, Suite 105  
Grand Haven, MI 49417  
616.743.7070

2311 East Ballline Avenue, Suite 201  
Grand Rapids, MI 49506  
616.743.3020



**BRIAN WENDLING**  
SAGINAW COUNTY PUBLIC WORKS COMMISSIONER

**SMITH DRAIN**  
PART OF SECTIONS 16, 17, 20, 21 AND 29 OF RICHLAND TOWNSHIP, T12N, R2E,  
SAGINAW COUNTY, MICHIGAN

PROJECT NO.	23011
SHEET NO.	1 OF 9

P:\23011\00\_Saginaw County Public Works - Smith Drain\CAD\09 - Construction Drawings\2023-04-11\23011\_Cover.dwg, 9/10/2023 10:55:02 PM, DWG To PDF.ac3

**GENERAL NOTES:**

- FOR ACCESS CLEARING, ALL TREES REMOVED MUST BE CHIPPED OR HAVE LOGS STACKED WITHIN THE EASEMENT LIMITS. ALL OTHER WOODY MATERIAL MUST BE CHIPPED, OR REMOVED FROM SITE. BURYING ON SITE IS ALLOWED ONLY IN WOODED AREAS. ALL TREES REMOVED FROM DITCH BOTTOM OR SIDES MUST BE CUT FLUSH.
- SPOILS TO BE PLACED AND LEVELLED ALONG THE WORKING SIDE OF THE DRAIN, SO AS NOT TO AFFECT THE EXISTING DRAINAGE PATTERNS.
- LEVEL, MULCH, AND SEED SPOILS IN YARD AND WOODED AREAS WITH OPEN CHANNEL SEED MIX. SPOILS ADJACENT TO AGRICULTURAL FIELDS SHALL NOT BE SEDED. SPOILS SHALL NOT BE GREATER THAN 8-INCHES IN HEIGHT IN ANY GIVEN AREA.
- PROPERTY OWNERS MUST BE NOTIFIED 7 DAYS PRIOR TO ANY ACCESS AND TREE REMOVALS ON THEIR PROPERTY.

**SITE ACCESS IS RESTRICTED TO EXISTING DRAIN EASEMENTS, TEMPORARY ACCESS EASEMENTS, AND PUBLIC RIGHTS OF WAY SHOWN ON DRAWINGS. ALL OTHER ACCESS TO SITE SHALL BE APPROVED BY THE OWNER.**

- TEMPORARY SESC MEASURES MUST BE IN PLACE AT 500 FOOT INCREMENTS TO CONTROL SEDIMENT TRANSPORT.
- CLEARING THAT INCLUDES CUTTING AND REMOVAL OF TREES, BRUSH AND SHRUBS UP TO 6 INCHES AS MEASURED AT BREST HEIGHT (DBH) SHALL BE CONSIDERED AS INCLUDED WITH OTHER RELATED PAY ITEMS.

**SHEET SPECIFIC NOTES:**

- WORK IS TO BE COMPLETED FROM THE EAST SIDE OF DRAIN NORTH OF LUNNEY ROAD AND FROM THE WEST SIDE OF DRAIN SOUTH OF LUNNEY ROAD FOR THIS SHEET.

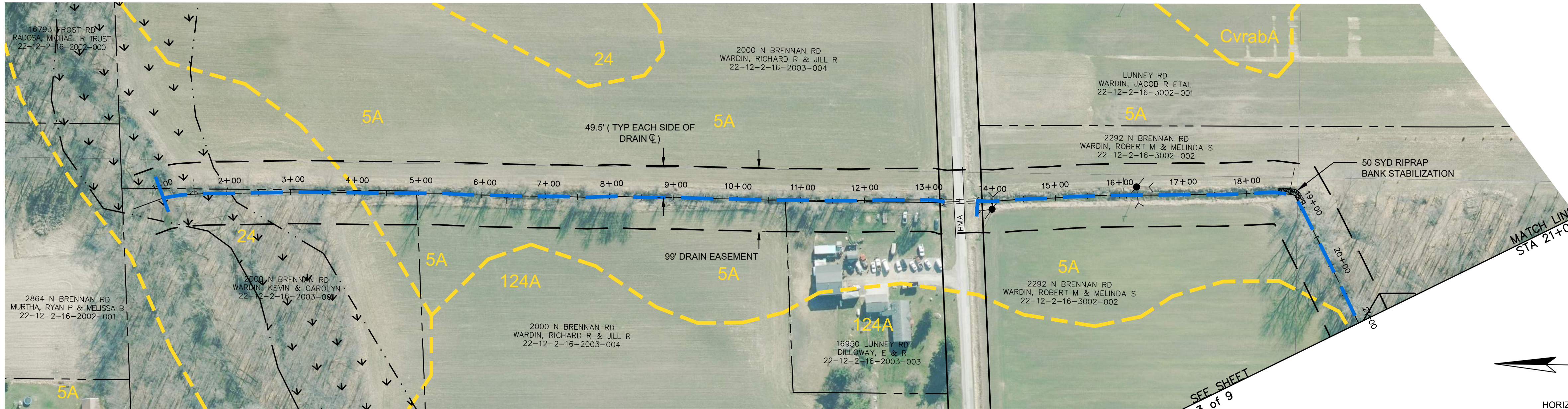
SOIL TYPES AND ABBREVIATIONS	
5A	Sumava sandy loam, 0 to 3 percent slopes
24	Parkhill-Selfridge complex, 0 to 2 percent slopes
124A	Selfridge loamy sand, 0 to 3 percent slopes
CvrabA	Conover-Williamstown loams, 0 to 6 percent slopes

BM #1 ELEV=645.47  
SET SPIKE E. SIDE UTILITY POLE W. SIDE BRENNAN RD. N. SIDE OF DRIVEWAY #2339

BM #2 ELEV=646.01  
SET SPIKE SE SIDE UTILITY POLE W. SIDE BRENNAN RD. S. SIDE OF DRIVEWAY #2269

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

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

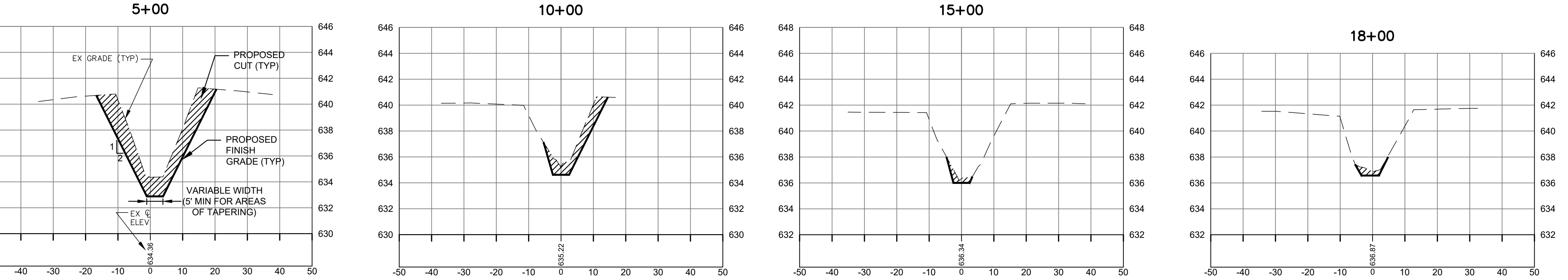


**LEGEND**

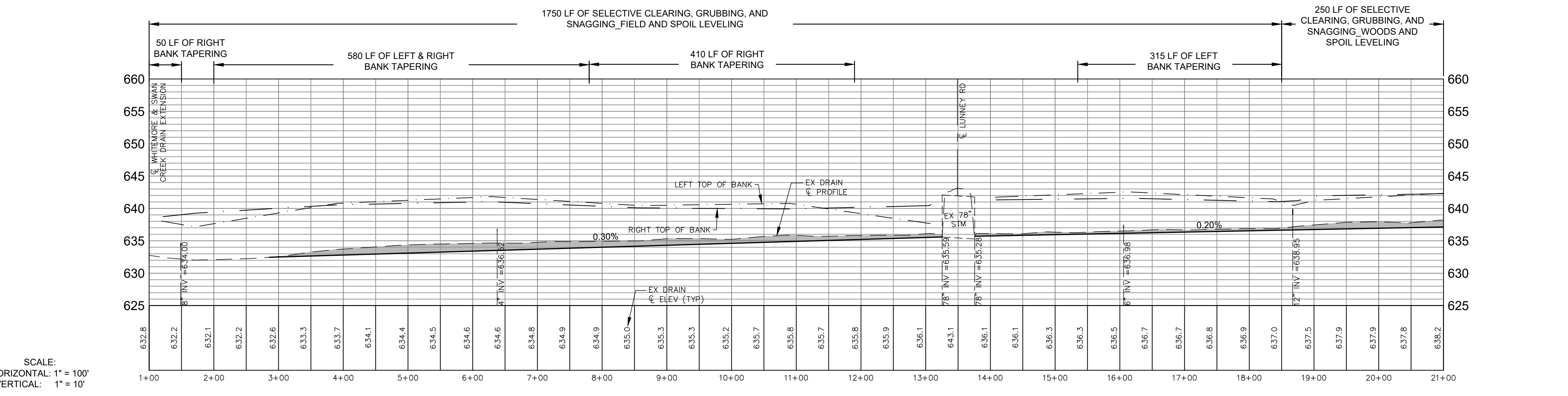
- = PROPERTY LINE OR R.O.W. LINE
- = EDGE OF PAVEMENT
- X = FENCE
- = EXISTING GUARDRAIL
- = WETLANDS (AS MARKED BY OTHERS)
- = EXISTING CONTOUR ELEVATION
- = EDGE OF WOODS
- = DECIDUOUS TREE
- = CONIFEROUS TREE
- = BUSH
- = STUMP
- = EXISTING GAS LINE
- = EXISTING WELL LOCATION
- = BENCH MARK LOCATION
- = EXISTING SIGN
- = EXISTING MAILBOX
- = EXISTING LIGHT POLE
- = EXISTING GUY ANCHOR
- = EXISTING UTILITY POLE
- = EXISTING TELEPHONE PEDESTAL
- = EXISTING DRAIN
- = PROPOSED DRAIN

La --- = SOIL TYPE

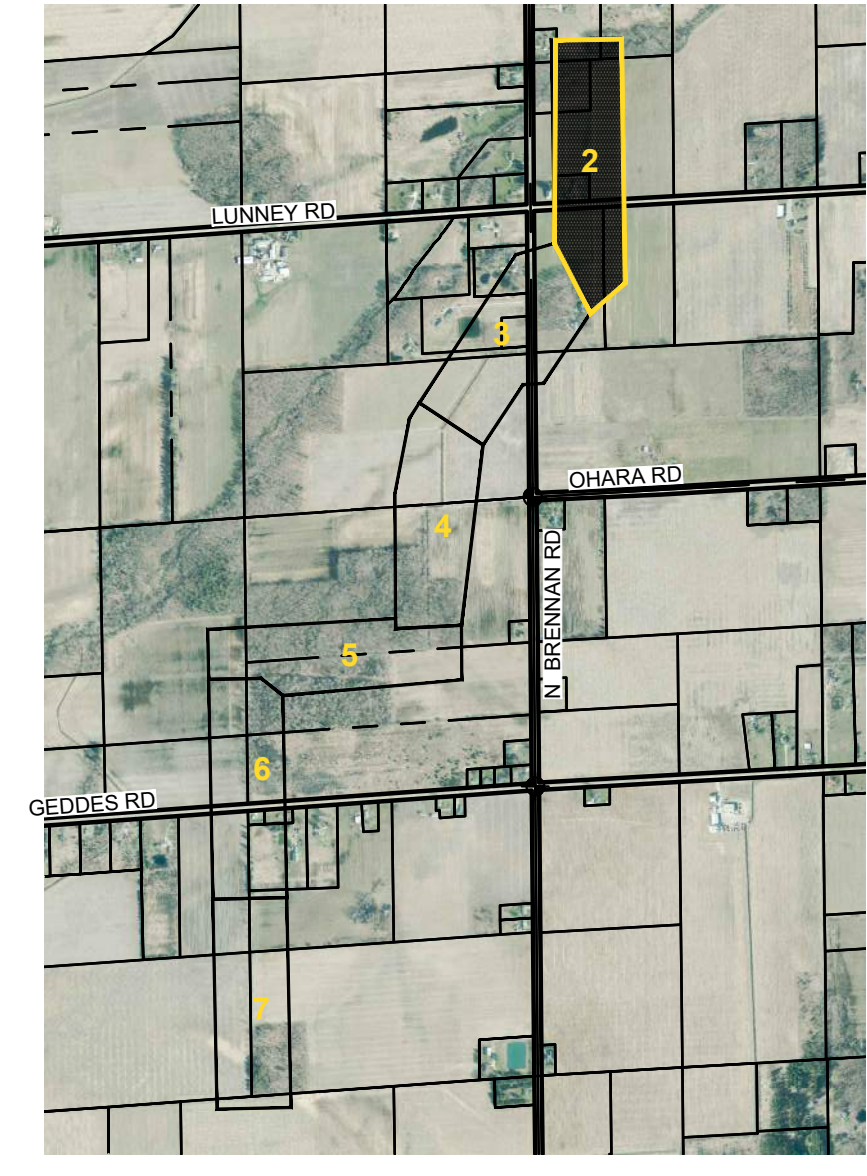
- = TEMPORARY SOIL EROSION CONTROL MEASURE
- = PERMANENT SOIL EROSION CONTROL MEASURE OR RESTORATION DETAIL
- = RIPRAP
- = HMA DRIVEWAY/ROADWAY RESTORATION



**CROSS SECTIONS**  
SCALE:  
HORIZONTAL: 1" = 20'  
VERTICAL: 1" = 5'



SCALE:  
HORIZONTAL: 1" = 100'  
VERTICAL: 1" = 10'



**KEY PLAN**  
NO SCALE

**SMITH DRAIN  
PLAN & PROFILE  
STA 1+00 TO STA 21+00**

NO.	REVISIONS	DATE	BY

4083 Grand Oak Drive, Suite A109  
Lansing, MI 48911  
Phone: 517.887.1100

168300 Robbins Road, Suite 105  
Grand Rapids, MI 49547  
Phone: 616.743.7070

2311 East Ballline Avenue, Suite 201  
Grand Rapids, MI 49508  
Phone: 616.743.3020

**Eng.**  
Engineering & Surveying  
www.engdot.com

**BRIAN WENDLING**  
SAGINAW COUNTY PUBLIC WORKS COMMISSIONER

**SMITH DRAIN**  
PART OF SECTIONS 16, 17, 20, 21 AND 28 OF RICHLAND TOWNSHIP, T12N, R2E,  
SAGINAW COUNTY, MICHIGAN

PROJECT NO.  
**23011**

SHEET NO.  
**2 OF 9**

- GENERAL NOTES:**
- FOR ACCESS CLEARING, ALL TREES REMOVED MUST BE CHIPPED OR HAVE LOGS STACKED WITHIN THE EASEMENT LIMITS. ALL OTHER WOODY MATERIAL MUST BE CHIPPED, OR REMOVED FROM SITE. BURYING ON SITE IS ALLOWED ONLY IN WOODED AREAS. ALL TREES REMOVED FROM DITCH BOTTOM OR SIDES MUST BE CUT FLUSH.
  - SPOILS TO BE PLACED AND LEVELED ALONG THE WORKING SIDE OF THE DRAIN, SO AS NOT TO AFFECT THE EXISTING DRAINAGE PATTERNS.
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- SHEET SPECIFIC NOTES:**
- WORK IS TO BE COMPLETED FROM WEST SIDE OF DRAIN BETWEEN STA 21+00 TO STA 34+00 AND FROM THE EAST SIDE OF DRAIN BETWEEN STA 34+00 TO STA 41+00 FOR THIS SHEET.

SOIL TYPES AND ABBREVIATIONS	
5A	Sumava sandy loam, 0 to 3 percent slopes
12	Corunna sandy loam
13	Belleville fine sand
26A	Pipestone sand, loamy substratum, 0 to 3 percent slopes
31A	Pipestone sand, Erie-Huron Lake Plain, 0 to 3 percent slopes
124A	Selfridge loamy sand, 0 to 3 percent slopes

BM #1 ELEV=645.47  
SET SPIKE E. SIDE UTILITY POLE  
W. SIDE BRENNAN RD N. SIDE OF  
DRIVEWAY #2359

BM #2 ELEV=646.01  
SET SPIKE SE SIDE UTILITY POLE  
W. SIDE BRENNAN RD S. SIDE OF  
DRIVEWAY #2269

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NO.	DATE	BY	REVISIONS

4083 Grand Oak Drive, Suite A109  
Lansing, MI 48911  
517.887.1100

16530 Robbins Road, Suite 105  
Grand Rapids, MI 49547  
616.743.7070

2311 East Ballline Avenue, Suite 201  
Grand Rapids, MI 49508  
616.743.3020

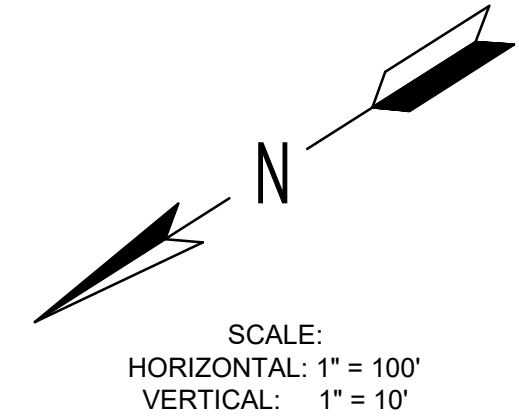
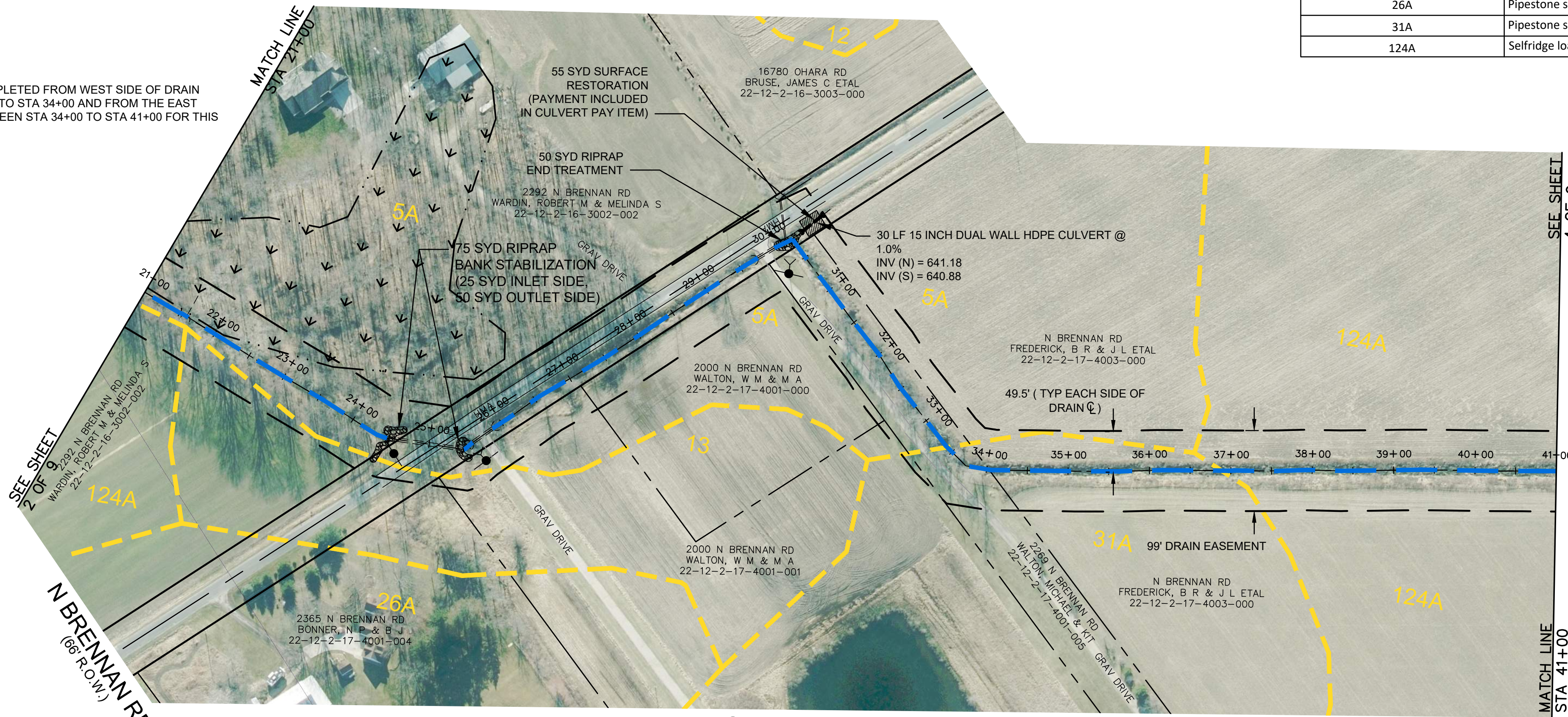


**BRIAN WENDLING**  
SAGINAW COUNTY PUBLIC WORKS COMMISSIONER

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PART OF SECTIONS 16, 17, 20, 21 AND 28 OF RICHLAND TOWNSHIP, T12N, R2E,  
SAGINAW COUNTY, MICHIGAN

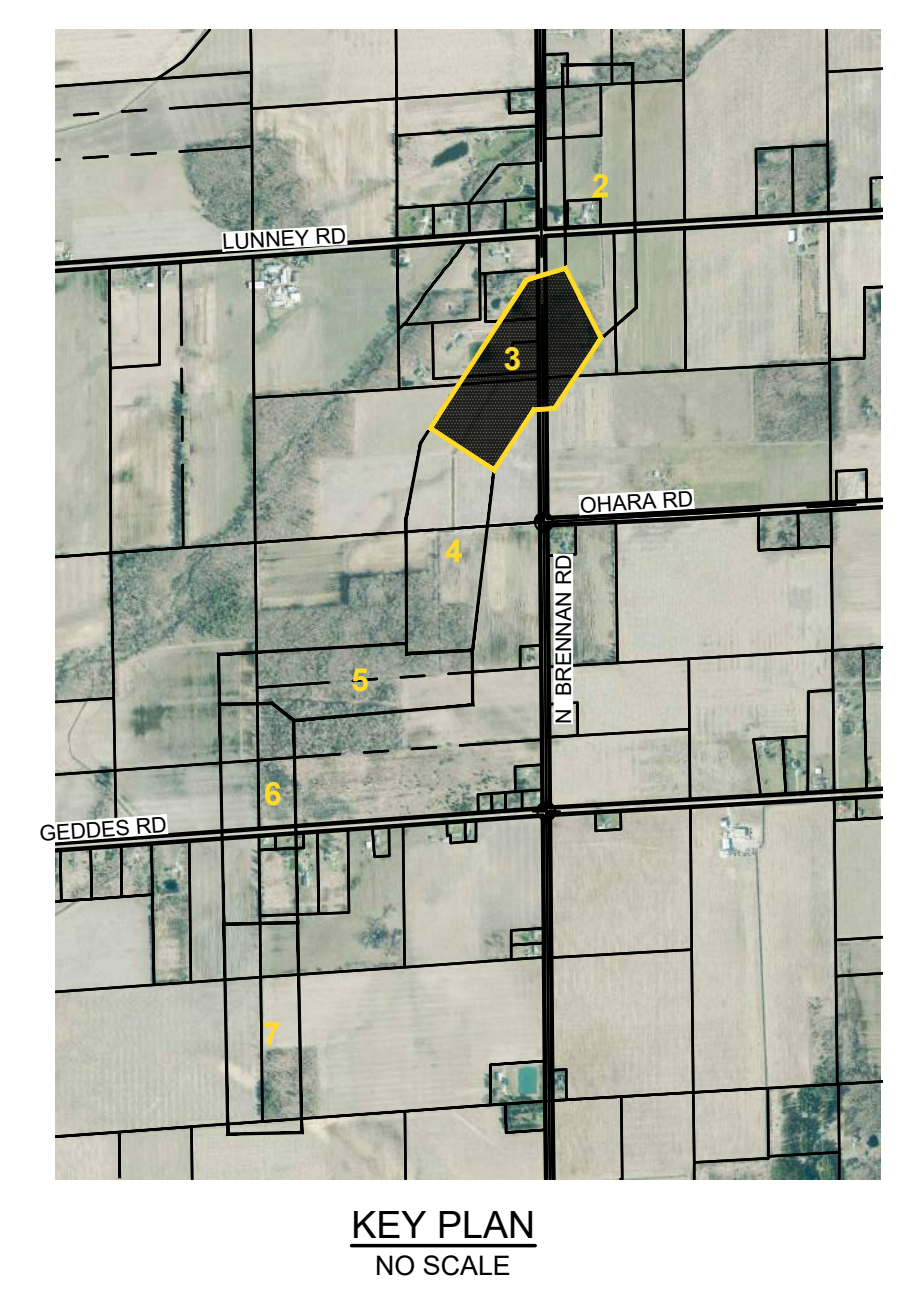
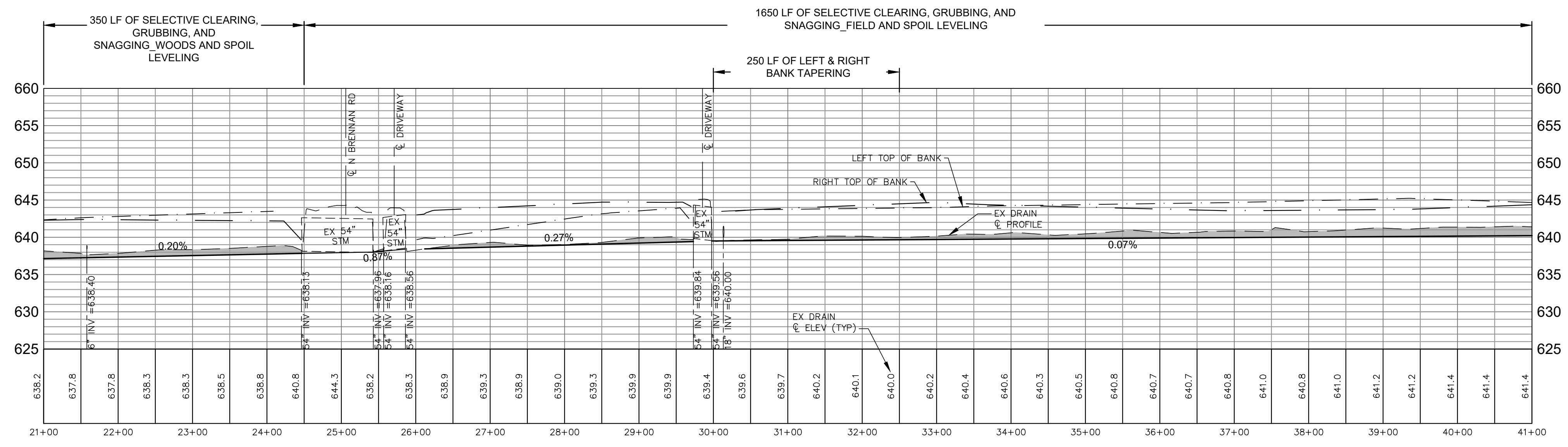
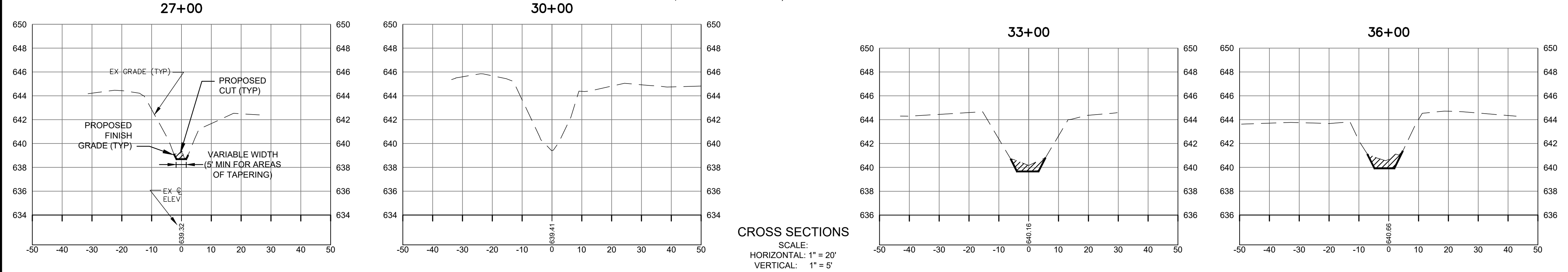
PROJECT NO.  
**23011**

SHEET NO.  
**3 OF 9**



**LEGEND**

- = PROPERTY LINE OR R.O.W. LINE
- = EDGE OF PAVEMENT
- X — = FENCE
- = EXISTING GUARDRAIL
- = WETLANDS (AS MARKED BY OTHERS)
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- = EXISTING GAS LINE
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- = EXISTING LIGHT POLE
- = EXISTING GUY ANCHOR
- = EXISTING UTILITY POLE
- = EXISTING TELEPHONE PEDESTAL
- = EXISTING DRAIN
- = PROPOSED DRAIN
- La — = SOIL TYPE
- = TEMPORARY SOIL EROSION CONTROL MEASURE
- = PERMANENT SOIL EROSION CONTROL MEASURE OR RESTORATION DETAIL
- = RIPRAP
- = HMA DRIVEWAY/ROADWAY RESTORATION
- = GRAVEL DRIVEWAY/ROADWAY RESTORATION



**SMITH DRAIN  
PLAN & PROFILE  
STA 21+00 TO STA 41+00**

P:\23011\00\_Saginaw County Public Works - Smith Drain\CAD\08 - Construction Drawings\2023-04-11\23011 PRP.dwg, 9/10/2023 10:59:31 PM, DWG To PDF.pc3

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- SHEET SPECIFIC NOTES:
- WORK IS TO BE COMPLETED FROM THE SOUTH AND EAST SIDES OF DRAIN FOR THIS SHEET.

SOIL TYPES AND ABBREVIATIONS	
24	Parkhill-Selfridge complex, 0 to 2 percent slopes
26A	Pipestone sand, loamy substratum, 0 to 3 percent slopes
31A	Pipestone sand, Erie-Huron Lake Plain, 0 to 3 percent slopes
124A	Selfridge loamy sand, 0 to 3 percent slopes

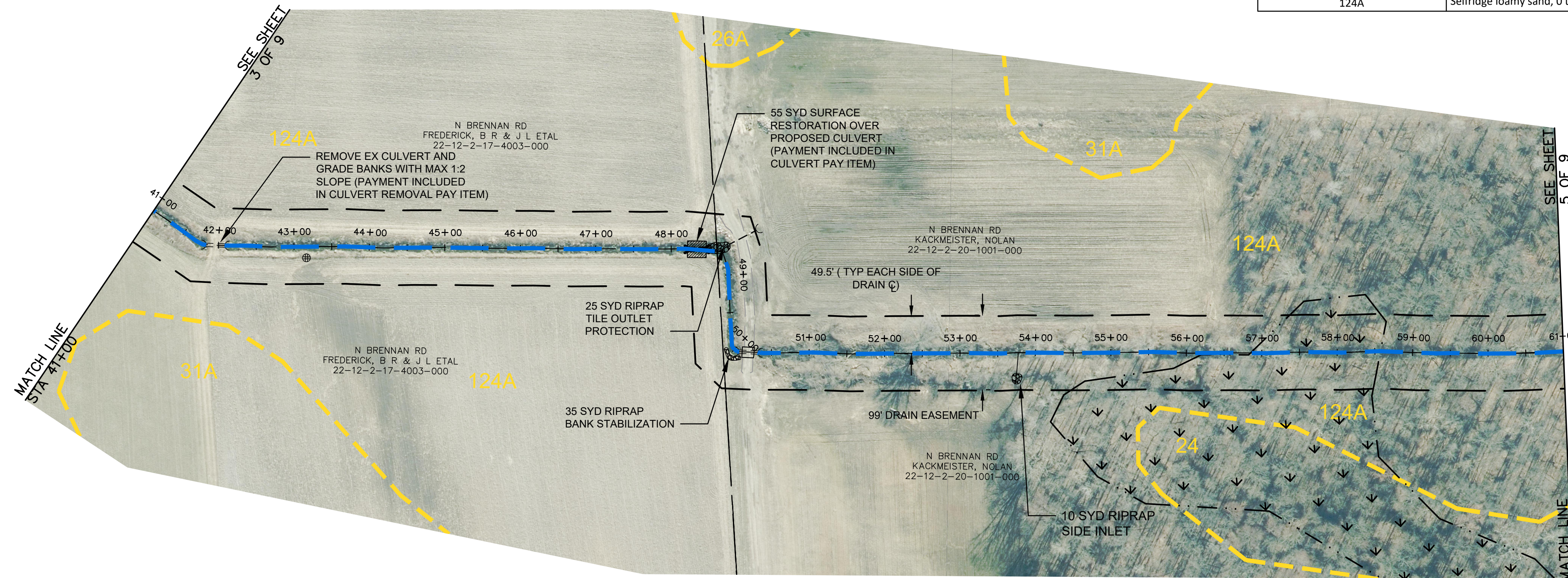
BM #1 ELEV=645.47  
SET SPIKE E. SIDE UTILITY POLE  
W. SIDE BRENNAN RD N. SIDE OF  
DRIVEWAY #2339

BM #2 ELEV=646.01  
SET SPIKE SE SIDE UTILITY POLE  
W. SIDE BRENNAN RD S. SIDE OF  
DRIVEWAY #2269

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

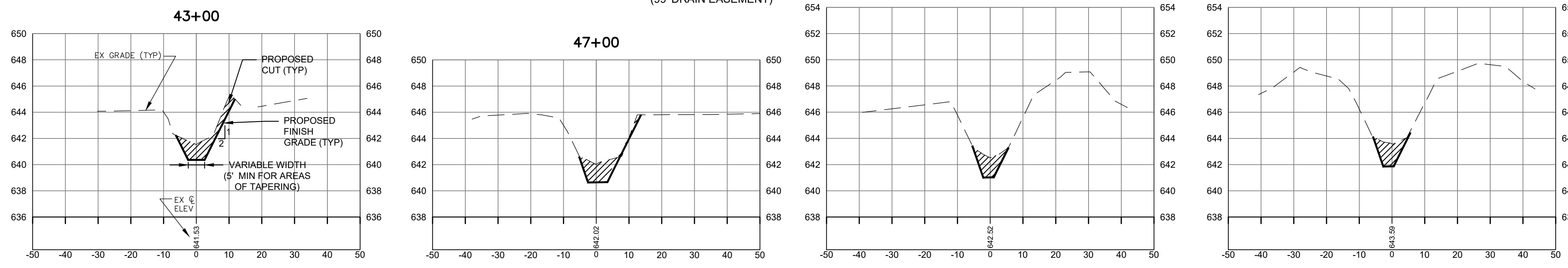
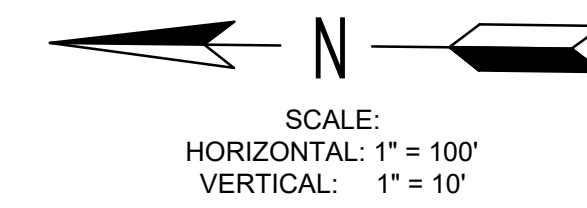
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NO.	REVISIONS	DATE	BY

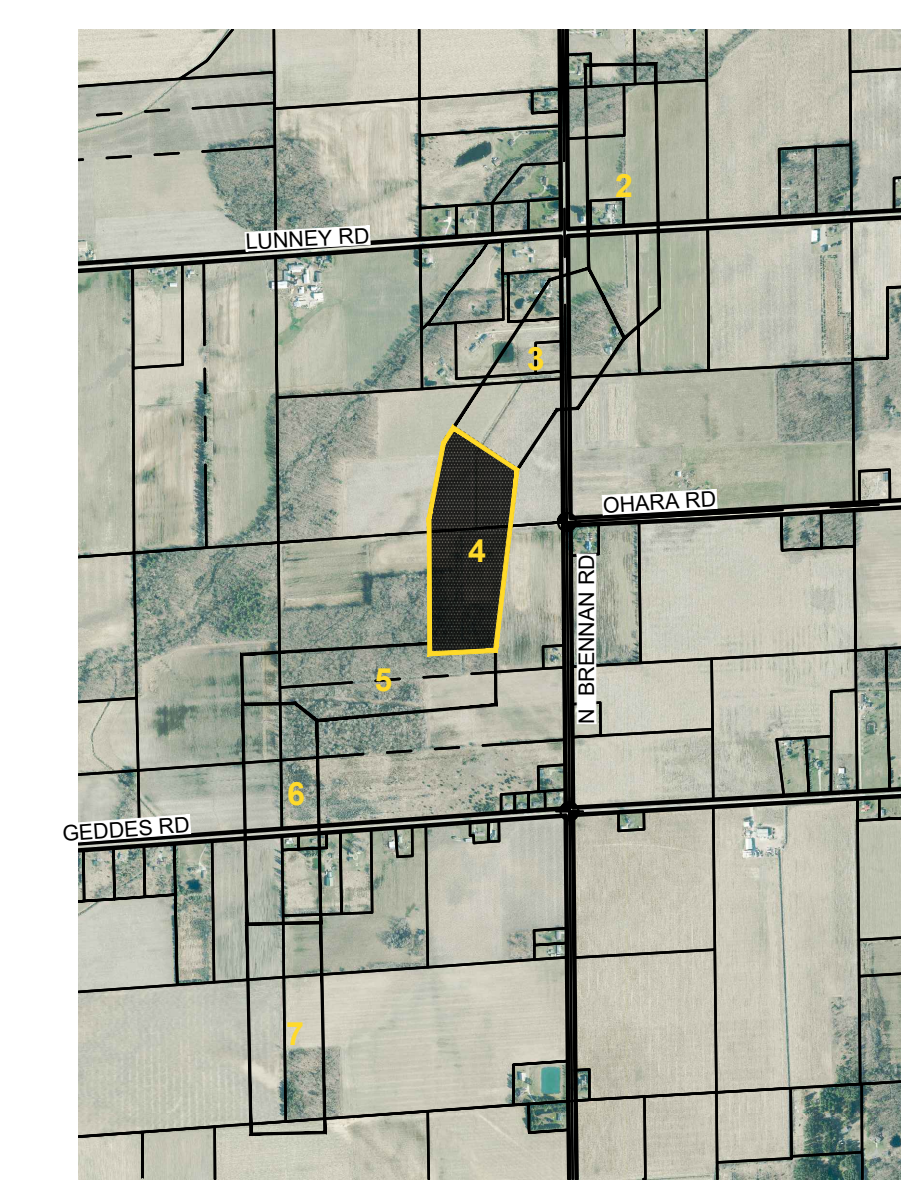
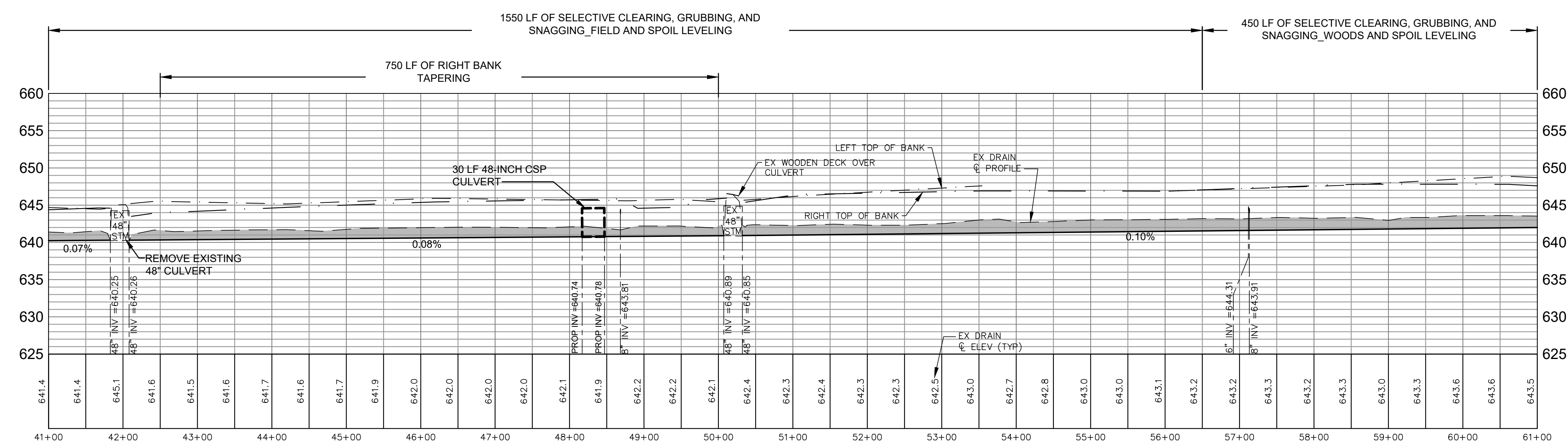


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- La — = SOIL TYPE
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- = PERMANENT SOIL EROSION CONTROL MEASURE OR RESTORATION DETAIL
- = RIPRAP
- = HMA DRIVEWAY/ROADWAY RESTORATION
- = SURFACE RESTORATION



**CROSS SECTIONS**  
SCALE:  
HORIZONTAL: 1" = 20'  
VERTICAL: 1" = 5'



**KEY PLAN**  
NO SCALE

**SMITH DRAIN**  
**PLAN & PROFILE**  
**STA 41+00 TO STA 61+00**

**Eng.**  
Engineering & Surveying  
www.engdot.com

**BRIAN WENDLING**  
SAGINAW COUNTY PUBLIC WORKS COMMISSIONER

**SMITH DRAIN**  
PART OF SECTIONS 16, 17, 20, 21 AND 28 OF RICHLAND TOWNSHIP, T12N, R2E,  
SAGINAW COUNTY, MICHIGAN

PROJECT NO.  
**23011**

SHEET NO.  
**4 OF 9**

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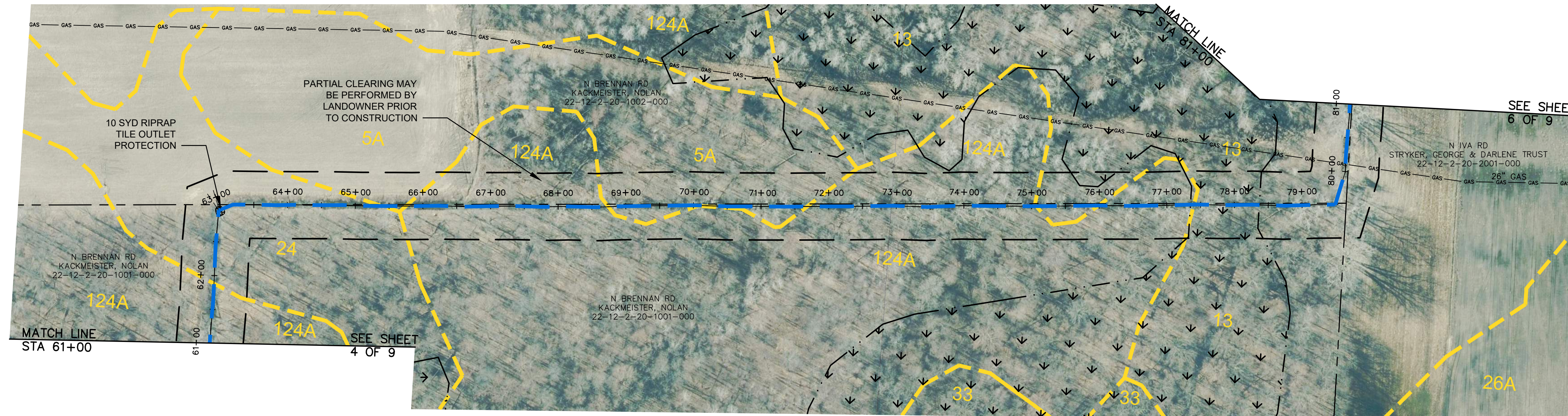
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BM #1 ELEV=645.47  
SET SPIKE E. SIDE UTILITY POLE  
W. SIDE BRENNAN RD N. SIDE OF  
DRIVEWAY #2359

BM #2 ELEV=646.01  
SET SPIKE SE SIDE UTILITY POLE  
W. SIDE BRENNAN RD S. SIDE OF  
DRIVEWAY #2269



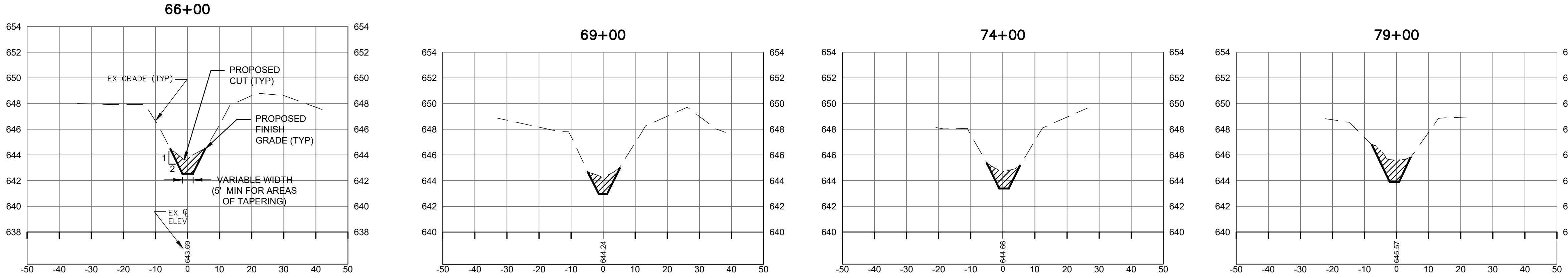
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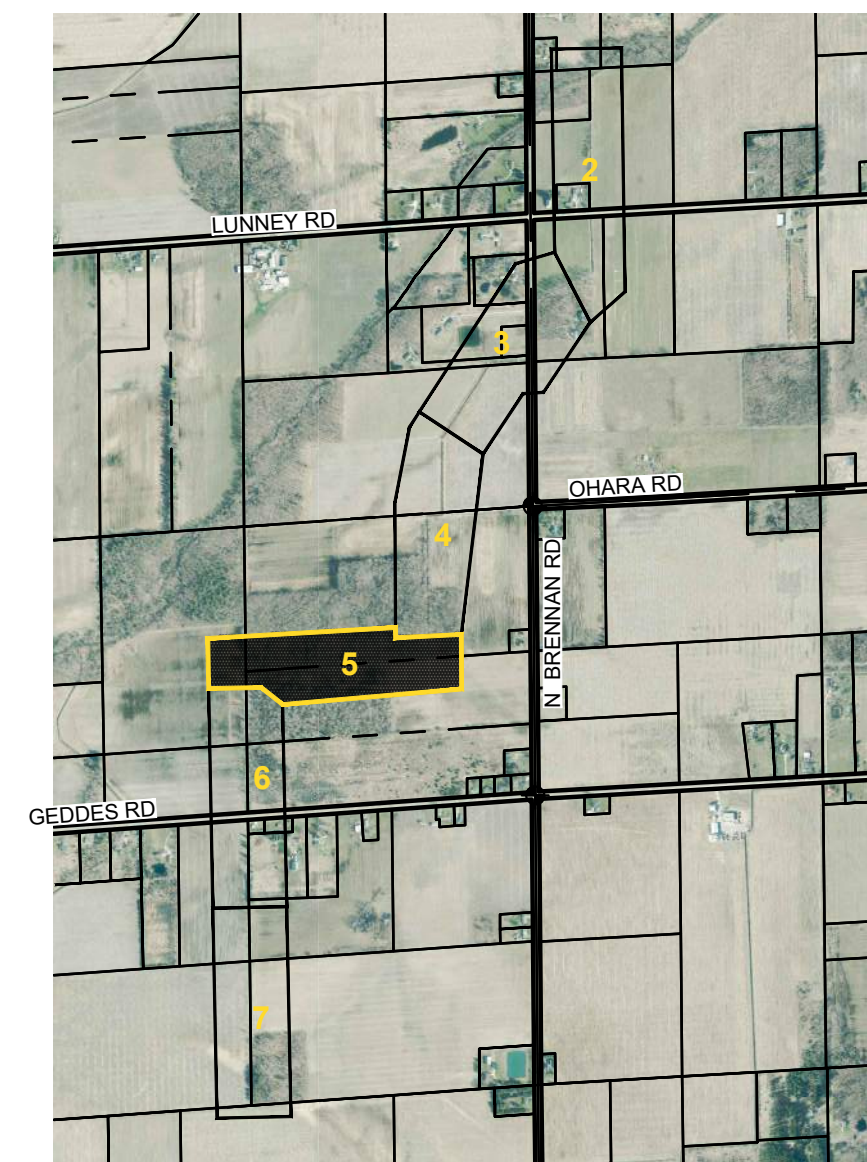
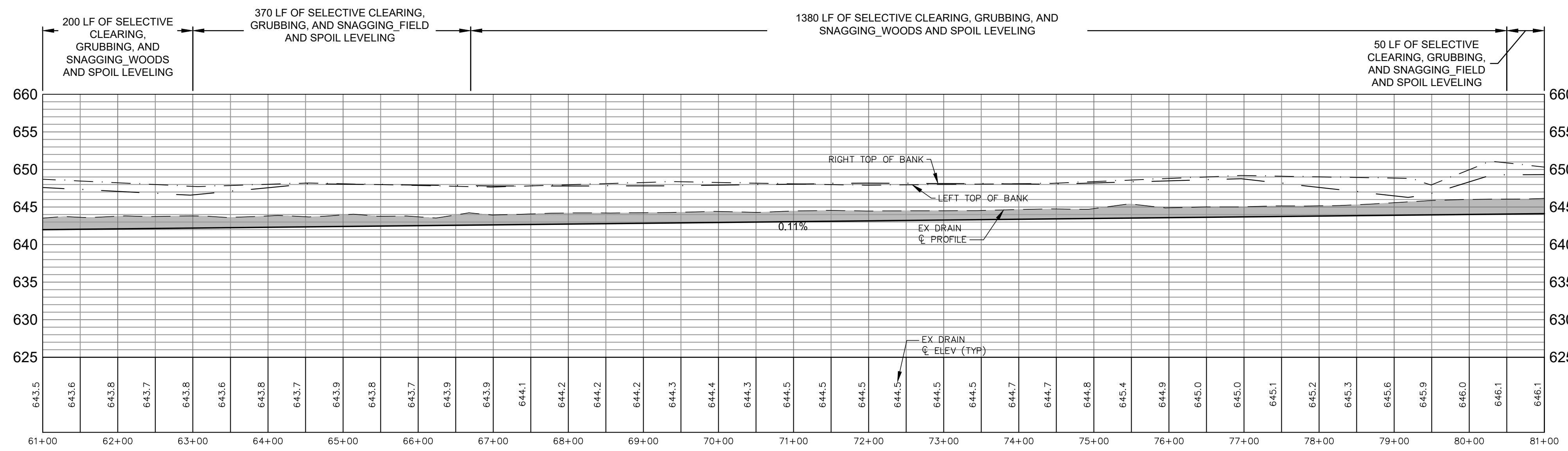
**SMITH DRAIN**  
(99' DRAIN EASEMENT)

- LEGEND**
- = PROPERTY LINE OR R.O.W. LINE
  - = EDGE OF PAVEMENT
  - X — = FENCE
  - = EXISTING GUARDRAIL
  - = WETLANDS (AS MARKED BY OTHERS)
  - 550 — = EXISTING CONTOUR ELEVATION
  - = EDGE OF WOODS
  - ☀ = DECIDUOUS TREE
  - ☀ = CONIFEROUS TREE
  - ☀ = BUSH
  - ☀ = STUMP
  - GAS — = EXISTING GAS LINE
  - = EXISTING WELL LOCATION
  - BM = BENCH MARK LOCATION
  - ☑ = EXISTING SIGN
  - ☑ = EXISTING MAILBOX
  - ☑ = EXISTING LIGHT POLE
  - ☑ = EXISTING GUY ANCHOR
  - ☑ = EXISTING UTILITY POLE
  - ☑ = EXISTING TELEPHONE PEDESTAL
  - = EXISTING DRAIN
  - = PROPOSED DRAIN
  - La = SOIL TYPE
  - ⊗ = TEMPORARY SOIL EROSION CONTROL MEASURE
  - ⊗ = PERMANENT SOIL EROSION CONTROL MEASURE OR RESTORATION DETAIL
  - ▨ = RIPRAP
  - ▨ = HMA DRIVEWAY/ROADWAY RESTORATION

SCALE:  
HORIZONTAL: 1" = 100'  
VERTICAL: 1" = 10'



**CROSS SECTIONS**  
SCALE:  
HORIZONTAL: 1" = 20'  
VERTICAL: 1" = 5'



**KEY PLAN**  
NO SCALE

**SMITH DRAIN**  
**PLAN & PROFILE**  
**STA 61+00 TO STA 81+00**

NO.	REVISIONS	
	DATE	BY

4083 Grand Oak Drive, Suite A100  
Lansing, MI 48911  
517.887.1100

16530 Robbins Road, Suite 105  
Grand Haven, MI 49417  
616.743.7070

2311 East Ballline Avenue, Suite 201  
Grand Rapids, MI 49508  
616.743.3020

**Eng**  
Engineering & Surveying  
www.engdot.com

**BRIAN WENDLING**  
SAGINAW COUNTY PUBLIC WORKS COMMISSIONER

**SMITH DRAIN**  
PART OF SECTIONS 16, 17, 20, 21 AND 28 OF RICHLAND TOWNSHIP, T12N, R2E,  
SAGINAW COUNTY, MICHIGAN

PROJECT NO.  
**23011**

SHEET NO.  
**5 OF 9**

- GENERAL NOTES:
- FOR ACCESS CLEARING, ALL TREES REMOVED MUST BE CHIPPED OR HAVE LOGS STACKED WITHIN THE EASEMENT LIMITS. ALL OTHER WOODY MATERIAL MUST BE CHIPPED, OR REMOVED FROM SITE. BURYING ON SITE IS ALLOWED ONLY IN WOODED AREAS. ALL TREES REMOVED FROM DITCH BOTTOM OR SIDES MUST BE CUT FLUSH.
  - SPOILS TO BE PLACED AND LEVELED ALONG THE WORKING SIDE OF THE DRAIN, SO AS NOT TO AFFECT THE EXISTING DRAINAGE PATTERNS.
  - LEVEL, MULCH, AND SEED SPOILS IN YARD AND WOODED AREAS WITH OPEN CHANNEL SEED MIX. SPOILS ADJACENT TO AGRICULTURAL FIELDS SHALL NOT BE SEDED. SPOILS SHALL NOT BE GREATER THAN 8-INCHES IN HEIGHT IN ANY GIVEN AREA.
  - PROPERTY OWNERS MUST BE NOTIFIED 7 DAYS PRIOR TO ANY ACCESS AND TREE REMOVALS ON THEIR PROPERTY.

- SITE ACCESS IS RESTRICTED TO EXISTING DRAIN EASEMENTS, TEMPORARY ACCESS EASEMENTS, AND PUBLIC RIGHTS OF WAY SHOWN ON DRAWINGS. ALL OTHER ACCESS TO SITE SHALL BE APPROVED BY THE OWNER.
- TEMPORARY SESC MEASURES MUST BE IN PLACE AT 500 FOOT INCREMENTS TO CONTROL SEDIMENT TRANSPORT.
- CLEARING THAT INCLUDES CUTTING AND REMOVAL OF TREES, BRUSH AND SHRUBS UP TO 6 INCHES AS MEASURED AT BREAST HEIGHT (DBH) SHALL BE CONSIDERED AS INCLUDED WITH OTHER RELATED PAY ITEMS.

- SHEET SPECIFIC NOTES:
- WORK IS TO BE COMPLETED FROM THE WEST SIDE OF DRAIN FOR THIS SHEET.

SOIL TYPES AND ABBREVIATIONS	
12	Corunna sandy loam
13	Belleville fine sand
26A	Pipestone sand, loamy substratum, 0 to 3 percent slopes
124A	Selfridge loamy sand, 0 to 3 percent slopes

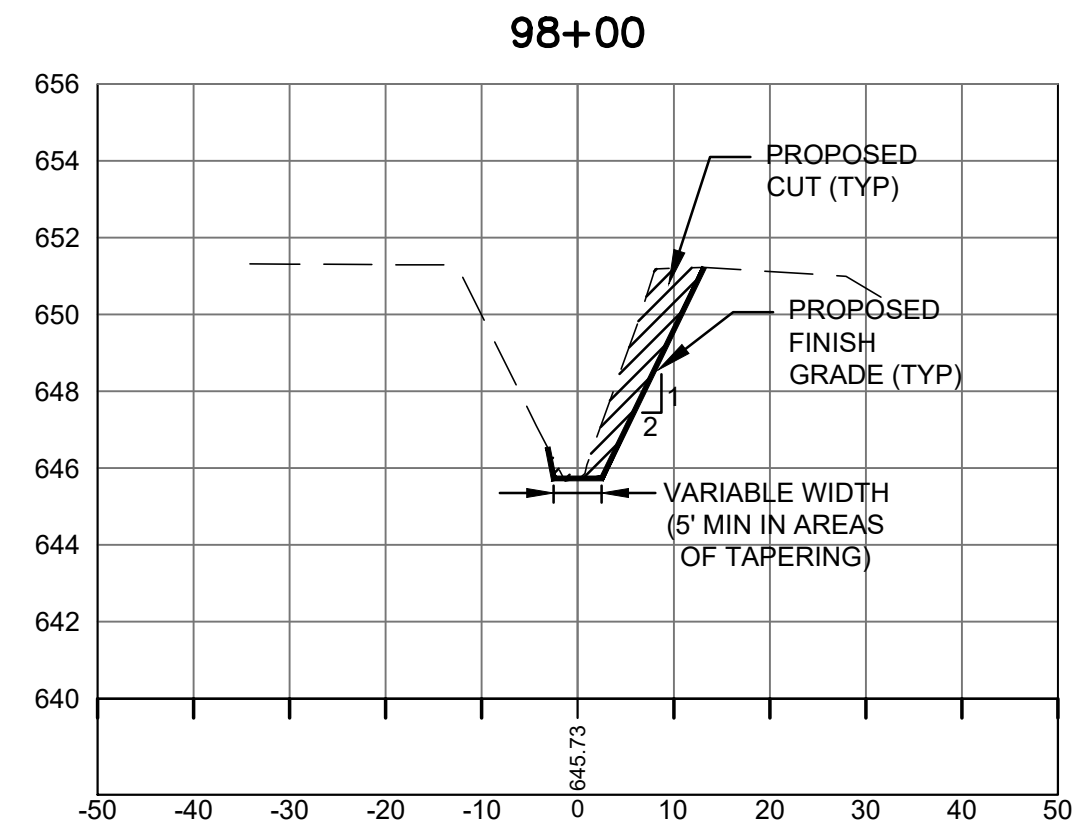
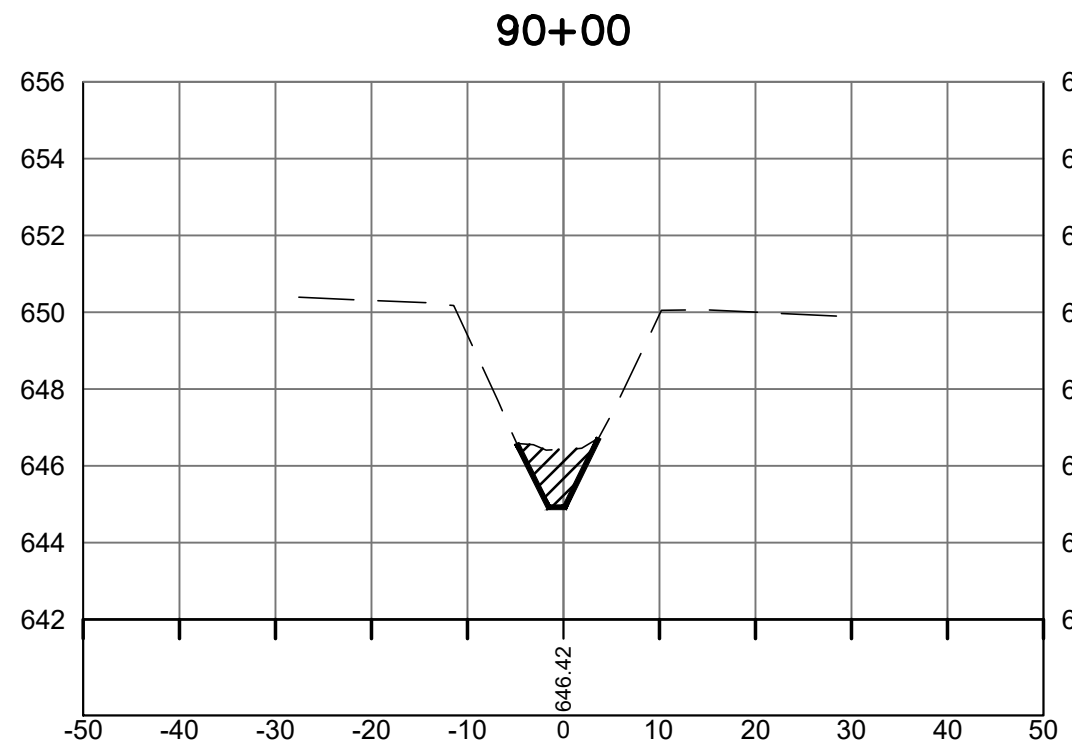
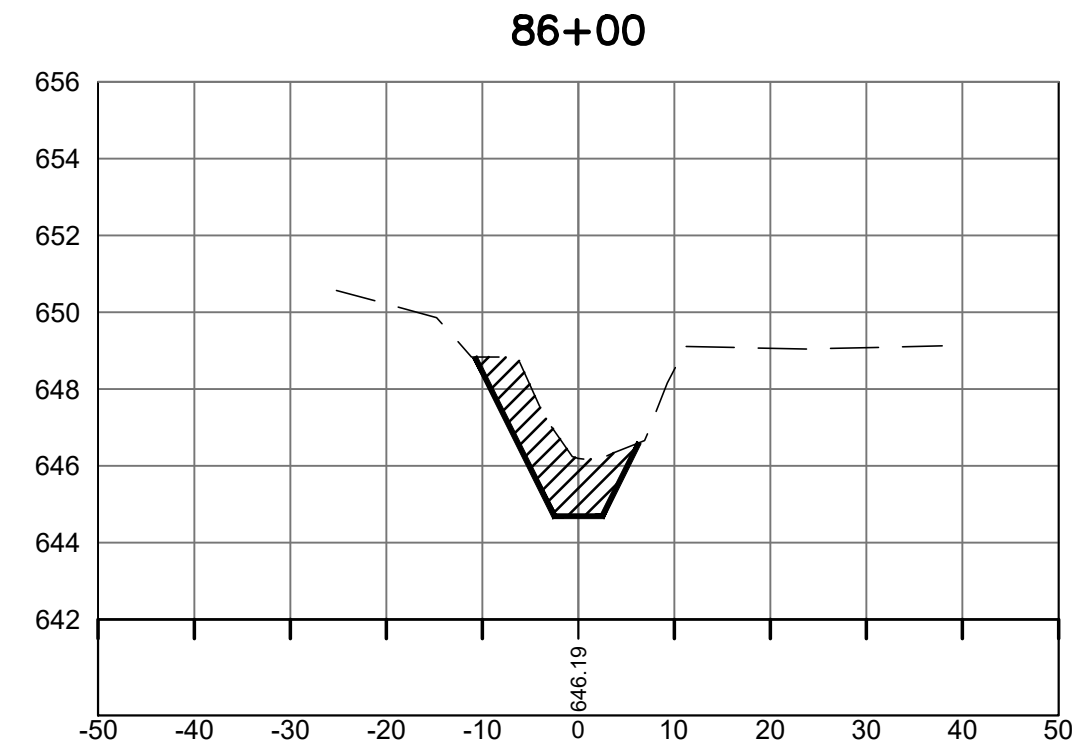
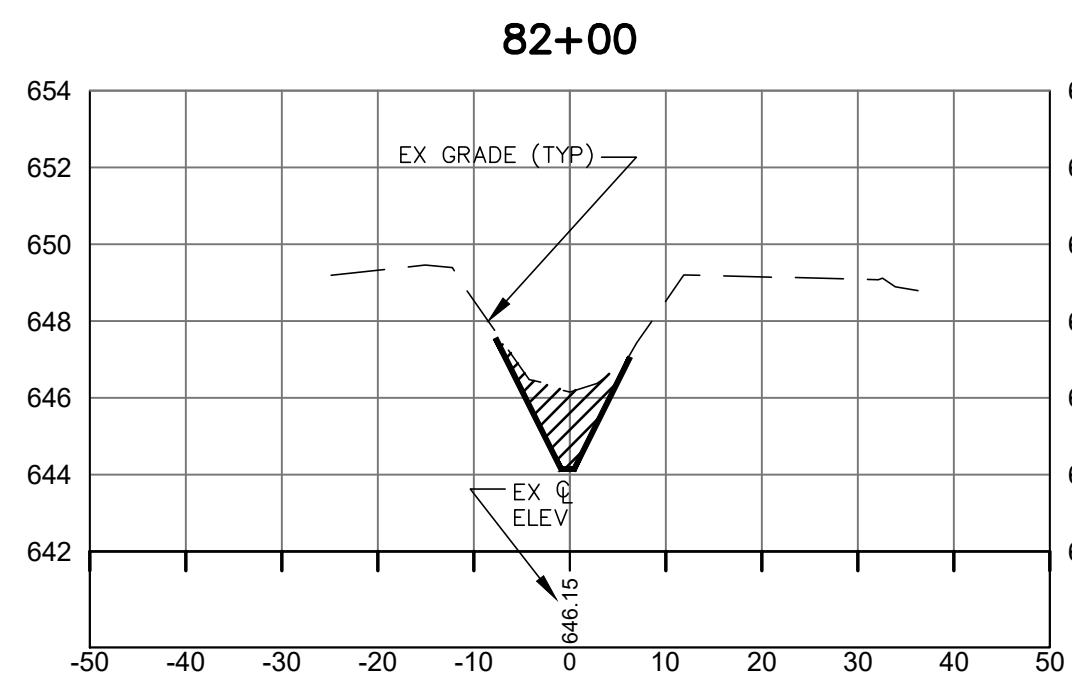
BM #1 ELEV=645.47  
SET SPIKE E. SIDE UTILITY POLE  
W. SIDE BRENNAN RD N. SIDE OF  
DRIVEWAY #2339

BM #2 ELEV=646.01  
SET SPIKE SE SIDE UTILITY POLE  
W. SIDE BRENNAN RD S. SIDE OF  
DRIVEWAY #2269

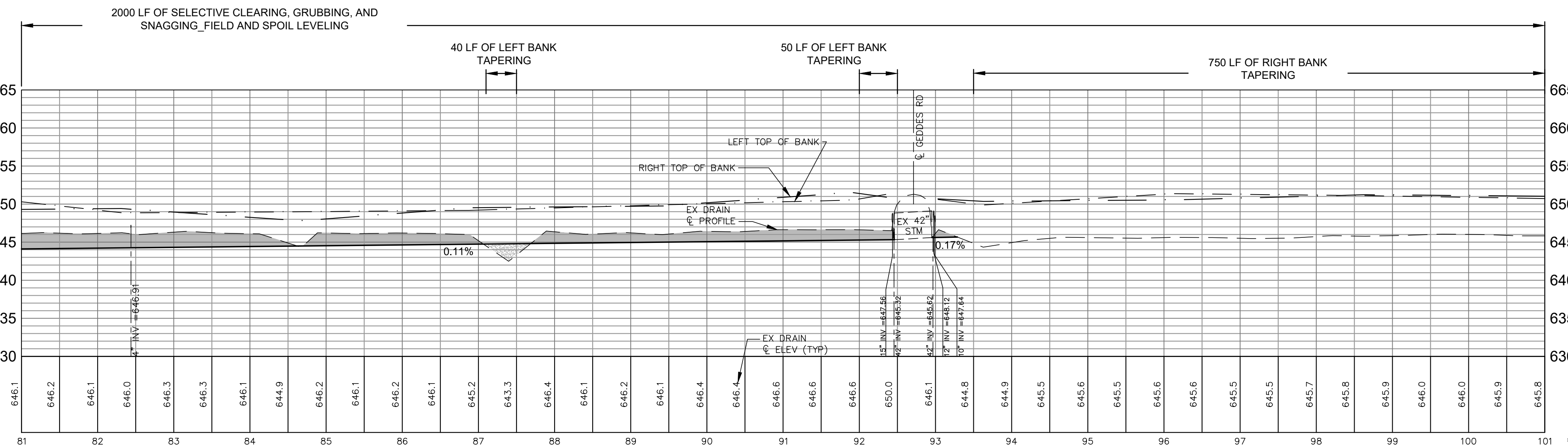


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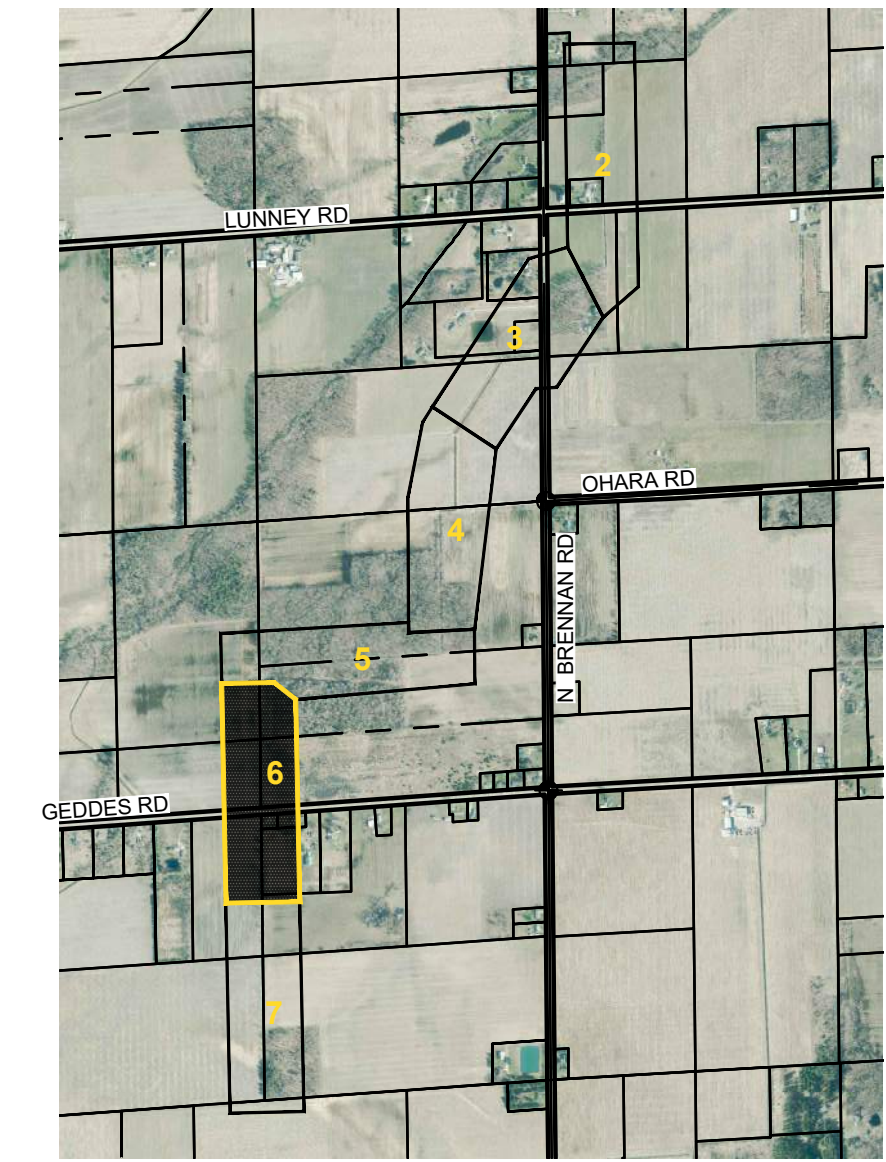
- LEGEND
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  - = EXISTING MAILBOX
  - \* — = EXISTING LIGHT POLE
  - • — = EXISTING GUY ANCHOR
  - • — = EXISTING UTILITY POLE
  - □ — = EXISTING TELEPHONE PEDESTAL
  - = EXISTING DRAIN
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  - La — = SOIL TYPE
  - (XX) — = TEMPORARY SOIL EROSION CONTROL MEASURE
  - (P) — = PERMANENT SOIL EROSION CONTROL MEASURE OR RESTORATION DETAIL
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CROSS SECTIONS  
SCALE:  
HORIZONTAL: 1" = 20'  
VERTICAL: 1" = 5'



\* STATIONING TRUNCATED FOR CLARITY



KEY PLAN  
NO SCALE

**SMITH DRAIN  
PLAN & PROFILE  
STA 81+00 TO STA 101+00**

NO.	REVISIONS	DATE	BY	APPROVED BY

4083 Grand Oak Drive, Suite A109  
Lansing, MI 48911  
517.887.1100

168300 Robbitts Road, Suite 105  
Grand Rapids, MI 49547  
616.743.7070

2311 East Ballline Avenue, Suite 201  
Grand Rapids, MI 49508  
616.743.3020



**BRIAN WENDLING**  
SAGINAW COUNTY PUBLIC WORKS COMMISSIONER

**SMITH DRAIN**  
PART OF SECTIONS 16, 17, 20, 21 AND 28 OF RICHLAND TOWNSHIP, T12N, R2E,  
SAGINAW COUNTY, MICHIGAN

PROJECT NO.  
**23011**

SHEET NO.  
**6 OF 9**

**GENERAL NOTES:**

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**SHEET SPECIFIC NOTES:**

- WORK IS TO BE COMPLETED FROM THE WEST SIDE OF DRAIN FOR THIS SHEET.

SOIL TYPES AND ABBREVIATIONS	
12	Corunna sandy loam
13	Belleville fine sand
24	Parkhill-Selfridge complex, 0 to 2 percent slopes
45A	Fabius sandy loam, 0 to 3 percent slopes
124A	Selfridge loamy sand, 0 to 3 percent slopes

BM #1 ELEV=645.47  
SET SPIKE E. SIDE UTILITY POLE  
W. SIDE BRENNAN RD N. SIDE OF  
DRIVEWAY #2339

BM #2 ELEV=646.01  
SET SPIKE SE SIDE UTILITY POLE  
W. SIDE BRENNAN RD S. SIDE OF  
DRIVEWAY #2269



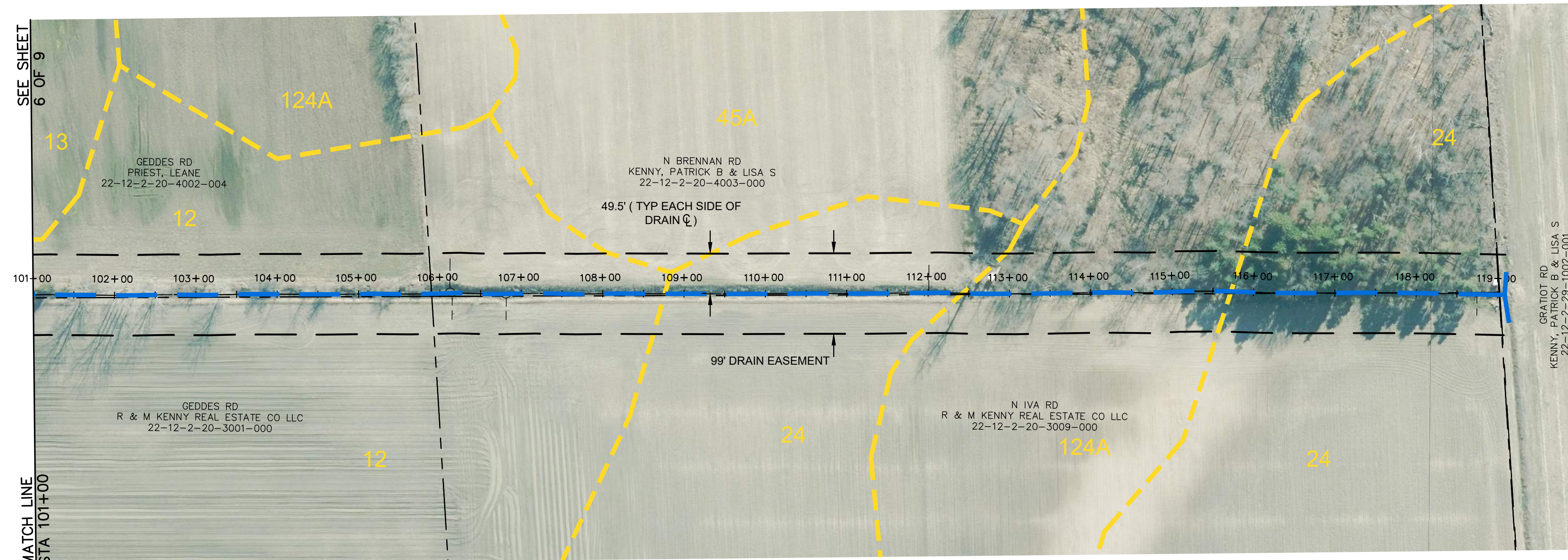
**Know what's below.  
Call before you dig.**

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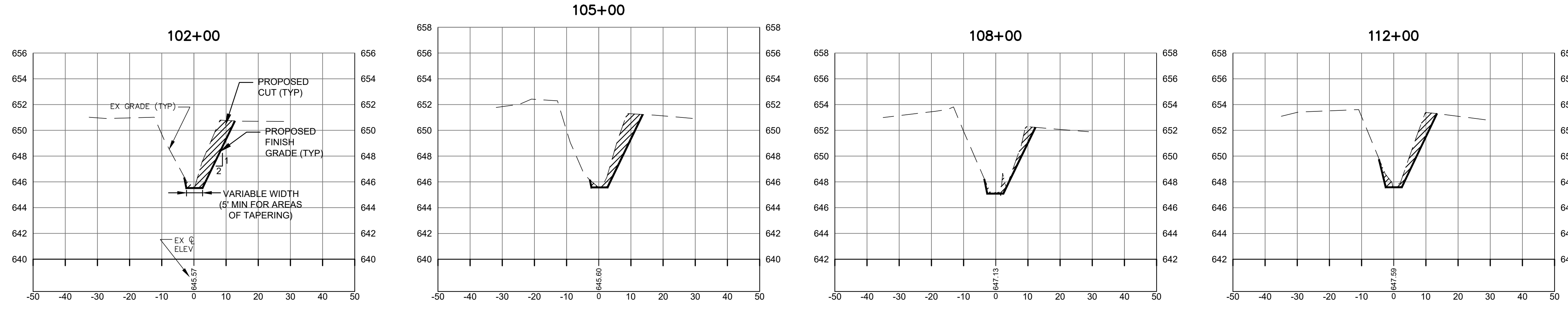
**LEGEND**

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SCALE:  
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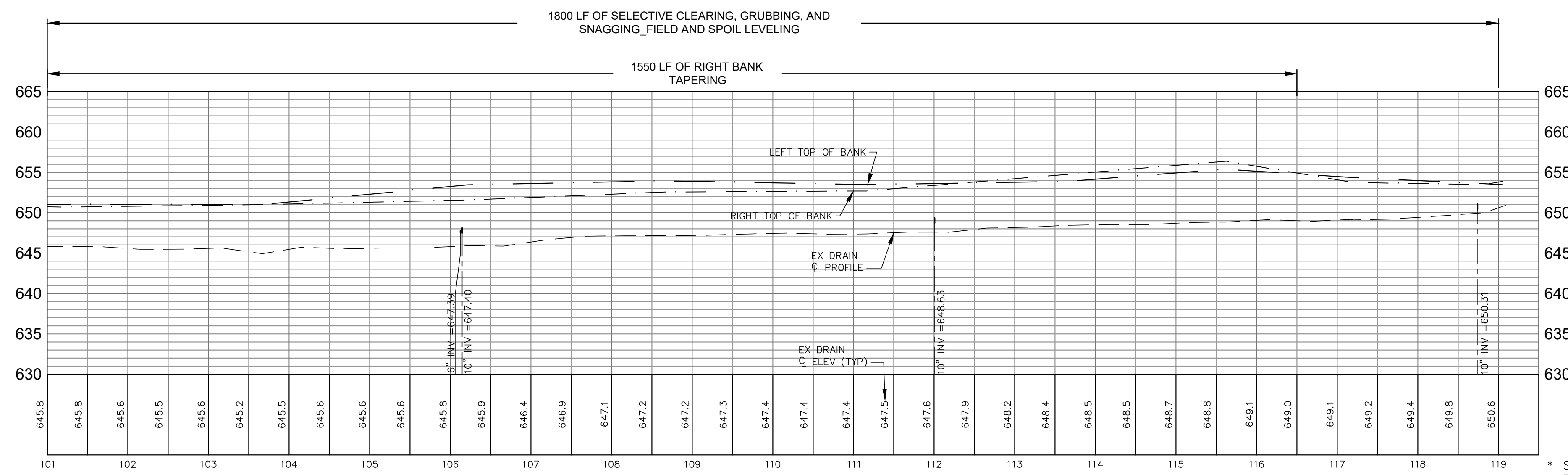


**SMITH DRAIN  
(99' DRAIN EASEMENT)**

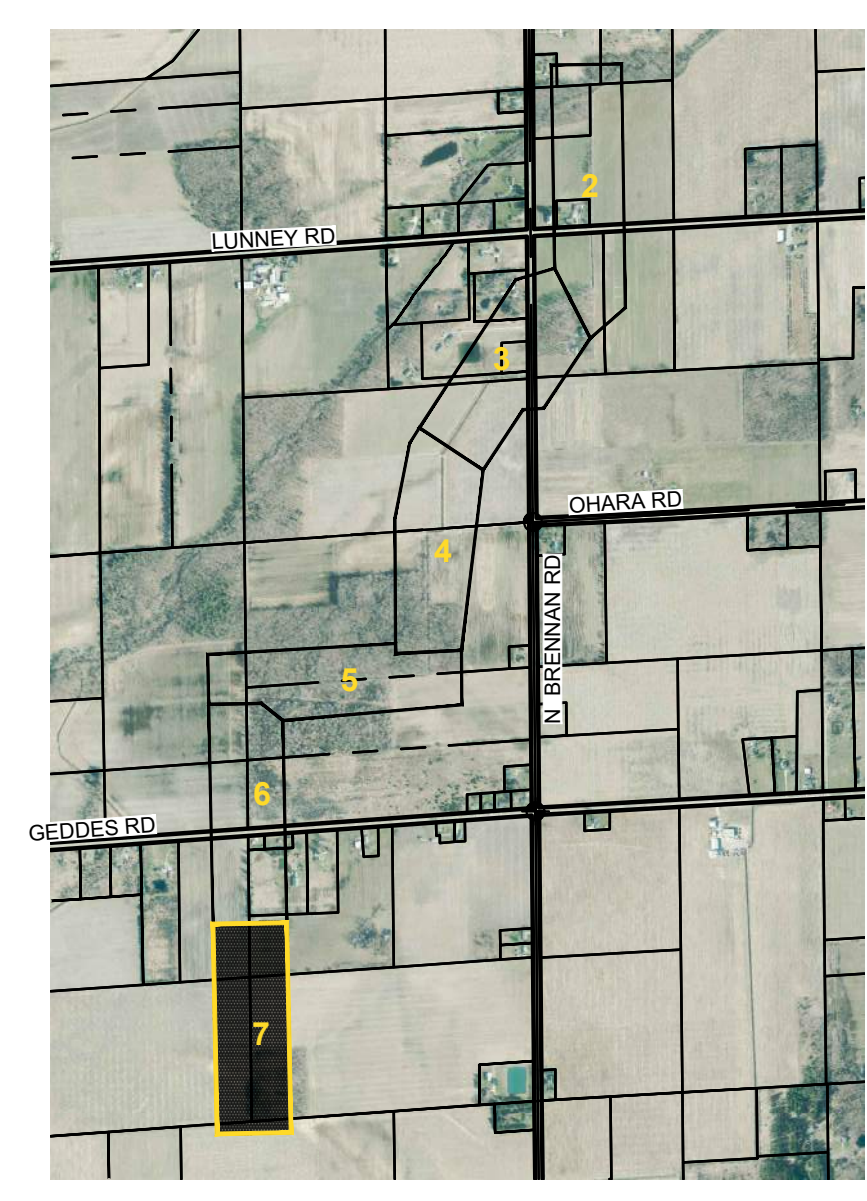


**CROSS SECTIONS**

SCALE:  
HORIZONTAL: 1" = 20'  
VERTICAL: 1" = 5'



\* STATIONING TRUNCATED FOR CLARITY



**KEY PLAN  
NO SCALE**

**SMITH DRAIN  
PLAN & PROFILE  
STA 101+00 TO STA 119+50**

DATE	BY	REVISIONS

4083 Grand Oak Drive, Suite A109  
Lansing, MI 48911  
517.887.1100

16830 Robbins Road, Suite 105  
Grand Rapids, MI 49547  
616.743.7070

2311 East Ballline Avenue, Suite 201  
Grand Rapids, MI 49508  
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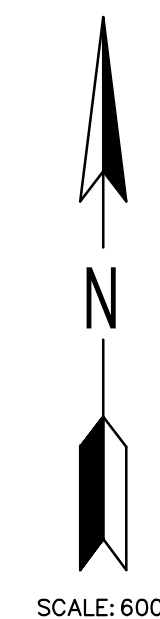
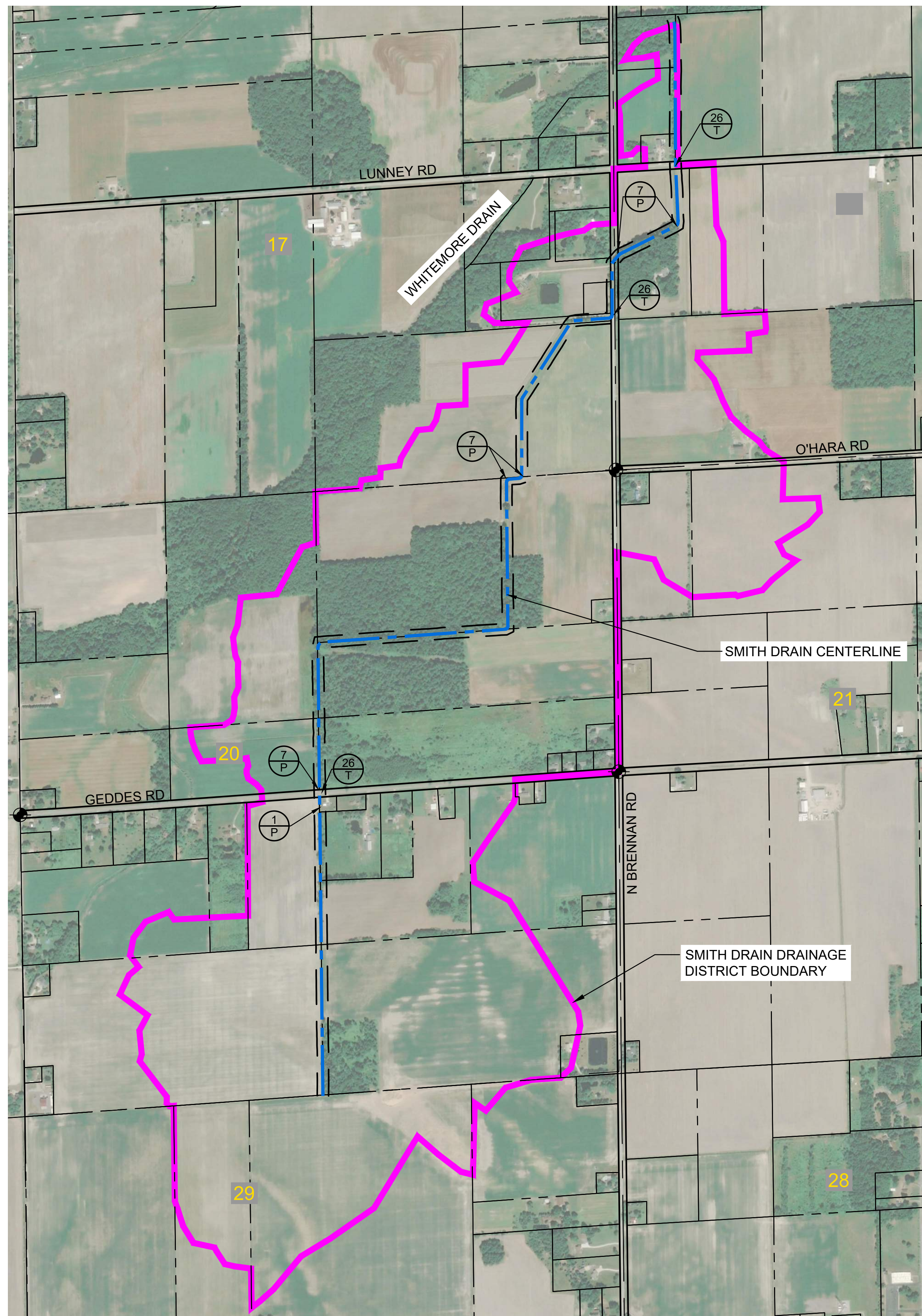


**BRIAN WENDLING**  
SAGINAW COUNTY PUBLIC WORKS COMMISSIONER

**SMITH DRAIN**  
PART OF SECTIONS 16, 17, 20, 21 AND 28 OF RICHLAND TOWNSHIP, T12N, R2E,  
SAGINAW COUNTY, MICHIGAN

PROJECT NO.  
**23011**

SHEET NO.  
**7 OF 9**



**LEGEND**

- SMITH DRAIN DRAINAGE DISTRICT BOUNDARY
- SMITH DRAIN CENTERLINE
- PARCEL LINE
- SECTION LINE OR QUARTER SECTION LINE
- SECTION NUMBER
- SECTION CORNER

**EROSION CONTROL MEASURES**

1	SEEDING		When bare soil is exposed, temporarily or permanently, to erosive forces from wind and/or water on flat areas, mild slopes, grassed waterways and spillways, diversion ditches and dikes, borrow and stockpile areas, and spoil piles.
6	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.
7	RIPRAP		Along drain banks, shorelines, or where concentrated flows occur. Slows velocity, reduces erosion and sediment load.
26	DUST CONTROL		As a temporary measure on exposed and unstabilized areas that must be protected from wind or water erosion.
63	SEDIMENT SUMP (TRAP)		When working in the drain, or drain easement and the soil disturbance and anticipated sediment is limited.

**APPROXIMATE CONSTRUCTION SCHEDULE FOR SESC MEASURES**

SESC - CONSTRUCTION SEQUENCE	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7
INSTALL TEMPORARY SESC MEASURES:							
A. STABILIZED CONSTRUCTION ACCESSSES	■						
B. CONSTRUCTION/TREE PROTECTION FENCE	■						
C. SEEDING		■	■	■	■	■	■
MAINTAIN TEMPORARY SESC MEASURES		■	■	■	■	■	■
SITE GRADING		■	■	■	■	■	■
OPEN DRAIN CONSTRUCTION		■	■	■	■	■	■
CULVERT CONSTRUCTION		■	■	■	■	■	■
FINAL GRADE					■	■	■
FINAL SITE STABILIZATION (TO BE COMPLETED WITHIN 24 HOURS OF FINAL GRADING OR ACTIVITY WITHIN THAT AREA)						■	■
REMOVE TEMPORARY SESC MEASURES							■
PERMANENT SESC MEASURES							■

= PERMANENT MEASURE      = TEMPORARY MEASURE

**CONSTRUCTION & SOIL EROSION AND SEDIMENTATION CONTROL NOTES:**

- ALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE BEFORE CONSTRUCTION BEGINS. THE CONTRACTOR IS RESPONSIBLE FOR INSPECTING ALL MEASURES AT LEAST ONCE EACH WEEK AND/OR WITHIN 24 HOURS OF A PRECIPITATION EVENT THAT RESULTS IN STORM WATER RUNOFF OR DISCHARGE.
- SURFACE RESTORATION OF ALL SEWER TRENCHES IN LAWN AREAS SHALL BE TOP SOILED AND SEEDED WITHIN 5 CALENDAR DAYS OF BACKFILLING THE TRENCH.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL AND SHALL PROVIDE ALL EQUIPMENT AND MATERIAL NECESSARY TO KEEP DUST IN CHECK AT ALL TIMES. THE CONTRACTOR SHALL RESPOND IMMEDIATELY TO ANY AND ALL COMPLAINTS. STREETS, PARKING LOTS, DRIVEWAYS, PAVED ACCESS ROADS, AND ALL OTHER PAVED SURFACES SHALL BE SWEEPED AT LEAST ONCE A DAY AND/OR AS NEEDED THROUGHOUT THE DAY.
- ALL TEMPORARY SOIL EROSION MEASURES SHALL BE REMOVED AFTER PERMANENT MEASURES HAVE BEEN ESTABLISHED.
- ALL CONSTRUCTION SHALL BE CONFINED TO AREAS OF DISTURBANCE WITHIN THE ROAD RIGHT OF WAY AND/OR WITHIN STORM SEWER EASEMENTS. NO WORK, MATERIAL, OR STOCKPILES WILL BE ALLOWED OUTSIDE OF THESE LIMITS.
- ALL TRENCHES SHALL BE BACKFILLED TO GRADE OR PROPERLY PROTECTED IN ACCORDANCE WITH PROJECT PLANS & SPECIFICATIONS AT THE END OF EVERY DAY. AT NO TIME SHALL A TRENCH BE LEFT OPEN FOR A PERIOD LONGER THAN 48 HOURS.
- PROTECT ALL TREES AND VEGETATION NOT SCHEDULED TO BE REMOVED. ENGINEER APPROVAL IS REQUIRED FOR ANY UNSCHEDULED REMOVAL OF TREES, SHRUBS OR LANDSCAPING.
- EROSION AND SEDIMENTATION FROM WORK ON THIS PROJECT SHALL BE CONTAINED WITHIN THE WORK AREA AND NOT ALLOWED TO COLLECT ON OFF-SITE AREAS OR IN WATERWAYS - WATERWAYS INCLUDE BOTH NATURAL AND MAN-MADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES AND PONDS.

**SESC NOTES**

- GENERAL MAINTENANCE**
- TEMPORARY SESC MEASURES TO BE MAINTAINED BY THE CONTRACTOR AT ALL TIMES.
- 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
- CONTINUED MAINTENANCE PLAN**
- STORMWATER OPERATOR/APA OWNER OR MAINTENANCE SUPERVISOR WILL INSPECT MONTHLY THROUGH THE FIRST GROWING SEASON. NON ESTABLISHED VEGETATION WILL BE REPAIRED/RESEEDED AS NECESSARY

NO.	REVISIONS	DATE	BY	DATE	BY

4083 Grand Oak Drive, Suite A101  
Lansing, MI 48911  
517.887.1100

16530 Robbins Road, Suite 105  
Grand Rapids, MI 49547  
616.743.7070

2311 East Ballline Avenue, Suite 201  
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616.743.3020



**BRIAN WENDLING**  
SAGINAW COUNTY PUBLIC WORKS COMMISSIONER

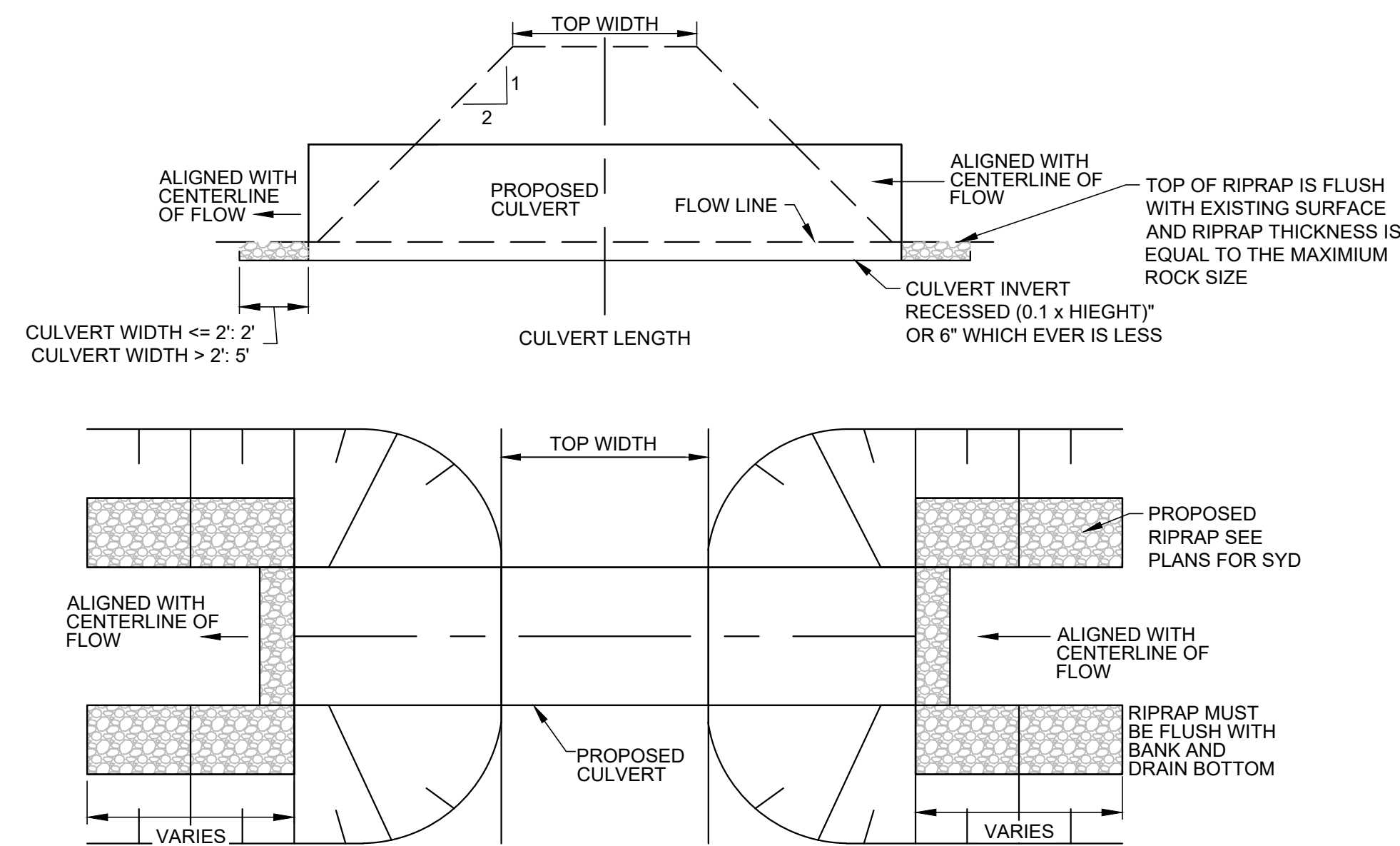
**SMITH DRAIN**  
PART OF SECTIONS 16, 17, 20, 21 AND 28 OF RICHLAND TOWNSHIP, T12N, R2E,  
SAGINAW COUNTY, MICHIGAN

PROJECT NO.  
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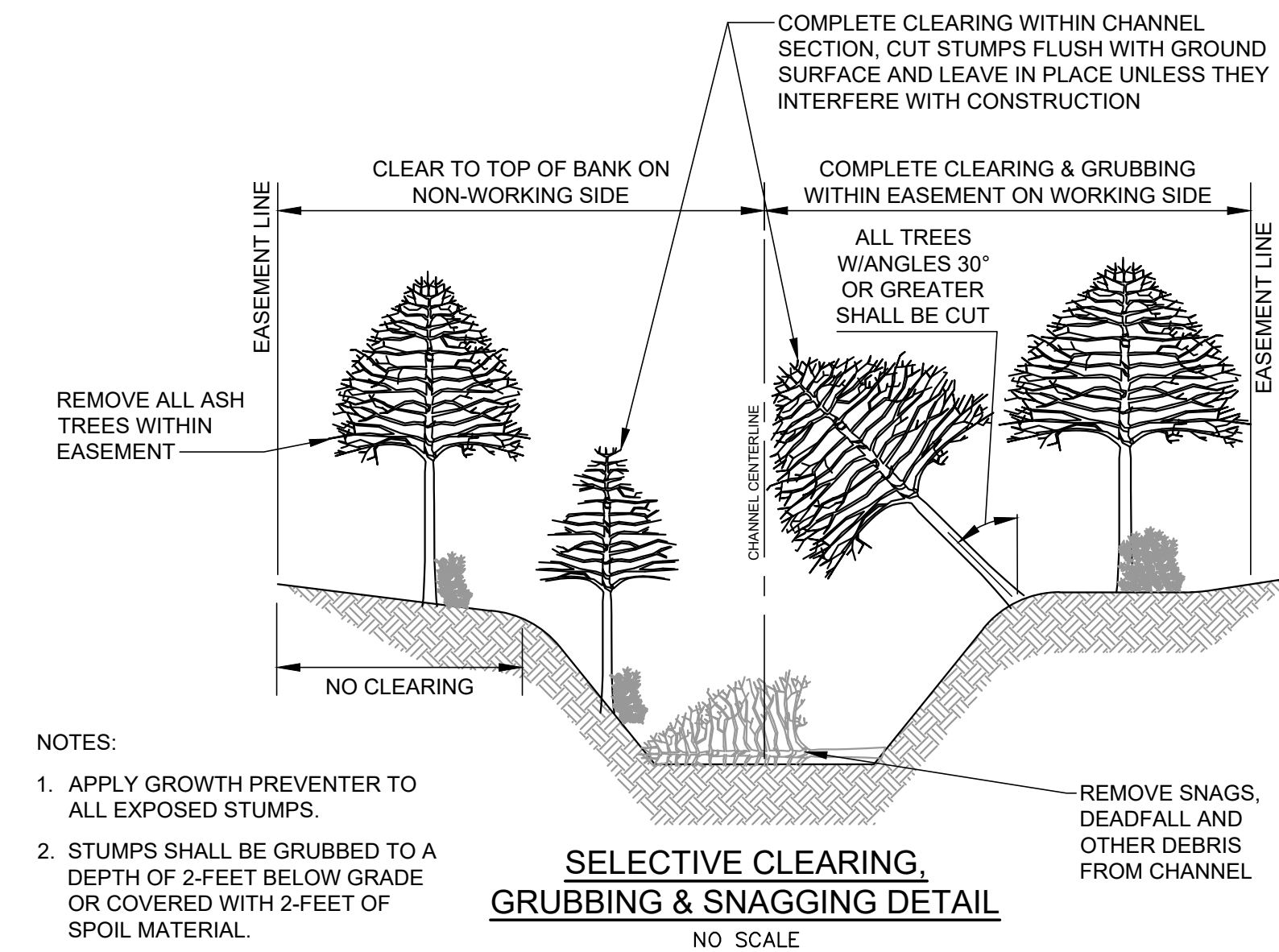
SHEET NO.  
**8 OF 9**



Drawn	CAH	Date	9/8/23	Approved		Date	
BY							

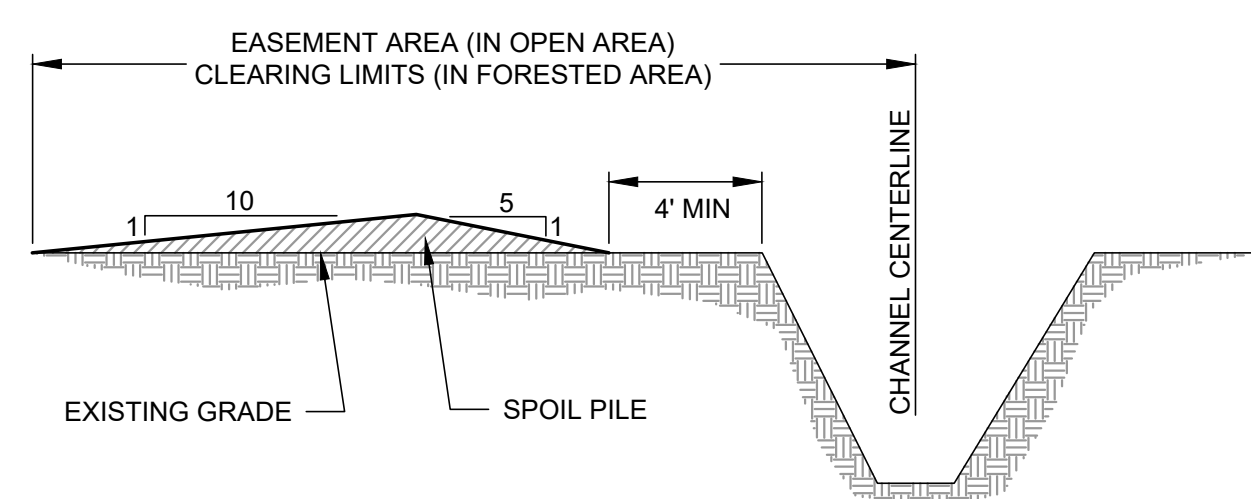


CULVERT DETAIL  
NO SCALE

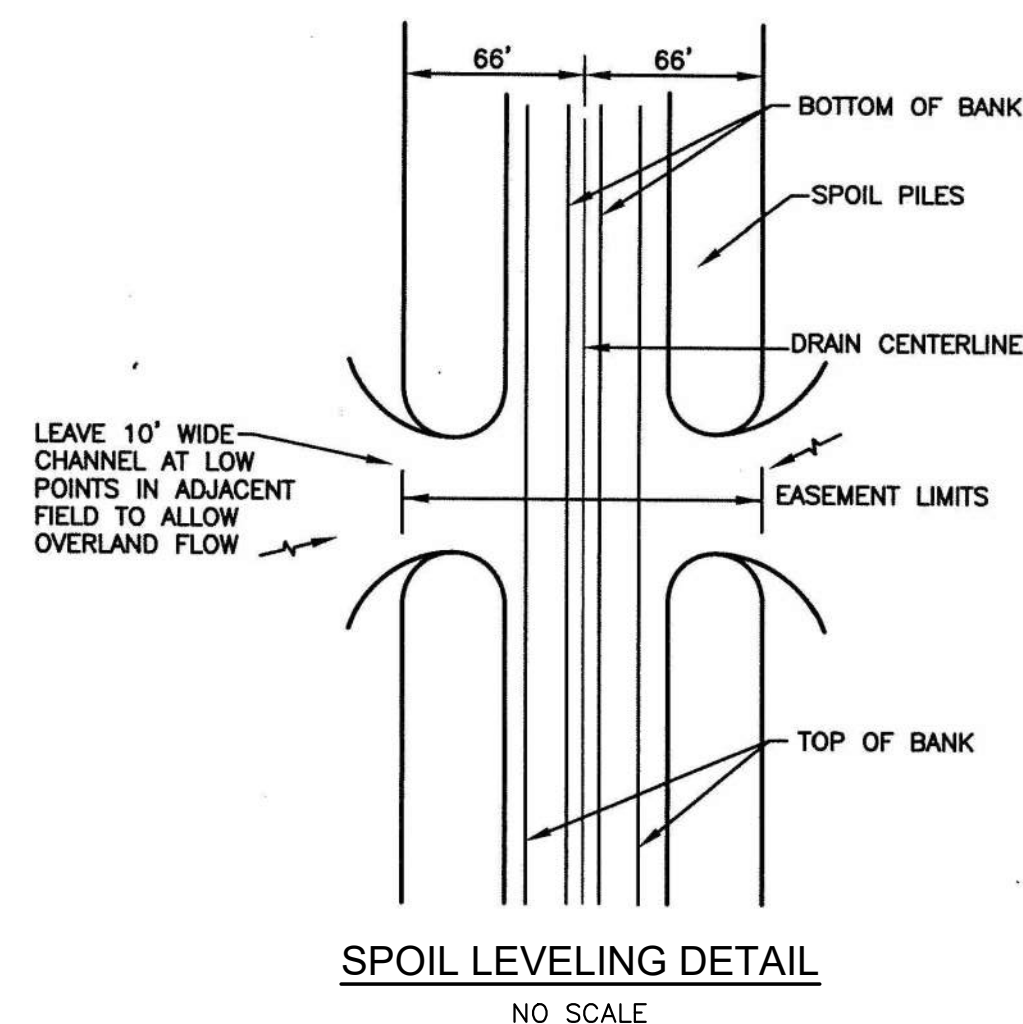


- NOTES:
1. APPLY GROWTH PREVENTER TO ALL EXPOSED STUMPS.
  2. STUMPS SHALL BE GRUBBED TO A DEPTH OF 2- FEET BELOW GRADE OR COVERED WITH 2- FEET OF SPOIL MATERIAL.

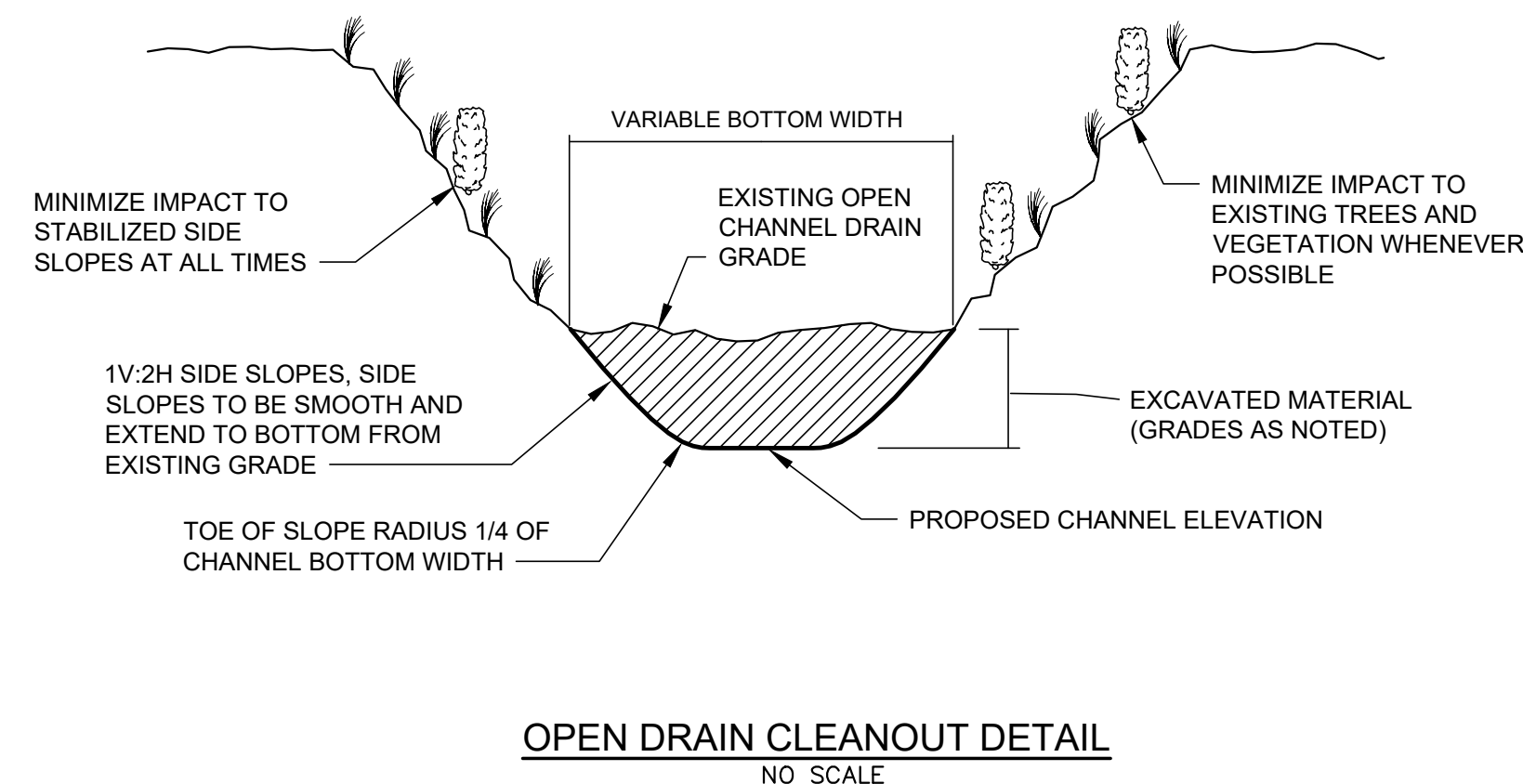
SELECTIVE CLEARING,  
GRUBBING & SNAGGING DETAIL  
NO SCALE



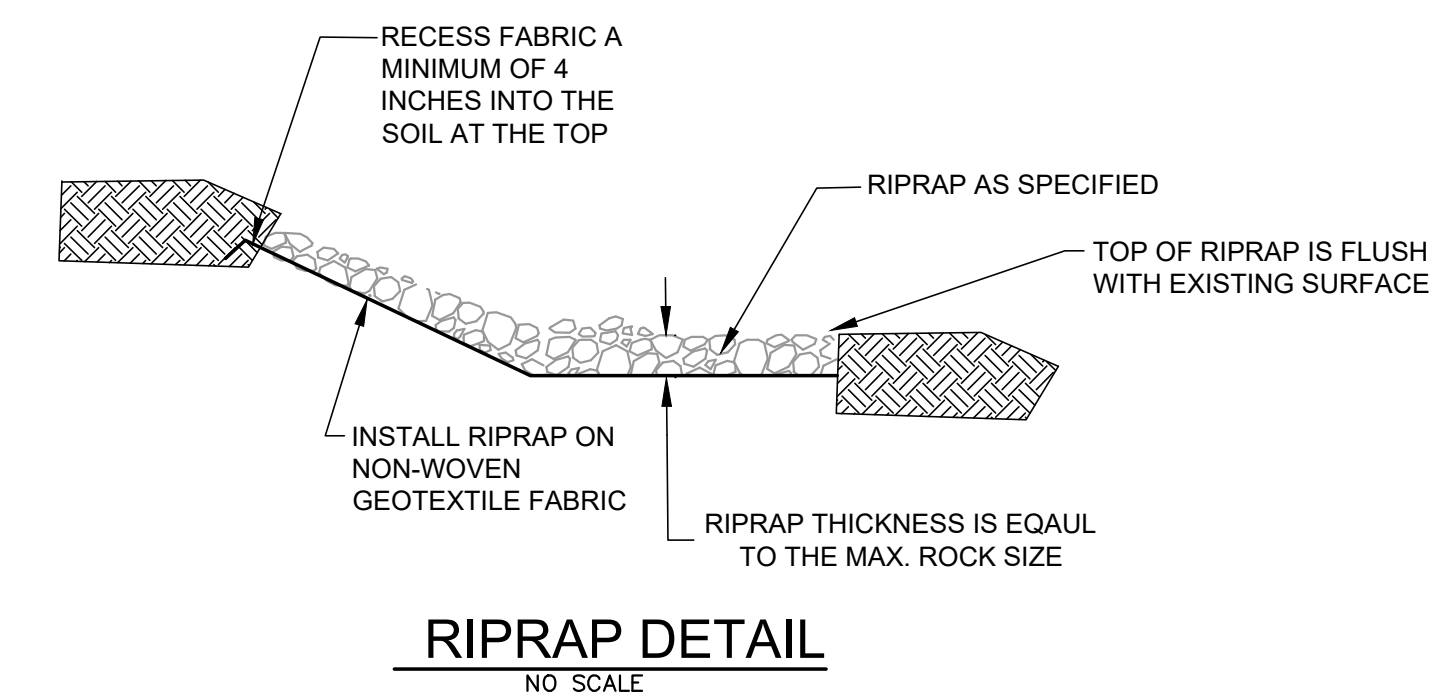
CROSS SECTION-SPOIL LEVELING AREA  
NO SCALE



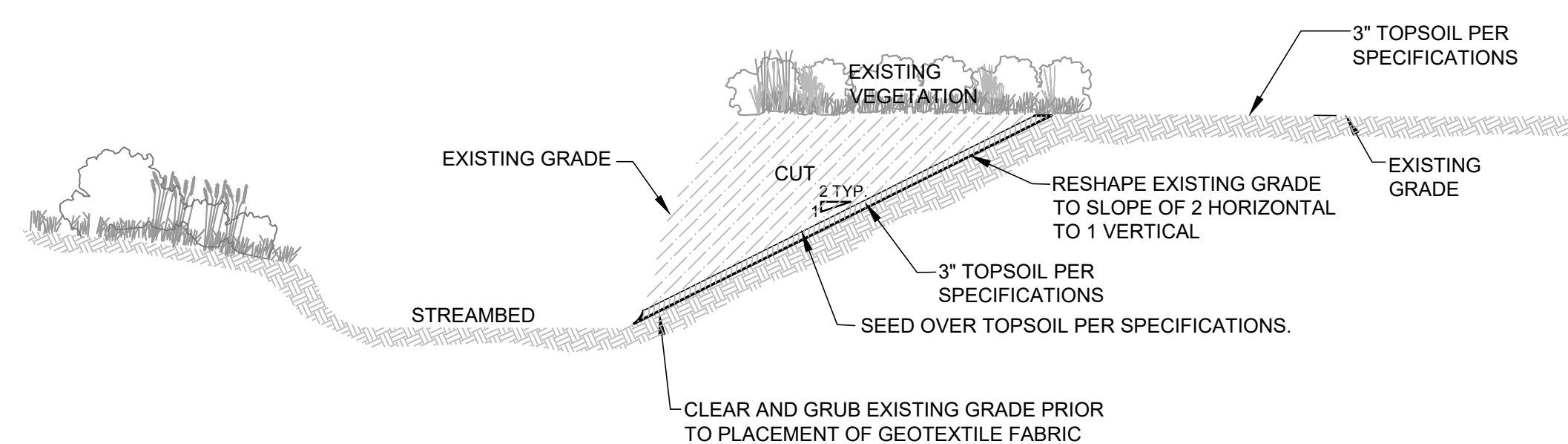
SPOIL LEVELING DETAIL  
NO SCALE



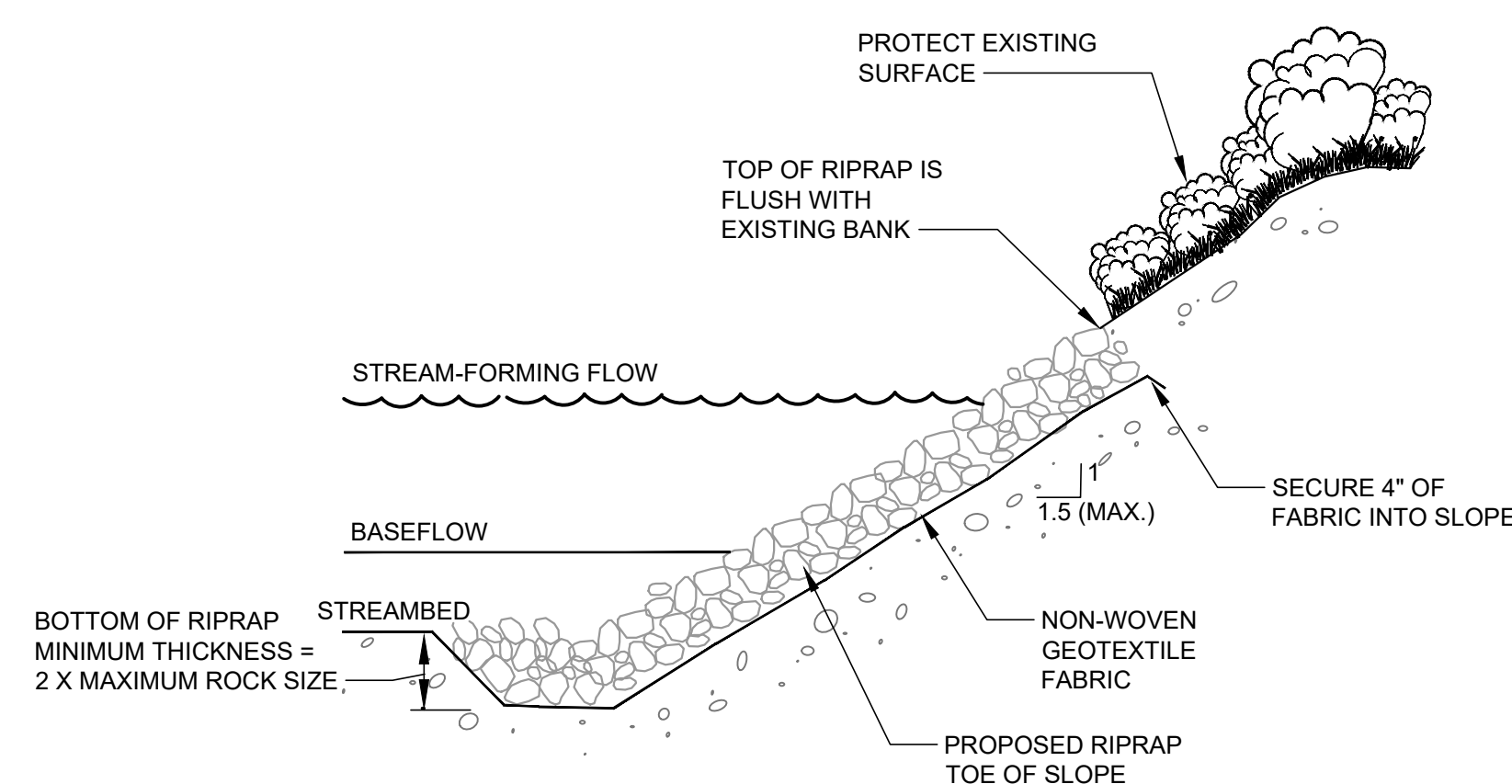
OPEN DRAIN CLEANOUT DETAIL  
NO SCALE



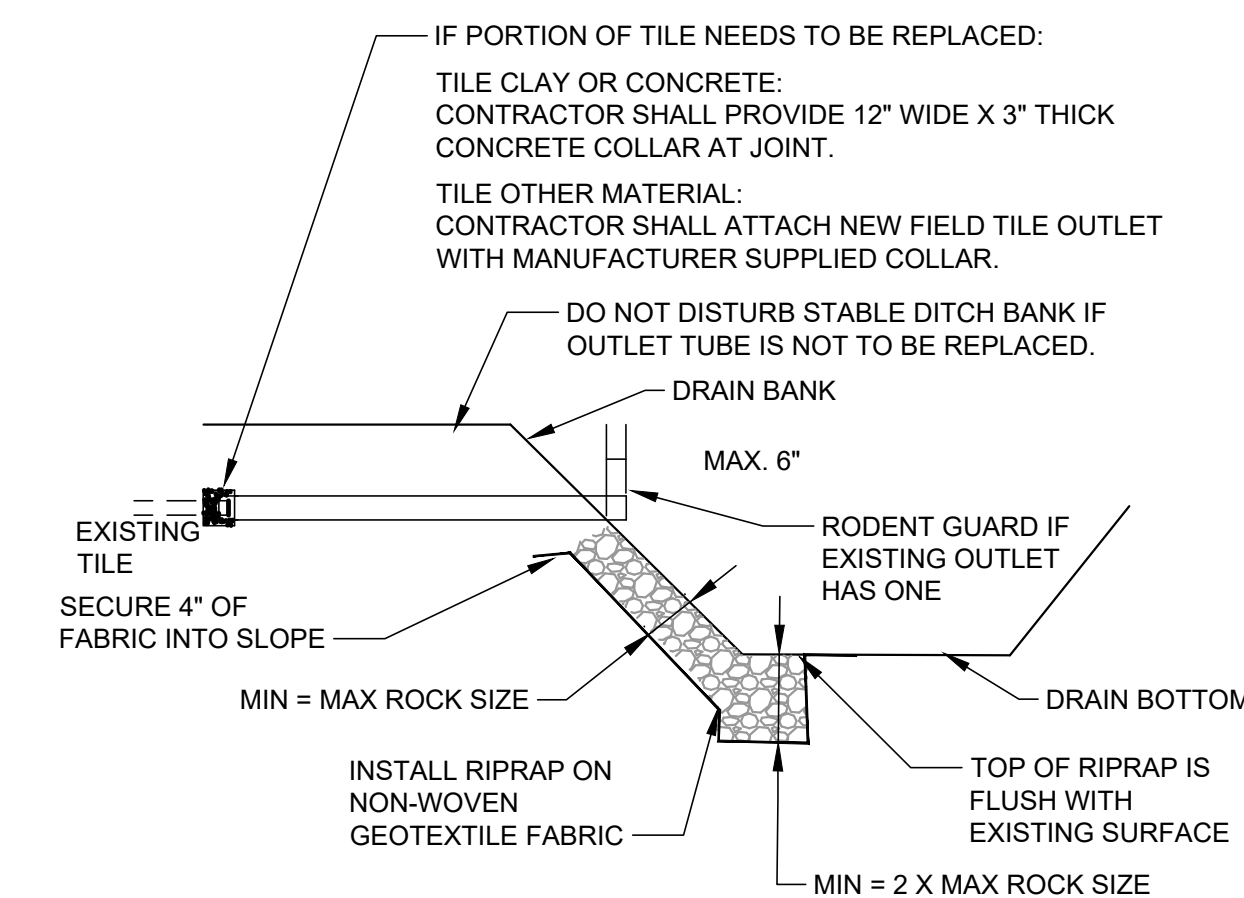
RIPRAP DETAIL  
NO SCALE



85 BANK TAPERING  
NO SCALE



RIPRAP TOE OF SLOPE  
NO SCALE



FIELD TILE ADJUSTMENT  
NO SCALE

4063 Grand Oak Drive Suite A109  
Lansing, MI 48911  
16930 Robbins Road Suite 105  
Grand Haven, MI 49437  
2311 East Ballistics Avenue, Suite 201  
Grand Rapids, MI 49546  
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PROJECT NO.  
23011  
SHEET NO.  
9 OF 9

P:\23011\00\_Saginaw County Public Works - Smith Drain\CAD\08 - Construction Drawings\23011 DETAILS.dwg, 9/10/2023, 10:55:59 PM, DWG To PDF, p13