



Original Report Date:	<u>2/16/2024</u>	Proposed SN:	<u>026-2023</u>	Route:	<u>FAP 750 (IL 185)</u>
Revised Date:	<u></u>	Existing SN:	<u>026-0068</u>	Section:	<u>(114B1)B-1</u>
Geotechnical Engineer:	<u>Tyler Ziegler, Civil Design Inc.</u>			County:	<u>Fayette</u>
Structural Engineer:	<u>IDOT BBS</u>			Contract:	<u>74327</u>

Indicate the proposed structure type, substructure types, and foundation locations (attach plan and elevation drawing): The proposed structure type is a double barrel 6'x12' cast-in-place concrete box culvert with a 30 degree skew. The proposed culvert length is 60'. Horizontal cantilever wingwalls are anticipated with wall lengths less than 16'. See attached for Location Map, TS&L and Plan & Profile.

Discuss the existing boring data, existing plans foundation information, new subsurface exploration and need for any additional exploration to be provided with SGR Technical Memo (attach all data and subsurface profile plot): No existing boring data available. Existing single span, slab bridge supported on closed abutments with timber pile foundations. New subsurface exploration performed 9-23-22. See attached for soil borings and subsurface data profile plot. No additional subsurface exploration is anticipated.

Provide the location and maximum height of any new soil fill or magnitude of footing bearing pressure. Estimate the amount and time of the expected settlement. Indicate if further testing, analysis, and/or ground improvement/treatment is necessary: Settlement is estimated to be less than 0.5 inches with no remedial treatments necessary. See settlement analysis attached. Silty clay soils directly below the culvert bottom slab have Q_u values 0.8 tsf and greater. Per Geotechnical Manual Table 8.9-1 Guideline for Working Platforms at Culverts, the recommended working platform thickness is 6 inches. Though, the Field Engineer or District Geotechnical Engineer shall determine if a working platform is required based on field conditions at the time of excavation.

Identify any new cuts or fill slope angles and heights. Estimate the factor of safety against slope failure. Indicate if further testing, analysis or ground improvement/treatment is necessary: The proposed elevations and side slopes are anticipated to be gentler or the same slope as existing. No known past issues with slope stability. No slope stability issues are anticipated.

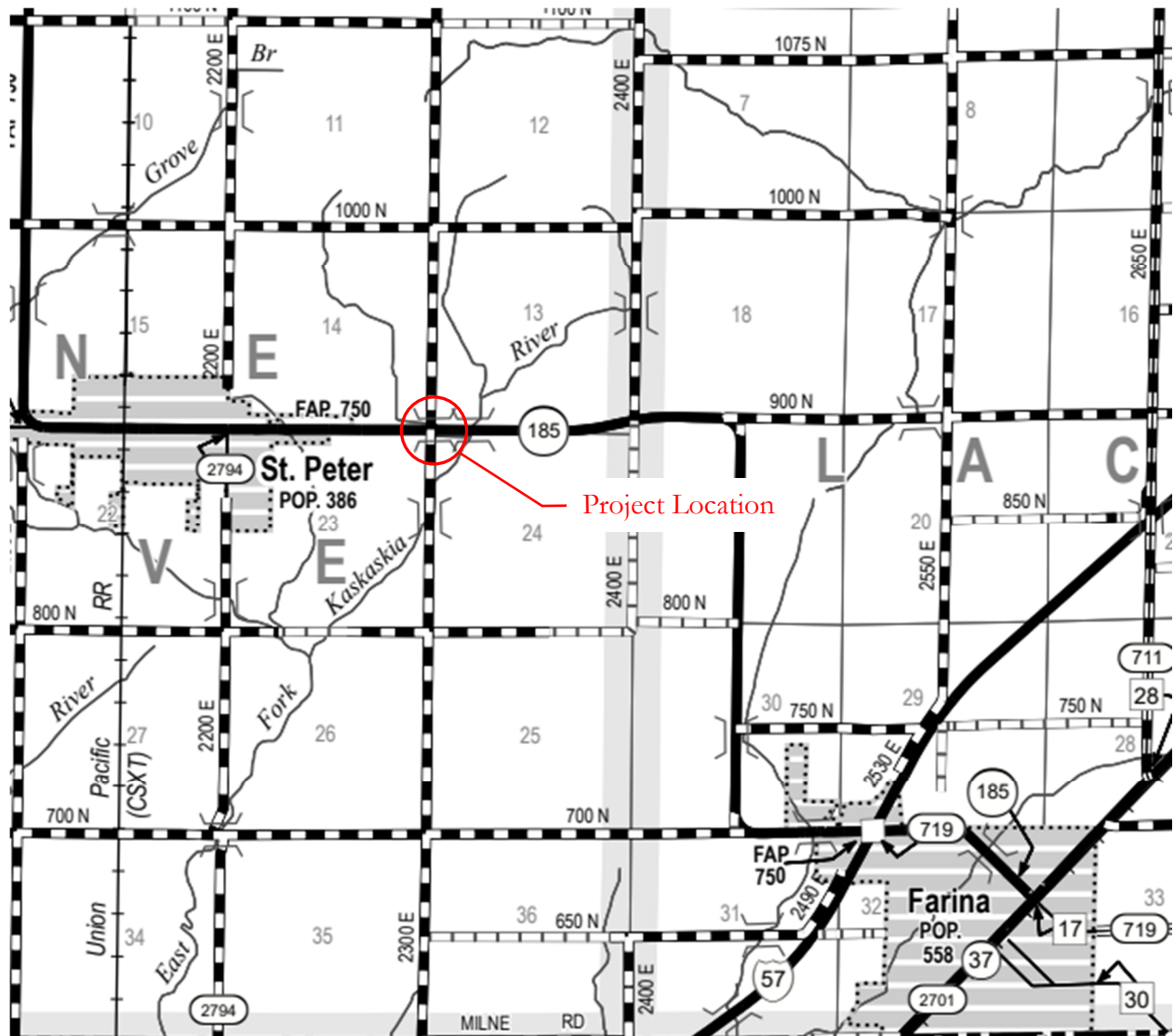
Indicate at each substructure, the 100-year and 200-year total scour depths in the Hydraulics report, the non-granular scour depth reduction, the proposed ground surface, and the recommended foundation design scour elevations: FHWA does not mandate a calculation or evaluation of scour for culverts; though, stone riprap class A5 is recommended at both ends of the culvert to mitigate potential erosion.

Determining the seismic soil site class, the seismic performance zone, the 0.2 and 1.0 second design spectral accelerations and indicate if that the soils are liquefiable: According to the IDOT Seismic Manual, seismic design is not required for culverts, regardless of SDC.

Confirm feasibility of the proposed foundation or wall type and provide design parameters. Attach a pile design table indicating feasible pile types, various nominal required bearings, factored resistances available and corresponding estimated lengths at locations where piles will be used. Provide factored bearing resistance and unit sliding resistance at various elevations and confirm no ground improvement/treatment is necessary where spread footings are proposed. Estimated top of rock elevations as well as preliminary factored unit side and tip resistance values shall be indicated when drilled shafts are proposed: The proposed box culvert with horizontal cantilever wingwalls appears feasible according to the IDOT Culvert Manual.

Calculate the estimated water surface elevation and determine the need for cofferdams (type 1 or 2), and seal coat: N/A

Assess the need for sheeting or soil retention or temporary construction slope and provide recommendation for other construction concerns: Traffic to be maintained using staged construction. Temporary retention is necessary for staging. Using the IDOT Temporary Sheet Pile Design Analysis spreadsheet, Temporary Sheet Piling is determined feasible at Boring 1 (E. Abut.) and infeasible at Boring 2 (W. Abut.), due to potential hard driving conditions. Specify Temporary Soil Retention System for the retention west of the proposed culvert. See attached for temporary sheeting analysis.



Location Map

IL Rte. 185 (FAP Rte. 750) over Lone Grove Branch Tributary

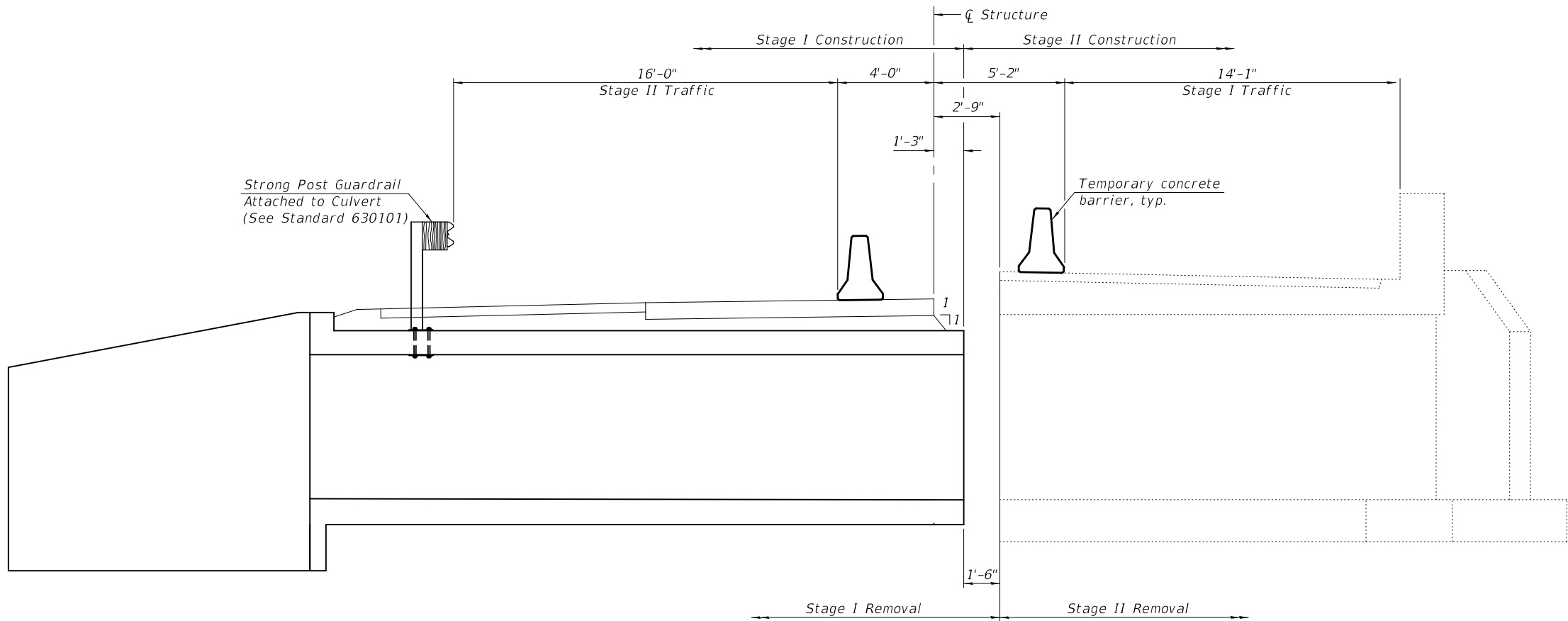
Section (114B1)B-1

Fayette County, Illinois

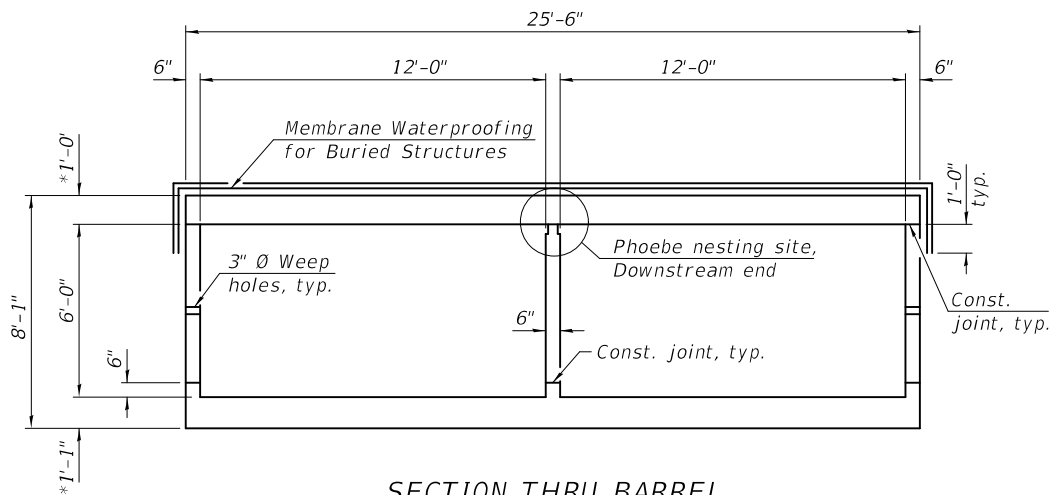
Contract 74327



MODEL: 0262023-74327-TSL-002
FILE NAME: pw:\idiot-pw\benley.com\FW\IDOT\Documents\IDOT Offices\Bureau of Bridges and Structures\Projects\0262023\CADD Plans\0262023-74327.dgn



STAGE CONSTRUCTION
(Looking East)

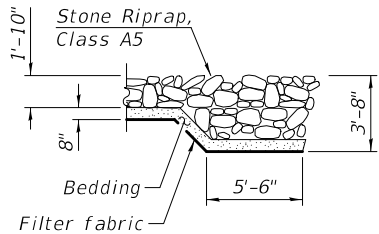


SECTION THRU BARREL
*May be refined in design.

WATERWAY INFORMATION

Drainage Area = 1.2 Sq. Mi.					Existing Overtopping Elev. = 576.3 at Sta. 781+00.00 Proposed Overtopping Elev. = 576.3 at Sta. 781+00.00				
Flood Event	Freq. Yr.	Discharge (C.F.S.)	Waterway Opening (Sq. Ft.)	Natural Head (Ft.)	Headwater Elev. (Ft.)	Exist.	Prop.	Exist.	Prop.
Ten-Year	10	438	89	104	573.1	0.1	0.0	573.2	573.1
Design	50	710	106	124	573.9	0.5	0.3	574.4	574.2
Base	100	832	112	124	574.2	1.1	0.5	575.3	574.7
Max. Calc.	500	1,130	120	124	574.6	1.5	1.5	576.1	576.1

Existing 10 Year Average Velocity (Q/A) = 4.9 Ft. Sec.
Proposed 10 Year Outlet Velocity = 4.6 Ft. Sec.



SECTION A-A

DETAILS
IL. RTE. 185 OVER
LONE GROVE BRANCH TRIBUTARY
F.A.P. RTE. 750 - SECTION (114B1)B-1
FAYETTE COUNTY
STATION 780+14.00
STRUCTURE NO. 026-2023

DESIGNED	-	ZACHARY T. BULVA
CHECKED	-	NEPHTALI RIVERA - MARTINEZ
DRAWN	-	ANDRO R. SAMANIEGO
CHECKED	-	Z.T.B. / N.R.M.

9/21/2023 - 2:50:04 PM

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET 2 OF 2 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
750	(114B1) B-1	FAYETTE	—	—
CONTRACT NO. 74327				
ILLINOIS FED. AID PROJECT				

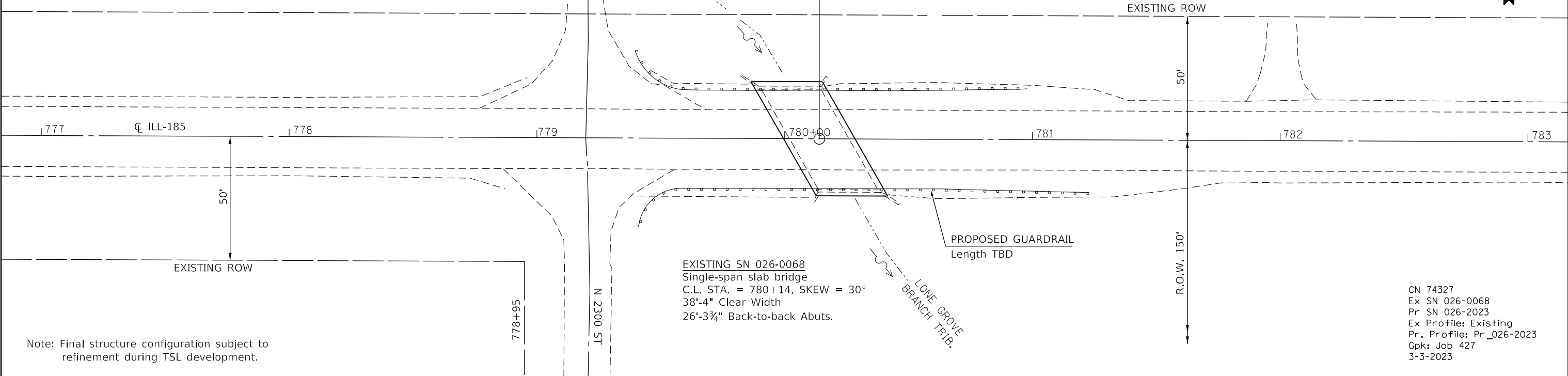
PLAN	NO.	NOTE BOOK	SURVEYED	BY	DATE

PROFILE	NO.	NOTE BOOK	SURVEYED	BY	DATE

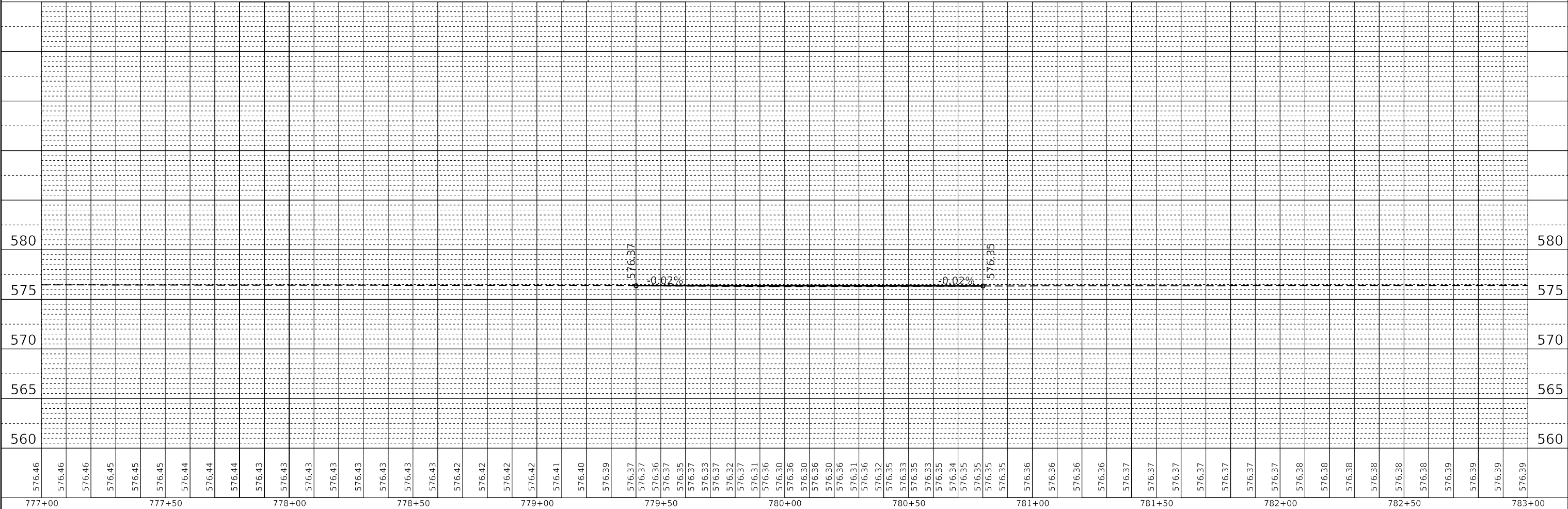
MODEL: \$MODELNAME\$
FILE NAME: \$FILES\$

BENCHMARK:
BM 119 - Chiseled square on south end of west wingwall of culvert
under N 2300 ST, along south side of ILL-185
STA 779+02, 49.8' Right of CL ILL-185, Elevation = 575.71

PROPOSED SN 026-2023
Cast-in-place box culvert
Two cells - 12' span by 6' rise
C.L. Str. STA 780+14
SKEW = 30° Right Ahead



CN 74327
Ex SN 026-0068
Pr SN 026-2023
Ex Profile: Existing
Pr. Profile: Pr_026-2023
Gpk: Job 427
3-3-2023



USER NAME = \$USERS\$				DESIGNED -				REVISED -			
DRAWN - D. Macklin				REVISIED -				REVISED -			
PLOT SCALE = \$SCALES\$				CHECKED -				REVISED -			
PLOT DATE = \$DATES\$				DATE - March 2023				REVISED -			

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION				PLAN & PROFILE VIEW STRUCTURE 026-0068 EXISTING / 026-2023 PROPOSED				F.A.P. RTE.			
				SCALE: _____				SHEET 1 OF 1 SHEETS			
				STA. _ TO STA. _				SECTION (114B1)B-1			
								COUNTY FAYETTE			
								CONTRACT NO. 74327			
								ILLINOIS FED. AID PROJECT			



SOIL BORING LOG

ROUTE FAP 750 (IL-185) DESCRIPTION IL-185 Over Lone Grove Branch Tributary LOGGED BY Sandschafer

SECTION (114B1)B-1 LOCATION Southwest 1/4 of Southwest 1/4, SEC. 24, TWP. 5N, RNG. 3E, 3rd PM,
Latitude N 38.868000, Longitude W 88.825410

COUNTY Fayette DRILLING METHOD Hollow stem auger & split spoon HAMMER Auto ETR = 91.8% @ 57.4 bpm

STRUCT. NO. 026-0068 (Existing)
026-2023 (Proposed)
Station 780+14

BORING NO. 1 East Abutment
Station 780+65
Offset 13.0 ft LT
Ground Surface Elev. 576.09 ft

D E P T H (ft)	B L O W S (/6")	U C S Qu (tsf)	M O I S T (%)	Surface Water Elev. <u>569.83</u> ft	D E P T H (ft)	B L O W S (/6")	U C S Qu (tsf)	M O I S T (%)
				Stream Bed Elev. <u>568.43</u> ft				
				Groundwater Elev.:				
				First Encounter <u>Dry</u> ft				
				Upon Completion <u>Dry</u> ft				
				After <u>0</u> Hrs. <u>Backfilled</u> ft				
Asphalt <u>575.39</u>				Very dense, wet, grey, SANDY CLAY Till <u>555.09</u>	27	NT	7	
Grey, SILTY CLAY				Benchmark: BM 119 - Chiseled Square on South End of West Wingwall of SN 026-0068, Sta. 779+02, 49.8 feet RT. Elevation = 575.718 feet	37	NT		
	1			End of Boring				
Very soft, moist	1	0.2	21					
	2	B						
	-5	1			-25			
Stiff	2	1.1	19					
	3	B						
	1							
Medium <u>Approx Bot. of Culvert</u>	1	0.6	25					
	1	B						
	-10	1			-30			
	5	0.8	25					
	4	B						
<u>563.59</u>	1							
Very stiff, moist, brown, SANDY CLAY	3	2.9	15					
	4	B						
<u>561.59</u>								
Very stiff, moist, grey, CLAY LOAM Till	2				-35			
	6	2.7	12					
	10	B						
<u>559.09</u>								
Very dense, moist, grey, SANDY LOAM Till	3							
	23	NT	8					
	31	NT						
<u>556.09</u> -20	2				-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), WH-Weight of Hammer,
NT-Not Tested.

ROUTE	FAP 750 (IL-185)	DESCRIPTION	IL-185 Over Lone Grove Branch Tributary	LOGGED BY: Sandschafer
--------------	------------------	--------------------	---	-------------------------------

SECTION (114B1)B-1 **LOCATION** Southwest 1/4 of Southwest 1/4, SEC. 24, TWP. 5N, RNG. 3E, 3rd PM,
Latitude N 38.867996, **Longitude** W 88.825645

COUNTY Fayette **DRILLING METHOD** Hollow stem auger & split spoon **HAMMER** Auto ETR = 91.8% @ 57.4 bpm

STRUCT. NO.	026-0068 (Existing)
Station	026-2023 (Proposed)
	780+14

BORING NO. 2 West Abutment
Station 779+94
Offset 13.0 ft LT
Ground Surface Elev. 576.13

D E P T H	B L O W S	U C S Qu	M O I S T
(ft)	(/6")	(tsf)	(%)

Surface Water Elev.	569.83	ft
Stream Bed Elev.	568.43	ft
Groundwater Elev.:		
First Encounter	561.6	ft ▽
Upon Completion	561.1	ft ▽
After 0 Hrs.	Backfilled	ft

D E P T H	B L O W S	U C S Qu	M O I S T
(ft)	(/6")	(tsf)	(%)

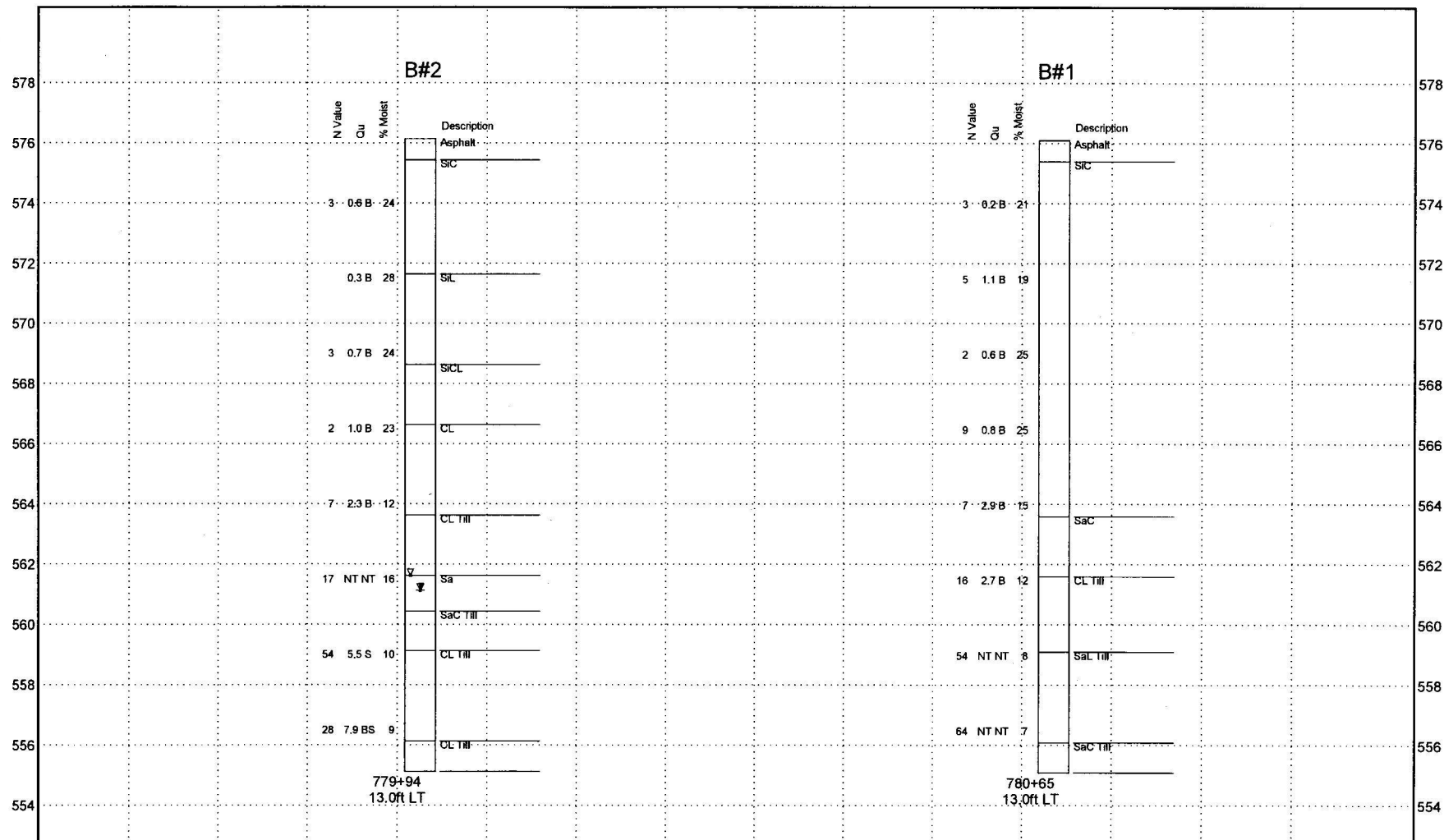
Soils				13	7.9	9
				15	BS	
Asphalt	575.43					
Grey, SILTY CLAY						
		1				
Medium, moist		1	0.6	24		
		2	B			
	571.63					
Soft, wet, grey, SILTY LOAM	-5	1			-25	
		WH	0.3	28		
		1	B			
	568.63	WH				
Medium, moist, grey, SILTY CLAY		1	0.7	24		
LOAM <u>Approx Bot. of Culvert</u>		2	B			
	566.63					
Medium, moist, grey, CLAY LOAM	-10	1			-30	
		1	1.0	23		
		1	B			
	563.63	1				
Very stiff, moist, brown, CLAY		2	2.3	12		
LOAM Till		5	B			
	561.63					
Medium, moist, brown,	▽ -15	2			-35	
fine-grained, SAND		5	NT	16		
19.5% passing #200 sieve	560.43	12	NT			
Very stiff, moist, grey, SANDY						
CLAY Till	559.13					
Hard, wet, grey, CLAY LOAM Till		4				
		16	5.5	10		
		38	S			
	556.13	2			-40	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), WH-Weight of Hammer,
NT-Not Tested.

BBS, form 137 (Rev. 8-99)

SOIL BORING 026-0068 2022.GPJ IL DOT.GDT 11/1/22

Structure Number 026-0068 (Existing) 026-2023 (Proposed) IL-185 Over Lone Grove Branch Tributary
 Located in the Southwest 1/4 of Southwest 1/4 of Section 24, Township 5N, Range 3E of the 3 P.M.



NOT TO HORIZONTAL SCALE

VARIATIONS IN SUBSURFACE
 CONDITIONS MAY EXIST
 BETWEEN BORINGS

Groundwater
 First Encounter
 Completion
 after (refer to log) hours

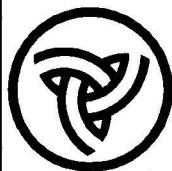
Abbreviations
 WH - Sampler Advanced by Weight
 of Hammer, WOP - Weight of Pipe
 B.S. - Before Seating
 NT - Not Tested

SUBSURFACE DATA PROFILE

Route: FAP 750 (IL-185)

Section: (114B1)B-1

County: Fayette



**Illinois Department
 of Transportation**

Division of Highways
 Illinois Department of Transportation



COHESIVE SOIL SETTLEMENT ESTIMATE

LOCATION AND BORING USED ===== East Abutment / Boring 1
TYPE OF SURCHARGE =====
DEPTH TO WATER TABLE (below top of existing embankment) ==

Controls over Boring 2
3 (1=2:1 bridge cone, 2=continuous embank., 3=rectangular surch.)
6 FT

NEW EMBANKMENT:

NEW EMBANKMENT FILL UNIT WEIGHT ===== 120 PCF
NEW EMBANKMENT FILL HEIGHT ===== 3 FT
PROPOSED WIDTH AT TOP ===== 16 FT
PROPOSED WIDTH AT BOTTOM ===== 16 FT (which is a MUST EQUIV.
PROPOSED LENGTH OF RECTANGULAR SURCHARGE===== 60 FT

Equiv. Height of DL and LL pressure on tributary virgin soil.

ASSUMPTIONS:

Soil Deposit is Normally Consolidated
Cohesive Layers are Saturated
Soils have a Low Sensitivity
Liquid Limit (LL)=Moist. Content (MC%)
Initial Void Ratio (Eo)=2.7*(MC%)/100
Comp. Index (Cc)=0.009*(LL-10)
Neglecting Granular & Secondary Settlement

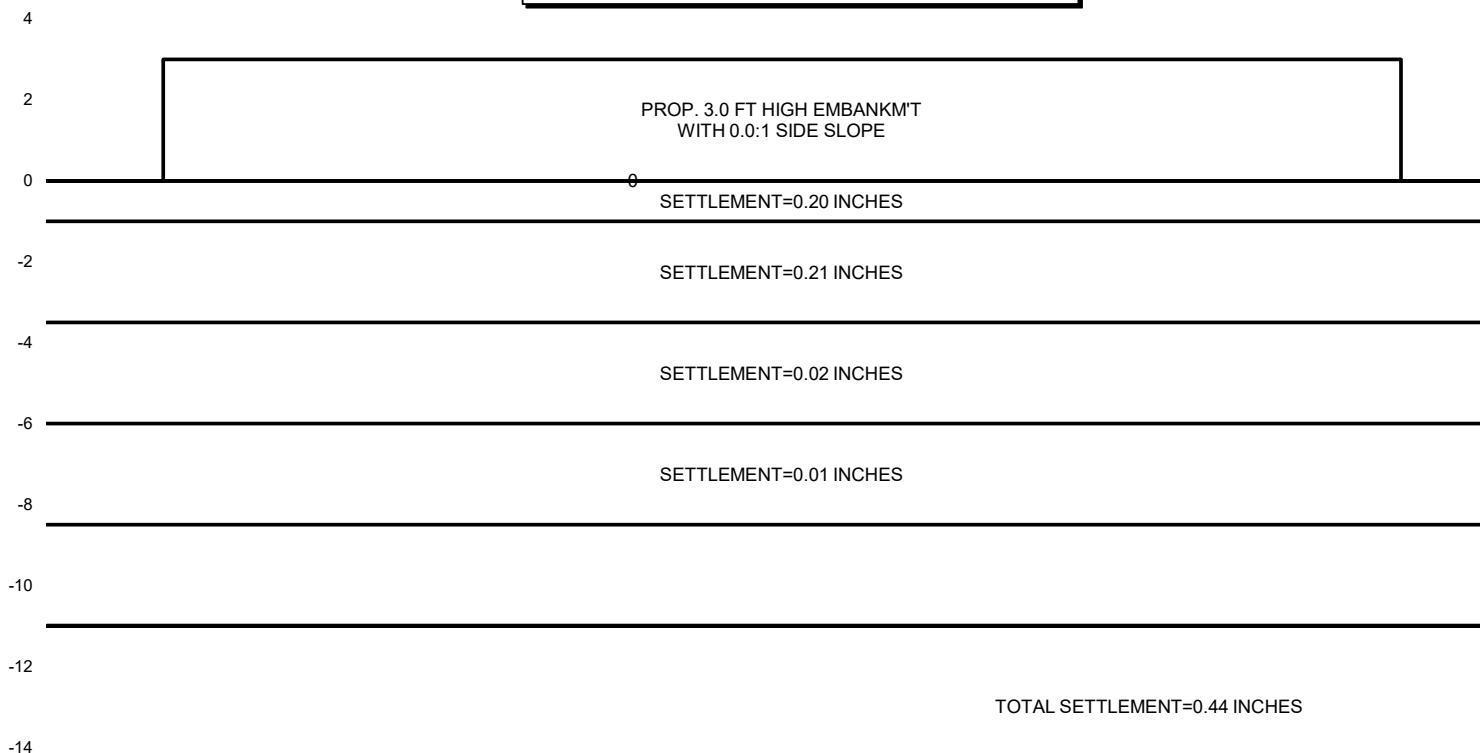
EXISTING EMBANKMENT (IF ANY):

EXISTING EMBANKMENT UNIT WEIGHT ===== 120 PCF
EXISTING EMBANKMENT HEIGHT ===== 0 FT
EXISTING WIDTH AT TOP ===== 0 FT
EXISTING WIDTH AT BASE ===== 0 FT (which is a 0.0:1 slope)
EXISTING LENGTH OF RECTANGULAR SURCHARGE===== 0 FT

LAYER THICK (FT)	TOTAL UNIT WT. (PCF)	UNCONF. COMP. STRENGTH (Qu) (TSF)	MOIST. CONTENT (%)	EXISTING PRESSURE (KSF)	PRESSURE INCREASE (KSF)	INITIAL VOID RATIO	COMPRESSION INDEX (Cc)	Qu CORRECTION FACTOR	LAYER SETTLEMENT (IN.)
1.0	120	0.80	25	0.060	0.360	0.675	0.135	0.242	0.20
2.5	120	0.80	25	0.270	0.357	0.675	0.135	0.242	0.21
2.5	120	2.90	15	0.570	0.338	0.405	0.045	0.100	0.02
2.5	120	2.70	12	0.792	0.305	0.324	0.018	0.100	0.01
2.5	120	2.70	8	0.936	0.269	0.216	0.000	0.100	0.00

TOTAL SETTLEMENT UNDER CENTER OF RECTANGULAR FOOTING = 0.44 IN.

EMBANKMENT AND SOIL PROFILE





TEMPORARY SHEET PILE DESIGN CHARTS

SOIL PROPERTIES BELOW EXCAVATION LINE

RETAINED HEIGHT (FT)	LAYER THICK- NESS (FT)	SPT N - VALUE (BPF)	UNCONFINED COMPR. STRENGTH Qu (TSF)
9	1.5		0.6
(ROUND TO NEAREST 0.25')	2.5		0.8
	2.5		2.9
	2.5		2.7

STRUCTURE ===== SN 026-2023
SUBSTRUCTURE & REFERENCE BORING ===== Boring #1 (E. Abut.)

COHESIVE CHARTS CONTROL USING AN EMBEDMENT DEPTH OF: 8.06 FT

AND REQUIRES A SECTION MODULUS OF: 6.33 IN.³/FT

DEPTH BELOW EXCAV. (FT)	SPLIT LAYER THICK- NESS (FT)	SPLIT N AT DEPTH (BPF)	SPLIT Qu AT DEPTH (TSF)	AVG. N ABOVE DEPTH (BPF)	AVG. N IN UPPER 50% (BPF)	REQ'D CHART EMBED. DEPTH (FT)	AVG. N IN UPPER 33% (BPF)	REQ'D CHART SECT. MOD. W/ AMP. (IN. ³ /FT)	RATIO LOWER/ UPPER 1/3 N	AVG. Qu ABOVE DEPTH (TSF)	AVG. Qu IN UPPER 50% (TSF)	REQ'D CHART EMBED. DEPTH (FT)	AVG. Qu IN UPPER 33% (TSF)	REQ'D CHART SECT. MOD. W/ AMP. (IN. ³ /FT)	RATIO OF LOWER/ UPPER 1/3 Qu
0.38	0.375	6	0.6	6.00						0.60					
0.75	0.375	6	0.6	6.00						0.60					
1.13	0.375	6	0.6	6.00	6.00	17.04	6.00		1.00	0.60	0.60	11.59	0.60		1.00
1.50	0.375	6	0.6	6.00	6.00	17.04	6.00		1.00	0.60	0.60	11.59	0.60		1.00
1.81	0.3125	8	0.8	6.34	6.00	17.04	6.00		1.00	0.63	0.60	11.59	0.60		1.00
2.13	0.3125	8	0.8	6.59	6.00	17.04	6.00		1.00	0.66	0.60	11.59	0.60		1.00
2.44	0.3125	8	0.8	6.77	6.00	17.04	6.00		1.00	0.68	0.60	11.59	0.60		1.00
2.75	0.3125	8	0.8	6.91	6.00	17.04	6.00		1.00	0.69	0.60	11.59	0.60		1.00
3.06	0.3125	8	0.8	7.02	6.04	17.04	6.00		1.00	0.70	0.60	11.59	0.60		1.00
3.38	0.3125	8	0.8	7.11	6.22	16.98	6.00		1.00	0.71	0.62	11.59	0.60		1.00
3.69	0.3125	8	0.8	7.19	6.37	16.84	6.00		1.00	0.72	0.64	11.44	0.60		1.00
4.00	0.3125	8	0.8	7.25	6.50	16.72	6.00		1.00	0.73	0.65	10.78	0.60		1.00
4.31	0.3125	29	2.9	8.83	6.61	16.62	6.00		1.00	0.88	0.66	10.54	0.60		1.00
4.63	0.3125	29	2.9	10.19	6.70	16.53	6.05		1.02	1.02	0.67	10.27	0.61		1.02
4.94	0.3125	29	2.9	11.38	6.78	16.46	6.18		1.06	1.14	0.68	10.07	0.62		1.06
5.25	0.3125	29	2.9	12.43	6.86	16.39	6.29		1.10	1.24	0.69	9.89	0.63		1.10
5.56	0.3125	29	2.9	13.36	6.92	16.34	6.38		1.13	1.34	0.69	9.73	0.64		1.13
5.88	0.3125	29	2.9	14.19	6.98	16.29	6.47		1.16	1.42	0.70	9.59	0.65		1.16
6.19	0.3125	29	2.9	14.94	7.03	16.24	6.55		1.18	1.49	0.70	9.47	0.65		1.18
6.50	0.3125	29	2.9	15.62	7.08	16.20	6.62		1.21	1.56	0.71	9.39	0.66		1.21
6.81	0.3125	27	2.7	16.14	7.12	16.17	6.68		1.23	1.61	0.71	9.33	0.67		1.23
7.13	0.3125	27	2.7	16.61	7.16	16.16	6.74		1.25	1.66	0.72	9.28	0.67		1.25
7.44	0.3125	27	2.7	17.05	7.19	16.12	6.79		1.26	1.71	0.72	9.24	0.68		1.26
7.75	0.3125	27	2.7	17.45	7.23	16.10	6.84		1.28	1.75	0.72	9.20	0.68		1.28
8.06	0.3125	27	2.7	17.82	7.42	16.08	6.88		1.29	1.78	0.74	9.16	0.69		1.29
8.38	0.3125	27	2.7	18.16	8.22	15.95	6.93		1.31	1.82	0.82	8.93	0.69		1.31
8.69	0.3125	27	2.7	18.48	8.97	15.44	6.96		1.32	1.85	0.90	8.06	0.70	6.33	1.32
9.00	0.3125	27	2.7	18.78	9.67	15.92	7.00		1.33	1.88	0.97		0.70		1.33



TEMPORARY SHEET PILE DESIGN CHARTS

SOIL PROPERTIES BELOW EXCAVATION LINE

RETAINED HEIGHT (FT)	LAYER THICK- NESS (FT)	SPT N - VALUE (BPF)	UNCONFINED COMPR. STRENGTH Qu (TSF)
9	1.5		0.7
(ROUND TO NEAREST 0.25')	2.5		1
	2.5		2.3
	2.5	17	8.9
	2.5		7.9

STRUCTURE ===== SN 026-2023
SUBSTRUCTURE & REFERENCE BORING ===== Boring #2 (W. Abut.)

GRANULAR CHARTS CONTROL USING AN EMBEDMENT DEPTH OF: 13.03 FT

AND REQUIRES A SECTION MODULUS OF: 11.94 IN.³/FT

WARNING: This spreadsheet cannot be used if Qu > 4.5 tsf or N > 45 within embedment depth!!

DEPTH BELOW EXCAV. (FT)	SPLIT LAYER THICK- NESS (FT)	SPLIT N AT DEPTH (BPF)	SPLIT Qu AT DEPTH (TSF)	AVG. N ABOVE DEPTH (BPF)	AVG. N IN UPPER 50% (BPF)	REQ'D CHART EMBED. DEPTH (FT)	AVG. N IN UPPER 33% (BPF)	REQ'D CHART SECT. MOD. W/ AMP. (IN. ³ /FT)	RATIO LOWER/ UPPER 1/3 N	AVG. Qu ABOVE DEPTH (TSF)	AVG. Qu IN UPPER 50% (TSF)	REQ'D CHART EMBED. DEPTH (FT)	AVG. Qu IN UPPER 33% (TSF)	REQ'D CHART SECT. MOD. W/ AMP. (IN. ³ /FT)	RATIO OF LOWER/ UPPER 1/3 Qu
0.38	0.375	7	0.7	7.00						0.70					
0.75	0.375	7	0.7	7.00						0.70					
1.13	0.375	7	0.7	7.00	7.00	16.22	7.00		1.00	0.70	0.70	9.42	0.70		1.00
1.50	0.375	7	0.7	7.00	7.00	16.22	7.00		1.00	0.70	0.70	9.42	0.70		1.00
1.81	0.3125	10	1	7.52	7.00	16.22	7.00		1.00	0.75	0.70	9.42	0.70		1.00
2.13	0.3125	10	1	7.88	7.00	16.22	7.00		1.00	0.79	0.70	9.42	0.70		1.00
2.44	0.3125	10	1	8.15	7.00	16.22	7.00		1.00	0.82	0.70	9.42	0.70		1.00
2.75	0.3125	10	1	8.36	7.00	16.22	7.00		1.00	0.84	0.70	9.42	0.70		1.00
3.06	0.3125	10	1	8.53	7.06	16.22	7.00		1.00	0.85	0.71	9.42	0.70		1.00
3.38	0.3125	10	1	8.67	7.33	16.48	7.00		1.00	0.87	0.73	9.35	0.70		1.00
3.69	0.3125	10	1	8.78	7.56	16.94	7.00		1.00	0.88	0.76	9.03	0.70		1.00
4.00	0.3125	10	1	8.88	7.75	15.86	7.00		1.00	0.89	0.78	8.77	0.70		1.00
4.31	0.3125	23	2.3	9.90	7.91	15.73	7.00		1.00	0.99	0.79	8.55	0.70		1.00
4.63	0.3125	23	2.3	10.78	8.05	15.62	7.08		1.02	1.08	0.81	8.35	0.71		1.02
4.94	0.3125	23	2.3	11.56	8.18	15.54	7.27		1.08	1.16	0.82	8.24	0.73		1.08
5.25	0.3125	23	2.3	12.24	8.29	15.47	7.43		1.12	1.22	0.83	8.10	0.74		1.12
5.56	0.3125	23	2.3	12.84	8.38	15.44	7.57		1.16	1.28	0.84	8.00	0.76		1.16
5.88	0.3125	23	2.3	13.38	8.47	15.35	7.70		1.20	1.34	0.85	7.92	0.77		1.20
6.19	0.3125	23	2.3	13.87	8.55	15.34	7.82		1.23	1.39	0.85	7.84	0.78		1.23
6.50	0.3125	23	2.3	14.31	8.62	15.26	7.92		1.26	1.43	0.86	7.78	0.79		1.26
6.81	0.3125	17	0	14.43	8.68	15.22	8.02		1.29	1.37	0.87		0.80		1.29
7.13	0.3125	17	0	14.54	8.74	15.19	8.11		1.32	1.31	0.87		0.81		1.32
7.44	0.3125	17	0	14.65	8.79	15.16	8.18		1.34	1.25	0.88		0.82		1.34
7.75	0.3125	17	0	14.74	8.84	15.13	8.26		1.36	1.20	0.88		0.83		1.36
8.06	0.3125	17	0	14.83	8.98	15.10	8.33		1.38	1.15	0.90		0.83		1.38
8.38	0.3125	17	0	14.91	9.51	15.02	8.39		1.40	1.11	0.95		0.84		1.40
8.69	0.3125	17	0	14.99	9.99	14.76	8.45		1.41	1.07	1.00		0.84		1.41
9.00	0.3125	17	0	15.06	10.44	14.53	8.50		1.43	1.03	1.04		0.85		1.43
9.31	0.3125	55	5.5	16.40	10.87	14.34	8.55		1.41	1.18	1.09		0.86		1.41
9.63	0.3125	55	5.5	17.65	11.26	14.16	8.60		1.39	1.32	1.13		0.86		1.39
9.94	0.3125	55	5.5	18.82	11.63	14.00	8.64		1.37	1.45	1.16		0.86		1.37
10.25	0.3125	55	5.5	19.93	11.98	13.86	8.68		1.36	1.58	1.20		0.87		1.36
10.56	0.3125	55	5.5	20.96	12.30	13.73	8.72		1.34	1.69	1.23		0.87		1.34
10.88	0.3125	55	5.5	21.94	12.61	13.64	8.76		1.33	1.80	1.26		0.88		1.33
11.19	0.3125	55	5.5	22.87	12.90	13.54	8.79		1.32	1.91	1.29		0.88		1.32
11.50	0.3125	55	5.5	23.74	13.17	13.44	8.83		1.31	2.00	1.32		0.88		1.31
11.81	0.3125	79	7.9	25.20	13.43	13.32	8.86		1.30	2.16	1.34		0.89		1.30
12.13	0.3125	79	7.9	26.59	13.68	13.24	9.02		1.32	2.31	1.37		0.90		1.32
12.44	0.3125	79	7.9	27.90	13.91	13.16	9.37		1.39	2.45	1.39		0.94		1.39
12.75	0.3125	79	7.9	29.16	14.14	13.09	9.71		1.46	2.58	1.41		0.97		1.46
13.06	0.3125	79	7.9	30.35	14.32	13.03	10.02	11.94	1.53	2.71	1.42		1.00		1.53
13.38	0.3125	79	7.9	31.49	14.38		10.33		1.59	2.83	1.39		1.03		1.59
13.69	0.3125	79	7.9	32.57	14.44		10.62		1.65	2.95	1.36		1.06		1.65
14.00	0.3125	79	7.9	33.61	14.50		10.89		1.70	3.06	1.33		1.09		1.70