

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

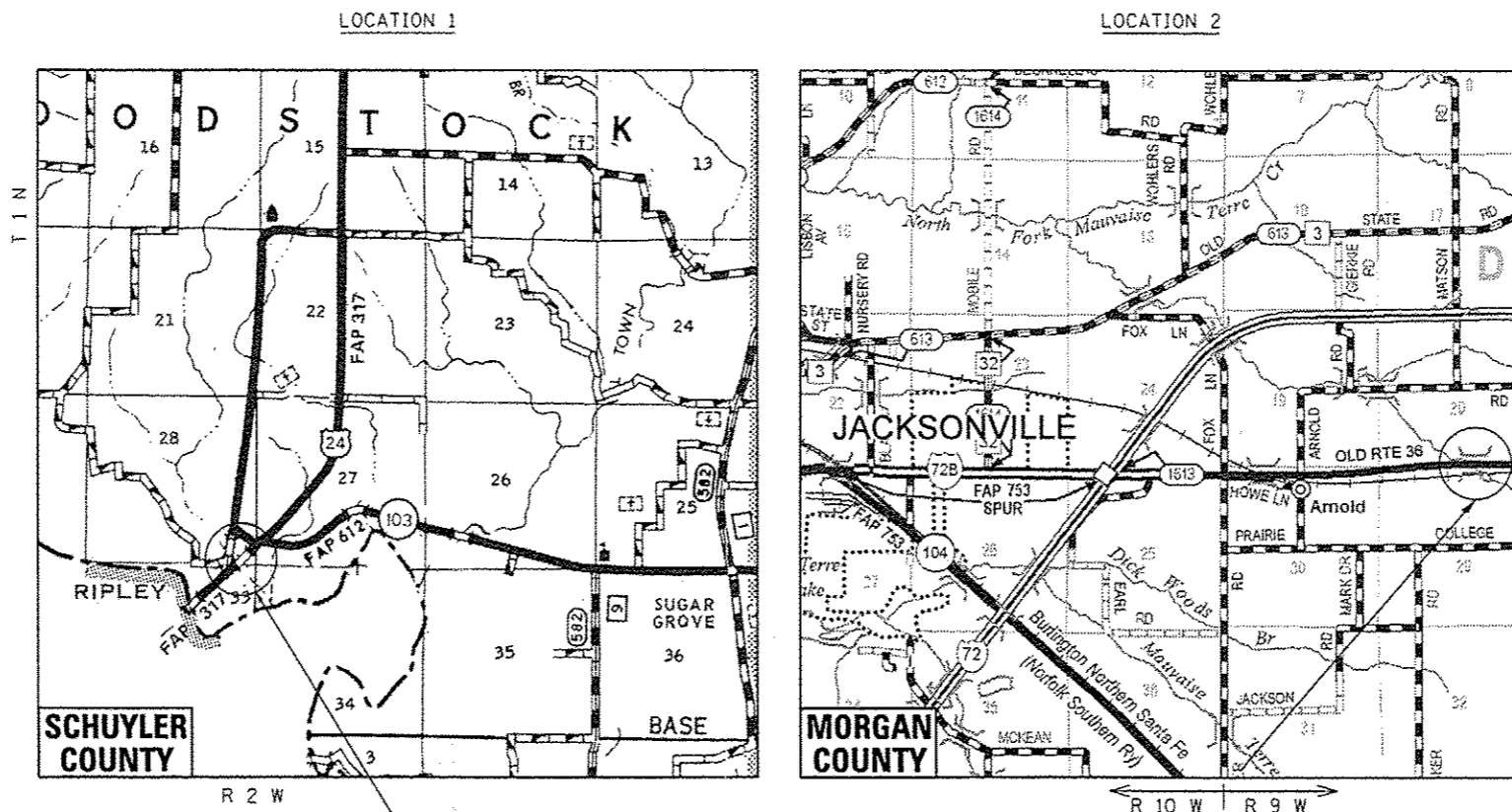
**PROPOSED
CULVERT REPAIR**

FAP 317 (US 24) & FAS 1613 (OLD US 36)
SECTION (25)I-4 & (10)I-2
PROJECT ACNHPP-ACRS-000V(028)
WINGWALL REPAIRS
SCHUYLER & MORGAN COUNTY

C-96-096-14

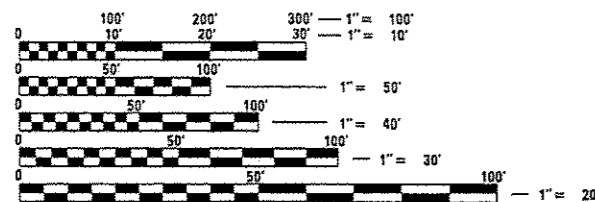
FOR INDEX OF SHEETS, SEE SHEET NO. 2

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	(25)I-4 & (10)I-2	**	9	1
ILLINOIS CONTRACT NO. 72H25				
* FAP 317 & FAS 1613				
** SCHUYLER & MORGAN				



LOCATION 1:
F.A.P. 317 (US 24)
ADT (2013) : 2850
HCV = 15.79% SU = 5.26% MU = 10.53%
SPEED LIMIT: 55 MPH (POSTED)

LOCATION 2:
F.A.S. 1613 (OLD RT 36)
ADT (2008) : 900
HCV = 16.67% SU = 13.33% MU = 3.33%
SPEED LIMIT: 55 MPH (POSTED)



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

PROJECT LOCATION:
SN 085-2001
US 24 OVER CROOKED CREEK
TRIBUTARY
40.0307°N, 90.6266°W

PROJECT LOCATION:
SN 069-2000
OLD 36 OVER MALUVAISE
TERRE CREEK
39.7240°N, 90.1246°W

BRIDGE MAINTENANCE ENGINEER (ACTING): BRANDON DUDLEY (217) 785-9290
BRIDGE INSPECTION ENGINEER: DAVE COPENBARGER (217) 785-5306

LOCATION MAPS

CONTRACT NO. 72H25

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED August 14, 2014
Reg. 2014
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

Jan 30, 2015
John D. Baranzelli, P.E.
acting ENGINEER OF DESIGN AND ENVIRONMENT

Jan 30, 2015
Omer Osman, P.E.
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS

08/14/14

INDEX OF SHEETS

- 1. COVER SHEET
- 2. INDEX OF SHEETS, STANDARDS, GENERAL NOTES SIGNATURES
- 3. SUMMARY OF QUANTITIES
- 4-6. STRUCTURAL PLANS (SN 085-2001)
- 7-9. STRUCTURAL PLANS (SN 069-2000)

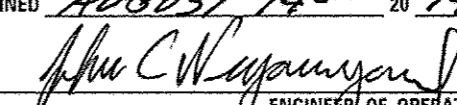

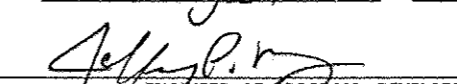
STANDARDS

- 701001-02
- 701006-05
- 701201-04
- 701301-04
- 701901-04

GENERAL NOTES

AFTER INSTALLATION OF HELICAL ANCHORS, THE CONTRACTOR SHALL BACKFILL ALL EXCAVATED AREAS AND ALL VOIDS BEHIND THE WINGWALLS WITH EMBANKMENT OR GRANULAR MATERIAL. THIS WORK SHALL NOT BE MEASURED FOR PAYMENT. THE COST OF FURNISHING AND PLACING MATERIAL SHALL BE INCLUDED IN THE BID PRICE FOR HELICAL GROUND ANCHORS.

SIGNATURES

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS DISTRICT 6	
EXAMINED	<u>AUGUST 14th 20 14</u>  ENGINEER OF OPERATIONS
EXAMINED	<u>August 14 20 14</u>  ENGINEER OF PROJECT IMPLEMENTATION
EXAMINED	<u>August 14 20 14</u>  ENGINEER OF PROGRAM DEVELOPMENT

FILE NAME *	USER NAME * dudleybm	DESIGNED - DMS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS, STANDARDS, SIGNATURES, GENERAL NOTES	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
D:\OPERATIONS\Bridgplans_CAD\72H25 - S	0852001 SN 0692000 Wingwall Repair 2014.pl	DRAWN - DMS	REVISED -			.	(25)-4 & (10)-2	**	9	2	
Default	PLOT SCALE = 40.0075' / in.	CHECKED -	REVISED -			CONTRACT NO. 72H25					
	PLOT DATE = Aug-14-2014 02:17:28PM	DATE -	REVISED -			ILLINOIS FED. AID PROJECT					

• FAP 317 & FAS 1613
•• SCHUYLER & MORGAN

MDEI MZBZ
 NHPP STP

80% FED / 20% STATE	
US 24	OLD US 36
CONSTR. CODE	
SCHUYLER COUNTY	MORGAN COUNTY
ROADWAY	
0014	0014
S.N.	

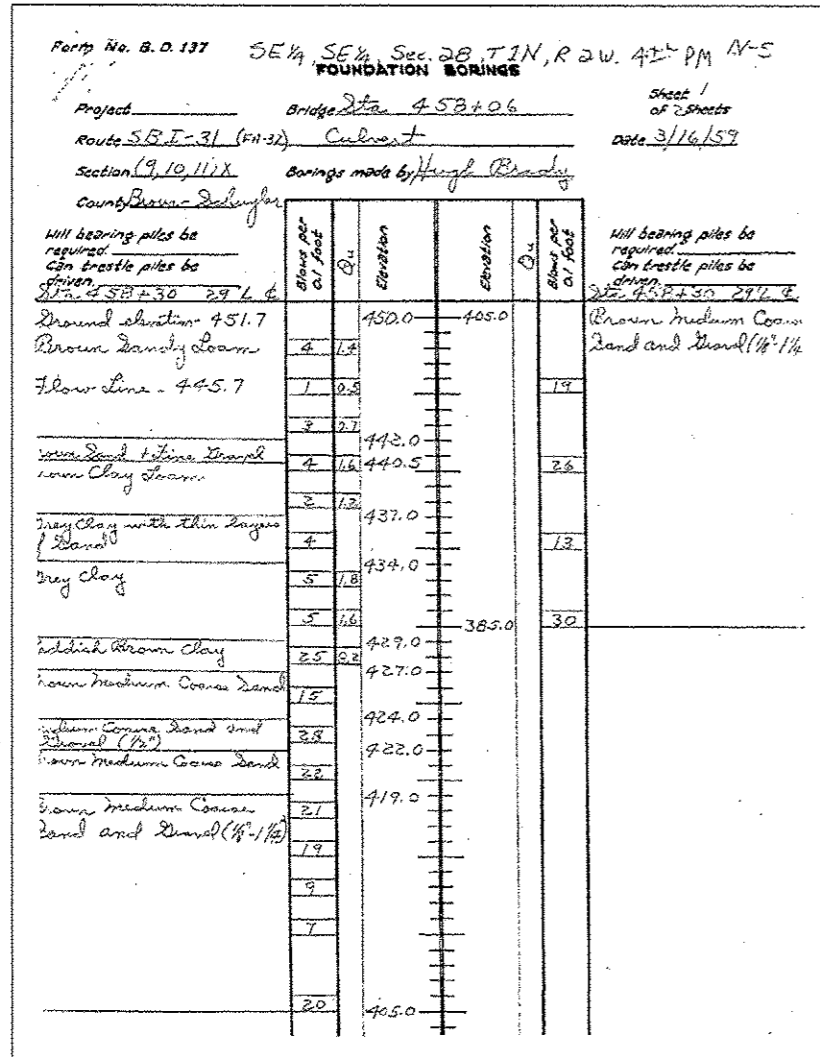
CODE NO.	ITEM	UNIT	TOTAL QUANTITY		
67100100	MOBILIZATION	L SUM	1	0.8	0.2
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	0.8	0.2
X0323992	HELICAL GROUND ANCHORS	EACH	10	8	2

3

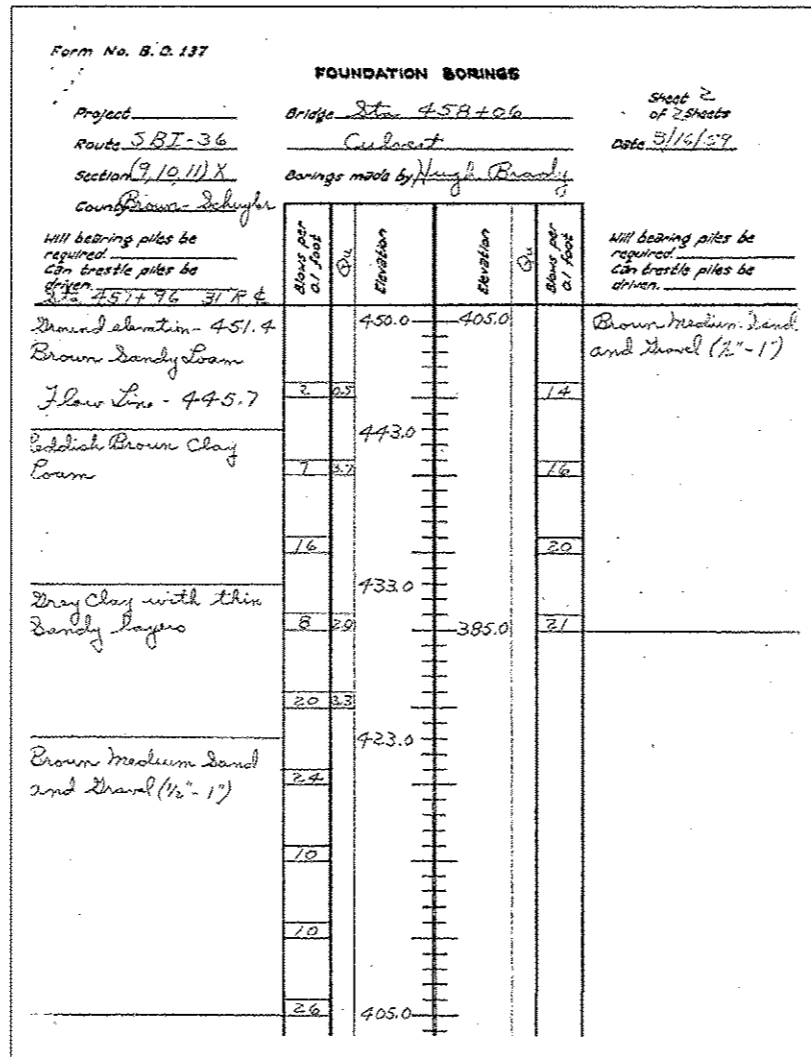
• FAP 317 & FAS 1613
 •• SCHUYLER & MORGAN

FILE NAME *	USER NAME * dudlegm	DESIGNED - DMS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITY				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D:\OPERATIONS\Bridges\plans\CA0172425 - S	0852001 SH 0812000 Wingwall Repair 2014.dwg	DRAWN dgn	REVISED -		•	(25N-4 & 10E-2	**	9	3				
PLOT SCALE * 40.0000' / in.	CHECKED -	REVISED -	REVISED -		CONTRACT NO. 72H25				ILLINOIS FED. AID PROJECT				
Default	PLOT DATE * Aug-14-2014 01:50:03PM	DATE -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO STA.			

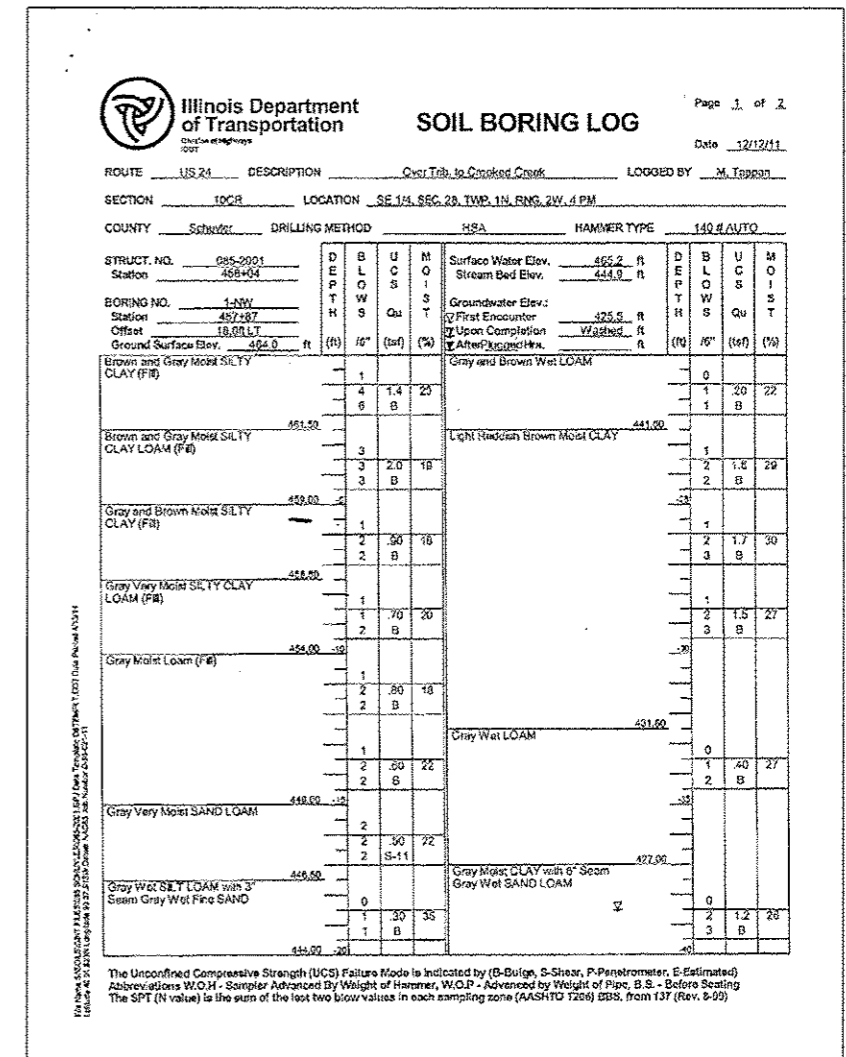
BORING B-1



BORING B-2



BORING I-NW



BORING 1-NW

Page 2 of 2

SOIL BORING LOG

Date 12/15/11

ROUTE US 24 DESCRIPTION Over Trip to Crooked Creek LOGGED BY M. Tappan

SECTION 10CR LOCATION SE 1/4, SEC. 28, TWP. 1N, RNG. 2W, 4 PM

COUNTY Schuyler DRILLING METHOD HSA HAMMER TYPE 140 # AUTO

STRUCT. NO.	DEPT	UCS	MOIST	Surface Water Elev.	ft
085-2001	D	B	U	455.2	
458+04	E	L	C	Stream Bed Elev.	444.0
	P	O	S		
	T	W	S	Groundwater Elev.:	
	H	S	Q	z First Encounter	425.5
				z Upon Completion	Washed
				z After Plugged Hrs.	

BORING NO. 1-NW
 Station 457+87
 Offset 18.00 FT
 Ground Surface Elev. 464.0 ft (ft) / 16" (16) (%)

Soil Description	Depth (ft)	UCS (psi)	MOIST (%)
Gray Moist CLAY with 8" Seam Gray Wet SAND LOAM (continued)	0 - 22.00		
Gray Medium SAND with some Pink GRAVEL Washed	0 - 1		
Brown Medium Sandy GRAVEL Washed	17 - 11		
Washed	20 - 14		
Boring Completed	403.60		

Ref. STA. to Centerline of Ex. Structure=458+04
 Sta. Increase to East (NE)
 Ref. Elev. to Centerline of Ex. Structure=464.5

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
 Abbreviations W.O.H - Sampler Advanced by Weight of Hammer, W.O.P - Advanced by Weight of Pipe, B.S. - Before Sealing
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T209) BBS, from 137 (Rev. 8-99)

BORING 2-SE

Page 1 of 2

SOIL BORING LOG

Date 12/15/11

ROUTE US 24 DESCRIPTION Over Trip to Crooked Creek LOGGED BY M. Tappan

SECTION 10CR LOCATION SE 1/4, SEC. 28, TWP. 1N, RNG. 2W, 4 PM

COUNTY Schuyler DRILLING METHOD HSA HAMMER TYPE 140 # AUTO

STRUCT. NO.	DEPT	UCS	MOIST	Surface Water Elev.	ft
085-2001	D	B	U	455.2	
458+04	E	L	C	Stream Bed Elev.	444.0
	P	O	S		
	T	W	S	Groundwater Elev.:	
	H	S	Q	z First Encounter	443.1
				z Upon Completion	Washed
				z After Plugged Hrs.	

BORING NO. 2-SE
 Station 458+24
 Offset 14.00 FT
 Ground Surface Elev. 464.1 ft (ft) / 16" (16) (%)

Soil Description	Depth (ft)	UCS (psi)	MOIST (%)
Gray and Brown Moist SILTY CLAY LOAM (F8)	0 - 1		
Brown Wet Dirty Fine to Medium SAND	4 - 2.0	20	
Gray and Brown Wet LOAM	5 - 1		
Brown and Gray	2 - 4	1.8	18
Yan Dirty Medium SAND	5 - 5-12		
Gray and Brown Moist SILTY CLAY LOAM (F8) with Brown Moist CLAY LOAM Seams (F8)	1 - 2	1.1	15
Gray and Brown Moist SILTY CLAY (F8)	2 - 1		
Brown Moist SILTY CLAY	2 - 1.1	10	
Brown and Gray Moist CLAY LOAM	3 - 3		
Brown and Gray Moist CLAY LOAM	1 - 2	1.0	27
Dark Gray	3 - 3		
Gray Dirty Fine SAND Seam Washed	2 - 1.7	15	
Gray Moist LOAM to SAND LOAM	3 - 2		
Gray Moist LOAM Washed	2 - 2.0	22	

Ref. STA. to Centerline of Ex. Structure=458+04
 Sta. Increase to East (NE)
 Ref. Elev. to Centerline of Ex. Structure=464.5

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
 Abbreviations W.O.H - Sampler Advanced by Weight of Hammer, W.O.P - Advanced by Weight of Pipe, B.S. - Before Sealing
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BORING 2-SE

Page 2 of 2

SOIL BORING LOG

Date 12/15/11

ROUTE US 24 DESCRIPTION Over Trip to Crooked Creek LOGGED BY M. Tappan

SECTION 10CR LOCATION SE 1/4, SEC. 28, TWP. 1N, RNG. 2W, 4 PM

COUNTY Schuyler DRILLING METHOD HSA HAMMER TYPE 140 # AUTO

STRUCT. NO.	DEPT	UCS	MOIST	Surface Water Elev.	ft
085-2001	D	B	U	455.2	
458+04	E	L	C	Stream Bed Elev.	444.0
	P	O	S		
	T	W	S	Groundwater Elev.:	
	H	S	Q	z First Encounter	443.1
				z Upon Completion	Washed
				z After Plugged Hrs.	

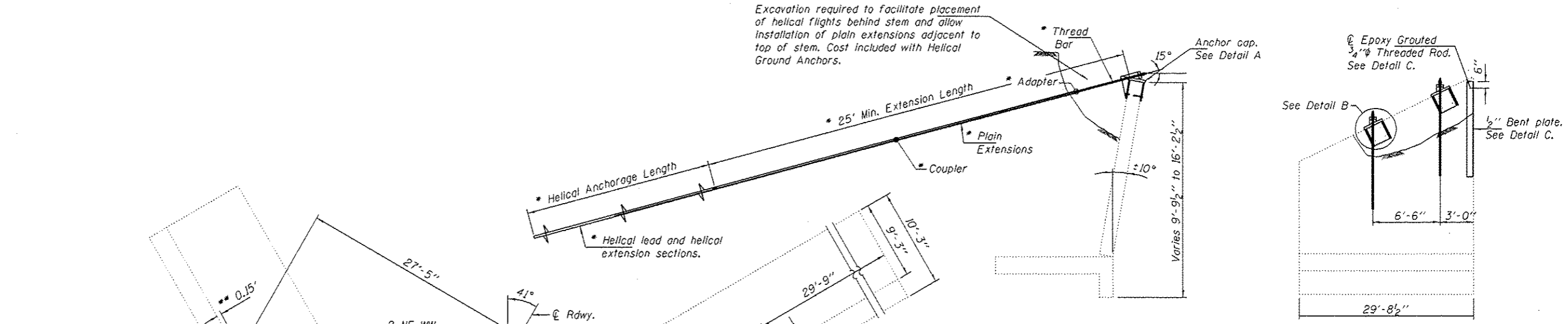
BORING NO. 2-SE
 Station 458+24
 Offset 14.00 FT
 Ground Surface Elev. 464.1 ft (ft) / 16" (16) (%)

Soil Description	Depth (ft)	UCS (psi)	MOIST (%)
Gray Moist LOAM Washed (continued)	0 - 1		
Brown Medium SANDY GRAVEL Washed	2 - 3		
Washed	3 - 3		
Washed	3 - 3		
Boring Completed	406.10		

Ref. STA. to Centerline of Ex. Structure=458+04
 Sta. Increase to East (NE)
 Ref. Elev. to Centerline of Ex. Structure=464.5

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
 Abbreviations W.O.H - Sampler Advanced by Weight of Hammer, W.O.P - Advanced by Weight of Pipe, B.S. - Before Sealing
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T209) BBS, from 137 (Rev. 8-99)

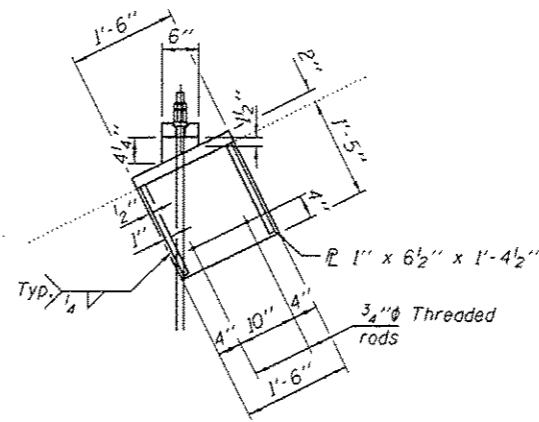
Excavation required to facilitate placement of helical flights behind stem and allow installation of plain extensions adjacent to top of stem. Cost included with Helical Ground Anchors.



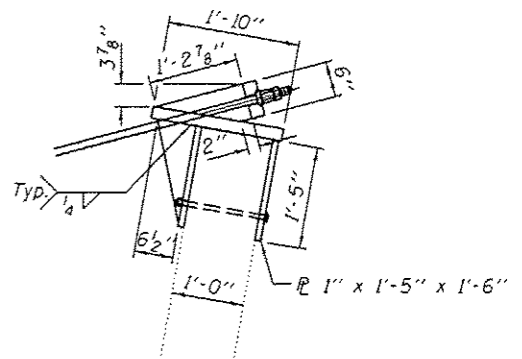
CROSS SECTION
(NW wing only)

WINGWALL ELEVATION

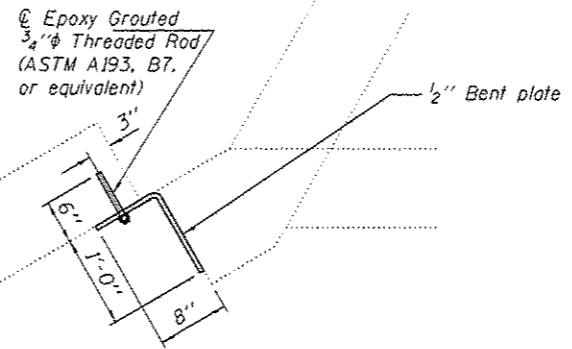
* See Helical Anchor Supplier for design and details.



DETAIL B



DETAIL A



DETAIL C

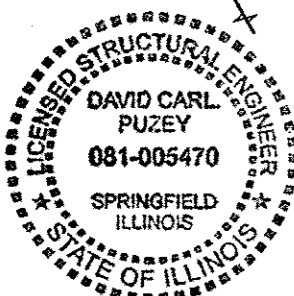
Note:
All anchor components shall be galvanized according to Article 509.05 of the Standard Specifications.

TOTAL BILL OF MATERIAL
NW WINGWALL

ITEM	UNIT	QUANTITY
Helical Ground Anchors	Each	2

NOTES

1. Helical Anchor shall be designed by manufacturer. (See Special Provisions).
2. The Contractor shall submit design calculations and shop drawing for the proposed Helical Ground Anchor to the Engineer for review and approval.
3. Helical anchor design load (Service) = 17.5 K/Anchor.
4. Cost of steel plates, washers and nuts included in the cost of Helical Ground Anchors.



DESIGNED *William M. Kramer*
 CHECKED *Victor H. Veiz*
 DRAWN *baliva*
 CHECKED *WMK VHF*

PASSED *David Carl Puzey*
 ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - APRIL 22, 2015
 REVISED
 REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

NW WINGWALL STABILIZATION DETAILS
 FAS 1613 (OLD US 36) MAUVAISE TERRE CREEK
 SN 069-2000

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1613	(25)-4 & (10)-2	MORGAN	9	7
CONTRACT NO. 72H25				ILLINOIS FED. AID PROJECT

BORING 1 NW WW

Page 1 of 1

Date 4/23/14

Illinois Department of Transportation
Division of Highways
District 4

SOIL BORING LOG

ROUTE OH US 36 DESCRIPTION OH US 36 over Maunabo Terr Cr LOGGED BY M. Tappan

SECTION 7 LOCATION NW 1/4, SEC. 29, TWP. 15N, RNG. 9W, 3 PM

COUNTY Morgan DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 069-2000 Station 99+25

BORING NO. 1 NW WW Station 99+77 Offset 14.081 T Ground Surface Elev. 618.3 ft

DEPTH (ft)	BLOW COUNT (1st)	BLOW COUNT (2nd)	SPT (N)	SOIL DESCRIPTION	ELEVATION (ft)	TEST TYPE	RESULTS
				Surface Water Elev. <u>601.3</u> ft			
				Stream Bed Elev. <u>599.8</u> ft			
				Groundwater Elev.: <u>592.8</u> ft			
				First Encounter <u>Plugged</u> ft			
				Upon Completion <u>Plugged</u> ft			
				After <u>Plugged</u> ft			
0				Black Moist SILTY CLAY (continued)			
1				Brown and Gray			
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
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19							
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21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bluge, S-Shear, P-Penetrometer, E-Estimated) Abbreviations W.O.H - Sampler Advanced By Weight of Hammer, W.O.P - Advanced by Weight of Pipe, B.S. - Before Seating The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T296) BBS, from 137 (Rev. 8-99)

BORING 2 NE WW

Page 1 of 1

Date 4/23/14

Illinois Department of Transportation
Division of Highways
District 4

SOIL BORING LOG

ROUTE OH US 36 DESCRIPTION OH US 36 over Maunabo Terr Cr LOGGED BY M. Tappan

SECTION 7 LOCATION NW 1/4, SEC. 29, TWP. 15N, RNG. 9W, 3 PM

COUNTY Morgan DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 069-2000 Station 99+25

BORING NO. 2 NE WW Station 99+32 Offset 14.081 T Ground Surface Elev. 618.4 ft

DEPTH (ft)	BLOW COUNT (1st)	BLOW COUNT (2nd)	SPT (N)	SOIL DESCRIPTION	ELEVATION (ft)	TEST TYPE	RESULTS
				Surface Water Elev. <u>621.3</u> ft			
				Stream Bed Elev. <u>599.8</u> ft			
				Groundwater Elev.: <u>592.8</u> ft			
				First Encounter <u>Plugged</u> ft			
				Upon Completion <u>Plugged</u> ft			
				After <u>Plugged</u> ft			
0				Reddish Brown Moist SILTY CLAY (FB)			
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
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25							
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27							
28							
29							
30							

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bluge, S-Shear, P-Penetrometer, E-Estimated) Abbreviations W.O.H - Sampler Advanced By Weight of Hammer, W.O.P - Advanced by Weight of Pipe, B.S. - Before Seating The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T296) BBS, from 137 (Rev. 8-99)

BORING 3 SE WW

Page 1 of 1

Date 4/25/14

Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

ROUTE Old US 36 DESCRIPTION Old US 36 over Mauvoisin Terre Cr. LOGGED BY M. Tappan

SECTION 7 LOCATION NW 1/4, SEC. 29, TWP. 15N, RNG. 9W, 3 PM

COUNTY Morgan DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 069-2000 Station 99+25

BORING NO. 3 SE WW Station 99+43

Offset 13.08 RT

Ground Surface Elev. 618.5 ft

DEPTH (ft)	B	L	U	M	Description	DEPTH (ft)	B	L	U	M	Description	DEPTH (ft)	B	L	U	M	Description
					Surface Water Elev. <u>601.3</u> ft												
					Stream Bed Elev. <u>599.8</u> ft												
					Groundwater Elev.:												
					1 First Encouler <u>593.0</u> ft												
					2 Upon Completion <u>593.0</u> ft												
					3 After <u> </u> Hrs.												
0					Black Moist SILTY CLAY (continued)	0						0					
1					Very Dark Gray Moist SILTY CLAY	1						1.4					
3						3						2					
3					Gray Very Moist LOAM	3						0					
2						2						0					
3						3						0					
5						5						1					
5					Gray Clay Medium to Coarse SAND with Gray Fissile Clayey SHALE at 27'	5						0					
4						4						0					
6						6						5					
6					Light Reddish Brown and Gray Moist Clayey SHALE	6						0					
2						2						7					
2					Dark Gray Moist SILTY CLAY (FB)	2						20					
4						4						80					
4						4						8					
2						2						0					
3						3						3					
5						5						0					
5					Black Moist SILTY CLAY	5						0					
2						2						12					
3					Light Bluish Gray Moist Fissile Clayey SHALE	3						67					
5						5						33					
5						5						0					
2					Boring Completed	2						27					
2						2						0					
3						3						1					
3						3						3					
0						0						0					
1						1						1					
3						3						3					
3						3						0					
0						0						0					
1						1						1					
3						3						3					
3						3						2					
3						3						2					
0						0						0					
1						1						1					
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