Total Sheets = 18

04-24-2020 LETTING ITEM 148

CONTRACT NO. 87729

INDEX OF SHEETS

SHEET NO.	TITLE
1	COVER SHEET
2	SUMMARY OF QUANTITIES, GENERAL NOTES & TYPICAL SECTIONS
3	PLAN AND PROFILE
4–15	BRIDGE PLANS
16–18	ROADWAY CROSS SECTIONS

STANDARDS

000001–07	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
280001–07	TEMPORARY EROSION CONTROL SYSTEMS
515001–04	NAME PLATE FOR BRIDGES
701001–02	OFF–RD OPERATIONS, 2L, 2W, MORE THAN 15' (4.5m) AWAY
701006–05	OFF–RD OPERATIONS, 2L, 2W, 15' (4.5m) TO 24" (600mm) FROM PAVEMENT EDGE
701901–08	TRAFFIC CONTROL DEVICES
725001–01	OBJECT AND TERMINAL MARKERS
BLR 21–9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

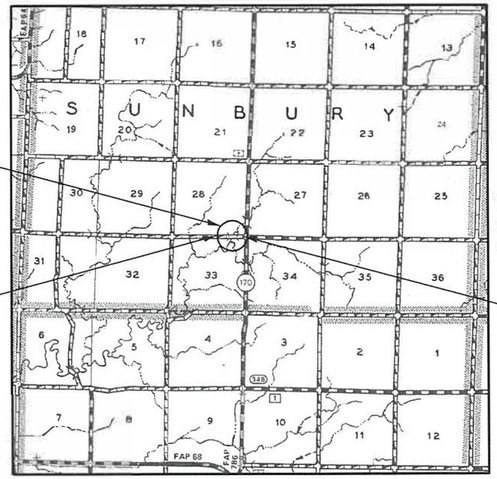
PLANS FOR PROPOSED
SURFACE TRANSPORTATION PROGRAM–BRIDGE

SECTION 18–28129–00–BR
T.R. 41D (2800 RD. N.)
LIVINGSTON COUNTY
PROJECT NO. XFEJ(654)
C–93–017–20

LOCATION OF SECTION INDICATED THUS: –■–

CLASSIFICATION: LOCAL ROAD
DESIGN VOLUME: UNDER 250 ADT
CURRENT ADT: 50 (2019)
DESIGN SPEED: 30 MPH

R. 5 E., 3RD P.M.



STA. 9 + 94
SPECIAL BRIDGE DESIGN
P.P.C. DECK BEAM BRIDGE (27" DEPTH);
1 SPAN @ 67'–3" (LOB);
27'–0" RDWY.; 25° SKEW LT. FWD.
PROPOSED SN 053–4224
EXISTING SN 053–3141

IMPROVEMENT BEGINS
STA. 8 + 70.00

IMPROVEMENT ENDS
STA. 11 + 40.00

LOCATION MAP

NET LENGTH OF T.R. 41D = 270.00 FEET = 0.051 MILES
NET LENGTH OF SECTION = 270.00 FEET = 0.051 MILES

0 1 2 3 4 5
SCALE IN MILES

TOLL FREE JOINT UTILITY LOCATING
INFORMATION FOR EXCAVATORS (J.U.L.I.E.)
TELEPHONE NUMBER 1-800-892-0123

APPROVED 2/20/2020 20
ROAD DISTRICT COMMISSIONER

APPROVED 2/20/2020 20
COUNTY ENGINEER

PASSED February 20th 20 20
DISTRICT TWO ENGINEER OF LOCAL ROADS & STREETS

RELEASED FOR BID BASED ON LIMITED REVIEW February 20th 20 20
REGION TWO ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALES

PLAN	0'	50'	100'
PROFILE HORIZ.	0'	50'	100'
PROFILE VERT.	0'	5'	10'
CROSS SECTIONS	0'	5'	10'

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS IOWA WISCONSIN

ILLINOIS PROFESSIONAL DESIGN FIRM NUMBER: 184003525

GARY J. CARTWRIGHT
43408
REGISTERED PROFESSIONAL ENGINEER
OF
ILLINOIS

Gary J Cartwright 1-31-2020
ILLINOIS PROFESSIONAL NO. 43408
EXPIRES 11-30-21

*18-588

SUMMARY OF QUANTITIES

	CODE NO.	ITEM	UNIT	TOTAL QUANTITY
	20200100	EARTH EXCAVATION	CU YD	85
	20300100	CHANNEL EXCAVATION	CU YD	549
	20700110	POROUS GRANULAR EMBANKMENT	TON	109
	28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	20
	28000305	TEMPORARY DITCH CHECKS	FOOT	40
	28000400	PERIMETER EROSION BARRIER	FOOT	540
	28100207	STONE RIPRAP, CLASS A4	TON	170
	28200200	FILTER FABRIC	SQ YD	282
	40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	205
	50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
	50300225	CONCRETE STRUCTURES	CU YD	27.4
	50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	1818
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	4310
Δ	50900205	STEEL RAILING, TYPE S1	FOOT	135
	51200957	FURNISHING METAL SHELL PILES 12" X 0.250"	FOOT	424
	51202305	DRIVING PILES	FOOT	424
	51203200	TEST PILE METAL SHELLS	EACH	1
	51500100	NAME PLATES	EACH	1
	67100100	MOBILIZATION	L SUM	1
Δ	72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
*	X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.25
*	Z0046304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	123

*SEE SPECIAL PROVISIONS

Δ SPECIALTY ITEMS

TREE REMOVAL, ACRES (BY OTHERS)

ALL TREES BETWEEN THE LIMITS SHOWN WHICH INTERFERE WITH THE CONSTRUCTION SHALL BE REMOVED ONLY AS DIRECTED BY THE ENGINEER.

TREE REMOVAL, ACRES 0.1 ACRE

TREE REMOVAL (6 TO 15 UNITS DIAMETER) (BY OTHERS)

25' RT. STA. 8+85 = 10 UNIT
TOTAL = 10 UNIT

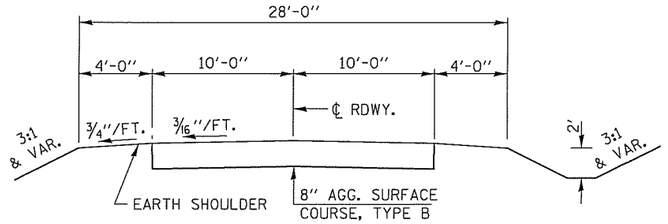
TREE REMOVAL (OVER 15 UNITS DIAMETER) (BY OTHERS)

29' LT. STA. 9+68 = 18 UNIT
TOTAL = 18 UNIT

EROSION CONTROL ITEMS

TEMPORARY EROSION CONTROL SEEDING = 20 POUND
TEMPORARY DITCH CHECKS = 40 FOOT
PERIMETER EROSION BARRIER = 540 FOOT

NOTE:
EROSION CONTROL ITEMS TO BE PLACED AS DIRECTED BY THE ENGINEER.

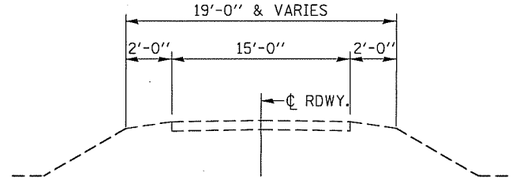


SUGGESTED FILL SECTION
CONSTRUCT AS SHOWN BY STATION CROSS SECTIONS

SUGGESTED CUT SECTION
CONSTRUCT AS SHOWN BY STATION CROSS SECTIONS

TYPICAL PROPOSED CROSS SECTION

STA. 9+00 TO STA. 11+20
TAPER TO EXISTING ROADWAY
8+70 TO 9+00 AND 11+20 TO 11+40



TYPICAL EXISITNG CROSS SECTION

GENERAL NOTES

WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED. THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKS AND MONUMENTS UNTIL THE OWNER AND AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

THE AREA TO BE SEEDED SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT OF WAY, AS DIRECTED BY THE ENGINEER.

AREA OF FINAL SEEDING = 0.25 ACRE

APPLICATION RATES USED IN QUANTITY CALCULATIONS

AGGREGATE SURFACE COURSE	2.05 TON/CU YD

MODEL: Default
FILE NAME: d:\v8_cs41\18\18-588\D387729-sht-002-sum-typ.dgn

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525
FEHR GRAHAM PROJECT NUMBER: 18-588

USER NAME = cconnor	DESIGNED - GJC	REVISED -
	DRAWN - CFC	REVISED -
PLOT SCALE = 2.000 ' / In.	CHECKED - MCB	REVISED -
PLOT DATE = 1/31/2020	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

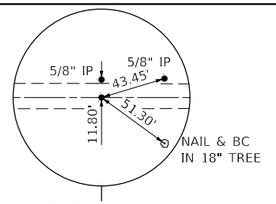
SUMMARY OF QUANTITIES, GENERAL NOTES AND TYPICAL CROSS SECTIONS

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR41D	18-28219-00-BR	LIVINGSTON	18	2
		CONTRACT NO. 87729		
	ILLINOIS	FED. AID PROJECT		

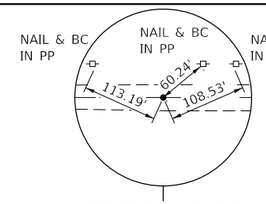
CONTROL POINTS

CP 3	CP 4
STA 8+05.54	STA 12+30.76
10.94' LT	10.73' LT
N 1590635.8474	N 1590634.6428
E 897793.2070	E 898218.4201
EL 678.07	EL 680.65

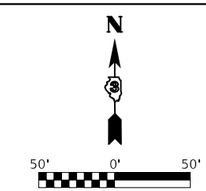


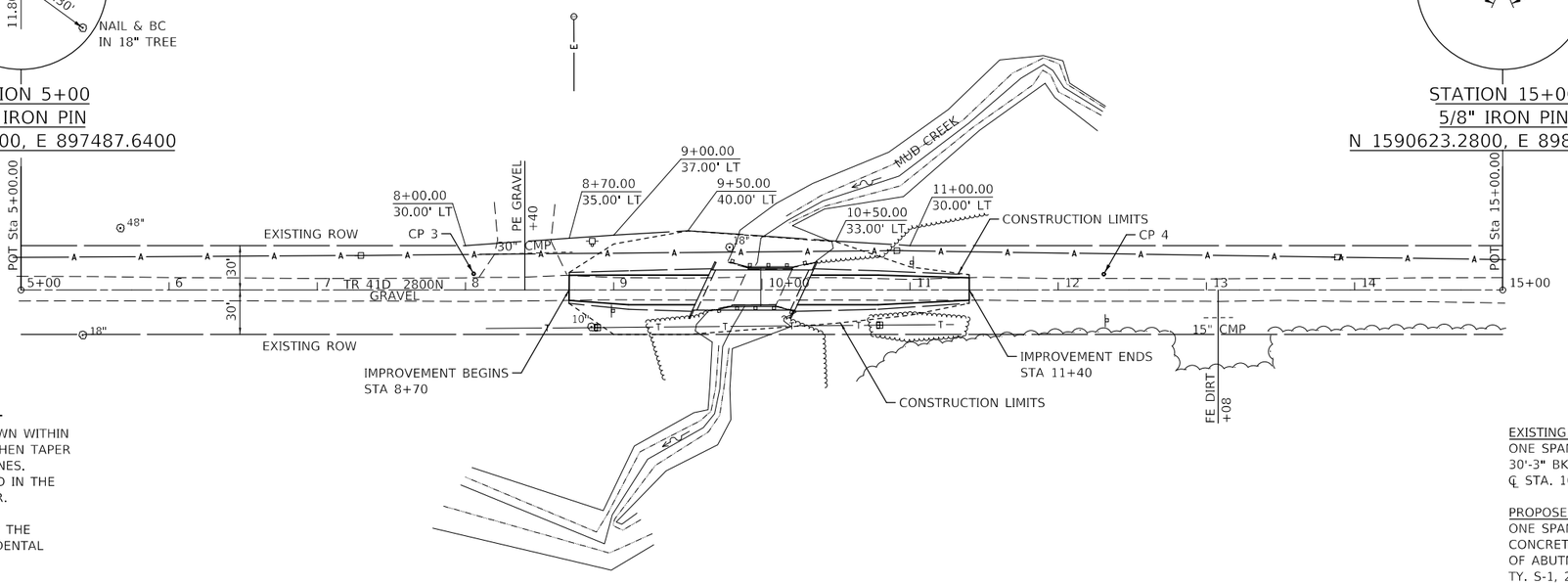
STATION 5+00
5/8" IRON PIN
N 1590625.6200, E 897487.6400

SE 1/4, SEC. 28, T30N, R5E, 3RD. P.M.



STATION 15+00
5/8" IRON PIN
N 1590623.2800, E 898487.6400





LEGEND

- SIGN
- ELECTRIC METER
- POWER POLE
- POWER POLE W/ TRANSFORMER
- TELEPHONE SPLICE BOX
- 18" TREE DECIDUOUS (SIZE)

CHANNEL EXCAVATION

THE CHANNEL SHALL BE EXCAVATED AS SHOWN WITHIN THE LIMITS OF THE PROPOSED STRUCTURE, THEN TAPER TO THE EXISTING CHANNEL AT THE R.O.W. LINES. SUITABLE EXCAVATED MATERIAL CAN BE USED IN THE EMBANKMENT AS DIRECTED BY THE ENGINEER.

EXCESS MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR. SAID DISPOSAL SHALL BE INCIDENTAL TO CHANNEL EXCAVATION.

CHANNEL EXCAVATION = 549 CU. YD.

EXISTING STRUCTURE NO. 053-3141
ONE SPAN 15" CONCRETE SLAB, 25° SKEW,
30'-3" BK. TO BK. ABUTS.
℄ STA. 10+00.00

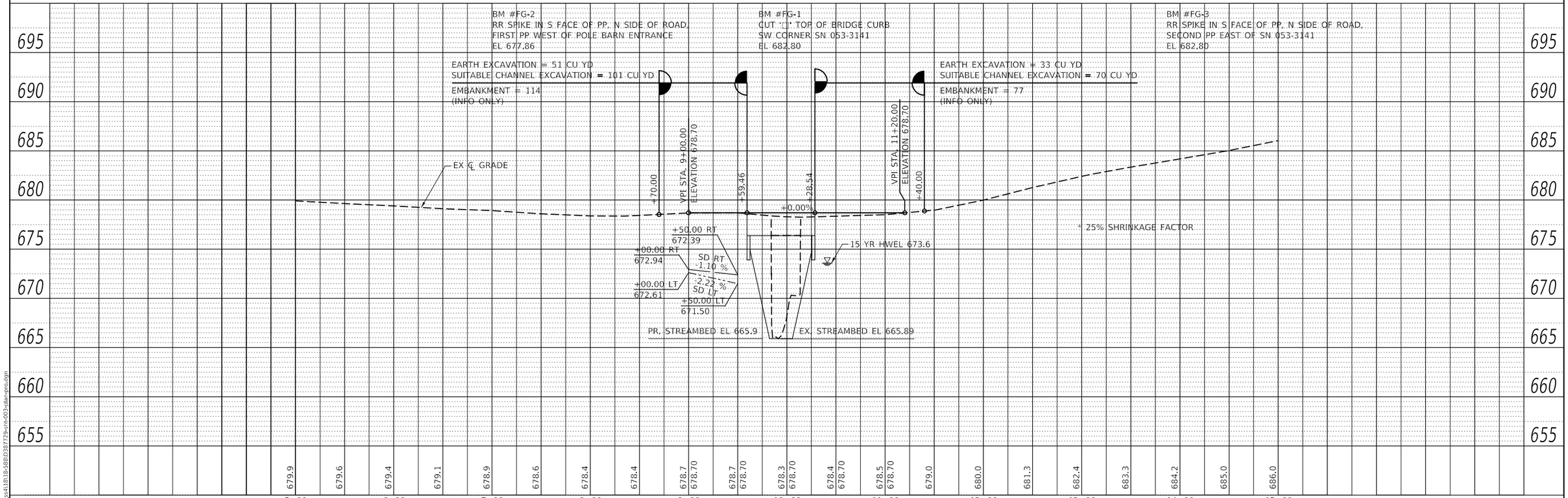
PROPOSED STRUCTURE NO. 053-4224
ONE SPAN AT 67'-4" (LOB) PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH) 69'-1" BK. TO BK. OF ABUTMENTS, 27'-0" (MIN.) O-O DECK, STEEL RAILING TY. S-1, 25° SKEW LT. FORWARD
℄ STA. 9+94.00

NE 1/4, SEC. 33, T30N, R5E, 3RD. P.M.

BM #FG-2
RR SPIKE IN S FACE OF PP, N SIDE OF ROAD, FIRST PP WEST OF POLE BARN ENTRANCE
EL 677.86

BM #FG-1
CUT "□" TOP OF BRIDGE CURB
SW CORNER SN 053-3141
EL 682.80

BM #FG-3
RR SPIKE IN S FACE OF PP, N SIDE OF ROAD, SECOND PP EAST OF SN 053-3141
EL 682.80



PLAN: SURVEYED, PLOTTED, CHECKED, ALIGNMENT CHECKED, RT. OF WAY CHECKED, CADD FILE NAME, NOTE BOOK, NO., BY, DATE

PROFILE: SURVEYED, PLOTTED, CHECKED, B.M. NOTED, STRUCTURE NOTATIONS CHKD, NOTE BOOK, NO., BY, DATE

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FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525

FEHR GRAHAM PROJECT NUMBER: 18-588

USER NAME = cconnor	DESIGNED - GJC	REVISED -
	DRAWN - CFC	REVISED -
PLOT SCALE = 100.000000 ' / in.	CHECKED - MCB	REVISED -
PLOT DATE = 1/31/2020	DATE -	REVISED -

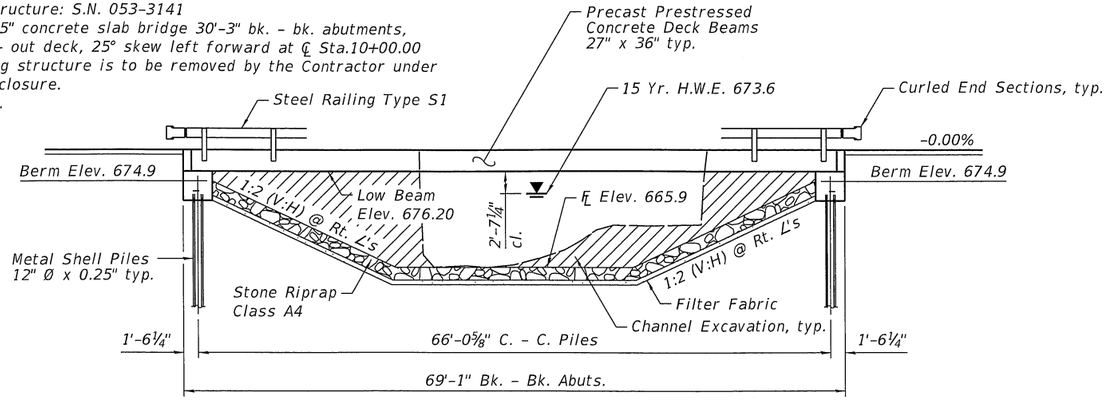
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
TR 41D / 2800 N OVER MUD CREEK

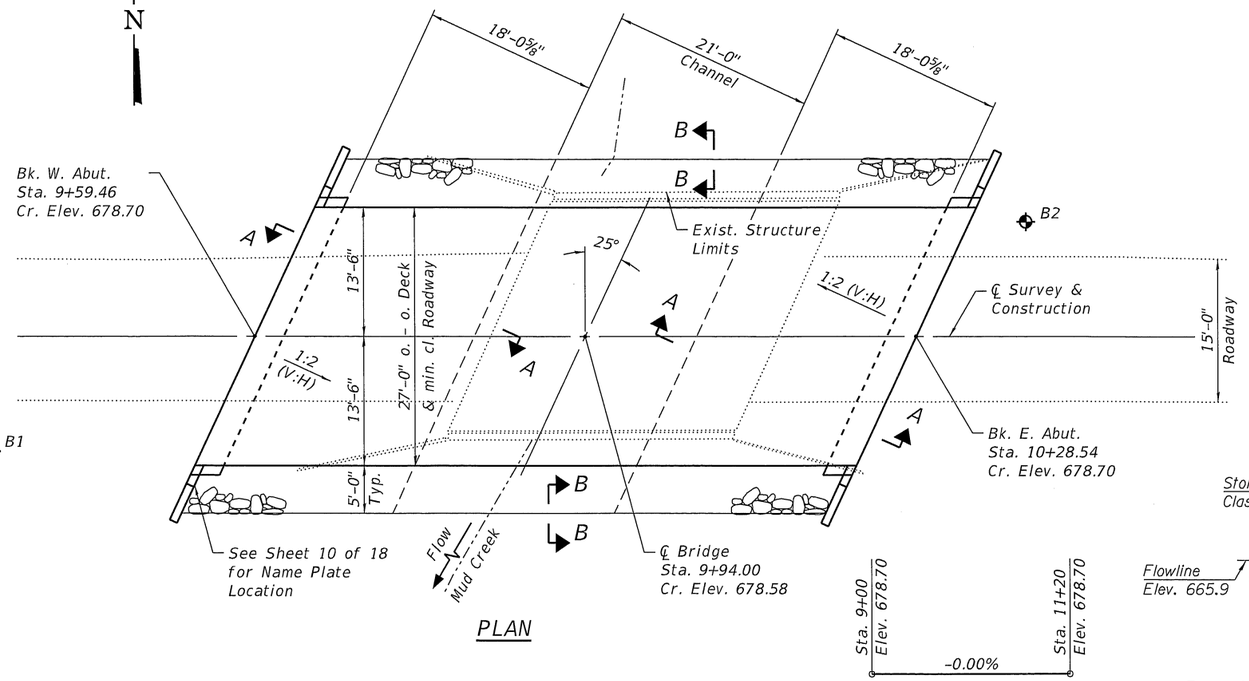
SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR41D	18-28219-00-BR	LIVINGSTON	18	3
		CONTRACT NO. 87729		
		ILLINOIS	FED. AID PROJECT	

Existing Structure: S.N. 053-3141
One span 15" concrete slab bridge 30'-3" bk. - bk. abutments, 26'-0" out - out deck, 25° skew left forward at ℄ Sta.10+00.00
The existing structure is to be removed by the Contractor under total road closure.
No Salvage.



ELEVATION



PLAN

PROFILE GRADE

(Along proposed ℄)

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2018 Interims

DESIGN STRESSES

FIELD UNITS

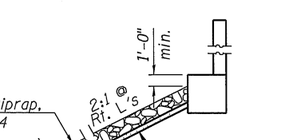
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
f'cl = 5,000 psi
fs = 270,000 psi (0.50" Ø low lax. strands)
fsi = 201,960 psi (0.50" Ø low lax. strands)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.075
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.130
Soil Site Class = C



SECTION B-B

GENERAL NOTES

Reinforcement bars designated (E) shall be epoxy coated.

The Contractor shall drive one steel HP 12x53 test pile in a permanent location at the West abutment as directed by the Engineer, before ordering the remainder of piles.

Layout of riprap may be varied in the field to suit ground conditions as directed by the Engineer.

The Standard Specifications adopted by the Department of Transportation April, 1, 2016 apply to this work.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			549
Pipe Underdrain for Structures 4"	Foot		123	123
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	1818		1818
Removal of Existing Structures	Each	1		1
Concrete Structures	Cu. Yd.		27.4	27.4
Reinforcement Bars, Epoxy Coated	Pound		4310	4310
Steel Railing, Type S1	Foot	135		135
Name Plates	Each			1
Furnishing Metal Shell Piles 12" Ø x 0.25"	Foot		424	424
Driving Piles	Foot		424	424
Test Pile Metal Shells	Each		1	1
Stone Riprap, Class A4	Ton		170	170
Porous Granular Embankment	Ton		109	109
Filter Fabric	Sq. Yd.		282	282

SECTION A-A

Excavation will not be paid for as a separate item and shall be considered as included in Stone Riprap, Class A4.

"I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the specified 'AASHTO LRFD Bridge Design Specifications'".

LICENSED STRUCTURAL ENGINEER
MARY COOMBE BLOXDORF
4859
SPRINGFIELD
STATE OF ILLINOIS

ILLINOIS STRUCTURAL NO. 4859
EXPIRES 11/30/20
DATE: 01/31/2020

MUD CREEK
BUILT 20__ BY
SUNBURY ROAD DISTRICT
LIVINGSTON COUNTY
SEC. 18-28129-00-BR
STR. NO. 053-4224 LOADING HL-93

NAME PLATE

See Std. 515001

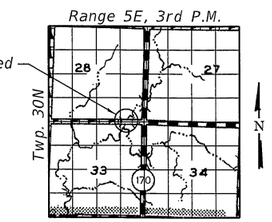
WATERWAY INFORMATION

Drainage Area = 2.11 sq. mi. Low Grade Elev. 678.5 @ Sta. 10+85

Flood	Freq. Yr.	Q C.F.S.	Opening Ft² Exist.	Opening Ft² Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	15	935	145	281	673.6	0.60	0.05	674.21	673.66
Base	100	1590	176	346	674.8	2.60	0.82	677.43	675.65
Max. Calc.	500	2210	197	392	675.6	3.00	1.33	678.59	676.94

DESIGN SCOUR ELEVATION TABLE

Event/Limit State	Design Scour Elevations (ft.) W. Abut.	Design Scour Elevations (ft.) E. Abut.	Item 113
Q100	--	--	8
Q200	--	--	
Design	673.27	673.27	
Check	673.27	673.27	



LOCATION SKETCH

GENERAL PLAN & ELEVATION
TR 41D / 2800 N OVER MUD CREEK
SECTION 18-28129-00-BR
LIVINGSTON COUNTY
STATION 9+94.00
S.N. 053-4224

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
LIVINGSTON COUNTY HWY. DEPT.
1705 S. MANLOVE STREET
PONTIAC, IL 61764

PROJECT AND LOCATION:
SECTION 18-28129-00-BR
TR 41D / 2800 N
OVER MUD CREEK
SUNBURY ROAD DISTRICT

DRAWN BY: CFC
APPROVED BY: MCB
DATE:
SCALE:

REVISIONS

REV. NO.	DESCRIPTION	DATE

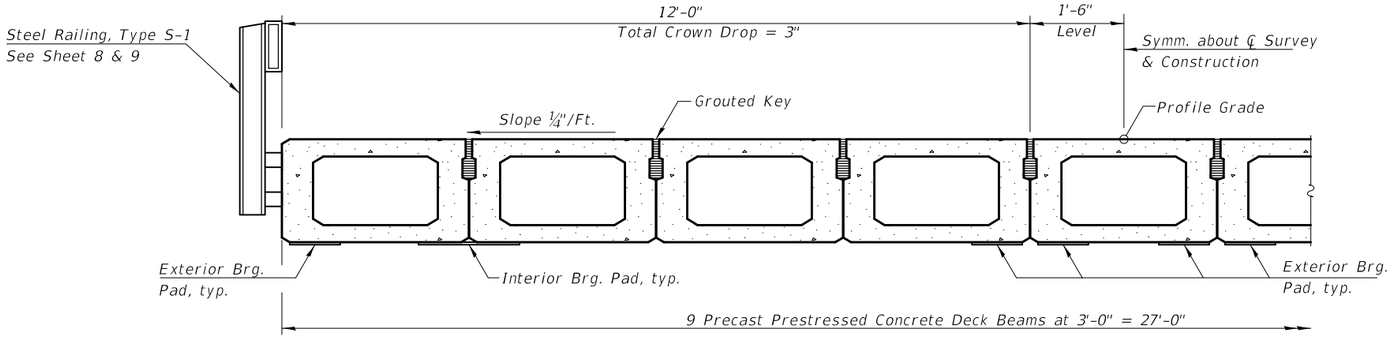
DRAWING:
GENERAL PLAN AND ELEVATION
STRUCTURE NUMBER 053-4224

SET TYPE:
g:\v81_ss4\18\18-588\bridge\0534224-87729-004-gpe.dgn

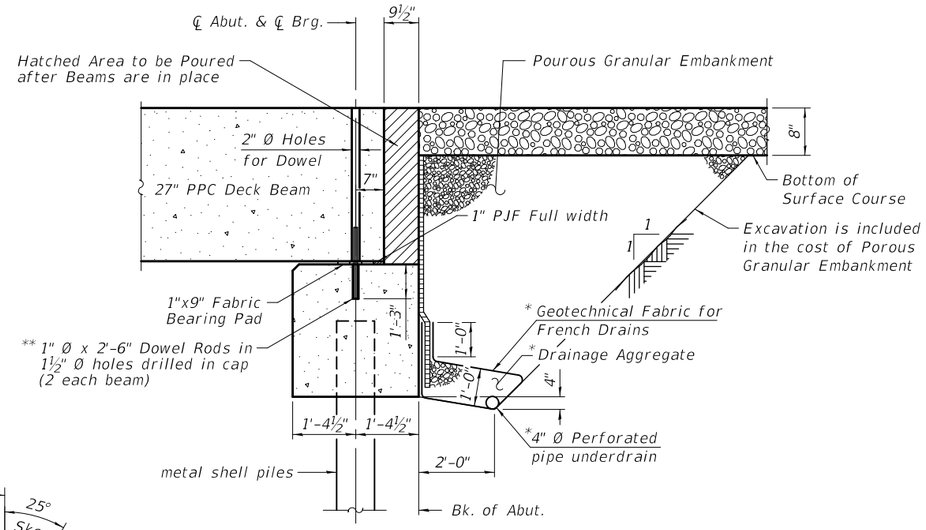
JOB NUMBER:
18-588

SHEET NUMBER:
4 of 18

PLOT DATE: 1/31/2020
cconnor

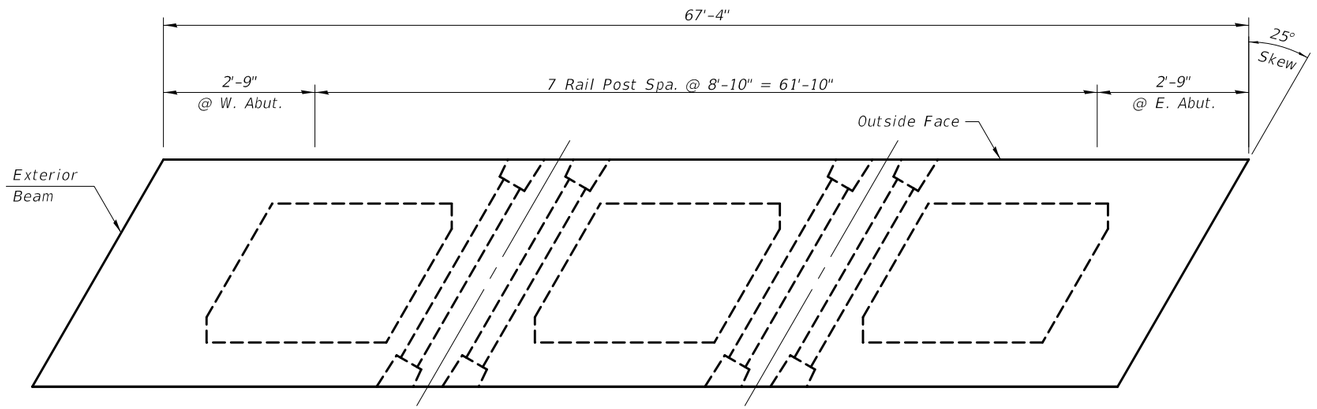


HALF CROSS SECTION



SECTION THRU ABUTMENT

(Horiz. dim. @ Rt. ℄'s)



RAIL POST SPACING PLAN

* Included in the cost of Pipe Underdrains for Structures. (See Special Provisions).

** After beams are in place, 1½" holes shall be drilled into the Substructure, and the dowel rods grouted in place and allowed to cure (Min. 24 Hrs.) prior to grouting shear key.

Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525
ILLINOIS
IOWA
WISCONSIN

PLOT DATE: 1/31/2020
oconnor

OWNER/DEVELOPER:
LIVINGSTON COUNTY HWY. DEPT.
1705 S. MANLOVE STREET
PONTIAC, IL 61764

PROJECT AND LOCATION:
SECTION 18-28129-00-BR
TR 41D / 2800 N
OVER MUD CREEK
SUNBURY ROAD DISTRICT

DRAWN BY: CFC
APPROVED BY: MCB
DATE:
SCALE:

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
SUPERSTRUCTURE
STRUCTURE NUMBER 053-4224

SET TYPE:
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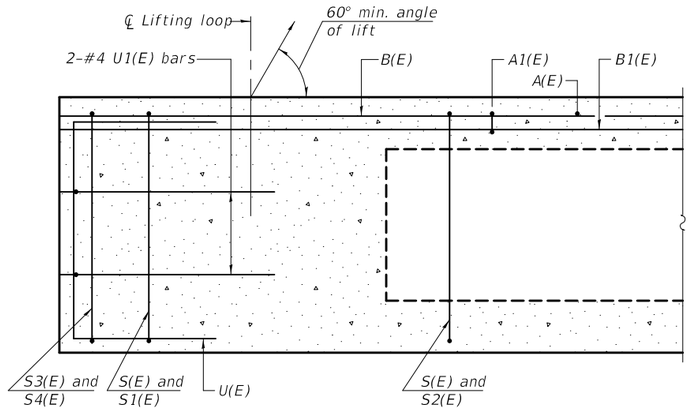
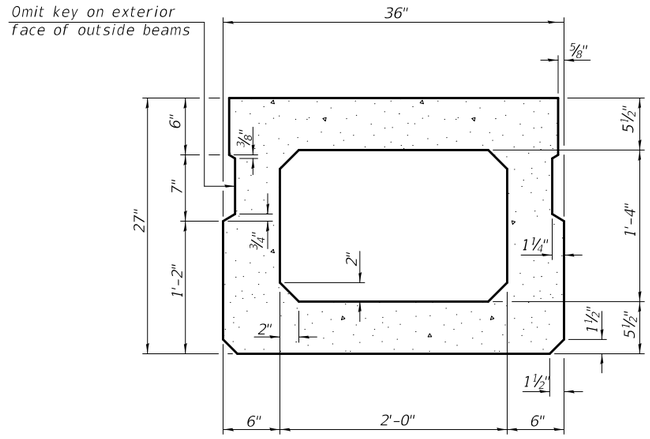
JOB NUMBER:
18-588

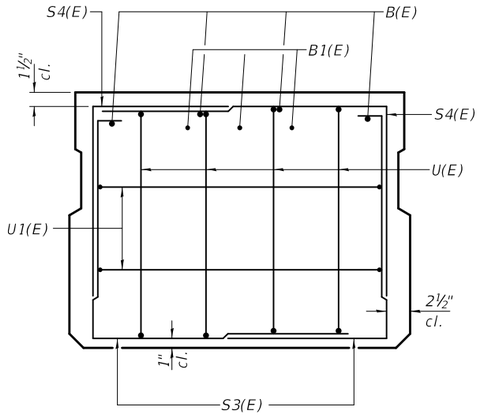
SHEET NUMBER:
5 of 18



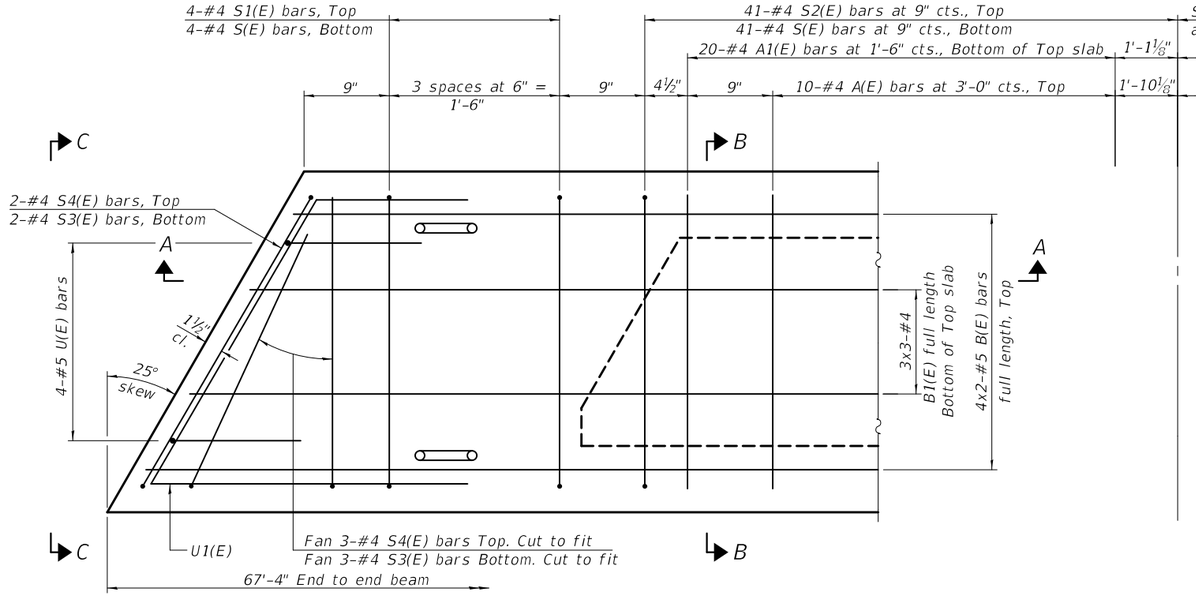
SECTION A-A



SECTION B-B
(Showing dimensions)



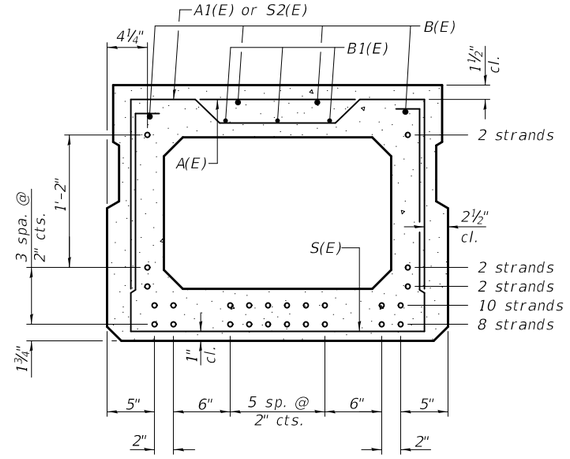
VIEW C-C



PLAN VIEW

Note: Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

MINIMUM BAR LAP
#4 bar = 1'-11"
#5 bar = 2'-6"



SECTION B-B
(Showing reinforcement and permissible strand locations)
Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	21	#4	2'-7"	—
A1(E)	41	#4	2'-10"	⌐¬
B(E)	8	#5	34'-10"	—
B1(E)	9	#4	23'-8"	—
S(E)	89	#4	7'-5"	⊔
S1(E)	8	#4	5'-11"	⌐¬
S2(E)	81	#4	6'-2"	⌐¬
S3(E)	10	#4	4'-10"	⌐⌐
S4(E)	10	#4	4'-1"	⌐⌐
U(E)	8	#5	4'-6"	⊏
U1(E)	4	#4	6'-5"	⊏

Note:
See sheet 7 of 18 for additional details and Bill of Material.

PD-2736-L 2-17-2017

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525
ILLINOIS
IOWA
WISCONSIN

PLOT DATE: 1/31/2020
oconnor

OWNER/DEVELOPER:
LIVINGSTON COUNTY HWY. DEPT.
1705 S. MANLOVE STREET
PONTIAC, IL 61764

PROJECT AND LOCATION:
SECTION 18-28129-00-BR
TR 41D / 2800 N
OVER MUD CREEK
SUNBURY ROAD DISTRICT

DRAWN BY: CFC
APPROVED BY: MCB
DATE:
SCALE:

REVISIONS

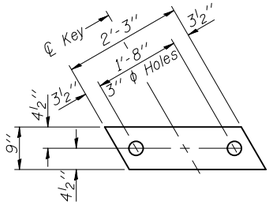
REV. NO.	DESCRIPTION	DATE

DRAWING:
27" x 36" PPC DECK BEAM
STRUCTURE NUMBER 053-4224

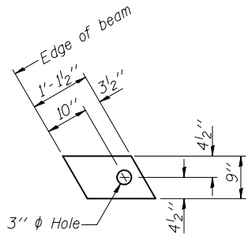
SET TYPE:
q:\v8i_ss4\18\18-588\bridge\0534224-87729-006-deck-beam.dgn

JOB NUMBER:
18-588

SHEET NUMBER:
6 of 18

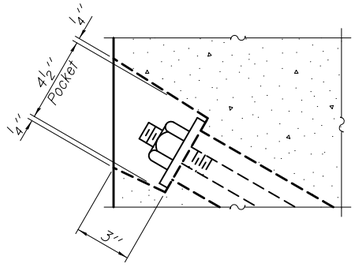


FABRIC BEARING PAD
(Interior)
(12 Req'd.)

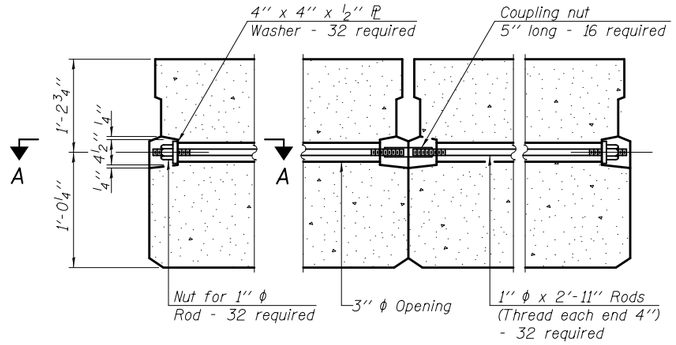


FABRIC BEARING PAD
(Exterior)
(12 Req'd.)

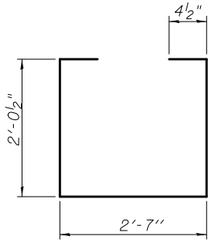
FIXED



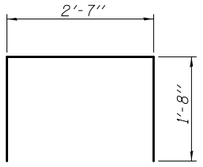
SECTION A-A



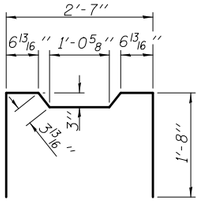
TYPICAL TRANSVERSE TIE ASSEMBLY



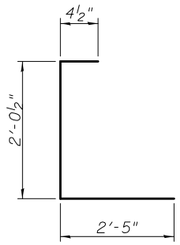
BAR S(E)



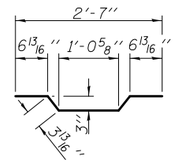
BAR S_1(E)



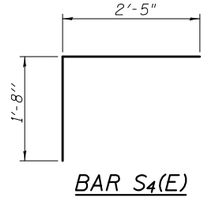
BAR S_2(E)



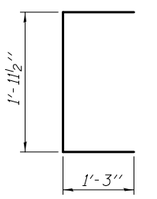
BAR S_3(E)



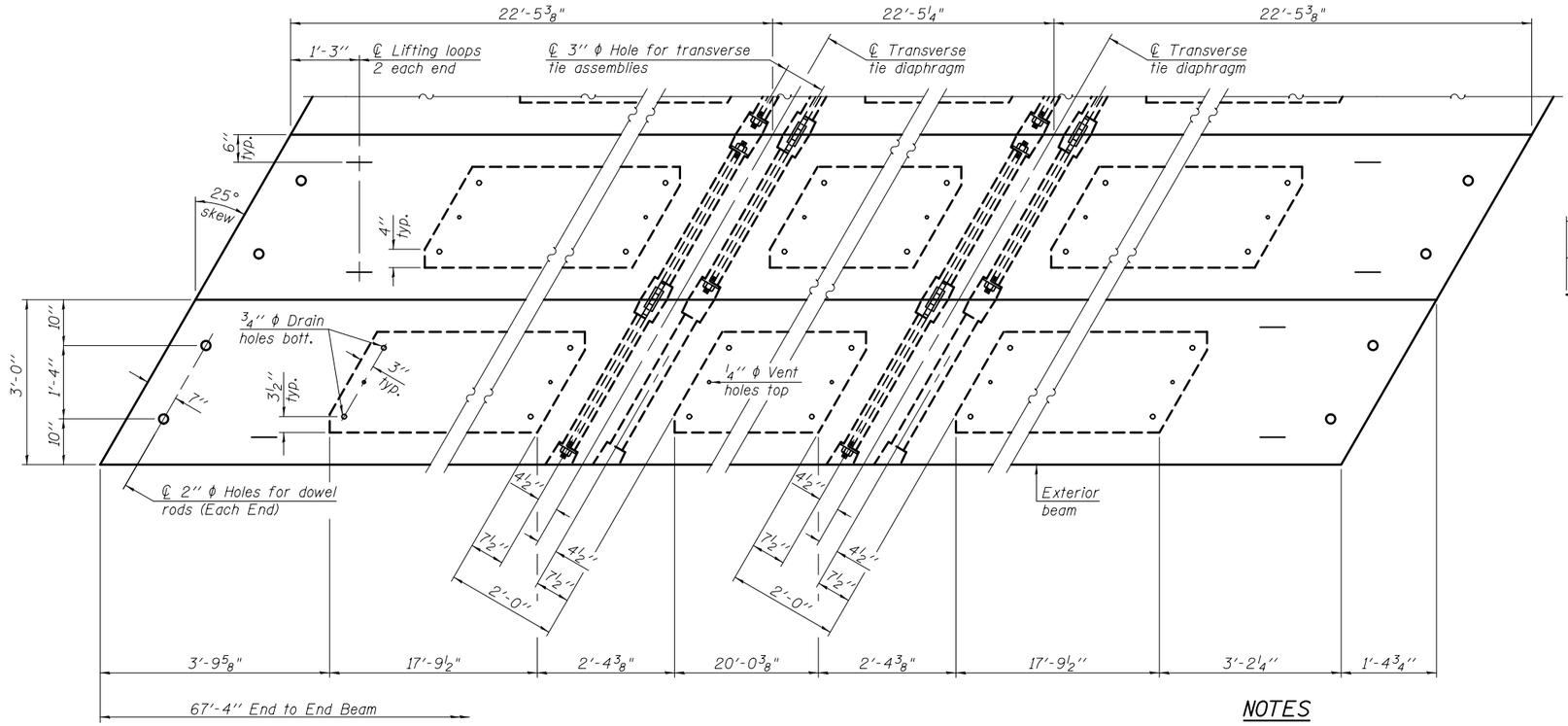
BAR A_1(E)



BAR S_4(E)

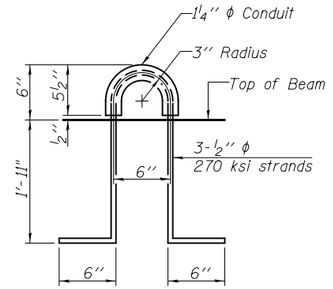


BAR U(E)

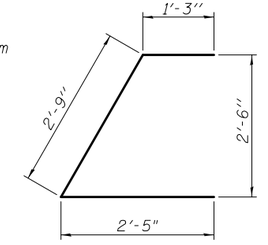


Note: Connect beams in pairs with the transverse tie configuration shown.

PLAN VIEW



LIFTING LOOP DETAIL



BAR U_1(E)

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.

The 1" ϕ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.

Two ⅛" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location (48-required).

A minimum 2½" ϕ lifting pin shall be used to engage the lifting loops during handling.

Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.

Compressive strength of prestressed concrete, f'c, shall be 6000 psi.

Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

Rail post inserts, specified elsewhere, shall be cast into the exterior face of the outside beams.

See Special Provisions for review and distribution of shop drawings.

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	1,818

Estimated Total Weight (One Beam) = 46,630 Pounds

Notes:
All bearing pads shall be 1" thick.

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525
ILLINOIS
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PLOT DATE: 1/31/2020
cconnor

OWNER/DEVELOPER:
LIVINGSTON COUNTY HWY. DEPT.
1705 S. MANLOVE STREET
PONTIAC, IL 61764

PROJECT AND LOCATION:
SECTION 18-28129-00-BR
TR 41D / 2800 N
OVER MUD CREEK
SUNBURY ROAD DISTRICT

DRAWN BY: CFC
APPROVED BY: MCB
DATE:
SCALE:

REVISIONS

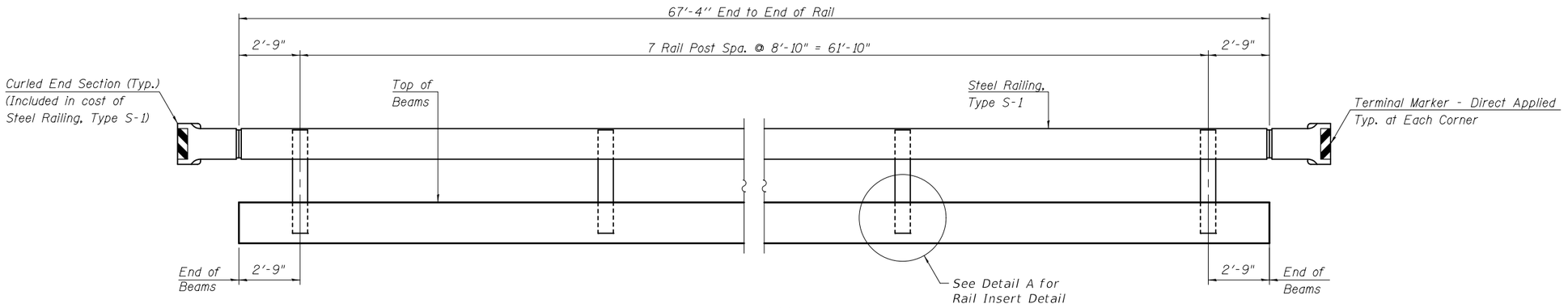
REV. NO.	DESCRIPTION	DATE

DRAWING:
27" x 36" PPC DECK BEAM DETAILS
STRUCTURE NUMBER 053-4224

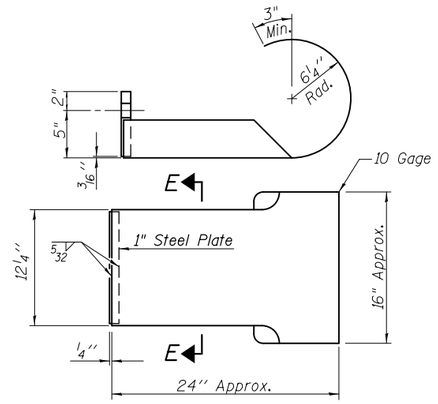
SET TYPE:
q:\v8i_as4\18\18-588\bridge\0534224-87729-007-deck-beam-det.dgn

JOB NUMBER:
18-588

SHEET NUMBER:
7 of 18

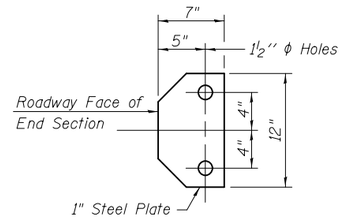


ELEVATION

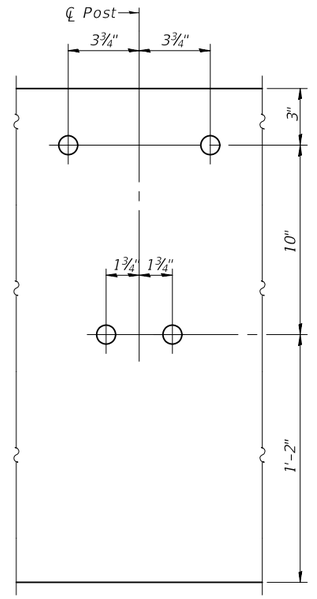


CURLED END SECTION DETAILS

(4 Required)



SECTION E-E



DETAIL A

FEHR GRAHAM
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ILLINOIS DESIGN FIRM NO. 184-003525

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OWNER/DEVELOPER:
LIVINGSTON COUNTY HWY. DEPT.
1705 S. MANLOVE STREET
PONTIAC, IL 61764

PROJECT AND LOCATION:
SECTION 18-28129-00-BR
TR 410 / 2800 N
OVER MUD CREEK
SUNBURY ROAD DISTRICT

DRAWN BY: CFC
APPROVED BY: MCB
DATE:
SCALE:

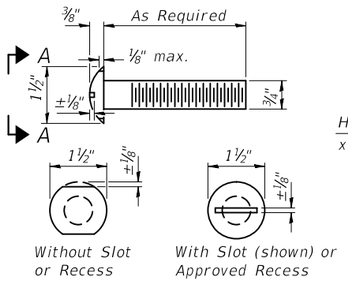
REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
STEEL RAILING, TYPE S-1
STRUCTURE NUMBER 053-4224

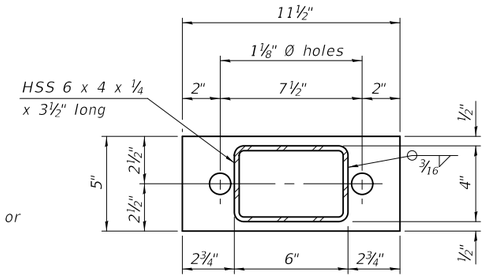
SET TYPE:
g:\v81_as4\18\18-588\bridge\0534224-87729-008-rail-001.dgn

JOB NUMBER:
18-588

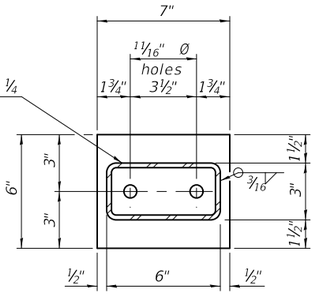
SHEET NUMBER:
8 of 18



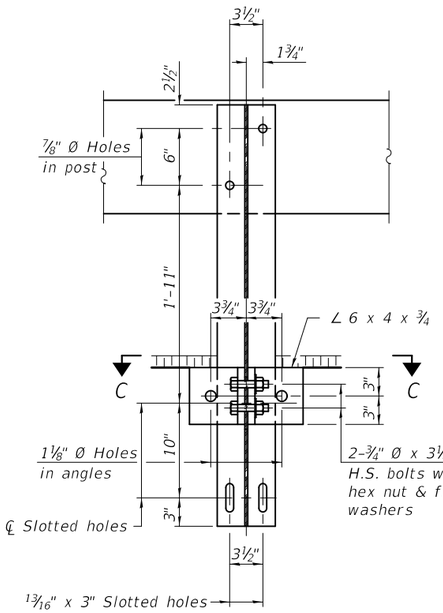
VIEW A-A
ROUND HEAD BOLT



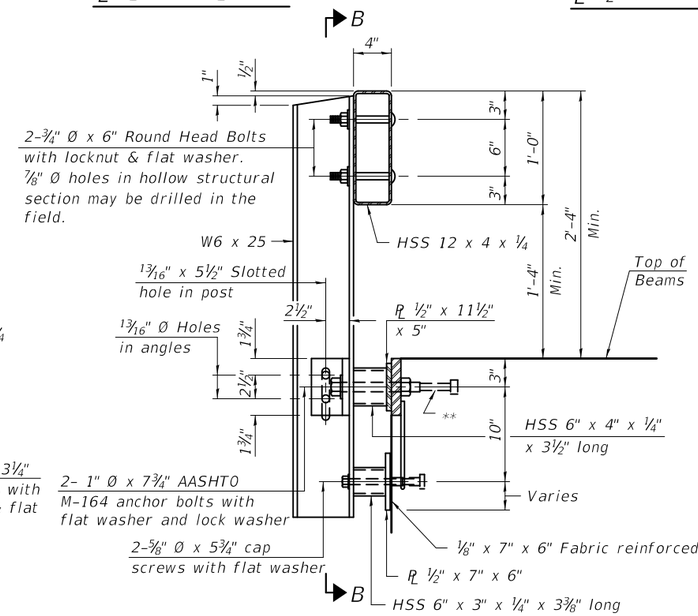
PL 1/2" x 11 1/2" x 5"



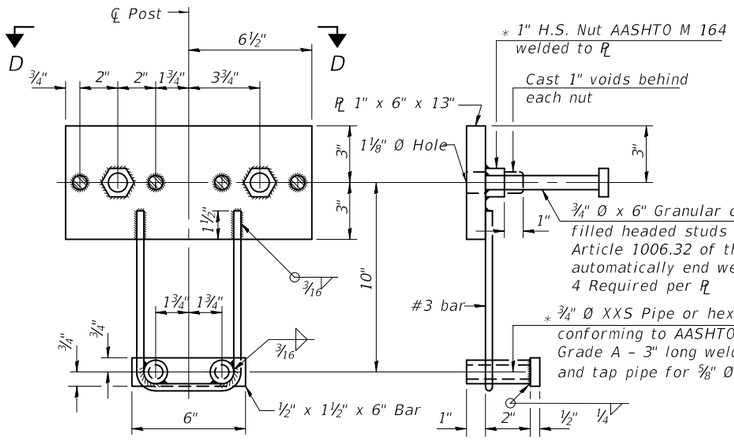
PL 1/2" x 7" x 6"



SECTION B-B



SECTION AT RAILING POST



ANCHOR DEVICE

* Threaded areas shall be plugged or blocked off during casting of beam.

SPLICE DIMENSIONS

T	D	A	B	C	E
≤ 4"	2 1/2"	1'-8"	2"	4"	2 1/2"
> 4" ≤ 6 1/2"	3 3/4"	2'-0"	2 1/2"	5 1/2"	3 1/2"
> 6 1/2" ≤ 9"	5"	2'-4"	3 1/2"	6 1/2"	9"
> 9" ≤ 13"	7"	2'-10"	4 1/2"	8 1/2"	11"
Rail Splice	1/4"	1'-8"	2"	4"	———

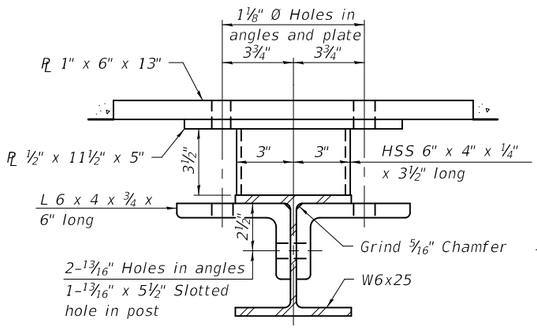
T = Total movement at expansion joint as shown on the design plans.

Notes:

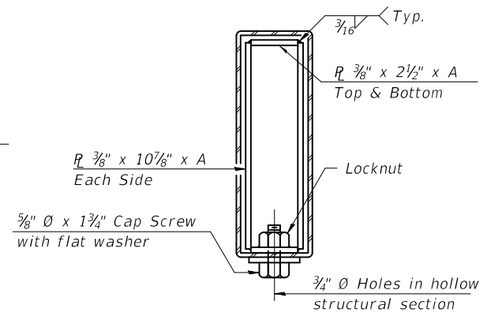
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.

All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

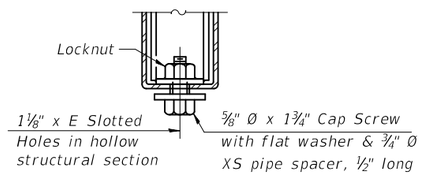
** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device. The anchorage studs may be bent down 1/2" to accommodate the top reinforcement bar placement.



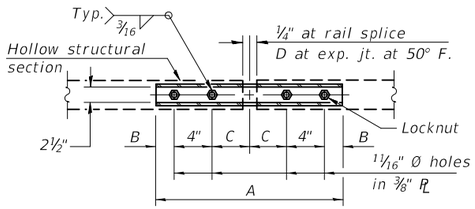
SECTION C-C



SECTIONS AT RAIL SPLICE

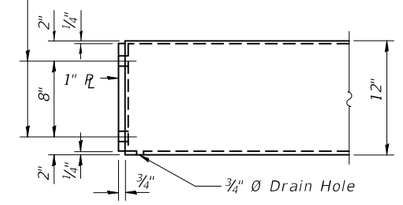


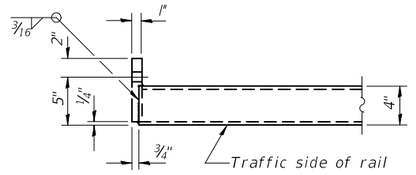
RAIL SPLICE CONNECTION AT EXPANSION JT.



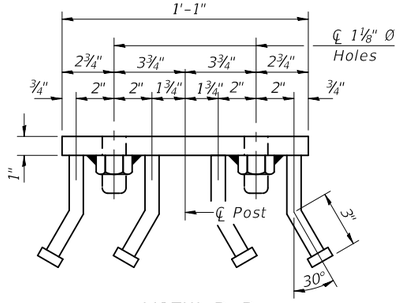
PLAN-BOTT. SPLICE PL TYPICAL

1 1/8" Ø Holes for 1" Ø x 4" Round head bolts. Provide 2 flat washers & locknuts for guard rail connection shown on Hwy Std. 631026 or BLR 27-1.





END OF RAIL DETAILS



VIEW D-D

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	135

2-17-2017 (10'-9" Maximum Post Spacing)

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
LIVINGSTON COUNTY HWY. DEPT.
1705 S. MANLOVE STREET
PONTIAC, IL 61764

PROJECT AND LOCATION:
SECTION 18-28129-00-BR
TR 41D / 2800 N
OVER MUD CREEK
SUNBURY ROAD DISTRICT

DRAWN BY: CFC
APPROVED BY: MCB
DATE:
SCALE:

REVISIONS

REV. NO.	DESCRIPTION	DATE

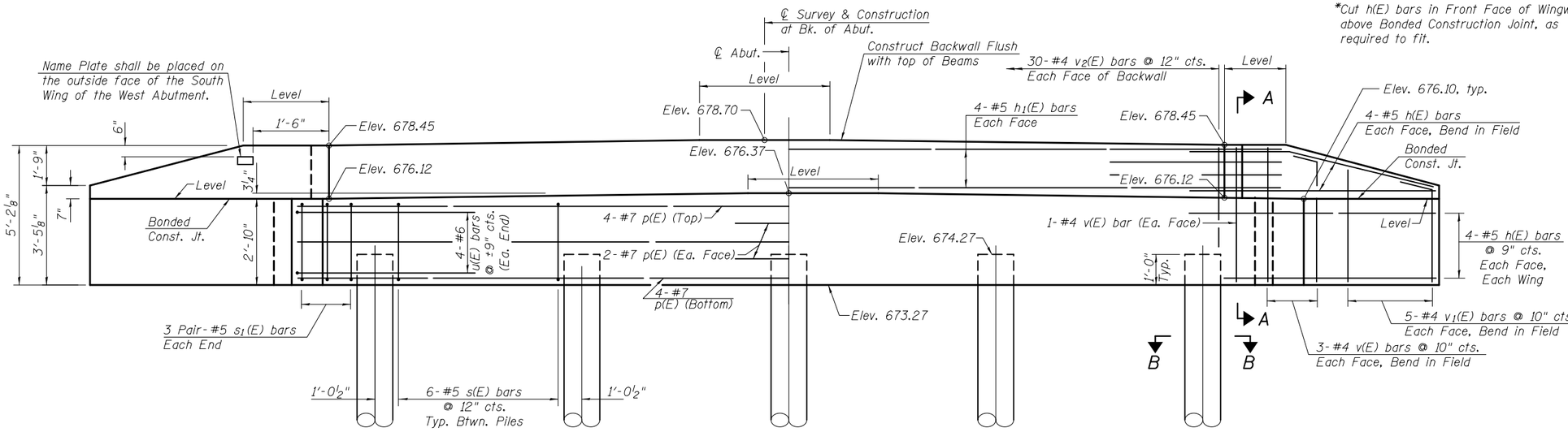
DRAWING:
STEEL RAILING, TYPE S-1 DETAILS
STRUCTURE NUMBER 053-4224

SET TYPE:
gx\v8i_as4\18\18-588\bridge\0534224-87729-009-rail-002.dgn

JOB NUMBER:
18-588

SHEET NUMBER:
9 of 18

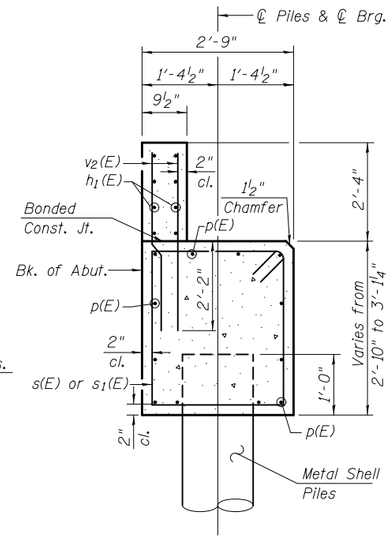
PLOT DATE: 1/31/2020
cconnor



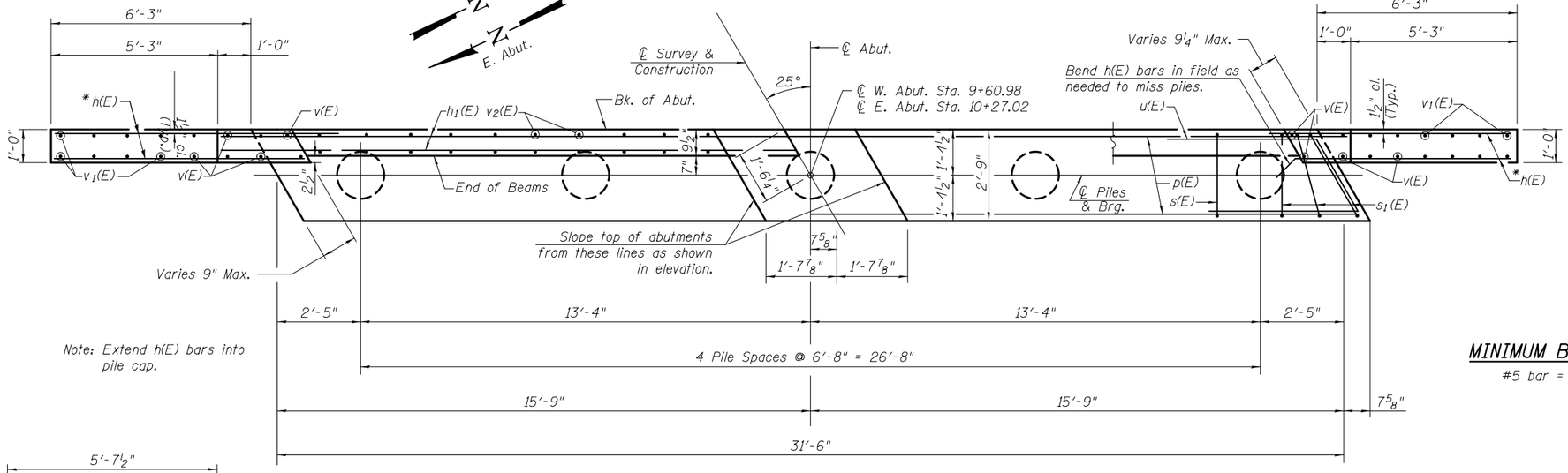
*Cut h(E) bars in Front Face of Wingwall, above Bonded Construction Joint, as required to fit.

Note: After beams are in place and dowel rods grouted, the backwall and the portions of the wingwalls above the Bonded Construction Joint shall be poured.

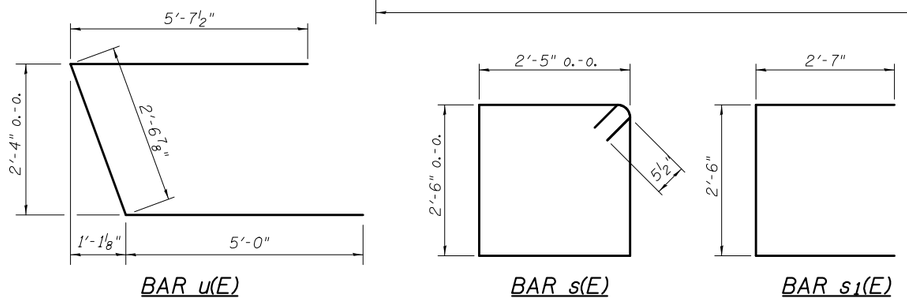
ELEVATION



SECTION THRU ABUT.



PLAN



BAR u(E)

BAR s(E)

BAR s1(E)

SECTION A-A

MINIMUM BAR LAP

#5 bar = 2'-6"

PILE DATA

Type & Size ..... Metal Shell 12"ϕ
No. Req'd. **10
Nominal Required Bearing ..... 266 k/pile
Factored Resistance Available ..... 146 k/pile
Estimated Length ..... 46 ft. W. Abut., 48 ft. E. Abut.

** Includes 1 Test Pile driven in a permanent location in the West Abutment.

TWO ABUTMENTS BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	64	#5	9'-3"	——
h1(E)	16	#5	33'-2"	——
p(E)	24	#7	31'-2"	——
s(E)	48	#5	10'-9"	□
s1(E)	24	#5	7'-8"	⊏
u(E)	16	#6	13'-3"	▱
v(E)	32	#4	4'-10"	——
v1(E)	40	#4	4'-2"	——
v2(E)	120	#4	4'-4"	——
Concrete Structures			Cu. Yd.	27.4
Reinforcement Bars, Epoxy Coated			Pound	4310
Name Plates			Each	1
Furnishing Metal Shell Piles 12"ϕ x 0.25" walls			Foot	424
Test Pile Metal Shell			Each	1
Driving Piles			Foot	424

See Sheet 11 of 18 for Pile Details.

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ILLINOIS
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WISCONSIN

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1705 S. MANLOVE STREET
PONTIAC, IL 61764

PROJECT AND LOCATION:
SECTION 18-28129-00-BR
TR 4ID / 2800 N
OVER MUD CREEK
SUNBURY ROAD DISTRICT

DRAWN BY: CFC
APPROVED BY: MCB
DATE:
SCALE:

REVISIONS

REV. NO.	DESCRIPTION	DATE

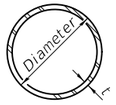
DRAWING:
ABUTMENTS
STRUCTURE NUMBER 053-4224

SET TYPE:
q:\v81_ss4\18\18-588\bridge\0534224-87729-010-abuts.dgn

JOB NUMBER:
18-588

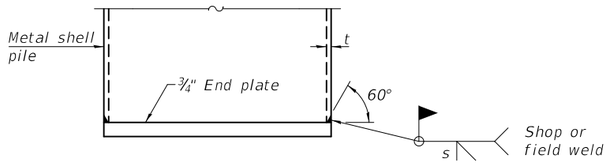
SHEET NUMBER:
10 of 18

PLOT DATE: 1/31/2020
oconnor



METAL SHELL PILE TABLE

Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd.³/ft.)
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361
PP16	0.312"	52.32	0.0478
PP16	0.375"	62.64	0.0470



END PLATE ATTACHMENT

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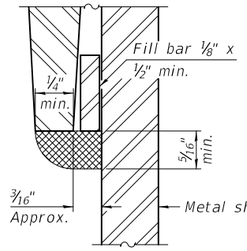
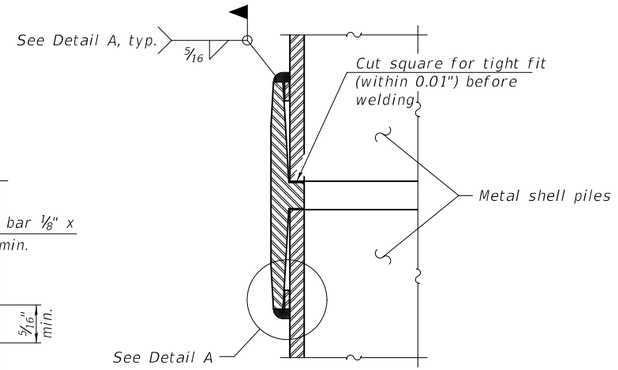
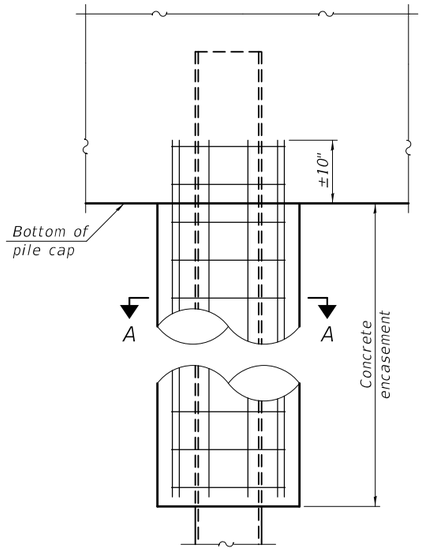


DETAIL A

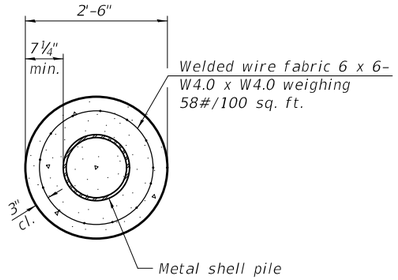


WELDED COMMERCIAL SPLICE

Notes:
The ⅛" x ½" min. fill bar may be constructed of 2 bars with a ⅛" max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.

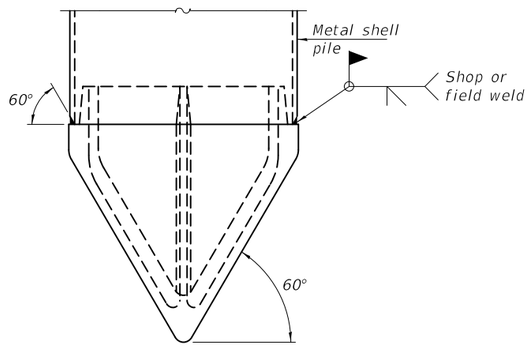


ELEVATION



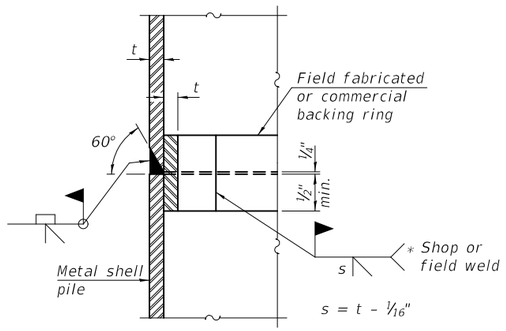
SECTION A-A

INDIVIDUAL PILE CONCRETE ENCASEMENT AT PIERS



PILE SHOE ATTACHMENT

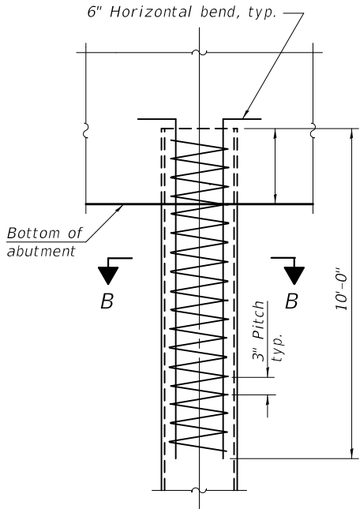
(When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld).



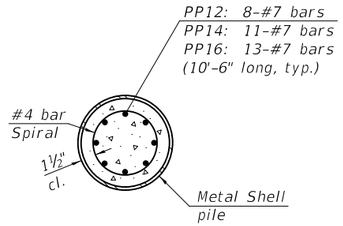
$s = t - 1/16"$

COMPLETE PENETRATION WELD SPLICE

* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



ELEVATION



SECTION B-B

REINFORCEMENT AT ABUTMENTS

Note:
The metal shell piles shall be according to Article 1006.05 of the Standard Specifications.

F-MS 8-11-2017

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS
IOWA
WISCONSIN

PLOT DATE: 1/31/2020
cconnor

OWNER/DEVELOPER:
LIVINGSTON COUNTY HWY. DEPT.
1705 S. MANLOVE STREET
PONTIAC, IL 61764

PROJECT AND LOCATION:
SECTION 18-28129-00-BR
TR 41D / 2800 N
OVER MUD CREEK
SUNBURY ROAD DISTRICT

DRAWN BY: CFC
APPROVED BY: MCB
DATE:
SCALE:

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
METAL SHELL PILES
STRUCTURE NUMBER 053-4224

SET TYPE:
q:\v8i_as4\18\18-588\bridge\0534224-87729-01i-piles.dgn

JOB NUMBER:
18-588

SHEET NUMBER:
11 of 18

Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

BORING LOG

Sheet 1 of 4

Client: Fehr Graham
Project Name: Section 18-28129-00-BR SN 053-3141
Project Site: Sunbury Road District
Livingston County, Illinois

Location: 12' Right Of Station 9+32

Boring No. B-1
Surface Elev. 682.30
Auger Depth 76' Rotary Depth NA
Start Date 08/17/19 Finish Date 08/17/19

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
682.30											
681.30	Aggregate		1								
680.30	Medium Brown Clay Mixed With Stone (Fill)		2								
679.30			3	1	SS	---	19	---	12		
678.30			4								
677.30			5	2	SS	1.6	12	B	20		
676.30			6								
675.30	Stiff Black And Brown Clay (Fill)		7								
674.30			8	3	SS	1.5	7	B	22		
673.30			9								
672.30			10								
671.30			11	4	SS	1.3	6	B	25		
670.30			12								
669.30			13	5	SS	1.3	7	B	24		
668.30			14								
667.30	Stiff Gray Clay Till		15								
666.30			16	6	SS	1.5	7	B	23		
665.30			17								
664.30			18	7	SS	1.4	6	B	25		
663.30			19								
662.30			20	8	SS	1.6	6	B	23		

Groundwater Data: No groundwater encountered at time of drilling.
Comments:

Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

BORING LOG

Sheet 2 of 4

Client: Fehr Graham
Project Name: Section 18-28129-00-BR SN 053-3141
Project Site: Sunbury Road District
Livingston County, Illinois

Location: 12' Right Of Station 9+32

Boring No. B-1
Surface Elev. 682.30
Auger Depth 76' Rotary Depth NA
Start Date 08/17/19 Finish Date 08/17/19

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
661.30											
660.30			22								
659.30			23	9	SS	1.6	7	B	22		
658.30			24								
657.30			25								
656.30			26	10	SS	1.7	7	B	22		
655.30			27								
654.30	Stiff Gray Clay Till		28	11	SS	1.8	7	B	23		
653.30			29								
652.30			30								
651.30			31	12	SS	1.9	8	B	21		
650.30			32								
649.30			33								
648.30			34								
647.30			35								
646.30			36	13	SS	1.8	8	B	21		
645.30			37								
644.30			38								
643.30	Very Stiff Gray Clay Till		39								
642.30			40								
641.30			41	14	SS	2.2	9	B	20		

Groundwater Data: No groundwater encountered at time of drilling.
Comments:

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
LIVINGSTON COUNTY HWY. DEPT.
1705 S. MANLOVE STREET
PONTIAC, IL 61764

PROJECT AND LOCATION:
SECTION 18-28129-00-BR
TR 410 / 2800 N
OVER MUD CREEK
SUNBURY ROAD DISTRICT

DRAWN BY: CFC
APPROVED BY: MCB
DATE:
SCALE:

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
BORING LOGS
STRUCTURE NUMBER 053-4224

SET TYPE:
q:\v8i_ss4\18\18-588\bridge\0534224-87729-012-borings-001.dgn

JOB NUMBER:
18-588

SHEET NUMBER:
12 of 18

PLOT DATE: 1/31/2020
oconnor

Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

BORING LOG

Sheet 3 of 4

Client: Fehr Graham
Project Name: Section 18-28129-00-BR SN 053-3141
Project Site: Sunbury Road District
Livingston County, Illinois

Boring No. B-1
Surface Elev. 682.30
Auger Depth 76' Rotary Depth NA
Start Date 08/17/19 Finish Date 08/17/19

Location: 12' Right Of Station 9+32

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
640.30											
639.30			43								
638.30			44								
637.30			45								
				15	SS	2.3	9	B	21		
636.30			46								
635.30			47								
634.30			48								
633.30			49								
632.30			50								
				16	SS	2.3	9	B	21		
631.30			51								
630.30	Very Stiff Gray Clay Till		52								
629.30			53								
628.30			54								
627.30			55								
				17	SS	2.4	10	B	21		
626.30			56								
625.30			57								
624.30			58								
623.30			59								
622.30			60								
				18	SS	2.6	12	B	20		
621.30			61								
620.30			62								

Groundwater Data: No groundwater encountered at time of drilling.
Comments:

Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

BORING LOG

Sheet 4 of 4

Client: Fehr Graham
Project Name: Section 18-28129-00-BR SN 053-3141
Project Site: Sunbury Road District
Livingston County, Illinois

Boring No. B-1
Surface Elev. 682.30
Auger Depth 76' Rotary Depth NA
Start Date 08/17/19 Finish Date 08/17/19

Location: 12' Right Of Station 9+32

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
619.30											
618.30			64								
617.30			65								
616.30			66	19	SS	2.8	15	B	18		
615.30			67								
614.30			68								
613.30			69								
612.30	Very Stiff Gray Clay Till		70								
611.30			71	20	SS	2.5	14	B	18		
610.30			72								
609.30			73								
608.30			74								
607.30			75								
606.30	Boring Terminated		76	21	SS	3.1	17	B	17		
605.30			77								
604.30			78								
603.30			79								
602.30			80								
601.30			81								
600.30			82								
599.30			83								

Groundwater Data: No groundwater encountered at time of drilling.
Comments:

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
LIVINGSTON COUNTY HWY. DEPT.
1705 S. MANLOVE STREET
PONTIAC, IL 61764

PROJECT AND LOCATION:
SECTION 18-28129-00-BR
TR 41D / 2800 N
OVER MUD CREEK
SUNBURY ROAD DISTRICT

DRAWN BY: CFC
APPROVED BY: MCB
DATE:
SCALE:

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
BORING LOGS
STRUCTURE NUMBER 053-4224

SET TYPE:
q:\v8i_ss4\18\18-588\bridge\0534224-87729-013-borings-002.dgn

JOB NUMBER:
18-588

SHEET NUMBER:
13 of 18

PLOT DATE: 1/31/2020
cconnor

Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

BORING LOG

Sheet 1 of 4

Client: Fehr Graham
Project Name: Section 18-28129-00-BR SN 053-3141
Project Site: Sunbury Road District
Livingston County, Illinois

Boring No. B-2
Surface Elev. 682.20
Auger Depth 76' Rotary Depth NA
Start Date 08/17/19 Finish Date 08/17/19

Location: 12' Left Of Station 10+40

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
682.20											
681.20	Aggregate		1								
680.20			2								
679.20	Stiff Black And Brown Clay (Fill)		3	1	SS	1.8	9	B	20		
678.20			4								
677.20			5	2	SS	---	---	---	---		
676.20	Concrete Fragments and Creasote Wood Pieces (Fill)		6								
675.20			7								
674.20			8	3	SS	1.3	6	B	25		
673.20	Stiff Brown Clay (Fill)		9								
672.20			10								
671.20			11	4	SS	1.4	7	B	24		
670.20			12								
669.20			13	5	SS	1.2	6	B	25		
668.20			14								
667.20	Stiff Gray Clay Till		15	6	SS	1.5	7	B	23		
666.20			16								
665.20			17								
664.20			18	7	SS	1.4	7	B	23		
663.20			19								
662.20			20	8	SS	1.3	7	B	23		

Groundwater Data: No groundwater encountered at time of drilling.
Comments:

Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

BORING LOG

Sheet 2 of 4

Client: Fehr Graham
Project Name: Section 18-28129-00-BR SN 053-3141
Project Site: Sunbury Road District
Livingston County, Illinois

Boring No. B-2
Surface Elev. 682.20
Auger Depth 76' Rotary Depth NA
Start Date 08/17/19 Finish Date 08/17/19

Location: 12' Left Of Station 10+40

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
661.20											
660.20			22								
659.20			23	9	SS	1.4	6	B	25		
658.20			24								
657.20			25	10	SS	1.4	7	B	23		
656.20			26								
655.20	Stiff Gray Clay Till		27								
654.20			28	11	SS	1.3	6	B	24		
653.20			29								
652.20			30	12	SS	1.6	7	B	22		
651.20			31								
650.20			32								
649.20			33								
648.20			34								
647.20	Medium Gray Course Sand		35	13	SS	---	18	---	10		
646.20			36								
645.20			37								
644.20			38								
643.20	Very Stiff Gray Clay Till		39								
642.20			40								
641.20			41	14	SS	2.4	8	B	22		

Groundwater Data: No groundwater encountered at time of drilling.
Comments:

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
LIVINGSTON COUNTY HWY. DEPT.
1705 S. MANLOVE STREET
PONTIAC, IL 61764

PROJECT AND LOCATION:
SECTION 18-28129-00-BR
TR 410 / 2800 N
OVER MUD CREEK
SUNBURY ROAD DISTRICT

DRAWN BY: CFC
APPROVED BY: MCB
DATE:
SCALE:

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
BORING LOGS
STRUCTURE NUMBER 053-4224

SET TYPE:
a:\v81_ss4\18\18-588\bridge\0534224-87729-014-borings-003.dgn

JOB NUMBER:
18-588

SHEET NUMBER:
14 of 18

PLOT DATE: 1/31/2020
oconnor

Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

BORING LOG

Sheet 3 of 4

Client: Fehr Graham
Project Name: Section 18-28129-00-BR SN 053-3141
Project Site: Sunbury Road District
Livingston County, Illinois

Boring No. B-2
Surface Elev. 682.20
Auger Depth 76' Rotary Depth NA
Start Date 08/17/19 Finish Date 08/17/19

Location: 12' Left Of Station 10+40

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
640.20											
639.20			43								
638.20			44								
637.20			45								
636.20			46	15	SS	2.5	8	B	23		
635.20			47								
634.20			48								
633.20			49								
632.20			50	16	SS	2.3	8	B	22		
631.20	Very Stiff Gray Clay Till		51								
630.20			52								
629.20			53								
628.20			54								
627.20			55	17	SS	2.2	8	B	23		
626.20			56								
625.20			57								
624.20			58								
623.20			59								
622.20			60	18	SS	2.3	10	B	21		
621.20			61								
620.20			62								

Groundwater Data: No groundwater encountered at time of drilling.
Comments:

Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

BORING LOG

Sheet 4 of 4

Client: Fehr Graham
Project Name: Section 18-28129-00-BR SN 053-3141
Project Site: Sunbury Road District
Livingston County, Illinois

Boring No. B-2
Surface Elev. 682.20
Auger Depth 76' Rotary Depth NA
Start Date 08/17/19 Finish Date 08/17/19

Location: 12' Left Of Station 10+40

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
619.20											
618.20			64								
617.20			65								
616.20			66	19	SS	3.3	18	B	17		
615.20			67								
614.20			68								
613.20			69								
612.20			70	20	SS	2.7	14	B	18		
611.20			71								
610.20			72								
609.20			73								
608.20			74								
607.20	Hard Gray Shaley Clay		75								
606.20			76	21	SS	4.2	28	S	18		
605.20	Boring Terminated		77								
604.20			78								
603.20			79								
602.20			80								
601.20			81								
600.20			82								
599.20			83								

Groundwater Data: No groundwater encountered at time of drilling.
Comments:

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525
ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
LIVINGSTON COUNTY HWY. DEPT.
1705 S. MANLOVE STREET
PONTIAC, IL 61764

PROJECT AND LOCATION:
SECTION 18-28129-00-BR
TR 410 / 2800 N
OVER MUD CREEK
SUNBURY ROAD DISTRICT

DRAWN BY: CFC
APPROVED BY: MCB
DATE:
SCALE:

REVISIONS

REV. NO.	DESCRIPTION	DATE

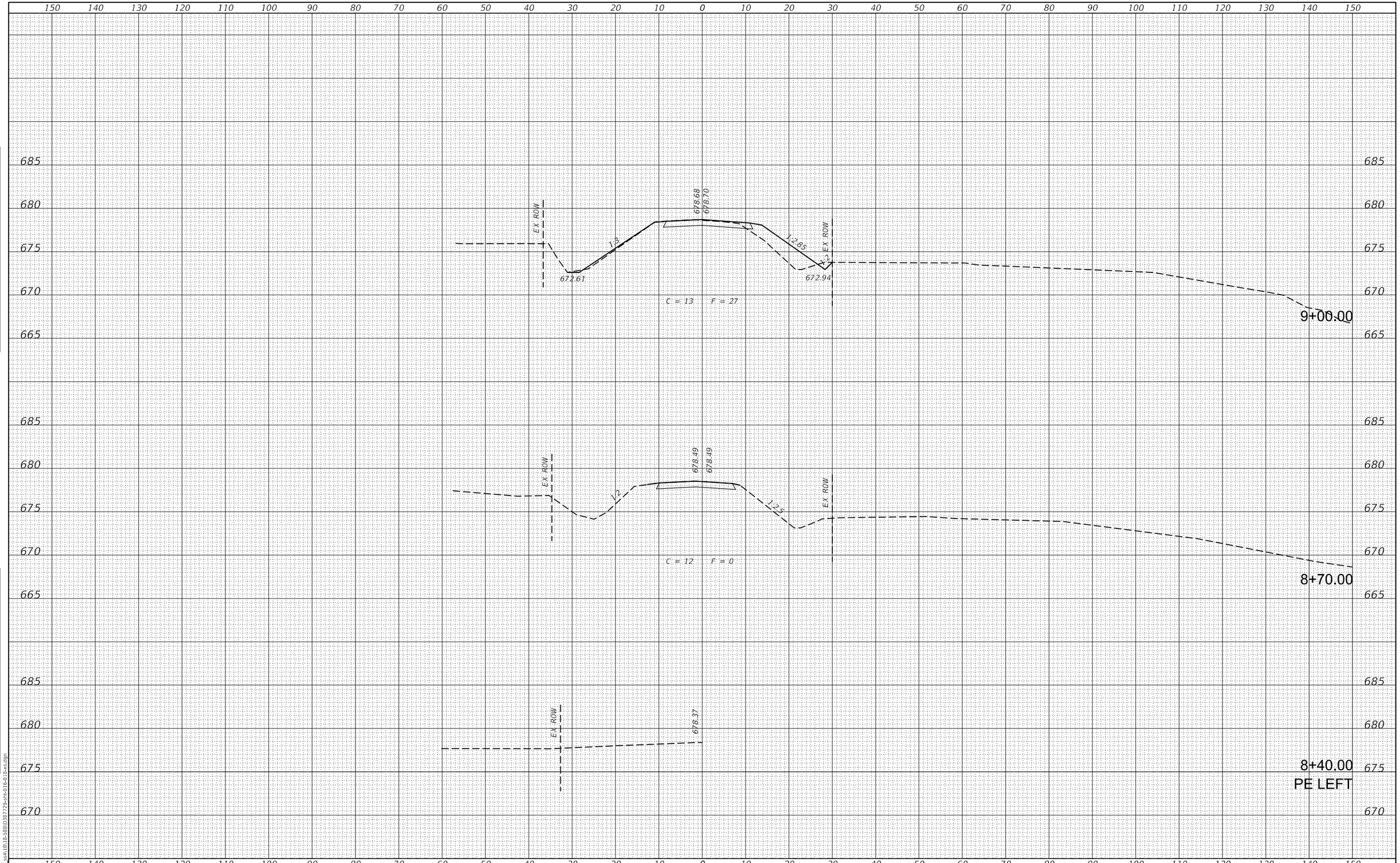
DRAWING:
BORING LOGS
STRUCTURE NUMBER 053-4224

SET TYPE:
g:\v8i_ss4\18\18-588\bridge\053424-87729-015-borings-004.dgn

JOB NUMBER: 18-588

SHEET NUMBER: 15 of 18

PLOT DATE: 1/31/2020
cconnor



USER NAME = cconnor	DESIGNED - GJC	REVISED -	
	DRAWN - CFC	REVISED -	
PLOT SCALE = 20.000000 ' / in.	CHECKED - MCB	REVISED -	
PLOT DATE = 1/31/2020	DATE -	REVISED -	

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525

FEHR GRAHAM PROJECT NUMBER: 18-588

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
TR 41D / 2800 N OVER MUD CREEK

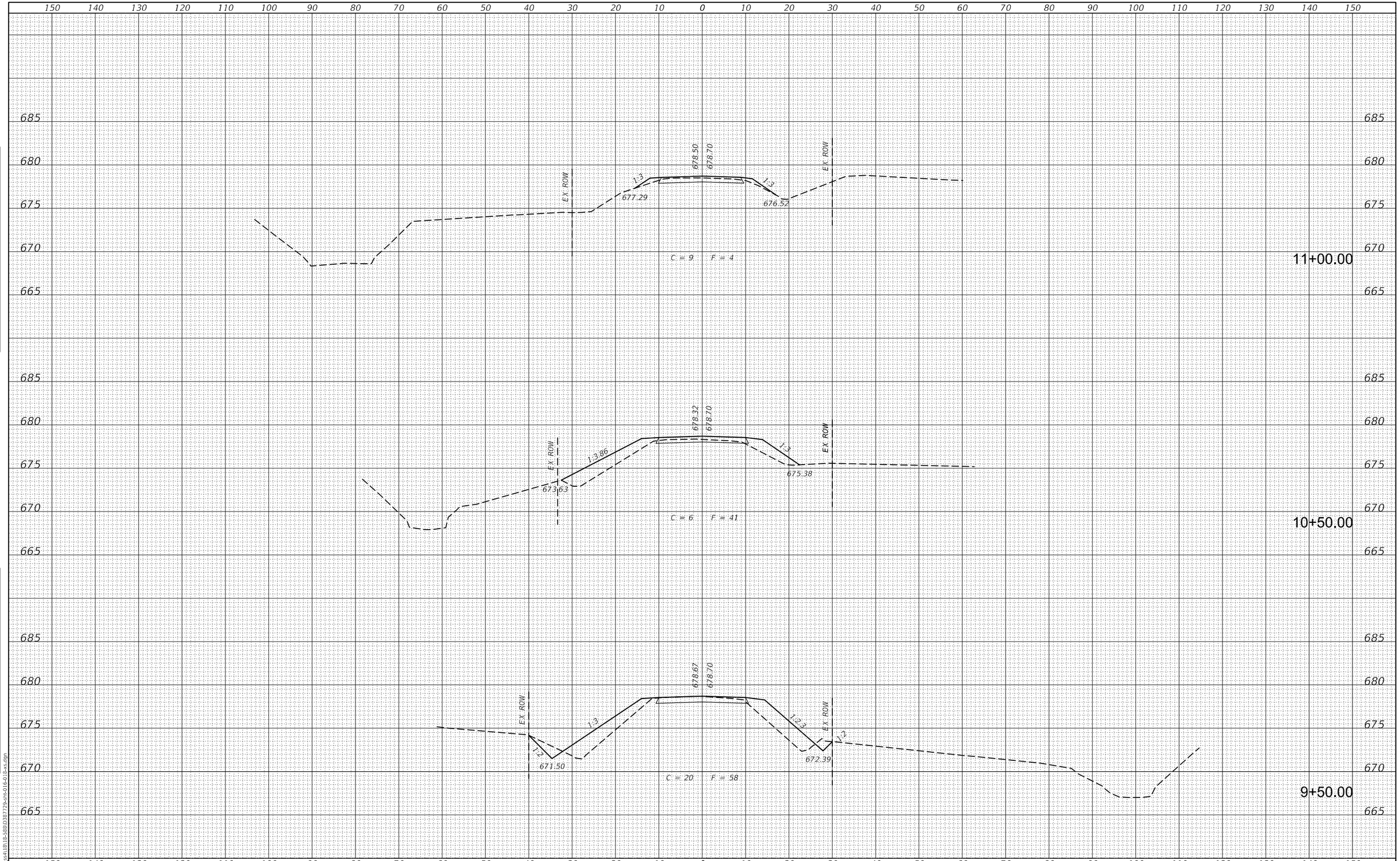
SCALE: | SHEET OF SHEETS | STA. 8+40.00 | TO STA. 9+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR41D	18-28219-00-BR	LIVINGSTON	18	16
		CONTRACT NO. 87729		
	ILLINOIS	FED. AID PROJECT		

FINAL SURVEY — NOTE BOOK — NO. — BY — DATE
SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED

ORIGINAL SURVEY — NOTE BOOK — NO. — BY — DATE
SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED

MODEL: Default
FILE NAME: q:\v8i_ss4\18118-588\D387729-sht-016-d18-xs.dgn



FINAL SURVEY	NOTE BOOK	NO.
	AREAS	AREAS CHECKED
	PLOTTED	
	SURVEYED	
	BY	
	DATE	

ORIGINAL SURVEY	NOTE BOOK	NO.
	AREAS	AREAS CHECKED
	PLOTTED	
	SURVEYED	
	BY	
	DATE	

MODEL: Default
FILE NAME: c:\v8i_ss4\18\18-588\D387729-sht-016-018-xs.dgn

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525
FEHR GRAHAM PROJECT NUMBER: 18-588

USER NAME = cconnor	DESIGNED - GJC	REVISED -
	DRAWN - CFC	REVISED -
PLOT SCALE = 20.000000 ' / in.	CHECKED - MCB	REVISED -
PLOT DATE = 1/31/2020	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
TR 41D / 2800 N OVER MUD CREEK

SCALE: | SHEET OF SHEETS | STA. 9+50.00 | TO STA. 11+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR41D	18-28219-00-BR	LIVINGSTON	18	17
		CONTRACT NO. 87729		
		ILLINOIS	FED. AID PROJECT	

FINAL SURVEY	NOTE BOOK	NO.
SURVEYED	PLOTTED	TEMPLATE
AREAS	AREAS CHECKED	

BY	DATE

ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED	PLOTTED	TEMPLATE
AREAS	AREAS CHECKED	

BY	DATE

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

690 685 680 675 670 665

EX. ROW

679.97

EX. ROW

12+00.00

685 680 675 670 665

EX. ROW

678.87

EX. ROW

C = 1.1 F = 0

11+40.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

MODEL: Default
FILE NAME: gsv8i ss4\18\18-588\03877\29-sht-016-03-axs.dgn

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525

FEHR GRAHAM PROJECT NUMBER: 18-588

USER NAME = cconnor	DESIGNED - GJC	REVISED -	
	DRAWN - CFC	REVISED -	
PLOT SCALE = 20.000000 ' / in.	CHECKED - MCB	REVISED -	
PLOT DATE = 1/31/2020	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
TR 41D / 2800 N OVER MUD CREEK

SCALE: | SHEET OF SHEETS | STA. 11+40.00 | TO STA. 12+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR41D	18-28219-00-BR	LIVINGSTON	18	18
		CONTRACT NO. 87729		
	ILLINOIS	FED. AID PROJECT		