09/23/2022 LETTING ITEM 046

CONTRACT NO. 93794

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED
SURFACE TRANSPORTATION PROGRAM BRIDGE

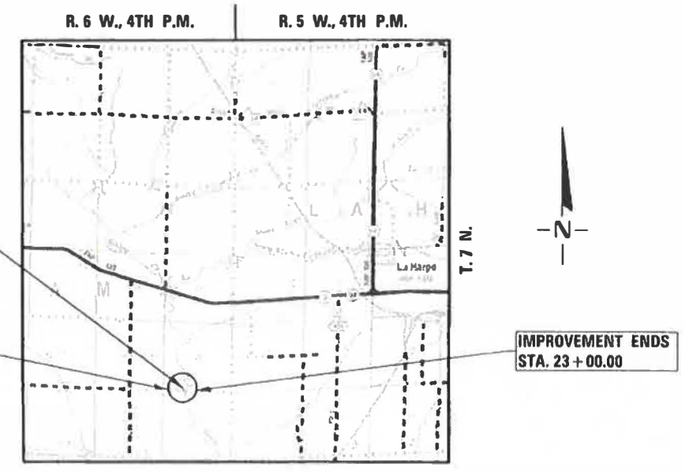
DURHAM ROAD DISTRICT
SECTION 14–07118–00–BR
T.R. 71
HANCOCK COUNTY
PROJECT # PZYZ(176)
C–96–205–17

INDEX OF SHEETS

STA. 19+40 – 3 SPAN
P.P.C. DECK BEAM (27" DEPTH);
151'–9" BK.–BK. ABUTS.;
SPANS @ 45'–0", 60'–0", 45'–0",
27'–0" RDWY. WIDTH
SKEW = 0°
EXISTING S.N. 034–4138
PROPOSED S.N. 034–4139

IMPROVEMENT BEGINS
STA. 12+00.00

IMPROVEMENT ENDS
STA. 23+00.00



LOCATION PLAN

GROSS LENGTH OF SECTION = 1100.00 FEET = 0.208 MILES
NET LENGTH OF SECTION = 1100.00 FEET = 0.208 MILES

0 1 2 3 4 5
SCALE IN MILES

LOCATION OF SECTION INDICATED THUS: –

CLASSIFICATION: LOCAL ROAD (NON–URBAN)
DESIGN VOLUME: UNDER 250 ADT
CURRENT ADT: 25 (2016)
DESIGN SPEED: 30 MPH

STANDARDS

000001–08	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
280001–07	TEMPORARY EROSION CONTROL SYSTEMS
515001–04	NAME PLATE FOR BRIDGES
542301–03	PRECAST REINFORCED CONCRETE FLARED END SECTION
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
BLR 27–1	TRAFFIC BARRIER CONTROL TERMINAL, TYPE 5A

SCALES

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

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

PASSED 6-16 20 22
ROAD DISTRICT COMMISSIONER

APPROVED 6/16 20 22
Elgin Barry
COUNTY ENGINEER

PASSED June 29 20 22
DISTRICT SIX ENGINEER OF LOCAL ROADS & STREETS

RELEASED FOR BID BASED ON LIMITED REVIEW June 20 22
REGION FOUR ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS IOWA WISCONSIN

ILLINOIS PROFESSIONAL DESIGN FIRM NUMBER: 184003525

MARY COOMBE BLOXDORF
43208
REGISTERED PROFESSIONAL ENGINEER
OF ILLINOIS

06-13-2022

ILLINOIS PROFESSIONAL NO. 43208
EXPIRES 11-30-23

*14-814

SUMMARY OF QUANTITIES

	CODE NO.	ITEM	UNIT	TOTAL QUANTITY
#	20100500	TREE REMOVAL ACRES	ACRE	2.1
	20200100	EARTH EXCAVATION	CU YD	2464
	20300100	CHANNEL EXCAVATION	CU YD	844
	20400800	FURNISHED EXCAVATION	CU YD	10291
	28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	235
	28000305	TEMPORARY DITCH CHECKS	FOOT	1260
	28000400	PERIMETER EROSION BARRIER	FOOT	1794
•	28100207	STONE RIPRAP, CLASS A4	TON	653
	28200200	FILTER FABRIC	SQ YD	932
	40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	1120
•	50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
	50300225	CONCRETE STRUCTURES	CU YD	133.4
	50300280	CONCRETE ENCASEMENT	CU YD	2.8
•	50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	4050
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	13710
#	50900205	STEEL RAILING, TYPE S1	FOOT	300
	51201600	FURNISHING STEEL PILES HP12X53	FOOT	654
	51202305	DRIVING PILES	FOOT	219
	51203600	TEST PILE STEEL HP12X53	EACH	2
	51500100	NAME PLATES	EACH	1
•	542D1069	PIPE CULVERTS, CLASS D, TYPE 2, 24"	FOOT	301
	54213669	PRECAST REINFORCED CONCRETE FLARED END SECTION 24"	EACH	4
#	63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	2
#	63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	2
	67100100	MOBILIZATION	L SUM	1
#	72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
•	X0326301	SETTING AND DRIVING PILES IN ROCK	EACH	10
•	X2011000	TEMPORARY FENCE (SPECIAL)	FOOT	770
•	X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	2.0
•	X2830495	AGGREGATE DITCH (SPECIAL)	TON	1312
•	X5021510	COFFERDAMS (SPECIAL)	EACH	2
•	X7010218	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1
•	Z0013798	CONSTRUCTION LAYOUT	L SUM	1
•	Z0076600	TRAINEES	HOURS	500
•	Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOURS	500

•SEE SPECIAL PROVISIONS

#SPECIALTY ITEMS

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.

SEEDING, CLASS 2 (SPECIAL) = 2.0 ACRE

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

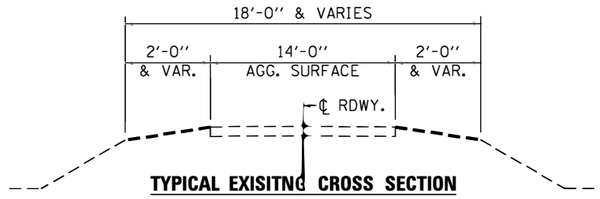
LT. STA. 13+00 TO LT. STA. 18+02 = 0.39 Ac.
RT. STA. 13+00 TO LT. & RT. STA. 19+20 = 1.13 Ac.
LT. & RT. STA. 19+82 TO RT. STA. 23+00 = 0.45 Ac.
LT. STA. 20+85 TO LT. STA. 23+00 = 0.13 Ac.

TREE REMOVAL, ACRES 2.1 ACRE

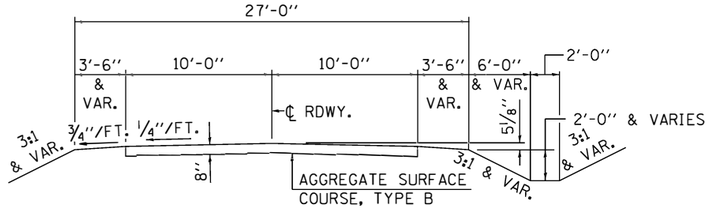
TREE REMOVAL SHALL BE RESTRICTED TO THOSE DATES BETWEEN OCTOBER 1 AND MARCH 31.

COMMITMENTS

THE TILE DRAIN OUTLET IN THE RIGHT DITCH NEAR STA. 12+00 MUST BE PRESERVED OR RELOCATED IN A MANNER TO PRESERVE IT'S FUNCTION AND AS ACCEPTABLE TO THE ENGINEER COST INCLUDED WITH EARTH EXCAVATION



TYPICAL EXISITNG CROSS SECTION



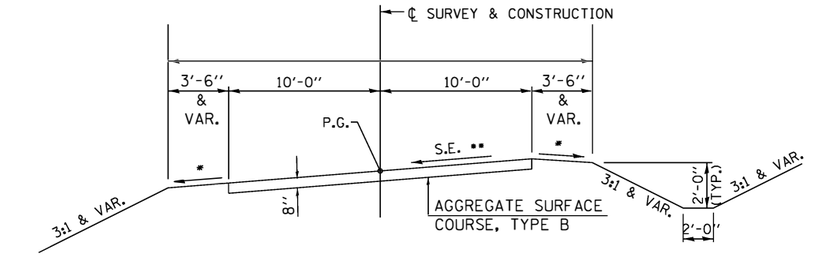
SUGGESTED FILL SECTION CONSTRUCT AS SHOWN BY STATION CROSS SECTIONS

SUGGESTED CUT SECTION CONSTRUCT AS SHOWN BY STATION CROSS SECTIONS

TYPICAL PROPOSED CROSS SECTION

STA. 14+38 TO STA. 15+13.00

TRANSITION FROM EXISTING ROADWAY WIDTH TO PROPOSED ROADWAY WIDTH TO BE CONSTRUCTED FROM STA. 12+00 TO STA. 12+50 AND STA. 22+70 TO 23+00



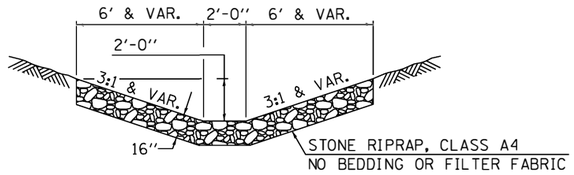
TYPICAL FILL SECTION CONSTRUCT AS SHOWN ON STATION CROSS SECTIONS.

TYPICAL CUT SECTION CONSTRUCT AS SHOWN ON STATION CROSS SECTIONS.

PROPOSED TYPICAL CROSS SECTION

MATCH EXISTING S.E. AT STATION 12+00
S.E. TRANSITION FROM STATION 12+00 TO 12+50
•6.0% STATION 12+50 TO 13+71
••3.0% STATION 12+50 TO 13+71
S.E. TRANSITION FROM STATION 13+71 TO 14+38

S.E. TRANSITION FROM STATION 15+13 TO 15+94
•6.0% STATION 15+94 TO 17+19
••4.0% STATION 15+94 TO 17+19
S.E. TRANSITION FROM STATION 17+19 TO 18+56
•6.0% STATION 18+56 TO 20+16
••2.0% STATION 18+56 TO 20+16
S.E. TRANSITION FROM STATION 20+16 TO 20+43
•6.0% STATION 20+43 TO 21+46
••4.0% STATION 20+43 TO 21+46
S.E. TRANSITION FROM STATION 21+46 TO 22+05
S.E. TRANSITION FROM STATION 22+05 TO 22+57
•6.0% STATION 22+57 TO 22+70
••3.5% STATION 22+57 TO 22+70
S.E. TRANSITION FROM STATION 22+70 TO 23+00
MATCH EXISTING S.E. AT STATION 23+00



AGGREGATE DITCH (SPECIAL)

RT. STA. 12+00 TO RT. STA. 16+00 = 477 TON
LT. STA. 12+00 TO LT. STA. 16+50 = 537 TON
LT. STA. 20+50 TO LT. STA. 23+00 = 29.8 TON
TOTAL = 1312 TON

APPLICATION RATES USED IN QUANTITY CALCULATIONS

AGGREGATE SURFACE COURSE ..... 2.05 TON/CU YD
STONE RIPRAP ..... 1.65 TON/CU YD
AGGREGATE DITCH (SPECIAL) ..... 1.65 TON/CU YD

NOTE: THE ABOVE NOTED APPLICATION RATES ARE FOR QUALITY CALCULATIONS ONLY. THE APPLICATION RATE TO BE APPLIED WILL BE DETERMINED BY THE ENGINEER AT THE TIME OF PLACEMENT.

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

AGENCY: HANCOCK COUNTY HWY. DEPT. DURHAM ROAD DISTRICT

PROJECT: SECTION 14-07118-00-BR T.R. 71 OVER THE LA MOINE RIVER

DESIGNED: G.J.C.
CHECKED: R.D.F.
DRAWN: A.D.S.
CHECKED: R.D.F.

REVISIONS

REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE

DRAWING: SUMMARY OF QUANTITIES, GENERAL NOTES AND TYPICAL CROSS SECTIONS

14-814_SUMTYP.dgn

JOB NUMBER: 14-814

SHEET NUMBER 2 of 33

EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION	SUITABLE CHANNEL EXCAVATION	EARTH EXC * 0.75	EMBANKMENT	EARTHWORK BALANCE WASTE (+) OR FURNISHED (-)
	CU YD		CU YD	CU YD	CU YD
STA. 12+00 TO STA. 18+64.22	2200		1650	9457	-7807
STA. 20+15.87 TO STA. 23+00	264		198	3000	-2802
PROPOSED BRIDGE		424	318		318
TOTAL=	2464				-10291

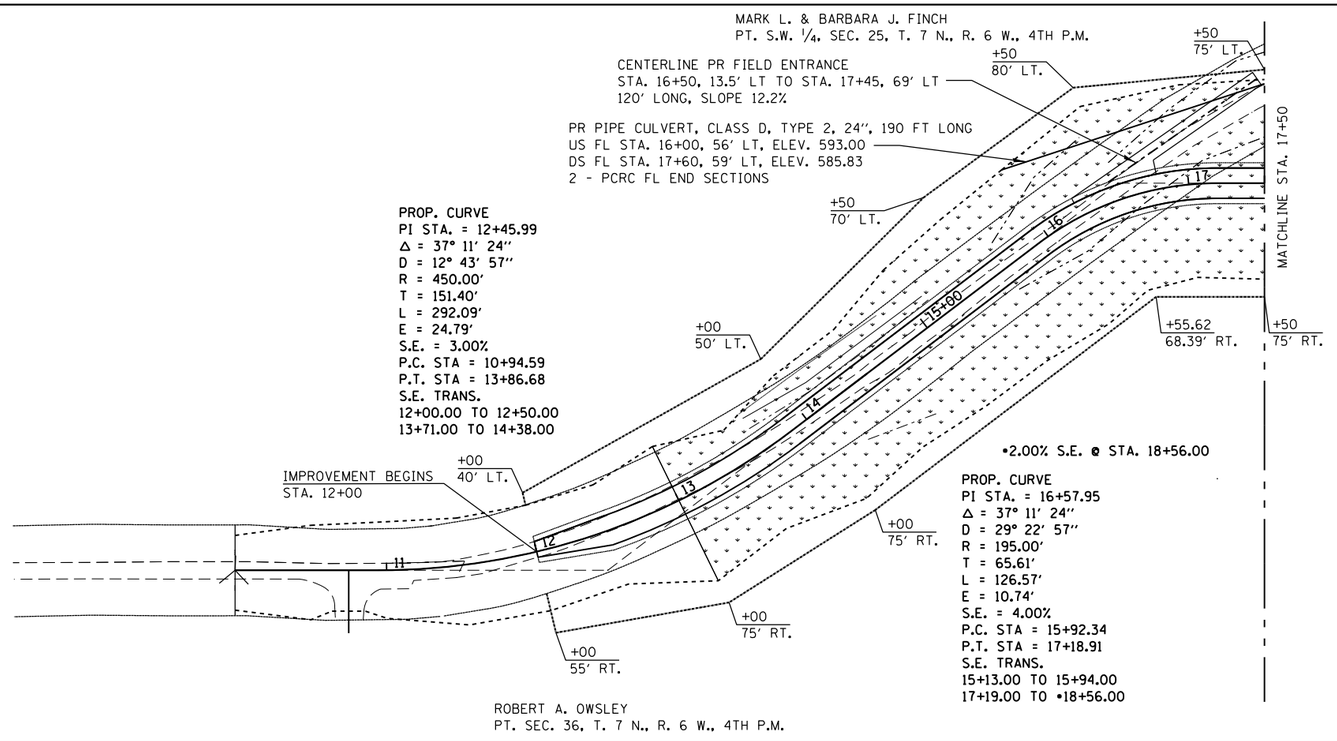
1. ESTIMATED SHRINKAGE FACTOR = 25%.
2. APPROXIMATE EMBANKMENT QUANTITY IS SHOWN FOR INFORMATION ONLY.

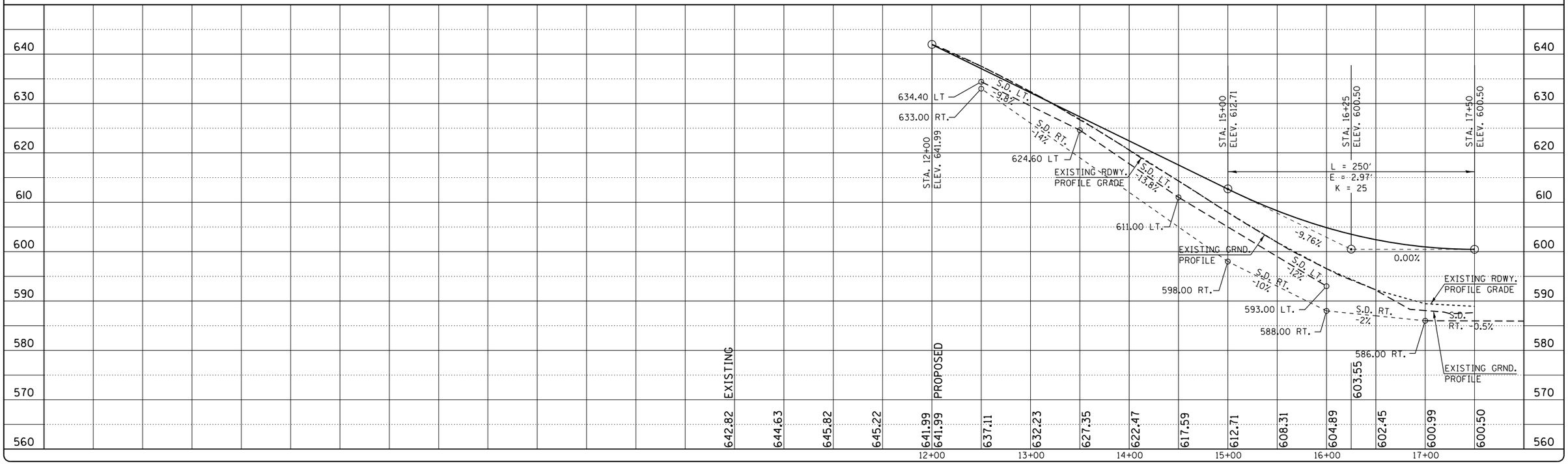
CHANNEL EXCAVATION

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 TO BE USED IN THE EMBANKMENT AS DIRECTED BY THE ENGINEER.

CHANNEL EXCAVATION = 844 CU. YD.

TREE REMOVAL





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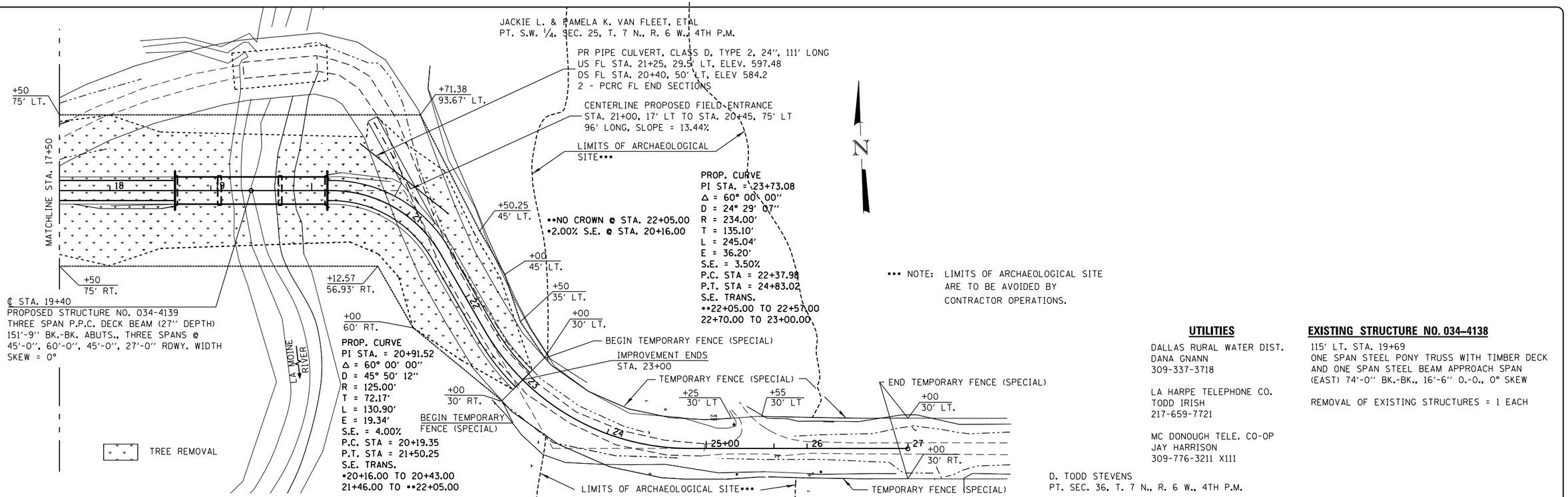
DRAWING:
PLAN & PROFILE

14-814_P&P.dgn

JOB NUMBER:
14-814

SHEET NUMBER
3 of 33



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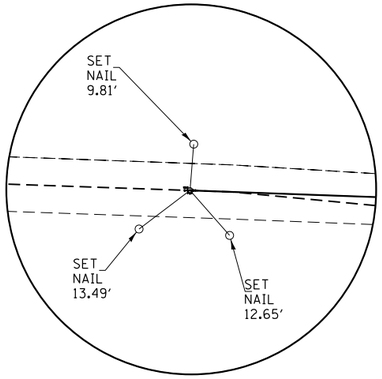
REV. NO.	DESCRIPTION	DATE

DRAWING:
PLAN & PROFILE

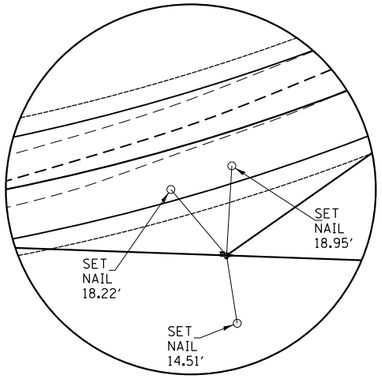
14-814_P&P.dgn

JOB NUMBER:
14-814

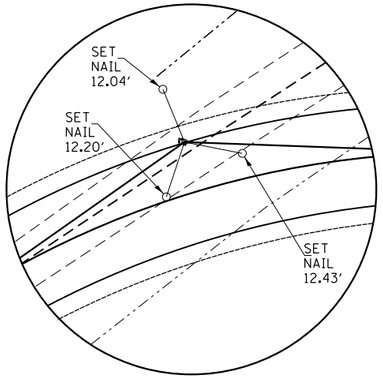
SHEET NUMBER
4 of 33



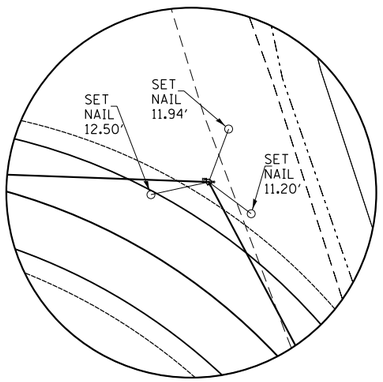
P.O.T. STA. 10 + 00.00
PT. # 217



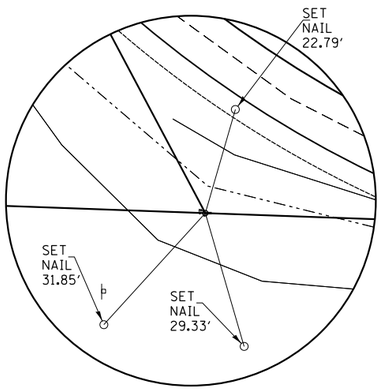
P.I. STA. 12 + 45.99
PT. # 216



P.I. STA. 16 + 57.95
PT. # 212

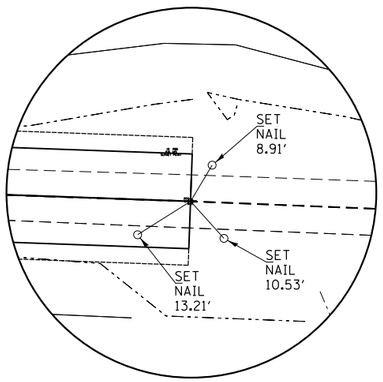


P.I. STA. 20 + 91.52
PT. # 208



P.I. STA. 23 + 73.08
PT. # 204

(INFORMATION ONLY)



P.O.T. STA. 27 + 00.01
PT. # 200

(INFORMATION ONLY)

ALIGNMENT DATA		
ALIGNMENT STA.	NORTHING	EASTING
P.O.T. STA. 10+00.00	1419647.833	2054069.984
P.I. STA. 12+45.99	1419638.980	2054315.812
P.I. STA. 16+57.95	1419882.173	2054661.495
P.I. STA. 20+91.52	1419866.400	2055099.428
P.I. STA. 23+73.08	1419605.779	2055237.637
P.O.T. STA. 27+00.01	1419593.107	2055589.496

CONTROL POINTS			
POINT	NORTHING	EASTING	NOTE
10	1419603.544	2055585.398	5/8'' IRON PIN
11	1419614.363	2055376.177	5/8'' IRON PIN
16	1419762.756	2054508.045	5/8'' IRON PIN
17	1419633.484	2054221.600	5/8'' IRON PIN

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IOWA
WISCONSIN

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DURHAM ROAD DISTRICT

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DRAWING:
TIES

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JOB NUMBER:
14-814

SHEET NUMBER
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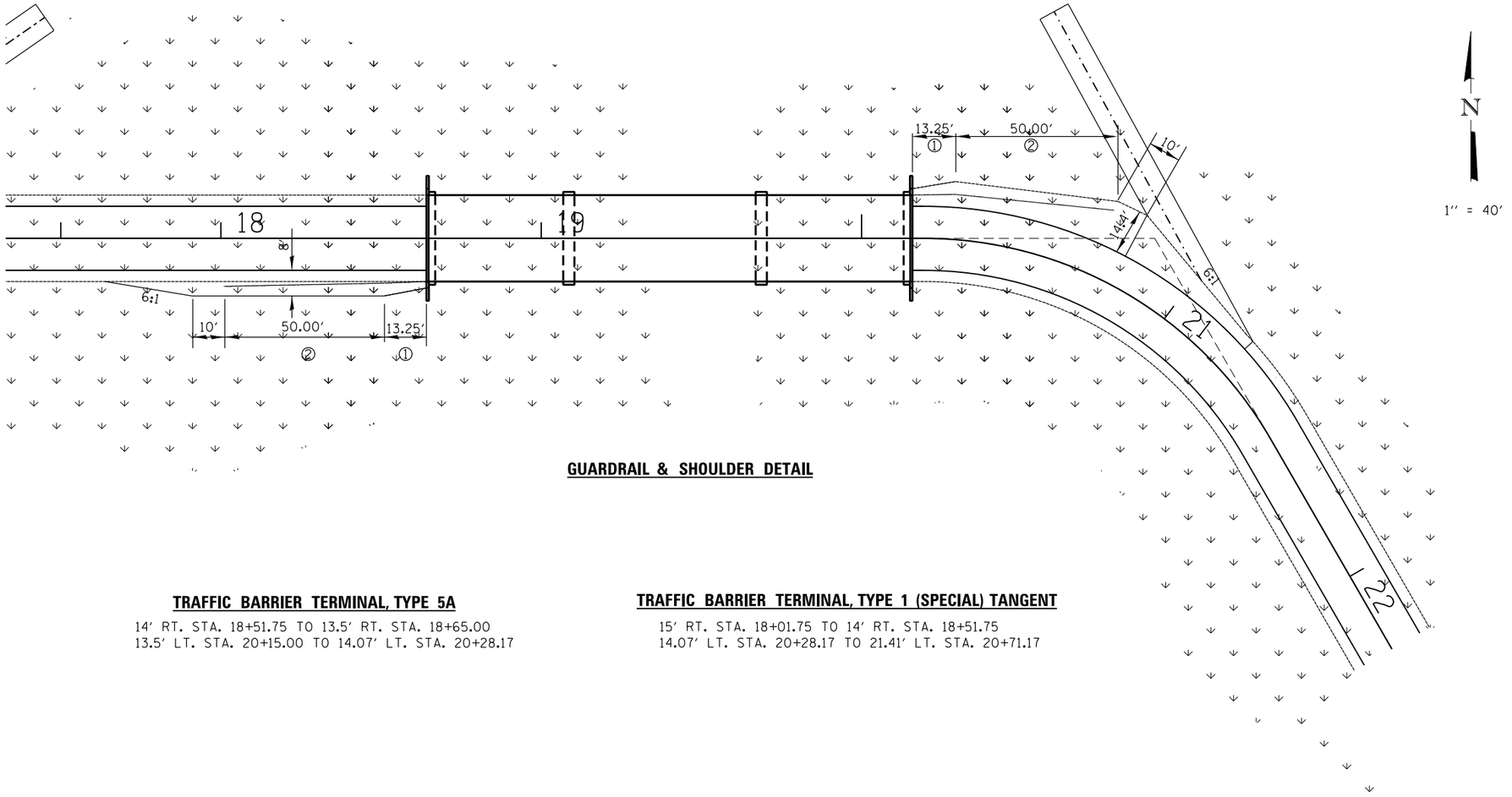

GUARDRAIL & SHOULDER DETAIL

TRAFFIC BARRIER TERMINAL, TYPE 5A

14' RT. STA. 18+51.75 TO 13.5' RT. STA. 18+65.00
13.5' LT. STA. 20+15.00 TO 14.07' LT. STA. 20+28.17

TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT

15' RT. STA. 18+01.75 TO 14' RT. STA. 18+51.75
14.07' LT. STA. 20+28.17 TO 21.41' LT. STA. 20+71.17

LEGEND

① TRAFFIC BARRIER TERMINAL, TYPE 5A

② TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT

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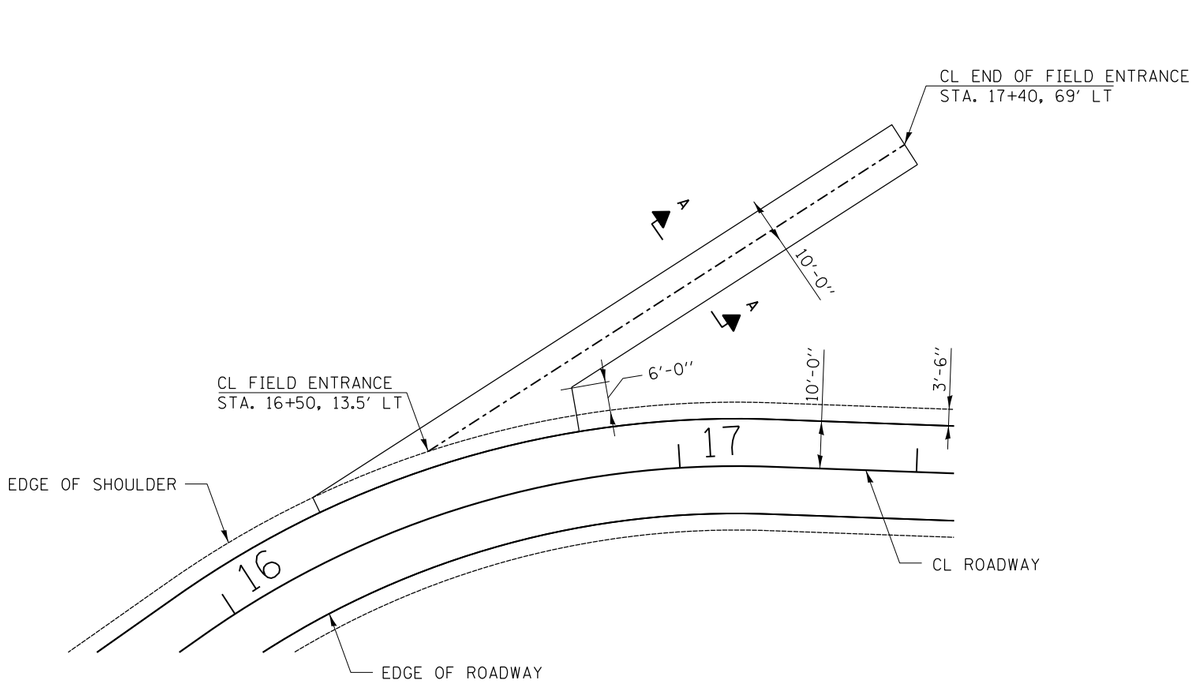
DRAWING:
SHOULDER AND GUARDRAIL DETAIL
14-814_SHLDR.dgn

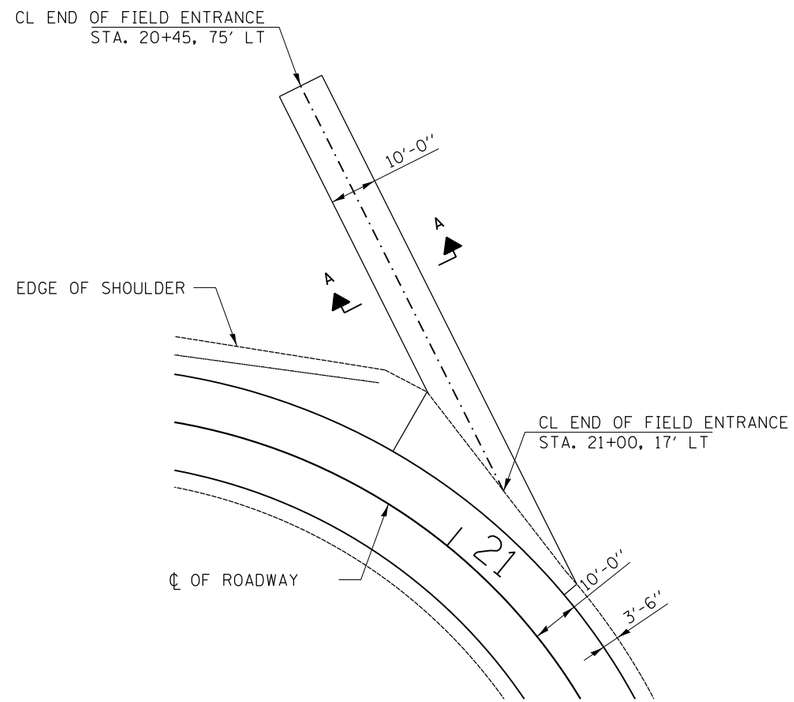
JOB NUMBER:
14-814

SHEET NUMBER
6 of 33



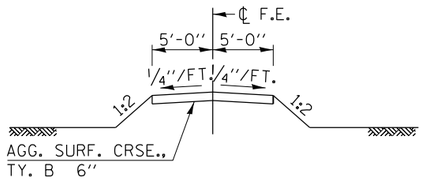
FIELD ENTRANCE DETAIL

F.E. LT. STA. 16+50.00



FIELD ENTRANCE DETAIL

F.E. LT. STA. 21+00.00



SECTION A–A

FEHR GRAHAM
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IOWA
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DRAWING:
ENTRANCES
14-814_ENTRANCES.dgn

JOB NUMBER:
14-814

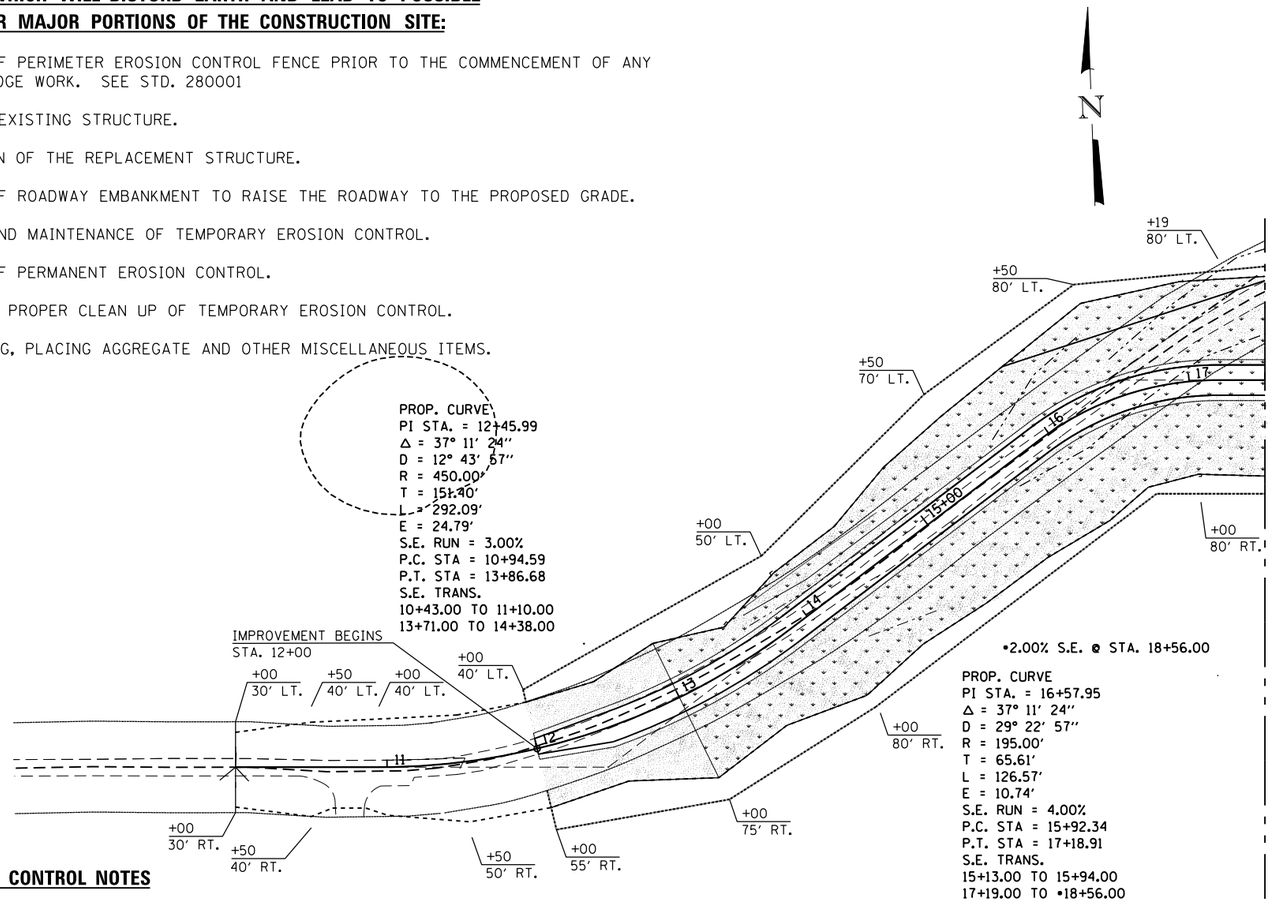
SHEET NUMBER
7 of 33

TEMPORARY DITCH CHECKS LEFT & RIGHT

LT. STA. 12+10	=	10 FOOT	RT. STA. 11+97	=	10 FOOT
LT. STA. 12+22	=	10 FOOT	RT. STA. 12+07	=	10 FOOT
LT. STA. 12+34	=	10 FOOT	RT. STA. 12+18	=	10 FOOT
LT. STA. 12+46	=	10 FOOT	RT. STA. 12+27	=	10 FOOT
LT. STA. 12+57	=	10 FOOT	RT. STA. 12+38	=	10 FOOT
LT. STA. 12+67	=	10 FOOT	RT. STA. 12+47	=	10 FOOT
LT. STA. 12+77	=	10 FOOT	RT. STA. 12+55	=	10 FOOT
LT. STA. 12+87	=	10 FOOT	RT. STA. 12+63	=	10 FOOT
LT. STA. 12+97	=	10 FOOT	RT. STA. 12+70	=	10 FOOT
LT. STA. 13+07	=	10 FOOT	RT. STA. 12+77	=	10 FOOT
LT. STA. 13+18	=	10 FOOT	RT. STA. 12+84	=	10 FOOT
LT. STA. 13+27	=	10 FOOT	RT. STA. 12+91	=	10 FOOT
LT. STA. 13+38	=	10 FOOT	RT. STA. 12+98	=	10 FOOT
LT. STA. 13+47	=	10 FOOT	RT. STA. 13+05	=	10 FOOT
LT. STA. 13+55	=	10 FOOT	RT. STA. 13+12	=	10 FOOT
LT. STA. 13+63	=	10 FOOT	RT. STA. 13+20	=	10 FOOT
LT. STA. 13+70	=	10 FOOT	RT. STA. 13+27	=	10 FOOT
LT. STA. 13+77	=	10 FOOT	RT. STA. 13+34	=	10 FOOT
LT. STA. 13+84	=	10 FOOT	RT. STA. 13+41	=	10 FOOT
LT. STA. 13+91	=	10 FOOT	RT. STA. 13+48	=	10 FOOT
LT. STA. 13+98	=	10 FOOT	RT. STA. 13+55	=	10 FOOT
LT. STA. 14+05	=	10 FOOT	RT. STA. 13+62	=	10 FOOT
LT. STA. 14+12	=	10 FOOT	RT. STA. 13+70	=	10 FOOT
LT. STA. 14+20	=	10 FOOT	RT. STA. 13+77	=	10 FOOT
LT. STA. 14+27	=	10 FOOT	RT. STA. 13+84	=	10 FOOT
LT. STA. 14+34	=	10 FOOT	RT. STA. 13+91	=	10 FOOT
LT. STA. 14+41	=	10 FOOT	RT. STA. 13+98	=	10 FOOT
LT, STA. 14+48	=	10 FOOT	RT. STA. 14+05	=	10 FOOT
LT. STA. 14+56	=	10 FOOT	RT. STA. 14+12	=	10 FOOT
LT. STA. 14+65	=	10 FOOT	RT. STA. 14+20	=	10 FOOT
LT. STA. 14+73	=	10 FOOT	RT. STA. 14+27	=	10 FOOT
LT. STA. 14+81	=	10 FOOT	RT. STA. 14+34	=	10 FOOT
LT. STA. 14+90	=	10 FOOT	RT. STA. 14+41	=	10 FOOT
LT. STA. 14+98	=	10 FOOT	RT. STA. 14+48	=	10 FOOT
LT. STA. 15+06	=	10 FOOT	RT. STA. 14+55	=	10 FOOT
LT. STA. 15+15	=	10 FOOT	RT. STA. 14+63	=	10 FOOT
LT. STA. 15+23	=	10 FOOT	RT. STA. 14+70	=	10 FOOT
LT. STA. 15+31	=	10 FOOT	RT. STA. 14+77	=	10 FOOT
LT. STA. 15+40	=	10 FOOT	RT. STA. 14+84	=	10 FOOT
LT. STA. 15+48	=	10 FOOT	RT. STA. 14+91	=	10 FOOT
LT. STA. 15+56	=	10 FOOT	RT. STA. 14+98	=	10 FOOT
LT. STA. 15+65	=	10 FOOT	RT. STA. 15+07	=	10 FOOT
LT. STA. 15+73	=	10 FOOT	RT. STA. 15+18	=	10 FOOT
LT. STA. 15+81	=	10 FOOT	RT. STA. 15+27	=	10 FOOT
LT. STA. 15+90	=	10 FOOT	RT. STA. 15+38	=	10 FOOT
LT. STA. 15+98	=	10 FOOT	RT. STA. 15+47	=	10 FOOT
LT. STA. 16+06	=	10 FOOT	RT. STA. 15+58	=	10 FOOT
LT. STA. 16+15	=	10 FOOT	RT. STA. 15+67	=	10 FOOT
LT. STA. 16+23	=	10 FOOT	RT. STA. 15+78	=	10 FOOT
LT. STA. 16+31	=	10 FOOT	RT. STA. 15+87	=	10 FOOT
LT. STA. 16+40	=	10 FOOT	RT. STA. 15+98	=	10 FOOT
LT. STA. 16+48	=	10 FOOT	RT. STA. 16+37	=	10 FOOT
LT. STA. 16+88	=	10 FOOT	RT. STA. 16+88	=	10 FOOT
TOTAL	=	530 FOOT	TOTAL	=	530 FOOT

DESCRIPTION OF INTENDED SEQUENCE OF MAJOR CONSTRUCTION ACTIVITIES WHICH WILL DISTURB EARTH AND LEAD TO POSSIBLE EROSION FOR MAJOR PORTIONS OF THE CONSTRUCTION SITE:

1. PLACEMENT OF PERIMETER EROSION CONTROL FENCE PRIOR TO THE COMMENCEMENT OF ANY ROAD OR BRIDGE WORK. SEE STD. 280001
2. REMOVAL OF EXISTING STRUCTURE.
3. CONSTRUCTION OF THE REPLACEMENT STRUCTURE.
4. PLACEMENT OF ROADWAY EMBANKMENT TO RAISE THE ROADWAY TO THE PROPOSED GRADE.
5. PLACEMENT AND MAINTENANCE OF TEMPORARY EROSION CONTROL.
6. PLACEMENT OF PERMANENT EROSION CONTROL.
7. REMOVAL AND PROPER CLEAN UP OF TEMPORARY EROSION CONTROL.
8. FINAL GRADING, PLACING AGGREGATE AND OTHER MISCELLANEOUS ITEMS.



GENERAL EROSION CONTROL NOTES

1. EROSION CONTROL DEVICES SHALL BE IN PLACE AND APPROVED BY THE RESIDENT ENGINEER AS TO PROPER PLACEMENT AND INSTALLATION PRIOR TO BEGINNING OTHER WORK.
2. THE RESIDENT ENGINEER WILL DETERMINE WHEN TEMPORARY EROSION CONTROL SYSTEMS SHOWN ON THE PLAN MAY BE MOVED TO A DIFFERENT LOCATION OR DELETED.
3. IN THE EVENT OF HIGH WATER AND/OR HIGH FLOW RATES THAT DAMAGE THE PERIMETER EROSION AND SEDIMENT CONTROLS, THE CONTRACTOR SHALL RETRIEVE ANY CONTROLS THAT HAVE BEEN WASHED DOWNSTREAM.
4. STRAW BALES ARE NOT ALLOWED FOR ANY USE.
5. AFTER THE VEGETATION IS ESTABLISHED IN THE DISTURBED AREA, THE CONTRACTOR SHALL:

   -REMOVE THE REMAINING SEDIMENT CONTROL ITEMS AS DIRECTED BY THE RESIDENT ENGINEER.

   -RESTORE THE AREAS DISTURBED BY THE SEDIMENT CONTROL ITEMS BY PERMANENT SEEDING MEASURES.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
TEMPORARY EROSION CONTROL SEEDING	POUND	235
PERIMETER EROSION BARRIER	FOOT	1794
TEMPORARY DITCH CHECK	FOOT	1260

TEMPORARY EROSION CONTROL:

- TEMPORARY DITCH CHECKS (SEE SCHEDULE)
- PERIMETER EROSION BARRIER

PERMANENT EROSION CONTROL:

- SEEDING CLASS 2, FERTILIZERS & MULCH, METHOD 2

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

AGENCY:
HANCOCK COUNTY HWY. DEPT.
DURHAM ROAD DISTRICT

PROJECT:
SECTION 14-07118-00-BR
T.R. 71 OVER THE
LA MOINE RIVER

DESIGNED:	G.J.C.
CHECKED:	R.D.F.
DRAWN:	A.D.S.
CHECKED:	R.D.F.

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
EROSION CONTROL PLAN
14-814_EROSION.dgn

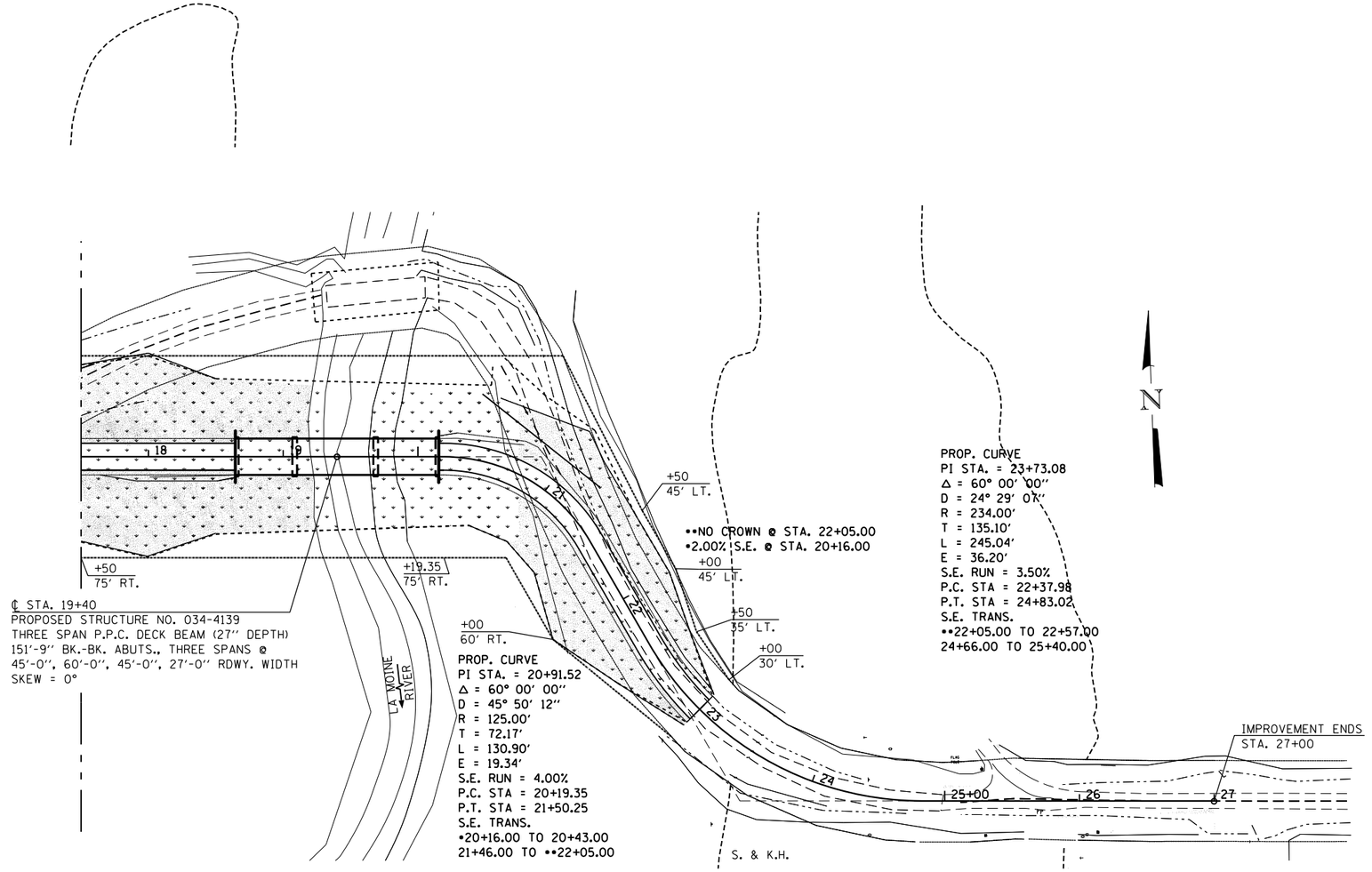
JOB NUMBER:
14-814

SHEET NUMBER
8 of 33

TEMPORARY DITCH CHECKS LEFT & RIGHT

LT. STA. 18+50	=	10 FOOT
LT. STA. 20+50	=	10 FOOT
LT. STA. 20+57	=	10 FOOT
LT. STA. 20+65	=	10 FOOT
LT. STA. 20+72	=	10 FOOT
LT. STA. 20+79	=	10 FOOT
LT. STA. 20+87	=	10 FOOT
LT. STA. 20+94	=	10 FOOT
LT. STA. 21+02	=	10 FOOT
LT. STA. 21+12	=	10 FOOT
LT. STA. 21+22	=	10 FOOT
LT. STA. 21+32	=	10 FOOT
LT. STA. 21+43	=	10 FOOT
LT. STA. 21+63	=	10 FOOT
LT. STA. 22+00	=	10 FOOT
LT. STA. 22+25	=	10 FOOT
LT. STA. 22+49	=	10 FOOT
LT. STA. 22+67	=	10 FOOT
LT. STA. 22+85	=	10 FOOT
TOTAL	=	190 FOOT

RT. STA. 18+50	=	10 FOOT
TOTAL	=	10 FOOT



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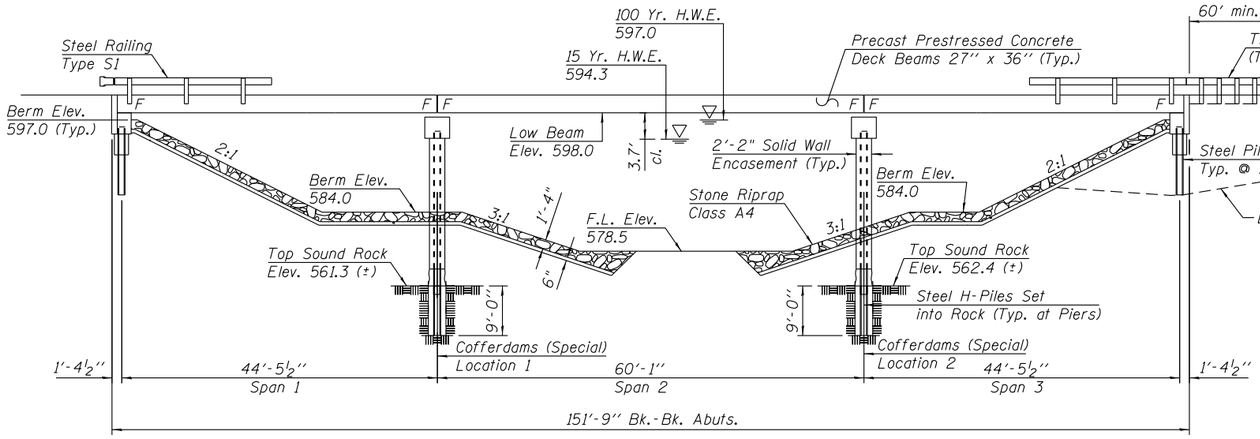
REVISIONS

REV. NO.	DESCRIPTION	DATE

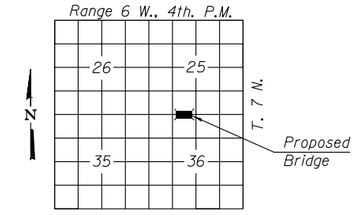
DRAWING:
EROSION CONTROL PLAN
14-814_EROSION.dgn

JOB NUMBER:
14-814

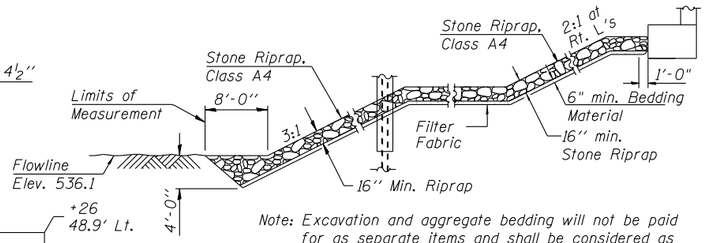
SHEET NUMBER
9 of 33



ELEVATION

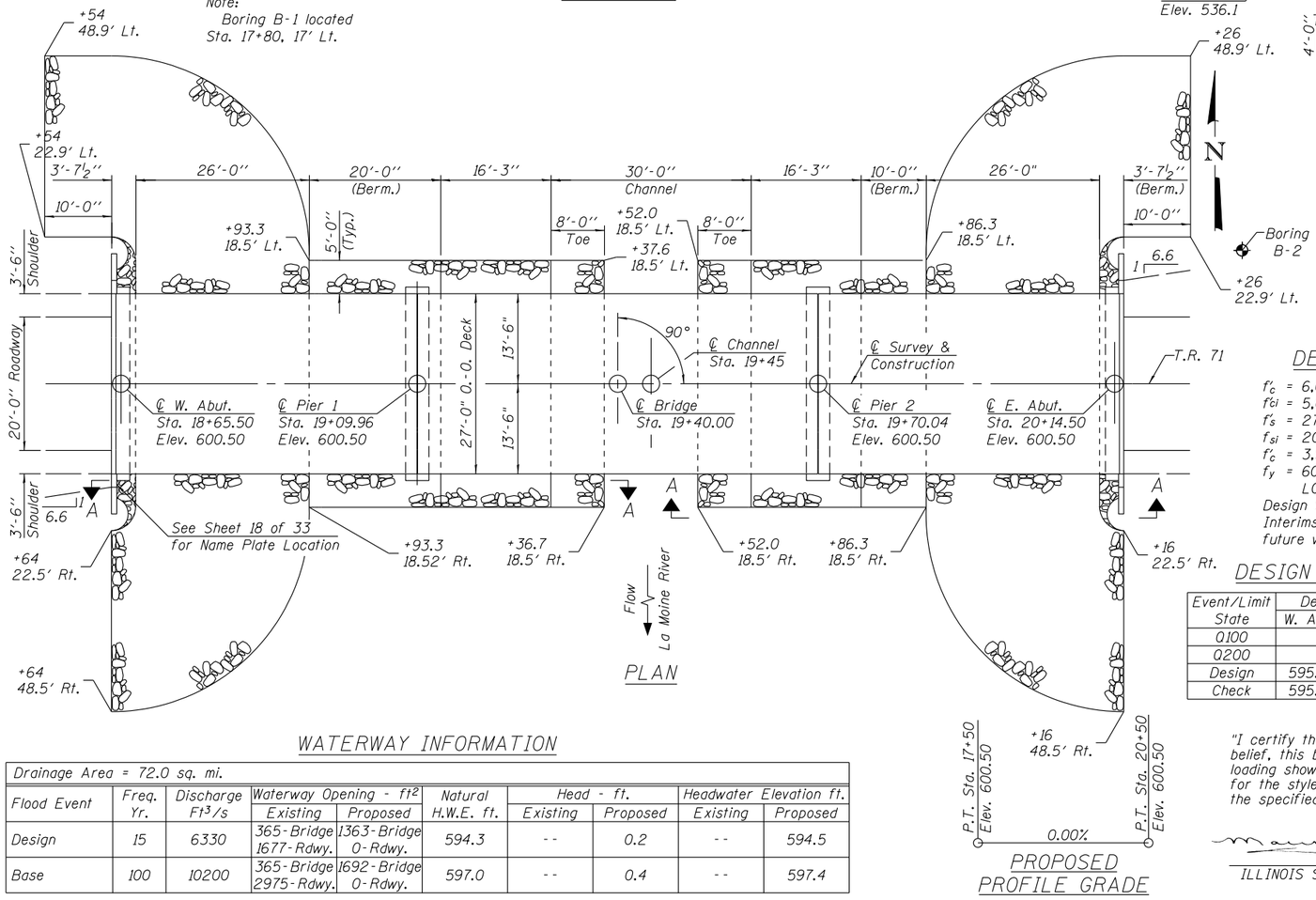


LOCATION PLAN



Note: Excavation and aggregate bedding will not be paid for as separate items and shall be considered as included in Stone Riprap, Class A4.

SECTION A-A - RIPRAP PLACEMENT



PLAN

PROPOSED
PROFILE GRADE

GENERAL NOTES

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

Reinforcement bars designated (E) shall be epoxy coated.

Contractor shall drive one Steel HP12x53 test pile in a permanent location at each abutment as directed by the Engineer, before ordering the remainder of the abutment piles.

Structure Excavation will not be measured for payment but shall be included in the unit price bid for "Concrete Structures" or "Concrete Encasement."

Exposed portions of concrete abutments & piers shall receive a rubbed finish in accordance with Article 503.15(b) of the Standard Specifications. Cost shall be included in the cost for Concrete Structures.

The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of abutments.

LA MOINE RIVER
BUILT 20__ BY
DURHAM ROAD DISTRICT
HANCOCK COUNTY
SEC. 14-07118-00-BR
STR. NO. 034-4139
LOADING HL-93

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.104
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.151
Soil Site Class = D

LETTERING FOR NAME PLATE

See Std. 515001

DESIGN STRESSES

f'_c = 6,000 p.s.i. (Prestressed Beams)
f'_{ci} = 5,000 p.s.i. (Prestressed Beams)
f_s = 270,000 p.s.i. (Prestressed Strands)
f_{si} = 201,960 p.s.i. (Prestressed Strands)
f'_c = 3,500 p.s.i. (Concrete -- Field Units)
f_y = 60,000 p.s.i. (Reinf. Bars)
LOADING HL-93
Design Specifications: 2014 AASHTO LRFD with 2016 Interims 50#/Sq. Ft. included in dead load for future wearing surface.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	4050		4050
Concrete Structures	Cu. Yd.		133.4	133.4
Reinforcement Bars, Epoxy Coated	Pound		13710	13710
Steel Railing, Type S1	Foot	300		300
Name Plates	Each		1	1
Furnishing Steel Piles HP12x53	Foot		654	654
Driving Piles	Foot		219	219
Test Pile Steel HP12x53	Each		2	2
Stone Riprap, Class A4	Ton		653	653
Filter Fabric	Sq. Yd.		932	932
Concrete Encasement	Cu. Yd.		2.8	2.8
Cofferdams (Special) - Location 1	Each		1	1
Cofferdams (Special) - Location 2	Each		1	1
Setting and Driving Piles in Rock	Each		10	10

DESIGN SCOUR ELEVATION TABLE

Event/Limit State	Design Scour Elevations (ft.) W. Abut.	Pier 1	Pier 2	E. Abut.	Item 113
Q100		573.00	573.00		5
Q200		572.00	572.00		
Design	595.05	573.00	573.00	595.05	
Check	595.05	572.00	572.00	595.05	

WATERWAY INFORMATION

Drainage Area = 72.0 sq. mi.

Flood Event	Freq. Yr.	Discharge Ft^3/s	Waterway Opening - ft^2 Existing	Proposed	Natural H.W.E. ft.	Head - ft. Existing	Proposed	Headwater Elevation ft. Existing	Proposed
Design	15	6330	365-Bridge 1677-Rdwy.	1363-Bridge 0-Rdwy.	594.3	--	0.2	--	594.5
Base	100	10200	365-Bridge 2975-Rdwy.	1692-Bridge 0-Rdwy.	597.0	--	0.4	--	597.4

"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'".

07/11/2022

ILLINOIS STRUCTURAL NO. 4859 (Expires 11/30/22)

LICENSED STRUCTURAL ENGINEER
MARY COOMBE BLOXDORF
4859
SPRINGFIELD
STATE OF ILLINOIS

GENERAL PLAN & ELEVATION
T.R. 71
SECTION 14-07118-00-BR
HANCOCK COUNTY
STATION 19+40
S.N. 034-4139

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

AGENCY:
HANCOCK COUNTY HWY. DEPT.
DURHAM ROAD DISTRICT

PROJECT:
SECTION 14-07118-00-BR
T.R. 71 OVER THE
LA MOINE RIVER

DESIGNED: A.R.K.
CHECKED: M.R.L. & M.C.B.
DRAWN: A.D.S.
CHECKED: A.R.K. J.A.M.

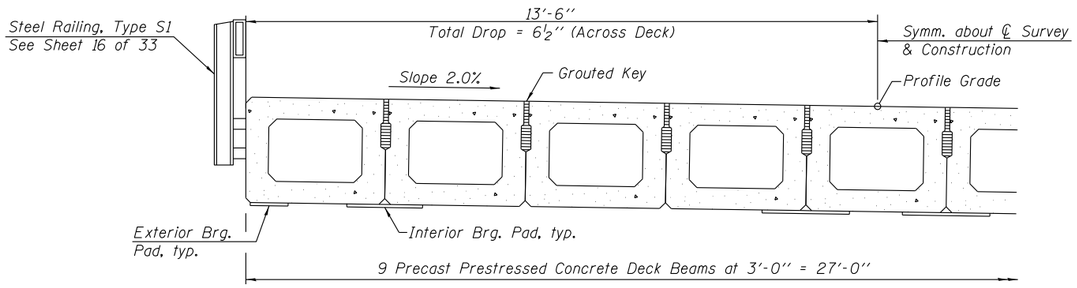
REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
GENERAL PLAN & ELEVATION
14-814_GPE.DGN

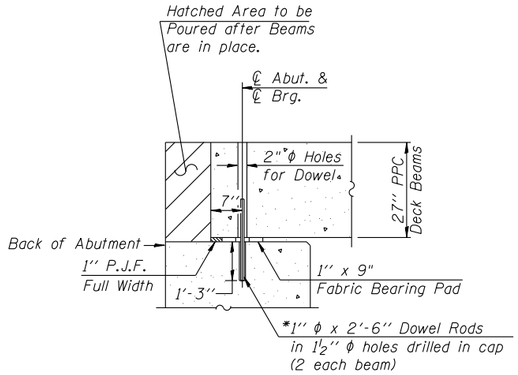
JOB NUMBER:
14-814

SHEET NUMBER
10 of 33



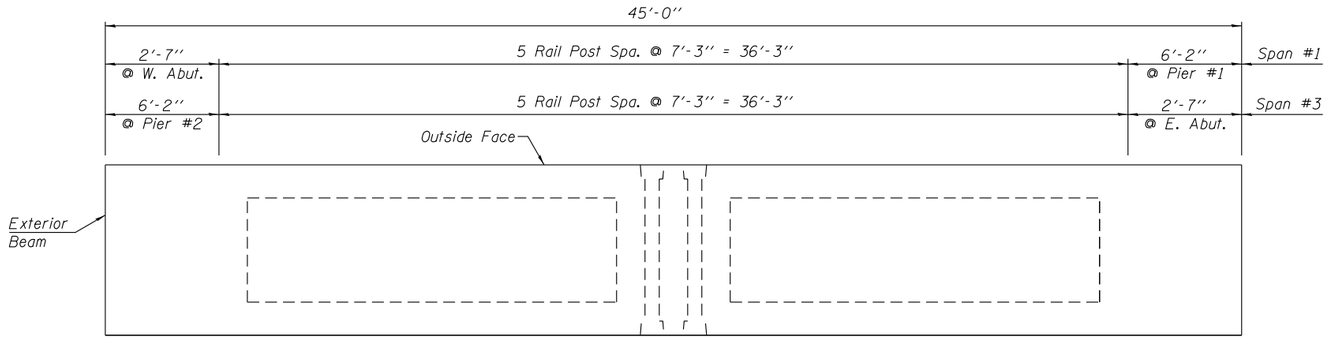
HALF CROSS SECTION

(Looking East)

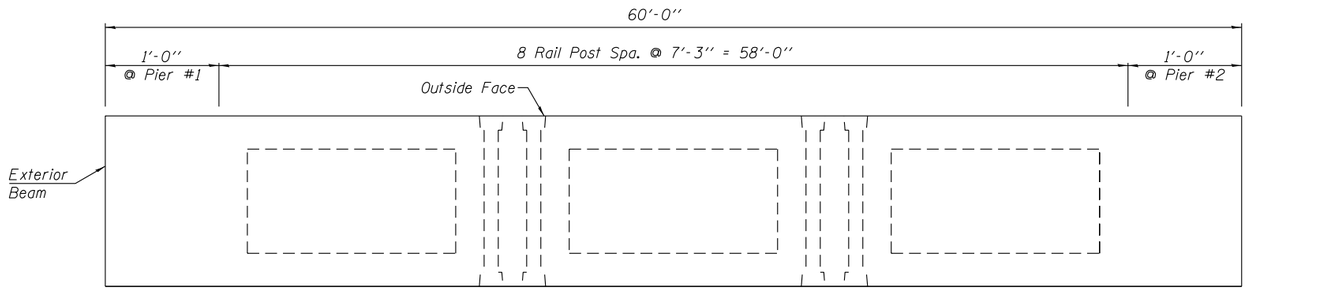


SEC. THRU ABUT.

(@ Rt. L's)



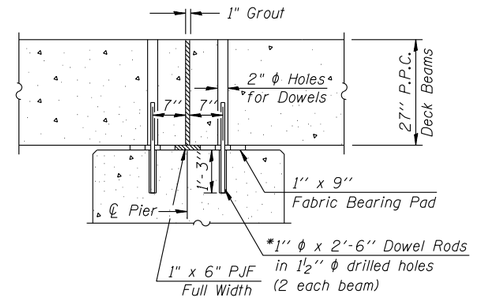
SPAN #1 OR #3



SPAN #2

RAIL POST SPACING PLAN

* Note: 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.



SEC. AT PIER

(@ Rt. L's)

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

AGENCY:
HANCOCK COUNTY HWY. DEPT.
DURHAM ROAD DISTRICT

PROJECT:
SECTION 14-07118-00-BR
T.R. 71 OVER THE
LA MOINE RIVER

DESIGNED:	A.R.K.
CHECKED:	M.R.L. & M.C.B.
DRAWN:	A.D.S.
CHECKED:	A.R.K. J.A.M.

REVISIONS

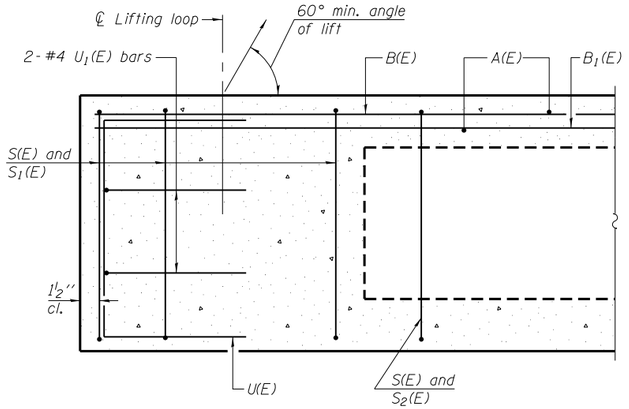
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE

DRAWING:
SUPERSTRUCTURE

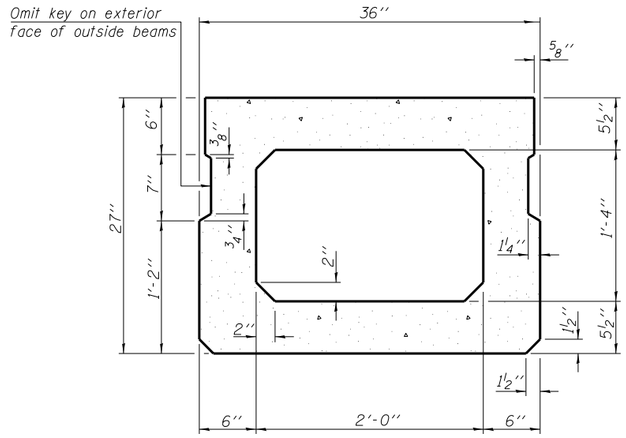
14-814_SUPER.dgn

JOB NUMBER:
14-814

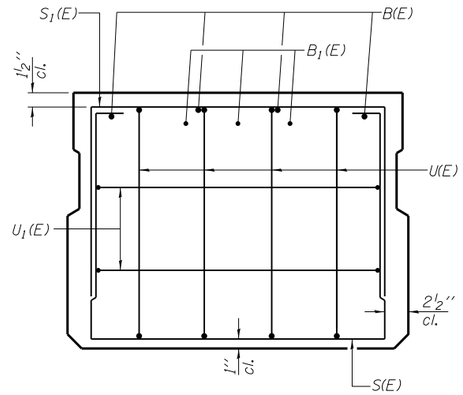
SHEET NUMBER
11 of 33



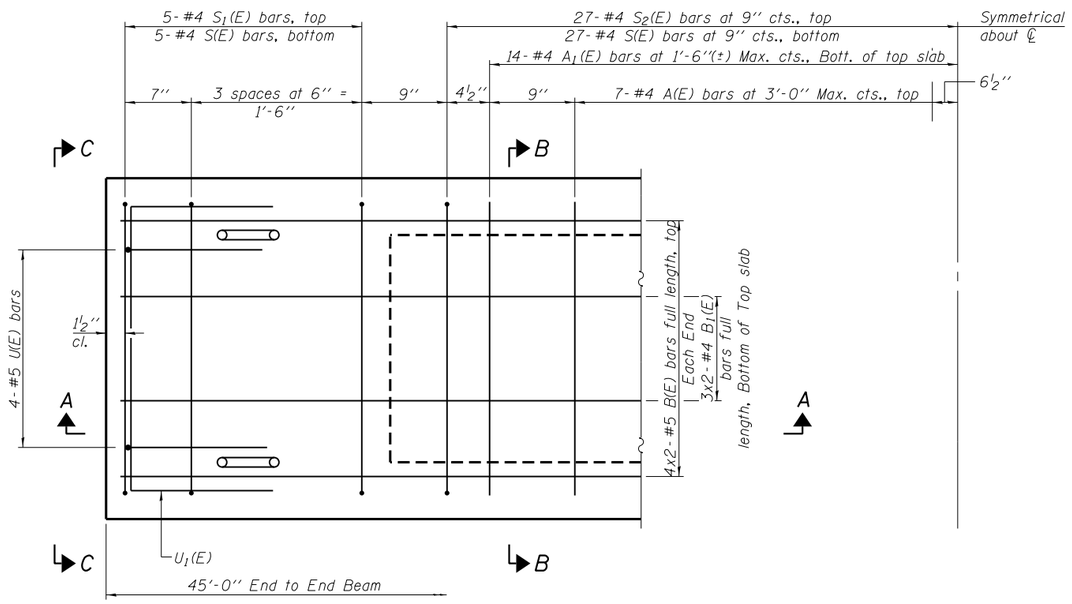
SECTION A-A



SECTION B-B
(Showing dimensions)



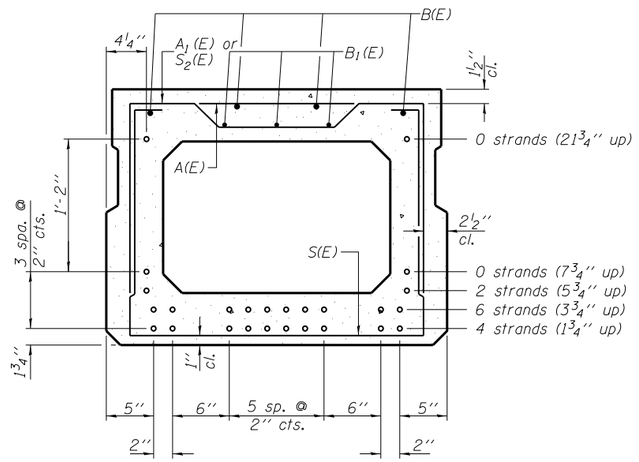
VIEW C-C



PLAN VIEW

Notes: Spacing of S(E) and $S_2(E)$ 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.

Bars indicated thus, 3x2-#4 bars etc., indicates 3 lines of bars with 2 lengths per line.



Use 12-½'' ϕ strands at the locations shown.

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.

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

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	14	#4	2'-7''	—
$A_1(E)$	27	#4	2'-10''	∼
B(E)	8	#5	23'-8''	—
$B_1(E)$	6	#4	23'-4''	—
S(E)	63	#4	7'-5''	⊔
$S_1(E)$	10	#4	5'-11''	⊓
$S_2(E)$	53	#4	6'-2''	⊓
U(E)	8	#5	4'-6''	⊏
$U_1(E)$	4	#4	5'-0''	⊓

Note: See sheet 13 for additional details and Bill of Material.

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ENGINEERING & ENVIRONMENTAL
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ILLINOIS IOWA WISCONSIN

AGENCY:
HANCOCK COUNTY HWY. DEPT.
DURHAM ROAD DISTRICT

PROJECT:
SECTION 14-07118-00-BR
T.R. 71 OVER THE
LA MOINE RIVER

DESIGNED:	A.R.K.
CHECKED:	M.R.L.& M.C.B.
DRAWN:	A.D.S.
CHECKED:	A.R.K. J.A.M.

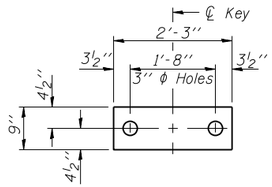
REVISIONS

REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE

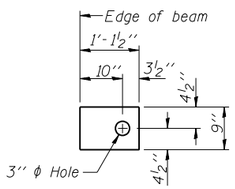
DRAWING:
27'' X 36'' PPC DECK BEAM
SPANS 1 & 3
14-814_SUPER.dgn

JOB NUMBER: 14-814

SHEET NUMBER: 12 of 33



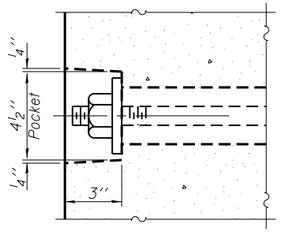
FABRIC BEARING PAD
(Interior)
(32 Required)



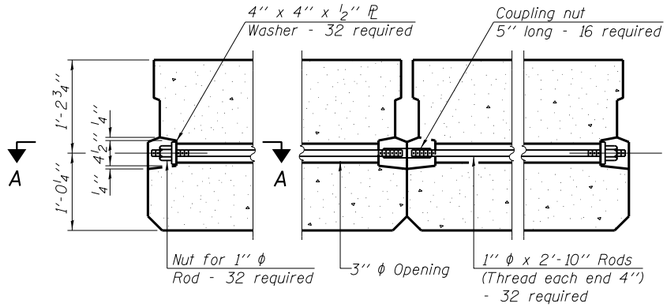
FABRIC BEARING PAD
(Exterior)
(8 Required)

FIXED

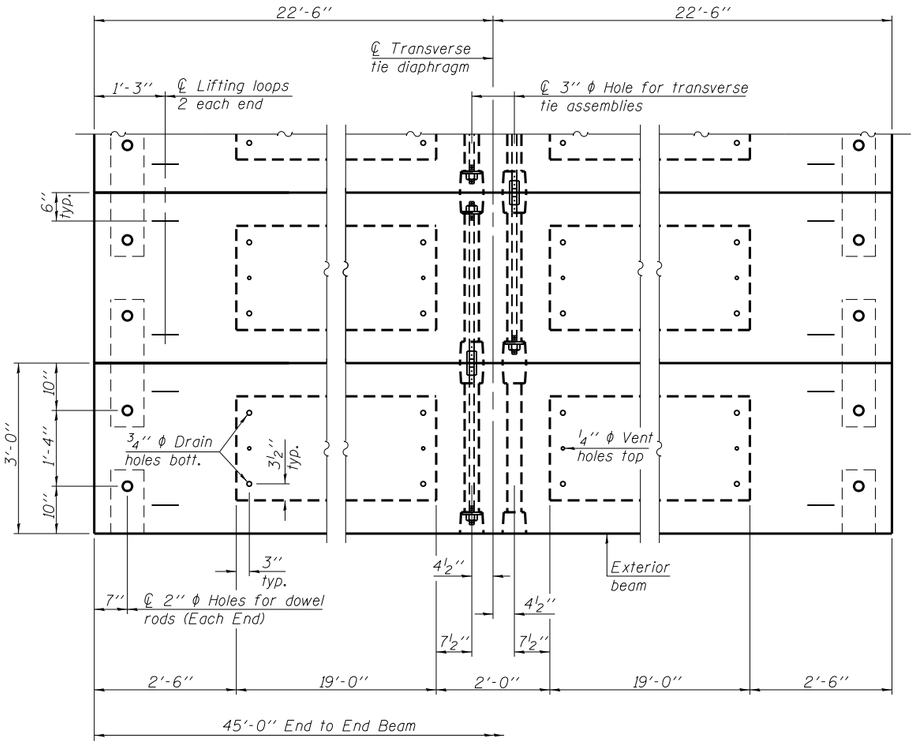
Notes:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.



SECTION A-A

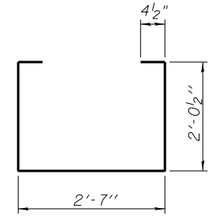


TYPICAL TRANSVERSE TIE ASSEMBLY

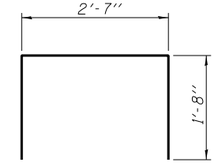


PLAN VIEW

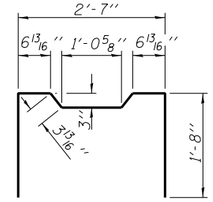
Note: Connect beams in pairs with the transverse tie configuration shown.



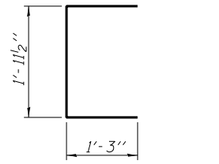
BAR S(E)



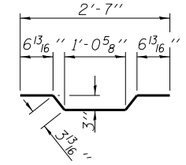
BAR S_1(E)



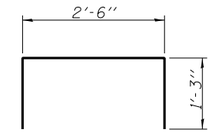
BAR S_2(E)



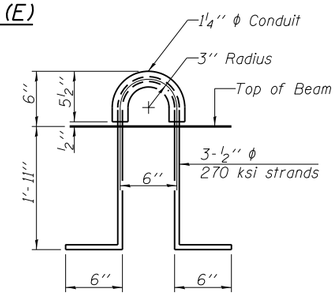
BAR U(E)



BAR A_1(E)



BAR U_1(E)



LIFTING LOOP DETAIL

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. (80 Required - Included in the cost of P.P.C. Deck Beams of the depth shown in the plans.)

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.	2430

Estimated Total Weight (One Beam) = 30,950 Pounds

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

AGENCY:
HANCOCK COUNTY HWY. DEPT.
DURHAM ROAD DISTRICT

PROJECT:
SECTION 14-07118-00-BR
T.R. 71 OVER THE
LA MOINE RIVER

DESIGNED:	A.R.K.
CHECKED:	M.R.L.& M.C.B.
DRAWN:	A.D.S.
CHECKED:	A.R.K. J.A.M.

REVISIONS

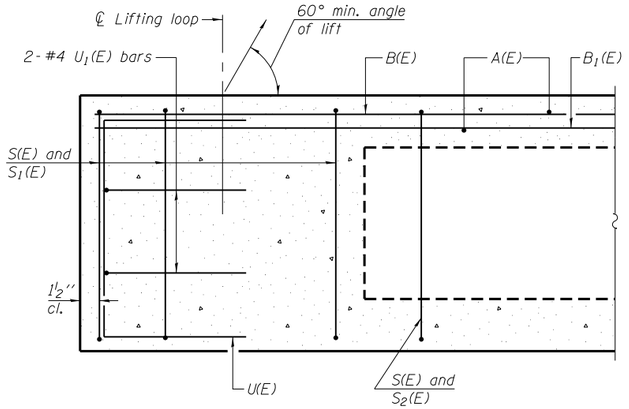
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE

DRAWING:
27'' X 36'' PPC DECK BEAM DETAILS
SPANS 1 & 3

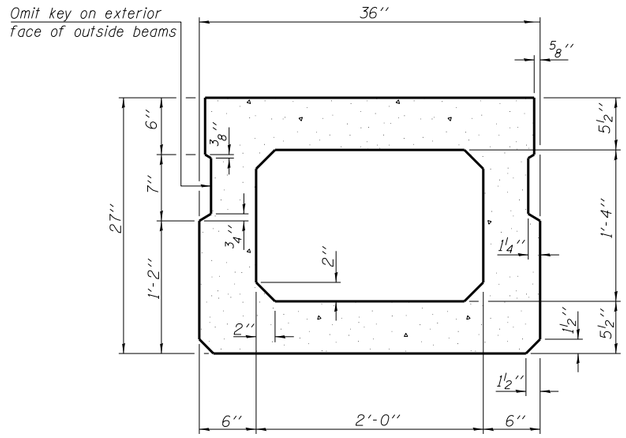
14-814_SUPER.dgn

JOB NUMBER:
14-814

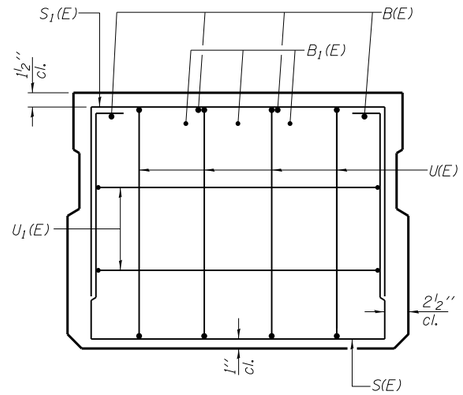
SHEET NUMBER
13 of 33



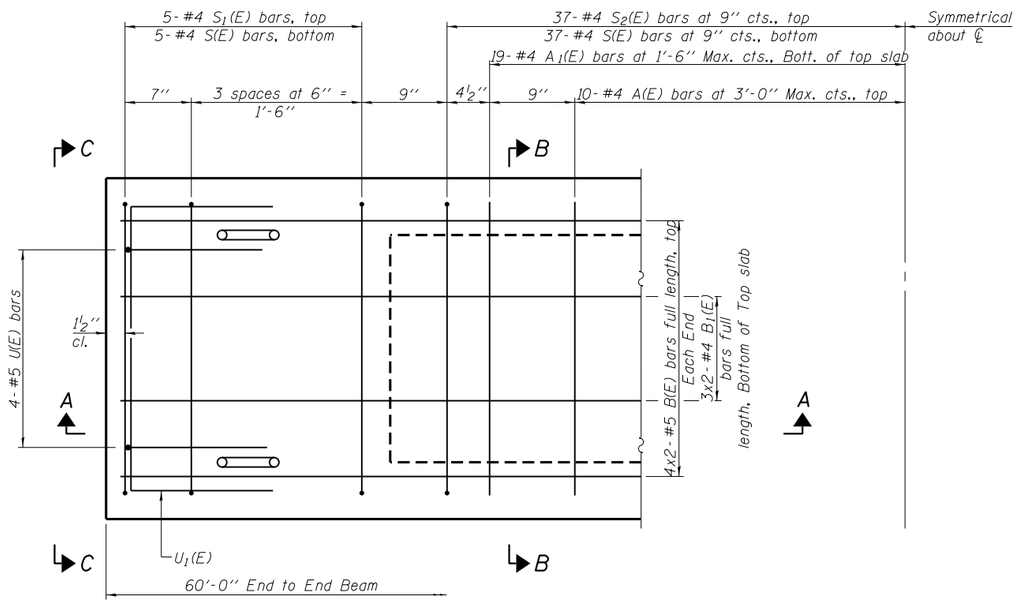
SECTION A-A



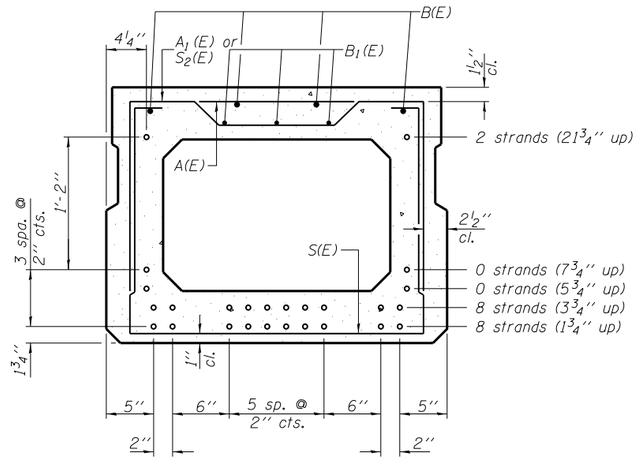
SECTION B-B
(Showing dimensions)



VIEW C-C



PLAN VIEW



Use 18-$\frac{1}{2}$'' ϕ strands at the locations shown.

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)	19	#4	2'-7''	—
$A_1(E)$	37	#4	2'-10''	⌒
B(E)	8	#5	31'-2''	—
$B_1(E)$	6	#4	30'-10''	—
S(E)	83	#4	7'-5''	⊔
$S_1(E)$	10	#4	5'-11''	⊓
$S_2(E)$	73	#4	6'-2''	⊓
U(E)	8	#5	4'-6''	⊏
$U_1(E)$	4	#4	5'-0''	⊓

Note: See sheet 15 for additional details and Bill of Material.

Notes: Spacing of S(E) and $S_2(E)$ 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.

Bars indicated thus, 3x2-#4 bars etc., indicates 3 lines of bars with 2 lengths per line.

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

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DURHAM ROAD DISTRICT

PROJECT:
SECTION 14-07118-00-BR
T.R. 71 OVER THE
LA MOINE RIVER

DESIGNED:	A.R.K.
CHECKED:	M.R.L.& M.C.B.
DRAWN:	A.D.S.
CHECKED:	A.R.K. J.A.M.

REVISIONS

REV. NO.	DESCRIPTION	DATE
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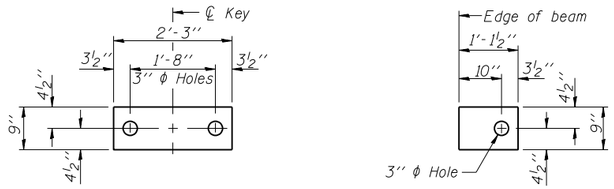
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE

DRAWING:
27'' X 36'' PPC DECK BEAM
SPAN 2
14-814_SUPER.dgn

JOB NUMBER:
14-814

SHEET NUMBER
14 of 33

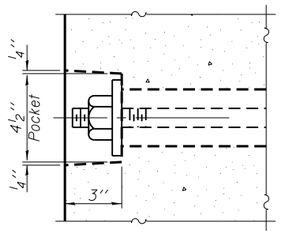


FABRIC BEARING PAD
(Interior)
(16 Required)

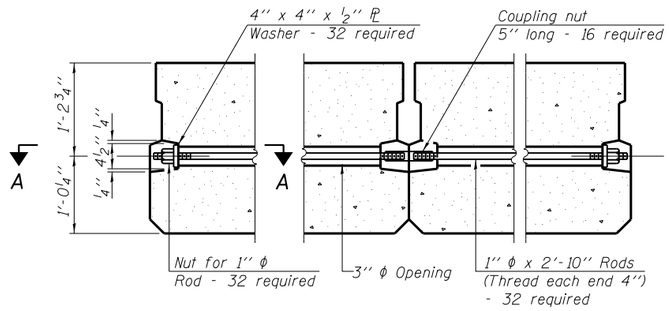
FABRIC BEARING PAD
(Exterior)
(4 Required)

FIXED

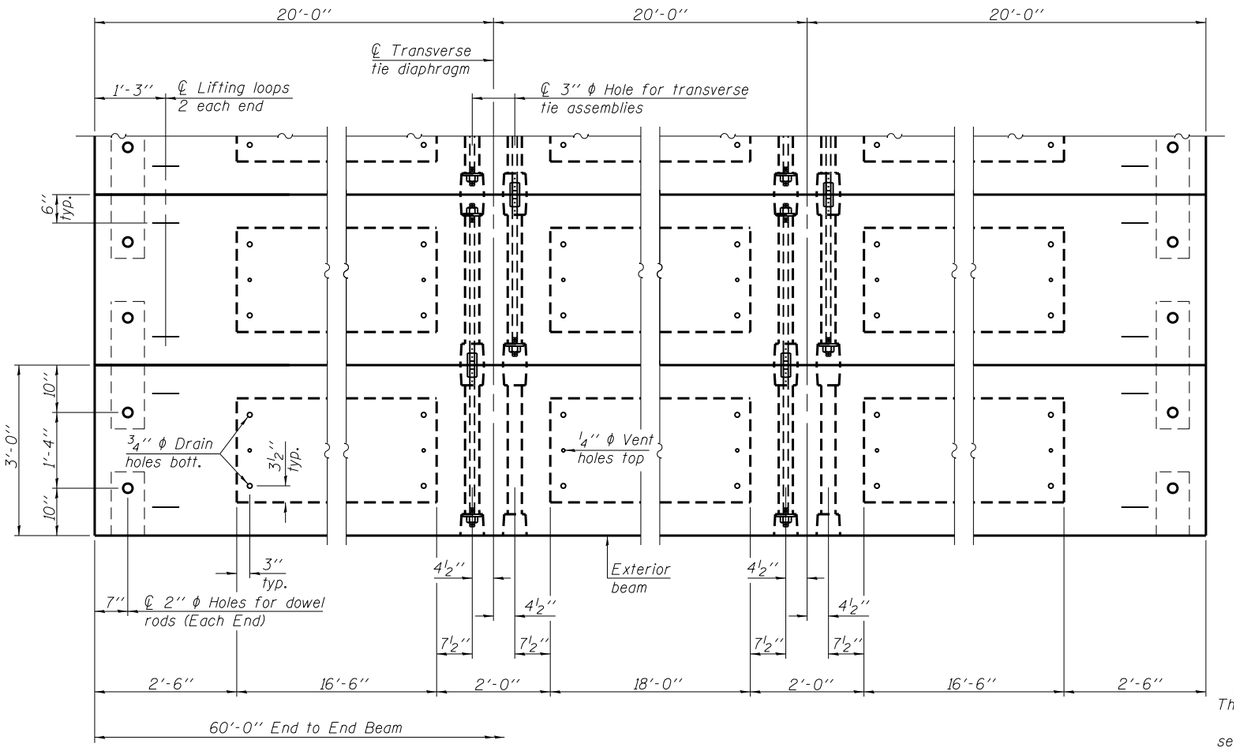
Notes:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.



SECTION A-A

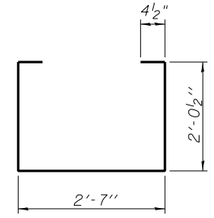


TYPICAL TRANSVERSE TIE ASSEMBLY

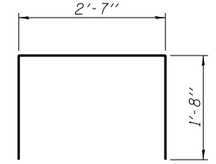


PLAN VIEW

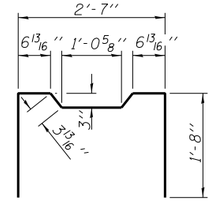
Note: Connect beams in pairs with the transverse tie configuration shown.



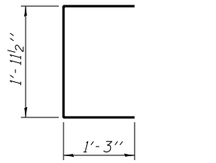
BAR S(E)



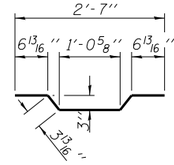
BAR S_1(E)



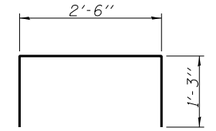
BAR S_2(E)



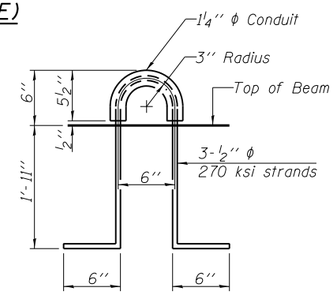
BAR U(E)



BAR A_1(E)



BAR U_1(E)



LIFTING LOOP DETAIL

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. (40 Required - Included in the cost of P.P.C. Deck Beams of the depth shown in the plans.)

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.	1620

Estimated Total Weight (One Beam) = 41,130 Pounds

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ILLINOIS DESIGN FIRM NO. 184-003525
ILLINOIS
IOWA
WISCONSIN

AGENCY:
HANCOCK COUNTY HWY. DEPT.
DURHAM ROAD DISTRICT

PROJECT:
SECTION 14-07118-00-BR
T.R. 71 OVER THE
LA MOINE RIVER

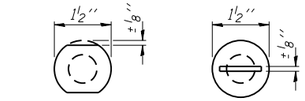
DESIGNED:	A.R.K.
CHECKED:	M.R.L.& M.C.B.
DRAWN:	A.D.S.
CHECKED:	A.R.K. J.A.M.

REVISIONS		
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE

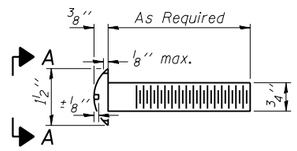
DRAWING:
27'' X 36'' PPC DECK BEAM DETAILS
SPAN 2
14-814_SUPER.dgn

JOB NUMBER:
14-814

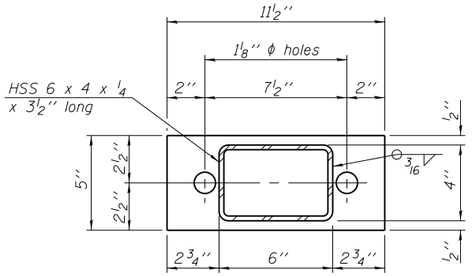
SHEET NUMBER
15 of 33



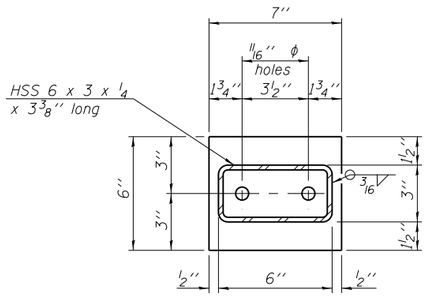
VIEW A-A



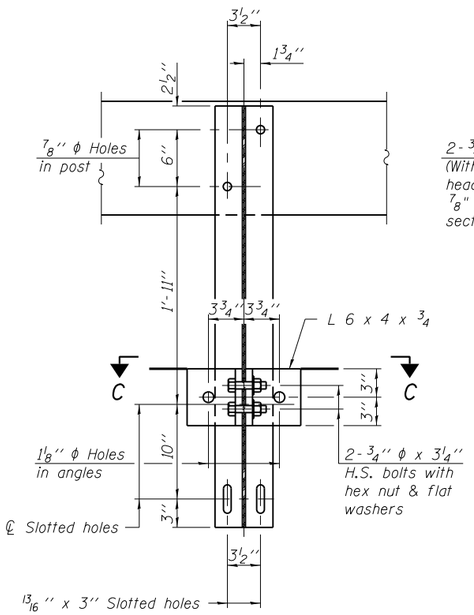
ROUND HEAD BOLT



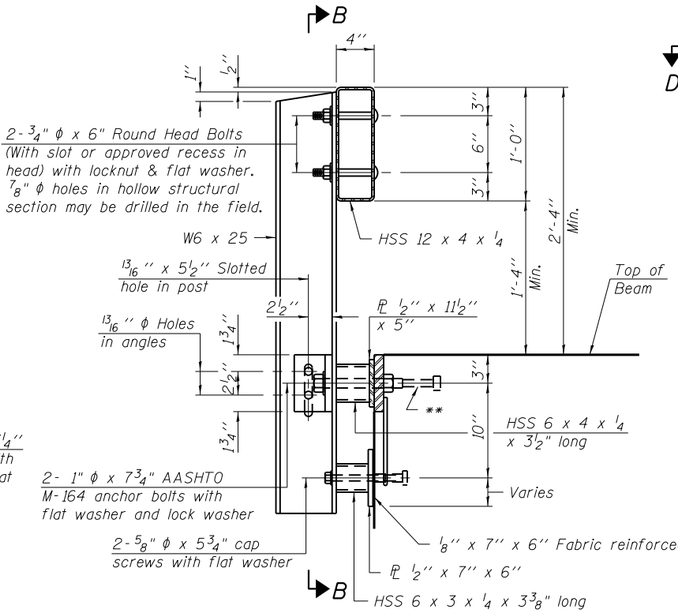
PL ½'' x 11½'' x 5''



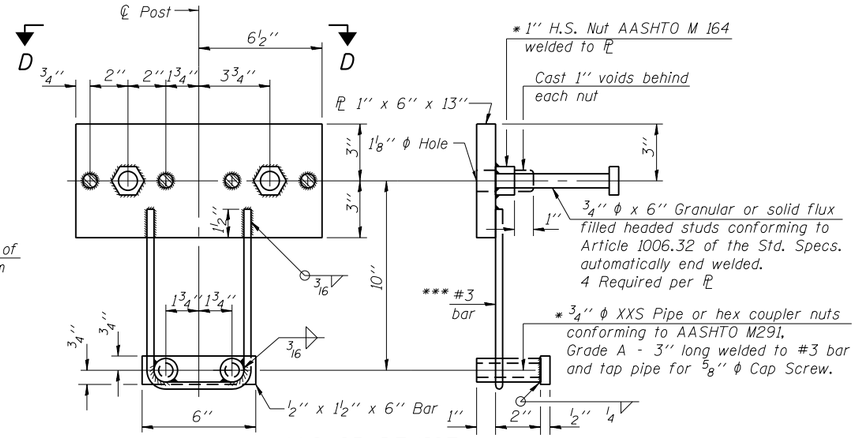
PL ½'' x 7'' x 6''



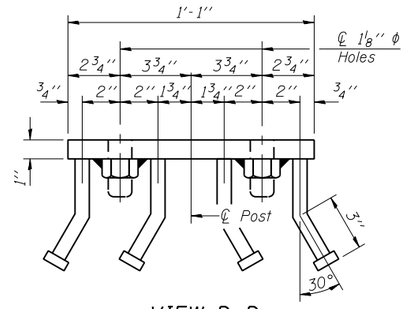
SECTION B-B



SECTION AT RAILING POST



ANCHOR DEVICE



VIEW D-D

Notes:

All field drilled holes shall be coated with an approved zinc rich paint before erection.

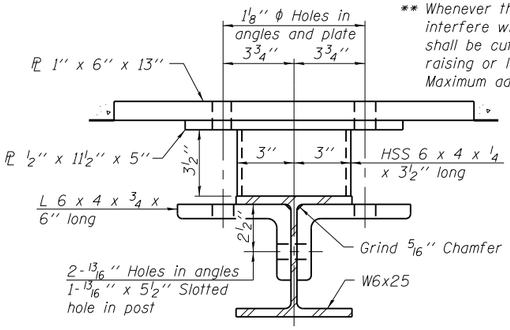
For multi-span bridges, sufficient ¼'' x 6'' x 1'-2'' galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.

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

* Threaded areas of nuts or pipes used for anchor devices shall be plugged or blocked off during casting of beam.

** 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.

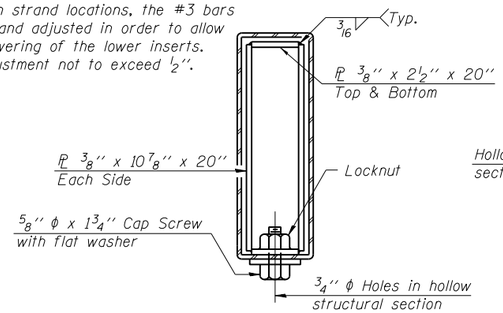
*** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed ½''.



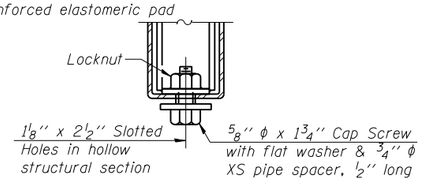
SECTION C-C

(10'-9'' Maximum Post Spacing)

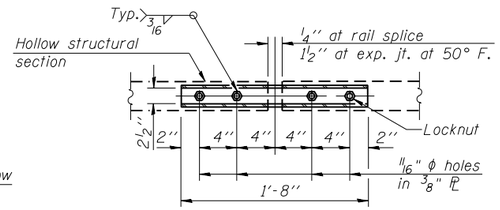
** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed ½''.



SECTIONS AT RAIL SPLICE

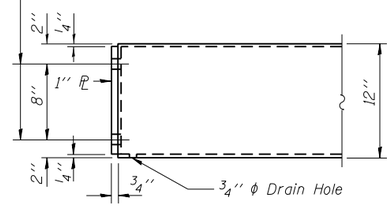


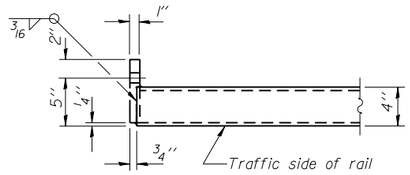
RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTT. SPLICE PL TYPICAL

1⅛'' ϕ Holes for 1'' ϕ x 4'' Round head bolts. Provide 2 flat washers & locknuts for guard rail connection or end section connection.





END OF RAIL DETAILS

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	300

See sheet 17 for Rail Post Spacing and Curled End Section Details.

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ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS
IOWA
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REVISIONS			
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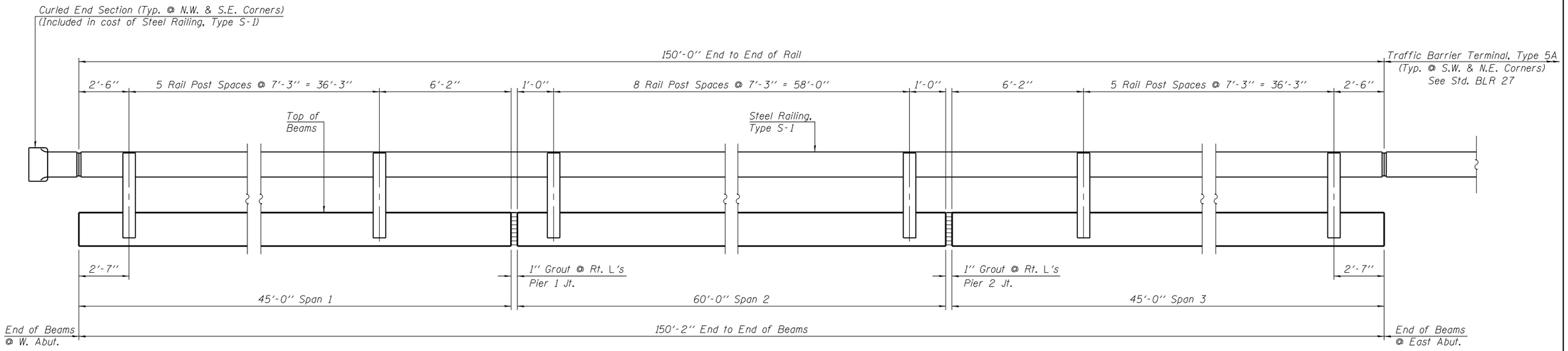
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE

DRAWING:
STEEL RAILING, TYPE S-1

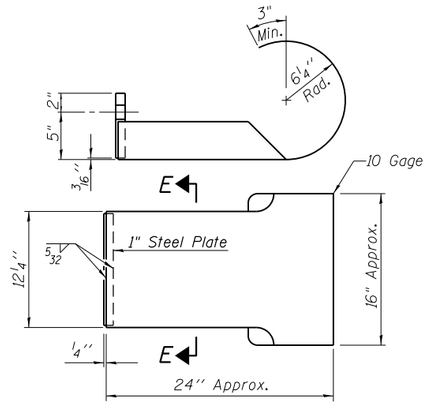
14-814_RAIL.dgn

JOB NUMBER:
14-814

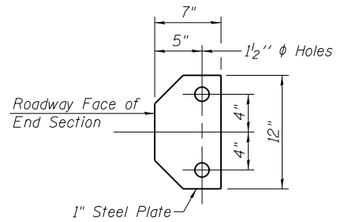
SHEET NUMBER
16 of 33



ELEVATION



CURLED END SECTION DETAILS
(2 Required)



SECTION E-E

See sheet 16 for Steel Railing Details.

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

AGENCY:
HANCOCK COUNTY HWY. DEPT.
DURHAM ROAD DISTRICT

PROJECT:
SECTION 14-07118-00-BR
T.R. 71 OVER THE
LA MOINE RIVER

DESIGNED:	A.R.K.
CHECKED:	M.R.L.& M.C.B.
DRAWN:	A.D.S.
CHECKED:	A.R.K. J.A.M.

REVISIONS

REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE

DRAWING:
STEEL RAILING, TYPE S-1
14-814_RAIL.dgn

JOB NUMBER:
14-814

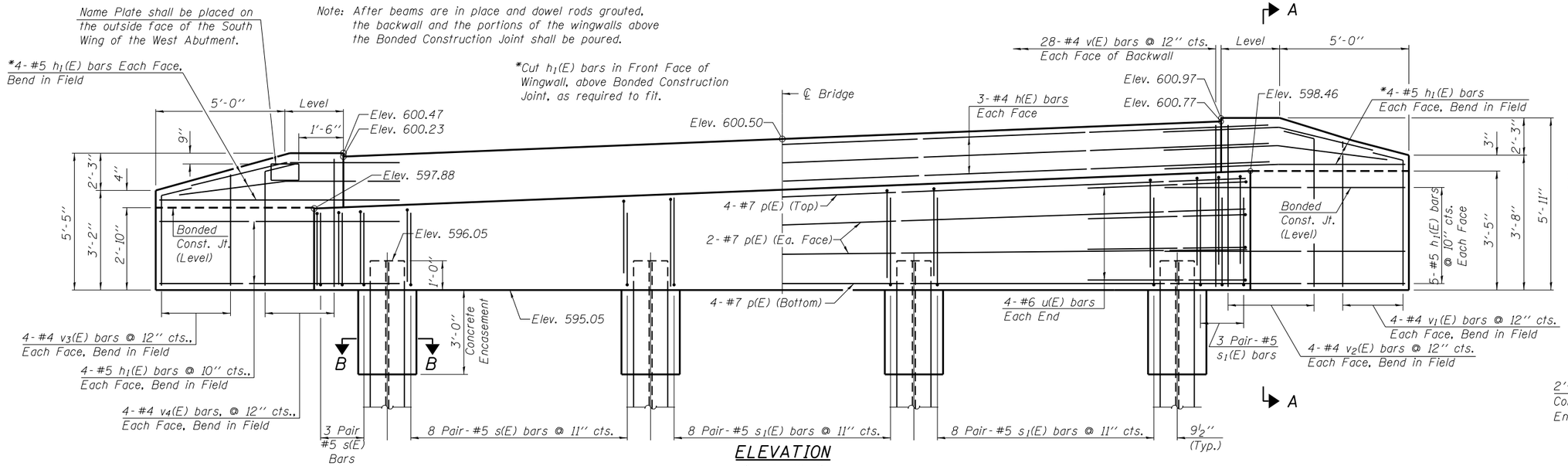
SHEET NUMBER
17 of 33

Name Plate shall be placed on the outside face of the South Wing of the West Abutment.

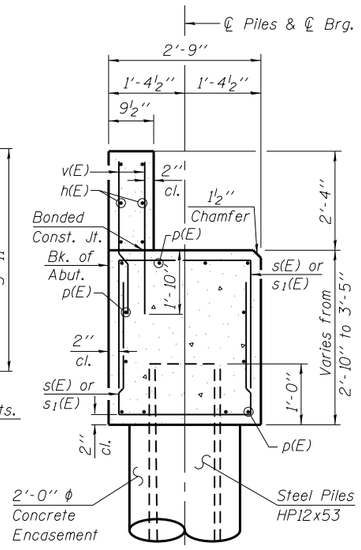
Note: After beams are in place and dowel rods grouted, the backwall and the portions of the wingwalls above the Bonded Construction Joint shall be poured.

*4-#5 h_1(E) bars Each Face, Bend in Field

*Cut h_1(E) bars in Front Face of Wingwall, above Bonded Construction Joint, as required to fit.

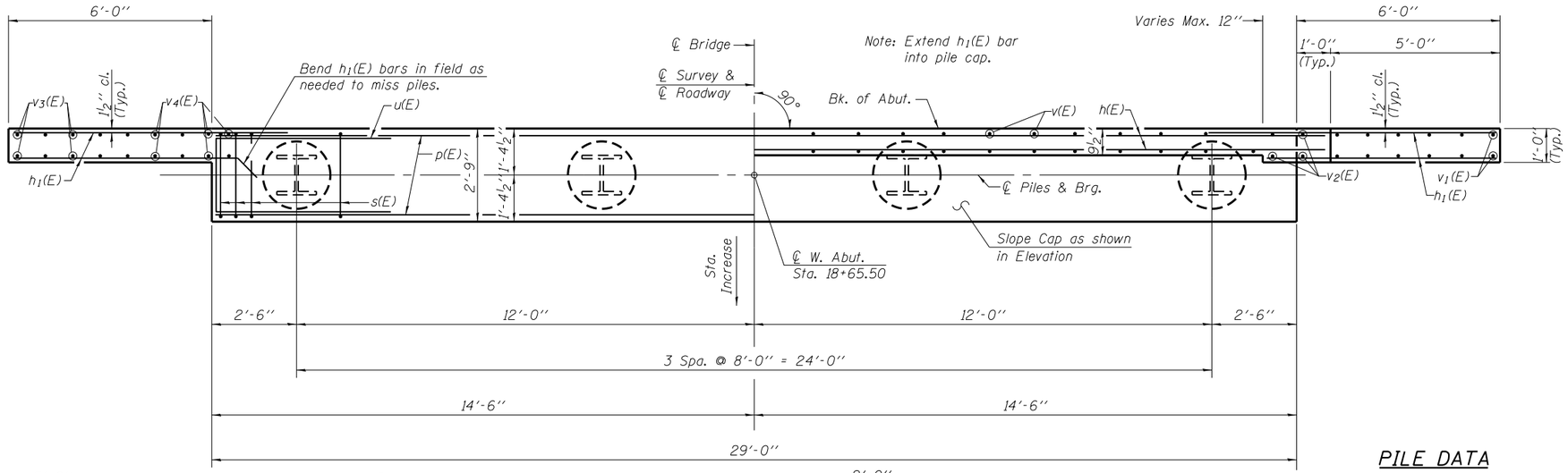


ELEVATION
(Looking West)



SECTION THRU ABUT.

Z

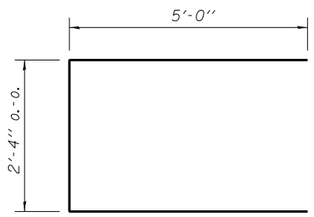


SECTION A-A

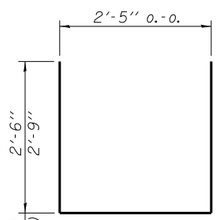
BILL OF MATERIAL - W. ABUT.

Bar	No.	Size	Length	Shape
h(E)	6	#4	30'-8"	—
h_1(E)	34	#5	8'-3"	—
p(E)	12	#7	28'-8"	—
s(E)	22	#5	7'-5"	⊔
s_1(E)	38	#5	7'-11"	⊔
u(E)	8	#6	12'-4"	▭
v(E)	56	#4	4'-0"	—
v_1(E)	8	#4	4'-6"	—
v_2(E)	8	#4	5'-7"	—
v_3(E)	8	#4	4'-2"	—
v_4(E)	8	#4	5'-2"	—
Concrete Structures			Cu. Yd.	13.4
Reinforcement Bars, Epoxy Coated			Pound	2005
Test Pile			Each	1
Steel Piles HP12x53			Foot	120
Concrete Encasement			Cu. Yd.	1.4

See Sheet 22 for pile details.

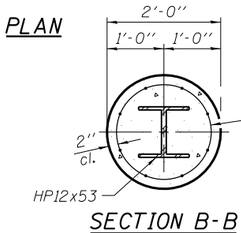


BAR u(E)



BAR s(E) or s_1(E)

PLAN



SECTION B-B
Concrete Encasement

Welded wire fabric 6 x 6-W4.0 x W4.0 weighing 58#/100 sq. ft. The cost of Excavation, and Reinforcement is included with Concrete Encasement. Forms for Encasement may be omitted when soil conditions permit. Extend welded wire fabric 1'-0" min. into Abutment Cap.

PILE DATA

Type & Size.....Steel HP12x53
No. Req'd.....**4
Nominal Required Bearing.....260 kips
Factored Resistance Available.....143 kips
Estimated Length.....40 ft.

** Includes 1 Test Pile to be driven in a permanent location at the west abutment.

Steel H-Piles shall be according to AASHTO M270 Grade 50.

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

AGENCY: HANCOCK COUNTY HWY. DEPT. DURHAM ROAD DISTRICT

PROJECT: SECTION 14-07118-00-BR T.R. 71 OVER THE LA MOINE RIVER

DESIGNED: A.R.K.
CHECKED: M.R.L. & M.C.B.
DRAWN: A.D.S.
CHECKED: A.R.K. J.A.M.

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING: WEST ABUTMENT DETAILS

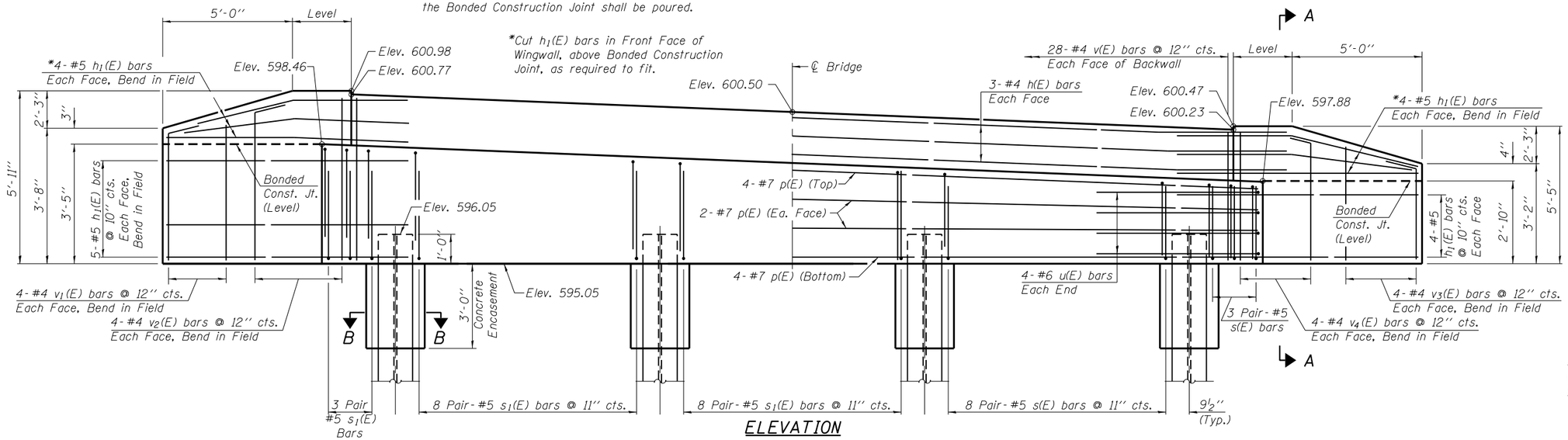
14-814_ABUT.dgn

JOB NUMBER: 14-814

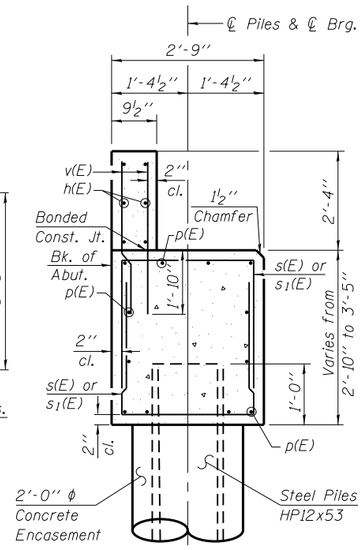
SHEET NUMBER 18 of 33

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.

*Cut $h_1(E)$ bars in Front Face of Wingwall, above Bonded Construction Joint, as required to fit.

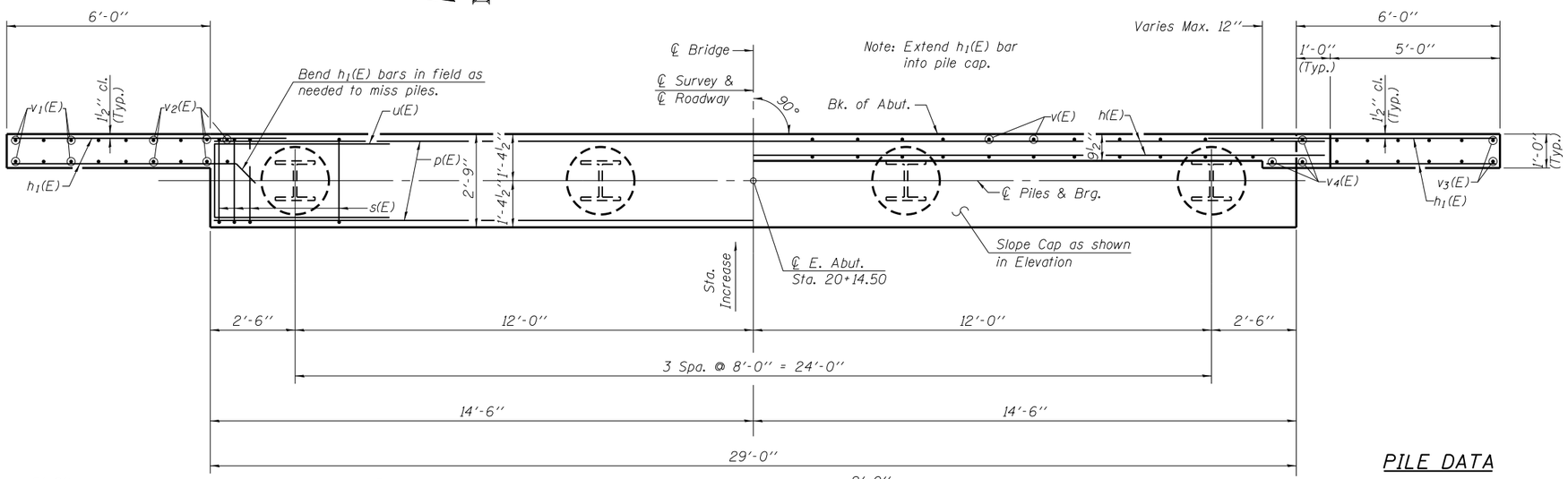


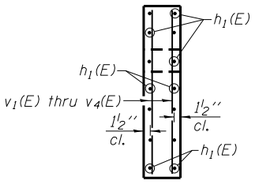
ELEVATION
(Looking East)



SECTION THRU ABUT.

Z



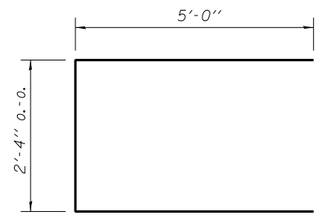


SECTION A-A

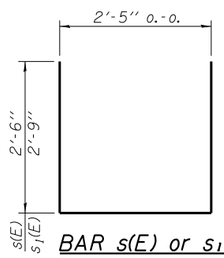
BILL OF MATERIAL - E. ABUT.

Bar	No.	Size	Length	Shape
h(E)	6	#4	30'-8"	—
$h_1(E)$	34	#5	8'-3"	—
p(E)	12	#7	28'-8"	—
s(E)	22	#5	7'-5"	⊔
$s_1(E)$	38	#5	7'-11"	⊔
u(E)	8	#6	12'-4"	▭
v(E)	56	#4	4'-0"	—
$v_1(E)$	8	#4	4'-6"	—
$v_2(E)$	8	#4	5'-7"	—
$v_3(E)$	8	#4	4'-2"	—
$v_4(E)$	8	#4	5'-2"	—
Concrete Structures			Cu. Yd.	13.4
Reinforcement Bars, Epoxy Coated			Pound	2005
Test Pile			Each	1
Steel Piles HP12x53			Foot	99
Concrete Encasement			Cu. Yd.	1.4

See Sheet 22 for pile details.

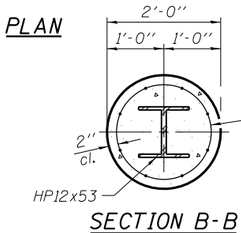


BAR u(E)



BAR s(E) or $s_1(E)$

PLAN



SECTION B-B
Concrete Encasement

Welded wire fabric 6 x 6-W4.0 x W4.0 weighing 58#/100 sq. ft. The cost of Excavation, and Reinforcement is included with Concrete Encasement. Forms for Encasement may be omitted when soil conditions permit. Extend welded wire fabric 1'-0" min. into Abutment Cap.

PILE DATA

Type & Size.....Steel HP12x53
No. Req'd.....**4
Nominal Required Bearing.....260 kips
Factored Resistance Available.....143 kips
Estimated Length.....33 ft.

** Includes 1 Test Pile to be driven in a permanent location at the east abutment.

Steel H-Piles shall be according to AASHTO M270 Grade 50.

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

AGENCY: HANCOCK COUNTY HWY. DEPT. DURHAM ROAD DISTRICT

PROJECT: SECTION 14-07118-00-BR T.R. 71 OVER THE LA MOINE RIVER

DESIGNED:	A.R.K.
CHECKED:	M.R.L. & M.C.B.
DRAWN:	A.D.S.
CHECKED:	A.R.K. J.A.M.

REVISIONS

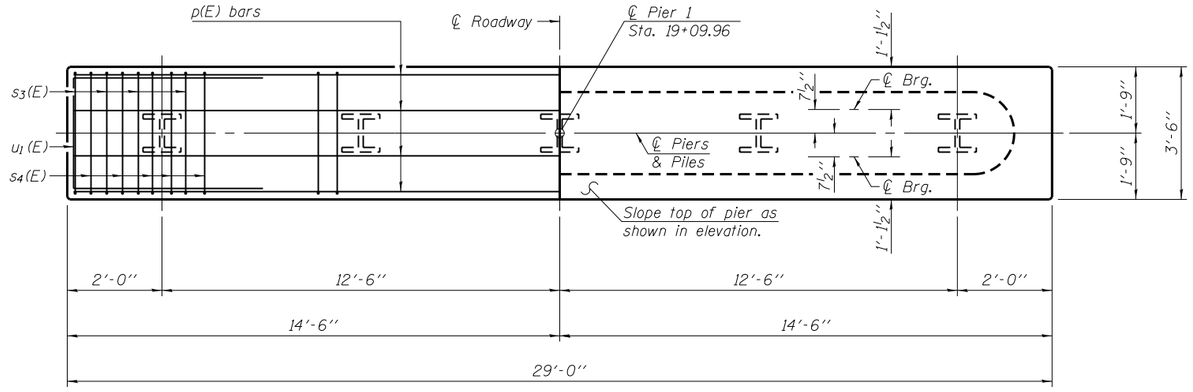
REV. NO.	DESCRIPTION	DATE

DRAWING: EAST ABUTMENT DETAILS

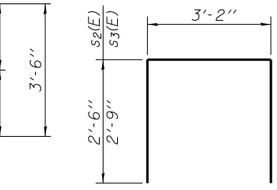
14-814_ABUT.dgn

JOB NUMBER: 14-814

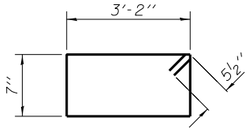
SHEET NUMBER 19 of 33



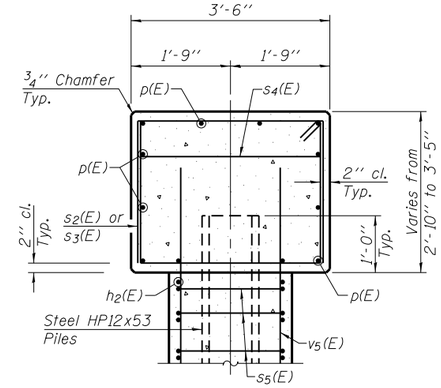
PLAN



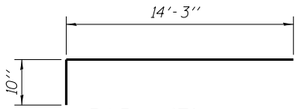
BAR $s_2(E)$ & $s_3(E)$



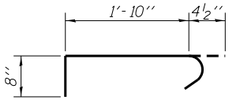
BAR $s_4(E)$



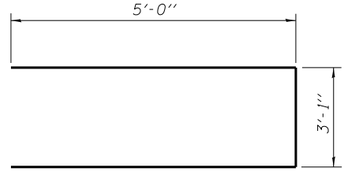
SECTION B-B



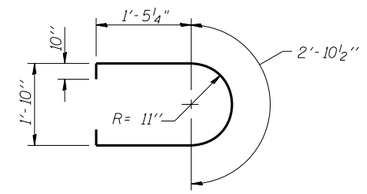
BAR $h_2(E)$



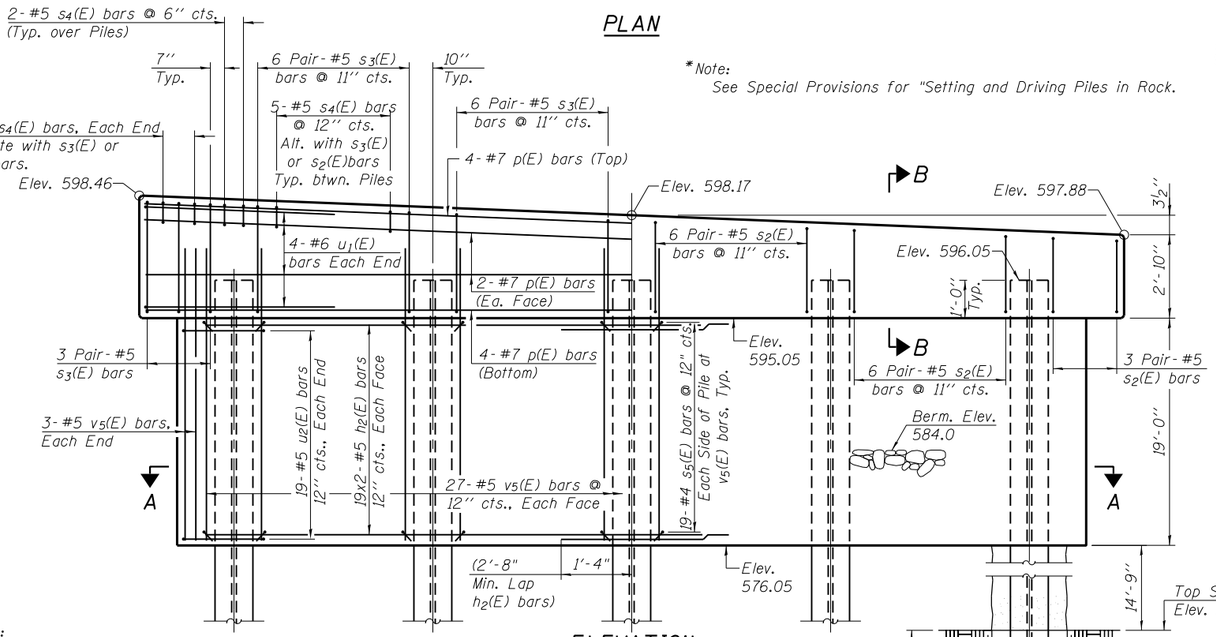
BAR $s_5(E)$



BAR $u_1(E)$



BAR $u_2(E)$

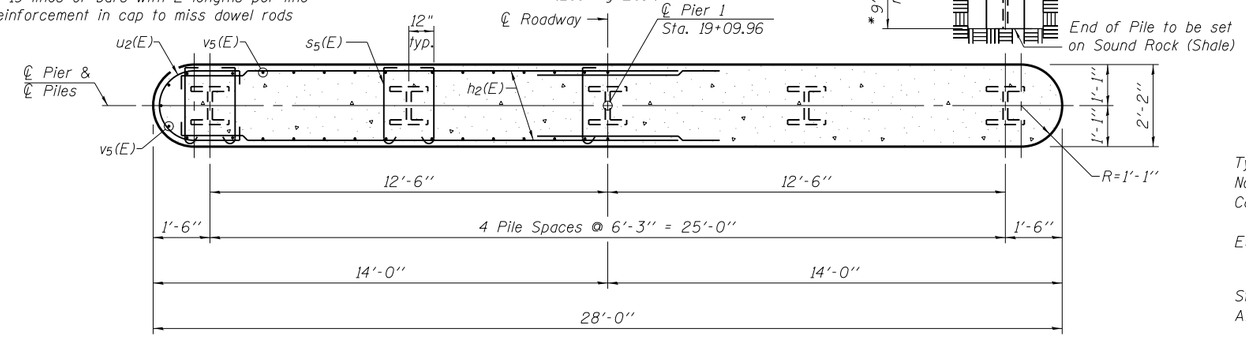


ELEVATION

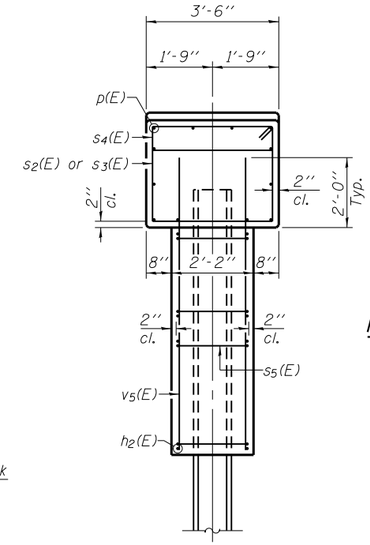
(Looking East)

*Note:
See Special Provisions for "Setting and Driving Piles in Rock.

Notes:
Bars indicated thus 19x2-#5 bars etc., indicates 19 lines of bars with 2 lengths per line
Space reinforcement in cap to miss dowel rods



SECTION A-A



END VIEW

MIN. BAR LAP

#5 Bar = 3'-7"

PILE DATA

Type & Size.....Steel HP12x53
No. Req'd.....5
Capacity.....Nominal Required Bearing = 417 Kips
See Special Provisions
Estimated Length.....44 ft.

Steel H-Piles shall be according to AASHTO M270 Grade 50.

BILL OF MATERIAL - PIER 1

BAR	NO.	SIZE	LENGTH	SHAPE
$h_2(E)$	76	#5	15'-1"	
$p(E)$	12	#7	28'-8"	
$s_2(E)$	30	#5	8'-2"	
$s_3(E)$	30	#5	8'-8"	
$s_4(E)$	34	#5	8'-5"	
$s_5(E)$	190	#4	2'-11"	
$u_1(E)$	8	#6	13'-1"	
$u_2(E)$	38	#5	7'-5"	
$v_5(E)$	60	#5	20'-10"	
Concrete Structures			Cu. Yd.	53.3
Reinforcement Bars, Epoxy Coated			Pound	4850
Furnishing Steel Piles HP12x53			Foot	220
Setting and Driving Piles in Rock			Each	5
Cofferdams (Special)			Each	1

See Sheet 22 for Pile Details.

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

AGENCY:
HANCOCK COUNTY HWY. DEPT.
DURHAM ROAD DISTRICT

PROJECT:
SECTION 14-07118-00-BR
T.R. 71 OVER THE
LA MOINE RIVER

DESIGNED: A.R.K.
CHECKED: M.R.L. & M.C.B.
DRAWN: A.D.S.
CHECKED: A.R.K. J.A.M.

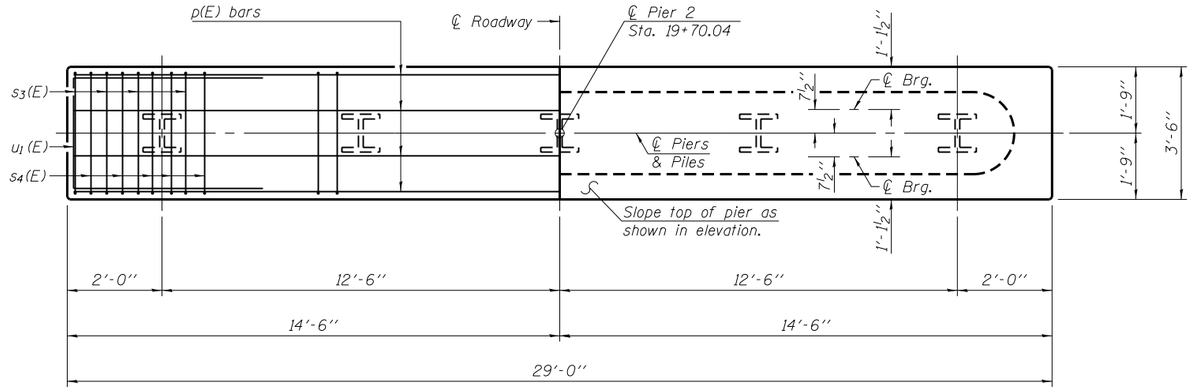
REVISIONS

REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE

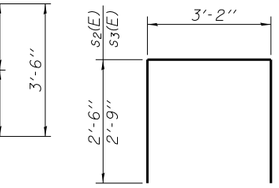
DRAWING:
PIER 1 DETAILS
14-814_PIER.dgn

JOB NUMBER:
14-814

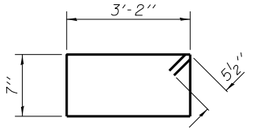
SHEET NUMBER
20 of 33



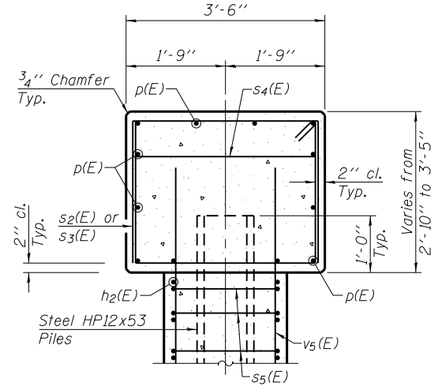
PLAN



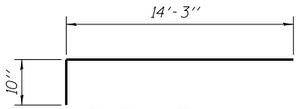
BAR s2(E) & s3(E)



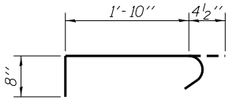
BAR s4(E)



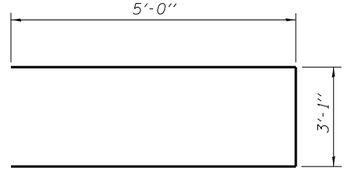
SECTION B-B



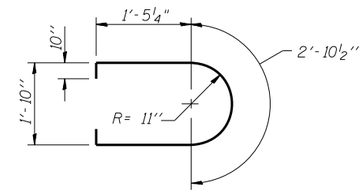
BAR h2(E)



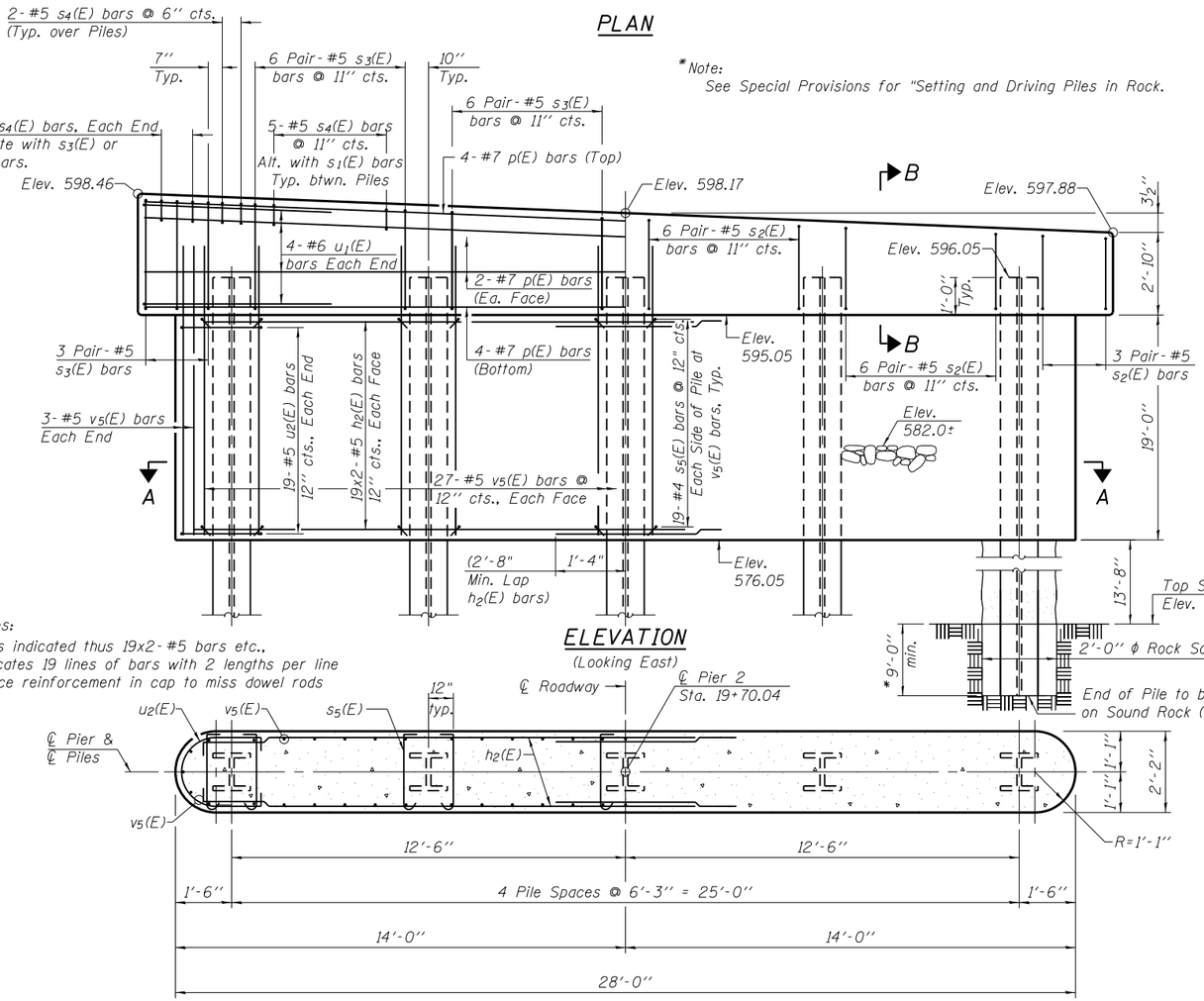
BAR s5(E)



BAR u1(E)



BAR u2(E)

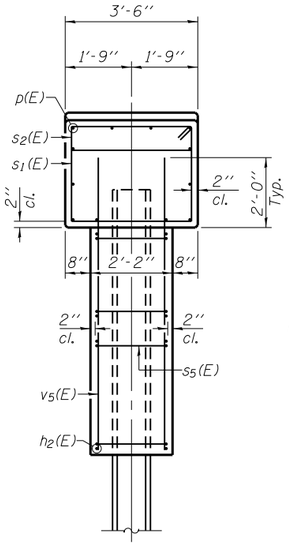


*Note:
See Special Provisions for "Setting and Driving Piles in Rock.

ELEVATION
(Looking East)

Notes:
Bars indicated thus 19x2-#5 bars etc., indicates 19 lines of bars with 2 lengths per line
Space reinforcement in cap to miss dowel rods

SECTION A-A



END VIEW

MIN. BAR LAP

#5 Bar = 3'-7"

PILE DATA

Type & Size.....Steel HP12x53
No. Req'd.....5
Capacity.....Nominal Required Bearing = 417 Kips
See Special Provisions
Estimated Length.....44 ft.

Steel H-Piles shall be according to AASHTO M270 Grade 50.

BILL OF MATERIAL - PIER 2

BAR	NO.	SIZE	LENGTH	SHAPE
$h_2(E)$	76	#5	15'-1"	
$p(E)$	12	#7	28'-8"	
$s_2(E)$	30	#5	8'-2"	
$s_3(E)$	30	#5	8'-8"	
$s_4(E)$	34	#5	8'-5"	
$s_5(E)$	190	#4	2'-11"	
$u_1(E)$	8	#6	13'-1"	
$u_2(E)$	38	#5	7'-5"	
$v_5(E)$	60	#5	20'-10"	
Concrete Structures			Cu. Yd.	53.3
Reinforcement Bars, Epoxy Coated			Pound	4850
Furnishing Steel Piles HP12x53			Foot	215
Setting and Driving Piles in Rock			Each	5
Cofferdams (Special)			Each	1

See Sheet 22 for Pile Details.

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

AGENCY:
HANCOCK COUNTY HWY. DEPT.
DURHAM ROAD DISTRICT

PROJECT:
SECTION 14-07118-00-BR
T.R. 71 OVER THE
LA MOINE RIVER

DESIGNED:	A.R.K.
CHECKED:	M.R.L. & M.C.B.
DRAWN:	A.D.S.
CHECKED:	A.R.K. J.A.M.

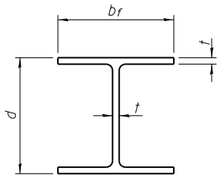
REVISIONS

REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE

DRAWING:
PIER 2 DETAILS
14-814_PIER.dgn

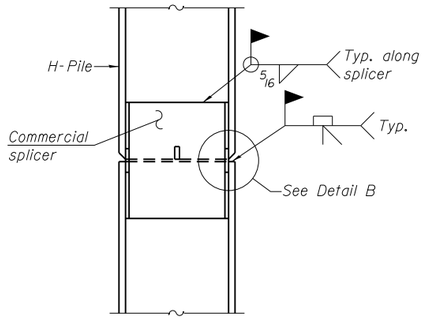
JOB NUMBER:
14-814

SHEET NUMBER
21 of 33

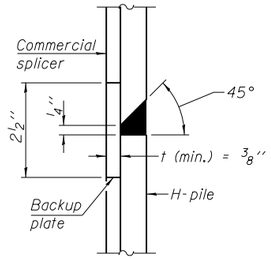


STEEL PILE TABLE

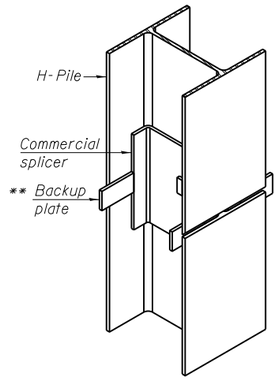
Designation	Depth d	Flange width b_f	Web and Flange thickness t
HP 14x117	14 1/4"	14 7/8"	13/16"
x102	14"	14 3/4"	11/16"
x89	13 7/8"	14 3/4"	5/8"
x73	13 5/8"	14 5/8"	1/2"
HP 12x84	12 1/4"	12 1/4"	11/16"
x74	12 1/8"	12 1/4"	5/8"
x63	12"	12 1/8"	1/2"
x53	11 3/4"	12"	7/16"
HP 10x57	10"	10 1/4"	9/16"
x42	9 3/4"	10 1/8"	7/16"
HP 8x36	8"	8 1/8"	7/16"



ELEVATION

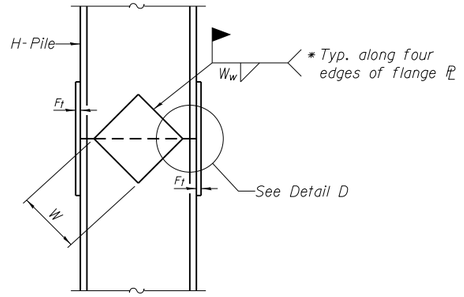


DETAIL "B"

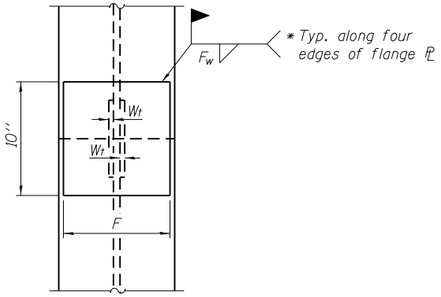


ISOMETRIC VIEW

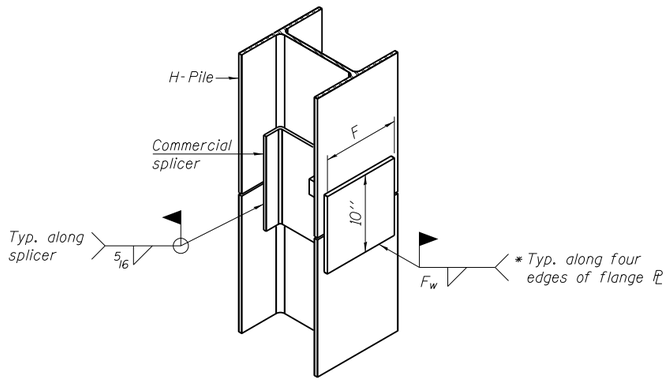
WELDED COMMERCIAL SPLICE



ELEVATION



END VIEW



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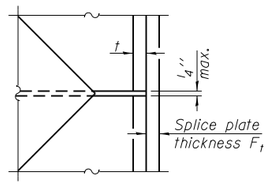


DETAIL D

Designation	F	F_t	F_w	W	W_t	W_w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	11/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

WELDED PLATE FIELD SPLICE

WELDED COMMERCIAL SPLICE ALTERNATE

* Interrupt welds 1/4" from end of web and/or each flange.

** Remove portions of backup plates that extend outside the flanges.

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

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

AGENCY:
HANCOCK COUNTY HWY. DEPT.
DURHAM ROAD DISTRICT

PROJECT:
SECTION 14-07118-00-BR
T.R. 71 OVER THE
LA MOINE RIVER

DESIGNED:	A.R.K.
CHECKED:	M.R.L.& M.C.B.
DRAWN:	A.D.S.
CHECKED:	A.R.K. J.A.M.

REVISIONS

REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE

DRAWING:
HP PILE DETAILS
14-814_PILES.dgn

JOB NUMBER:
14-814

SHEET NUMBER
22 of 33

Hancock County
Section 14-07118-00-BR
T.R. 71

Illinois Department of Transportation

SW¼, SW¼, SECTION 25
T. 7 N., R. 6 W.,
4TH P.M.

Bridge Foundation Boring Log 1

Sh. 1 of 2 Sh.

PROJECT STR.NO. 034-4138 BRIDGE OVER LAMOINE RIVER Date NOVEMBER 16, 1983

ROUTE DURHAM ROAD DISTRICT Bored By D. E. BRUUN

SEC. 81-07114-00-BR STA. Checked By S. E. GRABSKI

COUNTY HANCOCK

Boring No. 1 (W. ABUT.)
Station 17+12
Offset 1'RT ℄ SURVEY

Surface Water El.
Groundwater El. at Completion
After Hours

Description	Elevation	N	Qu t/s.f.	w (%)
Ground Surface 239.7	0			
BROWN SILTY CLAY LOAM MOIST (MEDIUM)		5	B .8	28
	-5	4	P .5	27
231.7				
BROWN SILTY CLAY LOAM (W/SAND SEAM) WET (VERY SOFT)		3	B .2	27
	-10	4	B .8	30
229.7				
GREY SILTY CLAY LOAM VERY MOIST (MEDIUM)		2	-	-
226.7	-15			
GREY SAND (FINE TO MEDIUM) W/WOOD FROM 15' to 20' WET (VERY LOOSE)		2	-	-
		2	-	-
219.7	-20			
GREY SAND (MEDIUM) WET (LOOSE) 218.2		5	-	-

Description	Elevation	N	Qu t/s.f.	w (%)
GREY SILTY CLAY LOAM WET (VERY SOFT)		4	B .2	35
	-25			
213.7		14	-	-
BROWN SAND (MEDIUM) AND GRAVEL WET (MEDIUM)				
211.7		40	-	13
GREY SHALE VERY MOIST (HARD)	-30	100 .2'	-	16
206.7		100 R.S	-	-
BORING COMPLETED	-35			
1983 Boring Log Add 348.5 to Elevations to match 2015 Survey.	-40			
	-45			

N-Standard Penetration Test-Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with 140 No. hammer falling 30".

Qu-Unconfined Compressive Strength - t/sf

w - Water Content of oven dry we[illegible]tage

Type failure:
B - Bulge Failure
S - Shear Failure
E - Estimated Value
P - Penetrometer

Hancock County
Section 14-07118-00-BR
T.R. 71

Illinois Department of Transportation

SW¼, SW¼, SECTION 25
T. 7 N., R. 6 W.,
4TH P.M.

Bridge Foundation Boring Log 2

Sh. 2 of 2 Sh.

PROJECT STR.NO. 034-4138 BRIDGE OVER LAMOINE RIVER Date NOVEMBER 16, 1983

ROUTE DURHAM ROAD DISTRICT Bored By D. E. BRUUN

SEC. 81-07114-00-BR STA. Checked By S. E. GRABSKI

COUNTY HANCOCK

Boring No. 2 (E. ABUT.)
Station 18+50
Offset ℄ SURVEY

Surface Water El.
Groundwater El. at Completion
After Hours

Description	Elevation	N	Qu t/s.f.	w (%)
Ground Surface 241.0	0			
BROWN SANDY LOAM MOIST (MEDIUM)		6	P .8	17
	-5	15	-	9
233.0				
BROWN SILT LOAM MOIST (MEDIUM)		4	P .7	23
231.0	-10			
BROWN SILTY CLAY LOAM VERY MOIST (V. SOFT)		2	B .2	31
228.5				
BROWN SAND (FINE) WET (V. LOOSE)	-15	2	-	-
226.0				
BROWN SAND (MEDIUM) WET (V. LOOSE TO MEDIUM)		*	-	-
221.0	-20			
GREY SHALE MOIST (HARD)		100 .3'	-	16

Description	Elevation	N	Qu t/s.f.	w (%)
GREY SHALE MOIST (HARD)		*	-	-
215.5	-25	100 B.S	-	15
BORING COMPLETED				
NOTE: STATION & ELEVS. SUPPLIED BY CONSULTANT. ASSUMED B.M. 60d SPIKE IN 20" DIA. TREE 53' LT. STA. 18+85 ELEV. 241.59	-30			
1983 Boring Log Add 348.5 to Elevations to match 2015 Survey	-35			
	-40			
	-45			

N-Standard Penetration Test-Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with 140 No. hammer falling 30".

Qu-Unconfined Compressive Strength - t/sf

w - Water Conte[illegible]ntage of oven dry

Type failure:
B - Bulge Failure
S - Shear Failure
E - Estimated Value
P - Penetrometer

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

ILLINOIS
IOWA
WISCONSIN

AGENCY:
HANCOCK COUNTY HWY. DEPT.
DURHAM ROAD DISTRICT

PROJECT:
SECTION 14-07118-00-BR
T.R. 71 OVER THE
LA MOINE RIVER

DESIGNED:	A.R.K.
CHECKED:	M.R.L.& M.C.B.
DRAWN:	A.D.S.
CHECKED:	A.R.K. J.A.M.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
SOIL BORING LOGS

14-814_BORING.dgn

JOB NUMBER:
14-814

SHEET NUMBER
23 of 33

FG Job # 14-814

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 2

Client: Fehr-Graham
Project Name: Section 14-07118-00-BR Durham Rd District
Project Site: Hancock County, Illinois

Boring No. B-1
Surface Elev. 588.10
Auger Depth 41' Rotary Depth NA
Start Date 09/12/15 Finish Date 0912/15

Location: 35' Left of Station 17+80

DRILLED BY: Randy Safranski, Diedrich D-50

(DEPTH) *ELEV.	DESCRIPTION OF MATERIALS	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
588.10										
587.10	Stiff Black Silty Clay	1								
586.10		2								
585.10		3	1	SS	1.2	7	S	22		
584.10		4								
583.10		5	2	SS	1.1	5	B	25		
582.10		6								
581.10		7								
580.10		8	3	SS	---	2	---	31		
579.10	Very Loose Brownish Gray Silty Loam	9								
578.10		10	4	SS	---	2	---	27		
577.10		11								
576.10		12								
575.10		13	5	SS	---	2	---	33		
574.10		14								
573.10		15								
572.10		16	6	SS	---	4	---	---		
571.10	Loose Gray Fine Sand	17								
570.10		18	7	SS	---	8	---	---		
569.10		19								
568.10		20	8	SS	---	9	---	---		

Groundwater Data: Static water level after auger removal - Elevation 582.0
Comments:

Sheet 1 of 4

32

FG Job # 14-814

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 2

Client: Fehr-Graham
Project Name: Section 14-07118-00-BR Durham Rd District
Project Site: Hancock County, Illinois

Boring No. B-1
Surface Elev. 588.10
Auger Depth 41' Rotary Depth NA
Start Date 09/12/15 Finish Date 0912/15

Location: 35' Left of Station 17+80

DRILLED BY: Randy Safranski, Diedrich D-50

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
567.10										
566.10		22								
565.10		23	9	SS	---	7	---	---		
564.10		24								
563.10	Loose Gray Fine Sand	25								
562.10		26	10	SS	---	6	---	---		
561.10		27								
560.10		28	11	SS	---	9	---	---		
559.10		29								
558.10		30								
557.10		31	12	SS	---	100 4"	---	18		
556.10	Very Dense Gray Shale	32								
555.10		33	13	SS	---	100 2"	---	16		
554.10		34								
553.10		35								
552.10		36	14	SS	---	100 1"	---	---		
551.10	Very Dense Gray Shale With Concretions	37								
550.10		38	15	SS	---	100 1"	---	---		
549.10		39								
548.10		40								
547.10	Boring Terminated	41	16	SS	---	100 1"	---	---		

Groundwater Data: Static water level after auger removal - Elevation 582.0
Comments:

Sheet 2 of 4

33

AGENCY: HANCOCK COUNTY HWY. DEPT. DURHAM ROAD DISTRICT

PROJECT: SECTION 14-07118-00-BR T.R. 71 OVER THE LA MOINE RIVER

DESIGNED: A.R.K.
CHECKED: M.R.L.& M.C.B.
DRAWN: A.D.S.
CHECKED: A.R.K. J.A.M.

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING: SOIL BORING LOGS
14-814_BORING.dgn

JOB NUMBER: 14-814

SHEET NUMBER: 24 of 33

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 2

Client: Fehr-Graham
Project Name: Section 14-07118-00-BR Durham Rd District
Project Site: Hancock County, Illinois

Boring No. B-2
Surface Elev. 588.50
Auger Depth 36' Rotary Depth NA
Start Date 09/12/15 Finish Date 0912/15

Location: 20' Left of Station 20+35

DRILLED BY: Randy Safranski, Diedrich D-50

(DEPTH) *ELEV.	DESCRIPTION OF MATERIALS	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)
588.50									
587.50	Loose Brownish Black To Brown Sandy Loam	1							
586.50		2							
585.50		3	1	SS	---	6	---	16	
584.50		4							
583.50		5	2	SS	---	5	---	20	
582.50		6							
581.50	Loose Brown Sandy Loam	7							
580.50		8	3	SS	---	3	---	21	
579.50		9							
578.50		10							
577.50	Very Loose Brownish Black Sandy Loam	11	4	SS	---	2	---	---	
576.50		12							
575.50		13	5	SS	---	2	---	---	
574.50		14							
573.50	Very Loose Brown Silty Loam To Sandy Loam	15	6	SS	---	3	---	---	
572.50		16							
571.50		17							
570.50	Loose Brownish Gray To Gray Fine Sand	18	7	SS	---	4	---	---	
569.50		19							
568.50		20							
			8	SS	---	5	---	---	

REMARKS

Groundwater Data: Static water level after auger removal - Elevation 582.0
Comments:

Sheet 3 of 4

34

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 2

Client: Fehr-Graham
Project Name: Section 14-07118-00-BR Durham Rd District
Project Site: Hancock County, Illinois

Boring No. B-2
Surface Elev. 588.50
Auger Depth 36' Rotary Depth NA
Start Date 09/12/15 Finish Date 0912/15

Location: 20' Left of Station 20+35

DRILLED BY: Randy Safranski, Diedrich D-50

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)
567.50									
566.50	Loose Gray Fine Sand	22							
565.50	Dense Gray Weathered Shale	23	9	SS	---	100/8"	---	18	
564.50		24							
563.50		25	10	SS	---	100/2"	---	17	
562.50	Very Dense Gray Shale	26							
561.50		27							
560.50		28	11	SS	---	100/1"	---	---	
559.50		29							
558.50		30	12	SS	---	100/1"	---	---	
557.50	Very Dense Gray Shale With Concretions	31							
556.50		32							
555.50		33	13	SS	---	100/1"	---	---	
554.50		34							
553.50		35							
552.50	Boring Terminated	36	14	SS	---	100/1"	---	---	
551.50		37							
550.50		38							
549.50		39							
548.50		40							
547.50		41							

REMARKS

Groundwater Data: Static water level after auger removal - Elevation 582.0
Comments:

Sheet 4 of 4

35

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

ILLINOIS
IOWA
WISCONSIN

AGENCY:
HANCOCK COUNTY HWY. DEPT.
DURHAM ROAD DISTRICT

PROJECT:
SECTION 14-07118-00-BR
T.R. 71 OVER THE
LA MOINE RIVER

DESIGNED: A.R.K.
CHECKED: M.R.L. & M.C.B.
DRAWN: A.D.S.
CHECKED: A.R.K. J.A.M.

REVISIONS

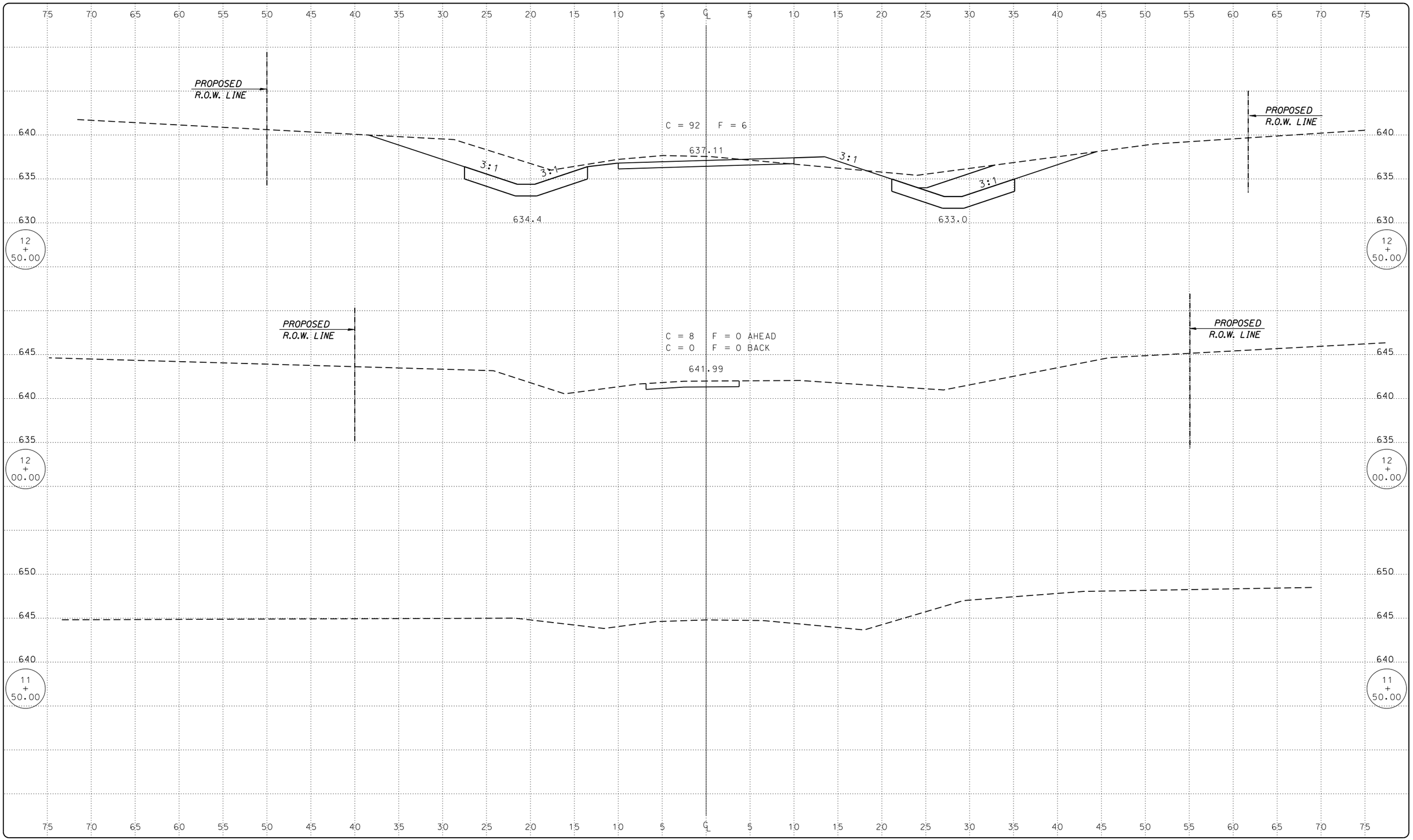
REV. NO.	DESCRIPTION	DATE

DRAWING:
SOIL BORING LOGS

14-814_BORING.dgn

JOB NUMBER:
14-814

SHEET NUMBER
25 of 33



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

AGENCY:
HANCOCK COUNTY HWY. DEPT.
DURHAM ROAD DISTRICT

PROJECT:
SECTION 14-07118-00-BR
T.R. 71 OVER THE
LA MOINE RIVER

DESIGNED:	G.J.C.
CHECKED:	R.D.F.
DRAWN:	A.D.S.
CHECKED:	R.D.F.

REVISIONS

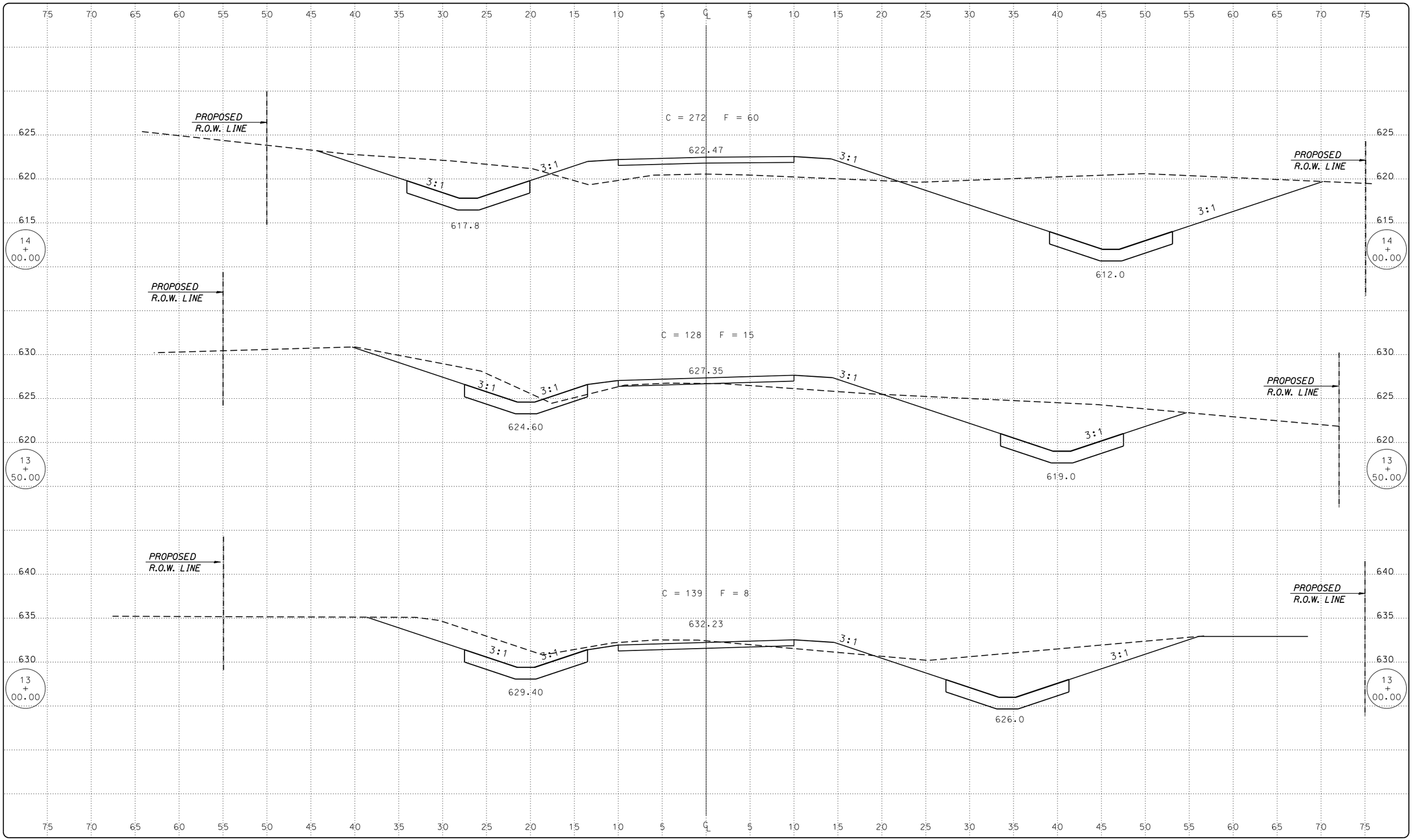
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE

DRAWING:
STATION CROSS SECTIONS
STA. 11+50 TO STA. 12+50

14-814_PR-RDWY.dgn

JOB NUMBER:
14-814

SHEET NUMBER
26 of 33



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

AGENCY:
HANCOCK COUNTY HWY. DEPT.
DURHAM ROAD DISTRICT

PROJECT:
SECTION 14-07118-00-BR
T.R. 71 OVER THE
LA MOINE RIVER

DESIGNED:	G.J.C.
CHECKED:	R.D.F.
DRAWN:	A.D.S.
CHECKED:	R.D.F.

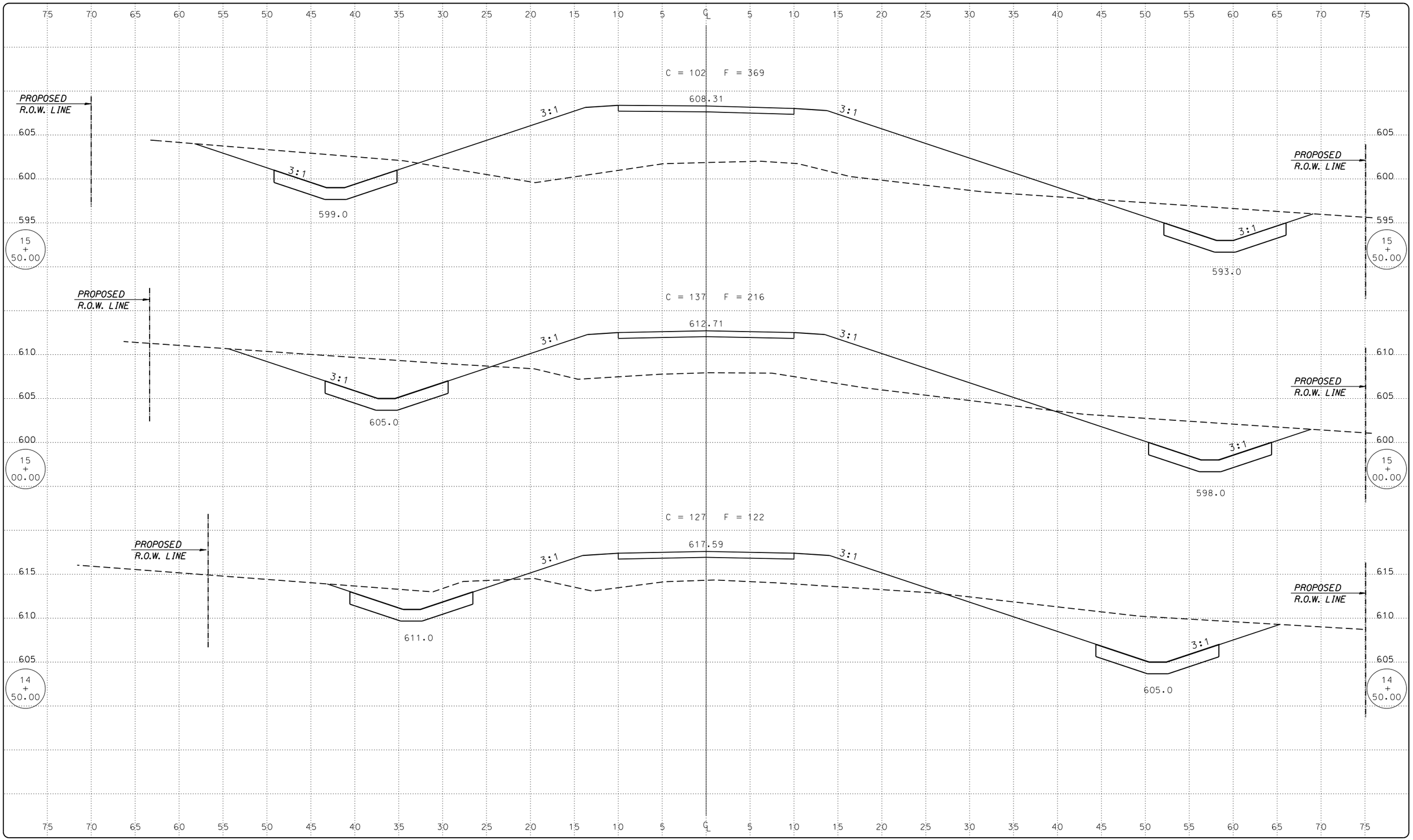
REVISIONS

REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE

DRAWING:
STATION CROSS SECTIONS
STA. 13+00 TO STA. 14+00
14-814_PR-RDWY.dgn

JOB NUMBER:
14-814

SHEET NUMBER
27 of 33



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

AGENCY:
HANCOCK COUNTY HWY. DEPT.
DURHAM ROAD DISTRICT

PROJECT:
SECTION 14-07118-00-BR
T.R. 71 OVER THE
LA MOINE RIVER

DESIGNED:	G.J.C.
CHECKED:	R.D.F.
DRAWN:	A.D.S.
CHECKED:	R.D.F.

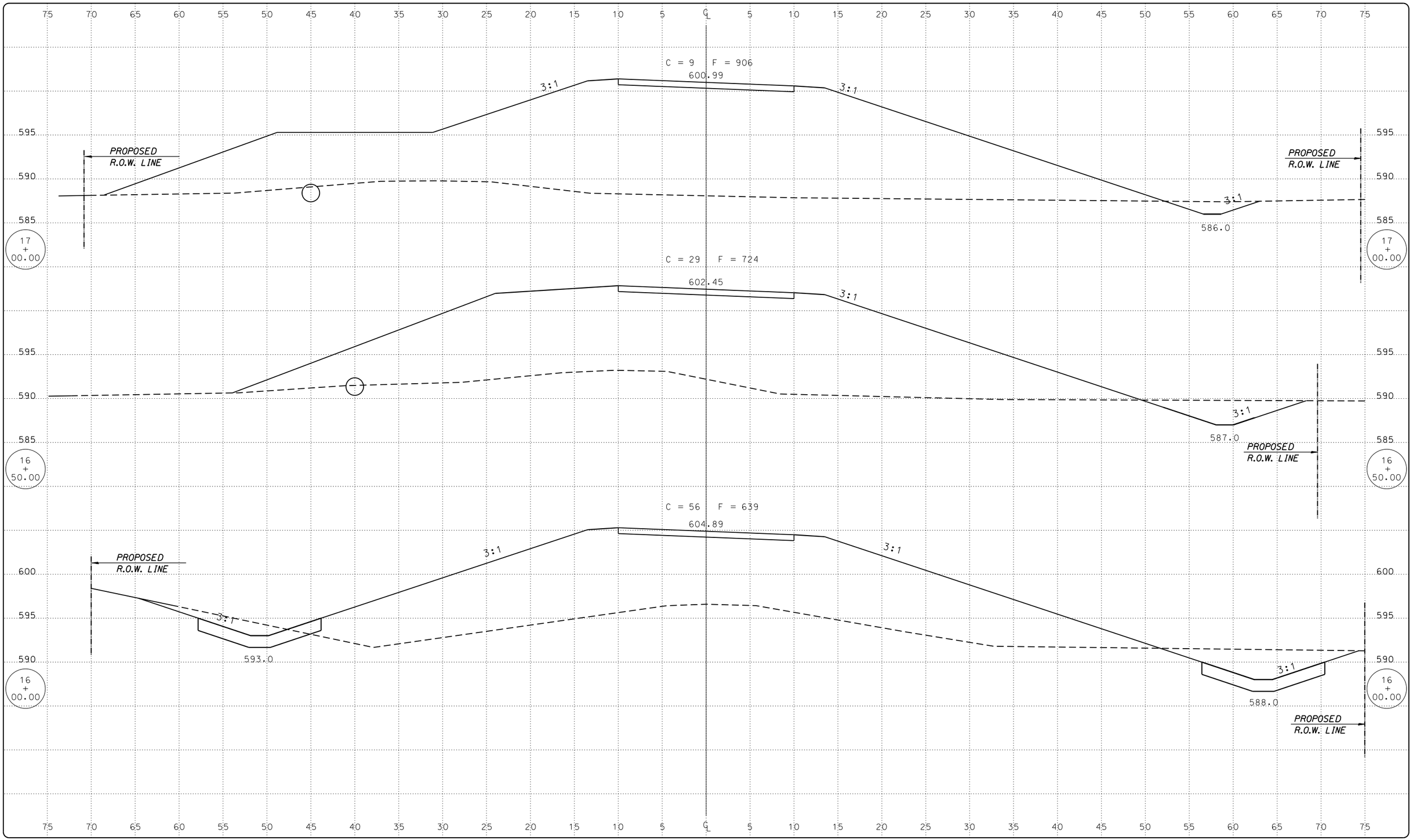
REVISIONS

REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE

DRAWING:
STATION CROSS SECTIONS
STA. 14+50 TO STA. 15+50
14-814_PR-RDWY.dgn

JOB NUMBER:
14-814

SHEET NUMBER
28 of 33



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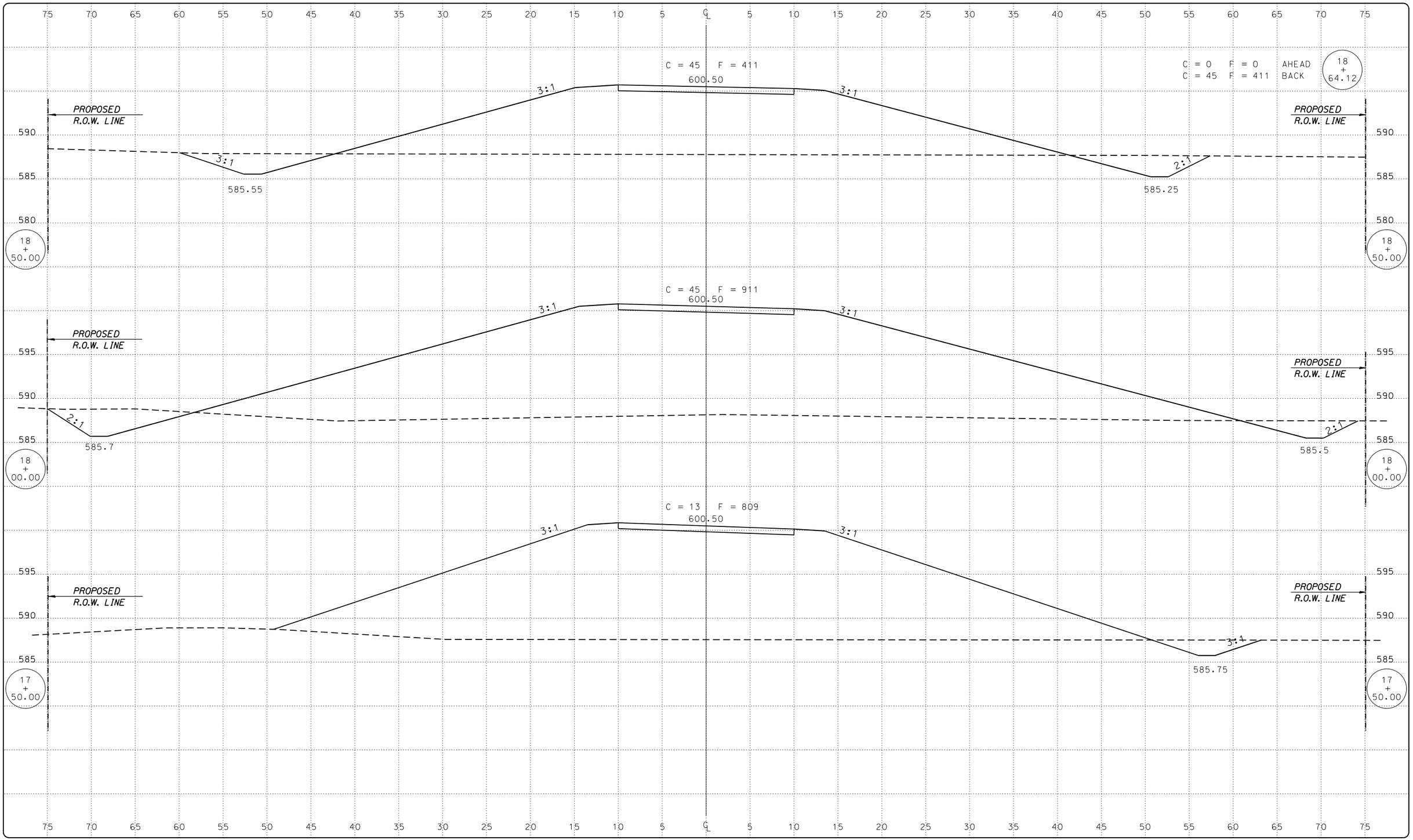
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE

DRAWING:
STATION CROSS SECTIONS
STA. 16+00 TO STA. 17+00
14-814_PR-RDWY.dgn

JOB NUMBER:
14-814

SHEET NUMBER
29 of 33



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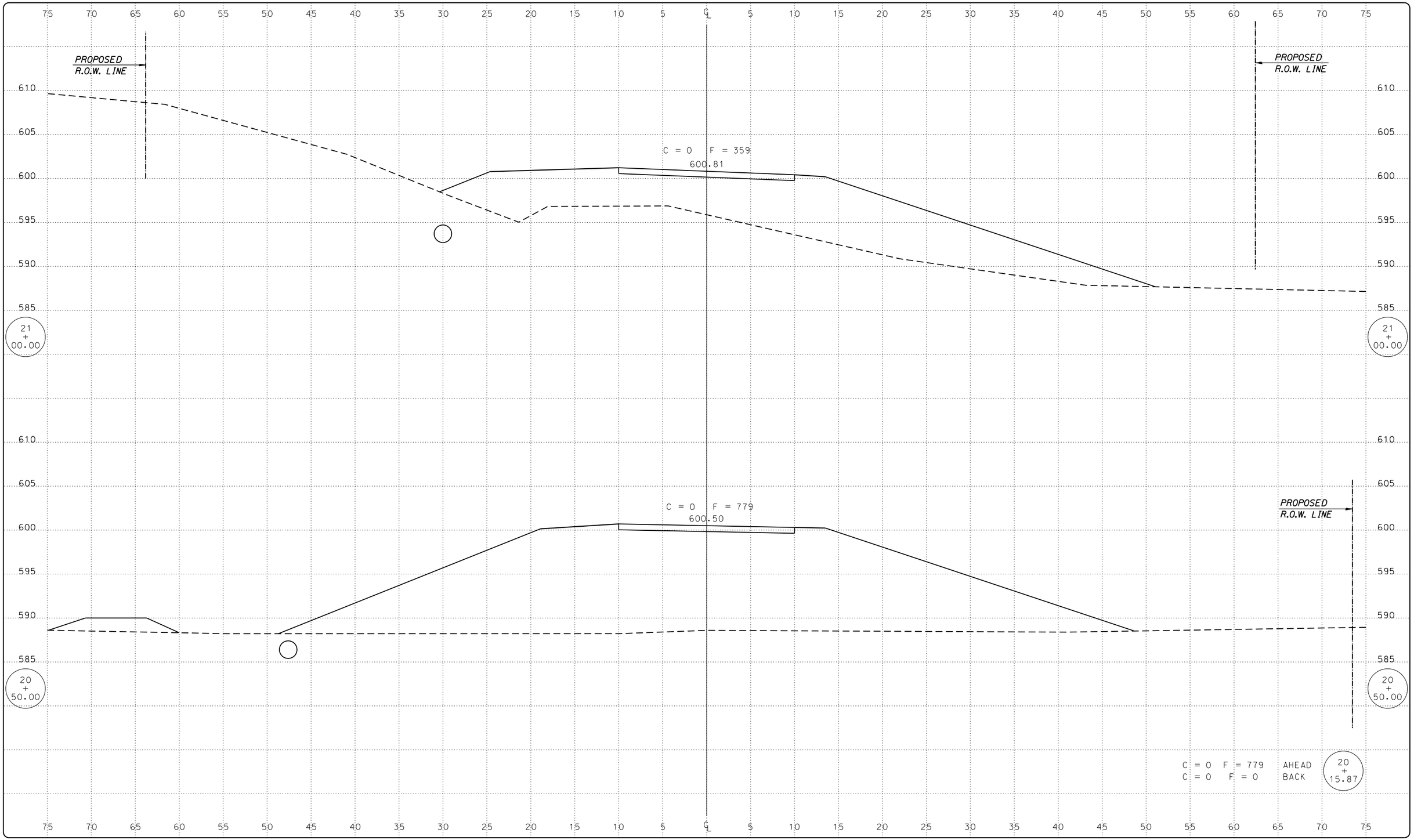
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE

DRAWING:
STATION CROSS SECTIONS
STA. 17+50 TO STA. 18+50

14-814_PR-RDWY.dgn

JOB NUMBER:
14-814

SHEET NUMBER
30 of 33



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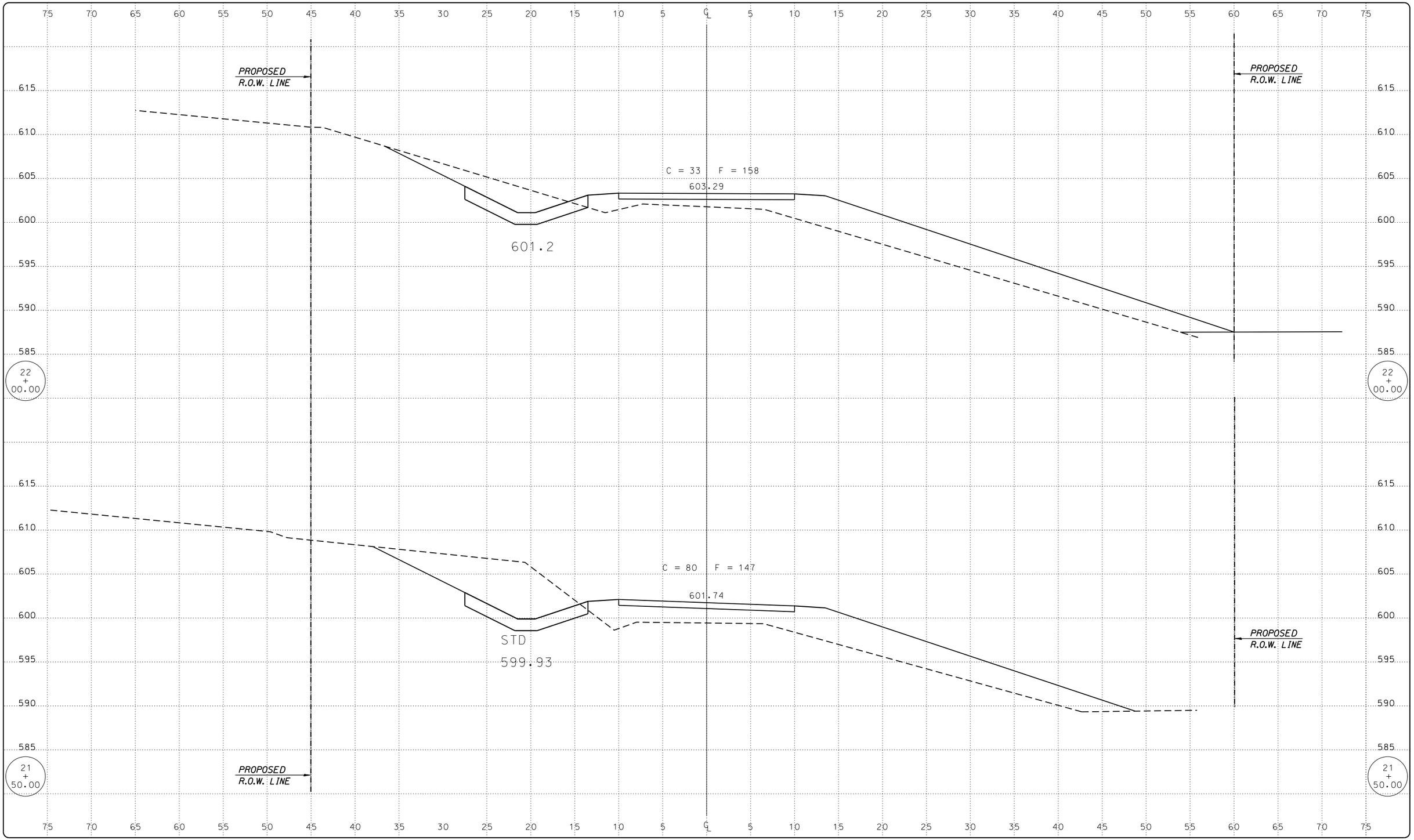
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE

DRAWING:
STATION CROSS SECTIONS
STA. 20+50 TO STA. 21+00
14-814_PR-RDWY.dgn

JOB NUMBER:
14-814

SHEET NUMBER
31 of 33



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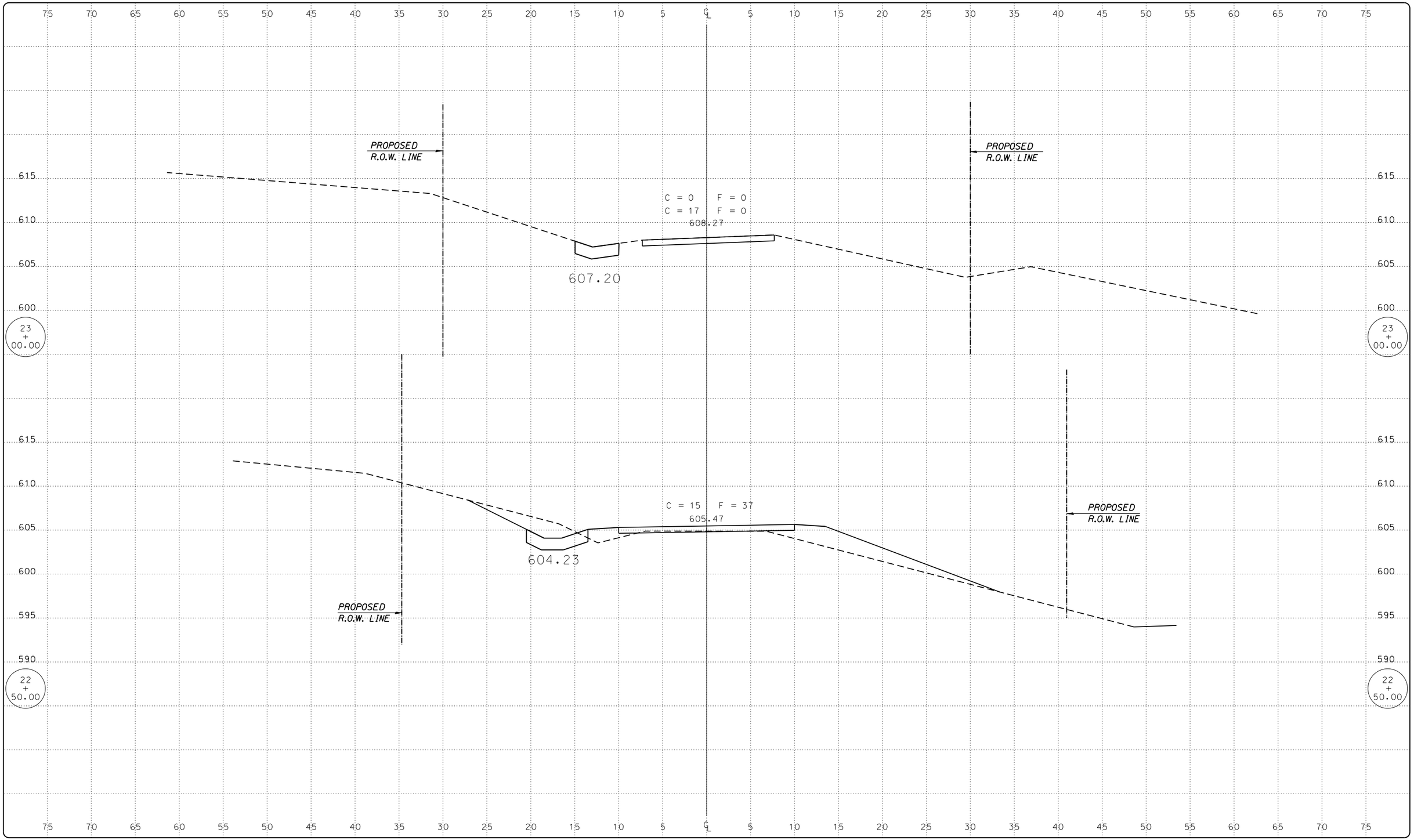
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE

DRAWING:
STATION CROSS SECTIONS
STA. 21+50 TO STA. 22+00
14-814_PR-RDWY.dgn

JOB NUMBER:
14-814

SHEET NUMBER
32 of 33



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REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE
REV. NO.	DESCRIPTION	DATE

DRAWING:
STATION CROSS SECTIONS
STA. 22+50 TO STA. 23+00
14-814_PR-RDWY.dgn

JOB NUMBER:
14-814

SHEET NUMBER
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