BRIDGE REPLACEMENT – PPCB
201'-4" x 30'-0", 0° SKEW
BROSCHBP–C003(69)––NC–03

STATE OF IOWA ALLAMAKEE CO.

FHWA NO. 061140
LETTING DATE
NOVEMBER 17, 2026

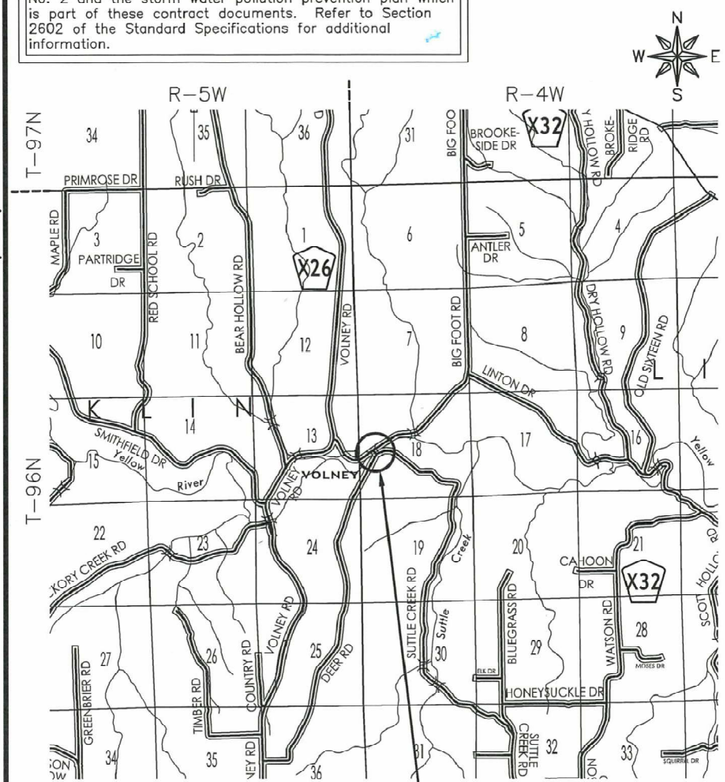
281_01
9/28/22

SECTION 404 PERMIT AND CONDITIONS

Construct this project according to the requirements of U.S. Army Corps of Engineers Nationwide Permit No. 14, Permit No. CEMVR-RD-2025-0571. A copy of this permit is available from the Iowa DOT website (http://www.envpermits.iowadot.gov/). The U.S. Army Corps of Engineers reserves the right to visit the site without prior notice.

This project is covered by Iowa DNR Floodplain Construction Permit No. 2025–1077FP–01

This project is covered by the Iowa Department of Natural Resources NPDES General Permit No. 2. The contractor shall carry out the terms and conditions of General Permit No. 2 and the storm water pollution prevention plan which is part of these contract documents. Refer to Section 2602 of the Standard Specifications for additional information.



LOCATION MAP, NO SCALE



PROJECT LOCATION
SECTION 18 OF LINTON TOWNSHIP, T–96N R–4W ON SUTTLE CREEK ROAD OVER YELLOW RIVER.
FHWA NO. 061140 ALLAMAKEE CO. STRUCTURE NO. 18B1
BOP STA. 0+20.00
EOP STA 4+00.00

IOWADOT

PLANS OF PROPOSED IMPROVEMENTS FOR THE
SECONDARY ROAD SYSTEM

ALLAMAKEE COUNTY, IOWA

BRIDGE REPLACEMENT – PPCB
201'–4" x 30'–0", 0° SKEW
PRETENSIONED, PRESTRESSED CONTINUOUS CONCRETE BRIDGE
ON SUTTLE CREEK ROAD
OVER YELLOW RIVER, BRIDGE 18B1

PROJECT NO. BROSCHBP–C003(69)––NC–03

REFER TO THE PROPOSAL FORM FOR LIST OF APPLICABLE SPECIFICATIONS.

VALUE ENGINEERING SAVES. REFER TO ARTICLE 1105.13 OF THE SPECIFIATIONS.

REFER TC SHEET C.02 FOR A LISTING OF APPLICABLE STANDARD ROAD PLANS.

REFER TC SHEET C.02 FOR A LISTING OF APPLICABLE ENGLISH BRIDGE STANDARDS.

2017, TRAFFIC COUNT = 130 AADT

NO MILEAGE SUMMARY

SHOP DRAWINGS AND FALSE WORK DRAWINGS SHALL BE SUBMITTED TO THE ALLAMAKEE COUNTY ENGINEER, BRIAN RIDENOUR, 563.568.4574, bridenour@allamakeecounty.iowa.gov, 870 4TH STREET NW, P.O. BOX 493, WAUKON, IOWA 52172

IOWA ONE CALL
1-800-292-8989
www.iowaonecall.com
811 Know what's below. Call before you dig.

REVISIONS	STATE	FHWA REGION	F.Y.	SHEET	TOTAL
	IOWA	7		1	59

PROJECT IDENTIFICATION NUMBER

R.O.W. PROJECT NUMBER

PROJECT NUMBER
BROSCHBP–C003(69)––NC–03

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
PROJ. No. 21–749

INDEX OF SHEETS

105–3
10–18–05

NO.	DESCRIPTION
A.01	TITLE SHEET
A.02	LEGEND
A.03	SITE MAP
B.01–B.02	TYPICAL CROSS SECTION AND TABULATIONS
C.01	ESTIMATED QUANTITIES & REFERENCE NOTES
C.02–C.04	TABULATIONS
D.01–D.04	ROADWAY PLAN & PROFILES
E.01	SIDE ROAD PLAN & PROFILE
G.01–G.02	ALIGNMENT & CURVE DATA
H.01	RIGHT–OF–WAY & EASEMENTS
J.01–J.03	TRAFFIC CONTROL PLAN
L.01–L.02	INTERSECTION PLANS
M.01	STORM SEWER PLAN & PROFILE
Q.01	SOIL BORING LOGS
RC.01–RC.02	STORMWATER PPP
RR.01	EROSION CONTROL PLAN
U.01–U.03	REMOVAL PLAN
U.04	DETAILS
V.01	BRIDGE SITUATION PLAN
V.02	DECK GRADES & PILE DESIGN
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V.05–V.20	SEMI–INTEGRAL ABUTMENT STANDARD DETAILS
W.01–W.08	CROSS SECTIONS
59	TOTAL SHEETS

APPROVED
ALLAMAKEE COUNTY

BOARD OF SUPERVISORS

Tom Clark — Date 8/12/26

Dan Byrnes — Date 8/17/26

Dennis Keatley — Date 8/17/26

COUNTY ENGINEER

Brian T. Ridenour — Date 8-17-2026

LICENSED PROFESSIONAL ENGINEER
RYAN M. WICKS
16341
IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Ryan M. Wicks — 8/14/2026
Ryan M. Wicks, P.E. — Date
License Number 16341
My license renewal date is December 31, 2027.
Pages or sheets covered by this seal: All

02/04/2021	G:\C3D\21\21–749 Suttle Creek Rd Bridge\Plans\21–749 Plans.dwg	ENGLISH	IOWA DOT	DESIGN TEAM RMW/AFE	ALLAMAKEE COUNTY	PROJECT NUMBER BROSCHBP–C003(69)––NC–03	SHEET NUMBER A.01

ABBREVIATIONS

<	ANGLE
ABC	AGGREGATE BASE COURSE
AC	ACRE(S)
ACI	AMERICAN CONCRETE INSTITUTE
AGR	AGGREGATE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALT	ALTERNATE
ARCH	ARCHITECT
ASPH	ASPHALT
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
B	BALL VALVE
BFP	BACKFLOW PREVENTER
BIT	BITUMINOUS
BLDG	BUILDING
BLK	BLOCKING
BM	BENCHMARK
BOT	BOTTOM
BSMT	BASEMENT
BV	BUTTERFLY VALVE
B–B	BACK–TO–BACK OF CURB DIMENSION
CL or ℄	CENTERLINE
C TO C	CENTER TO CENTER
C & G	CURB AND GUTTER
CF	CUBIC FEET
CHD	CHORD LENGTH
CI	CAST IRON PIPE
CHK	CHECK VALVE
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CTY	COUNTY
CONC	CONCRETE
CONT	CONTINUOUS
C–B	CENTERLINE TO BACK OF CURB DIMENSION
COORD	COORDINATE
CU	COPPER PIPING
CTRS	CENTERS
CY	CUBIC YARDS
CS	CORPORATION STOP
D	DEGREE OF CURVE
DEP	DEPRESSED
DET	DETAIL
DIAG	DIAGONAL
DIM	DIMENSION
DI	DUCTILE IRON PIPE
DN	DOWN
DNSTR	DOWNSTREAM
DP	DRAINAGE PIPE/STORM PIPE
DWG	DRAWING
E	EAST
EJ	EXPANSION JOINT
EL, ELEV	ELEVATION
EP	EDGE OF PAVEMENT
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
EW	EACH WAY
EXP	EXPANSION
EX, EXIST	EXISTING
EXT	EXTERIOR
E =	EXTERNAL DISTANCE
FD	FLOOR DRAIN
FDN	FOUNDATION
FE	FIELD ENTRANCE
FF	FINISH FLOOR
FIL	FILLET
FIN	FINISH
FL	FLOW LINE
FLR	FLOOR
FM	FORCE MAIN
FND	FOUND
FRMG	FRAMING
FTG	FOOTING
F–F	FACE TO FACE
GA	GAUGE
GI	GALVANIZED IRON PIPE
GRD	GRADE
GRS	GRATING SUPPORT
GRT	GROUT
GV	GAS VALVE
GYP	GYPSUM
HSE	HOUSE
HC	HORIZONTAL CURVE
HMA	HOT MIX ASPHALT
HNGR	HANGER
HORIZ	HORIZONTAL
H.P.	HIGH POINT
HW	HOT WATER
HWH	HOT WATER HEATER
Δ =	CENTRAL ANGLE
I	MOMENT OF INERTIA
ID	INSIDE DIAMETER
INT	INTERIOR
INV	INVERT ELEVATION; BASED ON BENCH MARK DATUM
IP	IRON PIPE
JST	JOIST
L	LENGTH OF CURVE
LAT	LATERAL
LAV	LAVATORY
LF	LINEAL FEET
L.P.	LOW POINT
LT	LEFT OF SURVEY BASE LINE
MAX	MAXIMUM
ME	MATCH EXISTING
MH	MANHOLE
MIN	MINIMUM
MJ	MECHANICAL JOINT
MTL	METAL
N	NORTH
No. OR #	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OO	OUTSIDE TO OUTSIDE
OPNG	OPENING
OPP	OPPOSITE
PC	POINT OF CURVATURE
PCC	PORTLAND CEMENT CONCRETE
PCF	POUNDS PER CUBIC FOOT
PDP	PERFORATED DRAIN PIPE
PE	POLYETHYLENE PIPE
PI	POINT OF INTERSECTION
PL	PLATE
PLG	PLUG VALVE
PLP	POLYPROPYLENE PIPE
PLYWD	PLYWOOD
PM	PRINCIPAL MERIDIAN
PR	PRESSURE REGULATORS
PRC	POINT OF REVERSE CURVATURE
PRESS	PRESSURE
PR, PROP	PROPOSED
PRV	PRESSURE REDUCING VALVE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSL	PIPE SLEEVE
PT	POINT OF TANGENCY
PLG	PLUG VALVE
PVC	POLYVINYL CHLORIDE (PLASTIC) PIPE
R	RADIUS
RDCR	REDUCER
RCCP	REINFORCED CONCRETE CYLINDER PIPE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
REINF	REINFORCING
REQD	REQUIRED
ROW	RIGHT OF WAY
RFTR	RAFTER
RND	ROUND
RR	RAILROAD
RRSP	RAILROAD SPIKE
RT	RIGHT
R&R	REMOVE AND REPLACE
S	SOUTH
SB	STREAM BED
SCHED	SCHEDULE
SEC	SECTION
SF	SQUARE FEET
SHR	SHOWER
SHT	SHEET
SHTG	SHEATHING
SP	SANITARY PIPE
SPA	SPACING OR SPACES
SPEC	SPECIFICATION
SQ	SQUARE
SS	SANITARY SERVICE
STA	STATION
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
SW	SIDEWALK
SY	SQUARE YARDS
SYM	SYMMETRICAL
TAN	TANGENT LENGTH
TBC	TOP BACK OF CURB
TBM	TEMPORARY BENCH MARK; BASED ON BENCHMARK DATUM
TD	TILE DRAIN
THK	THICK
TR	TREAD
TY	TYPE
TYP	TYPICAL
U.O.N.	UNLESS OTHERWISE NOTED
UP	UTILITY POLE
UPSTR	UPSTREAM
UR	URINAL
USGS	US GEOLOGICAL SURVEY
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
VOL	VOLUME
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPRC	VERTICAL POINT OF REVERSE CURVATURE
VPT	VERTICAL POINT OF TANGENCY
W	WEST
WC	WATER CLOSET
WF	WIDE FLANGE
WM	WATER MAIN
WMQ	WATER MAIN QUALITY
WV	WATER VALVE
WGT	WEIGHT
WP	WEATHER PROOF
WS	WATER SERVICE
WWF	WELDED WIRE FABRIC
W/	WITH
W/O	WITHOUT
XP	EXPLOSION PROOF

HATCH PATTERNS

- EARTH – FILL
- EARTH – UNDISTURBED
- ROCK (GEOLOGICAL)
- STONE OR RIP RAP
- GRAVEL
- CONCRETE
- CONCRETE BLOCK
- CMU
- ASPHALT PAVEMENT
- BRICK
- STEEL
- INSULATION (LOOSE/ BATT)
- INSULATION (RIGID)
- WOOD (ROUGH)
- WOOD (BLOCKING)
- WOOD (FINISH)
- DETECTABLE WARNING

SYMBOLS

CIVIL

EXISTING		PROPOSED
EXISTING R.O.W.	RIGHT–OF–WAY LINE	PROPOSED R.O.W.
	PROPERTY LINE	
	CENTERLINE	
	SETBACK LINE	
	EASEMENT LINE	
	SECTION LINE	
	SECTION CORNER	
N 1000.00 E 1000.00	COORDINATE POINT ON GRID SYSTEM	
FND	FOUND OR SET PROPERTY PIN	SET
	RIGHT–OF–WAY MARKER	
	BENCHMARK	
600	CONTOUR LINE	600
000.00 FG	SPOT ELEVATION (AT •)	000.00 FG
X X	FENCE LINE	X X
	SILT FENCE LINE	
	CURB AND GUTTER	
	TIP OUT CURB AND GUTTER	
	SAWCUT, LIMITS OF PAVEMENT REMOVAL & REPLACEMENT	
X"	DECIDUOUS TREE W/ SIZE	X"
X"	CONIFEROUS TREE W/ SIZE	X"
X"	TREE STUMP	
	HEDGEROW	
	BUSH OR SHRUB	
	TREE LINE	
CL	CONSTRUCTION LIMIT LINE	CL
	SIGN (MULTIPLE POST, SINGLE POST, STREET SIGN)	
	SIGN (PYLON)	
	GUARD RAIL	
	RAILROAD TRACKS	
	BUILDING	
	MAILBOX	
	FLAGPOLE	
	BOLLARD	
AC	AIR CONDITIONER	

MISC

EXISTING		PROPOSED
S.B. #XX	SOIL BORING LOCATION AND NUMBER	S.B. #XX
MW #XX	MONITORING WELL	MW #XX
	REVISION NUMBER	1
	OUTLINE OF DETAILED AREA	
	SECTION NUMBER / SHEET WHERE SHOWN	A / S–

SANITARY SEWER

EXISTING		PROPOSED
SAN	SANITARY SEWER	SAN
SSV SSV	SANITARY SEWER SERVICE	SSV SSV
FM	SANITARY SEWER FORCE MAIN	FM
	SANITARY CLEANOUT	CO
S	SANITARY MANHOLE	
	WYE FITTING	

WATER

EXISTING		PROPOSED
WSV WSV	WATER SERVICE	WSV WSV
W W	WATER PIPE	W W
	FIRE HYDRANT	
	YARD HYDRANT	
	WATER VALVE WITH BOX	
	CURB STOP W/CURB BOX	
	REDUCER	
W	WATER VALVE VAULT	W
	11.25° BEND	
	22.50° BEND	
	45° BEND	
	90° BEND	
	TEE	
	CAP	
M	WATER METER	M
	SPRINKLER HEAD	
	TRACER WIRE BOX	

STORM SEWER

EXISTING		PROPOSED
ST ST	STORM SEWER	ST ST
DT DT	DRAIN TILE	DT DT
	DITCH LINE (PAVED)	
	DITCH LINE (UNPAVED)	
D	STORM MANHOLE	
	CATCH BASIN	
	STORM SEWER INLET	
	STORM SEWER INLET – BEHIND CURB	
	DOWNSPOUT	
X" TYPE	CULVERT AND SIZE	X" TYPE
	RCCP OR RCP EQRS (RCAP) END SECTION	
	METAL OR HDPE END SECTION	
	FLOW DIRECTION	

EROSION CONTROL

EXISTING		PROPOSED
	EROSION CONTROL BLANKET	
	TEMPORARY AND PERMANENT SEEDING AREA	
	UNDISTURBED AREA	
	STABILIZED CONSTRUCTION ENTRANCE	
	SILT FENCE	
	INLET PROTECTION	
	TEMPORARY SEDIMENT TRAP	
	CULVERT INLET PROTECTION	
	ROCK OUTLET PROTECTION	
	ROCK CHECK DAM – COURSE AGGREGATE	
	ROCK CHECK DAM – RIP RAP	
	DITCH CHECK	

UTILITY

EXISTING		PROPOSED
FO FO	FIBER OPTIC LINE	FO FO
TV TV	UNDERGROUND TV CABLE	TV TV
	CABLE TV RISER PEDESTAL	
OU	OVERHEAD UTILITY	OU
UE UE	UNDERGROUND ELECTRIC	UE UE
	ELECTRIC RISER PEDESTAL	
E	ELECTRIC MANHOLE	E
T T	UNDERGROUND TELEPHONE	T T
	TELEPHONE RISER PEDESTAL	
T	TELEPHONE MANHOLE	T
	UTILITY POLE	
	UTILITY POLE W/ METER	
	UTILITY POLE W/ TRANSFORMER	
	UTILITY POLE W/ LIGHT	
	UTILITY POLE WITH GUY WIRE AND ANCHOR	
	LIGHT (MAST MOUNTED)	
	LIGHT POLE (SINGLE FIXTURE)	
	YARD LIGHT	
G G	GAS MAIN	G G
M	GAS METER	M
	GAS VALVE	
	GAS STRUCTURE	
XFR	TRANSFORMER	
XFR	GENERATOR	

TRAFFIC RELATED

EXISTING		PROPOSED
	CONTROLLER	
	MAST ARM ASSEMBLY AND POLE	
	SIGNAL HEAD AND POST	
	SIGNAL HEAD	
	PEDESTRIAN HEAD	
	PEDESTRIAN PUSH–BUTTON	
	HAND HOLE	
	DOUBLE HAND HOLE	
	HAND HOLE OR JUNCTION BOX	
	HEAVY–DUTY HAND HOLE	
(5" – 2")	EXISTING CONDUIT (LENGTH AND SIZE) PROP GALVANIZED STEEL OR PVC CONDUIT UPPER NUMERAL INDICATES LENGTH "T" INDICATES CONDUIT IN TRENCH "P" INDICATED CONDUIT PUSHED LOWER NUMERAL INDICATES SIZE AND TYPE	5' – T 2" GS–PVC
	LUMINAIRE	
	ARROW – THROUGH, TURN LEFT	
	ARROW – THROUGH	
	ARROW – TURN LEFT	
	ARROW – TURN RIGHT	
ONLY	ONE DIRECTION TURN ONLY	ONLY
	HANDICAPPED PARKING STALL	
	TRAFFIC DETECTOR LOOP	
	TRAFFIC CONTROL BOX	

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP–C003(69)––NC–03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

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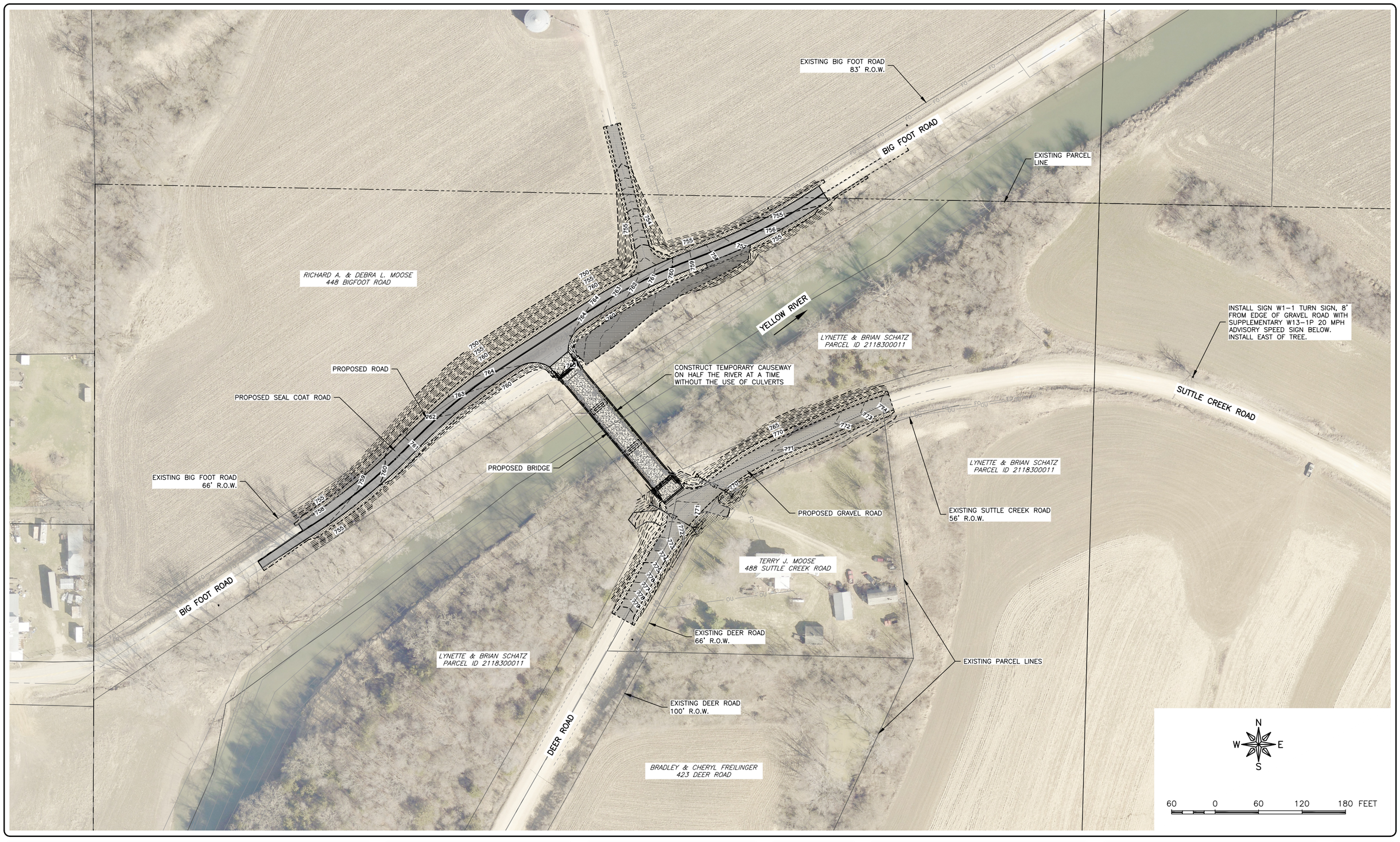
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JOB NUMBER: 21–749

SHEET NUMBER: A.02

PLOT DATE: 8/18/26

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ILLINOIS
IOWA
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PLOT DATE: 8/18/26

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REVISIONS

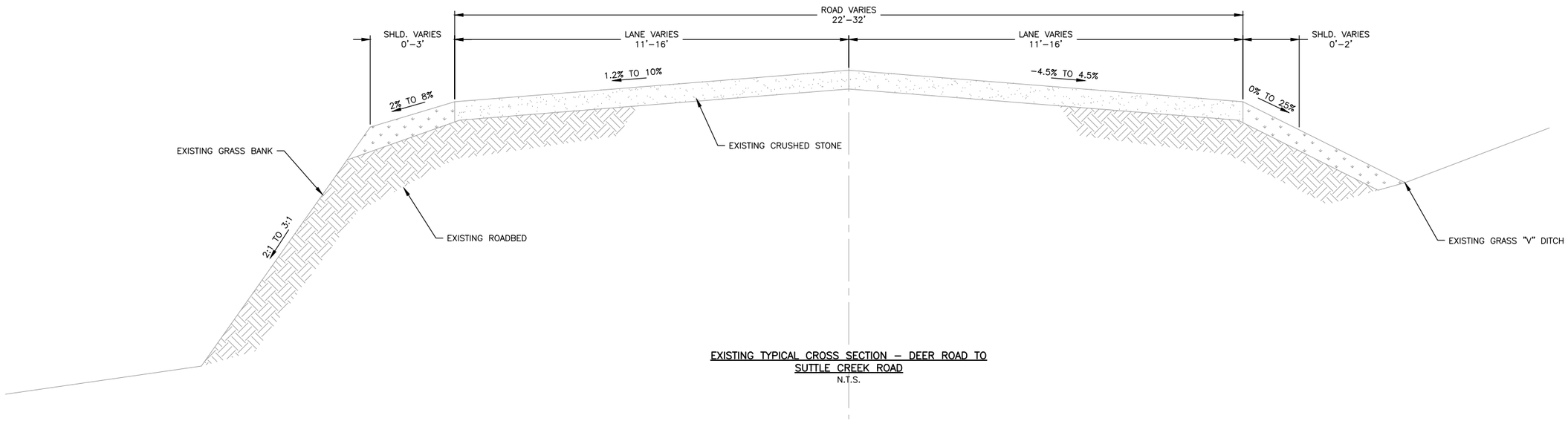
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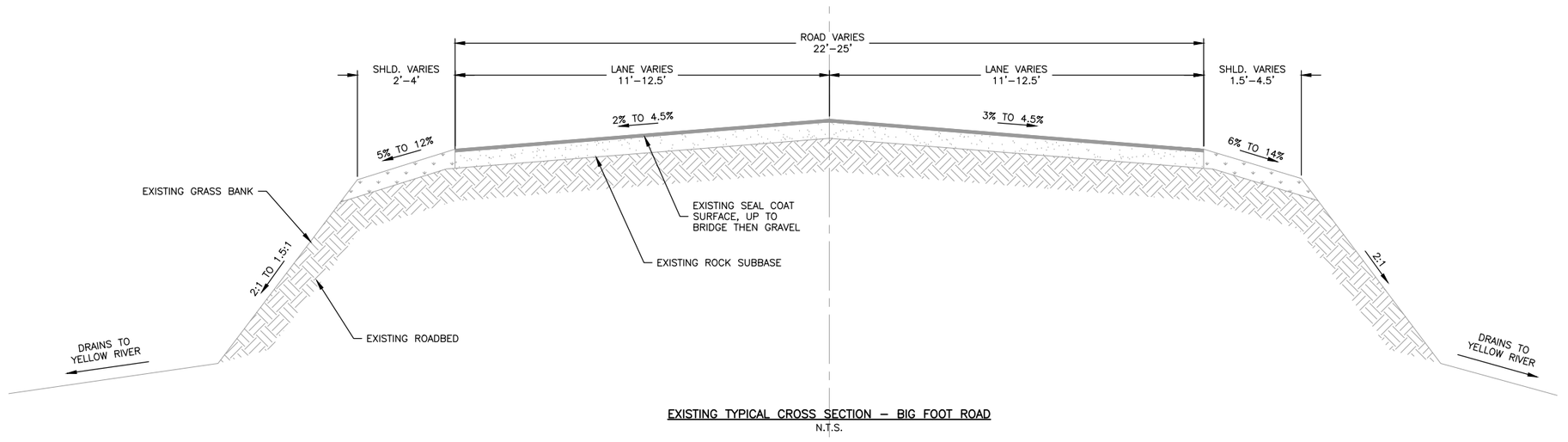
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21-749

SHEET NUMBER:
A.03



EXISTING TYPICAL CROSS SECTION – DEER ROAD TO SUTTLE CREEK ROAD

N.T.S.



EXISTING TYPICAL CROSS SECTION – BIG FOOT ROAD

N.T.S.

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ENGINEERING & ENVIRONMENTAL
ILLINOIS
IOWA
WISCONSIN

PLOT DATE: 8/18/26

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OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
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ALLAMAKEE COUNTY
BROSCHBP–C003(69)––NC–03

DRAWN BY: AFE
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REVISIONS

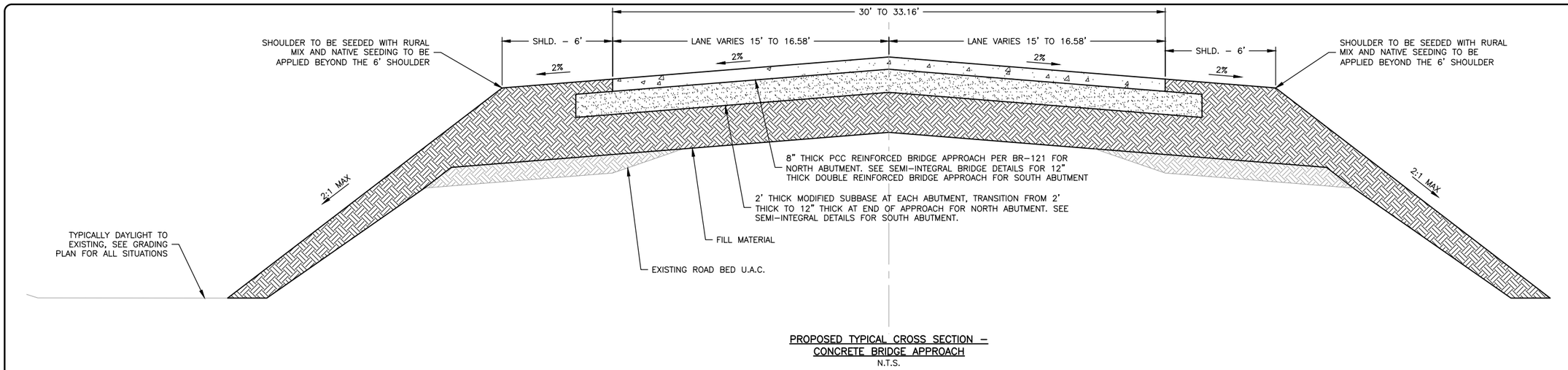
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TYPICAL CROSS SECTIONS

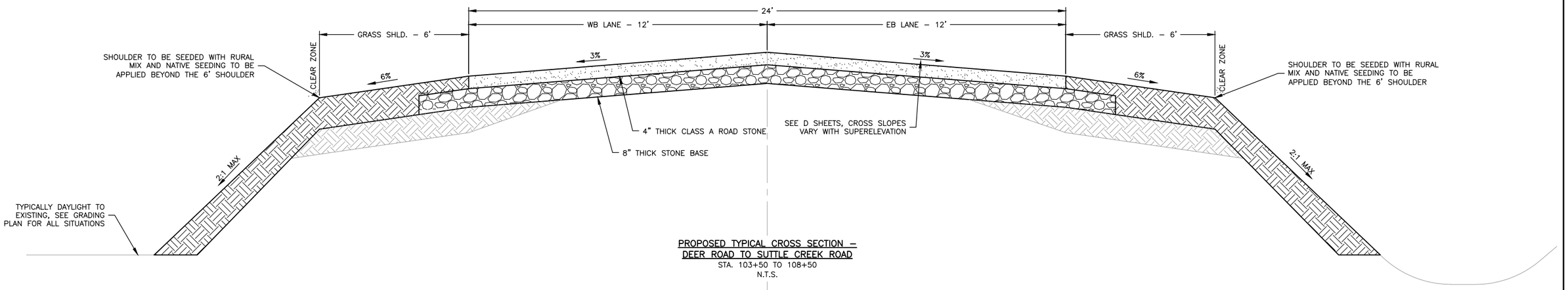
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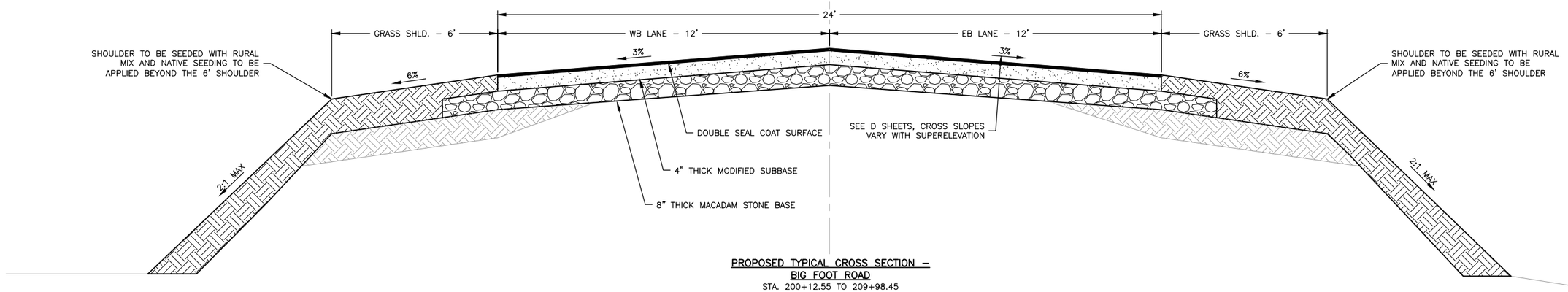
SHEET NUMBER:
B.01



PROPOSED TYPICAL CROSS SECTION – CONCRETE BRIDGE APPROACH
N.T.S.



PROPOSED TYPICAL CROSS SECTION – DEER ROAD TO SUTTLE CREEK ROAD
STA. 103+50 TO 108+50
N.T.S.



PROPOSED TYPICAL CROSS SECTION – BIG FOOT ROAD
STA. 200+12.55 TO 209+98.45
N.T.S.

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
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DRAWING:
TYPICAL CROSS SECTIONS

SET TYPE: FINAL
G:\C3D\21\21-749 Suttle Creek Rd Bridge\Plans\21-749 Plans.dwg, B.02

JOB NUMBER:
21-749

SHEET NUMBER:
B.02

PLOT DATE: 8/18/26

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ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Item no.	Item Code	Item	Quantities Estimated	Unit	Estimate Reference Notes
1	2101-0850001	CLEARING AND GRUBBING	0.80	ACRE	CLEARING AND GRUBBING SHRUBS, BRUSH, TALL GRASS AND DOWN TREES AND LOGS. TREES 6 INCHES IN DIAMETER AND SMALLER TO BE CLEARED AND GRUBBED. TREES TO BE TRIMMED A MINIMUM TO THE OUTSIDE EDGE OF THE SHOULDER. ITEM IS FOR CLEARING AND TRIMMING ALONG THE SOUTH SIDE OF BIG FOOT ROAD, AT EACH BRIDGE ABUTMENT AND THE NORTH AND SOUTH SIDES OF DEER AND SUTTLE CREEK ROADS. COUNTY FORCES WILL CUT LARGER TREES IN THE WINTER FOR THE CONTRACTOR TO CLEAR AND GRUB. SEE TABULATIONS AND U SHEETS FOR FURTHER DETAIL.
2	2102-2625001	EMBANKMENT-IN-PLACE, CONTRACTOR FURNISHED	15480	CY	TOTAL CUT OF 185 CY IN THE ROADWAY AREAS AND 710 CY OF WASTE FROM UNDER THE BRIDGE, FILL OF 16,375 CY USING A FILL FACTOR OF 1.3, RESULTING IN A NET FILL REQUIRED OF 15,480 CY. EACH FULL TANDEM AXLE DUMP TRUCK LOAD SHALL BE 9 CY, UNLESS OTHERWISE APPROVED BY THE JURISDICTION.
3	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	192	CY	TOTAL CUT OF 192 CY IN THE ROADWAY AREAS AND 710 CY OF WASTE FROM UNDER THE BRIDGE, FILL OF 16,017 CY USING A FILL FACTOR OF 1.3, RESULTING IN A NET FILL REQUIRED OF 15,115 CY.
4	2104-2710020	EXCAVATION, CLASS 10, CHANNEL	710	CY	EXCAVATION TO 2 FEET BELOW THE PROPOSED SURFACE IN THE RIP RAP AREA FOR PLACING THE CLASS E REVETMENT AND SHAPING THE CHANNEL AND RIVER BANKS. TOTAL CUT OF 805 CY INCLUDING 415 CY OF 2 FEET OF UNDERCUT FOR THE PLACEMENT OF CLASS E REVETMENT, FILL OF 95 CY USING A FILL FACTOR OF 1.3 RESULTS IN 710 CY OF WASTE MATERIAL TO BE REUSED ON SITE AS FILL MATERIAL.
5	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	1000	CY	ITEM FOR STRIPPING SOD AND TOPSOIL, STOCKPILING AND RESPREADING OVER UNPAVED AND AREAS NOT ROCKED AT A MINIMUM DEPTH OF 6 INCHES. CONTRACTOR MAY STOCKPILE SALVAGED TOPSOIL IN THE TEMPORARY AND PERMANENT EASEMENT AREAS ADJACENT TO THE ROADWAYS.
6	2123-7450020	SHOULDER FINISHING, EARTH	31.8	STA	ITEM IS FOR SHOULDER FINISHING AND GRADING TOPSOIL BEYOND THE SEAL COAT AND GRAVEL ROADS, EXCLUDING DRIVEWAYS. ALL EXCAVATION, FILL AND TOPSOIL QUANTITIES TO BE PAID FOR UNDER THEIR RESPECTIVE BID ITEMS.
7	2210-0475290	MACADAM STONE BASE	1950	TON	FOR PLACING 3-INCH MACADAM 8-INCHES THICK UNDER THE ROADWAYS. SEE B SHEETS FOR FURTHER DETAILS.
8	2213-7100400	RELOCATION OF MAIL BOXES	2	EACH	METHOD OF MEASUREMENT AND BASIS OF PAYMENT SHALL BE FOR EACH MAILBOX REMOVED, TEMPORARILY INSTALLED IN A LOCATION OUTSIDE OF THE PROJECT TO MAINTAIN POSTAL SERVICES AND REINSTALLING THE MAILBOXES AT THE END OF THE PROJECT. ANY DAMAGE TO THE MAILBOXES OR POSTS DURING REMOVAL, CONSTRUCTION, OR UPON REINSTALLATION SHALL BE REPLACED BY THE CONTRACTOR. ITEM ALSO FOR ASSURING POSTAL SERVICES ARE MAINTAINED AS WELL AS ASSISTING WITH DELIVERY SERVICES (AMAZON, FEDEX, UPS, ETC.) WITH GETTING PACKAGES TO THE PROPERTY OWNERS.
9	2301-0690220	BRIDGE APPROACH, SECONDARY ROADS	70.1	SY	ITEM ONLY FOR NORTH BRIDGE APPROACH, SOUTH BRIDGE APPROACH INCLUDED AS PART OF THE BRIDGE QUANTITIES. SEE TABULATION, D, L AND BRIDGE DETAIL SHEETS FOR FURTHER DETAIL. BRIDGE APPROACH PER STANDARD ROAD PLAN BR-121. ITEM INCLUDES EXCAVATION, SUPPLYING AND PLACING MODIFIED SUBBASE, POLYMER GRID NOT REQUIRED FOR NORTH BRIDGE APPROACH. SUBDRAIN NOT REQUIRED. CONCRETE WASHOUT TO BE USED SHALL BE INCIDENTAL TO THIS BID ITEM. CERTIFIED PLANT INSPECTIONS IS REQUIRED PER SECTION 2521.
10	2307-0025003	AGGREGATE, ROADWAY COVER, 3/8 IN.	70	TON	SPREAD AGGREGATE AT THE APPROPRIATE RATES FOR TWO COURSE SEAL COAT PAVEMENT.
11	2307-0600456	BINDER BITUMEN, CRS-2P	1639	GAL	SPREAD BINDER AT THE APPROPRIATE RATES FOR TWO COURSE SEAL COAT PAVEMENT.
12	2312-8260051	GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE	330	TON	ITEM FOR PLACING CLASS A ROAD STONE ON DEER AND SUTTLE CREEK ROADS OVER THE MACADAM STONE BASE AT A THICKNESS OF 4 INCHES.
13	2315-8275025	SURFACING, DRIVEWAY, CLASS A CRUSHED STONE	250	TON	ITEM FOR PLACING CLASS A ROAD STONE ON THE TWO DRIVEWAYS OFF OF BIG FOOT ROAD AND SUTTLE CREEK ROAD AT A THICKNESS OF 8 INCHES.
14	2401-6745625	REMOVAL OF EXISTING BRIDGE	1	LS	LUMP SUM ITEM FOR REMOVAL AND DISPOSAL OF THE EXISTING 3 SPAN 175' X 20' CONTINUOUS I-BEAM BRIDGE. ITEM INCLUDES, BUT NOT LIMITED TO THE REMOVAL OF THE BRIDGE DECK, STEEL BEAMS, STEEL GUARDRAILS, ABUTMENTS, ABUTMENT FOOTING, PIERS, PIER FOOTINGS AND PILING MATERIAL. ALL MATERIALS SHALL BECOME PROPERTY OF THE CONTRACTOR AND REMOVED FROM THE SITE AND PROPERLY DISPOSED OF. CONTRACTOR TO NOTIFY THE IOWA DNR AIR QUALITY BUREAU 2 WEEKS PRIOR TO BEGINNING DEMOLITION, 515.343.7063.
15	2402-0425030	GRANULAR BACKFILL	90	CY	GRADATIONS 1, 35, 36 SHALL BE USED, OR AS APPROVED BY THE COUNTY ENGINEER AND MECHANICALLY COMPACTED AROUND THE CMP CULVERTS.
16	2402-2720000	EXCAVATION, CLASS 20	105	CY	ITEM INCLUDES EXCAVATION 2.2 FEET BEHIND THE ABUTMENTS AND A 2 FEET PERIMETER AROUND THE REMAINDER OF THE ABUTMENTS AND WING WALLS TO THE BOTTOM OF THE ABUTMENTS AND WING WALLS.
17	2402-2720100	EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT	40	CY	
18	2402-2721000	EXCAVATION, CLASS 21	345	CY	ITEM INCLUDES EXCAVATION OF THE RIVERBANK AND RIVER BED BELOW THE CLASSIFICATION LINE TO 2 FEET BELOW THE PROPOSED SURFACE. ITEM ALSO INCLUDES EXCAVATION FOR WHAT IS NEEDED FOR THE NORTH PIER ABOVE THE ROCK EXCAVATION LIMITS AND 3 FEET OF ROOM AROUND THE PERIMETER OF THE PIER FOOTING.
19	2402-2722000	EXCAVATION, CLASS 22	50	CY	ITEM FOR EXCAVATING ROCK AS REQUIRED FOR THE PIER FOOTINGS.
20	2403-0100010	STRUCTURAL CONCRETE (BRIDGE)	501	CY	ITEM INCLUDES POROUS BACKFILL, SUBDRAIN, EROSION STONE, TIMBER, AND ENGINEERING FABRIC AROUND AND ALONG THE ABUTMENT AND WING WALLS. ITEM ALSO INCLUDES THE DOUBLE REINFORCED BRIDGE APPROACH ON THE SOUTH SIDE OF THE BRIDGE AND SLEEPER SLAB. CERTIFIED PLANT INSPECTIONS IS REQUIRED PER SECTION 2521.
21	2404-7775005	REINFORCING STEEL, EPOXY COATED	97,280	LB	ITEM INCLUDES REINFORCING STEEL AND STAINLESS STEEL FOR SOUTH BRIDGE APPROACH PAVEMENT AND SLEEPER SLAB AND BARRIER RAILS AND END SECTIONS.
22	2407-0551363	BEAMS, PRETENSIONED PRESTRESSED CONCRETE, C63	10	EACH	ITEM INCLUDES FURNISHING CONCRETE AND EPOXY COATED STEEL FOR THE BEAMS, THESE ITEMS ARE NOT PAID SEPARATELY.
23	2407-0551371	BEAMS, PRETENSIONED PRESTRESSED CONCRETE, C71	5	EACH	ITEM INCLUDES FURNISHING CONCRETE AND EPOXY COATED STEEL FOR THE BEAMS, THESE ITEMS ARE NOT PAID SEPARATELY.
24	2408-7800000	STRUCTURAL STEEL	5182	LB	ITEM INCLUDES ALL COSTS FOR FURNISHING AND INSTALLING STEEL INTERMEDIATE DIAPHRAGMS AND BEARINGS.
25	2414-6424110	CONCRETE BARRIER RAILING	462.9	LF	ITEM INCLUDES FURNISHING CONCRETE FOR THE BARRIER RAILS AND BARRIER RAIL END SECTIONS, CONCRETE WILL NOT BE PAID SEPARATELY. CERTIFIED PLANT INSPECTIONS IS REQUIRED PER SECTION 2521. NOTE, EACH BARRIER RAIL FROM END SECTION TO END SECTION IS APPROXIMATELY 231'-5" IN LENGTH, LONGER THAN THE STANDARD LENGTH DUE TO THE SEMI-INTEGRAL ABUTMENT ON THE SOUTH END OF THE BRIDGE. EPOXY COATED STEEL FOR THE BARRIER RAIL TO BE PAID UNDER THE BID ITEM FOR EPOXY COATED STEEL. ITEM ALSO TO INCLUDE FURNISHING ALL MATERIALS, THREADED ROD, WASHERS AND OTHER MATERIALS TO INSTALL THE "SUTTLE CREEK ROAD" SIGN ON THE BARRIER RAIL FACING UP RIVER. SIGN SHALL BE GALVANIZED STEEL PER 4186. SIGN TO BE MOUNTED DIRECTLY ON THE OUTSIDE OF THE CONCRETE BARRIER RAIL. SEE SHEET U.04 FOR FURTHER DETAILS.
26	2417-0225024	APRONS, METAL, 24 IN. DIA.	4	EACH	SEE TABULATIONS AND D AND M SHEETS FOR LOCATIONS AND FURTHER DETAIL.
27	2417-1060024	CULVERT, CORRUGATED METAL ROADWAY PIPE, 24 IN. DIA.	115	LF	BANDS TO BE USED TO COUPLE PIPES TOGETHER. SEE TABULATIONS AND M SHEETS FOR FURTHER DETAIL. LENGTH DOES NOT INCLUDE LENGTH OF APRON AS THOSE WILL BE PAID SEPARATELY.
28	2499-2300001	DECK DRAINS	1	LS	BASIS OF PAYMENT SHALL BE LUMP SUM FOR FURNISHING ALL MATERIALS REQUIRED TO INSTALL 8 DECK DRAINS PER STANDARD PLAN SHEET H30-04-06. NO MEASUREMENT WILL BE MADE AS THE ITEM IS LUMP SUM. SEE SHEETS V.01 AND V.02 FOR ADDITIONAL DETAIL.
29	2501-0201057	PILES, STEEL, HP 10X57	540	LF	FOR USE IN BOTH ABUTMENTS. INCLUDES FURNISHING AND INSTALLING ROCK TIPS. SEE TABULATIONS AND V SHEETS FOR FURTHER DETAIL.
30	2501-6335010	PREBORED HOLES	80	LF	PREBORED HOLES FOR THE SOUTH INTEGRAL ABUTMENT, 10 FEET FOR EACH PILE.
31	2503-0200036	REMOVE STORM SEWER PIPE LESS THAN OR EQUAL TO 36 IN.	85	LF	LOCATIONS OF CULVERT PIPES ARE APPROXIMATE AS UNDERGROUND JUNCTION LOCATIONS ARE ASSUMED. SEE TABULATIONS AND U SHEETS FOR FURTHER DETAIL.
32	2503-0200341	STORM SEWER ABANDONMENT, FILL AND PLUG, LESS THAN OR EQUAL TO 36 IN. DIA.	79	LF	ESTIMATED 9.2 CY OF FLOWABLE MORTAR REQUIRED FOR FILLING AND PLUGGING CULVERTS. LOCATIONS OF CULVERT PIPES ARE APPROXIMATE AS UNDERGROUND JUNCTION LOCATIONS ARE ASSUMED. SEE TABULATIONS AND U SHEETS FOR FURTHER DETAIL.
33	2507-3250005	ENGINERING FABRIC	717	SY	ITEM FOR ENGINEERING FABRIC UNDER CLASS E REVETMENT AT THE CULVERT OUTLETS AND UNDER THE CLASS E REVETMENT UNDER THE BRIDGE ALONG THE RIVER BANK.
34	2507-4011100	CONCRETE GROUT FOR REVETMENT OR GABION	42	CY	ITEM FOR PLACING GROUT WHERE CLASS E REVETMENT IS PLACED UNDER THE BRIDGE. ANY TEMPORARY DIVERSION OF STORM WATER OR RIVER BANK FLOWS TO ALLOW GROUT TO FULLY CURE SHALL BE INCIDENTAL TO THIS BID ITEM.
35	2507-6800061	REVETMENT, CLASS E	750	TON	ITEM IS FOR PLACING CLASS E REVETMENT AT THE CULVERTS AND UNDER THE BRIDGE ALONG THE RIVER BANK. SEE D, M AND V SHEETS FOR FURTHER DETAILS.
36	2524-6765010	REMOVE AND REINSTALL SIGN AS PER PLAN	2	EACH	METHOD OF MEASUREMENT WILL BE BY EACH SIGN REMOVED AND REINSTALLED. PAYMENT WILL BE AT THE UNIT PRICE FOR EACH SIGN REMOVED AND REINSTALLED. ITEM INCLUDES REMOVING AND REINSTALLING EXISTING STREET SIGNS ON TO NEW POST. SEE D SHEETS AND TABULATIONS FOR FURTHER DETAILS.
37	2524-6765210	REMOVAL OF TYPE A SIGN ASSEMBLY	6	EACH	METHOD OF MEASUREMENT WILL BE FOR EACH SIGN ASSEMBLY REMOVED. PAYMENT WILL BE AT THE UNIT PRICE FOR EACH SIGN ASSEMBLY REMOVED. ITEM IS FOR THE REMOVAL OF NARROW BRIDGE AND WEIGHT LIMIT SIGNS AND POSTS (2), REMOVAL OF THE EXISTING STOP SIGN AND POST AT BIG FOOT ROAD, REMOVAL OF THE OBJECT MARKER SIGN, AND REMOVAL OF THE STREET SIGN POSTS. STREET SIGNS TO BE REINSTALLED. SEE U SHEETS FOR FURTHER DETAIL.
38	2524-9100030	OBJECT MARKER, TYPE 3	4	EACH	METHOD OF MEASUREMENT WILL BE FOR EACH OBJECT MARKER SIGN INSTALLED. PAYMENT WILL BE AT THE UNIT PRICE FOR EACH SIGN INSTALLED AND ASSEMBLED. POSTS AND POST ANCHORS WILL BE PAID SEPARATELY UNDER THEIR RESPECTIVE BID ITEMS. ITEM INCLUDES INSTALLATION OF OBJECT MARKER SIGNS AT THE 4 BRIDGE CORNERS AHEAD OF THE BARRIER RAILS. SEE TABULATIONS AND D SHEETS FOR FURTHER DETAIL.
39	2524-9276010	PERFORATED SQUARE STEEL TUBE POSTS	153	LF	POST INCLUDED FOR OBJECT MARKERS ALSO. NOTE, SOME POSTS WILL HAVE MULTIPLE SIGNS. SEE D SHEETS AND TABULATIONS FOR FURTHER DETAIL.
40	2524-9276021	PERFORATED SQUARE STEEL TUBE POST ANCHOR, BREAK-AWAY SOIL INSTALLATION	15	EACH	SOIL ANCHOR INCLUDED FOR OBJECT MARKERS ALSO. NOTE, SOME POSTS WILL HAVE MULTIPLE SIGNS. SEE TABULATIONS AND D SHEETS FOR FURTHER DETAIL.
41	2524-9325001	TYPE A SIGNS, SHEET ALUMINIUM	74.3	SF	ITEM FOR SHEET ALUMINUM FOR ALL SIGNS EXCEPT THE TYPE 3 OBJECT MARKERS, THOSE ITEMS ARE PAID UNDER THEIR RESPECTIVE BID ITEMS.
42	2527-9263209	PAINTED PAVEMENT MARKINGS, WATERBORNE OR SOLVENT-BASED	18.75	STA	ITEM FOR PAINTING A DCY4 DOUBLE CENTERLINE ALONG BIG FOOT ROAD, LINES TO BE 4 INCHES WIDE.
43	2528-2518000	SAFETY CLOSURES	4	EACH	SEE TABULATIONS AND J SHEETS FOR FURTHER DETAIL.
44	2528-8445110	TRAFFIC CONTROL	1	LS	SEE J SHEETS FOR FURTHER DETAIL. ITEM FOR SUPPLYING, INSTALLING, MAINTAINING AND REMOVING ALL TRAFFIC CONTROL SIGNAGE AND SIGNAGE FOR THE PADDLE ROUTE.
45	2533-4980005	MOBILIZATION	1	LS	
46	2599-9999020	('TONS' ITEM) MODIFIED SUBBASE	570	TON	REFER TO STANDARD SPECIFICATION 2115 FOR CONSTRUCTION AND MATERIALS. METHOD OF MEASUREMENT SHALL BE BY TONS OF MATERIAL PLACED. BASIS OF PAYMENT SHALL BE PER TON BASED ON WEIGH TICKETS AS PROVIDED BY THE CONTRACTOR. WORK INCLUDES, BUT IS NOT LIMITED TO, FINISH GRADING THE UNDERLYING STONE BASE, FURNISHING, HAULING, PLACING MATERIAL AND FINAL GRADING/TRIMMING. MODIFIED SUBBASE SHALL BE 4 INCHES IN DEPTH ALONG BIG FOOT ROAD.
47	2601-2636015	NATIVE GRASS SEEDING	1.1	ACRE	ITEM FOR SEEDING ALL AREAS BEYOND THE SHOULDERS AS SHOWN ON THE PLANS.
48	2601-2636043	SEEDING AND FERTILIZING (RURAL)	0.5	ACRE	ITEM FOR SEEDING SHOULDERS ALONG THE ROADWAYS AND DRIVEWAYS.
49	2601-2638352	SLOPE PROTECTION, WOOD EXCELSIOR MAT	355	SQ	FOR USE ON STEEP SLOPES BEYOND THE SHOULDER.
50	2602-0000212	FLOATING SILT CURTAIN (HANGING)	350	LF	
51	2602-0000240	MAINTENANCE OF FLOATING SILT CURTAIN	200	LF	ITEM FOR PLACING A HANGING SILT CURTAIN ON EACH HALF OF THE RIVER FOR THE REQUIRED BRIDGE CONSTRUCTION. IT IS ANTICIPATED THERE WILL BE TWO SEPARATE INSTALLMENTS AT APPROXIMATELY 175 FEET EACH. PLEASE REFER TO DEVELOPMENTAL SPECIFICATION FOR FLOATING SILT CURTAIN FOR MORE INFORMATION.
52	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	1465	LF	
53	2602-0000351	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE	1465	LF	
54	2602-0010010	MOBILIZATION, EROSION CONTROL	3	EACH	ONE MOBILIZATION TO BE PAID AT THE START OF THE PROJECT FOR INITIAL INSTALLATION OF DEVICES, ONE MOBILIZATION TO BE PAID TOWARDS THE MIDDLE OF THE PROJECT (IF NEEDED) AND ONE MOBILIZATION FOR SEEDING. NO MOBILIZATION WILL BE PAID FOR REMOVAL OF DEVICES PER THE STANDARD SPECIFICATIONS.
55	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	2	EACH	

NOTE: CONSTRUCTION SURVEY WILL BE COMPLETED BY ALLAMAKEE COUNTY.

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
ESTIMATED QUANTITIES & REFERENCE NOTES

SET TYPE: FINAL
G:\C3D\21\21-749 Suttle Creek Rd Bridge\Plans\21-749 C Sheets.dwg, C.01 EST.QUAN

JOB NUMBER: 21-749

SHEET NUMBER: C.01

PLOT DATE: 8/18/26

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100_01D
8/15/22

PROJECT DESCRIPTION

PROJECT INCLUDES THE REMOVAL AND RECONSTRUCTION OF SUTTLE CREEK ROAD BRIDGE OVER YELLOW RIVER AND IMPROVEMENTS TO THE ADJACENT ROADWAYS IN ALLAMAKEE COUNTY EAST OF VOLNEY.
THE HORIZONTAL ALIGNMENT OF BIG FOOT ROAD WILL BE ADJUSTED WITH THE PROJECT.
BIG FOOT ROAD WILL BE PAVED WITH DOUBLE SEAL COAT AND DEER ROAD AND SUTTLE CREEK ROAD WILL BE GRAVEL.
NEW STORM SEWER CULVERTS WILL BE ADDED ACROSS SUTTLE CREEK AND DEER ROAD.
NEW SIGNAGE WILL BE ADDED ALONG BIG FOOT, DEER AND SUTTLE CREEK ROAD.

105_04
10/21/25

STANDARDS

The following Standards apply to construction work on this project.

Number	Date	Title
BR-101	10-21-25	BRIDGE APPROACH SECTION (GENERAL DETAILS)
BR-102	10-15-24	BRIDGE APPROACH SECTION (TWO-LANE, ABUTTING PCC PAVEMENT)
BR-121	10-15-24	BRIDGE APPROACH DETAILS (SECONDARY ROADS)
DR-101	04-18-17	PIPE CULVERT (BEDDING AND BACKFILL)
DR-104	04-19-16	DEPTH OF COVER TABLES FOR CONCRETE AND CORRUGATED PIPE
DR-121	04-18-23	CONNECTED PIPE JOINTS
DR-203	04-21-20	METAL PIPE APRONS AND BEVELED ENDS
EC-103	04-21-15	WOOD EXCELSIOR MAT FOR SLOPE PROTECTION
EC-201	04-20-21	SILT FENCE
EC-202	10-21-14	FLOATING SILT CURTAIN
EC-204	10-19-21	PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES
EC-301	10-18-22	ROCK EROSION CONTROL (REC)
EC-502	04-21-15	SEEDING IN RURAL AREAS
EW-401	10-20-15	TEMPORARY STREAM CROSSING, CAUSEWAY, OR EQUIPMENT PAD
PM-110	10-15-24	LINE TYPES
PV-101	10-21-25	JOINTS
PV-301	04-15-25	SUPERELEVATION DETAILS TWO LANE ROADWAY
SI-101	04-19-16	LOCATIONS - TYPE 'A' SIGNS
SI-131	10-18-16	INSTALLATION - TYPE 'A' SIGNS
SI-173	04-19-16	OBJECT MARKERS
TC-252	10-21-25	ROUTES CLOSED TO TRAFFIC

111_25
10/23/24

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-	HYDRAULIC DESIGN	V.01

111_26
4/15/25

UTILITIES

Line No.	Company	Contact	Phone	Email
1	NE IOWA TELEPHONE COMPANY	CHARLIE ROYS	O:563.539.2122; C:563.537.1002	CROYS@NEITEL.COM
2	ALLAMAKEE-CLAYTON ELECTRIC COOPERATIVE	AANDI DEERING	563.864.7611	ADEERING@ACREC.COOP

100_19
10/15/24

PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE

Possible Standards: EC-204

Station From	Station To	Side	Sediment Control Device Type	Diameter Size	Length (LF)	Remarks
200+65	206+75	L	FILTER SOCK	12.0	665.0	ALONG THE NORTH SIDE OF BIG FOOT ROAD
207+07	209+47	L	FILTER SOCK	12.0	310.0	ALONG THE NORTH SIDE OF BIG FOOT ROAD
103+98	104+02	R	FILTER SOCK	12.0	20.0	DITCH CHECK ALONG SOUTH SIDE OF DEER ROAD
104+36	104+42	R	FILTER SOCK	12.0	20.0	DITCH CHECK ALONG SOUTH SIDE OF DEER ROAD
104+63	104+67	R	FILTER SOCK	12.0	20.0	DITCH CHECK ALONG SOUTH SIDE OF DEER ROAD
104+95	105+00	R	FILTER SOCK	12.0	20.0	PROTECTION AROUND CULVERT
105+70	105+75	R	FILTER SOCK	12.0	20.0	PROTECTION AROUND CULVERT
105+44	108+16	L	FILTER SOCK	12.0	310.0	ALONG NORTH SIDE OF SUTTLE CREEK ROAD
105+99	106+03	R	FILTER SOCK	12.0	20.0	DITCH CHECK ALONG SOUTH SIDE OF SUTTLE CREEK ROAD
1+68	1+68	BOTH	FILTER SOCK	12.0	30.0	AT RIVER BANK
2+55	2+55	BOTH	FILTER SOCK	12.0	30.0	AT RIVER BANK

ENGLISH BRIDGE STANDARDS

The following Standard Road Plans shall be considered applicable to construction work on this project

IDENTIFICATION	DATE	TITLE
H30-01-06	December 2006	INDEX SHEET
H30-01A-06	December 2006	GENERAL NOTES
H30-02-06	December 2006	GENERAL INFORMATION
H30-03-06	December 2006	SUPERSTRUCTURE DETAILS
H30-04-06	December 2006	SUPERSTRUCTURE DETAILS-MISC.
H30-06-06	December 2006	ABUTMENT DETAILS FOR 0° SKEW, C BEAMS
H30-08-06	December 2006	LONGITUDINAL SECTION FOR 0° SKEW, C BEAMS
H30-09-06	December 2006	SUPERSTRUCTURE DETAILS FOR 0° SKEW
H30-10-06	December 2006	DECK & ABUTMENT REINFORCEMENT FOR 0° SKEW
H30-36-06	December 2006	C BEAM DETAILS
H30-37-06	December 2006	C BEAM DETAILS
H30-38-06	December 2006	INTERMEDIATE STEEL DIAPHRAGMS
H30-39-06	December 2006	BARRIER RAIL DETAILS 1 OF 3
H30-40-06	December 2006	BARRIER RAIL DETAILS 2 OF 3
H30-41-06	December 2006	BARRIER RAIL DETAILS 3 OF 3
H30-44-06	December 2006	PIER BEARING DETAILS
H30-57-06	December 2006	TEE PIER CAP AND COLUMN, 0° SKEW
H30-63-06	December 2006	TEE PIER-SPREAD FOOTINGS, 0° SKEW, H=25' TO 40'
H30-85-06	December 2006	SUBDRAIN DETAILS
H30-87-06	December 2006	WING ARMORING DETAILS, C BEAMS
H30-90-06	December 2006	ABUTMENT BACKFILL DETAIL, C BEAMS - 0° SKEW

100_23
8/15/22

ROCK EROSION CONTROL

Refer to EC-301 and Detail 570-8

Road Identification	Station From	Station To	Side	Length (FT)	Width (FT)	Rock Erosion Control Type	Engineering Fabric (SY)	Class E Revetment (TON)	Remarks
DEER ROAD - SUTTLE CREEK ROAD	104+78.50	104+92.50	L	30.0	17.0		50.0	80.0	3 FT. THICK, SOUTH/WEST SIDE OF THE BRIDGE
DEER ROAD - SUTTLE CREEK ROAD	105+37.00	105+55.00	L	23.0	20.0		42.0	70.0	3 FT. THICK, NORTH/EAST SIDE OF THE BRIDGE
BRIDGE	1+05.08	1+93.67	BOTH	88.6	42.4		370.0	355.0	2 FT. THICK UNDER THE SOUTH SIDE OF THE BRIDGE. ESTIMATING 25 CY OF GROUT TO BE PLACED
BRIDGE	2+37.67	3+02.00	BOTH	64.3	39.2		255.0	245.0	2 FT. THICK UNDER THE NORTH SIDE OF THE BRIDGE. ESTIMATING 17 CY OF GROUT TO BE PLACED.

104_05B MODIFIED
3/6/25

STORM SEWER

(1) Diameter or equivalent diameter
* Bid Item
Design Length for pipes excludes aprons. Slope and Flowlines are calculated from apron end to apron end along CL of pipe.

No.	Location Station	Offset	Type or Standard Road Plan*	Form Grade Elev.	Bottom Well Elev.	Extension Length**	Notes	Line Number	Intake / Utility Access No. From	Intake / Utility Access No. To	Class 'D'	Pipe Size (1) (IN)	Bid Length* (FT)	Design Length (FT)	Slope %	Connected Pipe Joint (DR-121)	Flow Line Inlet Elev.	Flow Line Outlet Elev.	Flow Line Other Elev.	Pipe Profile Sheet No.	Notes
D1	104+85.3	48.5' LT	FES, 24" CMP					DP1	D2	D1		24	65	65	6.55%		764.00	768.70		M.01	LENGTH DOES NOT INCLUDE APRONS
D2	104+97.0	22.1' RT	FES, 24" CMP					DP2	D4	D3		24	50	50	2.26%		765.70	767.00		M.01	LENGTH DOES NOT INCLUDE APRONS
D3	105+50.0	29.4' LT	FES, 24" CMP																		
D4	105+70.9	24.7' RT	FES, 24" CMP																		

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PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

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21-749

SHEET NUMBER:
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108_13A
3/27/25

SAFETY CLOSURES

Refer to Section 2528 of the Standard Specifications

Station	Road Closure Qty.	Hazard Closure Qty.	Remarks
200+00	1		PLACE ON BIG FOOT ROAD AS NEEDED
300+00	1		PLACE ON BIG FOOT ROAD AS NEEDED
103+25	1		PLACE ON DEER ROAD, ALLOW RESIDENT AT HOUSE 488 TEMPORARY ACCESS
108+75	1		PLACE ON SUTTLE CREEK ROAD

110_14
7/11/24

SANITARY OR STORM SEWER ABANDONMENT OR REMOVAL

* Not a bid item

Line No.	Location Description	Sewer and Work Type	≤ 36 inch Diameter (LF)	> 36 inch Diameter (LF)	Plug Quantity (EA)	* Flowable Mortar or CLSM (CY)	Remarks
1	104+72.15, RT ; SOUTH SIDE OF DEER ROAD	Storm Sewer	3				REMOVAL OF A PORTION OF THE CULVERT AROUND THE HEADWALL
2	104+75.37, RT ; SOUTH SIDE OF DEER ROAD	Storm Sewer	17		2	2.0	CAP AND PLUG 24" CMP CULVERT
3	104+90, LT AND RT ; ACROSS DEER ROAD	Storm Sewer	62				REMOVE 24" CMP CULVERT CROSSING DEER ROAD AND TEE CONNECTIONS
4	104+94.00 TO 105+54.30 ; DEER AND SUTTLE CREEK ROAD	Storm Sewer	62		2	7.2	CAP AND PLUG 24" CMP UNDER THE MIDDLE OF THE ROAD, LOCATION IS APPROXIMATE
5	105+54.30, LT AND RT ; SUTTLE CREEK ROAD CROSSING	Storm Sewer	20				REMOVE 24' CMP ACROSS SUTTLE CREEK ROAD AND UNDERGROUND BEND

110_17
1/27/25

CLEARING AND GRUBBING

Line No.	Station From	Station To	Direction of Traffic	Work and Material Type	>3"-6"	>6"-9"	>9"-12"	>12"-15"	>15"-18"	>18"-24"	>24"-30"	>30"-36"	>36"-42"	>42"-48"	>48"-60"	>60"-72"	>72"	Other Materials Length (FT)	Other Materials Width (FT)	Estimated Units	Estimated Area (Acres)	Estimated Herbicide Application (EA)	Remarks
1	200+00.0	202+40.0	EAST	Brush - Clearing														240.0	16.0		0.09		SOUTH SIDE BIG FOOT RD, CLEAR BRUSH AND DOWN DEBRIS, TRIM TREES
2	205+25.0	210+00.0	EAST	Brush - Clearing														475.0	11 TO 14		0.14		SOUTH SIDE BIG FOOT RD, CLEAR BRUSH AND DOWN DEBRIS, TRIM TREES
3	103+35.0	104+85.0	WEST	Brush - Clearing														150.0	10 TO 60		0.08		NORTH SIDE DEER RD, CLEAR BRUSH AND DOWN DEBRIS, TRIM TREES
4	103+35.0	104+80.0	EAST	Brush - Clearing														145.0	18.0		0.06		SOUTH SIDE DEER RD, CLEAR BRUSH AND DOWN DEBRIS, TRIM TREES
5	105+40.0	108+30.0	WEST	Brush - Clearing														290.0	30.0		0.20		NORTH SIDE SUTTLE CREEK RD, CLEAR BRUSH AND DOWN DEBRIS, TRIM TREES
6	105+75.0	108+30.0	EAST	Brush - Clearing														255.0	20.0		0.13		SOUTH SIDE SUTTLE CREEK RD, CLEAR BRUSH AND DOWN DEBRIS, TRIM TREES

112_06
2/22/24

BRIDGE APPROACH SECTION

* Not a bid item

Refer to the BR Series.

Line No.	Bridge Station	End	Skew Ahead Left (Degrees)	Skew Ahead Right (Degrees)	(T) Thickness (IN)	Pay Length (FT)	Non-Reinf. Area (SY)	Single-Reinf. Area (SY)	Double-Reinf. Area (SY)	SRP Approach	SRP Abutment Type	SRP Abutting Pavement	Perforated * 4" Subdrain (LF)	Subdrain * Outlet (STA)	Subdrain * Outlet Side	Porous * Backfill (CY)	Class 'A' * Crushed Stone Backfill (CY)	Modified * Subbase (TON)	Polymer * Grid (SY)	Special * Backfill (TON)	Remarks
1	2+02.84	S	0	0	12	20.2	0	0	70.7	BR-121	SEMI-INTEGRAL	BR-102	0			8		110	90		SEE SEMI-INTEGRAL DETAILS, BRIDGE APPROACH PAID AS PART OF BRIDGE ITEMS
2	2+02.84	N	0	0	8	20	0	70.1	0	BR-121	FIXED	BR-102	0			7		16	0		NO 'E' JOINT BETWEEN CONCRETE APPROACH AND SEAL COAT

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112_09 Modified
10/15/24

SHOULDERS

(1) Lane(s) to which the shoulder is adjacent.
(2) See Typ. 7156, 7157, or 7158.
(3) Bid Item.
(4) Applies only for Paved Shoulders constructed on project with existing granular shoulders.
(5) Bid Item. Typ. 7156, 7157, or 7158.
(6) Does not include shrink.

Roadway Identification	Direction of Travel	Station From	Station To	Side	P Width (FT)	P SG Width (2) (FT)	G Width (FT)	L Length (FT)	Class 13 Excavation (CY)(3)(4)	HMA (TON)	HMA (TON/ STA)	Binder (TONS)	Grass Shoulder (3) (SY)	SHOULDER CONST. ALT (3) (STA)	REMARKS
BIG FOOT ROAD	E	200+75.0	204+71.5	R	6.0			396.5					264.3	4.0	MIN. 6" TOPSOIL AND SEED SHOULDER
BIG FOOT ROAD	W	200+85.0	206+39.0	L	6.0			554.0					369.3	5.5	MIN. 6" TOPSOIL AND SEED SHOULDER
BIG FOOT ROAD	E	205+34.0	209+47.0	R	6.0			413.0					275.3	4.1	MIN. 6" TOPSOIL AND SEED SHOULDER
BIG FOOT ROAD	W	207+10.7	209+47.0	L	6.0			236.3					157.5	2.4	MIN. 6" TOPSOIL AND SEED SHOULDER
BIG FOOT ROAD	E	209+47.0	210+00.0	R	4.0			53.0					23.6	0.5	MIN. 6" TOPSOIL AND SEED SHOULDER
BRIDGE	S	0+62.3	1+02.0	L	6.0			39.7					26.5	0.4	MIN. 6" TOPSOIL AND SEED SHOULDER
BRIDGE	S	3+03.5	3+43.8	L	6.0			40.3					26.9	0.4	MIN. 6" TOPSOIL AND SEED SHOULDER
BRIDGE	N	0+68.0	1+02.0	R	6.0			34.0					22.7	0.3	MIN. 6" TOPSOIL AND SEED SHOULDER
BRIDGE	N	3+03.5	3+37.0	R	6.0			33.5					22.3	0.3	MIN. 6" TOPSOIL AND SEED SHOULDER
DEER ROAD - SUTTLE CREEK ROAD	W	103+35.0	104+85.0	L	6.0			150.0					100.0	1.5	MIN. 6" TOPSOIL AND SEED SHOULDER
DEER ROAD - SUTTLE CREEK ROAD	E	103+35.0	105+27.0	R	6.0			192.0					128.0	1.9	MIN. 6" TOPSOIL AND SEED SHOULDER
DEER ROAD - SUTTLE CREEK ROAD	E	105+49.8	108+30.0	R	6.0			280.2					186.8	2.8	MIN. 6" TOPSOIL AND SEED SHOULDER
DEER ROAD - SUTTLE CREEK ROAD	W	105+50.5	108+30.0	L	6.0			279.5					186.3	2.8	MIN. 6" TOPSOIL AND SEED SHOULDER
JAMES ROAD	S	300+58.4	302+70.0	L	4.0			211.6					94.1	2.1	MIN. 6" TOPSOIL AND SEED SHOULDER
JAMES ROAD	N	300+72.4	302+70.0	R	4.0			197.6					87.8	2.0	MIN. 6" TOPSOIL AND SEED SHOULDER

190_66
9/29/23

SUMMARY OF TYPE 'A' SIGNS

Line No.	Sign Number	Non-Standard Sign Number or Name	Quantity (EA)	Size (IN)	Total Sign Area (SF)
1	W1-5		2	30x30	12.5
2	W13-1P		4	18x18	9
3	W12-1		2	30x30	12.5
4	W2-2		1	30x30	6.25
5	W7-1A		1	30x30	6.25
6	W1-1		2	30x30	12.5
7	D3-1		2 - EXISTING	EXISTING	EXISTING
8	R1-2		1	36x36	9
9	OM-3L		2	12x36	6
10	OM-3R		2	12x36	6
11	R1-1		1	30x30	6.25

262_06
9/28/22

UTILITIES (NOT A POINT 25 PROJECT)

This is NOT a POINT 25 project and is not subject to the provisions of IAC 761-115.25.

190_51 MODIFIED
2/10/23

MATERIALS FOR TYPE 'A' SIGNS

Refer to SI-101, SI-111, SI-119 and N Sheets.

Line No.	Type A Signing Typicals	Sign Number	Dir. of Travel	Sign Location Station	Wood Posts (No.)	4 x 6 Leg 1 (FT)	4 x 6 Leg 2 (FT)	Perf. Sq. Steel Leg 1 (FT)	Perf. Sq. Steel Leg 2 (FT)	Perf. Sq. Steel Leg 3 (FT)	Perf. Sq. Anchor Type	Anchor Quantity (EA)	Install. Type	Install. Dim X (FT)	Install. Signing Notes	Remarks
BIG FOOT ROAD																
1		W1-5	EB	199+25.0, 20.5' RT				10			SOIL	1				WINDING ROAD SIGN
2		W13-1P	EB	199+25.0, 20.5' RT				10			SOIL	1				35 MPH ADVISORY SPEED SIGN
3		W12-1	WB	204+96.2, 20.2' LT				10			SOIL	1				DOUBLE ARROW SIGN
4		W2-2	WB	208+59.6, 22.0' LT				10			SOIL	1				SIDE ROAD SIGN
5		W1-5	WB	210+85.0, 20.0' LT				10			SOIL	1				WINDING ROAD SIGN
6		W13-1P	WB	210+85.0, 20.0' LT											INSTALL SIGN ON SAME POST AS W1-5, WINDING ROAD SIGN	35 MPH ADVISORY SPEED SIGN
DEER ROAD/SUTTLE CREEK ROAD																
7		W7-1A	EB	97+10.0, 26' RT				10			SOIL	1				HILL WITH GRADE SIGN
8		W1-1	EB	103+16.8, 25.4' RT				10			SOIL	1				TURN SIGN
9		W13-1P	EB	103+16.8, 25.4' RT											INSTALL SIGN ON SAME POST AS W1-1, TURN SIGN	20 MPH ADVISORY SPEED SIGN
10		W1-1	WB	112+47.0, 20.8' LT				10			SOIL	1				TURN SIGN
11		W13-1P	WB	112+47.0, 20.8' LT											INSTALL SIGN ON SAME POST AS W1-1, TURN SIGN	20 MPH ADVISORY SPEED SIGN
SUTTLE CREEK ROAD BRIDGE																
12		W12-1	NB	0+19.6, 0.0' RT				12			SOIL	1				DOUBLE ARROW SIGN
13		D3-1	NB	0+19.6, 0.0' RT											REINSTALL EXISTING STREET SIGN ON SAME POST AS W12-1, DOUBLE ARROW SIGN	STREET SIGN
14		R1-2	SB	0+80.6, 24.0' LT				10			SOIL	1				YIELD SIGN
15		OM-3L	SB	0+85.6, 16.2' RT				10			SOIL	1				OBJECT MARKER SIGN
16		OM-3R	NB	0+85.6, 16.2' LT				10			SOIL	1				OBJECT MARKER SIGN
17		OM-3R	NB	3+17.0, 16.2' RT				10			SOIL	1				OBJECT MARKER SIGN
18		OM-3L	SB	3+17.0, 16.2' LT				10			SOIL	1				OBJECT MARKER SIGN
19		R1-1	NB	3+25.4, 26.0' RT				11			SOIL	1				STOP SIGN
20		D3-1	NB	3+25.4, 26.0' RT											REINSTALL EXISTING STREET SIGN ON SAME POST AS R1-1, STOP SIGN	STREET SIGN

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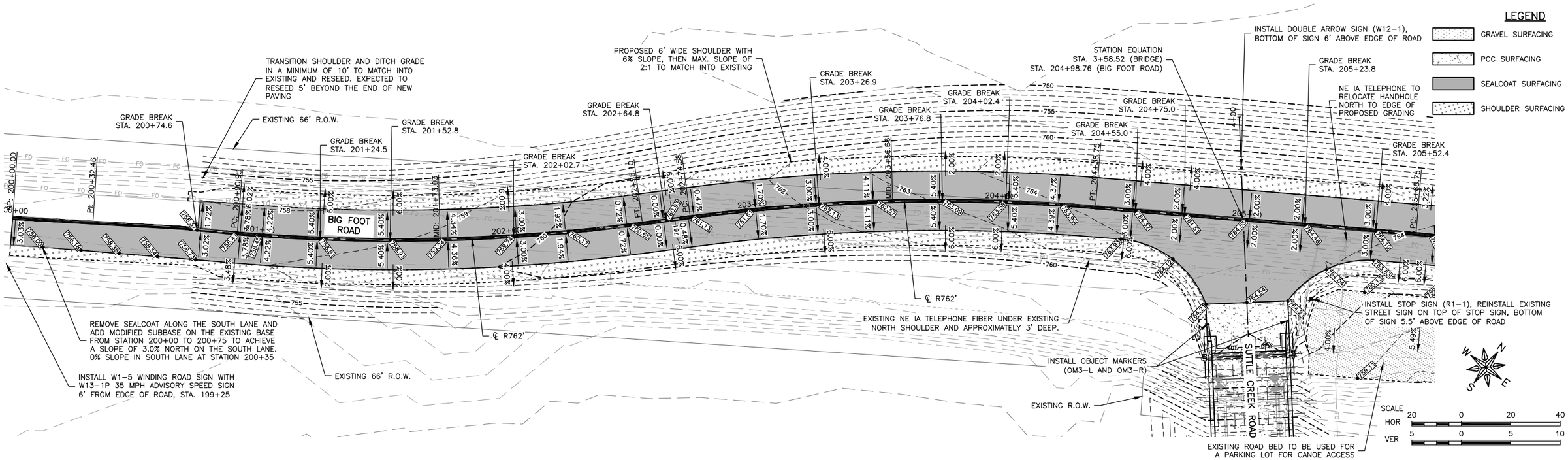
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GRADING PLAN & PROFILE – BIG FOOT ROAD

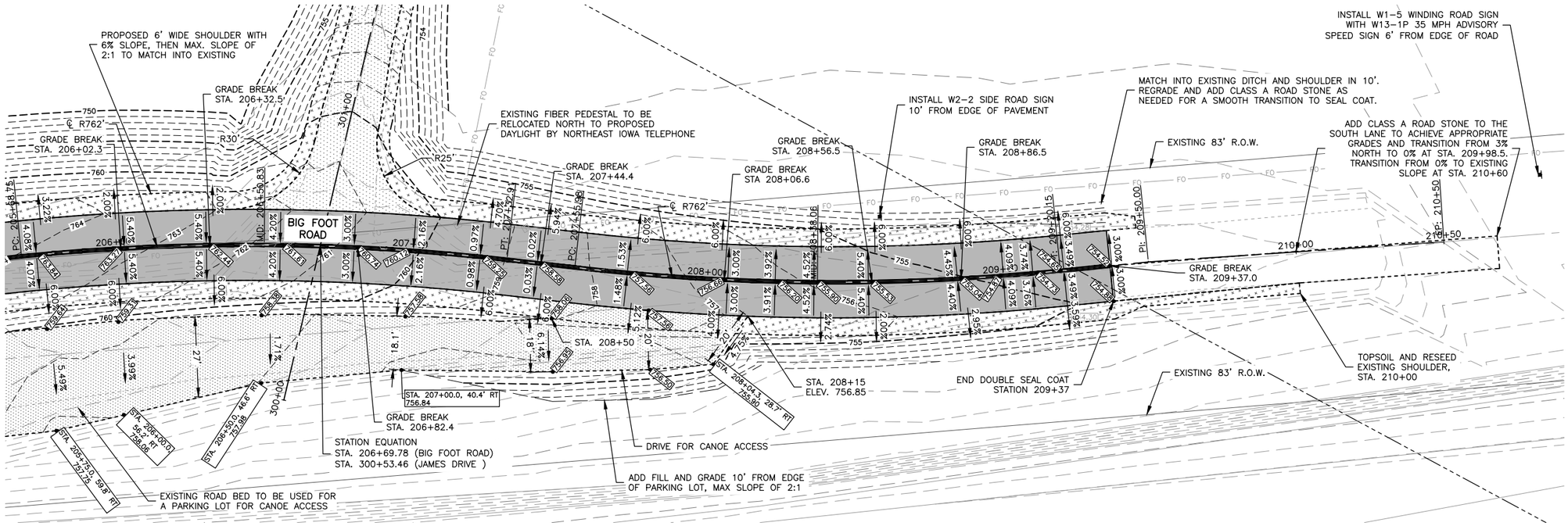
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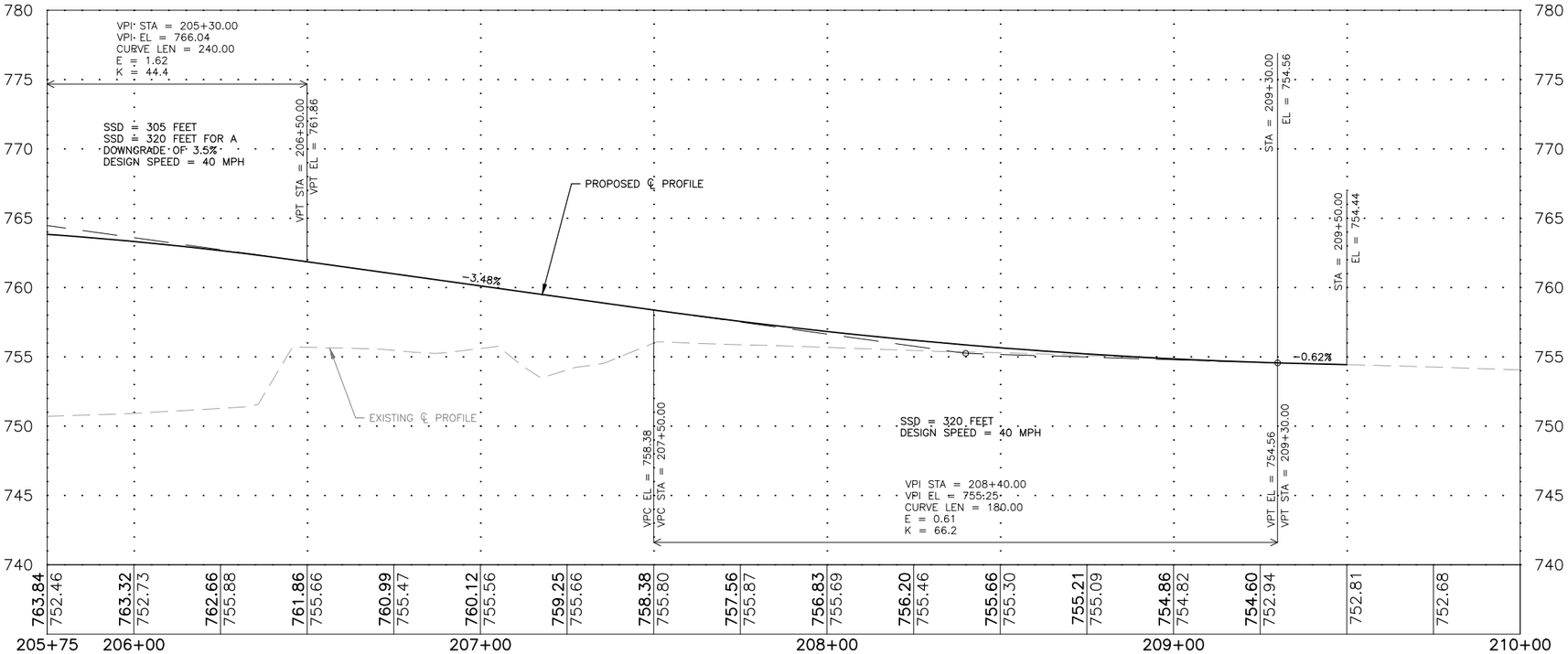
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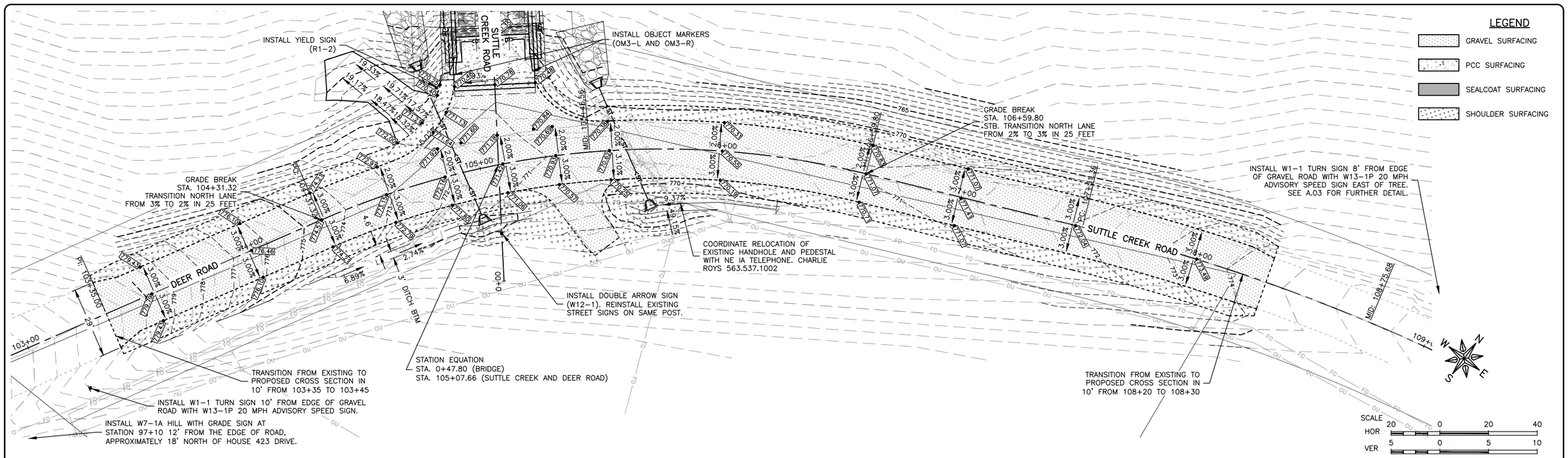
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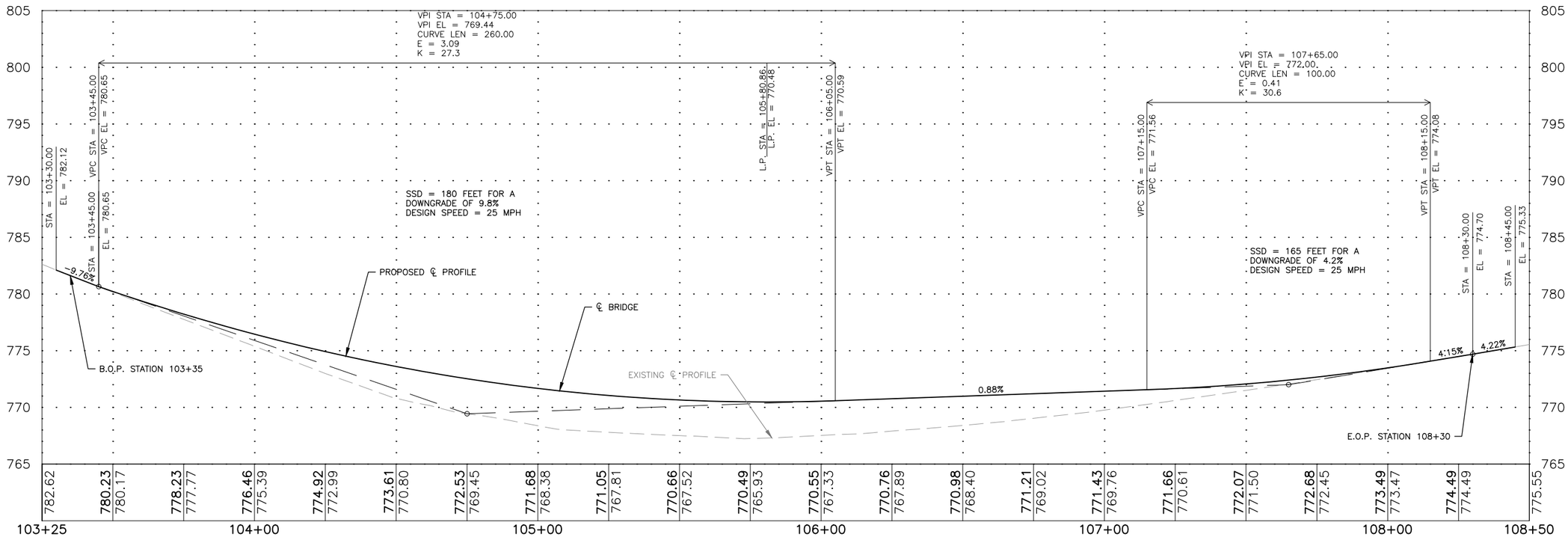
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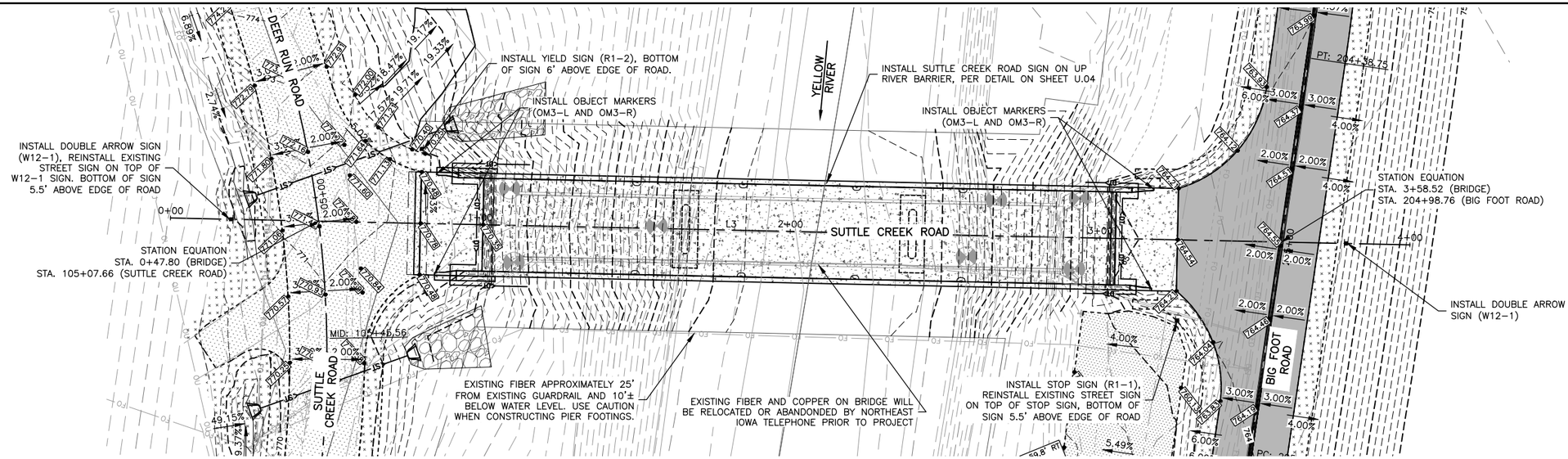
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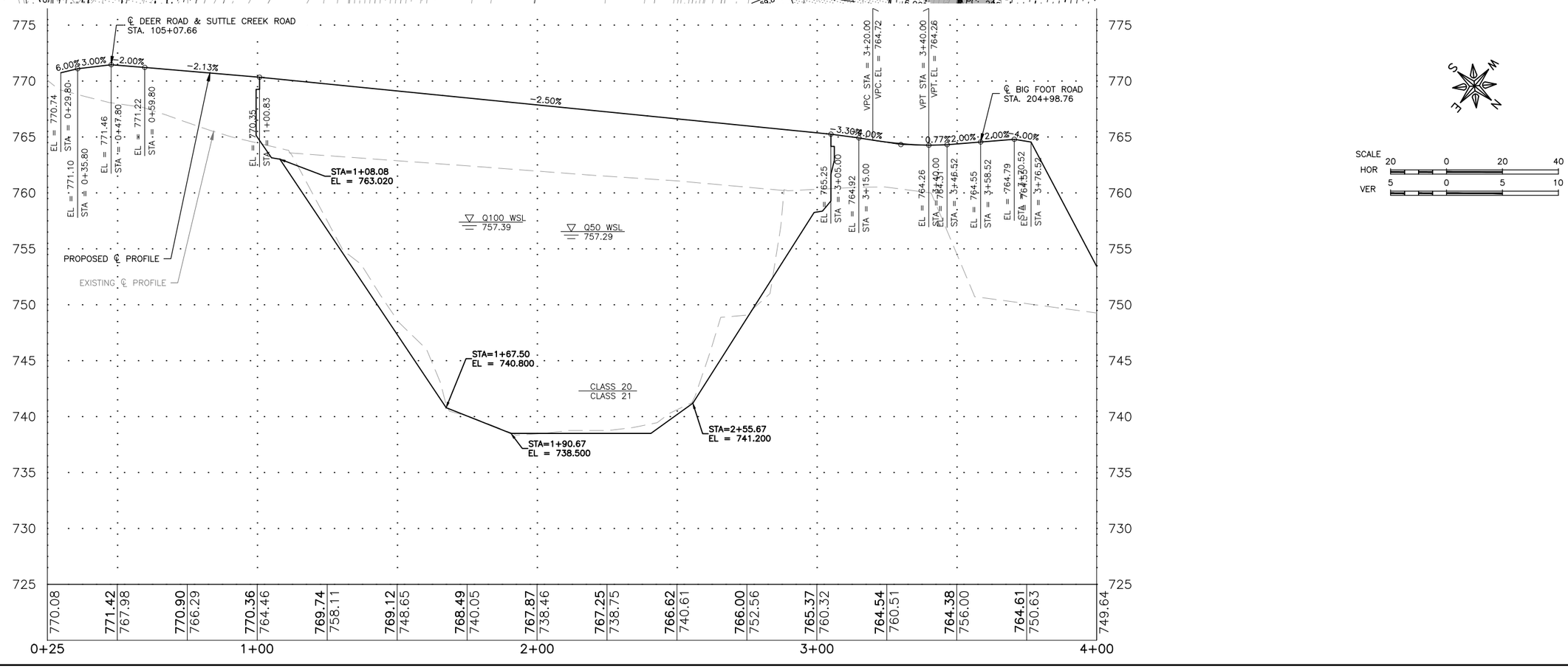
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770.08	771.42	767.98	770.90	766.29	770.36	764.46	769.74	758.11	769.12	748.65	768.49	740.05	767.87	738.46	767.25	738.75	766.62	740.61	766.00	752.56	765.37	760.32	764.54	760.51	764.38	756.00	764.61	750.63	749.64

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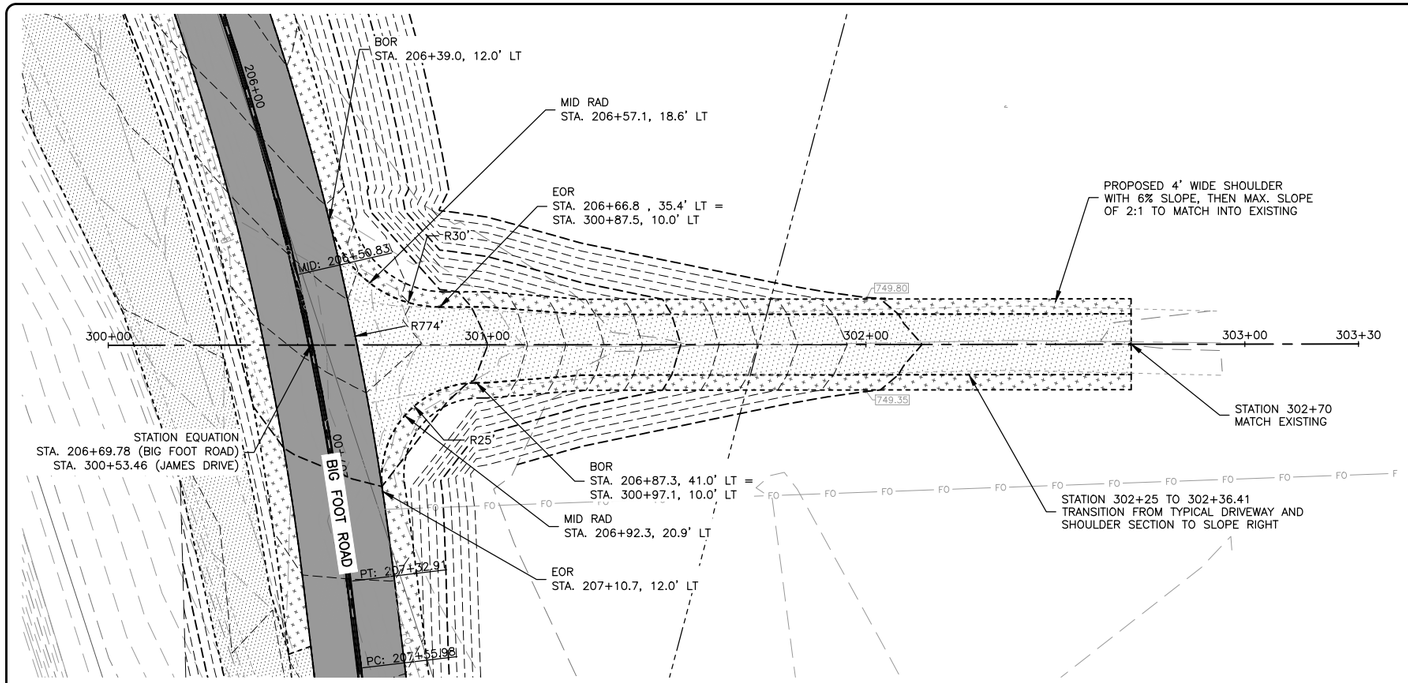
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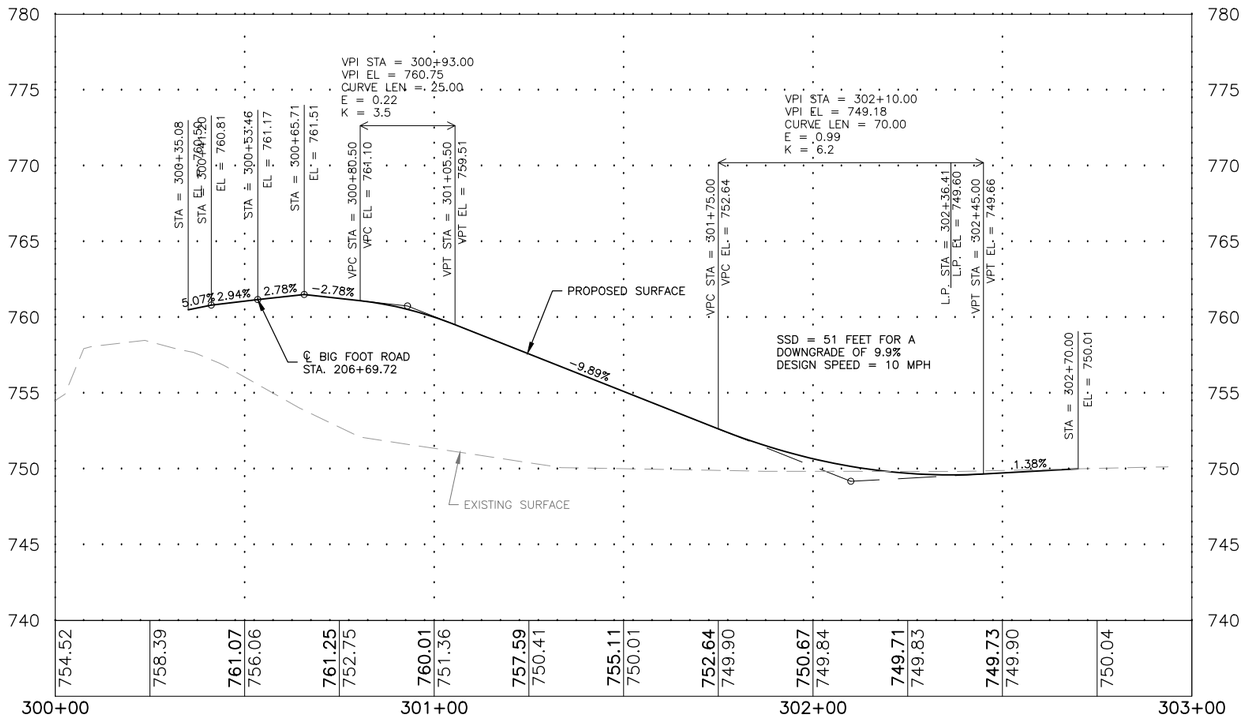
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LEGEND

- GRAVEL SURFACING
- SEALCOAT SURFACING
- SHOULDER SURFACING

SCALE
HOR 20 0 20 40
VER 5 0 5 10

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SURVEY CONTROL INFORMATION				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	9349915.61	13455991.96	784.63	1/2" REBAR WITH ALUMINIUM CAP
2	9349796.57	13456246.80	788.53	1/2" REBAR WITH ALUMINIUM CAP
3	9349873.02	13455659.03	773.80	1/2" REBAR WITH ALUMINIUM CAP
4	9349740.04	13455350.91	764.07	1/2" REBAR WITH ALUMINIUM CAP
5	9349734.55	13455430.23	768.34	1/2" REBAR WITH ALUMINIUM CAP
6	9349936.83	13455208.85	760.19	1/2" REBAR WITH NO CAP
7	9349892.17	13455233.02	760.97	CUT "X" ON NORTH END OF BRIDGE
1173	9349755.66	13455348.37	764.41	CUT "X" ON SOUTH END OF BRIDGE

GENERAL INFORMATION

MEASUREMENT UNITS FOR THIS SURVEY ARE US SURVEY FEET. THIS SURVEY IS FOR THE RECONSTRUCTION OF SUTTLE CREEK ROAD BRIDGE OVER YELLOW RIVER IN ALLAMAKEE COUNTY. PROJECT DATUM AND CONTROL INFORMATION IS PROVIDED BY FEHR GRAHAM.

VERTICAL CONTROL
VERTICAL DATUM FOR THIS SURVEY IS NAVD88 (COMPUTED USING GEOID 2018).

HORIZONTAL CONTROL
HORIZONTAL CONTROL FOR THIS PROJECT IS IOWA REGIONAL COORDINATE SYSTEM, ZONE 3 (ELKADER)
(US SURVEY FEET). INITAL CONTROL WAS SET BY USING IOTWA REAL TIME NETWORK. ALL COORDINATES LISTED IN THE PLAN ARE FROM THE ABOVE STATED COORDINATE SYSTEM UNLESS OTHERWISE NOTED.

ALIGNMENT INFORMATION
THE HORIZONTAL ALIGNMENT FOR THIS PROJECT IS BASED ON THE EXISTING ROAD CENTERLINE ALIGNMENTS AT THE TIE IN POINTS AND HAVE BEEN MODIFIED TO ACCOMODATE THE PROPOSED BRIDGE.

BIG FOOT ROAD ALIGNMENT: SURVEY BOP 200+25; SURVEY PC 200+90.95; SURVEY PT 202+55.12; SURVEY PC 202+74.58; SURVEY PT 204+38.75; SURVEY PC 205+68.75; SURVEY PT 207+32.92; SURVEY PC 207+55.99; SURVEY PT 209+20.15; SURVEY EOP 210+00

DEER AND SUTTLE CREEK ROAD ALIGNMENT: SURVEY BOP 103+35; SURVEY PC 104+31.32; SURVEY PT 106+59.80; SURVEY PC 107+51.35; SURVEY EOP 108+30

BRIDGE ALIGNMENT: SURVEY BOP 0+47.80; SURVEY EOP 3+58.52

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OWNER/DEVELOPER:
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870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING: ALIGNMENT & CURVE DATA
SET TYPE: FINAL
G:\C3D\21\21-749 Suttle Creek Rd Bridge\Plans\21-749 Plans.dwg, G.01

JOB NUMBER: 21-749
SHEET NUMBER: G.01

PLOT DATE: 8/18/26

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101_16 MODIFIED
10/25/24

ALIGNMENT COORDINATES

Name	Location	Point on Tangent Station	Point on Tangent Y Northing	Point on Tangent X Easting	Begin Curve Station	Begin Curve Y Northing	Begin Curve X Easting	Simple Curve PI or Master PI Station	Simple Curve PI or Master PI Y Northing	Simple Curve PI or Master PI X Easting	End Curve Station	End Curve Y Northing	End Curve X Easting
L1	BIG FOOT ROAD	200+00.0	9,349,648.06	13,454,802.72									
L2	BIG FOOT ROAD	200+32.5	9,349,666.21	13,454,829.62									
C1	BIG FOOT ROAD				200+91.0	9,349,698.08	13,454,878.66	201+73.4	9,349,743.21	13,454,947.99	202+55.1	9,349,801.62	13,455,005.65
L3	BIG FOOT ROAD	202+55.1	9,349,801.62	13,455,005.65									
C2	BIG FOOT ROAD				202+74.6	9,349,815.48	13,455,019.33	203+57.0	9,349,874.30	13,455,077.49	204+38.8	9,349,919.01	13,455,146.32
L4	BIG FOOT ROAD	204+38.8	9,349,919.01	13,455,146.32									
C3	BIG FOOT ROAD				205+68.8	9,349,989.86	13,455,255.32	206+51.2	9,350,034.88	13,455,324.71	207+32.9	9,350,063.85	13,455,401.51
L5	BIG FOOT ROAD	207+32.9	9,350,063.85	13,455,401.51									
C4	BIG FOOT ROAD				207+56.0	9,350,072.00	13,455,423.09	208+38.4	9,350,101.26	13,455,500.47	209+20.2	9,350,146.00	13,455,569.28
L6	BIG FOOT ROAD	209+20.2	9,350,146.00	13,455,569.28									
L7	BIG FOOT ROAD	209+50.0	9,350,162.26	13,455,594.31									
L8	BIG FOOT ROAD	210+50.0	9,350,213.95	13,455,679.92									
L9	BRIDGE	0+80.7	9,349,739.32	13,455,375.77									
L10	DEER ROAD - SUTTLE CREEK ROAD	100+00.0	9,349,274.85	13,455,143.68									
	DEER ROAD - SUTTLE CREEK ROAD	103+35.0	9,349,567.77	13,455,306.23									
C5	DEER ROAD - SUTTLE CREEK ROAD				104+31.3	9,349,652.00	13,455,352.97	105+49.8	9,349,757.81	13,455,414.47	106+59.8	9,349,802.97	13,455,519.05
L11	DEER ROAD - SUTTLE CREEK ROAD	106+59.8	9,349,802.97	13,455,519.05									
C6	DEER ROAD - SUTTLE CREEK ROAD				107+51.5	9,349,839.58	13,455,603.07	108+76.7	9,349,889.84	13,455,718.86	110+00.0	9,349,902.28	13,455,842.53

101_17 MODIFIED
1/17/24

SPIRAL OR CIRCULAR CURVE DATA

Name	Location	SCS	C	T	L	R	E	Remarks
C1	BIG FOOT ROAD		12°20'38"	82.4	164.17	762	4.42	
C2	BIG FOOT ROAD		12°20'38"	82.4	164.17	762	4.42	
C3	BIG FOOT ROAD		12°20'38"	82.4	164.17	762	4.42	
C4	BIG FOOT ROAD		12°20'38"	82.4	164.17	762	4.42	
C5	DEER ROAD - SUTTLE CREEK ROAD		37°24'10"	118.48	228.48	350	18.48	
C6	DEER ROAD - SUTTLE CREEK ROAD		17°48'28"	125.33	248.64	800	9.64	

101_18
6/17/24

SUPERELEVATION DATA

See PV-300 Series

Line No.	Road Identification	Circular Curve or Spiral Curve Name	Radius (FT)	e (%)	L (FT)	x (FT)	Standard Road Plan	Section A-A	Section A'-A'	Section B-B	Section C'-C'	Section C-C	Section D-D	Case A	Case B	Case C	Case S	Case T	Case U	Remarks
1	BIG FOOT ROAD		762	5.4	112	62.07	PV-301	200+00.00	200+35.00	200+74.65	201+24.55									TRANSITION FROM EXISTING TO SUPERELEVATION, SEE D SHEETS FOR SLOPES
2	BIG FOOT ROAD		762	5.4	112	62.07	PV-301			202+02.75	201+52.85									SEE D SHEETS FOR SLOPES
3	BIG FOOT ROAD		762	5.4	112	62.07	PV-301			203+26.95										SEE D SHEETS FOR SLOPES
4	BIG FOOT ROAD		762	5.4	112	62.07	PV-301				203+76.85									BOTH LANES SLOPE SOUTH, FULL SUPER, SEE D SHEETS FOR SLOPES
5	BIG FOOT ROAD		762	5.4	112	62.07	PV-301				204+02.45									BOTH LANES SLOPE SOUTH, FULL SUPER, SEE D SHEETS FOR SLOPES
6	BIG FOOT ROAD		762	5.4	112	62.07	PV-301			204+55.05										BOTH LANES SLOPE SOUTH 3%
7	BIG FOOT ROAD		762	5.4	112	62.07	PV-301			204+75.00										BOTH LANES SLOPE SOUTH 2%
8	BIG FOOT ROAD		762	5.4	112	62.07	PV-301			205+23.80										BOTH LANES SLOPE SOUTH 2%
9	BIG FOOT ROAD		762	5.4	112	62.07	PV-301			205+52.45										BOTH LANES SLOPE SOUTH 3%
10	BIG FOOT ROAD		762	5.4	112	62.07	PV-301				206+02.35									BOTH LANES SLOPE SOUTH, FULL SUPER
11	BIG FOOT ROAD		762	5.4	112	62.07	PV-301				206+32.46									BOTH LANES SLOPE SOUTH, FULL SUPER
12	BIG FOOT ROAD		762	5.4	112	62.07	PV-301			206+82.36										BOTH LANES SLOPE SOUTH 3%
13	BIG FOOT ROAD		762	5.4	112	62.07	PV-301			208+06.56										BOTH LANES SLOPE NORTH 3%
14	BIG FOOT ROAD		762	5.4	112	62.07	PV-301				208+56.46									BOTH LANES SLOPE NORTH, SEE D SHEETS
15	BIG FOOT ROAD		762	5.4	112	62.07	PV-301	210+60.50	209+98.45	209+36.45	208+86.55									TRANSITION FROM SUPER TO EXISTING, SEE D SHEETS.

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PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

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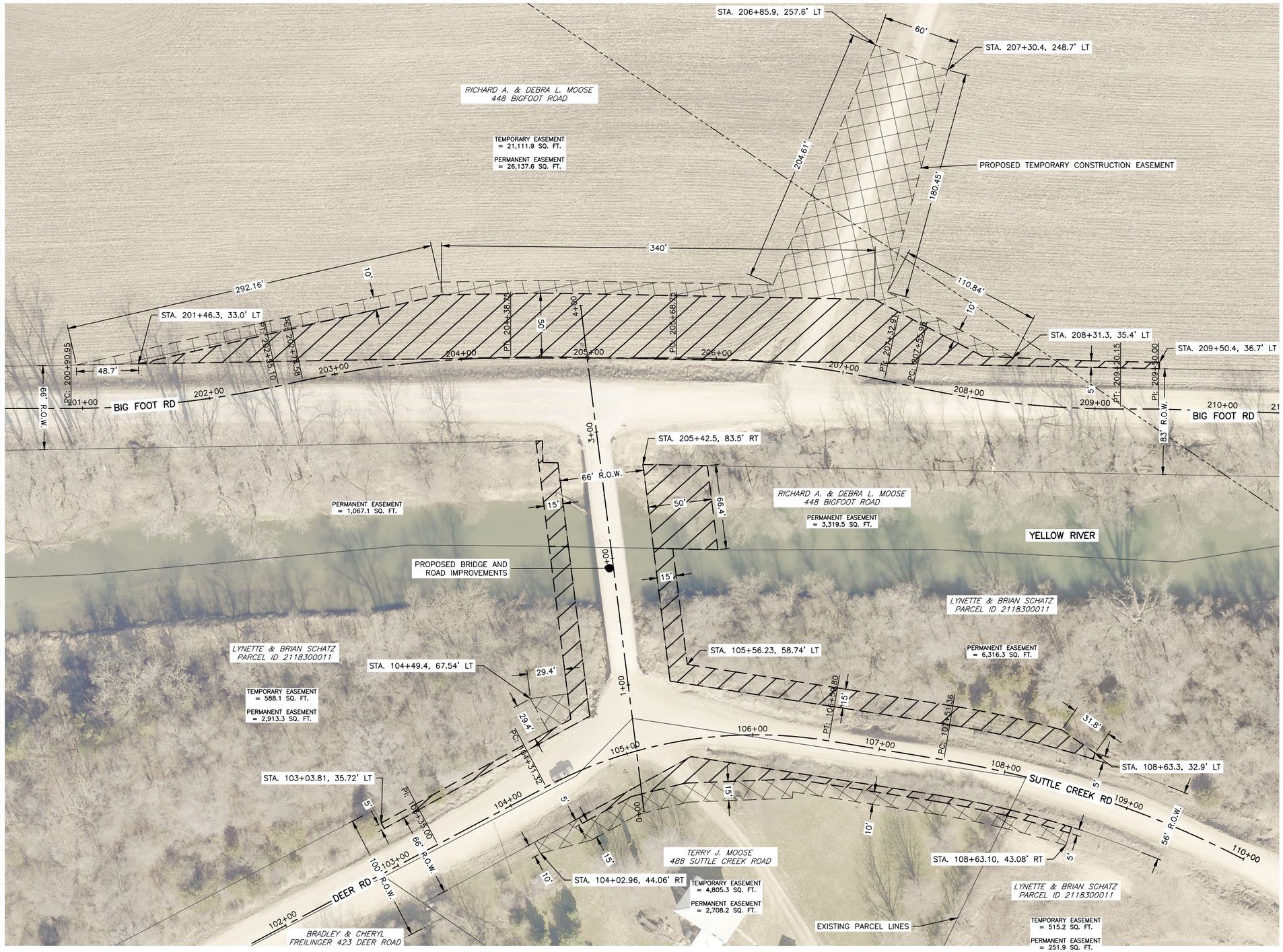
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SHEET NUMBER: G.02

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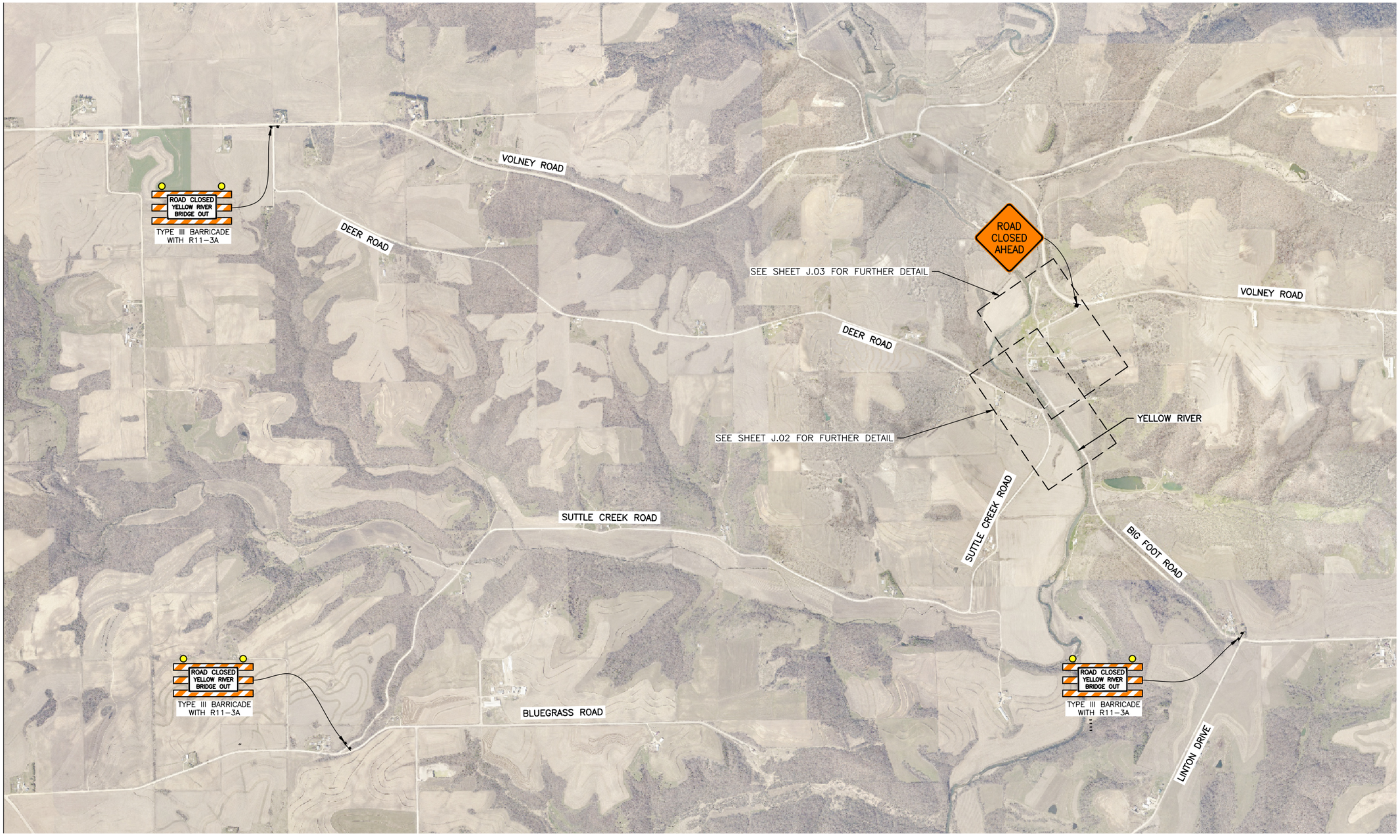
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JOB NUMBER: 21-749

SHEET NUMBER: H.01

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REV. NO.	DESCRIPTION	DATE

DRAWING:
TRAFFIC CONTROL PLAN

SET TYPE: FINAL
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JOB NUMBER:
21-749

SHEET NUMBER:
J.01

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TRAFFIC CONTROL PLAN

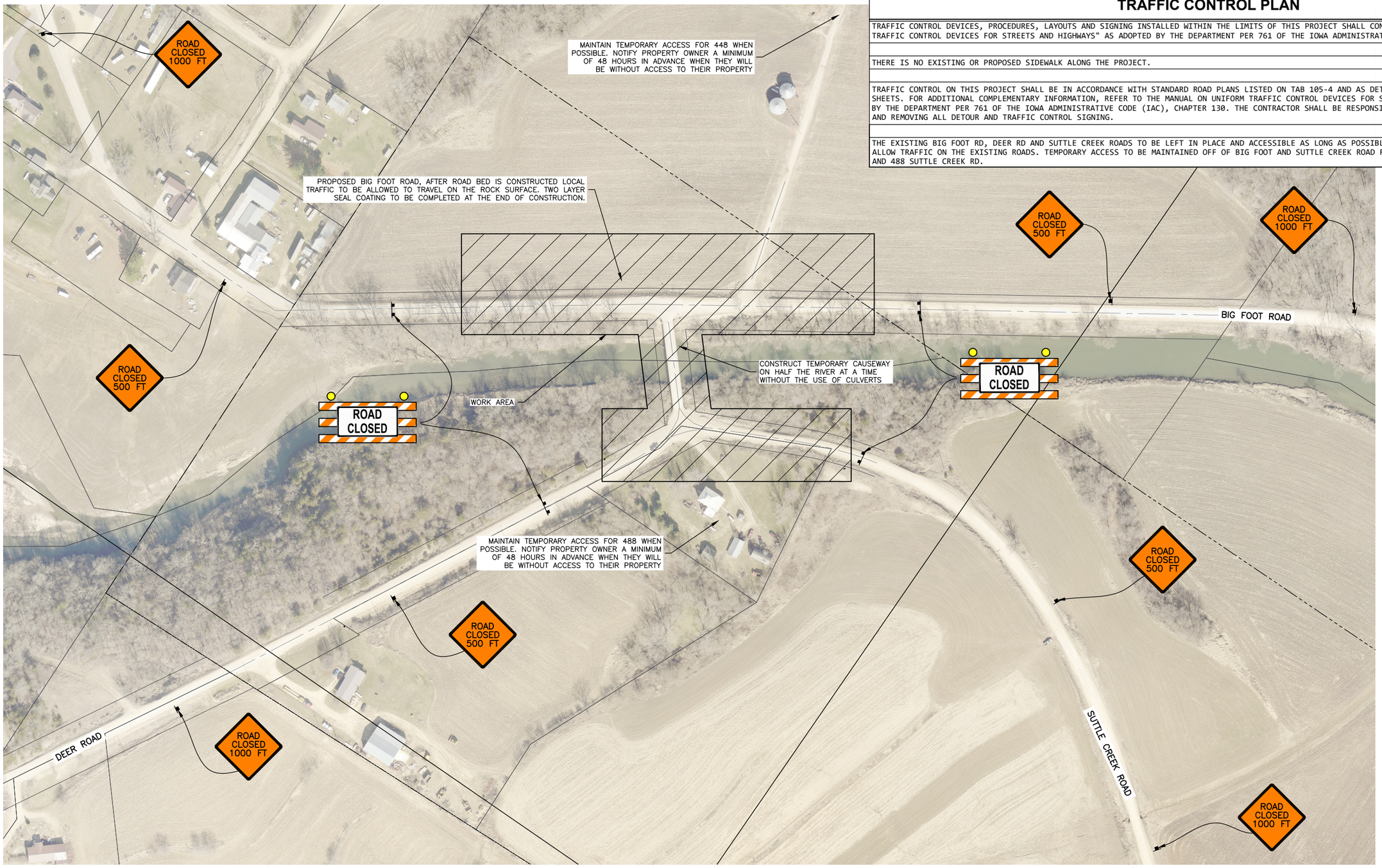
108-23A
8/15/22

TRAFFIC CONTROL DEVICES, PROCEDURES, LAYOUTS AND SIGNING INSTALLED WITHIN THE LIMITS OF THIS PROJECT SHALL CONFORM TO THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" AS ADOPTED BY THE DEPARTMENT PER 761 OF THE IOWA ADMINISTRATIVE CODE (IAC) CHAPTER 130.

THERE IS NO EXISTING OR PROPOSED SIDEWALK ALONG THE PROJECT.

TRAFFIC CONTROL ON THIS PROJECT SHALL BE IN ACCORDANCE WITH STANDARD ROAD PLANS LISTED ON TAB 105-4 AND AS DETAILED ELSEWHERE IN THE J SHEETS. FOR ADDITIONAL COMPLEMENTARY INFORMATION, REFER TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, AS ADOPTED BY THE DEPARTMENT PER 761 OF THE IOWA ADMINISTRATIVE CODE (IAC), CHAPTER 130. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING, MAINTAINING AND REMOVING ALL DETOUR AND TRAFFIC CONTROL SIGNING.

THE EXISTING BIG FOOT RD, DEER RD AND SUTTLE CREEK ROADS TO BE LEFT IN PLACE AND ACCESSIBLE AS LONG AS POSSIBLE AS CONSTRUCTION COMMENCES TO ALLOW TRAFFIC ON THE EXISTING ROADS. TEMPORARY ACCESS TO BE MAINTAINED OFF OF BIG FOOT AND SUTTLE CREEK ROAD FOR PROPERTIES 448 BIG FOOT RD AND 488 SUTTLE CREEK RD.



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SET TYPE: FINAL
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JOB NUMBER: 21-749
SHEET NUMBER: J.02

PLOT DATE: 8/18/26

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NOTES:

1. CONTRACTOR SHALL CONTACT THE IOWA DNR WATER TRAILS COORDINATOR (JOHN WENCK, JOHN.WENCK@DNR.IOWA.GOV) AT LEAST ONE WEEK PRIOR TO PLACING AND REMOVING OBSTRUCTIONS IN CHANNEL.
2. CONTRACTOR IS RESPONSIBLE FOR SUPPLYING, INSTALLING, MAINTAINING, AND REMOVING ALL PADDLE ROUTE SIGNS.
3. CONTRACTOR SHALL COORDINATE SIGN PLACEMENT AND INSALLATION WITH CONSERVATION OFFICER BURT WALTERS VIA PHONE: 563-880-0180 OR EMAIL: BURT.WALTERS@DNR.IOWA.GOV
4. CONTRACTOR SHALL COORDINATE SIGN PLACEMENT AND MANAGEMENT FOR VOLNEY ACCESS WITH THE ALLAMAKEE COUNTY CONSERVATION BOARD VIA PHONE: 563-538-0400 OR EMAIL: ACCB.OFFMANAGER@GMAIL.COM
5. WHEN OBSTRUCTIONS TO THE CHANNEL ARE NOT NEEDED FOR A PERIOD OF 30 DAYS OR GREATER, SIGNAGE SHALL BE TEMPORARILY REMOVED.

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DRAWING:
TRAFFIC CONTROL PLAN

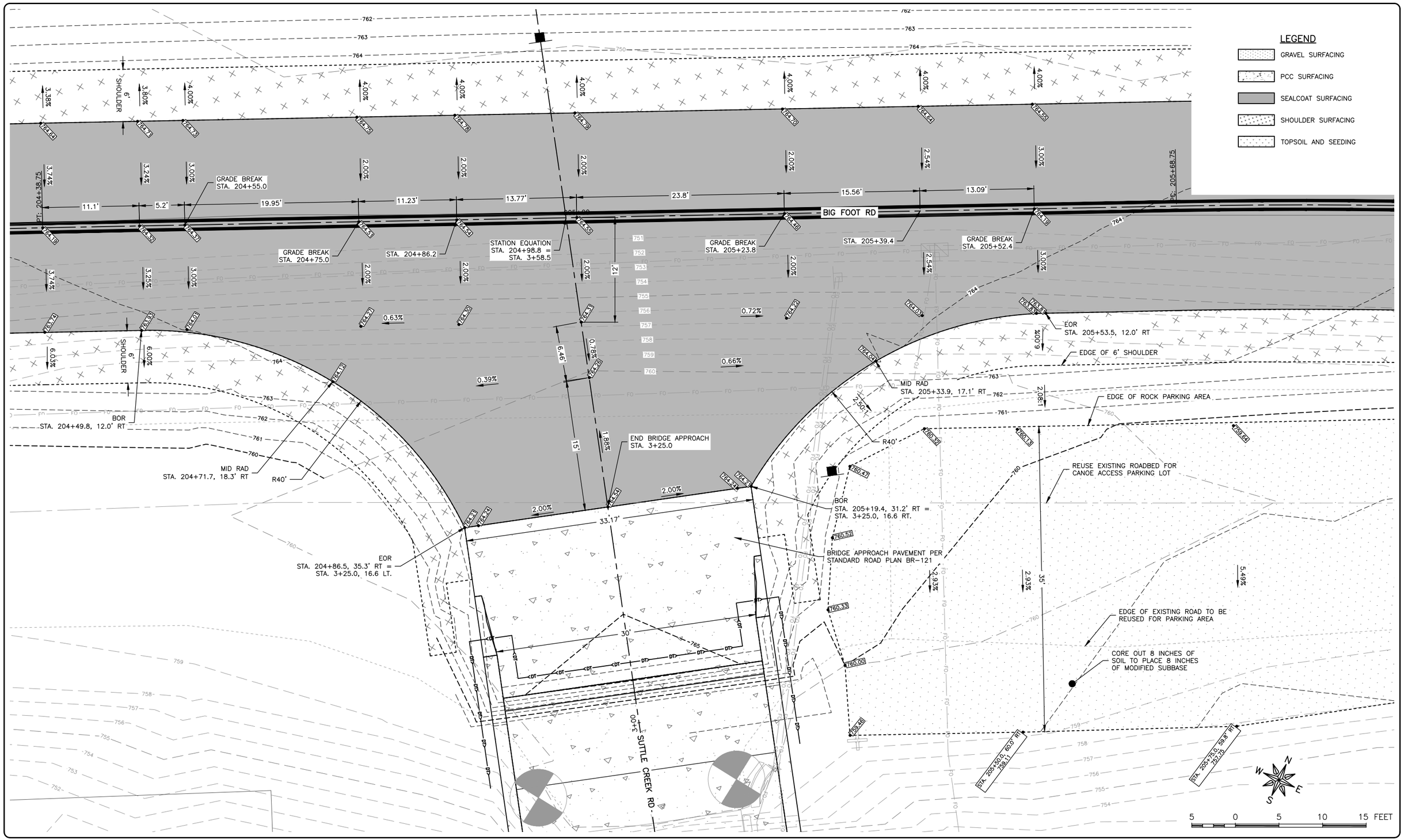
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REV. NO.	DESCRIPTION	DATE

DRAWING:
SUTTLE CREEK ROAD & BIG FOOT ROAD INTERSECTION PLAN

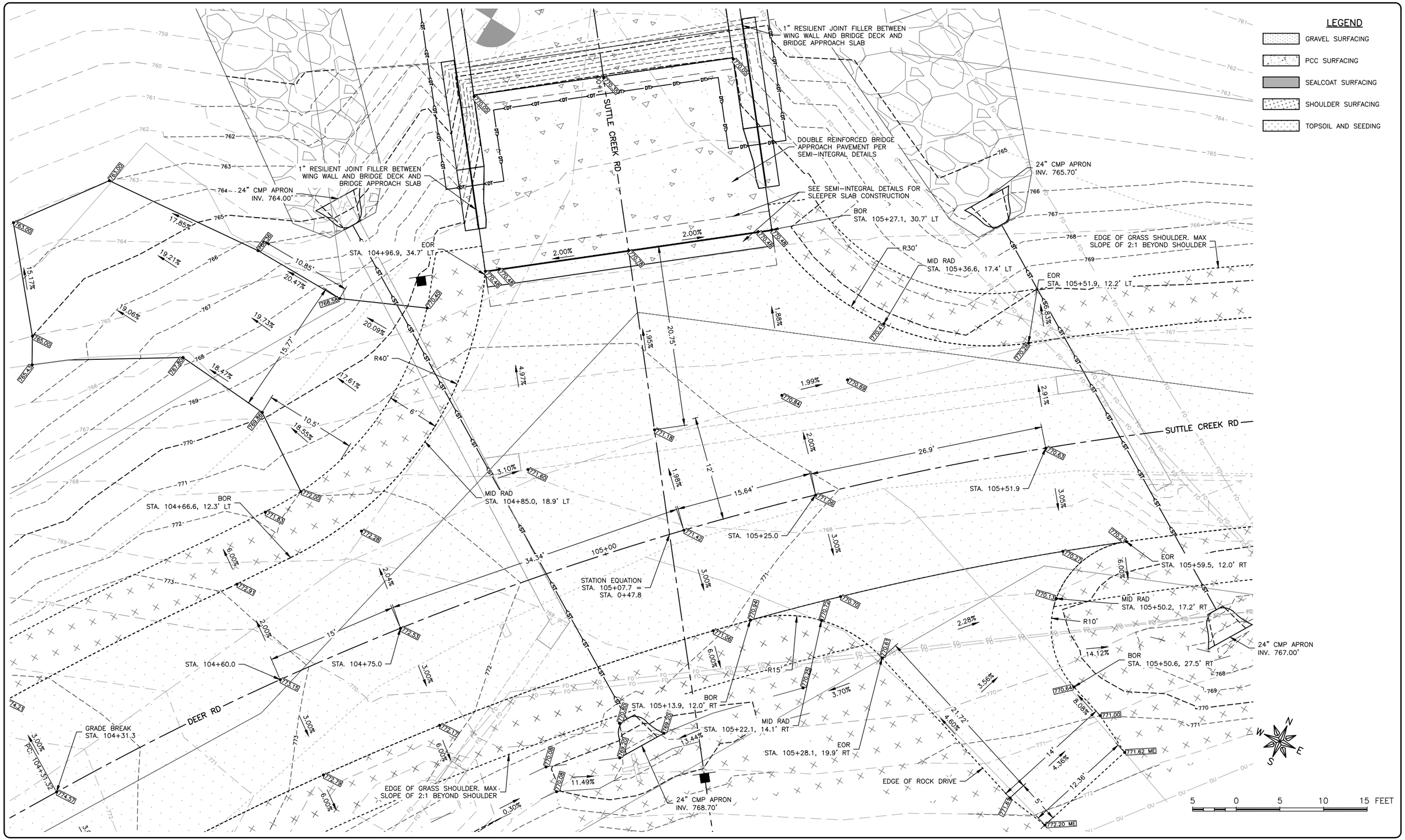
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SCALE: AS NOTED

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REV. NO.	DESCRIPTION	DATE

DRAWING:
SUTTLE CREEK ROAD & DEER ROAD INTERSECTION PLAN

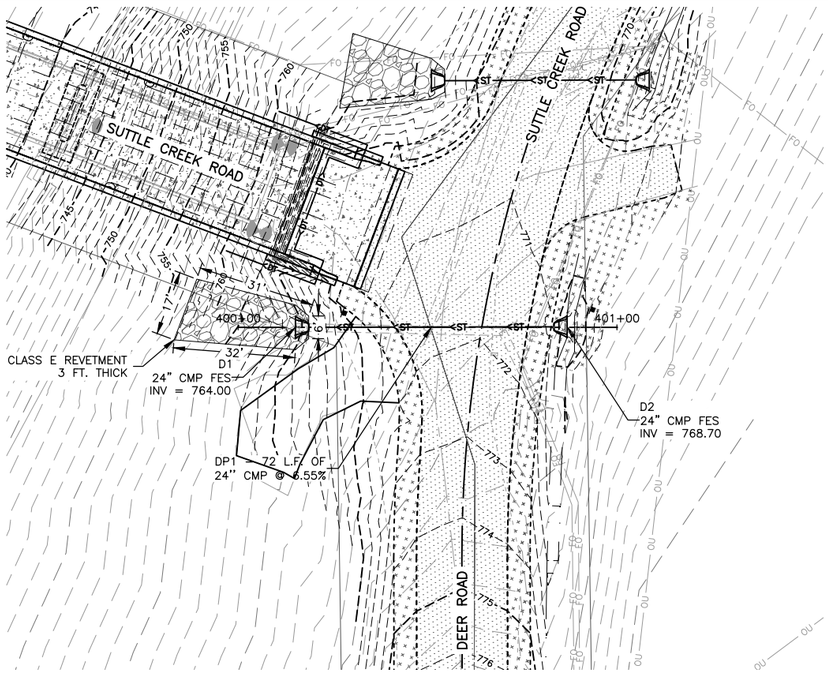
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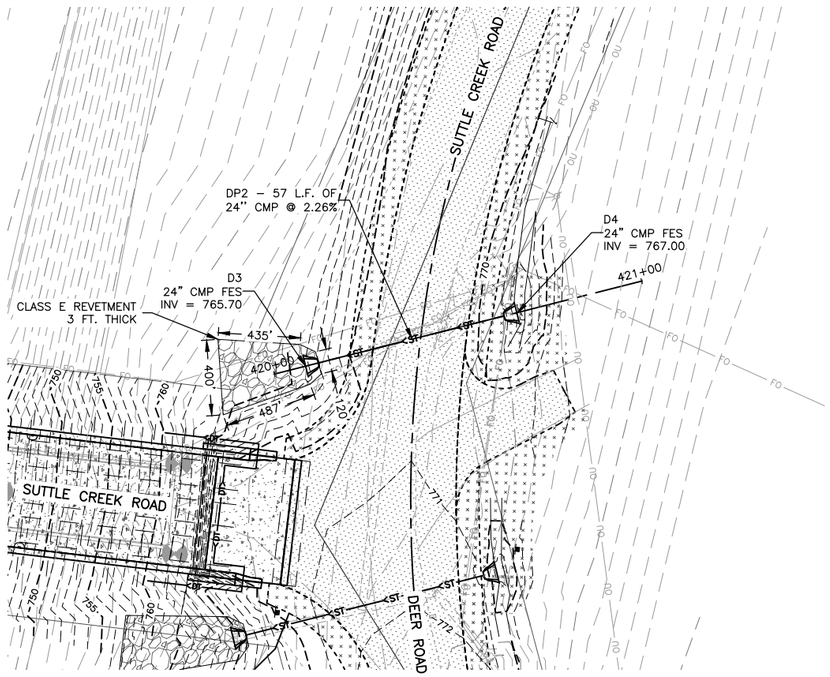
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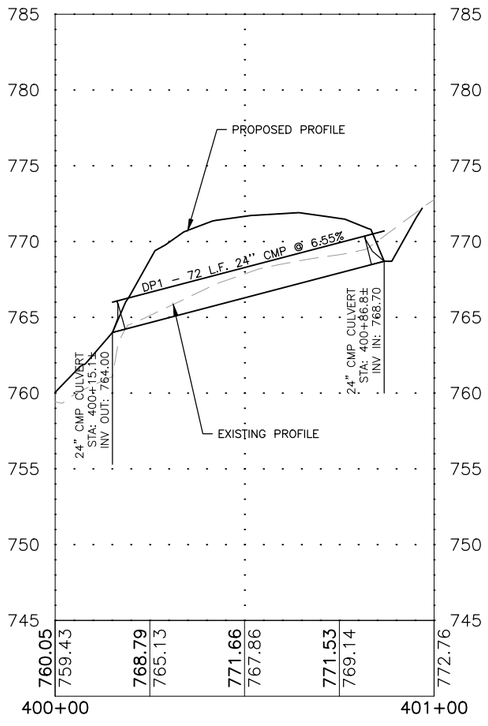
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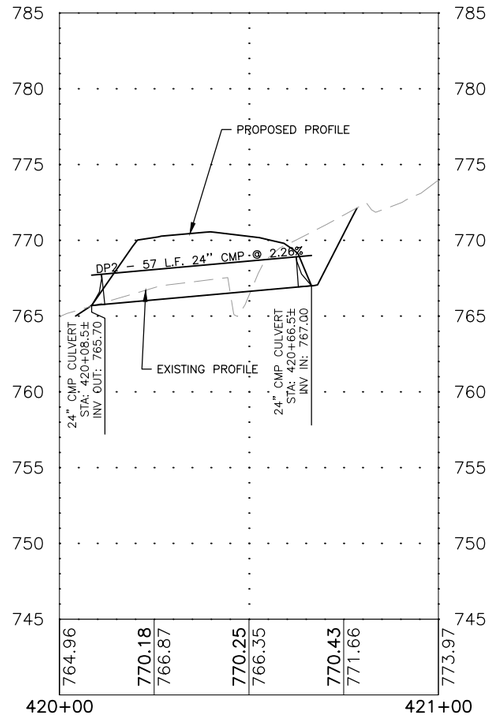
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NOTE: LENGTHS AND SLOPES SHOWN ARE FROM APRON END TO APRON END. THE BID LENGTH FOR EACH CULVERT PIPE DOES NOT INCLUDE THE APRON ENDS, 3.5 FEET EACH. METAL APRON ENDS WILL BE PAID SEPARATELY UNDER THEIR RESPECTIVE BID ITEM.







SCALE
HOR 20 0 20 40
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DRAWING: STORM SEWER PLAN & PROFILE

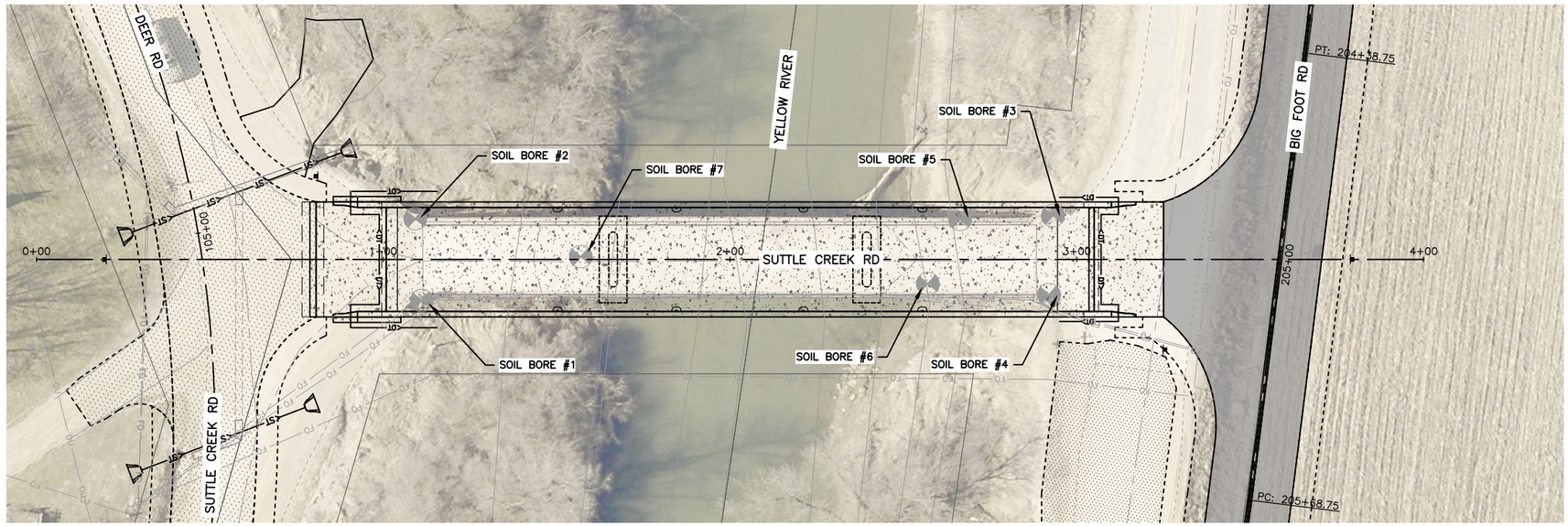
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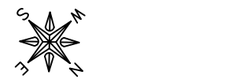
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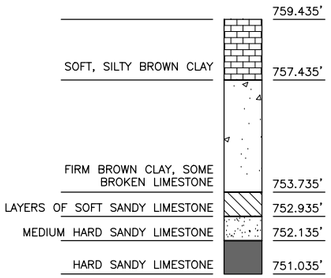
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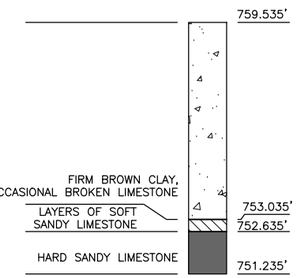


NOTE:
1. SOIL BORE INFORMATION WAS OBTAINED FROM THE SOIL BORES SHOWN ON THE PLANS FROM THE PREVIOUS BRIDGE THAT WAS INSTALLED IN 1954.

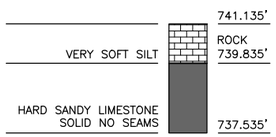
SOIL BORE #1



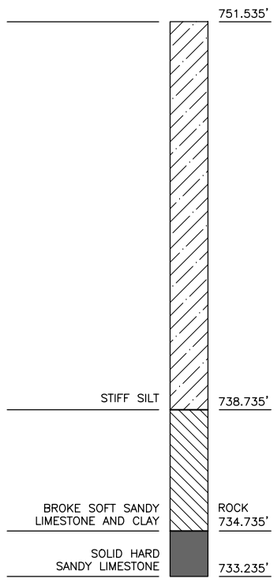
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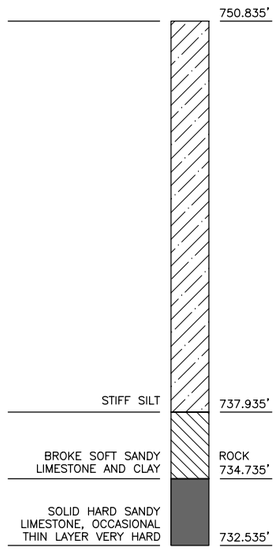
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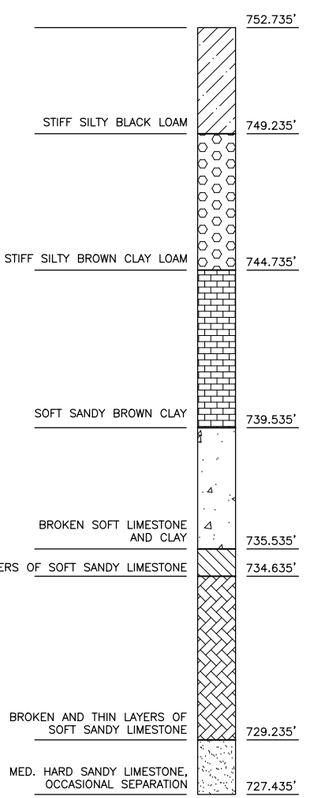
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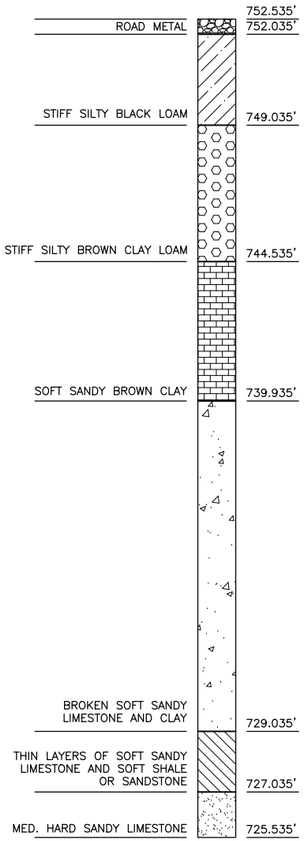
SOIL BORE #5



SOIL BORE #3



SOIL BORE #4



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PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
SOIL BORING LOGS

SET TYPE: FINAL
G:\C3D\21\21-749 Suttle Creek Rd Bridge\Plans\21-749 Plans.dwg, Q.01

JOB NUMBER:
21-749

SHEET NUMBER:
Q.01

PLOT DATE: 8/18/26

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POLLUTION PREVENTION PLAN

This project is regulated by the requirements of the Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) General Permit No. 2 OR an Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) individual storm water permit. The Contractor shall carry out the terms and conditions of this permit and the Pollution Prevention Plan (PPP).

This Base PPP includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base Pollution Prevention Plan, amended as needed during construction, will be readily available for review.

All contractors shall conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the highway right-of-way. The Contractor shall be responsible for compliance and implementation of the PPP for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this PPP.

I. ROLES AND RESPONSIBILITES

A. Designer:
1. Prepares Base PPP included in the project plan.
2. Prepares Notice of Intent (NOI) submitted to Iowa DNR.
3. Is signature authority on the Base PPP. If consultant designed, signature from Contracting Authority is also required.

B. Contractor:
1. Signs a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
2. Designates a Water Pollution Control Manager (WPCM), who has the duties and responsibilities as defined in Section 2602 of the Standard Specifications.
3. Submits an Erosion Control Implementation Plan (ECIP) and ECIP updates according to Section 2602 of the Standard Specifications.
4. Installs and maintains appropriate controls. This work may be subcontracted as documented through Subcontractor Request Forms (Form 830231).
5. Supervises and implements good housekeeping practices according to Paragraph III, C, 2.
6. Conducts joint required inspections of the site with inspection staff. When Contractor is not mobilized on site, Contractor may delegate this responsibility to a trained or certified subcontractor. Contracting Authority also may waive joint inspection requirement during winter shutdown. In both circumstances, WPCM (or trained or certified delegate from the Contractor) is still responsible to review and sign inspection reports.
7. Complies with training and certification requirements of Section 2602 of the Standard Specifications.
8. Submits amended PPP site map according to Section 2602 of the Standard Specifications.

C. Subcontractors:
1. Sign a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP if: responsible for sediment or erosion controls; involved in land disturbing activities; or perorming work that is a source of potential pollution as defined in this PPP. Subcontracted work items are identified in Subcontractor Request Forms (Form 830231). All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
2. Implement good housekeeping practices according to Paragraph III, C, 2.

D. RCE/Project Engineer:
1. Is Project Storm Water Manager.
2. On projects where DOT is the Contracting Authority, is current with erosion control training or certification.
3. Takes actions necessary to ensure compliance with storm water requirements including, where appropriate, issuing stop work orders, and directing additional inspections at construction project sites that are experiencing problems with achieving permit compliance.
4. Orders the taking of measures to cease, correct, prevent, or minimize the consequences of non-compliance with the storm water requirements of the Applicable Permit.
5. Supervises all work necessary to meet storm water requirements at the Project, including work performed by contractors and subcontractors.
6. Requires employees, contractors, and subcontractors to take appropriate responsive action to comply with storm water requirements, including requiring any such person to cease or correct a violation of storm water requirements, and to order or recommend such other actions as necessary to meet storm water requirements.
7. Is familiar with the Project PPP and storm water site map.
8. On projects where DOT is Contracting Authority, is responsible for periodically monitoring inspection reports to determine whether deficiencies identified in inspection reports were adequately and timely addressed, and if not, has the authority and responsibility to direct immediate actions to correct the deficiencies.
9. Is the point of contact for the Project for regulatory officials, Inspector, contractors, and subcontractors regarding storm water requirements.
10. Is signature authority on Notice of Discontinuation.
11. Maintains an up-to-date record of contractors, subcontractors, and subcontracted work items through Subcontractor Request Forms (Form 830231).
12. Makes information to determine permit compliance available to the DNR upon their request.

E. Inspector:
1. Updates PPP through fieldbook entries and storm water site inspection reports if there is a change in design, construction, operation, or maintenance which has a significant effect on the discharge of pollutants from the project.
2. Makes information to determine permit compliance available to the DNR upon their request.
3. Conducts joint required inspections of the site with the contractor/subcontractor.
4. Completes an inspection report after each inspection.
5. Is signature authority on storm water inspection reports.

II. PROJECT SITE DESCRIPTION

A. This Pollution Prevention Plan (PPP) is for the removal of an existing bridge and construction of a new bridge, culvert replacement and grading of the new roadway, ditches and adjacent driveways.

B. This PPP covers approximately 2.8 acres with an estimated 2.8 acres being disturbed.

C. The PPP is located in an area of three soil series (Fayette silt loam, Orion silt loam and Volney channery silt loam). The estimated weighted average runoff coefficient number for this PPP after completion will be 0.65.

D. Storm Water Site Map is located on the R.01 sheet. Proposed slopes are shown in cross sections, details, or standard road plans. Supplemental information is located in the Tabulations in the C sheets.

E. The base storm water site map is amended by contract modifications and progress payments (fieldbook entries) of completed erosion control work. Also, due to project phasing, erosion and sediment controls shown on project plans may not be installed until needed, based on site conditions. For example, silt fence ditch checks will typically not be installed until the ditch has been installed. Installed locations may also be modified from tabulation locations by field staff. Installed locations will be documented by fieldbook entries and amended PPP site map.

F. Runoff from this work will flow into the Yellow River.

III. CONTROLS

A. The Contractor’s ECIP specified in Article 2602.03 of the Standard Specifications for accomplishment of storm water controls should clearly describe the intended sequence of major activities, and for each activity define the control measure and the timing during the construction process that the measure will be implemented.

B. Preserve vegetation in areas not needed for construction.

C. Sections 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used and installed locations may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries, amended PPP site map, or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water site inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B of the Standard Specifications.

1. EROSION AND SEDIMENT CONTROLS

a. Stabilization Practices

1) Site plans will ensure that existing vegetation or natural buffers are preserved where attainable and disturbed portions of the site will be stabilized.

2) Initialize stabilization of disturbed areas immediately after clearing, grading, excavating, or other earth disturbing activities have:

a) Permanently ceased on any portion of the site, or

b) Temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days.

3) Staged permanent and/or temporary stabilizing seeding and mulching shall be completed as the disturbed areas are completed. Incomplete areas shall be stabilized according to paragraph III, C, 1, a, 2, b above.

4) Permanent and Temporary Stabilization practices to be used for this project are located in the storm water site map, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R sheets. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation (105-4) in the C or R sheets.

5) Preservation of existing vegetation within right-of-way or easements will act as vegetative buffer strips.

6) Preservation of topsoil: Bid items to be used for this project are located in the Estimated Project Quantities and Reference Notes located in the C sheets. Additional information may be found in the Tabulations in the C Tabulation sheets or is referenced in Section 2105 of the Standard Specifications.

b. Structural Practices

1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Additionally, structural practices may include: silt basins that provide 3600 cubic feet of storage per acre drained or equivalent sediment controls, outlet structures that withdraw water from surface when discharging basins, and controls to direct storm water to vegetated areas.

2) Structural practices to be used for this project are located in the storm water site map, Estimated Project Quantities and Reference Notes located in the C or R sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found on the B or R sheets or are referenced in the Standard Road Plans Tabulation (105-4) located in the C or RR sheets.

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PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP–C003(69)––NC–03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING: STORMWATER POLLUTION PREVENTION PLAN
SET TYPE: FINAL
G:\C3D\21\21-749 Suttle Creek Rd Bridge\Plans\21-749 RC-RR Sheets.dwg, RC.01 PPP

JOB NUMBER: 21–749
SHEET NUMBER: RC.01

PLOT DATE: 8/18/26

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POLLUTION PREVENTION PLAN

c. Storm Water Management

Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. This may include velocity dissipation devices at discharge locations and along length of outfall channel as necessary to provide a non-erosion velocity flow from structure to water course. If included with this project, these items are located in the storm water site map and Estimated Project Quantities and Reference Notes located in the C or RR sheets, as well as all other item specific Tabulations.

Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation. The installation of these devices may be subject to Section 404 of the Clean Water Act.

2. OTHER CONTROLS

Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules or regulations shall apply.

a. Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.

b. Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.

c. Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.

d. Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.

e. Spill Prevention and Control - Implement chemical spill and leak prevention and response procedures to contain and clean up spills and prevent material discharges to the storm drain system and waters of the state.

f. Concrete Residuals and Washout Wastes - Waste shall not be discharged to a surface water and is not allowed to adversely affect a water of the state. Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located. Designated washout areas should be located at least 50 feet away from storm drains, streams or other water bodies. Care should be taken to ensure these facilities do not overflow during storm events.

g. Concrete Grooving/Grinding Slurry – Do not discharge slurry to a waterbody or storm drain. Slurry may be applied on foreslopes or removed from the project.

h. Vehicle and Equipment Storage and Maintenance Areas - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onsite fuels and proper disposal of used engine oil or other fluids on site. Employ washing practices that prevent contamination of surface and ground water from wash water. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.

i. Litter Management - Ensure employees properly dispose of litter. Minimize exposure of trash if exposure to precipitation or storm water would result in a discharge of pollutants.

j. Dewatering – Properly treat water to remove suspended sediment before it re-enters a waterbody or discharges off-site. Measures are also to be taken to prevent scour erosion at dewatering discharge point.

3. APPROVED STATE OR LOCAL PLANS

During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.

IV. MAINTENANCE PROCEDURES

The Contractor is required to maintain all temporary erosion and sediment control measures in proper working order, including cleaning, repairing, or replacing them throughout the contract period. This shall begin when the features have lost 50% of their capacity.

V. INSPECTION REQUIREMENTS

A. Inspections shall be made jointly by the Contractor and the Contracting Authority's inspector at least once every seven calendar days. Storm water site inspections will include:

1. Date of the inspection.
2. Summary of the scope of the inspection.
3. Name and qualifications of the personnel making the inspection.
5. Review of erosion and sediment control measures within disturbed areas for the effectiveness in preventing impacts to receiving waters.
6. Major observations related to the implementation of the PPP.
7. Identification of corrective actions required to maintain or modify erosion and sediment control measures.

B. Include storm water site inspection reports in the Amended PPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found within 3 calendar days of the inspection and complete within 7 calendar days following the inspection. If it is determined that making the corrections less than 72 hours after the inspection is impracticable, it should be documented why it is impracticable and indicate an estimated date by which the corrections will be made.

VI. NON-STORM WATER DISCHARGES

This includes subsurface drains (i.e. longitudinal and standard subdrains) and slope drains. The velocity of the discharge from these features may be controlled by the use of headwalls or blocks, Class A stone, erosion stone or other appropriate materials. This also includes uncontaminated groundwater from dewatering operations, which will be controlled as discussed in Section III of the PPP.

VII. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION

Silts, sediment, and other forms of pollution may be transported onto highway right-of-way (ROW) as a result of a storm event. Potential sources of pollution located outside highway ROW are beyond the control of this PPP. Pollution within highway ROW will be conveyed and controlled per this PPP.

VIII. DEFINITIONS

A. Base PPP - Initial Pollution Prevention Plan.

B. Amended PPP - Base PPP amended during construction. May include Plan Revisions or Contract Modifications for new items, storm water site inspection reports, fieldbook entries made by the inspector, amended PPP site map by the Contractor, ECIP, NOI, co-permittee certifications, and Subcontractor Request Forms. Items amending the PPP are stored electronically and are readily available upon request.

C. Fieldbook Entries – This contains the inspector's daily diary and bid item postings.

D. Controls - Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials. Also called Best Management Practices (BMPs).

E. Signature Authority - Representative authorized to sign various storm water documents.

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Ryan M Wicks

Signature

Ryan M. Wicks, PE

Printed or Typed Name

Signature

Brian T. Ridenour, P.E.

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PLOT DATE: 8/14/26

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870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING: STORMWATER POLLUTION PREVENTION PLAN
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G:\C3D\21\21-749 Suttle Creek Rd Bridge\Plans\21-749 RC-RR Sheets.dwg, RC.02 PPP

JOB NUMBER: 21-749
SHEET NUMBER: RC.02



LEGEND

- GRAVEL SURFACING
- PCC SURFACING
- SEALCOAT SURFACING
- RURAL SEEDING
- NATIVE SEEDING AND EROSION CONTROL BLANKET
- CLASS "E" REVETMENT
- FILTER SOCK

N
W E
S

40 0 40 80 120 FEET

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DRAWING:
EROSION CONTROL PLAN

SET TYPE: FINAL
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JOB NUMBER:
21-749

SHEET NUMBER:
RR.01



LEGEND

SEAL COAT SURFACING REMOVAL

GRAVEL SURFACING REMOVAL

30 0 30 60 90 FEET

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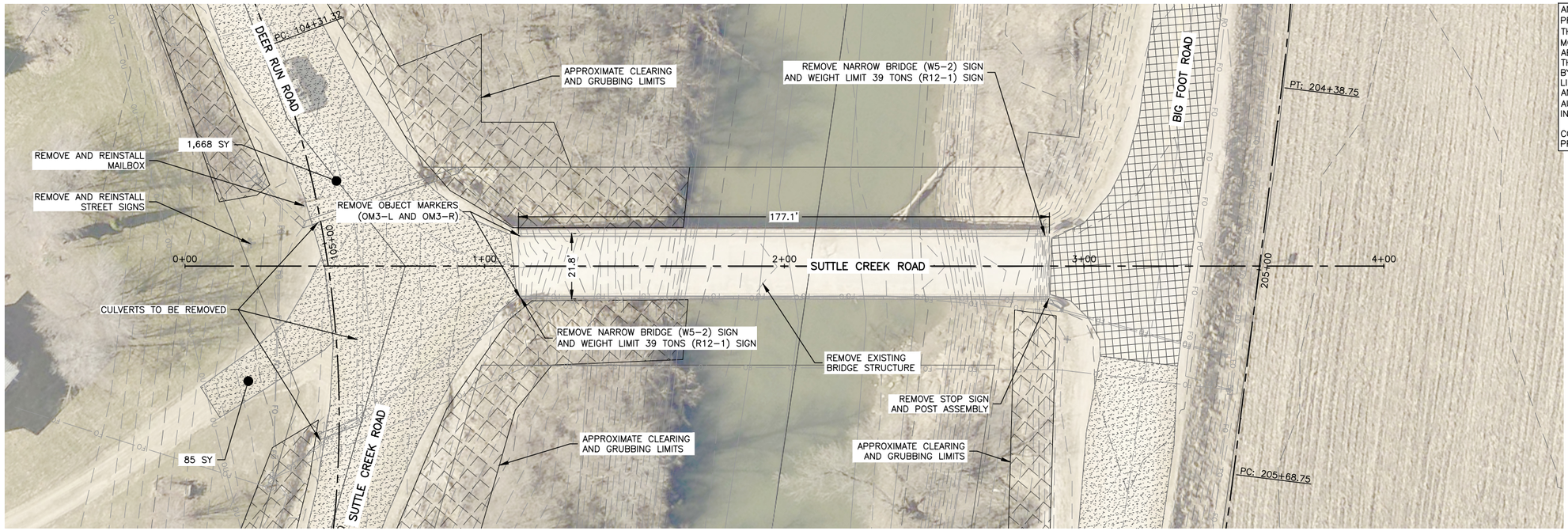
REV. NO.	DESCRIPTION	DATE

DRAWING:
REMOVAL PLAN

SET TYPE: FINAL
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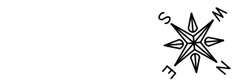
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21-749

SHEET NUMBER:
U.01



ANALYSIS OF PAINT FROM THE EXISTING BRIDGE INDICATES THE PRESENCE OF LEAD AT A RATE OF 67.6 MG/KG AND 9.96 MG/KG AND THE PRESENCE OF CHROMIUM AT A RATE OF 67.6 MG/KG AND 99.6 MG/KG. ANALYSIS OF MATERIALS FROM EXISTING BRIDGE INDICATED AN ABSENCE OF ASBESTOS. THESE ANALYSIS WERE PERFORMED TO SHOW THE PRESENCE OF THESE TOXIC CONSTITUENTS. THE LEVELS INDICATED BY THESE TEST COULD CREATE CONDITIONS ABOVE THE REGULATORY LIMITS FOR SAFETY REQUIREMENTS. NO OTHER SUBSTANCES WERE ANALYZED. THE BIDDER SHOULD NOT RELY ON THE CONTRACTING AUTHORITY'S TESTING AND ANALYSIS FOR ANY PURPOSE OTHER THAN INDICATION OF THE PRESENCE OF THESE TOXIC CONSTITUENTS.

CONTRACTOR TO NOTIFY THE IOWA DNR AIR QUALITY BUREAU 2 WEEKS PRIOR TO DEMOLITION OF THE BRIDGE, 515.343.7063.



20 0 20 40 60 FEET

STANDING ON THE NORTH SIDE OF THE RIVER AND EAST SIDE OF THE BRIDGE LOOKING TOWARDS THE SOUTH ABUTMENT



NORTH ABUTMENT STANDING ON THE NORTH SIDE OF THE RIVER AND EAST SIDE OF THE BRIDGE



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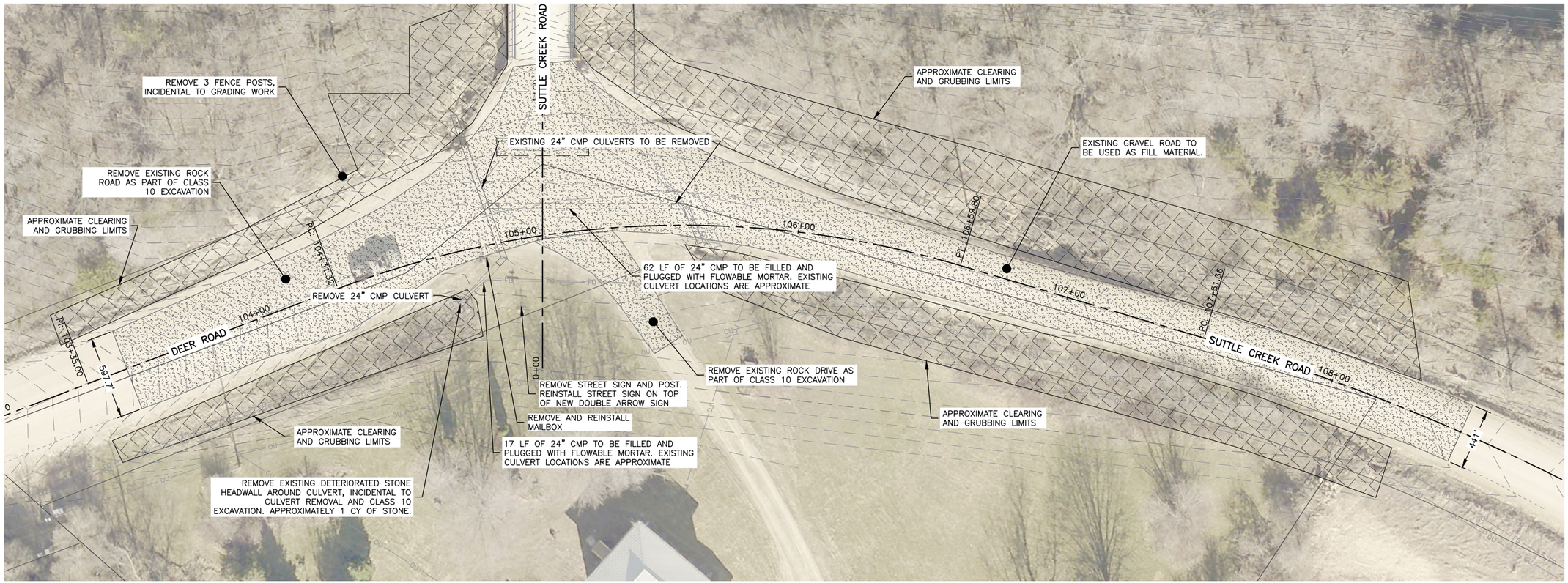
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DRAWING:
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SET TYPE: FINAL
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JOB NUMBER:
21-749

SHEET NUMBER:
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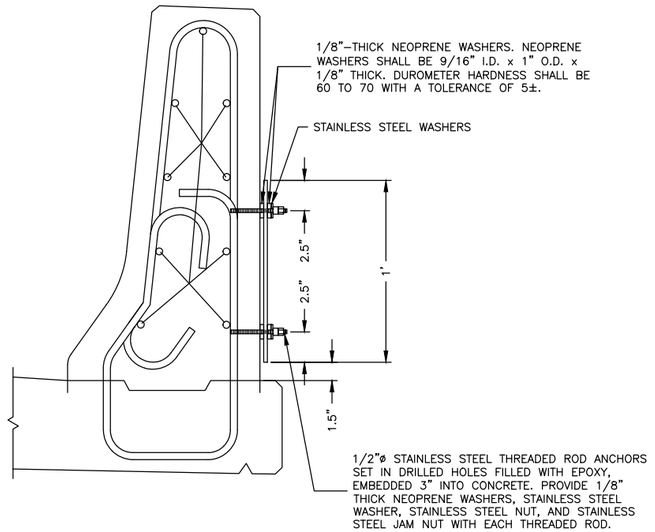
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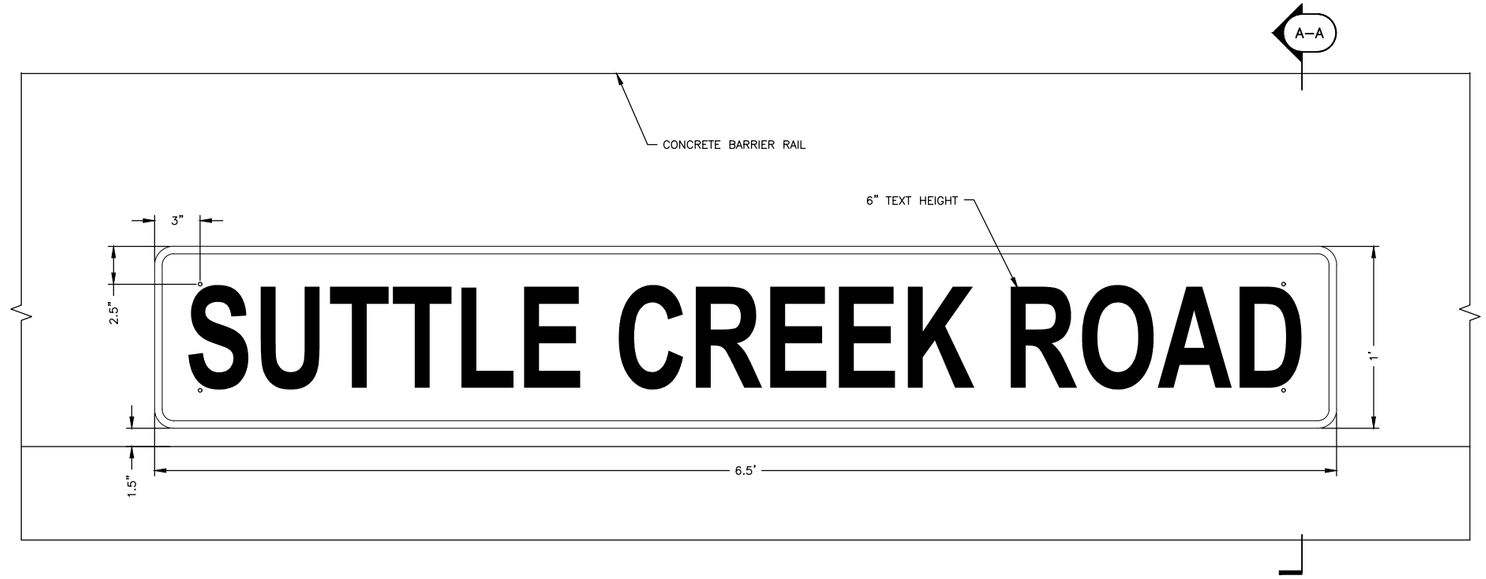
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JOB NUMBER:
21-749

SHEET NUMBER:
U.03



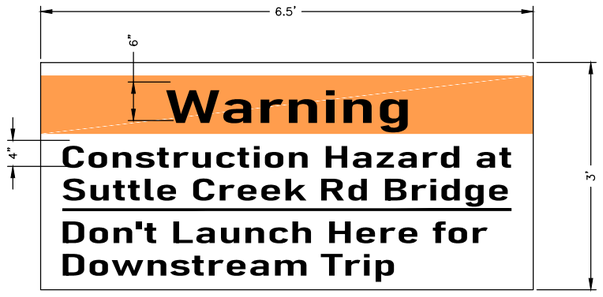
SECTION A–A

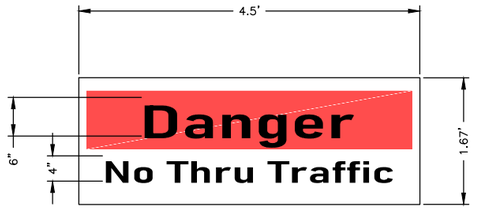


BARRIER–STREET SIGN ATTACHMENT DETAIL

NOTE:
1. INSTALL "SUTTLE CREEK ROAD" SIGN ON THE UP RIVER BARRIER RAIL, INSTALLATION IS INCIDENTAL TO THE CONSTRUCTION OF THE CONCRETE BARRIER RAIL.

BRIDGE–MOUNTED STREET SIGN DETAIL
N.T.S.





NOTE:
1. RIVER "WARNING" AND "DANGER" SIGNS SHOWN ARE TO MEET CHAPTER 6 "SIGNAGE" OF THE "DEVELOPING WATER TRAILS IN IOWA" GUIDE. SEE THE GUIDE FOR FURTHER DETAIL.

RIVER SIGN DETAILS
N.T.S.

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OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP–C003(69)––NC–03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS

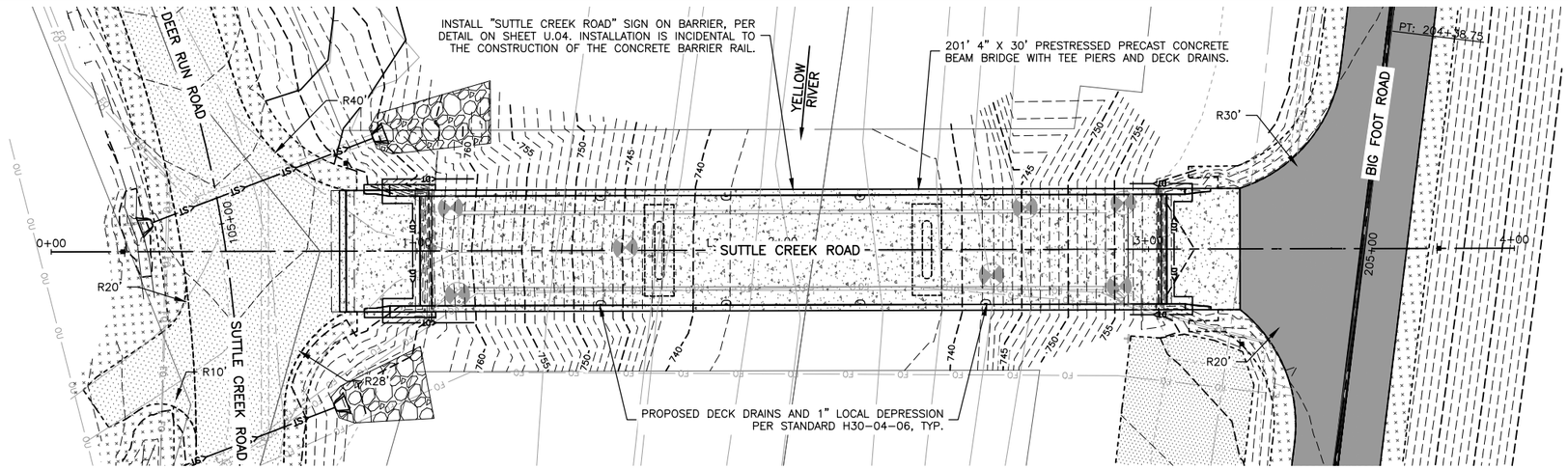
REV. NO.	DESCRIPTION	DATE

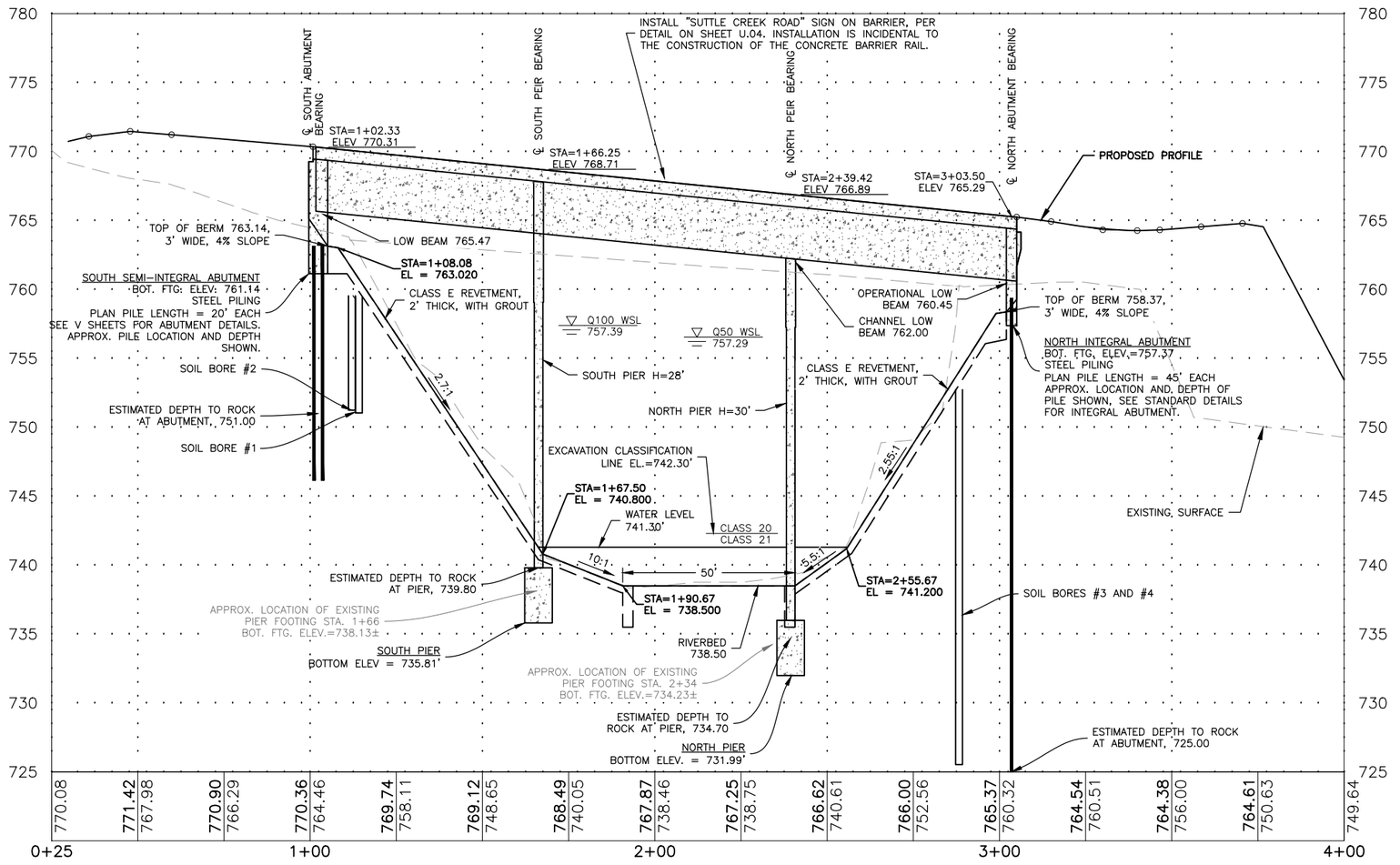
DRAWING: DETAILS
SET TYPE: FINAL
C:\C3D\21\21-749 Suttle Creek Rd Bridge\Plans\21-749 Plans.dwg, U.04 DET

JOB NUMBER: 21–749
SHEET NUMBER: U.04

PLOT DATE: 8/18/26

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HYDRAULIC DATA

Drainage Area	179 SQ. MI.
Design Discharge	18,900 CFS
Operational Low Beam	756.54
Stream Slope	0.00012 FT./FT.
Bridge Waterway Opening	3,375 SQ. FT.
Design Velocity	3.4 FPS
Extreme highwater	Unknown
Backwater Information Q50	756.54
Calculated Design Scour (Q100)	13.48 FT.
Operational Low Beam	760.45
Channel Low Beam	762.00
Q10	11,400 CFS
Stage	754.29
Backwater	−0.27 FT.
Average Velocity	3.31 FPS
Q25	15,900 CFS
Stage	755.75
Backwater	0.07 FT.
Average Velocity	3.51 FPS
Q50 – Design	18,900 CFS
Stage	756.54
Operational Low Beam	760.45 FT.
Operational Freeboard	3.91 FT.
Backwater	0.06 FT.
Average Velocity	3.68 FPS
Q100	22,500 CFS
Stage	757.39
Operational Freeboard	3.06 FT.
Backwater	0.07 FT.
Average Velocity	3.89 FPS
Calculated Design Scour	13.48 FT.
Q200	26,200 CFS
Stage	758.20
Operational Freeboard	2.25 FT.
Backwater	0.07 FT.
Average Velocity	4.08 FPS
Calculated Check Scour	13.81 FT.
Q500	30,500 CFS
Stage	759.13
Operational Freeboard	1.32 FT.
Backwater	0.07 FT.
Average Velocity	4.26 FPS

LEGEND

- GRAVEL SURFACING
- PCC SURFACING
- SEALCOAT SURFACING
- SHOULDER SURFACING

SCALE
HOR 20 0 20 40
VER 5 0 5 10

NOTE: SEE SHEET V.02 FOR TYPE, SIZE, AND LENGTH OF PILE AS WELL AS ADDITIONAL NOTES.

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18B1 BRIDGE REPLACEMENT
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ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

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REV. NO.	DESCRIPTION	DATE

DRAWING: BRIDGE SITUATION PLAN
SET TYPE: FINAL
G:\C3D\21\21-749 Suttle Creek Rd Bridge\21-749 Design.dwg, V.01

JOB NUMBER: 21-749
SHEET NUMBER: V.01

PLOT DATE: 8/18/26

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FINISHED TOP DECK ELEVATIONS

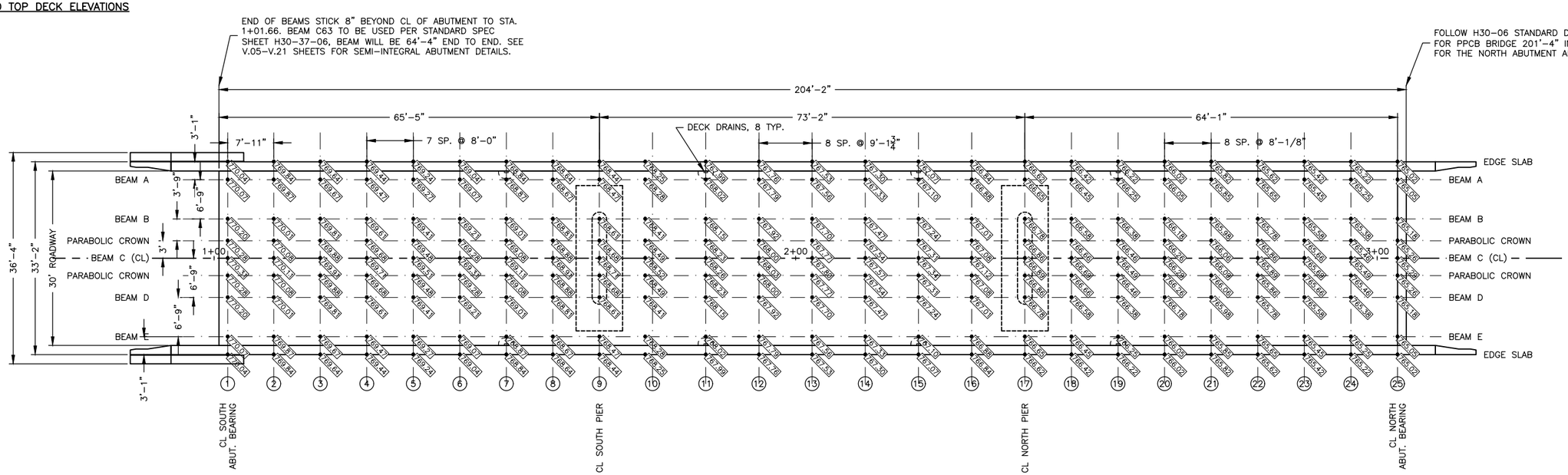
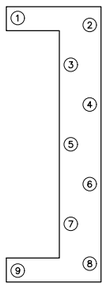


TABLE OF BEAM LINE DECK HAUNCH ELEVATIONS

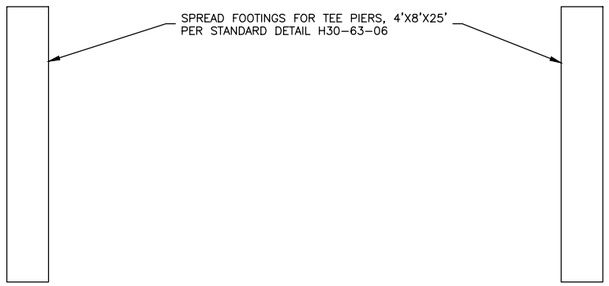
LOCATION	℄ S. ABUT. BEARING								℄ S. PIER								℄ N. PIER								℄ N. ABUT. BEARING
	LINE 1	LINE 2	LINE 3	LINE 4	LINE 5	LINE 6	LINE 7	LINE 8	LINE 9	LINE 10	LINE 11	LINE 12	LINE 13	LINE 14	LINE 15	LINE 16	LINE 17	LINE 18	LINE 19	LINE 20	LINE 21	LINE 22	LINE 23	LINE 24	LINE 25
BEAM LINE A	769.24	769.04	768.84	768.64	768.44	768.24	768.04	767.84	767.64	767.45	767.19	766.96	766.73	766.50	766.27	766.05	765.82	765.62	765.42	765.22	765.02	764.82	764.62	764.42	764.22
BEAM LINE B	769.37	769.18	768.98	768.78	768.58	768.38	768.18	767.98	767.78	767.58	767.32	767.09	766.87	766.64	766.41	766.18	765.95	765.75	765.55	765.35	765.15	764.95	764.75	764.55	764.35
BEAM LINE C (℄)	769.48	769.28	769.08	768.88	768.68	768.48	768.28	768.08	767.88	767.69	767.43	767.20	766.97	766.74	766.51	766.29	766.06	765.86	765.66	765.46	765.26	765.06	764.86	764.66	764.46
BEAM LINE D	769.37	769.18	768.98	768.78	768.58	768.38	768.18	767.98	767.78	767.58	767.32	767.09	766.87	766.64	766.41	766.18	765.95	765.75	765.55	765.35	765.15	764.95	764.75	764.55	764.35
BEAM LINE E	769.24	769.04	768.84	768.64	768.44	768.24	768.04	767.84	767.64	767.45	767.19	766.96	766.73	766.50	766.27	766.05	765.82	765.62	765.42	765.22	765.02	764.82	764.62	764.42	764.22

NOTE: ASSUMED A 2" HAUNCH AT THE CENTERLINE OF EACH BEAM, WHICH IS 10" (0.83') BELOW TOP OF FINISHED DECK GRADE.

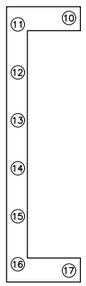
SOUTH ABUTMENT
9 – HP10x57 STEEL PILING WITH PILE POINT DRIVEN MINIMUM 3' INTO BEDROCK, BATTER 1:6
APPROXIMATE BEDROCK ELEV. ≈ 751.0
TOP PILE = 763.14
PILE LENGTH = 20'
SEE V.05–V.21 OR ABUTMENT DETAILS AND V.09 FOR PILING LAYOUT



ABUTMENT PILING NOTES:
- THE CONTRACT LENGTHS FOR THE ABUTMENTS ARE BASED ON A MIXED SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 143 KIPS, AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.6 FOR ROCK END BEARING.
- THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A MIXED SOIL CONDITION AND A GEOTECHNICAL RESISTANCE (PHI) OF 0.60 FOR ROCK END BEARING.
- THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR ABUTMENT PILES IS 128 TONS AT END OF DRIVE OR RETAP. THE PILE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILE REACH REFUSAL. CONSTRUCTION CONTROL REQUIRES A WEAP ANALYSIS AND BEARING GRAPH.



NORTH ABUTMENT
8 – HP10x57 STEEL PILING WITH PILE POINT DRIVEN MINIMUM 3' INTO BEDROCK
PREBORE 10' = 747.37 AND FILL WITH BENTONITE
APPROXIMATE BEDROCK ELEV. ≈ 725.00
TOP PILE = 759.37
PILE LENGTH = 45'
SEE STANDARD DETAIL H30–06–06 FOR PILING LAYOUT



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PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP–C003(69)––NC–03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS

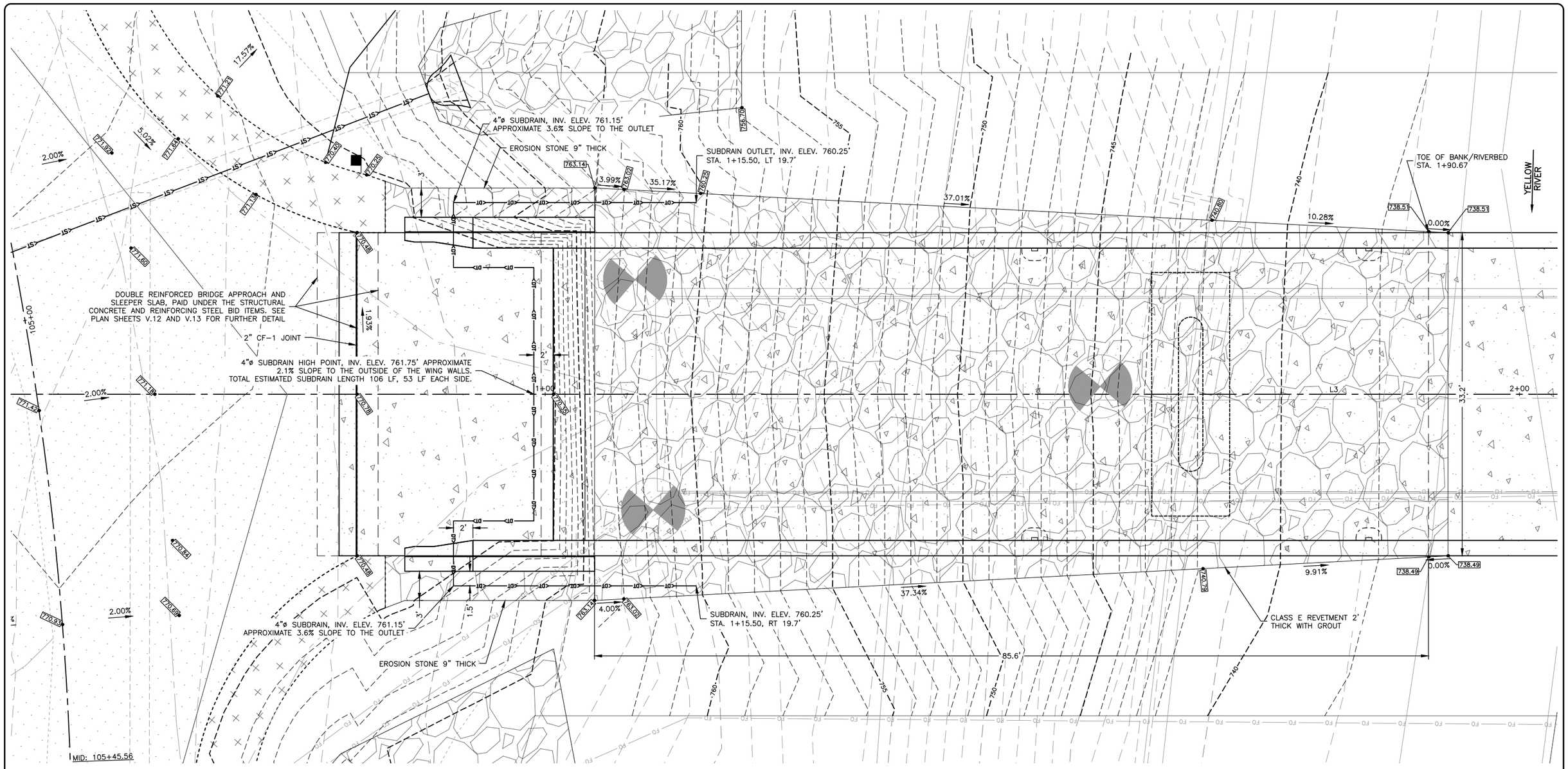
REV. NO.	DESCRIPTION	DATE

DRAWING: DECK GRADES & PILE DESIGN
SET TYPE: FINAL
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JOB NUMBER: 21–749
SHEET NUMBER: V.02

PLOT DATE: 8/18/26

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DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
BRIDGE GRADING PLAN

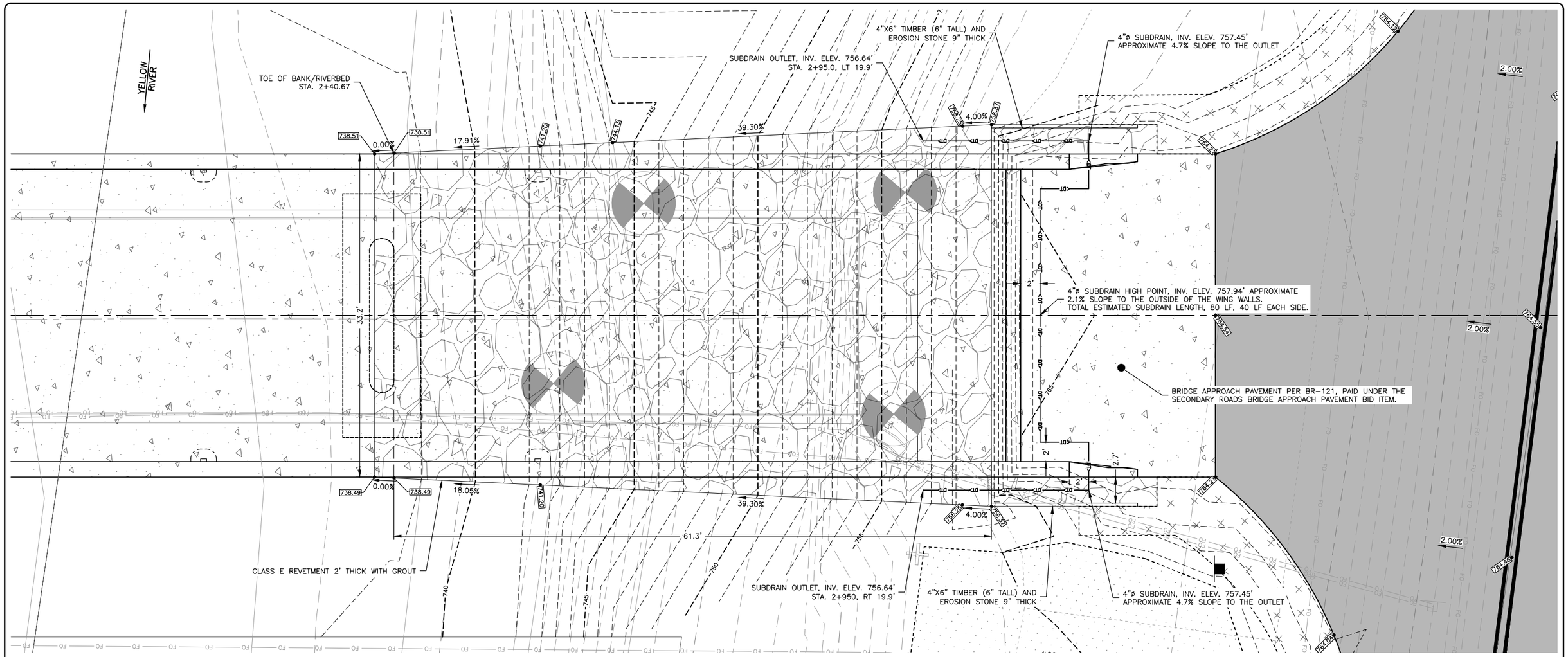
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JOB NUMBER:
21-749

SHEET NUMBER:
V.03

PLOT DATE: 8/18/26

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870 FOURTH STREET NW
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ALLAMAKEE COUNTY
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DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
BRIDGE GRADING PLAN

SET TYPE: FINAL
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JOB NUMBER:
21-749

SHEET NUMBER:
V.04

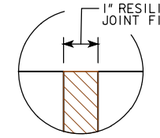
PLOT DATE: 8/18/26

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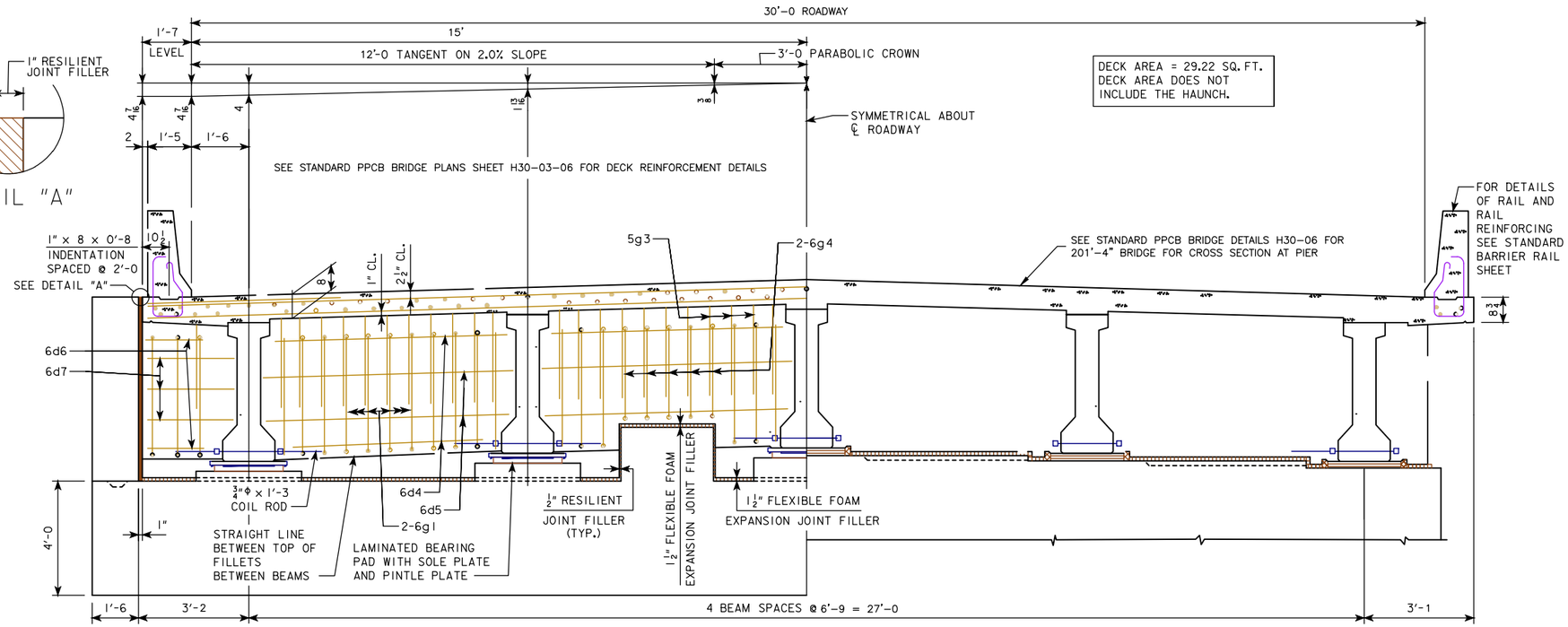
TABLE OF SIZE OF 'b2' BAR	
LONGEST ADJACENT SPAN	BTD BEAM BAR SIZE
50'-0	** 4
55'-0	** 4
60'-0	** 5
65'-0	** 6
70'-0	** 6
75'-0	** 7
80'-0	** 8
85'-0	** 8
90'-0	** 9
95'-0	** 9
100'-0	7
105'-0	7
110'-0	8
115'-0	8
120'-0	8
125'-0	8
130'-0	9
135'-0	9

THE MIDPOINT OF THE 'b2' BAR IS TO BE PLACED AT THE ℄ OF PIER.

** INDICATES 'b2' BAR PLACED IN TOP DECK ONLY.



DETAIL "A"



SEE STANDARD 201 BRIDGE DETAILS FOR BRIDGE DECK AND BEAM SPACING AND INFORMATION

ELEVATION CROSS SECTION AT SOUTH ABUTMENT

BRIDGE DECK CROSS SECTION

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN TEAM	"BTD" BEAMS, 5 BEAM CROSS SECTION (SYMM. CROWN), SEMI-INTEGRAL ABUT., 0° AND 45° SKEW	STANDARD SHEET 5003	COUNTY	PROJECT NUMBER	SHEET NUMBER

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
SEMI-INTEGRAL ABUTMENT STANDARDS - 5003

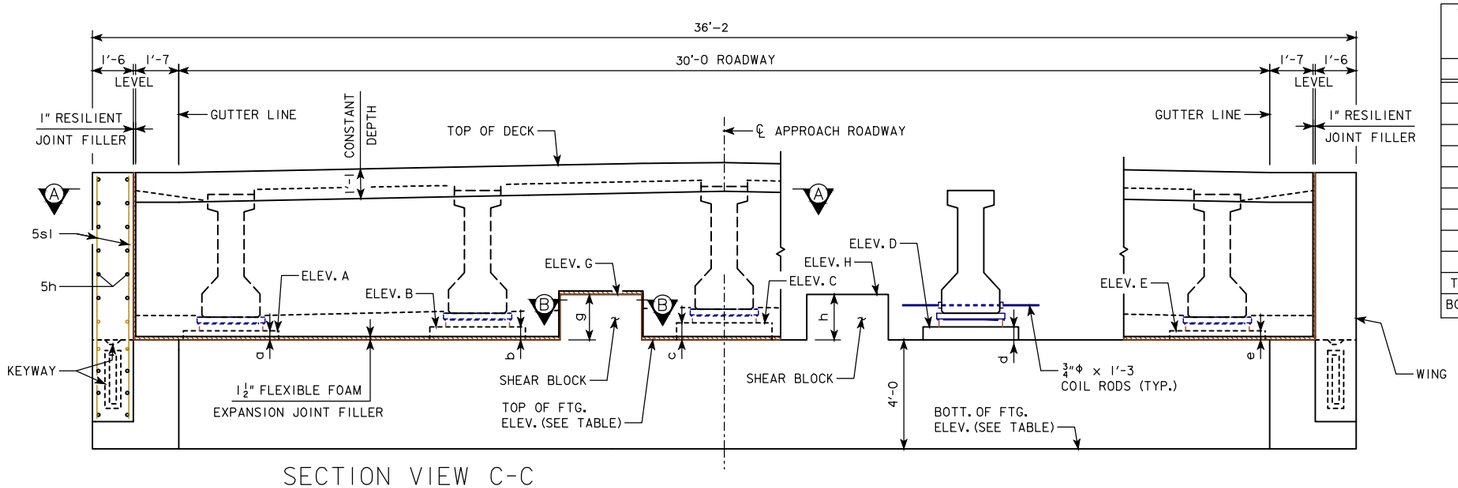
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JOB NUMBER: 21-749

SHEET NUMBER: V.05

PLOT DATE: 8/18/26

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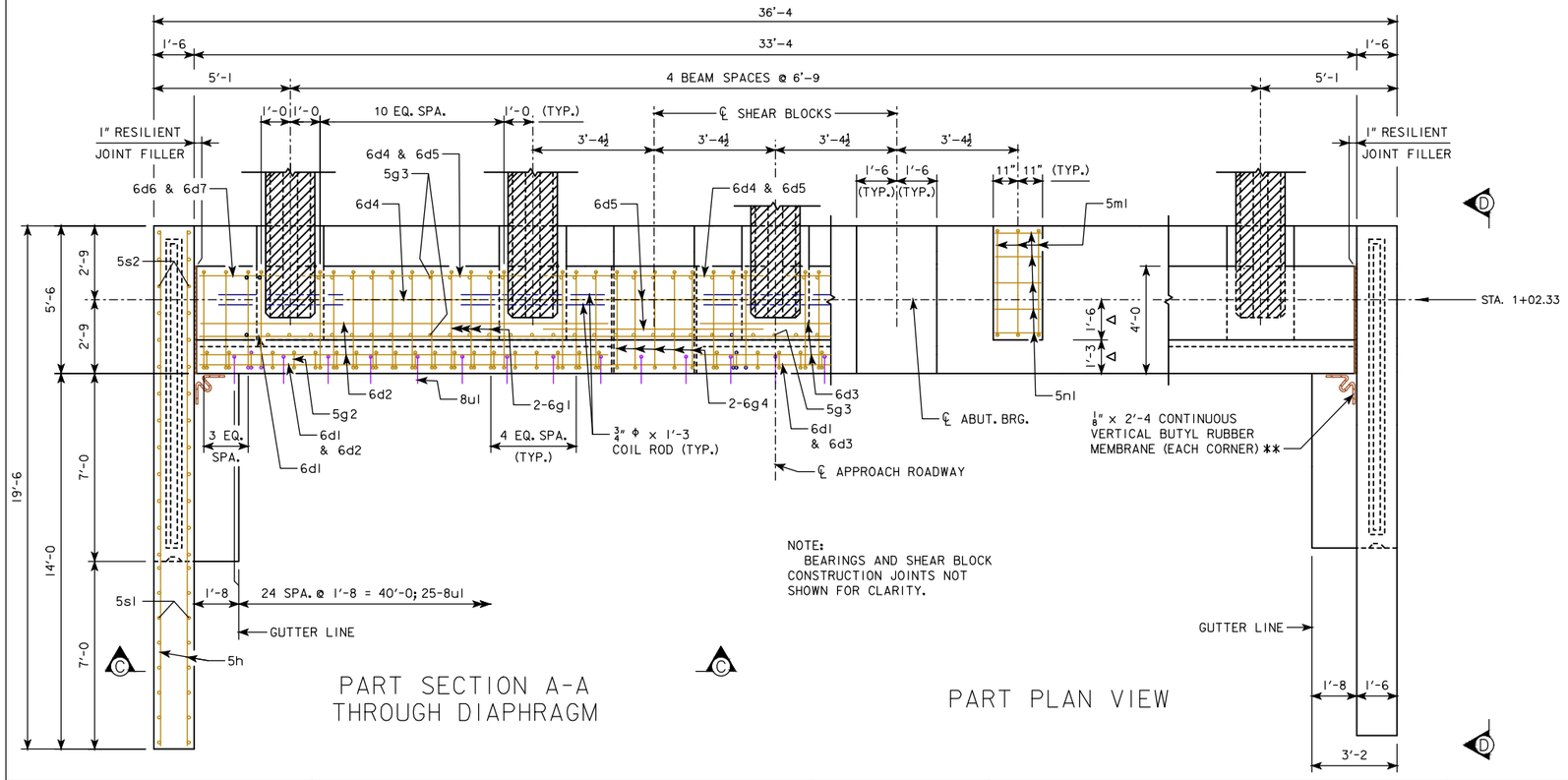
SECTION VIEW C-C

PART REAR ELEVATION

(BUTYL RUBBER MEMBRANES AND SHEAR BLOCK CONSTRUCTION JOINTS NOT SHOWN FOR CLARITY)

TABLE OF ABUTMENT ELEVATIONS		
POINT	S. ABUT.	
ELEV. A	765.14	
ELEV. B	765.29	
ELEV. C	765.40	
ELEV. D	765.29	
ELEV. E	765.14	
ELEV. G	766.35	
ELEV. H	766.35	
TOP OF FTG. ELEV.	765.14	
BOTT. OF FTG. ELEV.	761.14	

TABLE OF ABUTMENT STEPS		
STEP	S. ABUT.	
a	0'-0"	
b	0'-1 1/16"	
c	0'-3"	
d	0'-1 1/16"	
e	0'-0	
g	1'-2 1/2"	
h	1'-2 1/2"	



NOTE:
BEARINGS AND SHEAR BLOCK CONSTRUCTION JOINTS NOT SHOWN FOR CLARITY.

PART SECTION A-A THROUGH DIAPHRAGM

PART PLAN VIEW

ABUTMENT NOTES:

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.

CONSTRUCTION JOINT KEYWAYS ARE TO BE FORMED WITH BEVELED 2x6's UNLESS NOTED OTHERWISE.

PAVING NOTCH DOWELS SHALL BE STAINLESS STEEL DEFORMED BAR GRADE 60, MEETING THE REQUIREMENTS OF MATERIALS I.M. 452.

IF NECESSARY TO PREVENT DAMAGE TO THE END OF THE BRIDGE DECK AND BACKWALL FROM CONSTRUCTION EQUIPMENT, AN APPROPRIATE METHOD OF PROTECTION APPROVED BY THE ENGINEER SHALL BE PROVIDED BY THE BRIDGE CONTRACTOR AT NO EXTRA COST TO THE STATE.

ALL FORMWORK BETWEEN TOP OF ABUTMENT FOOTING AND ABUTMENT DIAPHRAGM SHALL BE REMOVED.

NOTES:

BARRIER RAILS NOT SHOWN IN DETAILS.

** VERTICAL BUTYL RUBBER MEMBRANES SHALL BE PLACED AFTER HORIZONTAL BUTYL RUBBER MEMBRANE. VERTICAL MEMBRANE SHALL EXTEND FROM BOTTOM OF APPROACH SLAB NOTCH TO 1½" JOINT. MEMBRANE SHALL BE CENTERED ABOUT VERTICAL JOINT AND FASTENED TO BOTH CONCRETE FACES WITH AN APPROVED WATERPROOF ADHESIVE. SEE ABUTMENT BACKFILL DETAILS SHEET FOR LOOP DETAIL.

FOR SECTION B-B, TYPICAL SECTION THROUGH ABUTMENT AND SECTION THROUGH ABUTMENT AT SHEAR BLOCK, SEE DESIGN SHEET _V.02_.

FOR VIEW D-D, SEE DESIGN SHEET ____.

@ 3'-8 MIN. LAP AT ℄.

ABUTMENT DETAILS

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN TEAM	"BTD" BEAMS, SEMI-INTEGRAL ABUTMENT DETAILS, 0° SKEW (SHT. 1 OF 4)	STANDARD SHEET 5011	COUNTY	PROJECT NUMBER	SHEET NUMBER

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
SEMI-INTEGRAL ABUTMENT STANDARDS - 5011

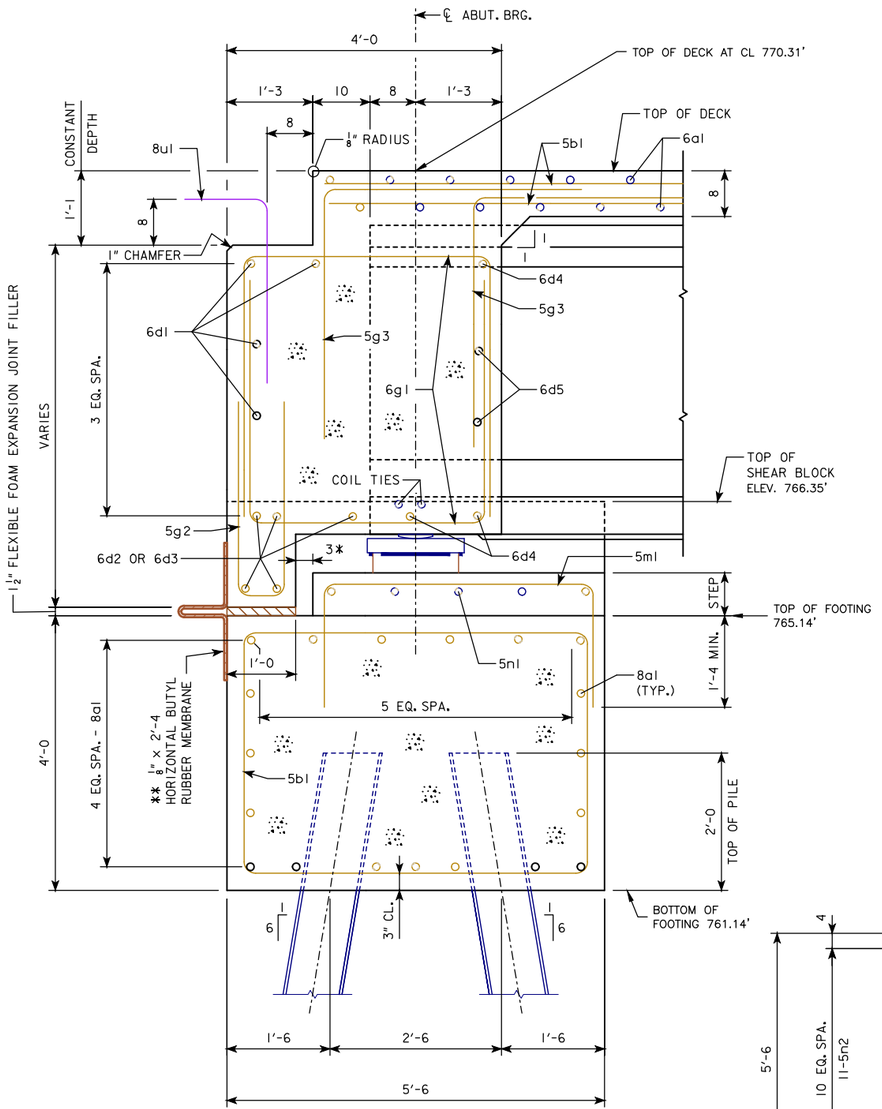
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JOB NUMBER:
21-749

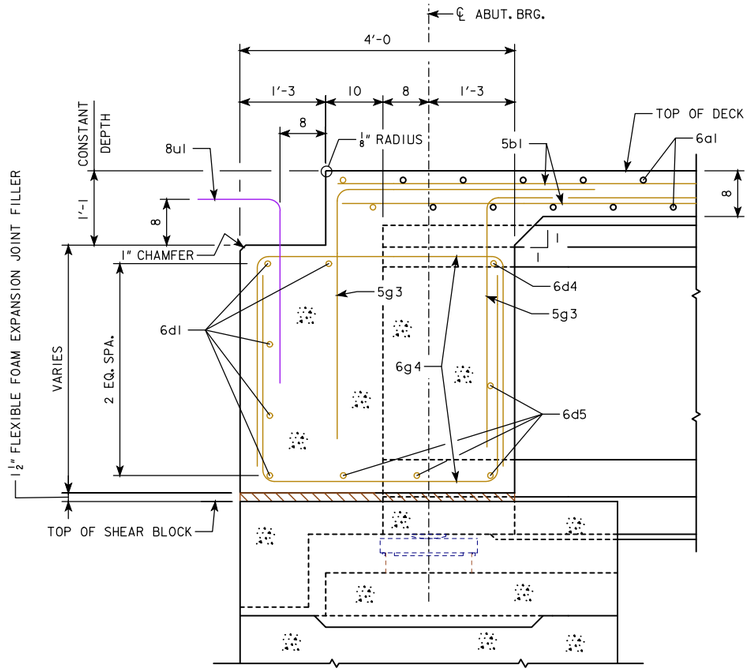
SHEET NUMBER:
V.06

PLOT DATE: 8/18/26

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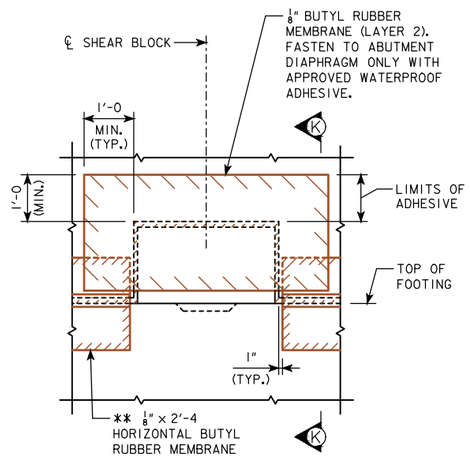


SECTION THROUGH ABUTMENT

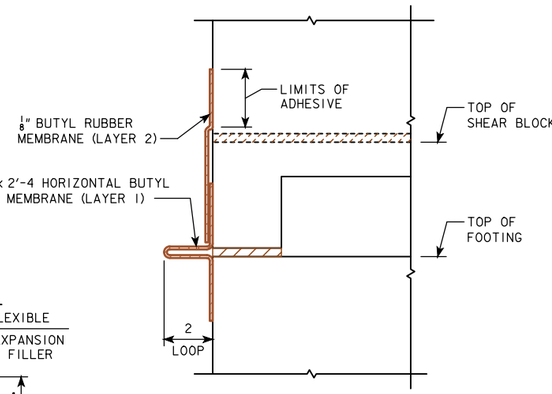


SECTION THROUGH ABUTMENT AT SHEAR BLOCK

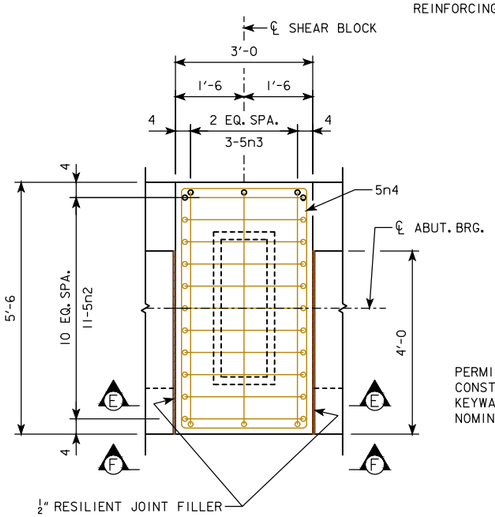
(BUTYL RUBBER MEMBRANES AND SHEAR BLOCK REINFORCING NOT SHOWN FOR CLARITY)



VIEW F-F

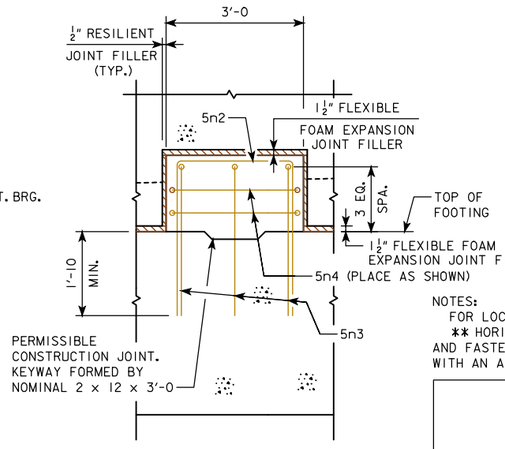


SECTION K-K



SECTION B-B

(ABUTMENT DIAPHRAGM REINFORCING AND BUTYL RUBBER MEMBRANES NOT SHOWN FOR CLARITY)



SECTION E-E

(ABUTMENT DIAPHRAGM REINFORCING NOT SHOWN FOR CLARITY)

NOTES:

FOR LOCATION OF SECTION B-B, SEE DESIGN SHEET ____.

** HORIZONTAL BUTYL RUBBER MEMBRANE SHALL BE CENTERED AND FASTENED TO THE CONCRETE ON BOTH SIDES OF THE JOINT WITH AN APPROVED WATERPROOF ADHESIVE.

ABUTMENT DETAILS

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN TEAM	"BTD" BEAMS, SEMI-INTEGRAL ABUTMENT DETAILS, 0° SKEW (SHT. 2 OF 4)	STANDARD SHEET 5012	COUNTY	PROJECT NUMBER	SHEET NUMBER

FEHR GRAHAM
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ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
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BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
SEMI-INTEGRAL ABUTMENT STANDARDS - 5012

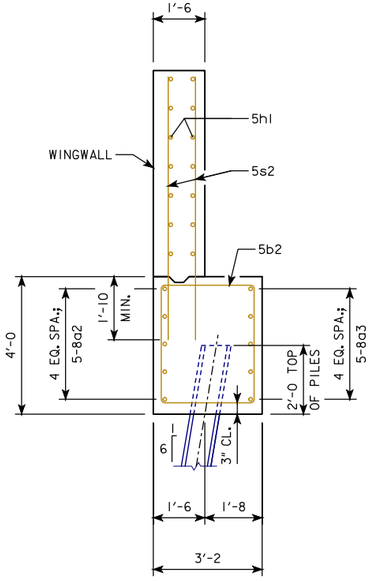
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JOB NUMBER: 21-749

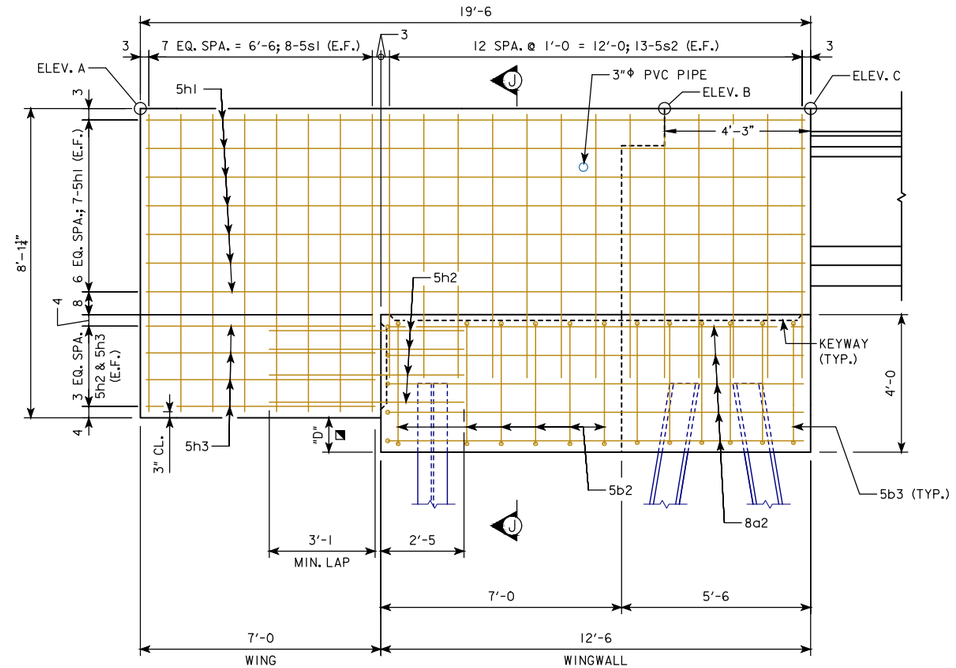
SHEET NUMBER: V.07

PLOT DATE: 8/18/26

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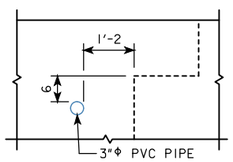
SECTION J-J



VIEW D-D

(FOOTING BARS 8a1 AND 5b1 NOT SHOWN FOR CLARITY.)

TABLE OF ELEVATIONS				
LOCATION	DIM. "D"	ELEV. A	ELEV. B	ELEV. C
SOUTH ABUT.	1'-0"	770.37	770.08	769.97



PVC PIPE LOCATION

NOTE:
PLUG 3" Φ PVC PIPE WITH EXPANDING FOAM PRIOR TO BACKFILLING BEHIND ABUTMENTS.

NOTES:
◪ 1'-0 MIN.

ABUTMENT DETAILS

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN TEAM	"BTD" BEAMS, SEMI-INTEGRAL ABUTMENT DETAILS, 0° SKEW (SHT. 3 OF 4)	STANDARD SHEET 5012A	COUNTY	PROJECT NUMBER	SHEET NUMBER

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
SEMI-INTEGRAL ABUTMENT STANDARDS - 5012A

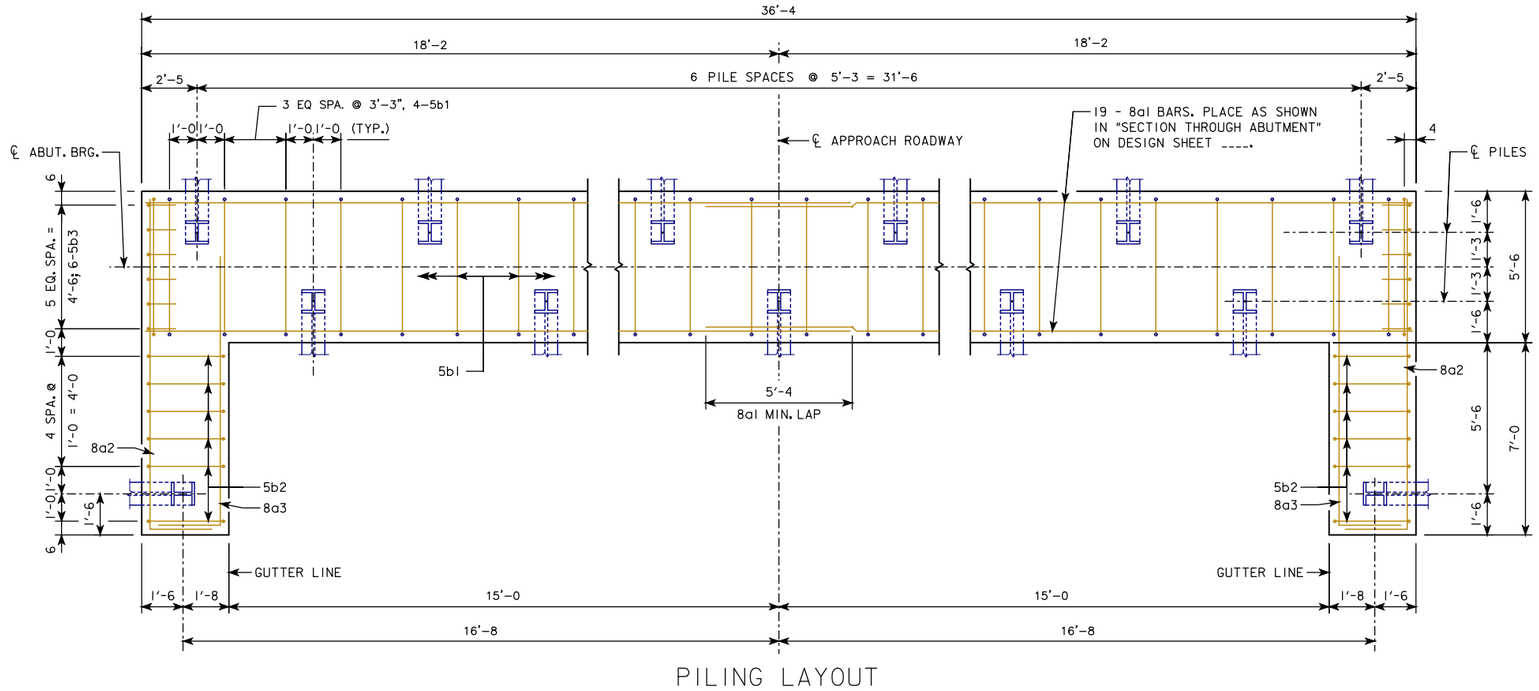
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JOB NUMBER: 21-749

SHEET NUMBER: V.08

PLOT DATE: 8/18/26

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PILING LAYOUT

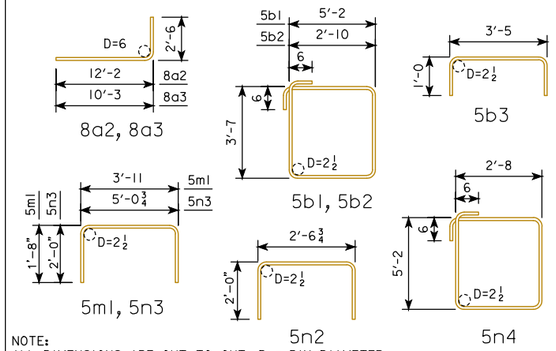
NOTE:
DIMENSIONS SHOWN ON PILING LAYOUT ARE AT BOTTOM OF FOOTING. BATTER PILES IN THE DIRECTION SHOWN. - HP10X57 STEEL BEARING PILING REQUIRED AT EACH ABUTMENT.

REINFORCING BAR LIST - ONE ABUTMENT

EPOXY COATED BARS

BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
8a1	FOOTING LONGITUDINAL	—	38	20'-8	2,097
8a2	FOOTING EXTENSION	⌐	10	14'-8	392
8a3	FOOTING EXTENSION	⌐	10	12'-9	341
5b1	FOOTING HOOPS	□	24	18'-6	464
5b2	FOOTING EXTENSION HOOPS	□	12	13'-10	174
5b3	FOOTING ENDS	⊓	12	5'-5	68
5h1	WINGWALL HORIZONTAL	—	28	19'-2	560
5h2	FOOTING EXTENSION HORIZONTAL	—	16	5'-8	95
5h3	WING HORIZONTAL	—	16	6'-8	112
5m1	BEAM STEPS TRANSVERSE	⊓	25	7'-3"	114
5n1	BEAM STEPS LONGITUDINAL	—	25	3'-2	83
5n2	SHEAR BLOCK	⊓	22	6'-7"	152
5n3	SHEAR BLOCK	⊓	6	9'-1"	57
5n4	SHEAR BLOCK	□	4	16'-8	70
5s1	WING VERTICAL	—	32	8'-4"	279
5s2	WINGWALL VERTICAL	—	52	6'-10"	371
	REINFORCING STEEL - EPOXY COATED - TOTAL (LBS.)				5,429

BENT BAR DETAILS



NOTE:
ALL DIMENSIONS ARE OUT TO OUT. D = PIN DIAMETER

CONCRETE PLACEMENT QUANTITIES

LOCATION	SOUTH ABUT.	ABUT.
FOOTING, STEPS AND SHEAR BLOCKS	37.9	
SW WING & WINGWALL	7.0	
SE WING & WINGWALL	7.0	
TOTAL (C.Y.)	51.9	

NOTE:
CONCRETE AND REINFORCING STEEL QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

ABUTMENT DETAILS

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN TEAM	"BTD" BEAMS, SEMI-INTEGRAL ABUTMENT DETAILS, 0° SKEW (SHT. 4 OF 4)	STANDARD SHEET 5013	COUNTY	PROJECT NUMBER	SHEET NUMBER

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
SEMI-INTEGRAL ABUTMENT STANDARDS - 5013

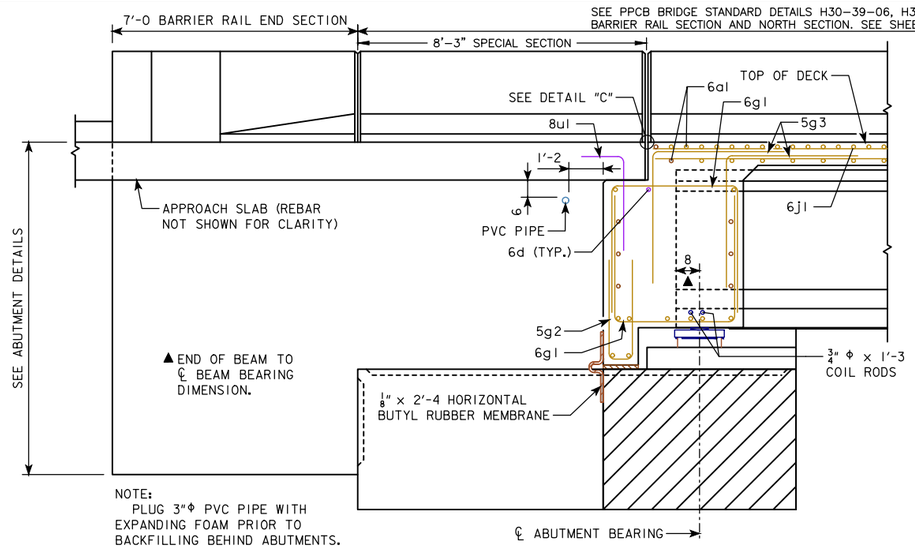
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JOB NUMBER: 21-749

SHEET NUMBER: V.09

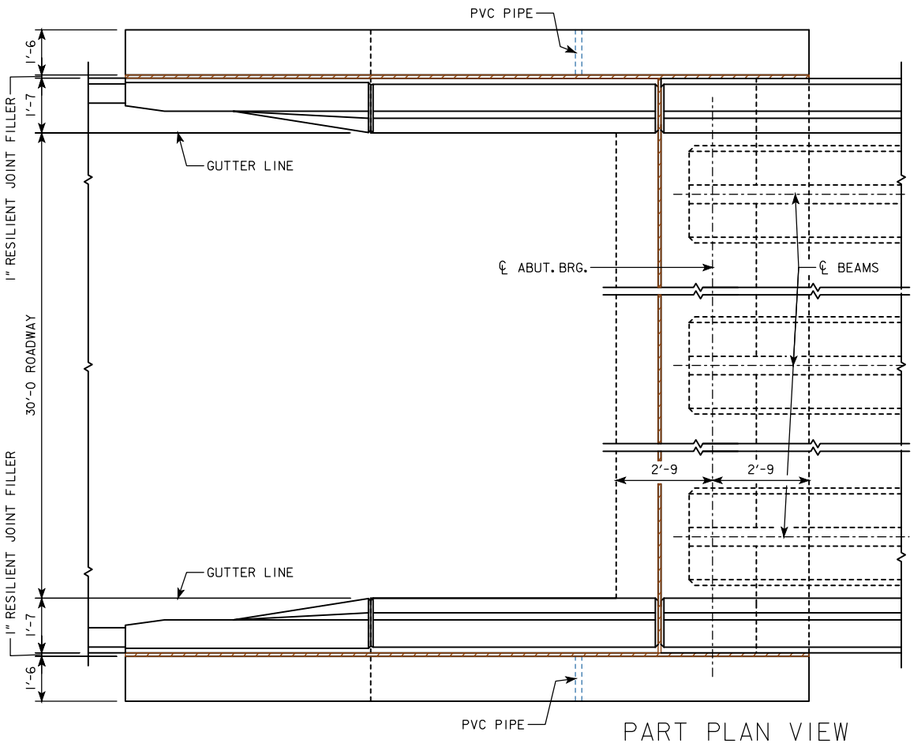
PLOT DATE: 8/18/26

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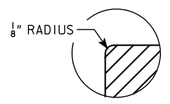
PART LONGITUDINAL SECTION NEAR GUTTER

(VERTICAL BUTYL RUBBER MEMBRANES NOT SHOWN FOR CLARITY.)



PART PLAN VIEW

(BUTYL RUBBER MEMBRANES NOT SHOWN FOR CLARITY.)



DETAIL "C"

NOTE:
FOR DETAILS OF INTERMEDIATE DIAPHRAGM, SEE PPCB BRIDGE STANDARD DETAIL H30-38-06.
FOR ADDITIONAL DETAILS OF ABUTMENT DIAPHRAGM, SEE ABUTMENT DETAILS SHEETS.
SEE PPCB BRIDGE STANDARD DETAILS FOR PIER DETAILS AND V.21 FOR EXPANSION PIER AND SEMI-INTEGRAL ABUTMENT BEARING DETAILS.

PART PLAN & LONGITUDINAL SECTION

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN TEAM	"BTD" BEAMS, PART PLAN & LONGIT. SECTION, 0° SKEW, SEMI-INTEGRAL ABUT.	STANDARD SHEET 5028	COUNTY	PROJECT NUMBER	SHEET NUMBER

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
SEMI-INTEGRAL ABUTMENT STANDARDS - 5028

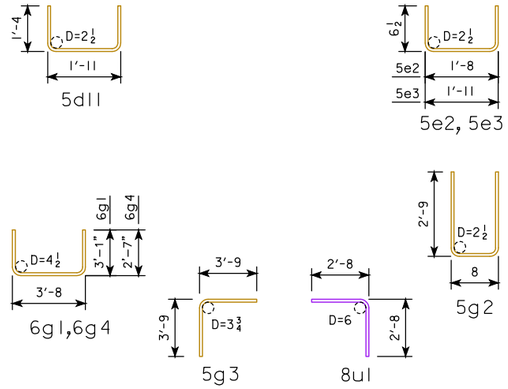
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JOB NUMBER: 21-749
SHEET NUMBER: V.10

PLOT DATE: 8/18/26

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BENT BAR DETAILS



NOTE:
ALL DIMENSIONS ARE OUT TO OUT. D = PIN DIAMETER

REINFORCING BAR LIST - BRIDGE DECK

	BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
EPOXY COATED REINFORCING	6d1	ABUT. DIAPH. LONGIT.		4	32'-8"	197
	6d2	ABUT. DIAPH. LONGIT.		10	12'-1	182
	6d3	ABUT. DIAPH. LONGIT.		5	3'-4	228
	6d4	ABUT. DIAPH. LONGIT.		6	4'-9	43
	6d5	ABUT. DIAPH. LONGIT.		12	5'-8	103
	6d6	ABUT. DIAPH. LONGIT. ENDS		6	2'-6	23
	6d7	ABUT. DIAPH. LONGIT. ENDS		10	2'-11	44
	6g1	ABUT. DIAPH.		72	9'-10	1,065
	5g2	ABUT. DIAPH.		36	6'-2	232
	5g3	ABUT. DIAPH.		68	7'-6	533
	6g4	ABUT. DIAPH.		20	8'-10"	266
		REINFORCING STEEL EPOXY COATED - TOTAL (LBS.)				2,916
S.S. BARS	8u1	PAVING NOTCH DOWELS (STAINLESS STEEL)		50	5'-4	712
		STAINLESS STEEL TOTAL PAID AS EPOXY COATED STEEL (LBS.)				712

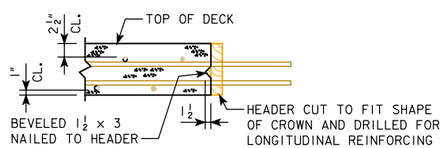
CONCRETE PLACEMENT QUANTITIES

LOCATION	QUANTITY
SECTION 1, DECK & ABUT. DIAPH.	
SECTION 2, DECK	
SECTION 3, DECK & ABUT. DIAPH.	
TOTAL (CU. YDS.)	

NOTE:
CONCRETE AND REINFORCING STEEL QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

CONCRETE PLACEMENT DIAGRAM

NOTE: CONCRETE DECK SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED. ALTERNATE PROCEDURES FOR PLACING DECK CONCRETE MAY BE SUBMITTED FOR APPROVAL TOGETHER WITH A STATEMENT OF THE PROPOSED METHOD AND EVIDENCE THAT THE CONTRACTOR POSSESSES THE NECESSARY EQUIPMENT AND FACILITIES TO ACCOMPLISH THE REQUIRED RESULTS. FOR APPROVED ALTERNATE PROCEDURES THE ENGINEER SHALL DETERMINE IF A RETARDING ADMIXTURE IS REQUIRED TO MAINTAIN PLASTICITY OF THE CONCRETE DECK DURING PLACEMENT.



PERMISSIBLE TRANSVERSE DECK CONSTRUCTION JOINT

DECK & DIAPH. QUANTITIES

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN TEAM	"BTD" BEAMS, BAR LIST & SUPER. DETAILS, 0° SKEW, SEMI-INTEGRAL ABUT.	STANDARD SHEET 5035	COUNTY	PROJECT NUMBER	SHEET NUMBER

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS
IOWA
WISCONSIN

PLOT DATE: 8/18/26

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OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

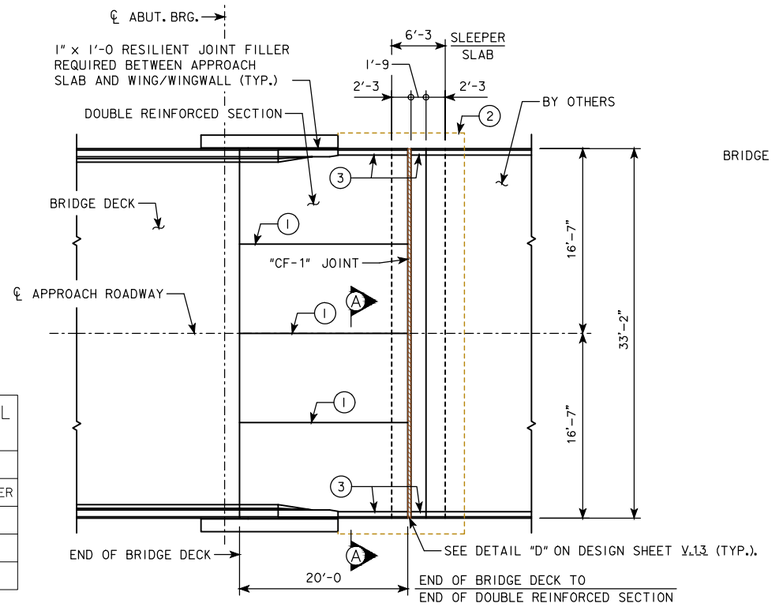
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SEMI-INTEGRAL ABUTMENT STANDARDS - 5035

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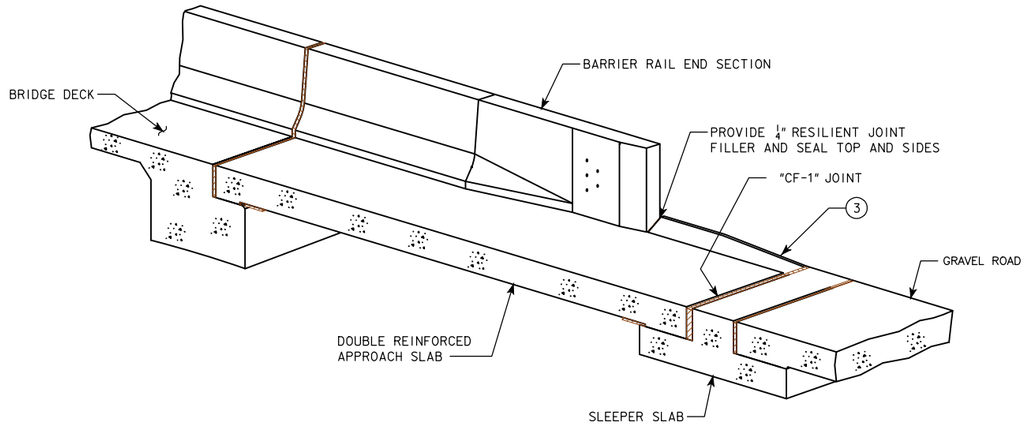
JOB NUMBER:
21-749

SHEET NUMBER:
V.11

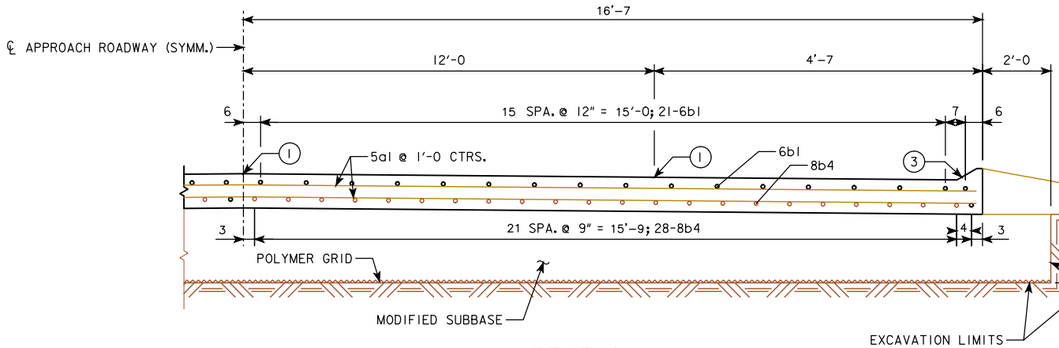
JOINT TYPE FOR SEMI-INTEGRAL ABUTMENT BRIDGES			
JOINT	WIDTH	MAXIMUM BRIDGE LENGTH	
		CONCRETE BEAM	STEEL GIRDER
CF-1	2"	370'	250'



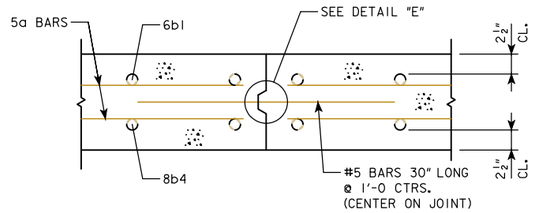
PLAN VIEW OF APPROACH SLAB



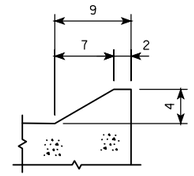
ISOMETRIC VIEW OF APPROACH SLAB



SECTION A-A



"KS-2" JOINT DETAIL

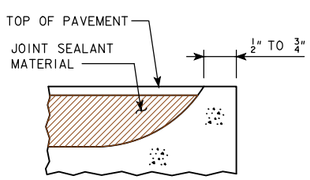


CURB DETAIL

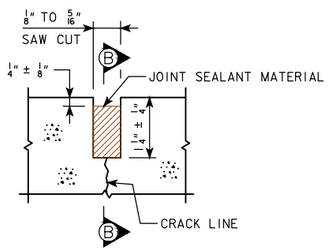
1. LONGITUDINAL JOINT:
   SINGLE POUR - SAW CUT JOINT PER DETAIL "B"
   TWO POURS - USE "KS-2" JOINT
2. POLYMER GRID AND EXCAVATION LIMITS OF MODIFIED SUBBASE 2' OUTSIDE OF PAVEMENT EDGE.
3. 4" SLOPED CURB, SEE "CURB DETAIL".TRANSITION TO NO CURB IN 3 FEET

APPROACH AND SLEEPER SLAB NOTES:

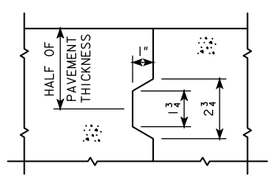
PAYMENT FOR DOUBLE REINFORCED BRIDGE APPROACH PAVEMENT AND SLEEPER SLAB SHALL BE PAID FOR BY CUBIC YARD OF CONCRETE PLACED UNDER THE "STRUCTURAL CONCRETE (BRIDGE)" ITEM AND EPOXY COATED STEEL SHALL BE PAID FOR BY POUND UNDER THE "REINFORCING STEEL, EPOXY COATED" BID ITEM.
THE UNIT PRICE BID PER CUBIC YARD OF CONCRETE AND POUND OF STEEL SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS AND ALL OF THE EQUIPMENT AND LABOR REQUIRED TO CONSTRUCT THE APPROACH PAVEMENT AND SLEEPER SLAB IN ACCORDANCE WITH THESE PLANS AND CURRENT SPECIFICATIONS.



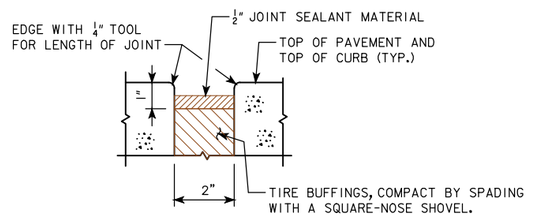
SECTION B-B
(DETAIL AT EDGE OF PAVEMENT)



DETAIL "B"



DETAIL "E"



"CF-1" JOINT DETAIL

APPROACH SLAB DETAILS

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN TEAM	APPROACH SLAB, 0° SKEW, "BTB", "BTD", WELDED GIRDER, SEMI-INTEGRAL ABUT. (SHEET 1 OF 3)	STANDARD SHEET 5040	COUNTY	PROJECT NUMBER	SHEET NUMBER

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS
IOWA
WISCONSIN

PLOT DATE: 8/18/26

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OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

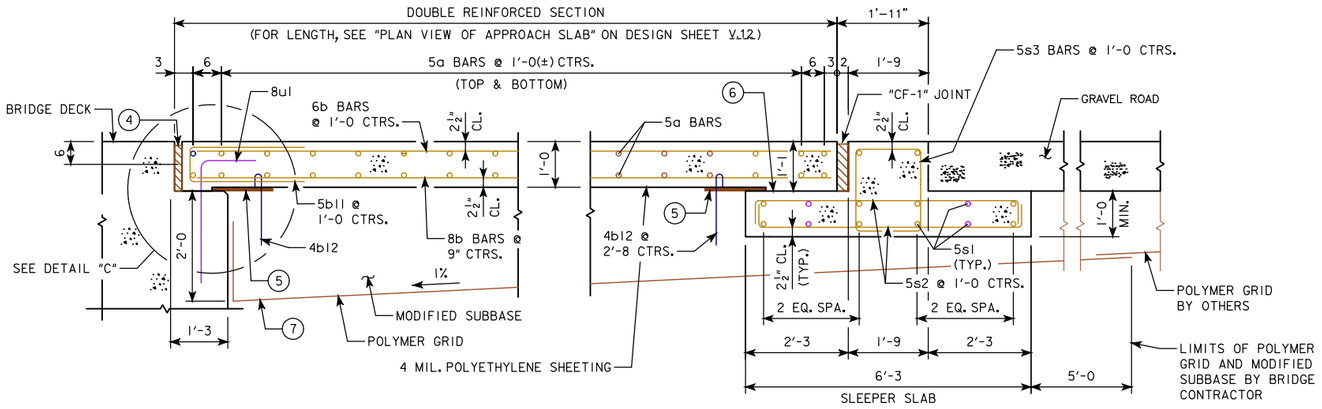
REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
SEMI-INTEGRAL ABUTMENT STANDARDS - 5040

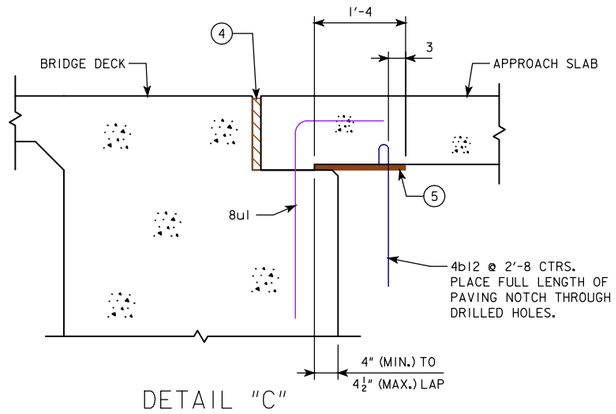
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JOB NUMBER: 21-749

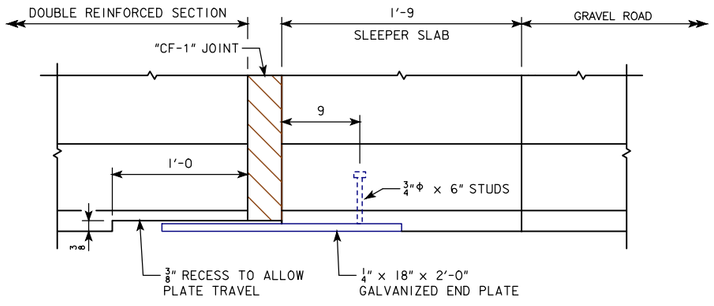
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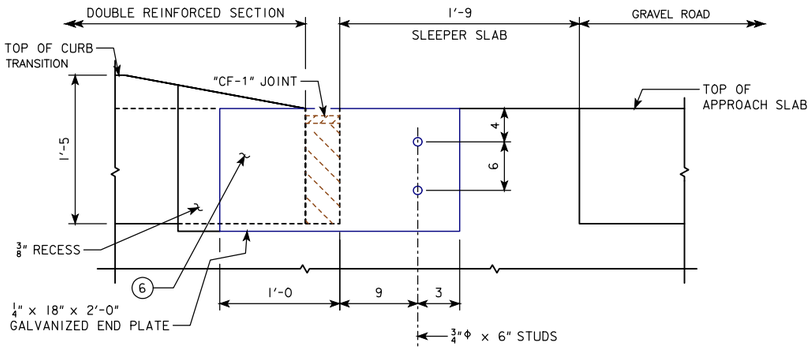
LONGITUDINAL SECTION OF APPROACH SLAB



DETAIL "C"



PARTIAL PLAN VIEW



END VIEW

DETAIL "D"

(4) ¼" RESILIENT JOINT FILLER AND SEAL TOP.

(5) ¾" x 1'-4" WIDE RESILIENT JOINT FILLER FOR FULL WIDTH OF APPROACH SLAB.

(6) DEBOND WITH 2 LAYERS OF 30# ASPHALTIC FELT PAPER FULL LENGTH.

(7) EXCAVATE TO EXISTING GRANULAR BACKFILL LINE.

APPROACH SLAB DETAILS

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN TEAM	APPROACH SLAB, 0° AND 45° SKEW, "BTB", "BTD", WELDED GIRDER, SEMI-INTEGRAL ABUT. (SHEET 2 OF 3)	STANDARD SHEET 5044	COUNTY	PROJECT NUMBER	SHEET NUMBER

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
SEMI-INTEGRAL ABUTMENT STANDARDS - 5044

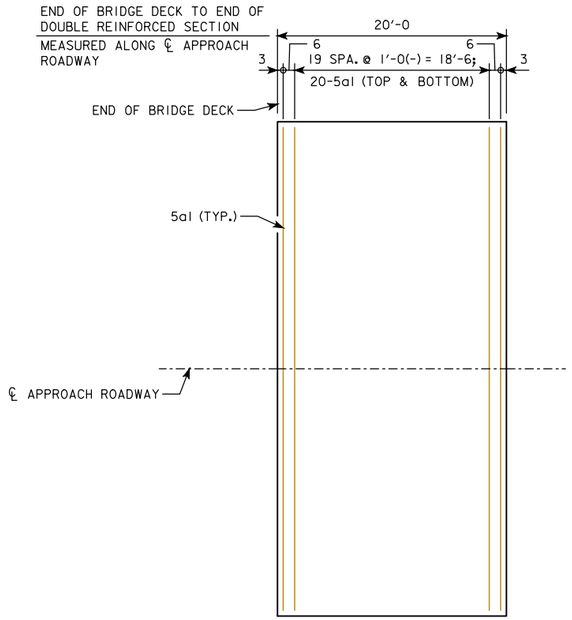
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JOB NUMBER: 21-749

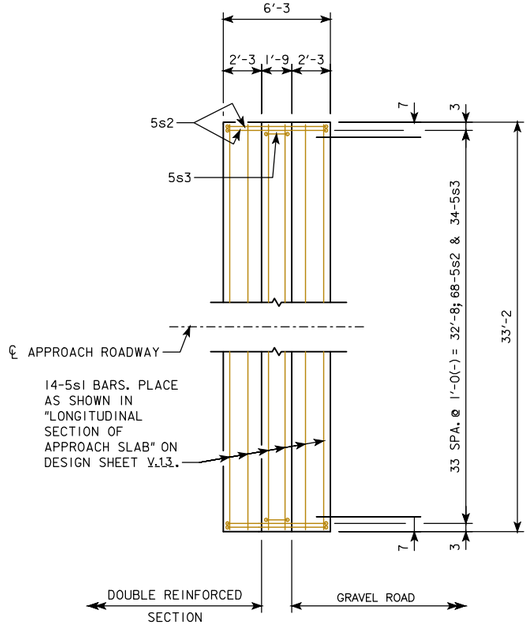
SHEET NUMBER: V.13

PLOT DATE: 8/18/26

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TOP & BOTTOM TRANSVERSE REINFORCING LAYOUT



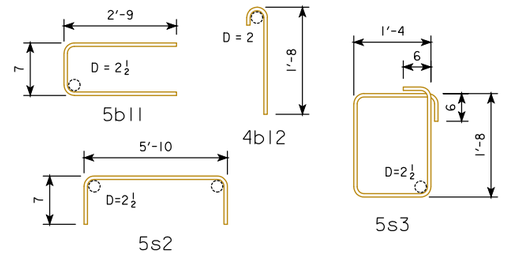
PLAN VIEW OF SLEEPER SLAB

REINFORCING BAR LIST-ONE APPROACH SLAB

EPOXY COATED REINF.

BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
5a1	APPROACH SLAB TRANSV. TOP AND BOTT.		44	32'-10	1507
6b1	APPROACH SLAB LONGIT. TOP		34	19'-8	1005
8b4	APPROACH SLAB LONGIT. BOTT.		45	19'-8	2363
5b11	APPROACH SLAB LONGIT.		34	6'-1	216
4b12	APPROACH SLAB		32	2'-0	43
5s1	SLEEPER SLAB LONGIT.		14	32'-10	480
5s2	SLEEPER SLAB STIRRUPS		68	7'-0	512
5s3	SLEEPER SLAB STIRRUPS		34	7'-0	249
	REINFORCING STEEL EPOXY COATED - TOTAL (LBS.)				6375

BENT BAR DETAILS



NOTE:
ALL DIMENSIONS ARE OUT TO OUT. D = PIN DIAMETER.

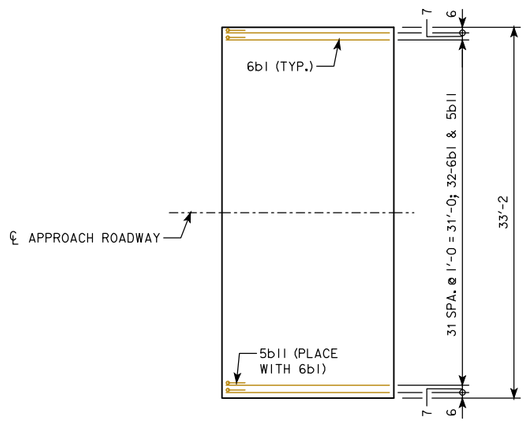
CONCRETE PLACEMENT SUMMARY

ITEM	QUANTITY
ONE DOUBLE REINFORCED APPROACH SLAB	24.6
ONE SLEEPER SLAB	9.8
TOTAL (CU. YDS.)	34.4

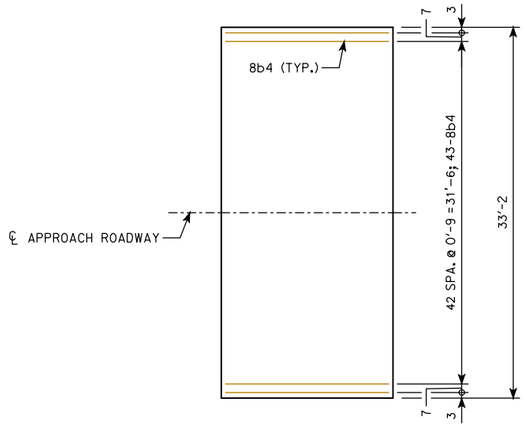
APPROACH SLAB QUANTITIES

LOCATION	QUANTITY
SOUTH DOUBLE REINFORCED APPROACH SLAB PAID AS CY OF CONCRETE	69.6
NORTH SINGLE REINFORCED APPROACH SLAB PAID AS SY BRIDGE APPROACH	70.1

NOTE:
REINFORCING STEEL QUANTITIES ASSUME APPROACH SLAB IS CONSTRUCTED WITH A SINGLE POUR. IF MULTIPLE POURS ARE REQUIRED, CONTRACTOR SHALL PROVIDE AND INSTALL #5 BARS AS SHOWN IN "KS-2" JOINT DETAIL AS SHOWN IN THESE PLANS.



TOP LONGITUDINAL REINFORCING LAYOUT



BOTTOM LONGITUDINAL REINFORCING LAYOUT

APPROACH SLAB DETAILS

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN TEAM	APPROACH SLAB, 0° SKEW, "BTB", "BTD", WELDED GIRDER, SEMI-INTEGRAL ABUT. (SHEET 3 OF 3)	STANDARD SHEET 5047A	COUNTY	PROJECT NUMBER	SHEET NUMBER

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
SEMI-INTEGRAL ABUTMENT STANDARDS - 5047A

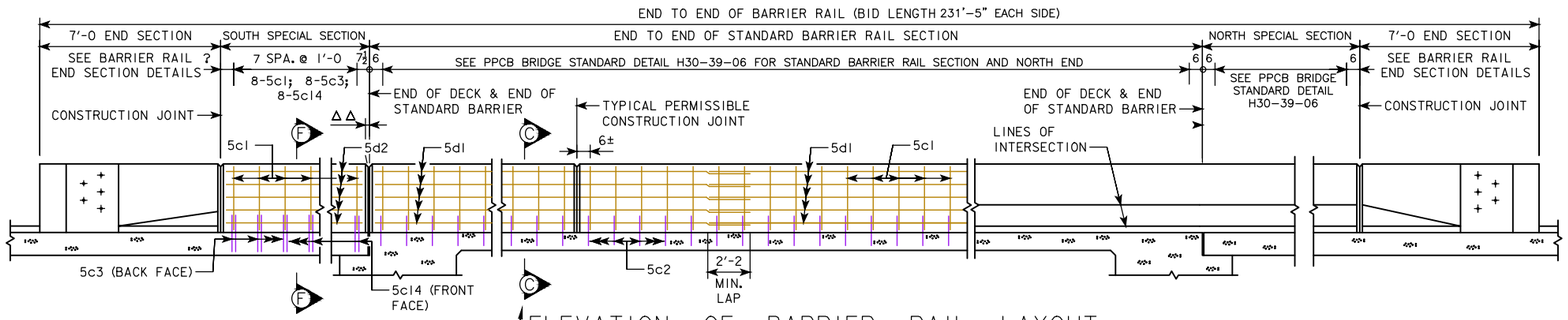
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G:\C3D\21\21-749 Suttle Creek Rd Bridge\From DOT\Semi-Integral_Abutment_Standards_5047A.dwg, 5047A

JOB NUMBER: 21-749

SHEET NUMBER: V.14

PLOT DATE: 8/18/26

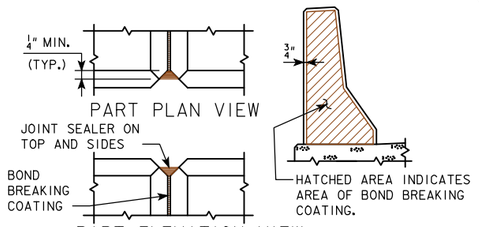
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ELEVATION OF BARRIER RAIL LAYOUT

△△ $\frac{1}{4}$" RESILIENT JOINT FILLER: JOINT SEALER TO BE APPLIED TO TOP AND SIDES OF BARRIER RAIL.

SECTION C–C IS THE SAME AS SECTION B–B OF THE STANDARD PPCB BRIDGE DETAIL ON SHEET H30-39-06



BARRIER RAIL JOINT DETAILS

BARRIER RAIL NOTES:

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.

THE PERMISSIBLE CONSTRUCTION JOINTS ARE TO BE PLACED BETWEEN VERTICAL BARS AT A MINIMUM SPACING OF 20 FEET. CONSTRUCTION JOINT CONTACT SURFACES ARE TO BE COATED WITH AN APPROVED BOND BREAKER.

COST OF THE RESILIENT JOINT FILLER, JOINT SEALER AND BOND BREAKER SHALL BE CONSIDERED INCIDENTAL TO OTHER CONSTRUCTION.

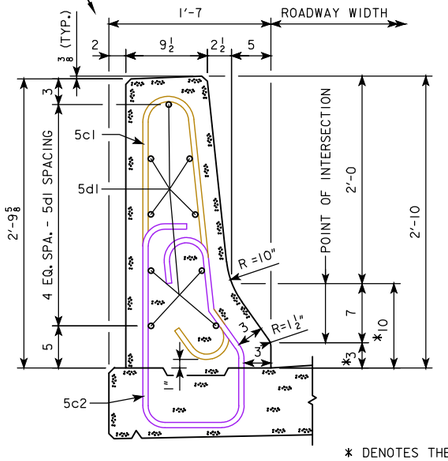
ALL BARRIER RAIL REINFORCING STEEL IS TO BE EITHER EPOXY COATED OR STAINLESS STEEL AS SHOWN. THE STAINLESS STEEL REINFORCING STEEL SHALL BE DEFORMED BAR GRADE 60 MEETING THE REQUIREMENTS OF MATERIALS I.M. 452.

THE CONCRETE BARRIER RAIL IS TO BE BID ON A LINEAL FOOT BASIS. THE NUMBER OF LINEAL FEET OF BARRIER RAIL INSTALLED WILL BE PAID FOR AT THE CONTRACT PRICE PER LINEAL FOOT BASED ON PLAN QUANTITIES. PRICE BID FOR CONCRETE BARRIER RAILING SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIAL, EXCLUDING REINFORCING STEEL, AND ALL OF THE EQUIPMENT AND LABOR REQUIRED TO ERECT THE RAIL IN ACCORDANCE WITH THESE PLANS AND CURRENT SPECIFICATIONS. IF CONDUIT IS REQUIRED IN THIS PLAN THE RIGID STEEL CONDUIT, JUNCTION BOXES AND FITTINGS INCLUDING LABOR AND ANY ADDITIONAL WORK TO DO THE INSTALLATION IS CONSIDERED INCIDENTAL TO THE COST OF THE RAILING.

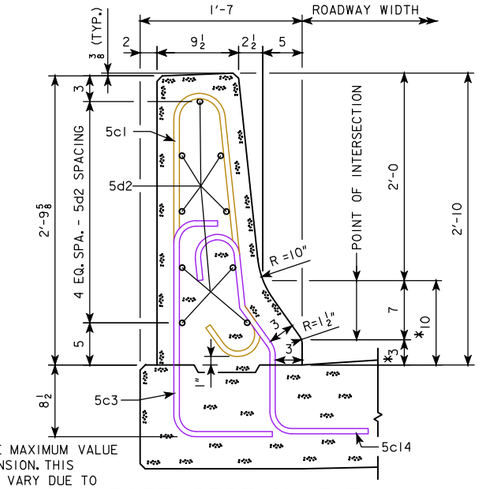
THE JOINT SEALER SHALL BE LIGHT GRAY NONSAG LATEX CAULKING SEALER MARKETED FOR OUTDOOR USE. NO TESTING OR CERTIFICATION IS REQUIRED.

TOP OF THE BARRIER RAIL IS TO BE PARALLEL TO THE THEORETICAL ℄ GRADE.

CROSS SECTIONAL AREA OF THE STANDARD SECTION OF THE BARRIER RAIL = 2.84 SQUARE FEET.



PART SECTION C-C



* DENOTES THE MAXIMUM VALUE FOR THIS DIMENSION. THIS DIMENSION MAY VARY DUE TO CONSTRUCTION INACCURACIES.

PART SECTION F-F

CONCRETE PLACEMENT SUMMARY

SECTION		TOTAL
STANDARD SECTION (SEE PPCB STANDARD)	@ 0.1052 CU. YD. PER FT.	45.1
SOUTH SPECIAL SECTION, FOR TWO (0.9 EA.)	@ 0.1052 CU. YD. PER FT.	1.8
NORTH SPECIAL SECTION, FOR TWO (0.55 EA.)	@ 0.1052 CU. YD. PER FT.	1.1
	TOTAL (CU. YD.)	48

CONCRETE BARRIER RAIL QUANTITIES

ITEM	UNIT	QUANTITY
CONCRETE BARRIER RAILING	L.F.	462.9

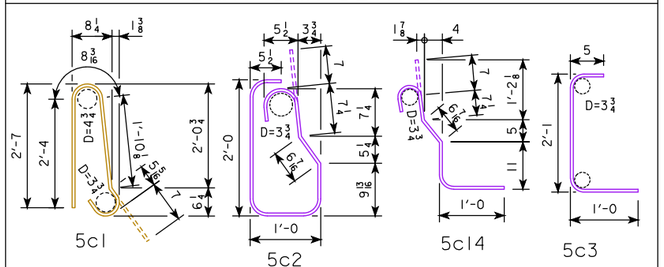
EPOXY COATED REINF. STEEL - TWO RAILS

SECTION	BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
STANDARD SECTIONS	5c1	RAIL, VERTICAL			5'-11	
		SEE PPCB BRIDGE STANDARD DETAILS H30-39-06 AND H30-41-06 FOR STANDARD QUANTITIES				
SOUTH SPECIAL SECTION	5c1	RAIL, VERTICAL 3 MORE FROM STANDARD		3	5'-11	19
	5d2	RAIL, LONGITUDINAL, ADDITIONAL 3'-3" LENGTH REQUIRED FROM STANDARD FOR 9 BARS		9	3'-3	31
EPOXY COATED STEEL REQUIRED IN ADDITION TO THE PPCB STANDARD QUANTITY (LBS.)						50

EPOXY COATED REINF. STEEL - TWO RAILS

SECTION	BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
STANDARD SECTIONS	5c2	RAIL, VERTICAL			6'-0	
SPECIAL SECTIONS	5c3	RAIL, VERTICAL 3 MORE FROM STANDARD		3	3'-6	11
	5c14	RAIL, VERTICAL		3	3'-8	12
EPOXY COATED STEEL REQUIRED IN ADDITION TO THE PPCB STANDARD QUANTITY (LBS.)						23

BENT BAR DETAILS



NOTE: ALL DIMENSIONS ARE OUT TO OUT. D = PIN DIAMETER.

BARRIER RAIL

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN TEAM	BARRIER RAIL, 0° SKEW, SEMI-INTEGRAL ABUT.	STANDARD SHEET 5048	COUNTY	PROJECT NUMBER	SHEET NUMBER

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

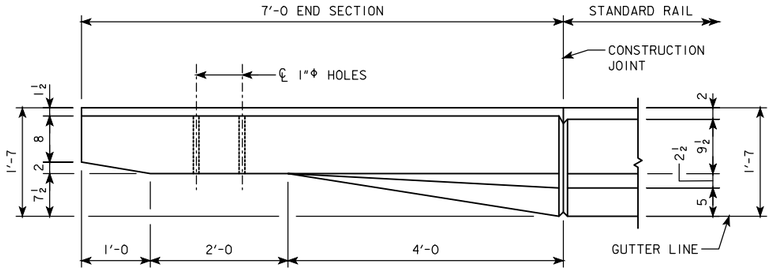
DRAWING:
SEMI-INTEGRAL ABUTMENT STANDARDS - 5048

SET TYPE: FINAL
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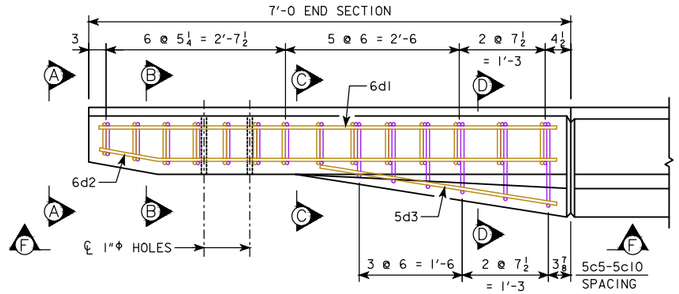
JOB NUMBER: 21-749
SHEET NUMBER: V.15

PLOT DATE: 8/18/26

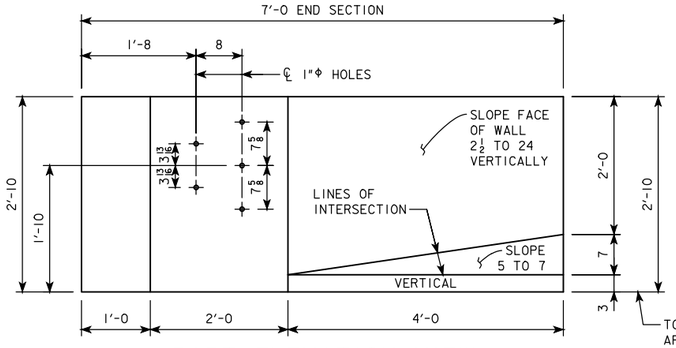
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PART PLAN VIEW

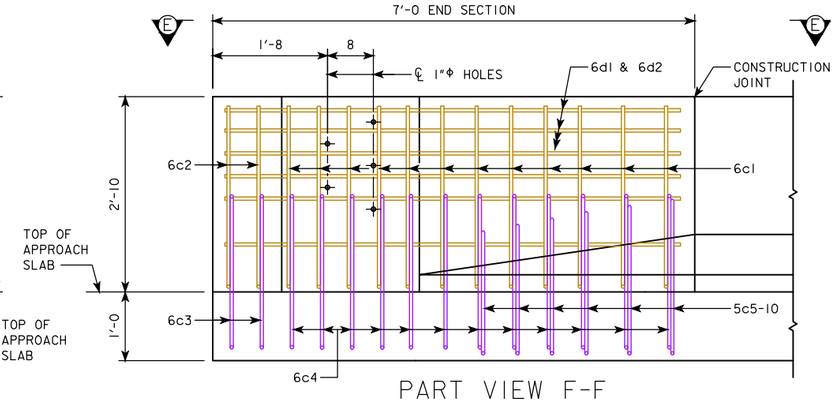


PART VIEW E-E



PART ELEVATION VIEW

PROVIDE 5 HOLES FORMED WITH 1"Φ PLASTIC CONDUIT. COST TO BE INCLUDED IN PRICE BID FOR CONCRETE BARRIER RAILING.

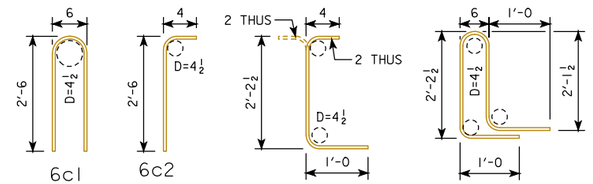


PART VIEW F-F

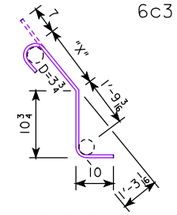
EPOXY COATED REINF. STEEL - ONE END SECT.					
BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
6c1	RAIL, VERTICAL		12	5'-6	99
6c2	RAIL, VERTICAL		4	2'-10	17
6d1	RAIL, HORIZONTAL		6	6'-8	60
6d2	RAIL, HORIZONTAL		6	6'-9	61
5d3	RAIL, HORIZONTAL		1	3'-9	4
6c3	RAIL, VERTICAL		4	3'-7	22
6c4	RAIL, VERTICAL		12	6'-10	123
5c5-10	RAIL, VERTICAL		6	VARIES	20
			EPOXY REINF. TOTAL WEIGHT (LBS.)		406

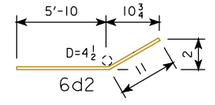
CONCRETE PLACEMENT SUMMARY	
SECTION	TOTAL
BARRIER RAIL ONE END SECTION	0.65 CU. YD.

BENT BAR DETAILS

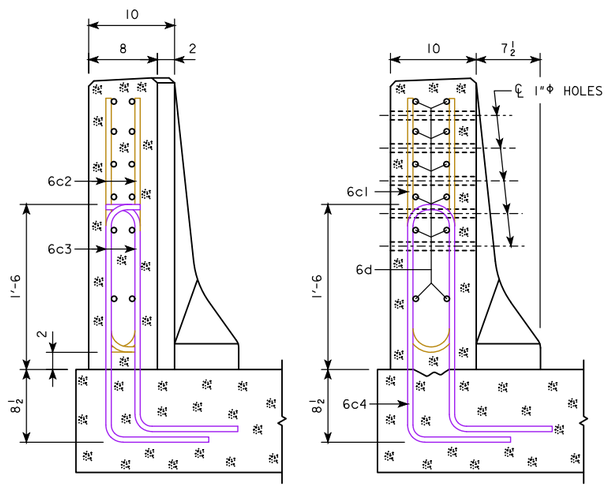


BAR	"X"
5c5	0'-6 1/2
5c6	0'-8 1/2
5c7	0'-10 1/4
5c8	1'-0 1/4
5c9	1'-2
5c10	1'-4



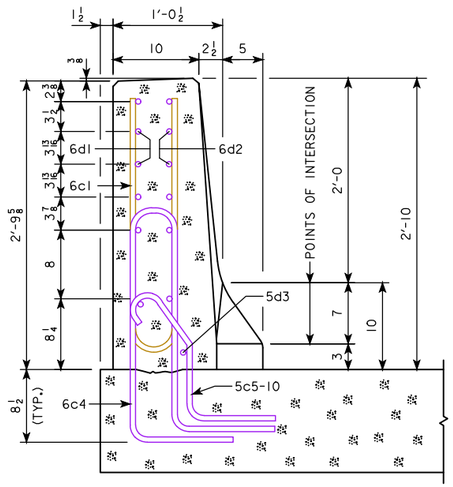


NOTE:
ALL DIMENSIONS ARE OUT TO OUT.
D = PIN DIAMETER.

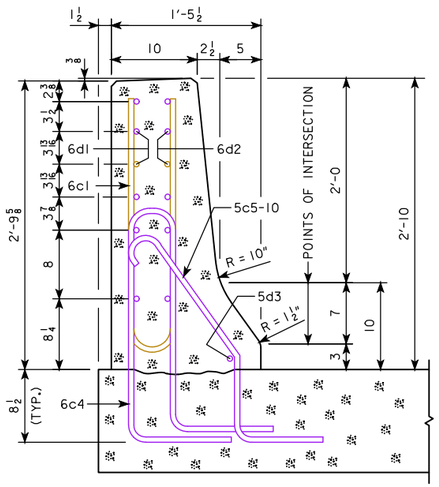


VIEW A-A

SECTION B-B



SECTION C-C



SECTION D-D

NOTES:
CONSTRUCTION JOINT BETWEEN TOP OF APPROACH SLAB AND BARRIER RAIL IS ROUGHENED CONCRETE.
THE 10" RADIUS AND 1 1/2" RADIUS ARE TYPICAL AND SHALL BE USED WHEN CONSTRUCTING THE CORNERS FOR VIEW A-A, SECTION B-B, SECTION C-C AND SECTION D-D.
THE 6c3, 6c4 AND 5c5-10 BARS ARE TO BE PLACED WITH THE APPROACH SLAB.

BARRIER RAIL END SECTION

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN TEAM	BARRIER RAIL END SECTION DETAILS, SEMI-INTEGRAL ABUTMENT	STANDARD SHEET 5050	COUNTY	PROJECT NUMBER	SHEET NUMBER

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
SEMI-INTEGRAL ABUTMENT STANDARDS - 5050

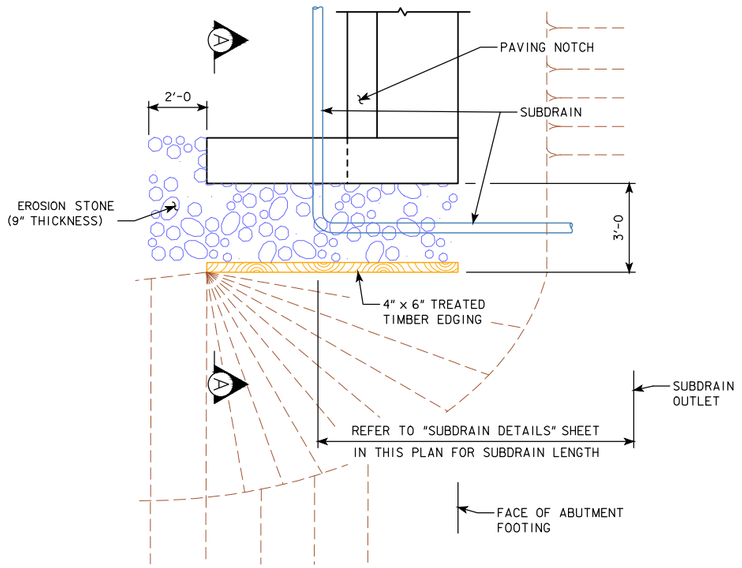
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JOB NUMBER: 21-749

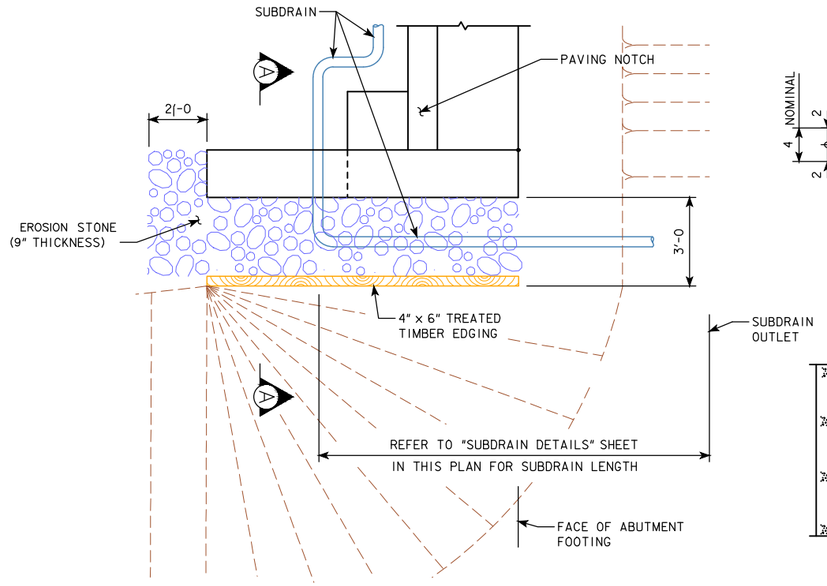
SHEET NUMBER: V.16

PLOT DATE: 8/18/26

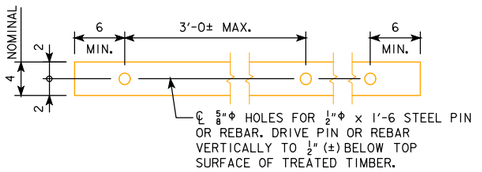
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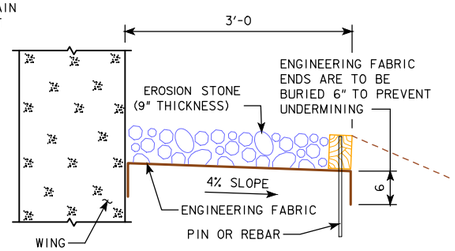
TOP VIEW OF WING ARMORING



TOP VIEW OF WING ARMORING WITH EXTENSION



4" x 6" TREATED TIMBER
EDGING DETAILS



SECTION A-A

GENERAL NOTES:

EROSION STONE SHALL BE PLACED ALONG THE SIDE OF THE WING, WINGWALL AND ABUTMENT FOOTING AS SHOWN IN SECTION A-A. THIS IS TYPICAL AT EACH CORNER OF THE BRIDGE UNLESS OTHERWISE NOTED IN THE PLANS. THE MACADAM STONE AT THESE LOCATIONS SHALL BE UNDERLAYED WITH ENGINEERING FABRIC IN ACCORDANCE WITH ARTICLE 4196.01, B, 3, OF THE STANDARD SPECIFICATIONS.

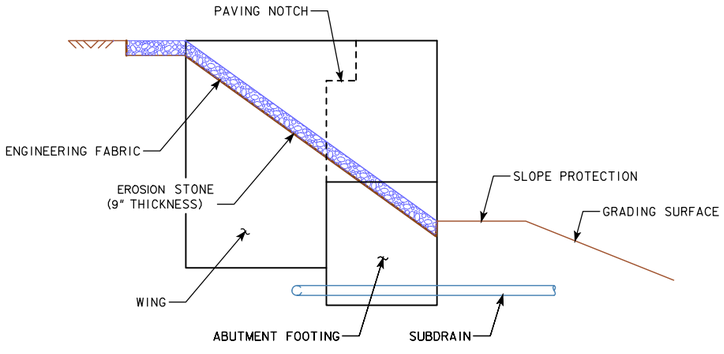
THE EROSION STONE SHALL BE IN ACCORDANCE WITH SECTION 4130, OF THE STANDARD SPECIFICATIONS. MATERIAL PASSING THE 3 INCH SCREEN BUT 100% RETAINED ON A 1 INCH SCREEN MAY BE USED AS CHOKE STONE.

WOOD PRESERVATIVE TREATMENT FOR THE TIMBER EDGING SHALL MEET THE REQUIREMENTS FOR GUARDRAIL POSTS, SAWED FOUR SIDES, IN ACCORDANCE WITH SECTION 4161, OF THE STANDARD SPECIFICATIONS.

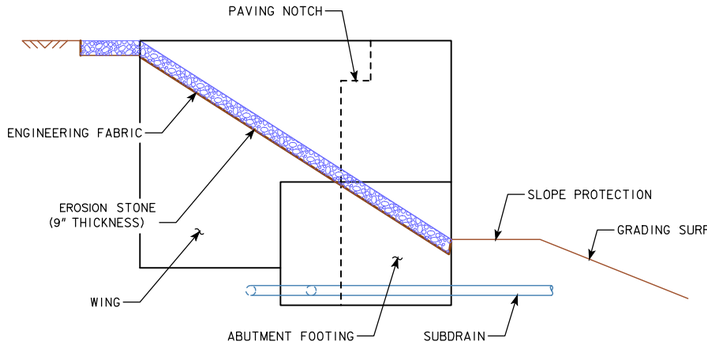
THE EROSION STONE SHALL BE DEPOSITED, SPREAD, CONSOLIDATED AND SHAPED BY MECHANICAL OR HAND METHODS THAT WILL PROVIDE UNIFORM 9" DEPTH AND DENSITY AND PROVIDE UNIFORM SURFACE APPEARANCE.

PAYMENT FOR THE BRIDGE WING ARMORING SHALL BE INCIDENTAL TO THE BID ITEM "STRUCTURAL CONCRETE (BRIDGE)" AND SHALL INCLUDE COSTS OF ALL MATERIAL AND LABOR TO CONSTRUCT THE WING ARMORING AS SHOWN ON THESE PLANS.

A CHECK SHALL BE MADE AT THE SUBDRAIN OUTLET TO ENSURE THAT IT IS DRAINING PROPERLY DURING THE BACKFILL FLOODING PROCESS.



PROFILE VIEW OF WING ARMORING



PROFILE VIEW OF WING ARMORING WITH EXTENSION

BRIDGE WING ARMORING

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN TEAM	BRIDGE WING ARMORING, MACADAM STONE, SEMI-INTEGRAL ABUT.	STANDARD SHEET 5051	COUNTY	PROJECT NUMBER	SHEET NUMBER

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
SEMI-INTEGRAL ABUTMENT STANDARDS - 5051

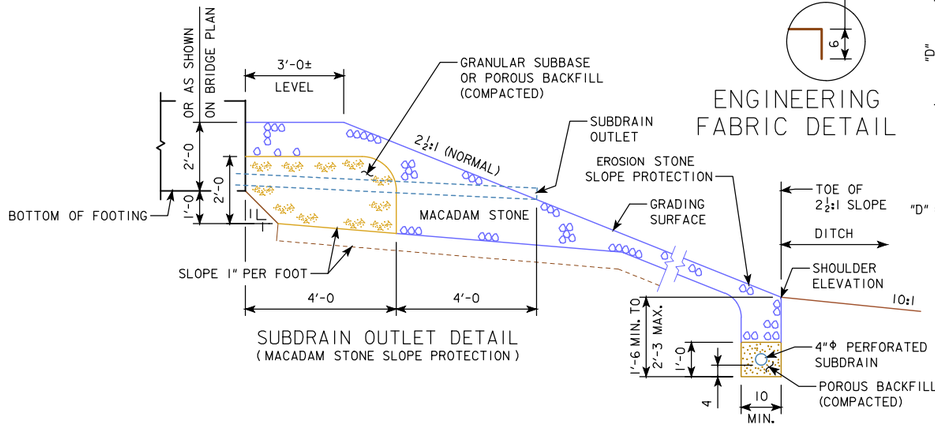
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JOB NUMBER: 21-749

SHEET NUMBER: V.17

PLOT DATE: 8/18/26

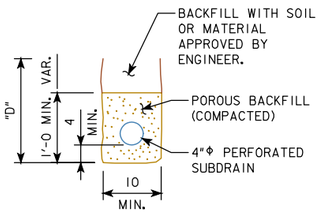
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SUBDRAIN OUTLET DETAIL
(MACADAM STONE SLOPE PROTECTION)

SECTION B-B

ENGINEERING FABRIC DETAIL



SECTION C-C
(TYPICAL)

"D" = DEPTH REQUIRED TO PROVIDE PROPER FLOW LINE FOR SUBDRAIN.

SUBDRAIN OUTLET ELEVATIONS	
LOCATION	ELEVATION
SOUTH ABUTMENT CENTERLINE	761.75
TOE OF SOUTH BERM	760.25
NORTH ABUTMENT CENTERLINE	757.90
TOE OF NORTH BERM	756.64

SUBDRAIN NOTES :

THIS PLAN SHEET SHOWS DETAILS FOR PLACING ALL SUBDRAINS AND SUBDRAIN OUTLETS REQUIRED FOR THIS STRUCTURE.

THE SUBDRAINS SHALL BE 4" IN DIAMETER AND SHALL BE IN ACCORDANCE WITH ARTICLE 4143.01, B, OF THE STANDARD SPECIFICATIONS. THE SUBDRAIN OUTLET SHALL CONSIST OF A 6'-0 LENGTH OF PIPE WITH A REMOVABLE RODENT GUARD AS DETAILED ON THIS SHEET.

THE COST OF FURNISHING AND PLACING SUBDRAIN (INCLUDING EXCAVATION), GRANULAR BACKFILL, POROUS BACKFILL, AND SUBDRAIN OUTLET IS TO BE INCLUDED IN THE PRICE BID FOR "STRUCTURAL CONCRETE (BRIDGE)". NO EXTRA PAYMENT WILL BE MADE.

THE DIMENSIONS SHOWN FOR THE PROPOSED SUBDRAINS ARE BASED ON THE PROPOSED GRADING LAYOUT OF BRIDGE BERMS. THE DIMENSIONS SHOWN ARE FOR ESTIMATING ONLY. REQUIRED LENGTHS AND GENERAL LOCATIONS OF SUBDRAINS ARE SUBJECT TO CHANGE DUE TO FIELD ADJUSTMENTS OF THE GRADING LAYOUT.

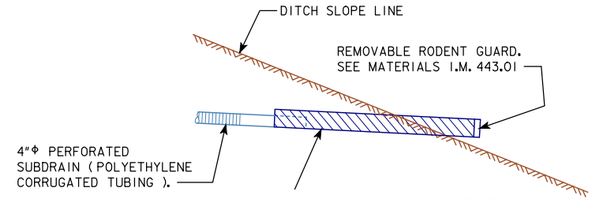
THE UPHILL END OF THE PERFORATED SUBDRAIN AT THE TOE OF SLOPE PROTECTION SHALL BE CAPPED AS APPROVED BY THE ENGINEER.

THE POROUS BACKFILL AND SUBDRAIN ARE TO BE CARRIED AROUND PIER COLUMNS IF THE COLUMN PLACEMENT INTERFERES WITH ALIGNMENT OF SUBDRAIN AS SHOWN ON THIS SHEET.

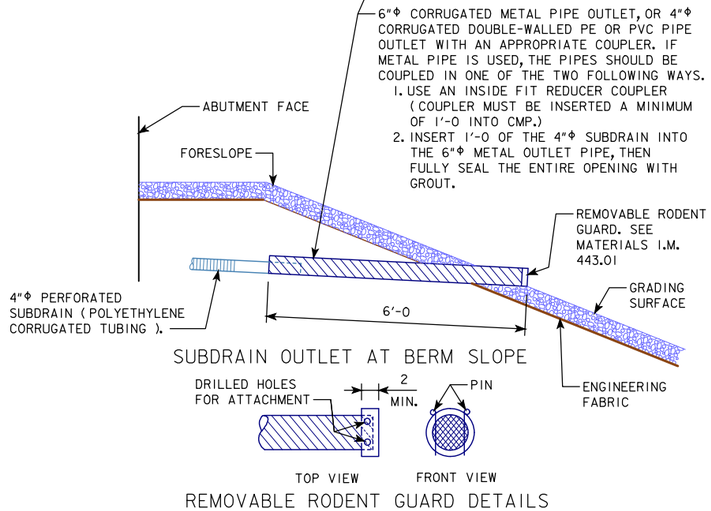
SUBDRAIN SLOPE SHALL NOT BE FLATTER THAN 2%.

SEE SITUATION PLAN AND BRIDGE GRADING SHEETS FOR FURTHER DETAILS REGARDING SUBDRAIN LOCATIONS AND ELEVATIONS.

ESTIMATED SUBDRAIN LENGTH FOR NORTH ABUTMENT IS 80 LF, ESTIMATED SUBDRAIN LENGTH FOR SOUTH ABUTMENT IS ESTIMATED TO BE 106 LF. INCIDENTAL TO "STRUCTURAL CONCRETE (BRIDGE)".



SUBDRAIN OUTLET AT DITCH SLOPE



SUBDRAIN OUTLET AT BERM SLOPE

REMOVABLE RODENT GUARD DETAILS

OUTLET DETAILS

NOTE:
SECTION A-A IS SHOWN ON ABUTMENT BACKFILL DETAILS SHEET.

SUBDRAIN DETAILS

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN TEAM	SUBDRAIN DETAILS, 3 OR MORE SPAN BRIDGES, SEMI-INTEGRAL ABUT.	STANDARD SHEET 5055	COUNTY	PROJECT NUMBER	SHEET NUMBER

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
SEMI-INTEGRAL ABUTMENT STANDARDS - 5055

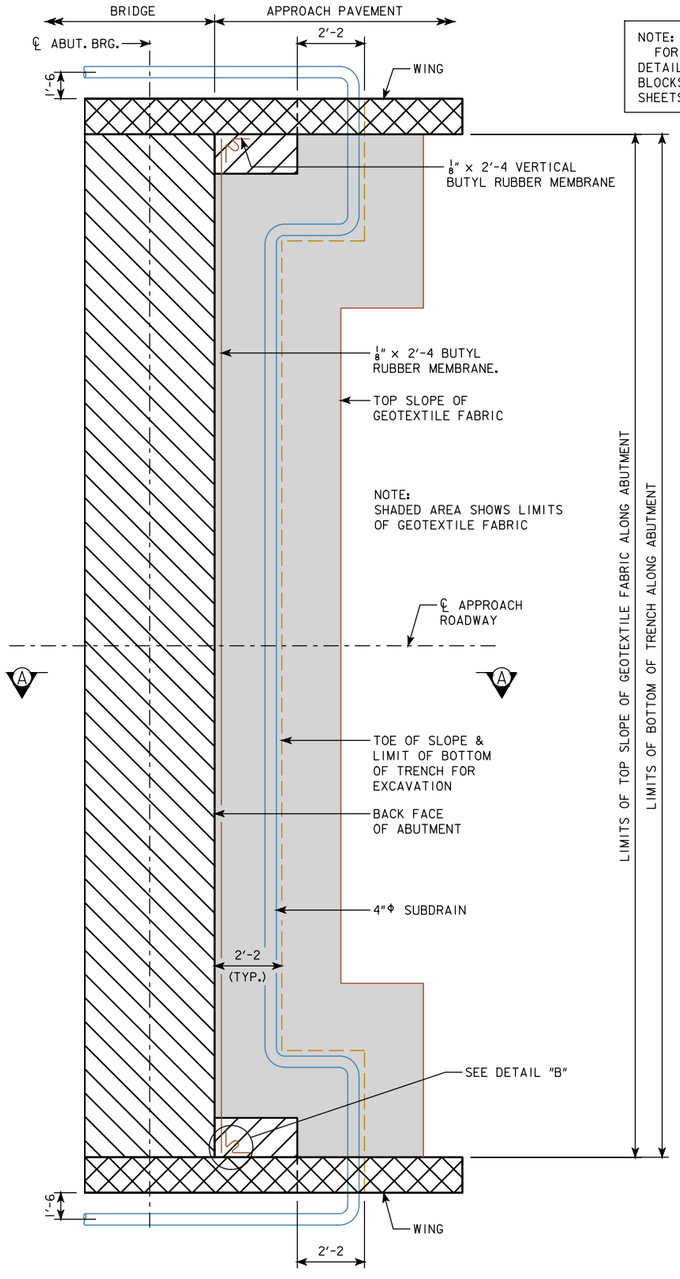
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JOB NUMBER:
21-749

SHEET NUMBER:
V.18

PLOT DATE: 8/18/26

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ABUTMENT PLAN WITH WING EXTENSIONS

NOTE:
FOR BUTYL RUBBER MEMBRANE DETAILS AT ABUTMENT SHEAR BLOCKS, SEE ABUTMENT DETAILS SHEETS.

ABUTMENT BACKFILL PROCESS:

THE BASE OF THE EXCAVATION SUBGRADE BEHIND THE ABUTMENT IS TO BE GRADED WITH A 4% SLOPE AWAY FROM THE ABUTMENT FOOTING AND A 2% CROSS SLOPE IN THE DIRECTION OF THE SUBDRAIN OUTLET. THIS EXCAVATION SHAPING IS TO BE DONE PRIOR TO BEGINNING INSTALLATION OF THE GEOTEXTILE AND BACKFILL MATERIAL.

AFTER THE SUBGRADE HAS BEEN SHAPED, THE GEOTEXTILE FABRIC SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN. THE FABRIC IS INTENDED TO BE INSTALLED IN THE BASE OF THE EXCAVATION AND EXTENDED VERTICALLY UP THE ABUTMENT BACKWALL, ABUTMENT WINGS AND WINGWALLS, AND EXCAVATION FACE TO A HEIGHT THAT WILL BE APPROXIMATELY 3 FOOT HIGHER THAN THE HEIGHT OF THE POROUS BACKFILL PLACEMENT AS SHOWN IN THE "BACKFILL DETAILS" ON THIS SHEET. THE STRIPS OF THE FABRIC PLACED SHALL OVERLAP APPROXIMATELY I FOOT AND SHALL BE PINNED IN PLACE. THE FABRIC SHALL BE ATTACHED TO THE ABUTMENT BY USING LATH FOLDED IN THE FABRIC AND SECURED TO THE CONCRETE WITH SHALLOW CONCRETE NAILS. THE FABRIC PLACED AGAINST THE EXCAVATION FACE SHALL BE PINNED.

WHEN THE FABRIC IS IN PLACE, THE SUBDRAIN SHALL BE INSTALLED DIRECTLY ON THE FABRIC AT THE TOE OF THE REAR EXCAVATION SLOPE. A SLOT WILL NEED TO BE CUT IN THE FABRIC AT THE POINT WHERE THE SUBDRAIN EXITS THE FABRIC NEAR THE END OF THE ABUTMENT WING.

POROUS BACKFILL IS THEN PLACED AND LEVELED, NO COMPACTION IS REQUIRED.

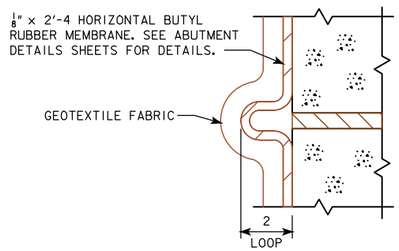
THE REMAINING WORK INVOLVES BACKFILLING WITH FLOODABLE BACKFILL, SURFACE FLOODING, AND VIBRATORY COMPACTION. THE FLOODABLE BACKFILL MATERIAL SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. THE FLOODABLE BACKFILL SHALL BE PLACED IN INDIVIDUAL LIFTS, SURFACE FLOODED, AND COMPACTED WITH VIBRATORY COMPACTION TO ENSURE FULL CONSOLIDATION. LIMIT THE LOOSE LIFTS TO NO MORE THAN 2 FEET OF THICKNESS.

START SURFACE FLOODING FOR EACH FLOODABLE BACKFILL LIFT AT THE HIGH POINT OF THE SUBDRAIN AND PROGRESS TO THE LOW POINT WHERE THE SUBDRAIN EXITS THE FABRIC. TO ENSURE UNIFORM SURFACE FLOODING, WATER RUNNING FULL IN A 2-INCH DIAMETER HOSE SHOULD BE SPRAYED IN SUCCESSIVE 6-FOOT TO 8-FOOT INCREMENTS FOR 5 MINUTES WITHIN EACH INCREMENT.

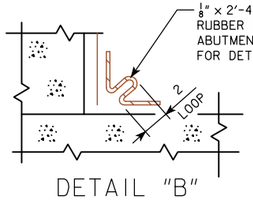
FLOODABLE BACKFILL LIFT PLACEMENT, FLOODING, AND COMPACTION SHALL PROGRESS UNTIL THE REQUIRED FULL THICKNESS OF THE ABUTMENT BACKFILL HAS BEEN COMPLETED.

WATER REQUIRED FOR FLOODING, SUBDRAINS, POROUS BACKFILL, FLOODABLE BACKFILL, BUTYL RUBBER MEMBRANES, WATERPROOF ADHESIVE, AND GEOTEXTILE FABRIC FURNISHED AT THE BRIDGE ABUTMENTS WILL NOT BE MEASURED SEPARATELY FOR PAYMENT.

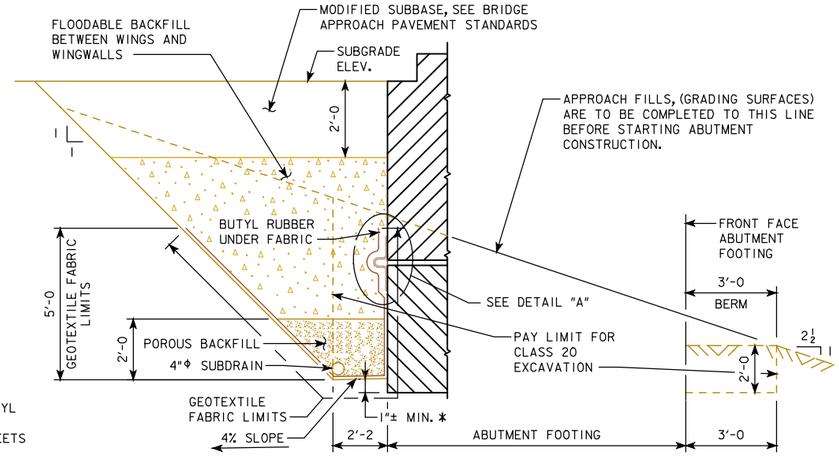
THE COST OF WATER REQUIRED FOR FLOODING, SUBDRAINS, POROUS BACKFILL, FLOODABLE BACKFILL, BUTYL RUBBER MEMBRANES, WATERPROOF ADHESIVE, AND GEOTEXTILE FABRIC FURNISHED AT THE BRIDGE ABUTMENTS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR STRUCTURAL CONCRETE.



DETAIL "A"



DETAIL "B"



SECTION A-A

BACKFILL DETAILS

NOTE: GEOTEXTILE FABRIC WILL BE ATTACHED TO FACE OF ABUTMENT FOOTING, WINGS AND WINGWALLS.

*DIMENSION VARIES DUE TO 2% SUBDRAIN SLOPE.

NOTE:
SUBDRAIN SHALL SLOPE DOWNWARD 2% FROM ℄ APPROACH ROADWAY WHEN OUTLETTING BOTH SIDES OF THE ABUTMENT.

SUBDRAIN SHALL SLOPE DOWNWARD 2% FROM HIGH END WHEN OUTLETTING AT ONE END OF THE ABUTMENT.

THE GEOTEXTILE FABRIC SHALL BE IN ACCORDANCE WITH ARTICLE 4196.01, B, 6 OF THE STANDARD SPECIFICATIONS. IF THE ENGINEERING FABRIC IS LAPPED THE LAPS SHALL BE A MINIMUM OF ONE FOOT IN LENGTH, SHINGLE FASHION WITH UP SLOPE LAP PIECE ON TOP AND STAPLED FOR CONTINUITY.

NOTE:
SEE SUBDRAIN DETAILS SHEET FOR DETAILS NOT SHOWN ON THIS SHEET WHICH ARE PERTINENT TO THIS STRUCTURE.

ABUTMENT BACKFILL DETAILS
AT BACKFACE OF ABUTMENTS

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN TEAM	ABUTMENT BACKFILL DETAILS, SEMI-INTEGRAL ABUT.	STANDARD SHEET 5058	COUNTY	PROJECT NUMBER	SHEET NUMBER

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS		
REV. NO.	DESCRIPTION	DATE

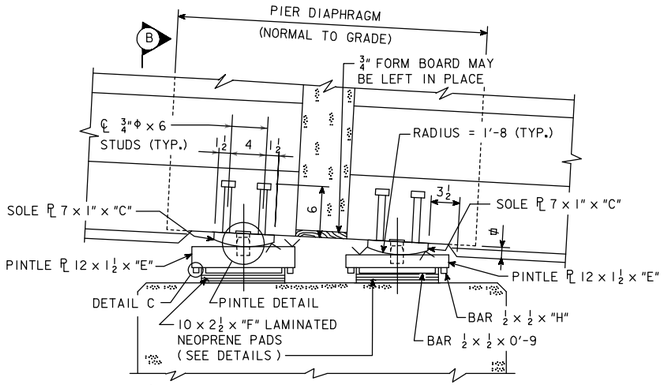
DRAWING:
SEMI-INTEGRAL ABUTMENT STANDARDS - 5058

SET TYPE: FINAL
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JOB NUMBER: 21-749
SHEET NUMBER: V.19

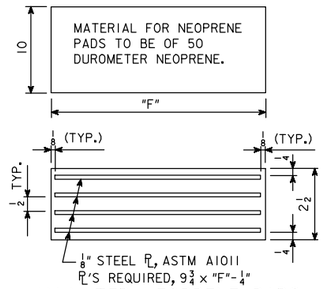
PLOT DATE: 8/18/26

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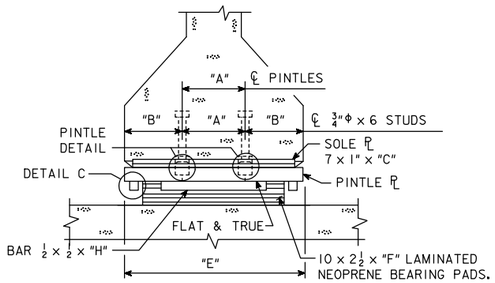


PART ELEVATION

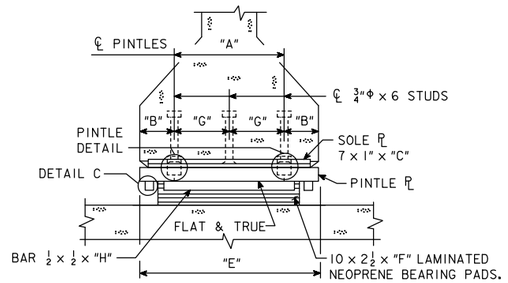
Φ NOTCH BEAM END TO SOLE ℄ THICKNESS MAXIMUM 1"



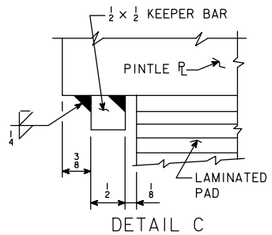
LAMINATED NEOPRENE PADS



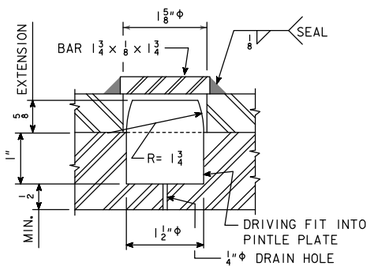
SECTION B-B FOR A & B BEAMS
(DIAPHRAGM CONCRETE NOT SHOWN)



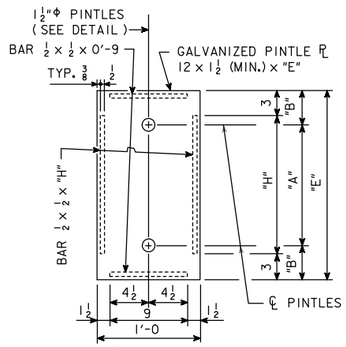
SECTION B-B FOR C BEAMS
(DIAPHRAGM CONCRETE NOT SHOWN)



DETAIL C



PINTLE DETAIL



PLAN OF PINTLE PLATE

EXPANSION PIER BEARING NOTES:

SURFACES MARKED "V" SHALL BE FINISHED ANSI 250.

PINTLE PLATES ARE A PART OF THE SUPERSTRUCTURE "STRUCTURAL STEEL QUANTITY". COSTS OF ANCHORED CURVED SOLE PLATES AND NEOPRENE PADS ARE TO BE INCLUDED IN THE PRICE BID FOR "PRETENSIONED PRESTRESSED CONCRETE BEAMS".

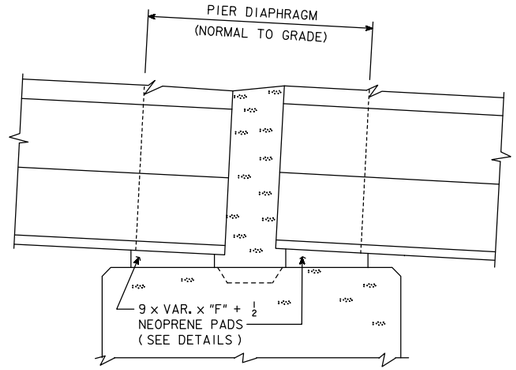
THE SOLE PLATES AND PINTLE PLATES SHALL BE GALVANIZED. ALL WELDING SHALL BE COMPLETED PRIOR TO GALVANIZING. THE SURFACE OF THE PINTLE PLATE IN CONTACT WITH THE LAMINATED NEOPRENE PADS SHALL BE FREE OF PROJECTIONS DUE TO THE GALVANIZING.

SOLE PLATES ARE TO BE SET IN FORMS WHEN BEAMS ARE CAST AND THE BOTTOM OF BEAMS FORMED OUT AS SHOWN TO EXCLUDE CONCRETE.

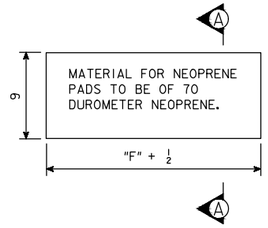
SOLE PLATES SHALL COMPLY WITH ONE OF THE FOLLOWING :

- ASTM A 514 GRADE B
- ASTM A 709 GRADE HPS 70W

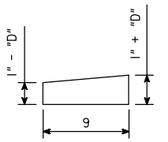
EXPANSION PIER AND SEMI-INTEGRAL ABUTMENT



PART ELEVATION



PLAN OF NEOPRENE PAD



SECTION A-A

SLOPE	"D"
SLOPE ≤ 1.4%	0"
1.4% < SLOPE ≤ 4.2%	⅛"
4.2% < SLOPE ≤ 5.0%	¼"

$$SLOPE_{SPAN\ 1} = 100\% \left| \frac{\text{P/G ELEV. @ NEAR ABUT.} - \text{P/G ELEV. @ PIER 1}}{\text{SPAN 1 LENGTH}} \right|$$

$$SLOPE_{SPAN\ 2} = 100\% \left| \frac{\text{P/G ELEV. @ PIER 1} - \text{P/G ELEV. @ PIER 2}}{\text{SPAN 2 LENGTH}} \right|$$

$$SLOPE_{SPAN\ 3} = 100\% \left| \frac{\text{P/G ELEV. @ PIER 2} - \text{P/G ELEV. @ FAR ABUT.}}{\text{SPAN 3 LENGTH}} \right|$$

SLOPE CALCULATION FORMULA

FIXED PIER BEARING NOTES:

IF CALCULATED SLOPE FOR A GIVEN SPAN EXCEEDS 1.4%, THE NEOPRENE BEARING PADS AT THE FIXED PIER FOR THAT SPAN SHALL BE TAPERED. REFER TO TABLE FOR DIMENSIONS OF TAPERED PADS.

COST OF NEOPRENE PADS SHALL BE INCLUDED IN THE PRICE BID FOR "PRETENSIONED PRESTRESSED CONCRETE BEAMS".

FIXED PIER

VARIABLE DIMENSIONS

	BEAM BOTTOM FLANGE WIDTH	
	A & B BEAMS 1'-5	C BEAMS 1'-8
"A"		1'-0
"B"		0'-4
"C"		1'-6½
"E"		1'-8
"F"		1'-6
"G"	———	0'-6
"H"		1'-2

APPROVED BY BRIDGE ENGINEER

IOWA DOT Highway Division

STANDARD DESIGN - 30' ROADWAY, THREE SPAN BRIDGES

PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGES

PIER AND SEMI-INTEGRAL ABUTMENT BEARING DETAILS

MODIFIED H30-44-06

CORRECTION 09-12 - REFERENCE TO ASTM A852 WAS DELETED.

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING: SEMI-INTEGRAL ABUTMENT STANDARDS - H30-44-06

SET TYPE: FINAL

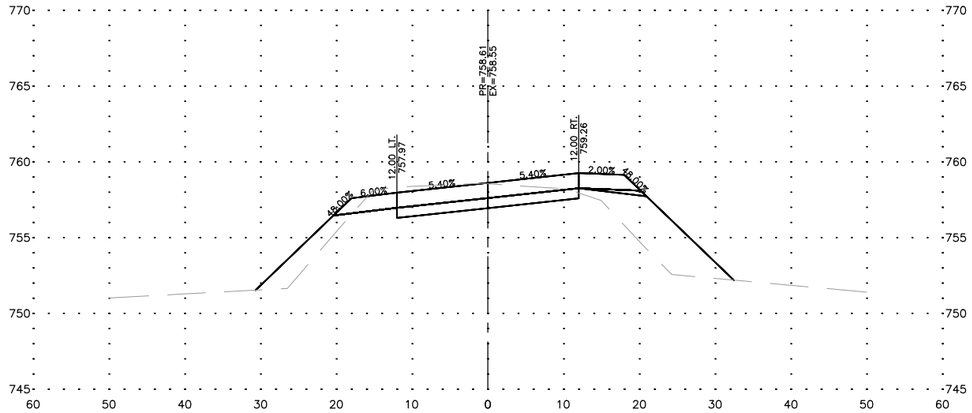
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JOB NUMBER: 21-749

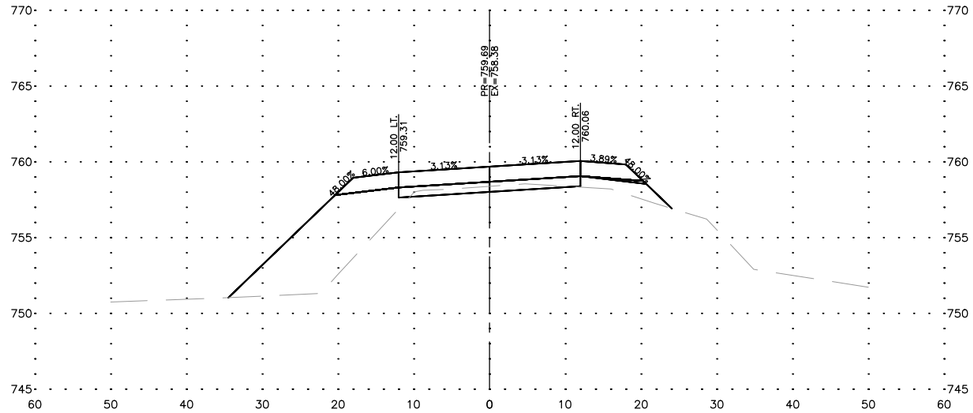
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PLOT DATE: 8/18/26

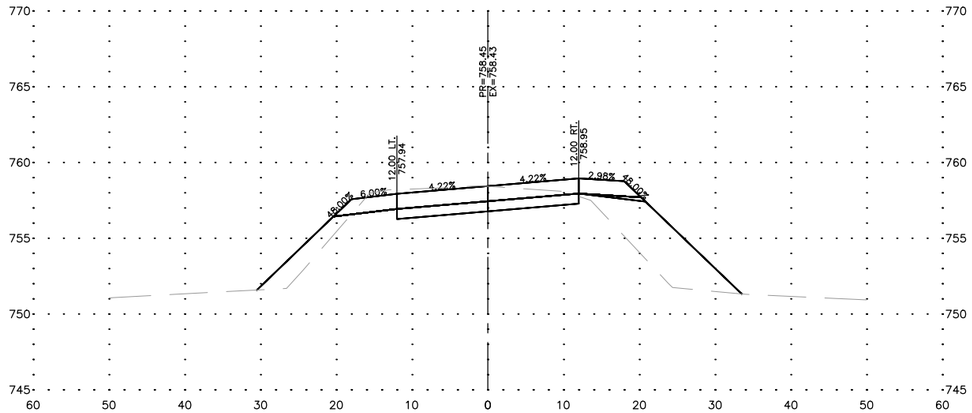
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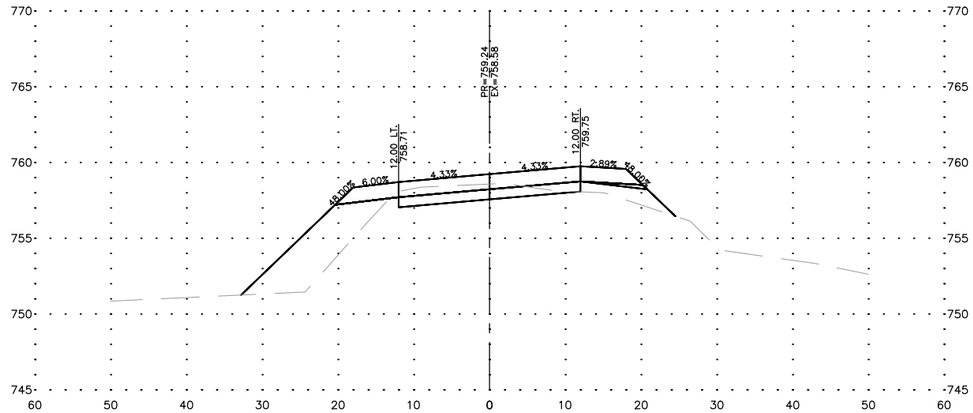
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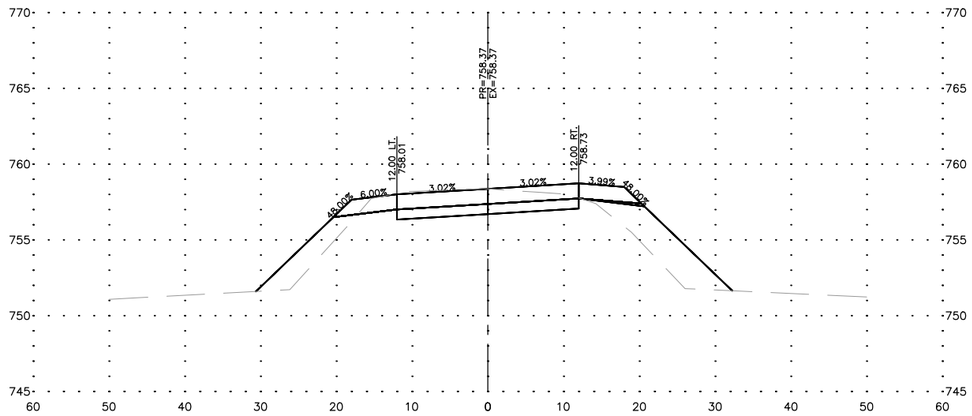
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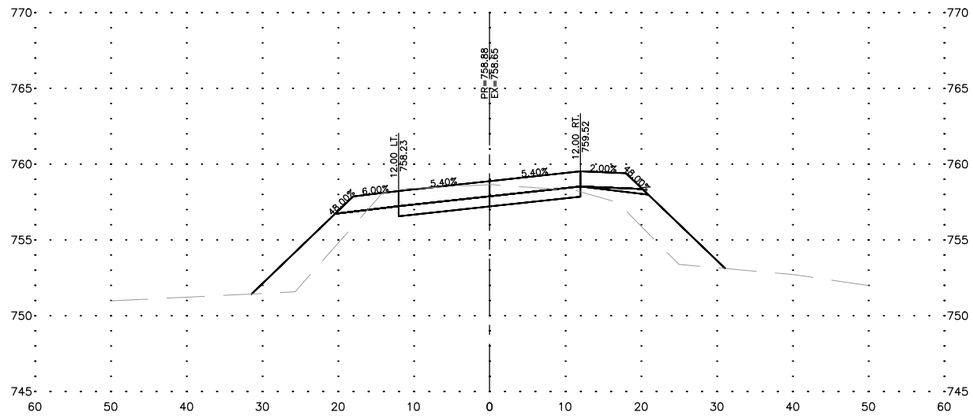
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STA 201+75



STA 200+75



STA 201+50

SCALE
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VER 5 0 5 10

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ILLINOIS
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ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
CROSS SECTIONS – BIG FOOT ROAD

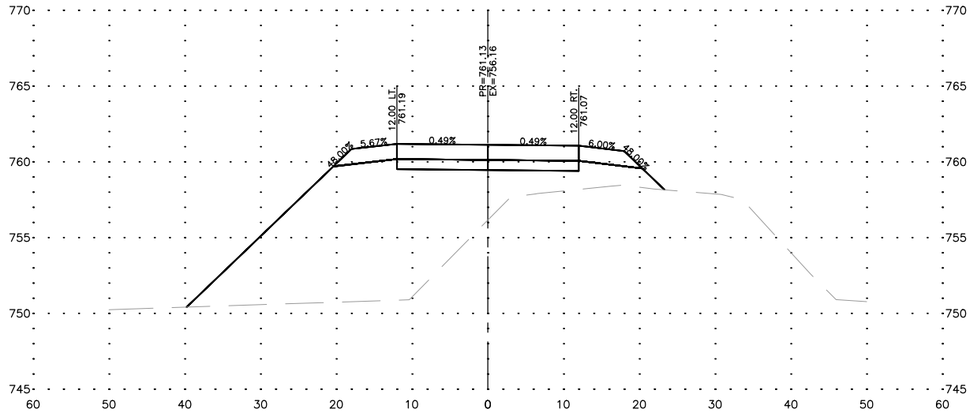
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JOB NUMBER:
21-749

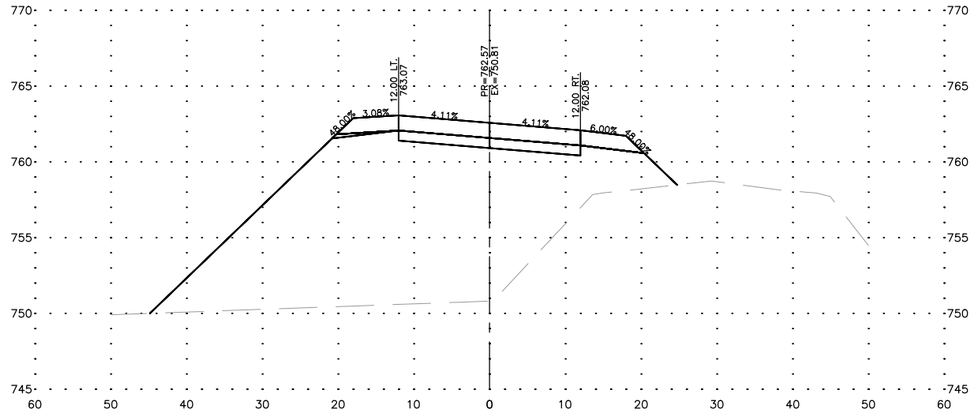
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W.01

PLOT DATE: 8/18/26

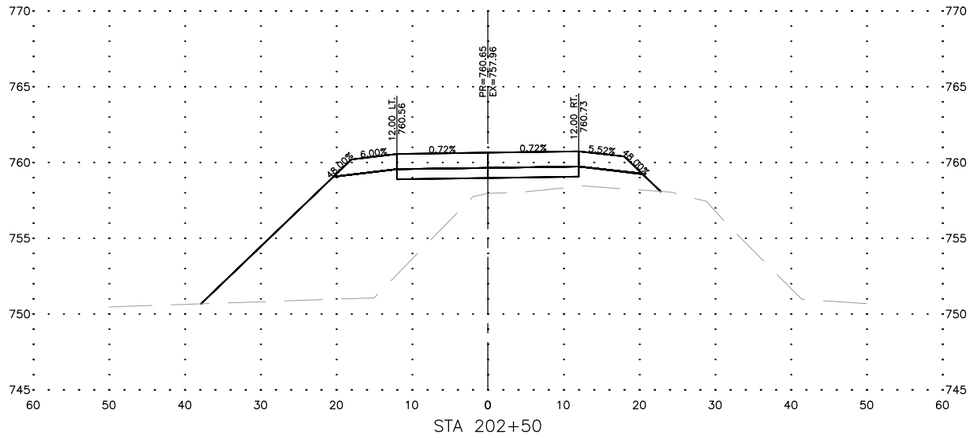
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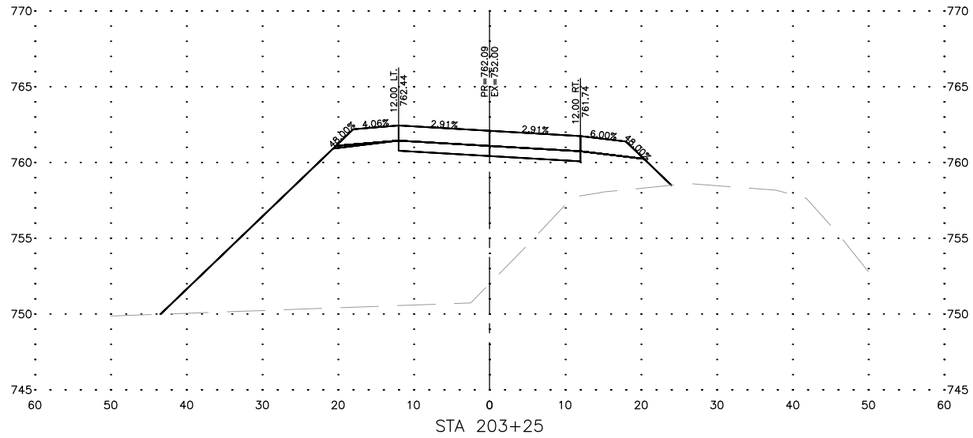
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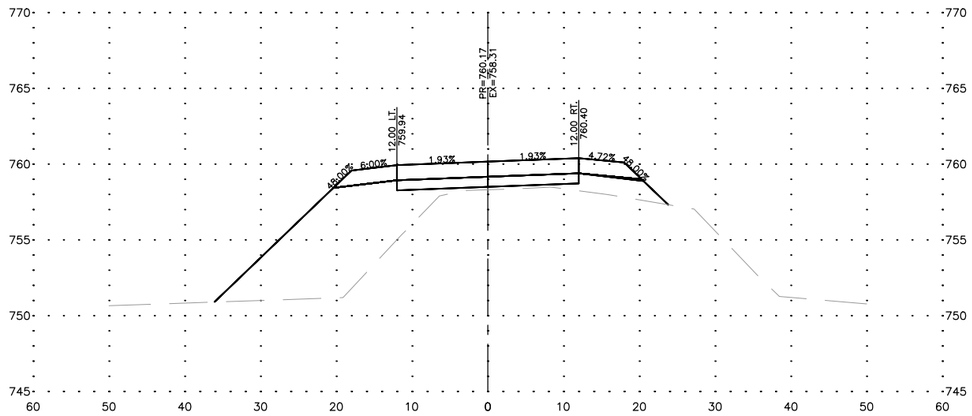
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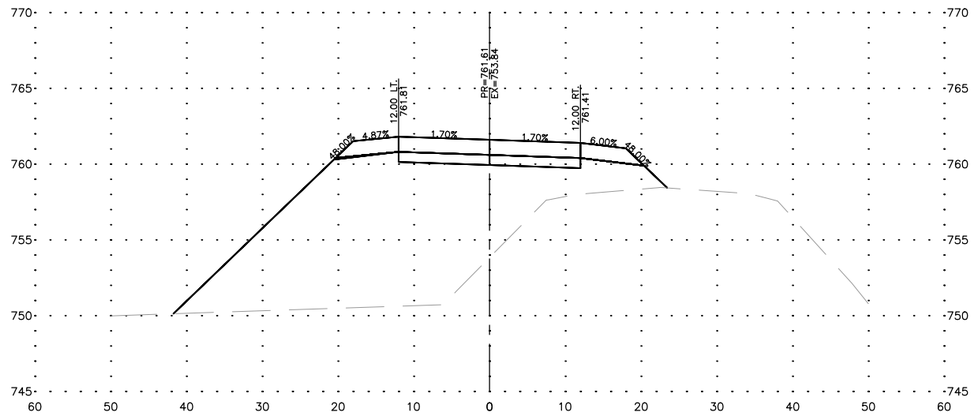
STA 202+50



STA 203+25



STA 202+25



STA 203+00

SCALE
HOR 10 0 10 20
VER 5 0 5 10

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DRAWING:
CROSS SECTIONS – BIG FOOT ROAD

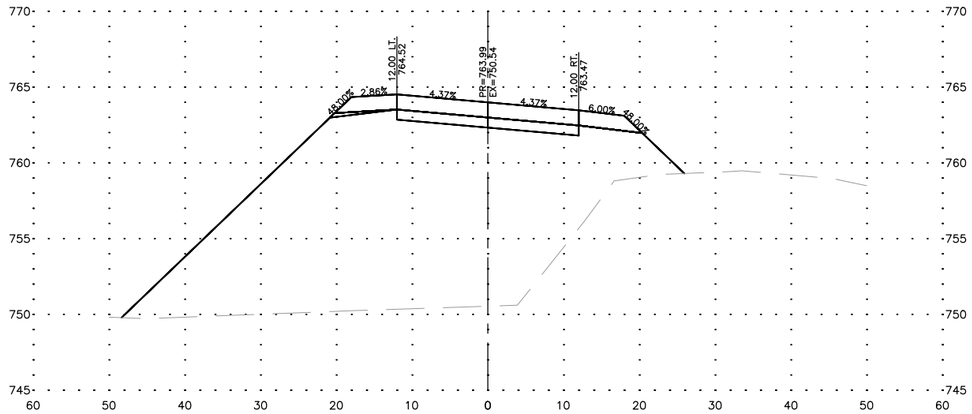
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JOB NUMBER:
21-749

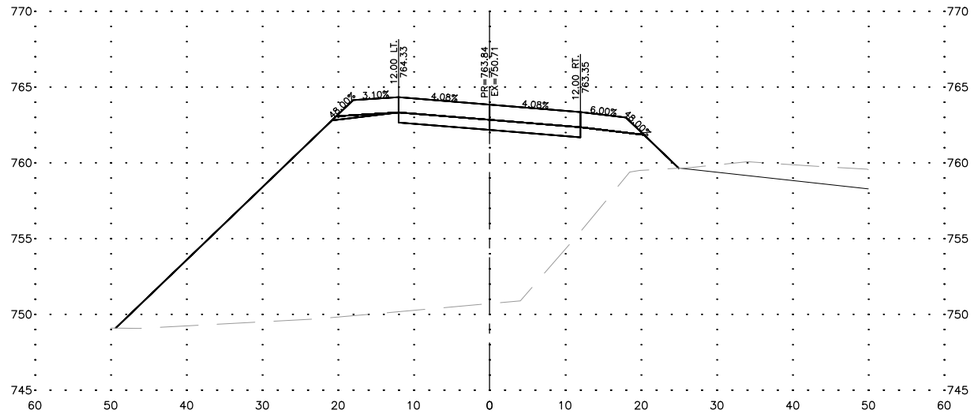
SHEET NUMBER:
W.02

PLOT DATE: 8/18/26

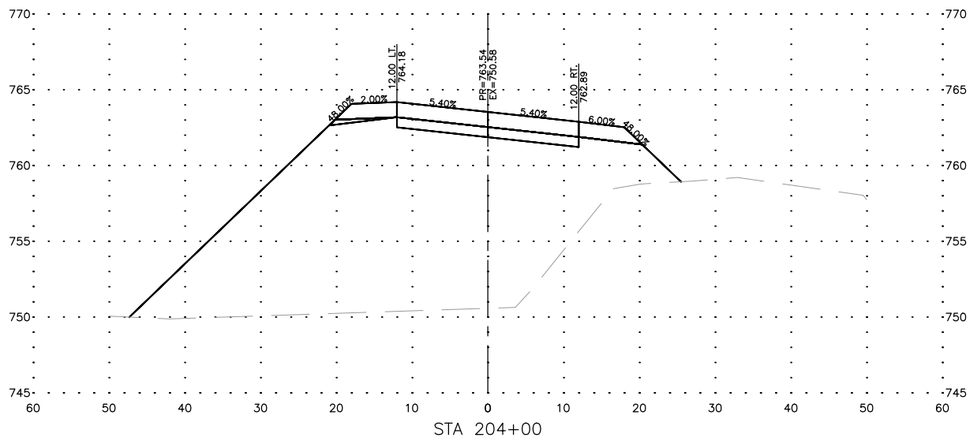
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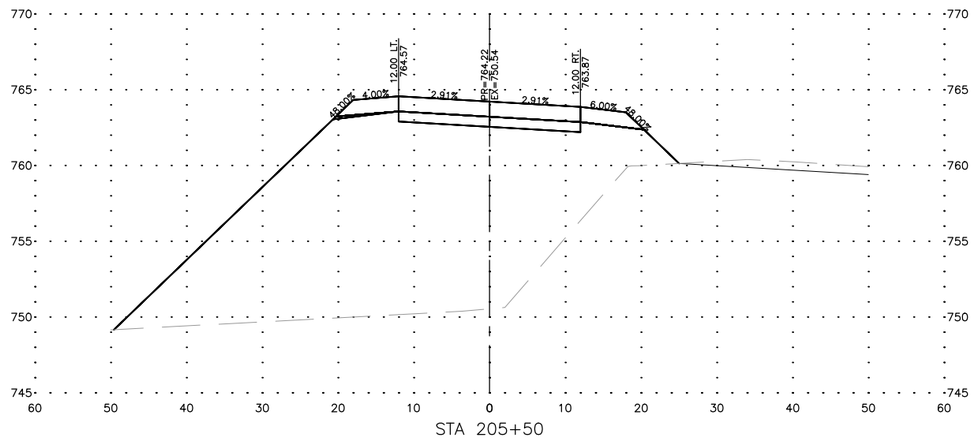
STA 204+25



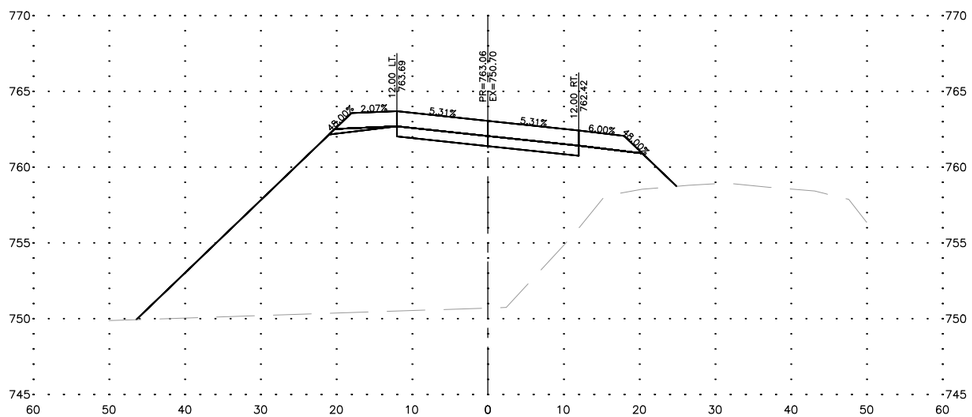
STA 205+75



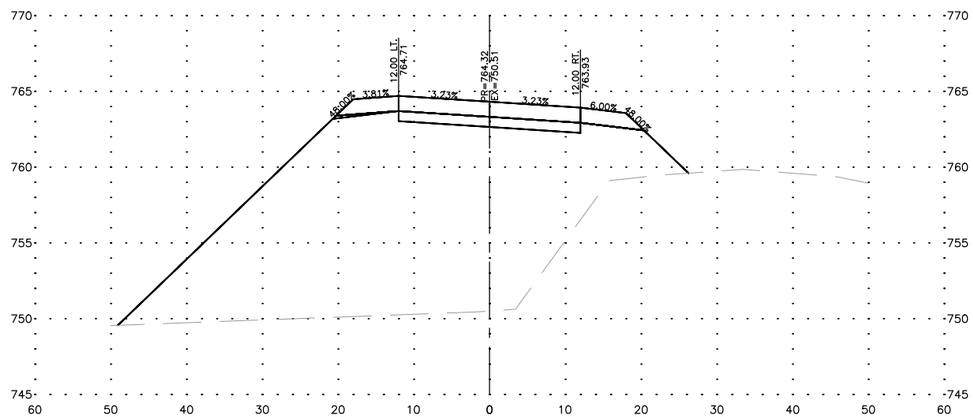
STA 204+00



STA 205+50



STA 203+75



STA 204+50

SCALE
HOR 10 0 10 20
VER 5 0 5 10

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ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
CROSS SECTIONS – BIG FOOT ROAD

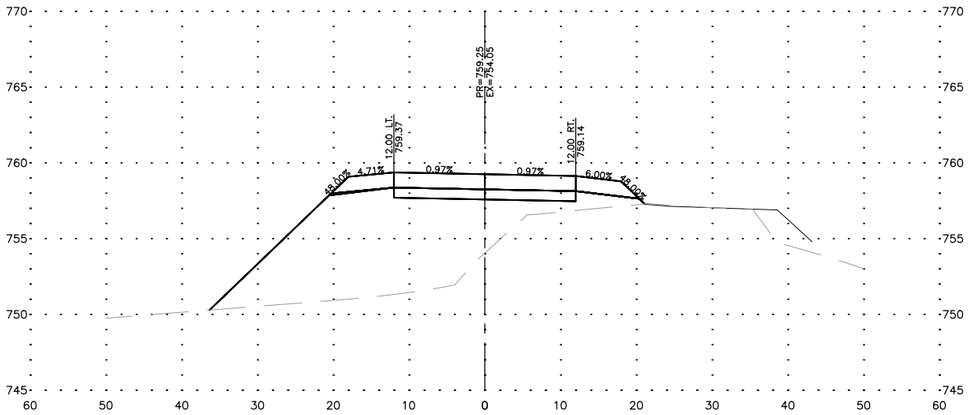
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JOB NUMBER:
21-749

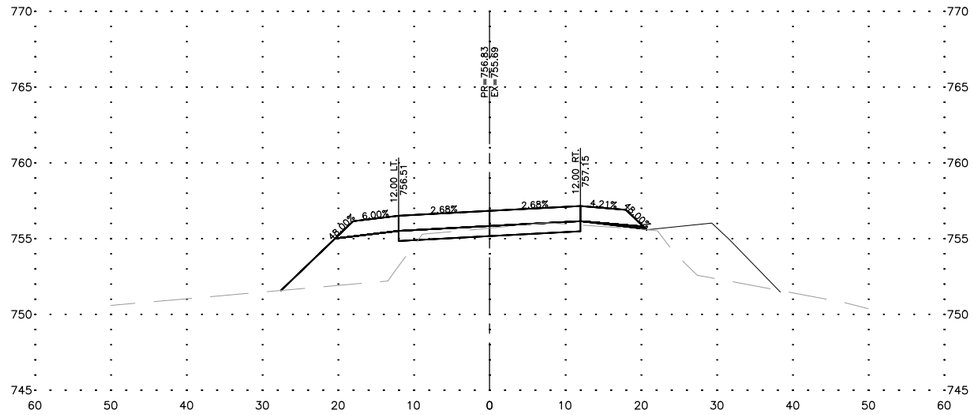
SHEET NUMBER:
W.03

PLOT DATE: 8/18/26

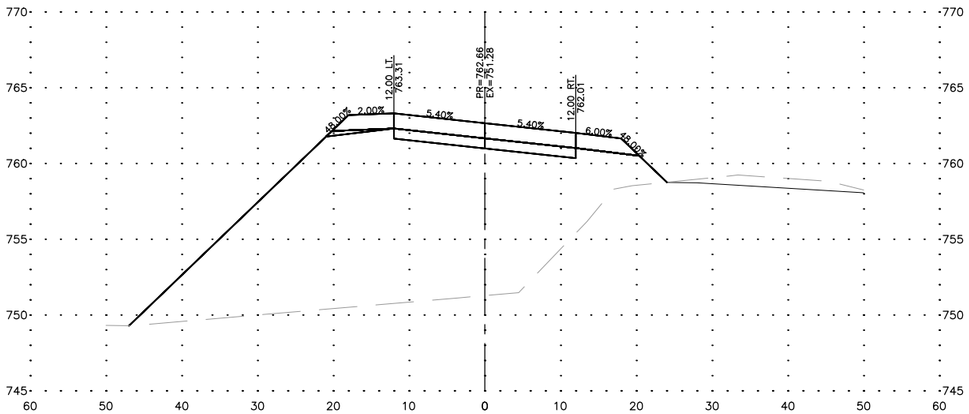
© 2026 FEHR GRAHAM



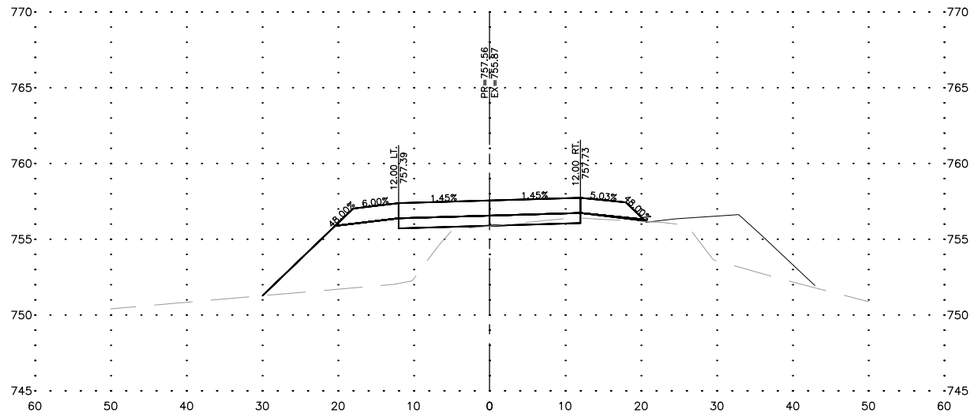
STA 207+25



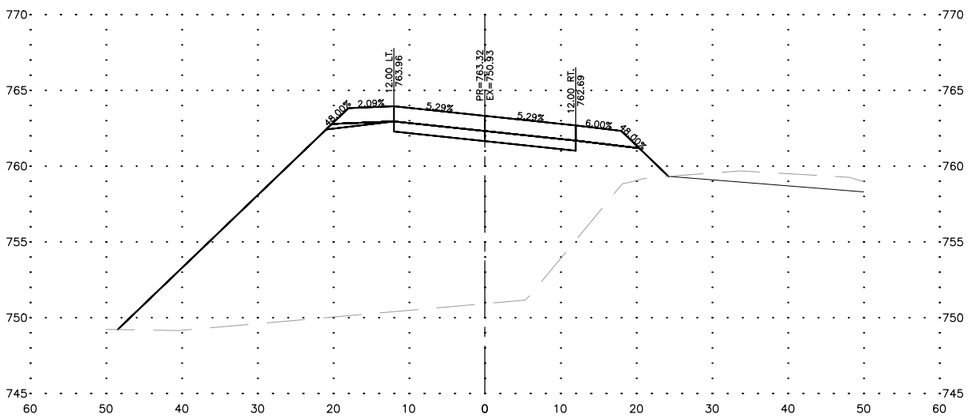
STA 208+00



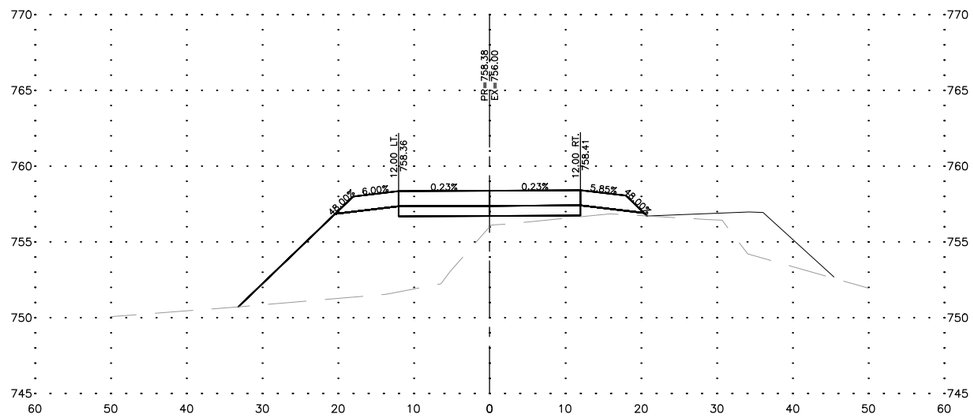
STA 206+25



STA 207+75



STA 206+00



STA 207+50

SCALE
HOR 10 0 10 20
VER 5 0 5 10

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OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
CROSS SECTIONS – BIG FOOT ROAD

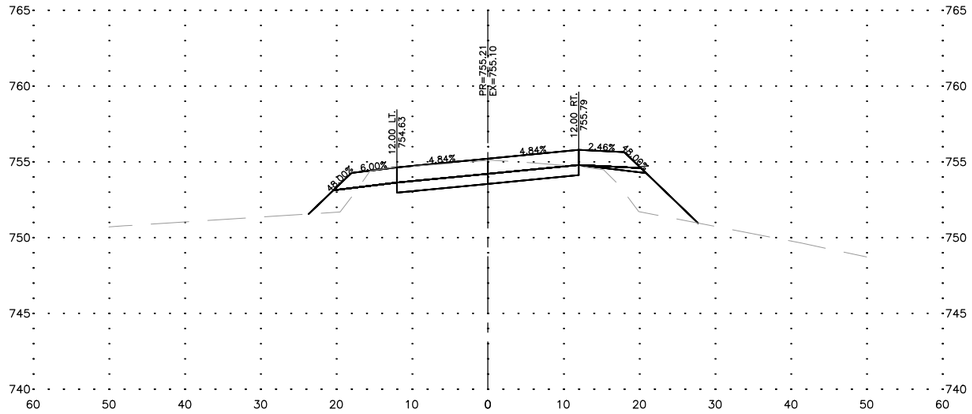
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JOB NUMBER:
21-749

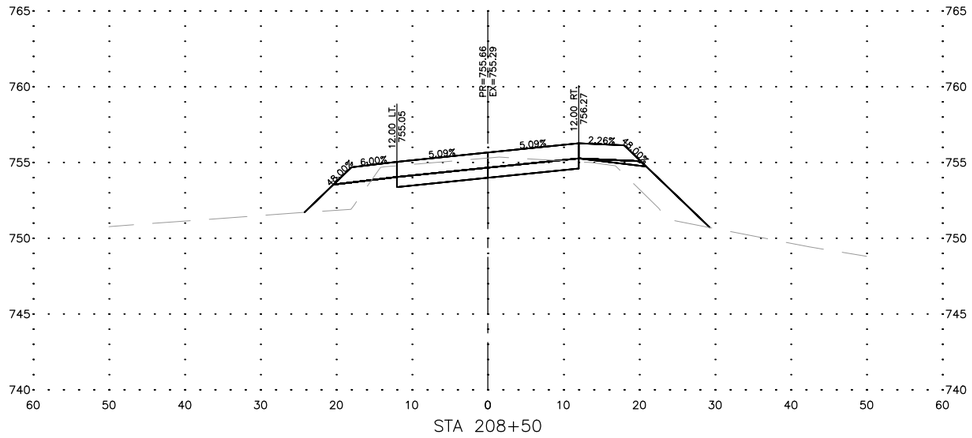
SHEET NUMBER:
W.04

PLOT DATE: 8/18/26

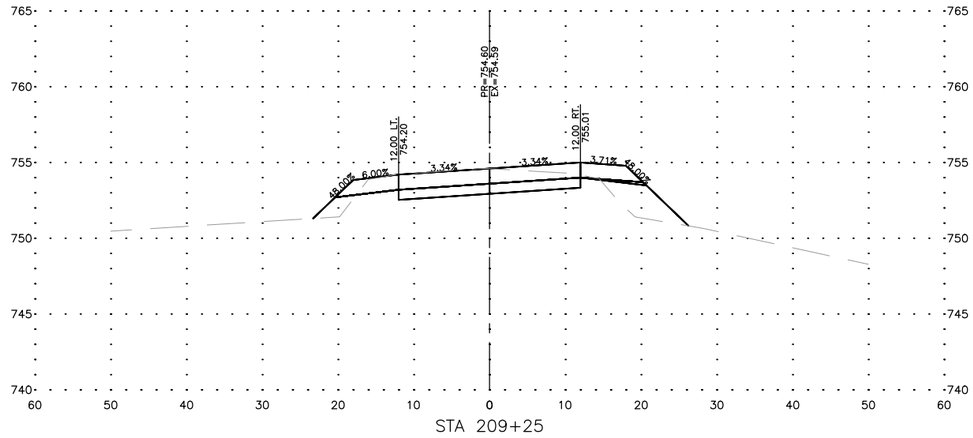
© 2026 FEHR GRAHAM



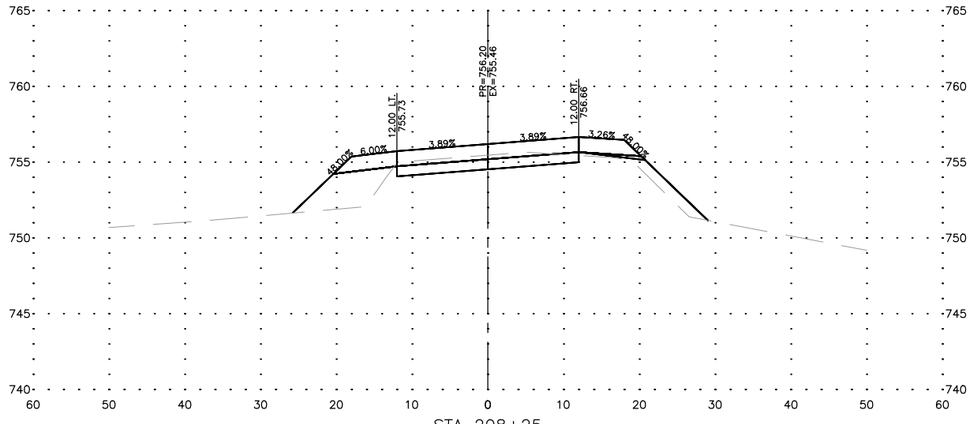
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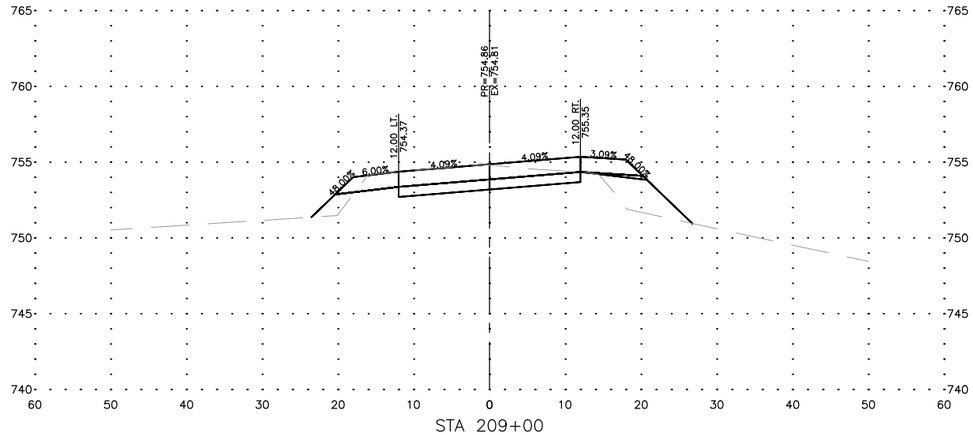
STA 208+50



STA 209+25



STA 208+25



STA 209+00

SCALE
HOR 10 0 10 20
VER 5 0 5 10

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ILLINOIS
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OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
CROSS SECTIONS – BIG FOOT ROAD

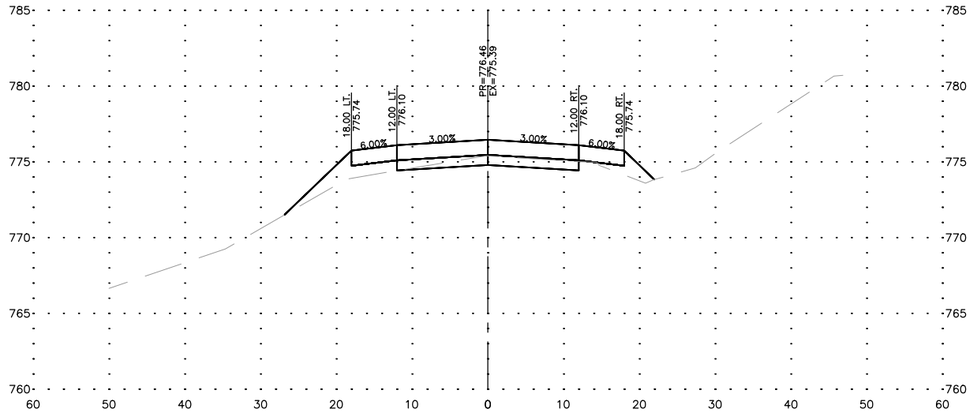
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JOB NUMBER:
21-749

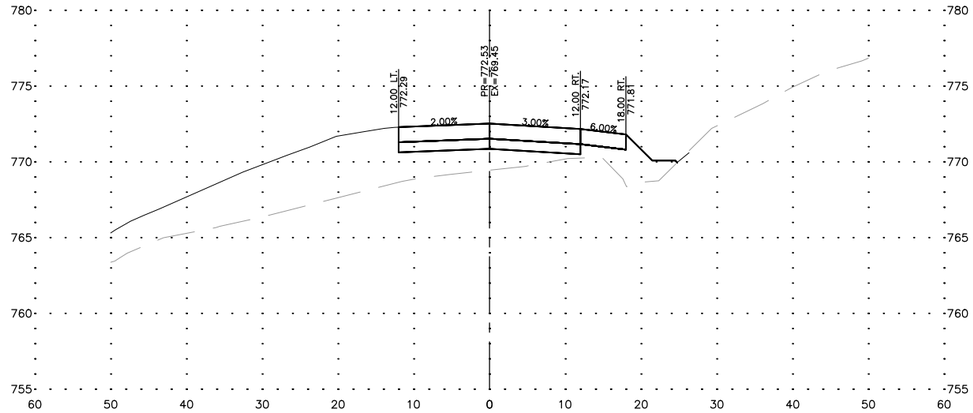
SHEET NUMBER:
W.05

PLOT DATE: 8/18/26

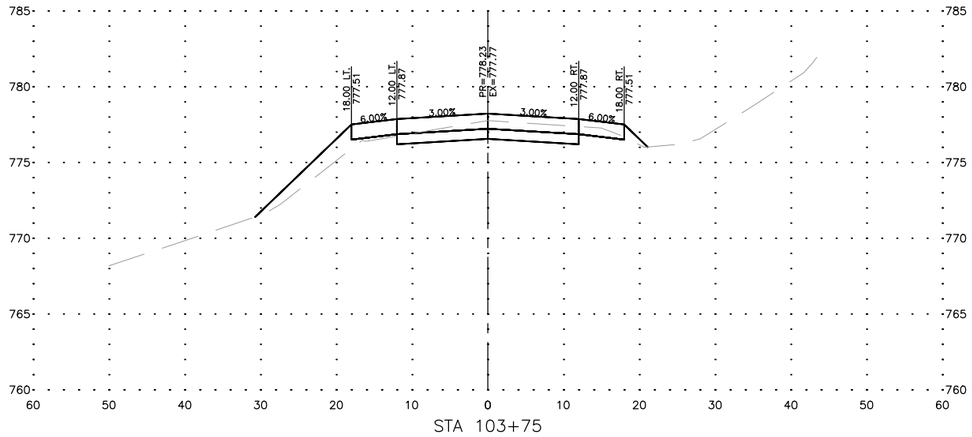
© 2026 FEHR GRAHAM



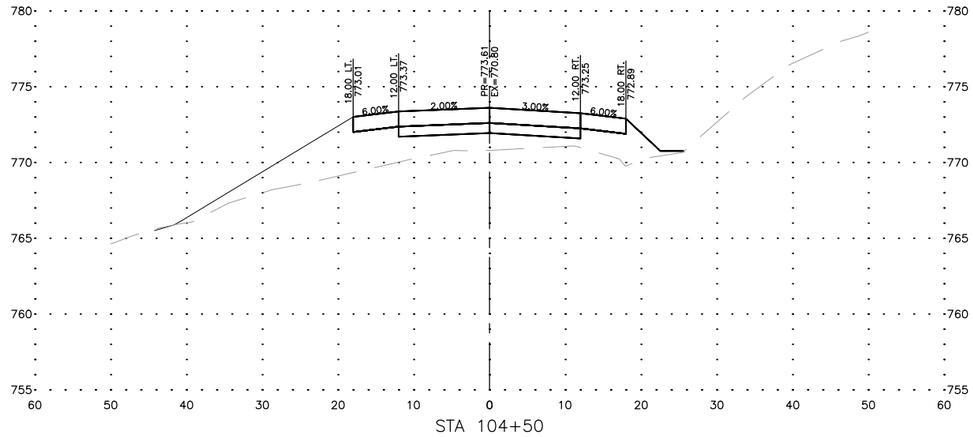
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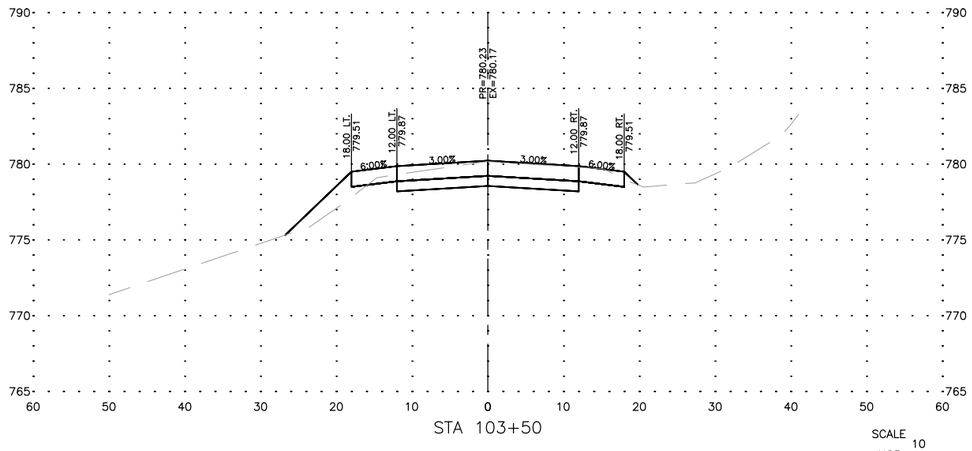
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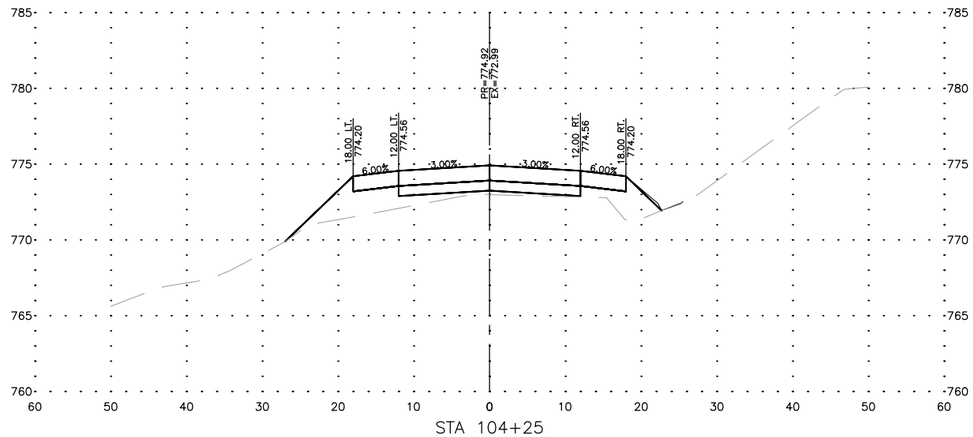
STA 103+75



STA 104+50



STA 103+50



STA 104+25

SCALE
HOR 10 0 10 20
VER 5 0 5 10

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OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
CROSS SECTIONS – DEER ROAD & SUTTLE CREEK ROAD

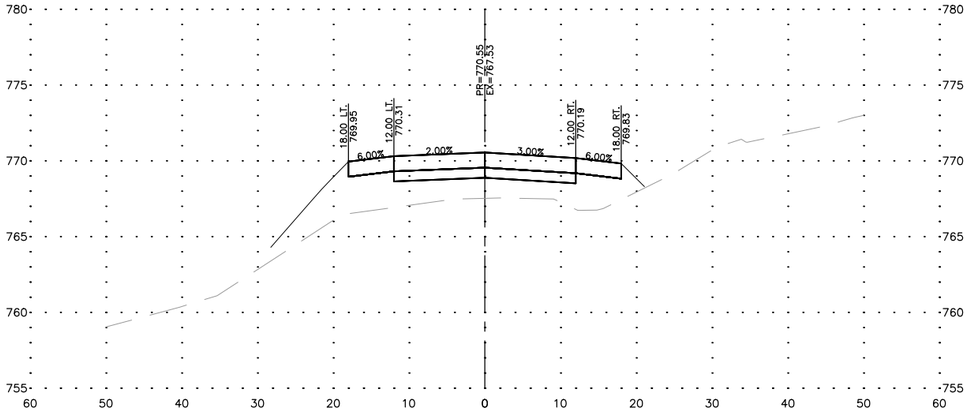
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JOB NUMBER:
21-749

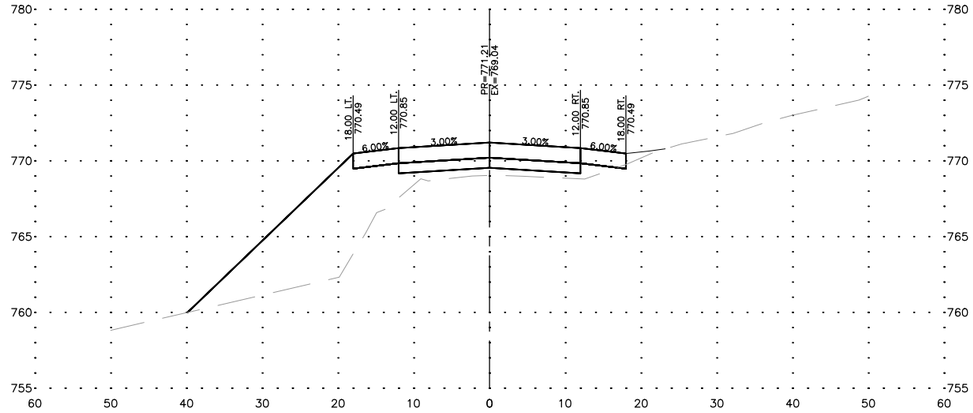
SHEET NUMBER:
W.06

PLOT DATE: 8/18/26

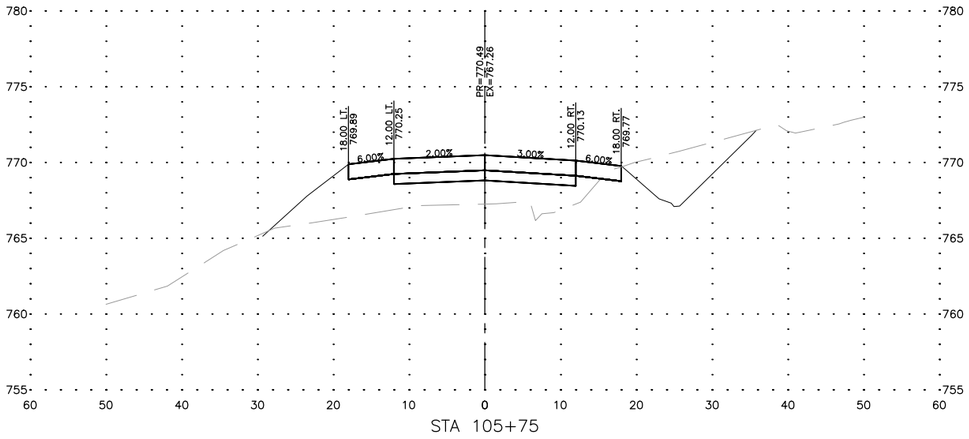
© 2026 FEHR GRAHAM



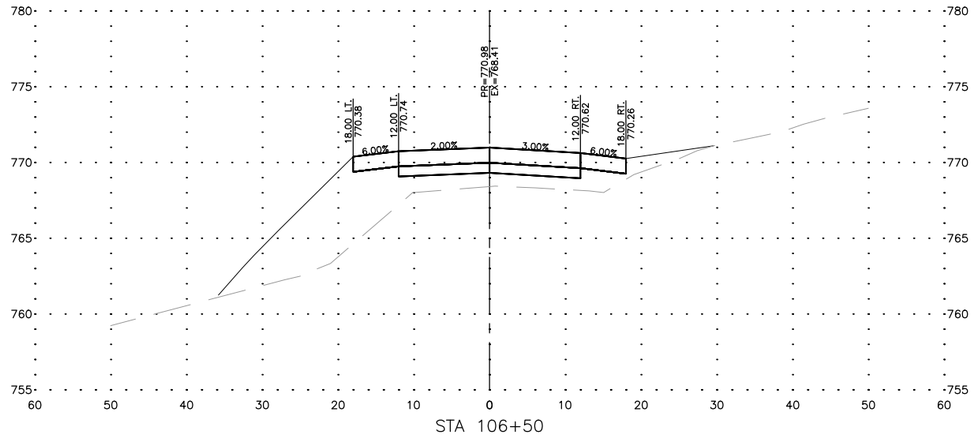
STA 106+00



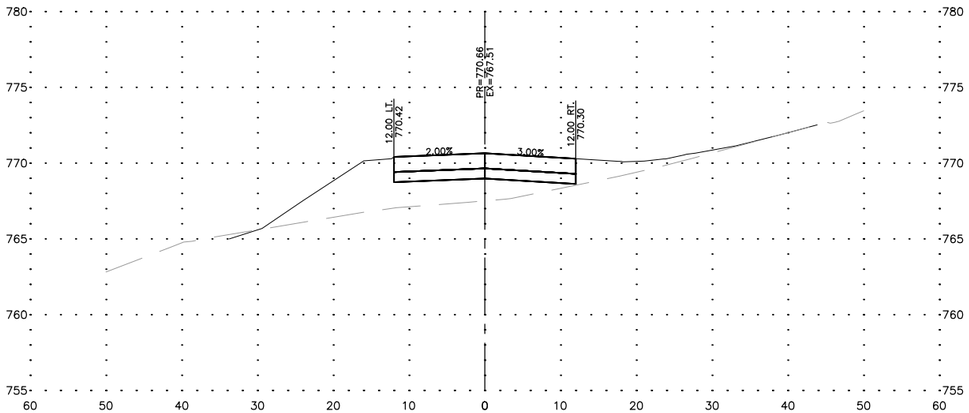
STA 106+75



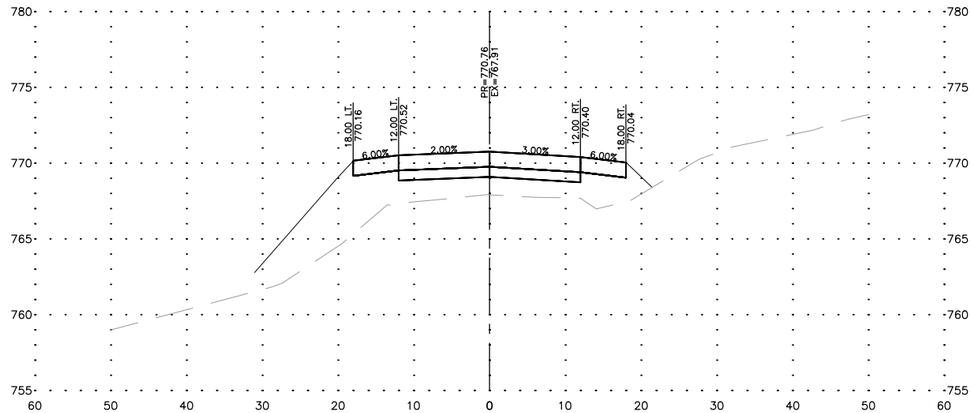
STA 105+75



STA 106+50



STA 105+50



STA 106+25

SCALE
HOR 10 0 10 20
VER 5 0 5 10

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ILLINOIS
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OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
WAUKON, IOWA 52172

PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
CROSS SECTIONS – DEER ROAD & SUTTLE CREEK ROAD

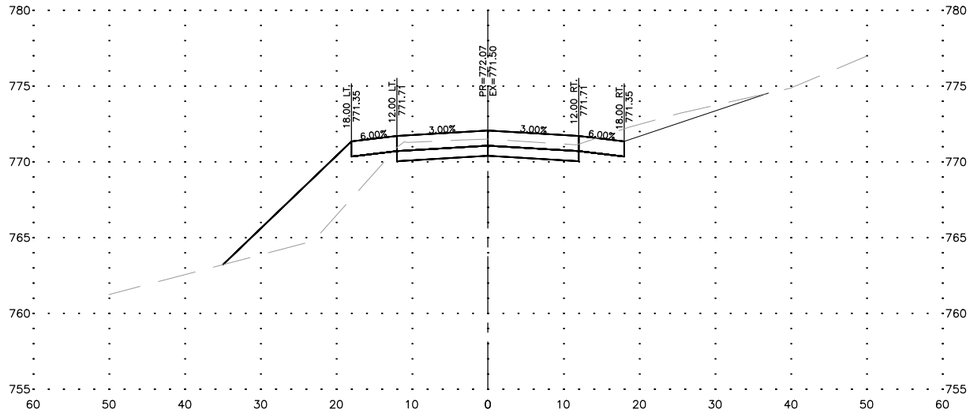
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JOB NUMBER:
21-749

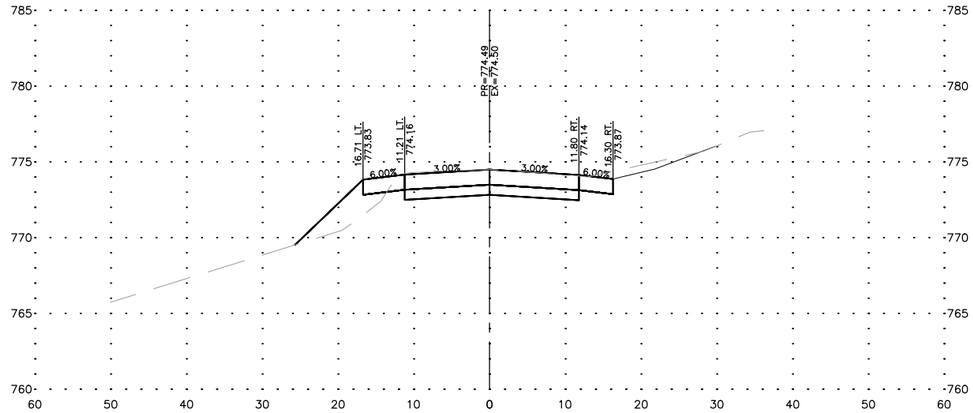
SHEET NUMBER:
W.07

PLOT DATE: 8/18/26

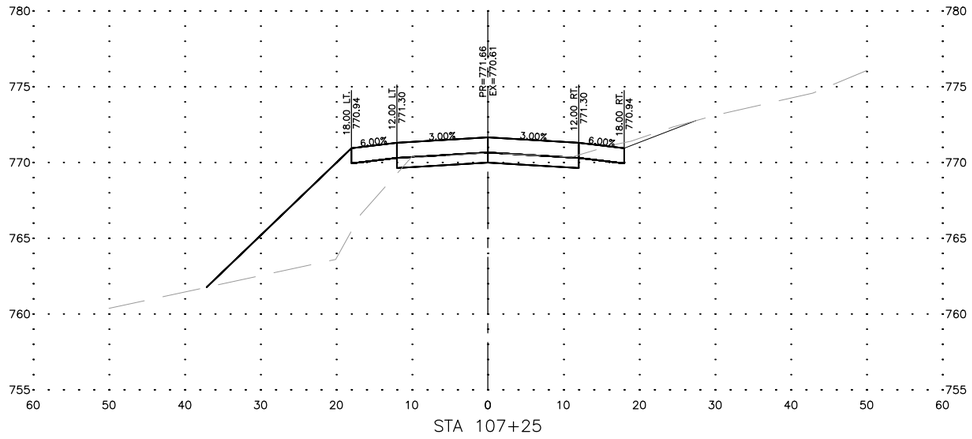
© 2026 FEHR GRAHAM



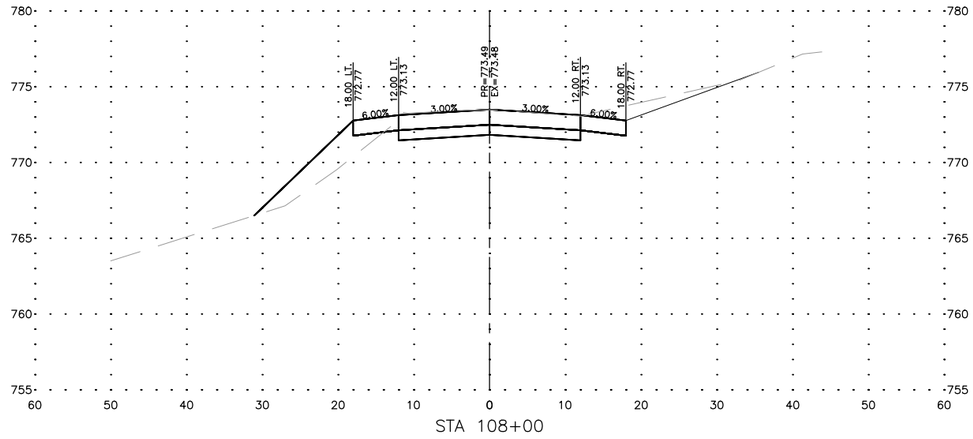
STA 107+50



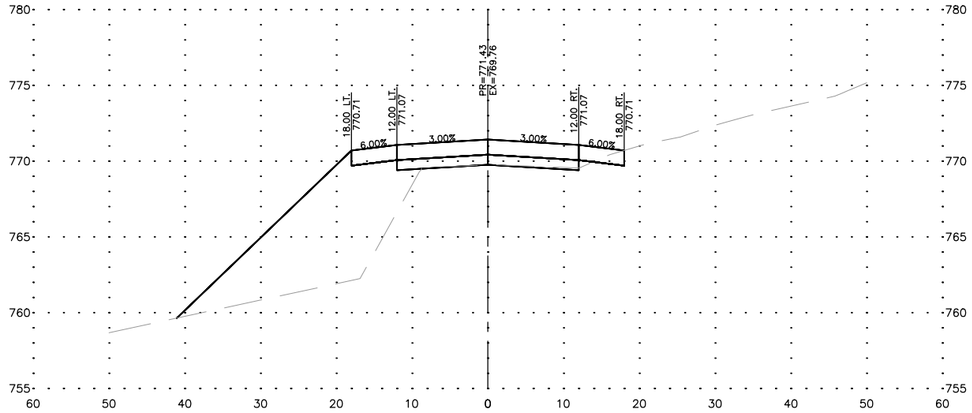
STA 108+25



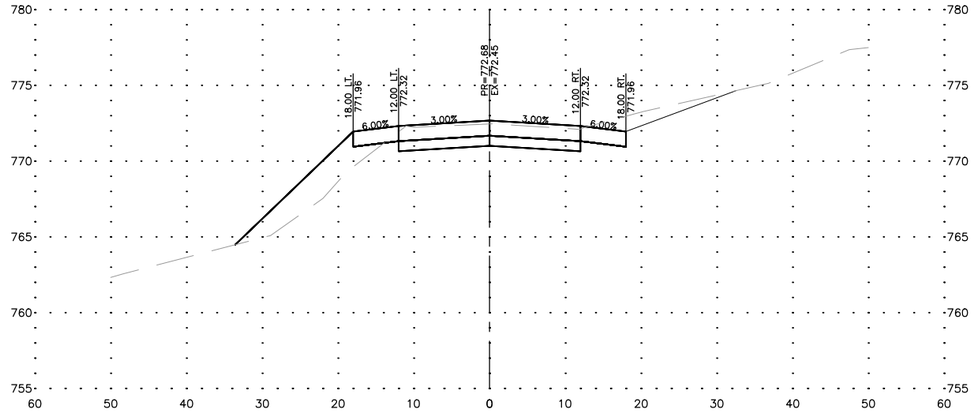
STA 107+25



STA 108+00



STA 107+00



STA 107+75

SCALE
HOR 10 0 10 20
VER 5 0 5 10

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ILLINOIS
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OWNER/DEVELOPER:
ALLAMAKEE COUNTY
870 FOURTH STREET NW
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PROJECT AND LOCATION:
18B1 BRIDGE REPLACEMENT
VOLNEY, IOWA
ALLAMAKEE COUNTY
BROSCHBP-C003(69)--NC-03

DRAWN BY: AFE
APPROVED BY: RMW
DATE: 8/14/2026
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
CROSS SECTIONS – DEER ROAD & SUTTLE CREEK ROAD

SET TYPE: FINAL
G:\C3D\21\21-749 Suttle Creek Rd Bridge\21-749 Design.dwg, W.08

JOB NUMBER:
21-749

SHEET NUMBER:
W.08

PLOT DATE: 8/18/26

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