

SECTION 404 PERMIT AND CONDITIONS

CONSTRUCT THIS PROJECT ACCORDING TO THE REQUIREMENTS OF U.S. ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT NO. 14. THE U.S. ARMY CORPS OF ENGINEERS RESERVES THE RIGHT TO VISIT THE SITE WITHOUT PRIOR NOTICE.

PERMIT

This project is covered by the Iowa Department of Natural Resources NPDES General Permit #2. The contractor shall carry out the terms and conditions of general permit #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.

Standard Road Plan Tabulation found on sheet C2.



TABULATION OF UTILITIES

UTILITY COMPANY	CONTACT PERSON	PHONE NO.	CONTACT EMAIL
Liberty Comm.	Brian Langley	319-627-0214	langley@corp.lcom.net
Alliant Energy	Field Engineer	800-255-4268	locate_IPL@alliantenergy.com
Verizon	Investigations	469-886-4090	investigations@verizon.com
Magellan	Bryan Ferguson	918-574-7098	onecallgroup@magellanlp.com



HIGHWAY DIVISION
PLANS OF PROPOSED IMPROVEMENT ON THE
SECONDARY ROAD SYSTEM
CEDAR COUNTY, IOWA
BRIDGE REPLACEMENT - CCS
BROS-C016(124)--8J-16

ON 280th STREET, OVER MIDDLE BR WAPSINONOC CR, S03 T79 R04
SPRINGDALE TOWNSHIP

80'0"X30'6" CONTINUOUS CONCRETE SLAB BRIDGE - 0° SKEW

Refer to the Proposal Form for List of Applicable Specifications

Scales: As Noted

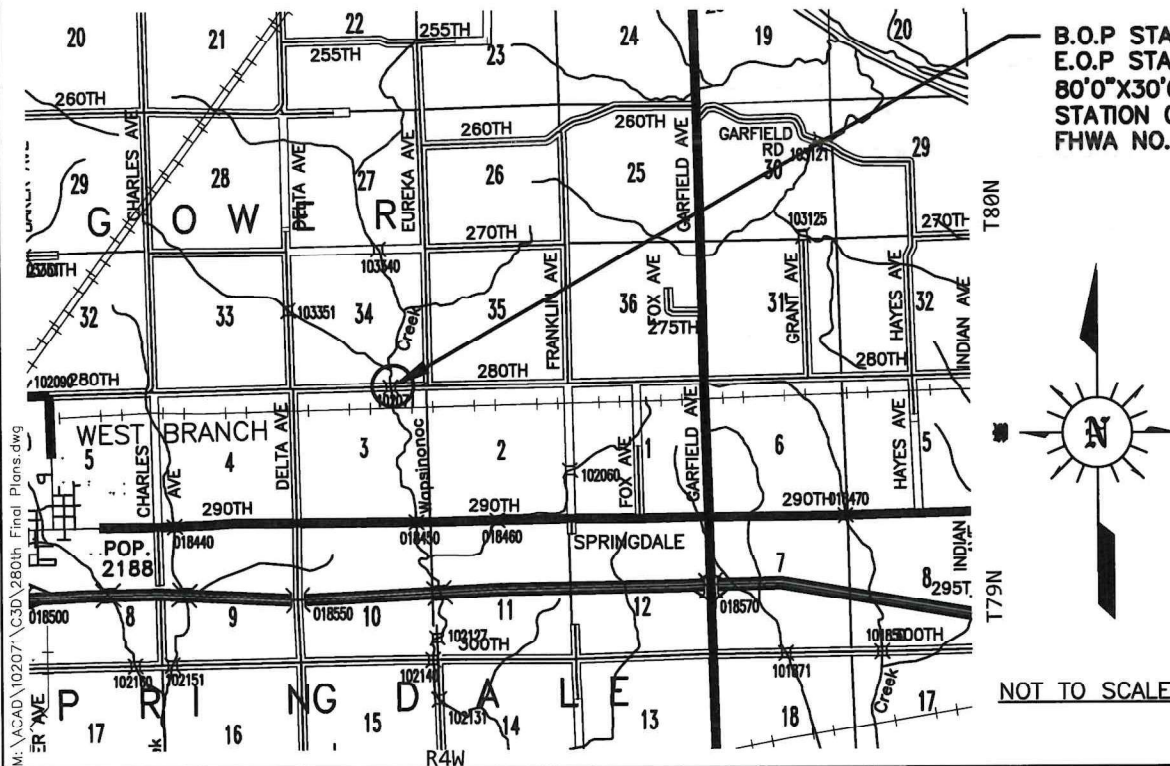
TRAFFIC CONTROL PLAN

THIS ROAD WILL BE CLOSED TO THROUGH TRAFFIC DURING CONSTRUCTION. LOCAL TRAFFIC ADJACENT PROPERTIES WILL BE MAINTAINED AS PROVIDED FOR IN ARTICLE 1107.08 2023 STANDARD SPECIFICATIONS PLUS CURRENT SUPPLEMENTAL SPECIFICATIONS. TRAFFIC CONTROL DEVICES, PROCEDURES, LAYOUTS, SIGNING AND PAVEMENT MARKINGS INSTALLED WITHIN THE LIMITS OF THIS PROJECT SHALL CONFORM 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.

108-23A
08-01-08

DESIGN DATA RURAL

2018 AADT	25	V.P.D.
2038 AADT	32	V.P.D.
2042 DHV		V.P.H.
TRUCKS		%
Total		
Design ESALs	NA	



	8/4/26	DATE
JON BELL, CHAIRPERSON		
	8-4-26	DATE
MIKE BIXLER		
	8-4-26	DATE
JEFF KAUFMANN		
	8-4-26	DATE
BRAD GAUL		
	8-4-26	DATE
BRUCE BARNHART		
Approved Cedar County Board of Supervisors		

NOT TO SCALE

PROJECT NO. BROS-C016(124)--8J-16

23 SHEETS

INDEX OF SHEETS

SHEET	DESCRIPTION
A.1	TITLE SHEET
B.1	TYPICAL CROSS SECTIONS
C.1-C.5	ESTIMATED PROJECT QUANTITIES, BID NOTES, STANDARD ROAD PLAN TABULATIONS, CLEARING & GRUBBING, GENERAL TABULATION, AND POLLUTION PREVENTION PLAN
D.1	PLAN & PROFILE
V.1	BRIDGE ELEV.
V.2	DECK ELEVATIONS
V.3	PILE NOTES & BORING LOGS
V.4	BORING LOGS
W.1-W.11	CROSS SECTIONS

MILEAGE SUMMARY

Div.	Location	Lin. Ft.	Miles
	STA. 0+85 TO STA. 9+50	~865	0.16

DRAWING APPROVAL

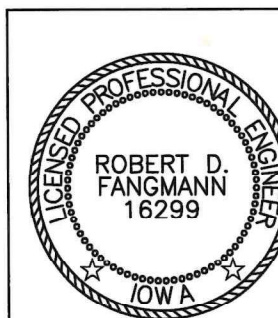
ALL SHOP DRAWINGS AND FALSEWORK DRAWINGS THAT REQUIRE APPROVAL SHALL BE SUBMITTED TO AND APPROVED BY THE CONTRACTOR, WHO SHALL THEN SUBMIT THEM TO THE CEDAR COUNTY ENGINEER'S OFFICE FOR REVIEW AND APPROVAL.

CONTACT: County Engineer 400 CEDAR STREET
TIPTON, IA 52772
PH: 563-886-6102

BRIDGE STANDARDS

(May be obtained at Bridge Design Services)

Standard	Date Issued	Latest Revision	Standard	Date Issued	Latest Revision
J30-01-06	11/2006	09/2020	J30-39-06	11/2006	09/2020
J30-1A-06	11/2006	09/2020	J30-43-06	11/2006	09/2020
J30-04E-06	11/2006	09/2020	J30-44-06	11/2006	09/2020
J30-05E-06	11/2006	09/2020	J30-45-06	11/2006	09/2020
J30-20-06	11/2006	09/2020	J30-47-06	12/2008	09/2020
J30-21-06	11/2006	09/2020	LRFD TRESTLE PILE BENTS - P10L		06-2025
J30-23-06	11/2006	09/2020			
J30-24-06	11/2006	09/2020			
J30-34-06	11/2006	09/2020			



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.

Robert D. Fangmann
date 8/4/2026

License number 16299
My license renewal date is December 31, 2027

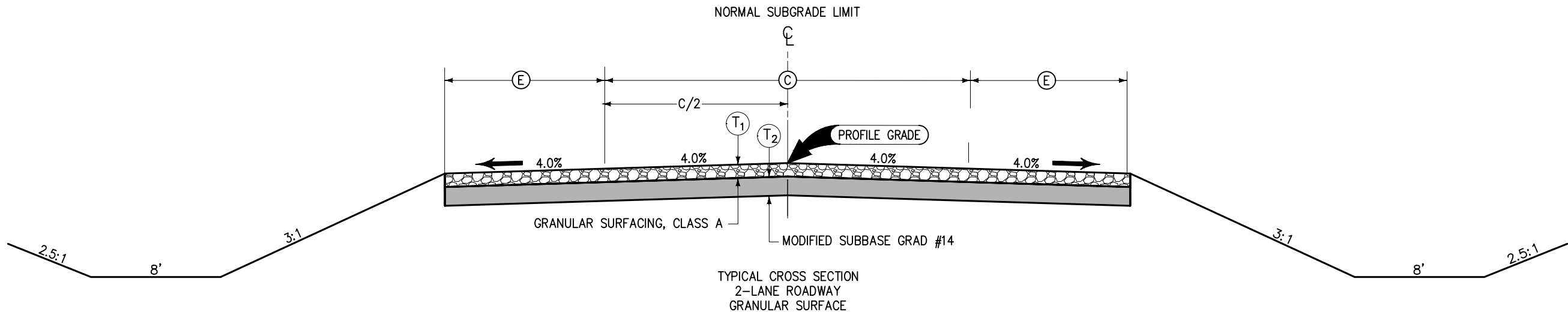
Pages or sheets covered by this seal:
A.1, B.1, C.1-C.5, D.1, V.1, V.2
V.3, V.4, W.1-W.11

LETTING DATE: NOVEMBER 17, 2026

FHWA NO. 102071

CEDAR COUNTY

PROJECT NUMBER	STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
BROS-C016(124)--8J-16	IOWA	7	2027	A1	23



NOTE:
NORMAL SECTIONS SHOWN MAY BE
APPROPRIATELY MODIFIED FOR AREAS
SPECIFICALLY DESIGNATED BY THE
ENGINEER SUCH AS INTERSECTIONS OR
SUPERELEVATED CURVES.

LOCATION			(C)	(T ₁)	(T ₂)	(E)	SHOULDER TYPE	REMARKS
ROAD IDENTIFICATION	STATION TO STATION		Feet	Inches	Inches	Feet		
280TH STREET	0+85	1+35	20	VARIES	—	4	GRANULAR	*TAPER CLASS A TO 0"
280TH STREET	1+35	1+50	20	6	—	4	GRANULAR	SEE W SHEETS
280TH STREET	1+50	3+66	20	6	8	4	GRANULAR	SEE W SHEETS**
280TH STREET	3+66	BRIDGE	20	6	8	VARIES	GRANULAR	SEE W SHEETS**
280TH STREET	BRIDGE	06+96	20	6	—	VARIES	GRANULAR	SEE W SHEETS
280TH STREET	06+96	9+00	20	6	—	4	GRANULAR	SEE W SHEETS
280TH STREET	06+96	9+50	20	VARIES	—	4	GRANULAR	*TAPER CLASS A TO 0"

**SEE TABULATION "GRADING FOR GUARDRAIL INSTALLATIONS" ON SHEET C2 AND CROSS SECTIONS ON W SHEETS FOR
ADDITIONAL INFO. GRANULAR SURFACING SHALL BE 28 FT. EXCEPT IN AREAS OF GUARDRAIL BLISTERS WHERE IT SHALL
EXTEND BEHIND THE GUARDRAIL. DITCH BOTTOMS SHALL BE 8 FT UNLESS SHOWN OTHERWISE.
MODIFIED SUBBASE AND CLASS A CRUSHED STONE SHALL EACH BE PLACED IN 2 OR MORE LIFTS AND SHALL BE
COMPACTED UTILIZING A SMOOTH DRUM ROLLER.

7/30/2026 8:18 AM
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ESTIMATED PROJECT QUANTITIES				10.0
Item No.	Item Code	Item	Unit	Quantities
				Estimated
				Division 1
1	2102-2710070	EXCAVATION, CL 10, RDWY+BORROW	CY	1157.0
2	2104-2710020	EXCAVATION, CL 10, CHANNEL	CY	1014.0
3	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	778.0
4	2312-8260051	GRANULAR SURFACING ON ROAD, CLASS A CRUSHED	TON	490.0
5	2315-8275025	SURFACING, DRIVEWAY, CLASS A CRUSHED STONE	TON	60.0
6	2401-6745625	REMOVAL OF EXISTING BRIDGE	LS	1.0
7	2402-2720000	EXCAVATION, CL 20	CY	135.0
8	2403-0100010	STRUCTURAL CONCRETE (BRIDGE)	CY	174.0
9	2404-7775005	REINFORCING STEEL, EPOXY COATED	LB	46604.0
10	2414-6424124	CONCRETE OPEN RAILING TL-4	LF	222.2
11	2417-0225018	APRONS, METAL, 18 IN. DIA.	EACH	4.0
12	2417-1040018	CULVERT, CORRUGATED METAL ENTRANCE PIPE, 18 IN.DIA	LF	120.0
13	2501-0201042	PILE, STEEL, HP 10X42	LF	790.0
14	2501-5478042	CONC ENCASE STEEL H PILE, HP 10X42(P10L)	LF	490.0
15	2505-4008300	STEEL BEAM GUARDRAIL	LF	50.0
16	2505-4008420	STEEL BEAM G'RAIL BARRIER TRANSITION SECTION, BA-221	EACH	4.0
17	2505-4021010	STEEL BEAM G'RAIL END ANCHOR, BOLTED	EACH	4.0
18	2505-4021722	STEEL BEAM G'RAIL TNGNT END TERM, BA-225	EACH	4.0
19	2507-3250005	ENGINEERING FABRIC	SY	219.0
20	2507-6800061	REVTMENT, CLASS E	TON	764.0
21	2519-4200140	REMOVAL OF FENCE, FIELD	LF	567.0
22	2528-2518000	SAFETY CLOSURE	EACH	2.0
23	2528-8445110	TRAFFIC CONTROL	LS	1.0
24	2533-4980005	MOBILIZATION	LS	1.0
25	2599-9999020	TONS ITEM - MODIFIED SUBBASE	TON	444.3
26	2601-2634100	MULCHING	ACRE	3.0
27	2601-2636043	SEED+FERTILIZE (RURAL)	ACRE	1.5
28	2601-2642100	STABILIZE CROP - SEED+FERTLIZE	ACRE	1.5
29	2602-0000050	SILT BASIN	EACH	4.0
30	2602-0000080	REMOVAL OF SILT BASINS	EACH	4.0
31	2602-0000312	PERIMETER & SLOPE SEDIMENT CNTRL DEVIC, 12"	LF	1160.0
32	2602-0000351	REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE	LF	400.0
33	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	3.0
34	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	1.0

ESTIMATE REFERENCE INFORMATION		10.1
Item No.	DESCRIPTION	
1	A 30% SHRINKAGE FACTOR HAS BEEN APPLIED TO FILL VOLUMES. TYPE "A" COMPACTION WILL BE REQUIRED ON ALL EMBANKMENTS. CONTRACTOR IS TO WASTE EXCESS MATERIAL UNSUITABLE TO BE INCORPORATED INTO THE PROJECT OFFSITE AT A LOCATION APPROVED BY THE ENGINEER. ITEM SHALL INCLUDE COST OF WASTING UNSUITABLE SOIL OFFSITE. THE CONTRACTOR SHALL FAMILIARIZE THEMSELF WITH PROVISIONS OF IOWA LAW AS IT APPLIES TO REMOVAL AND REPLACEMENT OF TOPSOIL IN BORROW AREAS. SEE SHEET D.1 FOR EXCAVATION SUMMARY.	
2	SEE TABULATION ON SHEET D.1 FOR BREAKDOWN OF EXCAVATION QUANTITIES. INCLUDES COST TO CLEAR THE CHANNEL TO THE SHAPE, DEPTH AND EXTENT SHOWN ON SHEETS V.1 AND D.1. INCLUDES COST OF UTILIZING SUITABLE MATERIAL FOR CONSTRUCTION ELSEWHERE ON THIS PROJECT. SUITABLE SOILS SHALL BE AS DEFINED BY ARTICLE 2102.02,D,2 OF THE STANDARD SPECIFICATIONS. ITEM INCLUDES 876 CY OF WASTE. CONTRACTOR IS TO WASTE EXCESS MATERIAL NOT INCORPORATED INTO THE PROJECT OFFSITE AT A LOCATION APPROVED BY THE ENGINEER.	
3	IN ORDER TO MEET NPDES REQUIREMENTS TOPSOIL STRIP, SALVAGE, AND SPREAD SHALL BE REQUIRED ON THIS PROJECT. QUANTITY PERTAINS TO WORK WITHIN THE PROJECT LIMITS. TOPSOIL SHALL BE STRIPPED FROM WITHIN THE PROJECT LIMITS AND SPREAD UNIFORMLY (MIN. 4" DEPTH) OVER ALL AREAS THAT ARE NOT COVERED BY PAVEMENT OR GRANULAR MATERIAL. AREAS SHALL BE UNDERCUT PRIOR TO PLACING TOPSOIL. CROSS-SECTIONS SHOW FINISHED GRADELINE. THE CONTRACTOR IS TO FAMILIARIZE THEMSELF WITH THE IOWA LAW AS IT PERTAINS TO REMOVAL AND REPLACEMENT OF TOPSOIL WITHIN THE PROJECT AREA.	
4	INCLUDES GRANULAR SURFACING FOR GUARDRAIL BLISTERS. SURFACING TO BE FURNISHED AND PLACED BY THE CONTRACTOR IN TWO LIFTS. SEE SHEET B.1 FOR DETAILS. MATERIAL TO BE COMPACTED UTILIZING SMOOTH DRUM ROLLER.	
5	TO BE UTILIZED FOR ENTRANCES AT STATION 07+05 LT & RT. SEE SHEET D1 FOR DETAILS AND LOCATION.	
6	STA. 05+28 43'X16" 48 x 18.5 FT STEEL STRINGER/MULTI BEAM BRIDGE/TIMBER PILE. CONTRACTOR TO REMOVE STRUCTURE INCLUDING ANY DEADMEN. THE STRUCTURE SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE MOVED OFFSITE. SEE SHEET C2 FOR DETAILS. AN INPSECTION FOR THE PRESENCE OF ASBESTOS CONTAINING MATERIALS WAS COMPLETED AND NO SUSPECT MATERIALS WERE FOUND. IF MATERIALS SUSPECTED OF CONTAINING ASBESTOS ARE DISCOVERED DURING DEMOLITION OF THE BRIDGE, WORK SHALL BE STOPPPED IMMEDIATELY AND THE ENGINEER NOTIFIED. STRUCTURE SHALL BE REMOVED TO AN ELEVATION AT LEAST 2 FEET BELOW FINISHED CHANNEL GRADE OR 6 FEET BENEATH FINISHED ROADWAY AND TO THE EXTENT THAT IT WILL NOT INTERFERE WITH THE NEW CONSTRUCTION. CONTRACTOR TO SALVAGE AND STOCKPILE SIGNS TO BE PICKED UP BY COUNTY CREWS.	
7	SEE SHEET D.1 FOR BREAKDOWN OF EXCAVATION QUANTITIES. INCLUDES COST OF USING SUITABLE MATERIAL FOR CONSTRUCTION ELSEWHERE ON THIS PROJECT. SUITABLE SOILS SHALL BE AS DEFINED BY ARTICLE 2102.02,D,2 OF THE STANDARD SPECIFICAIONS. MATERIAL NOT SUITABLE TO BE INCORPORATED INTO THE PROJECT SHALL BE WASTED OFFSITE AT A LOCATION APPROVED BY THE ENGINEER. SEE SHEET C2 FOR DISPOSAL OF CLASS 20 EXCAVATION AND SHEET V1 FOR LIMITS.	
8	INCLUDES THE COST OF FURNISHING AND PLACING SUBDRAINS PER STANDARD J30-45-06 INCLUDING EXCAVATION AND BACKFILL MATERIAL AT ABUTMENTS. BACKFILL BEHIND ABUTMENTS IS TO BE AS PER BRIDGE STANDARD J30-47-06. NO ADDITIONAL PAYMENT WILL BE ALLOWED FOR HEATING AND PROTECTION OF CONCRETE IF NECESSARY. CERTIFIED PLANT INSPECTON IS REQUIRED. ARCTICLE 2428 REGARDING BRIDGE DECK SMOOTHNESS DOES NOT APPLY. CLASS F FLY ASH WILL NOT BE ALLOWED.	
9	ALL REINFORCING STEEL SHALL BE GRADE 60 AND EPOXY COATED.	
10	CERTIFIED PLANT INSPECTION REQUIRED. ALL STRUCTURAL CONCRETE FOR THE RAIL IS TO BE CLASS C. SUBSTITUTION OF CLASS D CONCRETE IS NOT ALLOWED. NO ADDITIONAL PAYMENT WILL BE ALLOWED FOR HEATING AND PROTECTION OF CONCRETE, IF NECESSARY. ALL FALSEWORK SHALL BE DROPPED PRIOR TO POURING THE OPEN RAILING.	
11-12	INSTALLATION OF CULVERTS & APRONS AT STA. 07+05 LT & RT (ENTRANCE). SEE SHEETS C2 AND D1 FOR DETAILS. INCLUDES REMOVAL AND DISPOSAL OF EXISTING PIPE AND NECESSARY EXCAVATION TO INSTALL NEW PIPE	
13	INCLUDES: 10-HP10X42 @ 30' (EAST AND WEST ABUTMENTS) AND 14 -HP10X42 @ 35' (EAST AND WEST PIERS). W/ PILING POINTS SEE SHEETS V.1 AND V.3 FOR PILING DETAILS.	
14	CERTIFIED PLANT INSPECTION REQUIRED. NO ADDITIONAL PAYMENT WILL BE ALLOWED FOR HEATING AND PROTECTION OF CONCRETE, IF NECESSARY. CAP STEEL IS REQUIRED. PILE ENCASEMENTS SHALL EXTEND A MINIMUM OF 3 FEET BELOW THE STREAMBED. NO FLY ASH SHAL BE USED.	
15-18	SEE TABULATIONS, SHEET C2 AND STANDARD ROAD PLANS.	
19	PLACED UNDER THE REVETMENT AS SHOWN ON SHEET V.1 ONLY IN AREA UNDER BRIDGE. FABRIC UNDER REVETMENT SHALL BE INSTALLED AS SOON AS BERM GRADING IS COMPLETE AS AN EROSION CONTROL MEASURE. LAPS SHALL BE A MINIMUM OF TWO FEET IN LENGTH. SHINGLE FASHION WITH UP SLOPE LAP PIECE ON TOP. THE CONTRACTOR SHALL PROVIDE A MEANS TO SECURE THE LAP DURING THE PLACEMENT OF REVETMENT. IF ENGINEERING FABRIC IS NOT IMMEDIATELY INSTALLED, PERIMETER AND SLOPE CONTROL DEVICE SHALL BE INSTALLED TO PREVENT EROSION INTO THE STREAM.	
20	REVTMENT IS TO BE PLACED AT A THICKNESS OF 2 FEET. SEE TABULATION 100-23 ON SHEET C.3. AND SHEET V1 FOR REVETMENT PLACEMENT LIMITS. BROKEN CONCRETE MAY NOT BE SUBSTITUTED. INCLUDES ARMORING WINGS. ITEM SHALL INCLUDE THE NECESSARY SHAPING/EXCAVATION FOR KEYING IN REVETMENT AS SHOWN IN PLAN AND PROFILE VIEWS.	
21	SEE TABULATION 20.9 ON SHEET C.3 CONTRACTOR SHALL REMOVE ALL MATERIAL OFF SITE	
22-23	SEE STANDARD ROAD PLAN TC-252 SITUATION PLAN 1 (RURAL) AND GENERAL NOTES SHEET C.2 FOR DETAILS. SEE TABULATION 108-13A ON SHEET C.2	
25	MATERIAL SHALL MEET GRADATION 14 (MODIFIED SUBBASE). FOR USE AS PART OF PAVEMENT STRUCTURE AS INDICATED IN THE TYPICAL SECTIONS ON SHEET B.1. STONE PLACED FULL WIDTH TO FORESLOPE, INCLUDING BEHIND GUARDRAIL. CONTRACTOR TO FURNISH AND SPREAD THE MATERIAL AS SHOWN IN THE TYPICAL SECTIONS AND MEASUREMENT AND PAYMENT SHALL BE BY THE TON PLACED AND COMPACTED. AT SOME LOCATIONS ADDITIONAL MODIFIED SUBBASE IS NOT NEEDED WITHIN THE ROADWAY WHERE EXISTING MATERIAL IS ADEQUATE AND THE PROFILE IS NOT CHANGING. MODIFIED SUBBASE SHALL BE PLACED IN LIFTS NO MORE THAN 6 INCHES THICK. MODIFIED SUBBASE SHALL BE COMPACTED WITH A SMOOTH DRUM ROLLER.	
26-28	THE CONTRACTOR IS TO RESHAPE, FERTILIZE, SEED, AND MULCH AREAS DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION.	
29-30	SEE TABULATION 20.7 ON SHEET C.3.	
31-32	SEE TABULATION 20.6 ON SHEET C.3 AND POLLUTION PREVENTION PLAN ON SHEETS C.4-C.5. PERIMETER AND SLOPE SEDIMENT CONTROL DEVICES 12 IN. TO BE UTILIZED AROUND CLASS 10/CLASS 20 STOCKPILES, AND 400 LF TO BE UTILIZED ALONG CHANNEL SLOPES ON NORTH AND SOUTH SIDES OF BRIDGE. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER. 760 LF TO BE UTILIZED AS DITCH CHECKS.	

GENERAL NOTES:									
CONTRACTOR TO GAIN ENGINEER'S APPROVAL OF CHANNEL WORK PRIOR TO PLACING REVETMENT.									
CONTRACTOR TO CAREFULLY REMOVE AND STOCKPILE ALL EXISTING SIGNS TO BE PICKED UP BY THE COUNTY.									
TRAFFIC CONTROL CONTRACTOR SHALL FURNISH, ERECT, OPERATE, MAINTAIN, MOVE AND REMOVE ALL NECESSARY TRAFFIC CONTROL DEVICES REQUIRED BY CURRENT SPECIFICATIONS AND CONFORM 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. ALL SIGNS SHALL BE MAINTAINED ON A 24 HOUR, 7 DAY PER WEEK BASIS DURING THE CONSTRUCTION OF THE PROJECT. CONSTRUCTION WILL BE SUSPENDED IN THE EVENT THAT ANY OF THE REQUIRED LEGIBLE TRAFFIC CONTROL SIGNS ARE NOT IN PLACE AND WILL REMAIN SUSPENDED UNTIL SUCH DEFICIENCY IS CORRECTED. ALL INTERSECTIONS SHALL BE SIGNED WITH THE APPROPRIATE SITUATION AS SHOWN ON STANDARD TC-252. ALL TYPE 3 BARRICADES SHALL HAVE A MINIMUM OF 4 SANDBAGS. EXACT LOCATIONS OF SIGNS MAY BE FIELD ADJUSTED, PER CEDAR COUNTY ENGINEER'S APPROVAL TO FIT CONDITIONS. NO SIGNS SHALL BE LOCATED THAT WOULD CAUSE ANY RESTRICTION FOR THE MOTORISTS VIEW OF PERMANENT SIGNING OR ANY VEHICLE TRAVELING, ENTERING OR EXITING THE ROADWAY.									
IF TILE IS ENCOUNTERED ON THIS PROJECT, IT SHALL BE TIED OUT TO REFERENCE POINTS AND AN EXTRA WORK ORDER WILL BE MADE OUT TO COVER THE PLACEMENT OF NEW TILE OUTLETS AND/OR EXTENSIONS.									
ALL SUITABLE CLASS 10 (CHANNEL) AND CLASS 20 EXCAVATION TO BE USED TO BUILD GUARDRAIL BLISTERS. UNSUITABLE CLASS 10 (CHANNEL) AND CLASS 20 EXCAVATION TO BE DISPOSED OF BY THE CONTRACTOR. NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR ANY EXCESS MATERIAL.									
CONSTRUCTION SURVEY TO BE COMPLETED BY CEDAR COUNTY.									

STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION															20.3	
Possible Standards: BA-200, BA-201, BA-205, BA-206, BA-210, BA-211, BA-221, BA-225, BA-250, BA-260, LS-625, LS-626, LS-630, LS-635, SI-172, SI-173, And SI-211.																
Location		Layout Lengths				Delineators And Object Markers					Bid Items					Remarks
No.	Station	VT1	VF	VT2	ET	Type	Type 1	Type 2	Type 3		Bolted End Anchor		Steel Beam Guardrail	Barrier Transition Section	End Terminal	
		LF	LF	LF	LF	SI-211	White EACH	OM2-2 EACH	OM3-L EACH	OM3-R EACH	BA-202 TYPE	EACH	BA-200 LF	BA-221 EACH	BA-225 EACH	
1	04+83 RT	37.5			35.17	3				1	A	1	12.5	1	1	WEST END RIGHT
2	04+83 LT	37.5			35.17	3			1		A	1	12.5	1	1	WEST END LEFT
3	05+73 RT	37.5			35.17	3			1		A	1	12.5	1	1	EAST END RIGHT
4	05+73 LT	37.5			35.17	3				1	A	1	12.5	1	1	EAST END LEFT

GRADING FOR GUARDRAIL INSTALLATIONS																20.4
Refer To EW-301																
Location				Foreslope At Guardrail	Dimensions (Feet)									Earthwork		Remarks
No.	"Direction Of Traffic"	Station	Side		X1	Y1	X2	Y2	X3	Y3	X4	Y4	Z	Excavation Class 10 CY	"Embankment In Place" CY	
1	EB	03+66	RT	3:1	35	5.25					72	6.5	45			WEST END RIGHT
2	EB	03+66	LT	3:1	35	5.25					72	6.5	45			WEST END LEFT
3	WB	06+90	RT	3:1	35	5.25					72	6.5	45			EAST END RIGHT
4	WB	06+90	LT	3:1	35	5.25					72	6.5	45			EAST END LEFT

TABULATION OF CMP CULVERTS						20.1
Station	Size	Corrugation	Aprons	Gage	Remarks	
07+05 LT	18" x 60'	2 2/3" x 1/2"	2	14	ENTRANCE CULVERT	
07+05 RT	18" x 60'	2 2/3" x 1/2"	2	14	ENTRANCE CULVERT	

SAFETY CLOSURES				108-13A 10-04-23
Refer To Section 2518 Of The Standard Specifications				
Station	Closure Type		Remarks	
	Road Qty.	Hazard Qty.		
0+00	1		280th Street	
9+50	1		280th Street	
TOTAL	2			

STANDARD ROAD PLANS			20.8
The following Standard Road Plans apply to construction work on this project.			
Number	Date	Title	
BA-200	10/20/26	STEEL BEAM GUARDRAIL COMPONENTS	
BA-202	10/20/26	STEEL BEAM GUARDRAIL BOLTED END ANCHOR	
BA-221	10/18/22	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION (MASH TL-2)	
BA-225	10/17/23	STEEL BEAM GUARDRAIL TANGENT END TERMINAL (MASH TL-2)	
DR-203	04/21/20	METAL PIPE APRONS AND BEVELED ENDS	
EC-204	10/19/21	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICES	
EC-301	10/18/22	ROCK EROSION CONTROL (REC)	
EW-101	10/17/17	EMBANKMENT AND REBUILDING EMBANKMENTS	
EW-301	10/20/26	GUARDRAIL GRADING	
EW-401	10/20/15	TEMPORARY STREAM CROSSING, CAUSEWAY, OR EQUIPMENT PAD	
EW-403	4/18/17	TEMPORARY EROSION CONTROL MEASURES	
LS-635	10/18/22	STEEL BEAM G'RAIL INSTALL AT CONC. BARRIER OR BRIDGE RAIL END SECT. (MASH TL-2)	
SI-101	4/19/16	LOCATIONS - TYPE A SIGNS	
SI-173	4/19/16	OBJECT MARKERS	
SI-211	10/18/22	OBJECT MARKER AND DELINEATOR PLACEMENT WITH GUARDRAIL	
TC-252	10/20/26	ROUTES CLOSED TO THROUGH TRAFFIC	

REMOVAL OF EXISTING STRUCTURES			110-2 08-15-22
Location	Description	Remarks	
5+28	48X18.5 MULTI BEAM/STEEL STRINGER/ WOOD DECK/TIMBER PILE		

DIESEL HAMMER NOTES	
A DIESEL HAMMER IS REQUIRED FOR ALL STEEL BEARING PILE. WAVE EQUATION ANALYSIS WILL BE USED AT THE TIME OF PILE DRIVING TO DETERMINE PILE BEARING. THE CONTRACTOR SHALL SUBMIT ADEQUATE HAMMER INFORMATION SO THAT THE PROPER ANALYSIS CAN BE PERFORMED. THIS INFORMATION SHALL BE SUBMITTED AT LEAST 20 DAYS PRIOR TO ANY PILE DRIVING.	

DEMOLITION (BRIDGE REMOVAL)		271-9 09-28-22
A scrape sample was taken from one area of this bridge to get an indication of the existence of the level of total Chromium and total Lead. Analysis of total Lead in this sample was 300000 parts per million (PPM) on the steel beams and 67000 parts per million (PPM) on the steel guardrail posts. Analysis of total Chromium on this sample was 49 PPM on the steel beams and 23 PPM on the steel guardrail posts. These analyses show the existence of these two toxic constituents. Levels indicated by these tests could create conditions above regulatory limits for health and safety requirements. No other constituents were analyzed. The bidder should not rely on the Department's testing and analysis for any purpose other than as an indication of the existence of these two toxic constituents. Removal of schedules items shall be in accordance with Section 2401 of the Standard Specifications.		



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PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE								20.6
Possible Standards: EC - 204								
Location			Perimeter And Slope			Ditch Check		Remarks
			Length of Installation			Length of Installation		
Road Identification	Station	Side	9 Inch Dia.	12 Inch Dia.	20 Inch Dia.	12 Inch Dia.	20 Inch Dia.	
			LF	LF	LF	LF	LF	
280th Street	0+00	LT/RT				40		
280th Street	0+50	LT/RT				40		
280th Street	01+40	LT/RT				40		
280th Street	01+90	LT/RT				40		
280th Street	02+40	LT/RT				40		
280th Street	02+90	LT/RT				40		
280th Street	03+40	LT/RT				40		
280th Street	03+90	LT/RT				40		
280th Street	04+40	LT/RT				40		
280th Street	04+90	LT/RT				40		
280th Street	05+60	LT/RT				40		
280th Street	06+00	LT/RT				40		
280th Street	06+50	LT/RT				40		
280th Street	07+00	LT/RT				40		
280th Street	07+50	LT/RT				40		
280th Street	08+00	LT/RT				40		
280th Street	08+50	LT/RT				40		
280th Street	09+00	LT/RT				40		
280th Street	09+50	LT/RT				40		
					Total	760		
	Streambank			400				
						Total Perimeter & Sed.	1160	

TABULATION LOCATIONS			111-25
			06-18-24
Tabulation	Tabulation Title	Sheet No.	
20.0	Typical Cross Section Granular Resurfacing	B.1	
10.0	Estimated Project Quantities	C.1	
10.1	Estimate Reference Notes	C.1	
20.1	Tabulation of CMP Culverts	C.2	
20.3	Steel Beam G'Rail at Concrete Barrier or Bridge Rail End Section	C.2	
20.4	Grading for Guardrail Installations	C.2	
110-2	Removal of Existing Structures	C.2	
108-13A	Safety Closures	C.2	
271-9	Demolition (Bridge Removal)	C.2	
20.6	Perimeter and Slope Sediment Control	C.3	
20.7	Silt Basins	C.3	
100-23	Rock Erosion Control	C.3	
20.8	Standard Road Plans	C.2	
110-12L	Pollution Prevention Plan	C.4-C.5	
20.9	Removal of Fence	C.3	

REMOVAL OF FENCE			20.9
Location	Location		Remarks
	280th Street. (LF)		
05+61 RT	06+76 RT	115	FIELD FENCE
07+04 RT	9+50 RT	246	FIELD FENCE
07+44 LT	9+50 LT	206	FIELD FENCE

ROCK EROSION CONTROL														100-23 08-15-22
Refer To EC-301														
Location				L	W	Rock Erosion Control (REC)					Material Bid Quantities			Remarks
Road Identification	Begin Station	End Station	Side			Type 1	Type 2	Type 3	Type 4	Type 5	"Erosion Stone"	Class E Revetment	"Engineering Fabric"	
			Lt./Rt.			Feet	Feet	Rock Ditch Check	Rock Ditch	Rock Flume	Rock Splash Basin	Rock Slope Protection	TON	
280TH STREET	04+82	05+38	LT/RT							X		377	109.5	WEST STREAMBANK
280TH STREET	12+66	13+58	LT/RT							X		387	109.5	EAST STREAMBANK
											TOTAL:	764	219	

SILT BASINS				20.7
Basin No.	Location		Remarks	
	Station	Side		
1-2	05+00	LT/RT		
3-4	05+50	LT/RT		

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110_12L 8/23/22 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 RESPONSIBILITIES A. Designer: - Prepares Base PPP included in the project plan. - Prepares Notice of Intent (NOI) submitted to Iowa DNR. - Is signature authority on the Base PPP. If consultant designed, signature from Contracting Authority is also required. B. Contractor: - 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. - Designates a Water Pollution Control Manager (WPCM), who has the duties and responsibilities as defined in Section 2602 of the Standard Specifications. - Submits an Erosion Control Implementation Plan (ECIP) and ECIP updates according to Section 2602 of the Standard Specifications. - Installs and maintains appropriate controls. This work may be subcontracted as documented through Subcontractor Request Forms (Form 830231). - Supervises and implements good housekeeping practices according to Paragraph III, C, 2. - 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. - Complies with training and certification requirements of Section 2602 of the Standard Specifications. - Submits amended PPP site map according to Section 2602 of the Standard Specifications. C. Subcontractors: - 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 performing 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. - Implement good housekeeping practices according to Paragraph III, C, 2. D. RCE/Project Engineer: - Is Project Storm Water Manager. - 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. - 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. - Supervises all work necessary to meet storm water requirements at the Project, including work performed by contractors and subcontractors. - 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. - Is familiar with the Project PPP and storm water site map. - Is the point of contact for the Project for regulatory officials, Inspector, contractors, and subcontractors regarding storm water requirements. - Is signature authority on Notice of Discontinuation. - Maintains an up-to-date record of contractors, subcontractors, and subcontracted work items through Subcontractor Request Forms (Form 830231). - Makes information to determine permit compliance available to the DNR upon their request. E. Inspector: - Updates PPP through fieldbook entries and storm water site inspection reports if there is a change in design, construction,				110_12L 8/23/22 POLLUTION PREVENTION PLAN operation, or maintenance which has a significant effect on the discharge of pollutants from the project. - Makes information to determine permit compliance available to the DNR upon their request. - Conducts joint required inspections of the site with the contractor/subcontractor. - Completes an inspection report after each inspection. - Is signature authority on storm water inspection reports. II. PROJECT SITE DESCRIPTION A. This Pollution Prevention Plan (PPP) is for the construction of a 80'-0"X30'6" CONTINUOUS CONCRETE SLAB BRIDGE - 0° SKEW . B. This PPP covers approximately 2.2 acres with an estimated 2.0 acres being disturbed. The portion of the PPP covered by this contract has 2.0 acres disturbed. C. The PPP is located in an area of Tama-Muscatine soil association type B soil association. The estimated weighted average runoff coefficient number for this PPP after completion will be 0.26. D. Storm Water Site Map - Multiple sources of information comprise the base storm water site map including: - Drainage Patterns - Plan and Profile sheets and Situation plans. - Proposed Slopes - Cross Sections. - Areas of Soil Disturbance - Construction limits shown on Plan and Profile sheets. - Location of Structural Controls - Tabulations in C sheets. - Locations of Non-structural Controls - Tabulations in C sheets. - Locations of Stabilization Practices - Generally within construction limits shown on Plan and Profile sheets. - Surface Waters (including wetlands) - Project Location Map and Plan and Profile sheets. - Locations where Storm Water is Discharged - Plan and Profile 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 Middle Branch of Wapsinonoc Creek, to Wapsinonoc Creek, to Cedar 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 - Site plans will ensure that existing vegetation or natural buffers are preserved where attainable and disturbed portions of the site will be stabilized. - Initialize stabilization of disturbed areas immediately after clearing, grading, excavating, or other earth disturbing activities have: - Permanently ceased on any portion of the site, or - Temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. - 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. - Permanent and Temporary Stabilization practices to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C 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 sheets. - Preservation of existing vegetation within right-of-way or easements will act as vegetative buffer strips. - Preservation of topsoil: Bid items to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C sheets. Additional information may be found in Tabulations in the C or T sheets or is referenced in Section 2105 of Standard Specifications. b. Structural Practices - 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.				
FILE NO.	ENGLISH	DESIGN TEAM	Cedar	CEDAR COUNTY	PROJECT NUMBER	BROS-C016(124)--8J-16	SHEET NUMBER	C.4

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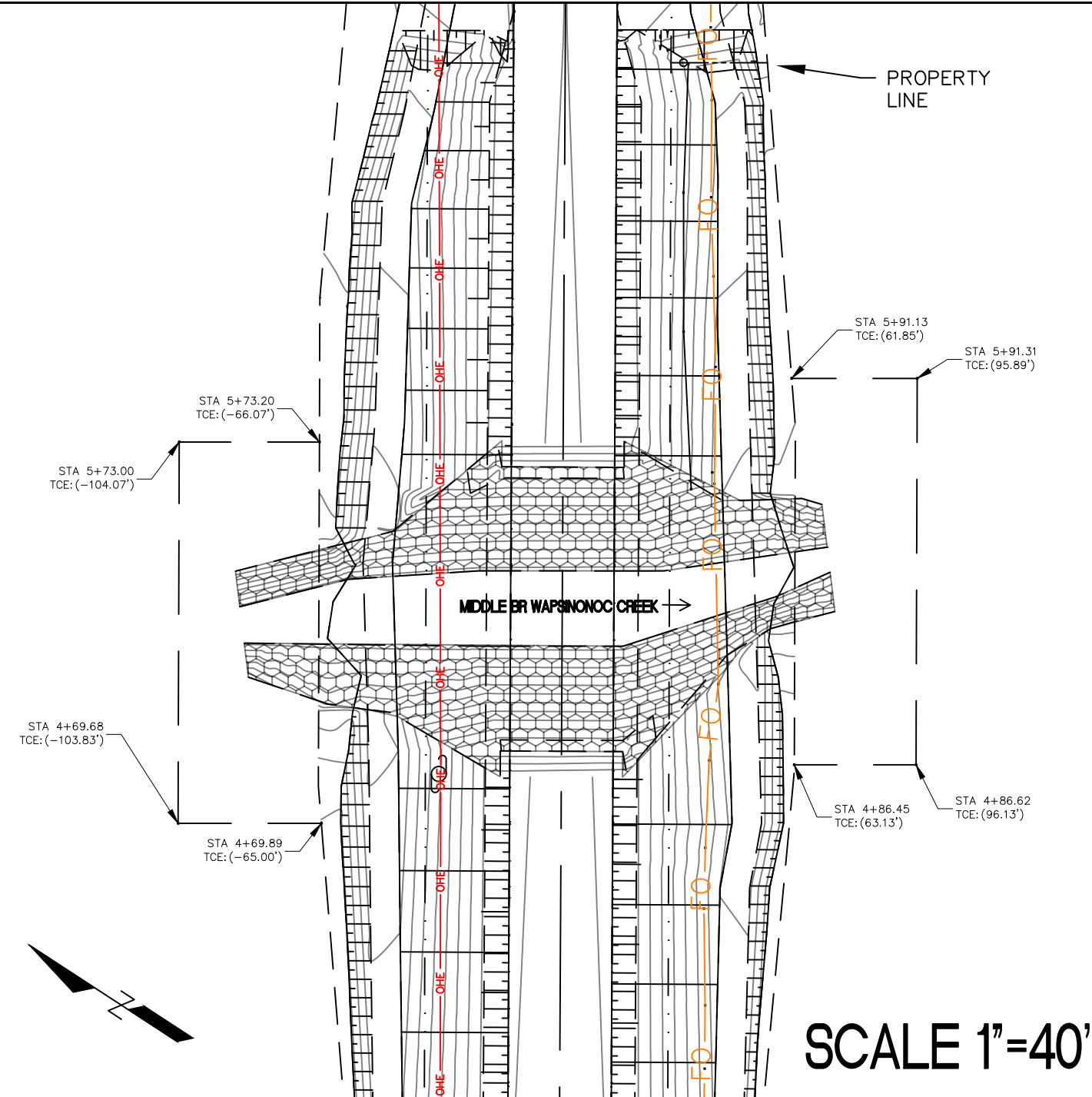
POLLUTION PREVENTION PLAN

- 2) Structural practices to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C 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 in the B sheets or are referenced in the Standard Road Plans Tabulation (105-4) located in the C sheets.
- 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 Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C 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 (105-4) in the C sheets. 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 applicable 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

POLLUTION PREVENTION PLAN

- 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 construcion. 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.
- Signature
Printed or Typed Name Cedar County Engineer
- Signature
Printed or Typed Name

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LEGEND

PROPOSED CENTERLINE

EXISTING RIGHT-OF-WAY

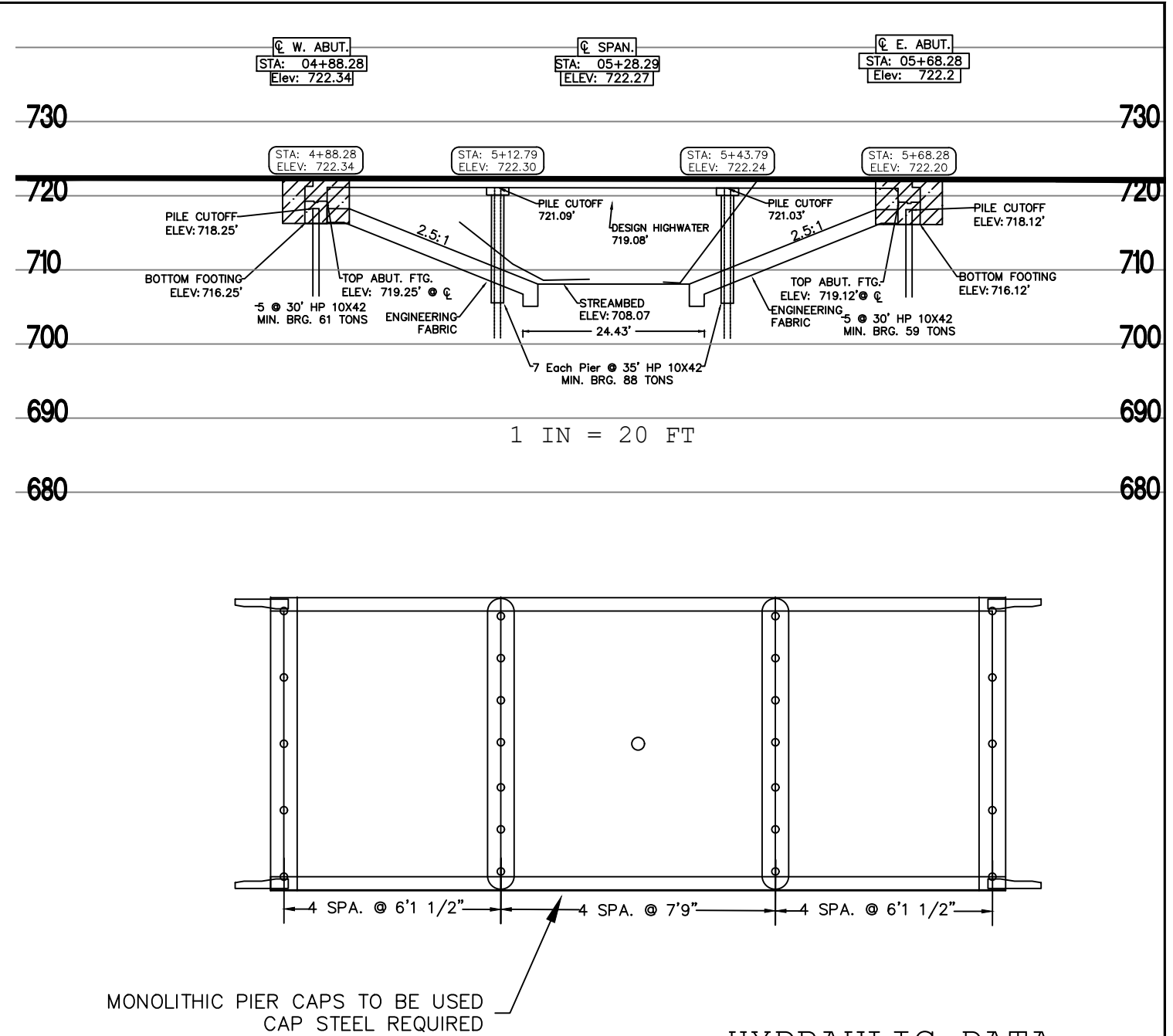
PROPOSED RIGHT-OF-WAY

CLASS 20 EXCAVATION

PROPERTY LINE

CLASS E REVETMENT

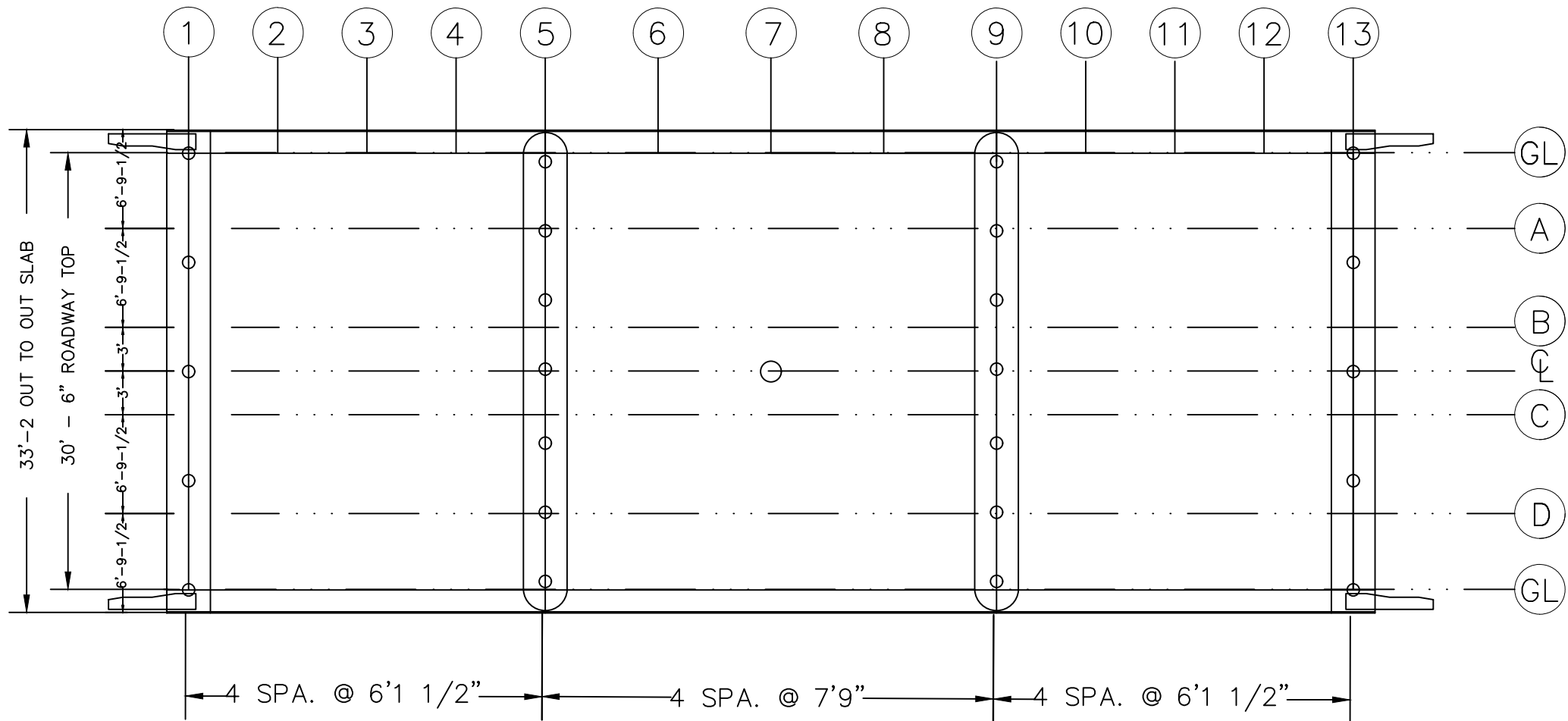
TEMPORARY CONSTRUCTION EASEMENT



HYDRAULIC DATA

DRAINAGE AREA		6.8 SQ.MI
DESIGN DISCHARGE	Q50	3,384 C.F.S.
DESIGN HIGHWATER		719.08'
STREAM SLOPE		18.27' FT./MI.
EXISTING BRIDGE WATERWAY AREA		SQ.FT.
DESIGN BRIDGE WATERWAY AREA		915.2 SQ.FT.
DESIGN VELOCITY		6.37 F.P.S.
Q25	2719 C.F.S.	STAGE 718.60 FT
Q100	4038 C.F.S.	STAGE 719.48 FT
QOVERTOP	5604 C.F.S.	STAGE 720.28 FT**
Q200 SCOUR ELEV.	5276 C.F.S.	ELEV. 720.12 FT*
*SCOUR ELEVATIONS DETERMINED PRIOR TO CLASS E REVETMENT CHANNEL ARMORING.		
**NO KNOWN OVERTOPPING OF EXISTING BRIDGE		

DESIGN FOR
80' x 30'-6 CONTINUOUS
CONCRETE SLAB BRIDGE
STA 05+28.29 0° SKEW
CEDAR COUNTY



TOP OF SLAB ELEVATIONS													
LOCATION	C.L. S. ABUT. BRG.				C.L. PIER #1				C.L. PIER #2				C.L. N. ABUT. BRG.
	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
WEST GUTTER LINE	722.06	722.05	722.04	722.03	722.02	722.01	721.99	721.98	721.97	721.96	721.95	721.93	721.92
INTERMEDIATE LINE A	722.19	722.18	722.16	722.15	722.14	722.13	722.12	722.10	722.09	722.08	722.07	722.06	722.05
CROWN LINE B	722.31	722.30	722.29	722.28	722.27	722.25	722.24	722.23	722.21	722.20	722.19	722.18	722.17
C.L. APPROACH ROADWAY	722.34	722.33	722.32	722.31	722.30	722.28	722.27	722.26	722.24	722.23	722.22	722.21	722.20
CROWN LINE C	722.31	722.30	722.29	722.28	722.27	722.25	722.24	722.23	722.21	722.20	722.19	722.18	722.17
INTERMEDIATE LINE D	722.19	722.18	722.16	722.15	722.14	722.13	722.12	722.10	722.09	722.08	722.07	722.06	722.05
EAST GUTTER LINE	722.06	722.05	722.04	722.03	722.02	722.01	721.99	721.98	721.97	721.96	721.95	721.93	721.92

*FOR FLOOR FORM ELEVATIONS, SUBTRACT 15-1/4". CAMBER DIMENSIONS REQUIRED FOR ANTICIPATED DEAD LOAD DEFLECTIONS HAVE NOT BEEN ADDED TO THE ELEVATIONS SHOWN BELOW. REFERENCE FORM CAMBER DIAGRAM ON STANDARD SHEET J30-04E-06

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BORING LOG NO. 1		STATION 4+88, 4'LT		Project No.: 261132									
Project: 280th Street Bridge Replacement Section 3, Springdale Township Cedar County, Iowa		Client: Cedar County Engineer Courthouse 400 Cedar Street Tipton, Iowa 52772-1752											
Surface Elevation: 722.3'		Date Drilled: 3/4/2026		Drilling Method: HSA									
Datum: County Provided BM Elev. = 722.558'		Drilling Depth, ft.: 30.5		Page: 1 of 1									
Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*	Graphic Log	USCS	Water Level	Depth ft.	Elevation ft.
720	0							Crushed Rock (6"±) Very dark gray-brown lean to fat clay, trace sand and gravel, moist		CL-CH		0.5	721.8
	6	1	SSA	13	21.2			FILL					
714		2	SSA	6	27.7			Gray-brown lean clay with sand, moist to very moist		CL		8	714.3
708	12							COHESIVE ALLUVIUM (Soft Silty Clay)					
	18							With organics near 20'					
702		4	SSA	3	50.6								
	24	5	SSA	120	5.8			Tan fractured limestone, damp				24.3	698
696								BEDROCK Tan limestone after 28.3'					
	30	6	SSA	50/0"								30.5	
		7	SSA	50/0"									
690								End of Boring					691.8
	36												
684													
*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.													
Water Level Observation Time: at completion hrs. days Depth to water: ft. ft. ft.								ALLENDER BUTZKE ENGINEERS INC. Geotechnical Environmental Construction Q.C.					

FILE NOTES

SOUNDING AND TEST BORING DATA SHOWN ON PLANS WERE ACCUMULATED FOR DESIGNING AND ESTIMATING PURPOSES. THEIR APPEARANCE ON THE PLAN DOES NOT CONSTITUTE A GUARANTEE THAT CONDITIONS OTHER THAN THOSE INDICATED WILL NOT BE ENCOUNTERED. THIS PROJECT USES THE LOAD AND RESISTANCE FACTOR DESIGN (LRFD) METHODOLOGY FOR DETERMINING PILE CONTRACT LENGTH AND NOMINAL AXIAL BEARING RESISTANCE. A WEAP ANALYSIS AND BEARING GRAPH WILL BE PROVIDED BY THE ENGINEER THAT GIVES THE RELATIONSHIP BETWEEN REQUIRED NOMINAL AXIAL BEARING RESISTANCE AND BLOW COUNT.

ABUTMENT + PIER PILES

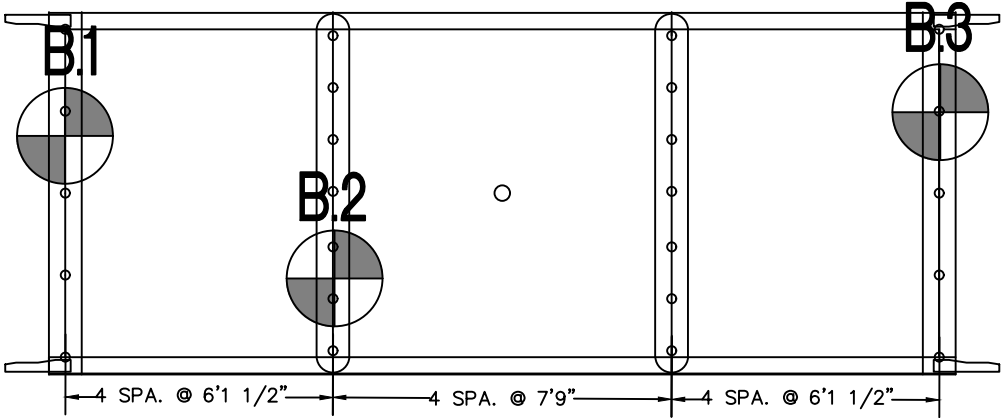
ABUTMENT PILE DESIGN NOTE:
THE CONTRACT LENGTH OF 30 FEET FOR THE ABUTMENT PILES IS BASED ON A COHESIVE SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 80 KIPS, AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 FOR SOIL AND 0.70 FOR ROCK END BEARING. THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A COHESIVE SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 AND 0.70 FOR ROCK END BEARING. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF FOOTING.

ABUTMENT PILE DRIVING NOTE:
THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR EAST ABUTMENT PILES IS 59 TONS AT END OF DRIVE OR RETAP. THE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. IN NO CASE SHALL A PILE BE EMBEDDED LESS THAN 15 FEET. CONSTRUCTION CONTROL REQUIRES A WEAP ANALYSIS AND BEARING GRAPH

THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR WEST ABUTMENT PILES IS 61 TONS AT END OF DRIVE OR RETAP. THE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. IN NO CASE SHALL A PILE BE EMBEDDED LESS THAN 15 FEET. CONSTRUCTION CONTROL REQUIRES A WEAP ANALYSIS AND BEARING GRAPH

PIER PILE DESIGN NOTE:
THE CONTRACT LENGTH OF 35 FEET FOR THE PIER PILES IS BASED ON A COHESIVE SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 117 KIPS, AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 FOR SOIL AND 0.7 FOR ROCK END BEARING. THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FORM A COHESIVE SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 FOR SOIL AND 0.7 FOR ROCK END BEARING. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF FOOTING.

PIER PILE DRIVING NOTE:
THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR PIER PILES IS 88 TONS AT END OF DRIVE OR RETAP. THE PILE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. IN NO CASE SHALL A PILE BE EMBEDDED LESS THAN 15 FEET. CONSTRUCTION CONTROL REQUIRES A WEAP ANALYSIS WITH BEARING GRAPH.



BORING LOG NO. 2										STATION 5+12, 2'RT										Project No.: 261132									
Project: 280th Street Bridge Replacement Section 3, Springdale Township Cedar County, Iowa										Client: Cedar County Engineer Courthouse 400 Cedar Street Tipton, Iowa 52772-1752																			
Surface Elevation: 722.6'										Date Drilled: 3/4/2026										Drilling Method: HSA									
Datum: County Provided BM Elev. = 722.558'										Drilling Depth, ft.: 33.75										Page: 1 of 1									
Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*		Graphic Log	USCS	Water Level	Depth ft.	Elevation ft.															
720	0							Wooden Bridge Deck (6"±)					0.5	722.1															
714	6							Air																					
708	12							Dark gray lean clay with sand, very moist			CL		11.8	710.8															
702	18	1	SSA	1	37.1			COHESIVE ALLUVIUM (Soft Silty Clay) With organics near 20'																					
696	24	2	SSA	3	84.7 12.3			Gray silty fine to medium sand, saturated after 24.5'			SM		25.5	697.1															
690	30	3	SSA	38	12.3 20.5			Tan weathered limestone, damp																					
684	36	4	SSA	50/1.3"				Fractured limestone after 27.3' Limestone after 28.5' BEDROCK																					
		5	SSA	50/0.5"				End of Boring					33.75	688.85															
*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.																													
Water Level Observation Time: at completion hrs. days Depth to water: 13.8 ft. ft. ft.										ALLENDER BUTZKE ENGINEERS INC. Geotechnical Environmental Construction Q.C.																			

BORING LOG NO. 3										STATION 5+68, 5'LT										Project No.: 261132									
Project: 280th Street Bridge Replacement Section 3, Springdale Township Cedar County, Iowa										Client: Cedar County Engineer Courthouse 400 Cedar Street Tipton, Iowa 52772-1752																			
Surface Elevation: 722.1'										Date Drilled: 3/4/2026										Drilling Method: HSA									
Datum: County Provided BM Elev. = 722.558'										Drilling Depth, ft.: 33.1										Page: 1 of 1									
Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*		Graphic Log	USCS	Water Level	Depth ft.	Elevation ft.															
720	0							Crushed Rock (6"±) Dark gray and brown sandy lean to fat clay, trace gravel, moist			CL-CH		0.5	721.6															
714	6	1	SSA	25	19.1			FILL																					
708	12	2	SSA	3	28.9			Gray lean clay with sand, moist to very moist			CL		7.5	714.6															
702	18	3	SSA	4	42.9			Dark gray after 14.5'																					
696	24	4	SSA	3	36.4			COHESIVE ALLUVIUM (Soft Silty Clay) Moisture seepage near 19.5'																					
690	30	5	SSA	7	13.9			With sand seams after 22.5'																					
684	36	6	SSA	50/0.3"				Tan fractured limestone, damp Limestone after 28.5' BEDROCK					27.5	694.6															
		7	SSA	50/0.3"				End of Boring					33.1	689															
*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.																													
Water Level Observation Time: at completion hrs. days Depth to water: 22.5 ft. ft. ft.										ALLENDER BUTZKE ENGINEERS INC. Geotechnical Environmental Construction Q.C.																			

