

CONTRACT

FA96 (Form 650019)
05-13

Letting Date: April 15, 2014 Contract ID: 78-0293-097 Bid Order No.: 014
County: POTTAWATTAMIE Project Engineer: COUNCIL BLUFFS RCE
Cost Center: 601000 Object Code: 890 DBE Commitment \$2,200,000.00
Contract Work Type: BRIDGE RPLC - STEEL GIRDER

00:00:00
14MAY12 14:44:00

This agreement made and entered by and between the IOWA DEPARTMENT OF TRANSPORTATION,
CONTRACTING AUTHORITY, AND
HAWKINS CONST CO, UNITED CONTR. INC & CRAMER & ASSOC., JV OF OMAHA, NE, (HA801)
CONTRACTOR

It is agreed that the notice and instructions to bidders, the proposal filed by the Contractor, the specifications, the plan, if any, for project(s) listed below, together with Contractor's performance bond, are made a part hereof and together with this instrument constitute the contract. This contract contains all of the terms and conditions agreed upon by the parties hereto. A true copy of said plan is now on file in the office of the Contracting Authority under date of 04/10/2014.

SEE ATTACHED PROJECT LIST ON PAGE 1C.

The specifications consist of the Standard Specifications for Highway and Bridge Construction, Series 2012 of the Iowa Department of Transportation plus the following Supplemental Specifications, Special Provisions, and addendums: DS-12040, DS-12046, DS-12047, DS-12049, DS-12050, FHWA-1273.05, GS-12004, IA14-1.0, SP-120048A, SP-120049B, SP-120051, SP-120158, SP-120161, SP-120162, SP-120163A, SP-120165, SP-120166, SP-120167, SP-120171, SP-120177, ADDENDUMS: 15APR014.A01, 15APR014.A02,

Contractor, for and in consideration of \$88,383,783.78 payable as set forth in the specifications constituting a part of this contract, agrees to construct various items of work and/or provide various materials or supplies in accordance with the plans and specifications therefore, and in the locations designated in the Notice to Bidders.

Contractor certifies by signature on this contract, under pain of penalties for false certification, that the Contractor has complied with Iowa Code Section 452A.17(8) as amended, if applicable, and Iowa Code Section 91C.5 (Public Registration Number), if applicable.

In consideration of the foregoing, Contracting authority hereby agrees to pay the Contractor promptly and according to the requirements of the specifications the amounts set forth, subject to the conditions as set forth in the specifications.

It is further understood and agreed that the above work shall also be commenced or completed in accordance with Page 1B of this Contract and assigned Proposal Notes.

To accomplish the purpose herein expressed, the Contracting authority and Contractor have signed this and one other identical instrument.

For Federal-Aid contracts the Contractor certifies that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the contract.

By [Signature] Contractor C.O.O., [Signature] President Contractor (if joint venture) [Signature] President
By Wm W. Eversen Contracting Authority MAY 14 2014 Contract Award Date

Iowa DOT Concurrence

For Local Agency Contracts

Concurrence Date

Letting Date: April 15, 2014 Contract ID: 78-0293-097 Bid Order No.: 014

It is further understood and agreed that the above work shall be commenced or completed in accordance with the following schedule:

SITE NUMBER	CONTRACT PERIOD /SITE DESCRIPTION	LIQUIDATED DAMAGES
CONTRACT	CONTRACT COMPLETION DATE: 05/15/2016	\$6,500.00
01	CONTRACT COMPLETION DATE: 12/05/2014 TO COMPLETE ROADWAY EMBANKMENT	\$6,500.00
02	CONTRACT COMPLETION DATE: 07/31/2015 TO COMPLETE (99) AND (100)	\$6,500.00
03	CONTRACT COMPLETION DATE: 05/15/2016 TO COMPLETE STAGE 2 OF (111)	\$6,500.00
04	CONTRACT COMPLETION DATE: 10/02/2015 TO COMPLETE (98) AND STAGE 1 OF (111)	\$6,500.00

CONTRACT NOTES

SITE 01

TO COMPLETE ALL WORK ASSOCIATED WITH THE ROADWAY EMBANKMENT INCLUDING, BUT NOT LIMITED TO, RIGID INCLUSIONS, WICK DRAINS, MSE WALLS (EXCLUDING COPING) AND CLASS 10 EXCAVATION.

SITE 02

TO COMPLETE ALL WORK ASSOCIATED WITH THE BRIDGE PROJECT INCLUDED IN IM-029-3(99)48--13-78 AND TO COMPLETE ALL WORK ASSOCIATED WITH THE BRIDGE PROJECT INCLUDED IN NHS-029-3(100)48--11-78.

SITE 03

TO COMPLETE ALL WORK ASSOCIATED WITH STAGE 2 OF THE BRIDGE PROJECT INCLUDED IN IM-NHS-029-3(111)48--13-78 AFTER TRAFFIC ON EXISTING I-29 NB IS SHIFTED TO NEW I-29 NB (BY OTHERS IM-29-3(102)48--13-78 FUTURE CONTRACT). THIS SHIFT IS EXPECTED TO BE COMPLETED BY 11/15/2015

SITE 04

TO COMPLETE ALL WORK ASSOCIATED WITH THE BRIDGE PROJECT INCLUDED IN IM-029-3(98)48--13-78 AND TO COMPLETE ALL WORK ASSOCIATED WITH STAGE 1 OF THE BRIDGE PROJECT INCLUDED IN IM-029-3(111)48-13-78.

PRE-BID MEETING

A PRE-BID MEETING WILL BE HELD ON WEDNESDAY, APRIL 2, 2014 AT 11AM. THE LOCATION IS THE HDR/CBIS OFFICE AT 1751 MADISON AVENUE, SUITE 750, COUNCIL BLUFFS, IA 51503. THIS MEETING WILL ALSO INCLUDE IM-NHS-080-1(370)4--03-78 WHICH WILL BE LET ON MAY 20, 2014. PRELIMINARY PLANS FOR (370) WILL BE AVAILABLE ON THE DOT CONTRACTS WEB PAGE.

LETTING DATE: April 15, 2014

BID ORDER NO.: 014

PROJECT: IM-NHS-029-3(97)48--03-78 COUNTY: POTTAWATTAMIE
 WORK TYPE: GRADING ACCOUNTING ID: 31509
 ROUTE: I-29 LENGTH (MILES): 1.14
 LOCATION: IN THE CITY OF COUNCIL BLUFFS AT THE I-29/US 275 INTERCHANGE
 FEDERAL AID - PREDETERMINED WAGES ARE IN EFFECT
 PROJECT AMOUNT: \$47,005,298.30

PROJECT: IM-NHS-029-3(98)48--03-78 COUNTY: POTTAWATTAMIE
 WORK TYPE: BRIDGE RPLC - STEEL GIRDER ACCOUNTING ID: 31510
 ROUTE: I-29 LENGTH (MILES): 0
 LOCATION: IN THE CITY OF COUNCIL BLUFFS ON I-29 NB OVER MOSQUITO CREEK
 AND RELOCATED BNSF/CBEC R.R.
 FEDERAL AID - PREDETERMINED WAGES ARE IN EFFECT
 PROJECT AMOUNT: \$16,528,407.50

PROJECT: IM-029-3(99)48--13-78 COUNTY: POTTAWATTAMIE
 WORK TYPE: BRIDGE AND APPROACHES - PPCB ACCOUNTING ID: 31511
 ROUTE: I-29 LENGTH (MILES): 0
 LOCATION: IN THE CITY OF COUNCIL BLUFFS AT NB US 275/WB IA. 92
 OVER I-29
 FEDERAL AID - PREDETERMINED WAGES ARE IN EFFECT
 PROJECT AMOUNT: \$2,412,218.15

PROJECT: NHS-029-3(100)48--11-78 COUNTY: POTTAWATTAMIE
 WORK TYPE: BRIDGE REPLACEMENT - PPCB ACCOUNTING ID: 31512
 ROUTE: I-29 LENGTH (MILES): 0
 LOCATION: IN THE CITY OF COUNCIL BLUFFS ON WB IA 92 OVER MOSQUITO
 CREEK
 FEDERAL AID - PREDETERMINED WAGES ARE IN EFFECT
 PROJECT AMOUNT: \$6,761,825.00

PROJECT: IM-NHS-029-3(111)48--03-78 COUNTY: POTTAWATTAMIE
 WORK TYPE: BRIDGE RPLC - STEEL GIRDER ACCOUNTING ID: 31513
 ROUTE: I-29 LENGTH (MILES): 0
 LOCATION: IN THE CITY OF COUNCIL BLUFFS ON I-29 SB OVER MOSQUITO CREEK
 AND RELOCATED BNSF/CBEC R.R.
 FEDERAL AID - PREDETERMINED WAGES ARE IN EFFECT
 PROJECT AMOUNT: \$14,933,957.16

PROJECT: IM-NHS-029-3(128)48--03-78 COUNTY: POTTAWATTAMIE
 WORK TYPE: TRAFFIC SIGNS ACCOUNTING ID: 31514
 ROUTE: I-29 LENGTH (MILES): 0
 LOCATION: IN THE CITY OF COUNCIL BLUFFS FR. E. OF INDIAN CREEK E TO E
 OF MADISON AVE. AND S. ON I-29 TO 1.3 MI. S. OF IA. 92/275
 FEDERAL AID - PREDETERMINED WAGES ARE IN EFFECT
 PROJECT AMOUNT: \$742,077.67

CONTRACT SCHEDULE OF PRICES

Vendor No.: HA801 Bid Order No.: 014
 Contract ID No.: 78-0293-097 Letting Date: April 15, 2014
 Primary Work Type: BRIDGE REPLACEMENT - STEEL GIRDER 10:00 A.M.
 Primary County: POTTAWATTAMIE

Line No	Item Number Item Description	Item Quantity and Unit	Unit Price Dollars Cts	Bid Amount Dollars Cts
SECTION 0001 ROADWAY ITEMS IM-NHS-029-3(97)48--03-78				
0010	2101-0850002 CLEARING AND GRUBBING	 311.000 UNIT	 26.88000	 8,359.68
0020	2102-0425071 SPECIAL BACKFILL	 12,681.500 CY	 46.24000	 586,392.56
0030	2102-2625000 EMBANKMENT-IN-PLACE	 949.000 CY	 32.42000	 30,766.58
0040	2102-2710070 EXCAVATION, CLASS 10, ROADWAY AND BORROW	 389,949.000 CY	 10.81000	 4,215,348.69
0050	2102-2712015 EXCAVATION, CLASS 12, BOULDERS OR ROCK FRAGMENTS	 50.000 CY	 37.64000	 1,882.00
0060	2102-2713070 EXCAVATION, CLASS 13, ROADWAY AND BORROW	 2,031.600 CY	 14.95000	 30,372.42
0070	2105-8425015 TOPSOIL, STRIP, SALVAGE AND SPREAD	 18,811.000 CY	 5.54000	 104,212.94
0080	2107-0875100 COMPACTION WITH MOISTURE CONTROL	 358,152.000 CY	 0.43000	 154,005.36
0090	2107-3825025 GRANULAR MATERIAL FOR BLANKET AND SUBDRAIN	 1,965.000 CY	 9.46000	 18,588.90
0100	2112-0000100 WICK DRAIN	 96,680.000 LF	 1.14000	 110,215.20
0110	2115-0100000 MODIFIED SUBBASE	 725.600 CY	 42.91000	 31,135.50

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			Dollars	Cts	Dollars	Cts
0120	2123-7450000 SHOULDER CONSTRUCTION, EARTH	105.900 STA	263.47000		27,901.47	
0140	2301-1033100 STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 3 DURABILITY, 10 IN.	1,766.600 SY	60.01000		106,013.67	
0150	2301-6911722 PORTLAND CEMENT CONCRETE PAVEMENT SAMPLES	LUMP	LUMP		9,463.33	
0160	2303-6911000 HOT MIX ASPHALT PAVEMENT SAMPLES	LUMP	LUMP		0.01	
0170	2304-0100000 DETOUR PAVEMENT 7 INCH PCC OR 8.5 INCH HMA	3,029.200 SY	45.49000		137,798.31	
0180	2304-0100000 DETOUR PAVEMENT 8 INCH PCC OR 11 INCH HMA	4,202.500 SY	42.99000		180,665.48	
0190	2304-0100000 DETOUR PAVEMENT 9 INCH PCC OR 13 INCH HMA	12,077.300 SY	45.17000		545,531.64	
0200	2312-8260051 GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE	660.000 TON	20.32000		13,411.20	
0210	2401-6745356 REMOVAL OF CONCRETE FOOTINGS OF LIGHT POLES	11.000 EACH	645.23000		7,097.53	
0220	2401-6745765 REMOVAL OF LIGHT POLES	11.000 EACH	0.00000		0.00	
0230	2402-0425030 GRANULAR BACKFILL	151,657.000 CY	73.84000		11,198,352.88	

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			Dollars	Cts	Dollars	Cts
0240	2402-2720100 EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT	437.800 CY	14.89000		6,518.84	
0250	2414-6444100 STEEL PIPE PEDESTRIAN HAND RAILING	180.000 LF	91.41000		16,453.80	
0260	2416-0100018 APRONS, CONCRETE, 18 IN. DIA.	2.000 EACH	559.20000		1,118.40	
0270	2416-0100024 APRONS, CONCRETE, 24 IN. DIA.	4.000 EACH	591.46000		2,365.84	
0280	2416-0100030 APRONS, CONCRETE, 30 IN. DIA.	6.000 EACH	688.24000		4,129.44	
0290	2416-0100036 APRONS, CONCRETE, 36 IN. DIA.	9.000 EACH	1,016.23000		9,146.07	
0300	2416-0100042 APRONS, CONCRETE, 42 IN. DIA.	2.000 EACH	1,182.92000		2,365.84	
0310	2416-1000000 RIGID PIPE CULVERT, CULVERT, CONCRETE PIPE, 4000D TRENCHLESS, 36 IN. DIA.	258.000 LF	718.35000		185,334.30	
0320	2416-1000000 RIGID PIPE CULVERT, CULVERT, 4000D CONCRETE PIPE, 36 IN. DIA.	202.000 LF	145.18000		29,326.36	
0330	2416-1180024 CULVERT, CONCRETE ROADWAY PIPE, 24 IN. DIA.	252.000 LF	67.75000		17,073.00	
0340	2416-1180030 CULVERT, CONCRETE ROADWAY PIPE, 30 IN. DIA.	132.000 LF	76.35000		10,078.20	

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			Dollars	Cts	Dollars	Cts
0350	2416-1180036 CULVERT, CONCRETE ROADWAY PIPE, 36 IN. DIA.	72.000 LF	103.24000		7,433.28	
0360	2416-1180042 CULVERT, CONCRETE ROADWAY PIPE, 42 IN. DIA.	44.000 LF	137.65000		6,056.60	
0370	2416-1245036 CULVERT, 3750D CONCRETE ROADWAY PIPE, 36 IN. DIA.	356.000 LF	94.63000		33,688.28	
0380	2416-1264036 CULVERT, CONCRETE PIPE, 3750D, TRENCHLESS, 36 IN. DIA.	178.000 LF	731.26000		130,164.28	
0390	2417-0225018 APRONS, METAL, 18 IN. DIA.	2.000 EACH	204.32000		408.64	
0400	2417-0225024 APRONS, METAL, 24 IN. DIA.	1.000 EACH	250.56000		250.56	
0410	2417-1060018 CULVERT, CORRUGATED METAL ROADWAY PIPE, 18 IN. DIA.	42.000 LF	50.54000		2,122.68	
0420	2418-0000010 TEMPORARY STREAM DIVERSION	1.000 EACH	157,005.28000		157,005.28	
0430	2422-1722018 CULVERT, UNCLASSIFIED ENTRANCE PIPE, 18 IN. DIA.	66.000 LF	57.00000		3,762.00	
0440	2432-0000100 MECHANICALLY STABILIZED EARTH RETAINING WALL	85,451.000 SF	28.98000		2,476,369.98	
0450	2435-0140200 MANHOLE, STORM SEWER, SW-402	1.000 EACH	3,785.33000		3,785.33	

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			Dollars	Cts	Dollars	Cts
0460	2435-0140500 MANHOLE, STORM SEWER, SW-405	2.000 EACH	7,796.50000		15,593.00	
0470	2435-0250902 INTAKE, SW-509, WELL ONLY	2.000 EACH	3,339.05000		6,678.10	
0480	2435-0254902 BARRIER INTAKE, SW-549, WELL ONLY	6.000 EACH	4,409.05000		26,454.30	
0490	2435-0256200 INTAKE, SW-562	1.000 EACH	3,677.80000		3,677.80	
0500	2502-8212204 SUBDRAIN, PERFORATED PLASTIC PIPE, 4 IN. DIA.	260.000 LF	15.49000		4,027.40	
0510	2502-8220197 SUBDRAIN OUTLET (RF-19F)	3.000 EACH	252.71000		758.13	
0520	2503-0110024 STORM SEWER GRAVITY MAIN, TRENCHED, 24 IN.	117.000 LF	60.22000		7,045.74	
0530	2503-0114218 STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 18 IN.	86.000 LF	54.84000		4,716.24	
0540	2503-0114224 STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 24 IN.	353.000 LF	62.37000		22,016.61	
0550	2503-0114230 STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 30 IN.	523.000 LF	74.20000		38,806.60	

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			Dollars	Cts	Dollars	Cts
0560	2503-0114648 STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 3750D (CLASS V), 48 IN.	280.000 LF	177.44000		49,683.20	
0570	2503-0134248 STORM SEWER GRAVITY MAIN WITH CASING PIPE, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 48 IN.	196.000 LF	553.82000		108,548.72	
0580	2503-0200036 REMOVE STORM SEWER PIPE LESS THAN OR EQUAL TO 36 IN.	36.000 LF	15.59000		561.24	
0590	2503-0200136 REMOVE STORM SEWER PIPE GREATER THAN 36 IN.	484.000 LF	17.80000		8,615.20	
0600	2503-0200341 STORM SEWER ABANDONMENT, FILL AND PLUG, LESS THAN OR EQUAL TO 36 IN. DIA.	79.000 LF	47.32000		3,738.28	
0610	2505-4008120 REMOVAL OF STEEL BEAM GUARDRAIL	1,633.000 LF	6.45000		10,532.85	
0620	2505-4008300 STEEL BEAM GUARDRAIL	112.500 LF	21.51000		2,419.88	
0630	2505-4021020 STEEL BEAM GUARDRAIL END ANCHOR, W-BEAM	2.000 EACH	1,075.38000		2,150.76	
0640	2505-4021700 STEEL BEAM GUARDRAIL END TERMINAL	2.000 EACH	2,150.76000		4,301.52	
0650	2506-4984000 FLOWABLE MORTAR	47.600 CY	133.35000		6,347.46	

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			Dollars	Cts	Dollars	Cts
0660	2507-3250005 ENGINEERING FABRIC	568.000 SY	3.44000		1,953.92	
0670	2510-6745850 REMOVAL OF PAVEMENT	23,839.400 SY	9.57000		228,143.06	
0680	2510-6750600 REMOVAL OF INTAKES AND UTILITY ACCESSES	3.000 EACH	607.59000		1,822.77	
0690	2511-0302600 RECREATIONAL TRAIL, PORTLAND CEMENT CONCRETE, 6 IN.	545.200 SY	45.17000		24,626.68	
0700	2511-0310100 SPECIAL COMPACTION OF SUBGRADE FOR RECREATIONAL TRAIL	5.180 STA	957.09000		4,957.73	
0710	2511-7528101 DETECTABLE WARNINGS	74.000 SF	20.97000		1,551.78	
0720	2518-6910000 SAFETY CLOSURE	27.000 EACH	268.84000		7,258.68	
0730	2519-1001000 FENCE, CHAIN LINK, VINYL COATED	862.100 LF	19.38000		16,707.50	
0740	2519-3300600 FENCE, SAFETY	2,110.000 LF	4.30000		9,073.00	
0750	2519-4200120 REMOVAL OF FENCE, CHAIN LINK	4,013.400 LF	1.13000		4,535.14	
0760	2525-0000120 REMOVAL OF TRAFFIC SIGNALIZATION	LUMP	LUMP		4,403.68	

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			Dollars	Cts	Dollars	Cts
0770	2526-8285000 CONSTRUCTION SURVEY	LUMP	LUMP			215,075.73
0780	2527-9263109 PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	488.870 STA	21.99000			10,750.25
0790	2527-9263137 PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED	33.000 EACH	80.65000			2,661.45
0800	2527-9263180 PAVEMENT MARKINGS REMOVED	277.580 STA	17.37000			4,821.56
0810	2527-9263190 SYMBOLS AND LEGENDS REMOVED	8.000 EACH	69.90000			559.20
0820	2527-9270120 GROOVES CUT FOR SYMBOLS AND LEGENDS	35.000 EACH	107.54000			3,763.90
0830	2528-8400048 TEMPORARY BARRIER RAIL, CONCRETE	11,325.000 LF	52.42000			593,656.50
0840	2528-8400055 TEMPORARY TO PERMANENT BARRIER CONNECTION	2.000 EACH	2,688.45000			5,376.90
0850	2528-8400157 TEMPORARY FLOODLIGHTING LUMINAIRE	4.000 EACH	5,941.47000			23,765.88
0860	2528-8400256 TEMPORARY TRAFFIC SIGNALS	2.000 EACH	84,019.33000			168,038.66
0870	2528-8445110 TRAFFIC CONTROL	LUMP	LUMP			145,176.12

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0880	2533-4980005 MOBILIZATION	LUMP	LUMP			6,851,697.00
0890	2551-0000130 TEMP CRASH CUSHION, SEVERE USE (SU)	8.000 EACH	22,582.95000			180,663.60
0900	2552-0000300 TRENCH COMPACTION TESTING	LUMP	LUMP			4,301.51
0910	2555-0000010 DELIVER AND STOCKPILE SALVAGED MATERIALS	LUMP	LUMP			7,780.36
0920	2599-9999005 ('EACH' ITEM) LOAD TEST ON SINGLE INCLUSIONS, VERIFICATION LOAD TEST	4.000 EACH	147,326.88000			589,307.52
0930	2599-9999009 ('LINEAR FEET' ITEM) 18-INCH DIA. RIGID INCLUSION	675,000.000 LF	19.53000			13,182,750.00
0940	2599-9999010 ('LUMP SUM' ITEM) HAUL ROAD	LUMP	LUMP			68,410.93
0950	2599-9999010 ('LUMP SUM' ITEM) INSTRUMENTATION	LUMP	LUMP			1,443,158.16
0960	2599-9999010 ('LUMP SUM' ITEM) TEMPORARY ACCESS OVER SAN SWR PIPE	LUMP	LUMP			31,198.43
0970	2599-9999018 ('SQUARE YARDS' ITEM) HIGH STRENGTH GEOTEXTILE	196,250.000 SY	7.90000			1,550,375.00
0980	2601-2633100 MOWING	88.000 ACRE	26.35000			2,318.80

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0990	2601-2634100 MULCHING	38.700 ACRE	700.00000		27,090.00	
1000	2601-2634105 MULCHING, BONDED FIBER MATRIX	5.300 ACRE	2,570.16000		13,621.85	
1010	2601-2636043 SEEDING AND FERTILIZING (RURAL)	29.400 ACRE	457.04000		13,436.98	
1020	2601-2642100 STABILIZING CROP - SEEDING AND FERTILIZING	44.000 ACRE	376.38000		16,560.72	
1030	2602-0000020 SILT FENCE	19,059.000 LF	1.29000		24,586.11	
1040	2602-0000030 SILT FENCE FOR DITCH CHECKS	1,971.000 LF	1.67000		3,291.57	
1050	2602-0000050 SILT BASINS	18.000 EACH	774.27000		13,936.86	
1060	2602-0000101 MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	2,037.100 LF	0.54000		1,100.03	
1070	2602-0000312 PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	1,000.000 LF	3.17000		3,170.00	
1080	2602-0000320 PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.	1,000.000 LF	4.25000		4,250.00	

CONTRACT SCHEDULE OF PRICES

Vendor No.: HA801 Bid Order No.: 014
 Contract ID No.: 78-0293-097 Letting Date: April 15, 2014
 Primary Work Type: BRIDGE REPLACEMENT - STEEL GIRDER 10:00 A.M.
 Primary County: POTTAWATTAMIE

Line No	Item Number Item Description	Item Quantity and Unit	Unit Price		Bid Amount	
			Dollars	Cts	Dollars	Cts
1090	2602-0000350 REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE	2,000.000 LF	0.27000		540.00	
1100	2602-0010010 MOBILIZATIONS, EROSION CONTROL	1.000 EACH	500.00000		500.00	
1110	2602-0010020 MOBILIZATIONS, EMERGENCY EROSION CONTROL	1.000 EACH	1,000.00000		1,000.00	
1113	2595-0000012 INSURANCE WHEN WORKING IN RAILROAD RIGHT-OF-WAY, MODIFIED, FOR CBEC RAILWAY COMPANY	LUMP	LUMP		2,172.26	
1115	2595-0000013 LIABILITY INSURANCE, MODIFIED, FOR CBEC RAILWAY COMPANY	LUMP	LUMP		2,172.26	
1116	2599-9999005 ('EACH' ITEM) LOAD TEST ON SINGLE INCLUSIONS, PROOF LOAD TEST`	4.000 EACH	125,819.30000		503,277.20	
1117	2213-6745500 REMOVAL OF CURB	2.510 STA	752.77000		1,889.45	
SECTION 0002 ALTERNATE 'AA' OPTION 1: 7 IN. PCC SHOULDER BID THIS SECTION IF ALTERNATE 'AA' OPTION 1 IS CHOSEN-(97) ALT GROUP AA1						
1120	2122-5190007 PAVED SHOULDER, P.C. CONCRETE, 7 IN.	687.100 SY	41.40000		28,445.94	
SECTION 0004 ALTERNATE 'BB' OPTION 1: 8 IN. PCC SHOULDER BID THIS SECTION IF ALTERNATE 'BB' OPTION 1 IS CHOSEN-(97) ALT GROUP BB1						

CONTRACT SCHEDULE OF PRICES

Vendor No.: HA801 Bid Order No.: 014
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 Primary Work Type: BRIDGE REPLACEMENT - STEEL GIRDER 10:00 A.M.
 Primary County: POTTAWATTAMIE

Line No	Item Number Item Description	Item Quantity and Unit	Unit Price		Bid Amount	
			Dollars	Cts	Dollars	Cts
1140	2122-5190008 PAVED SHOULDER, P.C. CONCRETE, 8 IN.	86.600 SY	51.62000		4,470.29	
SECTION 0006 DESIGN NO. 0313; A 1045' X VAR. CONTINUOUS WELDED GIRDER BRIDGE - IM-NHS-029-3(98)48--03-78						
1160	2104-2710020 EXCAVATION, CLASS 10, CHANNEL	2,943.700 CY	6.75000		19,869.98	
1170	2403-0100010 STRUCTURAL CONCRETE (BRIDGE)	894.800 CY	500.00000		447,400.00	
1180	2403-7000210 HIGH PERFORMANCE STRUCTURAL CONCRETE	2,697.000 CY	525.00000		1,415,925.00	
1190	2404-7775000 REINFORCING STEEL	1,033,872 LB	0.90000		930,484.80	
1200	2404-7775005 REINFORCING STEEL, EPOXY COATED	842,763.000 LB	0.85000		716,348.55	
1210	2408-7800000 STRUCTURAL STEEL	4,852,195 LB	1.31000		6,356,375.45	
1220	2408-8500100 REINFORCED NEOPRENE	3,162.000 SF	60.00000		189,720.00	
1230	2414-6424038 CONCRETE BARRIER RAIL, 3'-8"	2,650.600 LF	40.00000		106,024.00	
1240	2433-0001060 CONCRETE DRILLED SHAFT, 60 IN. DIAMETER	1,742.000 LF	700.00000		1,219,400.00	

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 Primary County: POTTAWATTAMIE

Line No	Item Number Item Description	Item Quantity and Unit	Unit Price		Bid Amount	
			Dollars	Cts	Dollars	Cts
1250	2433-0001072 CONCRETE DRILLED SHAFT, 72 IN. DIAMETER	2,250.000 LF	700.00000		1,575,000.00	
1260	2433-0002000 LOAD CELL TEST	1.000 EACH	225,000.00000		225,000.00	
1270	2433-0003000 DEMONSTRATION SHAFT	97.000 LF	700.00000		67,900.00	
1280	2434-0000100 DISC BEARING ASSEMBLIES	56.000 EACH	5,000.00000		280,000.00	
1290	2499-2300001 DECK DRAINS	LUMP	LUMP		50,000.00	
1300	2507-3250005 ENGINEERING FABRIC	6,887.000 SY	2.30000		15,840.10	
1310	2507-6800061 REVETMENT, CLASS E	4,679.800 TON	37.00000		173,152.60	
1320	2507-8029000 EROSION STONE	808.900 TON	25.60000		20,707.84	
1330	2526-8285000 CONSTRUCTION SURVEY	LUMP	LUMP		43,015.15	
1340	2533-4980005 MOBILIZATION	LUMP	LUMP		1,047,500.00	
1350	2551-0000230 PERMANENT CRASH CUSHION, SEVERE USE (SU)	1.000 EACH	22,582.95000		22,582.95	

CONTRACT SCHEDULE OF PRICES

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 Primary County: POTTAWATTAMIE

Line No	Item Number Item Description	Item Quantity and Unit	Unit Price		Bid Amount	
			Dollars	Cts	Dollars	Cts
1360	2551-0000300 PERMANENT CRASH CUSHION SPARE PARTS KIT	1.000 EACH	1,075.38000		1,075.38	
1370	2599-9999009 ('LINEAR FEET' ITEM) CONCRETE DRILLED SHAFT, 78 IN. DIA.	736.000 LF	700.00000		515,200.00	
1380	2599-9999009 ('LINEAR FEET' ITEM) EXPANSION JOINT (FINGER PLATE TYPE)	270.700 LF	2,500.00000		676,750.00	
SECTION 0007 ROADWAY ITEMS IM-NHS-029-3(98)48--03-78						
1390	2301-0685550 BRIDGE APPROACH PAVEMENT, AS PER PLAN	1,520.400 SY	195.00000		296,478.00	
1400	2402-2720000 EXCAVATION, CLASS 20	420.000 CY	33.00000		13,860.00	
1410	2412-0000100 LONGITUDINAL GROOVING IN CONCRETE	9,920.900 SY	2.69000		26,687.22	
1420	2513-0001050 CONCRETE BARRIER, BA-105	1.000 EACH	2,000.00000		2,000.00	
1430	2513-0001070 CONCRETE BARRIER RAIL, BA-107	1.000 EACH	2,000.00000		2,000.00	
1440	2513-0474990 CONCRETE BARRIER, REINFORCED, AS PER PLAN	123.500 LF	125.00000		15,437.50	
1450	2528-8445110 TRAFFIC CONTROL	LUMP	LUMP		2,688.45	

CONTRACT SCHEDULE OF PRICES

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 Primary County: POTTAWATTAMIE

Line No	Item Number Item Description	Item Quantity and Unit	Unit Price		Bid Amount	
			Dollars	Cts	Dollars	Cts
1460	2528-8445113 FLAGGERS	10.000 EACH	335.00000		3,350.00	
1470	2602-0000020 SILT FENCE	1,012.500 LF	1.29000		1,306.13	
1480	2602-0000071 REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	1,700.000 LF	0.11000		187.00	
1490	2602-0000101 MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	101.300 LF	1.08000		109.40	
1500	2602-0000212 FLOATING SILT CURTAIN (HANGING)	1,700.000 LF	23.12000		39,304.00	
1510	2602-0000240 MAINTENANCE OF FLOATING SILT CURTAIN	850.000 LF	9.68000		8,228.00	
1520	2602-0010010 MOBILIZATIONS, EROSION CONTROL	1.000 EACH	500.00000		500.00	
1530	2602-0010020 MOBILIZATIONS, EMERGENCY EROSION CONTROL	1.000 EACH	1,000.00000		1,000.00	
SECTION 0008 DESIGN NO. 0113; A 476'-0 X 42'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - IM-029-3(99)48--13-78						
1540	2401-6745625 REMOVAL OF EXISTING BRIDGE	LUMP	LUMP		90,745.59	
1550	2402-2720000 EXCAVATION, CLASS 20	892.000 CY	22.69000		20,239.48	

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 Primary County: POTTAWATTAMIE

Line No	Item Number Item Description	Item Quantity and Unit	Unit Price		Bid Amount	
			Dollars	Cts	Dollars	Cts
1560	2403-0100010 STRUCTURAL CONCRETE (BRIDGE)	780.300 CY	275.27000		214,793.18	
1570	2403-7000210 HIGH PERFORMANCE STRUCTURAL CONCRETE	826.200 CY	300.83000		248,545.75	
1590	2404-7775000 REINFORCING STEEL	87,840.000 LB	0.79000		69,393.60	
1600	2404-7775005 REINFORCING STEEL, EPOXY COATED	241,711.000 LB	0.82000		198,203.02	
1610	2407-0550000 BEAMS, PRETENSIONED PRESTRESSED CONCRETE, BEAMS, PRETENSIONED PRESTRESSED CONCRETE , SBTE115	6.000 EACH	19,999.66000		119,997.96	
1620	2407-0550000 BEAMS, PRETENSIONED PRESTRESSED CONCRETE, BEAMS, PRETENSIONED PRESTRESSED CONCRETE , SBTE145	6.000 EACH	28,424.32000		170,545.92	
1630	2407-0550000 BEAMS, PRETENSIONED PRESTRESSED CONCRETE, BEAMS, PRETENSIONED PRESTRESSED CONCRETE , SBTE60	6.000 EACH	10,192.20000		61,153.20	
1640	2407-0564350 BEAMS, PRETENSIONED PRESTRESSED CONCRETE, BTE150	6.000 EACH	27,934.34000		167,606.04	
1650	2408-7800000 STRUCTURAL STEEL	29,232.000 LB	2.16000		63,141.12	
1660	2413-1200000 STEEL EXTRUSION JOINT WITH NEOPRENE	479.000 LF	115.90000		55,516.10	

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 Primary County: POTTAWATTAMIE

Line No	Item Number Item Description	Item Quantity and Unit	Unit Price		Bid Amount	
			Dollars	Cts	Dollars	Cts
1670	2414-6424119 CONCRETE BARRIER RAILING, AESTHETIC	507.000 LF	109.63000		55,582.41	
1680	2499-2300001 DECK DRAINS	LUMP	LUMP		6,443.22	
1690	2501-0201473 PILES, STEEL, HP 14 X 73	7,830.000 LF	40.20000		314,766.00	
1700	2501-0201517 PILES, STEEL, HP 14 X 117	1,960.000 LF	60.16000		117,913.60	
1710	2501-6335010 PREBORED HOLES	200.000 LF	48.59000		9,718.00	
1720	2501-8400172 TEMPORARY SHORING	LUMP	LUMP		22,579.96	
1730	2507-2638620 MACADAM STONE SLOPE PROTECTION	765.000 SY	29.45000		22,529.25	
1740	2507-2638660 BRIDGE WING ARMORING - MACADAM STONE	16.700 SY	65.63000		1,096.02	
1750	2526-8285000 CONSTRUCTION SURVEY	LUMP	LUMP		43,015.15	
1760	2533-4980005 MOBILIZATION	LUMP	LUMP		226,465.00	
SECTION 0009 ROADWAY ITEMS						
IM-029-3(99)48--13-78						
1770	2301-0690200 BRIDGE APPROACH, RK-20	609.600 SY	121.33000		73,962.77	

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Line No	Item Number Item Description	Item Quantity and Unit	Unit Price		Bid Amount	
			Dollars	Cts	Dollars	Cts
1780	2412-0000100 LONGITUDINAL GROOVING IN CONCRETE	 2,647.300 SY	 1.24000		 3,282.65	
1790	2518-6910000 SAFETY CLOSURE	 6.000 EACH	 107.54000		 645.24	
1800	2528-8445110 TRAFFIC CONTROL	 LUMP	 LUMP		 26,884.47	
1810	2528-9290004 CHANGEABLE MESSAGE SIGNS, PORTABLE	 100.000 CDAY	 53.77000		 5,377.00	
1820	2602-0000020 SILT FENCE	 313.800 LF	 1.61000		 505.22	
1830	2602-0000071 REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	 156.900 LF	 0.11000		 17.26	
1840	2602-0000101 MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	 25.100 LF	 2.15000		 53.97	
1850	2602-0010010 MOBILIZATIONS, EROSION CONTROL	 1.000 EACH	 500.00000		 500.00	
1860	2602-0010020 MOBILIZATIONS, EMERGENCY EROSION CONTROL	 1.000 EACH	 1,000.00000		 1,000.00	
SECTION 0010 DESIGN NO. 0213; A 1056'-0 X 38'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE - NHS-029-3(100)48--11-78						
1870	2401-6745625 REMOVAL OF EXISTING BRIDGE	 LUMP	 LUMP		 624,781.00	

CONTRACT SCHEDULE OF PRICES

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Line No	Item Number Item Description	Item Quantity and Unit	Unit Price		Bid Amount	
			Dollars	Cts	Dollars	Cts
1880	2402-2720000 EXCAVATION, CLASS 20	350.000 CY	26.36000		9,226.00	
1890	2403-0100010 STRUCTURAL CONCRETE (BRIDGE)	617.000 CY	560.61000		345,896.37	
1900	2403-7000210 HIGH PERFORMANCE STRUCTURAL CONCRETE	1,578.600 CY	556.51000		878,506.69	
1910	2404-7775000 REINFORCING STEEL	620,547.000 LB	0.75000		465,410.25	
1920	2404-7775005 REINFORCING STEEL, EPOXY COATED	433,339.000 LB	0.83000		359,671.37	
1930	2407-0564275 BEAMS, PRETENSIONED PRESTRESSED CONCRETE, BTE75	5.000 EACH	12,856.80000		64,284.00	
1940	2407-0564285 BEAMS, PRETENSIONED PRESTRESSED CONCRETE, BTE85	5.000 EACH	14,249.65000		71,248.25	
1950	2407-0564290 BEAMS, PRETENSIONED PRESTRESSED CONCRETE, BTE90	5.000 EACH	16,099.80000		80,499.00	
1960	2407-0564315 BEAMS, PRETENSIONED PRESTRESSED CONCRETE, BTE115	5.000 EACH	20,821.09000		104,105.45	
1970	2407-0564320 BEAMS, PRETENSIONED PRESTRESSED CONCRETE, BTE120	5.000 EACH	22,363.90000		111,819.50	
1980	2407-0564330 BEAMS, PRETENSIONED PRESTRESSED CONCRETE, BTE130	5.000 EACH	24,774.90000		123,874.50	

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Line No	Item Number Item Description	Item Quantity and Unit	Unit Price		Bid Amount	
			Dollars	Cts	Dollars	Cts
1990	2407-0564335 BEAMS, PRETENSIONED PRESTRESSED CONCRETE, BTE135	5.000 EACH	27,484.15000		137,420.75	
2000	2407-0564340 BEAMS, PRETENSIONED PRESTRESSED CONCRETE, BTE140	5.000 EACH	28,034.39000		140,171.95	
2010	2407-0564350 BEAMS, PRETENSIONED PRESTRESSED CONCRETE, BTE150	5.000 EACH	30,684.12000		153,420.60	
2020	2408-7800000 STRUCTURAL STEEL	54,555.000 LB	3.44000		187,669.20	
2030	2408-8500100 REINFORCED NEOPRENE	712.000 SF	44.10000		31,399.20	
2040	2414-6424038 CONCRETE BARRIER RAIL, 3'-8"	2,183.400 LF	50.99000		111,331.57	
2050	2433-0001048 CONCRETE DRILLED SHAFT, 48 IN. DIAMETER	929.000 LF	415.30000		385,813.70	
2060	2433-0001078 CONCRETE DRILLED SHAFT, 78 IN. DIAMETER	1,829.000 LF	590.28000		1,079,622.12	
2070	2433-0002000 LOAD CELL TEST	1.000 EACH	225,829.52000		225,829.52	
2080	2433-0003000 DEMONSTRATION SHAFT	97.000 LF	926.76000		89,895.72	
2090	2507-2638650 BRIDGE WING ARMORING - EROSION STONE	29.400 SY	75.12000		2,208.53	

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Line No	Item Number Item Description	Item Quantity and Unit	Unit Price		Bid Amount	
			Dollars	Cts	Dollars	Cts
2100	2526-8285000 CONSTRUCTION SURVEY	LUMP	LUMP		43,015.15	
2110	2533-4980005 MOBILIZATION	LUMP	LUMP		665,625.00	
2120	2595-0000110 CBEC INSURANCE PROVISIONS	LUMP	LUMP		2,172.26	
2130	2599-9999009 ('LINEAR FEET' ITEM) EXPANSION JOINT (FINGER PLATE TYPE)	96.000 LF	1,325.24000		127,223.04	
2140	2599-9999018 ('SQUARE YARDS' ITEM) EROSION STONE SLOPE PROTECTION	900.000 SY	32.37000		29,133.00	
2141	2599-9999010 ('LUMP SUM' ITEM) MONITORING PROGRAM FOR EXISTING EASTBOUND BRIDGE	LUMP	LUMP		5,376.89	
SECTION 0011 ROADWAY ITEMS NHS-029-3(100)48--11-78						
2150	2301-0690200 BRIDGE APPROACH, RK-20	549.300 SY	125.89000		69,151.38	
2160	2412-0000100 LONGITUDINAL GROOVING IN CONCRETE	4,610.700 SY	1.24000		5,717.27	
2170	2528-8445110 TRAFFIC CONTROL	LUMP	LUMP		2,688.45	
2180	2602-0000020 SILT FENCE	800.000 LF	1.61000		1,288.00	

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Line No	Item Number Item Description	Item Quantity and Unit	Unit Price Dollars Cts	Bid Amount Dollars Cts
2190	2602-0000071 REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	400.000 LF	0.54000	216.00
2200	2602-0000101 MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	64.000 LF	2.15000	137.60
2210	2602-0000212 FLOATING SILT CURTAIN (HANGING)	720.000 LF	23.12000	16,646.40
2220	2602-0000240 MAINTENANCE OF FLOATING SILT CURTAIN	360.000 LF	9.68000	3,484.80
2230	2602-0010010 MOBILIZATIONS, EROSION CONTROL	1.000 EACH	500.00000	500.00
2240	2602-0010020 MOBILIZATIONS, EMERGENCY EROSION CONTROL	1.000 EACH	1,000.00000	1,000.00
2241	2595-0000012 INSURANCE WHEN WORKING IN RAILROAD RIGHT-OF-WAY, MODIFIED, FOR CBEC RAILWAY COMPANY	LUMP	LUMP	2,172.26
2242	2595-0000013 LIABILITY INSURANCE, MODIFIED, FOR CBEC RAILWAY COMPANY	LUMP	LUMP	2,172.26
SECTION 0012 DESIGN NO. 0314; A 1045'-0 X VAR. CONTINUOUS WELDED PLATE GIRDER BRIDGE - IM-NHS-029-3(111)48--03-78				
2250	2104-2710020 EXCAVATION, CLASS 10, CHANNEL	2,607.300 CY	6.75000	17,599.28
2260	2401-6745625 REMOVAL OF EXISTING BRIDGE	LUMP	LUMP	150,000.00

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Line No	Item Number Item Description	Item Quantity and Unit	Unit Price Dollars Cts	Bid Amount Dollars Cts
2270	2403-0100010 STRUCTURAL CONCRETE (BRIDGE)	773.900 CY	500.00000	386,950.00
2280	2403-7000210 HIGH PERFORMANCE STRUCTURAL CONCRETE	2,550.100 CY	525.00000	1,338,802.50
2290	2404-7775000 REINFORCING STEEL	814,991.000 LB	0.90000	733,491.90
2300	2404-7775005 REINFORCING STEEL, EPOXY COATED	872,493.000 LB	0.85000	741,619.05
2310	2408-7800000 STRUCTURAL STEEL	4,247,310 LB	1.31000	5,563,976.10
2320	2408-8500100 REINFORCED NEOPRENE	2,927.000 SF	60.00000	175,620.00
2330	2414-6424038 CONCRETE BARRIER RAIL, 3'-8"	2,108.800 LF	40.00000	84,352.00
2340	2433-0001060 CONCRETE DRILLED SHAFT, 60 IN. DIAMETER	1,547.000 LF	700.00000	1,082,900.00
2350	2433-0001072 CONCRETE DRILLED SHAFT, 72 IN. DIAMETER	1,374.000 LF	700.00000	961,800.00
2360	2434-0000100 DISC BEARING ASSEMBLIES	53.000 EACH	5,000.00000	265,000.00
2370	2499-2300001 DECK DRAINS	LUMP	LUMP	50,000.00

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Line No	Item Number Item Description	Item Quantity and Unit	Unit Price		Bid Amount	
			Dollars	Cts	Dollars	Cts
2380	2507-3250005 ENGINEERING FABRIC	6,899.000 SY	2.30000		15,867.70	
2390	2507-6800061 REVETMENT, CLASS E	4,150.000 TON	36.97000		153,425.50	
2400	2507-8029000 EROSION STONE	996.900 TON	25.60000		25,520.64	
2410	2526-8285000 CONSTRUCTION SURVEY	LUMP	LUMP		43,015.15	
2420	2533-4980005 MOBILIZATION	LUMP	LUMP		1,252,500.00	
2430	2599-9999009 ('LINEAR FEET' ITEM) CONCRETE DRILLED SHAFT, 66 IN. DIAMETER	1,121.000 LF	700.00000		784,700.00	
2440	2599-9999009 ('LINEAR FEET' ITEM) CONCRETE DRILLED SHAFT, 78 IN. DIAMETER	346.000 LF	700.00000		242,200.00	
2450	2599-9999009 ('LINEAR FEET' ITEM) EXPANSION JOINT (FINGER PLATE TYPE)	218.500 LF	2,500.00000		546,250.00	
SECTION 0014 ROADWAY ITEMS						
IM-NHS-029-3(111)48--03-78						
2570	2301-0685550 BRIDGE APPROACH PAVEMENT, AS PER PLAN	1,348.400 SY	195.00000		262,938.00	
2580	2412-0000100 LONGITUDINAL GROOVING IN CONCRETE	9,274.900 SY	2.69000		24,949.48	

CONTRACT SCHEDULE OF PRICES

Vendor No.: HA801 Bid Order No.: 014
 Contract ID No.: 78-0293-097 Letting Date: April 15, 2014
 Primary Work Type: BRIDGE REPLACEMENT - STEEL GIRDER 10:00 A.M.
 Primary County: POTTAWATTAMIE

Line No	Item Number Item Description	Item Quantity and Unit	Unit Price		Bid Amount	
			Dollars	Cts	Dollars	Cts
2590	2513-0001050 CONCRETE BARRIER, BA-105	1.000 EACH	2,000.00000		2,000.00	
2600	2513-0001070 CONCRETE BARRIER RAIL, BA-107	1.000 EACH	2,000.00000		2,000.00	
2610	2513-0474990 CONCRETE BARRIER, REINFORCED, AS PER PLAN	114.800 LF	125.00000		14,350.00	
2620	2528-8445110 TRAFFIC CONTROL	LUMP	LUMP		2,688.45	
2630	2528-8445113 FLAGGERS	20.000 EACH	335.00000		6,700.00	
2640	2602-0000020 SILT FENCE	631.300 LF	1.61000		1,016.39	
2650	2602-0000071 REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	315.700 LF	0.54000		170.48	
2660	2602-0000101 MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	50.500 LF	1.08000		54.54	
2670	2602-0010010 MOBILIZATIONS, EROSION CONTROL	1.000 EACH	500.00000		500.00	
2680	2602-0010020 MOBILIZATIONS, EMERGENCY EROSION CONTROL	1.000 EACH	1,000.00000		1,000.00	

SECTION 0015 SIGNING ITEMS - IM-NHS-029-3(128)48--03-78

CONTRACT SCHEDULE OF PRICES

Vendor No.: HA801 Bid Order No.: 014
 Contract ID No.: 78-0293-097 Letting Date: April 15, 2014
 Primary Work Type: BRIDGE REPLACEMENT - STEEL GIRDER 10:00 A.M.
 Primary County: POTTAWATTAMIE

Line No	Item Number Item Description	Item Quantity and Unit	Unit Price		Bid Amount	
			Dollars	Cts	Dollars	Cts
2690	2401-6745358 REMOVAL OF CONCRETE FOUNDATIONS OF HIGHWAY SIGNS	1.000 EACH	1,613.07000		1,613.07	
2700	2401-6745910 REMOVAL OF SIGN	5.000 EACH	494.67000		2,473.35	
2710	2401-6745915 REMOVAL OF SIGN SUPPORT STRUCTURE AND FOOTING	2.000 EACH	6,452.27000		12,904.54	
2720	2402-2720000 EXCAVATION, CLASS 20	231.000 CY	52.16000		12,048.96	
2730	2403-0100000 STRUCTURAL CONCRETE (MISCELLANEOUS)	97.900 CY	274.22000		26,846.14	
2740	2404-7775000 REINFORCING STEEL	16,229.000 LB	0.97000		15,742.13	
2750	2404-7775005 REINFORCING STEEL, EPOXY COATED	11,780.000 LB	2.53000		29,803.40	
2760	2423-1060080 STEEL OVERHEAD SIGN TRUSS, 80 FT. SPAN	1.000 EACH	79,744.70000		79,744.70	
2770	2423-1060130 STEEL OVERHEAD SIGN TRUSS, 130 FT. SPAN	1.000 EACH	119,775.67000		119,775.67	
2780	2433-0001036 CONCRETE DRILLED SHAFT, 36 IN. DIAMETER	254.000 LF	268.84000		68,285.36	
2790	2433-0001048 CONCRETE DRILLED SHAFT, 48 IN. DIAMETER	112.000 LF	312.94000		35,049.28	

CONTRACT SCHEDULE OF PRICES

Vendor No.: HA801 Bid Order No.: 014
 Contract ID No.: 78-0293-097 Letting Date: April 15, 2014
 Primary Work Type: BRIDGE REPLACEMENT - STEEL GIRDER 10:00 A.M.
 Primary County: POTTAWATTAMIE

Line No	Item Number Item Description	Item Quantity and Unit	Unit Price		Bid Amount	
			Dollars	Cts	Dollars	Cts
2800	2524-6765010 REMOVE AND REINSTALL SIGN AS PER PLAN	13.000 EACH	811.91000		10,554.83	
2810	2524-9081275 CONCRETE FOOTING FOR BREAKAWAY SIGN POST, 2'-8" DIA. X 7'-6"	2.000 EACH	1,408.75000		2,817.50	
2820	2524-9081290 CONCRETE FOOTING FOR BREAKAWAY SIGN POST, 2'-8" DIA. X 9'-0"	3.000 EACH	1,591.56000		4,774.68	
2830	2524-9275222 WOOD POSTS FOR TYPE A OR B SIGNS, 4 IN. X 6 IN.	292.000 LF	19.57000		5,714.44	
2840	2524-9281121 STEEL BREAKAWAY SIGN POSTS FOR TYPE A OR B SIGNS, W 6 X 12	25.000 LF	58.23000		1,455.75	
2850	2524-9281210 STEEL BREAKAWAY SIGN POSTS FOR TYPE A OR B SIGNS, W 8 X 21	34.400 LF	68.66000		2,361.90	
2860	2524-9281426 STEEL BREAKAWAY SIGN POSTS FOR TYPE A OR B SIGNS, W 12 X 26	67.100 LF	78.88000		5,292.85	
2870	2524-9380001 TYPE B SIGNS, EXTRUDED ALUMINUM STRUCTURAL PANEL	735.000 SF	17.53000		12,884.55	
2880	2524-9680250 INSTALL TYPE B SIGN	6.000 EACH	682.87000		4,097.22	
2890	2526-8285000 CONSTRUCTION SURVEY	LUMP	LUMP		43,015.15	

CONTRACT SCHEDULE OF PRICES

Vendor No.: HA801 Bid Order No.: 014
 Contract ID No.: 78-0293-097 Letting Date: April 15, 2014
 Primary Work Type: BRIDGE REPLACEMENT - STEEL GIRDER 10:00 A.M.
 Primary County: POTTAWATTAMIE

Line No	Item Number Item Description	Item Quantity and Unit	Unit Price		Bid Amount	
			Dollars	Cts	Dollars	Cts
2900	2528-8445110 TRAFFIC CONTROL	LUMP	LUMP			2,688.45
2910	2528-8445113 FLAGGERS	20.000 EACH	335.00000			6,700.00
2920	2528-9290004 CHANGEABLE MESSAGE SIGNS, PORTABLE	15.000 CDAY	53.77000			806.55
2930	2533-4980005 MOBILIZATION	LUMP	LUMP			232,538.81
2940	2555-0000010 DELIVER AND STOCKPILE SALVAGED MATERIALS	LUMP	LUMP			2,088.39
TOTAL BID						88,383,783.78

A d d e n d u m

Iowa Department of Transportation
Office of Contracts

Date of Letting: April 15, 2014
Date of Addendum: March 27, 2014

B.O.	Proposal ID	Proposal Work Type	County	Project Number	Addendum
014	78-0293-097	BRIDGE REPLACEMENT - STEEL GIRDER	POTTAWATTAMIE	IM-NHS-029-3(97)48--03-78 IM-NHS-029-3(98)48--03-78 IM-029-3(99)48--13-78 NHS-029-3(100)48--11-78 IM-NHS-029-3(111)48--03-78 IM-NHS-029-3(128)48--03-78	15APR014.A01

Notice: Only the bid proposal holders receive this addendum and responsibility for notifying any potential subcontractors or suppliers remains with the proposal holder.

Make the following changes to the PROPOSAL SCHEDULE OF PRICES:

Change Proposal Line No. 0070 2105-8425015 TOPSOIL, STRIP, SALVAGE AND SPREAD:
From: 36,763.000 CY
To: 18,811.000 CY

Add Proposal Line No. 1111 2105-8425020 TOPSOIL, STRIP AND STOCKPILE;
53,800.000 CY

Add Proposal Line No. 1112 2595-0000012 INSURANCE WHEN WORKING IN RAILROAD RIGHT-OF-WAY, MODIFIED, FOR BNSF RAILWAY COMPANY; LUMP

Add Proposal Line No. 1113 2595-0000012 INSURANCE WHEN WORKING IN RAILROAD RIGHT-OF-WAY, MODIFIED, FOR CBEC RAILWAY COMPANY; LUMP

Add Proposal Line No. 1114 2595-0000013 LIABILITY INSURANCE, MODIFIED, FOR BNSF RAILWAY COMPANY; LUMP

Add Proposal Line No. 1115 2595-0000013 LIABILITY INSURANCE, MODIFIED, FOR CBEC RAILWAY COMPANY; LUMP

Delete Proposal Line No. 1580 2403-7000220 TRIAL BATCH HIGH PERFORMANCE STRUCTURAL CONCRETE; LUMP

Add Proposal Line No. 2241 2595-0000012 INSURANCE WHEN WORKING IN RAILROAD RIGHT-OF-WAY, MODIFIED, FOR CBEC RAILWAY COMPANY; LUMP

Add Proposal Line No. 2242 2595-0000013 LIABILITY INSURANCE, MODIFIED, FOR CBEC RAILWAY COMPANY; LUMP

If the above changes are not made, they will be made as shown here.

Make the following changes to IM-NHS-029-3(97)48--03-78:

Plan Sheet C.3:

Replace the existing Estimate Reference Information for Item 2102-2713070 EXCAVATION, CLASS 13, ROADWAY AND BORROW with the following:

See Tab 112-9 and detour typicals for locations and details on Sheets B.8 and B.9. Item includes excavation of material on existing shoulders to build detours.

Add the following Estimate Reference Information for Item 2105-8425020 TOPSOIL, STRIP AND STOCKPILE:

Item is for material stripped at optional Borrow #32. See R Sheets for Borrow #32 information on topsoil.

Add attached Plan Sheet S.5

Add attached Plan Sheet W.1

SIDEWALK COMPLIANCE
See 5 Sheets

① Does not include curb
Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.

Point to Point	Sidewalk Designation	Distance*	Δ Elevation	Slope	Acceptable Constructed Range	Staking Required on this Quadrant? ①	Measured Slope	Initials	Remarks	FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES							
										FT	FT	%	Pos. or Neg.	Point	Station	Offset	Elevation
W1101	W1102	Ramp Running Slope	5.00	0.04	0.8%	0.5% to 2.3%				W1101	100326+27.92	69.35	990.66				
W1101	W1106	Match Existing Cross Slope	17.21	0.35	2.0%	Match Existing			Match Detour Grade for Temp Ramp	W1102	100326+17.10	70.83	990.70				
W1102	W1103	Landing/Turning Space	10.35	-0.10	-1.0%	0.1% to 2.0%				W1103	100326+14.49	76.79	990.60				
W1102	W1105	Ramp Cross Slope	16.10	0.24	1.5%	0.1% to 2.0%				W1104	100326+07.79	64.41	990.81				
W1103	W1104	Landing/Turning Space	14.11	0.21	1.5%	0.1% to 2.0%				W1105	100326+14.25	58.66	990.94				
W1104	W1105	Landing/Turning Space	8.65	0.13	1.5%	0.1% to 2.0%				W1106	100326+17.99	55.34	991.01				
W1105	W1106	Ramp Running Slope	5.00	0.07	1.4%	0.5% to 2.3%											
W1201	W1202	Match Existing Cross Slope	7.94	0.10	1.2%	Match Existing			Match Detour Grade for Temp Ramp	W1201	100326+23.92	63.85	991.14				
W1201	W1204	Landing/Turning Space	11.17	0.16	1.4%	0.1% to 2.0%				W1202	100326+29.20	69.78	991.24				
W1202	W1209	Landing/Turning Space	5.00	-0.01	-0.2%	0.1% to 2.0%				W1203	100326+29.42	74.78	991.23				
W1202	W1203	Landing/Turning Space	5.00	-0.01	-0.3%	0.1% to 2.0%				W1204	100326+24.43	75.01	991.30				
W1203	W1204	Ramp Cross Slope	5.00	0.07	1.5%	0.1% to 2.0%				W1205	100326+24.66	80.10	991.22				
W1204	W1205	Ramp Cross Slope	5.00	-0.08	-1.5%	0.1% to 2.0%				W1206	100326+20.13	77.65	991.22				
W1204	W1206	Ramp Cross Slope	5.00	-0.08	-1.5%	0.1% to 2.0%				W1207	100326+20.53	69.36	991.21				
W1204	W1206	Ramp Cross Slope	5.00	-0.08	-1.5%	0.1% to 2.0%				W1208	100326+16.58	72.43	991.16				
W1204	W1207	Sidewalk Running Slope	6.87	-0.09	-1.3%	0.5% to 5.0%				W1209	100326+24.20	70.81	991.23				
W1206	W1208	Sidewalk Running Slope	6.32	-0.09	-1.4%	0.5% to 5.0%				W1401	100327+68.37	72.65	988.96				
W1207	W1208	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%				W1402	100327+75.94	62.83	988.85				
W1401	W1402	Match Existing Cross Slope	12.40	-0.11	-0.9%	Match Existing			Match Detour Grade for Temp Ramp	W1403	100327+85.95	63.06	989.00				
W1401	W1404	Landing/Turning Space	17.34	0.19	1.1%	0.1% to 2.0%				W1404	100327+85.71	73.06	989.15				
W1402	W1403	Landing/Turning Space	10.00	0.15	1.5%	0.1% to 2.0%											
W1403	W1404	Landing/Turning Space	10.00	0.15	1.5%	0.1% to 2.0%											

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LINE STYLE LEGEND OF CROSS SECTION SHEETS (ROAD)

- Existing Ground Line
- ===== Proposed Template
- ===== Proposed Topsoil Placement
- Additional Topsoil Removal
- Subgrade Treatment
- Granular Shoulder
- ===== Pavement
- Existing Pipe\RCB
- ===== Proposed Pipe\RCB
- ===== Proposed Dike
- All Elements Associated with Proposed Entrances

LINE STYLE LEGEND OF CROSS SECTION SHEETS (SOILS)

- TS ----- Topsoil (Class 10)
- TS A ----- Topsoil (Type A Disposal)
- TS B ----- Topsoil (Type B Disposal)
- TS C ----- Topsoil (Type C Disposal)
- CL 10 ----- Class 10 Materials
- SEL LD ----- Select Loams And Clay-Loams
- SEL SA ----- Select Sand
- UNS A ----- Unsuitable Type A Disposal
- UNS B ----- Unsuitable Type B Disposal
- UNS C ----- Unsuitable Type C Disposal
- SHALE ----- Shale
- WASTE ----- Waste
- B&W LS ----- Broken and Weathered Rock
- ROCK ----- Solid Rock
- BLDGS ----- Boulders

Note: All layer lines and descriptions identify layers above the line.

Note: Vertical or near vertical lines connecting soil layers at edges of cross sections are only for the purpose of calculating template quantities and do not depict soil stratification.

SYMBOL LEGEND OF CROSS SECTION SHEETS

- Existing RWL
----- Existing Right-of-Way Limit
- Proposed RWL
----- Proposed Right-of-Way Limit
- Temporary RWL
----- Temporary Right-of-Way Limit

**CROSS SECTION
LEGEND AND SYMBOL
INFORMATION SHEET**

(COVERS SHEET SERIES W, X, Y, & Z)

ENGLISH IQVA DOT DESIGN TEAM

COUNTY PROJECT NUMBER

SHEET NUMBER **W.1**

Page 4 of 7

A d d e n d u m

Iowa Department of Transportation
Office of Contracts

Date of Letting: April 15, 2014
Date of Addendum: March 28, 2014

B.O.	Proposal ID	Proposal Work Type	County	Project Number	Addendum
014	78-0293-097	BRIDGE REPLACEMENT - STEEL GIRDER	POTTAWATTAMIE	IM-NHS-029-3(97)48--03-78 IM-NHS-029-3(98)48--03-78 IM-029-3(99)48--13-78 NHS-029-3(100)48--11-78 IM-NHS-029-3(111)48--03-78 IM-NHS-029-3(128)48--03-78	15APR014.A02

Notice: Only the bid proposal holders receive this addendum and responsibility for notifying any potential subcontractors or suppliers remains with the proposal holder.

Make the following changes to the PROPOSAL SPECIAL PROVISIONS LIST & TEXT:

Add:

SP-120176 April 15, 2014
SPECIAL PROVISIONS FOR WORK ON RAILROAD RIGHT-OF-WAY (BNSF)
Pottawattamie County IM-NHS-029-3(97)48--03-78

SP-120177 April 15, 2014
SPECIAL PROVISIONS FOR WORK ON RAILROAD RIGHT-OF-WAY (CBEC)
Pottawattamie County NHS-029-3(100)48--11-78 & IM-NHS-029-3(97)48--03-78



Iowa Department of Transportation

SPECIAL PROVISIONS FOR WORK ON RAILROAD RIGHT-OF-WAY (BNSF)

Pottawattamie County
IM-NHS-029-3(97)48--03-78

Effective Date
April 15, 2014

THE STANDARD SPECIFICATIONS, SERIES 2012, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

1.01 General

1.01.01 The Contractor shall cooperate with the BNSF Railway Company, hereinafter referred to as "Railroad" where work is over, under, on, or adjacent to Railroad property, and/or right-of-way, hereafter referred to as Railroad property, during the work which shall not interfere with the movement of trains on Railroad property.

1.01.02 The Contractor's right to enter Railroad's property is subject to the absolute right of the Railroad to cause the Contractor's work on Railroad's property to cease if, in the opinion of Railroad, Contractor's activities create a hazard to Railroad's property, employees, and/or operations.

1.01.03 The Contractor shall notify the Engineer and also the Railroad's Manager Public Projects, David A. Johnson, BNSF Railway Company, 80-44th Avenue NE, Minneapolis, MN 55421, telephone number: 206.734.5481; at least 10 calendar days before commencing work over, under, on, or adjacent to Railroad property. Contractor's notification to Railroad shall refer to Railroad's file numbers.

1.01.04 Falsework above tracks or excavations located, whichever is greater, within 25 feet of the nearest track or intersecting a slope from the plane of the top of rail on a 1.5 horizontal to 1 vertical slope beginning 11 feet from centerline of the nearest track, both measured perpendicular to center line of track, the Contractor shall furnish the Railroad five sets of working drawings showing details of construction affecting railroad tracks and property. The working drawings shall include the proposed method of installation and removal of falsework, shoring, or cribbing, not included in the contract plans and two sets of structural calculations of any, falsework, shoring, or cribbing. All calculations shall take into consideration railroad surcharge loading and shall be designed to meet American Railway Engineering and Maintenance-of-Way Association Coopers E-80 live loading standard. All drawings and calculations shall be stamped by a registered Professional Engineer licensed in the state of Iowa. The Contractor shall not begin work until notified by the Railroad that plans have been approved. The

Contractor shall use lifting devices such as, cranes and/or winches to place or to remove falsework over Railroad's tracks. The Contractor will not be relieved of responsibility for results obtained by the implementation of said approved plans.

1.01.05 The Railroad will cooperate with the Contractor such that the work may be handled and performed in an efficient manner.

1.02 Railroad Requirements

1.02.01 The Contractor shall comply with the rules and regulations of Railroad and the instructions of the Railroad's representatives in relation to the proper manner of protecting the tracks and property of Railroad and the traffic moving on such tracks, as well as the wires, signals, and other property of Railroad, its tenants or licensees, at and in the vicinity of the work area during construction.

1.02.02 The Contractor shall perform work in such manner and at such times that shall not endanger, delay, or interfere with the safe and timely operation of the tracks and property of Railroad and the traffic moving on such tracks, as well as the wires, signals, and other property of Railroad, its tenants, or licensees.

1.02.03 The Contractor shall take protective measures as are necessary to keep railroad facilities, including track ballast, free of sand, debris, and other foreign objects and materials resulting from the construction operations. Any damage to Railroad facilities resulting from Contractor's operations will be repaired or replaced by Railroad and the cost of such repairs or replacement shall be paid by the Contractor.

1.02.04 The Contractor shall notify the Railroad's Division Superintendent at Lincoln, NE, (telephone number: 402.458.7500), and provide blasting plans to the Railroad for review a minimum of 7 calendar days prior to conducting blasting operations adjacent to or on Railroad's property.

1.02.05 The Contractor shall abide by the following clearances during the course of construction:

- 25.0 feet horizontally from centerline of nearest track,
- 22.5 feet vertically above top of rail (Temporary Falsework Clearance may be reduced to 21.5 feet subject to Railroad and Public Utilities Commission approval),
- 27.0 feet vertically above top of rail for electric wires carrying less than 750 V,
- 28.0 feet vertically above top of rail for electric wires carrying 750 V to 15 kV,
- 30.0 feet vertically above top of rail for electric wires carrying 15 kV to 20 kV, and
- 34.0 feet vertically above top of rail for electric wires carrying more than 20 kV.

1.02.06 Any desired infringement within clearances due to the Contractor's operations shall be submitted to the Railroad and Engineer and shall not be undertaken until approved in writing by the Railroad and Engineer. No extra compensation will be allowed in the event the Contractor's work is delayed pending approval.

1.02.07 In the case of impaired vertical clearance above top of rail, Railroad will have the option of installing tell-tales or other protective devices Railroad deems necessary for protection of Railroad employees or rail traffic. The cost of tell-tales or protective devices shall be borne by the Contractor.

1.02.08 The details of construction affecting the Railroad's tracks and property not included in the contract plans shall be submitted to the Railroad by the Engineer for approval before work is undertaken and this work shall not be undertaken until approved by the Railroad.

1.02.09 At other than public road crossings, the Contractor shall not move equipment or materials across Railroad's tracks until permission has been obtained from Railroad. Contractor shall obtain a

temporary private crossing agreement from Railroad prior to moving equipment or materials across Railroad's tracks. Temporary private crossing shall be gated and locked at all times when not required for use by the Contractor. Temporary private crossing for use of the Contractor shall be at the expense of the Contractor.

1.02.10 The Contractor, upon completion of the work, shall promptly remove from the premises of Railroad all of Contractor's tools, implements, and other materials, whether brought upon said premises by said Contractor or any subcontractor, employee, or agent of Contractor or of any subcontractor, and shall cause said premises to be left in a condition acceptable to the Railroad's representative.

1.03 Protection of Railroad Facilities and Railroad Flagger Services

The Railroad shall have the right to provide, at the expense of the Contractor, a flagman or flagmen or other protective services at any time during construction of that portion of the project on or near Railroad right-of-way when, in the opinion of the Railroad, it is necessary as a matter of protection and safety to track and train operations.

1.03.01 The Contractor shall give a minimum of 30 working days notice to the Railroad's Roadmaster, Jerrod Chapple (telephone number: 402.422.5249), in advance of when flagging services will be required.

1.03.02 Railroad flagger and protective services and devices will be required and furnished when Contractor's work activities are located over, under, or within 25 feet measured horizontally from center line of the nearest track, and when cranes or similar equipment are positioned outside of 25 feet measured horizontally from the track center line that could foul the track in the event of tip over or other catastrophic occurrence, but not limited thereto, for the following conditions:

1.03.02a When in the opinion of the Railroad's Representative it is necessary to safeguard Railroad's employees, trains, engines, facilities, and property.

1.03.02b When any excavation is performed below the bottom of tie elevation, if, in the opinion of Railroad's representative, track or other Railroad facilities may be subject to movement or settlement.

1.03.02c When work, in any way interferes with the safe operation of trains at timetable speeds.

1.03.02d When any hazard is presented to Railroad track, communications, signal, electrical, or other facilities either due to persons, material, equipment, or blasting in the vicinity.

1.03.02e Special permission shall be requested from the Railroad before moving heavy or cumbersome objects or equipment which might result in making the track impassable.

1.03.03 Flagging services will be performed by qualified railroad flaggers. The cost per day for one flagger is approximately \$800.00, which includes vacation allowance, paid holidays, Railroad and Unemployment Insurance, Public Liability and Property Damage Insurance, Health and Welfare Benefits, transportation, meals, lodging, and supervision, for an eight-hour basic day, with time and one-half or double time for overtime, rest days, and holidays. These rates are subject to increases which may result from Railroad Employees-Railroad Management negotiations or which may be authorized by Federal authorities. The Contractor will be billed on actual costs in effect at the time the work is performed.

1.03.03a Flagging crew generally consists of one employee. Additional personnel may be required to protect Railroad operations and property, if deemed necessary by the Railroad's Representative.

1.03.03b Each time a flagger is called the minimum period for billing will be the eight-hour basic day.

1.03.03c The cost of flagger services provided by the Railroad, as deemed necessary by the Railroad's representative, shall be borne by the Contractor.

1.03.03d Final payment to the Contractor will not be made by the Engineer until all flagging or other protective services and/or temporary grade crossing expenses have been billed and paid to the Railroad. Contractor shall provide to the Engineer monthly copies of invoices and evidence of payment to the Railroad.

1.04 Contractor General Safety Requirements

1.04.01 Safety is of the utmost importance in performing work on the Railroad's property. The Railroad does not assume the control or responsibility of the Contractor to provide safe working conditions for the Contractor or subcontractors in requiring the Contractor to follow the Railroad's General Safety Requirements.

1.04.02 Work in the proximity of a railroad track is potentially dangerous. The Contractor, subcontractors, and invitees are governed by the following Safety Rules and General Safety Requirements while on Railroad property. The Contractor is responsible for enforcement of these Safety Rules and Requirements. The Railroad has the right to bar the Contractor, subcontractors, and invitees from working on Railroad property if the Railroad deems such persons are acting in an unsafe manner. If at any time the Engineer or Railroad are of the opinion that work of the Contractor is being or is about to be done or prosecuted without due regard and precaution for safety and security, the Engineer may suspend work until proper protective measures are adopted and provided.

1.04.03 Before beginning any task on Railroad property, a complete job safety briefing shall be conducted with all individuals involved with the task, and again if the task changes. If the task is within 25 feet of any track, the job briefing shall include the Railroad's flagger and include the procedures the Contractor will use to protect its employees, subcontractors, agents, or invitees from moving any equipment adjacent to or across any railroad tracks.

1.04.04 The Contractor shall ensure that prior to any employee entering Railroad property they have completed the safety orientation found on the following website: www.contractororientation.com. This course shall be completed annually for contracts exceeding one year.

1.04.04a Employees of the Contractor, subcontractors, agents, and invitees shall receive Safety Orientation from the Contractor's Safety Officer or a qualified Railroad representative prior to the start of any work. The Contractor's Safety Officer shall review the safety guidelines contained below to familiarize their employees with safety issues that exist when working in a railroad environment. This should be reviewed at least weekly, and with any new employee working on Railroad property. It is the responsibility of the Contractor's Supervisor and/or Safety Officer to instruct their employees on the Railroad's Safety guidelines and to require compliance with these guidelines.

1.04.05 Safety rules cannot be all-inclusive. Workers shall refrain from unsafe and improper practices, including the violation and/or disregard of written rules and regulations, and rules of common sense.

1.04.05a The use of alcoholic beverages, intoxicants, narcotics, marijuana, and other controlled substances by employees subject to duty or their possession or use while on duty or on Railroad's property is prohibited. Workers shall not report for duty under the influence of any alcoholic beverage, intoxicant, narcotic, marijuana, or other controlled substance, or medication, including

those prescribed by a doctor, that may in any way adversely affect their alertness, coordination, reaction, response, or safety.

1.04.05b Damage to Railroad property, or if a hazard is noticed on passing trains, shall be reported immediately to the Railroad's representative. A vehicle or machine which may come in contact with a track, signal equipment, or structure (bridge) could result in a train derailment and shall be reported by the quickest means possible to the Railroad representative and to the Railroad's Network Operations Center at (telephone number: 800.832.5452). Local emergency numbers shall be obtained from the Railroad representative prior to the start of any work and shall be posted at the job site.

1.04.05c All persons are prohibited from having firearms or other deadly weapons, including knives with a blade in excess of three inches, in their possession while working on Railroad's property, except those authorized to have them in the performance of their duties or those given special permission.

1.04.05d When working on Railroad's property, the Contractor's employees shall wear eye protection meeting ANSI 287.1, however additional eye protection shall be provided to meet specific job situations such as welding, grinding, burning, etc.; hearing protection which affords enough attenuation to give protection from noise levels that will be occurring on the job site; protective headgear meeting ANSI 289.1; and above-the-ankle, lace-up, hardened toe safety boots with a defined heel, all approved by OSHA. Only waist length shirts with sleeves and trousers covering the entire leg shall be worn. Flare-legged trouser bottoms shall be tied to prevent catching.

High visibility retroreflective orange vests are required in certain locations as specified by the Railroad's representative. Particular attention to footing and the use of proper footwear is essential when working in snow or other slippery conditions. Hearing protection, fall protection, and respirators shall be worn as required by State and Federal regulations.

1.04.05e Workers shall not work nearer than 25 feet to the centerline of any track without proper flag/work protection provided by the Railroad, unless the track is protected by track bulletin and work has been authorized by the Railroad. If flag/work protection is provided, every employee shall know: (1) who the Railroad flagger is, and how to contact the flagger, (2) limits of the flag/work protection, (3) the method of communication to stop and resume work, and (4) entry into flag/work limits when designated. Workers or equipment entering flag/work limits that were not previously job briefed shall notify the flagger immediately, and be given a job briefing if working at less than 25 feet from center line of track.

1.04.05f Contractor shall not pile or store any materials, or equipment closer than 25 feet to the centerline of the nearest Railroad track.

1.04.05g Machines or vehicles shall not be left unattended with the engine running. Parked machines or equipment shall be in gear with brakes set and if equipped with blade, pan, or bucket, they shall be lowered to the ground. All machinery and equipment left unattended on Railroad right-of-way, shall be left inoperable and secured against movement. Heavy equipment operating within Railroad right-of-way shall be equipped with audible back-up warning devices. If in the opinion of the Railroad the Contractor's equipment is unsafe for use on Railroad right-of-way, Contractor shall remove such equipment from Railroad right-of-way.

1.04.05h Machinery or equipment shall not be stored or left temporarily near a highway/rail at-grade crossing in a manner to interfere with the sight distances of motorists approaching the crossing. Prior to beginning work, the Contractor shall establish a storage area with concurrence of the Railroad's representative.

1.04.05i Contaminates shall not be discharged on Railroad property. Should any discharge occur, the Contractor shall report by the quickest means possible to the Railroad's representative. (This includes oils, diesel fuel, gasoline, etc.).

1.04.05j Workers shall not create and leave any conditions at the work site that would interfere with water drainage.

1.04.05k Safeguards and safety signs shall be kept in place and in good condition. It is the responsibility of the Contractor to provide same.

1.04.05l Before excavating, it shall be ascertained by the Contractor if there are any underground pipe lines, electric wires, or cables, including fiber optic cable systems that either cross or run parallel with the track which are located within the project's work area. Excavating on right-of-way could result in damage to buried cables resulting in delay to railroad traffic, including disruption of service to users resulting in business interruptions involving loss of revenue and profits. Before any excavation commences, the Contractor shall provide written notification to the Railroad's Signal Supervisor and Roadmaster at least 10 working days. Underground and overhead wires shall be considered high voltage and dangerous until verified with the company having ownership of the line. The Contractor shall notify any other companies that have underground utilities in the area and arrange for the location of all underground utilities before excavating.

1.04.05m The Contractor shall cease work and the Railroad shall be notified immediately before continuing excavation in the area if obstructions are encountered that do not appear on drawings. If the obstruction is a utility, and the owner of the utility can be identified, then the owner should also be notified immediately. If there is any doubt about the location of underground cables or lines of any kind, no work shall be performed until the exact location has been determined. There will be no exceptions to these instructions.

1.04.05n Excavations, regardless of depth shall be shored where there is any danger to tracks, structures, or employees.

1.04.05o Excavations, holes, or trenches on the Railroad's property shall be covered, guarded, and/or protected when not being worked on. When leaving work site areas at night and over weekends, the areas shall be secured and left in a condition that will ensure that railroad employees who might be working in the area are protected from all hazards. All excavations shall be back filled as soon as possible.

1.04.05p All power line wires shall be considered dangerous and of high voltage unless informed to the contrary by proper authority. For lines rated 50 kV or below, minimum clearance between the lines and any part of the equipment or load shall be 10 feet. For lines rated over 50 kV, minimum clearance between the line and any part of equipment or load shall be 10 feet plus 0.4 inches for each 1 kV over 50 kV. If the capacity of the line is not known, minimum clearance of 20 feet shall be maintained. The Contractor shall designate a person to observe clearance of the equipment and give a timely warning for all operations where it is difficult for an operator to maintain the desired clearance by visual means.

1.04.05q When Contractor employees are required to work on the Railroad property after normal working hours or on weekends, the Railroad's representative shall be notified. A minimum of two employees shall be present at all times.

1.04.05r In all cases of doubt or uncertainty, the safest course shall be taken.

1.05 Personal Injury Reporting

1.05.01 The Railroad is required to report certain injuries as a part of compliance with Federal reporting requirements. Any personal injury sustained by an employee of the Contractor, subcontractor, or invitees while on the Railroad's property shall be reported immediately (by phone, mail if unable to contact in person) to the Railroad's representative. The Injury Report Form contained herein shall be completed and sent by Fax to the Railroad (fax number: 817.352.7595), no later than the close of shift on the date of the injury.

1.06 Indemnification.

As used in this section, Railroad includes other railroad companies using the Railroad's property at or near the location of the Contractor's work and their officers, agents, and employees; "Loss" includes loss, damage, claims, demands, actions, causes of action, penalties, costs, and expenses of whatsoever nature, including court costs and attorneys' fees, which may result from the following:

- Injury to or death of persons whomsoever (including the Railroad's officers, agents, and employees, the Contractor's officers, agents, and employees, as well as any other person); and
- Damage to or loss or destruction of property whatsoever (including Contractor property, damage to the roadbed, tracks, equipment, or other property of the Railroad, or property in its care or custody)

1.06.01 To the fullest extent permitted by law, the Contractor shall release, indemnify, defend, and hold harmless the Railroad and its affiliated companies, partners, successors, assigns, legal representatives, officers, directors, shareholders, employees and agents (collectively, "indemnitees") for, from and against any and all claims, liabilities, fines, penalties, costs, damages, losses, liens, causes of action, suits, demands, judgments and expenses (including, without limitation, court costs, attorneys' fees and costs of investigation, removal and remediation and governmental oversight costs) environmental or otherwise (collectively, "liabilities") of any nature, kind or description of any person or entity directly or indirectly arising out of, resulting from or related to (in whole or in part):

- (a) this specification, including, without limitation, its environmental provisions,
- (b) any rights or interests granted pursuant to this specification,
- (c) occupation and use of the premises by the Contractors, or anyone directly or indirectly employed by them, or anyone they control or exercise control over,
- (d) the environmental condition and status of the premises caused by or contributed to by the Contractor, or
- (e) any act or omission of the Contractor.

Even if such liabilities arise from or are attributed to, in whole or in part, any negligence of any indemnitee. The only liabilities with respect to which the Contractor's obligation to indemnify the indemnitees does not apply are liabilities to the extent proximately caused by the gross negligence, or willful misconduct of an indemnitee.

1.06.02 The Contractor shall now and forever waive any and all claims, regardless whether based on strict liability, negligence or otherwise, that the Railroad is an "owner", "operator", "arranger", or "transporter" with respect to the improvements for the purposes of CERCLA or other environmental laws.

1.06.03 The Contractor shall to the fullest extent permitted by law indemnify and hold harmless the indemnitees against and assume the defense of any liabilities asserted against or suffered by any indemnitee under or related to the Federal Employers' Liability Act (FELA) whenever employees of grantee or any of its agents, invitees, contractors claim or allege that they are employees of any

indemnitee or otherwise. This indemnity shall also extend, on the same basis, to FELA claims based on actual or alleged violations of any federal, state or local laws or regulations, including but not limited to the safety appliance act, the boiler inspection act, the occupational health and safety act, the resource conservation and recovery act, and any similar state or federal statute.

1.07 Insurance Form and Submittal

Before the contract is awarded, Contractor shall submit to Contracting Authority a certificate of insurance evidencing the coverage and a certified, true, and complete copy of policy or policies. Policies shall provide no less than 30 calendar days prior written notice to Contracting Authority and Railroad of cancellation or material change in policies. Following award of the Contract, the Contractor shall submit a certificate of insurance evidencing the foregoing coverage and a certified, true, and complete copy of policy or policies to the Railroad. Upon request from Railroad, a certified duplicate original of any required policy shall be furnished at no cost to the Contracting Authority or Railroad.

1.07.01 The Contractor shall procure and maintain, from beginning to end of construction work on or about Railroad property, the following insurance coverage types and limits:

1.07.01a Railroad Protective Insurance

The Contractor shall provide for and on behalf of the Railroad, Railroad Protective Insurance as stated in the Code of Federal Regulations, Title 23, Part 646, and any revisions thereto issued by the Federal Highway Administration for damages due to bodily injury or death of persons, and injury to or destruction of property resulting from the operations of the Contractor, subcontractors, or their agents, officers, or employees on this project.

Railroad Protective Liability Insurance is required if there is any construction or demolition activities. This insurance shall name only the Railway as the Insured with coverage of at least \$5,000,000 per occurrence and \$10,000,000 in the aggregate. The policy shall be issued on a standard ISO form CG 00 35 10 93 and include the following:

- ◆ Endorsed to include the Pollution Exclusion Amendment (ISO form CG 28 31 10 93) and on ISO form CG 28 31 10 93.
- ◆ Endorsed to include the Limited Seepage and Pollution Endorsement.
- ◆ Endorsed to include Evacuation Expense Coverage Endorsement.
- ◆ No other endorsements restricting coverage may be added.
- ◆ The original policy shall be provided to the Engineer and Railway prior to performing work.

If available and in lieu of providing a Railroad Protective Liability Policy, the Contractor may participate in the Railroad's Blanket Railroad Protective Liability Insurance Policy available to the Contractor. The limits of coverage are the same as above.

1.07.01b Commercial General Liability Insurance

This insurance shall contain broad form contractual liability with a combined single limit of a minimum of \$5,000,000 each occurrence and an aggregate limit of at least \$10,000,000. Coverage shall be purchased on ISO occurrence form CG 00 01 12 04 or a substitute form providing equivalent coverage. This policy shall also contain the following endorsements, which shall be indicated on the certificate of insurance:

- ◆ Contractual Liability Railroads ISO Form CG 24 17 10 01 (or a substitute form providing equivalent coverage) showing "BNSF Railway Property" as the designated job site.
- ◆ Designated Construction Project(s) General Aggregate Limit ISO Form CG 25 03 03 97 (or a substitute form providing equivalent coverage) showing the project on the form schedule.

1.07.01c Business Automobile Insurance

This insurance shall be written on ISO Form CA 00 01 (or a substitute form providing equivalent coverage) and shall contain a combined single limit of at least \$5,000,000 per occurrence. The

policy shall contain the following endorsements, which shall be stated on the certificate of insurance:

- ◆ Coverage for Certain Operations in Connection with Railroads ISO Form CA 20 70 10 01 (or a substitute form providing equivalent coverage) showing "BNSF Railway Property" as the designated job site
- ◆ Motor Carrier Act Endorsement-Hazardous materials clean up (MCS-90), if required by law

1.07.01d Workers Compensation and Employers Liability Insurance

Workers Compensation and Employers Liability insurance including coverage for, but not limited to:

- ◆ Contractor's statutory liability under the worker's compensation laws of the state(s) in which the work is to be performed. If optional under State law, the insurance shall cover all employees anyway.
- ◆ Employers' Liability (Part B) with limits of at least \$500,000 each accident, \$500,000 by disease policy limit, \$500,000 by disease each employee.

1.07.01e Umbrella or Excess Insurance

If the Contractor utilizes umbrella or excess policies, these policies shall "follow form" and afford no less coverage than the primary policy.

1.07.01f Other Requirements

Where allowable by law, all policies (applying to coverage listed above) shall contain no exclusion for punitive damages and certificates of insurance shall reflect that no exclusion exists.

Any insurance policy shall be written by a reputable insurance company acceptable to Railroad or with a current Best's Guide Rating of A- and Class VII or better, and authorized to do business in the State of Iowa. If any portion of the operation is to be subcontracted by Contractor, Contractor shall require that the subcontractor shall provide and maintain insurance coverage as set forth herein, naming Railroad as an additional insured, and shall require that the subcontractor shall release, defend and indemnify Railroad to the same extent and under the same terms and conditions as Contractor is required to release, defend and indemnify Railroad herein. Failure to provide evidence as required by this section shall entitle, but not require, Railroad to remove contractor from or deny entry of Contractor to Railroad property immediately. Acceptance of a certificate that does not comply with this section shall not operate as a waiver of Contractor's obligations hereunder. The fact that insurance (including, without limitation, self-insurance) is obtained by Contractor shall not be deemed to release or diminish the liability of Contractor including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by Railroad shall not be limited by the amount of the required insurance coverage.

Contractor agrees to waive its right of recovery against Railroad for all claims and suits against Railroad except in those instances of gross negligence or intentional misconduct. In addition, its insurers, through policy endorsement, to waive their right of subrogation against Railroad for all claims and suits. The certificate of insurance shall reflect waiver of subrogation endorsement. Contractor shall waive its right of recovery, and its insurers also waive their right of subrogation against Railroad for loss of its owned or leased property or property under its care, custody, or control. Contractor's insurance policies through policy endorsement, shall include wording which states that the policy shall be primary and non-contributing with respect to any insurance carried by Railroad. The certificate of insurance shall reflect that the above wording is included in evidenced policies.

All policy(ies) required above (excluding Workers Compensation and employers Liability), shall include a severability of interest endorsement and shall name Railroad as an additional insured using ISO Additional Insured Endorsements CG 20 26, and CA 20 48 (or substitute forms

providing equivalent Coverage). The coverage provided to Railroad as additional insured shall, to the extent provided under ISO Additional Insured Endorsement CG 20 26, and CA 20 48 provide coverage for the Railroad's negligence whether sole or partial, active or passive, and shall not be limited to Contractor's liability under the indemnity provisions contained above. Severability of interest and naming Railroad as an additional insured shall be indicated on the certificate of insurance.

Contractor will not be allowed to self-insure without the prior written consent of Railroad. If granted, any deductible, self-insured retention, or other financial responsibility for claims shall be covered directly by Contractor in lieu of insurance. All Railroad liabilities that would otherwise, in accordance with the provisions of this specification, be covered by Contractor's insurance shall be covered as if Contractor elected not to include a deductible, self-insured retention or other financial responsibility for claims.

Contractor represents that this specification has been thoroughly reviewed by Contractor's insurance agent(s)/broker(s), who have been instructed by Contractor to procure the insurance coverage required by the contract documents. Allocated Loss Expense shall be in addition to all policy limits for coverages referenced above.

For purposes of this section, Railroad shall mean "Burlington Northern Santa Fe Corporation", "BNSF Railway" and the subsidiaries, successors, assigns, and affiliates of each.

1.07.02 Insurance policy(ies) and a copy of the Certificate of Liability shall be sent to BNSF Risk Management, BNSF Railway Company, 2500 Lou Menk Drive, Building AOB-1, Ft. Worth, Texas 76131. Copy(ies) shall also be sent to the Iowa DOT, Office of Accounting, 800 Lincoln Way, Ames, IA 50010.

1.07 Company Operations.

Contractor shall be advised that trains or equipment are expected on any track, at any time, in either direction. Contractor shall become familiar with train schedules in this location and times when truck traffic increases due to intermodal transfers and structure its bid assuming intermittent track windows in this period, as defined below. All railroad tracks within and adjacent to the work are active and rail traffic over these tracks shall be maintained throughout the contract. Activities may include intermodal transfers, through moves and switching moves to local customers. Railroad traffic and operations may occur continuously throughout the day and night on these tracks and shall be maintained at all times. The Contractor shall coordinate and schedule the work so construction activities do not interfere with Railroad operations. Work windows for this contract shall be coordinated with the Engineer. Types of work windows include Conditional Work Windows and Absolute Work Windows, as defined below:

1.07.01 Conditional Work Window

A period of time that Railroad operations have priority over construction activities. When construction activities may occur on or adjacent to railroad tracks within 25 feet of the nearest track, a Railroad flagger will be required. At the direction of the Railroad flagger, upon approach of a train, and when trains are present, tracks shall be cleared (i.e., no construction equipment, materials, or personnel within 25 feet, or as directed by the Railroad, from the tracks). Conditional Work Windows are available for the contract.

1.07.02 Absolute Work Window

A period of time that construction activities are given priority over Railroad operations. During this time frame the designated tracks will be inactive for train movements and may be fouled by the Contractor. At the end of an Absolute Work Window the tracks or signals shall be completely operational for train operations and all Railroad and Federal Railroad Administration requirements, codes, and regulations for operational tracks shall be met. In the situation where the operating tracks or signals have been affected, the Railroad will perform inspections of the work prior to placing back into service. Railroad

flaggers will be required for construction activities requiring an Absolute Work Window. Absolute Work Windows will not generally be granted. Any request will require a detailed explanation for Railroad review.

1.07.03 Requests

Contractor shall make requests in writing for both Absolute and Conditional Work Windows, at least two weeks in advance of the work for which the request is being made. The request shall include:

- Exactly what the work entails.
- Days and hours the work will be performed.
- Exact location of work, and proximity to the tracks.
- Type of window requested and amount of time requested.
- The Contractor's designated contact person.

Contractor shall provide written notice to the Railroad at least 48 hours before commencing work in connection with approved work windows when work will be performed within 25 feet of any track center line.

1.08 Method of Measurement and Basis of Payment

- A. Liability Insurance, Modified, for BNSF Railway Company; will be paid for as a Lump Sum bid item. The Contractor will be paid 100% of the lump sum bid item following the Contracting Authority executing the Contract.
- B. Insurance When Working in Railroad Right-of-Way, Modified, for BNSF Railway Company; will be paid for as a Lump Sum bid item. The Contractor will be paid 50% of the lump sum bid item following the Contracting Authority executing the Contract. The remainder of the bid item will be paid when the Contractor has begun work on Railroad right-of-way and the Engineer has verified the insurance policy is still in force.

NON-EMPLOYEE PERSONAL INJURY DATA COLLECTION

INFORMATION REQUIRED TO BE COLLECTED PURSUANT TO FEDERAL REGULATION. IT SHOULD BE USED FOR COMPLIANCE WITH FEDERAL REGULATIONS ONLY AND IS NOT INTENDED TO PRESUME ACCEPTANCE OF RESPONSIBILITY OR LIABILITY.

1. Accident City/St: _____ 2. Date: _____ Time: _____
- County: _____ 3. Temperature: _____ 4. Weather: _____
(if non-BNSF location)
5. Social Security #: _____
6. Name (last, first, mi): _____
7. Address: Street: _____ City: _____ St: _____ Zip: _____
8. Date of Birth: _____ and/or Age: _____ Gender: _____
(if available)
9. (a) Injury: _____ (b) Body Part: _____
(i.e. (a) Laceration (b) Hand)
10. Description of accident (To include location, action, result, etc.):

11. Treatment:
 First Aid Only
 Required Medical Treatment
 Other Medical Treatment
12. Dr. Name: _____ 13. Date: _____
14. Dr. Address:
Street: _____ City: _____ St: _____ Zip: _____
15. Hospital Name:
16. Hospital Address:
Street: _____ City: _____ St: _____ Zip: _____
17. Diagnosis:



Iowa Department of Transportation

SPECIAL PROVISIONS FOR WORK ON RAILROAD RIGHT-OF-WAY (CBEC)

Pottawattamie County
NHS-029-3(100)48--11-78
IM-NHS-029-3(97)48--03-78

Effective Date
April 15, 2014

THE STANDARD SPECIFICATIONS, SERIES 2012, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

1.01 General

1.01.01 The Contractor shall cooperate with the CBEC Railway Company, hereinafter referred to as "Railroad" where work is over, under, on, or adjacent to Railroad property, and/or right-of-way, hereafter referred to as Railroad property, during the work which shall not interfere with the movement of trains on Railroad property.

1.01.02 The Contractor's right to enter Railroad's property is subject to the absolute right of the Railroad to cause the Contractor's work on Railroad's property to cease if, in the opinion of Railroad, Contractor's activities create a hazard to Railroad's property, employees, and/or operations.

1.01.03 The Contractor shall notify the Engineer and also the Railroad's, Mark Woofter, CBEC Railway Inc., 4299 Urbandale Drive, Urbandale, IA 50322, telephone number: 515.242.4203; at least 10 calendar days before commencing work over, under, on, or adjacent to Railroad property. Contractor's notification to Railroad shall refer to Railroad's file numbers.

1.01.04 Falsework above tracks or excavations located, whichever is greater, within 25 feet of the nearest track or intersecting a slope from the plane of the top of rail on a 1.5 horizontal to 1 vertical slope beginning 11 feet from centerline of the nearest track, both measured perpendicular to center line of track, the Contractor shall furnish the Railroad five sets of working drawings showing details of construction affecting railroad tracks and property. The working drawings shall include the proposed method of installation and removal of falsework, shoring, or cribbing, not included in the contract plans and two sets of structural calculations of any, falsework, shoring, or cribbing. All calculations shall take into consideration railroad surcharge loading and shall be designed to meet American Railway Engineering and Maintenance-of-Way Association Coopers E-80 live loading standard. All drawings and calculations shall be stamped by a registered Professional Engineer licensed in the state of Iowa. The Contractor shall not begin work until notified by the Railroad that plans have been approved. The

Contractor shall use lifting devices such as, cranes and/or winches to place or to remove falsework over Railroad's tracks. The Contractor will not be relieved of responsibility for results obtained by the implementation of said approved plans.

1.01.05 The Railroad will cooperate with the Contractor such that the work may be handled and performed in an efficient manner.

1.02 Railroad Requirements

1.02.01 The Contractor shall comply with the rules and regulations of Railroad and the instructions of the Railroad's representatives in relation to the proper manner of protecting the tracks and property of Railroad and the traffic moving on such tracks, as well as the wires, signals, and other property of Railroad, its tenants or licensees, at and in the vicinity of the work area during construction.

1.02.02 The Contractor shall perform work in such manner and at such times that shall not endanger, delay, or interfere with the safe and timely operation of the tracks and property of Railroad and the traffic moving on such tracks, as well as the wires, signals, and other property of Railroad, its tenants, or licensees.

1.02.03 The Contractor shall take protective measures as are necessary to keep railroad facilities, including track ballast, free of sand, debris, and other foreign objects and materials resulting from the construction operations. Any damage to Railroad facilities resulting from Contractor's operations will be repaired or replaced by Railroad and the cost of such repairs or replacement shall be paid by the Contractor.

1.02.04 The Contractor shall notify the Railroad's Mark Woofter, CBEC Railway Inc., 4299 Urbandale Drive, Urbandale, IA 50322, telephone number: 515.242.4203, and provide blasting plans to the Railroad for review a minimum of 10 calendar days prior to conducting blasting operations adjacent to or on Railroad's property.

1.02.05 The Contractor shall abide by the following clearances during the course of construction:

- 25.0 feet horizontally from centerline of nearest track,
- 22.5 feet vertically above top of rail (Temporary Falsework Clearance may be reduced to 21.5 feet subject to Railroad and Public Utilities Commission approval),
- 27.0 feet vertically above top of rail for electric wires carrying less than 750 V,
- 28.0 feet vertically above top of rail for electric wires carrying 750 V to 15 kV,
- 30.0 feet vertically above top of rail for electric wires carrying 15 kV to 20 kV, and
- 34.0 feet vertically above top of rail for electric wires carrying more than 20 kV.

1.02.06 Any desired infringement within clearances due to the Contractor's operations shall be submitted to the Railroad and Engineer and shall not be undertaken until approved in writing by the Railroad and Engineer. No extra compensation will be allowed in the event the Contractor's work is delayed pending approval.

1.02.07 In the case of impaired vertical clearance above top of rail, Railroad will have the option of installing tell-tales or other protective devices Railroad deems necessary for protection of Railroad employees or rail traffic. The cost of tell-tales or protective devices shall be borne by the Contractor.

1.02.08 The details of construction affecting the Railroad's tracks and property not included in the contract plans shall be submitted to the Railroad by the Engineer for approval before work is undertaken and this work shall not be undertaken until approved by the Railroad.

1.02.09 At other than public road crossings, the Contractor shall not move equipment or materials across Railroad's tracks until permission has been obtained from Railroad. Contractor shall obtain a temporary private crossing agreement from Railroad prior to moving equipment or materials across Railroad's tracks. Temporary private crossing shall be gated and locked at all times when not required for use by the Contractor. Temporary private crossing for use of the Contractor shall be at the expense of the Contractor.

1.02.10 The Contractor, upon completion of the work, shall promptly remove from the premises of Railroad all of Contractor's tools, implements, and other materials, whether brought upon said premises by said Contractor or any subcontractor, employee, or agent of Contractor or of any subcontractor, and shall cause said premises to be left in a condition acceptable to the Railroad's representative.

1.03 Protection of Railroad Facilities and Railroad Flagger Services

The Railroad shall have the right to provide, at the expense of the Contractor, a flagman or flagmen or other protective services at any time during construction of that portion of the project on or near Railroad right-of-way when, in the opinion of the Railroad, it is necessary as a matter of protection and safety to track and train operations.

1.03.01 The Contractor shall give a minimum of 10 working days notice to the Railroad's Mark Woofler, CBEC Railway Inc., 4299 Urbandale Drive, Urbandale, IA 50322, telephone number: 515.242.4203, in advance of when flagging services will be required.

1.03.02 Railroad flagger and protective services and devices will be required and furnished when Contractor's work activities are located over, under, or within 25 feet measured horizontally from center line of the nearest track, and when cranes or similar equipment are positioned outside of 25 feet measured horizontally from the track center line that could foul the track in the event of tip over or other catastrophic occurrence, but not limited thereto, for the following conditions:

1.03.02a When in the opinion of the Railroad's Representative it is necessary to safeguard Railroad's employees, trains, engines, facilities, and property.

1.03.02b When any excavation is performed below the bottom of tie elevation, if, in the opinion of Railroad's representative, track or other Railroad facilities may be subject to movement or settlement.

1.03.02c When work, in any way interferes with the safe operation of trains at timetable speeds.

1.03.02d When any hazard is presented to Railroad track, communications, signal, electrical, or other facilities either due to persons, material, equipment, or blasting in the vicinity.

1.03.02e Special permission shall be requested from the Railroad before moving heavy or cumbersome objects or equipment which might result in making the track impassable.

1.03.03 Flagging services will be performed by qualified railroad flaggers. The cost per day for one flagger is approximately \$800.00, which includes vacation allowance, paid holidays, Railroad and Unemployment Insurance, Public Liability and Property Damage Insurance, Health and Welfare Benefits, transportation, meals, lodging, and supervision, for an eight-hour basic day, with time and one-half or double time for overtime, rest days, and holidays. These rates are subject to increases which may result from Railroad Employees-Railroad Management negotiations or which may be authorized by Federal authorities. The Contractor will be billed on actual costs in effect at the time the work is performed.

1.03.03a Flagging crew generally consists of one employee. Additional personnel may be required to protect Railroad operations and property, if deemed necessary by the Railroad's Representative.

1.03.03b Each time a flagger is called the minimum period for billing will be the eight-hour basic day.

1.03.03c The cost of flagger services provided by the Railroad, as deemed necessary by the Railroad's representative, shall be borne by the Contractor.

1.03.03d Final payment to the Contractor will not be made by the Engineer until all flagging or other protective services and/or temporary grade crossing expenses have been billed and paid to the Railroad. Contractor shall provide to the Engineer monthly copies of invoices and evidence of payment to the Railroad.

1.04 Contractor General Safety Requirements

1.04.01 Safety is of the utmost importance in performing work on the Railroad's property. The Railroad does not assume the control or responsibility of the Contractor to provide safe working conditions for the Contractor or subcontractors in requiring the Contractor to follow the Railroad's General Safety Requirements.

1.04.02 Work in the proximity of a railroad track is potentially dangerous. The Contractor, subcontractors, and invitees are governed by the following Safety Rules and General Safety Requirements while on Railroad property. The Contractor is responsible for enforcement of these Safety Rules and Requirements. The Railroad has the right to bar the Contractor, subcontractors, and invitees from working on Railroad property if the Railroad deems such persons are acting in an unsafe manner. If at any time the Engineer or Railroad are of the opinion that work of the Contractor is being or is about to be done or prosecuted without due regard and precaution for safety and security, the Engineer may suspend work until proper protective measures are adopted and provided.

1.04.03 Before beginning any task on Railroad property, a complete job safety briefing shall be conducted with all individuals involved with the task, and again if the task changes. If the task is within 25 feet of any track, the job briefing shall include the Railroad's flagger and include the procedures the Contractor will use to protect its employees, subcontractors, agents, or invitees from moving any equipment adjacent to or across any railroad tracks.

1.04.04 The Contractor shall ensure that prior to any employee entering Railroad property they have completed the safety orientation found on the following website: www.contractororientation.com. This course shall be completed annually for contracts exceeding one year.

1.04.04a Employees of the Contractor, subcontractors, agents, and invitees shall receive Safety Orientation from the Contractor's Safety Officer or a qualified Railroad representative prior to the start of any work. The Contractor's Safety Officer shall review the safety guidelines contained below to familiarize their employees with safety issues that exist when working in a railroad environment. This should be reviewed at least weekly, and with any new employee working on Railroad property. It is the responsibility of the Contractor's Supervisor and/or Safety Officer to instruct their employees on the Railroad's Safety guidelines and to require compliance with these guidelines.

1.04.05 Safety rules cannot be all-inclusive. Workers shall refrain from unsafe and improper practices, including the violation and/or disregard of written rules and regulations, and rules of common sense.

1.04.05a The use of alcoholic beverages, intoxicants, narcotics, marijuana, and other controlled substances by employees subject to duty or their possession or use while on duty or on Railroad's property is prohibited. Workers shall not report for duty under the influence of any alcoholic beverage, intoxicant, narcotic, marijuana, or other controlled substance, or medication, including those prescribed by a doctor, that may in any way adversely affect their alertness, coordination, reaction, response, or safety.

1.04.05b Damage to Railroad property, or if a hazard is noticed on passing trains, shall be reported immediately to the Railroad's representative. A vehicle or machine which may come in contact with a track, signal equipment, or structure (bridge) could result in a train derailment and shall be reported by the quickest means possible to the Railroad representative Mark Woofter, telephone number: 515.242.4203. Local emergency numbers shall be obtained from the Railroad representative prior to the start of any work and shall be posted at the job site.

1.04.05c All persons are prohibited from having firearms or other deadly weapons, including knives with a blade in excess of three inches, in their possession while working on Railroad's property, except those authorized to have them in the performance of their duties or those given special permission.

1.04.05d When working on Railroad's property, the Contractor's employees shall wear eye protection meeting ANSI 287.1, however additional eye protection shall be provided to meet specific job situations such as welding, grinding, burning, etc.; hearing protection which affords enough attenuation to give protection from noise levels that will be occurring on the job site; protective headgear meeting ANSI 289.1; and above-the-ankle, lace-up, hardened toe safety boots with a defined heel, all approved by OSHA. Only waist length shirts with sleeves and trousers covering the entire leg shall be worn. Flare-legged trouser bottoms shall be tied to prevent catching.

High visibility retroreflective orange vests are required in certain locations as specified by the Railroad's representative. Particular attention to footing and the use of proper footwear is essential when working in snow or other slippery conditions. Hearing protection, fall protection, and respirators shall be worn as required by State and Federal regulations.

1.04.05e Workers shall not work nearer than 25 feet to the centerline of any track without proper flag/work protection provided by the Railroad, unless the track is protected by track bulletin and work has been authorized by the Railroad. If flag/work protection is provided, every employee shall know: (1) who the Railroad flagger is, and how to contact the flagger, (2) limits of the flag/work protection, (3) the method of communication to stop and resume work, and (4) entry into flag/work limits when designated. Workers or equipment entering flag/work limits that were not previously job briefed shall notify the flagger immediately, and be given a job briefing if working at less than 25 feet from center line of track.

1.04.05f Contractor shall not pile or store any materials, or equipment closer than 25 feet to the centerline of the nearest Railroad track.

1.04.05g Machines or vehicles shall not be left unattended with the engine running. Parked machines or equipment shall be in gear with brakes set and if equipped with blade, pan, or bucket, they shall be lowered to the ground. All machinery and equipment left unattended on Railroad right-of-way, shall be left inoperable and secured against movement. Heavy equipment operating within Railroad right-of-way shall be equipped with audible back-up warning devices. If in the opinion of the Railroad the Contractor's equipment is unsafe for use on Railroad right-of-way, Contractor shall remove such equipment from Railroad right-of-way.

1.04.05h Machinery or equipment shall not be stored or left temporarily near a highway/rail at-grade crossing in a manner to interfere with the sight distances of motorists approaching the crossing. Prior to beginning work, the Contractor shall establish a storage area with concurrence of the Railroad's representative.

1.04.05i Contaminates shall not be discharged on Railroad property. Should any discharge occur, the Contractor shall report by the quickest means possible to the Railroad's representative. (This includes oils, diesel fuel, gasoline, etc.).

1.04.05j Workers shall not create and leave any conditions at the work site that would interfere with water drainage.

1.04.05k Safeguards and safety signs shall be kept in place and in good condition. It is the responsibility of the Contractor to provide same.

1.04.05l Before excavating, it shall be ascertained by the Contractor if there are any underground pipe lines, electric wires, or cables, including fiber optic cable systems that either cross or run parallel with the track which are located within the project's work area. Excavating on right-of-way could result in damage to buried cables resulting in delay to railroad traffic, including disruption of service to users resulting in business interruptions involving loss of revenue and profits. Before any excavation commences, the Contractor shall provide written notification to the Railroad's Signal Supervisor and Roadmaster at least 10 working days. Underground and overhead wires shall be considered high voltage and dangerous until verified with the company having ownership of the line. The Contractor shall notify any other companies that have underground utilities in the area and arrange for the location of all underground utilities before excavating.

1.04.05m The Contractor shall cease work and the Railroad shall be notified immediately before continuing excavation in the area if obstructions are encountered that do not appear on drawings. If the obstruction is a utility, and the owner of the utility can be identified, then the owner should also be notified immediately. If there is any doubt about the location of underground cables or lines of any kind, no work shall be performed until the exact location has been determined. There will be no exceptions to these instructions.

1.04.05n Excavations, regardless of depth shall be shored where there is any danger to tracks, structures, or employees.

1.04.05o Excavations, holes, or trenches on the Railroad's property shall be covered, guarded, and/or protected when not being worked on. When leaving work site areas at night and over weekends, the areas shall be secured and left in a condition that will ensure that railroad employees who might be working in the area are protected from all hazards. All excavations shall be back filled as soon as possible.

1.04.05p All power line wires shall be considered dangerous and of high voltage unless informed to the contrary by proper authority. For lines rated 50 kV or below, minimum clearance between the lines and any part of the equipment or load shall be 10 feet. For lines rated over 50 kV, minimum clearance between the line and any part of equipment or load shall be 10 feet plus 0.4 inches for each 1 kV over 50 kV. If the capacity of the line is not known, minimum clearance of 20 feet shall be maintained. The Contractor shall designate a person to observe clearance of the equipment and give a timely warning for all operations where it is difficult for an operator to maintain the desired clearance by visual means.

1.04.05q When Contractor employees are required to work on the Railroad property after normal working hours or on weekends, the Railroad's representative shall be notified. A minimum of two employees shall be present at all times.

1.04.05r In all cases of doubt or uncertainty, the safest course shall be taken.

1.05 Personal Injury Reporting

The Railroad is required to report certain injuries as a part of compliance with Federal reporting requirements. Any personal injury sustained by an employee of the Contractor, subcontractor, or invitees while on the Railroad's property shall be reported immediately (by phone, mail if unable to contact in person) to the Railroad's representative.

1.06 Indemnification.

As used in this section, Railroad includes other railroad companies using the Railroad's property at or near the location of the Contractor's work and their officers, agents, and employees; "Loss" includes loss, damage, claims, demands, actions, causes of action, penalties, costs, and expenses of whatsoever nature, including court costs and attorneys' fees, which may result from the following:

- Injury to or death of persons whomsoever (including the Railroad's officers, agents, and employees, the Contractor's officers, agents, and employees, as well as any other person); and
- Damage to or loss or destruction of property whatsoever (including Contractor property, damage to the roadbed, tracks, equipment, or other property of the Railroad, or property in its care or custody)

1.06.01 To the fullest extent permitted by law, the Contractor shall release, indemnify, defend, and hold harmless the Railroad and its affiliated companies, partners, successors, assigns, legal representatives, officers, directors, shareholders, employees and agents (collectively, "indemnitees") for, from and against any and all claims, liabilities, fines, penalties, costs, damages, losses, liens, causes of action, suits, demands, judgments and expenses (including, without limitation, court costs, attorneys' fees and costs of investigation, removal and remediation and governmental oversight costs) environmental or otherwise (collectively, "liabilities") of any nature, kind or description of any person or entity directly or indirectly arising out of, resulting from or related to (in whole or in part):

- (a) this specification, including, without limitation, its environmental provisions,
- (b) any rights or interests granted pursuant to this specification,
- (c) occupation and use of the premises by the Contractors, or anyone directly or indirectly employed by them, or anyone they control or exercise control over,
- (d) the environmental condition and status of the premises caused by or contributed to by the Contractor, or
- (e) any act or omission of the Contractor.

Even if such liabilities arise from or are attributed to, in whole or in part, any negligence of any indemnitee. The only liabilities with respect to which the Contractor's obligation to indemnify the indemnitees does not apply are liabilities to the extent proximately caused by the gross negligence, or willful misconduct of an indemnitee.

1.06.02 The Contractor shall now and forever waive any and all claims, regardless whether based on strict liability, negligence or otherwise, that the Railroad is an "owner", "operator", "arranger", or "transporter" with respect to the improvements for the purposes of CERCLA or other environmental laws.

1.06.03 The Contractor shall to the fullest extent permitted by law indemnify and hold harmless the indemnitees against and assume the defense of any liabilities asserted against or suffered by any indemnitee under or related to the Federal Employers' Liability Act (FELA) whenever employees of

grantee or any of its agents, invitees, contractors claim or allege that they are employees of any indemnitee or otherwise. This indemnity shall also extend, on the same basis, to FELA claims based on actual or alleged violations of any federal, state or local laws or regulations, including but not limited to the safety appliance act, the boiler inspection act, the occupational health and safety act, the resource conservation and recovery act, and any similar state or federal statute.

1.07 Insurance Form and Submittal

Before the contract is awarded, Contractor shall submit to Contracting Authority a certificate of insurance evidencing the coverage and a certified, true, and complete copy of policy or policies. Policies shall provide no less than 30 calendar days prior written notice to Contracting Authority and Railroad of cancellation or material change in policies. Following award of the Contract, the Contractor shall submit a certificate of insurance evidencing the foregoing coverage and a certified, true, and complete copy of policy or policies to the Railroad. Upon request from Railroad, a certified duplicate original of any required policy shall be furnished at no cost to the Contracting Authority or Railroad.

1.07.01 The Contractor shall procure and maintain, from beginning to end of construction work on or about Railroad property, the following insurance coverage types and limits:

1.07.01a Railroad Protective Insurance

The Contractor shall provide for and on behalf of the Railroad, Railroad Protective Insurance as stated in the Code of Federal Regulations, Title 23, Part 646, and any revisions thereto issued by the Federal Highway Administration for damages due to bodily injury or death of persons, and injury to or destruction of property resulting from the operations of the Contractor, subcontractors, or their agents, officers, or employees on this project.

Railroad Protective Liability Insurance is required if there is any construction or demolition activities. This insurance shall name only the Railway as the Insured with coverage of at least \$5,000,000 per occurrence and \$10,000,000 in the aggregate. The policy shall be issued on a standard ISO form CG 00 35 10 93 and include the following:

- ◆ Endorsed to include the Pollution Exclusion Amendment (ISO form CG 28 31 10 93) and on ISO form CG 28 31 10 93.
- ◆ Endorsed to include the Limited Seepage and Pollution Endorsement.
- ◆ Endorsed to include Evacuation Expense Coverage Endorsement.
- ◆ No other endorsements restricting coverage may be added.
- ◆ The original policy shall be provided to the Engineer and Railway prior to performing work.

If available and in lieu of providing a Railroad Protective Liability Policy, the Contractor may participate in the Railroad's Blanket Railroad Protective Liability Insurance Policy available to the Contractor. The limits of coverage are the same as above.

1.07.01b Commercial General Liability Insurance

This insurance shall contain broad form contractual liability with a combined single limit of a minimum of \$5,000,000 each occurrence and an aggregate limit of at least \$10,000,000. Coverage shall be purchased on ISO occurrence form CG 00 01 12 04 or a substitute form providing equivalent coverage. This policy shall also contain the following endorsements, which shall be indicated on the certificate of insurance:

- ◆ Contractual Liability Railroads ISO Form CG 24 17 10 01 (or a substitute form providing equivalent coverage) showing "CBEC Railway Property" as the designated job site.
- ◆ Designated Construction Project(s) General Aggregate Limit ISO Form CG 25 03 03 97 (or a substitute form providing equivalent coverage) showing the project on the form schedule.

1.07.01c Business Automobile Insurance

This insurance shall be written on ISO Form CA 00 01 (or a substitute form providing equivalent

coverage) and shall contain a combined single limit of at least \$5,000,000 per occurrence. The policy shall contain the following endorsements, which shall be stated on the certificate of insurance:

- ◆ Coverage for Certain Operations in Connection with Railroads ISO Form CA 20 70 10 01 (or a substitute form providing equivalent coverage) showing "CBEC Railway Property" as the designated job site
- ◆ Motor Carrier Act Endorsement-Hazardous materials clean up (MCS-90), if required by law

1.07.01d Workers Compensation and Employers Liability Insurance

Workers Compensation and Employers Liability insurance including coverage for, but not limited to:

- ◆ Contractor's statutory liability under the worker's compensation laws of the state(s) in which the work is to be performed. If optional under State law, the insurance shall cover all employees anyway.
- ◆ Employers' Liability (Part B) with limits of at least \$500,000 each accident, \$500,000 by disease policy limit, \$500,000 by disease each employee.

1.07.01e Umbrella or Excess Insurance

If the Contractor utilizes umbrella or excess policies, these policies shall "follow form" and afford no less coverage than the primary policy.

1.07.01f Other Requirements

Where allowable by law, all policies (applying to coverage listed above) shall contain no exclusion for punitive damages and certificates of insurance shall reflect that no exclusion exists.

Any insurance policy shall be written by a reputable insurance company acceptable to Railroad or with a current Best's Guide Rating of A- and Class VII or better, and authorized to do business in the State of Iowa. If any portion of the operation is to be subcontracted by Contractor, Contractor shall require that the subcontractor shall provide and maintain insurance coverage as set forth herein, naming Railroad as an additional insured, and shall require that the subcontractor shall release, defend and indemnify Railroad to the same extent and under the same terms and conditions as Contractor is required to release, defend and indemnify Railroad herein. Failure to provide evidence as required by this section shall entitle, but not require, Railroad to remove contractor from or deny entry of Contractor to Railroad property immediately. Acceptance of a certificate that does not comply with this section shall not operate as a waiver of Contractor's obligations hereunder. The fact that insurance (including, without limitation, self-insurance) is obtained by Contractor shall not be deemed to release or diminish the liability of Contractor including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by Railroad shall not be limited by the amount of the required insurance coverage.

Contractor agrees to waive its right of recovery against Railroad for all claims and suits against Railroad except in those instances of gross negligence or intentional misconduct. In addition, its insurers, through policy endorsement, to waive their right of subrogation against Railroad for all claims and suits. The certificate of insurance shall reflect waiver of subrogation endorsement. Contractor shall waive its right of recovery, and its insurers also waive their right of subrogation against Railroad for loss of its owned or leased property or property under its care, custody, or control. Contractor's insurance policies through policy endorsement, shall include wording which states that the policy shall be primary and non-contributing with respect to any insurance carried by Railroad. The certificate of insurance shall reflect that the above wording is included in evidenced policies.

All policy(ies) required above (excluding Workers Compensation and employers Liability), shall include a severability of interest endorsement and shall name Railroad as an additional insured

using ISO Additional Insured Endorsements CG 20 26, and CA 20 48 (or substitute forms providing equivalent Coverage). The coverage provided to Railroad as additional insured shall, to the extent provided under ISO Additional Insured Endorsement CG 20 26, and CA 20 48 provide coverage for the Railroad's negligence whether sole or partial, active or passive, and shall not be limited to Contractor's liability under the indemnity provisions contained above. Severability of interest and naming Railroad as an additional insured shall be indicated on the certificate of insurance.

Contractor will not be allowed to self-insure without the prior written consent of Railroad. If granted, any deductible, self-insured retention, or other financial responsibility for claims shall be covered directly by Contractor in lieu of insurance. All Railroad liabilities that would otherwise, in accordance with the provisions of this specification, be covered by Contractor's insurance shall be covered as if Contractor elected not to include a deductible, self-insured retention or other financial responsibility for claims.

Contractor represents that this specification has been thoroughly reviewed by Contractor's insurance agent(s)/broker(s), who have been instructed by Contractor to procure the insurance coverage required by the contract documents. Allocated Loss Expense shall be in addition to all policy limits for coverages referenced above.

For purposes of this section, Railroad shall mean "CBEC Railway Inc. and the subsidiaries, successors, assigns, and affiliates of each.

1.07.02 Insurance policy(ies) and a copy of the Certificate of Liability shall be sent to Mark Woofter, CBEC Railway Inc., 4299 Urbandale Drive, Urbandale, IA 50322, telephone number: 515.242.4203. Copy(ies) shall also be sent to the Iowa DOT, Office of Accounting, 800 Lincoln Way, Ames, IA 50010.

1.07 Company Operations.

Contractor shall be advised that trains or equipment are expected on any track, at any time, in either direction. Contractor shall become familiar with train schedules in this location and times when truck traffic increases due to intermodal transfers and structure its bid assuming intermittent track windows in this period, as defined below. All railroad tracks within and adjacent to the work are active and rail traffic over these tracks shall be maintained throughout the contract. Activities may include intermodal transfers, through moves and switching moves to local customers. Railroad traffic and operations may occur continuously throughout the day and night on these tracks and shall be maintained at all times. The Contractor shall coordinate and schedule the work so construction activities do not interfere with Railroad operations. Work windows for this contract shall be coordinated with the Engineer. Types of work windows include Conditional Work Windows and Absolute Work Windows, as defined below:

1.07.01 Conditional Work Window

A period of time that Railroad operations have priority over construction activities. When construction activities may occur on or adjacent to railroad tracks within 25 feet of the nearest track, a Railroad flagger will be required. At the direction of the Railroad flagger, upon approach of a train, and when trains are present, tracks shall be cleared (i.e., no construction equipment, materials, or personnel within 25 feet, or as directed by the Railroad, from the tracks). Conditional Work Windows are available for the contract.

1.07.02 Absolute Work Window

A period of time that construction activities are given priority over Railroad operations. During this time frame the designated tracks will be inactive for train movements and may be fouled by the Contractor. At the end of an Absolute Work Window the tracks or signals shall be completely operational for train operations and all Railroad and Federal Railroad Administration requirements, codes, and regulations for operational tracks shall be met. In the situation where the operating tracks or signals have been

affected, the Railroad will perform inspections of the work prior to placing back into service. Railroad flaggers will be required for construction activities requiring an Absolute Work Window. Absolute Work Windows will not generally be granted. Any request will require a detailed explanation for Railroad review.

1.07.03 Requests

Contractor shall make requests in writing for both Absolute and Conditional Work Windows, at least two weeks in advance of the work for which the request is being made. The request shall include:

- Exactly what the work entails.
- Days and hours the work will be performed.
- Exact location of work, and proximity to the tracks.
- Type of window requested and amount of time requested.
- The Contractor's designated contact person.

Contractor shall provide written notice to the Railroad at least 48 hours before commencing work in connection with approved work windows when work will be performed within 25 feet of any track center line.

1.08 Method of Measurement and Basis of Payment

- A. Liability Insurance, Modified, for CBEC Railway Company; will be paid for as a Lump Sum bid item. The Contractor will be paid 100% of the lump sum bid item following the Contracting Authority executing the Contract.
- B. Insurance When Working in Railroad Right-of-Way, Modified, for CBEC Railway Company; will be paid for as a Lump Sum bid item. The Contractor will be paid 50% of the lump sum bid item following the Contracting Authority executing the Contract. The remainder of the bid item will be paid when the Contractor has begun work on Railroad right-of-way and the Engineer has verified the insurance policy is still in force.

A d d e n d u m

Iowa Department of Transportation
Office of Contracts

Date of Letting: April 15, 2014
Date of Addendum: April 4, 2014, 2014

B.O.	Proposal ID	Proposal Work Type	County	Project Number	Addendum
014	78-0293-097	BRIDGE REPLACEMENT - STEEL GIRDER	POTTAWATTAMIE	IM-NHS-029-3(97)48--03-78 IM-NHS-029-3(98)48--03-78 IM-029-3(99)48--13-78 NHS-029-3(100)48--11-78 IM-NHS-029-3(111)48--03-78 IM-NHS-029-3(128)48--03-78	15APR014.A03

Notice: Only the bid proposal holders receive this addendum and responsibility for notifying any potential subcontractors or suppliers remains with the proposal holder.

Make the following changes to the PROPOSAL SCHEDULE OF PRICES:

Delete Proposal Line No. 1112 2595-0000012 INSURANCE WHEN WORKING IN RAILROAD RIGHT-OF-WAY, MODIFIED, FOR BNSF RAILWAY COMPANY; LUMP

Delete Proposal Line No. 1114 2595-0000013 LIABILITY INSURANCE, MODIFIED, FOR BNSF RAILWAY COMPANY; LUMP

If the above changes are not made, they will be made as shown here.

Make the following changes to the PROPOSAL SPECIAL PROVISIONS LIST & TEXT:

Delete:
SP-120176 April 15, 2014
SPECIAL PROVISIONS FOR WORK ON RAILROAD RIGHT-OF-WAY (BNSF)

Delete:
SS-12001 October 16, 2012
SUPPLEMENTAL SPECIFICATIONS FOR WORK ON RAILROAD RIGHT-OF-WAY (Burlington Northern and Santa Fe)

Replace:
SP-120048 April 15, 2014
SPECIAL PROVISION FOR EMERGENCY ACTION PLAN

With:
SP-120048a April 15, 2014
SPECIAL PROVISION FOR EMERGENCY ACTION PLAN

Replace:

SP-120049 April 15, 2014
SPECIAL PROVISIONS FOR GROUND IMPROVEMENT WITH RIGID
INCLUSIONS

With:

SP-120049a April 15, 2014
SPECIAL PROVISIONS FOR GROUND IMPROVEMENT WITH RIGID
INCLUSIONS

Make the following changes to IM-NHS-029-3(97)48--03-78:

Plan Sheet B.8:

Typicals 'I-29 Detour Widening' and 'IA 92/US 275 Detour Widening', Change
Transverse Joint:

From: CD

To: C

Typical 'I-29 Detour Shoulder Replacement', Change 'P' for Station Range
1244+29.3 to 1252+72.2:

From: 10

To: 6

And Station Range 1252+72.2 to 1267+30.94:

From: 6

To: 10

Plan Sheet Q.27:

Replace Plan sheet Q.27 with attached Plan Sheet Q.27

Plan Sheet Q.56:

Replace Plan sheet Q.56 with attached Plan Sheet Q.56

Plan Sheet R.3:

Replace Plan sheet R.3 with attached Plan Sheet R.3



Iowa Department of Transportation

SPECIAL PROVISION FOR EMERGENCY ACTION PLAN

Pottawattamie County
IM-NHS-029-3(97)48--03-78
IM-NHS-029-3(98)48--03-78
IM-NHS-029-3(111)48--03-78
NHS-029-3(100)48--11-78

Effective Date
April 15, 2014

THE STANDARD SPECIFICATIONS, SERIES 2012, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

120048a.01 DESCRIPTION.

- A. Levee Unit Name:** Ag Levee L-624, Section 3 (Mosquito Creek Levee)
Missouri River - Council Bluffs Flood Protection
- Local Sponsor:** City of Council Bluffs, Iowa
- River Miles:** M0.00 to about M1.69
- Levee Stations:** 1010+00 to 1060+00
- Project Name:** Council Bluffs Interstate System – Segment 3
Reconstruction of I-29 / I-80 East System Interchange
and Railroad Consolidation
Pottawattamie County, Iowa

- B.** The Iowa DOT is proceeding with the reconstruction of the I-29 / I-80 East System Interchange (Segment 3) as a part of the Council Bluffs Interstate System. The work for Segment 3 involves the construction of new roadway embankments and bridge structures. The levees affected by this construction is the Agricultural Levee L-624, which was a part of the Council Bluffs Flood Protection System that was originally designed and constructed by the Omaha District of the U.S. Army Corps of Engineers (USACE) in the early 1950s. A large portion of the interstate reconstruction will take place within the "critical area" of the levee, which is defined by the USACE as the area within 300 feet riverward and 500 feet landward of the levee.

The work covered by this Emergency Action Plan (EAP) addresses the removal of bridge foundations and embankments, water main, storm sewer pipe, and sanitary sewer pipe and construction of roadway embankments including ground improvements bridge structures, storm

sewer, and sanitary sewer within the Mosquito Creek levee critical area. The ground improvements consist of below grade concrete columns that will be used to support the new embankments.

120048a.02 CONSTRUCTION.

A. Preparation of Emergency Action Plan.

Prior to construction, prepare and follow an EAP which will address the requirements presented in this document and the procedures for high water conditions during construction. The EAP shall include emergency contact information, including cell phone and pager numbers of the project manager, project superintendant and foreman. The numbers provided shall be monitored 24 hours a day, 7 days a week. Separate EAPs shall be prepared for the Water Main, Sanitary Sewer and Storm Sewer Construction and Removals, each.

B. Submittals.

Any changes proposed by the contractor that might impact the levee, such as changes to staging, excavation depths, shoring, haul routes, or levee access, must be submitted to the Engineer for approval.

Submittals for contractor proposed changes, EAPs, excavation shoring designs, or temporary bridge designs in the levee critical area may be reviewed by both the Engineer and the City of Council Bluffs. Allow 4 weeks for review of these submittals.

C. Staging.

1. All construction related to the piggy-back levee must be substantially complete prior to the commencement of any excavations within the existing levee section. See staging plans for additional details and requirements.
2. The Iowa DOT, City of Council Bluffs representatives, and the Engineer shall be notified 1 week prior to construction of the piggy-back levee and at the completion of the piggy-back levee construction operations at least 1 week prior to beginning any excavations within the existing levee section.
3. Approval for the substantially complete levee work will include review of:
 - a. The earthwork grading and
 - b. Compaction test results for the embankments.

D. Limitations.

Ensure that the proposed construction will not involve any additional landward or riverward excavations in the critical area that may impact the levee at any time during construction except as shown in the approved plans and specifications.

E. Survey.

Survey the levee a minimum of 50 feet of each side of the levee access and levee restoration areas. The levee shall be surveyed prior to construction activities and after restoration of the disturbed areas. The results of the survey should be provided to the Engineer prior demobilization. Areas determined to be deficient by the Engineer shall be immediately repaired and confirmed by survey. Survey information should be reported in a table format with levee stations and elevations presented along the levee centerline at 25 foot intervals.

120048a.03 EMERGENCY ACTION PLAN.

A. Contents of Emergency Action Plan.

1. The contents of the EAPs will present a detailed staging plan and all provisions in the contract documents so that the integrity of the levee system and its ability to provide flood protection will be maintained throughout the entire duration of construction. The location of stockpiles that will be available for emergency backfill will be provided on a site map. The EAPs shall be submitted at least 21 days prior to construction within the critical area.
2. The proposed construction will be performed during flood and non-flood event periods, including the work on the top, riverside and landside of the existing levee. The potential does exist for the river to rise to flood level during the proposed construction and provisions will be in place to address this potential.

B. Procedures.

The following procedures shall be in place to address an emergency situation:

1. Daily Monitoring.

The water level in the Missouri River shall be monitored on a daily basis by the Contractor and the Iowa DOT. The extended forecast of future river levels shall also be monitored.

2. Monitoring Agencies.

The river level shall be monitored through USGS and National Weather Service websites for River Gage - 06610000 Missouri River at Omaha, NE.

- http://waterdata.usgs.gov/ne/nwis/uv/?site_no=06610000&
- <http://www.riverwatch.noaa.gov/forecasts/OAXRDOAX.php>

3. Ceasing Operation.

Construction operations will cease in the event the river levels are within 5 feet of the published flood stage of 29 feet (Elevation 974.4 feet). The 100-year flood elevation at this location is 981 feet. The 500-year flood elevation is 983.0 feet.

4. Construction Equipment.

Provide a list of all construction equipment that will be present throughout the duration of construction within the critical area. All equipment, construction materials and stockpiled soils will be removed in the event of high water and relocated to the landside of the levee during high water events.

5. Emergency Backfilling.

During excavation construction of the water main, sanitary sewer, storm sewer, drilled shafts or rigid inclusions, if the river level reaches an elevation within 5 feet of the published flood stage of 29 feet (Elevation 974.4 feet), emergency backfilling shall be commenced. The rate of emergency backfilling shall exceed the rate of the rising river. Soils excavated shall be used as emergency backfill. Concrete or soil can be used as emergency backfill for the ground improvements and drilled shafts.

120048a.04 EMERGENCY CONTACT INFORMATION.

A. City of Council Bluffs.

Jeff Krist, P.E.
City of Council Bluffs, Public Works Dept.
290 Pearl Street
Council Bluffs, Iowa 51503
Phone: 712-328-4635 (office)
Email: jkrist@councilbluffs-ia.gov

Pat Miller, Operations Manager
Phone: 402-510-2700 (cell)

Chuck Pendegraf, Levee Superintendent
Phone: 402-510-3675 (cell)

B. IDOT Resident Construction Engineer.

David Dorsett, P.E.
3538 S. Expressway
Council Bluffs, Iowa 51501
Phone: 712-366-0568
Email: David.Dorsett@dot.iowa.gov

C. IDOT District 4 Construction Engineer.

George Feazell, P.E.
2210 East 7th Street
Atlantic, Iowa 50022
Phone: 712-243-3355
Email: George.Feazell@dot.iowa.gov

D. Designer Contact.

Patrick H. Poepfel, P.E.
HDR, Inc.
8404 Indian Hills Drive
Omaha, Nebraska 68114
Phone: 402-399-1368
Email: Patrick.Poepfel@hdrinc.com

E. USACE – Omaha District.

Chris Horihan, P.E.
USACE – Readiness Branch
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Omaha, Nebraska 68102-4926
Phone: 402-995-2700
Email: Christopher.j.horihan@usace.army.mil

120048a.05 METHOD OF MEASUREMENT AND BASIS OF PAYMENT.

All costs for complying with this special provision shall be considered incidental to the project. No separate payment will be made.



Iowa Department of Transportation

SPECIAL PROVISIONS FOR GROUND IMPROVEMENT WITH RIGID INCLUSIONS

Pottawattamie County
IM-NHS-029-3(97)48--03-78

Effective Date
April 15, 2014

THE STANDARD SPECIFICATIONS, SERIES 2012, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

120049a.01 DESCRIPTION.

A. Scope.

The work shall consist of detailing, furnishing, installing, monitoring and testing of ground improvements using rigid inclusion to the lines and grades designated on the project drawings and as specified herein. The installation of the rigid inclusion shall also include the removal and disposal of excavation spoils as a result of the installation process of the rigid inclusions. The excavated material is all assumed to be unsuitable and shall either be wasted or used in accordance with the Standard Specifications for unsuitable soils. The cost of installation of the rigid inclusions shall include the cost of hauling, stockpiling and disposal, of the excavated material.

B. List of Approved Rigid Inclusion Types and Vendor Information.

1. Controlled Modulus Column (CMC) by Menard (Phone: 1 800 326 6015) or their affiliate Nicholson Construction (Phone 1-800-388-2340).
2. Auger Pressure Grouted Displacement Piling (APGD) by Berkel & Company Contractors, Inc. (Phone: 1-913-422-3588).
3. Vibro Concrete Columns (VCC) by Hayward Baker (Phone: 1-800-456-6548).
4. Vibro Concrete Columns (VCC) by Subsurface Constructors, Inc. (Phone: 1-866-421-2479).
5. Rigid Inclusions (RI) by Hayward Baker (Phone: 1-800-456-6548).
6. Geo-Concrete Columns (GCC) by Tensar- GEOPIER FOUNDATIONS (Phone 1-800-371-7470).
7. Omega Rotary Torque Displacement Pile (ORTD) by Malcolm Drilling Company (Phone: 1-206-571-9945).

C. References.

The publications listed below form a part of this specification to the extent referenced. The publications are referred to by the basic designation only.

1. **American Society of Testing and Materials (ASTM).**
 - a. ASTM D1143 / D1143M - 07e1 Standard Test Methods for Deep Foundations Under Static Axial Compressive Load.
 - b. ASTM C39/C39M-12a Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
 - c. ASTM D4595-11 Standard Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method.
 - d. ASTM D4751-04 Standard Method for Determining Apparent Opening Size of a Geotextile.
 - e. ASTM D5261-10 Standard Method for Measuring Mass per Unit Area of Geotextiles
2. **Geosynthetic Research Institute (GRI).**

GRI GT7-92 Standard Practice for Determination of Long-Term Design Strength of Geotextiles.

D. Definitions.

1. **Rigid Inclusions:** Rigid inclusions may consist of CMC, APGD, VCC, RI, GCC, or ORTD. The purpose of the rigid inclusions is to provide ground improvement and support for highway embankment fill.
2. **Test (Demonstration) Rigid Inclusion:** Test (Demonstration) Rigid Inclusion is a rigid inclusion that is installed at non-production rigid inclusion locations. These test rigid inclusion will be installed as demonstration to verify the installation technique, to assist in selecting location of load tests, develop installation criteria, and identify installation sequence. The rigid inclusions that will be selected for static load tests shall either be installed prior to production of rigid inclusion as verification load test, or during production installation to proof load test the rigid inclusions. Rigid inclusions installed prior to production rigid inclusion are to allow for selection, performance and evaluation of static load tests as well as developing of the installation criteria by the Engineer.
3. **Load Transfer Pad:** A load transfer pad will be constructed at the top of the rigid inclusions. The transfer pad shall consist of compacted granular fill with layers of high strength geotextile reinforcement as shown on the plans. The purpose of the pad is to transfer the majority of the embankment loads to the rigid inclusions, thereby providing adequate support above and between the rigid inclusions.
4. **Monitoring for Strain Gauges on Rigid Inclusions during load test:** The monitoring shall consist of monitoring the strain gauges during load testing of the rigid inclusions prior to construction of production rigid inclusions.

After monitoring the strain gauges during load tests, the strain gauges cables or wires shall be routed through a buried schedule 80 PVC pipe and shall be connected to the real time monitoring system to be monitored during placement of embankment and delay period as defined in the Special Provisions for Instrumentation. Strain gauges shall be compatible with the real time monitoring system. The readings shall consist of real time monitoring with daily frequency and available online to the engineer.

5. Any strain gauge that malfunctions or becomes inoperable or unreadable during the load test shall be replaced including re-performing the load test by the contractor at no additional cost to the Iowa DOT.

6. Additional special provisions for instrumentation related to the grading works are included in the contract documents.

E. Subsurface Conditions.

1. Borings completed within the limits of the project encountered varying thicknesses of soft to medium stiff alluvial silt and clay. The explorations typically encountered medium dense to very dense alluvial sand and gravel with silt and clay below elevations shown in the plans.
2. Groundwater at the time of boring drilling was recorded between approximately 4 and 10 feet below the natural ground at the time of drilling, which was performed in November and December of 2010. It is anticipated that the groundwater level will rise during prolonged periods of precipitation or flooding, and perched groundwater may be present. For the purpose of installation, assume that the ground water is at the ground surface and make all necessary preparation to complete the installation under this condition at no additional cost to Iowa DOT.
3. Installation of the rigid inclusions to the minimum tip elevation will typically require penetration in the ± 12 inch thick compacted granular fill layer that will be constructed at the ground surface to serve as a working pad and load transfer pad. Wide spread obstructions due to nested deposits of construction debris or wood are not anticipated.

F. Submittals.

1. Provide vibration study including estimated peak particle velocity, frequency, and its impact on fresh and curing concrete as it relates to the distance between the columns that can be installed successively without damaging the newly completed rigid inclusion during concrete or grout curing. This is required to establish realistic sequence of construction, ensure the integrity of the completed rigid inclusion(s), and that work can be completed successfully within schedule. The vibration study must be developed by well qualified vibration specialist, who has developed at least three similar studies within the past 7 years. Without such study, any of the techniques listed in Article 120049a.01, B that are using impact or vibratory energy to advance the tool used to install the rigid inclusions cannot be accepted. If the technique is not using vibratory or impact energy, then a certification will need to be provided by the supplier that states that no such techniques are used in the installation and therefore the vibration study is not required.
2. For rigid inclusion installation techniques that utilize vibration, a minimum distance equal to three times the spacing or 8 hour time duration is required prior to installing adjacent rigid inclusions. If the vibration study referenced in Article 120049a.01, F, 1, indicates larger spacing or greater time is needed, then such requirements shall be followed. Mobilize adequate number of rigs and utilize adequate work shifts to meet the schedule and special provision requirements.
3. The rigid inclusion equipment must be equipped with installation monitoring capabilities include the following as a minimum: a) applied torque or applied vibration amplitude, b) applied static down pressure and c) advance rate foot per minute.
4. Shop drawings that include spacing, diameter, installation procedure and sequence of construction with sufficient details including transitions areas, planned cut off and tip elevations, material, proposed equipment, and mix design. The design shall conform to the criteria in Subsection G of this Article.
5. Install 80 test (demonstration) rigid inclusions at non-production locations throughout the site to select the locations of the rigid inclusions that will be load tested and to be used in the development of the production installation criteria. These test (demonstration) rigid inclusions

shall be included before the load tests and before installation of production rigid inclusions. The demonstration rigid inclusion shall be paid at the same unit rate as the production rigid inclusion and no separate mobilization or additional cost shall be borne by Iowa DOT.

6. Submit a load testing program to verify the design in accordance with the requirements of this special provision. The submittal shall include the following:
 - a. The load test program shall be performed prior and during production of rigid inclusions.
 - b. The rigid inclusion production shall only start upon completion of four load tests and after the Engineer issues the final tip elevation, installation criteria, and spacing of the rigid inclusions.
 - c. A total of eight single load tests shall be performed on rigid inclusions in accordance with ASTM D 1143 four of which shall be performed as verification load tests prior to the start of the production rigid inclusion to maximum load test of 300% of the design load. The remaining four load tests shall be proof load tests that will be conducted during the production rigid inclusion installation at locations and times and locations selected by the engineer to maximum load test of 150% of design load. The location of the test rigid inclusions will be selected by the Engineer with input from the Contractor and depending on the work and traffic control sequence. The Contractor shall accommodate in his schedule the performance of the eight load tests, evaluation time, and issuance of installation criteria by the Engineer.
 - d. The design load shall meet or exceed the values shown for the approved techniques in Article 120049a.01, G, 1, a.
 - e. Submit design calculations for the load test reaction piles including diameter, type, reinforcement, depth as well as the reaction frame and beams. All details and supporting calculations shall be submitted for review by the Engineer. Design the reaction piles and frame for minimum two times the maximum test load. All shop drawings and supporting shop drawings calculations shall be signed and sealed by a Professional Engineer registered in the State of Iowa.
 - f. At least 7 days prior to performing the load testing, submit calibration records for load cells, hydraulic jacks, pumps and pressure gauges.
 - g. Submit a complete load test report within 3 days of completion of each test. The Engineer shall evaluate the results of the load tests and within 14 days from the receipt of the last load test report, shall issue the final tip elevations and planned spacing for the production rigid inclusions.
 - h. The test rigid inclusions shall be instrumented with five levels of strain gauges; the strain gauges shall be Geokon GK-401 model or approved equivalent. The strain gauges shall be compatible with the real time monitoring system. The test rigid inclusions shall include a rebar to facilitate installation of the strain gauges. Preliminary strain gauges level elevations are provided in the Table 120049a-1. Strain Gauges final elevation shall be adjusted by the Engineer on site based on the confirmation borings and length of the rigid inclusion.

Table 120049a-1: Strain Gauges Preliminary Elevations

Approximate Depth (feet)	Approximate Elevation (feet)*	Sub-surface Layer
6.0	972.0	Medium Stiff to Stiff Fat Clay
14.0	964.0	Very Soft to Soft Fat Clay
24.0	954.0	Very Soft to Soft Fat Clay
30.0	940.0	Loose to Medium Dense Sand/Silty Sand
40.0	938.0	Medium Dense Sand/Silty Sand

* Approximate elevations for strain gauges are based on an approximate ground surface elevation of 978feet.

- i. The Engineer shall develop production rigid inclusion installation criteria within 14 calendar days of the receipt of the last load test report of the first three preproduction load tests.

7. **Shop Drawings:** Furnish shop drawings and any supporting calculations at least 15 days prior to start of the installation of the production rigid inclusions. Each rigid inclusion shall receive a reference number, which will be indicated on the shop drawings. The shop drawing submittal shall also show cutoff elevations, typical sections and detail drawings as required.
8. Submit as-built plans for the installed rigid inclusions with the transfer pad based on actual locations and tip elevations. The surveyed locations shall be sealed and signed by a licensed surveyor and tip elevations shall be certified by the Contractor's Professional Engineer registered in the State of Iowa.
9. Submit rigid inclusion installation records as specified in Article 120049a.03, G, 2, b. Installation records shall include all recordable information including applied torque or applied vibration amplitude, applied static down pressure and advance rate foot per minute.
10. **Work Plan:** Submit to the Engineer for review, details of the equipment, sequence, and method of installation. The submittal should include a detailed narrative of the Quality Control Plan and how the work plan will comply with all requirements of the Project Safety Plan.
11. **Materials:** Provide documentation for all imported materials including pertinent laboratory test results prior to delivery on site.
 - a. Granular Material for use in the load transfer pad: Provide the material source and results of recent gradation testing. Deliver a representative 5 gallon bucket sample of the product to the Engineer a minimum 10 days prior to delivery on site. This is not required if the Contractor intends to use granular material from the Optional Iowa DOT Borrow 32 as specified in Article 120049a.02, A, 1.
 - b. Geotextile for use in the load transfer pad: Provide the manufacturer's specifications and material source. Deliver samples of the product to the Engineer a minimum of 10 days prior to delivery on site.
12. **Qualifications:** Documentation of the Contractor's qualifications shall show that he/she has been engaged in successful design and installation of deep ground improvements for at least five years, and designed and constructed a minimum of five similar projects in similar scope utilizing the deep ground improvement method proposed for the subject project. A list of previous projects including name, description, relative size and contact person with phone number shall be provided. Resumes of the Contractor's site superintendent and/or foreman shall also be provided. Qualifications of the firm that will be performing the pile integrity tests shall also be provided.

G. Design and Performance Criteria.

1. **Installation Criteria:** The Contractor shall be responsible for the shop drawings of the deep ground improvement system, with the following constraints:
 - a. The rigid inclusions may consist of CMC, APGD, VCC, RI, GCC, or ORTD. No other substitute shall be accepted. The design shall conform to the requirements summarized in the contract documents.
 - b. The load transfer pad shall be as shown on the plan documents and as specified herein.
2. **Design Criteria:** The Contractor shall be responsible for the design of the single load tests reaction frames and reaction piles.

120049a.02 MATERIALS.

A. Load Transfer Pad.

1. The granular material used to construct the load transfer pad shall generally conform to the requirements of Section 4133 of the Standard Specifications with less than 5% fines.

2. The granular material for the load transfer pad shall be compacted with moisture control in accordance with the Standard Specifications.
3. High Strength Geotextile Reinforcement: Shall conform to the following requirements:

Table 120049a-2: High Strength Geotextile for use in Load Transfer Pad

Property	Value	Test Method
Mass/Unit Area	22 oz/sq.yd	ASTM D5261
Tensile Strength (both directions)	1142 lb/in	ASTM D4595
Tensile Strength at 5%	514 lb/in	ASTM D4595
Elongation at Break	10%	ASTM D4595
Apparent Opening Size	No. 40 US Sieve	ASTM D4751
Long-Term Design Strength (Sand)	490 lb/in	GRI-GT7

B. Grout.

For CMC, RI, APGD, or ORTD, meet the following grout requirements.

1. Portland Cement.

Shall conform to requirements of Article 4101.01, A of the Standard Specifications

- a. Type I or Type II.
- b. Cement shall be from an approved source per Materials I.M. 401. If the brand or type of cement is changed during the course of the project, additional grout mix tests shall be conducted to ensure consistency of quality and performance.

2. Fly Ash shall meet requirements of Section 4108 of the Standard Specifications.

3. Sand shall meet the requirements of Section 4110 of the Standard Specifications.

4. Water Reducer shall meet the requirements Materials I.M. 403

5. Fluidifier.

a. Water Reducing Agent.

- Specrete-IP Incorporated; Intrusion-Aid SCX.
- Specrete-IP Incorporated; Intrusion-Aid FG.
- Grace Concrete Products; WRDA 35.
- Grace Concrete Products; ZYLA 640.

b. Retardant.

- Specrete-IP Incorporated; Flo-Aid XR.
- Grace Concrete Products; Recover.

6. Water.

Shall conform to requirements of Section 4102 of the Standard Specifications

7. Grout Mix.

a. Proportion by weight to produce a grout capable of being satisfactorily pumped and of penetrating and filling all voids.

b. Minimum Compressive Strength:

- 4,000 psi at 28 days.
- 2,000 psi at 7 days as required prior to pile integrity testing.

c. Minimum Flow Cone Rate: 10 to 25 seconds with modified 3/4 inch opening flow cone, ASTM C939.

d. Slump: 6 to 8 inches.

- e. The grout mix shall be designed utilizing fluidifiers as needed to maintain the range of acceptable fluid consistency (flow cone rate) for a period of at least 2 hours.
8. A ready mix truck shall be supplied from an approved ready mix plant with certified plant inspection according to Articles 2001.20 and 2001.21 of the Standard Specifications and Materials I.M. 528. An Iowa DOT ticket per Materials I.M. 528 shall be prepared and provided to the Engineer.

C. Concrete for VCC or GCC Construction.

1. All materials, proportioning, air entraining, mixing, slump, and transporting of PCC shall be according to Section 2403 of the Standard Specifications, except as modified herein.
2. Water/cement ratio: not to exceed 0.45.
3. Use Class D PCC mixture with a slump of 6 inches \pm 1.5 inches.
4. Portland cement: meet the requirements of ASTM C 150 Type I / II and Section 4101 of the Standard Specifications.
5. Fly Ash shall meet requirements of Section 4108 of the Standard Specifications.
6. Sand shall meet the requirements of Section 4110 of the Standard Specifications.
7. Water Reducer shall meet the requirements of Materials I.M. 403.
8. Air entrainment: apply Section 2403 of the Standard Specifications.
9. Retarder is required according to Materials I.M. 403 to maintain workable concrete.
10. Do not use GGBFS.
11. Minimum Compressive Strength:
 - 4,000 psi at 28 days.
 - 2,000 psi at 7 days as required prior to pile integrity testing.
12. A ready mix truck shall be supplied from an approved ready mix plant with certified plant inspection according to Articles 2001.20 and 2001.21 of the Standard Specifications and Materials I.M. 528. An Iowa DOT ticket per Materials I.M. 528 shall be prepared and provided to the Engineer.

120049a.03 CONSTRUCTION.

A. Safety Requirements.

Complete all work in accordance with the Project Safety Plan. The Contractor shall be responsible for ensuring that all conditions of these requirements are met to the satisfaction of the Engineer.

B. Equipment.

1. Utilize machines or combinations of machines and equipment that are in good working condition, are safe to operate and will produce the results specified herein.
2. Utilize equipment that is capable of advancing the rigid inclusion through the subsurface materials efficiently and timely to meet the project schedule.

3. The equipment shall be of sufficient size and capacity, and be capable of installing rigid inclusions to the minimum depths shown in the plans or the depth required by the design, whichever is deeper.
4. The equipment shall be capable of installing rigid inclusions in the presence of very dense granular soils and/or obstructions, where encountered.

C. Site Preparation.

Inspect the site prior to the start of operations to verify the deep ground improvements can be constructed using the proposed equipment.

D. Rigid Inclusion Construction.

1. Provide adequate number of drilling rigs to meet the project schedule considering all facets of the project including but not limited to preproduction load testing, waiting periods, integrity testing, reporting, and preparing as-built plans.
2. Evaluate the site and subsurface conditions and assess any need for working platforms that facilitate his installation. Such platforms or preparatory work, or stone needed is considered part of the means and methods and no additional payment or time will be granted toward such work.
3. Performance of Load Tests: Perform four test elements prior to the start of rigid inclusion production. The load test results will be signed and sealed by the Contractor's Professional Engineer and submitted to the Engineer. No payment shall be made for load tests which were unsatisfactorily performed as determined by the Contractor and/or the Engineer.
4. **Layout and Tolerances.**
 - a. Surveying: Prior to installation of the rigid inclusions, each rigid inclusion location shall be surveyed by an licensed surveyor. Provide all survey layouts, maintain utility clearances and provide any required coordination with the Engineer and any other local, state, and federal agencies having jurisdiction, prior to the start of construction. The location of each rigid inclusion shall be marked using a numbered utility flag.
 - b. Plan position: The center of the completed rigid inclusion shall be within 3 inches of the plan location.
 - c. Verticality: The axis of the completed rigid inclusion shall not deviate more than 2% from vertical. The verticality of the mast of the rig shall be checked by the operator before start of the installation for each rigid inclusion. The operator shall indicate on the daily drilling log for each rigid inclusion that verticality was within tolerance by checking the appropriate box on the installation log.
 - d. Diameter: The completed rigid inclusion diameter shall not deviate more than 10% from the plan diameter.
5. Rejection: Rigid inclusions improperly located or installed beyond the maximum allowable tolerances or reported to be defective as a result of pile integrity testing, shall be abandoned and replaced with new rigid inclusions unless the Contractor and the Contractor's designer propose a remedial measure which is acceptable to the Engineer, either of which will be done at no additional cost to the Iowa DOT.
6. Schedule: Mobilize and maintain sufficient equipment, materials, and personnel to complete the work in accordance with project milestones and shall coordinate operations with all other aspects of the project.
7. Installation Sequence: Install the rigid inclusions in accordance with the sequence detailed in the approved work plan. If adjacent rigid inclusions are observed to be influenced by the installation of a neighboring rigid inclusion, the installation sequence shall be modified to

prevent disturbance of rigid inclusions. Any required modifications to the sequence, or mitigation of rigid inclusions deemed unusable due to disturbance, shall be completed at no additional cost to the Iowa DOT or extension in the project schedule.

8. **Depth:** Install the rigid inclusions through the first layer of the load transfer pad to the minimum tip elevation, or deeper as required to found the rigid inclusions in a suitable bearing stratum, as determined by the Engineer.
9. **Obstructions:** Subsurface obstructions may include but are not limited to boulders, timbers, concrete, bricks, utility lines, foundations, slabs, etc. that prevent rigid inclusions to be installed to the required depth. In the event that obstructions are encountered during installation of a rigid inclusion that cannot be penetrated with reasonable effort, one or more of the following procedures will be used:
 - Position the element a short distance not more 1.5 feet away from the original position.
 - Pre-drill the obstruction.
 - Install additional elements to bridge over the obstruction.

Any change made to the design or rigid inclusion layout because of obstructions shall be approved by the Engineer. Provide to the Engineer an as-built submittal no later than 7 calendar days after the modification has been performed on site. This submittal shall be signed and sealed by the Registered Professional Engineer responsible to the Contractor and having stamped the design submittals. All elements that are abandoned due to obstructions or equipment malfunction shall be completely backfilled with grout. Excavation or removal of defective element will not be permitted within the levee critical zone as defined on the plans. The cost for obstruction shall be compensated for per the unit cost per linear foot of rigid inclusion, no additional compensation or time shall be awarded to the contractor for delay, waiting, or moving between the obstruction location and the relocated position of the rigid inclusion.
10. **Cut-off Elevation:** Cutoff the rigid inclusions to the top elevation of the first layer of the load transfer pad, or slightly higher to allow any required trimming or removal of low strength material at the butt of the rigid inclusion. The cut-off elevation of each rigid inclusion shall be established with an accuracy of +/- 0.1 feet.
11. **Protection of Rigid Inclusions:** Perform excavation for the load transfer pad, rigid inclusion installation, and embankment construction in such a way to prevent the damage to the rigid inclusions or disturbance of the soil matrix between the rigid inclusions.
12. **Load Testing:** Following a cure time (if applicable) to achieve the design strength, perform axial load tests on selected rigid inclusions. At the test location, excavate to the bottom of the load transfer pad elevation. Perform the excavation, load test setup, load testing, and backfill the excavation, in a single shift.

E. Excavation.

1. **Cure time:** Embankment construction shall not begin in any area until the rigid inclusion design strength has been reached. If any rigid inclusion is broken or otherwise damaged during embankment construction, propose a remediation solution within 2 days and resume construction only if all parties are in agreement with the remediation solution and the remediation has taken place.
2. **Load Test Evaluation:** Excavation for the load transfer pad shall not begin until the results of the load testing program on rigid inclusions has been submitted and approved by the Engineer.
3. **Excavation:** The final excavation for the load transfer pad shall be made using an excavator equipped with a smooth-edged bucket to minimize disturbance to the in-situ soils. The prepared subgrade shall consist of in-situ soils compacted to moisture content within +/- 2%

of optimum moisture content. If compaction is not practical due to natural moisture water contents far above optimum and/or wet weather conditions, the in-situ soils shall be over excavated to a depth of 12 inches and replaced with compacted granular fill as defined in Article 120049a.02, A, 1. Any organic-rich or otherwise unsuitable soils shall be removed and replaced with compacted granular fill.

4. Operations on earthwork shall be suspended at any time when satisfactory results cannot be obtained because of rain, freezing, or other unsatisfactory conditions in the field. Drag, blade, or slope the embankment to provide proper surface drainage. In wet weather conditions, dewater as required to prevent the accumulation of ponded water in excavations for embankment construction, and the earthwork should be done in sections to minimize the need for such dewatering.
5. Disposal of Excavation Spoils: Stockpile all spoil material, including any topsoil and spoils generated by rigid inclusion installation, at the locations designated on the soil erosion plan. Handling and disposal of spoils shall be performed at no additional cost to the Iowa DOT.

F. Load Transfer Pad Construction.

1. Prior to construction of the load transfer pad, the existing ground shall be excavated and stripped of topsoil and other unsuitable material as specified in Article 120049a.03, E, 3.
2. Place and compact with moisture control the first layer of the granular fill for the load transfer pad until the layer is 1 foot in thickness. Install the rigid inclusions after the installation of the first 1 foot of the pad. Place the first layer of the geotextile on top of the granular fill layer and elements with appropriate overlap and then place the next lift of granular fill. Place the second layer of geotextile after the installation of an additional 3 feet of the pad. Continue this sequence until the required numbers of layers as shown in the plans are placed. The top of the completed load transfer pad shall be a minimum of 2 feet above the last layer of geotextile placed.
3. Any rutting or pumping of the load transfer pad that occurs during installation of the rigid inclusions should be measured and the Engineer notified. If practical, reroute construction traffic to avoid further damage to the underlying in-situ soils, or remove and replace the pumping material with compacted granular fill.
4. Following installation and curing of the rigid inclusions, proof-roll the first 1 foot of the load transfer pad using a fully loaded dump truck. Where deflections more than 1/4 inch are observed under the wheel loads of the dump truck, remove the fill, over excavate 12 inches per Article 120049a.03, E, 3, and reconstruct the load transfer pad. The excavation shall be performed so as to avoid impacting the rigid inclusions.
5. Place geotextile layers at appropriate intervals to the dimensions shown on the plans, specified in Article 120049a.03, F, 2; and overlapping in accordance with the manufacturer's specifications and the Contractor's Design Submittal.

G. Contractor Quality Control.

1. Field Quality Control.

The following describes the minimum inspection and testing required in the Contractor's Quality Control (CQC) Plan and Program for the work of this section and is for CQC only. The implementation of the Contractor Quality Control Program does not relieve the Contractor from the responsibility to provide the work in accordance with the contract documents, applicable codes, regulations, and governing authorities.

2. Quality Control: Supervision, Inspection, and Records.

- a. The Contractor shall have an onsite field engineer to manage all of the QC activities on the project including pile integrity testing, grout sampling (if applicable) and other testing at frequencies defined in the Design Submittal and approved by the Engineer. Monitoring, recording of the data and evaluation of load tests, and inspection and recording of data for production rigid inclusion construction, subgrade preparation and the construction of the load transfer pad shall be done under the direct supervision of a Professional geotechnical Engineer registered in the State of Iowa on the staff of the Contractor or a sub-consultant to the Contractor. The geotechnical engineer shall have supervised a minimum of five similar deep ground improvement projects.
- b. Records:
- 1) An accurate record shall be kept for all rigid inclusions as installed. The record shall indicate the rigid inclusion location, length, cut-off elevation, date and time of construction, applied torque or applied vibration amplitude, applied static down pressure, advance rate foot per minute and any other pertinent installation details as indicated in the Design Submittal and approved by the Engineer. Immediately report any unusual conditions encountered during installation. Any corrective measures shall also be recorded. Daily records shall be signed by the Contractor's superintendent and by the inspector. A complete tabulation of all records pertaining to approved rigid inclusion installation shall be certified by the Contractor's engineer and shall be delivered to the Engineer no later than 14 days after the completion of the rigid inclusion work. All testing and inspection documents shall be reviewed and approved by the Contractor's engineer certifying the rigid inclusions and load transfer were installed based on the construction and installation criteria.

Provide on a daily basis pertinent installation data as defined in the Design Submittal and approved by the Engineer. These documents shall be prepared continuously as the production progresses and shall be submitted to the Engineer no later than 1 working day after the installation of a rigid column. Ensure the Engineer has complete access at all times to data for the rigid inclusion installation, as required.

- 2) Granular Fill: Perform a gradation sieve analysis at the beginning of the job and for every change in source and/or type of material. Perform proof-rolling of the top of the load transfer pad prior to and following completion of the rigid inclusion installation. The proof-rolling shall cover the entire work area, and the wheel pass spacing shall be equal to the axle length of the dump truck. All required testing will be completed to the satisfaction of the Engineer at no additional cost to the Iowa DOT.
- 3) Concrete and Grout: Conduct strength testing of the concrete in accordance with ASTM C 39 and Articles 2001.20 & 2001.21 of the Standard Specifications and Materials I.M. 528. Furnish a sufficient quantity of molded and cured cylinders measuring 3 inches in diameter by 6 inches high for required strength tests on concrete. For testing grout, furnish a sufficient quantity of cubes with 2 inch sides. Provide molds, and a curing environment conforming to the requirements of ASTM C 39. At a minimum, prepare a set of four test cylinders or cubes for each 50 cubic yards of concrete or grout placed or a minimum of two sets of four cylinders or cubes each per day (whichever is greater). One cylinder or cube from each set shall be tested for strength at 1, 2, 7, and 28 days. Provide certified strength test results to the Engineer for acceptance. Submit the grout mix design intended for use on the project to the Engineer for review. Only the mix design approved by the Engineer shall be used. Any subsequent mix design changes will have to get additional approval from The Engineer prior to use on the project.
- 4) Pile Integrity Testing: Pile Integrity Testing (PIT) shall be performed on all test elements and approximately up to 300 of the rigid inclusions. The PIT shall be performed in accordance with ASTM D5882 - 07 Standard Test Method for Low Strain Impact Integrity Testing of Deep Foundations. The production elements selected for the PIT shall be at the discretion of the Engineer based on daily records indicate likelihood of anomalies in the inclusions. The PIT shall be performed by a

firm qualified to do such testing. Documentation of the firm's qualifications shall show that he/she has successfully performed PIT testing for at least 5 years, and for a minimum of five similar projects. A list of previous projects including name, description, relative size and contact person with phone number shall be provided. A report of the test results shall be provided to the Engineer within 48 hours of test completion.

- 5) Strain Gauges Readings: Take initial readings 24 hours after completing installation and testing of each strain gauge. For the Strain Gauges, readings shall consist of a minimum of two readings surveys per 24 hours using real time remote and automated monitoring operations for each strain gauge.

After monitoring the strain gauges during load tests, the strain gauges will continue to be monitored as defined in the Special Provision for Instrumentation.

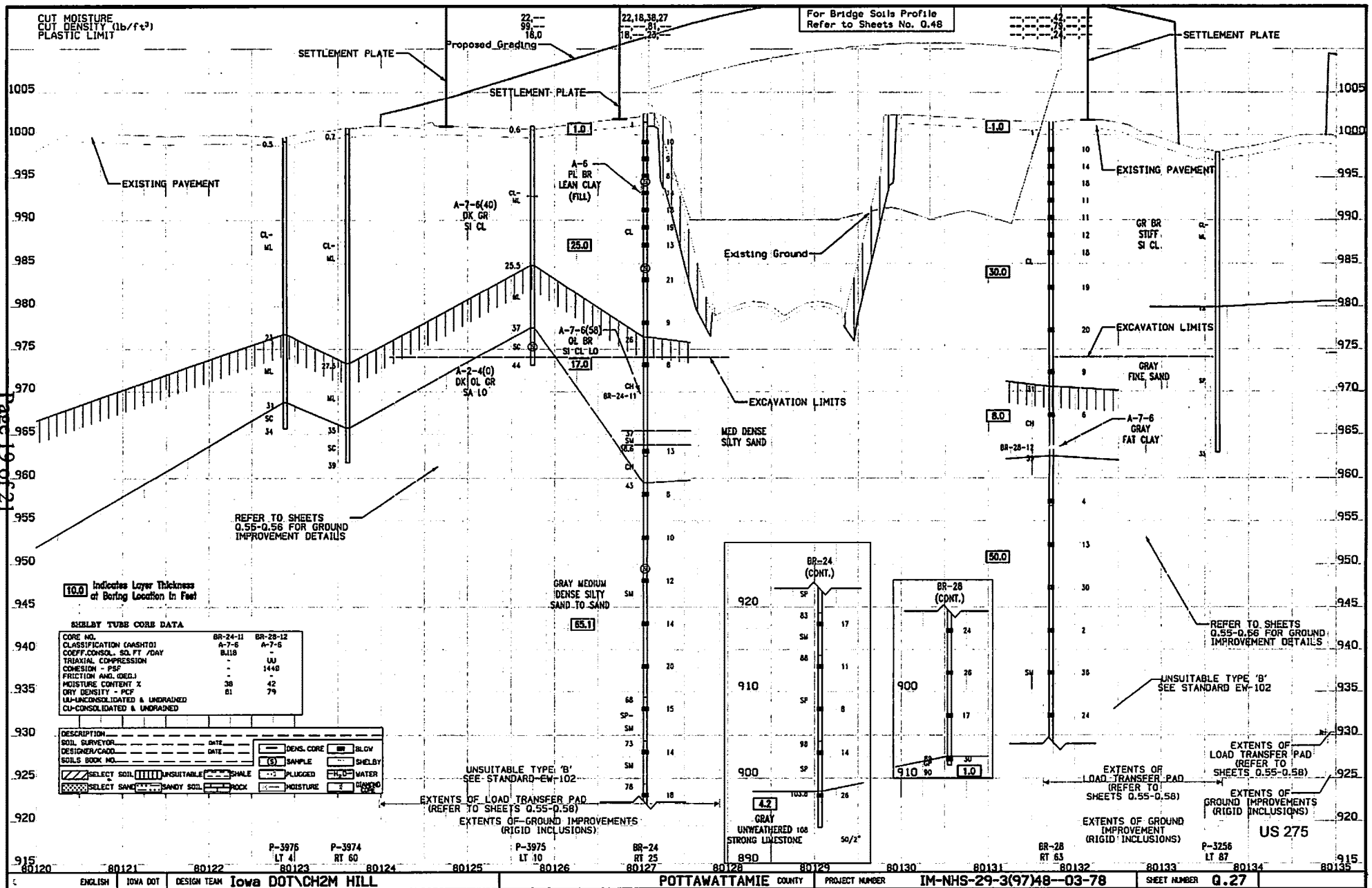
120049a.04 METHOD OF MEASUREMENT.

- A. Installation of Rigid Inclusion will be measured from cut off elevation to tip elevation to the nearest vertical foot for payment in place at the locations shown on the plans, including test (demonstration) rigid inclusions. The measurement shall include performance of PIT testing at 300 production rigid test inclusions. PIT shall be performed for each location, including performance of the test, developing a report either for single location or multiple locations but no more than ten PIT testing shall be included in one report unless approved by the Engineer.
- B. Load Test on Single Inclusions will be paid on a per test basis. Test rigid inclusions will include four verification load tests prior to production installation and four proof load tests after production installation. PIT testing will be performed for all load test rigid inclusions.
- C. Construction of the load transfer pad will be measured for payment in place to the nearest cubic yard at the locations shown on the plans.
- D. High Strength Geotextile shall be measured for payment in place to the nearest square yard at the locations shown on the plans.
- E. For the purpose of subcontracting, Rigid Inclusions, Load Test on Single Inclusions, and High Strength Geotextile will be considered specialty items.

120049a.05 BASIS OF PAYMENT.

- A. Payment for Rigid Inclusion will be made at the Unit Price Bid per linear vertical foot and will constitute full compensation for providing all labor, material, and equipment, including design, site preparation, test pile installation, production installation, handling and disposal of cuttings, and any associated inspection, PIT, or laboratory testing services.
- B. Payment for Load Test on Single Inclusions will be made on a per test basis and will constitute full compensation for providing all labor, material and equipment and any associated installation, inspection, testing, and monitoring, including PIT and strain gauges.
- C. Payment for construction of the load transfer pad, including granular fill, subgrade preparation and any associated inspection or laboratory testing, will be measured for payment in place to the nearest cubic yard at the locations shown on the plans and will be included in the payment for the Class 10 Excavation and Compaction with Moisture Control.
- D. Payment for the High Strength Geotextile will be made at the Unit Price Bid per square yard and will constitute full compensation for providing all material, labor, equipment and any associated installation, inspection and testing, including any quantity needed for overlap.

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For Bridge Soils Profile Refer to Sheets No. 0.48

10.0 Indicates Layer Thickness of Boring Location In Feet

SHREVEY TUBE CORE DATA

CORE NO.	BR-24-11	BR-28-12
SOIL SURVEYOR	A-7-6	A-7-6
CLASSIFICATION (ASHTO)	ML	ML
COEFF. CONSOL. (S _v) / DAY	0.119	-
TRIAxIAL COMPRESSION	-	UU
COMPRESSION - PSF	-	1440
FRICTION ANGL. (DEG.)	-	-
MOISTURE CONTENT %	38	42
DRY DENSITY - PCF	81	79
UU-UNCONSOLIDATED & UNGRAINED	-	-
CU-CONSOLIDATED & UNGRAINED	-	-

DESCRIPTION	DATE	SYMBOL	SYMBOL
DESIGNER/CAAD	DATE	DENS. CORE	BLDV
SOILS BOOK NO.		(S) SAMPLE	SHLEBY
SELECT SOIL	UNSATURABLE	SHALE	PLUGGED
SELECT SAND	SANDY SOIL	ROCK	MOISTURE
			WATER

UNSATURABLE TYPE 'B'
SEE STANDARD EW-102

EXTENTS OF LOAD TRANSFER PAD
(REFER TO SHEETS 0.55-0.58)

EXTENTS OF GROUND IMPROVEMENTS
(RIGID INCLUSIONS)

REFER TO SHEETS 0.55-0.58 FOR GROUND IMPROVEMENT DETAILS

UNSATURABLE TYPE 'B' SEE STANDARD EW-102

EXTENTS OF LOAD TRANSFER PAD (REFER TO SHEETS 0.55-0.58)

EXTENTS OF GROUND IMPROVEMENT (RIGID INCLUSIONS)

US 275

P-3976 LT 41 P-3974 RT 60

P-3975 LT 10

BR-24 RT 25

BR-28 RT 63

P-3256 LT 87

GROUND IMPROVEMENT USING RIGID INCLUSIONS

1. Ground improvement comprising of rigid inclusions shall be installed as shown on the plans and in Table 1. The work shall be performed in accordance with the Special Provision for "Ground Improvement using Rigid Inclusions."
2. Before starting the ground improvement work, the grading contractor shall strip the existing ground of topsoil, organic matter, roots, etc. The topsoil shall be stockpiled for use in slope dressing for the embankment fill.
3. The ground improvement installation shall commence only after the load testing and other requirements of the Special Provisions are met and after obtaining approval from the Iowa DOT Engineer.
4. The rigid inclusions shall be installed in accordance with the spacing and depth criteria shown in the typical drawings and details shown on Table 1. These rigid inclusions will typically require penetration in the 12-inch thick compacted granular fill layer that will be constructed at the ground surface to serve as a working pad and load transfer pad.
5. It is to be noted that this depth is based on the subsurface information currently available. The minimum depth of the rigid inclusion will be decided by the Engineer based on the results of the load test program. A copy of the geotechnical report can be made available if requested by the Contractor.
6. After the ground improvement elements are installed, construction of the load transfer pad shall commence as shown on this sheet and Sheets Q.55 and Q.58 and described in the Special Provisions. Suitable granular material for the load transfer pad is available from the Optional Borrow #32. If the granular material is provided by the contractor from another site, it shall meet the requirements of Standard Specifications 4133 for Granular Backfill Material. The top of the granular fill, compacted with moisture control shall extend a minimum height of 2 feet over the last geotextile layer.
7. Approximately 228,950 cu.yds. (183,150 cu.yds. + 25% shrinkage) of granular material is required for the load transfer pad for areas shown in Table 2 (entire project).
8. The number of geotextile layers shown in the Table 2 are from base of the fill. The number of layers shall transition to a minimum of one geotextile layer placed at 1 ft from the base of the fill in the areas from the start of the grading to maximum height.
9. Approximately 196,250 sq.yds. (178,400 sq. yds. + 10%) of high strength reinforcement geotextile needed for the load transfer pad (entire project). This quantity includes 10% for overlap. Specifications of the high strength reinforcement geotextiles are presented in the Special Provision for "Ground Improvement using Rigid Inclusions".
10. Wherever the new embankment construction abuts the existing embankment, the grading Contractor shall strip the topsoil from the foreslope of the existing embankment and stockpile it for slope dressing for the new fill.
11. For Rigid Inclusion that will be installed on top of existing slope, benching and/or filling to provide level surface to facilitate the installation will be required and assumed to be part of the work at no additional cost to Iowa DOT.

SETTLEMENT PLATES

1. Settlement plates shall be installed by the grading contractor at the locations shown in the plans as per detail shown in Standard Roadway plan EW-212 and in accordance with Section 2106 of the Standard Specifications.
2. Care shall be taken to protect the settlement plates from damage during placement of the embankment fill from equipment traffic or construction activities.
3. Settlement plate readings shall be taken at the start and end of placing of each embankment lift and at weekly intervals after the fill is placed to its final height for a period of 10 weeks, and at the end of fill placement and once every two weeks for 42 weeks thereafter. Additional readings over additional duration may be needed based on the settlement plates readings. The total estimated delay period between the end of grading and start of paving operations is 150 days.

VIBRATING WIRE PIEZOMETERS

1. Vibrating Wire Piezometers shall be installed by a qualified instrumentation specialist as subcontractor to the prime contractor at the locations shown in the plans.
2. The Contractor shall notify the Engineer at least 10 workdays in advance of the start of the installation and shall be responsible for maintenance of the data logging equipment during and after construction. The Engineer shall be on site during installation of the Vibrating Wire Piezometers.
3. A two level Vibrating Wire Piezometers (GEOKON MODEL 4500S or equivalent) shall be installed in one borehole immediately following the foundation soil preparation at the location shown in the plans. The two piezometer transducers shall be located 15 and 25 feet below ground surface. The wiring shall be protected during construction.
3. The Contractor shall take initial readings 24 hours after completing installation and testing of each piezometer. Readings shall consist of minimum of two reading surveys per 24 hours using real time remote and automated monitoring operations.
4. For the duration of the project, piezometers shall continue to be monitored after completion of the fill placement and beyond through a duration of 25 weeks. The readings shall consist of real time monitoring with daily monitoring frequency and available online to the Engineer.

INCLINOMETERS

1. Inclinometer casings and inclinometers shall be installed by a qualified Contractor at the locations shown in the plans and after the embankment fill is completed.
2. The Contractor shall drill, sample, and log borings of soil drilled for the purpose of installing inclinometer casing. Borings for inclinometers shall be drilled using 6" minimum inside diameter casing and water or, where ground conditions permit, using drilling mud in a 6" diameter borehole.
3. The inclinometers shall have a minimum length of 60' below existing ground surface plus the height of the fill at the locations of the inclinometer plus 3'.
4. The casing shall protrude 3' above finished grade. The Contractor shall flag and protect inclinometer locations. Provide the top of each inclinometer casing with a cap, and with a locked protective metal housing extending below grade. All cables shall be protected and routed through a PVC pipe to ensure that these are not damaged during construction activities.
5. The Contractor shall notify the Engineer at least 10 workdays in advance of the start of installation and shall be responsible for maintenance of the data logging equipment during and after construction. The Engineer shall be on site during installation of the inclinometers.
6. The Contractor shall take initial inclinometer readings 24 hours after completing installation and testing of each inclinometer casing. Readings shall consist of a minimum of two reading surveys per 24 hours using real time remote and automated monitoring operations, at 2' intervals throughout the depth of the inclinometer casing.
7. For the duration of construction, multi-point settlement extensometers shall continue to be monitored by the contractor. After completion of construction and through a duration of 52 weeks the readings shall be completed by the engineer. The readings shall consist of real time monitoring with daily monitoring frequency and available online to the Engineer.

MULTI-POINT SETTLEMENT EXTENSOMETERS

1. Multi-point settlement extensometers shall be installed by a qualified Contractor at the locations shown in the plans.
2. The Contractor shall drill, sample, and log borings of soil drilled for the purpose of installing extensometer casing. Borings for extensometers shall be drilled using 6" minimum inside diameter casing and water or, where ground conditions permit, using drilling mud in a 6" diameter borehole.
3. The Contractor shall flag and protect all cables. The cables shall be routed through a PVC pipe to ensure that these are not damaged during construction activities.
4. The multi-point extensometers shall have a minimum length of 50' below existing ground surface. Preliminary elevations of settlement points are provided in the Special Provisions. Final settlement point elevations shall be adjusted by the Engineer on site based on the confirmation borings.
5. The Contractor shall notify the Engineer at least 10 workdays in advance of the start of installation and shall be responsible for maintenance of the data logging equipment during and after construction. The Engineer shall be on site during installation of the multi-point settlement extensometers.
6. The Contractor shall take initial readings 24 hours after completing installation and testing of each multi-point settlement extensometer.
7. For the duration of the project, multi-point settlement extensometers shall continue to be monitored after completion of the fill placement and beyond through a duration of 52 weeks. The readings shall consist of real time monitoring with daily monitoring frequency and available online to the Engineer.

Table 1. Ground Improvement Using Rigid Inclusions

Assignment	Station Range		Inclusion Type	Minimum Diameter (ft)	Incl. Depth (ft)	Minimum Spacing		Maximum Spacing		Estimated Length of Inclusion (ft)	Estimated Volume of Inclusion (cu yd)	Estimated Number of Inclusions	Estimated Total Volume of Inclusions (cu yd)
	Station	Length				Horizontal	Vertical	Horizontal	Vertical				
1-29	6632+00	6632+00	Sec Special Provisions	18	240	6	0	67/8	67/8	20	920	1,376	63,040
1-29	6632+00	6632+00	Sec Special Provisions	18	240	6	0	67/8	67/8	11	911	1,010	194,000
1-29	6632+00	6632+00	Sec Special Provisions	18	240	6	0	67/8	67/8	12	925	1,151	120,000
Area A	6153+00	6153+00	Sec Special Provisions	18	240	6	0	67/8	67/8	15	945	1,685	21,000
Area A	6153+00	6153+00	Sec Special Provisions	18	240	6	0	67/8	67/8	15	945	1,077	24,000
Area C	6152+00	6152+00	Sec Special Provisions	18	240	6	0	67/8	67/8	8	945	751	25,000
US-27	6023+00	6023+00	Sec Special Provisions	18	240	6	0	67/8	67/8	15	925	1,250	17,000
US-27	6023+00	6023+00	Sec Special Provisions	18	240	6	0	67/8	67/8	15	911	1,143	12,000
US-27	6023+00	6023+00	Sec Special Provisions	18	240	6	0	67/8	67/8	11	925	1,018	5,500
US-27	6024+00	6024+00	Sec Special Provisions	18	240	6	0	67/8	67/8	11	941	1,250	17,000

Note:
 CAC = Crushed Angular Crushed Gravel
 SEC = Crushed Concrete Curbs
 AMB = Asphalt Base Course
 "x" = spacing in direction of travel
 "y" = spacing transverse to direction of travel
 Sec Special Provisions

Table 2

1-29 Special Provisions	
Station	Number of Layers
6632+00 to 6632+00	2
6632+00 to 6632+00	1
6632+00 to 6632+00	1
6632+00 to 6632+00	2

US-27 Special Provisions	
Station	Number of Layers
6023+00 to 6023+00	1

Area A Geotextile Layer	
Station	Number of Layers
6153+00 to 6153+00	2

Area C Geotextile Layer	
Station	Number of Layers
6152+00 to 6152+00	2
6152+00 to 6152+00	1

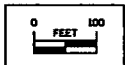
DETAILS FOR RIGID INCLUSIONS

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(97) BORROW

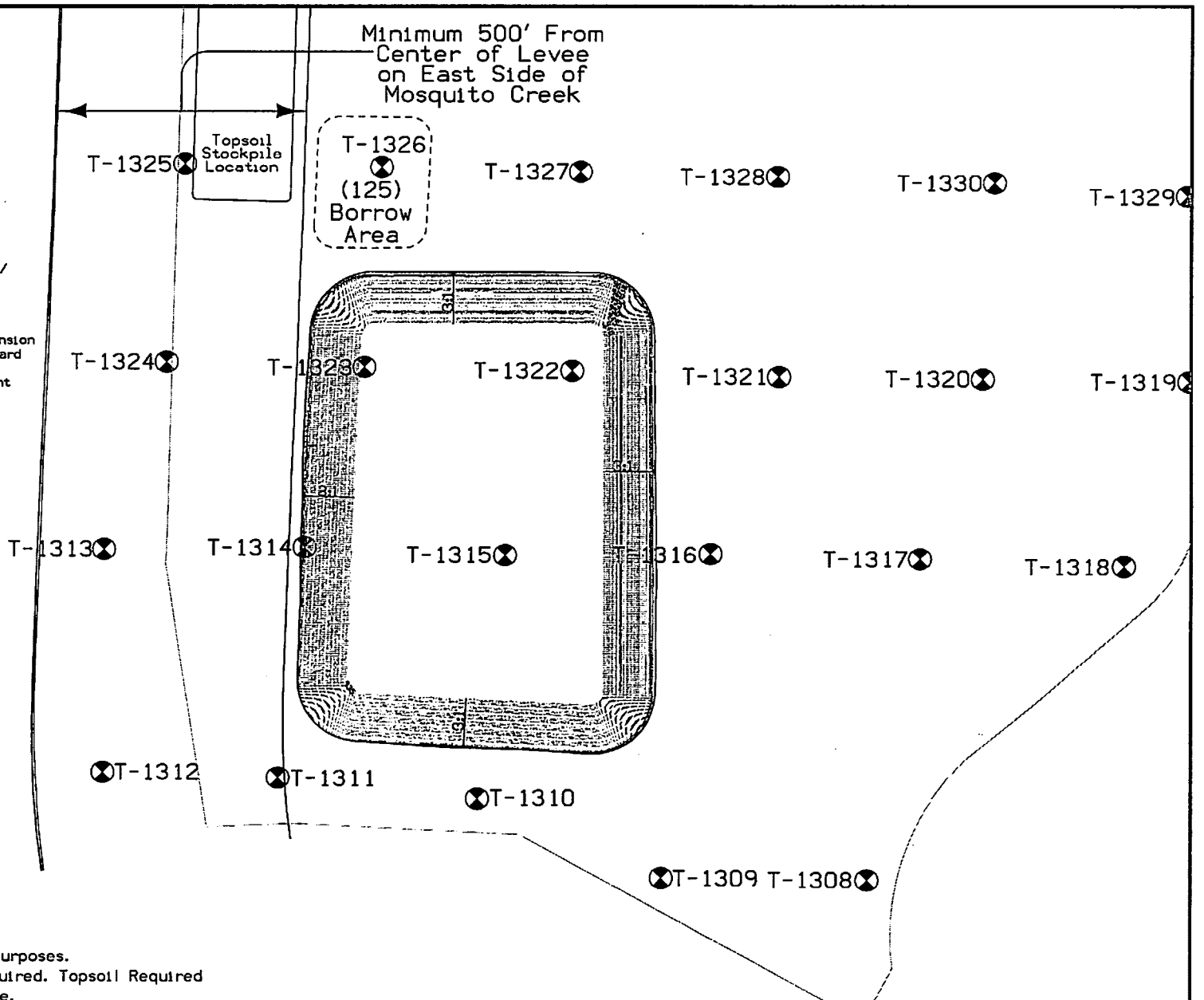
- * Total Area of Borrow is 74,047 yds².
- * Estimated water elevation is 957.4. However, variations may be expected based on time of year and other factors.
- * Topsoil stockpile area provided in northwest portion of south half of overall borrow site. See Sheet R.1.
- * This borrow is designed for 60% cushion above the known project need of 363,305 yds³. The intention of the borrow is to supplement Class 10 and select material from the mainline/ sideroad excavations.
- * Unless approved otherwise by Engineer, borrow excavation shall commence on the south end of the borrow and extend full-depth and full-dimension in an east-west direction, and progress northward as far as necessary, leaving the site in a condition acceptable to Engineer for subsequent borrow excavation by others.

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(97) Borrow		
MATERIAL	AVAILABLE CU. YDS.	REQUIRED CU. YDS.
TOPSOIL B	53,800	0**
CLASS 10	391,438	363,305
SELECT SAND*	208,337	0
TOTAL	653,575	363,305

* Select Sand May Be Used For Class 10 Purposes.
 ** Topsoil replacement on borrow not required. Topsoil Required represents topsoil need for project use.



A d d e n d u m

Iowa Department of Transportation
Office of Contracts

Date of Letting: April 15, 2014
Date of Addendum: April 8, 2014, 2014

B.O.	Proposal ID	Proposal Work Type	County	Project Number	Addendum
014	78-0293-097	BRIDGE REPLACEMENT - STEEL GIRDER	POTTAWATTAMIE	IM-NHS-029-3(97)48--03-78 IM-NHS-029-3(98)48--03-78 IM-029-3(99)48--13-78 NHS-029-3(100)48--11-78 IM-NHS-029-3(111)48--03-78 IM-NHS-029-3(128)48--03-78	15APR014.A04

Notice: Only the bid proposal holders receive this addendum and responsibility for notifying any potential subcontractors or suppliers remains with the proposal holder.

Make the following change to the PROPOSAL DETAILS, Page 3:

Replace Page 3 with attached Page 3

Make the following changes to the PROPOSAL SCHEDULE OF PRICES:

Change Proposal Line No. 2320 2408-8500100 REINFORCED NEOPRENE:

From: 3,225.000 SF
To: 2,927.000 SF

Change Proposal Line No. 2450 2599-9999009 ('LINEAR FEET' ITEM) EXPANSION JOINT (FINGER PLATE TYPE):

From: 257.200 LF
To: 218.500 LF

Delete Proposal Section 0013

Change Proposal Line No. 2570 2301-0685550 BRIDGE APPROACH PAVEMENT, AS PER PLAN:

From: 1,519.300 SY
To: 1,348.400 SY

Change Proposal Line No. 2580 2412-0000100 LONGITUDINAL GROOVING IN CONCRETE:

From: 9,737.600 SY
To: 9,274.900 SY

Change Proposal Line No. 2610 2513-0474990 CONCRETE BARRIER, REINFORCED, AS PER PLAN:

From: 157.400 LF
To: 114.800 LF

If the above changes are not made, they will be made as shown here.

Make the following changes to IM-NHS-029-3(98)48--03-78:

Sheet Number 13, 19, and 24, Add the following note:

A permissible drilled shaft construction joint will be added near existing ground line, which may necessitate a longitudinal bar splice and modification of bar sizes. The contractor may submit a revised bar and splice layout for approval. If permissible construction joint is utilized CSL tubes should be terminated 2 feet above the joint.

Make the following changes to NHS-029-3(100)48--11-78:

Sheet Number 4, General Notes:

~~WEST ABUTMENT DRILLED SHAFTS ARE TO BE CONSTRUCTED PRIOR TO MSE WALL CONSTRUCTION. THIS WILL ENTAIL POURING OF SHAFT CONCRETE ABOVE EXISTING GRADE AND WILL REQUIRE TEMPORARY CASING AND SHORING. ALL COSTS ASSOCIATED WITH THE TEMPORARY CASING AND SHORING WILL BE INCLUDED IN THE PRICE BID FOR "CONCRETE DRILLED SHAFT, 48 IN. DIAMETER".~~

Add note to General Notes on Plan Sheet 4 as follows:

A PERMISSIBLE CONSTRUCTION JOINT (NEAR GROUND LINE) MAY BE ALLOWED PER THE CONTRACTOR'S REQUEST. IN THE EVENT THAT THE CONTRACTOR WOULD LIKE TO ADD A CONSTRUCTION JOINT, HE SHALL SUBMIT A REVISED BAR AND SPLICE LAYOUT TO THE ENGINEER FOR REVIEW AND APPROVAL. IF PERMISSIBLE CONSTRUCTION JOINT IS UTILIZED, CSL TUBES SHOULD BE TERMINATED 2 FT. ABOVE THE JOINT.

Make the following changes to IM-NHS-029-3(111)48--03-78:

Sheet Number 12 and 17, Add the following note:

A permissible drilled shaft construction joint will be added near existing ground line, which may necessitate a longitudinal bar splice and modification of bar sizes. The contractor may submit a revised bar and splice layout for approval. If permissible construction joint is utilized CSL tubes should be terminated 2 feet above the joint.

Sheet Number 25, Add the following note:

A construction joint will be added between Columns 5 and 6, approximately 5 feet south of Column 5, to allow staged construction of Pier 2. A plan revision will be issued at a later date to clarify construction joint details.

Sheet Number 97, Add the following note:

Pours 10 thru 20 are part of stage 2 construction and shall not be poured until after construction of Pier 1 Ramp, stage 2 of Pier 2, and full erection of all girders.

Delete Sheet Number 115 to 119

Note: A deck blockout header and barrier rail construction joint approximately 5 feet from Pier 1 Ramp will be required to facilitate future placement of finger joint. A plan revision will be issued at a later date to clarify blockout details.

Delete Sheet Number 129

Delete Sheet Number 139 to 176

Plan Sheet C.1:

For Item Code 2301-0685550 BRIDGE APPROACH PAVEMENT, AS PER PLAN,

Delete:

Subdrain for Ramp D at 'EF' joint shall run along joint, down MSE wall and under the leveling pad keeping 1' clear between the leveling pad and top of subdrain. Subdrain from leveling pad to outlet construct in accordance with RF-19E except no porous backfill or class 'A' crushed stone."

Replace:

Includes 19.5 CY of porous backfill, 1695 SY of engineering fabric and subdrain for abutment backfill per sheet U.6.

With:

Includes 16.7 CY of porous backfill, 1686 SY of engineering fabric and subdrain for abutment backfill per sheet U.6."

Plan Sheet C.3:

Tabulation 112-6 BRIDGE APPROACH SECTION:

Delete entry at Bridge Station 84544+90.61

Tabulation 108-18B CONCRETE BARRIER AT SIDE LOCATIONS:

Delete entries No. 4 and 5

Tabulation 100-28 LONGITUDINAL GROOVING:

Delete entries for Ramp D Approach and Ramp D Bridge

Plan Sheet G.2:

Tabulation 101-18 SUPERELEVATION DATA:

Delete entry US275D

Plan Sheet J.1:

Tabulation 108-26A STAGING NOTES:

Replace Stage 1 and Stage 2 notes with the following:

Stage 1: (For traffic layout see plans IM-NHS-29-3(97)48--03-78. See Sheet J.3)

- Maintain traffic on existing I-29
- Shift NB I-29 to US 275/ IA 92 exit ramp over to detour pavement on median shoulder (by others)
- Construct 44'-1" East portion of SB I-29 Bridge over Mosquito Creek not affecting existing NB or SB I-29
- Construct all substructure except columns and drilled shafts for pier 1 ramp columns and pier 2 columns 6 and 7

Stage 2: (Traffic switch coincides with future plan IM-NHS-29-3(102)48--03-78. See Sheet J.4.)

- Switch I-29 NB Traffic to new NB I-29 Lanes (by others)
- Remove existing I-29 NB Bridge
- Finish construction of I-29 SB bridge

Add attached plan sheets J.3 and J.4

Delete plan sheet K.1

PROPOSAL DETAILS

Proposal ID No.: 78-0293-097
 Primary Work Type: BRIDGE REPLACEMENT - STEEL GIRDER

Bid Order No.: 014
 Letting Date: April 15, 2014
 10:00 A.M.

Site Number	Contract Period/ Site Description	Liquidated Damages
CONTRACT	COMPLETION DATE: 05/15/16	\$ 6,500.00
01	COMPLETION DATE: 12/05/14 TO COMPLETE ROADWAY EMBANKMENT	\$ 6,500.00
02	COMPLETION DATE: 07/31/15 TO COMPLETE (99) AND (100)	\$ 6,500.00
03	COMPLETION DATE: 05/15/16 TO COMPLETE STAGE 2 OF (111)	\$ 6,500.00
04	COMPLETION DATE: 10/02/15 TO COMPLETE (98) AND STAGE 1 OF (111)	\$ 6,500.00

PROPOSAL NOTES

SITE 01

TO COMPLETE ALL WORK ASSOCIATED WITH THE ROADWAY EMBANKMENT INCLUDING, BUT NOT LIMITED TO, RIGID INCLUSIONS, WICK DRAINS, MSE WALLS AND CLASS 10 EXCAVATION.

SITE 02

TO COMPLETE ALL WORK ASSOCIATED WITH THE BRIDGE PROJECT INCLUDED IN IM-029-3(99)48--13-78 AND TO COMPLETE ALL WORK ASSOCIATED WITH THE BRIDGE PROJECT INCLUDED IN NHS-029-3(100)48--11-78.

SITE 03

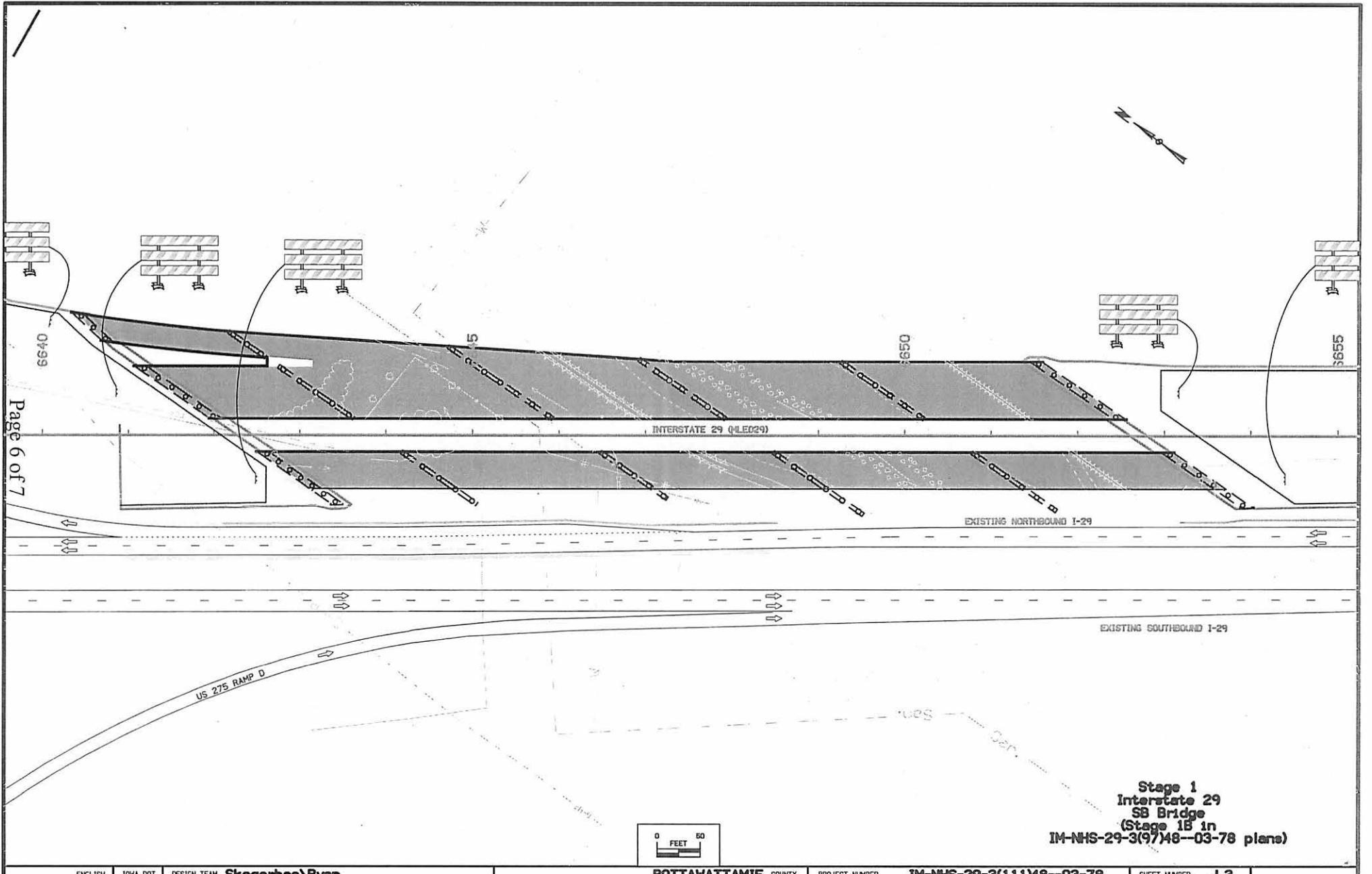
TO COMPLETE ALL WORK ASSOCIATED WITH STAGE 2 OF THE BRIDGE PROJECT INCLUDED IN IM-NHS-029-3(111)48--13-78 AFTER TRAFFIC ON EXISTING I-29 NB IS SHIFTED TO NEW I-29 NB (BY OTHERS IM-29-3(102)48--13-78 FUTURE CONTRACT). THIS SHIFT IS EXPECTED TO BE COMPLETED BY 11/15/2015

SITE 04

TO COMPLETE ALL WORK ASSOCIATED WITH THE BRIDGE PROJECT INCLUDED IN IM-029-3(98)48--13-78 AND TO COMPLETE ALL WORK ASSOCIATED WITH STAGE 1 OF THE BRIDGE PROJECT INCLUDED IN IM-029-3(111)48-13-78.

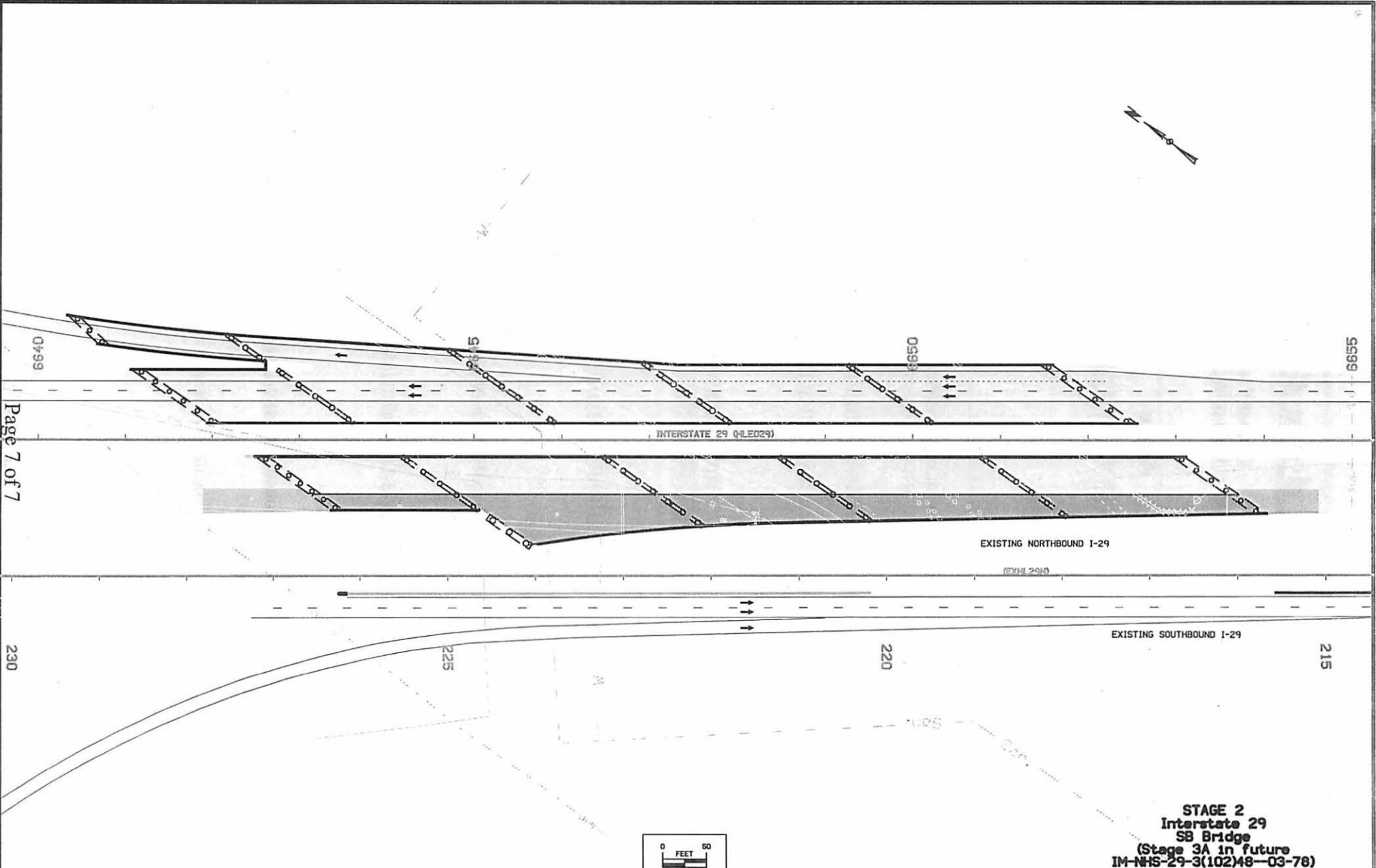
PRE-BID MEETING

A PRE-BID MEETING WILL BE HELD ON WEDNESDAY, APRIL 2, 2014 AT 11AM. THE LOCATION IS THE HDR/CBIS OFFICE AT 1751 MADISON AVENUE, SUITE 750, COUNCIL BLUFFS, IA 51503. THIS MEETING WILL ALSO INCLUDE IM-NHS-080-1(370)4--03-78 WHICH WILL BE LET ON MAY 20, 2014. PRELIMINARY PLANS FOR (370) WILL BE AVAILABLE ON THE DOT CONTRACTS WEB PAGE.



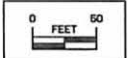
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ENGLISH	IOWA DOT	DESIGN TEAM Skogerboe\Ryan	POTTAWATTAMIE COUNTY	PROJECT NUMBER IM-NHS-29-3(111)48-03-78	SHEET NUMBER J.3
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STAGE 2
Interstate 29
SB Bridge
 (Stage 3A in future
IM-NHS-29-3(102)48-03-78)



ENGLISH	IOWA DOT	DESIGN TEAM	Skogerboe/Ryan	POTTAWATTAMIE	COUNTY	PROJECT NUMBER	IM-NHS-29-3(111)48-03-78	SHEET NUMBER	J.4
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A d d e n d u m

Iowa Department of Transportation
Office of Contracts

Date of Letting: April 15, 2014
Date of Addendum: April 9, 2014, 2014

B.O.	Proposal ID	Proposal Work Type	County	Project Number	Addendum
014	78-0293-097	BRIDGE REPLACEMENT - STEEL GIRDER	POTTAWATTAMIE	IM-NHS-029-3(97)48--03-78 IM-NHS-029-3(98)48--03-78 IM-029-3(99)48--13-78 NHS-029-3(100)48--11-78 IM-NHS-029-3(111)48--03-78 IM-NHS-029-3(128)48--03-78	15APR014.A05

Notice: Only the bid proposal holders receive this addendum and responsibility for notifying any potential subcontractors or suppliers remains with the proposal holder.

Make the following changes to the PROPOSAL SCHEDULE OF PRICES:

Change Proposal Line No. 0020 2102-0425071 SPECIAL BACKFILL:

From: 12,664.000 CY

To: 12,681.500 CY

Change Proposal Line No. 0140 2301-1033100 STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 3 DURABILITY, 10 IN.:

From: 236.600 SY

To: 1,766.600 SY

Change Proposal Line No. 0170 2304-0100000 DETOUR PAVEMENT 7 INCH PCC OR 8.5 INCH HMA:

From: 4,559.200 SY

To: 3,029.200 SY

Change Proposal Line No. 0290 2416-0100036 APRONS, CONCRETE, 36 IN. DIA.:

From: 10.000 EACH

To: 9.000 EACH

Change Proposal Line No. 0350 2416-1180036 CULVERT, CONCRETE ROADWAY PIPE, 36 IN. DIA.:

From: 106.000 LF

To: 72.000 LF

Add Proposal Line No. 2141 2599-9999010 MONITORING PROGRAM FOR EXISTING EASTBOUND BRIDGE; LUMP

If the above changes are not made, they will be made as shown here.

Make the following changes to IM-NHS-029-3(97)48--03-78:

Plan Sheet B.8, Typical IA 92/US 275 Detour Widening:
Delete entry for 350470

Add attached plan sheet B.16

Plan Sheet C.3:
For Item Code 2304-0100000, Replace the second sentence with:
If PCC option is used, microtexture and macrotexture are required

Plan Sheet C.9:
Replace plan sheet C.9 with attached plan sheet C.9

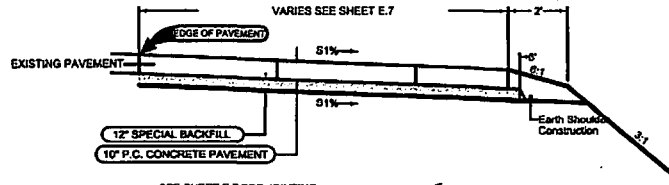
Plan sheet C.11, Tabulation 104-3:
Delete entry at station 6656+13.56

Add attached plan sheet E.7

Plan Sheet F.2:
Remove Detour paving from Station 327+40.41 to 332+26.47

Make the following change to NHS-029-3(100)48--11-78:

The following is Estimate Reference Information for Item 2599-9999010 MONITORING PROGRAM FOR EXISTING EASTBOUND BRIDGE:
Includes all costs associated with Monitoring Program as outlined on Sheet SPS.11

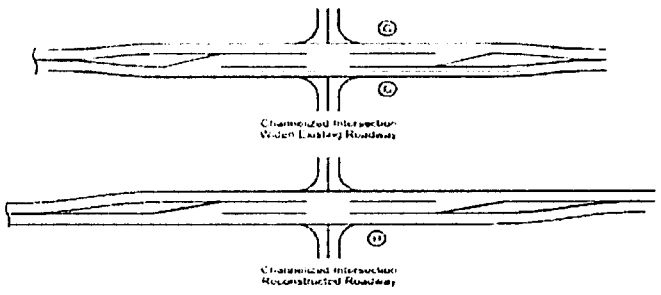
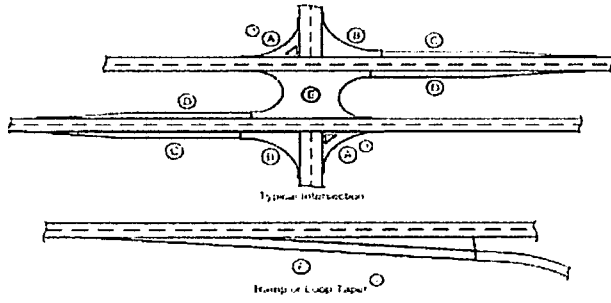


SEE SHEET E.7 FOR JOINTING

BEGIN STATION	END STATION
327+60.41	332+26.47

IA 92/ HARRY LANGDON BLVD
TURN LANE AND WIDENING

PCC PAVEMENT



- ① Does not include island area or curb. Refer to tabulation 112-4 for quantities.
- ② Refer to PV-410, PV-411, PV-412, and PV-414.
- ③ Quantity Includes Pavement Header.

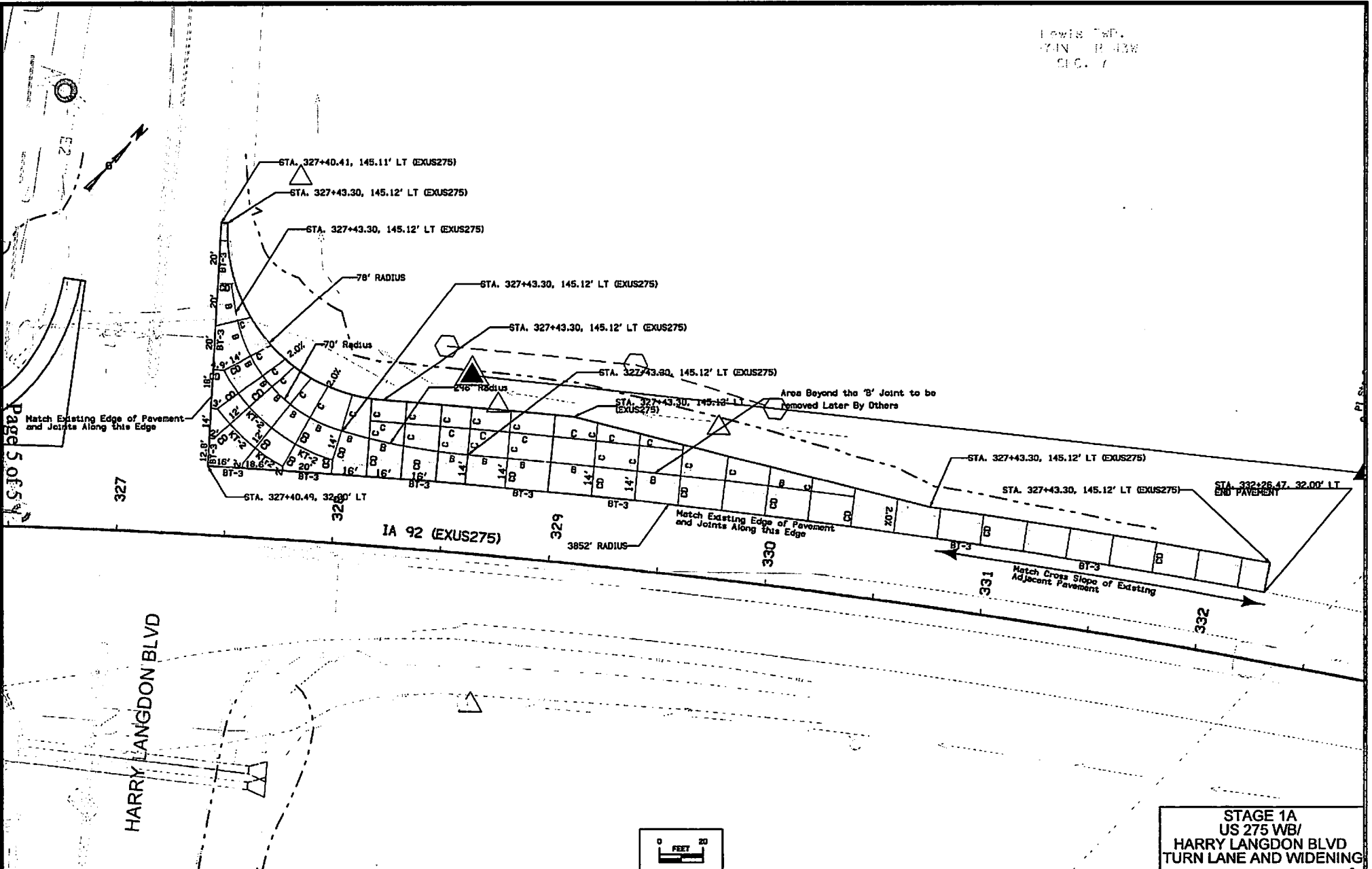
Road Identification	Location Direction of Travel	Station to Station	Mainline			Area (1)								Total Area By Pavement Thickness		Special Backfill	Modified Subbase	Granular Subbase	Remarks	
			Width	Length	Area	A	B	C	D	E	F	G	H	10 IN	10X IN					
			FT	FT	SY	SY	SY	SY	SY	SY	SY	SY	SY	CV	CV					
IA 92 (US275)		80159+90.32 88160+47.89			236.6											0.0			78.9	
Existing IA 92		327+40.41 332+26.47			1530.0											1530.0		569.3		
I-29	NB	6640+00.00 6673+00.00																4885.2		
I-29	SB	6640+90.00 6660+00.00																1941.2		

TEMPORARY PAVEMENT

Road	Station to Station	Pavement Thickness (Inches)		Area (Sq. Yds.)	Special Backfill (CY)	Notes
		PCC	HMA			
		This Data Entry Sheet Fills Tab				
Stage 1A						
Ex. IA92/US275	282+81.0 285+49.2	7.0	8.5	390.1	66.4	Median, DET_350400
Ex. IA92/US275	289+64.4 293+68.6	7.0	8.5	545.1	90.8	Median, DET_350430
Ex. IA92/US275	299+23.5 299+48.8	7.0	8.5	91.6	18.6	Return, DET_350450
Ex. IA92/US275	300+17.8 305+04.9	7.0	8.5	865.9	144.3	Median, DET_350450
Existing IA 92	321+24.5 326+50.7	7.0	8.5	616.9	133.9	RT C&G, DET_350460
Existing IA 92	321+81.7 322+56.8	7.0	8.5	66.7	11.1	Median, DET_350460
Existing IA 92	325+15.4 326+50.5	7.0	8.5	120.1	20.0	Median, DET_350460
Existing IA 92	326+23.4 326+66.8	7.0	8.5	95.1	19.0	return, DET_350470
Existing IA 92	326+73.3 326+81.9	7.0	8.5	14.8	4.3	return, DET_350470
Existing IA 92	327+88.5 327+18.4	7.0	8.5	45.7	7.6	Median, DET_350470
Existing IA 92	327+54.0 328+95.5	7.0	8.5	105.0	26.2	return, DET_350500
Existing IA 92	327+59.6 328+32.0	7.0	8.5	64.2	10.7	Median, DET_350500
		Total 7" PCC or 8.5" HMA*		3829.2	553.1	
ML 29	6627+70.4 6630+16.6	8.0	11.0	273.6	59.3	Shoulder Replacement
Existing NB29	1242+00.0 1249+29.3	8.0	11.0	806.6	174.9	Shoulder Replacement
Existing NB29	1244+29.3 1252+72.2	8.0	11.0	570.7	141.9	Shoulder Replacement
Existing NB29	1252+72.2 1267+30.9	8.0	11.0	1663.7	358.3	Shoulder Replacement
Existing NB29	1264+42.5 1272+36.3	8.0	11.0	888.0	192.1	Shoulder Replacement
Existing NB29	221+24.0 235+21.9	9.0	13.0	1896.1	367.8	DET_350650*
DET_350660	350660+95.6 350664+50.1	9.0	13.0	670.1	121.2	DET_350660*
Existing NB29	225+49.4 229+27.6	9.0	13.0	304.0	50.7	DET_350660*
Stage 1B						
Existing NB29	1247+17.4 1270+86.9	9.0	13.0	9096.4	3295.0	DET_350600*
Existing NB29	1264+40.6 1265+62.9	9.0	13.0	110.7	51.5	DET_350600*
		Total 8" PCC or 11" HMA*		4202.5	926.6	
		Total 9" PCC or 13" HMA*		12077.3	3886.1	

* If Choose PCC option use transverse 'C' Joints at 15' spacing and RT-2 or L-2 longitudinal joints.

LOWIS TWP.
 T4N R13W
 S10.7



Page 5 of 5

STAGE 1A
 US 275 WB/
 HARRY LANGDON BLVD
 TURN LANE AND WIDENING

8:50:37 AM 4/7/2014 sryan p:\projectwise.dot.int.lan\PMMain\Documents\Projects\7802901004\Design\LETTING_FOLDERS\097_SECTION.3\78029097E1.shl

A d d e n d u m

Iowa Department of Transportation
Office of Contracts

Date of Letting: April 15, 2014
Date of Addendum: April 10, 2014

B.O.	Proposal ID	Proposal Work Type	County	Project Number	Addendum
014	78-0293-097	BRIDGE REPLACEMENT - STEEL GIRDER	POTTAWATTAMIE	IM-NHS-029-3(97)48--03-78 IM-NHS-029-3(98)48--03-78 IM-029-3(99)48--13-78 NHS-029-3(100)48--11-78 IM-NHS-029-3(111)48--03-78 IM-NHS-029-3(128)48--03-78	15APR014.A06

Notice: Only the bid proposal holders receive this addendum and responsibility for notifying any potential subcontractors or suppliers remains with the proposal holder.

Make the following changes to the PROPOSAL SCHEDULE OF PRICES:

Change Proposal Line No. 0920:

From: 2599-9999005 ('EACH' ITEM) LOAD TEST ON SINGLE INCLUSIONS
To: 2599-9999005 ('EACH' ITEM) LOAD TEST ON SINGLE INCLUSIONS,
VERIFICATION LOAD TEST

and:

From: 8.000 EACH
To: 4.000 EACH

Add Proposal Line No. 1116 2599-9999005 ('EACH' ITEM) LOAD TEST ON SINGLE INCLUSIONS, PROOF LOAD TEST; 4.000 EACH

If the above changes are not made, they will be made as shown here.

Make the following changes to the PROPOSAL SPECIAL PROVISIONS LIST & TEXT:

Replace:

SP-120049a April 15, 2014
SPECIAL PROVISION FOR GROUND IMPROVEMENT WITH RIGID INCLUSIONS

With:

SP-120049b April 15, 2014
SPECIAL PROVISION FOR GROUND IMPROVEMENT WITH RIGID INCLUSIONS

Note: SP-120049b is attached

Replace:

SP-120163 April 15, 2014
SPECIAL PROVISION FOR INSTRUMENTATION

With:

SP-120163a April 15, 2014
SPECIAL PROVISION FOR INSTRUMENTATION

Note: SP-120163a is attached

Make the following change to IM-NHS-029-3(97)48--03-78:

Plan Sheet Q.56:

Under "Ground Improvement Using Rigid Inclusions", Note number 9, replace second sentence to say "This quantity includes 10% for overruns"



Iowa Department of Transportation

SPECIAL PROVISIONS FOR GROUND IMPROVEMENT WITH RIGID INCLUSIONS

Pottawattamie County
IM-NHS-029-3(97)48--03-78

Effective Date
April 15, 2014

THE STANDARD SPECIFICATIONS, SERIES 2012, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

120049b.01 DESCRIPTION.

A. Scope.

The work shall consist of detailing, furnishing, installing, monitoring and testing of ground improvements using rigid inclusion to the lines and grades designated on the project drawings and as specified herein. The installation of the rigid inclusion shall also include the removal and disposal of excavation spoils as a result of the installation process of the rigid inclusions. The excavated material is all assumed to be unsuitable and shall either be wasted or used in accordance with the Standard Specifications for unsuitable soils. The cost of installation of the rigid inclusions shall include the cost of hauling, stockpiling and disposal, of the excavated material.

B. List of Approved Rigid Inclusion Types and Vendor Information.

1. Controlled Modulus Column (CMC) by Menard (Phone: 1 800 326 6015) or their affiliate Nicholson Construction (Phone 1-800-388-2340).
2. Auger Pressure Grouted Displacement Piling (APGD) by Berkel & Company Contractors, Inc. (Phone: 1-913-422-3588).
3. Vibro Concrete Columns (VCC) by Hayward Baker (Phone: 1-800-456-6548).
4. Vibro Concrete Columns (VCC) by Subsurface Constructors, Inc. (Phone: 1-866-421-2479).
5. Rigid Inclusions (RI) by Hayward Baker (Phone: 1-800-456-6548).
6. Geo-Concrete Columns (GCC) by Tensar- GEOPIER FOUNDATIONS (Phone 1-800-371-7470).
7. Omega Rotary Torque Displacement Pile (ORTD) by Malcolm Drilling Company (Phone: 1-206-571-9945).

C. References.

The publications listed below form a part of this specification to the extent referenced. The publications are referred to by the basic designation only.

- 1. American Society of Testing and Materials (ASTM).**
 - a. ASTM D1143 / D1143M - 07e1 Standard Test Methods for Deep Foundations Under Static Axial Compressive Load.
 - b. ASTM C39/C39M-12a Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
 - c. ASTM D4595-11 Standard Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method.
 - d. ASTM D4751-04 Standard Method for Determining Apparent Opening Size of a Geotextile.
 - e. ASTM D5261-10 Standard Method for Measuring Mass per Unit Area of Geotextiles
- 2. Geosynthetic Research Institute (GRI).**

GRI GT7-92 Standard Practice for Determination of Long-Term Design Strength of Geotextiles.

D. Definitions.

- 1. Rigid Inclusions:** Rigid inclusions may consist of CMC, APGD, VCC, RI, GCC, or ORTD. The purpose of the rigid inclusions is to provide ground improvement and support for highway embankment fill.
- 2. Test (Demonstration) Rigid Inclusion:** Test (Demonstration) Rigid Inclusion is a rigid inclusion that is installed at non-production rigid inclusion locations. These test rigid inclusion will be installed as demonstration to verify the installation technique, to assist in selecting location of load tests, develop installation criteria, and identify installation sequence. The rigid inclusions that will be selected for static load tests shall either be installed prior to production of rigid inclusion as verification load test, or during production installation to proof load test the rigid inclusions. Rigid inclusions installed prior to production rigid inclusion are to allow for selection, performance and evaluation of static load tests as well as developing of the installation criteria by the Engineer.
- 3. Load Transfer Pad:** A load transfer pad will be constructed at the top of the rigid inclusions. The transfer pad shall consist of compacted granular fill with layers of high strength geotextile reinforcement as shown on the plans. The purpose of the pad is to transfer the majority of the embankment loads to the rigid inclusions, thereby providing adequate support above and between the rigid inclusions.
- 4. Monitoring for Strain Gauges on Rigid Inclusions during load test:** The monitoring shall consist of monitoring the strain gauges during load testing of the rigid inclusions prior to construction of production rigid inclusions.

After monitoring the strain gauges during load tests, the strain gauges cables or wires shall be routed through a buried schedule 80 PVC pipe and shall be connected to the real time monitoring system to be monitored during placement of embankment and delay period as defined in the Special Provisions for Instrumentation. Strain gauges shall be compatible with the real time monitoring system. The readings shall consist of real time monitoring with daily frequency and available online to the engineer.

- 5. Any strain gauge that malfunctions or becomes inoperable or unreadable during the load test shall be replaced including re-performing the load test by the contractor at no additional cost to the Iowa DOT.**

6. Additional special provisions for instrumentation related to the grading works are included in the contract documents.

E. Subsurface Conditions.

1. Borings completed within the limits of the project encountered varying thicknesses of soft to medium stiff alluvial silt and clay. The explorations typically encountered medium dense to very dense alluvial sand and gravel with silt and clay below elevations shown in the plans.
2. Groundwater at the time of boring drilling was recorded between approximately 4 and 10 feet below the natural ground at the time of drilling, which was performed in November and December of 2010. It is anticipated that the groundwater level will rise during prolonged periods of precipitation or flooding, and perched groundwater may be present. For the purpose of installation, assume that the ground water is at the ground surface and make all necessary preparation to complete the installation under this condition at no additional cost to Iowa DOT.
3. Installation of the rigid inclusions to the minimum tip elevation will typically require penetration in the ± 12 inch thick compacted granular fill layer that will be constructed at the ground surface to serve as a working pad and load transfer pad. Wide spread obstructions due to nested deposits of construction debris or wood are not anticipated.

F. Submittals.

1. Provide vibration study including estimated peak particle velocity, frequency, and its impact on fresh and curing concrete as it relates to the distance between the columns that can be installed successively without damaging the newly completed rigid inclusion during concrete or grout curing. This is required to establish realistic sequence of construction, ensure the integrity of the completed rigid inclusion(s), and that work can be completed successfully within schedule. The vibration study must be developed by well qualified vibration specialist, who has developed at least three similar studies within the past 7 years. Without such study, any of the techniques listed in Article 120049b.01, B that are using impact or vibratory energy to advance the tool used to install the rigid inclusions cannot be accepted. If the technique is not using vibratory or impact energy, then a certification will need to be provided by the supplier that states that no such techniques are used in the installation and therefore the vibration study is not required.
2. For rigid inclusion installation techniques that utilize vibration, a minimum distance equal to three times the spacing or 8 hour time duration is required prior to installing adjacent rigid inclusions. If the vibration study referenced in Article 120049b.01, F, 1, indicates larger spacing or greater time is needed, then such requirements shall be followed. Mobilize adequate number of rigs and utilize adequate work shifts to meet the schedule and special provision requirements.
3. The rigid inclusion equipment must be equipped with installation monitoring capabilities include the following as a minimum: a) applied torque or applied vibration amplitude, b) applied static down pressure and c) advance rate foot per minute.
4. Shop drawings that include spacing, diameter, installation procedure and sequence of construction with sufficient details including transitions areas, planned cut off and tip elevations, material, proposed equipment, and mix design. The design shall conform to the criteria in Subsection G of this Article.
5. Install 80 test (demonstration) rigid inclusions at non-production locations throughout the site to select the locations of the rigid inclusions that will be load tested and to be used in the development of the production installation criteria. These test (demonstration) rigid inclusions

shall be included before the load tests and before installation of production rigid inclusions. The demonstration rigid inclusion shall be paid at the same unit rate as the production rigid inclusion and no separate mobilization or additional cost shall be borne by Iowa DOT.

6. Submit a load testing program to verify the design in accordance with the requirements of this special provision. The submittal shall include the following:
 - a. The load test program shall be performed prior and during production of rigid inclusions.
 - b. The rigid inclusion production shall only start upon completion of four load tests and after the Engineer issues the final tip elevation, installation criteria, and spacing of the rigid inclusions.
 - c. A total of eight single load tests shall be performed on rigid inclusions in accordance with ASTM D 1143 four of which shall be performed as verification load tests prior to the start of the production rigid inclusion to maximum load test of 300% of the design load. The remaining four load tests shall be proof load tests that will be conducted during the production rigid inclusion installation at locations and times and locations selected by the engineer to maximum load test of 150% of design load. The location of the test rigid inclusions will be selected by the Engineer with input from the Contractor and depending on the work and traffic control sequence. The Contractor shall accommodate in his schedule the performance of the eight load tests, evaluation time, and issuance of installation criteria by the Engineer.
 - d. The design load shall meet or exceed the values shown for the approved techniques in Article 120049b.01, G, 1, a.
 - e. Submit design calculations for the load test reaction piles including diameter, type, reinforcement, depth as well as the reaction frame and beams. All details and supporting calculations shall be submitted for review by the Engineer. Design the reaction piles and frame for minimum two times the maximum test load. All shop drawings and supporting shop drawings calculations shall be signed and sealed by a Professional Engineer registered in the State of Iowa.
 - f. At least 7 days prior to performing the load testing, submit calibration records for load cells, hydraulic jacks, pumps and pressure gauges.
 - g. Submit a complete load test report within 3 days of completion of each test. The Engineer shall evaluate the results of the load tests and within 14 days from the receipt of the last load test report, shall issue the final tip elevations and planned spacing for the production rigid inclusions.
 - h. The test rigid inclusions shall be instrumented with five levels of strain gauges; the strain gauges shall be Geokon GK-401 405 model or approved equivalent. The strain gauges shall be compatible with the real time monitoring system. The test rigid inclusions shall include a rebar to facilitate installation of the strain gauges. Preliminary strain gauges level elevations are provided in the Table 120049b-1. Strain Gauges final elevation shall be adjusted by the Engineer on site based on the confirmation borings and length of the rigid inclusion.

Table 120049b-1: Strain Gauges Preliminary Elevations

Approximate Depth (feet)	Approximate Elevation (feet)*	Sub-surface Layer
6.0	972.0	Medium Stiff to Stiff Fat Clay
14.0	964.0	Very Soft to Soft Fat Clay
24.0	954.0	Very Soft to Soft Fat Clay
30.0	940.0	Loose to Medium Dense Sand/Silty Sand
40.0	938.0	Medium Dense Sand/Silty Sand

* Approximate elevations for strain gauges are based on an approximate ground surface elevation of 978feet.

- i. The Engineer shall develop production rigid inclusion installation criteria within 14 calendar days of the receipt of the last load test report of the first three preproduction load tests.

7. **Shop Drawings:** Furnish shop drawings and any supporting calculations at least 15 days prior to start of the installation of the production rigid inclusions. Each rigid inclusion shall receive a reference number, which will be indicated on the shop drawings. The shop drawing submittal shall also show cutoff elevations, typical sections and detail drawings as required.
8. **Submit as-built plans** for the installed rigid inclusions with the transfer pad based on actual locations and tip elevations. The surveyed locations shall be sealed and signed by a licensed surveyor and tip elevations shall be certified by the Contractor's Professional Engineer registered in the State of Iowa.
9. **Submit rigid inclusion installation records** as specified in Article 120049b.03, G, 2, b. Installation records shall include all recordable information including applied torque or applied vibration amplitude, applied static down pressure and advance rate foot per minute.
10. **Work Plan:** Submit to the Engineer for review, details of the equipment, sequence, and method of installation. The submittal should include a detailed narrative of the Quality Control Plan and how the work plan will comply with all requirements of the Project Safety Plan.
11. **Materials:** Provide documentation for all imported materials including pertinent laboratory test results prior to delivery on site.
 - a. **Granular Material** for use in the load transfer pad: Provide the material source and results of recent gradation testing. Deliver a representative 5 gallon bucket sample of the product to the Engineer a minimum 10 days prior to delivery on site. This is not required if the Contractor intends to use granular material from the Optional Iowa DOT Borrow 32 as specified in Article 120049b.02, A, 1.
 - b. **Geotextile** for use in the load transfer pad: Provide the manufacturer's specifications and material source. Deliver samples of the product to the Engineer a minimum of 10 days prior to delivery on site.
12. **Qualifications:** Documentation of the Contractor's qualifications shall show that he/she has been engaged in successful design and installation of deep ground improvements for at least five years, and designed and constructed a minimum of five similar projects in similar scope utilizing the deep ground improvement method proposed for the subject project. A list of previous projects including name, description, relative size and contact person with phone number shall be provided. Resumes of the Contractor's site superintendent and/or foreman shall also be provided. Qualifications of the firm that will be performing the pile integrity tests shall also be provided.

G. Design and Performance Criteria.

1. **Installation Criteria:** The Contractor shall be responsible for the shop drawings of the deep ground improvement system, with the following constraints:
 - a. The rigid inclusions may consist of CMC, APGD, VCC, RI, GCC, or ORTD. No other substitute shall be accepted. The design shall conform to the requirements summarized in the contract documents.
 - b. The load transfer pad shall be as shown on the plan documents and as specified herein.
2. **Design Criteria:** The Contractor shall be responsible for the design of the single load tests reaction frames and reaction piles.

120049b.02 MATERIALS.

A. Load Transfer Pad.

1. The granular material used to construct the load transfer pad shall generally conform to the requirements of Section 4133 of the Standard Specifications with less than 5% fines.

2. The granular material for the load transfer pad shall be compacted with moisture control in accordance with the Standard Specifications.
3. High Strength Geotextile Reinforcement: Shall conform to the following requirements:

Table 120049b-2: High Strength Geotextile for use in Load Transfer Pad

Property	Value	Test Method
Mass/Unit Area	22 oz/sq.yd	ASTM D5261
Tensile Strength (both directions)	1142 lb/in	ASTM D4595
Tensile Strength at 5%	514 lb/in	ASTM D4595
Elongation at Break	10%	ASTM D4595
Apparent Opening Size	No. 40 US Sieve	ASTM D4751
Long-Term Design Strength (Sand)	490 lb/in	GRI-GT7

B. Grout.

For CMC, RI, APGD, or ORTD, meet the following grout requirements.

1. Portland Cement.

Shall conform to requirements of Article 4101.01, A of the Standard Specifications

a. Type I or Type II.

b. Cement shall be from an approved source per Materials I.M. 401. If the brand or type of cement is changed during the course of the project, additional grout mix tests shall be conducted to ensure consistency of quality and performance.

2. Fly Ash shall meet requirements of Section 4108 of the Standard Specifications.

3. Sand shall meet the requirements of Section 4110 of the Standard Specifications.

4. Water Reducer shall meet the requirements Materials I.M. 403

5. Fluidifier.

a. Water Reducing Agent.

- Specrete-IP Incorporated; Intrusion-Aid SCX.
- Specrete-IP Incorporated; Intrusion-Aid FG.
- Grace Concrete Products; WRDA 35.
- Grace Concrete Products; ZYLA 640.

b. Retardant.

- Specrete-IP Incorporated; Flo-Aid XR.
- Grace Concrete Products; Recover.

6. Water.

Shall conform to requirements of Section 4102 of the Standard Specifications

7. Grout Mix.

a. Proportion by weight to produce a grout capable of being satisfactorily pumped and of penetrating and filling all voids.

b. Minimum Compressive Strength:

- 4,000 psi at 28 days.
- 2,000 psi at 7 days as required prior to pile integrity testing.

c. Minimum Flow Cone Rate: 10 to 25 seconds with modified 3/4 inch opening flow cone, ASTM C939.

d. Slump: 6 to 8 inches.

- e. The grout mix shall be designed utilizing fluidifiers as needed to maintain the range of acceptable fluid consistency (flow cone rate) for a period of at least 2 hours.
8. A ready mix truck shall be supplied from an approved ready mix plant with certified plant inspection according to Articles 2001.20 and 2001.21 of the Standard Specifications and Materials I.M. 528. An Iowa DOT ticket per Materials I.M. 528 shall be prepared and provided to the Engineer.

C. Concrete for VCC or GCC Construction.

1. All materials, proportioning, air entraining, mixing, slump, and transporting of PCC shall be according to Section 2403 of the Standard Specifications, except as modified herein.
2. Water/cement ratio: not to exceed 0.45.
3. Use Class D PCC mixture with a slump of 6 inches \pm 1.5 inches.
4. Portland cement: meet the requirements of ASTM C 150 Type I / II and Section 4101 of the Standard Specifications.
5. Fly Ash shall meet requirements of Section 4108 of the Standard Specifications.
6. Sand shall meet the requirements of Section 4110 of the Standard Specifications.
7. Water Reducer shall meet the requirements of Materials I.M. 403.
8. Air entrainment: apply Section 2403 of the Standard Specifications.
9. Retarder is required according to Materials I.M. 403 to maintain workable concrete.
10. Do not use GGBFS.
11. Minimum Compressive Strength:
 - 4,000 psi at 28 days.
 - 2,000 psi at 7 days as required prior to pile integrity testing.
12. A ready mix truck shall be supplied from an approved ready mix plant with certified plant inspection according to Articles 2001.20 and 2001.21 of the Standard Specifications and Materials I.M. 528. An Iowa DOT ticket per Materials I.M. 528 shall be prepared and provided to the Engineer.

120049b.03 CONSTRUCTION.

A. Safety Requirements.

Complete all work in accordance with the Project Safety Plan. The Contractor shall be responsible for ensuring that all conditions of these requirements are met to the satisfaction of the Engineer.

B. Equipment.

1. Utilize machines or combinations of machines and equipment that are in good working condition, are safe to operate and will produce the results specified herein.
2. Utilize equipment that is capable of advancing the rigid inclusion through the subsurface materials efficiently and timely to meet the project schedule.

3. The equipment shall be of sufficient size and capacity, and be capable of installing rigid inclusions to the minimum depths shown in the plans or the depth required by the design, whichever is deeper.
4. The equipment shall be capable of installing rigid inclusions in the presence of very dense granular soils and/or obstructions, where encountered.

C. Site Preparation.

Inspect the site prior to the start of operations to verify the deep ground improvements can be constructed using the proposed equipment.

D. Rigid Inclusion Construction.

1. Provide adequate number of drilling rigs to meet the project schedule considering all facets of the project including but not limited to preproduction load testing, waiting periods, integrity testing, reporting, and preparing as-built plans.
2. Evaluate the site and subsurface conditions and assess any need for working platforms that facilitate his installation. Such platforms or preparatory work, or stone needed is considered part of the means and methods and no additional payment or time will be granted toward such work.
3. Performance of Load Tests: Perform four test elements prior to the start of rigid inclusion production. The load test results will be signed and sealed by the Contractor's Professional Engineer and submitted to the Engineer. No payment shall be made for load tests which were unsatisfactorily performed as determined by the Contractor and/or the Engineer.
4. **Layout and Tolerances.**
 - a. Surveying: Prior to installation of the rigid inclusions, each rigid inclusion location shall be surveyed by an licensed surveyor. Provide all survey layouts, maintain utility clearances and provide any required coordination with the Engineer and any other local, state, and federal agencies having jurisdiction, prior to the start of construction. The location of each rigid inclusion shall be marked using a numbered utility flag.
 - b. Plan position: The center of the completed rigid inclusion shall be within 3 inches of the plan location.
 - c. Verticality: The axis of the completed rigid inclusion shall not deviate more than 2% from vertical. The verticality of the mast of the rig shall be checked by the operator before start of the installation for each rigid inclusion. The operator shall indicate on the daily drilling log for each rigid inclusion that verticality was within tolerance by checking the appropriate box on the installation log.
 - d. Diameter: The completed rigid inclusion diameter shall not deviate more than 10% from the plan diameter.
5. Rejection: Rigid inclusions improperly located or installed beyond the maximum allowable tolerances or reported to be defective as a result of pile integrity testing, shall be abandoned and replaced with new rigid inclusions unless the Contractor and the Contractor's designer propose a remedial measure which is acceptable to the Engineer, either of which will be done at no additional cost to the Iowa DOT.
6. Schedule: Mobilize and maintain sufficient equipment, materials, and personnel to complete the work in accordance with project milestones and shall coordinate operations with all other aspects of the project.
7. Installation Sequence: Install the rigid inclusions in accordance with the sequence detailed in the approved work plan. If adjacent rigid inclusions are observed to be influenced by the installation of a neighboring rigid inclusion, the installation sequence shall be modified to

prevent disturbance of rigid inclusions. Any required modifications to the sequence, or mitigation of rigid inclusions deemed unusable due to disturbance, shall be completed at no additional cost to the Iowa DOT or extension in the project schedule.

8. **Depth:** Install the rigid inclusions through the first layer of the load transfer pad to the minimum tip elevation, or deeper as required to found the rigid inclusions in a suitable bearing stratum, as determined by the Engineer.
9. **Obstructions:** Subsurface obstructions may include but are not limited to boulders, timbers, concrete, bricks, utility lines, foundations, slabs, etc. that prevent rigid inclusions to be installed to the required depth. In the event that obstructions are encountered during installation of a rigid inclusion that cannot be penetrated with reasonable effort, one or more of the following procedures will be used:
 - Position the element a short distance not more 1.5 feet away from the original position.
 - Pre-drill the obstruction.
 - Install additional elements to bridge over the obstruction.

Any change made to the design or rigid inclusion layout because of obstructions shall be approved by the Engineer. Provide to the Engineer an as-built submittal no later than 7 calendar days after the modification has been performed on site. This submittal shall be signed and sealed by the Registered Professional Engineer responsible to the Contractor and having stamped the design submittals. All elements that are abandoned due to obstructions or equipment malfunction shall be completely backfilled with grout. Excavation or removal of defective element will not be permitted within the levee critical zone as defined on the plans. The cost for obstruction shall be compensated for per the unit cost per linear foot of rigid inclusion, no additional compensation or time shall be awarded to the contractor for delay, waiting, or moving between the obstruction location and the relocated position of the rigid inclusion.
10. **Cut-off Elevation:** Cutoff the rigid inclusions to the top elevation of the first layer of the load transfer pad, or slightly higher to allow any required trimming or removal of low strength material at the butt of the rigid inclusion. The cut-off elevation of each rigid inclusion shall be established with an accuracy of +/- 0.1 feet.
11. **Protection of Rigid Inclusions:** Perform excavation for the load transfer pad, rigid inclusion installation, and embankment construction in such a way to prevent the damage to the rigid inclusions or disturbance of the soil matrix between the rigid inclusions.
12. **Load Testing:** Following a cure time (if applicable) to achieve the design strength, perform axial load tests on selected rigid inclusions. At the test location, excavate to the bottom of the load transfer pad elevation. Perform the excavation, load test setup, load testing, and backfill the excavation, in a single shift.

E. Excavation.

1. **Cure time:** Embankment construction shall not begin in any area until the rigid inclusion design strength has been reached. If any rigid inclusion is broken or otherwise damaged during embankment construction, propose a remediation solution within 2 days and resume construction only if all parties are in agreement with the remediation solution and the remediation has taken place.
2. **Load Test Evaluation:** Excavation for the load transfer pad shall not begin until the results of the load testing program on rigid inclusions has been submitted and approved by the Engineer.
3. **Excavation:** The final excavation for the load transfer pad shall be made using an excavator equipped with a smooth-edged bucket to minimize disturbance to the in-situ soils. The prepared subgrade shall consist of in-situ soils compacted to moisture content within +/- 2%

of optimum moisture content. If compaction is not practical due to natural moisture water contents far above optimum and/or wet weather conditions, the in-situ soils shall be over excavated to a depth of 12 inches and replaced with compacted granular fill as defined in Article 120049b.02, A, 1. Any organic-rich or otherwise unsuitable soils shall be removed and replaced with compacted granular fill.

4. Operations on earthwork shall be suspended at any time when satisfactory results cannot be obtained because of rain, freezing, or other unsatisfactory conditions in the field. Drag, blade, or slope the embankment to provide proper surface drainage. In wet weather conditions, dewater as required to prevent the accumulation of ponded water in excavations for embankment construction, and the earthwork should be done in sections to minimize the need for such dewatering.
5. Disposal of Excavation Spoils: Stockpile all spoil material, including any topsoil and spoils generated by rigid inclusion installation, at the locations designated on the soil erosion plan. Handling and disposal of spoils shall be performed at no additional cost to the Iowa DOT.

F. Load Transfer Pad Construction.

1. Prior to construction of the load transfer pad, the existing ground shall be excavated and stripped of topsoil and other unsuitable material as specified in Article 120049b.03, E, 3.
2. Place and compact with moisture control the first layer of the granular fill for the load transfer pad until the layer is 1 foot in thickness. Install the rigid inclusions after the installation of the first 1 foot of the pad. Place the first layer of the geotextile on top of the granular fill layer and elements with appropriate overlap and then place the next lift of granular fill. Place the second layer of geotextile after the installation of an additional 3 feet of the pad. Continue this sequence until the required numbers of layers as shown in the plans are placed. The top of the completed load transfer pad shall be a minimum of 2 feet above the last layer of geotextile placed.
3. Any rutting or pumping of the load transfer pad that occurs during installation of the rigid inclusions should be measured and the Engineer notified. If practical, reroute construction traffic to avoid further damage to the underlying in-situ soils, or remove and replace the pumping material with compacted granular fill.
4. Following installation and curing of the rigid inclusions, proof-roll the first 1 foot of the load transfer pad using a fully loaded dump truck. Where deflections more than 1/4 inch are observed under the wheel loads of the dump truck, remove the fill, over excavate 12 inches per Article 120049b.03, E, 3, and reconstruct the load transfer pad. The excavation shall be performed so as to avoid impacting the rigid inclusions.
5. Place geotextile layers at appropriate intervals to the dimensions shown on the plans, specified in Article 120049b.03, F, 2; and overlapping in accordance with the manufacturer's specifications and the Contractor's Design Submittal.

G. Contractor Quality Control.

1. Field Quality Control.

The following describes the minimum inspection and testing required in the Contractor's Quality Control (CQC) Plan and Program for the work of this section and is for CQC only. The implementation of the Contractor Quality Control Program does not relieve the Contractor from the responsibility to provide the work in accordance with the contract documents, applicable codes, regulations, and governing authorities.

2. Quality Control: Supervision, Inspection, and Records.

- a. The Contractor shall have an onsite field engineer to manage all of the QC activities on the project including pile integrity testing, grout sampling (if applicable) and other testing at frequencies defined in the Design Submittal and approved by the Engineer. Monitoring, recording of the data and evaluation of load tests, and inspection and recording of data for production rigid inclusion construction, subgrade preparation and the construction of the load transfer pad shall be done under the direct supervision of a Professional geotechnical Engineer registered in the State of Iowa on the staff of the Contractor or a sub-consultant to the Contractor. The geotechnical engineer shall have supervised a minimum of five similar deep ground improvement projects.
- b. Records:
- 1) An accurate record shall be kept for all rigid inclusions as installed. The record shall indicate the rigid inclusion location, length, cut-off elevation, date and time of construction, applied torque or applied vibration amplitude, applied static down pressure, advance rate foot per minute and any other pertinent installation details as indicated in the Design Submittal and approved by the Engineer. Immediately report any unusual conditions encountered during installation. Any corrective measures shall also be recorded. Daily records shall be signed by the Contractor's superintendent and by the inspector. A complete tabulation of all records pertaining to approved rigid inclusion installation shall be certified by the Contractor's engineer and shall be delivered to the Engineer no later than 14 days after the completion of the rigid inclusion work. All testing and inspection documents shall be reviewed and approved by the Contractor's engineer certifying the rigid inclusions and load transfer were installed based on the construction and installation criteria.

Provide on a daily basis pertinent installation data as defined in the Design Submittal and approved by the Engineer. These documents shall be prepared continuously as the production progresses and shall be submitted to the Engineer no later than 1 working day after the installation of a rigid column. Ensure the Engineer has complete access at all times to data for the rigid inclusion installation, as required.

- 2) Granular Fill: Perform a gradation sieve analysis at the beginning of the job and for every change in source and/or type of material. Perform proof-rolling of the top of the load transfer pad prior to and following completion of the rigid inclusion installation. The proof-rolling shall cover the entire work area, and the wheel pass spacing shall be equal to the axle length of the dump truck. All required testing will be completed to the satisfaction of the Engineer at no additional cost to the Iowa DOT.
- 3) Concrete and Grout: Conduct strength testing of the concrete in accordance with ASTM C 39 and Articles 2001.20 & 2001.21 of the Standard Specifications and Materials I.M. 528. Furnish a sufficient quantity of molded and cured cylinders measuring 3 inches in diameter by 6 inches high for required strength tests on concrete. For testing grout, furnish a sufficient quantity of cubes with 2 inch sides. Provide molds, and a curing environment conforming to the requirements of ASTM C 39. At a minimum, prepare a set of four test cylinders or cubes for each 50 cubic yards of concrete or grout placed or a minimum of two sets of four cylinders or cubes each per day (whichever is greater). One cylinder or cube from each set shall be tested for strength at 1, 2, 7, and 28 days. Provide certified strength test results to the Engineer for acceptance. Submit the grout mix design intended for use on the project to the Engineer for review. Only the mix design approved by the Engineer shall be used. Any subsequent mix design changes will have to get additional approval from The Engineer prior to use on the project.
- 4) Pile Integrity Testing: Pile Integrity Testing (PIT) shall be performed on all test elements and approximately up to 300 of the rigid inclusions. The PIT shall be performed in accordance with ASTM D5882 - 07 Standard Test Method for Low Strain Impact Integrity Testing of Deep Foundations. The production elements selected for the PIT shall be at the discretion of the Engineer based on daily records indicate likelihood of anomalies in the inclusions. The PIT shall be performed by a

firm qualified to do such testing. Documentation of the firm's qualifications shall show that he/she has successfully performed PIT testing for at least 5 years, and for a minimum of five similar projects. A list of previous projects including name, description, relative size and contact person with phone number shall be provided. A report of the test results shall be provided to the Engineer within 48 hours of test completion.

- 5) Strain Gauges Readings: Take initial readings 24 hours after completing installation and testing of each strain gauge. For the Strain Gauges, readings shall consist of a minimum of two readings surveys per 24 hours using real time remote and automated monitoring operations for each strain gauge.

After monitoring the strain gauges during load tests, the strain gauges will continue to be monitored as defined in the Special Provision for Instrumentation.

120049b.04 METHOD OF MEASUREMENT.

- A. Installation of Rigid Inclusion will be measured from cut off elevation to tip elevation to the nearest vertical foot for payment in place at the locations shown on the plans, including test (demonstration) rigid inclusions. The measurement shall include performance of PIT testing at 300 production rigid test inclusions. PIT shall be performed for each location, including performance of the test, developing a report either for single location or multiple locations but no more than ten PIT testing shall be included in one report unless approved by the Engineer.
- B. Load Test on Single Inclusions will be paid on a per test basis. Test rigid inclusions will include four verification load tests prior to production installation and four proof load tests after production installation. PIT testing will be performed for all load test rigid inclusions.
- C. Construction of the load transfer pad will be measured for payment in place to the nearest cubic yard at the locations shown on the plans.
- D. High Strength Geotextile shall be measured for payment in place to the nearest square yard at the locations shown on the plans.
- E. For the purpose of subcontracting, Rigid Inclusions, Load Test on Single Inclusions, and High Strength Geotextile will be considered specialty items.

120049b.05 BASIS OF PAYMENT.

- A. Payment for Rigid Inclusion will be made at the Unit Price Bid per linear vertical foot and will constitute full compensation for providing all labor, material, and equipment, including design, site preparation, test pile installation, production installation, handling and disposal of cuttings, and any associated inspection, PIT, or laboratory testing services.
- B. Payment for Load Test on Single Inclusions will be made on a per test basis and will constitute full compensation for providing all labor, material and equipment and any associated installation, inspection, testing, and monitoring, including PIT and strain gauges.
- C. Payment for construction of the load transfer pad, including granular fill, subgrade preparation and any associated inspection or laboratory testing, will be measured for payment in place to the nearest cubic yard at the locations shown on the plans and will be included in the payment for the Class 10 Excavation and Compaction with Moisture Control.
- D. Payment for the High Strength Geotextile will be made at the Unit Price Bid per square yard and will constitute full compensation for providing all material, labor, equipment and any associated installation, inspection and testing, including any quantity needed for overlap.



Iowa Department of Transportation

SPECIAL PROVISIONS FOR INSTRUMENTATION

Pottawattamie County
IM-NHS-029-3(97)48--03-78

Effective Date
April 15, 2014

THE STANDARD SPECIFICATIONS, SERIES 2012, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

120163a.01 DESCRIPTION.

A. Scope.

The work shall consist of installing, maintaining, and monitoring instrumentation designated on the project drawings and as specified herein.

B. Definitions.

1. **Inclinometers:** Inclinometers shall be installed by a qualified instrumentation specialist as subcontractor to the Contractor with minimum 5 years of experience and installation of at least three similar projects within the last 3 years. The purpose of the inclinometers is to monitor potential slope/embankment/MSE wall lateral movements. It shall consist of Geokon, Micro-Electro-Mechanical Sensor (MEMS) 6150 In-Place Inclinometer with biaxial tilt sensors, RST Digital MEMS Inclinometer System ICB0021W, or approved equivalent.
2. **Vibrating Wire Piezometers:** Vibrating Wire Piezometers (VWP) shall be installed by a qualified instrumentation specialist as subcontractor to the Contractor with minimum 5 years of experience and installation of at least three similar projects within the last 3 years. The purpose of the VWP is to monitor excess pore water pressures in the soil to confirm that primary consolidation is complete, the rate has stabilized, and that clay gained enough shear strength to allow staged construction.
3. **Multi-point Settlement Extensometers:** Extensometers shall be installed by a qualified instrumentation specialist as subcontractor to the Contractor with minimum 5 years of experience and installation of at least three similar projects within the last 3 years. The purpose of the extensometers is to monitor vertical settlement at multiple points of the extensometers.
4. **All boreholes,** where either an extensometer, inclinometer or piezometer shall be installed shall be logged and boring log shall be submitted with the extensometer or the inclinometer

installation log. Boring logs shall be logged per ASTM D2488 standard with sampling at 5 foot intervals.

5. **Real Time Monitoring:** Real time monitoring is defined as automated, remote, and web-based monitoring and shall be provided for all instrumentation. The real time monitoring shall be performed by a qualified instrumentation specialist as subcontractor to the Contractor with minimum 5 years of experience and installation of at least three similar projects within the last 3 years. The real time monitoring shall consist of monitoring all instrumentation, including the strain gauges for the rigid inclusions that have been load tested prior to construction of production rigid inclusions. The real time monitoring frequency shall be of at least twice every 24 hours. All data collected shall be provided to the Engineer to an internet website. Link to the website and access instructions shall be provided to the Engineer. Provide necessary data collection box or points to facilitate real time monitoring. Ensure that any such data collection point(s) has a protective housing to prevent damage due to weather related events, vandalism, theft, etc. Any repairs or replacement to the real time monitoring system or the protective housing shall be done at no additional cost to the Iowa DOT. The collection data box shall contain full backup power and backup for data on a 72 hour basis. Manual readings for the inclinometers will be acceptable only during fill placement as long as the frequency of reading is achieved.
6. **Real Time Monitoring for Strain Gauges on Rigid Inclusions:** Monitoring of the strain gauges for rigid inclusion load tested prior to construction shall be in accordance with Special provisions for Ground Improvement with Rigid Inclusions. After monitoring of the strain gauges during the load tests, the strain gauges wiring shall be routed through a buried schedule 80 PVC pipe and shall be connected to the real time monitoring system. Strain gauges shall be compatible with the real time monitoring system.
7. Any instrumentation that malfunctions or becomes inoperable or unreadable shall be replaced at no additional cost to the Iowa DOT.
8. If excessive lateral or vertical movements are detected during monitoring of the fill placement, the Engineer may elect to hold the grading activities up to 3 weeks to allow excess pore water pressures to dissipate and therefore, foundation soils to gain strength before resuming grading activities. Grading activities shall continue at other locations with no additional compensation to the Contractor or additional working days added.

C. Subsurface Conditions.

1. Borings completed within the limits of the project encountered varying thicknesses of soft to medium stiff alluvial silt and clay. The explorations typically encountered medium dense to very dense alluvial sand and gravel with silt and clay below elevations shown in the plans.
2. Groundwater at the time of boring drilling was recorded between approximately 4 and 10 feet below the natural ground at the time of drilling, which was performed in November and December of 2010. It is anticipated that the groundwater level will rise during prolonged periods of precipitation or flooding, and perched groundwater may be present. For the purpose of installation, assume that the ground water is at the ground surface and make all necessary preparation to complete the installation under this condition at no additional cost to Iowa DOT.

120163a.02 MATERIALS.

A. Inclinometers.

1. Inclinometer casing shall be grooved plastic 2.75 inches outside diameter casing that is compatible with the inclinometer being provided. The casing shall be complete with

necessary rigid self-aligning couplings and end plugs.

2. The inclinometer monitoring system shall include a suspension and wheel assemble, a support cable, string of biaxial tilt sensors, universal joint, spacer tubings, adequate cable length to facilitate the real time monitoring, and readout. The inclinometer readout shall measure inclinations at any depth selected by the operator and shall digitally store, process and report the data (by display and downloadable digital files) as lateral movements from a stored baseline reading.
3. All cables connected to the real-time read out equipment shall be protected and routed through schedule 80 PVC pipe to ensure that these are not damaged during construction activities.
4. The suspension assembly guide pulley shall mount to the top of the inclinometer casing.
5. Any other devices needed to facilitate and achieve the required real time monitoring shall be furnished and installed.

B. Vibrating Wire Piezometers.

1. The vibrating wire piezometer (VWP) system shall include a pressure transducer rated for water pressure range from 50 to 150 psi, signal cable, adequate cable length to facilitate the real time monitoring, and real-time readout equipment. The VWP reading shall be obtained at the depth of the sensor specified. The readout equipment shall digitally store, process and report the data.
2. Each VWP location shall include two transducers levels sensors and shall be installed at approximately 15 and 25 feet below ground surface. Final depth shall be adjusted by the Engineer on site based on the confirmation borings.
3. All cables connected to the real-time read out equipment shall be protected and routed through schedule 80 PVC pipe to ensure that these are not damaged during construction activities.
4. Any other devices needed to facilitate and achieve the required real time monitoring shall be furnished and installed.

C. Multi-point Settlement Extensometers.

1. The multi-point settlement extensometers monitoring system shall include adequate cable length to facilitate the monitoring readout. The extensometer readout shall measure multi-point settlements at the specified preliminary depth of the extensometer sensor and shall digitally store, process and report the data (by display and downloadable digital files) as settlement movements from a stored baseline reading.
2. The multi-point settlement extensometers monitoring system shall include five levels of settlement sensors. Preliminary settlement extensometer sensor elevations are provided in the Table 120163a-3. Final elevation shall be adjusted by the Engineer on site based on the confirmation borings.

Table 120163a-3: Extensometer Sensor Level Preliminary Elevations

Approximate Depth (feet)	Approximate Elevation (feet)*	Sub-surface Layer
2.0-5.0	976.0-973.0	Medium Stiff to Stiff Fat Clay (near ground surface)
12.0	966.0	Medium Stiff to Stiff Fat Clay / Very

		Soft to Soft Fat Clay
22.0	956.0	Very Soft to Soft Fat Clay/Silt
32.0	946.0	Loose to Medium Dense Sand/Silty Sand
42.0	936.0	Medium Dense Sand/Silty Sand

* Approximate elevations for strain gauges are based on an approximate ground surface elevation of 978 feet.

3. All cables connected to the real-time read out equipment shall be protected and routed through schedule 80 PVC pipe to ensure that these are not damaged during construction activities.
4. Any other devices needed to facilitate and achieve the required real time monitoring shall be furnished and installed.

120163a.03 CONSTRUCTION.

A. Inclinometers Installation.

1. Install inclinometer casing at the locations shown on Q sheets.
2. The inclinometers shall have a minimum length of 60 feet below existing ground surface plus the height of the fill at the locations of the inclinometer plus 3 feet.
3. Drill, sample, and log soil borings drilled for the purpose of installing inclinometer casing. Borings for inclinometers shall be drilled using 6 inch minimum inside diameter casing and water or, where ground conditions permit, using drilling mud in a 6 inch diameter borehole. This boring shall be used as soil confirmation boring of the location.
4. Install inclinometer casings prior to the embankment fill being placed and extend as the embankment construction progresses. Install the inclinometer monitoring system for the depth of the casing before the casing is extended. This will include the biaxial sensors, joints, wheel assembly, spacer tubings and any other parts as necessary. In case of damage to the inclinometer casing or any other instruments, the damaged part(s) shall be replaced at no additional cost to Iowa DOT. The casing shall protrude 3 feet above finished grade.
5. Flag and protect inclinometer locations. Provide the top of each inclinometer casing with a protective cap, and with a locked protective metal housing extending at least 3 feet below finished grade. All cables shall be protected and routed through a schedule 80 PVC pipe to ensure that these are not damaged during construction activities. Any repairs or replacement shall be done at no additional cost to the Iowa DOT.

B. Vibrating Wire Piezometers Installation.

1. Install VWP at the locations shown on Q sheets.
2. Drill, sample, and log borings of soil drilled for the purpose of installing the piezometers casing. The borehole shall be drilled below the required depth of the piezometer. This boring shall be used as soil confirmation boring of the location.
3. Install the VWP prior to the embankment fill being placed. In case of damage to the VWP and cables, the damaged items shall be replaced at no additional cost to the Iowa DOT.
4. Flag and protect VWP locations. The cables connecting to the real-time read out equipment shall be routed through a buried schedule 80 PVC pipe to ensure that these are not damaged or cut off during construction activities.

C. Multi-Point Settlement Extensometers Installation.

1. Install multi-point settlement extensometer at the locations shown on Q sheets.
2. Multi-point settlement extensometers shall have a minimum length of 50 feet below existing ground surface. The extensometers sensors preliminary elevations are provided in Article 120163a.02, E, 3
3. Drill, sample, and log borings of soil drilled for the purpose of installing extensometer casing. Borings for extensometer shall be drilled using 6 inch minimum inside diameter casing and water or, where ground conditions permit, using drilling mud in a 6 inch diameter borehole. This boring shall be used as soil confirmation boring of the location.
4. Attach grout tubing to the multi-point settlement extensometer.
5. Place the extensometer into the borehole. Grout the borehole from bottom to top.
6. After grout cures and installation is stable, install the readout unit system and take the initial readings.
7. Flag and protect all cables. The cables connecting to the real-time read out equipment shall be routed through a buried schedule 80 PVC pipe to ensure that these are not damaged or cut off during construction activities.

D. Contractor Quality Control.**1. Field Quality Control.**

The following describes the minimum inspection and testing required in the Contractor's Quality Control (CQC) Plan and Program for the work of this section and is for CQC only. The implementation of the Contractor Quality Control Program does not relieve the Contractor from the responsibility to provide the work in accordance with the contract documents, applicable codes, regulations, and governing authorities.

2. Quality Control: Supervision, Inspection, and Records.

- a. The Contractor shall have an onsite field engineer to manage all of the QC activities on the project. The installation of the inclinometers and extensometers shall be done under the direct supervision of a Professional geotechnical Engineer registered in the State of Iowa on the staff of the Contractor or a sub-consultant to the Contractor.
- b. **Records.**
 - 1) **Inclinometer, VWP, and Multi-point Settlement Extensometers Readings:** Take initial readings 24 hours after completing installation and testing of each inclinometer, VWP and extensometer. At each inclinometer location, a total of eight, four of which biaxial sensors shall be placed above existing grade and up to the elevation of the finished grade with equal spacing between each other. The remaining four biaxial sensor shall be placed below existing grade. The elevation of the inclinometers will be determined based on the confirmation borings drilled prior to installation of the inclinometer. For the inclinometers, readings shall consist of a minimum of two reading surveys per 24 hours using real time remote and automated monitoring operation, with each survey consisting of a set of readings in each of the two primary orientations. Manual readings for the inclinometers will be acceptable only during fill placement as long as the frequency of reading is achieved. Process the survey results, graphically plot them, and furnish the results to the Engineer. Based on comparison of the plotted results, the Engineer will determine which survey will represent the initial set of measurements. Typically, the results are approximately the same for the two surveys, and the last set of readings is typically selected. For

the VWP and Multi-point Extensometers, readings shall consist of a minimum of two readings surveys per 24 hours using real time remote and automated monitoring operations for each sensor.

For the duration of the project, inclinometers and multi-point settlement extensometers shall continue to be monitored after the completion of the fill placement and through 52 weeks from the start of the first reading. VWP shall continue to be monitored after the completion of the fill placement and through 25 weeks from the start of the first reading. The readings shall consist of real time monitoring with daily monitoring frequency and available online to the Engineer.

- 2) Real Time Monitoring Strain Gauges: Test rigid inclusion strain gauges shall continue to be monitored after the completion of the load test throughout the fill placement and beyond through a duration of 50 weeks. The readings shall consist of real time monitoring with daily frequency and available online to the Engineer.

120163a.04 METHOD OF MEASUREMENT.

Measurement for Installation of instrumentation including Real Time automated and web based monitoring as shown contract documents and herein shall be based on lump sum basis.

120163a.05 BASIS OF PAYMENT.

Payment for Instrumentation will be acceptable installation, maintenance, and monitoring of instruments, including inclinometers, VWP and multi-point settlement extensometers shall include all materials, labor, installation equipment, real time monitoring, replacement, trouble shooting, and mobilization costs involved to install the instrumentation and protective housings, and to flag and protect each instrumentation location for the duration of the project. Instrumentation shall be paid on a lump sum basis. Instrumentation readings shall include all materials, labor, mobilization, monitoring equipment, and data collection, data reduction, data reporting, and engineering time costs required to present a letter report of the findings. All instrumentation data collection shall be real time monitoring.

A d d e n d u m

Iowa Department of Transportation
Office of Contracts

Date of Letting: April 15, 2014
Date of Addendum: April 11, 2014

B.O.	Proposal ID	Proposal Work Type	County	Project Number	Addendum
014	78-0293-097	BRIDGE REPLACEMENT - STEEL GIRDER	POTTAWATTAMIE	IM-NHS-029-3(97)48--03-78 IM-NHS-029-3(98)48--03-78 IM-029-3(99)48--13-78 NHS-029-3(100)48--11-78 IM-NHS-029-3(111)48--03-78 IM-NHS-029-3(128)48--03-78	15APR014.A07

Notice: Only the bid proposal holders receive this addendum and responsibility for notifying any potential subcontractors or suppliers remains with the proposal holder.

Make the following change to the PROPOSAL DETAILS:

For ***Site 01*** Add "(EXCLUDING COPING)" after the MSE WALLS.

Note: The placement of coping shall be delayed until after the settlement period.

Make the following changes to the PROPOSAL SCHEDULE OF PRICES:

Change Proposal Line No. 0040 2102-2710070 EXCAVATION, CLASS 10, ROADWAY
AND BORROW:

From : 447,735.000 CY
To: 389,949.000 CY

Delete Proposal Line No. 0130 2214-5145150 PAVEMENT SCARIFICATION:

Change Proposal Line No. 0230 2402-0425030 GRANULAR BACKFILL:

From : 103,028.000 CY
To: 151,657.000 CY

Delete Proposal Line No. 1111 2105-8425020 TOPSOIL, STRIP AND STOCKPILE.

Add Proposal Line No. 1117 2213-6745500 REMOVAL OF CURB, 2.510 STA.

If the above changes are not made, they will be made as shown here.

Make the following changes to IM-NHS-029-3(97)48--03-78:

Plan Sheet C.3:

For Item 2402-0425030 GRANULAR BACKFILL, replace the existing Estimate Reference Information with the following:

- Includes 103028 CY for MSE Wall and 48629 CY for construction of 2 ft. Load Transfer Pad.
- All backfill material shall consist of 3 in. stone with unit weight of 110 pcf. (Article 4130, Class D, E of gabion Stone).
- All backfill material shall meet the size, unit weight, and gradation as defined above plus all other Backfill Material requirements in the Specifications For MSE Walls.
- See Sheets Q.57 – Q.58 for locations and details.

Revise Tab. 110-1 on Sheet C.14 as follows:

- Replace heading “Pavement Scarification” with “Removal of Curb”
- Replace Remarks for entry 293+68.0 to 296+18.8, from “Mill off half Bridge Raised Median (27.6 Tons of Pavt Scarification)” to “Remove/Mill half Bridge Raised Median including reinforcement”

Revise Sheet Q.55 as follows: Detail 2-Revise height of two lower layers of Load Transfer Pad to 2 ft. each with bottom layer labelled as Granular Backfill.

Revise Sheet Q.56 as follows:

- Replace Note 7 with “Approximately 168,151 cu. Yds (134,521 cu. Yds. + 25% shrinkage) of granular material is required for the load transfer pad for areas shown in Table 2 (Entire Project)”
- Replace Note 8, second sentence, with “The number of layers shall transition to a minimum of one geotextile layer placed 2 ft. from the base of the fill in the areas from the start of the grading to maximum height.

Revise Sheet Q.57 as follows:

- Revise STAGE 1 PIPE CONSTRUCTION DETAILS, SECTION A-A dimension from top of ground improvement element to High Strength Reinforcement Geotextile from 1 ft. to 2 Ft

Revise Sheet Q.58 as follows:

- On all typicals, revise height of two lower layers of Load Transfer Pad to 2 ft. each

A d d e n d u m

Iowa Department of Transportation
Office of Contracts

Date of Letting: April 15, 2014
Date of Addendum: April 14, 2014

B.O.	Proposal ID	Proposal Work Type	County	Project Number	Addendum
014	78-0293-097	BRIDGE REPLACEMENT - STEEL GIRDER	POTTAWATTAMIE	IM-NHS-029-3(97)48--03-78 IM-NHS-029-3(98)48--03-78 IM-029-3(99)48--13-78 NHS-029-3(100)48--11-78 IM-NHS-029-3(111)48--03-78 IM-NHS-029-3(128)48--03-78	15APR014.A08

Notice: Only the bid proposal holders receive this addendum and responsibility for notifying any potential subcontractors or suppliers remains with the proposal holder.

Make the following changes to IM-NHS-029-3(97)48--03-78:

Plan Sheet C.3:

For Item 2402-0425030 GRANULAR BACKFILL, revise the existing Estimate

Reference Information with the following:

Replace the sentence "All backfill material shall consist of 3 in. stone with unit weight of 110 pcf. (Article 4130, Class D, E of gabion Stone)." with the following:

All Granular Backfill shall have a maximum unit weight shall be 110 pcf and meet the gabion stone (Article 4130, Class D, E of gabion Stone) requirements with the following gradation

Sieve Size	Percent Passing
3"	100
2 ½"	25-60
1 ½"	0-15
¾"	0-5

Replace the sentence "All backfill material shall meet the size, unit weight, and gradation as defined above plus all other Backfill Material requirements in the Specifications For MSE Walls" with the following: Other than unit weight and gradation, the granular backfill shall meet all other backfill requirements in standard specification of MSE Wall

Add the following:

The following requirements for MSE WALL Granular Backfill Placement shall be implemented. Consolidate backfill using vibrator, plate tamper, or other compaction equipment. Place backfill material in the reinforced zone as shown in the contract documents in maximum 8 inch lifts. Consolidate the backfill material with vibrator, plate tamper, or other equipment without disturbing or distorting earth reinforcing and panels and in accordance with the MSE wall vendor requirements. Closely follow panel erection with placement of fill lifts. No tests will be required for compaction of granular backfill.

**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar

with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions

of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-

Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly

rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is

evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

- a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.
- b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

PREDETERMINED WAGE RATE

IA14 - 1.0

General Decision Number: IA140001 01/03/2014 IA1

Superseded General Decision Number: IA130001

State: Iowa

Construction Types: Heavy and Highway

Counties: Adair, Adams, Allamakee, Appanoose, Audubon, Benton, Black Hawk, Boone, Bremer, Buchanan, Buena Vista, Butler, Calhoun, Carroll, Cass, Cedar, Cerro Gordo, Cherokee, Chickasaw, Clarke, Clay, Clayton, Clinton, Crawford, Dallas, Davis, Decatur, Delaware, Des Moines, Dickinson, Dubuque, Emmet, Fayette, Floyd, Franklin, Fremont, Greene, Grundy, Guthrie, Hamilton, Hancock, Hardin, Harrison, Henry, Howard, Humboldt, Ida, Iowa, Jackson, Jasper, Jefferson, Johnson, Jones, Keokuk, Kossuth, Lee, Linn, Louisa, Lucas, Lyon, Madison, Mahaska, Marion, Marshall, Mills, Mitchell, Monona, Monroe, Montgomery, Muscatine, O'Brien, Osceola, Page, Palo Alto, Plymouth, Pocahontas, Polk, Pottawattamie, Poweshiek, Ringgold, Sac, Shelby, Sioux, Story, Tama, Taylor, Union, Van Buren, Wapello, Warren, Washington, Wayne, Webster, Winnebago, Winneshiek, Woodbury, Worth and Wright Counties in Iowa.

STATEWIDE EXCEPT SCOTT COUNTY HEAVY CONSTRUCTION PROJECTS

(Does not include work on or pertaining to the Mississippi or Missouri Rivers or on Water and Sewage Treatment Plants), AND HIGHWAY PROJECTS (does not include building structures in rest areas)

Modification Number Publication Date
0 01/03/2014

SUIA2002-003 02/28/2012

CARPENTERS AND PILEDRIVERMEN:	Rates	Fringes
ZONE 1	23.92	9.93
ZONE 2	21.83	9.93
ZONE 3	21.83	9.93
ZONE 4	20.80	8.25
ZONE 5**	20.25	6.85

CONCRETE FINISHER:	Rates	Fringes
ZONE 1	21.80	7.00
ZONE 2	21.80	7.00
ZONE 3	21.80	7.00
ZONE 4	19.60	5.45
ZONE 5	18.00	6.00

PREDETERMINED WAGE RATE

IA14 - 1.0

**ELECTRICIANS: (STREET AND HIGHWAY LIGHTING
AND TRAFFIC SIGNALS)**

ZONE 1, ZONE 2, AND ZONE 3	20.55	5.70
ZONE 4	19.25	5.70
ZONE 5	17.00	5.70

IRONWORKERS: (SETTING OF STRUCTURAL STEEL)

ZONES 1 AND 2	25.05	7.45
ZONE 3	24.75	7.75
ZONE 4	20.65	6.60
ZONE 5**	20.25	6.10

LABORERS:

	Rates	Fringes
ZONE 1 AND ZONE 2		
GROUP AA	21.01	7.65
GROUP A	20.21	7.65
GROUP B	18.33	7.65
GROUP C	15.10	7.65
ZONE 3		
GROUP AA	21.01	7.65
GROUP A	20.21	7.65
GROUP B	18.33	7.65
GROUP C	15.10	7.65
ZONE 4		
GROUP A	17.40	7.65
GROUP B	16.08	7.65
GROUP C	13.20	7.65
ZONE 5		
GROUP A	17.95	6.00
GROUP B	15.20	6.00
GROUP C	14.60	6.00

POWER EQUIPMENT OPERATORS:

ZONE 1		
GROUP A	26.85	12.90
GROUP B	25.25	12.90
GROUP C	22.75	12.90
GROUP D	22.75	12.90
ZONE 2		
GROUP A	26.10	12.90
GROUP B	24.50	12.90
GROUP C	21.95	12.90
GROUP D	21.95	12.90
ZONE 3		
GROUP A	26.70	15.10
GROUP B	24.90	15.10
GROUP C	23.90	15.10
GROUP D	23.90	15.10

PREDETERMINED WAGE RATE

IA14 - 1.0

ZONE 4		
GROUP A	25.50	8.55
GROUP B	24.36	8.55
GROUP C	22.28	8.55
GROUP D	22.28	8.55
ZONE 5		
GROUP A	22.07	6.80
GROUP B	21.03	6.80
GROUP C	19.70	6.80
GROUP D	18.70	6.80
TRUCK DRIVER (AND PAVEMENT MARKING DRIVER/SWITCHPERSON)		
ZONE 1	19.65	9.60
ZONE 2	19.65	9.60
ZONE 3	19.65	9.60
ZONE 4	19.70	5.35
ZONE 5	17.75	5.35

ZONE DEFINITIONS

- ZONE 1 The Counties of Polk, Warren and Dallas for all Crafts, and Linn County Carpenters only.
- ZONE 2 The Counties of Dubuque for all Crafts and Linn County for all Crafts except Carpenters.
- ZONE 3 The Cities of Burlington, Clinton, Fort Madison, Keokuk, and Muscatine (and abutting municipalities of any such cities).
- ZONE 4 Story, Black Hawk, Cedar, Jasper, Jones, Jackson, Louisa, Madison, and Marion Counties; Clinton County (except the City of Clinton), Johnson County, Muscatine County (except the City of Muscatine), the City of Council Bluffs, Lee County and Des Moines County.
- ZONE 5 All areas of the state not listed above.

LABORER CLASSIFICATIONS - ALL ZONES

GROUP AA - Skilled pipelayer (sewer, water and conduits) and tunnel laborers (zones 1, 2 and 3).

GROUP A - Carpenter tender on bridges and box culverts; curb machine (without a seat); deck hand; diamond & core drills; drill operator on air tracs, wagon drills and similar drills; form setter/stringman on paving work; gunnite nozzleman; joint sealer kettleman; laser operator; pipelayer (sewer, water, and conduits) Zone 4 & 5; powderman tender; powderman/blaster; saw operator; tunnel laborer (zones 4 and 5).

PREDETERMINED WAGE RATE

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GROUP B - Air, gas, electric tool operator; barco hammer; carpenter tender; caulker; chain sawman; compressor (under 400 cfm); concrete finisher tender; concrete processing materials and monitors; cutting torch on demolition; drill tender; dumpmen; electric drills; fence erectors; form line expansion joint assembler; form tamper; general laborer; grade checker; handling and placing metal mesh, dowel bars, reinforcing bars and chairs; hot asphalt laborer; installing temporary traffic control devices; jackhammerman; mechanical grouter; painter (all except stripers); paving breaker; planting trees, shrubs and flowers; power broom (not self-propelled); power buggyman; rakers; rodman (tying reinforcing steel); sandblaster; seeding and mulching; sewer utility topman/bottom man; spaders; stressor or stretcherman on pre or post tensioned concrete; stringman on re/surfacing/no grade control; swinging stage, tagline, or block and tackle; tampers; timberman; tool room men and checkers; tree climber; tree groundman; underpinning and shoring caissons over twelve feet deep; vibrators; walk behind trencher; walk behind paint stripers; walk behind vibrating compactor; water pumps (under three inch); work from bosun chair.

GROUP C - Scale weigh person; traffic control/flagger, surveillance or monitor; water carrier.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS - ALL ZONES

GROUP A - All terrain (off road) forklift, Asphalt breakdown roller (vibratory); Asphalt laydown machine; asphalt plant; Asphalt screed; bulldozer (finish); central mix plant; concrete pump; crane; crawler tractor pulling scraper; directional drill (60,000 (lbs) pullback and above); dragline and power shovel; dredge engine; excavator (over ½ cu. yd.); front end loader (4 cy and over); horizontal boring machine; master mechanic; milling machine (over 350 hp); motor grader (finish); push cat; rubber tired backhoe (over ½ cu. yd.); scraper (12 cu. yd. and over or finish); Self-propelled rotary mixer/road reclaimer; sidebroom tractor; slipform portland concrete paver; tow or push boat; trenching machine (Cleveland 80 or similar).

GROUP B - Articulated off road hauler, asphalt heater/planer; asphalt material transfer vehicle; Asphalt roller; belt loader or similar loader; bulldozer (rough); churn or rotary drill; concrete curb machine; crawler tractor pulling ripper, disk or roller; deck hand/oiler; directional drill (less than 60,000 (lbs) pullback); distributor; excavator (1/2 cu. yd. and under); form riding concrete paver; front end loader (2 to less than 4 cu. yd.); group equipment greaser; mechanic; milling machine (350 hp. and less); paving breaker; portland concrete dry batch plant; rubber tired backhoe (1/2 cu. yd. and under); scraper (under 12 cu. yd.); screening, washing and crushing plant (mobile, portable or stationary); shoulder machine; skid loader (1 cu. yd. and over); subgrader or trimmer; trenching machine; water wagon on compaction.

GROUP C - Boom & winch truck; concrete spreader/belt placer; deep wells for dewatering; farm type tractor (over 75 hp.) pulling disc or roller; forklift; front end loader (under 2 cu. yd.); motor grader (rough); pile hammer power unit; pump (greater than three inch diameter); pumps on well points; safety boat; self-propelled roller (other than asphalt); self-propelled sand blaster or shot blaster, water blaster or striping grinder/remover; skid loader (under 1 cu. yd.); truck mounted post driver.

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GROUP D - Boiler; compressor; cure and texture machine; dow box; farm type or utility tractor (under 75 hp.) pulling disk, roller or other attachments; group greaser tender; light plants; mechanic tender; mechanical broom; mechanical heaters; oiler; pumps (under three inch diameter); tree chipping machine; truck crane driver/oiler.

****CARPENTERS AND PILEDRIVERMEN, or IRONWORKERS (ZONE 5)**

Setting of structural steel; any welding incidental to bridge or culvert construction; setting concrete beams.

WELDERS: Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates listed under that identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters, PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 05-13-2010. SU indicates the rates are bot union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later,

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05/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U. S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

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- 3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U. S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

- 4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION