

BRIDGE REPLACEMENT - OTHER  
 LETTING DATE: SEPTEMBER 17, 2024

BROS-C092(125)--8J-92

WASHINGTON COUNTY

SECTION 404 PERMIT AND CONDITIONS 281-1  
10-18-2016

CONSTRUCT THIS PROJECT ACCORDING TO THE REQUIREMENTS OF THE U.S. ARMY CORP OF ENGINEERS  
 NATIONWIDE PERMIT NO. 14, PERMIT NO. 2023-1354.

A COPY OF THIS PERMIT IS AVAILABLE FROM THE IOWA DOT WEBSITE (HTTP://WWW.ENVPERMITS.IOWADOT.GOV).  
 THE U.S. ARMY CORP OF ENGINEERS RESERVES THE RIGHT TO VISIT THIS SITE WITHOUT NOTICE.

STANDARD ROAD PLANS

STANDARD ROAD PLANS ARE LISTED ON SHEET C.01



Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE  
 SECONDARY ROAD SYSTEM

# WASHINGTON COUNTY

PROJECT NO. BROS-C092(125)--8J-92

## BRIDGE REPLACEMENT - OTHER

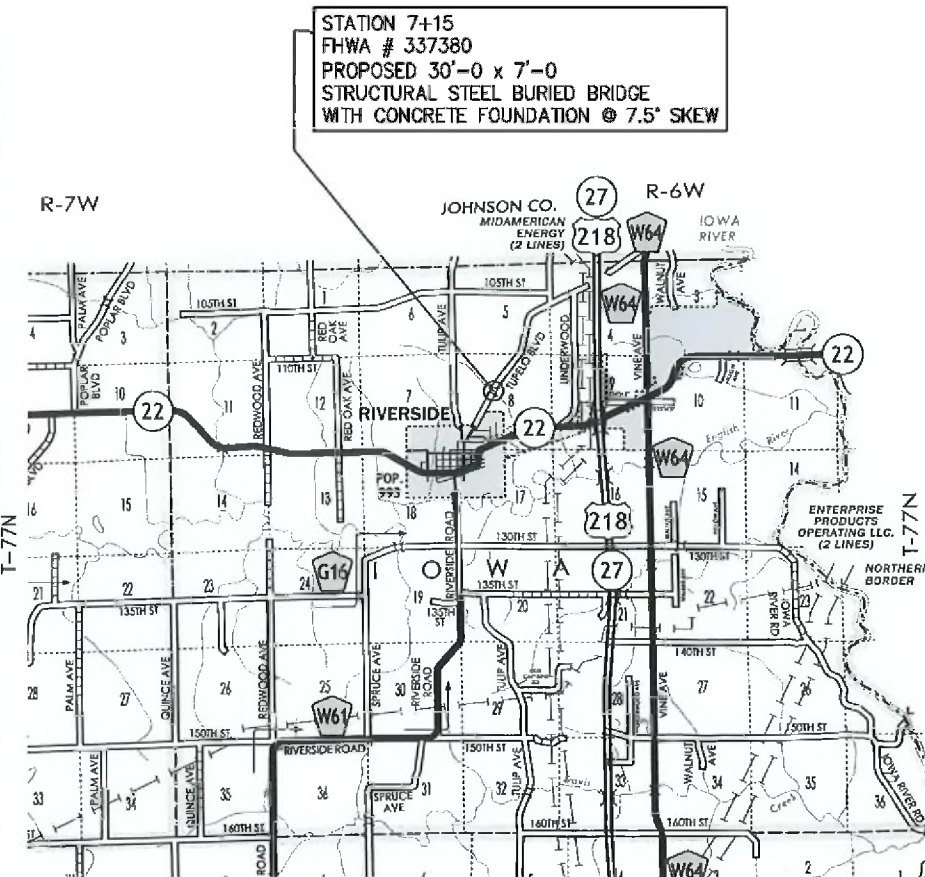
ON TUPELO BLVD, OVER SMALL STREAM IN SECTION 08, T-77N, R-06W

REFER TO THE PROPOSAL FORM FOR THE LIST OF APPLICABLE SPECIFICATIONS

INDEX OF SHEETS		TOTAL SHEETS
NO.	DESCRIPTION	12
A.01	TITLE SHEET	105-3
C.01	BID ITEMS, BID ITEM NOTES, TABULATIONS	10-18-05
D.01	ACQUISITION MAP	
D.02	SITE PLAN	
Q.01	SOIL BORES	
V.01	SITUATION PLAN	
V.02	CULVERT SECTION	
V.03	CULVERT BACKFILL SECTION AND NOTES	
V.04-V.05	CULVERT DETAILS	
X.01-X.02	ROADWAY CROSS SECTIONS	

UTILITY CONTACTS			
COMPANY	UTILITY	CONTACT	PHONE NUMBER
ALLIANT ENNERGY	ELECTRIC	SHERISE DeWOLF	319-653-8224
WINDSTREAM	PHONE, FIBER	JEREMY MARSHALL	319-385-5004
SHARON CENTER TELEPHONE COMPANY	PHONE, FIBER	ROBERT SCHNEIDER	319-679-2211

NO MILEAGE SUMMARY



PROJECT LOCATION

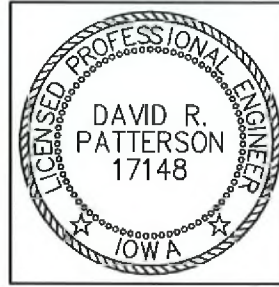


80 V.P.D. (2018)

**DRAWING APPROVAL**

ALL SHOP DRAWINGS AND FALSEWORK DRAWINGS THAT REQUIRE APPROVAL SHALL BE SUBMITTED AND APPROVED BY THE CONTRACTOR, WHO SHALL STAMP, CERTIFY, OR PROVIDE OTHER SUCH EVIDENCE ON THE DRAWINGS THAT THEY HAVE RECEIVED CONTRACTOR APPROVAL. THE APPROVED DRAWINGS SHALL THEN BE SUBMITTED TO WASHINGTON COUNTY FOR REVIEW AND APPROVAL.

WASHINGTON COUNTY ENGINEER  
 210 W. MAIN ST., STE. 2  
 WASHINGTON, IA 52247  
 PHONE: (319) 653-7731



APPROVED *David Patterson* 5/16/24  
 WASHINGTON COUNTY ENGINEER DATE

MARCUS FEDLER  
 ROBERT C. YODER  
 STAN STOOPS  
 JACK SEWARD  
 RICHARD YOUNG  
 BOARD OF SUPERVISORS DATE

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

*David Patterson* DATE: 05/16/2024

DAVID R. PATTERSON  
 MY LICENSE RENEWAL DATE IS DECEMBER 31, 2025.  
 PAGES OR SHEETS COVERED BY THIS SEAL:  
 A.01, C.01, D.01-02, V.01-05, X.01-02. (11 SHEETS)

PROJECT DESCRIPTION

100-1D  
10-18-05

THIS PROJECT INCLUDES REPLACING AN EXISTING 45'-0 CONCRETE T-BEAM BRIDGE AND CONCRETE ABUTMENTS WITH A STEEL STRUCTURAL PLATE ARCH PLACED ON CONCRETE FOOTINGS. THE NEW STRUCTURE AND FOOTINGS ARE DESIGNED SO THAT THEY MAY BE BUILT INSIDE THE EXISTING CONCRETE ABUTMENTS TO FACILITATE CONSTRUCTION.

TOTAL ESTIMATED QUANTITIES (1 DIVISION PROJECT)

100-1A  
07-15-97

REF.	CODE NO.	ITEM	UNIT	TOTAL	AS-BUILT
1	2102-0425070	SPECIAL BACKFILL	TON	460	
2	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	507	
3	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	280	
4	2312-8260051	GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE	TON	182	
5	2401-6745625	REMOVAL OF EXISTING BRIDGE	LS	1	
6	2402-0425031	GRANULAR BACKFILL	TON	250	
7	2402-2720000	EXCAVATION, CLASS 20	CY	210	
8	2403-0100000	STRUCTURAL CONCRETE (MISCELLANEOUS)	CY	40.80	
9	2404-7775000	REINFORCING STEEL	LB	4447	
10	2507-3250005	ENGINEERING FABRIC	SY	530	
11	2507-6800061	REVTMENT, CLASS E	TON	340	
12	2528-2518000	SAFETY CLOSURE	EACH	2	
13	2528-8445110	TRAFFIC CONTROL	LS	1	
14	2533-4980005	MOBILIZATION	LS	1	
15	2599-9999010	DEEP CORRUGATED STRUCTURAL PLATE STRUCTURE	LS	1	
16	2601-2634100	MULCHING	AC	0.75	
17	2601-2636043	SEEDING AND FERTILIZING (RURAL)	AC	0.75	
18	2602-0000020	SILT FENCE	LF	400	

REF. ESTIMATE REFERENCE INFORMATION

- SPECIAL BACKFILL  
PROPER PLACEMENT AND COMPACTION ARE IMPORTANT FOR THE STRENGTH AND STABILITY OF THE NEW ARCH STRUCTURE. "SPECIAL BACKFILL" WILL BE USED AS FILL ABOVE AND BEHIND THE NEW ARCH STRUCTURE.  
ITEM INCLUDES ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE PLACEMENT AND COMPACTION OF THE SPECIAL BACKFILL. SEE ADDITIONAL BACKFILL NOTES ON SHEET V.03.
- EXCAVATION, CLASS 10, ROADWAY AND BORROW  
SEE "SUMMARY OF EARTHWORK QUANTITIES" ON THIS SHEET FOR BREAKDOWN OF EXCAVATION QUANTITIES. TYPE "A" COMPACTION IS REQUIRED.
- TOPSOIL, STRIP, SALVAGE AND SPREAD  
TOPSOIL SHALL BE STRIPPED FROM WITHIN THE DISTURBED LIMITS AND SPREAD UNIFORMLY (MIN. 4" DEPTH) OVER ALL AREAS THAT ARE NOT COVERED BY PAVEMENT OR GRANULAR MATERIAL. AREAS SHALL BE UNDERCUT PRIOR TO PLACING TOPSOIL. CROSS-SECTIONS SHOW FINISHED GRADELINE. THE CONTRACTOR IS TO FAMILIARIZE HIMSELF WITH IOWA LAW AS IT PERTAINS TO REMOVAL AND REPLACEMENT OF TOPSOIL WITHIN THE PROJECT AREA.
- GRANULAR SURFACING OF ROAD, CLASS A CRUSHED STONE  
PLACE CRUSHED STONE SURFACING ON THE ROADWAY FROM STATION 6+00 TO 8+00. SURFACING QUANTITY IS CALCULATED AT 6" THICK AND 24' WIDE.
- REMOVAL OF EXISTING BRIDGE  
THE EXISTING BRIDGE IS A 45' X 24' CONCRETE DOUBLE-"T" BEAM BRIDGE WITH CONCRETE ABUTMENTS. THE DECK IS INTEGRAL TO THE BEAMS.  
AN INSPECTION FOR THE PRESENCE OF ASBESTOS CONTAINING MATERIALS WAS COMPLETED AND NO SUSPECT MATERIALS WERE FOUND. IF ADDITIONAL MATERIALS SUSPECTED OF CONTAINING ASBESTOS ARE DISCOVERED DURING DEMOLITION OF THE BRIDGE, WORK SHALL BE STOPPED IMMEDIATELY AND THE ENGINEER NOTIFIED.  
BROKEN CONCRETE FROM THE EXISTING BRIDGE WITH SIMILAR GRADATION TO CLASS "E" REVTMENT MAY BE PLACED ON THE BANKS OUTSIDE THE LIMITS SHOWN FOR CLASS "E" REVTMENT, AS DIRECTED BY THE ENGINEER. ALL REINFORCING SHALL BE CUT OFF FLUSH WITH THE CONCRETE.  
THE LUMP SUM BID FOR "REMOVAL OF EXISTING BRIDGE" SHALL INCLUDE REMOVAL AND DISPOSAL OF THE EXISTING STRUCTURE. ALL SALVAGEABLE MATERIAL AND UNSALVAGEABLE MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR. THE EXISTING STRUCTURE SHALL BE REMOVED TO AN ELEVATION AT LEAST 1' BELOW FINISHED GROUNDLINE AND TO THE EXTENT THAT IT WILL NOT INTERFERE WITH THE NEW CONSTRUCTION INCLUDING THE CONSTRUCTION OF THE NEW FOOTING AS SHOWN ON SHEETS V.01 AND V.03.  
\* SUPERSTRUCTURE: DOUBLE-"T" BEAMS ARE TO BE REMOVED COMPLETELY.  
\* WOOD WING WALLS: TO BE REMOVED COMPLETELY.  
\* ABUTMENTS: THESE ARE REQUIRED TO BE REMOVED TO 1' BELOW THE FINAL ROADWAY GRADE ELEVATION. THE CONTRACTOR MAY ELECT TO LEAVE THE REST OF THE ABUTMENT IN PLACE. THE NEW STRUCTURE AND FOOTINGS WERE SIZED FOR THE POSSIBILITY OF BUILDING THEM WITHOUT REMOVING THE EXISTING ABUTMENTS. HOWEVER, NO ADDITIONAL PAYMENT WILL BE MADE IF THE CONTRACTOR ELECTS OR FINDS IT NECESSARY TO PARTIALLY OR COMPLETELY REMOVE ADDITIONAL PORTIONS OF THE EXISTING ABUTMENTS FOR ANY REASON. WASHINGTON COUNTY DOES NOT HAVE RECORD OF WHAT TYPE OF PILING IS SUPPORTING THE EXISTING ABUTMENTS. THEY ARE SUSPECTED TO BE CONCRETE PILING, BUT WASHINGTON COUNTY CANNOT GUARANTEE THEIR STABILITY DURING THE CONSTRUCTION OF THE NEW FOOTING.
- GRANULAR BACKFILL  
ITEM SHALL CONSIST OF 1" CLEAN STONE OR GRAVEL. ITEM TO BE USED AS BACKFILL UNDER THE FOOTING. SEE SHEET V.03 FOR PLACEMENT LOCATION. ITEM INCLUDES ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE PLACEMENT OF GRANULAR MATERIAL PRIOR TO INSTALLATION OF THE FOUNDATION. MATERIAL IS TO BE PLACED A MINIMUM OF 2'-0 BELOW THE FOUNDATION GRADE LINE AND SHALL BE SLOPED UPWARDS AT A 1:1 SLOPE.
- EXCAVATION, CLASS 20  
QUANTITY IS FOR NECESSARY EXCAVATION FOR THE CONSTRUCTION OF THE FOOTINGS INCLUDING OVER-EXCAVATION UNDER THE PROPOSED FOOTINGS FOR BACKFILL WITH "GRANULAR BACKFILL".  
INCLUDES ALL LABOR, EQUIPMENT, AND INCIDENTALS REQUIRED FOR THE EXCAVATION RELATING TO INSTALLATION OF THE PROPOSED STRUCTURAL STEEL STRUCTURE AND FOUNDATIONS.  
SEE "SUMMARY OF EARTHWORK QUANTITIES" ON THIS SHEET FOR BREAKDOWN OF EXCAVATION QUANTITIES.  
SEE "CONSTRUCTION GROUNDWATER CONTROL" NOTES ON SHEET V.02.
- STRUCTURAL CONCRETE (MISCELLANEOUS)  
CERTIFIED PLANT INSPECTION IS REQUIRED.  
SEE "STRUCTURE FOUNDATION" ON SHEET V.05 FOR DETAILS.  
NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR COLD WEATHER PROTECTION.
- REINFORCING STEEL  
SEE "STRUCTURE FOUNDATION" ON SHEET V.05 FOR DETAILS.
- ENGINEERING FABRIC  
FABRIC TO BE PLACED UNDER ALL "REVTMENT, CLASS E".  
SEE SHEET D.02 FOR PLACEMENT LIMITS.
- REVTMENT, CLASS E  
REVTMENT TO BE PLACED WITH A THICKNESS OF 1'-6". SEE SHEETS D.02 FOR LIMITS OF PLACEMENT.
- SAFETY CLOSURE  
PLACE ONE SAFETY CLOSURE TO THE NORTH AND ONE CLOSURE TO THE SOUTH OF THE PROJECT LOCATION.
- TRAFFIC CONTROL  
---
- MOBILIZATION  
---
- DEEP CORRUGATED STRUCTURAL PLATE BURIED BRIDGE  
THIS ITEM SHALL INCLUDE BUT IS NOT LIMITED TO THE PURCHASE OF AN ENGINEER APPROVED DEEP CORRUGATED STRUCTURAL PLATE STRUCTURE, SHIPPING OF THE STRUCTURE TO THE SITE, PURCHASE OF ADDITIONAL REQUIRED MATERIALS NOT PROVIDED BY THE MANUFACTURER, LABOR, AND INSTALLATION OF THE STRUCTURE TO MEET THE MANUFACTURER'S REQUIREMENTS. REFER TO SHEETS V.01-V.05 FOR STRUCTURE DETAILS.  
DEEP CORRUGATED STRUCTURE IS EXPECTED TO HAVE 15X5½" CORRUGATION. STEEL STRUCTURE MUST BE DESIGNED TO MEET AASHTO HL93 TRUCK LOADING. SHOP DRAWINGS FOR THE PROPOSED STEEL ARCH ARE TO BE SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL PRIOR TO MANUFACTURING.
- MULCHING  
THE CONTRACTOR IS TO RESHAPE, FERTILIZE AND SEED AND MULCH ANY AREAS DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION. THIS SHALL BE INCLUDED IN THE PRICES FOR "MULCHING" AND "SEEDING AND FERTILIZING (RURAL)."
- SEEDING AND FERTILIZING (RURAL)  
PREPARE SEEDBED, FERTILIZE, AND SEED ACCORDING TO ARTICLE 2601.03,C,4 OF THE STANDARD SPECIFICATIONS. ALL SEED SHALL BE APPLIED WITH GROUND DRIVEN EQUIPMENT.  
VERIFY LOCATION WITH ENGINEER PRIOR TO SEEDING.
- SILT FENCE  
SILT FENCE TO BE USED TO PROTECT THE INLET AND OUTLET OF THE STREAM AS SHOWN ON SHEET D.02. PLACEMENT MAY BE ADJUSTED AS NEEDED TO BEST COMBAT SITE EROSION. VERIFY THE SPECIFIC LOCATIONS WITH THE ENGINEER PRIOR TO BEGINNING PLACEMENT.

STANDARD ROAD PLANS

105-04  
04-16-24

The following Standard Road Plans apply to construction work on this project.

NUMBER	DATE	TITLE
EC-201	04-20-2021	SILT FENCE
EW-101	10-17-2017	EMBANKMENT AND REBUILDING EMBANKMENTS
EW-102	10-20-2015	ALLOWABLE PLACEMENT OF UNSUITABLE SOIL IN EMBANKMENTS
EW-403	04-18-2017	TEMPORARY EROSION CONTROL MEASURES
TC-252	04-21-2020	ROUTES CLOSED TO TRAFFIC

SUMMARY OF EARTHWORK QUANTITIES

EXCAVATION TYPE	RAW CUT	RAW FILL	WASTE	USABLE CUT	SHRINKAGE FACTOR	FILL + 35% SHRINKAGE	PAYMENT QUANTITY
	CY	CY	CY	CY		CY	CY
CLASS 10, ROADWAY AND BORROW	507	407	0	507	1.35	550	507
CLASS 20 *	210	0	167	43	1.35	0	210
TOTALS			167	550		550	

\* ASSUMES SOME MATERIAL WILL BE UNUSABLE (OR EXCESS) AND WILL NEED TO BE WASTED ONSITE.

CONSTRUCTION SURVEY

CONSTRUCTION SURVEY WILL BE COMPLETED BY WASHINGTON COUNTY.

BRIDGE DEMOLITION INFORMATION

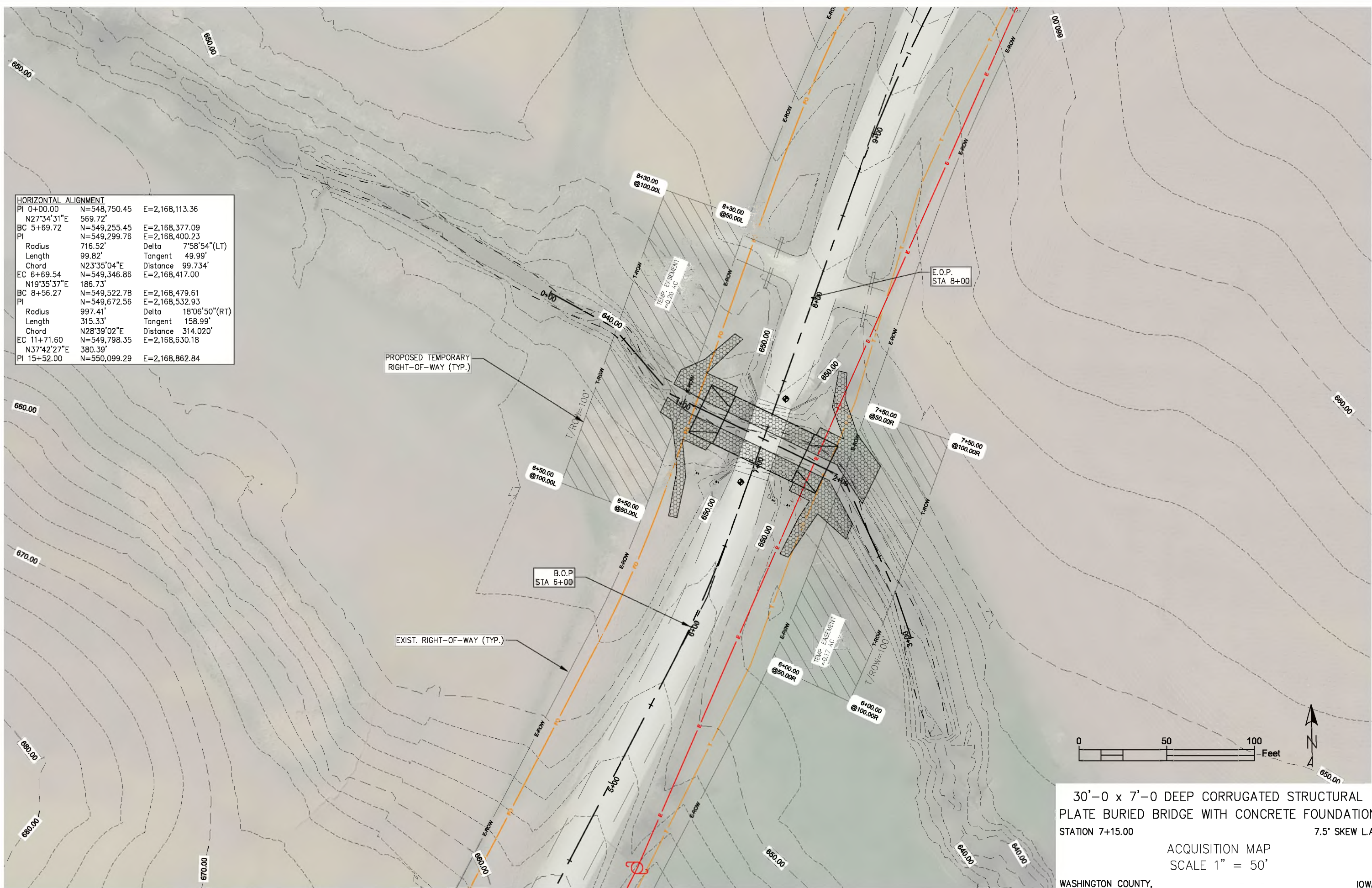
337380	
INSPECTION COMPANY	ACTIVE THERMAL CONCEPTS
INSPECTOR NAME	TERRY BEAIRD
INSPECTOR IA LICENSE NUMBER	21-6139
DATE INSPECTED	4/14/2021
PHONE NUMBER	319-393-8088

TRAFFIC CONTROL PLAN

108-23A  
08-01-08

- ROUTE WILL BE CLOSED TO VEHICULAR AND PEDESTRIAN TRAFFIC DURING CONSTRUCTION.
- TRAFFIC CONTROL ON THE PROJECT SHALL BE IN ACCORDANCE WITH STANDARD ROAD PLAN TC-252.
- CONTRACTOR IS TO SALVAGE ALL TRAFFIC CONTROL DEVICES (SIGNS AND POSTS) AND STOCKPILE THEM FOR COLLECTION BY WASHINGTON COUNTY.

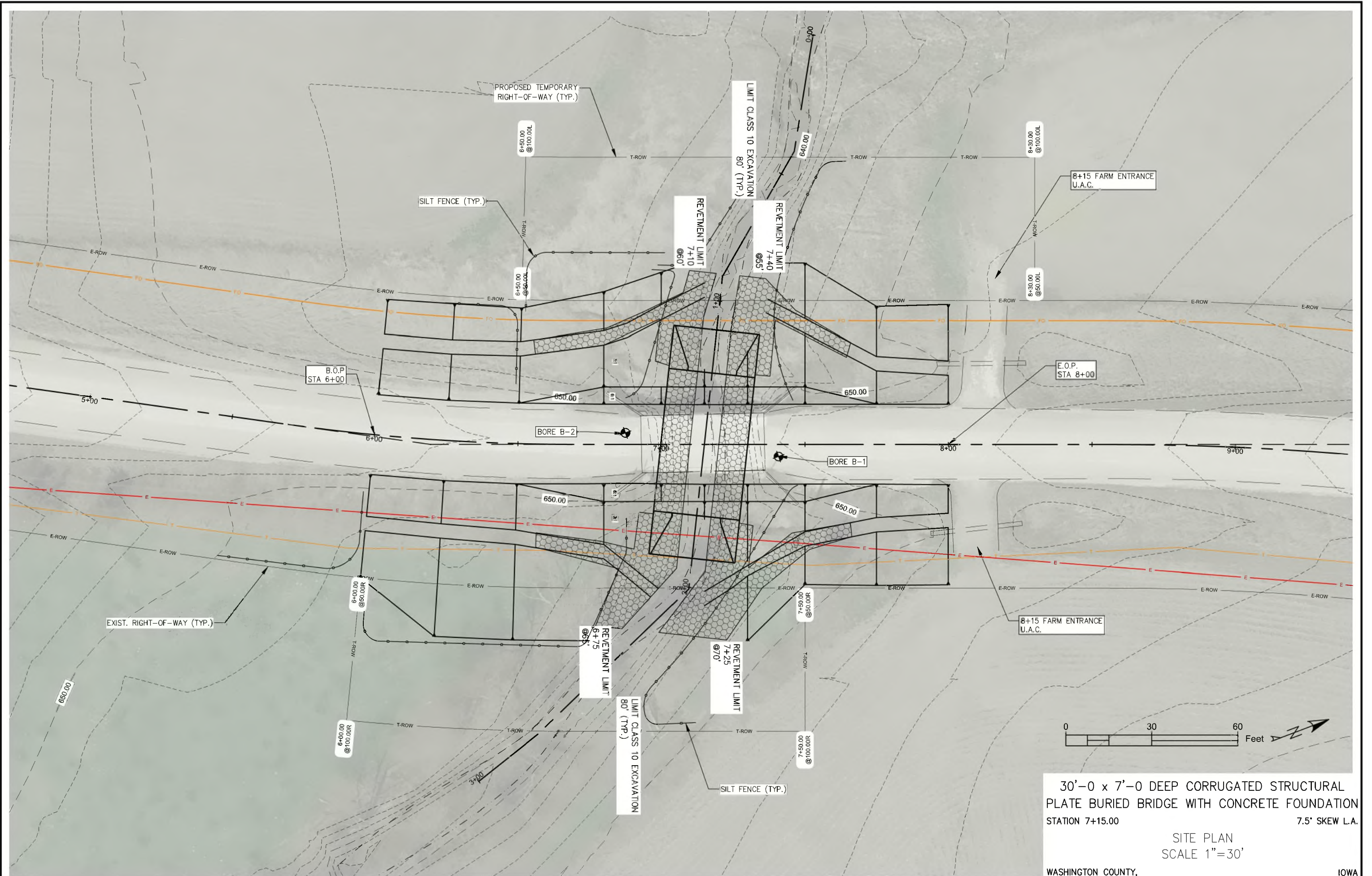
HORIZONTAL ALIGNMENT		
PI 0+00.00	N=548,750.45	E=2,168,113.36
	N27°34'31"E	569.72'
BC 5+69.72	N=549,255.45	E=2,168,377.09
PI	N=549,299.76	E=2,168,400.23
	Radius	716.52'
	Length	99.82'
	Chord	N23°35'04"E
		Distance 99.734'
EC 6+69.54	N=549,346.86	E=2,168,417.00
	N19°35'37"E	186.73'
BC 8+56.27	N=549,522.78	E=2,168,479.61
PI	N=549,672.56	E=2,168,532.93
	Radius	997.41'
	Length	315.33'
	Chord	N28°39'02"E
		Distance 314.020'
EC 11+71.60	N=549,798.35	E=2,168,630.18
	N37°42'27"E	380.39'
PI 15+52.00	N=550,099.29	E=2,168,862.84



30'-0 x 7'-0 DEEP CORRUGATED STRUCTURAL  
 PLATE BURIED BRIDGE WITH CONCRETE FOUNDATION  
 STATION 7+15.00  
 7.5° SKEW L.A.

ACQUISITION MAP  
 SCALE 1" = 50'

WASHINGTON COUNTY, IOWA



30'-0 x 7'-0 DEEP CORRUGATED STRUCTURAL  
 PLATE BURIED BRIDGE WITH CONCRETE FOUNDATION  
 STATION 7+15.00  
 7.5' SKEW L.A.  
 SITE PLAN  
 SCALE 1"=30'  
 WASHINGTON COUNTY, IOWA

BORING LOG No. 1											
PROJECT						SITE					
Tupelo Blvd NE Bridge Replacement						Washington, IA					
GRAPHIC LOG	APPROX. SURFACE ELEVATION (FT): 651.5 SITE DATUM: IOWA LIDAR ELEVATION TOOL DRILLING METHOD: HSA	USCS SYMBOL	DEPTH (FT.)	SAMPLES			TESTS		OTHER		
				NUMBER	TYPE	RECOVERY	SPT - N (BLOWS / FT.)	MOISTURE, %		DRY DENSITY (PCF)	UNCONFINED STRENGTH (PSF)
1.0 Fill - Crushed Rock, with sand, pale brown 3.0 Fill - Lean CLAY, grayish brown, dark brown, and gray Possible fill - Lean CLAY, dark grayish brown 6.0 Alluvium - Lean to fat CLAY, dark grayish brown and reddish brown, medium stiff 10.5 Alluvium - Lean CLAY, dark gray, medium stiff to stiff 14.0 Alluvium - Clayey SAND, dark gray, loose 17.0 Alluvium - Fine to medium SAND, trace silt and gravel, gray, loose	650.5	GP	0	1	AS			3.2			
	648.5	CL	2	SS	10	5	18.7				
	645.5	CL	3	ST	7		23.5	101	3,000*		
	641.0	CL-CH	4	SS	14	4	25.6				
	637.5	CL	5	SS	14	4	24.4				
	634.5	CL	6	ST	22		31	94	3,000*		
		SC	7	SS	16	4	19.2				
		SC	7	SS	16	4	34.5				
		SM	8	SS	14	2	19.4				
			9	SS	13	3	15.1				
			10	SS	15	4	15.7				
		11	SS	15	5	20.9					

BORING LOG No. 1											
PROJECT						SITE					
Tupelo Blvd NE Bridge Replacement						Washington, IA					
GRAPHIC LOG	APPROX. SURFACE ELEVATION (FT): 651.5 SITE DATUM: IOWA LIDAR ELEVATION TOOL DRILLING METHOD: HSA	USCS SYMBOL	DEPTH (FT.)	SAMPLES			TESTS		OTHER		
				NUMBER	TYPE	RECOVERY	SPT - N (BLOWS / FT.)	MOISTURE, %		DRY DENSITY (PCF)	UNCONFINED STRENGTH (PSF)
Alluvium - Fine to medium SAND, trace silt and gravel, gray, loose Bottom of boring	811.5		35								
	40.0		40	12	SS	13	8	20.1			

BORING LOG No. 2											
PROJECT						SITE					
Tupelo Blvd NE Bridge Replacement						Washington, IA					
GRAPHIC LOG	APPROX. SURFACE ELEVATION (FT): 651.5 SITE DATUM: IOWA LIDAR ELEVATION TOOL DRILLING METHOD: HSA	USCS SYMBOL	DEPTH (FT.)	SAMPLES			TESTS		OTHER		
				NUMBER	TYPE	RECOVERY	SPT - N (BLOWS / FT.)	MOISTURE, %		DRY DENSITY (PCF)	UNCONFINED STRENGTH (PSF)
1.0 Fill - Crushed Rock, with sand, pale brown Fill - Lean CLAY, dark grayish brown, stiff 6.0 Alluvium - Lean to fat CLAY, dark gray and gray, medium stiff to soft 13.5 Glacial outwash - Clayey SAND, dark gray, loose 22.0 Alluvium - Fine to medium SAND, trace silt and gravel, dark gray, medium dense to loose 32.0 Glacial till - Sandy lean CLAY, trace gravel, dark gray, stiff to very stiff	650.5	GP	0	1	AS			3.6			
	645.5	CL	2	SS	13	11	14.1				
	641.0	CL	3	SS	14	4	16.5				
	638.0	CL-CH	4	ST	10.5		29.8	93	2,000*		
	629.5	CL-CH	5	SS	14	2	28.3				
	629.5	CL-CH	6	ST	19		33.3	87			
	619.5	SC	7	SS	10	2	22.7				
	619.5	SC	8	SS	12	7	15.3				
	619.5	SP	9	SS	11	10	19				
	619.5	SP	10	SS	14	8	19.3				
	619.5	CL	11	SS	15	13	14				

BORING LOG No. 2											
PROJECT						SITE					
Tupelo Blvd NE Bridge Replacement						Washington, IA					
GRAPHIC LOG	APPROX. SURFACE ELEVATION (FT): 651.5 SITE DATUM: IOWA LIDAR ELEVATION TOOL DRILLING METHOD: HSA	USCS SYMBOL	DEPTH (FT.)	SAMPLES			TESTS		OTHER		
				NUMBER	TYPE	RECOVERY	SPT - N (BLOWS / FT.)	MOISTURE, %		DRY DENSITY (PCF)	UNCONFINED STRENGTH (PSF)
Glacial till - Sandy lean CLAY, trace gravel, dark gray, stiff to very stiff Bottom of boring	611.5		35								
	40.0		40	12	SS	12	22	13.2			

Notes: \* Calibrated hand penetrometer Hammer Type: Manual

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Notes: \* Calibrated hand penetrometer Hammer Type: Manual

Water Level: 13 Ft. While Drilling  
FL After Drilling  
FL

Water Level: 13 Ft. While Drilling  
FL After Drilling  
FL

Water Level: 13 Ft. While Drilling  
FL After Drilling  
FL

Water Level: 13 Ft. While Drilling  
FL After Drilling  
FL

Boring Started: 7-26-2023  
Boring Completed: 7-26-2023  
Rig: TRK Foreman: JH  
Approved: NG Job #: 1-5356

Boring Started: 7-26-2023  
Boring Completed: 7-26-2023  
Rig: TRK Foreman: JH  
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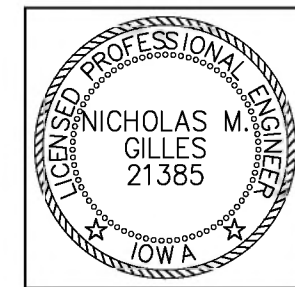
Boring Started: 7-26-2023  
Boring Completed: 7-26-2023  
Rig: TRK Foreman: JH  
Approved: NG Job #: 1-5356

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES; IN-SITU, THE TRANSITION MAY BE GRADUAL.

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I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

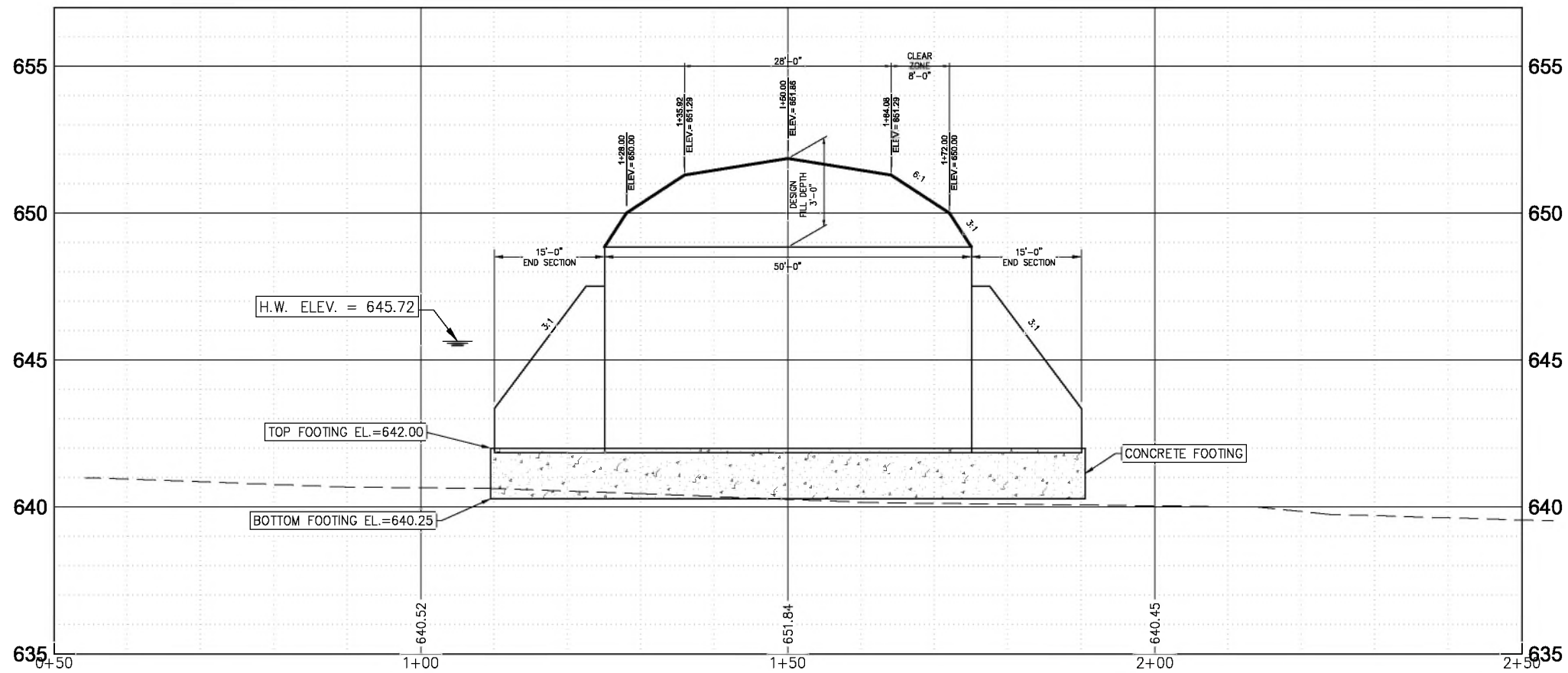
DATE: 10-24-2023

NICHOLAS M. GILLES, P.E.

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2023.

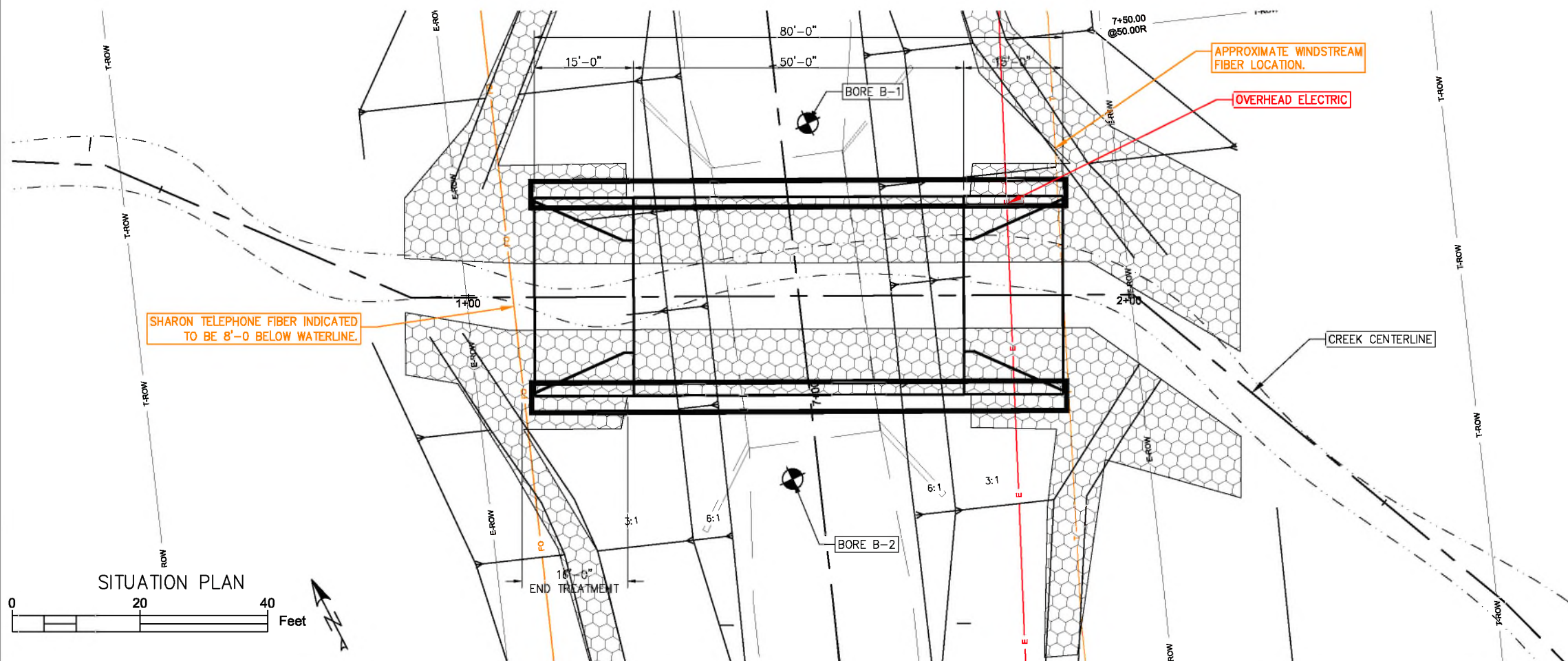
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LONGITUDINAL SECTION ALONG C STRUCTURE

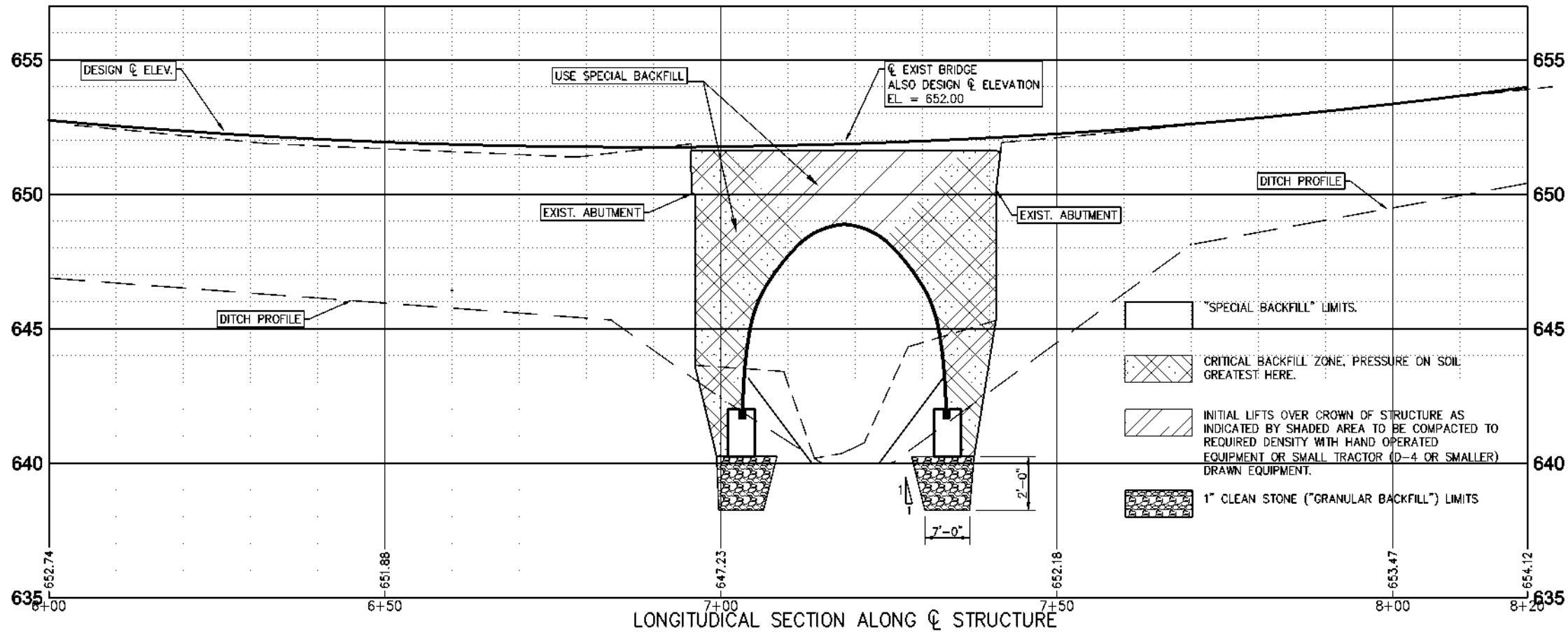
- GENERAL STEEL STRUCTURE NOTES:**
1. STEEL STRUCTURE MUST BE DESIGNED TO MEET AASHTO HL93 TRUCK LOADING.
  2. STEEL STRUCTURE SUPPLIER MUST ATTEND THE PRE-CONSTRUCTION MEETING (VIRTUALLY OR IN PERSON) WITH THE CONTRACTOR.
  4. INSTALL THE STEEL STRUCTURE ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
  5. A REPRESENTATIVE FROM THE DESIGNER OF THE STEEL STRUCTURE MUST BE AVAILABLE FOR ONSITE CONSULTATION DURING CONSTRUCTION SHOULD CRITICAL QUESTIONS ARISE.
  6. CONTRACTOR SHALL HAVE A QUALITY CONTROL PLAN FOR BACKFILLING THE STEEL STRUCTURE IN ACCORDANCE WITH INDUSTRY SPECIFICATIONS. CONTRACTOR SHALL PRESENT THE QUALITY CONTROL PLAN AT THE PRE-CONSTRUCTION MEETING.
  7. FIELD VERIFY LOCATION OF UTILITIES BEFORE CONSTRUCTION OF THE STEEL ARCH STRUCTURE.



30'-0 x 7'-0 DEEP CORRUGATED STRUCTURAL  
 PLATE BURIED BRIDGE WITH CONCRETE FOUNDATION  
 STATION 7+15.00 7.5' SKEW L.A.  
 BURIED BRIDGE SECTION

WASHINGTON COUNTY,

IOWA



LONGITUDINAL SECTION ALONG C STRUCTURE

**BACKFILL NOTES:**

1. ALL SELECT GRANULAR BACKFILL TO BE PLACED IN A BALANCED FASHION IN THIN LIFTS (6"-8" LOOSE TYPICALLY) AND COMPACTED TO 90 PERCENT DENSITY PER AASHTO T-180.
2. COMPLETE AND REGULAR MONITORING OF THE STEEL ARCH SHAPE IS NECESSARY DURING ALL BACKFILLING OF THE STRUCTURE. CONTRACTOR IS TO DOCUMENT SHAPE MONITORING AND PROVIDE DOCUMENTATION TO THE COUNTY ENGINEER AFTER BACKFILLING IS COMPLETE.
3. PREVENT EXCESSIVE DISTORTION OF SHAPE AS NECESSARY BY VARYING COMPACTION METHODS AND EQUIPMENT. FOLLOW MANUFACTURERS INSTRUCTIONS FOR ASSEMBLY AND COMPACTION.
4. COMPACTION TESTING OF ALL MATERIALS SHALL BE PROVIDED BY THE OWNER.
5. SATISFACTORY BACKFILL MATERIAL, PROPER PLACEMENT, AND COMPACTION ARE KEY FACTORS IN OBTAINING MAXIMUM STRENGTH AND STABILITY.
6. THE BACKFILL MATERIAL SHOULD BE FREE OF LARGE ROCKS, FROZEN LUMPS, AND FOREIGN MATERIAL THAT COULD CAUSE HARD SPOTS OR DECOMPOSE TO CREATE VOIDS. BACKFILL MATERIAL SHALL BE "SPECIAL BACKFILL" AS SPECIFIED IN THE BID ITEMS. BACKFILL MUST BE PLACED SYMMETRICALLY ON EACH SIDE OF THE STRUCTURE IN 6" LOOSE LIFTS. EACH LIFT IS TO BE COMPACTED TO A MINIMUM OF 90% DENSITY PER AASHTO T-180.
7. DURING BACKFILL, ONLY SMALL TRACKED VEHICLES (SUCH AS A D-4, 30,000 LBS., OR SMALLER) SHOULD BE NEAR THE STRUCTURE AS FILL PROGRESSES ABOVE THE CROWN AND TO THE FINISHED GRADE.

**CONSTRUCTION GROUNDWATER CONTROL:**

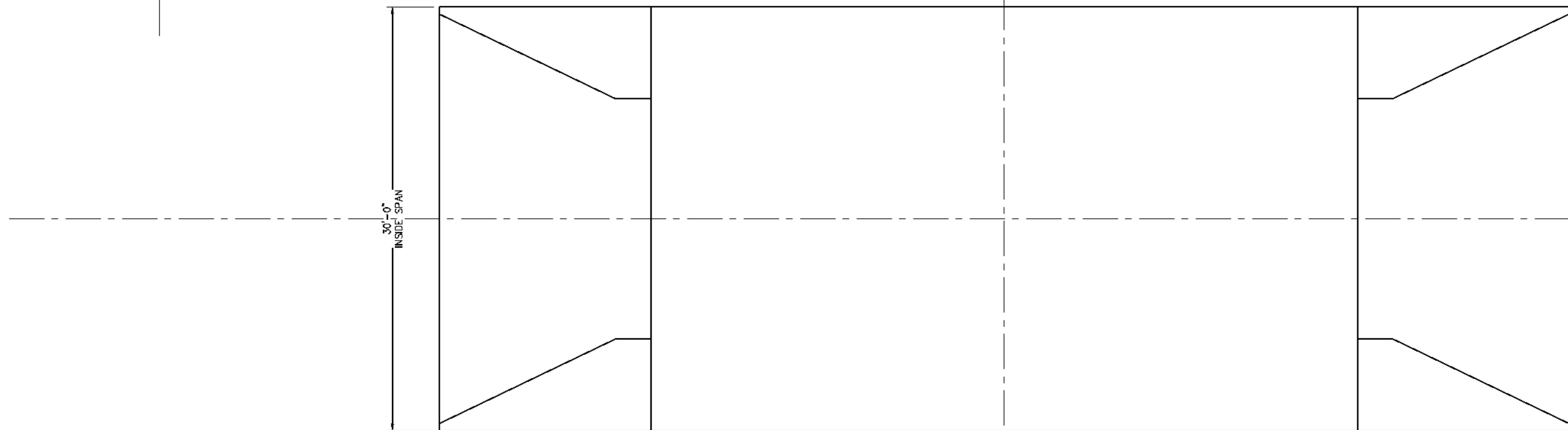
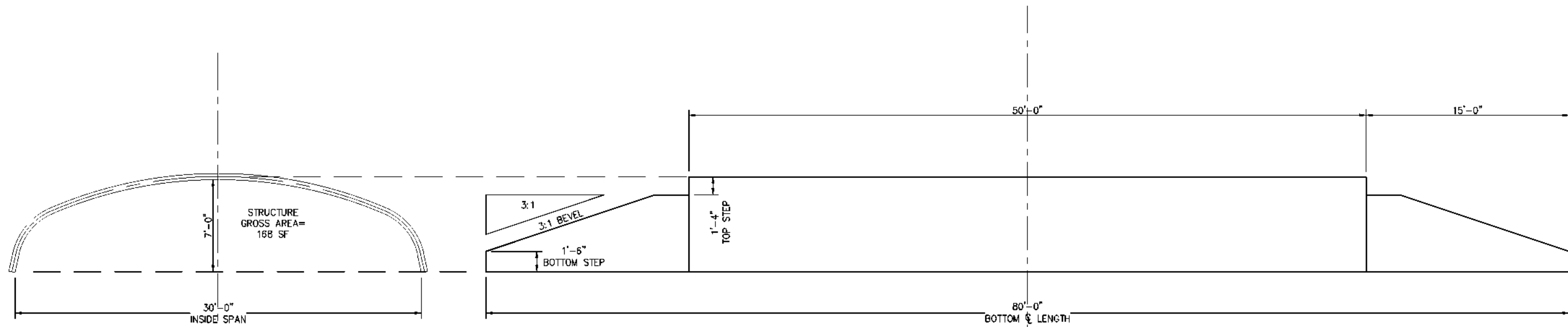
1. DURING CONSTRUCTION ACTIVITIES, CARE SHOULD BE TAKEN TO MAINTAIN POSITIVE DRAINAGE AT THE SITE TO ENSURE THAT WATER IS DIRECTED AWAY FROM EXCAVATIONS. BASED ON THE BORING INFORMATION AND PROXIMITY TO THE CREEK, IT APPEARS LIKELY THAT GROUNDWATER SEEPAGE WILL BE ENCOUNTERED IN EXCAVATIONS AT THIS SITE.
2. IT IS RECOMMENDED THAT GROUNDWATER CONTROL BE ESTABLISHED PRIOR TO EXCAVATING THE FINAL 2 FEET OF SOIL BELOW THE FOOTINGS. GROUNDWATER SEEPAGE IN COHESIVE SOILS CAN BE CONTROLLED BY PERMITTING IT TO DRAIN INTO TEMPORARY CONSTRUCTION SUMPS AND BE PUMPED OUTSIDE THE PERIMETER OF THE EXCAVATIONS. IN GRANULAR SOILS, IT MAY BE CONTROLLED WITH A SYSTEM OF WELL POINTS.
3. IF GROUNDWATER CONTROL IS LOST DURING CONSTRUCTION, DISTURBANCE OF THE UPPER INCHES TO FEW FEET BELOW GRADE IS POSSIBLE IN THE SOILS AT THE SITE. IN THESE CIRCUMSTANCES, IT WILL BE NECESSARY TO REESTABLISH GROUNDWATER CONTROL AND REMOVE THE DISTURBED SOILS. THE ENGINEER SHALL BE CONSULTED REGARDING THE EXTENT OF REMEDIAL ACTION NECESSARY.

1.

30'-0 x 7'-0 DEEP CORRUGATED STRUCTURAL  
 PLATE BURIED BRIDGE WITH CONCRETE FOUNDATION  
 STATION 7+15.00 7.5' SKEW L.A.  
 BURIED BRIDGE BACKFILL SECTION AND NOTES

WASHINGTON COUNTY,

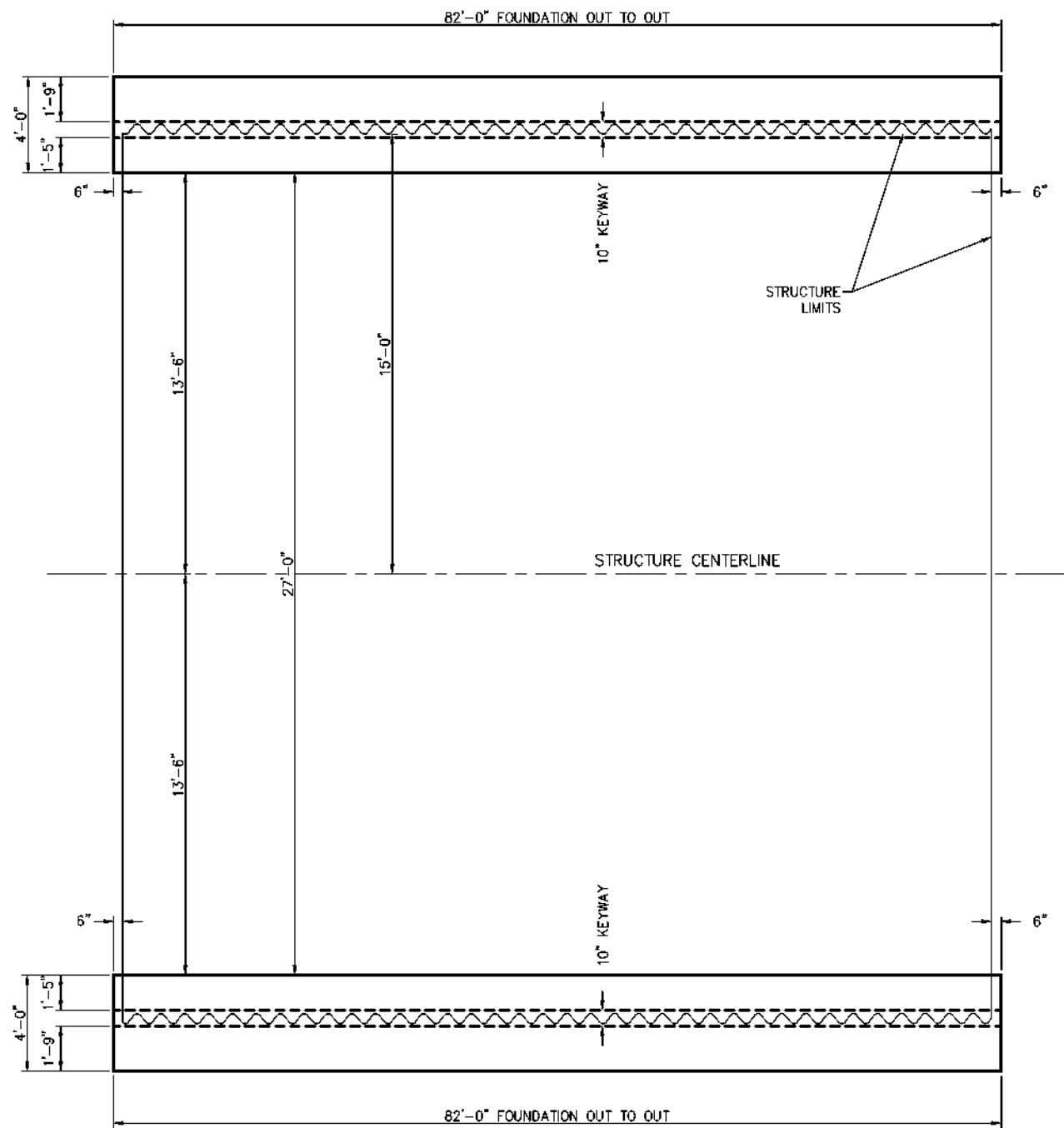
IOWA



30'-0 x 7'-0 DEEP CORRUGATED STRUCTURAL  
 PLATE BURIED BRIDGE WITH CONCRETE FOUNDATION  
 STATION 7+15.00 7.5° SKEW L.A.  
 BURIED BRIDGE GEOMETRY

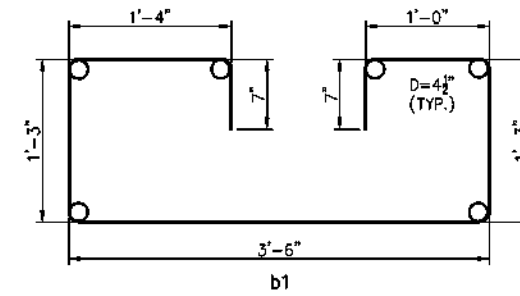
WASHINGTON COUNTY,

IOWA



FOUNDATION PLAN (NOT TO SCALE)

BENT BAR DETAILS



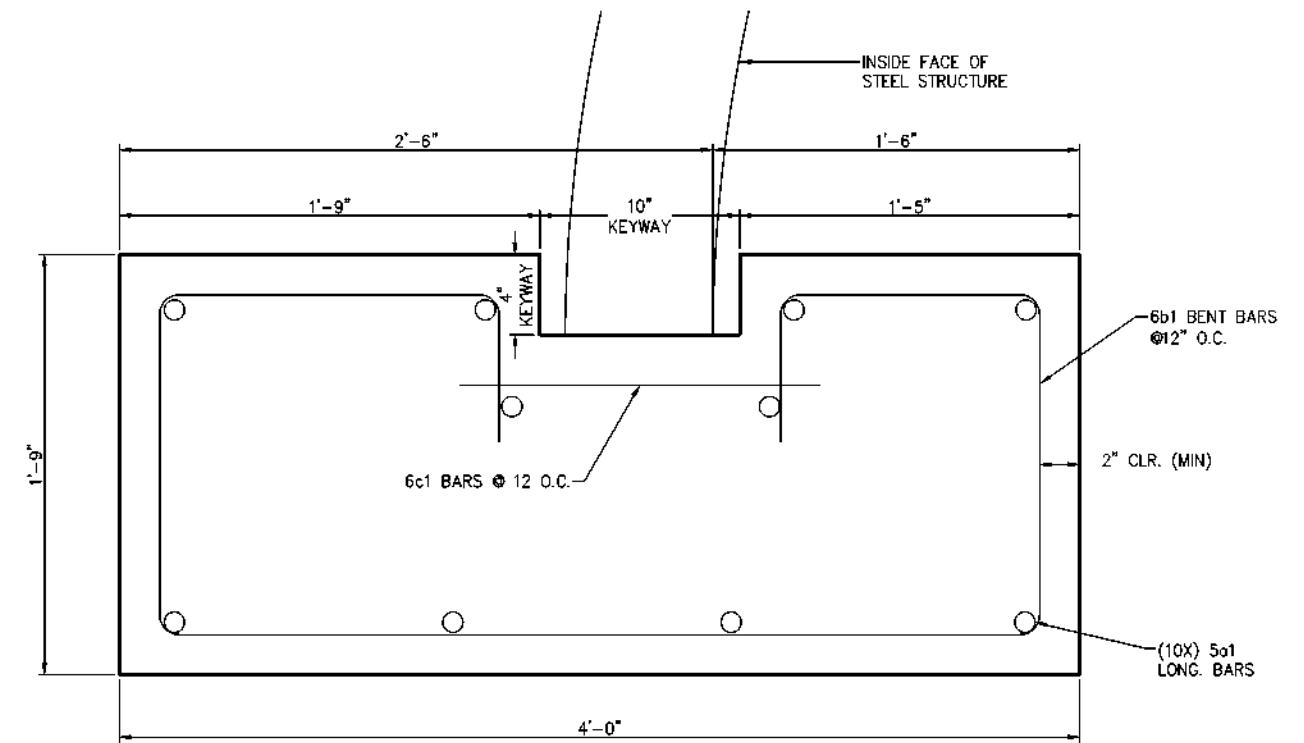
NOTE:  
ALL BAR DIMENSIONS ARE OUT TO OUT.  
D = PIN DIAMETER.

REINFORCING BAR LIST - FOOTING (FOR 2)

BAR	LOCATION	SHAPE	SPACING	NO.	LENGTH	WEIGHT
5c1*	FOUND. HORIZ., LONG	—	1'-6"	40	23'-3"	1738
6b1	FOUND. BENT		1'-0"	164	9'-6"	2340
6c1	FOUND. HORIZ., LAT	—	1'-0"	164	1'-6"	369
* 5c1 INCLUDES 2' OVERLAP						
(ACCOUNTS FOR BOTH FOOTINGS)					TOTAL (LBS.)	4447

CONCRETE PLACEMENT QUANTITIES

LOCATION	FOOTING	WALLS	TOTAL
2 @ FOUNDATION (20.4 CY EA.)	40.8	--	40.8
TOTAL (CU. YDS.)			40.8

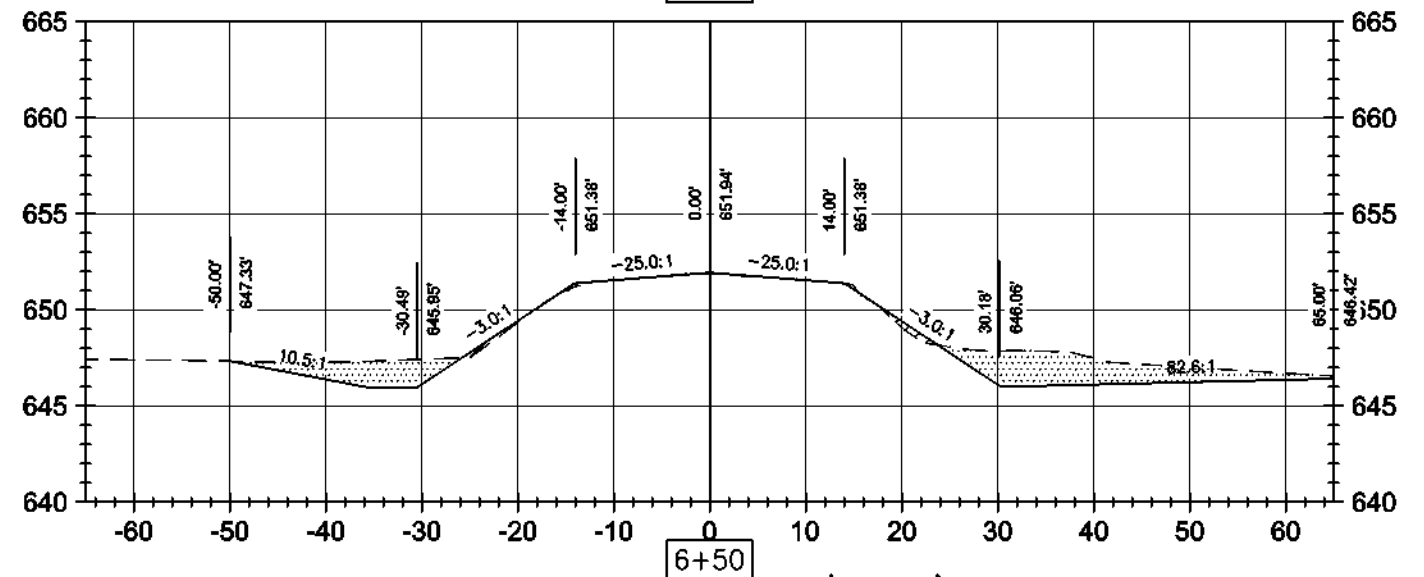
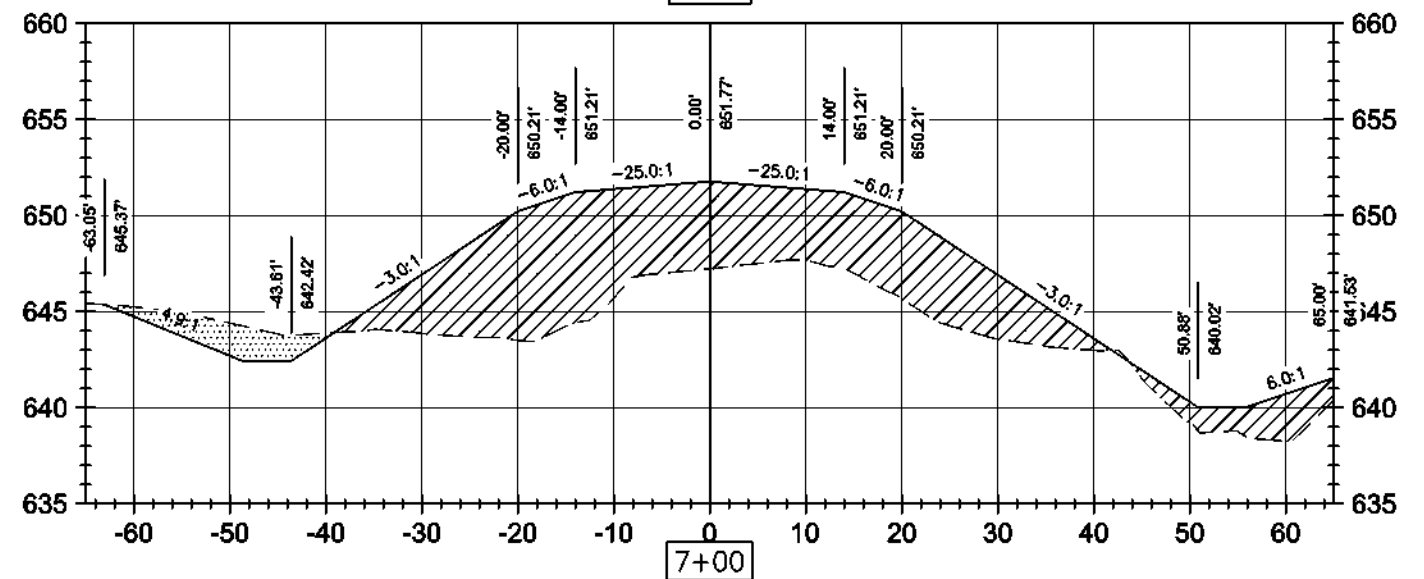
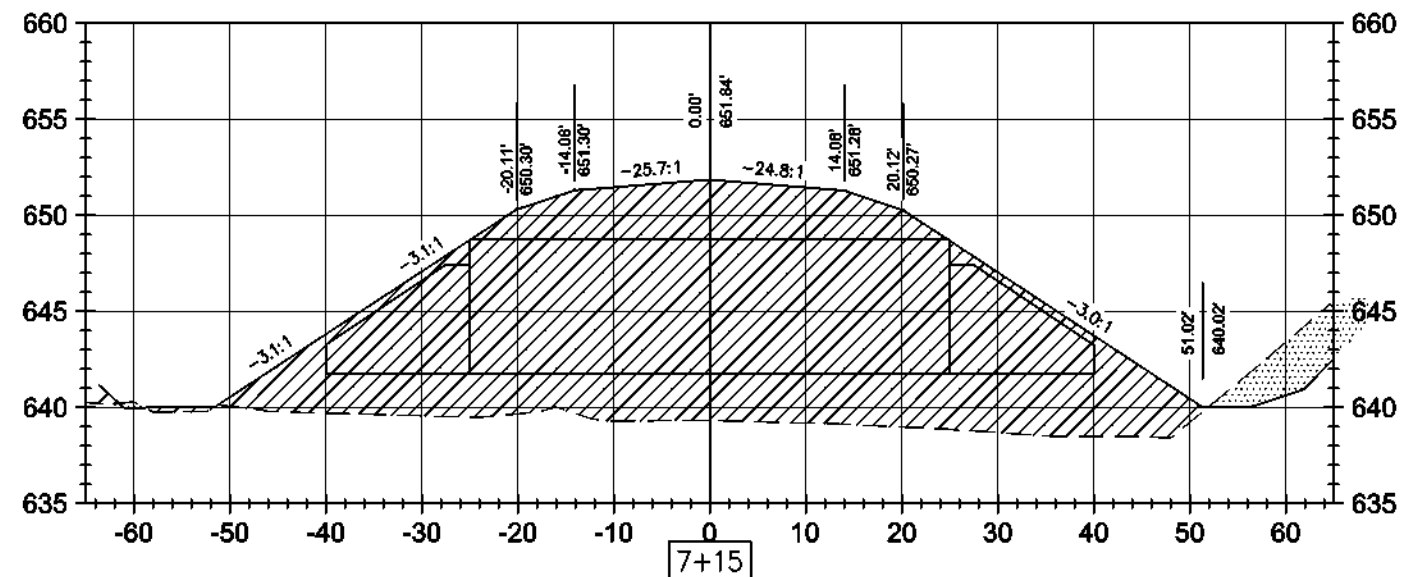
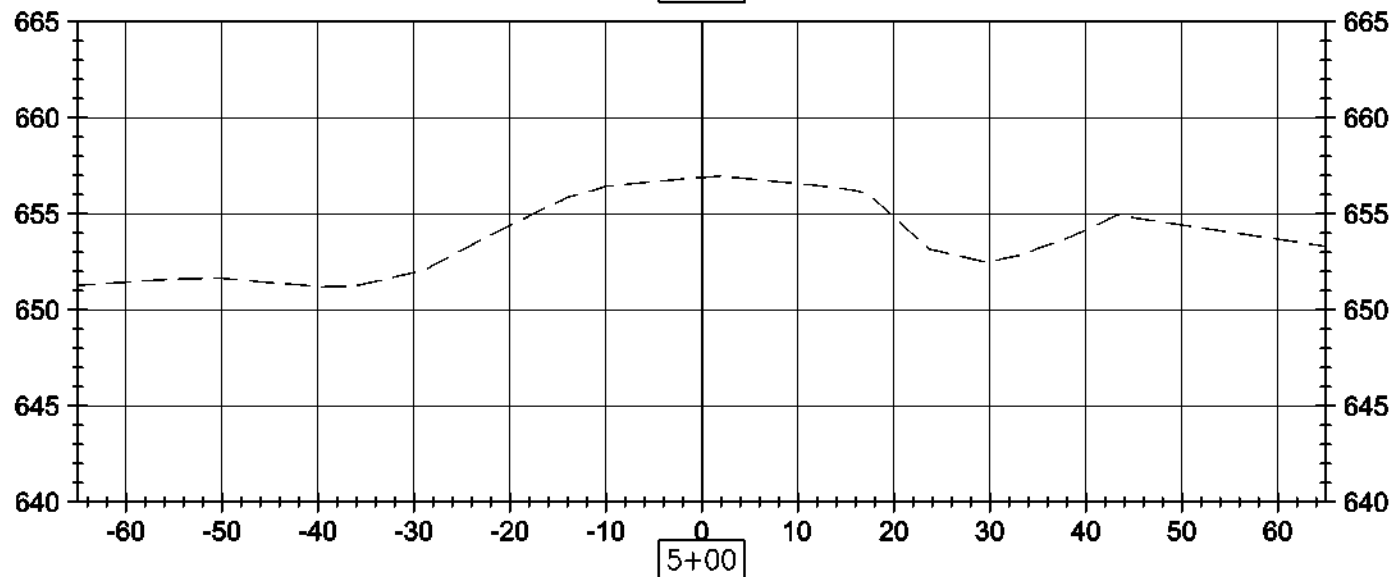
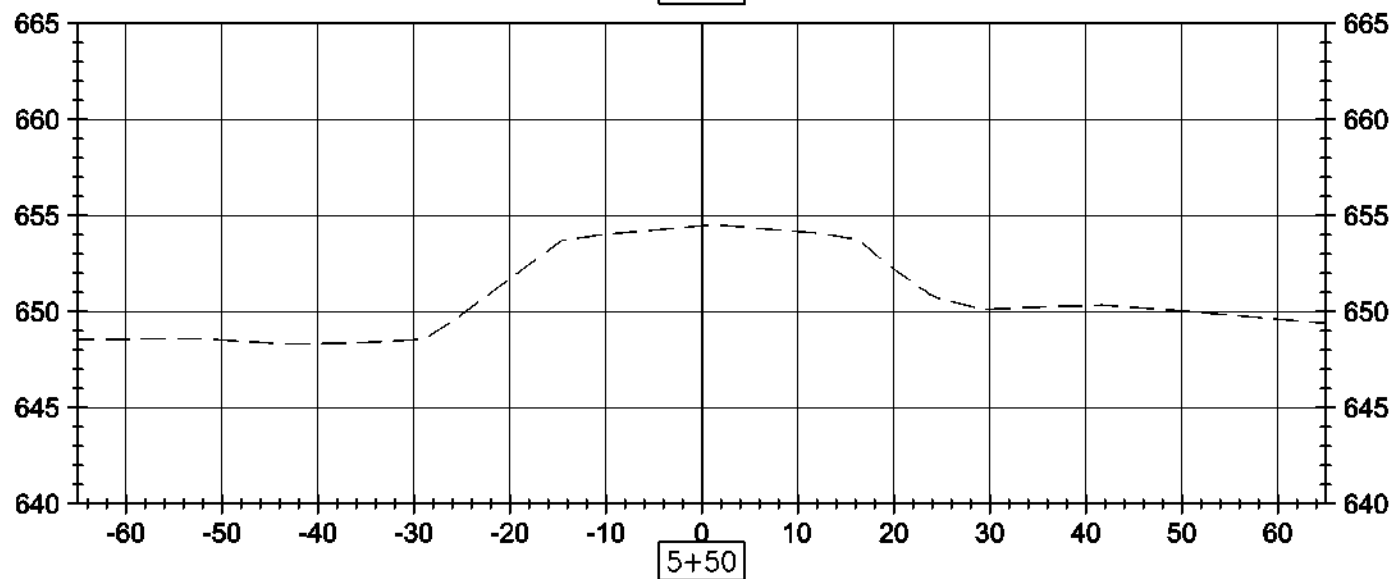
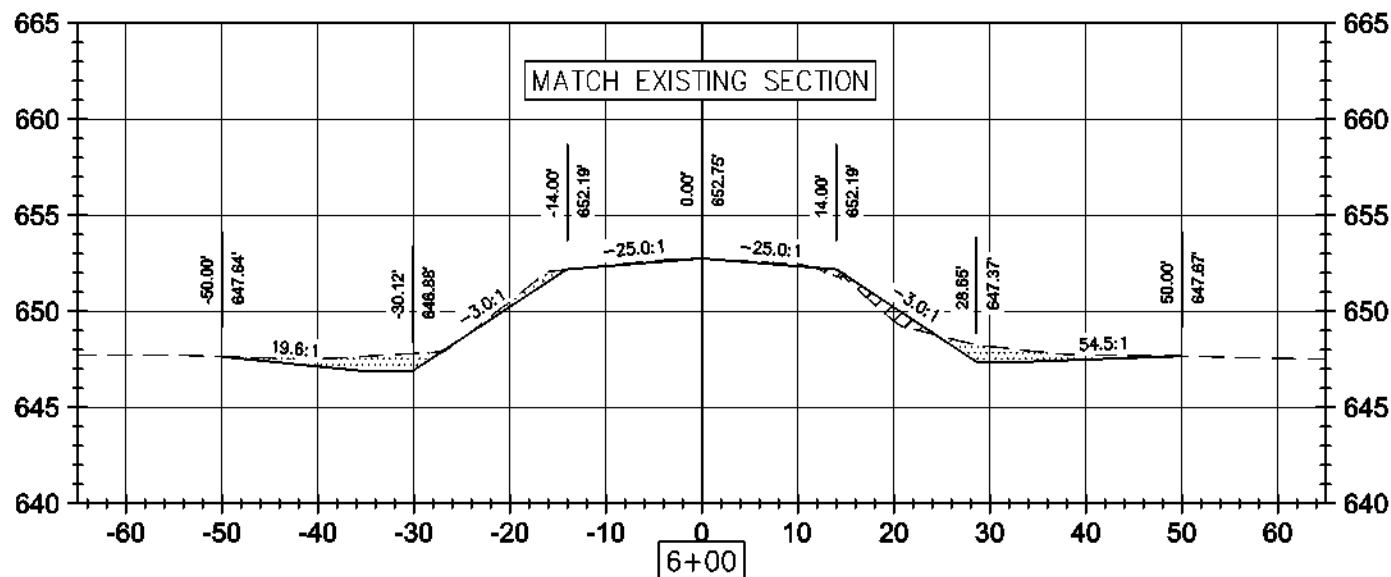


FOOTING CROSS SECTION (NOT TO SCALE)

30'-0 x 7'-0 DEEP CORRUGATED STRUCTURAL  
PLATE BURIED BRIDGE WITH CONCRETE FOUNDATION  
STATION 7+15.00 7.5° SKEW L.A.  
BURIED BRIDGE FOUNDATION

WASHINGTON COUNTY,

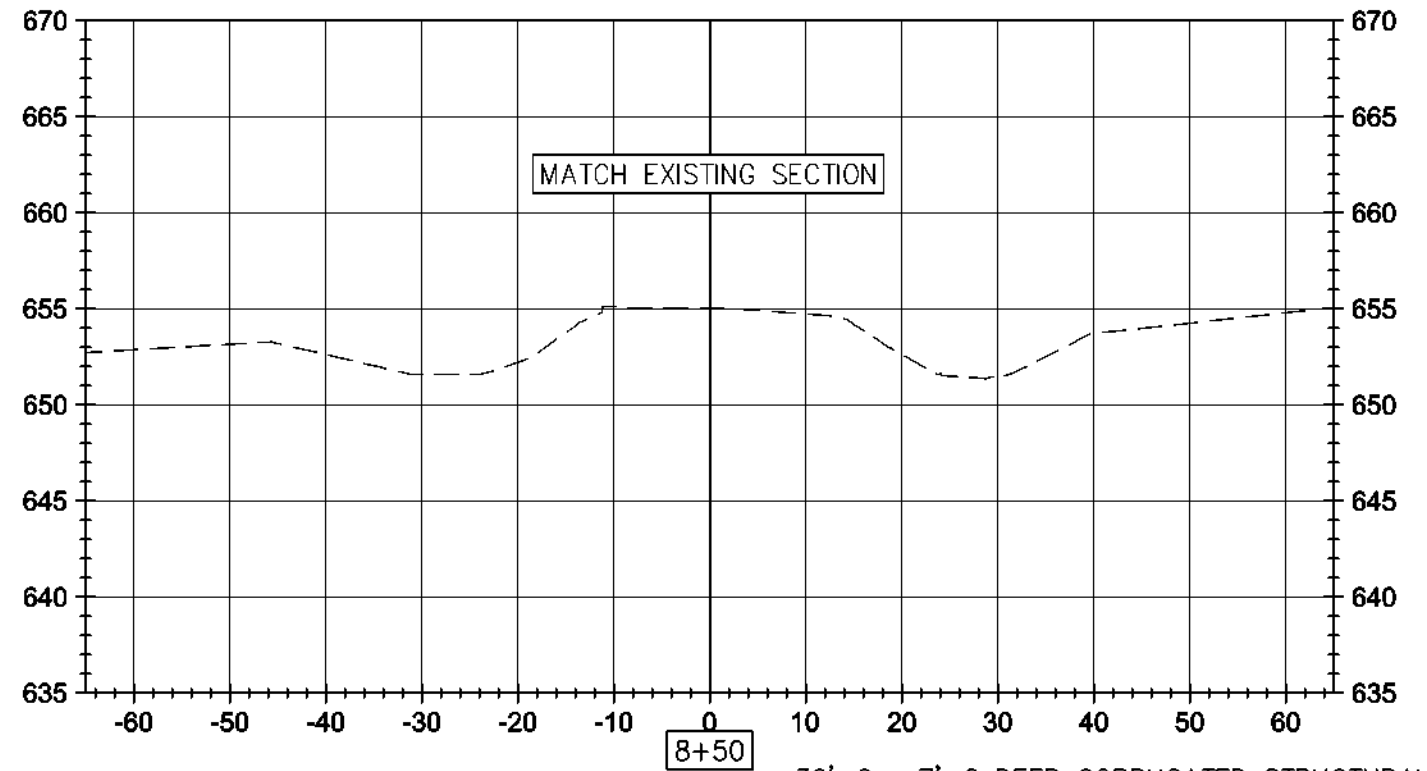
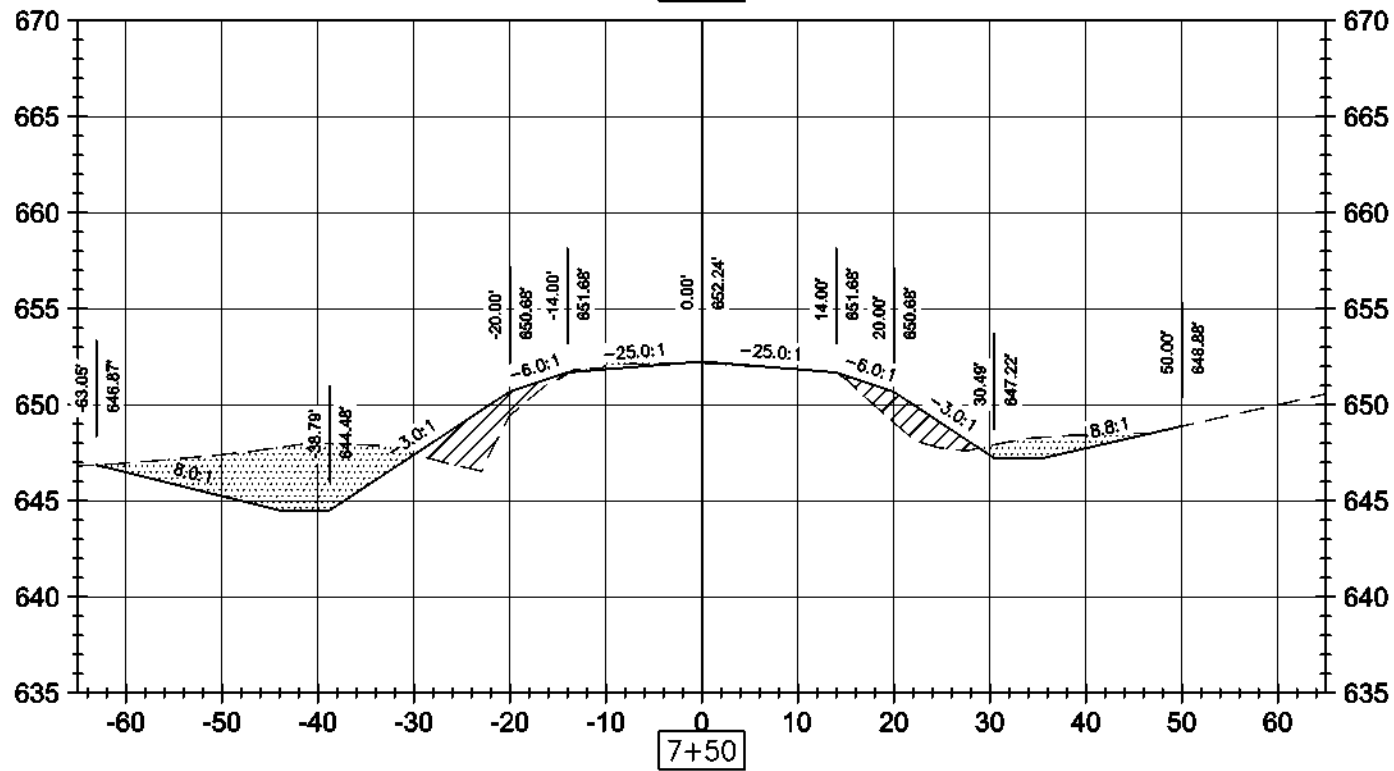
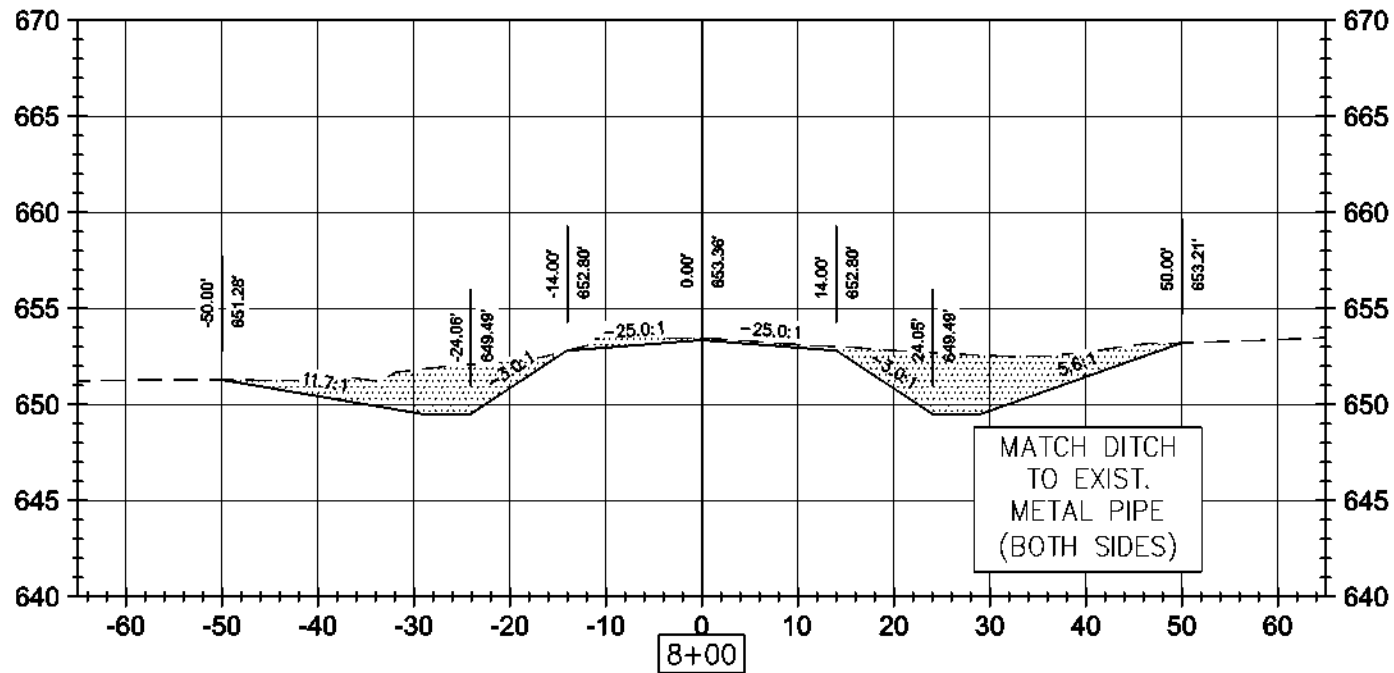
IOWA



30'-0" x 7'-0" DEEP CORRUGATED STRUCTURAL  
 PLATE BURIED BRIDGE WITH CONCRETE FOUNDATION  
 STATION 7+15.00 7.5' SKEW L.A.  
 ROADWAY CROSS SECTION  
 SCALE 1" = 20'

WASHINGTON COUNTY,

IOWA



30'-0 x 7'-0 DEEP CORRUGATED STRUCTURAL  
 PLATE BURIED BRIDGE WITH CONCRETE FOUNDATION  
 STATION 7+15.00 7.5' SKEW L.A.  
 ROADWAY CROSS SECTION  
 SCALE 1" = 20'

WASHINGTON COUNTY,

IOWA

## ▼ Section 0001

## ITEMS FOR A 30'-0 X 7'-0 X 50'-0 CORRUGATED STRUCTURAL PLATE BURIED BRIDGE WITH CONCRETE FOUNDATION

Line 0010	☆	2102-0425070	SPECIAL BACKFILL	460 TON
Line 0020	☆	2102-2710070	EXCAVATION, CL 10, RDWY+BORROW	507 CY
Line 0030	☆	2105-8425015	TOPSOIL, STRIP, SALVAGE+SPREAD	280 CY
Line 0040	☆	2312-8260051	GRANULAR SURF ON RD, CL A CR STONE	182 TON
Line 0050	☆	2401-6745625	RMVL OF EXISTING BRIDGE	1 LS
Line 0060	☆	2402-0425031	GRANULAR BACKFILL	250 TON
Line 0070	☆	2402-2720000	EXCAVATION, CL 20	210 CY
Line 0080	☆	2403-0100000	STRUCT CONC (MISCELLANEOUS)	40.8 CY
Line 0090	☆	2404-7775000	REINFORC STEEL	4,447 LB
Line 0100	☆	2507-3250005	ENGINEER FABRIC	530 SY
Line 0110	☆	2507-6800061	REVETMENT, CLASS E	340 TON
Line 0120	☆	2528-2518000	SAFETY CLOSURE	2 EACH
Line 0130	☆	2528-8445110	TRAFFIC CONTROL	1 LS

Line 0140	☆	2533-4980005	MOBILIZATION	1 LS
Line 0150	☆	2599-9999010	('LUMP SUM' ITEM) STRUCTURAL STEEL ARCH STRUCTURE	1 LS
Line 0160	☆	2601-2634100	MULCH	0.75 ACRE
Line 0170	☆	2601-2636043	SEED+FERTILIZE (RURAL)	0.75 ACRE
Line 0180	☆	2602-0000020	SILT FENCE	400 LF



**CONTRACTS AND SPECIFICATIONS BUREAU  
Proposal**

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**Proposal ID:** 92-C092-125

**Letting Date:** September 17, 2024

**Call Order:** 004

**Proposal Work Type:** BRIDGE REPLACEMENT - OTHER

**DBE Goal:** 0.0%

**Contracting Authority:** WASHINGTON COUNTY

**Proposal Guaranty:** \$25,000.00

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**This proposal includes the following project(s):**

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**Project Number:** BROS-C092(125)--8J-92

**County:** WASHINGTON

**Project Work Type:** BRIDGE REPLACEMENT - OTHER

**Route:** TUPELO BLVD

**Location:** On TUPELO BLVD, Over SMALL STREAM, S8 T77 R06

**Road System:** LOCAL SECONDARY ROAD

**Federal Aid - Wages:** Federal Aid - Predetermined Wages are in Effect

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## Contracts and Specifications Bureau

### Contract Time

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**Proposal ID:** 92-C092-125

**Call Order:** 004

**Letting Date:** September 17, 2024

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Site ID	Site Details			Liquidated Damages
00	Late Start Date	09/02/2025	50 WORK DAYS	\$1,000.00

(\*) - Indicates Cost Plus Time Site. See Schedule of Items for Cost Per Unit



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**Contracts and Specifications Bureau**

**Notes**

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**Proposal ID:** 92-C092-125

**Call Order:** 004

**Letting Date:** September 17, 2024

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**Notes :**

There are no notes for this proposal.

**Contracts and Specifications Bureau****Proposal Specifications List**

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**Proposal ID:** 92-C092-125**Call Order:** 004**Letting Date:** September 17, 2024

<b>Note</b>	<b>Description</b>
001.2023	<b>*** STANDARD SPECIFICATIONS -- SERIES 2023 ***</b> The Iowa Department of Transportation STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2023, plus applicable General Supplemental Specifications, Developmental Specifications, Supplemental Specifications AND Special Provisions shall apply to construction work on this contract.
500.07.2024	<b>*** WINTER WORK ***</b> Winter work will be allowed during the winter of 2024/2025. No working days will be charged between November 15, 2024 and April 1, 2025.
500.2025	<b>*** NO WINTER FREE TIME ***</b> The free time allowed between November 15 and April 1 will not be permitted on this project during the winter of 2025-2026. The Contractor shall work during the winter on all working days as defined in article 1101.03 'working day'.
FHWA-1273.09	<b>FHWA-1273: REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS – REVISED OCTOBER 23, 2023</b> 23 U.S.C. 133(i) requires application of Davis Bacon predetermined wages on certain projects on roads functionally classified as a local road or a rural minor collector. This supersedes the applicability described in FHWA-1273 Section IV.
GS-23002	<b>GENERAL SUPPLEMENTAL SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION</b>

Contracts and Specifications Bureau

Proposal Specifications List

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Proposal ID: 92-C092-125

Call Order: 004

Letting Date: September 17, 2024

Note	Description
IA24-81.0	<p>PREDETERMINED WAGE RATE - GENERAL DECISION NUMBER IA20240081 FOR HEAVY AND HIGHWAY CONSTRUCTION -- STATEWIDE (EXCEPT SCOTT COUNTY)</p> <p>Note: The Contractor shall review the contract documents and is responsible for identifying which zone(s), as defined in the Predetermined Wage Rate specification, apply to the work on the contract.</p> <p>*** Additional Requirement ***</p> <p>The Prime Contractor shall submit certified payrolls for itself and each approved Subcontractor weekly to the Project Engineer. The Contractor may use the Iowa D.O.T. Certified Payroll form or other approved form. The Contractor shall list the craft for each employee covered by the Predetermined Wage Rates. The Prime Contractor shall sign each of the Subcontractor's payrolls to acknowledge the submittal of the Certified Payroll.</p>



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Contracts and Specifications Bureau

Proposal Schedule of Items

Proposal ID: 92-C092-125

Call Order: 004

Letting Date: September 17, 2024

SECTION: 0001

ITEMS FOR A 30'-0 X 7'-0 X 50'-0 CORRUGATED STRUCTURAL PLATE BURIED BRIDGE WITH CONCRETE FOUNDATION

Proposal Line Number	Item Number Item Description	Item Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0010	2102-0425070 SPECIAL BACKFILL	460.000 TON	_____	_____	_____	_____
0020	2102-2710070 EXCAVATION, CLASS 10, ROADWAY AND BORROW	507.000 CY	_____	_____	_____	_____
0030	2105-8425015 TOPSOIL, STRIP, SALVAGE AND SPREAD	280.000 CY	_____	_____	_____	_____
0040	2312-8260051 GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE	182.000 TON	_____	_____	_____	_____
0050	2401-6745625 REMOVAL OF EXISTING BRIDGE	LUMP SUM	LUMP SUM		_____	_____
0060	2402-0425031 GRANULAR BACKFILL	250.000 TON	_____	_____	_____	_____
0070	2402-2720000 EXCAVATION, CLASS 20	210.000 CY	_____	_____	_____	_____
0080	2403-0100000 STRUCTURAL CONCRETE (MISCELLANEOUS)	40.800 CY	_____	_____	_____	_____
0090	2404-7775000 REINFORCING STEEL	4,447.000 LB	_____	_____	_____	_____
0100	2507-3250005 ENGINEERING FABRIC	530.000 SY	_____	_____	_____	_____
0110	2507-6800061 REVTMENT, CLASS E	340.000 TON	_____	_____	_____	_____
0120	2528-2518000 SAFETY CLOSURE	2.000 EACH	_____	_____	_____	_____



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Contracts and Specifications Bureau

Proposal Schedule of Items

Proposal ID: 92-C092-125

Call Order: 004

Letting Date: September 17, 2024

SECTION: 0001

ITEMS FOR A 30'-0 X 7'-0 X 50'-0 CORRUGATED STRUCTURAL PLATE BURIED BRIDGE WITH CONCRETE FOUNDATION

Proposal Line Number	Item Number Item Description	Item Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0130	2528-8445110 TRAFFIC CONTROL	LUMP SUM	LUMP SUM		_____	_____
0140	2533-4980005 MOBILIZATION	LUMP SUM	LUMP SUM		_____	_____
0150	2599-9999010 (LUMP SUM ITEM) STRUCTURAL STEEL ARCH STRUCTURE	LUMP SUM	LUMP SUM		_____	_____
0160	2601-2634100 MULCHING	0.750 ACRE			_____	_____
0170	2601-2636043 SEEDING AND FERTILIZING (RURAL)	0.750 ACRE			_____	_____
0180	2602-0000020 SILT FENCE	400.000 LF			_____	_____
<b>Section: 0001</b>			<b>Total:</b>		_____	_____
			<b>Total Bid:</b>		_____	_____