SP- 159004
(New)

SPECIAL PROVISIONS
FOR
REMOVAL OF EXISTING STRUCTURES

ALLAMAKEE COUNTY
STP-009-9(84)--2C-03

Effective Date
August 1, 2023

THE STANDARD SPECIFICATIONS, SERIES 2015, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

159004.01 DESCRIPTION.
This work shall consist of removal and disposal of the existing IA 9 Bridge over the Mississippi River, removal of the two pier protection dolphins located upstream of the existing bridge, removal of scour protection revetment, and submitting a detailed removal plan. Also included in the work is salvage of specific items. Removal shall be in accordance with Section 2401 of the Standard Specifications except as modified by these Special Provisions, in compliance with the plans, all project permits, and as directed by the Engineer. Except for items indicated for salvage this work includes complete removal and disposal of the entire superstructure, east abutment, piers to limits described herein, and miscellaneous items appurtenant to the structures, including but not limited to electrical systems and service, lighting, signs, bridge expansion joint materials and anchorages, reinforcing steel, railings, drainage system components, and bearings. Structure excavation, including in-stream and out-of-stream work, required for the removal of structures, dolphins and revetment and the necessary backfilling shall be included in this item. Coordination with the removal and/or re-grading of adjacent existing approach roadways shall also be included in this item.

159004.02 MATERIALS.
None.

159004.03 CONSTRUCTION.

A. Removals
Extent and limitations of removals are as follows:

1. General

a. The existing IA 9 Bridge over the Mississippi River shall not be removed until after construction of the proposed IA 9 Bridge over the Mississippi River and after the IA 9 traffic has been shifted to the new bridge. The existing structures are to be removed within the time frame of opening the new bridge to traffic per the US Coast Guard (USCG) permit conditions and any deviation shall be coordinated with the USCG via the Engineer.

b. Removal of the existing pier protection dolphins may commence prior to shifting traffic to the proposed IA 9 Bridge over the Mississippi River, should they impede the Contractor's site access and as long as the Contractor submits a separate removal plan for these items that meets the requirements of Article 159004.03, B, and the removal plan has been approved by the Engineer.

c. Traffic on the adjacent new IA 9 Bridge shall be maintained and protected during removal of the existing structures.

d. Demolition debris in the river may cause changes in the river currents and drainage patterns. The Contractor shall not leave demolition debris in the river for more than 7 days. The navigation channel shall be cleared per the USCG permit.

e. The proposed method and schedule for removal shall be submitted to the USCG District Commander for approval and approved prior to commencing such removal.

f. Following removal, the waterway shall be cleared to the satisfaction of the USCG District Commander. See also the requirements of Article 159004.03, D.

2. Bridge Superstructure

a. The entire bridge superstructure and miscellaneous items appurtenant to the bridge, including but not limited to the entire electrical systems and service, lighting, signs, bridge expansion joint materials and anchorages, reinforcing steel, railings, drainage system components, and bearings shall be removed.

b. Except for the portions of the bridge superstructure identified for salvage in Articles 159004.03, F, and G, and H, the bridge superstructure shall be considered unfit for re-erection when considering demolition methods in accordance with Article 2401.03, D, 3, of the Standard Specifications.

c. Explosives may be allowed for dropping the truss span into the river if approved by all stakeholders. If the truss span is dropped into the river all material must be removed from the river. Dropping the truss spans into the river via explosive demolition shall only be performed during the non-navigation season, which is approximately the months of December through February unless otherwise approved by the USCG.

d. The truss span over the railroad will not be allowed to be dropped on the railroad tracks. Railroad operations shall be maintained at all times during demolition unless otherwise approved by the railroad.

e. A protective shield shall be provided over the full length and width of the river navigation span and the limits of railroad right-of-way during removal operations.

3. Piers, Protection Cells, and Revetment

All elevations herein are given to NAVD 88 datum. Pier and revetment removal limits are as follows:

a. Piers 1, 5, 6, 7, and 8 shall be removed to 1 foot below finished ground.

b. Pier 2, the west protection cell (dolphin), the revetment identified as West Revetment in Figure 2, and all foreign material within the limits of the navigation channel shall be removed down to elevation 604.3.

c. Pier 3, the east protection cell (dolphin), and the revetment identified as East Revetment in Figure 2 shall be removed down to elevation 613.

d. Between the East Revetment and the east river bank the river channel may be left as existing, except Pier 4 shall be removed to 1 foot below the natural streambed.

B. Removal Plan

1. No less than 90 days prior to beginning removal work, the Contractor performing the work shall submit a removal plan certified by a Professional Engineer licensed in the State of Iowa. The engineer shall sign and seal the removal plan, drawings, and calculations. Work in the field shall not proceed until the submittal is accepted by the Engineer.

2. The demolition plan shall be complete in detail for all phases, stages, and conditions anticipated during demolition. The demolition plan shall include supporting documentation

necessary to completely describe and document the means, methods, temporary support positions, and loads necessary to safely perform the removals.

3. Article 1107.18, C, of the Standard Specifications shall apply.

C. Coordination With USCG

Removal of existing structures requires a Plan of Operations for maintenance of navigation approved by the USCG. The Special Provisions for Maintenance of Navigation shall apply.

D. Coordination With U.S. Army Corps of Engineers (USACE)

When the Contractor reports to the Engineer that removal work is complete, the Engineer will request for USACE to perform a check survey to confirm removals have been performed to the required limits. The Contractor shall remain mobilized to perform removals until check surveys confirm that material has been removed to the limits prescribed in Article 159004.03, A, 3. The Contractor shall plan their work schedule with the understanding that USACE's check survey will require three weeks prior notice, requires open water (i.e. no ice cover) to perform, and no additional payment will be made for the Contractor to remain mobilized until the final check survey is complete and USACE has confirmed removals have been performed to the prescribed limits.

E. Coordination With DM&E Railroad

Developmental Specification DS-15088 Construction or Maintenance Work on Railroad Right-of-Way (Dakota, Minnesota, & Eastern Railroad Corporation dba Canadian Pacific) shall apply.

F. Truss Salvage – Items for City of Lansing

The complete west truss panel and portion of the adjacent panel shall be preserved and become the property of the City of Lansing for use as a historical exhibit. The salvage elements shall include both trusses, lateral bracing, floor system, deck, and railing. This portion of the existing bridge consists of truss nodes L0, L1, U1, and enough of the adjacent panel to preserve the nodes and members at L1 and U1. The cutline is given in Figure 3. These cuts are to be made by the Contractor's means and methods to not damage the salvaged panel.

Once the panel is disconnected from the existing bridge, the Contractor shall notify the Engineer who shall notify the City. The City shall have 30 days to remove it from the Contractor's storage. The disassembly shall be approved by the Engineer and shall be to no more extent than required for handling and transporting the panel. The City is responsible for retrieving the panel from Contractor's storage, transporting, and reassembling the panel at an offsite location.

G. Truss Salvage – Items for Iowa DOT

Two structural pins with connecting pin plates, and two eyebar ends shall be preserved and become the property of the Iowa DOT. The pins and pin plates shall come from any of the suspended span supports. The eyebars shall come from any location on the truss. Once the material has been salvaged, the Contractor shall notify the Engineer. The Contracting Authority shall have 30 days to remove it from the Contractor's storage.

H. Truss Salvage – Items for S-Brite

The items listed below shall be preserved and become the property of S-Brite. Once the material has been salvaged, the Contractor shall notify the Engineer who shall notify S-Brite. S-Brite shall have 30 days to remove the items from the Contractor's storage.

1. Two 6 foot by 6 foot sections of the grid deck. It is preferable, but not required, to salvage grid deck sections that have cracked members.

2. Five full-length eyebars with the associated connecting pins. If the Engineer determines that full-length eyebars are not practical to salvage, then the Engineer may instead direct the

Contractor to salvage five eyebar sections consisting of 8 feet of eyebar with one end and the associated connecting pin.

I. Existing Plans

Existing bathymetric survey is attached as Figures 1 and 2. Electronic copies are available to the Contractor by the Contracting Authority upon the Contractor's request. Available plans for the existing bridge will be made available to the Contractor by the Contracting Authority upon the Contractor's request.

159004.04 METHOD OF MEASUREMENT.

Lump sum. No measurement will be made.

159004.05 BASIS OF PAYMENT.

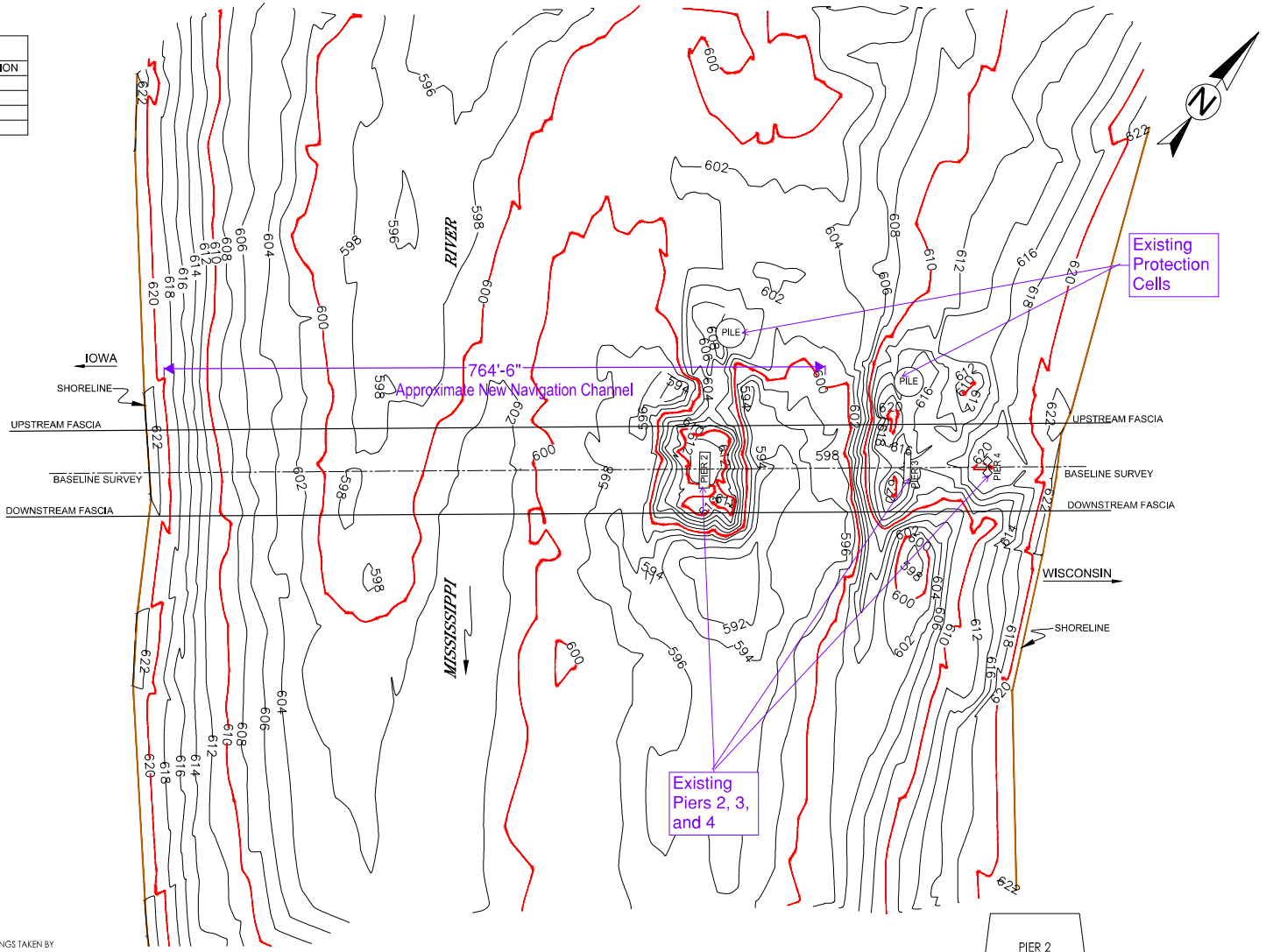
All removal work, salvaging items, storing of salvage for 30 days, and the Removal Plan shall be paid for lump sum by the pay item Removal of Existing Bridge. The Special Provisions for Maintenance of Navigation shall apply for all costs related to Maintenance of Navigation and coordination with USCG.

Figure 1

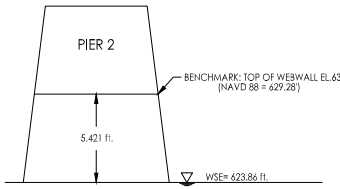
MAXIMUM WATER DEPTH READINGS			
CHANNEL CROSS SECTION	WATER DEPTH	ELEVATION	APPROXIMATE LOCATION
1000 FT UPSTREAM	26.32	597.54	340' FROM E SHORE
1500 FT UPSTREAM	22.10	601.76	769' FROM E SHORE
1000 FT DOWNSTREAM	27.47	596.39	520' FROM W SHORE
1500 FT DOWNSTREAM	25.40	598.46	433' FROM W SHORE

LEGEND:

10 MAJOR CONTOUR
2 MINOR CONTOUR



BATHYMETRIC SURVEY



BENCHMARK DETAIL
N.T.S.

NOTE:

1.THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF MEASUREMENTS AND SOUNDINGS TAKEN BY CONSOR ENGINEERS, AUGUST 03, 2020. THIS DRAWING CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. THIS CONTOUR PLAN IS INTENDED TO IDENTIFY CHANNEL BOTTOM IRREGULARITIES AND IS NOT INTENDED TO BE USED FOR DESIGN PURPOSES.
2. ALL CHANNEL BOTTOM ELEVATIONS ARE REFERENCED TO A VERTICAL BENCHMARK LOCATED AT THE PIER 2.

BENCHMARK ELEVATION = 629.28 ft.
DISTANCE TO WATER SURFACE = 5.42 ft.
08/03/2020 WATER SURFACE ELEVATION = 623.86 ft.

3.THE LIMITS OF THIS CONTOUR PLAN EXTEND 500 ft. UPSTREAM AND DOWNSTREAM OF THE BRIDGE FASCIAS.
4. THE CONTOUR INTERVAL ON THIS PLAN IS 2.0 ft.
5. ALL BRIDGE DIMENSIONS ARE APPROXIMATE.
6. NORTH ORIENTATION IS APPROXIMATE.
7.FATHOMETER DATA IS ACCURATE TO ± 1.0 ft.
8.CARLSON CIVIL WAS USED IN THE PRODUCTION OF THIS SURVEY.
9.BOAT LAUNCH: ½ MILE EAST OF BRIDGE IN SLOUGH.
10.BASE MAP INFORMATION SHOWN ON THIS DRAWING SHALL BE CONSIDERED APPROXIMATE.
11.EQUIPMENT USED:: SOUNDINGS WERE OBTAINED USING A 200 KHZ SINGLE BEAM ECHOSOUNDER, TRIMBLE 5603 DR200+ ROBOTIC STATION.

SURVEYD BY: RP	GRAPHIC SCALE MEASURED IN FEET	CONSOR	DATE	IOWA DOT	IA 9 OVER MISSISSIPPI RIVER BRIDGE NO. 0396.1S009	
DRAWN BY: TD	Scale: 1"= 60'	609 S. Kelly Ave., Suite J-1 Edmond, Oklahoma 73003 PH: 281.493.4140	AUG 03,2020		BATHYMETRIC SURVEY	PAGE A-1
CHEKED BY: TV						

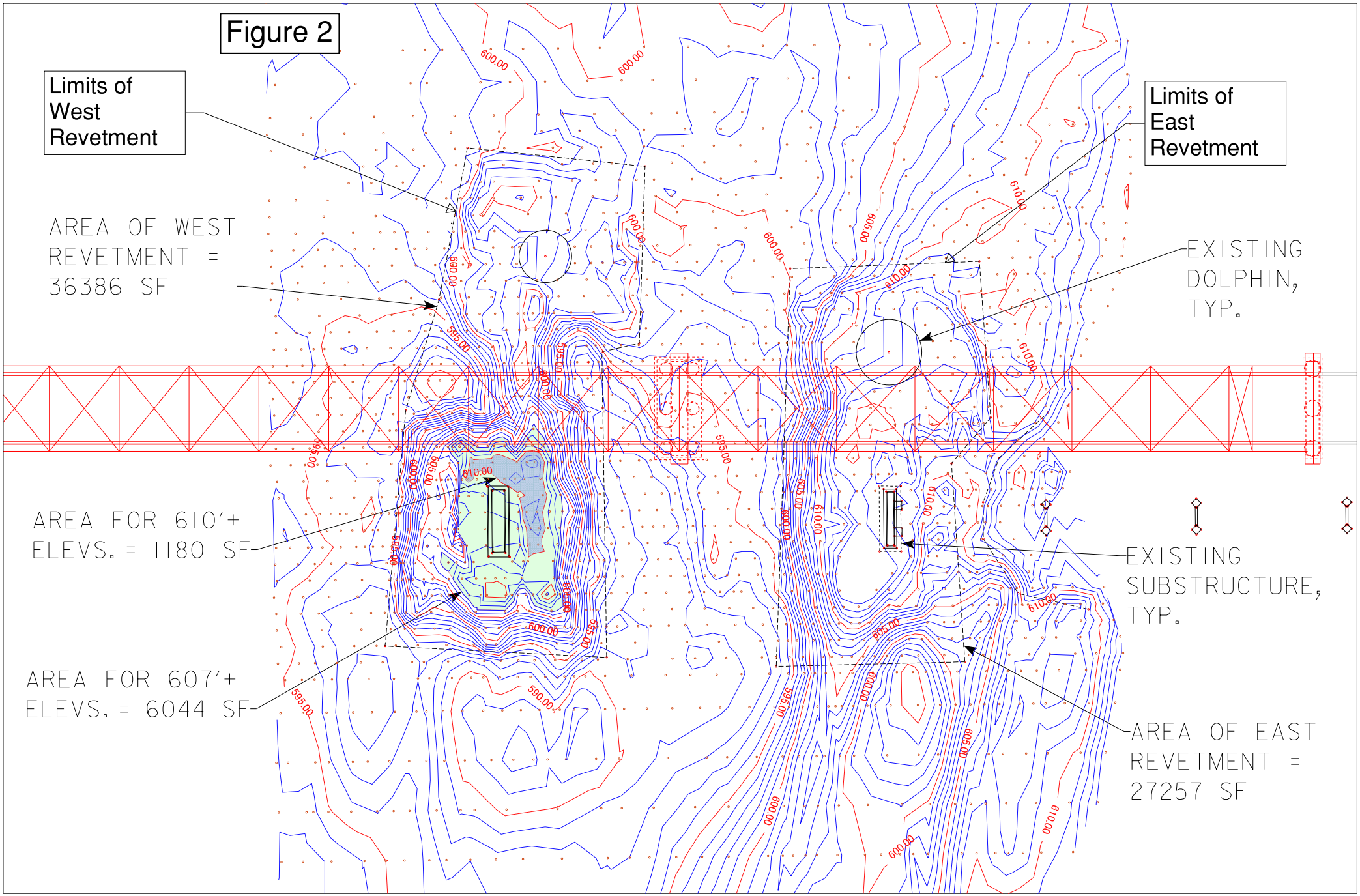
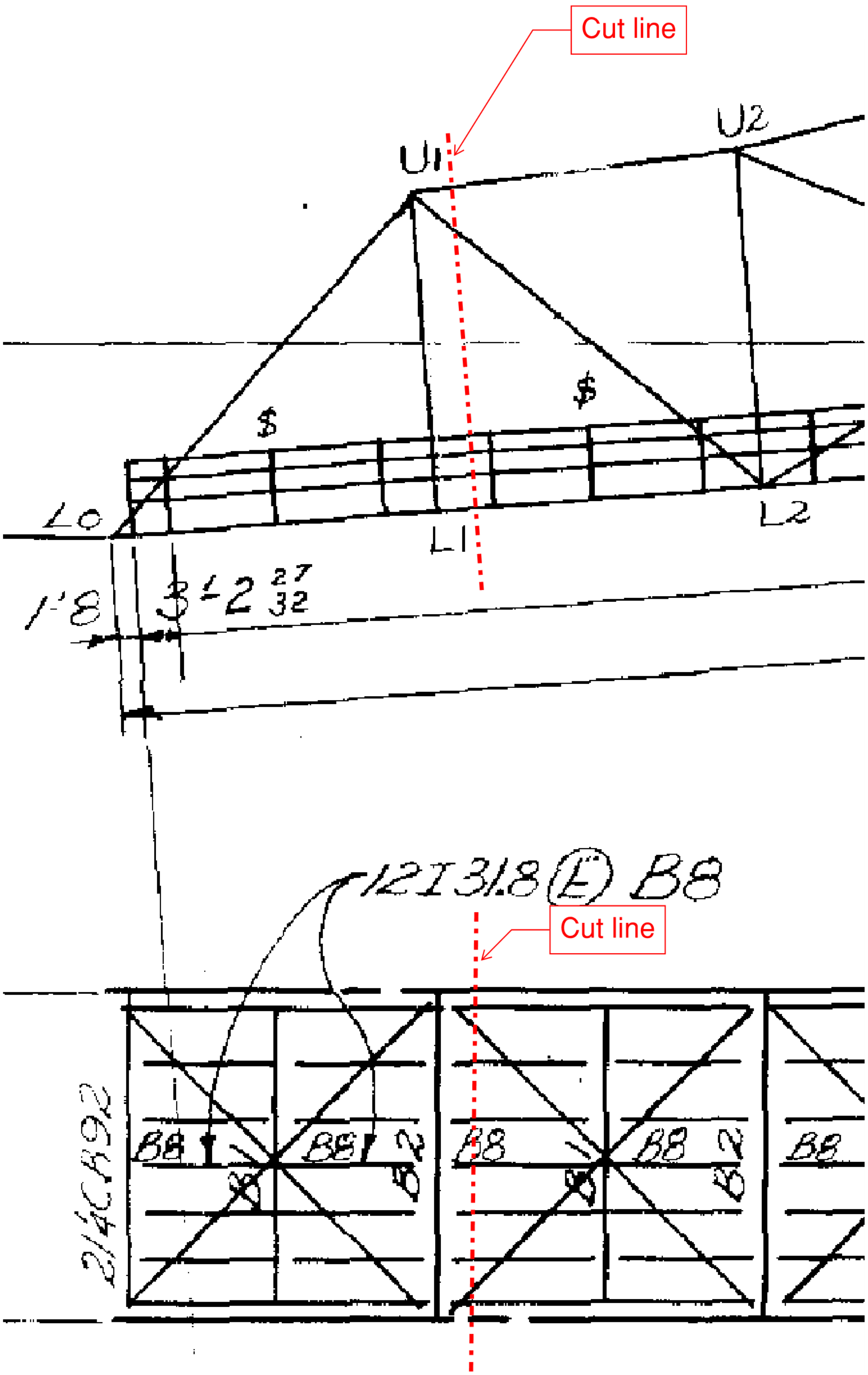


Figure 2
Limits of West Revetment
Limits of East Revetment
AREA OF WEST REVETMENT = 36386 SF
EXISTING DOLPHIN, TYP.
AREA FOR 610'+ ELEVS. = 1180 SF
EXISTING SUBSTRUCTURE, TYP.
AREA FOR 607'+ ELEVS. = 6044 SF
AREA OF EAST REVETMENT = 27257 SF

Figure 3


Cut line
U1
U2
L0
L1
L2
1'-8
3'-2 27/32
12I31.8 (E) B8
Cut line
B8
B8
B8
B8
B8
2 1/4 CR92