

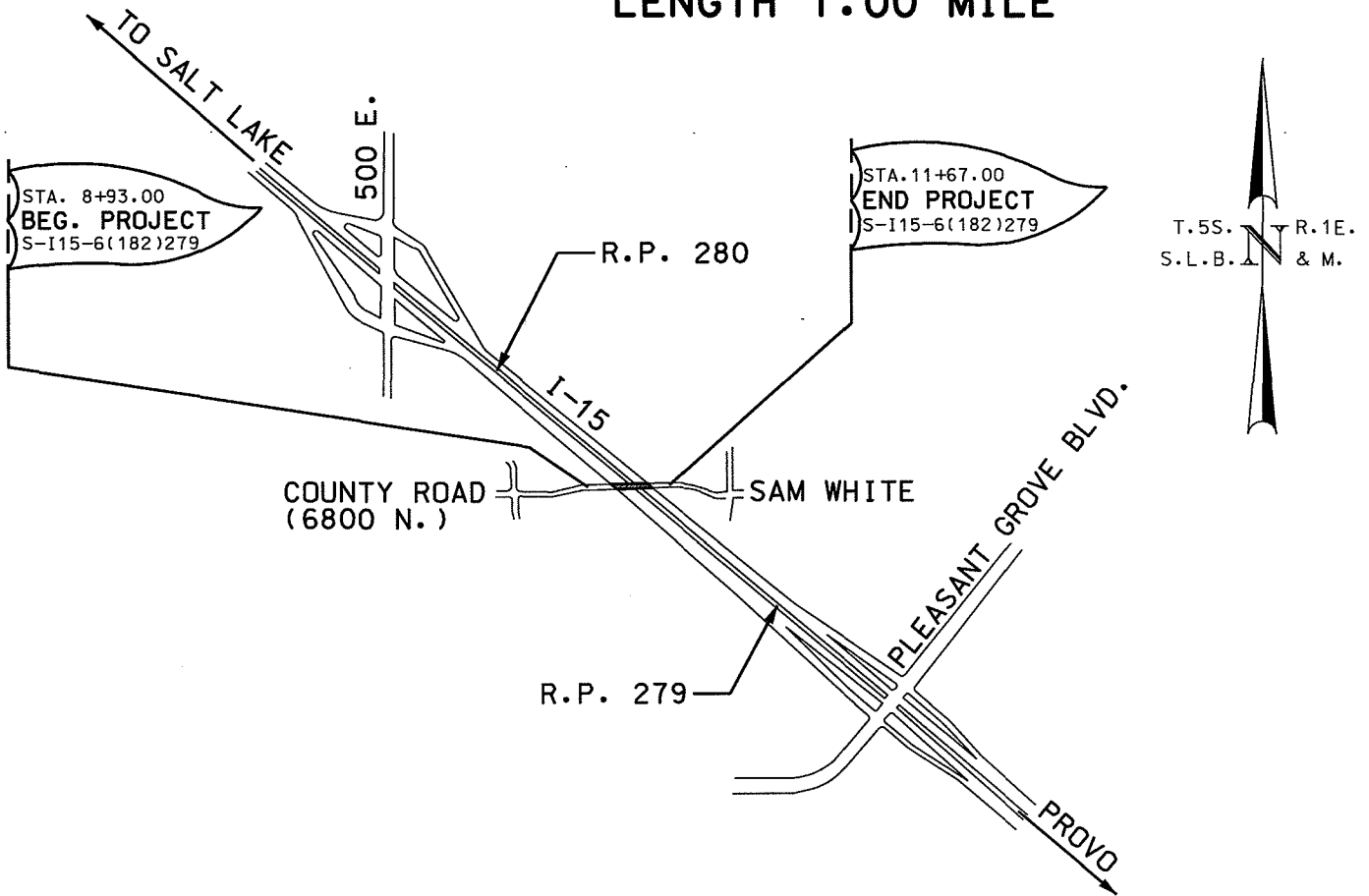
# UTAH DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED STATE ROAD  
PROJECT FUNDING SOURCE

S-I15-6(182)279

SAM WHITE STRUCTURE OVER I-15  
DEMOLITION  
UTAH COUNTY

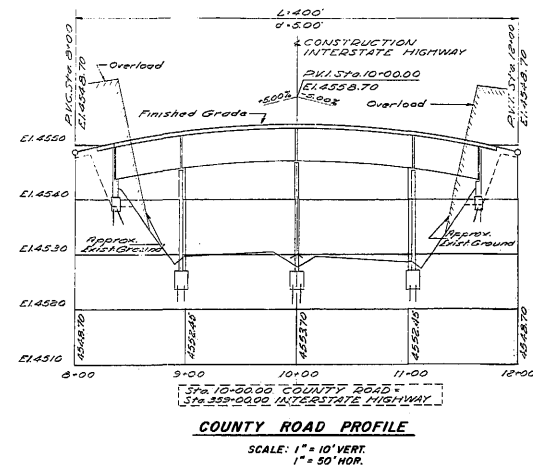
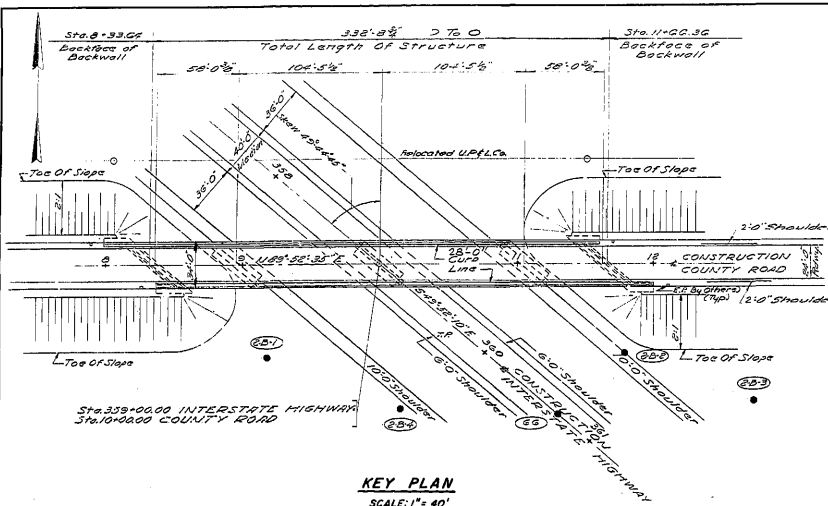
LENGTH 1.00 MILE



U.S. Standard Units  
(Inch-Pound Units)

ALL UNITS IN FEET UNLESS  
OTHERWISE NOTED





| ESTIMATE OF QUANTITIES |                                   |             |           |
|------------------------|-----------------------------------|-------------|-----------|
| NO.                    | ITEM                              | QUANTITIES  | AS CONST. |
|                        | EXCAVATION FOR STRUCTURES (UNCL)  | 433 Cu Yd   | 711.3     |
|                        | REIN. CONC. SLAB PROTECTIVE       | 3676.00 Lb  |           |
|                        | MECHANICAL TAMPING                | 30 Hr.      | 91        |
|                        | CONCRETE CLASS "A" (C)            | 838 Cu Yd   | 804.13    |
|                        | REINFORCING STEEL                 | 175025 Lb   | 325.635   |
|                        | STRUCTURAL STEEL                  | 317443 Lb   |           |
|                        | FURNISHING PILE DRIVING EQUIPMENT | 1 Lump      |           |
|                        | TEST FILE                         | 106 Lin Ft  | 248       |
|                        | LOAD TESTING                      | 1 Each      |           |
|                        | PILE (OTHER THAN TIMBER)          | 4203 Lin Ft | 6186      |
|                        | METAL RAILING 2 RAIL              | 740 Lin Ft  | 735       |
|                        | 3" RIGID STEEL CONDUIT            | 370 Lin Ft  | 371       |

**GENERAL NOTES**

**DESIGN SPECIFICATIONS:**  
AASHTO Standard Specification for Highway Bridges, 1961 Edition.

**CONSTRUCTION SPECIFICATIONS:**  
Materials, Construction and Workmanship Shall Be in Accordance With The State Standard Specifications for Road and Bridge Construction, 1960 Edition and Supplements Thereof Which Are in Effect At The Date Of Request For Bid.

**LIVE LOAD:**  
HS-20-44 Live Loading in Accordance With The AASHTO Specifications of 1961

**ALLOWABLE STRESSES:**  
Structural Steel 18,000 P.S.I.  
Reinforcing Steel 20,000 P.S.I.  
Cast-In-Place Concrete in Compression 1,600 P.S.I.  
Ultimate Compressive Strength 3,000 P.S.I.

**STRUCTURAL STEEL:**  
Unless Otherwise Noted Structural Steel Shall Conform To A.S.T.M. Designation A-36 Structural Steel For Girders Shall Conform To A.S.T.M. Designation A-572

**CONCRETE:**  
Class "A" Concrete With Type II Low Alkali Cement Shall Be Used Throughout.

**REINFORCEMENT:**  
All Reinforcing Steel Bars Shall Be New Billet Steel, Intermediate Grade conforming to AASHTO Designation M-31 And Shall Have Deformations conforming to AASHTO Designation M-31.

**REINFORCEMENT COVER:**  
Reinforcement Shall Be Accurately Placed In The Forms To Provide The Following Concrete Covering Over Reinforcement, Unless Otherwise Specified:  
Bottoms And Sides: Concrete Against Earth: Concrete Above Ground: 2" Back Concrete: All Cases: 1"

**CHAMFERS:**  
Concrete Of Substructure Shall Have 1/2" Chamfers And 1/2" Fillets Unless Otherwise Noted. Edges Of Concrete Deck And Sidewalks Shall Have 1/2" Chamfers 1/2" Fillets Unless Otherwise Noted. Exposed corners or open joints and joints shall be beveled 1/2" or rounded.

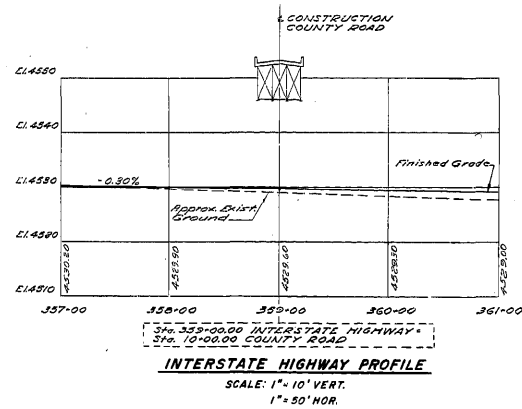
**FOUNDATION:**  
Foundations May Be Altered, If Necessary, To Suit Conditions Encountered In Construction. All Piles Shall Be Driven Full Length Using Air Steam Or Diesel Hammer And Be Casing If Necessary.

**DATUM:**  
All Elevations Refer To United States Coast & Geodetic Survey Mean Sea Level Datum of 1929.

**BENCH MARK:**  
Iron Pin At Interstate & Station 350+00 (10' Right, Located At Existing County Road)

**SHOP DRAWINGS:**  
All Shop Drawings Shall Be Approved Before Fabrication Of Steel.

| STANDARD DRWGS |                               | INDEX OF SHEETS |                            |
|----------------|-------------------------------|-----------------|----------------------------|
| SHEET NUMBER   | DESCRIPTION                   | SHEET NUMBER    | DESCRIPTION                |
| ST-2           | RAILING DETAILS               | 1               | KEY PLAN & INDEX SHEET     |
| ST-3           | PILE DETAILS                  | 2               | DECK PLAN & ELEVATION      |
| ST-5           | LIGHTING DETAILS              | 3               | BORING LOGS                |
| OR-1           | MOD. OF DECK SLAB & RAIL SLAB | 4               | FOUNDATION                 |
| SS-3           | STD. STEEL DETAILS            | 5               | ABUTMENT NO. 1 & NO. 2     |
|                |                               | 6               | ABUTMENT DETAILS           |
|                |                               | 7               | PIER NO. 1, NO. 2, & NO. 3 |
|                |                               | 8               | FRAMING PLAN               |
|                |                               | 9               | TRANSVERSE SECTION         |
|                |                               | 10-11           | STEEL DETAILS              |
|                |                               | 12              | CONCRETE DETAILS           |
|                |                               | 13              | REINFORCING SCHEDULE       |
|                |                               | 14              | REINFORCING SCHEDULE       |
|                |                               | 15              | SCREENED ELEVATIONS        |



**KEY PLAN & INDEX SHEET**

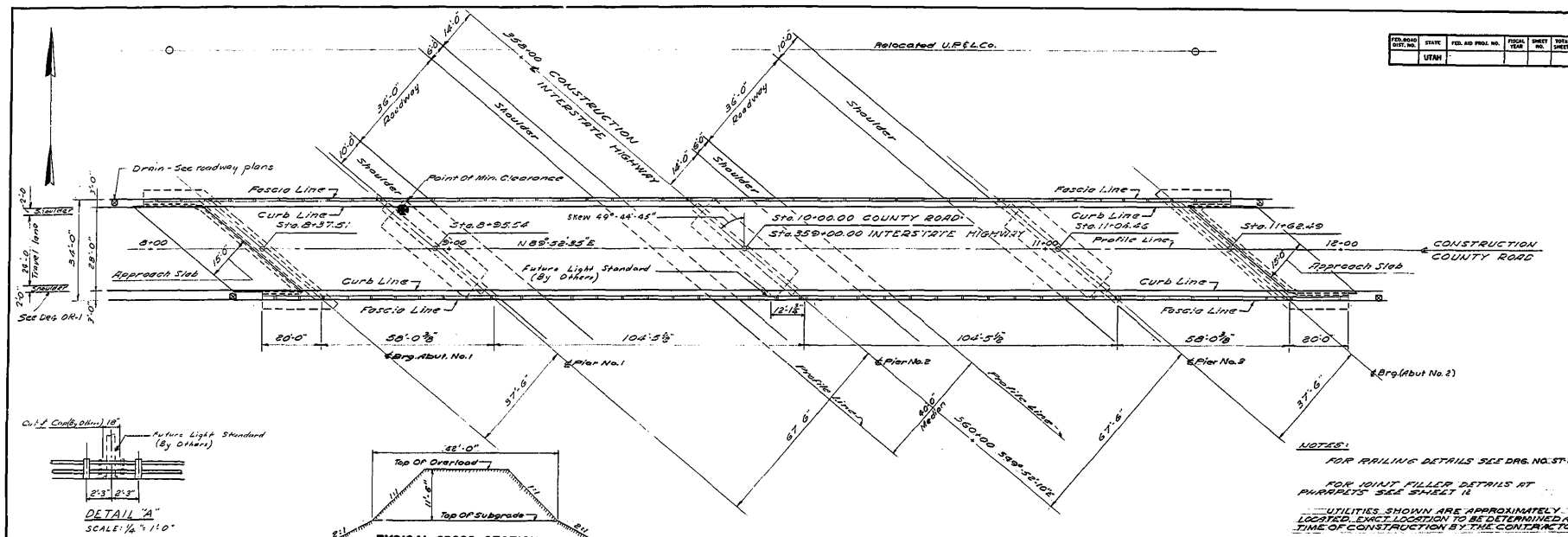


|                                                                                                    |                 |                                                                                                                    |                           |
|----------------------------------------------------------------------------------------------------|-----------------|--------------------------------------------------------------------------------------------------------------------|---------------------------|
| DESIGN AND DRAWING BY<br>WESTERN ENGINEERS, INC. AND<br>EDWARDS AND KELCEY<br>CONSULTING ENGINEERS |                 | COUNTY ROAD<br>UNDERPASS<br>STA. 359+00.00 TO 40+00.00<br>LEH-PROVIDE<br>T-15 - 6 031271 2nd<br>UTAH COUNTY CONTR. |                           |
| SUBMITTED BY<br>UTAH ENGR. LIC. NO. 2164                                                           | DATE<br>8/16/64 | DESIGNED BY<br>J. R. McVie                                                                                         | CHECKED BY<br>J. R. McVie |
| DRAWN BY<br>J. R. McVie                                                                            |                 | SCALE<br>1" = 40'                                                                                                  |                           |

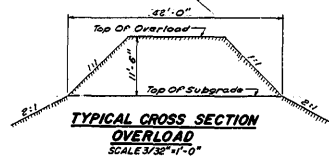
STRUCTURE 2-8

FINAL 1-8-64

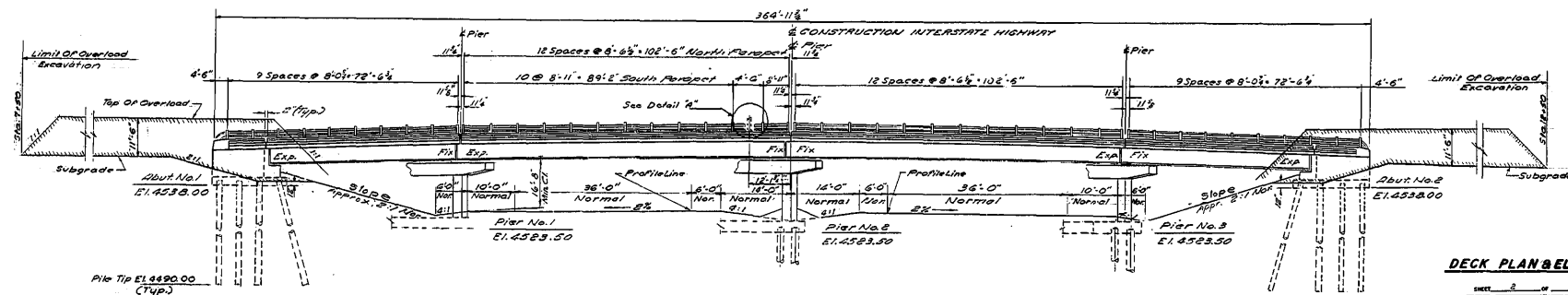
| UTAH | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|------|-------|--------------------|-------------|-----------|--------------|
|      |       |                    |             |           |              |



NOTES:  
 FOR RAILING DETAILS SEE DRG. NO. 37-E.  
 FOR JOINT FILLER DETAILS AT  
 APPROACHES SEE SHEET 14.  
 UTILITIES SHOWN ARE APPROXIMATELY  
 LOCATED. EXACT LOCATION TO BE DETERMINED AT  
 TIME OF CONSTRUCTION BY THE CONTRACTOR.



**PLAN**  
 SCALE: 1/8" = 1'-0"



**ELEVATION**  
 SCALE: 1/8" = 1'-0"

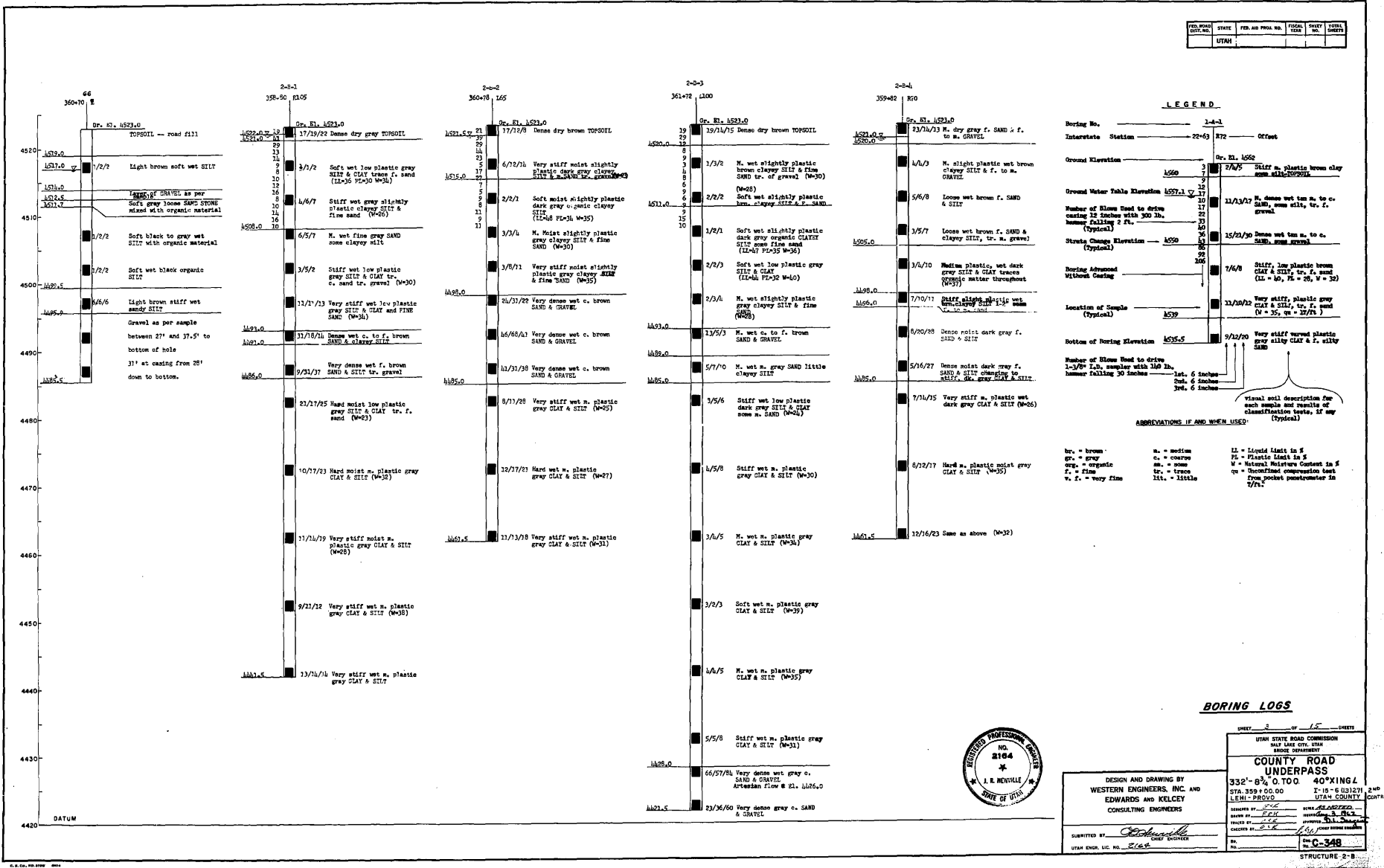
**DECK PLAN & ELEVATION**

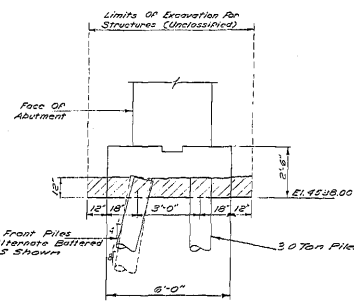
|                                                    |                           |
|----------------------------------------------------|---------------------------|
| UTAH STATE ROAD COMMISSION<br>SALT LAKE CITY, UTAH |                           |
| <b>COUNTY ROAD UNDERPASS</b>                       |                           |
| 332'-8 3/4" O.T.O. 40' XING L.                     | 1-15-6 031271 2nd         |
| STA. 359+00.00                                     | UTAH COUNTY NORTH         |
| LEHI-PROVO                                         |                           |
| DESIGNED BY: J.E. NEWVILLE                         | CHECKED BY: J.E. NEWVILLE |
| DRAWN BY: J.E. NEWVILLE                            | DATE: 1-15-6              |
| C-348                                              |                           |
| STRUCTURE 2-B                                      |                           |



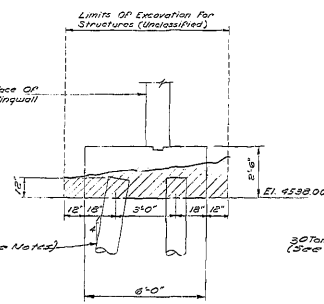
DESIGN AND DRAWING BY  
 WESTERN ENGINEERS, INC. AND  
 EDWARDS AND KELCEY  
 CONSULTING ENGINEERS  
 SUBMITTED BY: J.E. Newville  
 UTAH ENGR. LIC. NO. 2164

| NO. | DATE | REVISIONS | REMARKS |
|-----|------|-----------|---------|
|     |      |           |         |

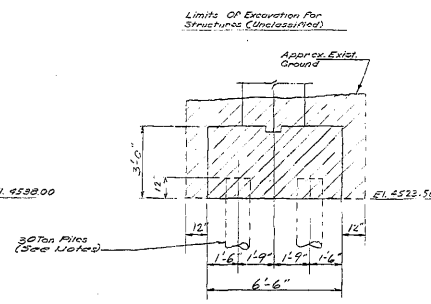




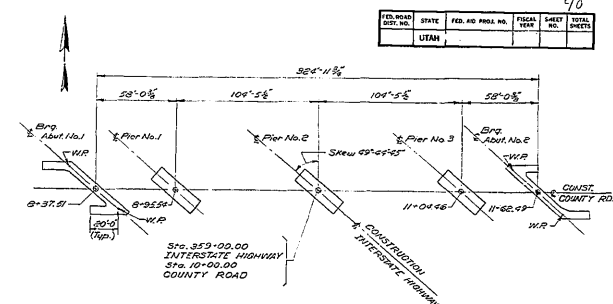
**SECTION A-A**  
SCALE:  $\frac{3}{8}$ " = 1'-0"



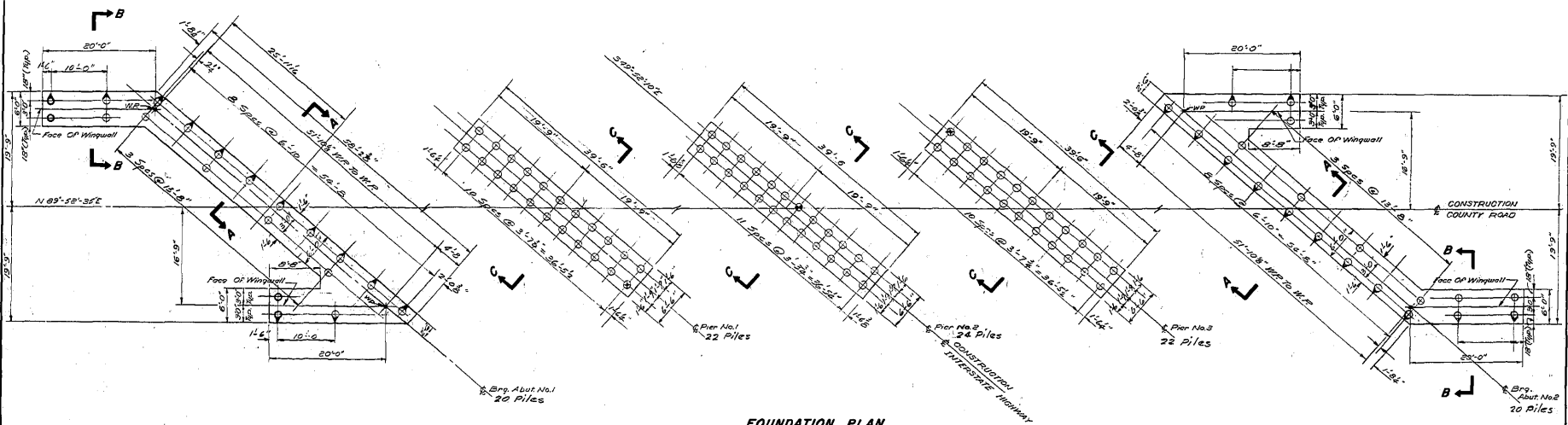
**SECTION B-B**  
SCALE:  $\frac{3}{8}$ " = 1'-0"



**SECTION C-C**  
SCALE:  $\frac{3}{8}$ " = 1'-0"



**KEY PLAN**  
SCALE: 1" = 40'-0"



**FOUNDATION PLAN**  
SCALE:  $\frac{1}{8}$ " = 1'-0"



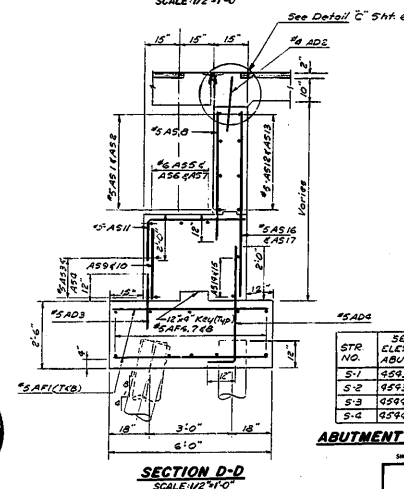
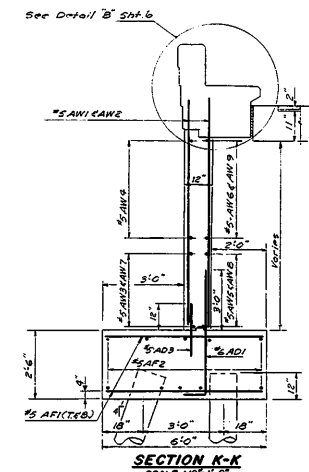
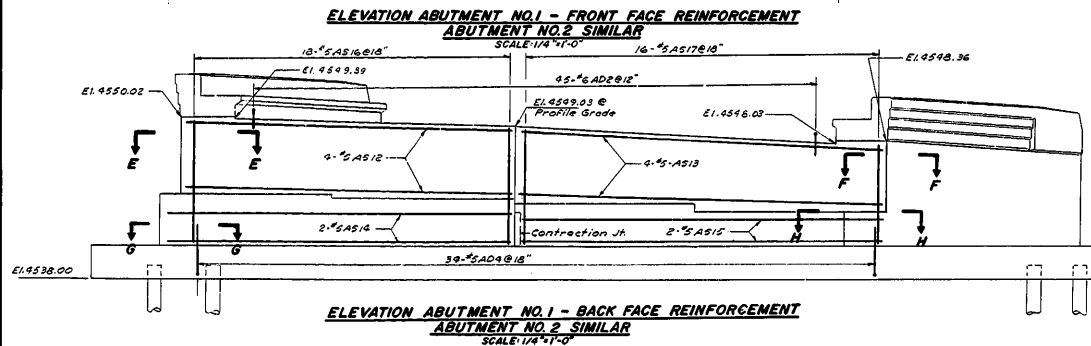
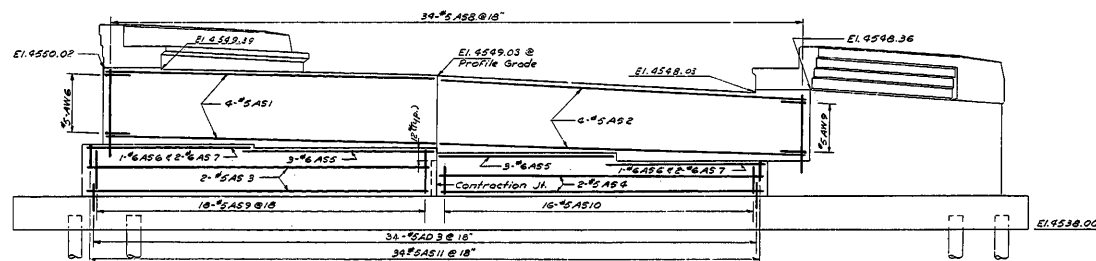
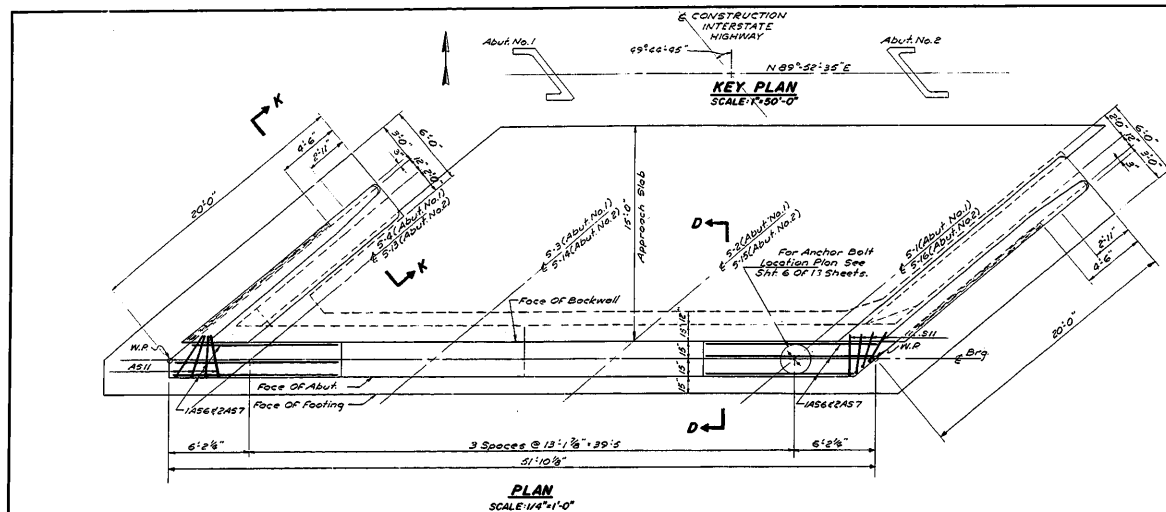
**LEGEND:**  
○ PILES BATTERED IN DIRECTION OF ARROW  
⊙ TEST PILE  
⊙ TEST PILE 6' LOADING TEST  
○ VERTICAL PILE

**FOUNDATION PLAN**

**NOTE:**  
FOR PILE TYPES, REINFORCEMENT, AND BOWELS SEE DRAWING SHEETS.  
ESTIMATED PILE LENGTHS - PIERS 34.5' ABUT. 47.0'  
MAX. COMPUTED PILE LOADS - PIERS 30 TONS ABUTS. 30 TONS  
DESIGN PILE 1" = 40' 30 TONS

DESIGN AND DRAWING BY  
WESTERN ENGINEERS, INC. AND  
EDWARDS AND KELCEY  
CONSULTING ENGINEERS  
SUBMITTED BY: [Signature] CHIEF ENGINEER  
UTAH EXOR. LIC. NO. 2164

|                                                    |                          |
|----------------------------------------------------|--------------------------|
| SHEET 5 OF 15 SHEETS                               |                          |
| UTAH STATE ROAD COMMISSION<br>SALT LAKE CITY, UTAH |                          |
| <b>COUNTY ROAD UNDERPASS</b>                       |                          |
| 332'-8 1/2" O.T.O. 40' XING L.                     | 2'-15' 6" (3/27) 2nd     |
| STA. 359+00.00                                     | UTAH COUNTY 100th        |
| LEH-1-PROVO                                        |                          |
| DESIGNED BY: J. R. NEWVILLE                        | DRAWN BY: J. R. NEWVILLE |
| CHECKED BY: J. R. NEWVILLE                         | DATE: 3/19/62            |
| PROJECT NO. 100th                                  |                          |
| UTAH EXOR. LIC. NO. 2164                           | STRUCTURE 2-B            |



NOTES:  
FOR FOOTINGS & PILE LOCATIONS SEE SHEET 9  
FOR WINGWALL ELEVATIONS, ANCHOR BOLT LOCATION & FOOTING REINFORCEMENT SEE SHEET 6  
FOR SECTIONS F-F, G-G, H-H SEE SHEET 6  
REINFORCEMENT TO BE PLACED TO AVOID OBSTRUCTIONS.

DESIGN AND DRAWING BY  
WESTERN ENGINEERS, INC. AND  
EDWARDS AND KELCEY  
CONSULTING ENGINEERS

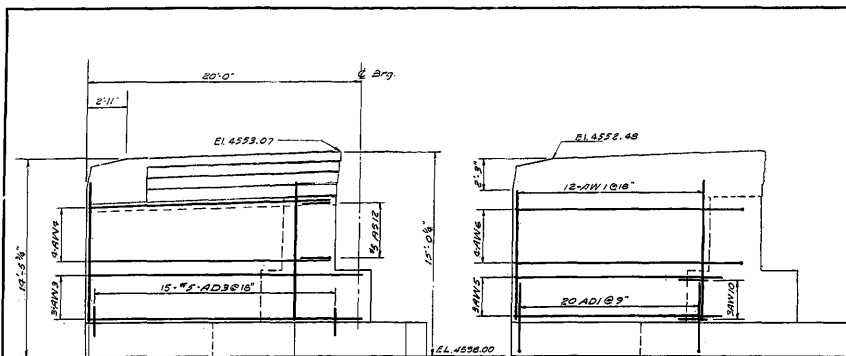
SUBMITTED BY: [Signature]  
UTAH ENGR. LIC. NO. 2164

| STR. NO. | SEAT ELEVATION | STR. NO. | SEAT ELEVATION |
|----------|----------------|----------|----------------|
| 1        | 4549.14        | 5        | 4549.37        |
| 2        | 4549.16        | 6        | 4549.16        |
| 3        | 4549.16        | 7        | 4549.16        |
| 4        | 4549.37        | 8        | 4549.14        |

ABUTMENT NO. 1 & NO. 2

UTAH STATE ROAD COMMISSION  
SALT LAKE CITY, UTAH  
COUNTY ROAD UNDERPASS  
332'-81" O.T.O. 40" X 16" L  
STA. 359+00.00  
LENH-PROVIDE  
UTAH COUNTY  
1-15-613121  
C-348

STRUCTURE 2-B

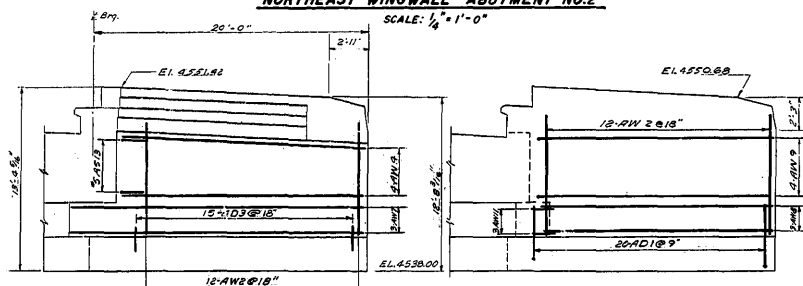


**REINFORCEMENT - FRONT FACE**

**REINFORCEMENT - BACK FACE**

**SOUTHWEST WINGWALL - ABUTMENT NO. 1**  
**NORTHEAST WINGWALL - ABUTMENT NO. 2**

SCALE:  $\frac{1}{4}$ " = 1'-0"

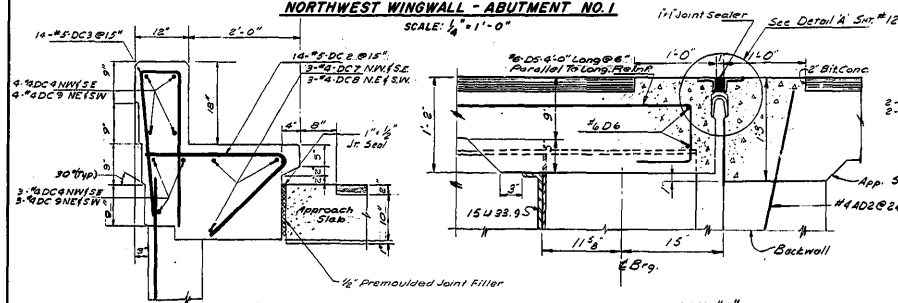


**REINFORCEMENT - FRONT FACE**

**REINFORCEMENT - BACK FACE**

**SOUTHEAST WINGWALL - ABUTMENT NO. 2**  
**NORTHWEST WINGWALL - ABUTMENT NO. 1**

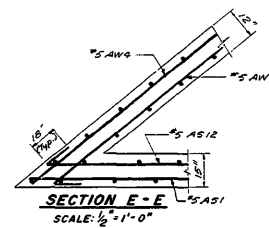
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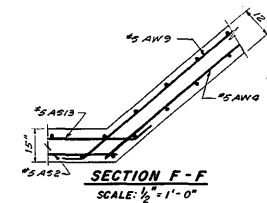
**DETAIL B**  
SCALE:  $\frac{1}{2}$ " = 1'-0"

Note: For DC 1, 2, 5, 6, See  
Sheet 9 of 18 Drg. # 372

**DETAIL C**  
SCALE:  $\frac{1}{2}$ " = 1'-0"

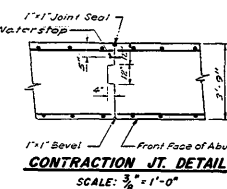


**SECTION E-E**  
SCALE:  $\frac{1}{2}$ " = 1'-0"

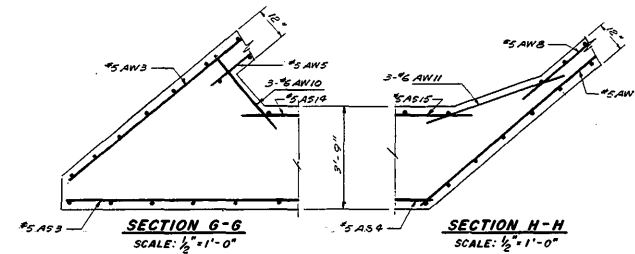


**SECTION F-F**  
SCALE:  $\frac{1}{2}$ " = 1'-0"

| FOR ROAD | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|----------|-------|--------------------|-------------|-----------|--------------|
| UTAH     |       |                    |             | 47        |              |

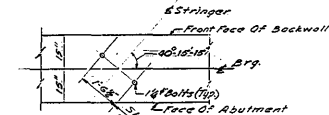


**CONTRACTION JT. DETAIL**  
SCALE:  $\frac{3}{8}$ " = 1'-0"

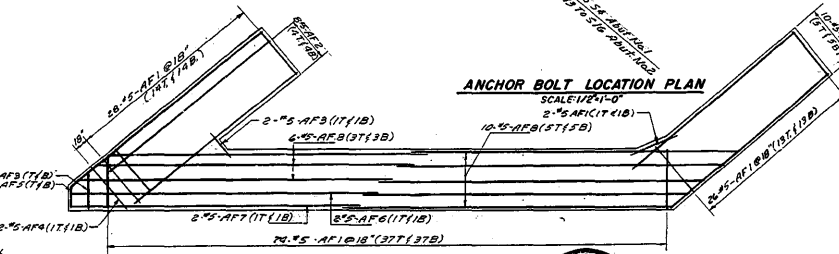


**SECTION G-G**  
SCALE:  $\frac{1}{2}$ " = 1'-0"

**SECTION H-H**  
SCALE:  $\frac{1}{2}$ " = 1'-0"



**ANCHOR BOLT LOCATION PLAN**  
SCALE:  $\frac{1}{4}$ " = 1'-0"



**PLAN OF FOOTING**  
SCALE:  $\frac{3}{8}$ " = 1'-0"

**NOTES:**  
FOR FOOTING & PILE LOCATIONS  
SEE SHEET 8  
REINFORCEMENT TO BE PLACED  
TO AVOID OBSTRUCTIONS.



**ABUTMENT DETAILS**

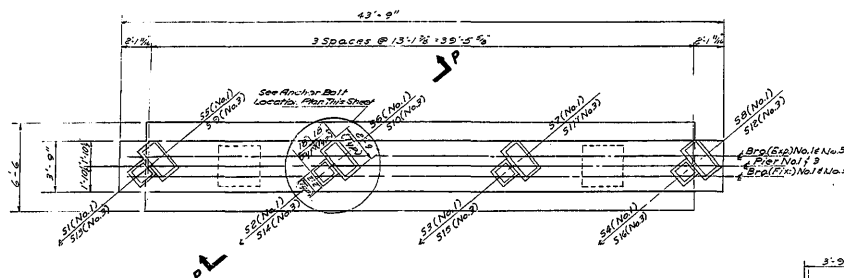
DESIGN AND DRAWING BY  
**WESTERN ENGINEERS, INC. AND  
EDWARDS AND KELCEY  
CONSULTING ENGINEERS**

SUBMITTED BY: *[Signature]*  
UTAH ENGR. LIC. NO. 2164

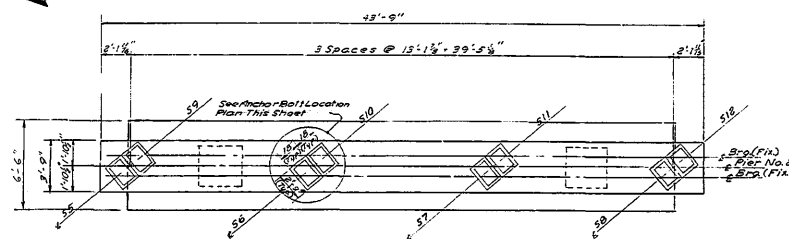
|                                                                         |                                |
|-------------------------------------------------------------------------|--------------------------------|
| UTAH STATE ROAD COMMISSION<br>SALT LAKE CITY, UTAH<br>BRIDGE DEPARTMENT |                                |
| <b>COUNTY ROAD<br/>UNDERPASS</b>                                        |                                |
| 332'-6" O.T.O. 40' KING L                                               | 2-15-6 83(27) 2nd              |
| STA. 359+00.00                                                          | UTAH COUNTY CONTR.             |
| LENI-PROVO                                                              |                                |
| DESIGNED BY: <i>[Signature]</i>                                         | CHECKED BY: <i>[Signature]</i> |
| DATE: 1-1-66                                                            | DATE: 1-1-66                   |
| PROJECT NO. 158                                                         | PROJECT NO. 158                |
| UTAH ENGR. LIC. NO. 2164                                                |                                |
| STRUCTURE 2-B                                                           |                                |



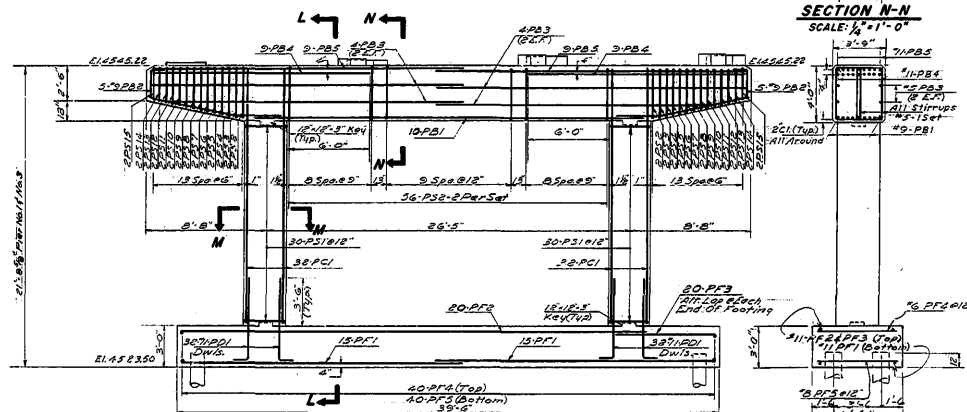
|           |    |      |      |            |   |              |    |
|-----------|----|------|------|------------|---|--------------|----|
| PROJ. NO. | 43 | DATE | 1964 | DESIGN NO. | 1 | TOTAL SHEETS | 15 |
| SHEET NO. | 1  | UTAH |      |            |   |              |    |



**PLAN - PIER NO. 1**  
**PIER NO. 3 - SIMILAR - OPPOSITE HAND**  
 SCALE:  $\frac{1}{4}$ " = 1'-0"

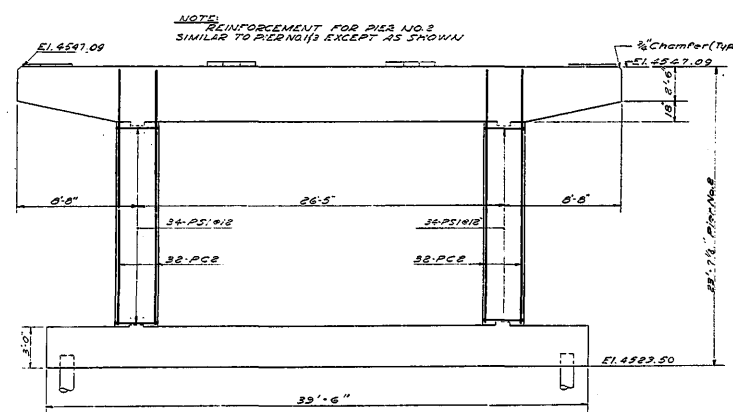


**PLAN - PIER NO. 2**  
 SCALE:  $\frac{1}{4}$ " = 1'-0"

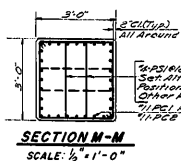


**ELEVATION - PIER NO. 1**  
**PIER NO. 3 - SIMILAR - OPPOSITE HAND**  
 SCALE:  $\frac{1}{4}$ " = 1'-0"

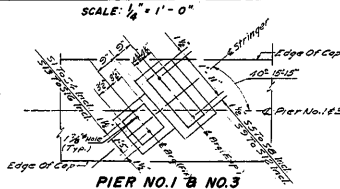
**SECTION N-N**  
 SCALE:  $\frac{1}{4}$ " = 1'-0"



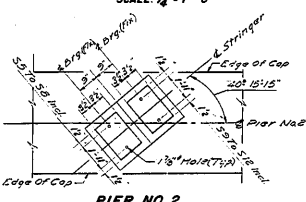
**ELEVATION - PIER NO. 2**  
 SCALE:  $\frac{1}{4}$ " = 1'-0"



**SECTION M-M**  
 SCALE:  $\frac{1}{4}$ " = 1'-0"



**SECTION L-L**  
 SCALE:  $\frac{1}{4}$ " = 1'-0"



**SECTION P-P**  
 SCALE:  $\frac{1}{4}$ " = 1'-0"

**ANCHOR BOLT LOCATION PLAN**  
 SCALE:  $\frac{1}{4}$ " = 1'-0"

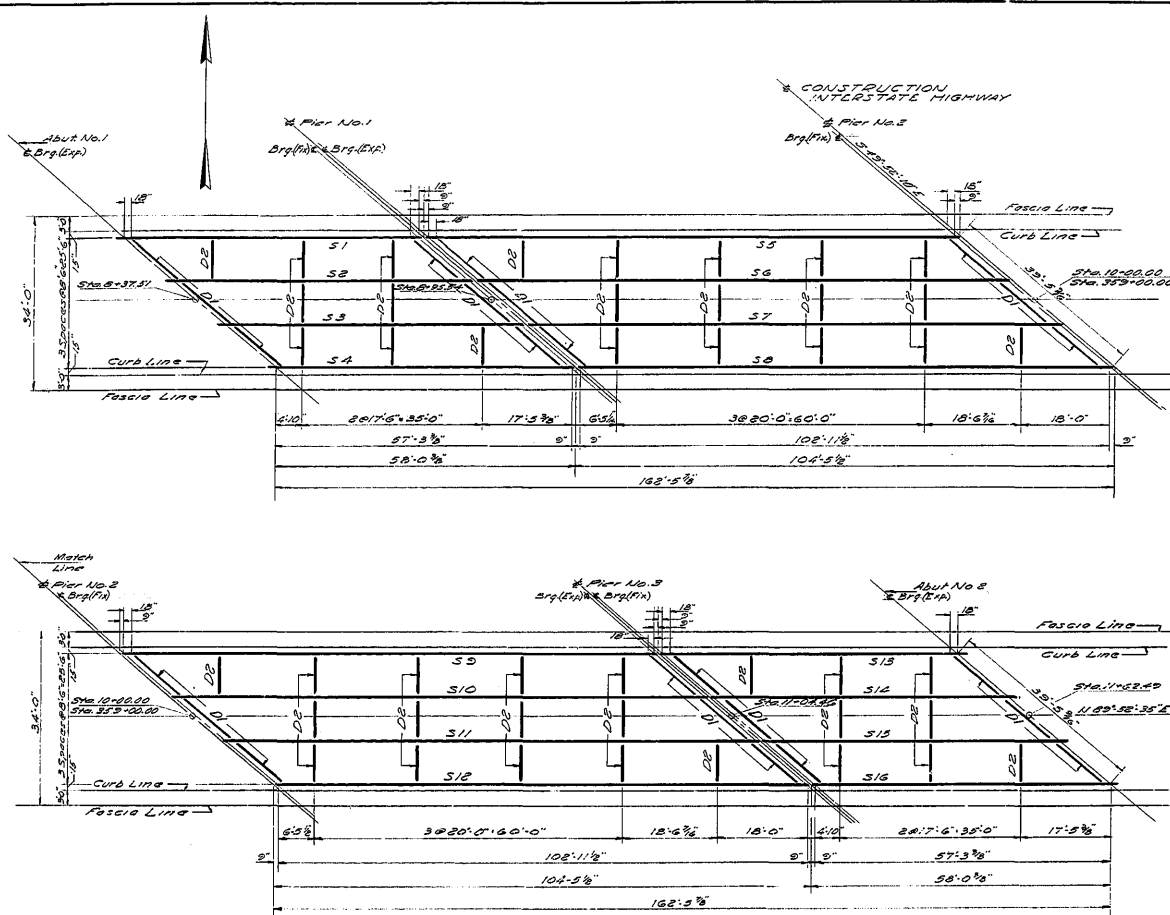
| STA. NO. | ELEVATION | STA. NO. | ELEVATION | STA. NO. | ELEVATION |
|----------|-----------|----------|-----------|----------|-----------|
| 1        | 4547.45   | 5        | 4547.17   | 9        | 4548.05   |
| 2        | 4545.93   | 6        | 4547.38   | 10       | 4545.99   |
| 3        | 4546.18   | 7        | 4547.38   | 11       | 4545.73   |
| 4        | 4546.26   | 8        | 4547.18   | 12       | 4545.27   |
| 5        | 4545.87   | 9        | 4547.18   | 13       | 4546.26   |
| 6        | 4545.73   | 10       | 4547.18   | 14       | 4546.18   |
| 7        | 4545.29   | 11       | 4547.38   | 15       | 4545.92   |
| 8        | 4546.05   | 12       | 4547.18   | 16       | 4545.45   |

**PIER NO. 1, NO. 2, & NO. 3**

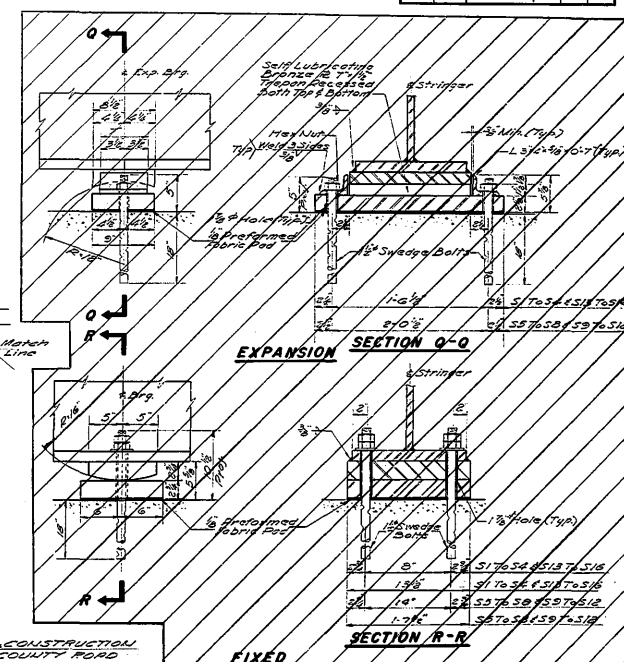
UTAH STATE ROAD COMMISSION  
 COUNTY ROAD  
 UNDERPASS  
 332'-8 1/2" O.T.O. 40' XING L  
 STA. 35+00.00  
 LEH-1-PROVO  
 DESIGNED BY: YG  
 CHECKED BY: YG  
 DATE: 1964  
 SHEET NO. 1 OF 15  
 STRUCTURE 2-B

|                     |       |                    |                 |              |
|---------------------|-------|--------------------|-----------------|--------------|
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | TOTAL SHEET NO. | TOTAL SHEETS |
| UTAH                |       |                    |                 |              |

L14



**FRAMING PLAN**  
SCALE:  $\frac{3}{8}$ " = 1'-0"



NOTE:  
See Drg. SS-3 For Bearing Details.  
Use Type A For Fixed Bearings.  
Use Type B For Exp. Bearings.

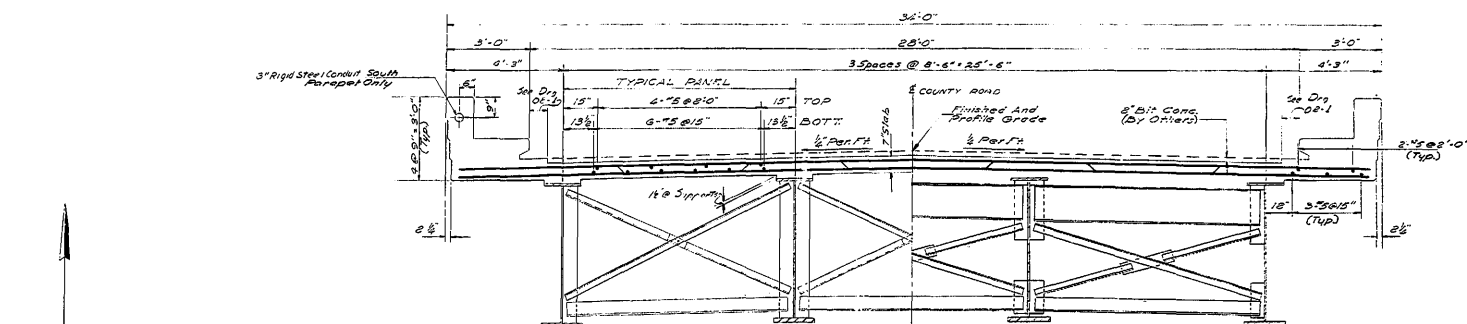
**FRAMING PLAN**



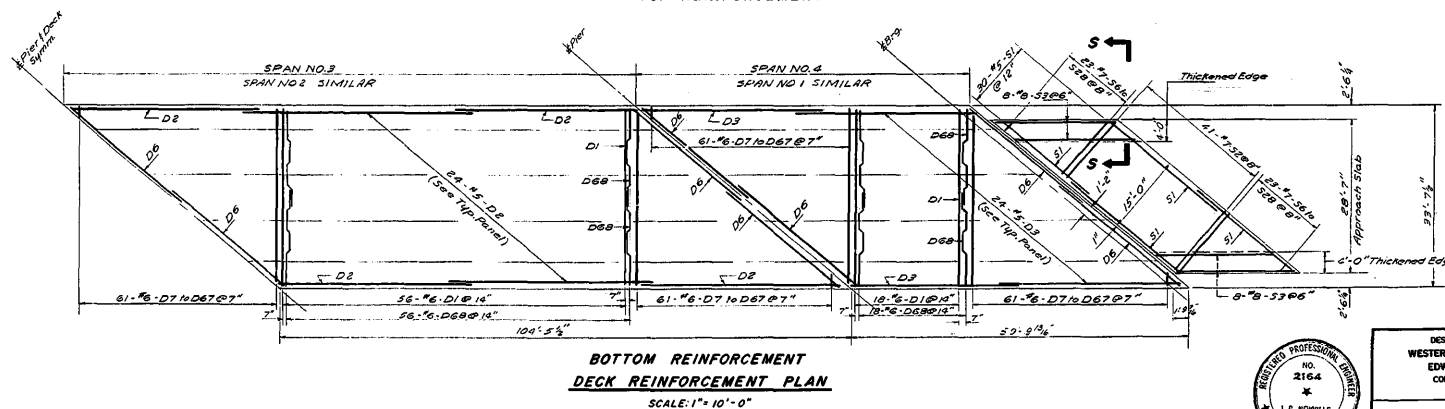
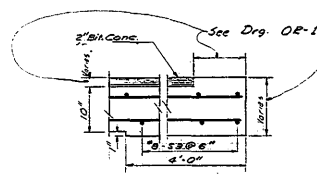
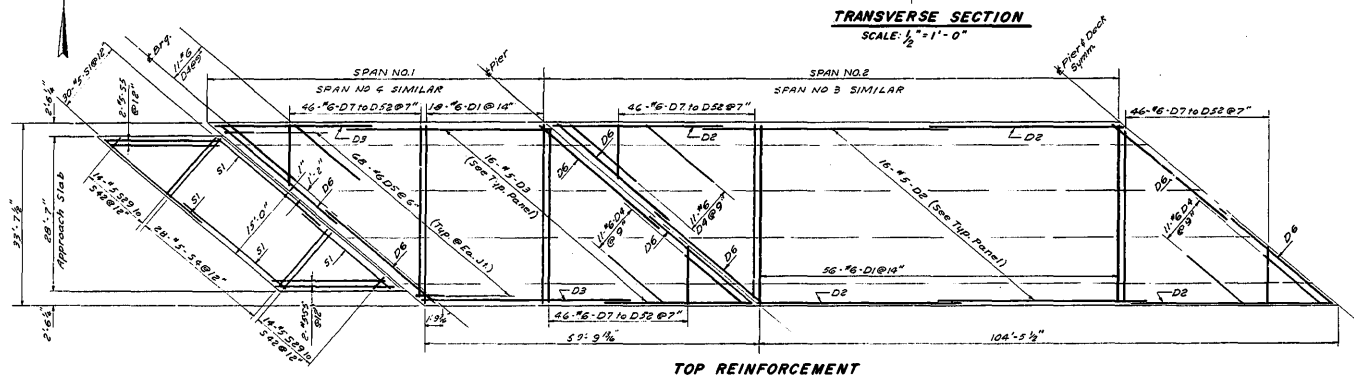
DESIGN AND DRAWING BY  
WESTERN ENGINEERS, INC. AND  
EDWARDS AND KELCEY  
CONSULTING ENGINEERS

SUBMITTED BY: [Signature]  
UTAH ENGR. LIC. NO. 2162

|                                                                         |                          |
|-------------------------------------------------------------------------|--------------------------|
| SHEET 2 OF 15 SHEETS                                                    |                          |
| UTAH STATE ROAD COMMISSION<br>SALT LAKE CITY, UTAH<br>BRIDGE DEPARTMENT |                          |
| COUNTY ROAD<br>UNDERPASS                                                |                          |
| 332'-8 3/4" O.T.O. 40'XING L                                            |                          |
| STA. 35+00.00 I-15 & 630TH                                              |                          |
| LENI-PROVO UTAH COUNTY CONTR.                                           |                          |
| DESIGNED BY: KCV                                                        | CHECKED BY: [Signature]  |
| DRAWN BY: J.G.                                                          | APPROVED BY: [Signature] |
| CHECKED BY: J.G.                                                        | DATE: 1/15/64            |
| NO. C-348                                                               |                          |
| STRUCTURE 2-B                                                           |                          |



NOTES:  
FOR CURB & PARAPET REINFORCEMENT  
SEE DRG. NO. ST-2.  
FOR DIAPHRAGM DETAILS SEE SHEET 10



**TRANSVERSE SECTION**

SHEET 9 OF 15 SHEETS

UTAH STATE ROAD COMMISSION  
SALT LAKE CITY, UTAH  
BRIDGE DEPARTMENT

COUNTY ROAD  
UNDERPASS

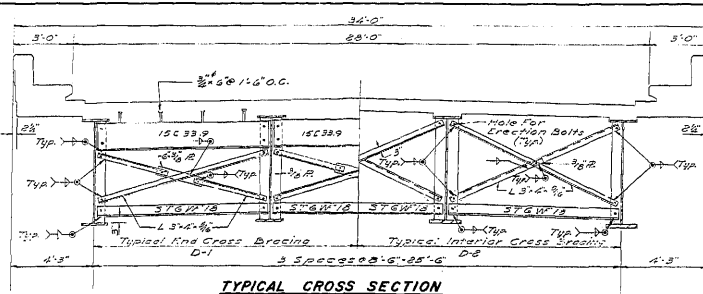
332'-8" x 40' x 10' 4"

STA. 359+00.00 I+15-6 031271  
LEHI - PROVO UTAH COUNTY

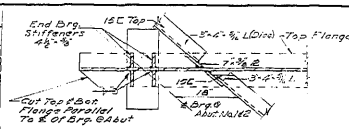
DESIGNED BY WJC SEALS NOTED  
DRAWN BY WJC CHECKED WJC  
GRADE BY WJC APPROVED WJC  
CHECKED BY WJC UTAH STATE ROAD COMMISSION

NO. C-348  
SYNOPSIS 2-R

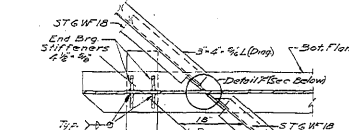
STRUCTURE 2-



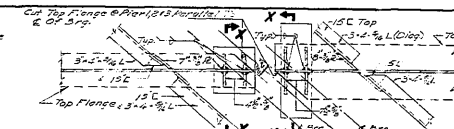
**TYPICAL CROSS SECTION**  
SCALE: 3/4"=1'-0"



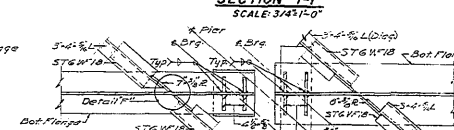
**SECTION V-V**  
SCALE: 3/4"=1'-0"



**SECTION W-W**  
SCALE: 3/4"=1'-0"

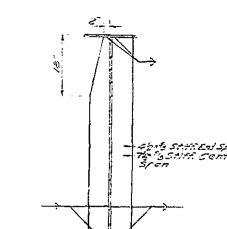


**SECTION T-T**  
SCALE: 3/4"=1'-0"

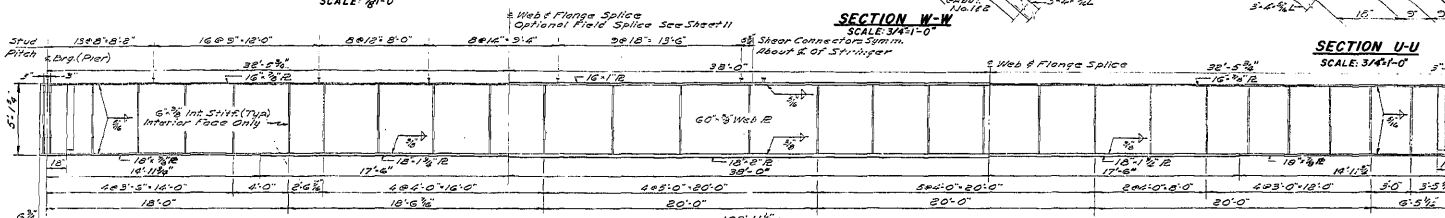


**SECTION U-U**  
SCALE: 3/4"=1'-0"

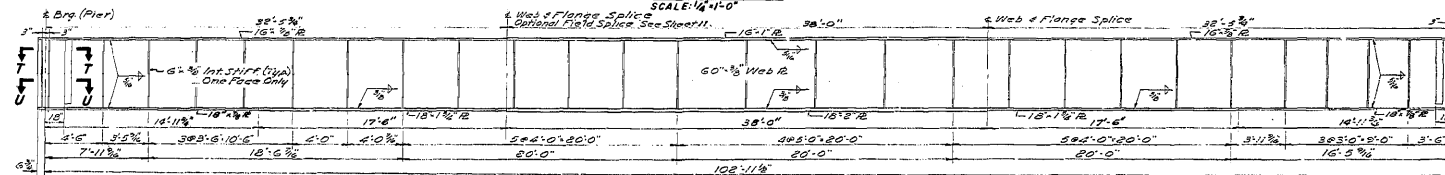
| PROJECT NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|-------------|-------|--------------------|-------------|-----------|--------------|
| 46          | UTAH  |                    |             |           |              |



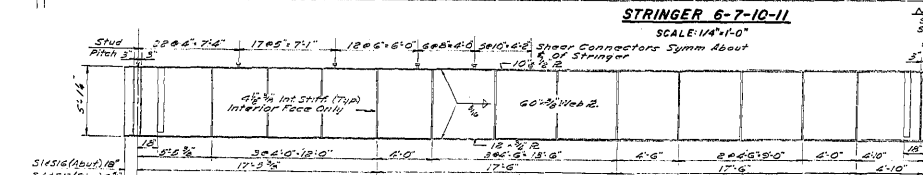
**SECTION X-X**  
TYP FOR STIFF AT PIERS ONLY  
SCALE: 3/4"=1'-0"



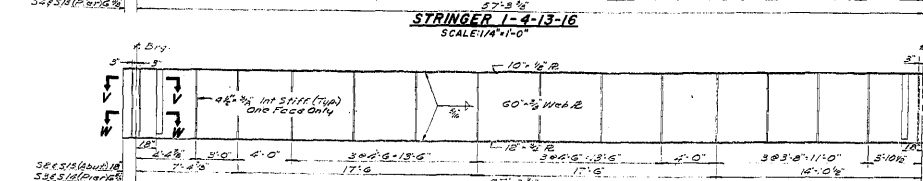
**STRINGER 5-8-9-12**  
SCALE: 1/4"=1'-0"



**STRINGER 1-4-13-16**  
SCALE: 1/4"=1'-0"



**STRINGER 6-7-10-11**  
SCALE: 1/4"=1'-0"



**STRINGER 2-3-14-15**  
SCALE: 1/4"=1'-0"

NOTE: STUD PITCH SAME AS STRINGER NO. 5-8-9-12

NOTE: STUD PITCH SAME AS STRINGER NO. 1-4-13-16

NOTE: STUD PITCH SAME AS STRINGER NO. 6-7-10-11

NOTE: STUD PITCH SAME AS STRINGER NO. 2-3-14-15

NOTE: STUD PITCH SAME AS STRINGER NO. 5-8-9-12

NOTE: STUD PITCH SAME AS STRINGER NO. 1-4-13-16

NOTE: STUD PITCH SAME AS STRINGER NO. 6-7-10-11

NOTE: STUD PITCH SAME AS STRINGER NO. 2-3-14-15

NOTE: STUD PITCH SAME AS STRINGER NO. 5-8-9-12

NOTE: STUD PITCH SAME AS STRINGER NO. 1-4-13-16

NOTE: STUD PITCH SAME AS STRINGER NO. 6-7-10-11

NOTE: STUD PITCH SAME AS STRINGER NO. 2-3-14-15

NOTE: STUD PITCH SAME AS STRINGER NO. 5-8-9-12

NOTE: STUD PITCH SAME AS STRINGER NO. 1-4-13-16

NOTE: STUD PITCH SAME AS STRINGER NO. 6-7-10-11

NOTE: STUD PITCH SAME AS STRINGER NO. 2-3-14-15

NOTE: STUD PITCH SAME AS STRINGER NO. 5-8-9-12

NOTE: STUD PITCH SAME AS STRINGER NO. 1-4-13-16

NOTE: STUD PITCH SAME AS STRINGER NO. 6-7-10-11

NOTE: STUD PITCH SAME AS STRINGER NO. 2-3-14-15

NOTE: STUD PITCH SAME AS STRINGER NO. 5-8-9-12

NOTE: STUD PITCH SAME AS STRINGER NO. 1-4-13-16

NOTE: STUD PITCH SAME AS STRINGER NO. 6-7-10-11

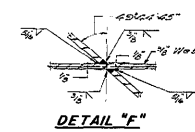
NOTE: STUD PITCH SAME AS STRINGER NO. 2-3-14-15

NOTE: STUD PITCH SAME AS STRINGER NO. 5-8-9-12

NOTE: STUD PITCH SAME AS STRINGER NO. 1-4-13-16

NOTE: STUD PITCH SAME AS STRINGER NO. 6-7-10-11

NOTE: STUD PITCH SAME AS STRINGER NO. 2-3-14-15



**DETAIL 'F'**  
SCALE: 3"=1'-0"



**WEB SPLICE**  
SCALE: 3"=1'-0"



**FLANGE SPLICE**  
SCALE: 1"=1'-0"

NOTES: See Structural Steel Notes - Drg. SS-3  
ALL WELDS 1/8" UNLESS OTHERWISE NOTED

ALL INTERMEDIATE STIFFENERS TO BE WELDED WITH A CONTINUOUS 1/8" FILLET WELD ALONG BOTH FACES OF TOP AND VERTICAL EDGES AND SHALL BE TIGHT FITTED AT THE BOTTOM. INTERMEDIATE CROSS BRACING SHALL BE WELDED AT TOP OF SECTION, BUT CROSS BRACING IN EXTERIOR BAYS SHALL BE TIGHTLY BOLTED & WELDED AFTER ALL DEAD LOAD HAS BEEN APPLIED TO THE STRUCTURE.

IF THE LENGTH OF GIRDER IS TOO EXCESSIVE FOR SHIPMENT AN OPTIONAL FIELD SPLICE WILL BE PERMITTED IN THE LOCATION SHOWN. SHEETS GO HIGH STRENGTH BOLTS SHALL BE USED AT THE FIELD SPLICE.

IF OPTIONAL FIELD SPLICE IS USED ADJACENT FLANGE R LENGTH SHALL BE MODIFIED AS SHOWN IN THE SPLICE DETAIL SHEET II

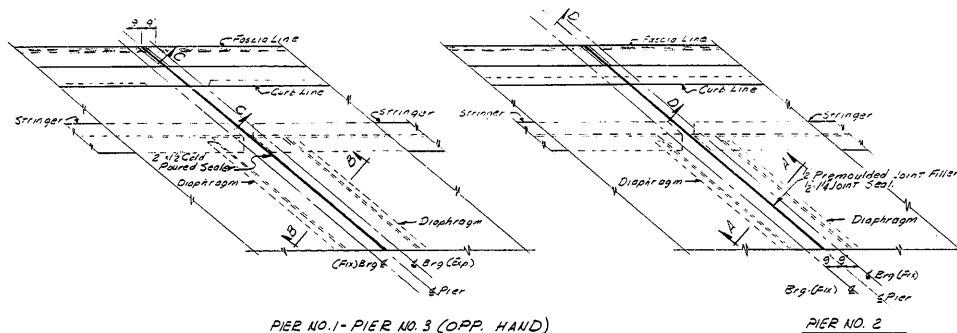
# **STEEL DETAILS**



DESIGN AND DRAWING BY  
WESTERN ENGINEERS, INC. AND  
EDWARDS AND KOLCEY  
CONSULTING ENGINEERS

|                                                                        |                      |
|------------------------------------------------------------------------|----------------------|
| SHEET 12 OF 15 SHEETS                                                  |                      |
| UTAH STATE ROAD COMMISSION<br>SALT LAKE CITY, UTAH<br>BRIDGE SPAN 2885 |                      |
| COUNTY ROAD<br>UNDERPASS                                               |                      |
| 332'-8 3/4" O.T.O.                                                     | 40' XING L           |
| STA. 355+00.00                                                         | 1-15-6 (13127)       |
| LEN: 170.00                                                            | UTAH COUNTY CONTR    |
| DESIGNED BY: J. L. G.                                                  | CHECKED BY: J. L. G. |
| DRAWN BY: J. L. G.                                                     | DATE: 1/1/64         |
| UTAH ENGR. LIC. NO. 2164                                               | DATE: 1/1/64         |
| STRUCTURE 2-B                                                          |                      |

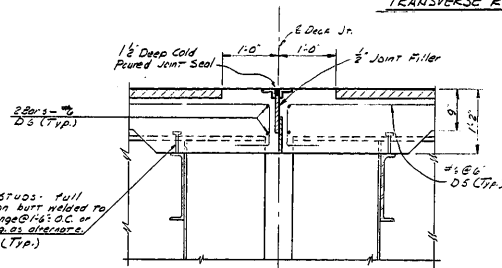




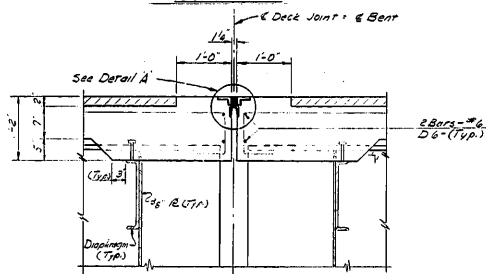
PIER NO. 1-PIER NO. 3 (OPP. HAND)

PIER NO. 2

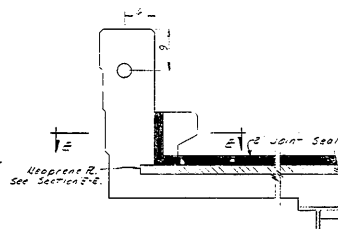
TRANSVERSE ROADWAY JOINTS



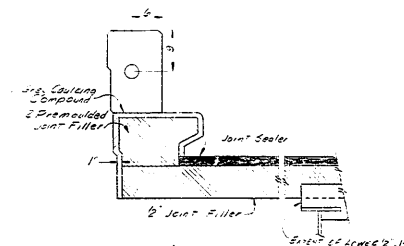
SECTION A-A



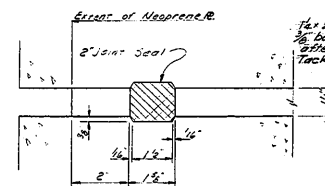
SECTION B-B



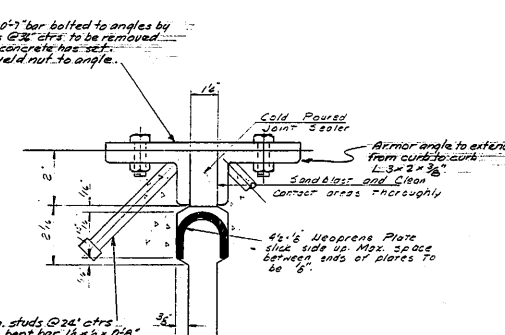
SECTION C-C



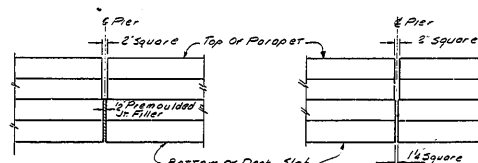
SECTION D-D



SECTION E-E

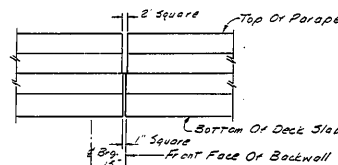


DETAIL A



PIER NO.

PIER NO.



ABUTMENTS

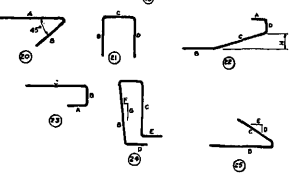
JOINT FILLER DETAILS AT PARAPETS

|                                   |                 |                             |            |
|-----------------------------------|-----------------|-----------------------------|------------|
| UTAH STATE DEPARTMENT OF HIGHWAYS |                 |                             |            |
| SALT LAKE CITY, UTAH              |                 |                             |            |
| STRUCTURES DIVISION               |                 |                             |            |
| LEHI-PEVO                         |                 |                             |            |
| COUNTY ROAD UNDERPASS             |                 |                             |            |
| CONCRETE DETAILS                  |                 |                             |            |
| DESIGNED BY: JLE                  | CHECKED BY: JLE | PROJECT NUMBER: 113-6(1)271 | 2ND CONTR. |
| DRAWN BY: DLS                     | CHECKED BY: AOO | 359-00.0                    |            |
| APPROVED BY: JLE                  | DATE: 11/1/71   | UTAH                        |            |
| APPROVED BY: JLE                  | DATE: 11/1/71   | UTAH                        |            |
| BR NO.                            | DRG NO. C-348   | 12x15                       |            |

49

|                     |       |                    |             |           |              |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|                     | UTAH  |                    |             |           |              |

## BAR TYPES



### HCOK DETAIL

**REINFORCING SCHEDULE**

- ### GENERAL NOTES
1. All placing drawings, detailing, and fabrication shall be in accordance with the "Manual of Standard Practice for Detailing Reinforced Concrete Structures (ACI 315-57)".
  2. All dimensions shown for bar bending details are out-to-out of bars.



DESIGN AND DRAWING BY  
WESTERN ENGINEERS, INC. AND  
EDWARDS AND KELCEY  
CONSULTING ENGINEERS

SUBMITTED BY Edgewood  
CHIEF ENGINEER  
UTAH ENGR. LIC. NO. 2164

SHEET 13 OF 15 SHEETS

UTAH STATE ROAD COMMISSION  
SALT LAKE CITY, UTAH  
BRIDGE DEPARTMENT

**COUNTY ROAD  
UNDERPASS**

332'-8" O.T.O. 40° XING L

STA. 339+00.00 1-15-61(1) 271

LEHI-PROVO UTAH COUNTY

DESIGNED BY YK SCALE AS NOTED

DRAWN BY JK ISSUED Aug 3, 1962

TRACED BY \_\_\_\_\_ APPROVED W. H. Sanger

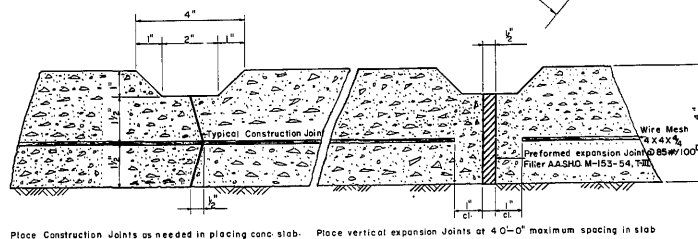
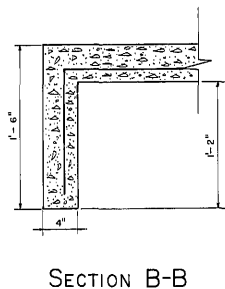
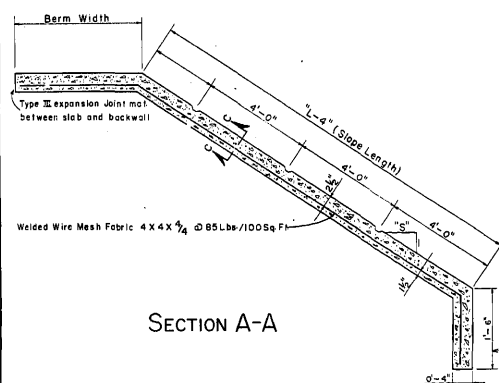
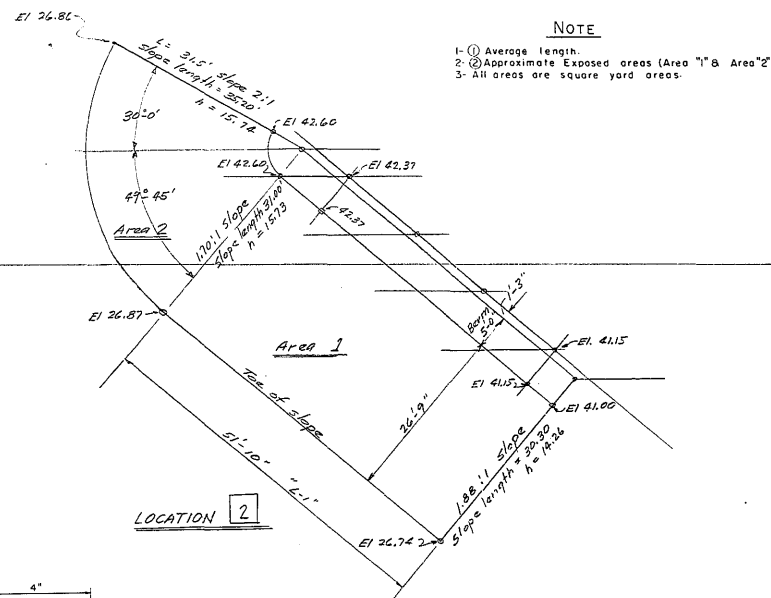
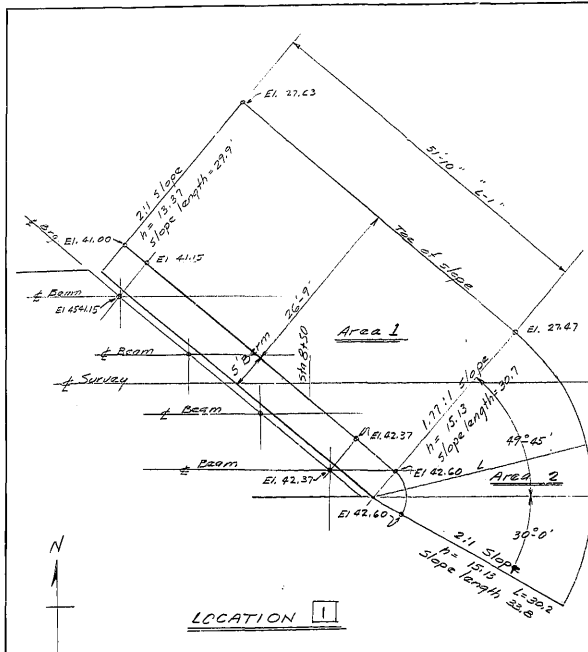
CHECKED BY YK 21 CHIEF BRIDGE ENGINEER

BA. NO. \_\_\_\_\_ Dwg. NO. **C-348**

NOTE

1- ① Average length.  
2- ② Approximate Exposed areas (Area "1" & Area "2"  $\frac{1}{2}$  of "3")  
3- All areas are square yard areas.

NOTE



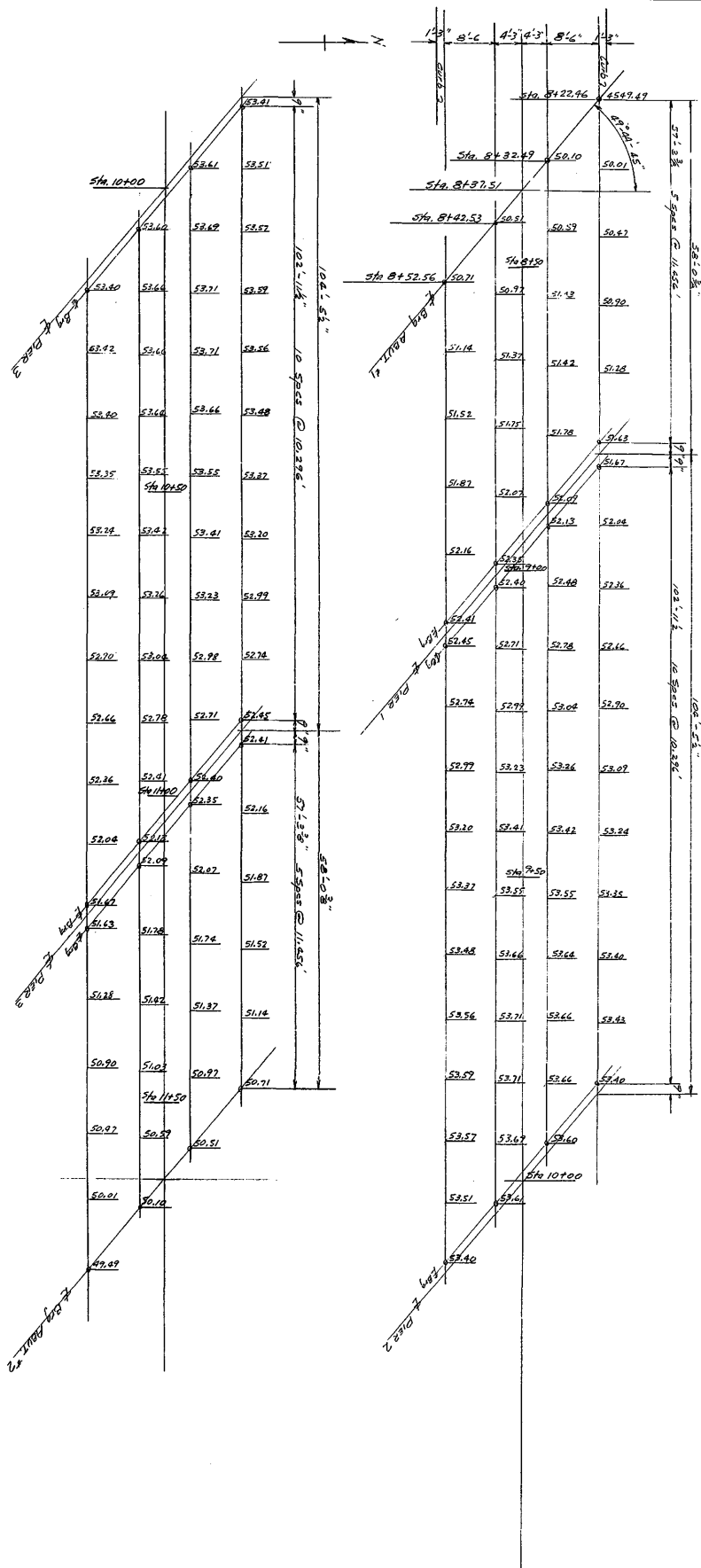
Slab to be Scored in 4'-0" X 8'-0" Sections

|  |  |  |  |
|--|--|--|--|
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

### SCORING DETAIL

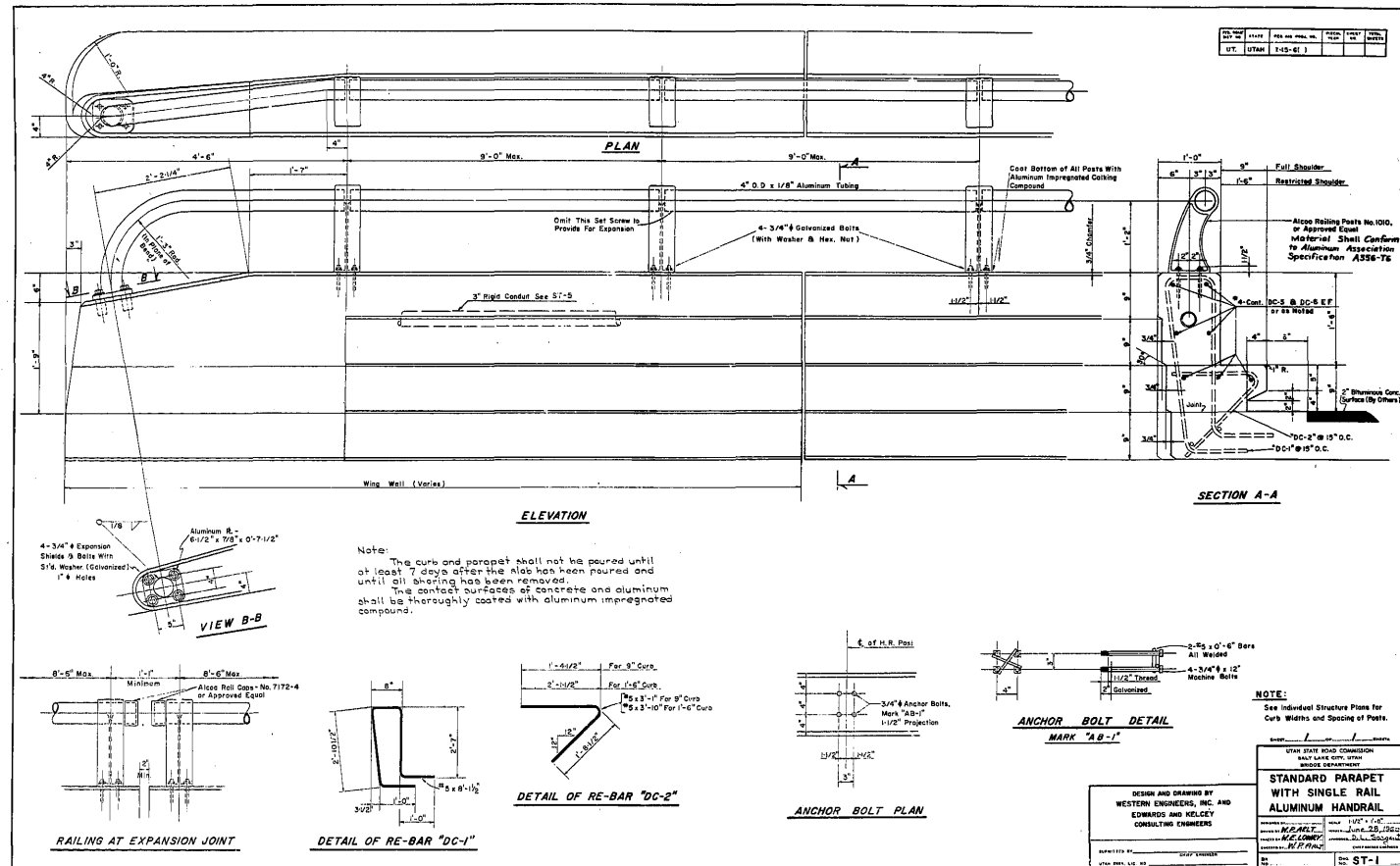
|                                  |                       |                |  |
|----------------------------------|-----------------------|----------------|--|
| UTAH STATE DEPARTMENT OF HIGHWAY |                       |                |  |
| SALE 1861 CITY, UTAH             |                       |                |  |
| STRUCTURES DIVISION              |                       |                |  |
| LEHI - PROVO                     |                       |                |  |
| COUNTY ROAD UNDERPASS            |                       |                |  |
| REIN. CONC. SLOPE PROTECTION     |                       |                |  |
| DESIGNED BY                      | CHECKED BY <i>ELW</i> | 1-5-6 (18) 271 |  |
| DRAWN BY <i>LBL</i>              | CHECKED BY            | PROJECT NUMBER |  |
| QUANTITY BY                      | CHECKED BY            | 3549 ± 00      |  |
| VERIFIED BY                      | GROUP LEADER          | UTAH           |  |
| RECOMMENDED BY                   |                       | CITY           |  |
| APPROVED <i>Aug. 3, 1962</i>     | <i>D.L. Seibert</i>   |                |  |
| 680                              | ORG. NO.              | 14 of 15       |  |
| PRO                              | C-348                 |                |  |





NOTE:  
 ELEVATIONS SHOWN ARE FINISH GRADE  
 PLUS 1.5 TIMES SLAB DEAD LOAD ONLY

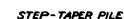
|                                   |               |
|-----------------------------------|---------------|
| UTAH STATE DEPARTMENT OF HIGHWAYS |               |
| LEHI FROYO                        |               |
| STRUCTURES DIVISION               |               |
| COUNTY ROAD UNDERPASS             |               |
| SCREED ELEVATIONS                 |               |
| DESIGNED BY                       | 1-15-6 (01)21 |
| CHECKED BY                        | 5/1/60        |
| APPROVED BY                       | AL. 3-1-60    |
| DATE                              | 15-6-75       |
| PROJECT NO.                       | 000-3-48      |
| SECTION                           | 15-6-75       |



To Accompany C-346, C-347, C-348

[illegible]

To Accompany C-346, C-347, C-348



**GENERAL NOTES**

### DESIGN SPECIFICATIONS

A.A.S.H.O. Standard Specifications for Highway Bridges, 1957 Edition

### CONSTRUCTION SPECIFICATIONS

*Materials, Construction and Workmanship: Shall Be In Accordance With The State Standard Specifications For Road And Bridge Specifications For Road And Bridge Construction, 1960 Edition, And Supplements Thereto Which Are In Effect At Date Of Requests For Bids.*

### ALTERNATE DESIGN

In Lieu Of Cast-in-Place Or Steel Piles, Bidders May, If They Desire, Use Precast Concrete Piles. The Precast Piles Shall Have The Equivalent Bearing Powers Of The Design Shown And The Bidders Shall Be Required To Submit Shop Drawing For Approval.

**TEST PILES AND PILE LOADING TESTS**

**TEST PILES AND PILE LOADING TESTS**  
The Contractor shall drive the test piles

NO PILES OR PILE SHALL BE ORDERED UNTIL THE RESULTS OF THE TESTS HAVE BEEN VERIFIED, BY THE ENGINEER.

**FILE LENGTHS**  
 Run On To

Based on the results of the test piles and pile logging tests, the Contractor shall submit to Engineer, for his approval, a schedule of pile and/or pile shell lengths intended for use in the work.

**CONCRETE**

**Concrete Shall Be Class A With Type II Cement.**

**REINFORCEMENT**  
All Reinforcement Steel Shall Be New Billet Steel, Intermediate Grade, Conforming To A.S.T.M. Designation A-15 And Shall have Deformations Conforming To A.S.T.M. Designation A-308.

## STEEL SHELLS

*The Contractor Shall Be Responsible For Furnishing Steel Shells, With Waterproof End Sections, Of Sufficient Strength And Rigidity To Permit Their Driving Without Distortion.*

## DRIVING PILES

No Jetting Shall Be Permitted For Piles Driven Into Built-up Embankments. If Pile Penetration Cannot Be Accomplished By The Hammer Alone, A Combination Of Auger And Hammer Shall Be Permitted.

TAPER P/L

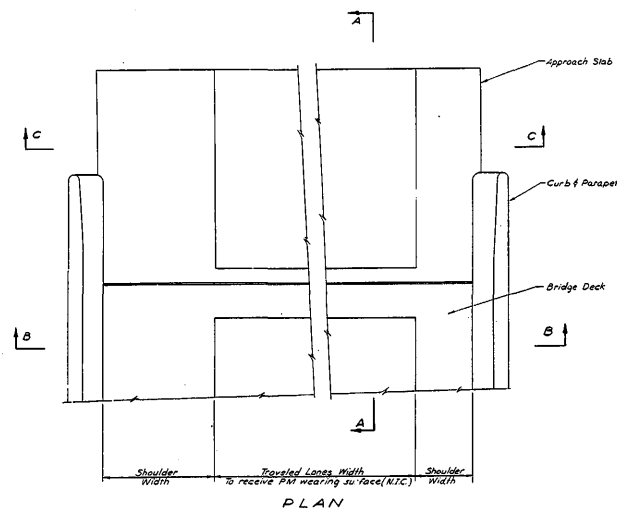
When Specified By The Special Provisions The Contractor Shall Use The Paper 1'-2" Minimum Diameter (Nominal) Butt Piles Exclusively For The Required Foundation.



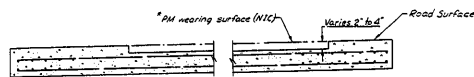
|          |      |          |      |          |      |
|----------|------|----------|------|----------|------|
| FILE NO. | DATE | FILE NO. | DATE | FILE NO. | DATE |
| U.T.     | 1948 | 1-15-48  |      |          |      |

|                                                                                                                             |  |                                                                                                                                                    |  |
|-----------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------|--|
| DESIGN AND DRAWN BY<br><b>WESTERN ENGINEERS, INC. AND<br/>         BOWARDS AND KILCEY<br/>         CONSULTING ENGINEERS</b> |  | UTAH STATE ARCH COMMISSION<br>1001 WEST CITY, SALT<br>LAKE CITY, UTAH<br>84119                                                                     |  |
| STANDARD<br><b>PILE (OTHER THAN TIMBER)</b><br>DETAILS                                                                      |  | DRAWN BY <u>LLK</u> SCALE <u>AS SHOWN</u><br>CHECKED BY <u>LLK</u> DATE <u>APRIL 26, 1984</u><br>DESIGNED BY <u>LLK</u> CITY <u>SALT LAKE CITY</u> |  |
| DESIGNED BY <u>LLK</u>                                                                                                      |  | FILE NO. <u>ST-3</u>                                                                                                                               |  |

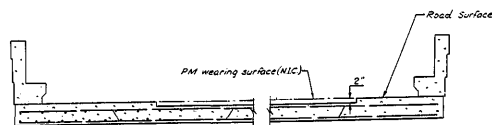
To Accompany C-346, C-347, C-348



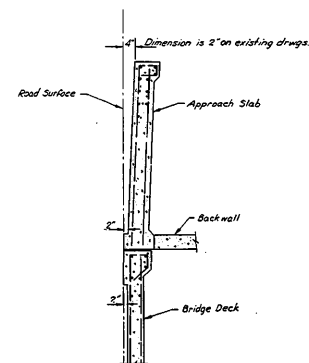
PLAN



SECTION C-C THRU APPROACH SLAB



SECTION B-B THRU DECK



SECTION A-A

NOTE:  
Existing Bridge plans are modified by this attached sheet in this extent:  
1. The extreme edge of the approach slab will be 2" lower than previously shown.  
2. The Deck Slab will be poured to finish grade in the entire area of the shoulders, also approach slabs.  
3. Additional amount of concrete required for the above corrections will be verified by the resident engineer and payment made therefor.

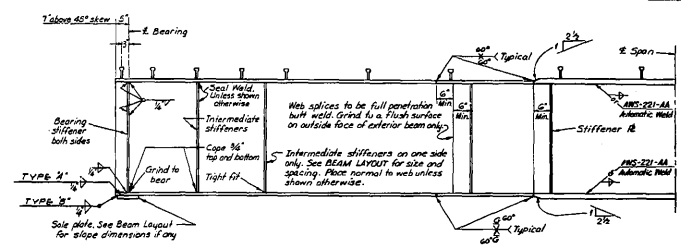
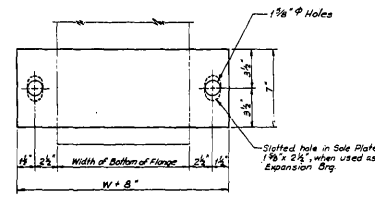
SAVE

|                                              |                         |
|----------------------------------------------|-------------------------|
| UTAH STATE DEPARTMENT OF HIGHWAYS            |                         |
| SALT LAKE CITY, UTAH                         |                         |
| TECHNICAL DIVISION                           |                         |
| MODIFICATIONS OF DECK SLAB AND APPROACH SLAB |                         |
| DESIGNED BY: C.F.E.                          | CHECKED BY: [Signature] |
| APPROVED BY: [Signature]                     | DATE: [Date]            |
| PROJECT NO.: 15-6(13) 271                    | DR: 1                   |
| DATE: [Date]                                 | BY: [Signature]         |

I-15-6(13) 271 225 Cont'd

TO ACCOMPANY C-346, C-347, C-348

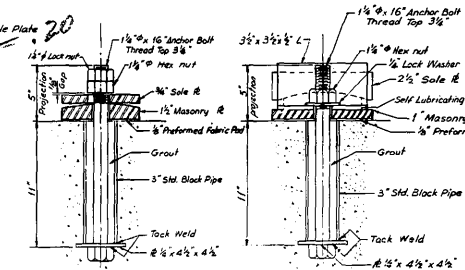
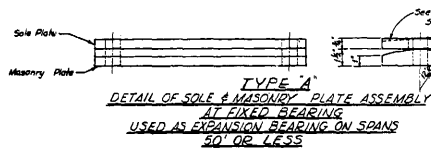
|          |      |      |         |      |      |          |
|----------|------|------|---------|------|------|----------|
| DES. NO. | DATE | BY   | CHECKED | DATE | BY   | REVISION |
| UTAH     | UTAH | UTAH | UTAH    | UTAH | UTAH | UTAH     |



# WELDED PLATE BEAM

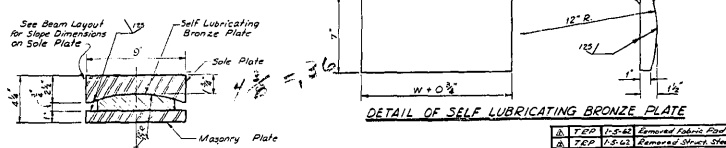
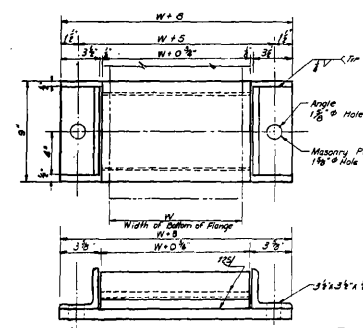
## STRUCTURAL STEEL NOTES

1. Structural steel for welding shall conform to the Specifications for Structural Steel for Welding of A.S.T.M. A-36 (ASTM A-36).
2. The methods of joint preparation for welding shown on the plans are based on the use of manually shielded arc welding. In the event that automatic or semi-automatic submerged arc processes are used, the Contractor may submit alternative methods of joint preparation for approval of the Engineer.
3. Strength fillet weld or alternate shall be the minimum sized welds required by the Standard Specifications of the A.S.T.M. for thickness of the material joined, unless otherwise specified.
4. All seal weld shall be minimum 1/8 inch fillet.



## ANCHOR BOLT

NOTE: Bridge Seat Bearing Areas (2" larger than Masonry Plate) shall be finished high and rubbed or ground to grade within 1/8 inch no grinding.

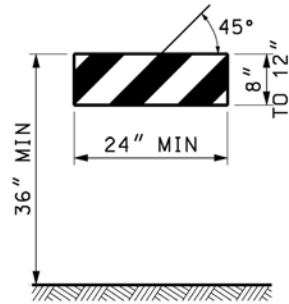


|                                            |      |            |                                            |
|--------------------------------------------|------|------------|--------------------------------------------|
| UTAH STATE ROAD COMMISSION                 |      |            |                                            |
| STRUCTURES DIVISION                        |      |            |                                            |
| COMPOSITE WELDED STEEL BEAM SUPERSTRUCTURE |      |            |                                            |
| STANDARD                                   |      |            |                                            |
| STEEL DETAILS                              |      |            |                                            |
| DESIGNED BY                                | DATE | CHECKED BY | DATE                                       |
| UTAH                                       | UTAH | UTAH       | UTAH                                       |
| REVISIONS                                  |      |            |                                            |
| NO.                                        | BY   | DATE       | REMARKS                                    |
| 1                                          | TEP  | 1-5-62     | Revised Fabric Pad Note                    |
| 2                                          | TEP  | 1-5-62     | Revised Steel Plate Note                   |
| 3                                          | TEP  | 1-5-62     | Revised Self-Lubricating Bronze Plate Note |
| REVISIONS                                  |      |            |                                            |
| NO.                                        | BY   | DATE       | REMARKS                                    |
| 1                                          | TEP  | 1-5-62     | Revised Fabric Pad Note                    |
| 2                                          | TEP  | 1-5-62     | Revised Steel Plate Note                   |
| 3                                          | TEP  | 1-5-62     | Revised Self-Lubricating Bronze Plate Note |

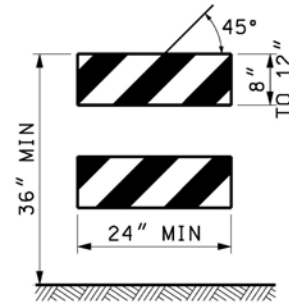
TO ACCOMPANY C-546 C-547 C-548



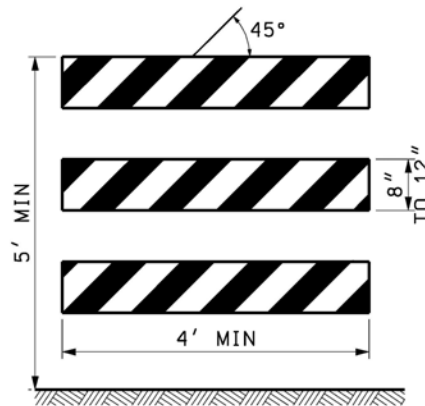




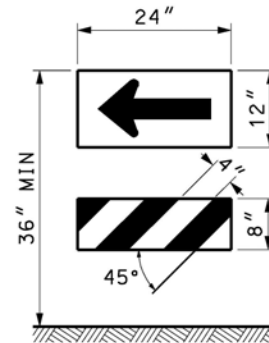
TYPE I BARRICADE



TYPE II BARRICADE



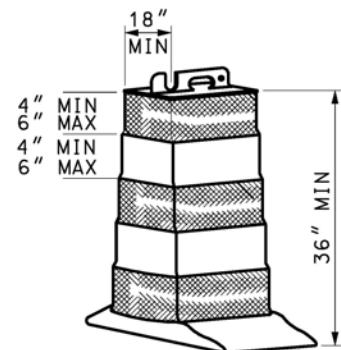
TYPE III BARRICADE



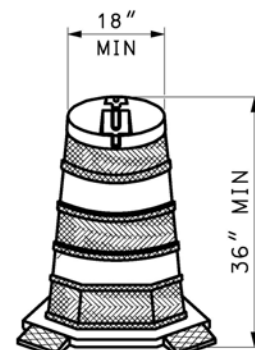
DIRECTION INDICATOR BARRICADE

BARRICADES

NOTES 1,2,6



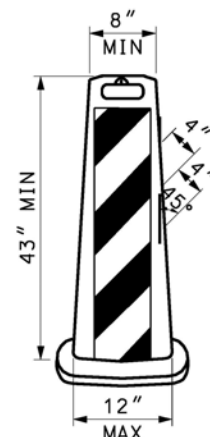
ONE-PIECE RECTANGULAR  
W/RETROREFLECTIVE BANDS



TWO-PIECE ROUND  
W/RETROREFLECTIVE BANDS

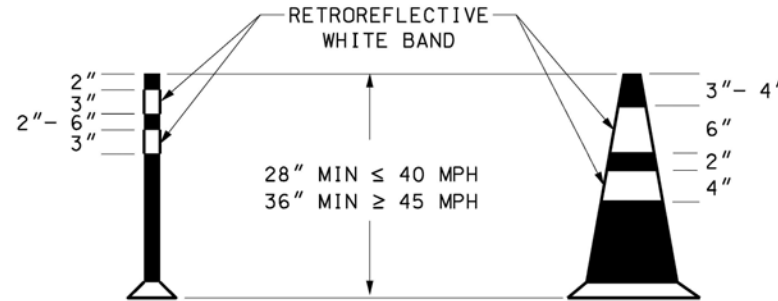
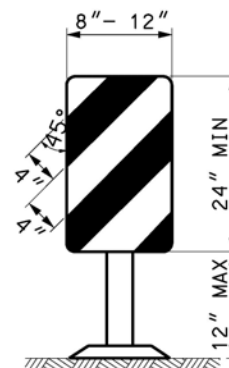
PLASTIC DRUMS

SEE NOTES 3,5,9



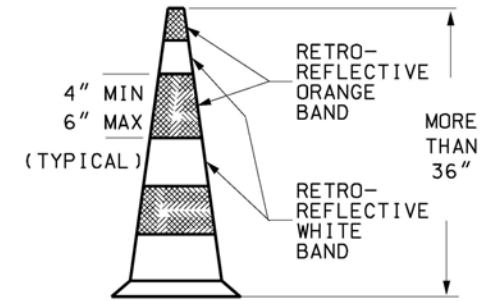
VERTICAL PANELS

SEE NOTE 1



TUBULAR MARKERS

DAYLIGHT HOURS ONLY  
SEE NOTE 5



CONES

NOTES 5,7,8,9,10,11

NOTES:

1. USE A MINIMUM OF 270 SQUARE INCHES OF RETROREFLECTIVE MATERIAL PLACED ON BARRICADES AND VERTICAL PANELS WHEN USED ON FREEWAYS OR ROADWAYS WITH A POSTED SPEED GREATER THAN 45 MPH. PLACE BARRICADES AND VERTICAL PANELS IN SUCH A MANNER THAT THEY ARE VISIBLE TO APPROACHING TRAFFIC.
2. USE SANDBAGS WITH SAND OR OTHER COMPARABLE SOFT MATERIAL AS BALLAST. DO NOT PLACE BALLAST HIGHER THAN 12 INCHES ABOVE THE ROADWAY AND DO NOT COVER ANY REFLECTIVE AREA OF RAILS OR SIGNS.
3. USE PLASTIC DRUMS OR DIRECTIONAL BARRICADES AS LANE CLOSURE TAPER DEVICES FOR SPEEDS 50 MPH AND GREATER.
4. USE TUBULAR MARKERS FOR DAY-TIME USE ONLY.
5. WHEN DRUMS, CONES, OR TUBULAR MARKERS ARE USED TO CHANNELIZE PEDESTRIANS, LOCATE THEM SUCH THAT THERE ARE NO GAPS BETWEEN THE BASES OF THE DEVICES IN ORDER TO CREATE A CONTINUOUS BOTTOM, AND THE HEIGHT OF EACH INDIVIDUAL DRUM, CONE, OR TUBULAR MARKER IS NO LESS THAN 36 INCHES TO BE DETECTABLE TO USERS OF LONG CANES. WHEN BARRICADES ARE USED TO CHANNELIZE PEDESTRIANS, THE BOTTOM OF THE BOTTOM RAIL WILL BE NO HIGHER THAN 6 INCHES OFF THE GROUND IN ADDITION TO THE ABOVE REQUIREMENTS.
6. USE A DIRECTION INDICATOR BARRICADE WITH A ONE-DIRECTION LARGE ARROW (W1-6) SIGN MOUNTED ABOVE A DIAGONAL STRIPED, HORIZONTALLY ALIGNED, RETROREFLECTIVE RAIL.
7. USE REFLECTORIZED CONES DURING NIGHTTIME FOR MAXIMUM VISIBILITY.
8. PROVIDE RETROREFLECTORIZATION OF CONES THAT ARE 28 TO 36 INCHES IN HEIGHT BY USING A 6 INCH WIDE WHITE BAND LOCATED 3 TO 4 INCHES FROM THE TOP OF THE CONE AND AN ADDITIONAL 4 INCH WIDE WHITE BAND LOCATED APPROXIMATELY 2 INCHES BELOW THE 6 INCH BAND.
9. PROVIDE RETROREFLECTORIZATION OF CONES THAT ARE MORE THAN 36 INCHES IN HEIGHT BY USING HORIZONTAL, CIRCUMFERENTIAL, ALTERNATING ORANGE AND WHITE RETROREFLECTIVE STRIPES THAT ARE 4 TO 6 INCHES WIDE. USE A MINIMUM OF TWO ORANGE AND TWO WHITE STRIPES FOR EACH CONE, WITH THE TOP STRIPE BEING ORANGE. DO NOT EXCEED 3 INCHES IN WIDTH FOR ANY NON- RETROREFLECTIVE SPACES BETWEEN THE ORANGE AND WHITE STRIPES
10. DO NOT USE CONES DURING NIGHTTIME ON FREEWAYS, DIVIDED HIGHWAYS, OR ROADS WITH A SPEED OF 55 MPH OR GREATER. THIS RESTRICTION DOES NOT APPLY TO PAVEMENT MARKING OPERATIONS.
11. DO NOT USE CONES FOR LONG TERM STATIONARY OPERATIONS. CONES WILL BE REMOVED FROM THE ROADWAY AT THE END OF EACH WORKDAY, WITH THE FOLLOWING EXCEPTION:

CONES MAY BE USED FOR UP TO 3 DAYS/2 NIGHTS FOR OPERATIONS WHERE WORKERS ARE CONTINUALLY PRESENT AND WORK IS ACTIVELY UNDERWAY. CONES WILL BE REPLACED WITH VERTICAL PANELS, DRUMS, AND/OR BARRICADES WHEN WORKERS ARE NO LONGER PRESENT, OR WHEN WORK EXTENDS THROUGH ADDITIONAL NIGHTS.

| REVISIONS |          | NO. | DATE                                                                       | APPR. | REMARKS |
|-----------|----------|-----|----------------------------------------------------------------------------|-------|---------|
| 1         | 08/28/08 | MD  | REVISED LEFT VERTICAL PANEL DETAIL TO MEET 270 SQUARE INCH RULE IN NOTE 1. |       |         |

|                                   |  |                                                    |  |                        |  |
|-----------------------------------|--|----------------------------------------------------|--|------------------------|--|
| UTAH DEPARTMENT OF TRANSPORTATION |  | STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION |  | SALT LAKE COUNTY, UTAH |  |
| RECOMMENDED FOR APPROVAL          |  | DATE                                               |  | DATE                   |  |
| CHAIRMAN STANDARDS COMMITTEE      |  | APPROVED                                           |  | DEPUTY DIRECTOR        |  |

|                        |  |                |  |         |  |
|------------------------|--|----------------|--|---------|--|
| WORK ZONE              |  | CHANNELIZATION |  | DEVICES |  |
| STANDARD DRAWING TITLE |  | STD DWG        |  | TC 2A   |  |