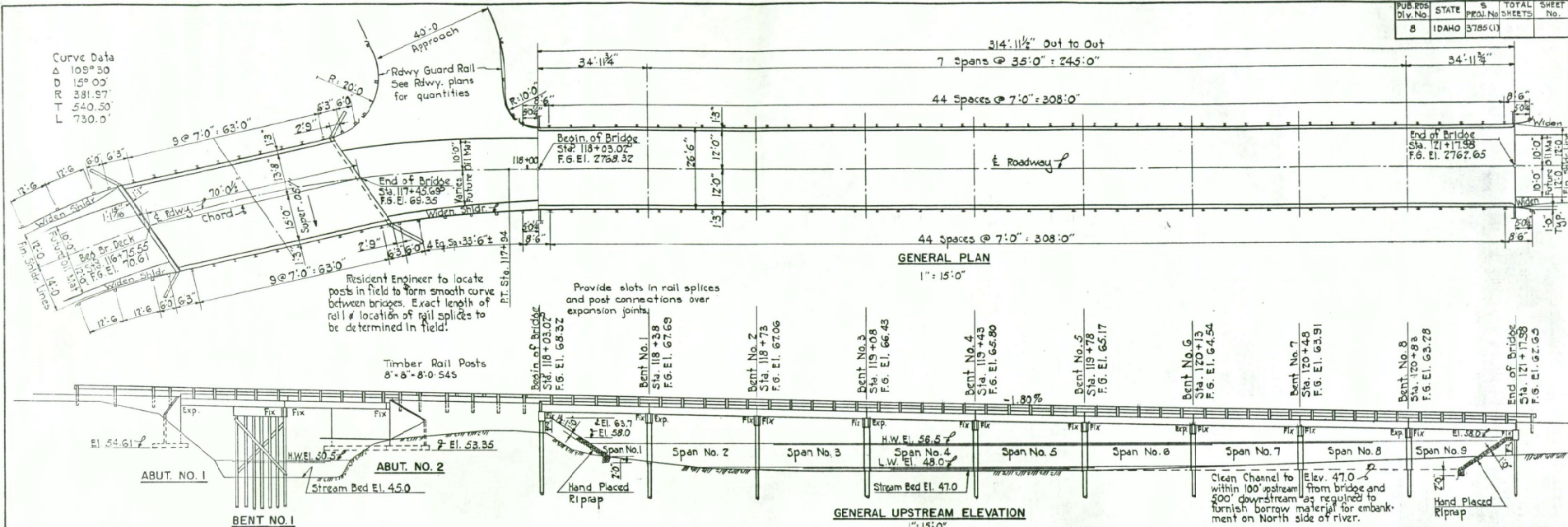


Curve Data
 Δ 159° 30'
 D 15° 00'
 R 381.97'
 T 730.50'
 L 730.0'



DESIGN NOTES

Structure designed in accordance with A.A.S.H.O. Specifications of 1933.
 Live Load: H15-S17-44 loading, variable impact.
 Roadway Slab designed for a future wearing surface of 2 1/2" of
 60% live load surcharge. No surcharge
 was considered in design of girders.
 Unit stresses: Concrete f'_c 3000 ψ in 28 days; f'_s 1200 ψ ;
 reinforcing steel f_s 20,000 ψ .
 Timber piles in Bents shall be 14" minimum butt diameter and
 shall be driven to a bearing value of not less than 21 tons per pile and
 to a penetration of not less than 13 feet below stream bed.
 Timber piles in Abutments shall be 12" minimum butt diameter
 and shall be driven to a bearing value of not less than 16 tons per
 pile.
 Maximum bearing pressure under Canal Bridge footings .425 ψ .

GENERAL NOTES

Use Idaho Department of Highways Standard Specifications, 1950
 Edition unless otherwise noted.
 All concrete to be Class "A" No. 1 coarse aggregate.
 All reinforcing steel bars shall be deformed bars of intermediate
 grade and shall conform to A.A.S.H.O. Specification M-31 and A.S.T.M.
 Specification A 305-50.
 All reinforcing steel to have a 2" covering outside of bars unless
 otherwise noted. Dimensions refer to bed centers.
 Stringer stems may be precast away from the bridge site, but
 prior to handling or erecting, tests must indicate that the concrete
 has a strength of f'_c 3000 ψ .
 Cost of furnishing and placing the following are to be included in
 the unit price bid for Item 506-A-2: Premolded joint filler, galvanized
 pipe drains, lead bearing plates and galvanized rail post anchor bolts.
 All timber shall be Coast Douglas Fir and shall pass the requirements
 as defined in the Revised Grading Rules of the West Coast Lumbermen's
 Association, dated Nov. 1, 1948.
 Timber piling, pile bent enclosure and sway braces shall be
 treated by the empty cell process to contain not less than 8 lbs. per
 cubic foot of creosote or 50.50 creosote-petroleum oil. Enclosure

GENERAL NOTES (CONTINUED)

plank and sway braces shall pass the requirements of W.C.L.A.
 Paragraph 202.
 End timber rail posts to be Salts Treated and shall pass the re-
 quirements of W.C.L.A. Paragraph 212.
 All piling shall be supplied with American All Steel Pile Shoes
 as manufactured by the American Pile Co., Philadelphia, Pa., or
 equal.
 One test pile shall be driven in Bent No. 1 on the Canal Bridge,
 Bent No. 1 and Bent No. 7 on the Boise River Bridge in a location
 so that they may be used as part of the finished structure.
 Item 508-A shall include the cost of furnishing and placing
 steel bearing plates and steel rail posts.
 Item 508-C shall include the cost of furnishing and in-
 stalling the Steel Beam Handrail and its fastenings only.
 Steel posts and steel beam handrail shall be painted in
 accordance to Specification 509.07(c) except that the portion of
 the posts below the curb shall be painted the same as above the
 curb.
 Cost of furnishing and placing galvanized nose plates and
 hardware for pile bent enclosure and sway braces to be included
 in unit price bid for Item 514-A-1.
 Contractor shall provide an approved method for supporting
 deck slab forms in precast stringers.
 Two sets each of shop details for the following items shall
 be submitted to the designers for approval: Steel Beam Handrail
 and Reinforcing Steel.
 The lump sum bid for Item 204-A-1 will include the cost
 of removing that portion of the structure south of the South
 end of the Boise River Bridge truss. See Special Provisions
 for description of Items 204-A-1 & 204-A-2.

QUANTITIES

	Canal Bridge	River Bridge
204-A-1 Removal of Bridge	1 Each	1 Each
204-A-2 Removal of Bridge	230 Cu.Yds.	30 Cu.Yds.
207-B Excavation for Structure	380 Cu.Yds.	55 Cu.Yds.
214 Mechanical Tamping	30 Cu.Yds.	114 Cu.Yds.
506-A-1 Concrete, Class "A", for Precast Slabs	154 Cu.Yds.	218 Cu.Yds.
506-A-2 Concrete, Class "A", Poured in Place	33160 Lbs.	86610 Lbs.
508-A Metal Reinforcement	676 Lbs.	2136 Lbs.
508-C Steel Beam Handrail for Conc. Str. (10 5/8")	258.5 Lin. Ft.	650 Lin. Ft.
510-A-1 Furnishing Pile Driving Equipment	Lump Sum	Lump Sum
510-A-2 Furnishing Pile Driving Equipment	260 Lin. Ft.	744 Lin. Ft.
510-B Furnishing Timber Piles, Treated	216 Lin. Ft.	1662 Lin. Ft.
510-F Driving Timber Piles, Treated	50 Lin. Ft.	82 Lin. Ft.
510-I Driving Test Piles	0.136 M.F.B.M.	9.600 M.F.B.M.
514-A-1 F1800 ψ Stress Gr. Timber, Creosote Treated	0.641 M.F.B.M.	0.171 M.F.B.M.
514-A-2 F1800 ψ " " " Salts Treated	---	---
602 Hand Placed Riprap	---	200 Cu.Yds.

DRAWINGS

General Plan & Elevation, Notes & Quantities	Drawg. No. G404
Canal Bridge - Slab Details & Rail Elevation	" " G405
" " " " " " " " " " " "	" " G406
" " " " " " " " " " " "	" " G407
" " " " " " " " " " " "	" " G408
" " " " " " " " " " " "	" " G409
River Bridge - Slab & Stringer Details	" " G410
" " " " " " " " " " " "	" " G411
" " " " " " " " " " " "	" " G412
Contour Map & Profile	" " G413

71' CONCRETE BRIDGE
OVER RIDENBAUGH CANAL
STA. 117 +10
 BARBER ROAD ADA CO.

315' CONCRETE BRIDGE
OVER BOISE RIVER
STA. 119 + 60
 BARBER ROAD ADA CO.

DESIGNED BY
 SMITH & MILHOLLIN
 STRUCTURAL ENGINEERS IDAHO

BOISE

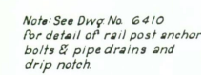
APPROVED *W. H. Hines*
 Date *7/1/53*

STATE OF IDAHO
 DEPARTMENT OF HIGHWAYS
 BOISE - IDAHO

APPROVED *W. H. Hines* BRIDGE ENGR. DATE *7-4-53*

FILE NO. 1166 DRAWING NO. 6404

MICROFILM RECORD					
DATE	ROLL NO.	AP-CARD or FRAME NO.			
12-7-77	14	35			
METRIC	2	3	4	5	6
INCHES	1	2	3	4	5



17'-6"

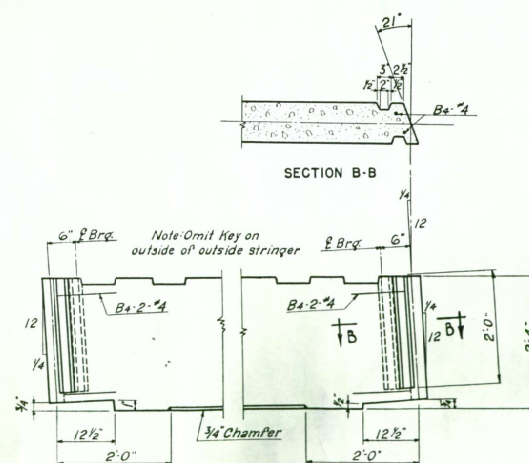
21°

8 1/2"

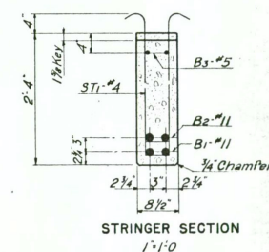
HALF PLAN OF STRINGER

1/2" = 1'-0"

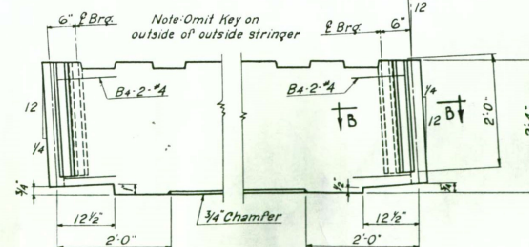
Notes: 1. Camber precast stringer on parabolic curve to $\frac{1}{8}$ " at $\frac{1}{2}$ span. Keep 2'-4" depth constant so that top of stringer follows parabolic curve also.



SECTION B-B



STRINGER SECTION
1:10



DETAIL "A"
1"=1'-0"

BARBER ROAD	ADA
-------------	-----

DESIGNED BY
SMITH & MILHOLLIN
STRUCTURAL ENGINEERS

For COUNTY of ADA

Approved M. L. Hendrix

Date 1/1/23 12:00 PM 12:00 PM

STATE of IDAHO

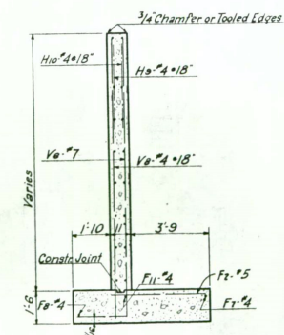
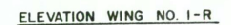
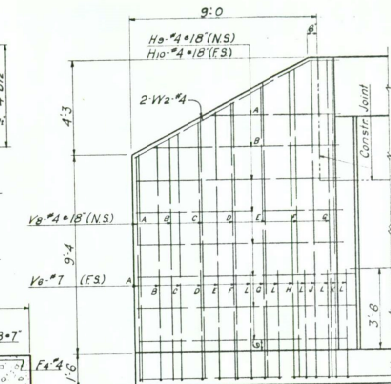
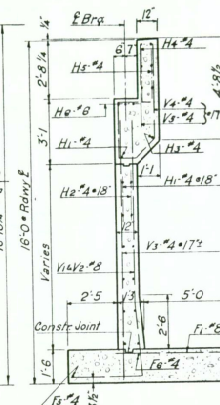
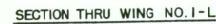
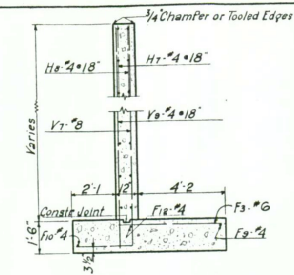
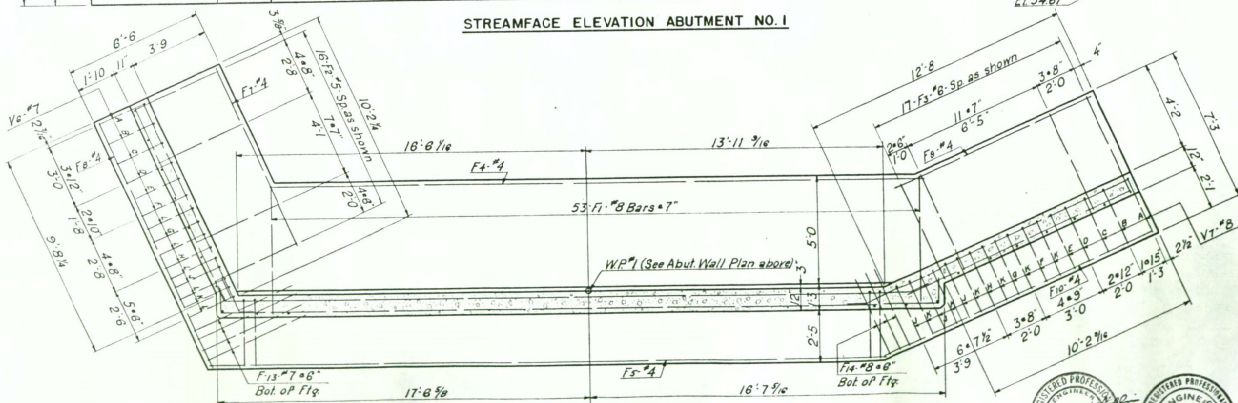
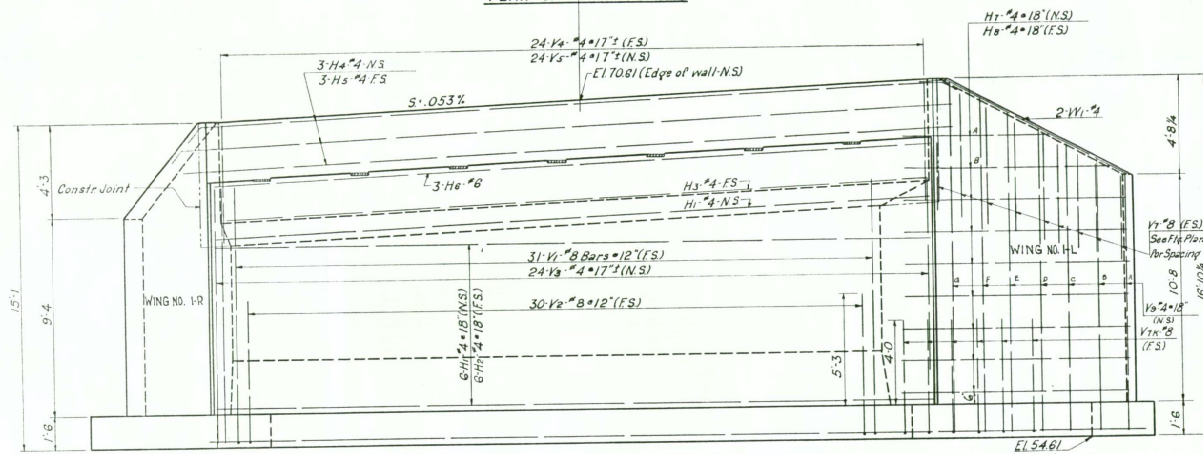
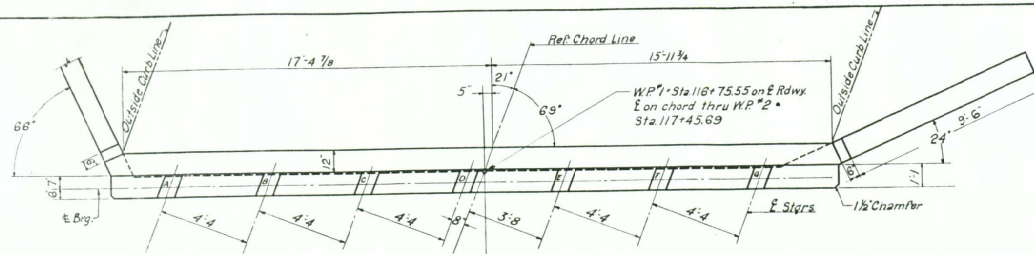
DEPARTMENT of HIGHWAYS
BOISE - IDAHO

1.

H. Albrecht BRIDGE ENGR. DATE 9-4

FILE NO. 1166 DRAWING NO. 6406





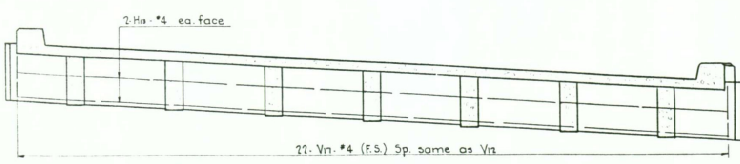
PJ&RDS DIV. NO.	STATE	5	TOTAL SHEETS	SHEET NO.
8	IDAHO	3785 (1)		

STGRSEAT	ELEY
A	6714
B	6739
C	6764
D	6788
E	6812
F	6837
G	6862

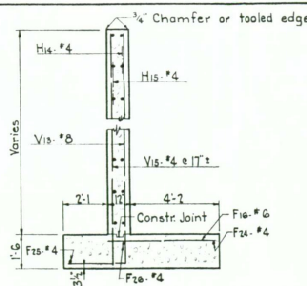
All Elevations are at the top surface of the $\frac{3}{4}$ " steel seat R's which are to be set level.

71' CONCRETE BRIDGE OVER RIDENBAUGH CANAL STA. 117+10		
BARBER ROAD	DESIGNED BY SMITH & M. HOLLIN STRUCTURAL ENGINEERS	ADA CO
BOISE	FOR COUNTY OF ADA	IDAHO
Approved <i>W. J. Hendrix</i> Date <i>7/7/53</i> <i>73rd Idaho</i>		
STATE OF IDAHO		
DEPARTMENT OF HIGHWAYS		
BOISE - IDAHO		
APPROVED <i>W. J. Hendrix</i> BRIDGE ENGR. Date <i>7-7-53</i>		
FILE NO. 1166	DRAWING NO.	6407

PROJECT NO.	MICROFILM RECORD
DATE	FILE NO.
11-22-77	14
11-22-77	37
METRIC 2	3 4 5 6 7 8 9 10
INCHES	1 2 3 4



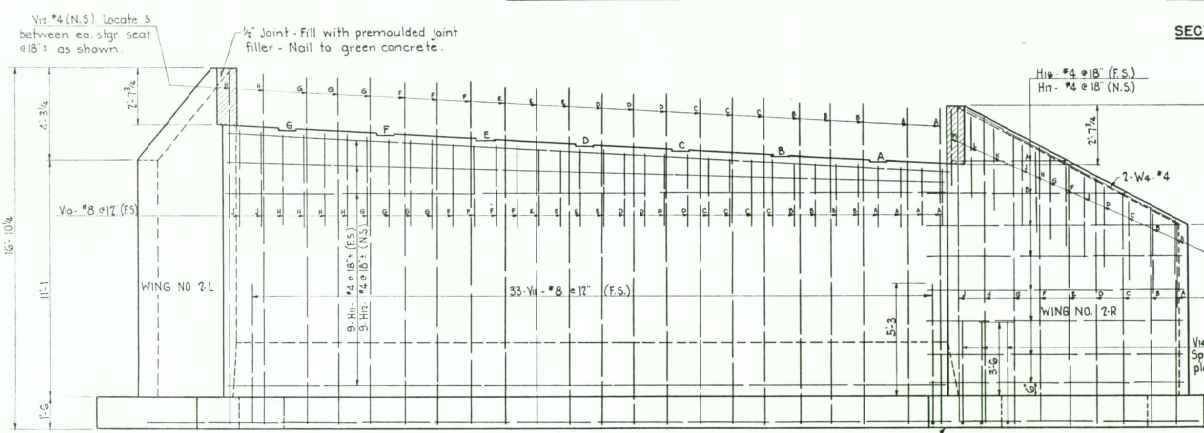
END BEAM ELEVATION



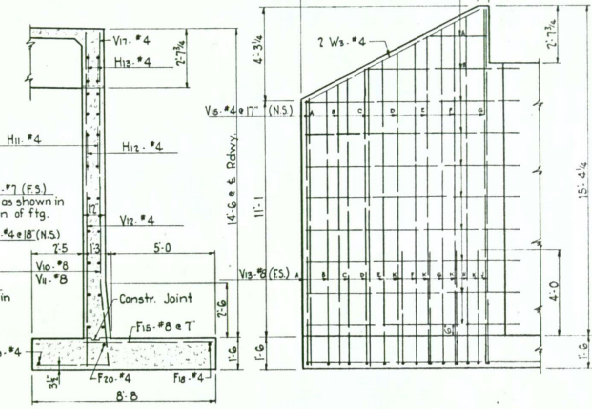
SECTION THRU WING NO. 2-L

Note: All stir seats to be level.
8 1/2" x 8" Lead R. x 1-4/8 to be placed in each seat.

PUB. ROS. DIV. NO.	STATE	S	TOTAL SHEETS	SHEET NO.
B	IDAHO	3765(1)		
STIR. SEAT				ELEV.
A				65.60
B				66.15
C				66.78
D				66.61
E				66.86
F				67.11
G				67.36

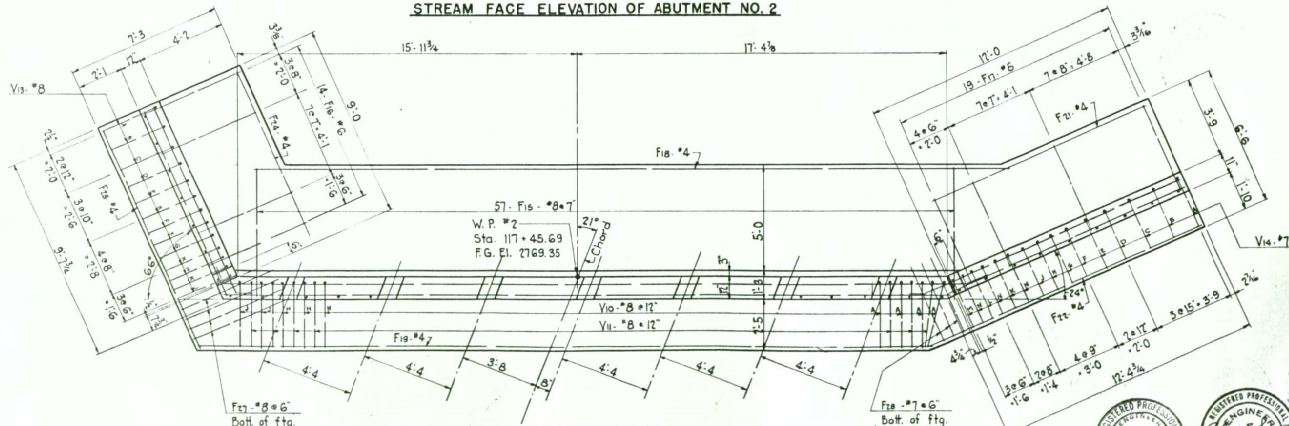


STREAM FACE ELEVATION OF ABUTMENT NO. 2

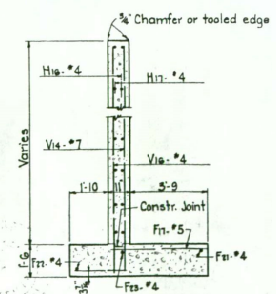


SECTION THRU ABUTMENT WALL

ELEVATION OF WING NO. 2-L

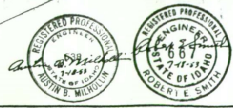


PLAN OF ABUTMENT NO. 2

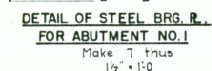


SECTION THRU WING NO. 2-R

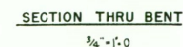
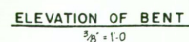
Scale 1/8" = 1'-0"



71' CONCRETE BRIDGE OVER RIDENBAUGH CANAL STA. 117+10	
BARBER ROAD	ADA CO.
DESIGNED BY SMITH & MILHOLLIN STRUCTURAL ENGINEERS	
BOISE	IDAHO
For COUNTY of ADA	
Approved <i>R. B. Smith</i>	
Date 11/17/83 <i>Heath Selman</i>	
STATE of IDAHO DEPARTMENT of HIGHWAYS BOISE-IDAHO	
APPROVED <i>R. B. Smith</i> BRIDGE ENGR. Date 2-2-87	
FILE NO. 1166 DRAWING NO. 6408	



Note: All strg. seats are
to be level.
8½" x 1/8" Lead R. 1'4 1/8
to be placed in each seat.

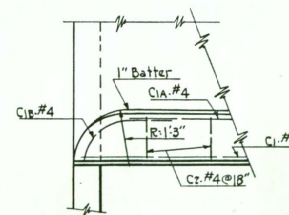
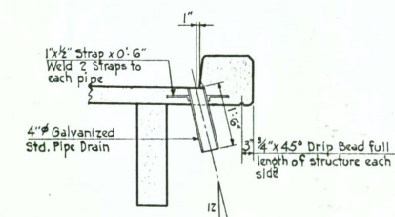
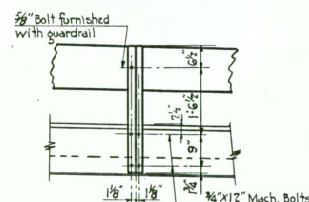
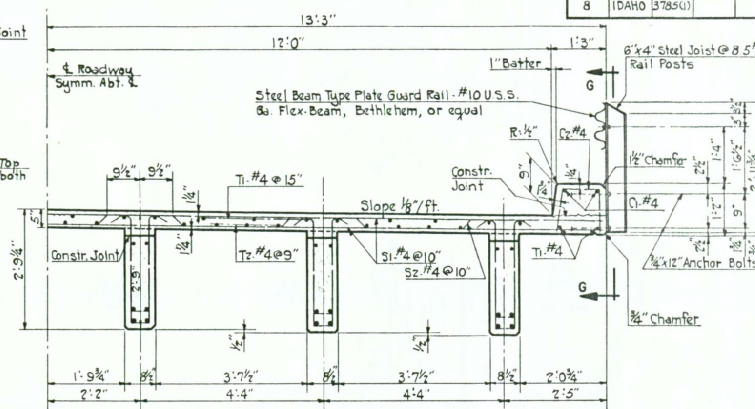
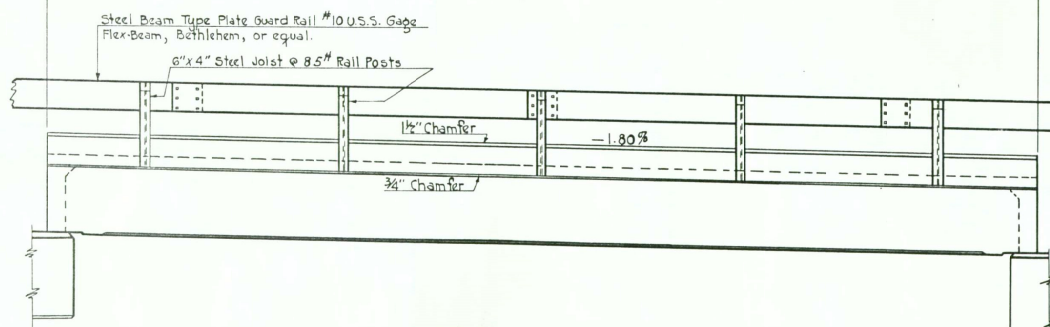
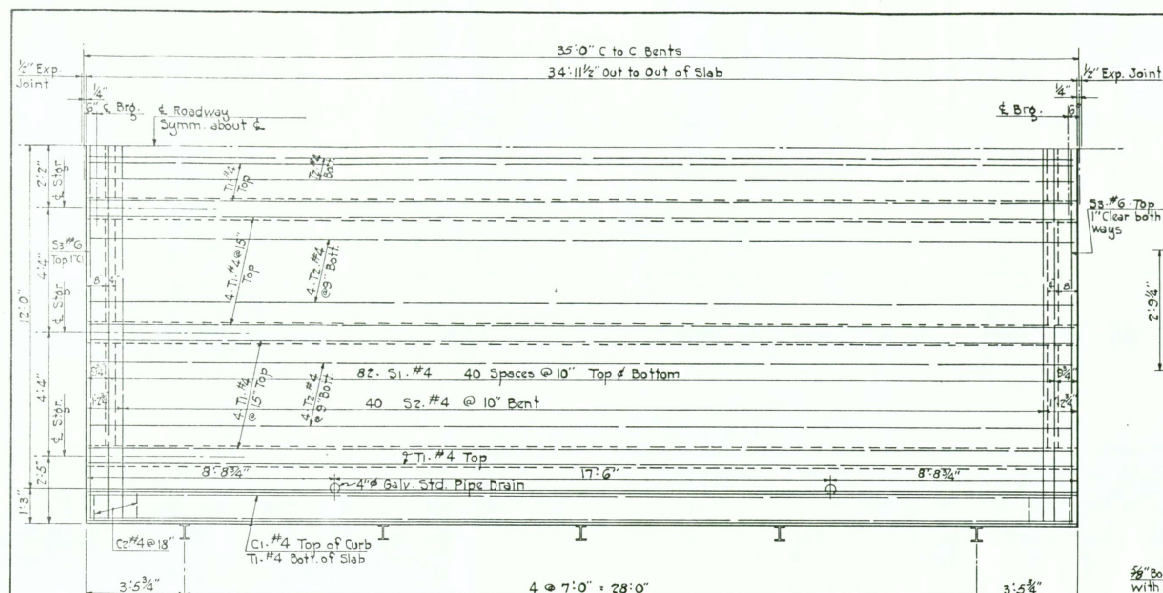


DETAIL OF LEAD BRG. PLATE

Make 28 thus
 $1\frac{1}{2} \times 1.0$

FILE NO. 1166 DRAWING NO. 6409





PUB. RDS DIV. No.	STATE	S	Total SHEETS	SHEET No.
8	IDAHO	3785(1)		

MICROFILM RECORD									
DATE		ROLL NO.		AP-CARD or FRAME NO.					
11-22-77		H		39					
METRIC 2		3	4	5	6	7	8	9	10

7

Notes: 1. Camber precast stringer on parabolic curve to $3/8"$ at $1'$ span. Keep 2'-4" depth constant so that top of stringer follows parabolic curve also.



315' CONCRETE BRIDGE
OVER BOISE RIVER
STA. 119 + 60

BARBER ROAD ADA CO
DESIGNED BY
SMITH & MOLLIN
STRUCTURAL ENGINEERS

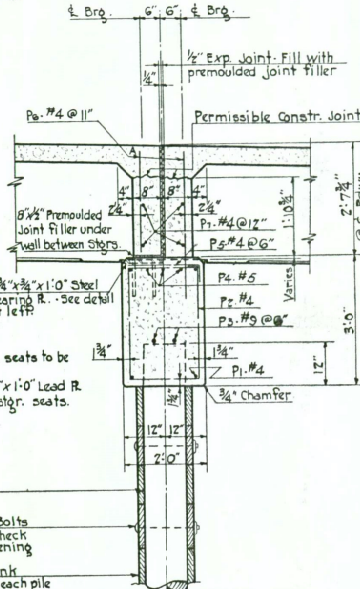
BOISE IDAHO

FOR COUNTY OF ADA
H. A. Hendrix
Date *11/7/53* *Heath & Schum*

STATE OF IDAHO
DEPARTMENT OF HIGHWAYS
BOISE - IDAHO

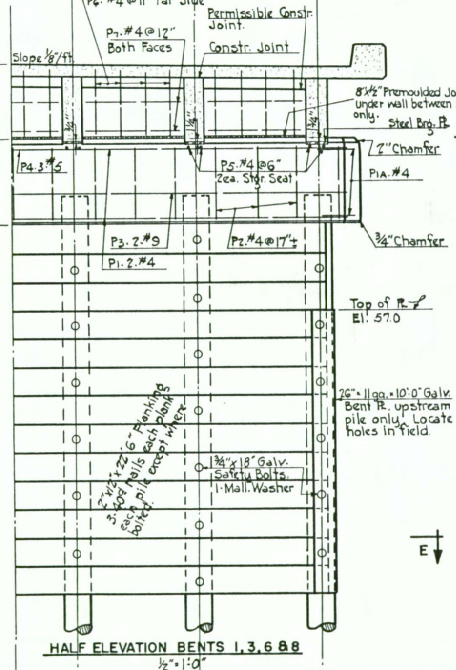
APPROVED:
H. A. Hendrix BRIDGE ENGR. DATE *4-5-54*

FILE NO. 1166 DRAWING NO. 6411



SECTION THRU EXPANSION BENT
 $\frac{3}{4}" = 1'-0"$

Notes. 1. All stor. seats to be level.
2. $8\frac{1}{2}'' \times 1\frac{1}{8}'' \times 1'-0''$ Lead R. in all stor. seats.



HALF ELEVATION BENTS 1, 3, 6 & 8

Top of R. 2
El. 57.0

26" x 11 ga. x 10' 0" Galv.
Bent R. upstream
pile only. Locate
holes in field.



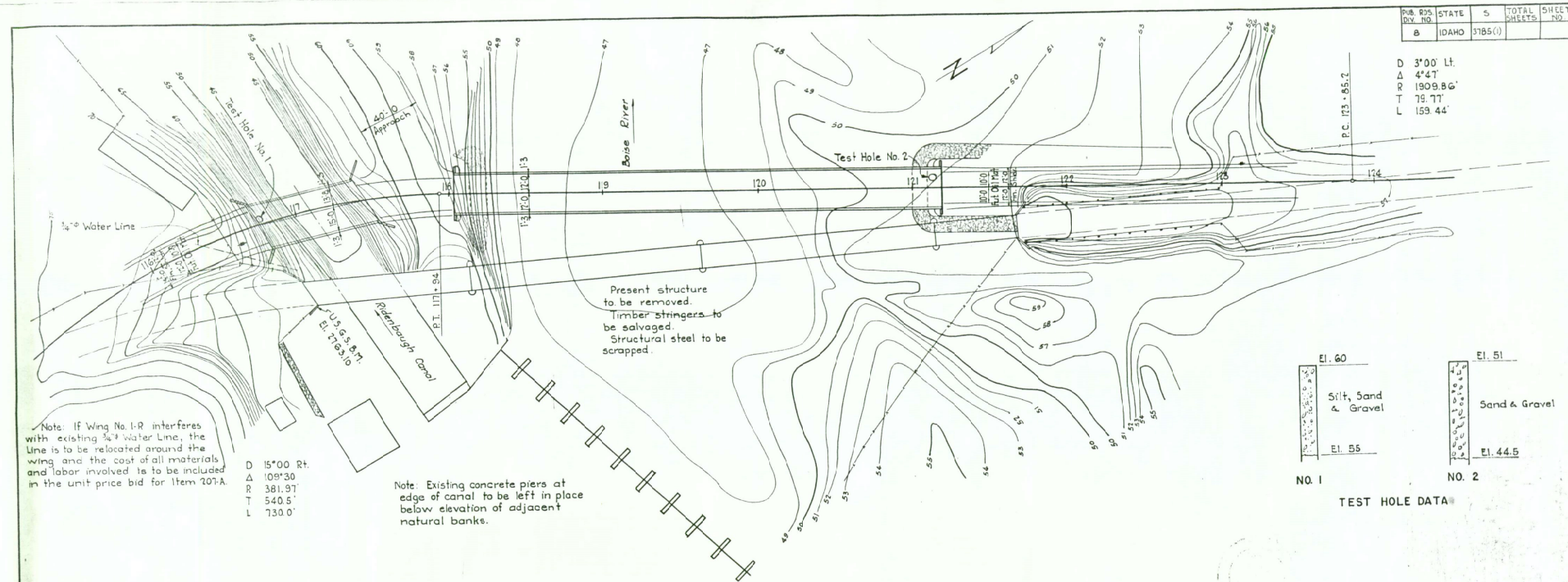
SECTION E-E
1/2" = 1'-0"

[illegible]

315' CONCRETE BRIDGE OVER BOISE RIVER STA. 119 + 60	
BARRIER ROAD	ADA CO.
DESIGNED BY SMITH & MILHOLLIN STRUCTURAL ENGINEERS	
BOISE	IDAHO
FOR COUNTY OF ADA.	
Approved	<i>Heath Solberg</i>
Date	<i>7/2/63</i>
STATE OF IDAHO DEPARTMENT OF HIGHWAYS BOISE - IDAHO	
APPROVED:	
<i>W. Albert Peterson</i> BRIDGE ENGR. DATE <i>5-6-63</i>	
FILE NO. 1166	DRAWING NO. 6412

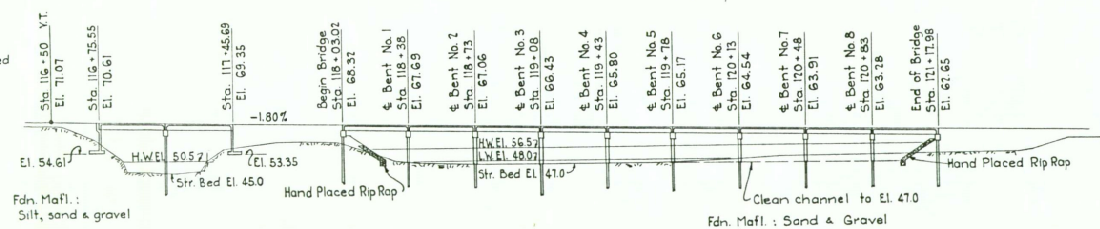
P&B NO.	STATE	S	TOTAL SHEETS	SHEET NO.
8	IDAHO	3785(1)		20

D 3'00' Lt.
 A 4'47'
 R 1909.86'
 T 79.77'
 L 153.44'



CONTOUR MAP & LOCATION SKETCH
 1" = 50' 0"

Note: Elevs. shown are at & Rdwy. finished grade.



ELEVATION PROFILE
 1" = 30' 0"

REINFORCING STEEL SUMMARY

RIDENBAUGH CANAL BRIDGE

Size	Length	Wt./Ft.	Weight
4	18.875	0.668	12.610
5	12.25	1.043	12.80
6	4.00	1.501	6.00
7	4.00	2.044	8.10
8	2.750	2.670	7.290
9	.60	3.400	2.00
11	1.950	5.313	10.360
Total - Lbs.			33160

BOISE RIVER BRIDGE

Size	Length	Wt./Ft.	Weight
4	58.970	0.668	39.390
5	4.500	1.043	4.690
6	4.70	1.501	7.10
9	5.70	3.400	19.38
11	7.540	5.313	40.060
Total - Lbs.			86270

71' CONCRETE BRIDGE OVER RIDENBAUGH CANAL STA. 117 +10
 BARBER ROAD ADA CO.

315' CONCRETE BRIDGE OVER BOISE RIVER STA. 119 +60
 BARBER ROAD ADA CO.

DESIGNED BY
 SMITH & MILHOLLIN
 STRUCTURAL ENGINEERS
 BOISE IDAHO

For COUNTY OF ADA
 APPROVED: *Th. Hendrix*
 DATE: 7/7/53

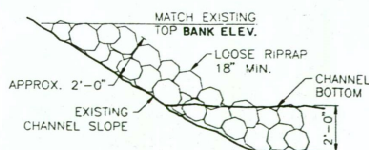
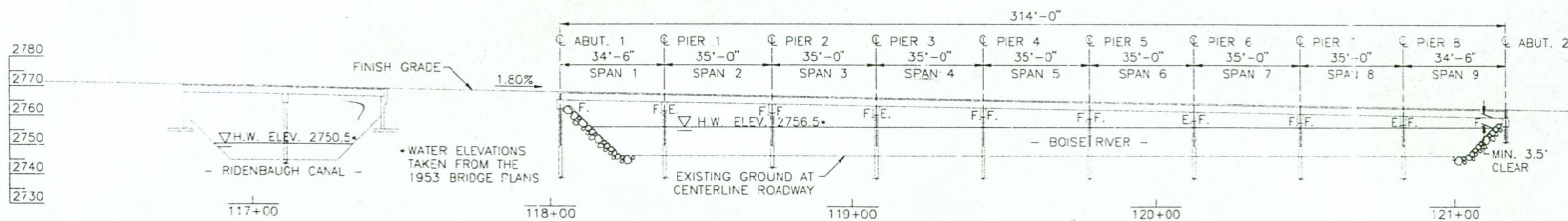
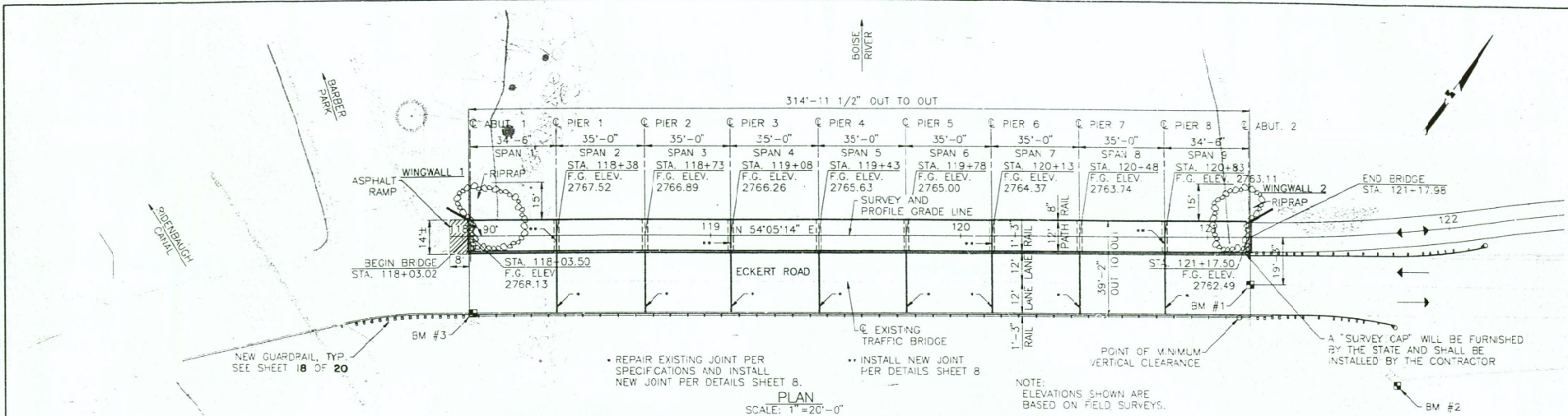
STATE OF IDAHO
 DEPARTMENT OF HIGHWAYS
 BOISE - IDAHO

APPROVED: *W. H. Johnson* BRIDGE ENGR. DATE: 7-4-53

Revised 9-25-53
 FILE NO. 1166 DRAWING NO. 6413

MICROFILM RECORD	DATE	ROLL NO.	AP-CARD or FRAME NO.
	11-20-77	14	43

METHOD 2 3 4 5 6 7 8 9 10
 INCHES 1 2 3 4



RIPRAP DETAIL
N.T.S.

HYDRAULIC DATA

FLOOD	DISCHARGE	H.W. ELEVATION	VELOCITY
DESIGN Q50	11,000 cfs	2754	
BASE Q100	16,600 cfs	2755	
SCOUR Q50	16,600 cfs	2755	8 fps

TRAFFIC DATA

ECKERT RD.	
1998 ADT	5620
2018 ADT	7230
2018 DHV	720
1998 ADT TRUCK	120
2018 ADT TRUCK	180
DESIGN SPEED	45 MPH

QUANTITIES

210-A-1	STRUCTURE EXCAVATION - SCHEDULE NO. 1	5 CY
210-B	COMPACTING BACKFILL	60 CY
502-B-4	CONCRETE CLASS 40-B - SCHEDULE NO. 1	29 CY
502-C-4	CONCRETE CLASS 40-A - SCHEDULE NO. 2	91 CY
502-J	PRESTRESSED DOUBLE TEE BEAM	618 LF
503-B	METAL REINFORCEMENT - SCHEDULE NO. 1	3919 LB
503-C	METAL REINFORCEMENT - SCHEDULE NO. 2	665 LB
503-D	EPOXY COATED METAL REINFORCEMENT	5368 LB
504-F	PEDESTRIAN/BICYCLE RAILING	335 LF
504-G	COMBINATION PEDESTRIAN/BICYCLE AND TRAFFIC RAILING	317 LF
505-C	FURNISHING AND DRIVING PILE (HP 12x53)	684 LF
505-E-2	FURNISHING AND DRIVING TEST PILE (HP 12x53)	125 LF
624-A	LOOSE RIPRAP	100 CY
SPB-1	BRIDGE REHABILITATION	1 LS
SPB-2	JOINT REPAIR	1 LS
SPB-3	CONCRETE REMOVAL	1 LS
SPB-4	JOINT INSTALLATION	1 LS
SPB-5	THREE BEAM RETROFIT TYPE 2 RAIL	402 LF

INDEX OF SHEETS

- SITUATION AND LAYOUT
- GENERAL AND DESIGN NOTES
- FOUNDATION INVESTIGATION
- ABUTMENT DETAILS
- PIER DETAILS
- DOUBLE TEE PRESTRESSED GIRDER DETAILS
- DECK DETAILS
- JOINT DETAILS
- COMBINATION RAILING DETAILS (SHEET 1 OF 2)
- COMBINATION RAILING DETAILS (SHEET 2 OF 2)
- BICYCLE RAILING DETAILS (SHEET 1 OF 2)
- BICYCLE RAILING DETAILS (SHEET 2 OF 2)
- METAL REINFORCEMENT

REVISIONS			DESIGNED	SCALE'S SHOWN ARE FOR 34" X 22" PRINTS ONLY	CADD FILE NO.	DRAWING DATE	IDAHO TRANSPORTATION DEPARTMENT	FEDERAL AID PROJECT NO.	SITUATION AND LAYOUT	BRIDGE PLANS
NO.	DATE	BY								
1			ROBYN FINLAYSON							
2			DESIGN CHECKED JOE KELLER							
3			DETAILED TRACY GHAN							
4			DWG. CHECKED ROBYN FINLAYSON							
			HIGGINS ENGINEERS INC.		STP-7643(101)		REGION 10 IDAHO		315' PRESTRESSED DOUBLE TEE GIRDER BRIDGE ECKERT ROAD BICYCLE PATH OVER BOISE RIVER STA. 119+60	
									BRIDGE MTC. NO. 12810 COUNTY ADA KEY NO. 5752 BRIDGE DRAWING NO. 6404-A SHEET 1 of 13	

DESIGN NOTES

DESIGN SPECIFICATIONS

IN ACCORDANCE WITH: AASHTO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" 1993 EDITION.

DESIGN PROCEDURES

PILE BEARING LOADS DESIGNED USING SERVICE LOAD DESIGN. THE REMAINING PORTIONS OF THE STRUCTURE DESIGNED USING LOAD FACTOR. GIRDERS DESIGNED AS SIMPLE SPANS.

DESIGN LOADS

DEAD LOAD:	REINFORCED CONCRETE	150 pcf
LIVE LOAD:	PEDESTRIAN	100 psf
EARTH:	BACKFILL AT ABUTMENTS	120 pcf
FLUID PRESSURE:	ABUTMENTS & WINGWALLS	
	ACTIVE	35 pcf
THERMAL FORCES:	MEAN 55°F / RISE 35°F / FALL 45°F	
WIND:	VELOCITY	80 mph

UNIT STRESSES

REINFORCED CONCRETE: CLASS 40 ----- $f'_c = 4,000 \text{ psi}$ ----- $f_c = 1,600 \text{ psi}$

PRESTRESS CONCRETE:

INITIAL	$f_{ci} = 0.6 f'_{ci}$ COMPRESSION
	$f_{ci} = 3\sqrt{f'_{ci}}$ TENSION
FINAL	$f_c = 0.4 f'_c$ COMPRESSION
	$f_c = 6\sqrt{f'_c}$ TENSION

NON-PRESTRESSING METAL REINFORCEMENT:
AASHTO M31 (ASTM A615): GRADE 60 _____ $F_y = 60,000$ psi _____ $F_s = 24,000$ psi
GRADE 40 _____ $F_y = 40,000$ psi _____ $F_s = 20,000$ psi

PRESTRESSING REINFORCEMENT:
1/2" 7 WIRE STRAND, AASHTO M203 (ASTM A416) LOW RELAXATION STRAND
f's = 270,000 psi (MAX. ULTIMATE STRENGTH)

PILE DESIGN LOADS

DESIGN LOADS	
MAXIMUM SERVICE LOADS FOR PILES:	LOCATION

LOCATION	ALLOWABLE		COMPUTED	
	VERTICAL (tons/pile)	LATERAL (kips/pile)	VERTICAL (tons/pile)	LATERAL (kips/pile)
ABUTMENTS AND PIERS	40	23 (STRONG AXIS) 12 (WEAK AXIS)	22 AT ABUTS. 30 AT PIERS	0

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS

MATERIALS, CONSTRUCTION AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE STATE OF IDAHO TRANSPORTATION DEPARTMENT "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION", 1995 EDITION, THE PROJECT PLANS AND SUPPLEMENTAL SPECIFICATIONS UNLESS NOTED OTHERWISE.
THE ENGLISH UNITS SYSTEM OF MEASUREMENT SHALL BE USED AS STANDARD.

MATERIAL

CONCRETE: CLASS 40A - DECK SLAB, ENDWALLS, WINGWALLS, AND PIER DIAPHRAGMS.
CLASS 40B - ABUTMENTS AND PIER CAPS.
PRESTRESS GIRDERS - SEE SHEET NO. 6.

PLAN DIMENSIONS AND ELEVATIONS

ALL EXPOSED EDGES OF CONCRETE SHALL BE BEVELED 3/4" UNLESS NOTED OTHERWISE.
ALL DIMENSIONS TO REINFORCING STEEL ARE TO CENTERLINE OF BAR UNLESS NOTED OTHERWISE.
CONCRETE COVER MEASURED FROM THE FACE OF THE CONCRETE TO THE FACE OF ANY REINFORCING BAR
SHALL BE 2", UNLESS SHOWN OTHERWISE ON THE DRAWINGS.
REINFORCING STEEL SPOUNE LENGTHS SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATIONS

CONSTRUCTION

THE TOP MAT OF METAL REINFORCEMENT IN THE SLAB SHALL BE EPOXY COATED.
ALL REINFORCING STEEL TO BE EPOXY COATED IS DESIGNATED BY AN "E" AFTER THE BAR MARK.
CONSTRUCTION JOINTS WILL BE PERMITTED ONLY AT THE LOCATIONS SHOWN ON THE PLANS OR AS APPROVED
BY THE ENGINEER.
FOR FILE NOTES SEE SHEET 3.
WHEN GALVANIZING IS SPECIFIED, THE GALVANIZING SHALL BE IN ACCORDANCE WITH AASHTO M-111.

INCIDENTAL ITEMS

ALL ITEMS SHOWN OR NOTED ON PLANS WHICH ARE NOT SPECIFICALLY BID ITEMS ARE CONSIDERED INCIDENTAL ITEMS. THE COST OF FURNISHING AND INSTALLING INCIDENTAL ITEMS WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OTHER ITEMS, UNLESS NOTED OTHERWISE.

REVISIONS

REVISIONS NO. DATE BY DESCRIPTION			DESIGNED ROBYN FINLAYSON DESIGN CHECKED JOE KELLER DETAILER TRACY GHAN DWG. CHECKED ROBYN FINLAYSON	SCALES SHOWN ARE FOR 34" x 22" PRINTS ONLY CADD FILE NO. 68-02.DWG DRAWING DATE: 4-15-96		IDAHO TRANSPORTATION DEPARTMENT HIGGINS ENGINEERS INC.		FEDERAL AID PROJECT NO. STP-7643(101) REGION 10 IDAHO	GENERAL AND DESIGN NOTES 315' PRESTRESSED DOUBLE TEE GIRDER BRIDGE ECKERT ROAD BICYCLE PATH OVER BOISE RIVER STA. 119+60	BRIDGE PLANS BRIDGE WDTH. NO. 12810 COUNTY ADA BRIDGE DRAWING NO. 6404-A KEY NO. 5752 SHEET 2 of 13
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IDAHO
TRANSPORTATION
DEPARTMENT

HIGGINS ENGINEERS INC.

FEDERAL AID PROJECT NO.

STP-7643(101)

REGION 10	IDAHO
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GENERAL AND DESIGN NOTES

315' PRESTRESSED DOUBLE TEE GIRDER BRIDGE
ECKERT ROAD BICYCLE PATH OVER BOISE RIVER
STA. 119+60

BRIDGE PLANS

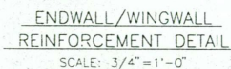
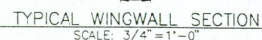
BRIDGE MTCR. NO.	12810
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COUNTY	KEY NO.
104	5352

ADA	5752
BRIDGE DRAWING NO.	SHEET
6404-A	2 of 13

NOTE: ELEVATIONS IN THE TABLE ARE THE APPROXIMATE TOP OF CONCRETE AT C ABUTMENT AS SHOWN IN THE TYPICAL ABUTMENT PLAN. TOP OF ABUTMENT CAP SHALL BE SLOPED PARALLEL TO GRADE.

NOTE: ELEVATIONS IN THE TABLE ARE THE APPROXIMATE TOP OF CONCRETE AT C ABUTMENT AS SHOWN IN THE TYPICAL ABUTMENT PLAN. TOP OF ABUTMENT CAP SHALL BE SLOPED PARALLEL TO GRADE.



ABUTMENT DETAILS

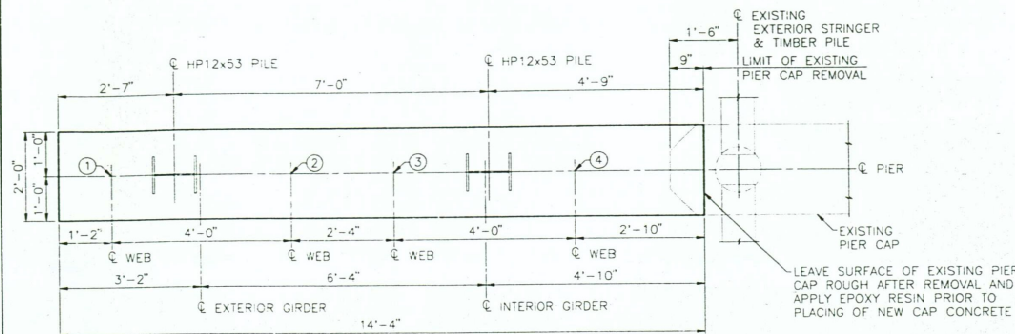
BRIDGE PLANS

BRIDGE MTCE. NO. 12810	
COUNTY ADA	KEY NO. 5752
BRIDGE DRAWING NO. 6404-A	SHEET 4 of 13

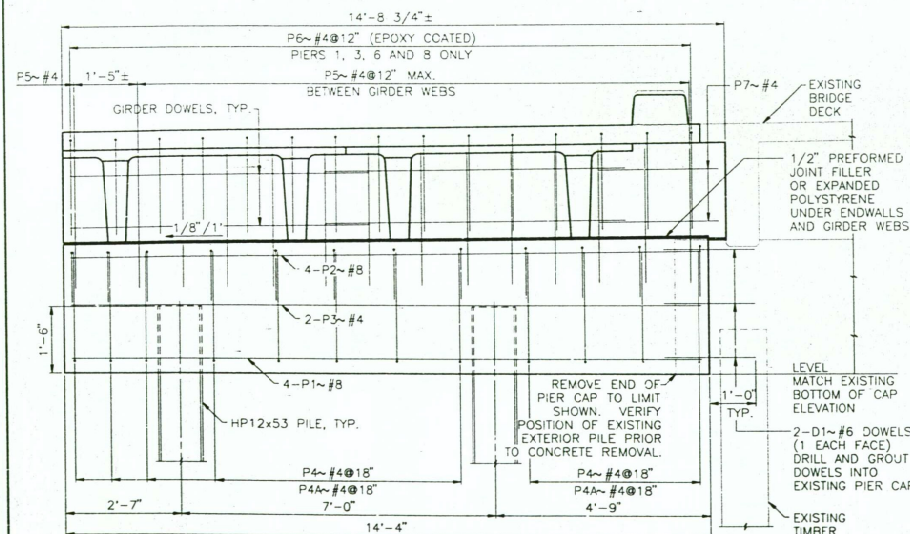
PIER TABLE

	BOTTOM OF CAP ELEV.	GIRDER WEB SEAT ELEV. ①	GIRDER WEB SEAT ELEV. ②	GIRDER WEB SEAT ELEV. ③	GIRDER WEB SEAT ELEV. ④
PIER 1	2762.01	2764.89	2764.93	2764.96	2765.00
PIER 2	2751.38	2764.26	2764.30	2764.33	2764.37
PIER 3	2760.75	2763.63	2763.67	2763.70	2763.74
PIER 4	2760.12	2763.00	2763.04	2763.07	2763.11
PIER 5	2759.49	2762.37	2762.41	2762.44	2762.48
PIER 6	2758.86	2761.74	2761.78	2761.81	2761.85
PIER 7	2758.23	2761.11	2761.15	2761.18	2761.22
PIER 8	2757.60	2760.48	2760.52	2760.55	2760.59

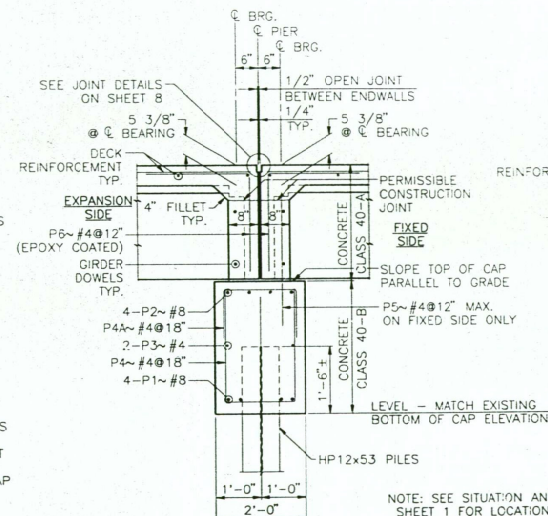
NOTE: ELEVATIONS IN THE TABLE ARE THE APPROXIMATE TOP OF CONCRETE AT PIER AS SHOWN IN THE TYPICAL PIER PLAN. TOP OF PIER CAP SHALL BE SLOPED PARALLEL TO GRADE.



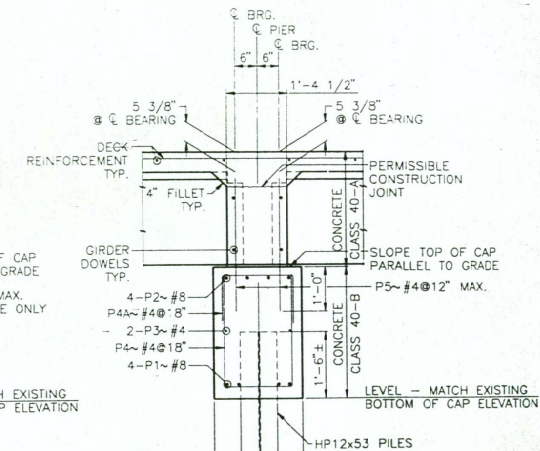
TYPICAL PIER PLAN
SCALE: 3/4" = 1'-0"



TYPICAL PIER ELEVATION
SCALE: 3/4" = 1'-0"



TYPICAL SECTION
FOR PIERS 1, 3, 6, AND 8
SCALE: 3/4" = 1'-0"



TYPICAL SECTION
FOR PIERS 2, 4, 5, AND 7
SCALE: 3/4" = 1'-0"

NO.	DATE	BY	DESCRIPTION
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

DESIGNED
ROBYN FINLAYSON
DESIGN CHECKED
JOE KELLER
DETAILED
TRACY GHAN
DWG. CHECKED
ROBYN FINLAYSON

SCALES SHOWN
ARE FOR 34" X 22"
PRINTS ONLY
CADD FILE NO.
68-08.DWG
DRAWING DATE
4-17-96



IDAHO
TRANSPORTATION
DEPARTMENT

HIGGINS ENGINEERS INC.



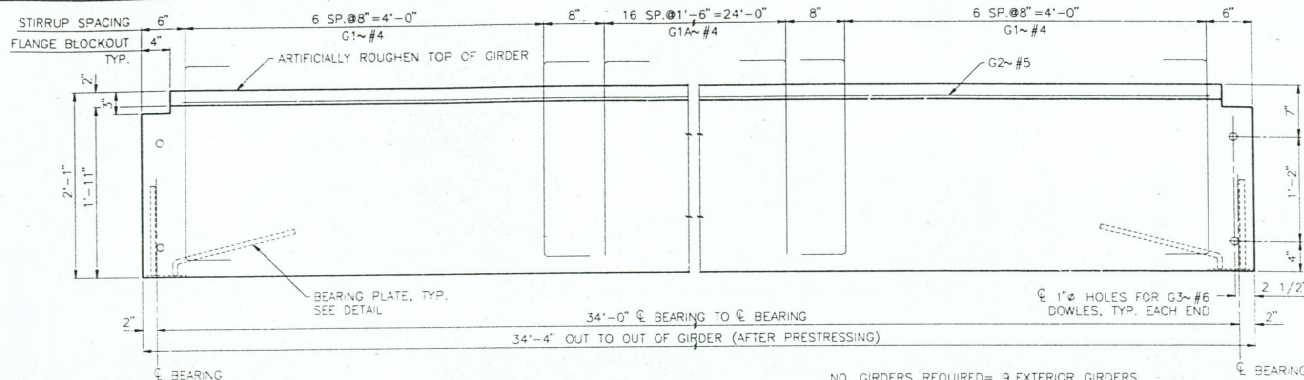
FEDERAL AID PROJECT NO.
STP-7643(101)
REGION 10 IDAHO

PIER DETAILS

315' PRESTRESSED DOUBLE TEE GIRDER BRIDGE
ECKERT ROAD BICYCLE PATH OVER BOISE RIVER
STA. 119+50

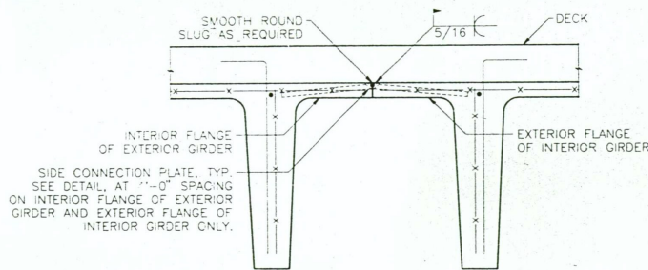
BRIDGE PLANS

BRIDGE MTCE. NO.
12810
COUNTY
ADA
KEY NO.
5752
BRIDGE DRAWING NO. SHEET
6404-A 5 of 13

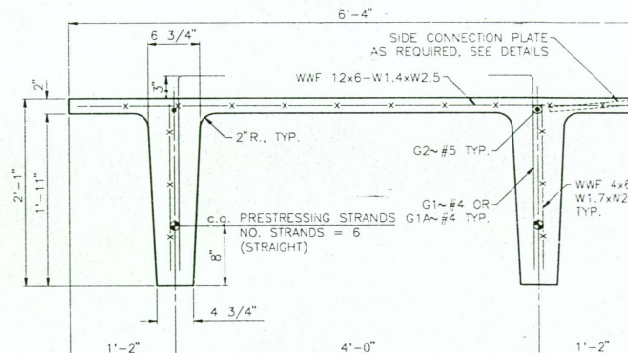


GIRDER ELEVATION
SCALE: 1 1/2" = 1'-0"

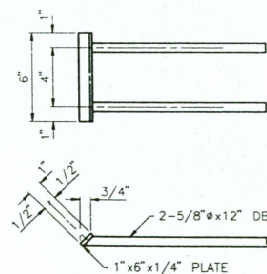
NO. GIRDERS REQUIRED = 9 EXTERIOR GIRDERS
+ 9 INTERIOR GIRDERS
= 18 TOTAL GIRDERS



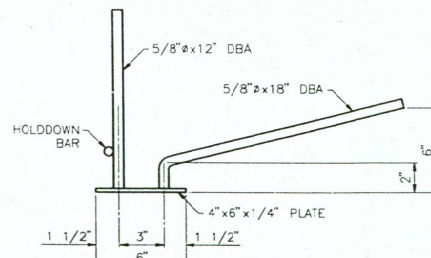
SIDE CONNECTION DETAIL
SCALE: 1 1/2" = 1'-0"



TYPICAL SECTION
SCALE: 1 1/2" = 1'-0"



SIDE CONNECTION PLATE
SCALE: 3" = 1'-0"



BEARING PLATE
SCALE: 3" = 1'-0"

DEFLECTION DATA ~ INCHES							
LOCATION	ΔP PRESTRESS	ΔG GIRDER	ΣΔ* ΔP + ΔG	Δ1* ΣΔ x (1.5)	ΔS SLAB	ΔC CURB+FWS	Δ2 ΔS + ΔC
ALL GIRDERS	3/8 ↑	1/8 ↓	1/4 ↓	5/16 ↓	1/8 ↓	0	1/8 ↓

* ESTIMATED DEFLECTION OF PRESTRESSED GIRDER AT RELEASE
** ESTIMATED DEFLECTION OF PRESTRESSED GIRDER AT ERECTION

PRESTRESS GIRDER NOTES

- DESIGN IS FOR LOW RELAXATION STRAND. PRESTRESS REINFORCEMENT SHALL CONFORM TO ASTM A-416 SUPPLEMENT 1, FOR 1/2" Ø 270K LOW RELAXATION STRAND.
- REQUIRED TOTAL INITIAL STRAND TENSIONING FORCE = 186 KIPS.
- ALL STRANDS TO BE INITIALLY TENSIONED TO 0.75 x ULTIMATE (202.5 KSI). ASSUMED LOSSES = 5 KSI AT TRANSFER OF PRESTRESS FORCE TO CONCRETE, AND 22 KSI TOTAL LOSSES UNDER SERVICE CONDITIONS.
- DESIGN IS FOR PRETENSIONING ONLY. REQUIRED CONCRETE STRENGTH = 4000 PSI AT TRANSFER AND 5000 PSI AT 28 DAYS.
- STEEL CLEARANCE FROM FORMS SHALL BE MAINTAINED BY STAYS, TIES, HANGERS, OR METAL CHAIRS. ALL METAL CHAIRS TO HAVE STAINLESS STEEL LEGS OR BE GRAY PLASTIC COATED. MINIMUM COVER REQUIRED AS SPECIFIED BY AASHTO, UNLESS OTHERWISE SHOWN.
- CLEAN MORTAR AND CONCRETE FROM ALL REINFORCING STEEL, WHICH PROTRUDES FROM ANY SURFACE OF THE BEAMS.
- BOTTOMS AND SIDES OF ALL BEAMS SHALL HAVE A RUBBED SURFACE FINISH. ENDS OF BEAMS MAY BE LEFT ROUGH, CUT OFF ENDS OF PRESTRESSING STRANDS AT THE END FACE OF BEAMS UNLESS SHOWN OTHERWISE; ENDS OF ALL PRESTRESSING STRANDS SHALL BE PAINTED WITH AN APPROVED EPOXY.
- LIFTING DEVICES OF ADEQUATE STRENGTH TO SAFELY LIFT THE SECTION SHALL BE PROVIDED. THEY SHALL BE SHOWN ON THE SHOP DRAWINGS.
- DOWELS SHALL BE PLACED PARALLEL TO @ BEARING.
- SHOP DRAWING DETAILS SHALL CONFORM TO CURRENT AASHTO SPECIFICATIONS. DETENSIONING SEQUENCE AND GIRDER LIFT POINTS SHALL BE SHOWN ON SHOP DRAWINGS.
- END OF GIRDERS SHALL BE PLUMB WHEN GIRDERS ARE SET TO GRADE.
- GIRDER LENGTH SHOWN IS A HORIZONTAL DIMENSION, AFTER PRESTRESSING. FINISHED LENGTH OF GIRDER SHALL BE CORRECTED FOR GRADE AND ALLOWANCE MADE FOR BEAM SHORTENING.
- TOP FLANGE OF TEE GIRDERS SHALL BE BLOCKED OUT TO ALLOW PLACEMENT OF CONCRETE FOR THE ENDWALLS.

GIRDER REINFORCEMENT

MARK	SIZE	GRADE	SKETCH
G1	#4	60	
G1A	#4	60	
G2	#5	60	
G3	#6	60	

ALL BEND DETAILS TO BE ACCORDING TO LATEST ACI STANDARD PRACTICE.

• STIRRUP AND TIE HOOK BEND DIMENSIONS.

GIRDER WEIGHT _____ 436 lbs. PER FOOT

REVISIONS			DESIGNED ROBYN FINLAYSON	SCALES SHOWN ARE FOR 34" x 22" PRINTS ONLY
NO.	DATE	BY		
1			DESIGN CHECKED JOE KELLER	CADD FILE NO. 68-09.DWG
2			DETAILED TRACY CHAN	
3			DWG. CHECKED ROBYN FINLAYSON	DRAWING DATE: 4-15-95



IDAHO
TRANSPORTATION
DEPARTMENT

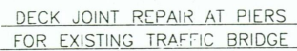
HIGGINS ENGINEERS INC.

FEDERAL AID PROJECT NO.
STP-7643(101)

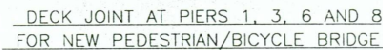
REGION 10 IDAHO

DOUBLE TEE PRESTRESSED GIRDER DETAILS		BRIDGE PLANS	
315' PRESTRESSED DOUBLE TEE GIRDER BRIDGE		BRIDGE MISC. NO. 12810	KEY NO. 5752
ECKERT ROAD BICYCLE PATH OVER BOISE RIVER		COUNTY ADA	SHEET 6404-A
STA. 119+60		BRIDGE DRAWING NO.	6 of 13

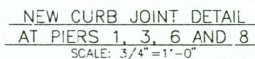
1. THE EXPANSION JOINT SEAL WIDTH SHALL BE 1 5/8 INCH NOMINAL.
2. THE SAW CUT JOINT WIDTH SHALL BE 1 INCH.
3. THE MAXIMUM JOINT MOVEMENT ANTICIPATED IS 5/8 INCH.
4. THE FOLLOWING ARE RECOMMENDED MANUFACTURERS OF EXPANSION JOINT SEALS:
 ESCOSEAL, LTD.
 D.S. BROWN
 WATSON, BOWMAN & ACME
5. DIMENSIONS MARKED "*" ARE PER MANUFACTURER'S RECOMMENDATIONS.
6. PREFORMED EXPANSION JOINT SEAL SHALL CONFORM TO ASHTO M-220.
7. THE SEAL SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS USING AN ADHESIVE LUBRICANT. ADHESIVE SHALL MEET THE REQUIREMENTS OF ASTM D-4070.



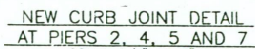
SCALE: $1 \frac{1}{2}'' = 1'-0''$



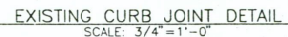
SCALE: 1 1/2" = 1'-0"



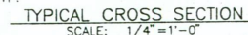
SCALE: $3/4" = 1' - 0"$



SCALE: $3/4" = 1'-0"$

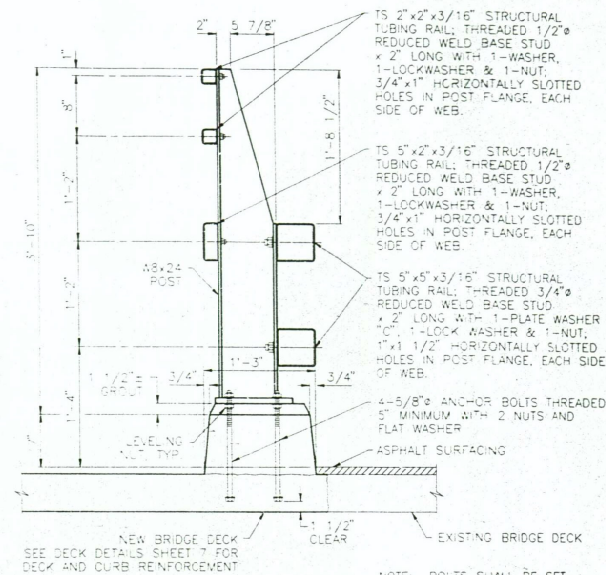
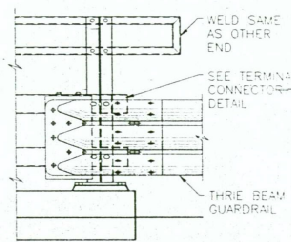
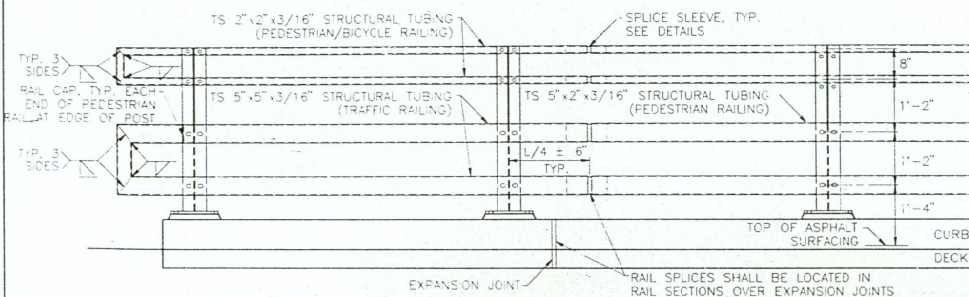
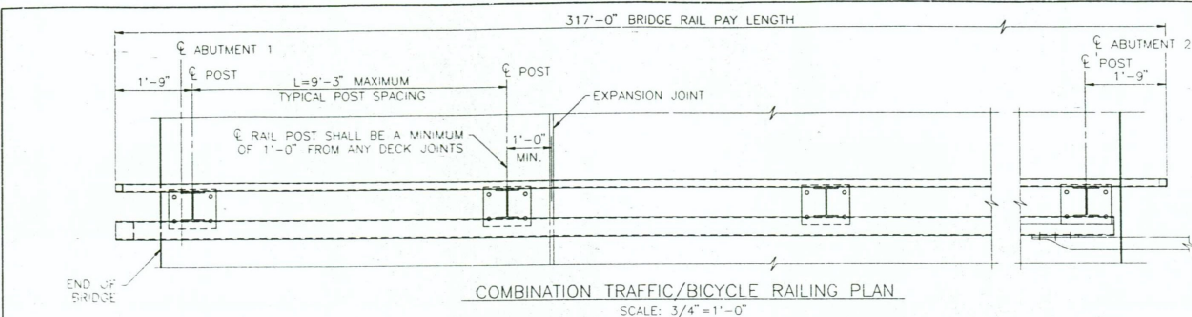


SCALE: $3/4" = 1' - 0"$



SCALE: 1/4" = 1'-0"

REVISIONS NO. DATE BY DESCRIPTION		DESIGNED ROBYN FINLAYSON DESIGN CHECKED JOE KELLER DETAILED JEANNINE MOORE CWS CHECKED ROBYN FINLAYSON	SCALES SHOWN ARE FOR 34" X 22" PRINTS ONLY CAD FILE NO. 68-04.DWG DRAWING DATE: 4-16-96	 IDAHO TRANSPORTATION DEPARTMENT HIGGINS ENGINEERS INC.	 FEDERAL AID PROJECT NO. STP-7643(101) REGION 10 IDAHO	JOINT DETAILS 315' PRESTRESSED DOUBLE TEE GIRDER BRIDGE ECKERT ROAD BICYCLE PATH OVER BOISE RIVER STA. 119+60	BRIDGE PLANS BRIDGE NTCE. NO. 12810 COUNTY ADA BRIDGE DRAWING NO. 6404-A KEY NO. 5752 SHEET 8 of 13
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RAILING NOTES

MATERIALS

1. STRUCTURAL STEEL SHALL CONFORM WITH AASHTO M270, GRADE 36.
2. STRUCTURAL STEEL TUBING SHALL CONFORM WITH ASTM A-500, GRADE B OR ASTM A-501.
3. BOLTS, NUTS AND WASHERS SHALL CONFORM WITH ASTM A-325.
4. GROUT SHALL CONFORM TO TYPE B CLASS 1 AS SPECIFIED IN SUBSECTION 506.11.

PAINTING

5. ALL STEEL PARTS SHALL BE PAINTED AFTER FABRICATION IN ACCORDANCE WITH SECTION 627.07, SYSTEM NO. A, OF THE STANDARD SPECIFICATIONS.
6. ANCHOR BOLTS, NUTS AND WASHERS SHALL BE PAINTED IN ACCORDANCE WITH SECTION 627.07, SYSTEM NO. A, OF THE STANDARD SPECIFICATIONS.
7. ALL WELDED AREAS SHALL BE THOROUGHLY CLEANED PRIOR TO PAINTING TO REMOVE ALL SLAG OR OTHER MATERIAL THAT WOULD INTERFERE WITH THE ADHERENCE OF THE PAINT.
8. ALL PAINTED SURFACES SHALL BE FREE OF FINS, ABRASIONS, ROUGH OR SHARP EDGES, OR OTHER SURFACE DEFECTS.

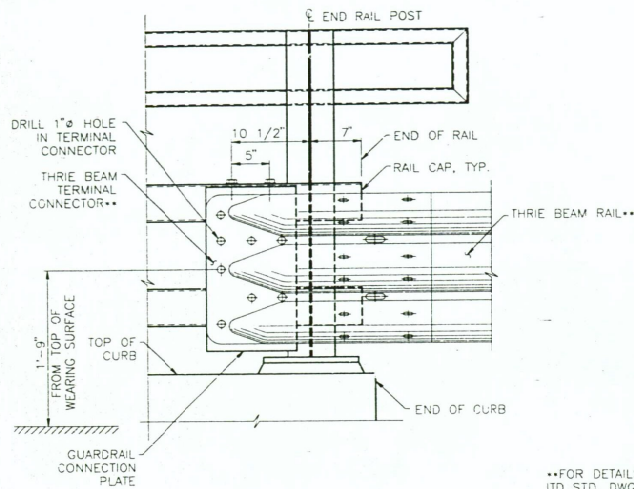
METHOD OF MEASUREMENT

9. COMBINATION PEDESTRIAN/BICYCLE RAILING WILL BE MEASURED BY THE LINEAR FOOT, COMPLETE IN PLACE. THIS INCLUDES MATERIALS, FABRICATION, AND INSTALLATION. CURB CONCRETE AND REINFORCEMENT IS NOT INCLUDED IN THIS BID ITEM.

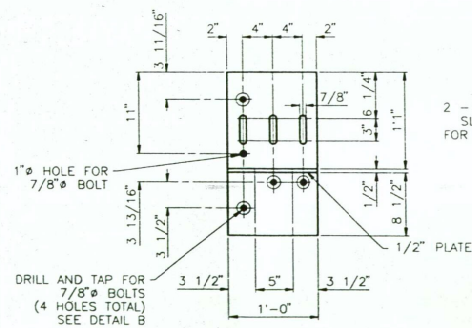
FABRICATION AND ERECTION

10. FABRICATION AND ERECTION OF THE RAILING SHALL CONFORM WITH THE CURRENT EDITION OF AASHTO SPECIFICATIONS FOR HIGHWAY BRIDGES AND ITD STANDARD SPECIFICATIONS.
11. THE RAILING SHALL BE FABRICATED IN A PLANT EXPERIENCED IN PRODUCING RAILINGS AND ARCHITECTURAL METAL WORK AND SHALL BE ERECTED BY SKILLED WORKMEN EXPERIENCED IN THIS TYPE OF WORK.
12. SHOP DRAWINGS SHALL BE PREPARED AND SUBMITTED TO THE ENGINEER FOR APPROVAL SHOWING COMPLETE DIMENSIONS AND DETAILS OF FABRICATION, INCLUDING AN ERECTION DIAGRAM. MATERIALS BEING USED SHALL BE CLEARLY SPECIFIED ON THE SHOP DRAWINGS.
13. BASE PLATES AND ENDS OF TUBE SECTIONS AT SPLICES TO BE SAWED OR MILLED. CUT ENDS TO BE TRUE, SMOOTH AND FREE FROM BURRS OR RAGGED EDGES.
14. ALL POSTS SHALL BE PLUMB.
15. EACH RAIL SYSTEM SHALL BE ATTACHED TO A MINIMUM OF TWO POSTS, BUT PREFERABLY THREE OR MORE. RAILING SYSTEM SHALL BE CONTINUOUS. EACH JOINT IN A RAIL LENGTH SHALL BE LOCATED AT THE SAME POSITION IN THE SECTION AND SHALL BE SPLICED AS DETAILED OR AN ALTERNATE SPLICE DETAIL MAY BE SUBMITTED FOR APPROVAL ON SHOP DRAWINGS.

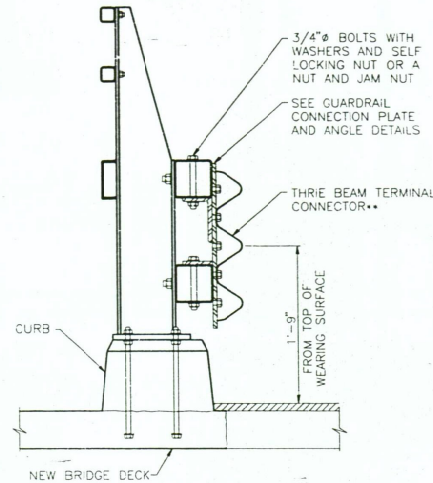
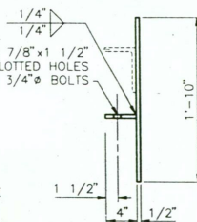
REVISIONS			DESIGNED	SCALES SHOWN		IDAHO TRANSPORTATION DEPARTMENT		FEDERAL AID PROJECT NO.		COMBINATION RAILING DETAILS (SHEET 1 OF 2)		BRIDGE PLANS	
NO.	DATE	BY	DESCRIPTION	ARE FOR 34" x 22" PRINTS ONLY				STP-7643(101)		315' PRESTRESSED DOUBLE TEE GIRDER BRIDGE ECKERT ROAD BICYCLE PATH OVER BOISE RIVER STA. 119+60		BRIDGE MISC. NO. 12810	
				CADD FILE NO.								COUNTY ADA	
				68-05.DWG								KEY NO. 5752	
				DRAWING DATE:								BRIDGE DRAWING NO. SHEET	
				1-2-96								6404-A 9 of 13	



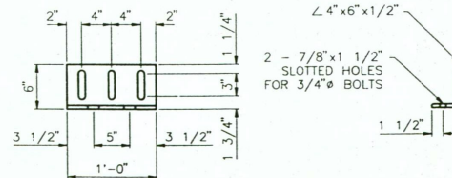
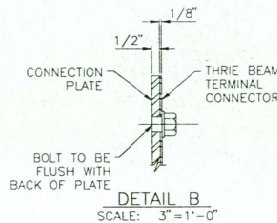
TERMINAL CONNECTOR
SCALE: 1 1/2"=1'-0"



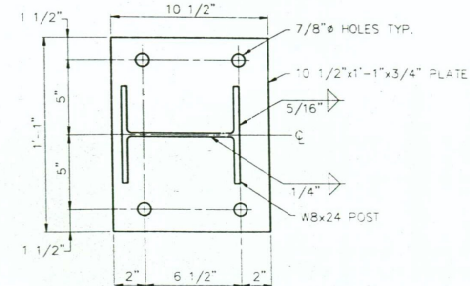
GUARDRAIL CONNECTION PLATE
SCALE: 1 1/2"=1'-0"



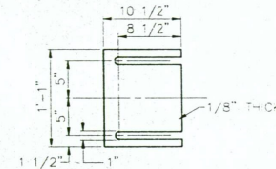
GUARDRAIL CONNECTION DETAIL
SCALE: 1 1/2"=1'-0"



GUARDRAIL CONNECTION ANGLE
SCALE: 1 1/2"=1'-0"



RAIL POST BASE PLATE
SCALE: 3"=1'-0"



RAIL POST BASE SHIM
SCALE: 1 1/2"=1'-0"

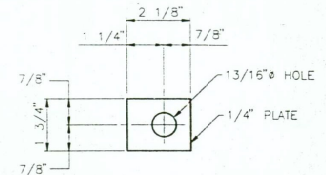
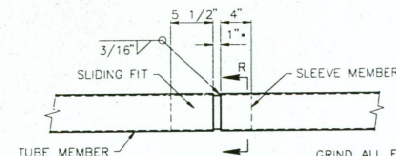
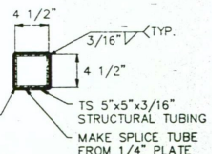


PLATE WASHER "C"
SCALE: 6"=1'-0"



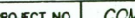
ELEVATION
SCALE: 1 1/2"=1'-0"

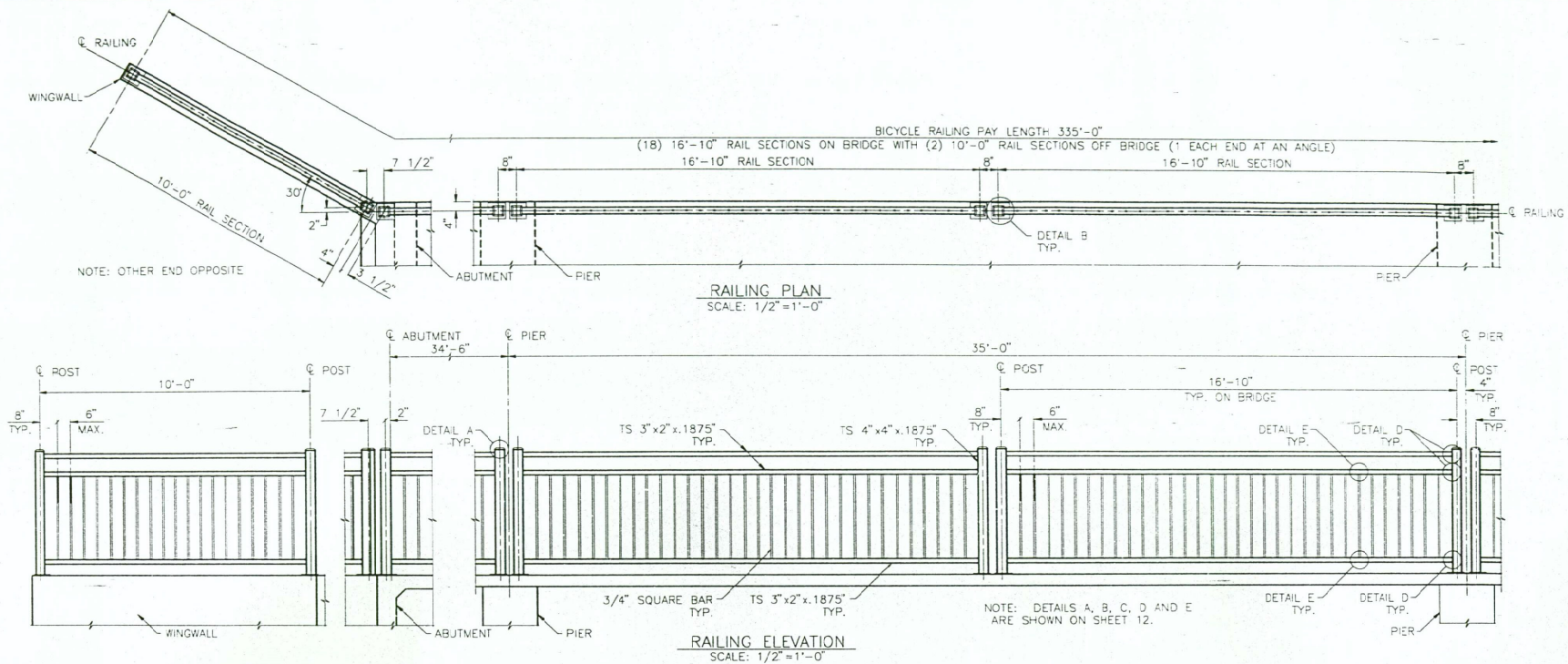


SECTION R-R

NOTE: FOR PEDESTRIAN/BICYCLE RAIL SPLICES
USE A RECTANGULAR STEEL BAR (ASTM A36)
FOR SLEEVE MEMBER. SLIP FIT BOTH SIDES.

OPTIONAL SPLICE SLEEVE DETAILS
SCALE: 1 1/2"=1'-0"

REVISIONS				DESIGNED ROBYN FINLAYSON	SCALES SHOWN ARE FOR 34" X 22" PRINTS ONLY	 CADD FILE NO. 68-06.DWG	 IDaho TRANSPORTATION DEPARTMENT	 HIGGINS ENGINEERS INC.	FEDERAL AID PROJECT NO.		COMBINATION RAILING DETAILS (SHEET 2 OF 2)		BRIDGE PLANS	
NO.	DATE	BY	DESCRIPTION						STP-7643(101)	315' PRESTRESSED DOUBLE TEE GIRDER BRIDGE ECKERT ROAD BICYCLE PATH OVER BOISE RIVER STA. 119+60	BRIDGE MTCE. NO. 12810	KEY NO. 5752		
									REGION 10	IDAHO				
				DWG. CHECKED ROBYN FINLAYSON	DRAWING DATE: 4-15-95							BRIDGE DRAWING NO. 6404-A	SHEET 10 of 13	



RAILING NOTES

MATERIALS

1. STRUCTURAL STEEL SHALL CONFORM WITH AASHTO M270, GRADE 36.
2. STRUCTURAL STEEL TUBING SHALL CONFORM WITH ASTM A-500, GRADE B OR ASTM A-501.
3. BOLT, ACORN NUTS AND WASHERS SHALL CONFORM WITH ASTM A-307.
4. HEXAGONAL BOLTS AND NUTS SHALL CONFORM WITH ANSI B18.2.1 AND B18.2.2.

PAINTING

5. ALL STEEL PARTS SHALL BE PAINTED AFTER FABRICATION IN ACCORDANCE WITH SECTION 627.07, SYSTEM NO. A, OF THE STANDARD SPECIFICATIONS.
6. ANCHOR BOLTS, NUTS AND WASHERS SHALL BE PAINTED IN ACCORDANCE WITH SECTION 627.07, SYSTEM NO. A, OF THE STANDARD SPECIFICATIONS.
7. ALL WELDED AREAS SHALL BE THOROUGHLY CLEANED PRIOR TO PAINTING TO REMOVE ALL SLAG OR OTHER MATERIAL THAT WOULD INTERFERE WITH THE ADHERENCE OF THE PAINT.
8. ALL PAINTED SURFACES SHALL BE FREE OF FINS, ABRASIONS, ROUGH OR SHARP EDGES, OR OTHER SURFACE DEFECTS.

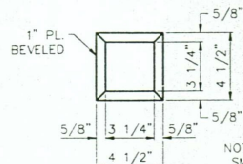
FABRICATION AND ERECTION

9. FABRICATION AND ERECTION OF THE RAILING SHALL CONFORM WITH THE CURRENT EDITION OF AASHTO SPECIFICATIONS FOR HIGHWAY BRIDGES AND ITS STANDARD SPECIFICATIONS.
10. THE RAILING SHALL BE FABRICATED IN A PLANT EXPERIENCED IN PRODUCING RAILINGS AND ARCHITECTURAL METAL WORK AND SHALL BE ERECTED BY SKILLED WORKMEN EXPERIENCED IN THIS TYPE OF WORK.
11. SHOP DRAWINGS SHALL BE PREPARED AND SUBMITTED TO THE ENGINEER FOR APPROVAL SHOWING COMPLETE DIMENSIONS AND DETAILS OF FABRICATION, INCLUDING AN ERECTION DIAGRAM. MATERIALS BEING USED SHALL BE CLEARLY SPECIFIED ON THE SHOP DRAWINGS.
12. BASE PLATES TO BE SAWED OR MILLED. CUT ENDS TO BE TRUE, SMOOTH AND FREE FROM BURRS OR RAGGED EDGES.
13. ALL POSTS AND BALUSTERS SHALL BE PLUMB.
14. VENT HOLES FOR GALVANIZING SHALL BE PLACED AT THE END OF ALL POSTS AND RAILS IN ACCORDANCE WITH ASTM A-385 AND SHOWN ON THE SHOP DRAWINGS.

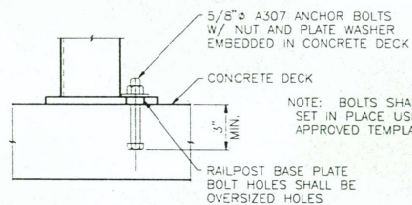
METHOD OF MEASUREMENT

15. PEDESTRIAN/BICYCLE RAILING WILL BE MEASURED BY THE LINEAR FOOT, COMPLETE IN PLACE. THIS INCLUDES MATERIALS, FABRICATION, AND INSTALLATION.

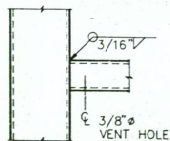
REVISIONS				DESIGNED ROBYN FINLAYSON	SCALES SHOWN ARE FOR 34" x 22" PRINTS ONLY	IDAHO TRANSPORTATION DEPARTMENT	FEDERAL AID PROJECT NO. STP-7643(101)	BICYCLE RAILING DETAILS (SHEET 1 OF 2)	BRIDGE PLANS	
NO.	DATE	BY	DESCRIPTION						BRIDGE MTC. NO. 12810	KEY NO. 5752
				DESIGN CHECKED JOE KELLER	CADD FILE NO. 68-12.DWG	HIGGINS ENGINEERS INC.	REGION 10 IDAHO	315' PRESTRESSED DOUBLE TEE GIRDER BRIDGE ECKERT ROAD BICYCLE PATH OVER BOISE RIVER STA. 119+60	COUNTY ADA	BRIDGE DRAWING NO. 6404-A
				DETAILED JEANNINE MOORE						
				DWG. CHECKED ROBYN FINLAYSON	DRAWING DATE: 4-15-96					SHEET 11 of 13



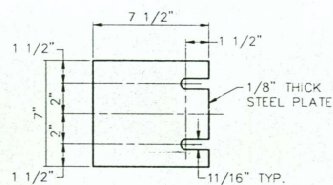
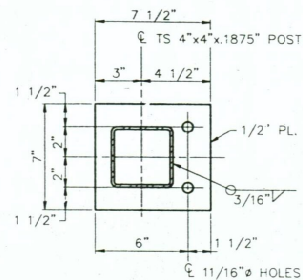
NOTE: ROUND AND SMOOTH ALL EDGES ON BEVELED PLATE.



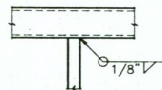
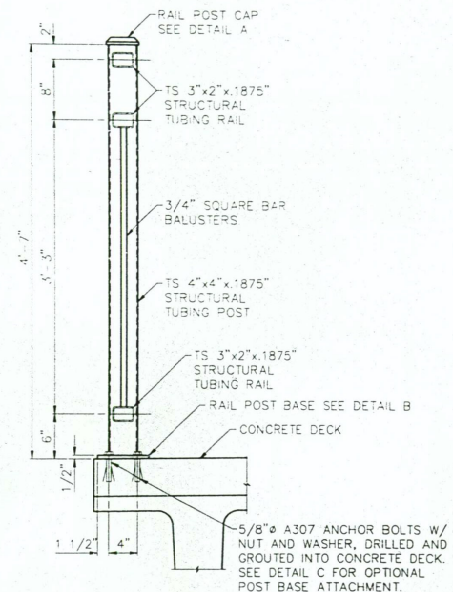
NOTE: BOLTS SHALL BE SET IN PLACE USING AN APPROVED TEMPLATE.



3/8" Ø
VENT HOLE



NOTE: USE ONLY IF REQUIRED
TO ALIGN RAILING.

 $\frac{1}{8}'' \checkmark$ 

5/8" A307 ANCHOR BOLTS W/
NUT AND WASHER, DRILLED AND
GROUTED INTO CONCRETE DECK.
SEE DETAIL C FOR OPTIONAL
POST BASE ATTACHMENT.

REVISIONS NO. DATE BY DESCRIPTION		DESIGNED ROBYN FINLAYSON DESIGN CHECKED JOE KELLER DETAILED JEANNINE MOORE DWG. CHECKED ROBYN FINLAYSON	SCALES SHOWN ARE FOR 34" x 22" PRINTS ONLY CADD FILE NO. 68-13.DWG DRAWING DATE: 1-22-96	 IDAHO TRANSPORTATION DEPARTMENT HIGGINS ENGINEERS INC.	 FEDERAL AID PROJECT NO. STP-7643(101) REGION 10 IDAHO	BICYCLE RAILING DETAILS (SHEET 2 OF 2) 315' PRESTRESSED DOUBLE TEE GIRDER BRIDGE ECKERT ROAD BICYCLE PATH OVER BOISE RIVER STA. 119+60	BRIDGE PLANS BRIDGE MTC. NO. 12810 COUNTY ADA BRIDGE DRAWING NO. 6404-A KEY NO. 5752 SHEET 12 of 12
---	--	--	--	--	---	--	--

MARK	LOCATION	BAR SIZE	GRADE	COAT BAR	NO. BARS	1 BAR LENGTH	TOTAL LENGTH	SKETCH
METAL REINFORCEMENT SCHEDULE NO. 1 SUBSTRUCTURE								
A1	ABUTMENTS	8	60		8	8'-10"	70'-8"	
A2	"	8			8	8'-10"	70'-8"	
A3	"	4			4	8'-10"	35'-4"	
A4	"	4			16	5'-5"	106'-8"	
A4A	"	4			16	3'-10"	61'-4"	
P1	PIERS	8			32	14'-0"	448'-0"	
P2	"	8			32	14'-0"	448'-0"	
P3	"	4			16	14'-0"	224'-0"	
P4	"	4			96	6'-5"	640'-0"	
P4A	"	4			96	4'-0"	384'-0"	
D1	DOWELS	6			60	2'-0"	120'-0"	

MARK	LOCATION	BAR SIZE	GRADE	COAT BAR	NO. BARS	1 BAR LENGTH	TOTAL LENGTH	SKETCH
METAL REINFORCEMENT SCHEDULE NO. 2 SUPERSTRUCTURE								
A5	ABUTMENT ENDWALLS	4	60		24	3'-0"	72'-0"	
A6	"	4		E	28	4'-2"	116'-8"	
W1	WINGWALLS	4			8	11'-10"	94'-8"	
W2	"	4			4	11'-0"	44'-0"	
W3	"	6			4	12'-4"	49'-4"	
W4	"	4			32	2'-1"	66'-8"	
P5	PIER ENDWALLS	4			168	3'-0"	504'-0"	
P6	"	4		E	120	4'-2"	500'-8"	
P7	"	4			32	2'-8"	85'-4"	
S1	DECK	4		E	215	13'-10"	2874'-2"	
S2	"	4		E	20	34'-8"	693'-4"	
S2A	"	4		E	20	7'-8"	1413'-4"	
S2B	"	4		E	10	106'-8"	1066'-8"	
C1	CURB	4		E	216	3'-0"	648'-0"	
C2	"	4		E	18	34'-8"	624'-0"	
D2	DOWELS	6			4	2'-0"	8'-0"	

** NOTE: NO LAPS WITHIN 5 FT.
EITHER SIDE OF PIERS.

METAL REINFORCEMENT SCHEDULE NO. 1 SUBSTRUCTURE BAR WEIGHTS

BAR SIZE	LINEAR FEET	WEIGHT PER FOOT	TOTAL WEIGHT
4	1,451.33	0.668	969.49
6	120.00	1.502	180.24
8	1,337.33	2.670	2,769.68
TOTAL WEIGHT			3,919.41 LBS.

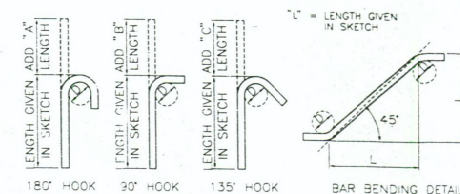
METAL REINFORCEMENT SCHEDULE NO. 2 SUPERSTRUCTURE BAR WEIGHTS

BAR SIZE	LINEAR FEET	WEIGHT PER FOOT	TOTAL WEIGHT
4	866.67	0.668	578.93
6	57.33	1.502	86.11
TOTAL WEIGHT			665.05 LBS.

EPOXY COATED BAR WEIGHTS

BAR SIZE	LINEAR FEET	WEIGHT PER FOOT	TOTAL WEIGHT
4	8,036.17	0.668	5,368.16
TOTAL WEIGHT			5,368.16 LBS.

BEND DETAILS

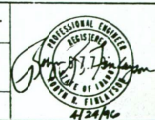


BAR SIZE	STANDARD END HOOK DIMENSIONS			STIRRUP AND TIE HOOK DIMENSIONS		
	ALL GRADES			ALL GRADES		
	D (IN.)	A (IN.)	B (IN.)	D (IN.)	B (IN.)	C (IN.)
3	2 1/4	5	6	1 1/2	4	4
4	3	6	8	2	4 1/2	4 1/2
5	3 3/4	7	10	2 1/2	6	5 1/2
6	4 1/2	8	12	4 1/2	12	8
7	5 1/4	10	14	5 1/4	14	9
8	6	11	16	6	16	10 1/2
9	9 1/2	15	19			
10	10 3/4	17	22			
11	12	19	24			
14	18 1/4	27	31			
18	24	36	41			

REINFORCEMENT NOTES

- ALL BEND DETAILS TO BE ACCORDING TO THE LATEST A.C.I. STANDARD PRACTICE AND AASHTO SPECIFICATIONS.
- DIMENSIONS SHOWN IN "SKETCH" COLUMN ARE OUT TO OUT OF BEND POINTS OR HOOKS AND/OR END OF BARS UNLESS NOTED OTHERWISE. PIN DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.
- LENGTHS IN THE "TOTAL LENGTH" COLUMN ARE ROUNDED TO THE NEAREST INCH. NO DEDUCTIONS FOR CURVATURE AT BENDS ARE MADE EXCEPT FOR THE ADJUSTMENTS INCLUDED IN THE ABOVE "ADD LENGTH" DIMENSIONS.
- * INDICATES STIRRUP OR TIE BAR.
- BARS DESIGNATED "60" IN THE "GRADE" COLUMN SHALL BE GRADE 60; ALL OTHER BARS MAY BE GRADE 40 OR 60.
- BARS DESIGNATED "E" IN THE "COAT BAR" COLUMN SHALL BE EPOXY COATED.
- ONLY REINFORCING STEEL TO BE PAID FOR UNDER BID ITEMS 503-B, 503-C & 503-D IS SHOWN ON THIS SHEET. SEE OTHER SHEETS FOR REINFORCING STEEL INCLUDED IN THE OTHER PAY ITEMS.
- THE CONTRACTOR SHALL VERIFY THE QUANTITY, SIZE, AND SHAPE OF THE BAR REINFORCEMENT AGAINST THE STRUCTURE DRAWINGS AND MAKE ANY NECESSARY CORRECTIONS BEFORE ORDERING, AS PER SUBSECTION 503.03 OF THE STANDARD SPECIFICATIONS.

REVISIONS		DESIGNED	SCALES SHOWN
NO.	DATE BY	DESCRIPTION	ARE FOR 34" X 22" PRINTS ONLY
1		ROBYN FINLAYSON	
2		DESIGN CHECKED	
3		JOE KELLER	
4		DETAILED	
5		TRACY GHAN	
6		DWG. CHECKED	
7		ROBYN FINLAYSON	
8			
9			
10			



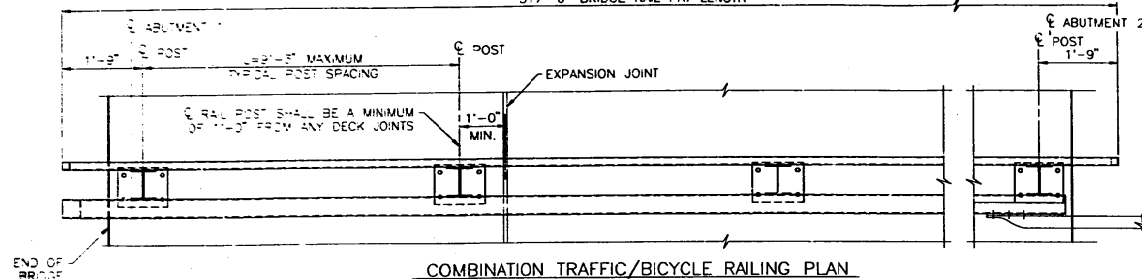
IDAHO
TRANSPORTATION
DEPARTMENT
HIGGINS ENGINEERS INC.

FEDERAL AID PROJECT NO.
STP-7643(101)
REGION 10 IDAHO

METAL REINFORCEMENT
315' PRESTRESSED DOUBLE TEE GIRDER BRIDGE
ECKERT ROAD BICYCLE PATH OVER BOISE RIVER
STA. 119+60

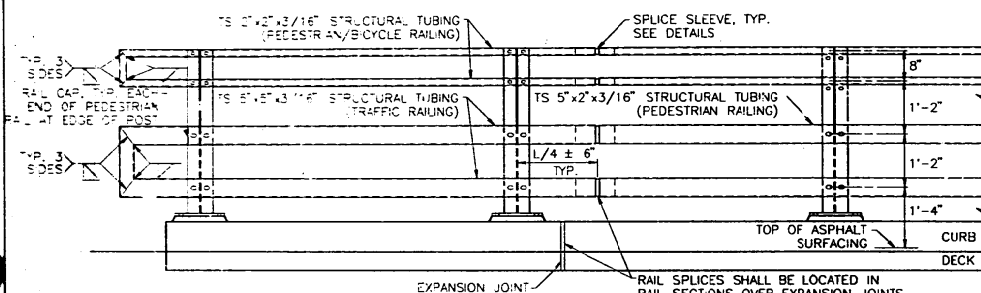
BRIDGE WTC. NO.
12810
COUNTY
ADA
KEY NO.
5752
BRIDGE DRAWING NO. SHEET
6404-A 13 of 13

317'-0" BRIDGE RAIL PAY LENGTH



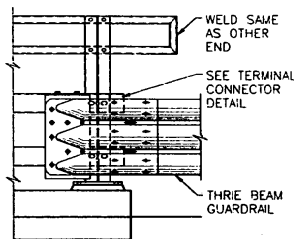
COMBINATION TRAFFIC/BICYCLE RAILING PLAN

SCALE: 3/4" = 1'-0"



COMBINATION TRAFFIC/BICYCLE RAILING ELEVATION

SCALE: 3/4" = 1'-0"



TYPICAL RAILING SECTION

SCALE: 1 1/2" = 1'-0"

RAILING NOTES

MATERIALS

1. STRUCTURAL STEEL SHALL CONFORM WITH AASHTO M270, GRADE 36.
2. STRUCTURAL STEEL TUBING SHALL CONFORM WITH ASTM A-500, GRADE B OR ASTM A-501.
3. BOLTS, NUTS AND WASHERS SHALL CONFORM WITH ASTM A-325.
4. GROUT SHALL CONFORM TO TYPE B CLASS 1 AS SPECIFIED IN SUBSECTION 506.11.

PAINTING

5. ALL STEEL PARTS SHALL BE PAINTED AFTER FABRICATION IN ACCORDANCE WITH SECTION 627.07, SYSTEM NO. A, OF THE STANDARD SPECIFICATIONS.
6. ANCHOR BOLTS, NUTS AND WASHERS SHALL BE PAINTED IN ACCORDANCE WITH SECTION 627.07, SYSTEM NO. A, OF THE STANDARD SPECIFICATIONS.
7. ALL WELDED AREAS SHALL BE THOROUGHLY CLEANED PRIOR TO PAINTING TO REMOVE ALL SLAG OR OTHER MATERIAL THAT WOULD INTERFERE WITH THE ADHERENCE OF THE PAINT.
8. ALL PAINTED SURFACES SHALL BE FREE OF FINS, ABRASIONS, ROUGH OR SHARP EDGES, OR OTHER SURFACE DEFECTS.

METHOD OF MEASUREMENT

9. COMBINATION PEDESTRIAN/BICYCLE RAILING WILL BE MEASURED BY THE LINEAR FOOT, COMPLETE IN PLACE. THIS INCLUDES MATERIALS, FABRICATION, AND INSTALLATION. CURB CONCRETE AND REINFORCEMENT IS NOT INCLUDED IN THIS BID ITEM.

FABRICATION AND ERECTION

10. FABRICATION AND ERECTION OF THE RAILING SHALL CONFORM WITH THE CURRENT EDITION OF AASHTO SPECIFICATIONS FOR HIGHWAY BRIDGES AND ITS STANDARD SPECIFICATIONS.
11. THE RAILING SHALL BE FABRICATED IN A PLANT EXPERIENCED IN PRODUCING RAILINGS AND ARCHITECTURAL METAL WORK AND SHALL BE ERECTED BY SKILLED WORKMEN EXPERIENCED IN THIS TYPE OF WORK.
12. SHOP DRAWINGS SHALL BE PREPARED AND SUBMITTED TO THE ENGINEER FOR APPROVAL SHOWING COMPLETE DIMENSIONS AND DETAILS OF FABRICATION, INCLUDING AN ERECTION DIAGRAM. MATERIALS BEING USED SHALL BE CLEARLY SPECIFIED ON THE SHOP DRAWINGS.
13. BASE PLATES AND ENDS OF TUBE SECTIONS AT SPLICES TO BE SAWED OR MILED. CUT ENDS TO BE TRUE, SMOOTH AND FREE FROM BURRS OR RAGGED EDGES.
14. ALL POSTS SHALL BE PLUMB.
15. EACH RAIL SYSTEM SHALL BE ATTACHED TO A MINIMUM OF TWO POSTS, BUT PREFERABLY THREE OR MORE. RAILING SYSTEM SHALL BE CONTINUOUS. EACH JOINT IN A RAIL LENGTH SHALL BE LOCATED AT THE SAME POSITION IN THE SECTION AND SHALL BE SPLICED AS DETAILED OR AN ALTERNATE SPLICE DETAIL MAY BE SUBMITTED FOR APPROVAL ON SHOP DRAWINGS.
16. ADJUST RAIL POST HEIGHT BELOW BOTTOM RAIL AS REQUIRED TO MAINTAIN CORRECT RAIL ELEVATION ABOVE EXISTING CURB.

REVISIONS

DESCRIPTION

AS BUILT

DESIGNED

ROBYN FINLAYSON

DESIGN CHECKED

JOE KELLER

REVIEWED

JEANNE MOORE

DATE

ROBYN FINLAYSON

SCALES SHOWN

ARE FOR 3/4" X 22"

PRINTS ONLY

CADD FILE NO.

68-06106

DATE

3/27/72

DATE

3/27/72



IDAHO
TRANSPORTATION
DEPARTMENT

HIGGINS ENGINEERS, INC.

FEDERAL AID PROJECT NO.

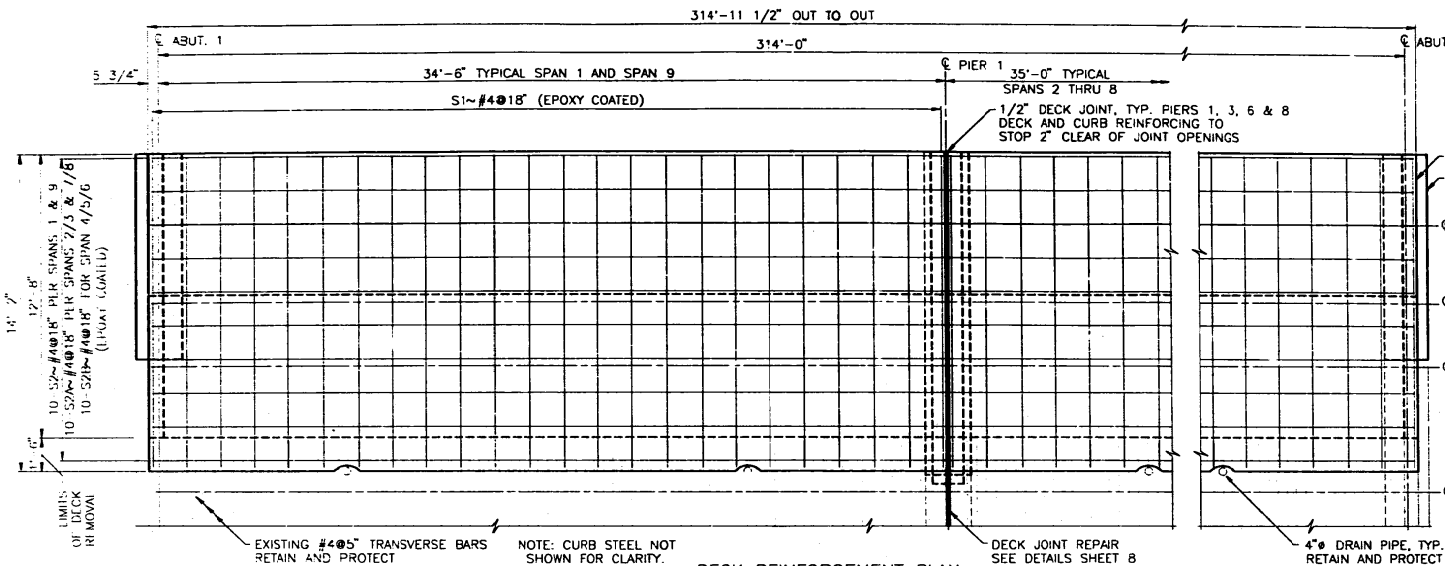
STP-7643(101)

REGION 10 IDAHO

COMBINATION RAILING DETAILS (SHEET 1 OF 2)

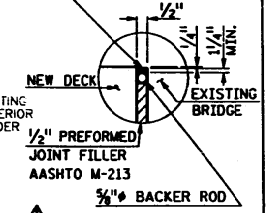
315' PRESTRESSED DOUBLE TEE CRACK BRIDGE
ECKERT ROAD/BICYCLE PATH OVER BOSE RIVER

STA 118+60

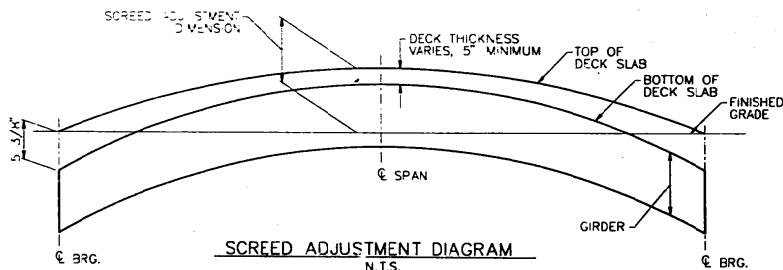


NOTE: THE SILICONE SEALER SHALL APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

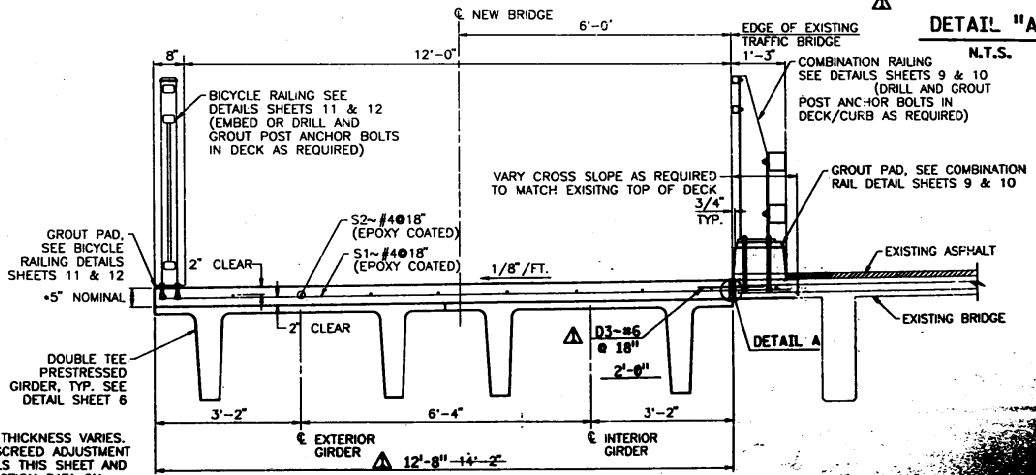
DOW CORNING 890 SL SILICONE SEALER, DOW CORNING 888 SL SILICONE SEALER OR BAYSILONE 960 SILICONE SEALER.



DETAIL "A"



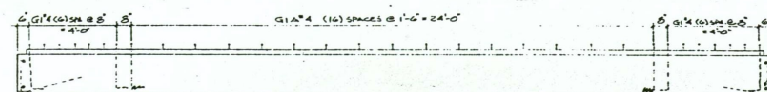
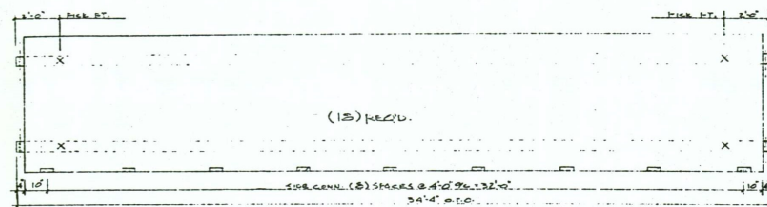
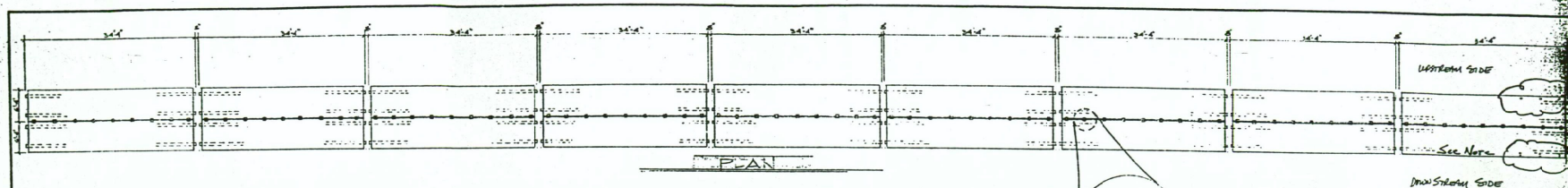
SCREED ADJUSTMENT DIMENSIONS AT C OF GIRDERS											
LOCATION	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ALL GIRDERS	0	0.0036	0.0064	0.0084	0.0096	0.0100	0.0096	0.0084	0.0064	0.0036	0



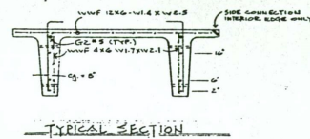
REVISIONS			DESIGNED		SCALES SHOWN		FEDERAL AID PROJECT NO.		DECK DETAILS	
NO.	DATE	BY	DESCRIPTION		ARE FOR 34" X 22" PRINTS ONLY		STP-7643(101)		315' PRESTRESSED DOUBLE TEE GIRDER BRIDGE	
99		AS BUILT	ROBYN FINLAYSON		CADD FILE NO.		REGION 10 IDAHO		ECKERT ROAD BICYCLE PATH, OVER BOSE RIVER	
			DESIGN CHECKED		68-11.DWG				STA. 119+60	
			JOE KELLER		DRAWING DATE:					
			JEANNE MOORE		4-16-96					
			CHK. CHECKED							
			ROBYN FINLAYSON							



IDAHO TRANSPORTATION DEPARTMENT
HIGGINS ENGINEERING, INC.



REINFORCEMENT		
G1*4		504
G1A*4		512
G2*5	33.4"	86
G3*6	41.6"	72 + 164



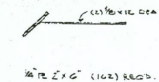
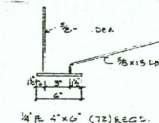
GENERAL NOTE:

SUBSURFACE INVESTIGATION

COIL STRENGTH 5000 PSI
RELEASE STRENGTH 4000 PSI
(6) TO 8 STAND @ 0.75
WEIGHT 11500 #
FINISH NUMBER 80000 BOTTOM SIDES
STRAID & RINGS SHALL BE ERODENT PAINTED
ARTIFICIALLY ROUGHEN TOP SURFACE

5' Coil rod holes - Typical Up Stream
3" n from edge 2'-0" from ends of
order to continue on 4'-0" ctrs.

Double Coil rod holes Typical
Down Stream - 2" x 8" from edge
2'-0" from ends of order to
continue on 4'-0" ctrs.



SHOP DRAWING REVIEW

REVIEW IS FOR GENERAL COMPLIANCE
WITH CONTRACT DOCUMENTS
NO RESPONSIBILITY IS ASSUMED FOR
CORRECTNESS OF DIMENSIONS OR DETAILS

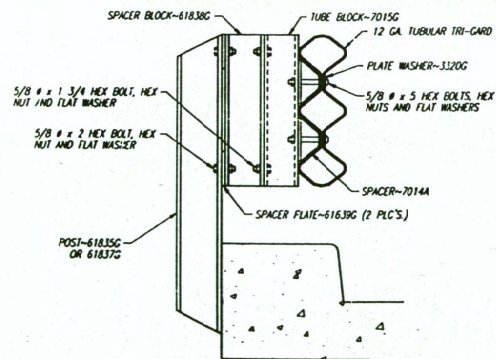
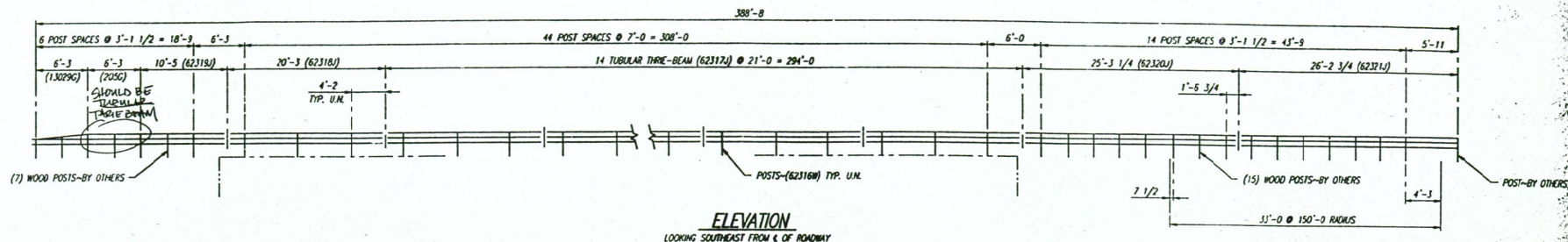
DATE	BY	FOR
11/10/01	W. J. ...	...

HODGINS ENGINEERING, INC.
 816 La Canada Drive
 Buena, Idaho 83906

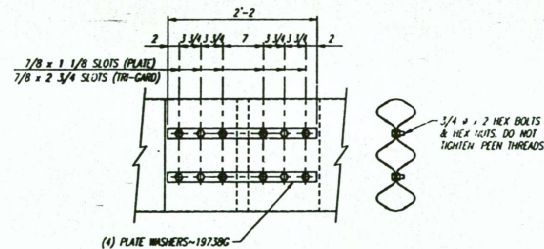
Date 11/10/01 by W. J. ...

Drawing No 6404-A SD Sht 1 of 19

ECKERT RD. BICYCLE PATH



POST AND RAIL DETAIL
THREE BEAM RETROFIT TYPE 2 RAIL



LAP ASSEMBLY
TUBULAR TRI-CARD

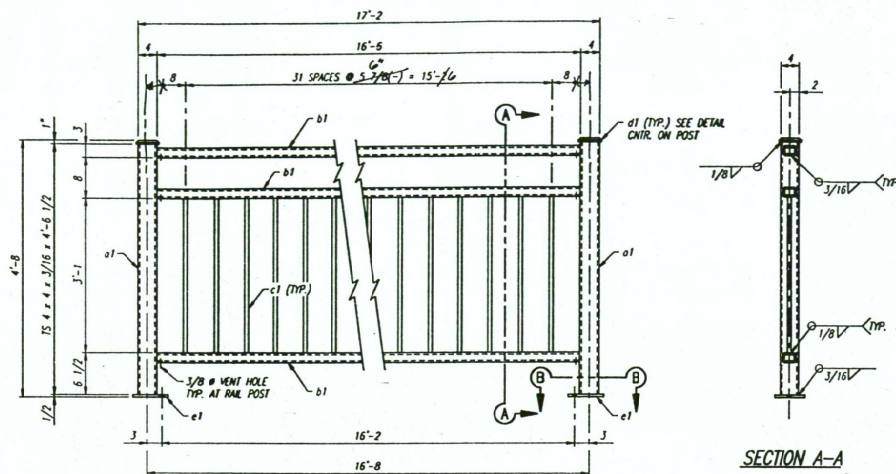
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Coral Scientific Company
DIRECT ANY QUESTIONS REGARDING THEM TO
DOUG DAPILLIS (503) 655-6351

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SHOP DRAWING REVIEW	
REVIEW IS FOR GENERAL COMPLIANCE WITH CONTRACT DOCUMENTS. NO RESPONSIBILITY IS ASSIGNED FOR CORRECTNESS OF DIMENSIONS OR DETAILS.	
NO EXCEPT/NOT YET	DATE CORRECTED THIS MONTH
NO EXCEPT/NOT YET	DATE CORRECTED THIS MONTH
NO EXCEPT/NOT YET	DATE CORRECTED THIS MONTH
HIGGINS ENGINEERS 612 La Comille Drive Bismarck, Idaho 83205 Date 10/6/97 By K. B. B.	

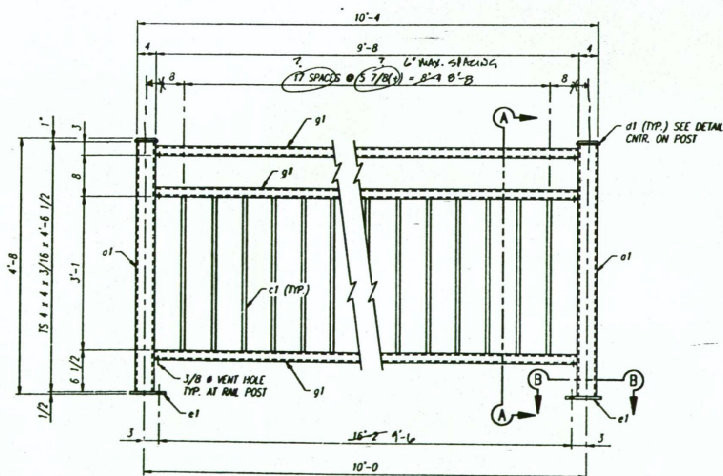
APPROVAL PRINTS ONLY
SIGN & RETURN ONE COPY IMMEDIATELY

SEP 19 1997			
OWNED BY	DATE	SENT FOR APPROVAL	REMARKS
JLS	9-19-97		
6404-A SD JLT 4 19 19			
IDAHO TRANSPORTATION DEPARTMENT F.A.P. NO. SIP-764X(101) KEY NO. 5752 ADA COUNTY			DATE: JLS CHECKED: RLC APPROVED: JLS DATE: 9-19-97
CUSTOMER	CORAL SCIENTIFIC CO.	P.O. No.	643000
TRINITY INDUSTRIES, INC.		DALLAS, TX 75241 LIMA, OH 43036 PO BOX 1000, WY SANDERSVILLE, VT 05475	

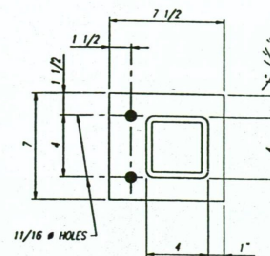


SECTION A-A

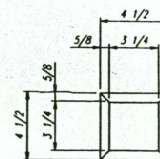
18~PEDESTRIAN RAILS~62302W



2~PEDESTRIAN RAILS~62303W



SECTION B-B



DETAIL~d1

BILL OF MATERIAL									
PRODUCT CODE	QUANTITY	UNIT	DESCRIPTION	LENGTH	WIDTH	THICKNESS	WEIGHT	UNIT WEIGHT	REMARKS
62302W	18		PEDESTRIAN RAILS						
36	a1	TS	4 x 4 x 3/16	4	6	1/2	1540	1540	AS008
54	b1	TS	3 x 2 x 3/16	16	6	1/2	5031	5031	AS008
5/8	c1	BAR	3/4 x 3/4	3			3399	3399	AS36
36	d1	PL	1" x 4 1/2	0	4	1/2	207	207	AS36
36	e1	PL	1/2 x 7	0	7	1/2	268	268	AS36
62303W	2		PEDESTRIAN RAILS						
4	a1	TS					171	171	
6	g1	TS	3 x 2 x 3/16	9	8		324	324	AS008
4	c1	BAR					319	319	
4	d1	PL					22.9	22.9	
4	e1	PL					29.7	29.7	
HARDWARE FOR PEDESTRIAN RAIL									
3450C	80		5/8" HEX BOLTS	0	5		39.5	39.5	AS007
3350C	80		5/8" HEX NUTS				5.8	5.8	AS63
3300C	80		5/8" FLAT WASHERS				4.2	4.2	FB44

SHOP DRAWING REVIEW

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NO EXCEPTIONS TAKEN
 THESE CORRECTIONS NOTED
 APPROVED BY REVIEWER
 REJECTED - SEE REMARKS

HIGGINS ENGINEERS
 812 E. Central Express
 Boise, Idaho 83725

Date 10/4/97 By R. J. J.

APPROVAL PRINTS ONLY

SIGN & RETURN ONE COPY IMMEDIATELY

PURCHASE WEIGHT = 11,361 lbs.

SHIPPING WEIGHT = 11,361 lbs.

THESE DRAWINGS ARE FURNISHED BY

Coral Sales Company

DIRECT ANY QUESTIONS REGARDING THESE TO DOUG DANIELS (503) 655-6351

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SEP 19 1997

J.L.S. 9-19-97 SENT FOR APPROVAL

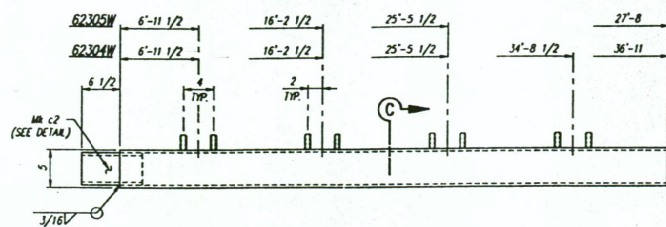
REV. CHG. BY DATE REVISIONS

6404-A 3D Jkt 5 of 19

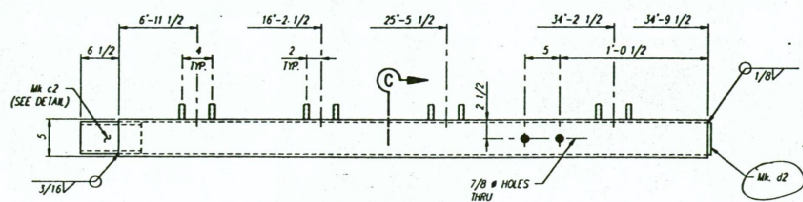
IDaho TRANSPORTATION DEPARTMENT
 F.A.P. NO. STP-7643(101)
 KEY NO. 5752
 ADA COUNTY

CUSTOMER CORAL SALES CO. Job No. 6404-A 3D

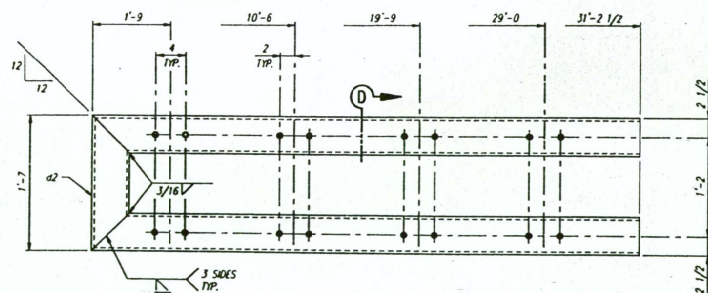
TRINITY INDUSTRIES, INC.
 10101



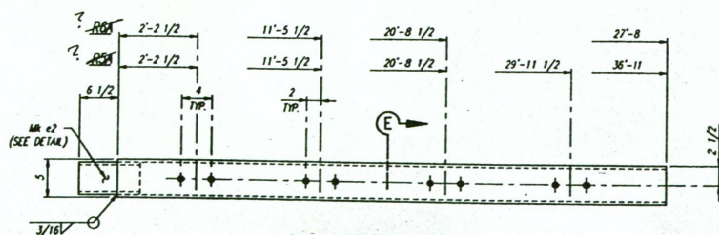
12~RAILS~62304W
2~RAILS~62305W



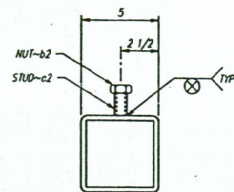
2~RAILS~62306W



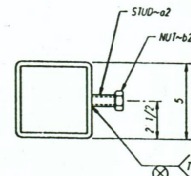
ONE~RAIL~62307W



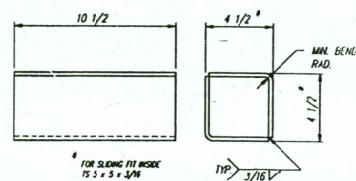
6~RAILS~62308W
ONE~RAIL~62309W



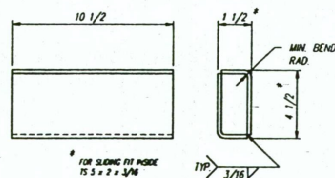
SECTION-C



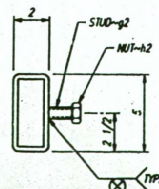
SECTION-D



DETAIL MK c2



DETAIL MK c2



SECTION-E

BILL OF MATERIAL									
PRODUCT CODE	TOTAL QTY	PRICE	MATERIAL		LENGTH		WEIGHT	UNIT	REMARKS
62304W	12		RAILS				456		
12			15 5 x 5 x 3/16		36 11		5303		AS008
96			a2 1/4 # STUD W/ RED. BASE		0 2		20.5		A108
96			a2 1/4 # HEX NUTS				11.4		AS63
24			c2 PL 1/4 x 8		0 10 1/2		143		A36
62305W	2		RAILS				344		
2			15 5 x 5 x 3/16		27 8		662		AS008
12			a2 STUDS				2.6		
12			a2 HEX NUTS				1.4		
4			c2 PL				22.4		
62306W	2		RAILS				430		
2			15 5 x 5 x 3/16		34 9 1/2		833		AS008
16			a2 STUDS				3.4		
16			a2 HEX NUTS				1.9		
4			c2 PL				22.4		
62307W	ONE		RAIL				771		
2			15 5 x 5 x 3/16		31 2 1/2		747		AS008
1			a2 15 5 x 5 x 3/16		1 7		18.0		AS008
16			a2 STUDS				3.4		
16			a2 HEX NUTS				1.9		
62308W	6		RAILS				309		
6			15 5 x 2 x 3/16		36 11		1805		AS008
48			a2 1/2 # STUD W/ RED. BASE		0 2		4.4		A108
48			a2 HEX NUTS				1.8		AS63
12			c2 PL 1/4 x 5		0 10 1/2		44.6		A36
62309W	ONE		RAIL				233		
1			15 5 x 2 x 3/16		27 8		225		AS008
6			a2 STUDS				0.5		
6			a2 HEX NUTS				0.2		
2			c2 PL				2.4		

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NO EXCEPTIONS TAKEN
EXCEPTIONS NOTED
REVISIONS REQUIRED
REVISIONS REQUIRED

HIGGINS ENGINEERS
812 La Cumbre Drive
Bohemia, NY 11716

Date 10/6/97 By P. J. [Signature]

APPROVAL PRINTS ONLY

SIGN & RETURN ONE COPY IMMEDIATELY

PURCHASED WEIGHT = 9,887 LB.

SHIPPING WEIGHT = 9,887 LB.

WHERE DRAWINGS ARE FURNISHED BY

Corral Sales Company

DIRECT ANY QUESTIONS REGARDING THEM TO DOUG DANIELS (800) 655-6351

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SEP 11 1997

JLS 9-19-97 SENT FOR APPROVAL

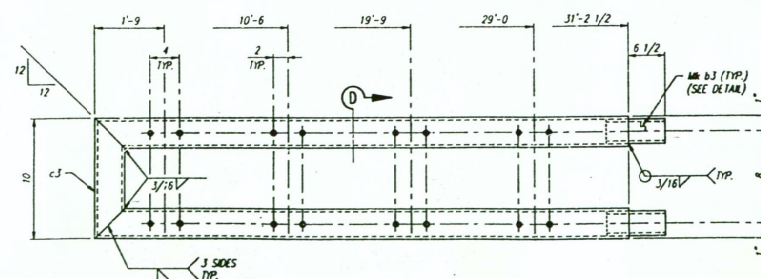
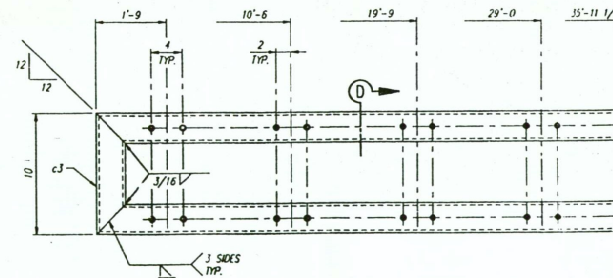
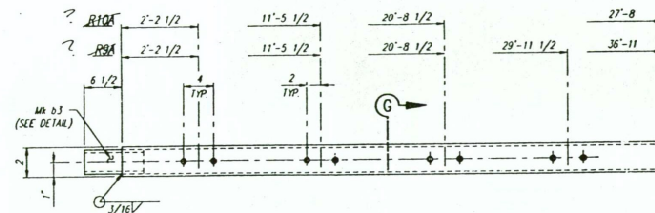
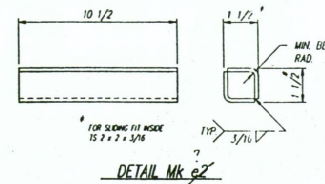
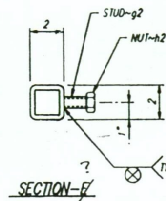
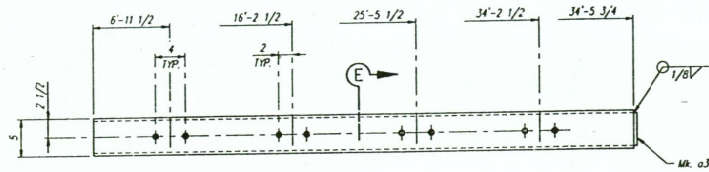
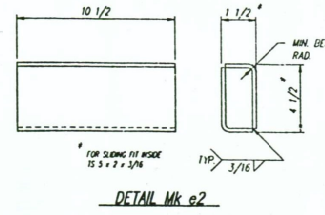
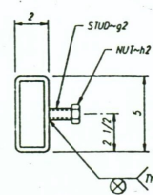
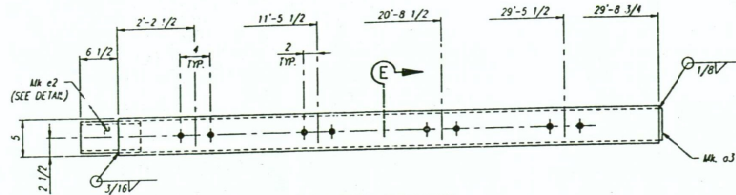
6404-A SD Jkt 6 of 19

IDAHO TRANSPORTATION DEPARTMENT
F.A.P. NO. 51P-7643(101)
KEY NO. 5752
ADA COUNTY

CUSTOMER CORRAL SALES CO. P.O. No. 013400

TRINITY INDUSTRIES, INC.
SULLY, IL
CENTRALE, IL

DATE 10/1/97



BILL OF MATERIAL						
PRODUCT CODE	TOTAL QUANTITY	PIECE MARK	MATERIAL	LENGTH FEET	INCHES	REMARKS
62310W	ONE	RAIL				
	1		TS 5 x 2 x 3/16	25	8 3/4	242
	2	e2	PL 1/4 x 5	0	10 1/2	7.4
	8	g2	1/2 # STUD W/ RED. BASE	0	2	0.7
	8	h2	1/2 # HEX NUTS			0.3
	1	a3	PL 3/16 x 1 3/4	0	4 3/4	0.4
62311W	ONE	RAIL				
	1		TS 5 x 2 x 3/16	34	5 3/4	281
	8	g2	STUDS			0.7
	8	h2	HEX NUTS			0.3
	1	a3	PL			0.4
62312W	12	RAILS				
	12		TS 2 x 2 x 3/16	36	11	1914
	96	g2	STUDS			8.8
	96	h2	HEX NUTS			3.6
	24	a3	PL 1/4 x 2	0	10 1/2	35.7
62313W	2	RAILS				
	2		TS 2 x 2 x 3/16	27	8	239
	12	g2	STUDS			1.1
	12	h2	HEX NUTS			0.4
	4	a3	PL			5.9
62314W	ONE	RAIL				
	2		TS 2 x 2 x 3/16	31	2 1/2	270
	1	c3	TS 2 x 2 x 3/16	0	10	3.6
	16	g2	STUDS			1.5
	16	h2	HEX NUTS			0.6
	4	a3	PL			5.9
62315W	ONE	RAIL				
	2		TS 2 x 2 x 3/16	35	11 1/2	311
	1	c3	TS 2 x 2 x 3/16	0	10	3.6
	16	g2	STUDS			1.5
	16	h2	HEX NUTS			0.6

SHOP DRAWING REVIEW

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NO EXCEPTIONS TAKEN	
MAJOR DISCREPANCIES NOTED	
APPROVED & REVISIONS	
REJECTED - SEE REMARKS	

HIGGINS ENGINEERS
812 La Crosse Drive
Bloomington, IL 61706

Date 10/14/97 By [Signature]

APPROVAL PRINTS ONLY

SIGN & RETURN ONE COPY IMMEDIATELY

PURCHASED WEIGHT = 3,340 lbs.

SHIPPING WEIGHT = 3,340

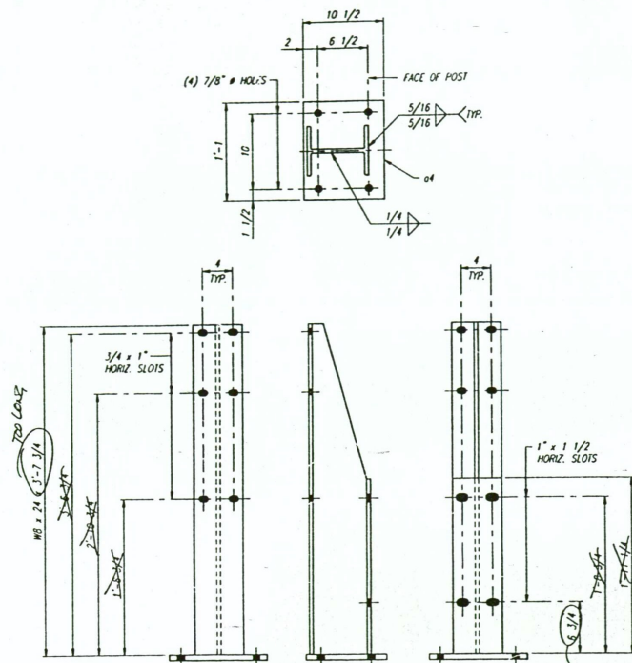
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Coral Sales Company

DIRECT ANY QUESTIONS CONCERNING THEM TO DOLPH DANIELS : (313) 655-6351

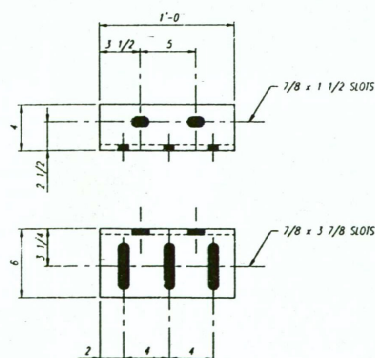
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J.L.S. 9-19-97 SENT FOR APPROVAL		DATE		REMARKS	
6404-A SD JKH 7 of 19					
IDAHO TRANSPORTATION DEPARTMENT F.A.P. NO. 5752 KEY NO. 5752 ADA COUNTY				DRAWN J.L.S. CHECKED K.C. APPROVED [Signature] DATE 9-8-97	
CUSTOMER CORAL SALES CO.		P.O. No. B134888		SHEET No. 101965	
TRINITY INDUSTRIES, INC.		DALLAS, TX		DALLAS, TX	

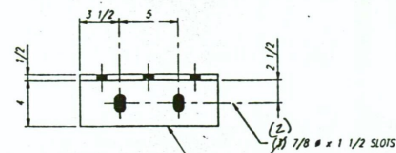


35~POSTS~62316W

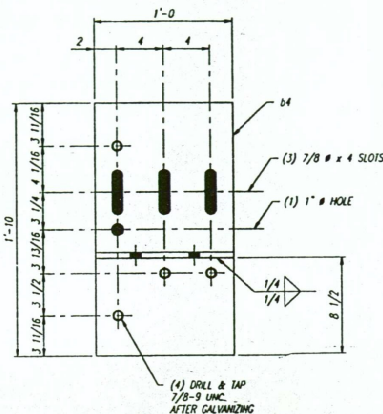
TOO MUCH
NEED TO ADJUST WITH RESPECT
TO EXISTING CURB THAT IS
BEING USED INSTEAD OF A
NEW CURB (WHICH WAS SHOWN
IN THE PLANS). MAINTAIN
1/4" FROM WORKING SURFACE
TO BOTTOM RAIL.



ONE~CONNECTION ANGLE~60755W



ONE~CONNECTION PLATE~60756W



140~PLATE WASHERS~9824W

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DIRECT ANY ORDERS TO: 1000 S. 1000 E. SUITE 100
DOWD PLAZA (505) 556-6000

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BILL OF MATERIAL

PRODUCT CODE	TOTAL REQD	PIECE MARK	MATERIAL	FEET	INCHES	MOFT	UNIT REQD	REMARKS
62316W	35		POSTS				116	BLACK
	35		WB x 24					A36
	35	04	PL 3/4 x 10 1/2	1	1	1015		A36
60756W	ONE		CONNECTION PLATE				44.2	
	1	04	PL 1/2 x 12	1	10	37.4		A36
	1	04	PL 1/2 x 4	1	0	6.8		A36
60755W	ONE		CONNECTION ANGLE				16.2	
	1		L 6 x 4 x 1/2	1	0	16.2		A36
9824W	140		PLATE WASHERS				0.3	
	140		PL 1/4 x 1 3/4	0	2 1/8	36.9		A36
HARDWARE FOR COMBINATION RAILING								
0.038	4300G	210	1/2 x FLAT WASHERS				8.0	F844
0.038	4304G	210	1/2 x LOCK WASHERS-REG.				8.0	F844
1.340	4548G	140	5/8 x HEX BOLTS	1	3	188		M493
0.119	3351G	280	5/8 x HEX NUTS				33.3	A194-20
0.053	4372G	140	5/8 x FLAT WASHERS				7.4	F436
0.959	3631G	4	3/4 x HEX BOLTS	0	7	3.9		A307
0.119	3710G	4	3/4 x HEX NUTS				0.5	A563
0.079	3700G	8	3/4 x FLAT WASHERS				0.6	F844
0.079	4699G	140	3/4 x LOCK WASHERS-REG.				11.1	F844
0.390	3716G	3	3/4 x HEX BOLTS	0	2	1.2		A325
0.193	3711G	3	3/4 x HEX NUTS				0.6	A194-20
0.079	3701G	3	3/4 x FLAT WASHERS				0.2	F436
0.331	4788G	4	7/8 x HEX BOLTS	0	0 3/4	1.3		A325
0.601	3753G	1	7/8 x HEX NUTS	0	2 1/4	0.6		A325
0.297	3736G	4	7/8 x HEX NUTS				1.2	A194-20
0.115	3726G	5	7/8 x FLAT WASHERS				0.6	F436

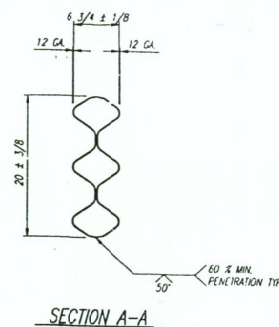
PURCHASED WEIGHT = 4,411 LBS.

SHIPPING WEIGHT = 4,411 LBS.

SHOP DRAWING REVIEW
REVIEW IS FOR GENERAL COMPLIANCE
WITH CONTRACT DOCUMENTS
NO RESPONSIBILITY IS ASSUMED FOR
CORRECTNESS OF DIMENSIONS OR DETAILS
NO EXCEPTIONS TAKEN
NO-TO CONNECTIONS NOTED
AMEND TO RESUBMIT
REJECTED - SEE REVISIONS
HIGGINS ENGINEERS
812 La Crosse Drive
Boise, Idaho 83705
Date 8/18/97 By JLS

APPROVAL PRINTS
ONLY
SIGN & RETURN ONE
COPY IMMEDIATELY

J.L.S. 9-19-97 SENT FOR APPROVAL				REMARKS	
REV	CHK'D	BY	DATE		
6404-A SD				JLT 8/17/97	
IDAHO TRANSPORTATION DEPARTMENT F.A.P. NO. STP-7643(101) KEY NO. 5752 ADA COUNTY				DRAWN J.L.S. CHECKED N.C. APPROVED DATE 9-8-97 SHEET NO. 04 OF 04 SYRO #101965	
CUSTOMER CORAL SALES CO.		P.O. No. 013498		SHEET NO. 04 OF 04	
TRINITY INDUSTRIES, INC.		TRINITY INDUSTRIES, INC.		TRINITY INDUSTRIES, INC.	



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WITH CONTRACT DOCUMENTS
NO RESPONSIBILITY IS ASSUMED FOR
CORRECTNESS OF DIMENSIONS OR DETAILS

NO EXCEPTIONS TAKEN	
MAJOR CORRECTIONS NOTED	✓
MINOR & RESUBMIT	
REJECTED - SEE REMARKS	

HIGGINS ENGINEERS
812 La Cassia Drive
Boise, Idaho 83705

Date 10/6/97 By [Signature]

APPROVAL PRINTS
ONLY

SIGN & RETURN ONE
COPY IMMEDIATELY.

PURCHASED WEIGHT = 6.906 lbs

SHIPPING WEIGHT : 2.449

					SEP 19
	JLS	8-19-97	SENT FOR APPROVAL		
REV	CHG'D	BY	DATE	REMARKS	

6404-A SD Jkt 1 of 19

THESE DRAWINGS ARE FURNISHED BY

Corral Cities Company

DIRECT ANY QUESTIONS REGARDING THEM TO:
DOUG CHAMBERS (502) 655-6355

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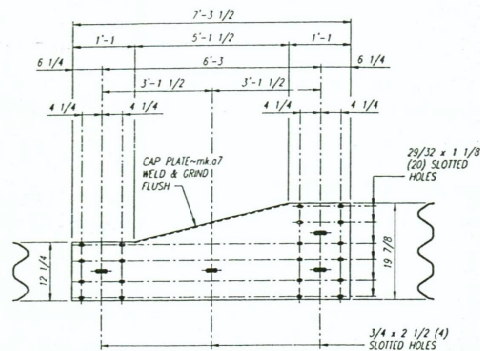
IDAHO TRANSPORTATION DEPARTMENT
F.A.P. NO. STP-7643(101)
KEY NO. 5752
ADA COUNTY

CUSTOMER	CORAL SALES CO.	P.O. No.
----------	-----------------	----------

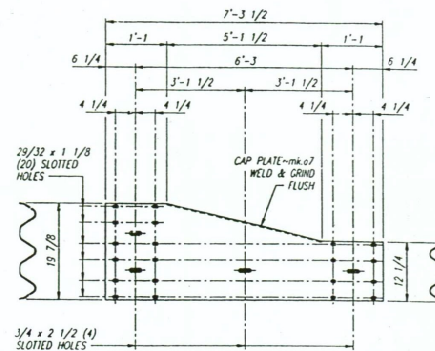
TRINITY INDUSTRIES, INC.

TRINITY INDUSTRIES, INC.
DALLAS, TX LIMA, OH FORT WORTH, TX

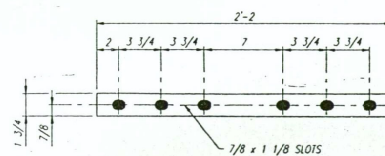
DRAWN	JLS
CHECKED	N.C.
APPROVED	
DATE	9-8-92
ENG. FILE No.	10196505
SHEET No.	DS OF 81
DRAWING NUMBER	101055



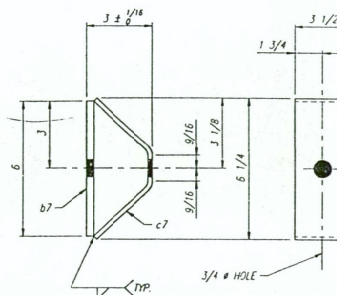
ONE~TRANSITION~13029G



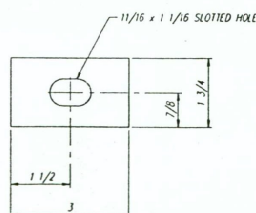
ONE~TRANSITION~13030G



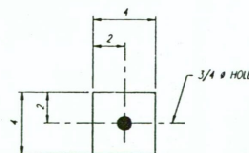
68~PLATE WASHERS~19738G



126~SPACER BLOCKS~7014A



134~PLATE WASHERS~3320G



90~SPACER PLATES~61639G

BILL OF MATERIAL									
PRODUCT CODE	TOTAL REQD	PECT MARK	MATERIAL	LENGTH		MOQT	UNIT WEIGHT	REMARKS	
				FEET	INCHES				
13029A	ONE		TRANSITION						
	1	07	10 GA x 25 1/2	6	3	101	96.0		
	1	07	10 GA x 3 1/4	5	2	8.0	4180		
13030A	ONE		TRANSITION						
	1		10 GA x 25 1/2	6	3	101	96.0		
	1	07	10 GA x 3 1/4	5	2	8.0	4180		
19738G	68		PLATE WASHERS						
	68		PL 3/16 x 1 3/4	2	2	164	2.5		
7014A	126		SPACER BLOCKS						
	126	b7	PL 1/4 x 3 1/2	0	6	188	436		
	126	c7	PL 12 GA x 3 1/2	0	8 3/8	109	436		
3320G	134		PLATE WASHERS						
	134		PL 3/16 x 1 3/4	0	3	37.5	436		
61639G	90		SPACER PLATES						
	90		PL 1/2 x 4	0	4	204	436		

SHOP DRAWING REVIEW

REVIEW IS FOR GENERAL COMPLIANCE WITH CONTRACT DOCUMENTS. NO RESPONSIBILITY IS ASSIGNED FOR CORRECTNESS OF DIMENSIONS OR DETAILS.

NO EXCEPTIONS TAKEN	
MAKE CORRECTIONS (INDICATE & RESUBMIT)	
REJECTED - SEE REASON	

HIGGINS ENGINEERS
812 La Crosse Drive
Boise, Idaho 83705

Date 10/1/97 By P. J. [Signature]

APPROVAL PRINTS ONLY

SIGN & RETURN ONE COPY IMMEDIATELY

PURCHASED WEIGHT = 921 LB SHIPPING WEIGHT = 913 LB

SEP 13 1997

J.L.S. 9-19-97 SENT FOR APPROVAL

KEY: DWD BY DATE REMARKS

(404-A) 10 11 of 19

IDAHO TRANSPORTATION DEPARTMENT
F.A.P. NO. SIP-7643(101)
KEY NO. 5752
ADA COUNTY

CUSTOMER CORAL SALTS CO. P.O. No. 813498

TRINITY INDUSTRIES, INC.
SALAS, TX OKLA, OK OKLAHOMA, OK

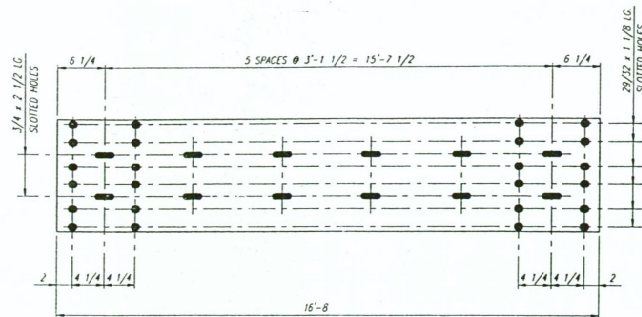
DRAWN J.L.S.
CHECKED K.C.
APPROVED
DATE 9-8-97
SHEET No. 07 OF 08
DWC FILE No. 10196507
DRAWING NUMBER 101965

THESE DRAWINGS ARE FURNISHED BY

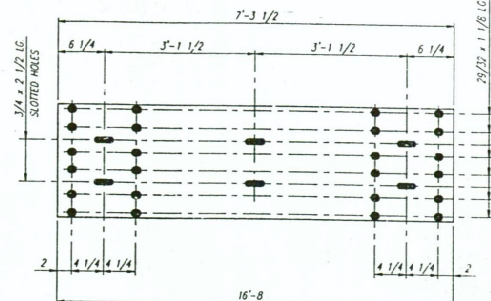
CONTRACT COMPANY

DIRECT: 1-800-555-6351; TRUCKING THEM TO: DOWNS: 1-800-555-6351

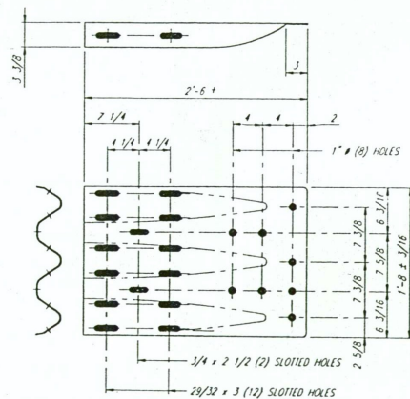
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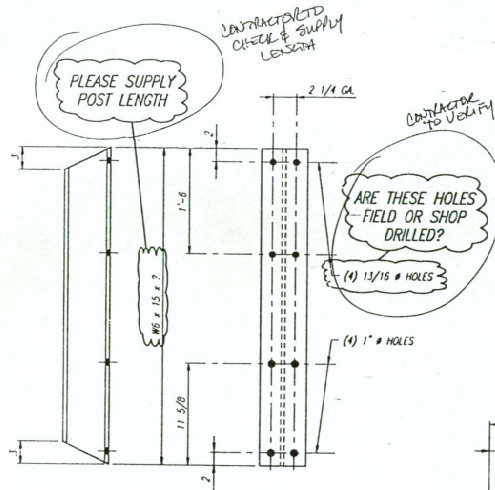
ONE~TRIGARD~62322G



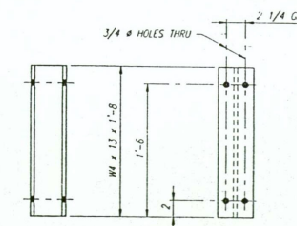
ONE~TRIGARD~205G



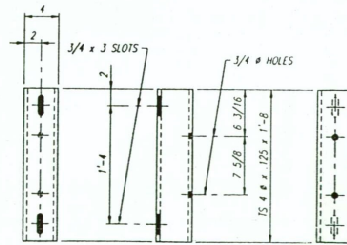
ONE~TERMINAL CONNECTOR~62323G



45~POSTS~62324G



45~SPACER BLOCKS~61838G



45~TUBE BLOCKS~7015G

SHOP DRAWING REVIEW

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NO EXCEPTIONS TAKEN	
MAKE CORRECTIONS INCL. 1	
REJECTED - NOT FOR CONSTRUCTION	

HIGGINS ENGINEERS
812 La Casella Drive
Bohale, Idaho 83205

Date: 10/15/97 By: [Signature]

BILL OF MATERIAL									
PRODUCT CODE	TOTAL REQD	PIECE MARK	MATERIAL	LENGTH FEET	WOOLS	WOOL	UNIT WEIGHT	REMARKS	
62322G	ONE		TRIGARD				182		CAULK
1			TRIGARD 12 CA	15	7 1/2	168			
205G	ONE		TRIGARD				79.5		CAULK
1			TRIGARD 12 CA	6	3	21.6			
62323G	ONE		TERMINAL CONNECTOR				33.9		CAULK
1			10 CA TRIGARD GUARDRAIL	2	6	37.6			
62324G	45		POSTS						
45			WS x 15	2	2				
61838G	45		SPACER BLOCKS				22.5		
45			WS x 13	1	8	975			
7015G	45		TUBE BLOCKS				9.1		
45			TS 4 x .125	1	8	307			AS13 OF AS10
HARDWARE FOR THREE BEAM RETROFIT									
3391G	90		5/8 x HEX BOLTS	0	1 3/4	21.2			AS25 OF AS10
3404G	90		5/8 x HEX BOLTS	0	2	21.0			AS25 OF AS10
4438G	126		5/8 x HEX BOLTS	0	5	63.9			AS25 OF AS10
3351G	306		5/8 x HEX NUTS			36.4			AS194 OF AS10
4372G	306		5/8 x FLAT WASHERS			16.2			AS136 OF AS10
3580G	8		5/8 x POST BOLTS	1	6	12.4			AS107 OF AS10
3600G	12		5/8 x POST BOLTS	1	8	20.6			AS107 OF AS10
3540G	34		5/8 x POST BOLTS	2	0	63.9			AS107 OF AS10
3350G	54		5/8 x HEX NUTS			3.9			AS563 OF AS10
3300G	54		5/8 x FLAT WASHERS			2.9			AS563 OF AS10
3360G	60		5/8 x SPACER BOLTS	0	1 1/4	10.0			AS107 OF AS10
3340G	60		5/8 x RECESSED NUTS			10.2			AS563 OF AS10
4702G	136		3/4 x HEX BOLTS	0	2	50.3			AS107 OF AS10
3710G	136		3/4 x HEX NUTS			16.2			AS563 OF AS10

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Company

DIRECT ATTENTION TO THESE DRAWINGS THEM TO DOUGLAS L. NIELSEN (503) 655-6351

APPROVAL PRINTS ONLY

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PURCHASED WEIGHT = 7.10

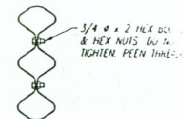
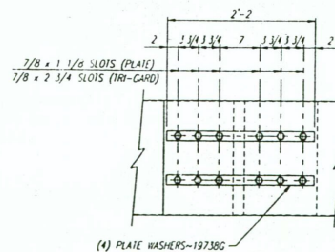
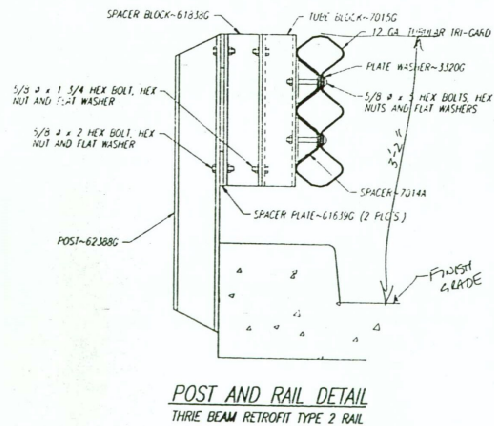
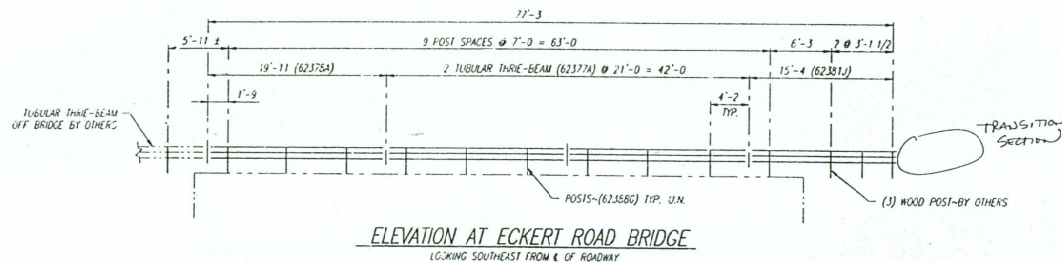
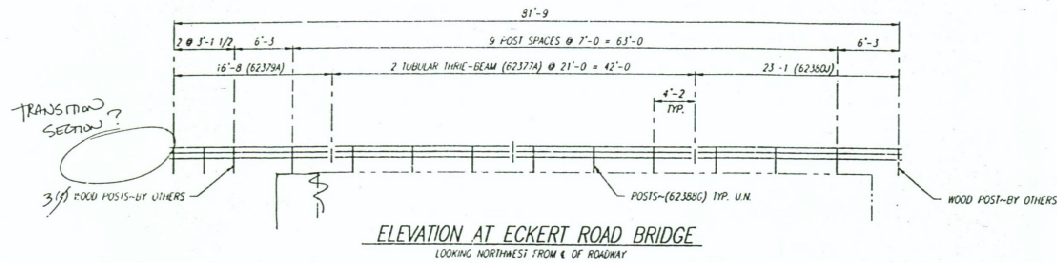
SHIPPING WEIGHT =

REV				CHWD	BY	DATE	REMARKS
JLS 9-19-97 SENT FOR APPROVAL							
6404-A JD Jkt 12 of 19							
CUSTOMER				CORAL SALES CO.		P.O. No.	813488
DRAWING NO.				JLS		101965000	
CHECKED				N.C.		101965	
APPROVED							
DATE				9-8-97			
DRAWING NUMBER				101965			

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TRINITY INDUSTRIES, INC. SYRO

DAVING, TX CENTRALE, UT. LIMA, OK. FORT WORTH, TX. ELIZABETH, NJ.



SHOP DRAWING REVIEW

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NO EXCEPTIONS TAKEN	
MAJOR CORRECTIONS NOTED	
AMENDMENTS REQUIRED	
ALL RELATED - SEE REMARKS	

HIGGINS ENGINEERS
812 La Canale Drive
Bonne, Iowa 52705
Date 10/6/97 By R. Higgins

ALL INFORMATION IS FURNISHED BY THE CLIENT. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE INFORMATION FURNISHED BY THE CLIENT.

APPROVAL PRINTS ONLY

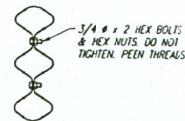
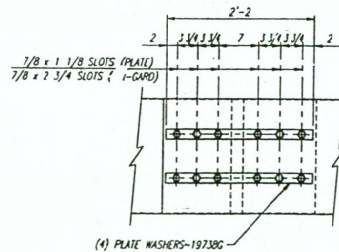
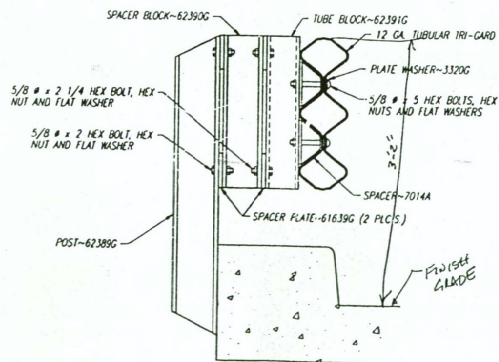
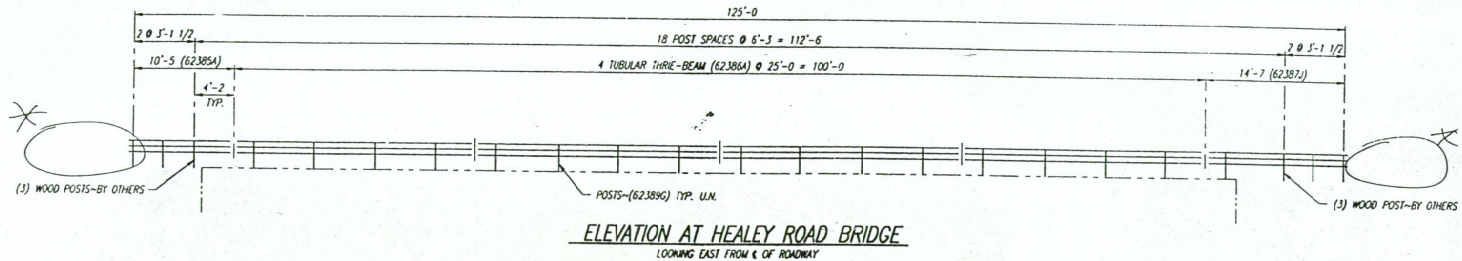
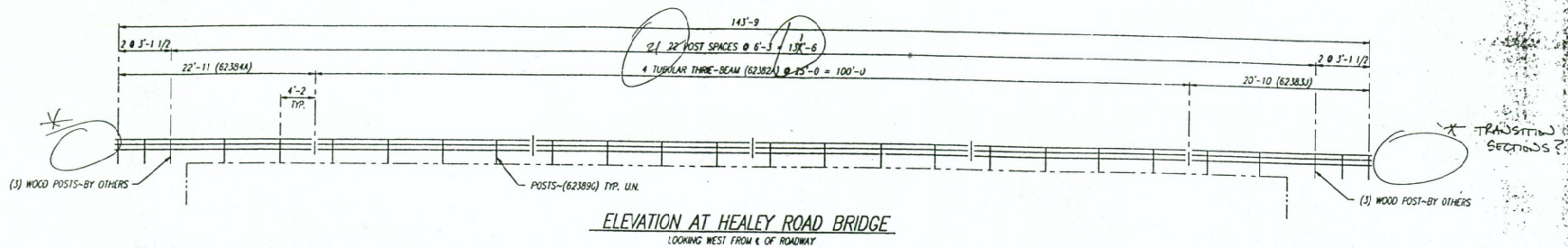
SIGN & RETURN ONE COPY IMMEDIATELY

SEE SHEET 2 OF 2 FOR ELEVATION VIEWS FOR HEALEY ROAD BRIDGE OVER NEW YORK CANAL

OCT 03 1997			
REV	CHG	BY	DATE
SENT FOR APPROVAL			
REMARKS			
6404-A 10 11 13 19			
ADA COUNTY HIGHWAY DISTRICT PROJECT NO'S. 25506.0 & 25507.0 HEALEY ROAD BRIDGE OVER NEW YORK CANAL & ECKERT ROAD BRIDGE OVER RIDENBAUGH CANAL			
CUSTOMER	CORAL SALES CO.	P.O. No.	813544
TRINITY INDUSTRIES, INC.		SYRO	101974
SHEET No.		ET OF 2	

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TRINITY INDUSTRIES, INC.
SALIS, TX
LIMA, OH
FOR MORE, TX
ELEVATION, TX



SHOP DRAWING REVIEW	
REVIEW FOR GENERAL COMPLIANCE WITH CONTRACT DOCUMENTS	NO RESPONSIBILITY IS ASSUMED FOR CORRECTNESS OF DIMENSIONS OR DETAILS
NO EXCEPTIONS TAKEN	MADE - EXCEPTIONS NOTED
AMEND & RE-SUBMIT	REJECTED - SEE REMARKS
HIGGINS ENGINEERS 812 La Crosse Drive Boise, Idaho 83705	
Date 10/8/97	By [Signature]

APPROVAL PRINTS ONLY	
SIGN & RETURN ONE COPY - IMMEDIATELY	

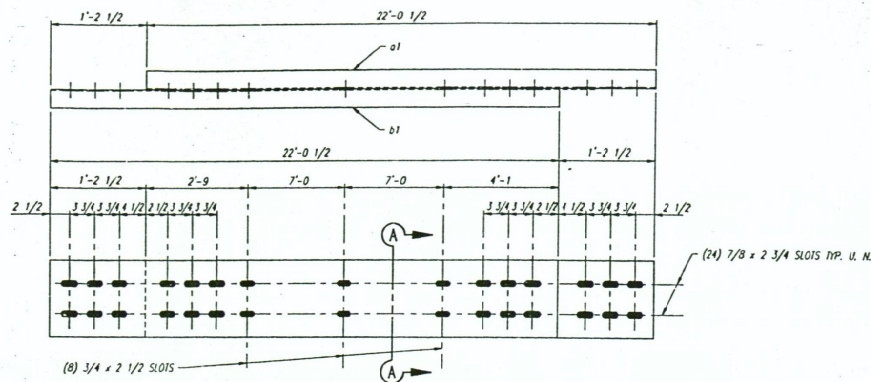
NOTE: SEE SHEET E1 OF 2 FOR ELEVATION VIEWS FOR ECKERT ROAD BRIDGE OVER RIDENBAUGH CANAL.

REV	CHG	BY	DATE	REMARKS
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2				
3				
4				
5				
6				
7				
8				
9				
10				

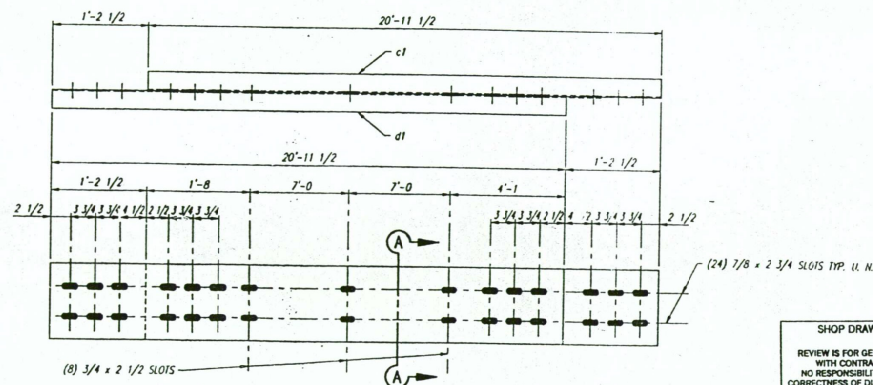
6404-11 31) At 14 of 19

ADA COUNTY HIGHWAY DISTRICT	
PROJECT NO'S. 25506.0 & 25507.0	
HEALEY ROAD BRIDGE OVER NEW YORK CANAL & ECKERT ROAD BRIDGE OVER RIDENBAUGH CANAL	
CUSTOMER CORAL SALES CO.	P.O. No. 81.544
DATE 9-29-97	SHEET No. 101974E2
DRW JLS	CHK K.C.
APPROVED	
TRINITY INDUSTRIES, INC.	
DAVID L. TRINITY, INC.	DAVID L. TRINITY, INC.
DAVID L. TRINITY, INC.	DAVID L. TRINITY, INC.

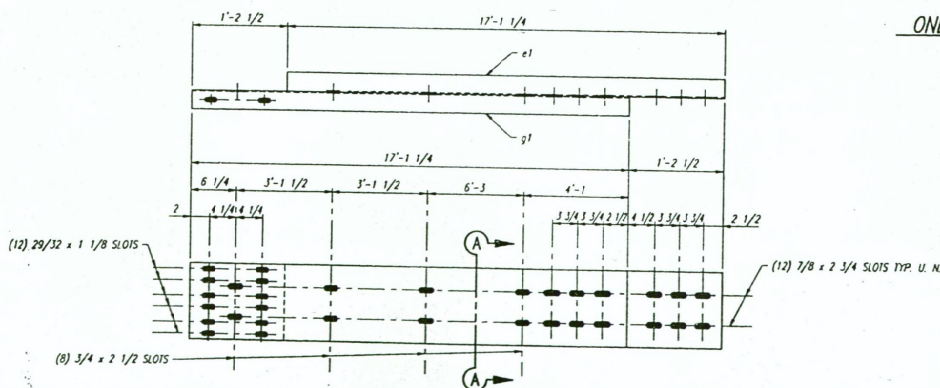
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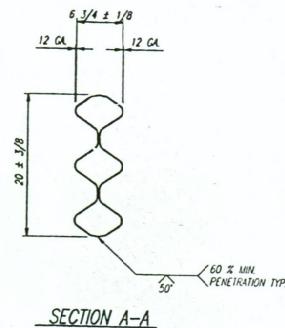
4~TUBULAR TRI-GARD~62377A



ONE~TUBULAR TRI-GARD~62378A



ONE~TUBULAR TRI-GARD~62379A



BILL OF MATERIAL									
PRODUCT CODE	TOTAL REQD	PRICE MARK	MATERIAL	LENGTH FEET	INCHES	WEIGHT LBS	UNIT	PRICE	REMARKS
62377A	4		TUBULAR TRI-GARD						
	4		01 12 GA. TRI-GARD	22	0 1/2	850	MT80		
	4		01 12 GA. TRI-GARD	22	0 1/2	850	MT80		
62378A	ONE		TUBULAR TRI-GARD						
	1		c1 12 GA. TRI-GARD	20	11 1/2	212	MT80		
	1		d1 12 GA. TRI-GARD	20	11 1/2	212	MT80		
62379A	ONE		TUBULAR TRI-GARD						
	1		e1 12 GA. TRI-GARD	17	1 1/4	173	MT80		
	1		g1 12 GA. TRI-GARD	17	1 1/4	173	MT80		

SHOP DRAWING REVIEW

REVIEW IS FOR GENERAL COMPLIANCE WITH CONTRACT DOCUMENTS. NO RESPONSIBILITY IS ASSUMED FOR CORRECTNESS OF DIMENSIONS OR DETAILS.

NO EXCEPTIONS TAKEN	
MAJOR CORRECTIONS NOTED	
AMEND & RESUBMIT	
REJECTED - SEE REMARKS	

HIGGINS ENGINEERS
812 La Casella Drive
Bokos, Idaho 83708

Date: 10/10/97 By: [Signature]

APPROVAL PRINTS
ONLY

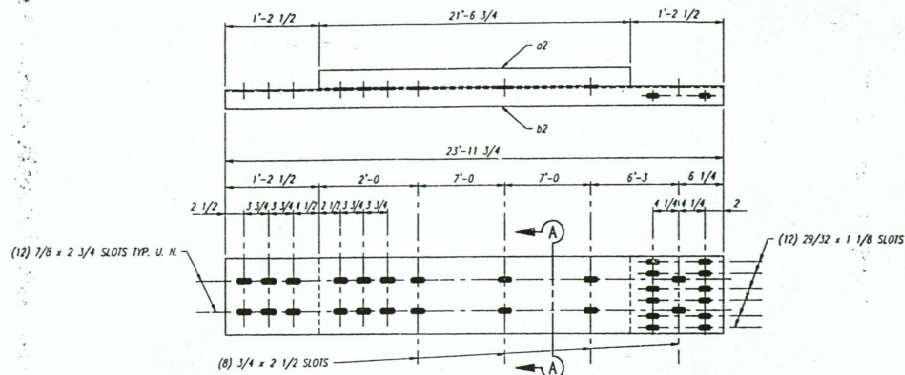
SIGN & RETURN ONE COPY IMMEDIATELY

PURCHASED WEIGHT = 2,550 LBS.

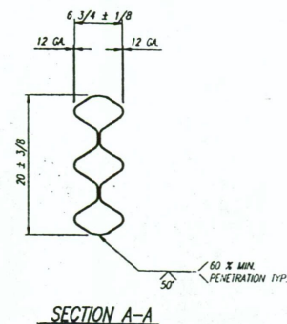
SHIPPING WEIGHT = 2,754 LBS.

J.L.S. 10-3-97 SENT FOR APPROVAL				OCT 13 1997	
REV	CHG'D	BY	DATE	REMARKS	
6404-A 11 11 15 of 19					
ADA COUNTY HIGHWAY DISTRICT PROJECT NO'S. 25506.0 & 25507.0 HEALEY ROAD BRIDGE OVER NEW YORK CANAL & ECKERT ROAD BRIDGE OVER RUDENBAUGH CANAL					
CUSTOMER		CORAL SALES CO.		P.O. No.	812544104
TRINITY INDUSTRIES, INC. BALTIMORE, MD CHICAGO, IL CLEVELAND, OH DALLAS, TX DENVER, CO DETROIT, MI HOUSTON, TX KANSAS CITY, MO LOS ANGELES, CA MINNEAPOLIS, MN NEW YORK, NY OMAHA, NE PHOENIX, AZ PORTLAND, OR RICHMOND, VA SAN ANTONIO, TX SAN DIEGO, CA SEATTLE, WA TAMPA, FL WASHINGTON, DC WICHITA, KS		DRAWN: J.L.S. CHECKED: K.C. APPROVED: [Signature] SCALE: 1" = 8'-0" SHEET NO.: 1 OF 1 DATE: 10/19/97			

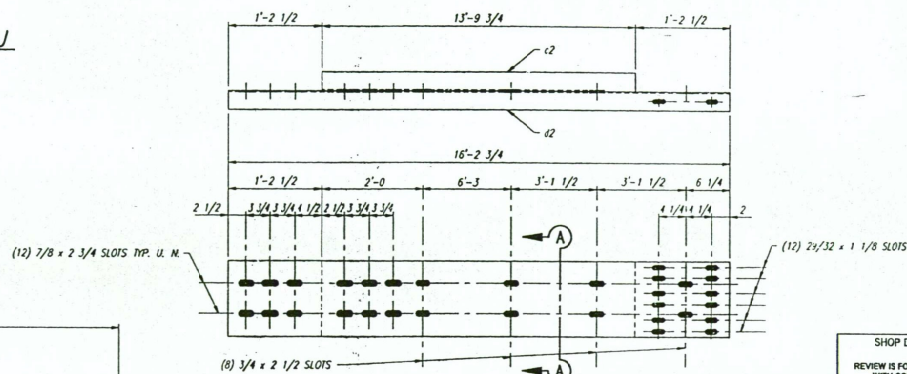
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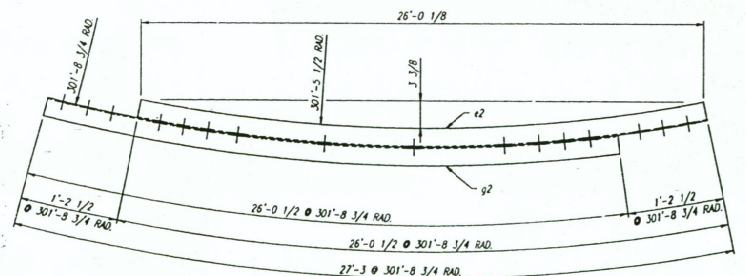
ONE~TUBULAR TRI-GARD~62380J



SECTION A-A



ONE~TUBULAR TRI-GARD~62381J



4~TUBULAR TRI-GARD~82382A

BILL OF MATERIAL									
PRODUCT CODE	TOTAL REQD	PIECE MARK	MATERIAL	LENGTH FEET	INCHES	WGT LBS	UNIT	WGT LBS	WGT LBS
62380J	ONE		TUBULAR TRI-GARD				507		
	1	c2	12 GA. TRI-GARD	21	6 3/4	218	M180		
	1	c2	12 GA. TRI-GARD	23	11 3/4	242	M180		
62381J	ONE		TUBULAR TRI-GARD				303		
	1	c2	12 GA. TRI-GARD	13	9 3/4	140	M180		
	1	c2	12 GA. TRI-GARD	16	2 3/4	164	M180		
62382A	4		TUBULAR TRI-GARD				568		
	4	c2	12 GA. TRI-GARD	26	0 1/2	1052	M180		
	4	c2	12 GA. TRI-GARD	26	0 1/2	1052	M180		

SHOP DRAWING REVIEW

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NO EXCEPTIONS TAKEN
 NO CORRECTIONS NOTED
 APPROVED & RESUBMITTED
 REJECTED - SEE REMARKS

HIGGINS ENGINEERS
 810 Le Centre Drive
 Boone, Idaho, 83708

Date 10/01/97 by K. J. Hughes

APPROVAL PRINT ONLY

SIGN & RETURN ONE COPY IMMEDIATELY

PURCHASED WEIGHT = 2,868 LB

SHIPPING WEIGHT = 3,002 LB

REV. 10-3-97 SENT FOR APPROVAL

REV. 10-3-97 SENT FOR APPROVAL

6404-A 11) at 16 ft 19

ADA COUNTY HIGHWAY DISTRICT
 PROJECT NO'S 25506.0 & 25507.0
 HEALEY ROAD BRIDGE OVER NEW YORK CANAL &
 ECKERT ROAD BRIDGE OVER RIDENBAUGH CANAL

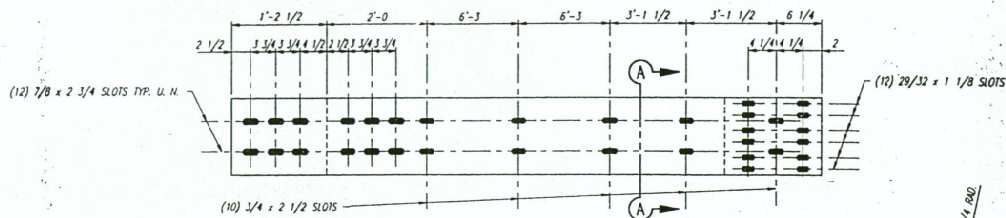
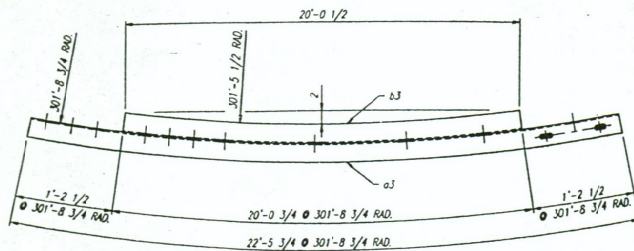
CUSTOMER CORAL SALES CO. P.O. Box 813444

TRINITY INDUSTRIES, INC.
 8000 N. 11th St.
 Overland Park, KS 66211

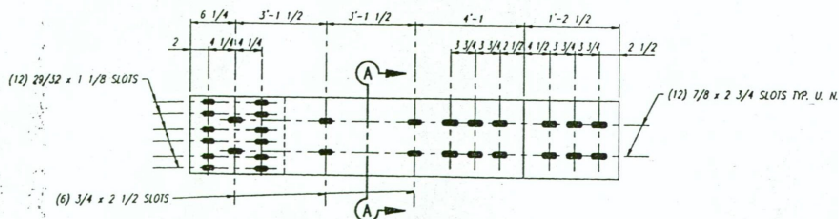
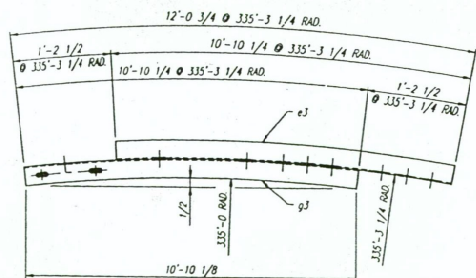
DATE 9-29-97

101074

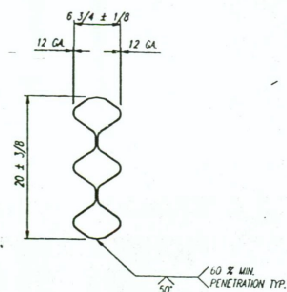
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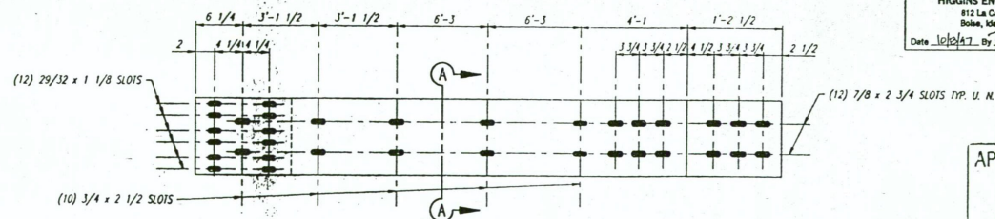
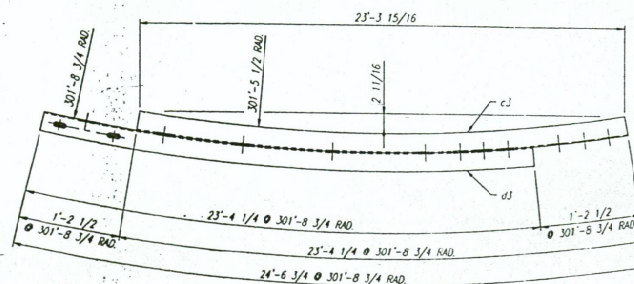
ONE~TUBULAR TRI-GARD~62383J



ONE~TUBULAR TRI-GARD~62385A



SECTION A-A



ONE~TUBULAR TRI-GARD~62384A

BILL OF MATERIAL									
PRODUCT CODE	TOTAL RECD	PIECE MARK	MATERIAL	FEET	INCHES	WEIGHT	UNIT	PRICE	REMARKS
62383J	ONE		TUBULAR TRI-GARD			1464	MT		
	1	03	12 GA. TRI-GARD	22	5 3/4	272	MT		
	1	03	12 GA. TRI-GARD	20	0 3/4	203	MT		
62384A	ONE		TUBULAR TRI-GARD			1508	MT		
	1	03	12 GA. TRI-GARD	23	4 1/4	289	MT		
	1	03	12 GA. TRI-GARD	23	4 1/4	289	MT		
62385A	ONE		TUBULAR TRI-GARD			1508	MT		
	1	03	12 GA. TRI-GARD	10	10 1/4	110	MT		
	1	03	12 GA. TRI-GARD	10	10 1/4	110	MT		

SHOP DRAWING REVIEW

REVIEW IS FOR GENERAL COMPLIANCE WITH CONTRACT DOCUMENTS. NO RESPONSIBILITY IS ASSUMED FOR CORRECTNESS OF DIMENSIONS OR DETAILS.

NO EXCEPTIONS TAKEN ☒

MAKE CORRECTIONS NOTED ☒

AMEND & RESUBMIT ☒

REJECTED - SEE REMARKS ☒

HIGGINS ENGINEERS
812 La Casella Drive
Bohns, Idaho 83702

Date 10/10/97 By R. J. Higgins

APPROVAL PRINTS ONLY

SIGN & RETURN ONE COPY IMMEDIATELY

SHIPPING WEIGHT = 1,122 LB

PURCHASED WEIGHT = 1,122 LB

REV CWD BY DATE

10-3-97 SENT FOR APPROVAL

64-4-A 310 314 17 of 19

ADA COUNTY HIGHWAY DISTRICT
PROJECT NO'S. 25506.0 & 25507.0
HEALEY ROAD BRIDGE OVER NEW YORK CANAL &
ECKERT ROAD BRIDGE OVER RIDENGAUGH CANAL

CUSTOMER CORAL SALES CO. P.O. No. 813544-113

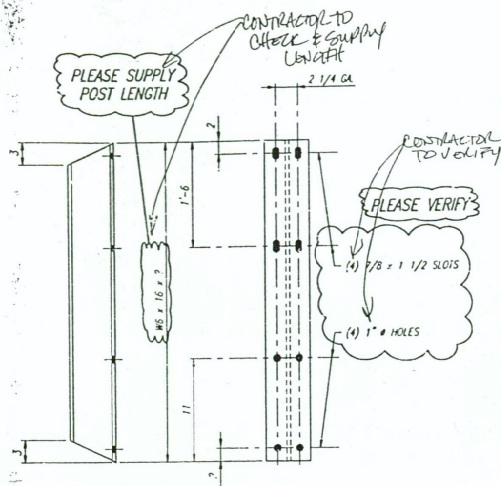
TRINITY INDUSTRIES, INC. SYRO

DATE 9-29-97

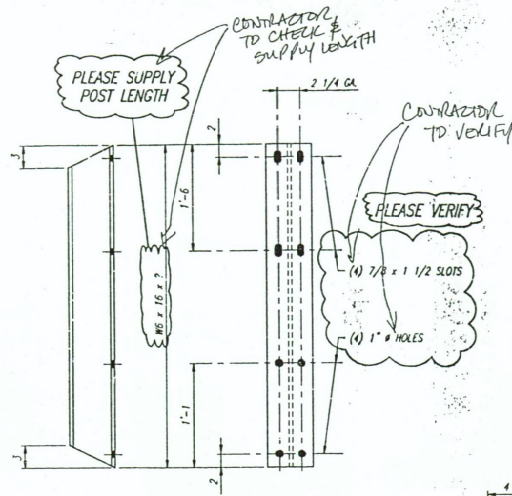
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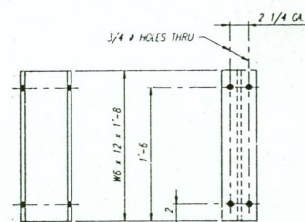
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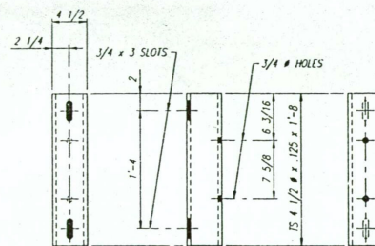
20 19~POSTS~62388G



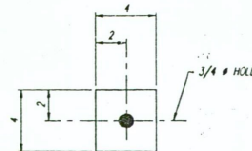
37 38~POSTS~62389G



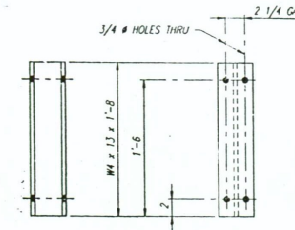
37 38~SPACER BLOCKS~62390G



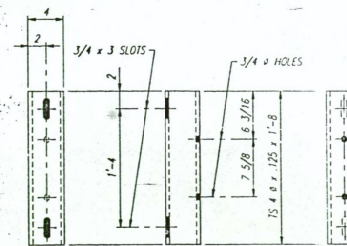
37 38~TUBE BLOCKS~62391G



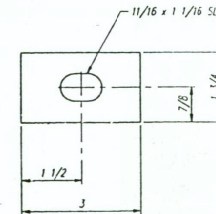
190~SPACER PLATES~61639G



20 19~SPACER BLOCKS~61838G



20 19~TUBE BLOCKS~7015G



154~PLATE WASHERS~3320G

BILL OF MATERIAL									
PRODUCT CODE	TOTAL QTY	PRICE	MATERIAL	LENGTH	WIDTH	UNIT	WEIGHT	REMARKS	
62388G	14	20	POSTS						
	14	20	W6 x 16						
62389G	18	37	POSTS						
	18	37	W6 x 16						
61838G	18	20	SPACER BLOCKS						
	18	20	W4 x 13						
7015G	18	20	TUBE BLOCKS						
	18	20	TS 4 # x .125						
62390G	18	37	SPACER BLOCKS						
	18	37	W6 x 12						
62931G	18	37	TUBE BLOCKS						
	18	37	TS 4 1/2 # x .125						
3320G	154		PLATE WASHERS						
	154		PL 3/16 x 1 3/4						
61639G	190		SPACER PLATES						
	190		PL 1/2 x 4						
HARDWARE									
3391G	38		5/8 # HEX BOLTS	0	1 3/4		8.9		A325
3404G	114		5/8 # HEX BOLTS	0	2		29.2		A325
5306G	38		5/8 # HEX BOLTS	0	2 1/4		10.5		A325
4438G	140		5/8 # HEX BOLTS	0	5		71.0		A325
3351G	330		5/8 # HEX NUTS				39.3		A194-2B
4372G	330		5/8 # FLAT WASHERS				17.5		F436-2B
3580G	4		5/8 # POST BOLTS	1	6		6.2		A307
3600G	10		5/8 # POST BOLTS	1	8		17.2		A307
3640G	26		5/8 # POST BOLTS	2	0		48.9		A307
3350G	40		5/8 # HEX NUTS				2.9		A563
3300G	40		5/8 # FLAT WASHERS				2.1		F841-2B
3360G	56		5/8 # SPICE BOLTS	0	1 1/4		9.3		A307
3340G	56		5/8 # RECESSED NUTS				9.5		A563
4702G	132		3/4 # HEX NUTS	0	2		48.8		A307
3710G	132		3/4 # HEX NUTS				15.7		A563

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APPROVED & RESUBMIT
REJECTED - SEE REMARKS

HIGGINS ENGINEERS
812 La Canada Drive
Boulder, Colorado 80505

Date: 10/15/97 By: [Signature]

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JLS 10-3-97 SENT FOR APPROVAL

REV. DATE BY

ADA COUNTY HIGHWAY DISTRICT
PROJECT NO'S. 25506.0 & 25507.0
HEALY ROAD BRIDGE OVER NEW YORK CANAL & ECKERT ROAD BRIDGE OVER RIDENBAUGH CANAL

DRAWN: JLS
CHECKED: MC
APPROVED: [Signature]
DATE: 9-29-97

CUSTOMER: CORAL SALES CO. P.O. No. 81354

TRINITY INDUSTRIES, INC.
DALLAS, TX
CENTRALE, UT
LIMA, IN
FORT WORTH, TX
CINCINNATI, OH

101974

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